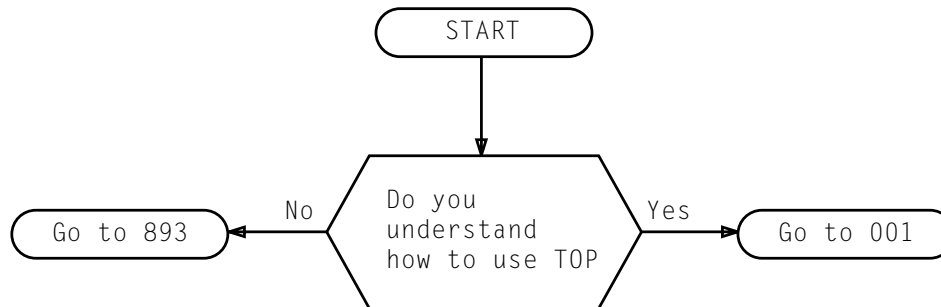




Task Oriented Practice (TOP)

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Issue 1	SEP 1997
234-353-030	TPG
TITLE PAGE	000

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Developed by Lucent Technologies Network Systems TSVS Information Development

Issue 1	SEP 1997
234-353-030	LPG
PAGE 1 of 1	000

FIND YOUR JOB IN THE LIST BELOW THEN GO TO

Acceptance	NTP-002
Add or Change Functional Assignment(s) of DIU Digroup(s) (THW, THW5, and TDG) (Used by TELCO Personnel Only) . .	NTP-038
CCIS Data Set Frame — Change Member Equipage From Unequipped to Operational	DLP-525
CCIS TGR Supplementary Frame — Add (Support to Installer)	NTP-005
CCIS TGR Frame — Add (Support to Installer)	NTP-004
CCIS TGR Frame Complex — Degrow (Support to Installer)	NTP-034
Change CCIS Data Set Frame Member Equipage From Unequipped to Operational	DLP-525
Change DTU, ESU, TSI Port Special Growth to Operational (Used by TELCO Personnel Only)	NTP-019
Change DTU, TSI Port From Special Growth to Operational (Used by TELCO Personnel Only)	NTP-018
Change DIF Firmware Version Data (MP and SP) (Used by TELCO Personnel Only)	NTP-037
Change DIU, ESU, TSI Port From Special Growth to Operational (Used by TELCO Personnel Only)	NTP-024
Change Spare DIU Using Convert DIU Procedure	NTP-032
Change VIU, ESU, TSI Port Special Growth to Operational (Used by TELCO Personnel Only)	NTP-015
Change VIU, TSI Port Special Growth to Operational (Used by TELCO Personnel Only)	NTP-014
Change or Add Functional Assignment(s) of DIU Digroup(s) (THW, THW5, and TDG) (Used by TELCO Personnel Only) . .	NTP-038
Circuit Packs — Growth ESU — Install	DLP-580
Convert DIU and DIF-E1 Domestic Frame if Required (Used by TELCO Personnel Only)	NTP-032
Convert Enhanced Terminal Unit (4800 BPS) to Standard Terminal Unit (2400 BPS) (Used by TELCO Personnel Only) . .	NTP-036
Convert Non-Service Circuit DIU Packs to New SM-Type Circuit Packs.	NTP-039
Convert Terminal to Enhanced Type (4800 BPS) on TGR Frame (Used by TELCO Personnel Only)	NTP-025
Degrow CCIS TGR Frame Complex (Support to Installer)	NTP-034
Degrow DIF Frame — Support to Installer	NTP-030
Degrow DIU, TSI Port, ESU (Used by TELCO Personnel Only)	NTP-026

TASK INDEX LIST

Issue 1	SEP 1997
234-353-030	IXL
PAGE 1 of 4	001

FIND YOUR JOB IN THE LIST BELOW THEN GO TO

Degrow DT Frame (Support to Installer)	NTP-027
Degrow DTU, TSI Port, ESU (Used by TELCO Personnel Only)	NTP-020
Degrow EST Frame (Support to Installer)	NTP-031
Degrow VIF Frame (Support to Installer)	NTP-028
Degrow VIU, TSI Port, ESU (Used by TELCO Personnel Only)	NTP-016
DIF Firmware Version Data (MP and SP) – Change (Used by TELCO Personnel Only)	NTP-037
DIF Frame – Add (Support to Installer)	NTP-022
DIF Frame – Degrow (Support to Installer)	NTP-030
DIF-E1 Domestic Frame – Add (Support to Installer)	NTP-029
DIF-E1 Domestic Frame if Required; DIU – Convert (Used by TELCO Personnel Only)	NTP-032
DIU to DIF-E1 Domestic or DIF (J68960A) – Add (Support to Installer)	NTP-033
DIU to DIF-E1 Domestic or DIF (J68960A) – Add (Used by TELCO Personnel Only)	NTP-023
DIU and DIF-E1 Domestic Frame if Required – Convert (Used by TELCO Personnel Only)	NTP-032
DIU, ESU, TSI Port – Degrow (Used by TELCO Personnel Only)	NTP-026
DIU, ESU, TSI Port – Special Growth to Operational – Change (Used by TELCO Personnel Only)	NTP-024
DIU Packs to New SM-Type Circuit Packs in DIF-EI Frame; Non-Service Circuit – Convert	NTP-039
DT Frame – Add (Support to Installer)	NTP-007
DT Frame – Degrow (Support to Installer)	NTP-027
DTU, ESU, TSI Port – Special Growth to Operational – Change (Used by TELCO Personnel Only)	NTP-019
DTU, TSI Port, ESU – Degrow (Used by TELCO Personnel Only)	NTP-020
DTU, TSI Port – Special Growth to Operational – Change (Used by TELCO Personnel Only)	NTP-018
DTU(s) to DT – Add (Support to Installer)	NTP-008
DTU(s) to DT – Add (Used by TELCO Personnel Only)	NTP-017

FIND YOUR JOB IN THE LIST BELOW THEN GO TO

EST – Degrow (Support to Installer)	NTP-031
EST with Existing TSI and VIF/DT/DIF – Insert (Support to Installer)	NTP-012
EST With New TSI and VIF/DT/DIF – Add (Support to Installer)	NTP-026
ESU; DIU, TSI Port – Special Growth to Operational – Change (Used by TELCO Personnel Only)	NTP-024
ESU; DIU, TSI Port – Degrow (Used by TELCO Personnel Only)	NTP-026
ESU; DTU, TSI Port – Special Growth to Operational – Change (Used by TELCO Personnel Only)	NTP-019
ESU to EST – Add (Support to Installer)	NTP-011
ESU to EST – Add (Used by TELCO Personnel Only)	NTP-021
ESU; VIU, TSI Port – Degrow (Used by TELCO Personnel Only)	NTP-016
ESU; VIU, TSI Port – Special Growth to Operational – Change (Used by TELCO Personnel Only)	NTP-015
Firmware Version Data (MP and SP); DIF – Change (Used by TELCO Personnel Only)	NTP-037
Functional Assignment(s) of DIU Digroup(s) (THW, THW5, and TDG) – Change (Used by TELCO Personnel Only)	NTP-038
Insert EST With Existing TSI and VIF/DT/DIF (Support to Installer)	NTP-012
Spare DIU – Change; Using Convert DIU Procedure	NTP-032
Standard Terminal Unit (2400 BPS); Enhanced Terminal Unit (4800 BPS) – Convert (Used by TELCO Personnel Only)	NTP-036
Terminals to Enhanced Type (4800 BPS) on TGR Frame – Convert (Used by TELCO Personnel Only)	NTP-025
Terminal(s) to TGR Frame – Add (Support to Installer)	NTP-006
THW, THW5, and TDG; Add or Change Functional Assignment(s) of DIU Digroup(s) (Used by TELCO Personnel Only)	NTP-038
TGR Frame; CCIS – Add (Support to Installer)	NTP-004
TGR Frame Complex; CCIS – Degrow (Support to Installer)	NTP-034
TGR Supplementary Frame; CCIS – Add (Support to Installer)	NTP-005

FIND YOUR JOB IN THE LIST BELOW THEN GO TO

TSI Port; DIU, ESU – Special Growth to Operational – Change (Used by TELCO Personnel Only)	NTP-024
TSI Port; DIU, ESU – Degrow (Used by TELCO Personnel Only)	NTP-026
TSI Port; DTU, ESU – Degrow (Used by TELCO Personnel Only)	NTP-020
TSI Port; DTU – Special Growth to Operational – Change (Used by TELCO Personnel Only)	NTP-018
TSI Port; DTU, ESU – Special Growth to Operational – Change (Used by TELCO Personnel Only)	NTP-019
TSI Port; VIU, ESU – Special Growth to Operational – Change (Used by TELCO Personnel Only)	NTP-015
TSI Port; VIU – Special Growth to Operational – Change (Used by TELCO Personnel Only)	NTP-014
TSI Port; VIU, ESU – Degrow (Used by TELCO Personnel Only).	NTP-016
VIF Frame – Add (Support to Installer)	NTP-003
VIF Frame – Degrow (Support to Installer)	NTP-028
VIU, ESU, TSI Port – Special Growth to Operational – Change (Used by TELCO Personnel Only)	NTP-015
VIU, TSI Port – Special Growth to Operational – Change (Used by TELCO Personnel Only)	NTP-014
VIU, TSI Port, ESU – Degrow (Used by TELCO Personnel Only)	NTP-016
VIU to VIF – Add (Support to Installer)	NTP-009
VIU to VIF – Add (Used by TELCO Personnel Only)	NTP-013

Acceptance tests are not required for verification of the growth procedures contained in this volume. The readiness of a frame or unit to become a part of the operating system is established by the successful completion of the particular growth procedure in its entirety.

ACCEPTANCE

Issue 1	SEP 1997
234-353-030	NTP
PAGE 1 of 1	002

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

		RESPONSIBILITY	
	WARNINGS: 1. An antistatic wrist strap must be worn to prevent electrostatic discharge and possible damage to circuit packs while handling 2. No other growth or maintenance activity is allowed during this procedure		
	NOTES: 1. Appropriate Input/Output manuals must be used if clarification of input message or output message is necessary 2. This procedure must be performed during light traffic periods 3. 4ESS TM switch operation must be closely monitored while performing this procedure 4. Corrective action must be taken immediately on any activity that may cause any unit to go out of service (OOS) 5. Stability of office must be maintained throughout this procedure		
1	Notify Next Higher Support Organization That VIFs Are Being Added. Obtain Information for Items 2 and 3 From Next Higher Technical Support Group	TELCO	—
2	Ensure 4ESS Switch Is in Stable Condition	TELCO	—
3	Ensure 1B Processor and Peripheral Units Are Operating in Normal Duplex Mode	TELCO	—
4	Assure That VIF Frame Power Verification Tests Have Been Completed and All Voiceband Interface Controller and VIU Plug-Ins Are Properly Installed and Firmly Seated	INST	—
5	Verify VIF and EST (If Applicable) Unit Type (UT) Translator and Compare Translations Data Against Wiring Records:		
	1. Verify VIF UT Translator (VER:UTYPE:VIF a!)	TELCO/INST	DLP-508
	2. If EST Is Associated With Growth VIF, Verify ESU Submember Equipage and ESU to VIU Assignment in EST UT Translator (VER:UTYPE:EST a!)	TELCO/INST	DLP-546
	3. Compare Translation Data Against Wiring Records	INST	—
6	Verify TSI UT Translator and Compare Translations Data Against Wiring Records:		
	1. Determine Which TSI Frame Has Ports Connecting to Growth VIF	TELCO	—
	2. Verify TSI Port to VIU Assignment and TSI Port Submember Equipage Data of TSI UT Translator (VER:UTYPE:TSI a!)	TELCO/INST	DLP-548

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

6 (Contd)	3. Compare Translation Data Against Wiring Records	INST	—
7	Remove Growth VIF Power Using Power Switches	INST	—
8	Set Member and Group Switches of Growth VIF Per Frame Assignments	INST	—
9	Connect Private Signal Leads	INST	—
10	Verify VIF Private Signal Leads	INST	—
11	Connect Alarm Cables	INST	—
12	Verify VIF Major and Minor Alarms	INST	—
13	Connect Network Clock Cables	INST	—
14	Recent Change and Verify Member Equipage UNEQ to GROW (VIF)	TELCO	DLP-500
15	Extend or Insert Peripheral Unit Bus Per TOP 234-353-045; Then Continue This Procedure at Item 16 Upon Completion	TELCO/INST	—
16	At 1B MTC Terminal, Enter RMV:PUB 0! To Remove Peripheral Unit Bus 0 From Service	TELCO	—
17	Apply Power to VIF Controllers 0 and 1 and Bus 0	INST	—
18	Diagnose VIF Controller 0 (PUB 0)	INST	—
19	Remove Power From Growth VIF Bus Interface Unit 0	INST	—
20	Restore Peripheral Unit Bus 0 to Service (RST:PUB 0!)	TELCO/INST	DLP-503
	NOTE: This is a safe point to temporarily stop this procedure.		
21	At 1B MTC Terminal, Enter RMV:PUB 0! To Remove Peripheral Unit Bus 1 From Service	TELCO	—
22	Apply Power to VIF Bus 1	INST	—
23	Diagnose VIF Controller 1 (PUB 1)	INST	—
	(Continued on Page 3)		

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

24	If Any Repair or Maintenance Was Required to IPUB or Controller Access Circuitry During IPUB 1 Testing:		
	1. Remove Power From Growth VIF Bus Interface Unit 1	INST	—
	2. Restore Peripheral Unit Bus 1 to Service (RST:PUB 1!)	TELCO/INST	DLP-503
	3. Repeat From Item 16	TELCO/INST	—
25	Restore Peripheral Unit Bus 1 to Service (RST:PUB 1!)	TELCO/INST	DLP-503
	NOTE: This is a safe point to temporarily stop this procedure.		
26	Apply Power to Growth VIF Bus Interface Unit 0	INST	—
27	Recent Change and Verify Member Equipage GROW to SGRO (VIF)	TELCO	DLP-500
28	Diagnose VIF Controllers 0 and 1 (Specifying GROWTH)	INST	—
29	Assure That Power Is On for VIU 7; Then Diagnose, Specifying GROWTH	INST	—
30	Reinsert Plug-Ins for One VIU if Previously Removed	INST	—
31	Recent Change and Verify Submember Equipage UNEQ to GROW (One VIU)	TELCO	DLP-501
32	Diagnose One VIU (Specifying GROWTH)	INST	—
33	Recent Change and Verify Submember Equipage GROW to SGRO (One VIU)	TELCO	DLP-501
34	Enter Message To Apply Port Pest to Growth Associated TSI Port (INH:TSI a,SPC b,PORT c!)	TELCO	—
	NOTE: TSI port pest must remain in effect until instructed to remove in applicable procedure.		
35	Remove TSI Port Loop Cables and Connect Signal Cables at TSI/EST and One VIU	INST	—
36	Recent Change and Verify Submember Equipage UNEQ to GROW (TSI Port Connecting to One VIU)	TELCO	DLP-501
37	Recent Change and Verify Submember Equipage GROW to SGRO (TSI Port Connecting to One VIU)	TELCO	DLP-501
38	Diagnose Connecting TSI Controllers 0 and 1 (Specifying Appropriate Phase and GROWTH) and Restore	TELCO/INST	DLP-510
39	Diagnose One VIU (Specifying GROWTH)	INST	—

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

40	Repeat Items 30 Through 39 For Each VIU Initially Supplied	TELCO/INST	—
41	Diagnose VIF Controllers 0 and 1 Specifying PH 22 and GROWTH	INST	—
42	Complete Heat Test of VIF Frame and VIUs in SGRO State	TELCO/INST	—
	NOTE: TELCO will need to support installer in allowing repeated diagnostics of VIF and VIUs during heating interval.		
43	Assure That Buses 0 and 1 and Controller 0 Power Switches Are Powered Up With OFF Switches in Normal Position and Controller 1 Power Switch Powered Up With OFF Switch to ROS	INST	—
44	Recent Change and Verify Member Equipage SGRO to OPER (VIF)	TELCO	DLP-500
45	Assure That System Status for Associated TSI Indicates In-Service and Duplex Operation	TELCO	—
46	Enter Message To Restore and Initiate Controller 0 to Simplex Operation (RST:VIF a,CONTR 0!) ATP and Restore COMPLETE Required; INST Clear Equipment Troubles	TELCO/INST	—
47	Enter Message To Run Peripheral Unit Audit (AUD:PUSTAT!); Wait for Message Complete (MSG COMPL)	TELCO	—
48	Restore and Initialize Controller 1 to Duplex Operation (Using Power Switch)	TELCO/INST	DLP-505
49	Activation of VIU Equipment:		
	A. For Each VIU With Trunks Connected or Transmission Equipment Ready for Test That Is To Interface With TSI Port Via Equipped ESU: Complete VIU/ESU/TSI Interface Using NTP-011 (Echo Suppressor Unit Growth)	TELCO/INST	—
	B. For Each VIU With Trunks Connected or Transmission Equipment Ready for Test That Is To Interface Directly to TSI or Via Strap Through FB619 Pack in EST (Unequipped ESU Position) Perform the Following:		
	1. Recent Change and Verify Submember Equipage SGRO to OPER (VIU Associated TSI Port)	TELCO	DLP-501
	2. Recent Change and Verify Submember Equipage SGRO to OPER (VIU Associated With TSI Port in Item 46.B.1)	TELCO	DLP-501
	3. Enter Message To Run Peripheral Unit Status Audit (AUD:PUSTAT!); Wait for Message Complete (MSG COMPL)	TELCO	—
	(Continued on Page 5)		

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

49 (Contd)	4. Enter Message To Restore VIU (in Item 46.B.2) (RST:VIF a,VIU b!) ATP and Restore COMPLETE Required: INST Clear Equipment Troubles	TELCO/INST	DLP-512
	5. Enter Message To Allow Growth Associated TSI Port (ALW:TSI a,SPC b,PORT c!)	TELCO	—

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

		RESPONSIBILITY	
	WARNINGS: 1. An antistatic wrist strap must be worn to prevent electrostatic discharge and possible damage to circuit packs while handling 2. No other growth or maintenance activity is allowed during this procedure		
	NOTES: 1. Appropriate Input/Output manuals must be used if clarification of input message or output message is necessary 2. This procedure must be performed during light traffic periods 3. 4ESSTM switch operation must be closely monitored while performing this procedure 4. Corrective action must be taken immediately on any activity that may cause any unit to go out of service (OOS) 5. Stability of office must be maintained throughout this procedure 6. The terms first and second terminal units refer to primary (first) and backup (second) terminals of domestic terminal unit pair, or primary (first) and secondary (second) terminals of international terminal unit group. These terminal units are also referred to as mates 7. Terminal units of domestic pair or international group must not be located in same terminal group (TGR) frame 8. This procedure is also used to grow simplex complement type CCITT-6 international terminals		
1	Notify Next Higher Support Organization That CCIS TGR Basic Frame Is Being Added. Obtain Information for Items 2 and 3 From Next Higher Technical Support Group	TELCO	—
2	Ensure 4ESS Switch Is in Stable Condition	TELCO	—
3	Ensure 1B Processor and Peripheral Units Are Operating in Normal Duplex Mode	TELCO	—
4	Verify Physical TGR Terminal Unit Equipment Initially Supplied at Growth TGR Frame and Mate Terminal TGR Location	INST	—
5	Assure That TGR Frame Power Verification Tests Have Been Completed	INST	—
	(Continued on Page 2)		

**ADD CCIS TERMINAL GROUP BASIC FRAME WITH OR WITHOUT
SUPPLEMENTARY FRAME — SUPPORT TO INSTALLER (INST)**

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

6	Verify TGR Unit Type (UT) Translator and Compare Translations Data Against Wiring Records:		
	1. Verify Octal Words 0 Through 20 of TGR UT Translator (VER:UTYPE:TGR a!)	TELCO/INST	DLP-514
	2. Verify Terminal Unit Data of TGR UT Translator for All Terminal Units Initially Supplied (VER:UTYPE:TGR a,SME b!)	TELCO/INST	DLP-585
	3. Compare Translations Data Against Wiring Records	INST	—
	4. If Enhanced Terminal, Verify Operational Status of Growth Associated CCDS Frame (VER:UTYPE:CCDS a,ME!)	TELCO/INST	DLP-586
7	Remove All Power From Growth TGR Frame(s): Controller 0 and Controller 1, PUB 0 and PUB 1, and Terminal Units Supplied	INST	—
8	Connect TGR Frame(s) Alarm Cabling	INST	—
9	Connect TGR Frame(s) Private Signal Leads	INST	—
10	Verify Scan and Signal Distributor (SD) Points	INST	—
11	Connect Terminal Transmission Cables and Adjust Amplifier and Pad Level:		
	1. Connect Terminal Transmission Cables	INST	—
	2. Adjust Amplifier and Pad Level of Terminal Units Initially Supplied Per NTP-035; Then Continue This Procedure at Item 9 Upon Completion	TELCO/INST	—
12	If Growing Enhanced Terminals:		
	1. Assure That CCDS Frame Growth Is Completed	INST	—
	2. Assure That Cabling Between Growth Terminal Units and 2048A Data Sets Is Connected	INST	—
	3. Assure That 2048A Data Set Options Are Correctly Set and Data Set Operating in CONTINUOUS MODEM TEST Mode	INST	—
13	Recent Change and Verify Member Equipage UNEQ to GROW (TGR)	TELCO	DLP-500
14	Extend or Insert Peripheral Unit Bus Per TOP 234-353-045; Then Continue This Procedure at Item 15 Upon Completion	TELCO/INST	—
15	Enter RMV:PUB 0! To Remove Peripheral Unit Bus 0 From Service	TELCO	—

**ADD CCIS TERMINAL GROUP BASIC FRAME WITH OR WITHOUT
SUPPLEMENTARY FRAME — SUPPORT TO INSTALLER (INST)**

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

16	Power Up Frame Controllers 0 and 1 and Bus Interface Unit 0	INST	—
17	Diagnose Frame Controllers 0 and 1 (PUB 0)	INST	—
18	Remove Power From Bus Interface Unit 0	INST	—
19	Restore Peripheral Unit Bus 0 to Service (RST:PUB 0!)	TELCO/INST	DLP-503
20	At 1B MTC Terminal, Enter RMV:PUB 1! To Remove Peripheral Unit Bus 1 From Service	TELCO	—
21	Power Up Bus Interface Unit 1	INST	—
22	Diagnose Frame Controllers 0 and 1 (PUB 1)	INST	—
23	If Any Repair or Maintenance Was Required to IPUB or Controller Access Circuitry During IPUB 1 Testing:		
	1. Remove Power From Growth TGR Bus Interface Unit 1	INST	—
	2. Restore Peripheral Unit Bus 1 to Service (RST:PUB 1!)	TELCO/INST	DLP-503
	3. Repeat From Item 15		
24	Restore Peripheral Unit Bus 1 to Service (RST:PUB 1!)	TELCO/INST	DLP-503
25	Power Up Bus Interface Unit 0	INST	—
	NOTE: This is a safe point to temporarily stop this procedure.		
26	Recent Change and Verify Submember Equipage UNEQ to GROW (One Terminal Unit Supplied With Growth Frame)	TELCO	DLP-501
27	Repeat Item 26 for Each Additional Equipped Terminal Unit	TELCO	—
28	Power Up Terminal Units Supplied With Growth TGR Frame(s)	INST	—
29	Recent Change and Verify Member Equipage GROW to SGRO (TGR)	TELCO	DLP-500
30	Diagnose Frame Controllers 0 and 1 (Specifying Growth)	INST	—
	NOTE: This is a safe point to temporarily stop this procedure.		
31	Diagnose Terminal Units (Specifying RAW and Growth)	INST	—
32	Recent Change and Verify Submember Equipage GROW to SGRO [One Terminal Unit Supplied With Growth Frame(s)]	TELCO	DLP-501

**ADD CCIS TERMINAL GROUP BASIC FRAME WITH OR WITHOUT
SUPPLEMENTARY FRAME — SUPPORT TO INSTALLER (INST)**

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

33	Repeat Item 32 for Each Additional Equipped Terminal Unit	TELCO	—
34	Assure That OFF Switches for All Terminal Units Supplied Are in Normal Position	INST	—
35	Diagnose Terminal Units (Specifying Growth)	INST	—
	NOTE: This is a safe point to temporarily stop this procedure.		
36	Complete Heat Test of TGR Frame and Terminal Units	TELCO/INST	—
	NOTE: TELCO will need to support Installer in allowing repeated diagnostics of TGR and units during heating intervals.		
37	Assure That Buses 0 and 1 and Controller 0 Power Switches Are Powered Up With OFF Switches in Normal Position and Controller 1 Power Switch Powered Up With OFF Switch to ROS	INST	—
38	Enter Message to Run Peripheral Unit Status Audit (AUD:PUSTAT!); Wait for Message Complete (MSG COMPL)	TELCO	—
	NOTE: This is a safe point to temporarily stop this procedure.		
	<i>CAUTION: Items 39 through 42 must be performed without interruption during periods of light traffic in the office. If any repairs are needed and cannot be completed before the office busy hours, the growth TGR member equipage must be temporarily degrown [DLP-526] to special growth until the work can be continued.</i>		
39	Recent Change and Verify Member Equipage SGR0 to OPER (TGR)	TELCO	DLP-500
40	At 1B MTC Terminal, Enter Message To Restore and Initialize Controller 0 to Simplex Operation (RST:TGR a,IPUB 0!). ATP and Restore COMPLETE Required; INST Clear Equipment Troubles	TELCO/INST	—
41	Restore and Initialize Controller 1 to Duplex Operation (Using Power Switch)	TELCO/INST	DLP-505
42	Diagnose Growth TGR Frame PUB Interface Units:		
	1. At 1B MTC Terminal, Enter Message to Diagnose Growth TGR Frame PUB Interface Unit (PUB 0) RST:TGR a,IPUB 0!). ATP and Restore COMPLETE Required; INST Clear Equipment Troubles	TELCO/INST	—
	2. At 1B MTC Terminal, Enter Message to Diagnose Growth TGR Frame PUB Interface Unit (PUB 1) RST:TGR a,IPUB 1!). ATP and Restore COMPLETE Required; INST Clear Equipment Troubles	TELCO/INST	—

**ADD CCIS TERMINAL GROUP BASIC FRAME WITH OR WITHOUT
SUPPLEMENTARY FRAME — SUPPORT TO INSTALLER (INST)**

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

	NOTE: This is a safe point to temporarily stop this procedure.		
43	Activate Simplex or Paired Terminal Units to Operational:		
	A. For Terminal Units Which Have Mate Terminal Units and Not in Special Growth State: Complete Mate Terminal Growth and Activation of Both Terminal Units Using Applicable Growth Procedures	TELCO/INST	—
	B. For a Simplex Complement CCITT-6 Terminal, Perform the Following:		
	1. Perform Functional Word Change of TGR Terminal Unit LOOP Data To Allow Terminal Self-Synchronization (One Terminal Unit – Using RC Form 801)	TELCO	DLP-532
	2. If Audit 49 Was Not Previously Inhibited, Enter INH:AUD:NUM 49!	TELCO	—
	3. Recent Change and Verify Submember Equipage SGRO to OPER (One Terminal Unit)	TELCO	DLP-501
	NOTE: It can take 5 minutes or longer for terminal unit to pass the initial synchronization test.		
	4. Restore One Terminal Unit to Service (RST:TGR a,TER b!), and Verify Status of Terminal and Signaling Link	TELCO/INST	DLP-587
	NOTE: Do not proceed until the first terminal unit has been self-synchronized.		
	5. At 1B MTC Terminal, Enter ALW:AUD:NUM 49!	TELCO	—
	6. At 1B MTC Terminal, Enter AUD:NUM 49!; Wait for AUD:NUM 49 COMPLETE 0 ERRORS DETECTED Output Message	TELCO	—
	C. For Terminal Units Which Have Mates in Special Growth State, Perform the Following:		
	1. Perform Functional Word Change of TGR Terminal Unit LOOP Data To Allow Terminal Self-Synchronization (One Terminal Unit – Using RC Form 801)	TELCO	DLP-532
	2. Repeat Item 43.C.1 for Mate Terminal Unit		
	3. If Audit 49 Was Not Previously Inhibited, Enter INH:AUD:NUM 49!	TELCO	—
	4. Recent Change and Verify Submember Equipage SGRO to OPER (One Terminal Unit)	TELCO	DLP-501
	5. Repeat Item 43.C.4 for Mate Terminal Unit		
	(Continued on Page 6)		

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

43 (Contd)	NOTE: It can take 5 minutes or longer for terminal unit to pass the initial encryption validation test.		
	6. Restore One Terminal Unit to Service (RST:TGR a,TER b!), and Verify Status of Terminal and Signaling Link	TELCO/INST	DLP-587
	NOTE: Do not proceed until the first terminal unit has been self-synchronized.		
	7. At 1B MTC Terminal, Enter ALW:AUD:NUM 49!	TELCO	—
	8. At 1B MTC Terminal, Enter AUD:NUM 49!; Wait for AUD:NUM 49 COMPLETE 0 ERRORS DETECTED Output Message	TELCO	—
	9. Restore Mate Terminal Unit to Service (RST:TGR a,TER b!) and Verify Status of Terminal and Signaling Link	TELCO/INST	DLP-587
	10. If Additional Terminal Units Are To Be Activated at This Time, Repeat Item 43.C for Each Additional Terminal Unit To Be Activated	TELCO/INST	—
	NOTE: The terminal units are now operational and self-synchronized. When VFLs are ready for activation, trunk operations center (TOC) circuit order procedures are required to place the interoffice links in service: TOP 234-103-020AC (Domestic) TOP 234-150-101 (International).		

**ADD CCIS TERMINAL GROUP BASIC FRAME WITH OR WITHOUT
SUPPLEMENTARY FRAME — SUPPORT TO INSTALLER (INST)**

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

		RESPONSIBILITY	
	WARNINGS: 1. An antistatic wrist strap must be worn to prevent electrostatic discharge and possible damage to circuit packs while handling 2. No other growth or maintenance activity is allowed during this procedure		
	NOTES: 1. Appropriate Input/Output manuals must be used if clarification of input message or output message is necessary 2. This procedure must be performed during light traffic periods 3. 4ESSTM switch operation must be closely monitored while performing this procedure 4. Corrective action must be taken immediately on any activity that may cause any unit to go out of service (OOS) 5. Stability of office must be maintained throughout this procedure 6. The terms first and second terminal units refer to primary (first) and backup (second) terminal of domestic terminal unit pair, or primary (first) and secondary (second) terminal of an international terminal unit group. These terminal units are also referred to as mates. 7. Terminal units of domestic pair or international group must not reside in same terminal group (TGR) frame. 8. This procedure is also used to grow simplex complement type CCITT-6 international terminals.		
1	Notify Next Higher Support Organization That Supplementary Frame(s) Is Being Added to CCIS TGR. Obtain Information for Items 2 and 3 From Next Higher Technical Support Group	TELCO	—
2	Ensure 4ESS Switch Is in Stable Condition	TELCO	—
3	Ensure 1B Processor and Peripheral Units Are Operating in Normal Duplex Mode	TELCO	—
4	Verify Physical TGR Terminal Unit Equipment Initially Supplied at Growth Supplementary Frame and Mate Terminal TGR Location	INST	—
5	Assure That TGR Supplementary Frame Power Verification Tests Have Been Completed	INST	—
	(Continued on Page 2)		

ADD SUPPLEMENTARY FRAME(S) TO OPERATIONAL CCIS TERMINAL GROUP — SUPPORT TO INSTALLER (INST)

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

6	Verify Growth Terminal Unit Data of TGR Unit Type (UT) Translator and Compare Translations Data Against Wiring Records:		
	1. Verify TGR UT Translator Data for One Growth Terminal Unit and Mate Terminal Unit (VER:UTYPE:TGR a,SME b!)	TELCO/INST	DLP-585
	2. Compare Translations Data Against Wiring Records	INST	—
7	Diagnose and Restore Operational TGR Frame Controllers	TELCO	DLP-515
8	Turn Power Switch Off for Growth Terminal Unit(s)	INST	—
9	Connect Power Control and Alarm Cable Between Basic and Supplementary Frame and Verify Alarms	INST	—
10	Connect Flat Tape Cabling to Growth Terminal Unit(s)	INST	—
11	Connect and Verify Terminals Unit(s) Private Signal Leads	INST	—
12	Connect Terminal Transmission Cables and Adjust Amplifier and Pad Level:		
	1. Connect Terminal Transmission Cables	INST	—
	2. Adjust Amplifier and Pad Level of Terminal Units Initially Supplied per NTP-035; Then Continue This Procedure at Item 13 Upon Completion	TELCO/INST	—
13	If Growing Enhanced Terminals:		
	1. Assure That CCDS Frame Growth Is Completed	INST	—
	2. Assure That Cabling Between Growth Terminal Units and 2048A Data Sets Is Connected	INST	—
	3. Assure That 2048A Data Set Options Are Correctly Set and Data Set Operating in CONTINUOUS MODEM TEST Mode	INST	—
14	At Growth Associated TGR Basic Frame Controller 0 Power Switch, Rotate OFF Switch to ROS	TELCO	—
15	Connect Flat Tape Cabling From One Growth Terminal Unit to Terminal Access Controller 0	INST	—
16	Diagnose Growth Associated TGR Frame Controller Using Power Switch (Controller 0)	TELCO/INST	DLP-516
17	At Growth Associated TGR Basic Frame Controller 1 Power Switch, Rotate OFF Switch to ROS	TELCO	—
18	Connect Flat Tape Cabling From One Growth Terminal Unit to Terminal Access Controller 1	INST	—
	(Continued on Page 3)		

ADD SUPPLEMENTARY FRAME(S) TO OPERATIONAL CCIS TERMINAL GROUP — SUPPORT TO INSTALLER (INST)

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

19	Diagnose Growth Associated TGR Frame Controller Using Power Switch (Controller 1)	TELCO/INST	DLP-516
	NOTE: This is a safe point to temporarily stop this procedure.		
20	Power Up One Growth Terminal Unit	INST	—
21	Recent Change and Verify Submember Equipage UNEQ to GROW (One Terminal Unit)	TELCO	DLP-501
22	Diagnose Growth Terminal Unit (One Terminal Unit) (DGN:TGR a,TER b;RAW:GROWTH!); INST Resolve Problems Associated With Growth Equipment:		
	A. If Growing Standard Terminals, Assure That Phases 1 Through 15 Ran ATP	TELCO/INST	—
	B. If Growing Enhanced Terminals, Assure That Phases 1 Through 13, 17, 18, and 19 Ran ATP (PH 14-15 NTR, PH 16 No Response)	TELCO/INST	—
	NOTE: This is a safe point to temporarily stop this procedure.		
23	Recent Change and Verify Submember Equipage GROW to SGRO (One Terminal Unit)	TELCO	DLP-501
24	Diagnose Growth Terminal Unit (One Terminal Unit) (DGN:TGR a,TER b;RAW:GROWTH!); INST Resolve Problems Associated With Growth Equipment:		
	A. If Growing Standard Terminals, Assure That Phases 1 Through 15 Ran ATP	TELCO/INST	—
	B. If Growing Enhanced Terminals, Assure That Phases 1 Through 13, 17, 18, and 19 Ran ATP (PH 14-15 NTR, PH 16 No Response)	TELCO/INST	—
	NOTE: This is a safe point to temporarily stop this procedure.		
25	Repeat Items 14 Through 24 for Each Additional Equipped Terminal Unit	TELCO/INST	—
26	Activate Simplex or Paired Terminal Unit(s) to Operational:		
	A. For Terminal Units Which Have Mate Terminal Units and Not in Special Growth State: Complete Mate Terminal Growth and Activation of Both Terminal Units Using Applicable Growth Procedures	TELCO/INST	—
	B. For Simplex Complement CCITT-6 Terminal Units, Perform the Following:		
	1. Perform Functional Word Change of TGR Terminal Unit Loop Data To Allow Terminal Self-Synchronization (One Terminal Unit – Using RC Form 801)	TELCO	DLP-532
	2. If Audit 49 Was Not Previously Inhibited, Enter INH:AUD:NUM 49!	TELCO	—

**ADD SUPPLEMENTARY FRAME(S) TO OPERATIONAL CCIS TERMINAL
GROUP – SUPPORT TO INSTALLER (INST)**

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

26 (Contd)	3. Recent Change and Verify Submember Equipage SGRO to OPER (One Terminal Unit)	TELCO	DLP-501
	NOTE: It can take 5 minutes or longer for terminal to pass initial synchronization test.		
	4. Restore One Terminal Unit to Service (RST:TGR a,TER b!) and Verify Status of Terminal Unit and Signaling Link	TELCO/INST	DLP-587
	NOTE: Do not proceed until the first terminal unit has been self-synchronized.		
	5. At 1B MTC Terminal, Enter ALW:AUD:NUM 49!	TELCO	—
	6. At 1B MTC Terminal, Enter AUD:NUM 49!; Wait for AUD:NUM 49 COMPLETE 0 ERRORS DETECTED Output Message	TELCO	—
	C. For Terminal Units Which Have Mates in Special Growth State, Perform the Following:		
	1. Perform Functional Word Change of TGR Terminal Unit Loop Data to Allow Terminal Self-Synchronization (One Terminal Unit – Using RC Form 801)	TELCO	DLP-532
	2. Repeat Item 26.C.1 for Mate Terminal Unit	TELCO	—
	3. If Audit 49 Was Not Previously Inhibited, Enter INH:AUD:NUM 49!	TELCO	—
	4. Recent Change and Verify Submember Equipage SGRO to OPER (One Terminal Unit)	TELCO	DLP-501
	5. Repeat Item 26.C.4 for Mate Terminal Unit	TELCO	—
	NOTE: It can take 5 minutes or longer for terminal to pass the initial encryption validation test.		
	6. Restore One Terminal Unit to Service (RST:TGR a,TER b!), and Verify Status of Terminal Unit and Signaling Link	TELCO/INST	DLP-587
	NOTE: Do not proceed until the first terminal unit has been self-synchronized.		
	7. At 1B MTC Terminal, Enter ALW:AUD:NUM 49!	TELCO	—
	8. At 1B MTC Terminal, Enter AUD:NUM 49!; Wait for AUD:NUM 49 COMPLETE 0 ERRORS DETECTED Output Message	TELCO	—
	9. Restore Mate Terminal Unit to Service (RST:TGR a,TER b!) and Verify Status of Terminal Unit and Signaling Link	TELCO/INST	DLP-587

ADD SUPPLEMENTARY FRAME(S) TO OPERATIONAL CCIS TERMINAL GROUP – SUPPORT TO INSTALLER (INST)

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

26 (Contd)	10. If Additional Terminal Units Are To Be Activated at This Time, Repeat Items 26.C.1 Through 26.C.9 for Each Additional Terminal Unit To Be Activated	TELCO/INST	—
	NOTE: The terminal units are now operational and self-synchronized. When VFLs are ready for activation, trunk operations center (TOC) circuit order procedures are required to place the interoffice links in service: TOP 234-103-020AC (Domestic) TOP 234-150-101 (International).		

**ADD SUPPLEMENTARY FRAME(S) TO OPERATIONAL CCIS TERMINAL
GROUP — SUPPORT TO INSTALLER (INST)**

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

		RESPONSIBILITY	
	WARNINGS: 1. <i>An antistatic wrist strap must be worn to prevent electrostatic discharge and possible damage to circuit packs while handling</i> 2. <i>No other growth or maintenance activity is allowed during this procedure</i>		
	NOTES: 1. Appropriate Input/Output manuals must be used if clarification of input message or output message is necessary 2. This procedure must be performed during light traffic periods 3. 4ESSTM switch operation must be closely monitored while performing this procedure 4. Corrective action must be taken immediately on any activity that may cause any unit to go out of service (OOS) 5. Stability of office must be maintained throughout this procedure 6. The terms first and second terminal unit in this procedure refers to primary (first) and backup (second) terminal of a domestic terminal unit pair, or primary (first) and secondary (second) terminal of an international terminal unit group. These terminal units are also referred to as mates. 7. Terminal units of a domestic pair or international group must not reside in the same terminal group (TGR) frame. 8. This procedure is also used to grow simplex complement type CCITT-6 international-type terminals.		
1	Notify Next Higher Support Organization That First and/or Second Terminal Unit(s) Is Being Added to Basic TGR or Supplementary Frame(s). Obtain Information for Items 2 and 3 From Next Higher Technical Support Group	TELCO	—
2	Ensure 4ESS Switch Is in Stable Condition	TELCO	—
3	Ensure 1B Processor and Peripheral Units Are Operating in Normal Duplex Mode	TELCO	—
4	If This Procedure Was Entered as Result of TGR Frame Growth, Continue This Procedure at Item 6; Otherwise Continue at Next Step	TELCO/INST	—
	(Continued on Page 2)		

**ADD FIRST AND/OR SECOND TERMINAL UNIT(S) TO OPERATIONAL TGR
BASIC OR SUPPLEMENTARY FRAME(S) — SUPPORT TO INSTALLER (INST)**

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

5	Verify Growth Terminal Unit Data of TGR Unit Type (UT) Translator and Compare Translations Data Against Wiring Records:		
	1. Verify TGR UT Translator Data for One Growth Terminal Unit and Mate Terminal Unit (VER:UTYPE:TGR a,SME b!)	TELCO/INST	DLP-585
	2. Compare Translations Data Against Wiring Records	INST	—
6	Diagnose and Restore Operational TGR Frame Controllers	TELCO	DLP-515
7	Turn Power Switch Off for Growth Terminal Unit	INST	
8	Install Growth Terminal Unit	INST	—
9	Connect Intraframe Power Cabling to Growth Terminal Unit	INST	—
10	Connect Flat Tape Cabling to Growth Terminal Unit	INST	—
11	Connect and Verify Terminal Unit Private Signal Leads	INST	—
12	Adjust Amplifier and Pad Level of Growth Terminal Unit Per NTP-035; Then Continue This Procedure at Item 13 Upon Completion	TELCO/INST	—
13	If Growing Enhanced Terminals:		
	1. Assure That CCIS Data Set (CCDS) Frame Growth Is Completed	INST	—
	2. Assure That Cabling Between Growth Terminal Units and 2048A Data Sets Is Connected	INST	—
	3. Assure That 2048A Data Set Options Are Correctly Set and Data Set Operating in CONTINUOUS MODEM TEST Mode	INST	—
14	Install Dc-to-Dc Converter Packs and Fuses	INST	—
15	At TGR Basic Frame Controller 0 Power Switch, Rotate OFF Switch to ROS	TELCO	—
16	Connect Flat Tape Cabling From Growth Terminal Unit to Terminal Access Controller 0	INST	—
17	Diagnose TGR Frame Controller Using Power Switch (Controller 0)	TELCO/INST	DLP-516
18	At TGR Basic Frame Controller 1 Power Switch, Rotate OFF Switch to ROS	TELCO	—
19	Connect Flat Tape Cabling From Growth Terminal Unit to Terminal Access Controller 1	INST	—
20	Diagnose TGR Frame Controller Using Power Switch (Controller 1)	TELCO/INST	DLP-516

**ADD FIRST AND/OR SECOND TERMINAL UNIT(S) TO OPERATIONAL TGR
BASIC OR SUPPLEMENTARY FRAME(S) — SUPPORT TO INSTALLER (INST)**

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

	NOTE: This is a safe point to temporarily stop this procedure.		
21	Power Up Growth Terminal Unit	INST	—
22	Recent Change and Verify Submember Equipage UNEQ to GROW (One Terminal Unit)	TELCO	DLP-501
23	Diagnose TGR Terminal Unit (One Terminal Unit) (DGN:TGR a,TER b;RAW:GROWTH!); INST Resolve Problems Associated With Growth Equipment		
	A. If Growing Standard Terminal(s), Assure That Phases 1 Through 15 Ran ATP	TELCO/INST	—
	B. If Growing Enhanced Terminals, Assure That Phases 1 Through 13, 17, 18, and 19 Ran ATP (PH 14-15 NTR, PH 16 No Response)	TELCO/INST	—
	NOTE: This is a safe point to temporarily stop this procedure.		
24	Recent Change and Verify Submember Equipage GROW to SGRO (One Terminal Unit)	TELCO	DLP-501
25	Diagnose Terminal Unit (One Terminal Unit) (DGN:TGR a,TER b;RAW:GROWTH!); INST Resolve Problems Associated With Growth Equipment		
	A. If Growing Standard Terminal(s), Assure That Phases 1 Through 15 Ran ATP	TELCO/INST	—
	B. If Growing Enhanced Terminals, Assure That Phases 1 Through 13, 17, 18, and 19 Ran ATP (PH 14-15 NTR, PH 16 No Response)	TELCO/INST	—
	NOTE: This is a safe point to temporarily stop this procedure.		
26	If Mate Terminal Unit Is Located in Another Operational TGR Frame and Terminal Unit Is Still Unequipped As Verified in Item 5, Repeat Items 6 Through 25 for Mate Terminal Unit	TELCO/INST	—
27	Activate First and Second Terminal Units to Operational:		
	A. If Mate Terminal Unit Has Not Been Brought to Special Growth Per Item 26, Growth of the Mate Terminal Unit and Activation of Both Terminal Units Are Completed in Applicable Growth Procedure	TELCO/INST	—
	B. For a Simplex Complement CCITT-6 Terminal, Perform the Following:		
	1. Perform Functional Word Change of TGR Terminal Unit Loop Data To Allow Terminal Self-Synchronization (One Terminal Unit – Using RC Form 801)	TELCO	DLP-532
	2. At 1B MTC Terminal, Enter INH:AUD:NUM 49!	TELCO	—
	(Continued on Page 4)		

**ADD FIRST AND/OR SECOND TERMINAL UNIT(S) TO OPERATIONAL TGR
BASIC OR SUPPLEMENTARY FRAME(S) – SUPPORT TO INSTALLER (INST)**

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

27 (Contd)	3. Recent Change and Verify Submember Equipage SGRO to OPER (One Terminal Unit)	TELCO	DLP-501
	NOTE: It can take 5 minutes or longer for terminal unit to pass initial synchronization test.		
	4. Restore One Terminal Unit to Service (RST:TGR a,TER b!) and Verify Status of Growth Terminal and Signaling Link	TELCO/INST	DLP-587
	NOTE: Do not proceed until the first terminal unit has been self-synchronized.		
	5. At 1B MTC Terminal, Enter ALW:AUD:NUM 49!	TELCO	—
	6. At 1B MTC Terminal, Enter AUD:NUM 49!; Wait for AUD:NUM 49 COMPLETE 0 ERRORS DETECTED Output Message Before Proceeding	TELCO	—
	C. If Mate Terminal Unit Is in SGRO State, Activation of Both Terminal Units Is Completed As Follows:		
	1. Perform Functional Word Change of TGR Terminal Unit Loop Data To Allow Terminal Self-Synchronization (One Terminal Unit — Using RC Form 801)	TELCO	DLP-532
	2. Repeat Item 27.C.1 for Mate Terminal Unit	TELCO	—
	3. At 1B MTC Terminal, Enter INH:AUD:NUM 49!	TELCO	—
	4. Recent Change and Verify Submember Equipage SGRO to OPER (One Terminal Unit)	TELCO	DLP-501
	5. Repeat Item 27.C.4 for Mate Terminal Unit	TELCO	—
	NOTE: It can take 5 minutes or longer for terminal unit to pass initial encryption validation test.		
	6. Restore One Terminal Unit to Service (RST:TGR a,TER b!) and Verify Status of Growth Terminal and Signaling Link	TELCO/INST	DLP-587
	NOTE: Do not proceed until the first terminal unit has been self-synchronized.		
	7. At 1B MTC Terminal, Enter ALW:AUD:NUM 49!	TELCO	—
	8. AT 1B MTC Terminal, Enter AUD:NUM 49!; Wait for AUD:NUM 49 COMPLETE 0 ERRORS DETECTED Output Message Before Proceeding	TELCO	—
	(Continued on Page 4)		

**ADD FIRST AND/OR SECOND TERMINAL UNIT(S) TO OPERATIONAL TGR
BASIC OR SUPPLEMENTARY FRAME(S) — SUPPORT TO INSTALLER (INST)**

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

27 (Contd)	9. Restore Mate Terminal Unit to Service (RST:TGR a,TER b!) and Verify Status of Growth Terminal and Signaling Link	TELCO/INST	DLP-587
	NOTE: The terminal units are now operational and self-synchronized. When VFLs are ready for activation, trunk operational center (TOC) circuit order procedures are required to place the interoffice links in service: TOP 234-103-020AC (Domestic) TOP 234-150-101 (International).		

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

		RESPONSIBILITY	
	WARNINGS: 1. An antistatic wrist strap must be worn to prevent electrostatic discharge and possible damage to circuit packs while handling 2. No other growth or maintenance activity is allowed during this procedure		
	NOTES: 1. Appropriate Input/Output manuals must be used if clarification of input message or output message is necessary 2. This procedure must be performed during light traffic periods 3. 4ESS TM switch operation must be closely monitored while performing this procedure 4. Corrective action must be taken immediately on any activity that may cause any unit to go out of service (OOS) 5. Stability of office must be maintained throughout this procedure		
1	Notify Next Higher Support Organization That Digroup Terminal Frame(s) Is Being Added. Obtain Information for Items 2 and 3 From Next Higher Technical Support Group	TELCO	—
2	Ensure 4ESS Switch Is in Stable Condition	TELCO	—
3	Ensure 1B Processor and Peripheral Units Are Operating in Normal Duplex Mode	TELCO	—
4	Complete Preliminary Work Activities:		
	1. Verify That DT Power Verification Tests Have Been Completed	INST	—
	2. If CCIS DTs Are Being Added to Operational SP2 Complex and SP-DT Interface Unit Circuit Packs for SP2EQ1 Are Not Installed, Delay Installation Until Called for in This Procedure	INST	—
5	Verify DT and EST (If Applicable) Unit Type (UT) Translator and Compare Translations Data Against Wiring Records:		
	1. Verify DT UT Translator (VER:UTYPE:DT a!)	TELCO/INST	DLP-518
	2. If EST Is Associated With DT, Verify ESU Submember Equipage and ESU to DTU Assignment in EST UT Translator (VER:UTYPE:EST a!)	TELCO/INST	DLP-546
	3. Compare Translations Data Against Wiring Records	INST	—
	(Continued on Page 2)		

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

6	Verify Time Slot Interchange (TSI) Frame UT Translator and Compare Translations Data Against Wiring Records:		
	1. Determine Which TSI Frame(s) Have Ports Connecting to Growth DT Frame	TELCO	—
	2. Verify TSI Port to DTU Assignment and TSI Port Equipage Data of TSI UT Translator (VER:UTYPE:TSI a!)	TELCO/INST	DLP-548
	3. Compare Translations Data Against Wiring Records	INST	—
7	Verify SP2 Port Assignment and Equipage Status of Connecting SP2 Equipment (VER:UTYPE:SP a!)	TELCO/INST	DLP-517
8	If Connecting SP2 Member Equipage Is Not OPER Equipage State (11) As Determined in Item 7, Discontinue This Growth Procedure	TELCO/INST	—
9	Establish SGRO Equipage State for Connecting SP2 to DT Interface Circuit:		
	A. If SP-DT Submember Equipage (SP2EQ0/1) As Determined in Item 7 Is Marked Operational, Continue This Procedure at Item 10	TELCO/INST	—
	B. If SP-DT Submember Equipage (SP2EQ1) As Determined in Item 7 Is Marked Unequipped and CCIS Type DTs Are Being Added, Recent Change and Verify Submember Equipage UNEQ to GROW (SP2EQ1)	TELCO	DLP-501
	C. If SP-DT Interface Unit Circuit Packs for SP2EQ1 Are Not Installed As Determined in Item 4		
	1. Remove Connecting SP2 Controller 0 From Service (RMV:SP a,CONTR 0!)	TELCO	—
	2. Remove Power From Connecting SP2 Controller 0 Using CONTR0 Power Switch	TELCO	—
	3. Install Controller 0 Circuit Packs for SP2EQ1	INST	—
	4. Restore Controller 0 Power Using CONTR0 Power Switch	TELCO/INST	DLP-507
	5. Diagnose and Restore Connecting SP2 Controller 0, Specifying GROWTH	TELCO/INST	DLP-509
	6. Repeat Item 9.C.1 Through 9.C.5, Substituting Controller 1 for Controller 0	TELCO/INST	—
	D. If SP2-DT Submember Equipage SP2EQ0/1 Is in Grow State, Recent Change and Verify Submember Equipage GROW to SGRO (SP2EQ0/1)	TELCO	DLP-501
	(Continued on Page 2)		

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

10	Remove Power From Controllers 0 and 1 and From Equipped Digroup Terminal Units (DTU) 0-8 Using Power Switches	INST	—
11	Connect Private Signal Leads Per Equipment Specification and Verify	INST	—
12	Complete Alarm Wiring Per Equipment Specification	INST	—
13	Install Transmission Cables and Verify That Looping Devices for DT-TSI Ports Are Installed at DT Frame and Looping Devices for Transmission Facilities Are Installed at DT Frame, DSX, LT-1, or Repeater Bays	INST	—
14	Connect SP2 to DT Frame Interface Cables and TSI Clock Interface Cables Per Equipment Specification	INST	—
15	Apply Power to DT Frame Controllers 0 and 1 and to DTU 8 Using Power Switches	INST	—
16	Recent Change and Verify Member Equipage UNEQ to GROW (DT)	TELCO	DLP-500
17	Diagnose DT Specifying PH 12 (Bootstrap Phase)	INST	—
18	Diagnose DT All Phases (1 Through 11)	INST	—
19	Recent Change and Verify Number Equipage GROW to SGRO (DT)	TELCO	DLP-500
20	If Adding Other Growth DT Frame(s) to Same SP2 and if Concurrent DT Frame Growth is Required, Repeat Items 4 Through 19 for Additional Growth DT Frame(s)	TELCO/INST	—
21	Recent Change and Verify Submember Equipage UNEQ to GROW (One DTU, One DT Frame)	TELCO	DLP-501
22	Verify That Converter Power Switches for Selected DTU Are On	INST	—
23	Apply Power to Selected DTU Using Associated PWR OFF Switch on Fuse and Alarm Panel	INST	—
24	Diagnose Growth DTU (of Item 23) Specifying PH 1, 5 and GROWTH	INST	—
25	Recent Change and Verify Submember Equipage GROW to SGRO (One DTU)	TELCO	DLP-501
26	Enter Message to Apply Port Pest to Growth Associated TSI Port (INH:TSI a,SPC b,PORT c!)	TELCO	—
27	Connect TSI Port Cables:		
	A. If No EST Exists Between Growth DTU and Associated TSI: Remove TSI Port Loop Cables or H Connector, as Applicable, and DTU Output Loop Cables and Connect Signal Cables at One DTU and TSI Port	INST	—

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

27 (Contd)	B. If EST Exists Between Growth DTU and Associated TSI and the ESU Is Not Equipped (Strap Thru Condition): Connect Signal Cables at ESU Strap Pack, One DTU, and TSI Port	INST	—
28	Recent Change and Verify Submember Equipage UNEQ to GROW (TSI Port Connecting to DTU in Item 27)	TELCO	DLP-501
29	Recent Change and Verify Submember Equipage GROW to SGRO (TSI Port of Item 28)	TELCO	DLP-501
30	Diagnose and Restore Connecting TSI Controllers 0 and 1 (Specifying PH 13 or 20 and GROWTH):		
	A. Specify PH 13 for J4A001A	TELCO/INST	DLP-510
	B. Specify PH 20 for J4A001B	TELCO/INST	DLP-510
31	Diagnose Growth DTU (Specifying PH 1, 5 and GROWTH)	INST	—
32	Repeat Items 21 Through 31 for Each Additional DTU Initially Supplied; When Last DTU Has Been Brought to Special Growth Through Item 31:	TELCO/INST	—
	1. After Diagnostic Message Is Entered in Item 32.2, At Growth DT Frame: Observe That Protection Switch Occurs During Execution of Phase 10 for Each DTU	TELCO/INST	—
	2. Diagnose Growth DT Frame Specifying PH 1 Through 11 and GROWTH	INST	—
33	If Adding Other Growth DT Frame(s) and Only if in Special Growth State Per Item 19, Repeat Items 21 Through 32 for All DTUs Equipped on Each Growth DT Frame	TELCO/INST	—
34	If Submember Equipage Status of SP2EQ0/1 Is SGRO, Recent Change and Verify Submember Equipage SGRO to OPER (SP2EQ0/1 of Connecting SP2)	TELCO	DLP-501
35	Complete Heat Test of DT Frame(s) and DTUs in SGRO State	TELCO/INST	—
	NOTE: TELCO will need to support installer in allowing repeated diagnostics of DT frame(s) and DTUs during heat test interval.		
36	Recent Change and Verify Member Equipage SGRO to OPER (One Growth DT)	TELCO	DLP-500
37	Enter Message to Run Peripheral Unit Status Audit (AUD:PUSTAT!); Wait for Message Complete (MSG COMPL)	TELCO	—
	(Continued on Page 5)		

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

38	Enter Message To Restore and Initialize DT Controllers 0 and 1 (RST:DT a,CONTR b!) ATP and Restore COMPLETE Required; INST Clear Equipment Troubles	TELCO/INST	—
39	Enter Message To Restore DTU 8 (RST:DT a,DTU 8!) ATP and Restore COMPLETE Required; INST Clear Equipment Troubles	TELCO/INST	DLP-512
40	If Adding Other Growth DT Frame(s) and Only if in Special Growth State Per Item 19, Repeat Items 36 Through 39 for Additional Growth DT Frame(s)	TELCO/INST	—
41	Activation of DTU Equipment	TELCO/INST	—
	A. For Each DTU With Trunks Connected or Transmission Equipment Ready for Test That Is To Interface With TSI Port Via Equipped ESU, Complete DTU/ESU/TSI Interface Using NTP-011 (Echo Suppressor Growth)	TELCO/INST	—
	B. For Each DTU With Trunks Connected or Transmission Equipment Ready for Test That Is to Interface Directly to TSI or Via Strap Through FB619 Pack in EST (Unequipped ESU Position), Perform the Following:		
	1. Recent Change and Verify Submember Equipage SGRO to OPER (DTU Associated TSI Port)	TELCO/INST	DLP-501
	2. Recent Change and Verify Submember Equipage SGRO to OPER (DTU Associated With TSI Port in Item 41.B.1	TELCO/INST	DLP-501
	3. Enter Message To Run Peripheral Unit Status Audit (AUD:PUSTAT!); Wait for Message Complete (MSG COMPL)	TELCO	—
	4. Enter Message To Restore DTU (in Item 41.B.2) (RST:DT a,DTU b!) ATP and Restore COMPLETE Required; INST Clear Equipment Troubles	TELCO/INST	DLP-512
	5. Enter Message To Allow Growth Associated TSI Port (ALW:TSI a,SPC b,PORT c!)	TELCO	—
	NOTE: The current state of the digroup status memory for each digroup associated with the DTU being activated may be obtained by entering OP:DGSTAT,DT a,DTU b,DG 0;DETL:NUM 5,STAT ALL!		
42	If Adding Other Growth DT Frame(s) to Same SP2 and DT Frame(s) Are Still in Unequipped State, Repeat Items 4 Through 41 for Additional Growth DT Frames(s)	TELCO/INST	—

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

		RESPONSIBILITY	
	WARNINGS: 1. An antistatic wrist strap must be worn to prevent electrostatic discharge and possible damage to circuit packs while handling 2. No other growth or maintenance activity is allowed during this procedure		
	NOTES: 1. Appropriate Input/Output manuals must be used if clarification of input message or output message is necessary 2. This procedure must be performed during light traffic periods 3. 4ESS TM switch operation must be closely monitored while performing this procedure 4. Corrective action must be taken immediately on any activity that may cause any unit to go out of service (OOS) 5. Stability of office must be maintained throughout this procedure		
1	Notify Next Higher Support Organization That DTUs Are Being Added to Operational Digroup Terminal Frame. Obtain Information for Items 2 and 3 From Next Higher Technical Support Group	TELCO	—
2	Ensure 4ESS Switch Is in Stable Condition	TELCO	—
3	Ensure 1B Processor and Peripheral Units Are Operating in Normal Duplex Mode	TELCO	—
4	Determine From Equipment Order DTU To Be Added	INST	—
5	Verify DT and EST (if Applicable) Unit Type (UT) Translator and Compare Translations Data Against Wiring Records:		
	1. Verify DTU to TSI Port Assignment, Version Number and Growth DTU Equipage Status in DT UT Translator (VER:UTYPE:DT a!)	TELCO/INST	DLP-519
	2. If ESU Is Associated With Growth DTU, Verify ESU Submember Equipage and ESU to DTU Assignment of EST UT Translator (VER:UTYPE:EST a!)	TELCO/INST	DLP-546
	3. Compare Translations Data Against Wiring Records	INST	—
	(Continued on Page 2)		

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

6	Verify Time Slot Interchange (TSI) Frame UT Translator and Compare Translations Data Against Wiring Records:		
	1. Determine Which TSI Frame Has Port Connecting to Growth DTU	TELCO	—
	2. Verify TSI Port to DTU Assignment and TSI Port Equipage Data of TSI UT Translator (VER:UTYPE:TSI a!)	TELCO/INST	DLP-548
	3. Compare Translations Data Against Wiring Records	INST	—
7	Diagnose DT Controllers 0 and 1 Using Restore Message (RST:DT a,CONTR b!)	TELCO	DLP-521
8	Visually Inspect Backplane Area of Growth DTU for Bent Pins and Crosses	INST	—
9	Assure That Power to Growth DTU Is Off Using Associated PWR OFF Switch on Fuse and Alarm Panel	INST	—
10	Install DTU Circuit Packs and Power Converters	INST	—
11	Assure That Cables Between DT Frame and DSX, Repeater Bays or LT-1 Are Installed and Looping Devices at DT Frame for DT-TSI Interface and at DSX-1 Patch Panel or DS-1 Facility for DS-1 Cables Are Installed	INST	—
12	Recent Change and Verify Submember Equipage UNEQ to GROW Using RC Form 700 (DTU)	TELCO	DLP-501
13	Verify That Converter Power Switches for Growth DTU Are ON	INST	—
14	Apply Power to Growth DTU Using Associated PWR OFF Switch on Fuse and Alarm Panel	INST	—
15	Enter Message To Diagnose Growth DTU, Specifying PH 1,5, and GROWTH (DGN:DT a,DTU b:PH (1,5),GROWTH!) ATP Required; INST Resolve Problems Associated With Growth Equipment	TELCO/INST	—
16	Recent Change and Verify Submember Equipage GROW to SGRO Using RC Form 700 (DTU)	TELCO/INST	DLP-501
17	Enter Message to Apply Port Pest to Growth Associated TSI Port (INH:TSI a,SPC b,PORT c!)	TELCO	—
18	Connect Data Cables:		
	A. If No EST Exists Between Growth DTU and Associated TSI: Remove TSI Port Loop Cables or H Connector as Applicable and DTU Output Loop Cables and Connect Data Cables at TSI Port and Growth DTU	INST	—
	(Continued on Page 3)		

ADD DIGROUP TERMINAL UNIT(S) TO OPERATIONAL DIGROUP TERMINAL FRAME — SUPPORT TO INSTALLER (INST)

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

18 (Contd)	B. If EST Exists Between Growth DTU and Associated TSI and: (a) Growth DTU Does Not Require Echo Suppression, or (b) The ESU Is Not Equipped, Connect Data Cables at ESU Strap Pack and Growth DTU	INST	—
19	Recent Change and Verify Submember Equipage UNEQ to GROW Using RC Form 700 (TSI Port Connecting to Growth DTU)	TELCO	DLP-501
20	Recent Change and Verify Submember Equipage GROW to SGRO Using RC Form 700 (TSI Port of Item 19)	TELCO	DLP-501
21	Diagnose and Restore Connecting TSI Controllers 0 and 1 (Specifying PH 13 or 20 and GROWTH):		
	A. Specify PH 13 for J4A001A	TELCO/INST	DLP-510
	B. Specify PH 20 for J4A001B	TELCO/INST	DLP-510
22	Enter Message To Diagnose Growth DTU Specifying PH 1, 5 and GROWTH (DGN:DT a,DTU b:PH (1,5),GROWTH!) ATP Required; INST Resolve Problems Associated With Growth Equipment	TELCO/INST	—
23	Repeat Items 4 Through 22, as Applicable, for Each Additional DTU To Be Added Into This DT Frame	TELCO/INST	—
24	When Last DTU Has Been Grown Into This DT Frame:		
	1. After Diagnostic Message Is Entered in Item 24.2, At DT Frame Under Test: Observe That Protection Switch Occurs During Execution of Phase 10 for Each Operational and Growth DTU	TELCO/INST	—
	2. Enter Message To Diagnose DT Frame Specifying PH 1 Through 11 and GROWTH (DGN:DT a:PH 1-11,GROWTH!) ATP Required; INST Resolve Problems Associated With Growth Equipment	TELCO/INST	—
25	Activation of DTU Equipment:		
	A. For Each DTU With Trunks Connected or Transmission Equipment Ready for Test That Is To Interface to TSI Port Via Equipped ESU, Complete DTU/ESU/TSI Interface Using NTP-011 (Echo Suppressor Growth)	TELCO/INST	—
	(Continued on Page 4)		

ADD DIGROUP TERMINAL UNIT(S) TO OPERATIONAL DIGROUP TERMINAL FRAME — SUPPORT TO INSTALLER (INST)

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

25 (Contd)	B. For Each DTU With Trunks Connected or Transmission Equipment Ready for Test That Is To Interface Directly to TSI or Via Strap Through FB619 Pack in EST (Unequipped ESU Position), Perform the Following:		
	1. Recent Change and Verify Submember Equipage SGR0 to OPER Using RC Form 700 (DTU Associated TSI Port)	TELCO	DLP-501
	2. Recent Change and Verify Submember Equipage SGR0 to OPER Using RC Form 700 (Growth DTU)	TELCO	DLP-501
	3. Enter Message To Run Peripheral Unit Status Audit (AUD:PUSTAT!); Wait for Message Complete (MSG COMPL)	TELCO	—
	4. Enter Message To Restore Growth DTU (RST:DT a,DTU b!) ATP and Restore COMPLETE Required; INST Clear Equipment Troubles	TELCO/INST	DLP-512
	5. Enter Message To Allow Growth Associated TSI Port (ALW:TSI a,SPC b,PORT c!)	TELCO	—
	NOTE: The current state of the digroup status memory for each digroup associated with the DTU being activated may be obtained by entering OP:DGSTAT,DT a,DTU b,DG 0;DETL:NUM 5,STAT ALL!		

**ADD DIGROUP TERMINAL UNIT(S) TO OPERATIONAL DIGROUP TERMINAL
FRAME — SUPPORT TO INSTALLER (INST)**

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

		RESPONSIBILITY	
	WARNINGS: 1. An antistatic wrist strap must be worn to prevent electrostatic discharge and possible damage to circuit packs while handling 2. No other growth or maintenance activity is allowed during this procedure		
	NOTES: 1. Appropriate Input/Output manuals must be used if clarification of input message or output message is necessary 2. This procedure must be performed during light traffic periods 3. 4ESS™ switch operation must be closely monitored while performing this procedure 4. Corrective action must be taken immediately on any activity that may cause any unit to go out of service (OOS) 5. Stability of office must be maintained throughout this procedure		
1	Notify Next Higher Support Organization That VIUs Are Being Added to Operational VIF. Obtain Information for Items 2 and 3 From Next Higher Technical Support Group	TELCO	—
2	Ensure 4ESS Switch Is in Stable Condition	TELCO	—
3	Ensure 1B Processor and Peripheral Units Are Operating in Normal Duplex Mode	TELCO	—
4	Perform Preliminary Work Operations	INST	—
5	Verify VIF Unit Type (UT) Translator and Compare Translations Data Against Wiring Records:		
	1. Verify VIU to TSI Port Assignment, Version Number and Equipage Status of Growth VIU in VIF UT Translator (VER:UTYPE:VIF a!)	TELCO/INST	DLP-506
	2. Compare Translation Data Against Wiring Records	INST	—
6	Verify TSI UT Translator and Compare Translations Data Against Wiring Records:		
	1. Determine Which TSI Frame Has Port Connecting to Growth VIU	TELCO	—
	2. Verify TSI Port to VIU Assignment and TSI Port Submember Equipage Data of TSI UT Translator (VER:UTYPE:TSI a!)	TELCO	DLP-548
	3. Compare Translation Data Against Wiring Records	INST	—
	(Continued on Page 2)		

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

7	If ESU Is Associated With Growth VIU:		
	1. Verify ESU Submember Equipage and ESU to VIU Assignment of EST UT Translator (VER:UTYPE:EST a!)	TELCO/INST	DLP-546
	2. Compare Translation Data Against Wiring Records	INST	—
8	Diagnose VIF Using Restore Message (RST:VIF a,CONTR b!)	TELCO	DLP-521
9	Visually Inspect Backplane Area of Growth VIU for Bent Pins and Crosses	INST	—
10	Install VIU Circuit Packs and Power Units	INST	—
11	Measure VIU Power Unit Output Voltages	INST	—
12	Recent Change and Verify Submember Equipage UNEQ to GROW (Growth VIU)	TELCO	DLP-501
13	Enter Message To Diagnose Growth VIU (Specifying Growth) (DGN:VIF a,VIU b:GROWTH!) ATP Required; INST Clear Equipment Troubles	TELCO/INST	DLP-520
14	Recent Change and Verify Submember Equipage GROW to SGRO (Growth VIU)	TELCO/INST	DLP-501
15	Connect Connectorized Cabling Between VIF and Toll Terminal Frame	INST	—
16	Enter Message To Apply Port Pest to Growth Associated TSI Port (INH:TSI a,SPC b,PORT c!)	TELCO	—
17	Connect Data Cables:		
	A. If No EST Exists Between Growth VIU and Associated TSI, Remove TSI Port Loop Cables and Connect Data Cables at TSI Port and Growth VIU	INST	—
	B. If EST Exists Between Growth VIU and Associated TSI, and (a) VIU Does not Require Echo Suppression, or (b) ESU Is Not Equipped, Connect Data Cables at ESU Strap Pack, Growth VIU, and TSI Port	INST	—
18	Recent Change and Verify Submember Equipage UNEQ to GROW (TSI Port Connecting to Growth VIU)	TELCO	DLP-501
19	Recent Change and Verify Submember Equipage GROW to SGRO (TSI Port Connecting to Growth VIU)	TELCO	DLP-501
20	Diagnose Connecting TSI Controllers 0 and 1 (Specifying Appropriate Phase and Growth) and Restore	TELCO/INST	DLP-510
	(Continued on Page 3)		

**ADD VOICEBAND INTERFACE UNIT TO OPERATIONAL
VOICEBAND INTERFACE — SUPPORT TO INSTALLER (INST)**

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

21	Enter Message To Diagnose Growth VIU (Specifying Growth) (DGN:VIF a,VIU b:GROWTH!) ATP Required; INST Clear Equipment Troubles	TELCO/INST	DLP-520
22	Activation of VIU Equipment:		
	A. For Each VIU With Trunks Connected or Transmission Equipment Ready for Test That Is To Interface With TSI Port Via Equipped ESU, Complete VIU/ESU/TSI Interface Using NTP-011 (Echo Suppressor Growth)	TELCO/INST	—
	B. For Each VIU With Trunks Connected or Transmission Equipment Ready for Test That Is To Interface Directly to TSI or Via Strap Through FB619 Pack in EST (Unequipped ESU Position), Perform the Following:		
	1. Recent Change and Verify Submember Equipage SGRO to OPER (VIU Associated TSI Port)	TELCO	DLP-501
	2. Recent Change and Verify Submember Equipage SGRO to OPER (Added VIU)	TELCO	DLP-501
	3. Enter Message To Run Peripheral Unit Status Audit (AUD:PUSTAT!); Wait for Message Complete (MSG COMPL)	TELCO	—
	4. Enter Message To Restore VIU (RST:VIF a,VIU b!) ATP and Restore COMPLETE Required; INST Clear Equipment Troubles	TELCO/INST	DLP-512
	5. Enter Message To Allow Growth Associated TSI Port (ALW:TSI a,SPC b,PORT c!)	TELCO	—

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

		RESPONSIBILITY	
	WARNINGS: 1. An antistatic wrist strap must be worn to prevent electrostatic discharge and possible damage to circuit packs while handling 2. No other growth or maintenance activity is allowed during this procedure		
	NOTES: 1. Appropriate Input/Output manuals must be used if clarification of input message or output message is necessary 2. This procedure must be performed during light traffic periods 3. 4ESS TM switch operation must be closely monitored while performing this procedure 4. Corrective action must be taken immediately on any activity that may cause any unit to go out of service (OOS) 5. Stability of office must be maintained throughout this procedure		
1	Notify Next Higher Support Organization That EST Is Being Added to New TSI-EST-VIF/DT/DIF Complex. Obtain Information for Items 2 and 3 From Next Higher Technical Support Group	TELCO	—
2	Ensure 4ESS Switch Is in Stable Condition	TELCO	—
3	Ensure 1B Processor and Peripheral Units Are Operating in Normal Duplex Mode	TELCO	—
4	Verify Echo Suppressor Terminal (EST) Unit Type (UT) Translator and Compare Translations Data Against Wiring Records:		
	1. Verify EST UT Translator (VER:UTYPE:EST a!)	TELCO/INST	DLP-549
	2. Compare Translations Data Against Wiring Records	INST	—
5	Verify Echo Suppressor Data and TSI Equipage Status of TSI UT Translator (VER:UTYPE:TSI a!)	TELCO/INST	DLP-543
6	If Connecting TSI Member Number Is Not in GROW Equipage State or Higher as Determined in Item 5, Discontinue This Growth Procedure Until TSI Member Equipage Is in Grow State or Higher	TELCO/INST	—
7	Assure That EST Frame Power Verification Tests Have Been Completed	INST	—
8	Remove Growth EST Power Using Frame Power Switches	INST	—
9	Assure That Basic EST Frame Circuit Packs and Power Converters Are Properly Installed	INST	—
	(Continued on Page 2)		

**ADD ECHO SUPPRESSOR TERMINAL TO NEW TSI-EST-VIF/DT/DIF
COMPLEX — SUPPORT TO INSTALLER (INST)**

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

10	Connect and Verify Growth EST Alarm Cables	INST	—
11	Connect and Verify Private Signal Leads	INST	—
12	Assure That Shelf Unit(s) Are Installed for Each Required Echo Suppressor Unit (ESU) and That Shelf Connectors Are Plugged In	INST	—
13	Extend or Insert Peripheral Unit Bus Per TOP 234-353-045; Then Continue This Procedure at Item 14 Upon Completion	TELCO/INST	—
14	Assure That Connecting TSI Frame Is Powered Up	INST	—
15	Connect Growth Associated TSI Clock Cables	INST	—
16	Complete VIF(s)/DT(s)/DIF Clock Terminations:		
	A. If Growth Associated VIF/DT/DIF Frame(s) Is Not Installed: Install Dummy Terminations at Growth EST Frame	INST	—
	B. If Growth EST Connects to VIF(s) and VIF Frame(s) Is Installed: Connect Clock Cables Between Growth EST and Associated VIF(s) (If Not Already Connected)	INST	—
	C. If Growth EST Connects to DT(s) and DT Frame(s) Is Installed: Connect Clock Cables Between Growth EST and Associated DT(s) (If Not Already Connected)	INST	—
	D. If Growth EST Connects to DIF:		
	A. Growth EST Is First EST To Connect to DIF: Connect Clock Cables Between Growth EST and Associated DIF	INST	—
	B. Growth EST Is Second EST To Connect to DIF: Install Dummy Terminations At Growth EST Frame	INST	—
17	Recent Change and Verify Member Equipage UNEQ to GROW (EST)	TELCO	DLP-500
18	At 1B MTC Terminal, Enter RMV:PUB 0! To Remove Peripheral Unit Bus 0 From Service	TELCO	—
19	Apply Power to Growth EST Controllers 0 and 1 and Bus 0	INST	—
20	Diagnose Growth EST Controllers 0 and 1 (PUB 0 – Specifying GROWTH)	INST	—
21	Remove Power From Growth EST Bus Interface Unit 0	INST	—
	(Continued on Page 2)		

**ADD ECHO SUPPRESSOR TERMINAL TO NEW TSI-EST-VIF/DT/DIF
COMPLEX – SUPPORT TO INSTALLER (INST)**

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

22	Restore Peripheral Unit Bus 0 to Service (RST:PUB 0!)	TELCO/INST	DLP-503
23	At 1B MTC Terminal, Enter RMV:PUB 1! To Remove Peripheral Unit Bus 1 From Service	TELCO	—
24	Apply Power to Growth EST Bus Interface Unit 1	INST	—
25	Diagnose Growth EST Controllers 0 and 1 (PUB 1-Specifying GROWTH)	INST	—
26	If Any Repair or Maintenance Was Required to IPUB or Controller Access Circuitry During IPUB 1 Testing:		
	1. Remove Power From Growth EST Bus Interface Unit 1	INST	—
	2. Restore Peripheral Unit Bus 1 to Service (RST:PUB 1!)	TELCO/INST	DLP-503
	3. Repeat From Item 18	TELCO/INST	—
27	Restore Peripheral Unit Bus 1 to Service (RST:PUB 1!)	TELCO/INST	DLP-503
28	Apply Power to Growth EST Bus Interface Unit 0	INST	—
29	Recent Change and Verify Member Equipage GROW to SGRO (EST)	TELCO	DLP-500
30	Diagnose Growth EST Controllers 0 and 1, Specifying Appropriate Phases, PSW and GROWTH	INST	—
	NOTES: 1. The TSI frame associated with this EST should be in operational state and in service prior to continuing this procedure. 2. Items 31 through 35 should be performed without interruption.		
31	At Growth EST CONT 1 Power Switch, Rotate OFF Switch to ROS	INST	—
32	Recent Change and Verify Member Equipage SGRO to OPER (EST)	TELCO	DLP-500
33	Enter Message To Restore and Initialize Controller 0 to Simplex Operation (RST:EST a,CONTR 0!) ATP and Restore COMPLETE Required; INST Clear Equipment Troubles	TELCO/INST	—
34	Enter Message To Run Peripheral Unit Status Audit (AUD:PUSTAT!); Wait for Message Complete (MSG COMPL)	TELCO	—
35	Restore and Initialize Controller 1 to Duplex Operation (Using CONT 1 Power Switch)	TELCO/INST	DLP-505
36	Install Circuit Packs and Power Converter for ESU 14	INST	—
37	Power Up ESU 14 Using Switch on ESU 14 Power Converter Installed in Item 36	INST	—
38	Recent Change and Verify Submember Equipage UNEQ to GROW (ESU 14)	TELCO	DLP-501

**ADD ECHO SUPPRESSOR TERMINAL TO NEW TSI-EST-VIF/DT/DIF
COMPLEX — SUPPORT TO INSTALLER (INST)**

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

39	Diagnose EST, Using Restore Message (Controllers 0 and 1) (RST:EST a,CONTR b!)	TELCO/INST	DLP-535
40	Diagnose ESU 14, Specifying GROWTH (DGN:EST a,ESU 14:GROWTH!)	TELCO/INST	DLP-537
41	Recent Change and Verify Submember Equipage GROW to SGRO (ESU 14)	TELCO	DLP-501
42	Diagnose ESU 14 Specifying Phases 1-3, GROWTH and ESCSEL (DGN:EST a,ESU 14:PH 1-3,GROWTH,ESCSSEL!)	TELCO/INST	DLP-539
43	Recent Change and Verify Submember Equipage SGRO to OPER (ESU 14)	TELCO	DLP-501
44	Enter Message To Restore ESU 14 to Operational (RST:EST a,ESU 14!) ATP and Restore COMPLETE Required; INST Clear Equipment Troubles	TELCO/INST	DLP-542

**ADD ECHO SUPPRESSOR TERMINAL TO NEW TSI-EST-VIF/DT/DIF
COMPLEX – SUPPORT TO INSTALLER (INST)**

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

		RESPONSIBILITY	
	WARNINGS: 1. An antistatic wrist strap must be worn to prevent electrostatic discharge and possible damage to circuit packs while handling 2. No other growth or maintenance activity is allowed during this procedure		
	NOTES: 1. Appropriate Input/Output manuals must be used if clarification of input message or output message is necessary 2. This procedure must be performed during light traffic periods 3. 4ESS TM switch operation must be closely monitored while performing this procedure 4. Corrective action must be taken immediately on any activity that may cause any unit to go out of service (OOS) 5. Stability of office must be maintained throughout this procedure 6. This procedure may not be executed with the VIU/DTU/DIU associated with the growth ESU in the operational state. If the VIU/DTU/DIU is operational, degrowth of the VIU/DTU/DIU is required followed by peeting and degrowth of the associated TSI port. Degrowth of the VIU, DTU and/or DIU are contained in NTP-016, NTP-020 and NTP-026, respectively.		
1	Notify Next Higher Support Organization That ESUs Are Being Added to Operational EST. Obtain Information for Items 2 and 3 From Next Higher Technical Support Group	TELCO	—
2	Ensure 4ESS Switch Is in Stable Condition	TELCO	—
3	Ensure 1B Processor and Peripheral Units Are Operating in Normal Duplex Mode	TELCO	—
4	Verify Unequipped Status of Growth Echo Suppressor Unit (ESU) (VER:UTYPE:EST a,SME b!)	TELCO/INST	DLP-534
5	Verify Growth ESU Version Number (VER:UTYPE:EST a!)	TELCO/INST	DLP-538
6	Assure That Data Cables to TSI and VIU/DTU/DIU Are Connected and/or That FB619 Strap Pack Is Installed for ESU To Be Added	INST	—
7	Assure That Shelf Unit Is Installed for ESU To Be Added and That Shelf Connectors Are Plugged In	INST	—
8	Diagnose Growth Related EST Using Restore Message (Controllers 0 and 1) (RST:EST a,CONTR b!)	TELCO	DLP-535

**ADD ECHO SUPPRESSOR UNIT TO OPERATIONAL EST —
SUPPORT TO INSTALLER (INST)**

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

9	Diagnose Operational ESU (Each Operational ESU in Growth Related EST) (DGN:EST a,ESU b!)	TELCO	DLP-536
	<i>CAUTION: The FB618 circuit pack should not be installed at this time.</i>		
10	Install Circuit Packs (Except FB618), Power Converter and Power Up Growth ESU	INST	—
11	Diagnose Growth Related EST Using Restore Message (Controllers 0 and 1) (RST:EST a,CONTR b!)	TELCO/INST	DLP-535
12	Diagnose Operational ESU (Each Operational ESU in Growth Related EST) (DGN:EST a,ESU b!)	TELCO/INST	DLP-536
13	Verify Equipage Status of VIU/DTU/DIU Associated With Growth ESU:		
	A. If Growth ESU Connects to VIU, Verify and Note Equipage Status of VIU Associated With Growth ESU (VER:UTYPE:VIF a,SME b!)	TELCO	—
	B. If Growth ESU Connects to DTU, Verify and Note Equipage Status of DTU Associated With Growth ESU DT(VER:UTYPE: a,SME b!)	TELCO	—
	C. If Growth ESU Connects to DIU, Verify and Note Equipage Status of DIU Associated With Growth ESU (VER:UTYPE:DIF a,SME b!)	TELCO	—
14	Discontinue This Procedure if VIU/DTU/DIU SME Verified in Item 13 Is Not in SGRO State and Not Ready To Be Interfaced to Growth ESU as Result of VIF/VIU, DT/DTU or DIF/DIU Growth/Degrowth Procedures or as Result of EST Growth Procedures	TELCO	—
15	Recent Change and Verify Submember Equipage UNEQ to GROW Using RC Form 700 (Growth ESU)	TELCO	DLP-501
16	Diagnose Growth ESU Specifying GROWTH (DGN:EST a,ESU b:GROWTH!)	TELCO/INST	DLP-537
17	Recent Change and Verify Submember Equipage GROW to SGRO Using RC Form 700 (Growth ESU)	TELCO	DLP-501
18	Connect T and R Data Cables:		
	1. At Growth Related EST, Remove FB619 Strap Pack Associated With Growth ESU	INST	—
	2. At Strap Pack Removed in Item 18.1, Disconnect ESU to TSI Port Data Cables	INST	—
	3. At Strap Pack Removed in Item 18.1, Disconnect ESU to VIU/DTU/DIU Data Cables	INST	—
	4. Get FB618 Circuit Pack and Connect TSI Port to ESU Data Cables at FB618 Circuit Pack	INST	—
	(Continued on Page 2)		

**ADD ECHO SUPPRESSOR UNIT TO OPERATIONAL EST —
SUPPORT TO INSTALLER (INST)**

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

18 (Contd)	5. Connect ESU to VIU/DTU/DIU Data Cables Onto FB618 Circuit Pack	INST	—
	6. At Growth EST, Install FB618 Circuit Pack Associated With Growth ESU	INST	—
	NOTE: The connecting TSI port equipage must be assured of being in special growth (SGRO) state prior to Item 19.		
19	Diagnose and Restore Connecting TSI Controllers 0 and 1:		
	A. If Connecting TSI Is J4A001A; Specify PH 13 and GROWTH	TELCO/INST	DLP-510
	B. If Connecting TSI Is J4A001B; Specify PH 20 and GROWTH	TELCO/INST	DLP-510
20	Diagnose Growth ESU Specifying Phases 1-3, GROWTH and ESCSEL (DGN:EST a,ESU b:PH 1-3,GROWTH,ESCSEL!)	TELCO/INST	DLP-539
	NOTE: For any channel comprising a VIU/DTU/DIU, a TSI port and an ESU which is not ready to be brought to the operational state per Item 21, circuit order procedures contained in NTP-015 (VIU), NTP-019 (DTU)or NTP-024 (DIU) are to be performed later.		
21	For ESU Associated With VIU/DTU/DIU Which has Trunks Connected or Transmission Equipment Ready for Test:		
	1. Recent Change and Verify Submember Equipage SGRO to OPER Using RC Form 700 (TSI Port Associated With Growth ESU)	TELCO	DLP-501
	2. Recent Change and Verify Submember Equipage SGRO to OPER Using RC Form 700 (Growth ESU)	TELCO	DLP-501
	3. If Growth ESU Connects to VIU: Recent Change and Verify Submember Equipage Using RC Form 700 SGRO to OPER (Connecting VIU)	TELCO	DLP-501
	4. If Growth ESU Connects to DTU: Recent Change and Verify Submember Equipage Using RC Form 700 SGRO to OPER (Connecting DTU)	TELCO	DLP-501
	5. If Growth ESU Connects to DIU: Recent Change and Verify Submember Equipage Using RC Form 700 SGRO TO OPER (Connecting DIU)	TELCO	DLP-501
	6. Enter Message To Run Peripheral Unit Status Audit (AUD:PUSTAT!); Wait for Message Complete (MSG COMPL)	TELCO	—
	7. Enter Message To Restore Growth ESU (RST:EST a,ESU b!) ATP and Restore COMPLETE Required; INST Clear Equipment Troubles	TELCO/INST	DLP-542

**ADD ECHO SUPPRESSOR UNIT TO OPERATIONAL EST —
SUPPORT TO INSTALLER (INST)**

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

21 (Contd)	8. If Growth ESU Connects to VIU, Enter Message To Restore Growth Associated VIU (RST:VIF a,VIU b!) ATP and Restore COMPLETE Required; INST Clear Equipment Troubles	TELCO/INST	DLP-512
	9. If Growth ESU Connects to DTU, Enter Message To Restore Growth Associated DTU (RST:DT a,DTU b!) ATP and Restore COMPLETE Required; INST Clear Equipment Troubles	TELCO/INST	DLP-512
	10. If Growth ESU Connects to DIU, Enter Message To Restore Growth Associated DIU (RST:DIF a,DIU b!) ATP and Restore COMPLETE Required; INST Clear Equipment Troubles	TELCO/INST	DLP-512
	11. Enter Message To Allow Growth Associated TSI Port (ALW:TSI a,SPC b,PORT c!)	TELCO	—

**ADD ECHO SUPPRESSOR UNIT TO OPERATIONAL EST —
SUPPORT TO INSTALLER (INST)**

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

		RESPONSIBILITY	
	WARNINGS: 1. An antistatic wrist strap must be worn to prevent electrostatic discharge and possible damage to circuit packs while handling 2. No other growth or maintenance activity is allowed during this procedure		
	NOTES: 1. Appropriate Input/Output manuals must be used if clarification of input message or output message is necessary 2. This procedure must be performed during light traffic periods 3. 4ESS TM switch operation must be closely monitored while performing this procedure 4. Corrective action must be taken immediately on any activity that may cause any unit to go out of service (OOS) 5. Stability of office must be maintained throughout this procedure		
1	Notify Next Higher Support Organization That ESTs Are Being Inserted Into Operational TSI-VIF/DT/DIF Complex. Obtain Information for Items 2 and 3 From Next Higher Technical Support Group	TELCO	—
2	Ensure 4ESS Switch Is in Stable Condition	TELCO	—
3	Ensure 1B Processor and Peripheral Units Are Operating in Normal Duplex Mode	TELCO	—
4	Verify Echo Suppressor Terminal (EST) Unit Type (UT) Translator and Compare Translations Data Against Wiring Records:		
	1. Verify EST UT Translator (VER:UTYPE:EST a!)	TELCO/INST	DLP-549
	2. Compare Translations Data Against Wiring Records	INST	—
5	Verify Echo Suppressor Data And TSI Equipage Status of TSI UT Translator (VER:UTYPE:TSI a!)	TELCO/INST	DLP-543
6	Assure That EST Frame Power Verification Tests Have Been Completed	INST	—
7	Remove Growth EST Power Using Frame Power Switches	INST	—
8	Assure That Basic EST Frame Circuit Packs and Power Converters Are Properly Installed	INST	—
9	Connect and Verify Growth EST Alarm Cables	INST	—
10	Connect and Verify Private Signal Leads	INST	—
	(Continued on Page 2)		

**INSERT ECHO SUPPRESSOR TERMINAL INTO OPERATIONAL
TSI-VIF/DT/DIF COMPLEX — SUPPORT TO INSTALLER (INST)**

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

11	Assure That Shelf Unit(s) Are Installed for Each Required Echo Suppressor Unit (ESU) and That Shelf Connectors Are Plugged In	INST	—
12	At Growth EST, Connect Data Cables to FB619 Strap Pack and Install FB619 Strap Pack for Each Equipped VIU/DTU/DIU Associated With Growth EST	INST	—
13	Extend or Insert Peripheral Unit Bus Per TOP 234-353-045; Then Continue This Procedure at Item 14 Upon Completion	TELCO/INST	—
14	Complete Clock Cabling:		
	1. Request TOC Personnel To Change All Affected Trunks Associated With Operational VIF/DT/DIF to Circuit Administration Disable (CAD.DSA) State	TELCO	—
	2. Remove One VIU/DTU/DIU From Service (RMV:a b,c d!)	TELCO	DLP-552
	3. Degrow VIU/DTU/DIU in Item 14.2 From OPER to SGRO (Using RC Form 701)	TELCO	DLP-527
	4. Diagnose VIU/DTU/DIU in Item 14.2 (Specifying GROWTH) (DGN:a b,c d:GROWTH!)	TELCO	DLP-502
	5. Enter Message To Apply Port Pest to Growth Associated TSI Port (INH:TSI a,SPC b,PORT c!)	TELCO	—
	6. Degrow TSI Port in Item 14.5 From OPER to SGRO (Using RC Form 701)	TELCO	DLP-527
	7. Remove Data Cables at Growth TSI Port in Item 14.5 and Connect Loop Cable	INST	—
	NOTE: Remove only the data cables at the growth DIU that are associated with the growth EST.		
	8. Remove Data Cables at Growth VIU/DTU/DIU in Item 14.2	INST	—
	9. Degrow VIU/DTU/DIU in Item 14.2 From SGRO to GROW (Using RC Form 701)	TELCO	DLP-527
	10. Repeat Items 14.2 Through 14.9 for Each Operational VIU/DTU/DIU in Frame	TELCO/INST	—
	11. Degrow VIF/DT/DIF ME From OPER to SGRO (Using RC Form 701)	TELCO	DLP-526
	12. Connect New Clock Cables for VIF/DT/DIF Controller 0 at EST Frame	INST	—
	13. Remove Existing Clock Cable From VIF/DT/DIF Controller 0 at TSI and Connect New Clock Cable From Growth EST	TELCO	—
	(Continued on Page 3)		

**INSERT ECHO SUPPRESSOR TERMINAL INTO OPERATIONAL
TSI-VIF/DT/DIF COMPLEX — SUPPORT TO INSTALLER (INST)**

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

14 (Contd)	14. Scope New Clock Cable for VIF/DT/DIF Controller 0 at VIF/DT/DIF; TELCO Observe for Presence of Clock	TELCO/INST	
	15. Remove Existing Clock Cable From VIF/DT/DIF Controller 0 and Bus Interface Unit 0 and Connect New Clock Cable From EST	INST	
	16. Repeat Items 14.12 Through 14.15 for VIF/DT/DIF Controller 1	TELCO/INST	—
	17. Enter Message To Diagnose VIF/DT/DIF Controllers 0 and 1 (DGN:a b,CONTR c:GROWTH!) ATP Required; INST Resolve Problems Associated With Growth Equipment (a = VIF, DT, or DIF, b = Frame Member Number)	TELCO/INST	—
	18. Enter Message To Diagnose Spare VIU/DTU/DIU (DGN:a b,c d:GROWTH!) ATP Required INST Resolve Problems Associated With Growth Equipment (a = VIF, DT or DIF, b = Frame Member Number, c = VIU, DIU or DTU, d = Unit Number)	TELCO/INST	—
	19. Assure That DT/DIF/VIF Bus Interface Units 0 and 1 and VIF/DT/DIF Controller 0 Power Switches Are Powered Up With OFF Switches in Normal Position and Controller 1 Power Switch Is Powered Up With OFF Switch to ROS Position	INST	—
	20. Recent Change and Verify VIF/DT/DIF Member Equipage SGRO to OPER	TELCO	DLP-500
	21. Enter Message To Run Peripheral Unit Status Audit (AUD:PUSTAT!); Wait for Message Complete (MSG COMPL)	TELCO	—
	22. Enter Message To Restore and Initialize VIF/DT/DIF Controller 0 to Simplex Operation (RST:a b,CONTR 0!) (a = VIF, DT or DIF, b = Member Number) ATP and Restore COMPLETE Required; INST Clear Equipment Troubles	TELCO/INST	—
	23. Restore and Initialize VIF/DT/DIF Controller 1 Using Power Switch	TELCO/INST	DLP-505
	24. Repeat Items 14.1 Through 14.23 for Other Operational VIF/DT/DIF (if Any) Associated With Growth EST	TELCO/INST	—
15	Complete Data Cabling for VIU(s)/DTU(s)/DIU(s) and TSI Port(s):		
	A. For VIU(s)/DTU(s)/DIU(s) Which Will Not Require Equipped ESU(s) (To Interface Through Strap Pack Only):		
	1. Recent Change and Verify Submember Equipage GROW to SGRO (One VIU/DTU/DIU)	TELCO	DLP-501
	(Continued on Page 4)		

**INSERT ECHO SUPPRESSOR TERMINAL INTO OPERATIONAL
TSI-VIF/DT/DIF COMPLEX – SUPPORT TO INSTALLER (INST)**

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

15 (Contd)	2. Remove Data Cables at VIU/DTU/DIU of 15.A.1 and Connect New Data Cables From Associated Strap Pack	INST	—
	3. Remove Loop Cable at Associated TSI Port and Connect New Data Cables From Associated Strap Pack	INST	—
	4. Diagnose (Specifying GROWTH) and Restore Connecting TSI Controllers 0 and 1 (TSI in Item 15.A.3)	TELCO/INST	DLP-510
	5. Recent Change and Verify Submember Equipage SGRO to OPER (TSI Port in Item 15.A.3)	TELCO	DLP-501
	6. Recent Change and Verify Submember Equipage SGRO to OPER (VIU/DTU/DIU in Item 15.A.1)	TELCO	DLP-501
	7. Enter Message To Run Peripheral Unit Status Audit (AUD:PUSTAT!); Wait for Message Complete (MSG COMPL)	TELCO	—
	8. Enter Message To Restore VIU/DTU/DIU in Item 15.A.1 to Service (RST:a b,c d!) ATP and Restore COMPLETE Required; Installer Clear Equipment Troubles	TELCO/INST	DLP-512
	9. Enter Message To Allow Growth Associated TSI Port (ALW:TSI a,SPC b,PORT c!)	TELCO	—
	10. Request TOC Personnel To Return Associated Trunks Disabled in Item 14.1 to Active State	TELCO	—
	NOTE: This is a safe point to temporarily stop this procedure.		
	11. Repeat Item 15.A.1 Through 15.A.10 for Each VIU/DTU/DIU That Will Connect to Unequipped ESU	TELCO/INST	—
	B. For VIU(s)/DTU(s)/DIU(s) Which Will Connect to Equipped ESU(s):		
	1. Recent Change and Verify Submember Equipage Grow to SGRO (One VIU/DTU/DIU)	TELCO	DLP-501
	2. Remove Data Cables at VIU/DTU/DIU of 15.B.1 and Connect New Data Cables From Strap Pack of Growth ESU	INST	—
	3. Remove Data Cables at Growth Associated TSI Port and Connect New Data Cables From Strap Pack of Growth ESU	INST	—
	(Continued on Page 5)		

**INSERT ECHO SUPPRESSOR TERMINAL INTO OPERATIONAL
TSI-VIF/DT/DIF COMPLEX — SUPPORT TO INSTALLER (INST)**

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

15 (Contd)	4. Diagnose (Specifying GROWTH) and Restore Connecting TSI Controllers (TSI in Item 15.B.3)	TELCO/INST	DLP-510
	5. Repeat Items 15.B.1 Through 15.B.4 for Each VIU/DTU/DIU That Will Connect to Equipped ESU	TELCO/INST	—
16	Recent Change and Verify Member Equipage UNEQ to GROW (EST)	TELCO	DLP-500
17	At 1B MTC Terminal, Enter RMV:PUB 0! To Remove Peripheral Unit Bus 0 From Service	TELCO	—
18	Apply Power to Growth EST Controller 0 and 1 and Bus 0	INST	—
19	Diagnose Growth EST Controllers 0 and 1 (PUB 0 – Specifying GROWTH)	INST	—
20	Remove Power From Growth EST Bus Interface Unit 0	INST	—
21	Restore Peripheral Unit Bus 0 to Service (RST:PUB 0!)	TELCO/INST	DLP-503
22	At 1B MTC Terminal, Enter RMV:PUB 1! To Remove Peripheral Unit Bus 1 From Service	TELCO	—
23	Apply Power to Growth EST Bus Interface Unit 1	INST	—
24	Diagnose Growth EST Controllers 0 and 1 (PUB 1 – Specifying GROWTH)	INST	—
25	If Any Repair or Maintenance Was Required to IPUB or Controller Access Circuitry During IPUB 1 Testing:		
	1. Remove Power From Growth EST Bus Interface Unit 1	INST	—
	2. Restore Peripheral Unit Bus 1 to Service (RST:PUB 1!)	TELCO/INST	DLP-503
	3. Repeat From Item 17	TELCO/INST	—
26	Restore Peripheral Unit Bus 1 to Service (RST:PUB 1!)	TELCO/INST	DLP-503
27	Apply Power to Growth EST Bus Interface Unit 0	INST	—
28	Recent Change and Verify Member Equipage GROW to SGRO (EST)	TELCO	DLP-500
29	Diagnose Growth EST Controller 0 and 1, Specifying Appropriate Phases, PSW and GROWTH	INST	—
	NOTE: Steps 30 through 34 should be performed without interruption.		
30	At Growth EST CONT1 Power Switch, Rotate OFF Switch to ROS	INST	—
31	Recent Change and Verify Member Equipage SGRO to OPER (EST)	TELCO	DLP-500

**INSERT ECHO SUPPRESSOR TERMINAL INTO OPERATIONAL
TSI-VIF/DT/DIF COMPLEX – SUPPORT TO INSTALLER (INST)**

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

32	Enter Message To Restore and Initialize Controller 0 to Simplex Operation (RST:EST a,CONTR 0!) ATP and Restore COMPLETE Required; INST Clear Equipment Troubles	TELCO/INST	—
33	Enter Message To Run Peripheral Unit Status Audit (AUD:PUSTAT!); Wait for Message Complete (MSG COMPL!)	TELCO	—
34	Restore and Initialize Controller 1 to Duplex Operation (Using CONT1 Power Switch)	TELCO/INST	DLP-505
35	Install Circuit Packs and Power Converter for ESU 14	INST	—
36	Power Up ESU 14 Using Switch at ESU 14 Power Converter Installed in Item 35	INST	—
37	Recent Change and Verify Submember Equipage UNEQ to GROW (ESU 14)	TELCO	DLP-501
38	Diagnose Growth EST Using Restore Message (Controllers 0 and 1) (RST:EST a,CONTR b!)	TELCO/INST	DLP-535
39	Diagnose ESU 14, Specifying GROWTH (DGN:EST a,ESU 14:GROWTH!)	TELCO/INST	DLP-537
40	Recent Change and Verify Submember Equipage GROW to SGRO (ESU 14)	TELCO	DLP-501
41	Diagnose ESU 14, Specifying PH 1-3, ESCSEL and GROWTH (DGN:EST a,ESU 14:PH 1-3,GROWTH,ESCSSEL!)	TELCO/INST	DLP-539
42	Recent Change and Verify Submember Equipage SGRO to OPER (ESU 14)	TELCO	DLP-501
43	Enter Message To Restore ESU 14 to Operational (RST:EST a,ESU 14!) ATP and Restore COMPLETE Required; INST Clear Equipment Troubles	TELCO/INST	DLP-542

**INSERT ECHO SUPPRESSOR TERMINAL INTO OPERATIONAL
TSI-VIF/DT/DIF COMPLEX — SUPPORT TO INSTALLER (INST)**

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

		RESPONSIBILITY	
	WARNINGS: 1. An antistatic wrist strap must be worn to prevent electrostatic discharge and possible damage to circuit packs while handling 2. No other growth or maintenance activity is allowed during this procedure		
	NOTES: 1. Appropriate Input/Output manuals must be used if clarification of input message or output message is necessary 2. This procedure must be performed during light traffic periods 3. 4ESS™ switch operation must be closely monitored while performing this procedure 4. Corrective action must be taken immediately on any activity that may cause any unit to go out of service (OOS) 5. Stability of office must be maintained throughout this procedure		
1	Notify Next Higher Support Organization That VIUs Are Being Added to Operational VIF. Obtain Information for Items 2 and 3 From Next Higher Technical Support Group	TELCO	—
2	Ensure 4ESS Switch Is in Stable Condition	TELCO	—
3	Ensure 1B Processor and Peripheral Units Are Operating in Normal Duplex Mode	TELCO	—
4	Determine From Company Order Member Number of Voiceband Interface (VIF) Being Grown and Voiceband Interface Unit (VIU) Number To Be Added	TELCO	—
5	Determine VIU Equipment To Be Added and Select Circuit Packs	TELCO	DLP-559
6	Verify VIU to Time Slot Interchange (TSI) Port Assignment, Version Number and Equipage Status of Growth VIU in VIF UT Translator (VER:UTYPE:VIF a!)	TELCO	DLP-506
7	Verify TSI Port to VIU Assignment and TSI Port Submember Equipage Data of TSI Unit Type (UT) Translator (VER:UTYPE:TSI a!)	TELCO	DLP-548
8	If ESU Is Associated With Growth VIU, Verify ESU Submember Equipage and ESU to VIU Assignment of EST UT Translator (VER:UTYPE:EST a!)	TELCO	DLP-546
9	Diagnose Growth VIF Using Restore Message (RST:VIF a,CONTR b!)	TELCO	DLP-521
10	Visually Inspect Backplane Area of Added VIU for Bent Pins and Crosses	TELCO	—
	(Continued on Page 2)		

**ADD VOICEBAND INTERFACE UNIT TO OPERATIONAL
VOICEBAND INTERFACE FRAME**

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

11	Remove Power and Install VIU Circuit Packs and Power Units	TELCO	DLP-560
12	Check 80A dc-dc Power Converter +6 and -6 Volt Output (Growth VIU)	TELCO	DLP-561
13	Check 81A dc-dc Power Converter +3 and -12 Volt Output (Growth VIU)	TELCO	DLP-562
	NOTE: This is a safe point to temporarily stop this procedure.		
14	Recent Change and Verify Submember Equipage UNEQ to GROW (Growth VIU)	TELCO	DLP-501
15	Diagnose Added VIU (DGN:VIF a,VIU b:GROWTH!)	TELCO	DLP-520
16	Recent Change and Verify Submember Equipage GROW to SGRO (Growth VIU)	TELCO	DLP-501
17	Enter Message To Apply Port Pest to Growth Associated TSI Port (INH:TSI a,SPC b,PORT c!)	TELCO	—
18	Connect Data Cables:		
	A. If EST Exists Between Growth VIU and Associated TSI:		
	1. At Growth Related EST, Remove FB619 Strap Pack Associated With Growth VIU	TELCO	—
	2. At Strap Pack Removed in Item 18.A.1, Connect Cables From Growth VIU	TELCO	—
	3. At Growth Related EST, Install Strap Pack Removed in Item 18.A.1	TELCO	—
	4. Remove TSI Port Loop and Connect Data Cables to TSI Port and VIU	TELCO	DLP-563
	B. If No EST Exists Between Growth VIU and Associated TSI, Remove TSI Port Loop and Connect Data Cables to TSI Port and Growth VIU	TELCO	DLP-563
19	Recent Change and Verify Submember Equipage UNEQ to GROW (TSI Port Connecting to Added VIU)	TELCO	DLP-501
20	Recent Change and Verify Submember Equipage GROW to SGRO (TSI Port Connecting to Added VIU)	TELCO	DLP-501
21	Diagnose and Restore Connecting TSI Controllers 0 and 1 (Specifying GROWTH) (DGN:TSI a,CONTR b:GROWTH!)	TELCO	DLP-511
	NOTE: This is a safe point to temporarily stop this procedure.		
22	Diagnose Added VIU (DGN:VIF a,VIU b:GROWTH!)	TELCO	DLP-520
	(Continued on Page 3)		

**ADD VOICEBAND INTERFACE UNIT TO OPERATIONAL
VOICEBAND INTERFACE FRAME**

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

23	Activation of VIU Equipment:		
	A. For Added VIU With Trunks Connected or Transmission Equipment Ready for Test That Is To Interface With TSI Port Via Equipped ESU, Complete VIU/ESU/TSI Interface Using NTP-021 (Echo Suppressor Unit Growth Procedure)	TELCO	—
	B. For Added VIU With Trunks Connected or Transmission Equipment Ready for Test That Is To Interface Directly to TSI or Via Strap Through FB619 Pack in EST (Unequipped ESU Position), Perform the Following:		
	1. Recent Change and Verify Submember Equipage SGRO to OPER (TSI Port Associated With VIU)	TELCO	DLP-501
	2. Recent Change and Verify Submember Equipage SGRO to OPER (Added VIU)	TELCO	DLP-501
	3. Enter Message To Run Peripheral Unit Status Audit (AUD:PUSTAT!); Wait for Message Complete (MSG COMPL)	TELCO	—
	4. Restore Added VIU (RST:VIF a,VIU b!)	TELCO	DLP-512
	5. Enter Message To Allow Growth Associated TSI Port (ALW:TSI a,SPC b,PORT c!)	TELCO	—

**ADD VOICEBAND INTERFACE UNIT TO OPERATIONAL
VOICEBAND INTERFACE FRAME**

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

		RESPONSIBILITY	
	WARNINGS: 1. An antistatic wrist strap must be worn to prevent electrostatic discharge and possible damage to circuit packs while handling 2. No other growth or maintenance activity is allowed during this procedure		
	NOTES: 1. Appropriate Input/Output manuals must be used if clarification of input message or output message is necessary 2. This procedure must be performed during light traffic periods 3. 4ESS TM switch operation must be closely monitored while performing this procedure 4. Corrective action must be taken immediately on any activity that may cause any unit to go out of service (OOS) 5. Stability of office must be maintained throughout this procedure		
1	Notify Next Higher Support Organization That VIU and Connecting TSI Port Are Being Advanced From Special Growth to Operational. Obtain Information for Items 2 and 3 From Next Higher Technical Support Group	TELCO	—
2	Ensure 4ESS Switch Is in Stable Condition	TELCO	—
3	Ensure 1B Processor and Peripheral Units Are Operating in Normal Duplex Mode	TELCO	—
4	Recent Change and Verify Submember Equipage SGR0 to OPER (VIU Associated TSI Port)	TELCO	DLP-501
5	Recent Change and Verify Submember Equipage SGR0 to OPER (VIU Associated With TSI Port in Item 4)	TELCO	DLP-501
6	Enter Message To Run Peripheral Unit Status Audit (AUD:PUSTAT!); Wait for Message Complete (MSG COMPL)	TELCO	—
7	Restore VIU (Item 5) (RST:VIF a,VIU b!)	TELCO	DLP-512
8	Enter Message To Allow Growth Associated TSI Port (ALW:TSI a,SPC b,PORT c!)	TELCO	—

ADVANCE VIU AND CONNECTING TSI PORT FROM SPECIAL GROWTH TO OPERATIONAL

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

		RESPONSIBILITY	
	WARNINGS: 1. <i>An antistatic wrist strap must be worn to prevent electrostatic discharge and possible damage to circuit packs while handling</i> 2. <i>No other growth or maintenance activity is allowed during this procedure</i>		
	NOTES: 1. Appropriate Input/Output manuals must be used if clarification of input message or output message is necessary 2. This procedure must be performed during light traffic periods 3. 4ESS™ switch operation must be closely monitored while performing this procedure 4. Corrective action must be taken immediately on any activity that may cause any unit to go out of service (OOS) 5. Stability of office must be maintained throughout this procedure		
1	Notify Next Higher Support Organization That VIU, Added ESU, and Connecting TSI Port Are Being Advanced From Special Growth to Operational. Obtain Information for Items 2 and 3 From Next Higher Technical Support Group	TELCO	—
2	Ensure 4ESS Switch Is in Stable Condition	TELCO	—
3	Ensure 1B Processor and Peripheral Units Are Operating in Normal Duplex Mode	TELCO	—
4	Recent Change and Verify Submember Equipage SGRO to OPER (TSI Port Associated With Added ESU)	TELCO	DLP-501
5	Recent Change and Verify Submember Equipage SGRO to OPER (Added ESU)	TELCO	DLP-501
6	Recent Change and Verify Submember Equipage SGRO to OPER (Connecting VIU)	TELCO	DLP-501
7	Enter Message To Run Peripheral Unit Status Audit (AUD:PUSTAT!); Wait for Message Complete (MSG COMPL)	TELCO	—
8	Restore Added ESU (RST:EST a,ESU b!)	TELCO	DLP-542
9	Restore Growth Associated VIU (RST:VIF a,VIU b!)	TELCO	DLP-512
10	Enter Message To Allow Growth Associated TSI Port (ALW:TSI a,SPC b,PORT c!)	TELCO	—

ADVANCE VIU, ADDED ESU, AND CONNECTING TSI PORT FROM SPECIAL GROWTH TO OPERATIONAL

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

		RESPONSIBILITY	
	WARNINGS: 1. An antistatic wrist strap must be worn to prevent electrostatic discharge and possible damage to circuit packs while handling 2. No other growth or maintenance activity is allowed during this procedure		
	NOTES: 1. Appropriate Input/Output manuals must be used if clarification of input message or output message is necessary 2. This procedure must be performed during light traffic periods 3. 4ESS ™ switch operation must be closely monitored while performing this procedure 4. Corrective action must be taken immediately on any activity that may cause any unit to go out of service (OOS) 5. Stability of office must be maintained throughout this procedure		
1	Notify Next Higher Support Organization That VIU, and Associated TSI Port and ESU Are Being Degrown. Obtain Information for Items 2 and 3 From Next Higher Technical Support Group	TELCO	—
2	Ensure 4ESS Switch Is in Stable Condition	TELCO	—
3	Ensure 1B Processor and Peripheral Units Are Operating in Normal Duplex Mode	TELCO	—
4	Determine From Company Order the VIU Number To Be Degrown and Associated VIF, TSI, and ESU if Required	TELCO	—
5	Obtain From Appropriate Administration Center the Base Trunk Assignment Number (TAN) Served by VIU To Be Degrown	TELCO	—
6	Verify TAN to VIU Assignment (VER:TRKNAME,TAN a;DETL!)	TELCO	DLP-564
7	Change Degrowth VIU Trunks to Circuit Administration Disabled (CAD.DSA) State and Verify	TELCO	DLP-565
	NOTE: All TANs assigned to the degrowth VIU must be in CAD.DSA state in output message of Item 7 before continuing with this procedure.		
8	Request Appropriate Administration Center To Determine If Any TANTOTANs and/or Nailup Connections Are Assigned to SPC in TSI To Be Degrown	TELCO	—
9	If TANTOTANs Are Assigned, Obtain CIN Assignments of TANTOTANs on SPC To Be Degrown for Later Use	TELCO	—

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

10	If Nailup Connections Are Assigned, Obtain TAN Assignments of Nailup Connections on SPC To Be Degrown for Later Use	TELCO	—
11	If TANTOTANs Are Assigned to SPC Being Degrown (Item 8), Using CIN Assignments Obtained in Item 9, Take Down Each TANTOTAN (ORD:TANTOTAN;RLS,CIN a:CIN b! a = CIN of First Trunk, b = CIN of Second Trunk)	TELCO	DLP-619
12	If Nailup Connections Are Assigned to SPC Being Degrown (Item 8), Request Appropriate Administration Center To Delete Each Nailup Connection on List Obtained in Item 10 Using Recent Change Form 206	TELCO	—
13	Verify That Spare VIU in Degrowth VIF Is Available (OP:00SUNITS:VIF!)	TELCO	DLP-566
14	Remove Degrowth VIU From Service (RMV:VIF a,VIU b!)	TELCO	DLP-567
15	Recent Change Submember Equipage From Operational to Special Growth Using RC Form 701 (Degrow) (Degrowth VIU)	TELCO	DLP-527
16	Diagnose Degrowth VIU (DGN:VIF a,VIU b!); When Diagnostic Is Completed, at Degrowth VIF Frame, Observe That Spare VIU Is Unconditional Released	TELCO	—
17	If EST Exists Between Degrowth VIU and Associated TSI Port and EST Is Equipped With Operational ESU That Is Associated With Degrowth VIU/TSI Port, Perform the Following:		
	1. Remove Associated ESU From Service (RMV:EST a,ESU b!)	TELCO	DLP-569
	2. Recent Change Submember Equipage From Operational to Special Growth Using RC Form 701 (Degrow) (ESU Associated With Degrowth VIU)	TELCO	DLP-527
	3. Diagnose Degrowth Related ESU (DGN:EST a,ESU b!) When Diagnostic Is Completed at Degrowth EST, Observe That Spare ESU Is Unconditional Released	TELCO	—
	NOTES: 1. The VIU (and ESU, if applicable) may remain in special growth state, and the VIU and ESU equipment may remain installed within the operational frame(s), until circuit order work will require the VIU equipment for future reuse, providing the VIU equipment or data cables are not removed or disturbed. 2. This is a safe point to temporarily stop this procedure.		
	(Continued on Page 3)		

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

18	If Degrowth VIU Is To Be Degrown to Unequipped State:		
	1. Recent Change Submember Equipage From Operational to Special Growth Using RC Form 701 (Degrow) (Degrowth Associated TSI Port)	TELCO	DLP-527
	2. Enter Message To Apply TSI Port Pest Control to TSI Port Associated With Degrowth VIU (INH:TSI a,SPC b,PORT c!)	TELCO	—
	3. Recent Change Submember Equipage From Special Growth to Grow Using RC Form 701 (Degrow) (Degrowth VIU)	TELCO	DLP-527
	4. Recent Change Submember Equipage From Grow to Unequipped Using RC Form 701 (Degrow) (Degrowth VIU)	TELCO	DLP-527
	5. If an ESU Is Associated With Degrowth VIU:		
	1. Recent Change Submember Equipage From Special Growth to Grow Using RC Form 701 (Degrow) (ESU Associated With Degrowth VIU)	TELCO	DLP-527
	2. Replace FB618 Circuit Pack With FB619 Strap Pack	TELCO	DLP-570
	3. Recent Change Submember Equipage From Grow to Unequipped Using RC Form 701 (Degrow) (ESU Associated With Degrowth VIU)	TELCO	DLP-527
	6. Recent Change Submember Equipage From Special Growth to Grow Using RC Form 701 (Degrow) (TSI Port Associated With Degrowth VIU)	TELCO	DLP-527
	7. Recent Change Submember Equipage From Grow to Unequipped Using RC Form 701 (Degrow) (TSI Port Associated With Degrowth VIU)	TELCO	DLP-527
	8. Disconnect TSI Port Cables and Install TSI Looping Cables or Terminator	TELCO	DLP-571
	9. Enter Message To Allow Degrowth TSI Port (ALW:TSI a,SPC b,PORT c!)	TELCO	—
	NOTE: If the VIF is to be degrown, the VIU circuit packs may remain installed in the VIF frame.		

10. If Degrowth VIU Circuit Packs Are To Be Removed From VIF Frame, Remove Degrowth VIU Circuit Packs, Power Converters and Disconnect Cabling

11. If Degrown ESU Circuit Packs Are To Be Removed From EST, Remove ESU Circuit Packs and Power Unit

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

		RESPONSIBILITY	
	WARNINGS: 1. An antistatic wrist strap must be worn to prevent electrostatic discharge and possible damage to circuit packs while handling 2. No other growth or maintenance activity is allowed during this procedure		
	NOTES: 1. Appropriate Input/Output manuals must be used if clarification of input message or output message is necessary 2. This procedure must be performed during light traffic periods 3. 4ESS TM switch operation must be closely monitored while performing this procedure 4. Corrective action must be taken immediately on any activity that may cause any unit to go out of service (OOS) 5. Stability of office must be maintained throughout this procedure		
1	Notify Next Higher Support Organization That DTU Is Being Added to Operational DTF. Obtain Information for Items 2 and 3 From Next Higher Technical Support Group	TELCO	—
2	Ensure 4ESS Switch Is in Stable Condition	TELCO	—
3	Ensure 1B Processor and Peripheral Units Are Operating in Normal Duplex Mode	TELCO	—
4	Determine From Company Order the Member Number of Digroup Terminal (DT) Frame Being Grown and Digroup Terminal Unit (DTU) Number To Be Added	TELCO	—
5	Determine DTU Equipment To Be Added and Select Circuit Packs:		
	A. For DT J68952A-1	TELCO	DLP-573
	B. For DT J68952B-1	TELCO	DLP-556
6	Verify DTU to Time Slot Interchange (TSI) Port Assignment, Version Number, and Growth DTU Equipage Status in DT UT Translator (VER,:TYPE:DT a!)	TELCO	DLP-519
7	Verify TSI Port to DTU Assignment and TSI Port Equipage Data of TSI Unit Type (UT) Translator (VER:UTYPE:TSI a!)	TELCO	DLP-548
8	If ESU Is Associated With Growth DTU, Verify ESU Submember Equipage and ESU to DTU Assignment of EST UT Translator (VER:UTYPE:EST a!)	TELCO	DLP-546
9	Diagnose Growth DT Using Restore Message (RST:DT a,CONTR b!)	TELCO	DLP-521

**ADD DIGROUP TERMINAL UNIT TO OPERATIONAL DIGROUP
TERMINAL FRAME**

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

10	Visually Inspect Backplane Area of Growth DTU for Bent Pins and Crosses	TELCO	—
11	Assure That Power to Growth DTU Is Off Using Associated PWR OFF Switch on Fuse and Alarm Panel	TELCO	—
12	Install DTU Circuit Packs and Power Converters at Growth DTU:		
	A. For DT J68952A-1	TELCO	DLP-557
	B. For DT J68952B-1	TELCO	DLP-558
13	Verify Associated Circuit Pack Is Installed in Line Equalizer and Protection Switch Panels:		
	A. For DT J68952A-1	TELCO	DLP-574
	B. For DT J68952B-1	TELCO	DLP-547
14	Verify Transmission Facility Cables Connected and Looping Devices Installed:		
	1. Assure That Transmission Facility Cables Are Connected and DT to TSI Port Looping Devices Are Installed	TELCO	—
	2. If DTU Associated With DSX or Repeater Bay, Complete Cabling and Loop Connections	TELCO	DLP-576
	3. If DTU Associated With LT-1, Complete Cabling and Loop Connections	TELCO	—
15	Recent Change and Verify Submember Equipage UNEQ to GROW (DTU)	TELCO	DLP-501
16	At Growth DTU, Verify That Power Switches on 145A and 145B Converters Are ON	TELCO	—
17	Apply Power to Growth DTU Using Associated PWR OFF Switch on Fuse and Alarm Panel (Lamp Goes Off)	TELCO	—
18	Diagnose Growth DTU (DGN:DT a,DTU b:GROWTH)	TELCO	DLP-520
19	Recent Change and Verify Submember Equipage GROW to SGRO (DTU)	TELCO	DLP-501
20	Enter Message To Apply Port Pest to Growth Associated TSI Port (INH:TSI a,SPC b,PORT c!)	TELCO	—
21	Connect Data Cables:		
	A. If No EST Exists Between Growth DTU and Associated TSI, Remove TSI Port Loop Cables or H Connector as Applicable and DTU Output Loop Cables and Connect Data Cable at TSI Port and Growth DTU	TELCO	DLP-575

**ADD DIGROUP TERMINAL UNIT TO OPERATIONAL DIGROUP
TERMINAL FRAME**

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

21 (Contd)	B. If EST Exists Between Growth DTU and Associated TSI:		
	1. At Growth Related EST, Remove FB619 Strap Pack Associated With Growth DTU	TELCO	—
	2. At Strap Pack Removed in Item 21.B.1, Connect Cables From Growth DTU	TELCO	—
	3. At Growth Related EST, Install Strap Pack Removed in Item 21.B.1	TELCO	—
	4. Remove TSI Port Loop and Connect Data Cables to TSI Port and DTU	TELCO	DLP-575
22	Recent Change and Verify Submember Equipage UNEQ to GROW (TSI Port Connecting to Growth DTU)	TELCO	DLP-501
23	Recent Change and Verify Submember Equipage GROW to SGRO (TSI Port in Item 22)	TELCO	DLP-501
24	Diagnose and Restore Connecting TSI Controllers 0 and 1 (Specifying PH 13 or 20 and GROWTH):		
	A. Specify PH 13 for J4A001A	TELCO	DLP-510
	B. Specify PH 20 for J4A001B	TELCO	DLP-510
	NOTE: This is a safe point to temporarily stop this procedure.		
25	Diagnose Growth DTU (DGN:DT a,DTU b:GROWTH!)	TELCO	DLP-520
26	Activation of DTU Equipment:		
	A. For Each DTU With Trunks Connected or Transmission Equipment Ready for Test That Is To Interface to TSI Via Equipped ESU, Complete DTU/ESU/TSI Interface Using NTP-021 (Echo Suppressor Growth)	TELCO	—
	B. For Each DTU With Trunks Connected or Transmission Equipment Ready for Test That Is To Interface Directly to TSI or Via Strap Through FB619 Pack in EST (Unequipped ESU Position), Perform the Following:	TELCO	—
	1. Recent Change and Verify Submember Equipage SGRO to OPER (DTU Associated TSI Port)	TELCO	DLP-501
	2. Recent Change and Verify Submember Equipage SGRO to OPER (Added DTU)	TELCO	DLP-501
	3. Enter Message To Run Peripheral Unit Status Audit (AUD:PUSTAT!); Wait for Message Complete (MSG COMPL)	TELCO	—
	(Continued on Page 4)		

**ADD DIGROUP TERMINAL UNIT TO OPERATIONAL DIGROUP
TERMINAL FRAME**

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

26 (Contd)	4. Restore Added DTU (RST:DT a,DTU b!)	TELCO	DLP-512
	5. Enter Message To Allow Growth Associated TSI Port (ALW:TSI a,SPC b,PORT c!)	TELCO	—
	NOTE: The current state of the digroup status memory for each digroup associated with the DTU being activated may be obtained by entering OP:DGSTAT,DT a,DTU b,DG 0;DETL:NUM 5,STAT ALL!		

**ADD DIGROUP TERMINAL UNIT TO OPERATIONAL DIGROUP
TERMINAL FRAME**

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

		RESPONSIBILITY	
	WARNINGS: 1. An antistatic wrist strap must be worn to prevent electrostatic discharge and possible damage to circuit packs while handling 2. No other growth or maintenance activity is allowed during this procedure		
	NOTES: 1. Appropriate Input/Output manuals must be used if clarification of input message or output message is necessary 2. This procedure must be performed during light traffic periods 3. 4ESS™ switch operation must be closely monitored while performing this procedure 4. Corrective action must be taken immediately on any activity that may cause any unit to go out of service (OOS) 5. Stability of office must be maintained throughout this procedure		
1	Notify Next Higher Support Organization That DTU and Connecting TSI Port Are Being Advanced From Special Growth to Operational. Obtain Information for Items 2 and 3 From Next Higher Technical Support Group	TELCO	—
2	Ensure 4ESS Switch Is in Stable Condition	TELCO	—
3	Ensure 1B Processor and Peripheral Units Are Operating in Normal Duplex Mode	TELCO	—
4	Recent Change and Verify Submember Equipage SGRO to OPER (DTU Associated TSI Port)	TELCO	DLP-501
5	Recent Change and Verify Submember Equipage SGRO to OPER (DTU Associated With TSI Port in Item 4)	TELCO	DLP-501
6	Enter Message To Run Peripheral Unit Status Audit (AUD:PUSTAT!); Wait for Message Complete (MSG COMPL)	TELCO	—
7	Restore DTU (Item 5) (RST:DT a,DTU b!)	TELCO	DLP-512
8	Enter Message To Allow Growth Associated TSI Port (ALW:TSI a,SPC b,PORT c!)	TELCO	—
	NOTE: The current state of the digroup status memory for each digroup associated with the DTU being activated may be obtained by entering OP:DGSTAT,DT a,DTU b,DG 0;DETL:NUM 5,STAT ALL!		

ADVANCE DTU AND CONNECTING TSI PORT FROM SPECIAL GROWTH TO OPERATIONAL

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

		RESPONSIBILITY	
	WARNINGS: 1. An antistatic wrist strap must be worn to prevent electrostatic discharge and possible damage to circuit packs while handling 2. No other growth or maintenance activity is allowed during this procedure		
	NOTES: 1. Appropriate Input/Output manuals must be used if clarification of input message or output message is necessary 2. This procedure must be performed during light traffic periods 3. 4ESS TM switch operation must be closely monitored while performing this procedure 4. Corrective action must be taken immediately on any activity that may cause any unit to go out of service (OOS) 5. Stability of office must be maintained throughout this procedure		
1	Notify Next Higher Support Organization That DTU, Added ESU, and Connecting TSI Port Are Being Advanced From Special Growth to Operational. Obtain Information for Items 2 and 3 From Next Higher Technical Support Group	TELCO	—
2	Ensure 4ESS Switch Is in Stable Condition	TELCO	—
3	Ensure 1B Processor and Peripheral Units Are Operating in Normal Duplex Mode	TELCO	—
4	Recent Change and Verify Submember Equipage SGRO to OPER (TSI Port Associated With Added ESU)	TELCO	DLP-501
5	Recent Change and Verify Submember Equipage SGRO to OPER (Added ESU)	TELCO	DLP-501
6	Recent Change and Verify Submember Equipage SGRO to OPER (Connecting DTU)	TELCO	DLP-501
7	Enter Message To Run Peripheral Unit Status Audit (AUD:PUSTAT!); Wait for Message Complete (MSG COMPL)	TELCO	—
8	Restore Added ESU (RST:EST a,ESU b!)	TELCO	DLP-542
9	Restore Growth Associated DTU (RST:VIF a,DTU b!)	TELCO	DLP-512
10	Enter Message To Allow Growth Associated TSI Port (ALW:TSI a,SPC b,PORT c!)	TELCO	—
	NOTE: The current state of the digroup status memory for each digroup associated with the DTU being activated may be obtained by entering OP:DGSTAT,DT a,DTU b,DG 0;DETL:NUM 5,STAT ALL!		

**ADVANCE DTU, ADDED ESU, AND CONNECTING TSI PORT FROM
SPECIAL GROWTH TO OPERATIONAL**

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

		RESPONSIBILITY	
	WARNINGS: 1. An antistatic wrist strap must be worn to prevent electrostatic discharge and possible damage to circuit packs while handling 2. No other growth or maintenance activity is allowed during this procedure		
	NOTES: 1. Appropriate Input/Output manuals must be used if clarification of input message or output message is necessary 2. This procedure must be performed during light traffic periods 3. 4ESS TM switch operation must be closely monitored while performing this procedure 4. Corrective action must be taken immediately on any activity that may cause any unit to go out of service (OOS) 5. Stability of office must be maintained throughout this procedure		
1	Notify Next Higher Support Organization That DTU, and Associated TSI Port and ESU Are Being Degrown. Obtain Information for Items 2 and 3 From Next Higher Technical Support Group	TELCO	—
2	Ensure 4ESS Switch Is in Stable Condition	TELCO	—
3	Ensure 1B Processor and Peripheral Units Are Operating in Normal Duplex Mode	TELCO	—
4	Determine From Company Order the DTU Number To Be Degrown and Associated DT, TSI, and ESU, if Required	TELCO	—
5	Obtain From Appropriate Administration Center the Base Trunk Assignment Number (TAN) Served by DTU To Be Degrown	TELCO	—
6	Verify TAN to DTU Assignment (VER:TRKNAME,TAN a;DETL!)	TELCO	DLP-564
7	Change Degrowth DTU Trunks to Circuit Administration Disabled (CAD,DSA) State and Verify	TELCO	DLP-565
	NOTE: All TANs assigned to the degrowth DTU must be in CAD.DSA state in output message of Item 7 before continuing with this procedure.		
8	Request Appropriate Administration Center To Determine If Any TANTOTANs and/or Nailup Connections Are Assigned to SPC in TSI To Be Degrown	TELCO	—
9	If TANTOTANs Are Assigned, Obtain CIN Assignments of TANTOTANs on SPC To Be Degrown for Later Use	TELCO	—

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

10	If Nailup Connections Are Assigned, Obtain TAN Assignments of Nailup Connections on SPC To Be Degrown for Later Use	TELCO	—
11	If TANTOTANs Are Assigned to SPC Being Degrown (Item 8), Using CIN Assignments Obtained in Item 9, Take Down Each TANTOTAN (ORD:TANTOTAN;RLS,CIN a:CIN b!) a = CIN of First Trunk, b = CIN of Second Trunk)	TELCO	DLP-619
12	If Nailup Connections Are Assigned to SPC Being Degrown (Item 8), Request Appropriate Administration Center To Delete Each Nailup Connection on List Obtained in Item 10 Using Recent Change Form 206	TELCO	—
13	Verify That Spare DTU in Degrowth DT Is Available (OP:00SUNITS:DT!)	TELCO	DLP-566
14	Remove Degrowth DTU From Service (RMV:DT a,DTU b!))	TELCO	DLP-567
	<i>CAUTION: Assure that power is on at the degrowth DTU before proceeding. Power must remain on until the DTU and TSI port are degrown to unequipped and the TSI port is looped back.</i>		
15	Recent Change Submember Equipage From OPER to SGRO Using RC Form 701 (Degrow) (Degrowth DTU)	TELCO	DLP-527
16	Diagnose Degrowth DTU (DGN:DT a,DTU b!); After Completion of Diagnostic, at Degrowth DT, Observe That Spare DTU Is Unconditionally Released	TELCO	—
17	If EST Exists Between Degrowth DTU and Associated TSI Port and EST Is Equipped With Operational ESU That Is Associated With Degrowth DTU/TSI Port, Perform the Following:		
	1. Remove Associated ESU From Service (RMV:EST a,ESU b!)	TELCO	DLP-569
	2. Recent Change Submember Equipage From OPER to SGRO Using RC Form 701 (Degrow) (ESU Associated With Degrowth DTU)	TELCO	DLP-527
	3. Diagnose Degrowth Associated ESU (DGN:EST a,ESU b!); After Completion of Diagnostic, at Degrowth EST, Observe That ESU Is Unconditionally Released	TELCO	—
	NOTES: 1. The DTU (and ESU if applicable) may remain in special growth state and the DTU and ESU equipment may remain installed within the operational frame(s) until circuit order work requires the DTU equipment for future reuse, providing the DTU equipment or data cables are not removed or disturbed. 2. This is a safe point to temporarily stop this procedure.		

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

18	If Degrowth DTU Is To Be Degrown to Unequipped State:		
	1. Recent Change Submember Equipage From OPER to SGRO Using RC Form 701 (Degrow) (TSI Port Associated With Degrowth DTU)	TELCO	DLP-527
	2. Enter Message To Apply TSI Port Pest Control to Degrowth Associated TSI Port (INH:TSI a,SPC b,PORT c!)	TELCO	—
	3. Recent Change Submember Equipage From SGRO to GROW Using RC Form 701 (Degrow) (Degrowth DTU)	TELCO	DLP-527
	4. Recent Change Submember Equipage From GROW to UNEQ Using RC Form 701 (Degrow) (Degrowth DTU)	TELCO	DLP-527
	5. If ESU Is Associated With Degrowth DTU:		
	1. Recent Change Submember Equipage From SGRO to GROW Using RC Form 701 (Degrow) (ESU Associated With Degrowth DTU)	TELCO	DLP-527
	2. At Degrowth ESU, Replace FB618 Circuit Pack With FB619 Strap Pack	TELCO	DLP-570
	3. Recent Change Submember Equipage From GROW to UNEQ Using RC Form 701 (Degrow) (ESU Associated With Degrowth DTU)	TELCO	DLP-527
	6. Recent Change Submember Equipage From SGRO to GROW Using RC Form 701 (Degrow) (TSI Port Associated With Degrowth DTU)	TELCO	DLP-527
	7. Recent Change Submember Equipage From GROW to UNEQ Using RC Form 701 (Degrow) (TSI Port Associated With Degrowth DTU)	TELCO	DLP-527
	8. Disconnect TSI Port Cables and Install TSI Looping Cables or Terminator	TELCO	DLP-571
	9. Enter Message To Allow Degrowth TSI Port (ALW:TSI a,SPC b,PORT c!)	TELCO	—
	10. Remove Power From Degrown DTU Using Associated PWR OFF Switch on Fuse and Alarm Panel	TELCO	—
	NOTE: If the DT is to be degrown, the degrown DTU circuit packs may remain installed in the DT frame.		
	(Continued on Page 4)		

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

18 (Contd)	11. Remove Degrowth DTU Circuit Packs, Power Units, and Disconnect Cabling:		
	A. J68952A-1	TELCO	DLP-577
	B. J68952B-1	TELCO	DLP-578
	12. If Degrown ESU Circuit Packs Are To Be Removed From EST, Remove ESU Circuit Packs	TELCO	DLP-568

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

		RESPONSIBILITY	
	WARNINGS: 1. An antistatic wrist strap must be worn to prevent electrostatic discharge and possible damage to circuit packs while handling 2. No other growth or maintenance activity is allowed during this procedure		
	NOTES: 1. Appropriate Input/Output manuals must be used if clarification of input message or output message is necessary 2. This procedure must be performed during light traffic periods 3. 4ESS TM switch operation must be closely monitored while performing this procedure 4. Corrective action must be taken immediately on any activity that may cause any unit to go out of service (OOS) 5. Stability of office must be maintained throughout this procedure 6. This procedure may not be executed with the VIU/DTU/DIU associated with the growth ESU in the operational state. If the VIU/DTU/DIU is operational degrowth, of the VIU/DTU/DIU is required followed by peasting and degrowth of the associated TSI port.		
1	Notify Next Higher Support Organization That ESU Is Being Added to Operational EST. Obtain Information for Items 2 and 3 From Next Higher Technical Support Group	TELCO	—
2	Ensure 4ESS Switch Is in Stable Condition	TELCO	—
3	Ensure 1B Processor and Peripheral Units Are Operating in Normal Duplex Mode	TELCO	—
4	Determine From Company Order the Member Number of Echo Suppressor Terminal (EST) Associated With Growth and Echo Suppressor Unit (ESU) Number To Be Grown	TELCO	—
5	Determine Location of ESU Equipment To Be Grown and Select Circuit Packs	TELCO	DLP-579
6	Verify Unequipped Status of Growth Echo Suppressor Unit (ESU) (VER:UTYPE:EST a,SME b!)	TELCO	DLP-534
7	Verify Growth ESU Version Number (VER:UTYPE:EST a!)	TELCO	DLP-538
8	Assure That Data Cables to TSI and VIU/DTU/DIU Are Connected and/or That FB619 Strap Pack Is Installed for ESU To Be Added	TELCO	—
9	Diagnose Growth Related EST Using Restore Message (Controllers 0 and 1) (RST:EST a,CONTR b!)	TELCO	DLP-535

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

10	Diagnose Operational ESU (Each Operational ESU in Growth Related EST) (DGN:EST a,ESU b!)	TELCO	DLP-536
	<i>CAUTION: The FB618 circuit pack should not be installed at this time</i>		
11	Install Circuit Packs (Except FB618) and Power Converter	TELCO	—
12	Diagnose Growth Related EST Using Restore Message (Controllers 0 and 1) (RST:EST a,CONTR b!)	TELCO	DLP-535
13	Diagnose Operational ESU (Each Operational ESU in Growth Related EST) (DGN:EST a,ESU b!)	TELCO	DLP-536
14	Verify Equipage Status of VIU/DTU/DIU Associated With Growth ESU:		
	A. If Growth ESU Connects to VIU, Verify and Note Equipage Status of VIU Associated With Growth ESU (VER:UTYPE:VIF a,SME b!)	TELCO	—
	B. If Growth ESU Connects to DTU, Verify and Note Equipage Status of DTU Associated With Growth ESU (VER:UTYPE:DT a,SME b!)	TELCO	—
	C. If Growth ESU Connects to DIU, Verify and Note Equipage Status of DIU Associated With Growth ESU (VER:UTYPE:DIF a,SME b!)	TELCO	—
15	Discontinue This Procedure If VIU/DTU/DIU SME Verified in Item 14 Is Not in SGRO State and Not Ready To Be Interfaced to Growth ESU as Result of VIF/VIU or DT/DTU or DIF/DIU Growth/Degrowth Procedures or as Result of EST Growth Procedures		
16	Recent Change and Verify Submember Equipage UNEQ to GROW (Growth ESU)	TELCO	DLP-501
17	Diagnose Growth ESU Specifying GROWTH (DGN:EST a,ESU b:GROWTH!)	TELCO	DLP-537
18	Recent Change and Verify Submember Equipage GROW to SGRO (Growth ESU)	TELCO	DLP-501
19	Connect T and R Data Cables:		
	1. Locate T and R Data Cables and FB619/FB618 Circuit Packs for Growth ESU	TELCO	DLP-581
	2. At Growth Related EST, Remove FB619 Strap Pack Associated With Growth ESU	TELCO	—
	3. At Strap Pack Removed in Item 19.2, Disconnect ESU to TSI Port Data Cables	TELCO	—
	4. At Strap Pack Removed in Item 19.2, Disconnect ESU to VIU/DTU/DIU Data Cables	TELCO	—
	5. Get FB618 Circuit Pack and Connect TSI Port to ESU Data Cables at FB618 Circuit Pack	TELCO	—
	(Continue on Page 3)		

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

19 (Contd)	6. Connect ESU to VIU/DTU/DIU Data Cables Onto FB618 Circuit Pack	TELCO	—
	7. At Growth EST, Install FB618 Circuit Pack Associated With Growth ESU	TELCO	—
	NOTE: The connecting TSI port equipage must be assured of being in special growth (SGRO) state prior to Item 20.		
20	Diagnose and Restore Connecting TSI Controllers 0 and 1:		
	A. If Connecting TSI Is J4A001A; Specify PH 13 and GROWTH	TELCO	DLP-510
	B. If Connecting TSI Is J4A001B; Specify PH 20 and GROWTH	TELCO	DLP-510
21	Diagnose Growth ESU Specifying Phases 1-3, GROWTH, and ESCSEL (DGN:EST a,ESU b:PH 1-3,GROWTH,ESCSEL!)	TELCO	DLP-539
	NOTE: For any channel comprising a VIU/DTU/DIU, a TSI port, and an ESU which is not ready to be brought to the operational state per Item 22, circuit order procedures contained in NTP-015 (VIU) or NTP-019 (DTU) or NTP-024 (DIU) are to be performed later.		
22	For ESU Associated With a VIU/DTU/DIU Which Has Trunks Connected or Transmission Equipment Ready for Test:		
	1. Recent Change and Verify Submember Equipage SGRO to OPER (TSI Port Associated With Growth ESU)	TELCO	DLP-501
	2. Recent Change and Verify Submember Equipage SGRO to OPER (Growth ESU)	TELCO	DLP-501
	3. If Growth ESU Connects to VIU, Recent Change and Verify Submember Equipage SGRO to OPER (Connecting VIU)	TELCO	DLP-501
	4. If Growth ESU Connects to DTU, Recent Change and Verify Submember Equipage SGRO to OPER (Connecting DTU)	TELCO	DLP-501
	5. If Growth ESU Connects to DIU, Recent Change and Verify Submember Equipage SGRO to OPER (Connecting DIU)	TELCO	DLP-501
	6. Enter Message To Run Peripheral Unit Status Audit (AUD:PUSTAT!); Wait for Message Complete (MSG COMPL)	TELCO	—
	7. Restore Growth ESU (RST:EST a,ESU b!)	TELCO	DLP-542
	8. If Growth ESU Connects to VIU, Restore Growth Associated VIU (RST:VIF a,VIU b!)	TELCO	DLP-512

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

22 (Contd)	9. If Growth ESU Connects to DTU, Restore Growth Associated DTU (RST:DT a,DTU b!)	TELCO	DLP-512
	10. If Growth ESU Connects to DIU, Restore Growth Associated DIU (RST:DIF a,DIU b!)	TELCO	DLP-512
	11. Enter Message To Allow Growth Associated TSI Port (ALW:TSI a,SPC b,PORT c!)	TELCO	—

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

		RESPONSIBILITY	
	WARNINGS: 1. An antistatic wrist strap must be worn to prevent electrostatic discharge and possible damage to circuit packs while handling 2. No other growth or maintenance activity is allowed during this procedure		
	NOTES: 1. Appropriate Input/Output manuals must be used if clarification of input message or output message is necessary 2. This procedure must be performed during light traffic periods 3. 4ESS ™ switch operation must be closely monitored while performing this procedure 4. Corrective action must be taken immediately on any activity that may cause any unit to go out of service (OOS) 5. Stability of office must be maintained throughout this procedure 6. This procedure may not be executed with the VIU/DTU/DIU associated with the growth ESU in the operational state. If the VIU/DTU/DIU is operational degrowth, of the VIU/DTU/DIU is required followed by peasting and degrowth of the associated TSI port.		
1	Notify Next Higher Support Organization That DIF Is Being Added. Obtain Information for Items 2 and 3 From Next Higher Technical Support Group	TELCO	—
2	Ensure 4ESS Switch Is in Stable Condition	TELCO	—
3	Ensure 1B Processor and Peripheral Units Are Operating in Normal Duplex Mode	TELCO	—
4	Assure That Digital Interface (DIF) Power Verification and Stand-Alone Tests Have Been Completed	INST	—
5	Verify DIF Unit Type (UT) Translator and Compare Translations Data Against Wiring Records:		
	1. Verify DIF-E1 UT Translator (VER:UTYPE:DIF a!) and Record TSI Port to DIU Assignment for Each Growth DIU for Later Reference	TELCO/INST	DLP-602
	2. Compare Translations Data Against Wiring Records	INST	—
	3. Verify DIF Type Table	TELCO/INST	DLP-616
	(Continued on Page 2)		

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

6	Verify TSI Port to DIU Assignment and TSI Port Equipage Data of Connecting TSI Frame(s) UT Translators, and Compare Translations Data Against Wiring Records:		
	1. Verify TSI Even Member Number UT Translator (VER:UTYPE:TSI a!)	TELCO/INST	DLP-548
	2. Verify TSI Odd Member Number UT Translator (VER:UTYPE:TSI b!)	TELCO/INST	DLP-548
	3. If DIU 7, 15, 23 and/or 31 Will Be Equipped on This Order:		
	1. Verify Breakage TSI Even Member Number UT Translator (VER:UTYPE:TSI c!)	TELCO/INST	DLP-548
	2. Verify Breakage TSI Odd Member Number UT Translator (VER:UTYPE:TSI d!)	TELCO/INST	DLP-548
	4. Compare Translations Data Against Wiring Records	INST	—
7	If EST Is Associated With Growth DIF:		
	1. Verify ESU to DIU Assignment and ESU Equipage Data of EST UT Translator (EST Connecting to DIUs 0-6, 8-14) (VER:UTYPE:EST a!)	TELCO/INST	DLP-546
	2. If DIU 16 or Higher Will Be Equipped on This Order, Verify ESU to DIU Assignment and ESU Equipage Data of EST UT Translator (EST Connecting to DIUs 16-22, 24-30) (VER:UTYPE:EST b!)	TELCO/INST	DLP-546
	3. Compare Translations Data Against Wiring Records	INST	—
8	Remove Growth DIF Power Using Power Switches	INST	—
9	Connect Strapping for K-Code, MI, GI, and Buffer Poll Option	INST	—
10	Connect Private Signal Leads (MSN-MDN) Assignments, Master Timing Links, and Alarms	INST	—
11	Restore Power to Growth DIF Using Power Switches	INST	—
12	Verify Cabling and Assignments	INST	—
13	Recent Change and Verify DIF Member Equipage From UNEQ to GROW	TELCO	DLP-500
14	Extend or Insert Peripheral Unit Bus Per TOP 234-353-045; Then Continue This Procedure at Item 15 Upon Completion	TELCO/INST	—
15	At 1B MTC Terminal, Enter RMV:PUB 0! To Remove Peripheral Unit Bus 0 From Service	TELCO	—
16	Apply Power to Growth DIF IPUB 0, and Controllers 0 and 1 (IPUB 1 Must Be Powered Down)	INST	—
17	Diagnose DIF Controllers 0 and 1, Specifying Phase 1 and 2 (PUB 0)	INST	—

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

18	Diagnose DIF Controllers 0 and 1, Specifying Phases 1 Through 21 (PUB 0)	INST	—
19	Remove Power From DIF IPUB 0	INST	—
20	Restore Peripheral Unit Bus 0 to Service (RST:PUB 0!)	TELCO/INST	DLP-503
21	At 1B MTC Terminal, Enter RMV:PUB 1! To Remove Peripheral Unit Bus 1 From Service	TELCO	—
22	Apply Power to Growth DIF IPUB 1	INST	—
23	Diagnose DIF Controllers 0 and 1, Specifying Phase 1 and 2 (PUB 1)	INST	—
24	Diagnose DIF Controllers 0 and 1, Specifying Phases 1 Through 21 (PUB 1)	INST	—
25	Restore Peripheral Unit Bus 1 to Service (RST:PUB 1!)	TELCO/INST	DLP-503
26	If Repair or Maintenance Was Required to IPUB or Controller Access Circuitry During IPUB 1 Testing:		
	1. Remove Power From DIF IPUB 1	INST	—
	2. Repeat From Item 15	TELCO/INST	—
27	Apply Power to DIF IPUB 0	INST	—
28	Diagnose DIF Controllers 0 and 1, Specifying Phases 1 Through 21	INST	—
29	Recent Change and Verify DIF Member Equipage From GROW to SGRO	TELCO	DLP-500
30	Diagnose DIF Controllers 0 and 1, Specifying Phases 1 Through 21	INST	—
31	Recent Change and Verify DIF Submember Equipage From UNEQ to GROW:		
	A. Digital Interface Unit (DIU) 32 (Spare Low) (SME Name=DIUSPQA Index Number=175)	TELCO	DLP-501
	B. Digital Interface Unit (DIU) 33 (Spare High) (SME Name=DIUSPQB Index Number=176)	TELCO	DLP-501
32	Diagnose Spare DIUs (DIU 32 and 33)	INST	—
33	Recent Change and Verify DIF Submember Equipage From GROW to SGRO:		
	A. DIU 32 (Spare Low) (SME Name=DIUSPQA Index Number=175)	TELCO	DLP-501
	B. DIU 33 (Spare High) (SME Name=DIUSPQB Index Number=176)	TELCO	DLP-501
34	Diagnose Spare DIUs (DIU 32 and 33)	INST	—

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

35	Diagnose DIF Controllers 0 and 1, Specifying Phases 22 and 23 (With PSW, Select, and Growth Options)	INST	—
36	Determine Number of DIUs Initially Supplied and Their Submember Numbers (DIU 0 Through 31)	TELCO/INST	—
37	Recent Change and Verify DIF Submember Equipage From UNEQ to GROW (Initially Supplied DIUs)	TELCO	DLP-501
38	Diagnose Each Initially Supplied DIU (Assure That Each DIU in Growth State Is Looped at Input and Output Ports)	INST	—
39	Recent Change and Verify DIF Submember Equipage From GROW to SGR0 (Initially Supplied DIUs)	TELCO	DLP-501
40	Diagnose Each Initially Supplied DIU	INST	—
41	Diagnose DIF Controllers 0 and 1, Specifying Phases 1 Through 23 With PSW, Select, and Growth Options	INST	—
42	Enter Message To Apply Port Pest to Each TSI Port Connecting to Initially Supplied DIUs (INH:TSI a,SPC b,PORT c!)	TELCO	—
43	Connect TSI Port Cables:		
	A. If No EST Exists Between Growth DIF and Associated TSI, Remove TSI Looping Terminators and DIU Output Loop Cables; Connect Signal Cables to DIUs and TSI Ports	INST	—
	B. If EST Exists Between Growth DIF and Associated TSI and If ESUs Are in Strap Through Condition and Marked Unequipped in Translator, Remove TSI Looping Terminators and Connect Signal Cables at FB619 Strap Pack of ESUs, at DIUs, and at TSI Ports	INST	—
44	Recent Change and Verify TSI Submember Equipage From UNEQ to GROW		
	1. TSI Ports Connecting to Initially Supplied DIUs (DIUs 0-6, 8-14, 16-22, 24-30)	TELCO	DLP-501
	2. If DIU 7, 15, 23 and/or 31 Is Initially Supplied, Recent Change Breakage TSI Ports Connecting to DIU 7, 15, 23, and/or 31	TELCO	DLP-501
45	Recent Change and Verify TSI Submember Equipage From GROW to SGR0:		
	1. TSI Ports Connecting to Initially Supplied DIUs (DIUs 0-6, 8-14, 16-22, 24-30)	TELCO	DLP-501
	2. If DIU 7, 15, 23 and/or 31 Is Initially Supplied, Recent Change Breakage TSI Ports Connecting to DIU 7, 15, 23, and/or 31	TELCO	DLP-501

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

46	Diagnose and Restore Connecting TSI Frame(s) Controllers 0 and 1 (Specifying Appropriate Phase and Growth)	TELCO/INST	DLP-522
47	Verify Cabling and Loop Connections Have Been Provided for All Digroup Inputs to DIUs at DSX1 or Directly Connected LT1 Bays	INST	—
48	Diagnose DIF Controllers 0 and 1	INST	—
49	Enter Message To Run Peripheral Unit Status Audit (AUD:PUSTAT!); Wait for Message Complete (MSG COMPL)	TELCO	—
50	At Bus Interface Units 0 and 1, and at Controller 0, Rotate OFF Switch to Normal Position and Controller 1 OFF Switch to ROS	INST	—
51	Recent Change and Verify DIF Member Equipage From SGRO to OPER	TELCO	DLP-500
52	Enter Message To Restore and Initialize Controller 0 to Simplex Operation (RST:DIF a,CONTR 0!) CATP and Restore COMPLETE Required; INST Clear Equipment Troubles	TELCO/INST	—
53	Restore and Initialize Controller 1 Using CONT1 Power Switch	TELCO/INST	DLP-505
54	Recent Change and Verify DIF Submember Equipage From SGRO to OPER:		
	A. DIU 32 (Spare Low) (SME Name=DIUSPQA Index Number=175)	TELCO	DLP-501
	B. DIU 33 (Spare High) (SME Name=DIUSPQB Index Number=176)	TELCO	DLP-501
55	Restore Spare DIUs:		
	1. Enter Message To Restore DIU 32 (RST:DIF a,DIU 32!) ATP and Restore COMPLETE Required; INST Clear Equipment Troubles	TELCO/INST	DLP-512
	2. Enter Message To Restore DIU 33 (RST:DIF a,DIU 33!) ATP and Restore COMPLETE Required; INST Clear Equipment Troubles	TELCO/INST	DLP-512
56	Activate DIU Equipment:		
	A. For Each DIU With Trunks Connected or Transmission Equipment Ready for Test That Is To Interface With TSI Port Via Equipped ESU, Complete DIU/ESU/TSI Interface Using NTP-011 (Echo Suppressor Growth)	TELCO/INST	—
	(Continued on Page 6)		

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

56 (Contd)	B. For Each DIU With Trunks Connected or Transmission Equipment Ready for Test That Is To Interface Directly to TSI or Via Strap Through FB619 Pack in EST (Unequipped ESU Position), Perform the Following:		
	1. Recent Change and Verify Submember Equipage From SGR0 to OPER:		
	1. TSI Port Associated With DIU	TELCO	DLP-501
	2. Associated DIU	TELCO	DLP-501
	6. Enter Message To Run Peripheral Unit Status Audit (AUD:PUSTAT!); Wait for Message Complete (MSG COMPL)	TELCO	—
	3. Enter Message To Restore DIU (RST:DIF a,DIU b!) ATP and Restore COMPLETE Required; INST Clear Equipment Troubles	TELCO/INST	DLP-512
	4. Enter Message to Allow Growth Associated TSI Port (ALW:TSI a,SPC b,PORT c!)	TELCO	—
	5. Repeat From Item 56.B.1 for Additional TSI-DIU Interfaces	TELCO/INST	—

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

		RESPONSIBILITY	
	WARNINGS: 1. An antistatic wrist strap must be worn to prevent electrostatic discharge and possible damage to circuit packs while handling 2. No other growth or maintenance activity is allowed during this procedure		
	NOTES: 1. Appropriate Input/Output manuals must be used if clarification of input message or output message is necessary 2. This procedure must be performed during light traffic periods 3. 4ESS™ switch operation must be closely monitored while performing this procedure 4. Corrective action must be taken immediately on any activity that may cause any unit to go out of service (OOS) 5. Stability of office must be maintained throughout this procedure 6. In following procedure, DIF refers to either DIF-E1 Domestic or DIF unless DIF-E1 specified 7. A DIF-E1 can contain up to 4 MF DIUs or 4 DTMF DIUs (1, 18, 9, and 26), but not a combination of both. DIUs 1, 18, 9, and 26 should be grown in sequence 8. SM10 DIU can only be grown in 4E14 or later generic office 9. If SM9 or SM10 DIU is being added, it may be added only to DIF-E1 with an MTHG of 4 or 5 10. A DIF (J68960A) can only contain voice DIUs 11. All operational DIUs must be in-service		
1	Notify Next Higher Support Organization That DIU Is Being Added to Operational Domestic DIF-E1 or J68960A DIF. Obtain Information for Items 2 and 3 From Next Higher Technical Support Group	TELCO	—
2	Ensure 4ESS Switch Is in Stable Condition	TELCO	DLP-638
3	Ensure 1B Processor and Peripheral Units Are Operating in Normal Duplex Mode	TELCO	DLP-639
4	Determine From Company Order the Member Number of Digital Interface (DIF) Associated With Growth and Digital Interface Unit (DIU) Number To Be Grown	TELCO	—
5	Determine Frame Location of DIU Equipment To Be Grown and Select Circuit Packs	TELCO	DLP-540
6	Verify Growth DIU Equipage Status, Version Number, and DIU to TSI Port Assignment in DIF UT Translator (VER:UTYPE:DIF a!)	TELCO	DLP-610

ADD DIGITAL INTERFACE UNIT (DIU) TO OPERATIONAL DIGITAL INTERFACE (DIF-E1) DOMESTIC OR DIF (J68960A)

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

7	If ESU Is Associated With Growth DIU, Verify ESU to Growth DIU Assignment and ESU Equipage Status in EST UT Translator (VER:UTYPE:EST a!)	TELCO	DLP-546
8	Verify DIF Type Table	TELCO	DLP-616
9	If LIST 14 (SM9 Pack) or LIST 15 (SM10 Pack) DIU Is Being Added, Verify That DIUs 32 and 33 Are Equal to or Greater Than LIST Number of Associated Growth Unit	TELCO	—
10	Determine Which TSI Member Number Has Port Connecting to Growth DIU	TELCO	—
11	Verify TSI Port to Growth DIU Assignment and TSI-SPC Port Equipage Status in TSI UT Translator (VER:UTYPE:TSI a!)	TELCO	DLP-548
12	Diagnose DIF Controllers 0 and 1 Using Restore Message (RST:DIF a,CONTR b!)	TELCO	DLP-521
13	Visually Inspect Backplane Area of Growth DIU for Bent Pins and Crosses	TELCO	—
14	If DIU 32 or 33 (Spare DIU) Is To Be Changed:		
	1. Diagnose Spare DIU (DGN:DIF a,DIU b!); ATP Required	TELCO	—
	2. Remove Power From Spare DIU Using Unit Power Switch	TELCO	—
	3. Replace Spare DIU Circuit Packs With Required Circuit Packs	TELCO	—
	4. Perform Functional Word Change of Spare DIU Type	TELCO	DLP-618
	5. Restore Power to Spare DIU Using Unit Power Switch	TELCO	—
	6. Restore Spare DIU to Service (RST:DIF a,DIU b!); ATP Required	TELCO	—
15	Assure That Power to Growth DIU Is Off Using Unit Power Switch	TELCO	—
16	Install Growth DIU Circuit Packs and Power Converters; Place Power Converter Switches to ON	TELCO	DLP-541
17	Verify That Input/Output Looping Devices Are in Place for Growth DIU Output (T, R) and at DSX1 or Directly Connecting LT1 Bays	TELCO	—
18	Recent Change and Verify Submember Equipage From UNEQ to GROW (Growth DIU)	TELCO	DLP-501
19	Apply Power to Growth DIU Using Unit Power Switch	TELCO	—
	(Continued on Page 3)		

ADD DIGITAL INTERFACE UNIT (DIU) TO OPERATIONAL DIGITAL INTERFACE (DIF-E1) DOMESTIC OR DIF (J68960A)

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

20	Diagnose Growth DIU, Specifying Growth and Appropriate Phases (CATP Expected); INST Clear Equipment Troubles:		
	A. Specify Phases 1 Through 4 for MF or DTMF DIU (NTR on Phases 3 and 4)	TELCO	DLP-611
	B. Specify Phases 1 Through 3 for All Other DIUs	TELCO	DLP-611
21	Recent Change and Verify Submember Equipage From GROW to SGRO (Growth DIU)	TELCO	DLP-501
22	Diagnose Growth DIU, Specifying Growth and Appropriate Phases (ATP Required); INST Clear Equipment Troubles:		
	A. Specify Phases 1 Through 4 for MF or DTMF DIU	TELCO	DLP-612
	B. Specify Phases 1 Through 3 for All Other DIUs	TELCO	DLP-612
	NOTE: Items 23 through 29 must be performed without interruption.		
23	Enter Messages To Apply Pests on TSI Port Connecting to Growth DIU, Growth DIF and if Associated, EST:		
	1. INH:TSI a,SPC b,PORT c!	TELCO	—
	2. INH:DIF a,APUF!	TELCO	—
	3. INH:DIF a,APUT!	TELCO	—
	4. If EST Is Associated: INH:EST a,APUF!	TELCO	—
	5. If EST Is Associated: INH:EST a,APUT!	TELCO	—
24	Connect TSI Port Cables:		
	A. If No EST Exists Between DIU and Associated TSI, Remove TSI Looping Terminators and DIU Output Loop Cables. Connect Signal Cables at Growth DIU and TSI Ports	TELCO	DLP-583
	B. If EST Exists Between Growth DIU and Associated TSI:		
	1. At Growth Related EST, Remove FB619 Strap Pack Associated With Growth DIU	TELCO	—
	2. At Strap Pack Removed in Item 24.B.1, Connect Cables From Growth DIU	TELCO	—
	3. At Growth Related EST, Install Strap Pack Removed in Item 24.B.1	TELCO	—
	4. Remove TSI Port Loop and Connect Data Cables to TSI Port and DIU	TELCO	DLP-583

ADD DIGITAL INTERFACE UNIT (DIU) TO OPERATIONAL DIGITAL INTERFACE (DIF-E1) DOMESTIC OR DIF (J68960A)

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

25	Recent Change and Verify Submember Equipage UNEQ to GROW (TSI Port Connecting to Growth DIU)	TELCO	DLP-501
26	Recent Change and Verify Submember Equipage GROW to SGRO (TSI Port Connecting to Growth DIU)	TELCO	DLP-501
27	Diagnose and Restore Connecting TSI Controllers 0 and 1 (Specifying Appropriate Phase and Growth)	TELCO	DLP-522
28	Diagnose Growth DIU (Specifying Growth) (DGN:DIF a,DIU b:GROWTH!)	TELCO	DLP-520
29	Enter Messages To Allow Pests on Growth DIF and, if Associated, EST:		
	1. ALW:DIF a,APUF!	TELCO	—
	2. ALW:DIF a,APUT!	TELCO	—
	3. If EST Associated: ALW:EST a,APUF!	TELCO	—
	4. If EST Associated: ALW:EST a,APUT!	TELCO	—
30	Activate DIU Equipment:		
	A. For DIU With Trunks Connected or Transmission Equipment Ready for Test That Is To Interface to TSI Port Via Equipped ESU, Complete DIU/ESU/TSI Interface Using NTP-021 (Echo Suppressor Unit Growth)	TELCO	—
	B. For DIU With Trunks Connected or Transmission Equipment Ready for Test That Is To Interface Directly to TSI or Via Strap Through FB619 Pack in EST (Unequipped ESU Position), Perform the Following:		
	1. Recent Change and Verify Submember Equipage From SGRO to OPER (TSI Port Associated With Growth DIU)	TELCO	DLP-501
	2. Recent Change and Verify Submember Equipage From SGRO to OPER (Growth DIU)	TELCO	DLP-501
	NOTE: An indicated service-degrading condition will occur after AUD:PUSTAT message is entered.		
	3. Enter Message To Run Peripheral Unit Status Audit (AUD:PUSTAT!); Wait for Message Complete (MSG COMPL)	TELCO	—
	(Continued on Page 5)		

**ADD DIGITAL INTERFACE UNIT (DIU) TO OPERATIONAL DIGITAL
INTERFACE (DIF-E1) DOMESTIC OR DIF (J68960A)**

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

30 (Contd)	4. Restore Growth DIU (RST:DIF a,DIU b!)	TELCO	DLP-512
	5. Enter Message To Allow Growth Associated TSI Port (ALW:TSI a,SPC b,PORT c!)	TELCO	—
31	If MF or DTMF DIU Being Grown, Continue; Otherwise, End of Procedure	TELCO	—
32	Verify Assignment of Growth MF or DTMF DIU Service Circuits and Test:		
	1. Check Growth DIU Receiver Service Circuits; Look for Traffic Numbers Associated With Growth DIU (OP:TRKSTAT,CIN a SVC b;SUM:NUM 16,STAT CAD.DSA! b = *MFR**** for MF Service Circuits or *DMRV*** for DTMF Service Circuits)	TELCO	DLP-614
	2. Set Trunk Status for 16 Receivers in Newly Grown DIU to Maint Lockout State (SET:TRKSTAT MTC.LKO,CIN a SVC b;SUM:NUM 16! b = *MFR**** for MF Service Circuits or *DMRV*** for DTMF Service Circuits)	TELCO	—
	3. Verify That Transmitter Is Active for Testing Receivers	TELCO	DLP-617
	4. Enter Message To Idle Tone Detector for Testing Receivers (SCHED:TRKTEST,OPR:TIMEON 0000,TIMEOFF 0001!)	TELCO	—
	NOTE: A tone detector must be idle active before receiver testing can be performed.		
	5. Test Growth DIU Receiver Service Circuits (TEST:TRK,CIN a SVC b;SVC:TSG,STAT MTC.LKO,PALL! b = *MFR**** for MF Service Circuits or *DMRV*** for DTMF Service Circuits)	TELCO	DLP-615
	6. Check Growth DIU Transmitter Service Circuits, Look for Traffic Numbers Associated With Growth DIU (OP:TRKSTAT,CIN a SVC b;SUM:NUM 16,STAT CAD.DSA! b = *MFX**** for MF Service Circuits or *DMXM*** for DTMF Service Circuits)	TELCO	DLP-614
	7. Set Trunk Status for 16 Transmitters in Newly Grown DIU to Maint Lockout State (SET:TRKSTAT MTC.LKO,CIN a SVC b;SUM:NUM 16! b = *MFX**** for MF Service Circuits or *DMXM*** for DTMF Service Circuits)	TELCO	—
	8. Verify That Receiver Is Active for Testing Transmitters	TELCO	DLP-617
	9. Test Growth DIU Transmitter Service Circuits (TEST:TRK,CIN a SVC b;SVC:TSG,STAT MTC.LKO,PALL! b = *MFX**** for MF Service Circuits or *DMXM*** for DTMF Service Circuits)	TELCO	DLP-615
(Continued on Page 6)			

ADD DIGITAL INTERFACE UNIT (DIU) TO OPERATIONAL DIGITAL INTERFACE (DIF-E1) DOMESTIC OR DIF (J68960A)

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

33	Bring Newly Grown MF or DTMF DIU Service Circuits to Active State:		
	1. For Receivers, Input SET:TRKSTAT ACT,CIN a SVC b;SUM:NUM 16! b = *MFR**** for MF Service Circuits or *DMRV*** for DTMF Service Circuits)	TELCO	—
	2. For Transmitters, Input SET:TRKSTAT ACT,CIN a SVC b;SUM:NUM 16! b = *MFX**** for MF Service Circuits or *DMXM*** for DTMF Service Circuits)	TELCO	—

**ADD DIGITAL INTERFACE UNIT (DIU) TO OPERATIONAL DIGITAL
INTERFACE (DIF-E1) DOMESTIC OR DIF (J68960A)**

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

		RESPONSIBILITY	
	WARNINGS: 1. An antistatic wrist strap must be worn to prevent electrostatic discharge and possible damage to circuit packs while handling 2. No other growth or maintenance activity is allowed during this procedure		
	NOTES: 1. Appropriate Input/Output manuals must be used if clarification of input message or output message is necessary 2. This procedure must be performed during light traffic periods 3. 4ESS ™ switch operation must be closely monitored while performing this procedure 4. Corrective action must be taken immediately on any activity that may cause any unit to go out of service (OOS) 5. Stability of office must be maintained throughout this procedure		
1	Notify Next Higher Support Organization That DIU, Added ESU, and Connecting TSI Port Are Being Advanced From Special Growth to Operational. Obtain Information for Items 2 and 3 From Next Higher Technical Support Group	TELCO	—
2	Ensure 4ESS Switch Is in Stable Condition	TELCO	DLP-638
3	Ensure 1B Processor and Peripheral Units Are Operating in Normal Duplex Mode	TELCO	DLP-639
4	Recent Change and Verify Submember Equipage SGR0 to OPER (TSI Port Associated With Added ESU)	TELCO	DLP-501
5	Recent Change and Verify Submember Equipage SGR0 to OPER (Added ESU)	TELCO	DLP-501
6	Recent Change and Verify Submember Equipage SGR0 to OPER (Connecting DIU)	TELCO	DLP-501
7	Enter Message To Run Peripheral Unit Status Audit (AUD:PUSTAT!); Wait for Message Complete (MSG COMPL)	TELCO	—
8	Restore Added ESU (RST:EST a,ESU b!)	TELCO	DLP-542
9	Restore Growth Associated DIU (RST:DIF a,DIU b!)	TELCO	DLP-512
10	Enter Message To Allow Growth Associated TSI Port (ALW:TSI a,SPC b,PORT c!)	TELCO	—

ADVANCE DIU, ADDED ESU, AND CONNECTING TSI PORT FROM SPECIAL GROWTH TO OPERATIONAL

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

		RESPONSIBILITY	
	WARNINGS: 1. An antistatic wrist strap must be worn to prevent electrostatic discharge and possible damage to circuit packs while handling 2. No other growth or maintenance activity is allowed during this procedure		
	NOTES: 1. Appropriate Input/Output manuals must be used if clarification of input message or output message is necessary 2. This procedure must be performed during light traffic periods 3. 4ESS ™ switch operation must be closely monitored while performing this procedure 4. Corrective action must be taken immediately on any activity that may cause any unit to go out of service (OOS) 5. Stability of office must be maintained throughout this procedure 6. The terms first and second terminal unit refers to primary (first) and backup (second) terminal of a domestic terminal unit pair, or primary (first) and secondary (second) terminal of an international terminal unit group. These terminal units are also referred to as mates 7. Terminal units of a domestic pair or international group must not reside in the same terminal group (TGR) frame		
1	Notify Next Higher Support Organization That CCIS Terminals Are Being Converted to Enhanced Type on Operated TGR Frame. Obtain Information for Items 2 and 3 From Next Higher Technical Support Group	TELCO	—
2	Ensure 4ESS Switch Is in Stable Condition	TELCO	DLP-638
3	Ensure 1B Processor and Peripheral Units Are Operating in Normal Duplex Mode	TELCO	DLP-639
4	Assure Following Prerequisites for Starting Terminal Conversion Are Completed:		
	1. Verify That Far-End of VFL Is in Proper Generic; PG68XXX at STP for A and E Links	TELCO	—
	2. Verify That 2048A Data Set Growth Is Completed at Both Near and Far Ends of VFL	TELCO	—
	3. Coordination and Planning Must Be Completed So That Both Ends of VFL Are Aware of Link Conversion Schedule	TELCO	—
	(Continued on Page 2)		

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

5	Determine From Company Order Member Number of Terminal Group (TGR) Frame and Terminal Unit To Be Converted From Standard to Enhanced Operation	TELCO	—
6	Assure 2048A Data Set Is Conditioned for In-Service Operation:		
	1. If C-MT Is Flashing at Data Set Alphanumeric Display, Stop Execution of CONTINUOUS MODEM TEST	TELCO	DLP-597
	2. Verify That Data Set Options and Switch Settings Are Correct	TELCO	DLP-595
7	Assure Availability of Terminal Unit Equipment Required for Conversion	TELCO	DLP-596
8	Verify CCDSM, CCDSS, and STYPE Data of TGR Unit Type (UT) Translator for Terminal To Be Converted (VER:UTYPE:TGR a,SME b!)	TELCO	DLP-588
	NOTE: The data to be changed in Items 9 and 10 are to be changed to the test state only; activation will be performed later in this procedure.		
9	If Required, Perform Functional Word Change of TGR Terminal CCDSM and CCDSS Data	TELCO	DLP-589
10	Perform Functional Word Change to TGR Terminal STYPE Data	TELCO	DLP-590
	NOTE: Items 11 through 19 should be performed without delay as the terminal will be out of service.		
11	Remove From Service TGR Terminal Being Converted (RMV:TGR a,TER b!)	TELCO	—
12	Remove Power From TGR Terminal Being Converted Using Terminal Power Switch	TELCO	—
13	Replace 201D Modem With Terminal Modem Interface (TMI) and Install Additional Memory Packs	TELCO	DLP-591
14	Connect M25A and M37A Cords at Terminal Being Converted and Associated Data Set	TELCO	—
15	Activate CCDSM and CCDSS Data of TGR Terminal Being Converted (If Required); RC in Item 9	TELCO	DLP-592
16	Activate STYPE Data of TGR Terminal Being Converted (If Required); RC in Item 10	TELCO	DLP-592
17	Assure That STP Office Has Converted Their Terminals to Enhanced Operation and Is Ready To Bring Up New Link	TELCO	—
	(Continued on Page 3)		

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

	NOTES: 1. It can take 5 minutes or longer for terminals to pass initial synchronization test. 2. If failures occur and ATP conditions cannot be achieved before the next busy hour, the converted terminal should be changed back to standard configuration and brought back in service.		
18	Power Up Converted Terminal and Restore to Service; ATP Results Required	TELCO	DLP-593
19	Verify That Associated Signal Link Was Put in Service	TELCO	DLP-594
20	Assure Proper Operation of Converted Terminal and Signaling Link for a 24-Hour Period Before Bringing Up Mate Terminal	TELCO	—
21	Repeat Items 5 Through 19 for Mate Terminal	TELCO	—

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

		RESPONSIBILITY	
	WARNINGS: 1. An antistatic wrist strap must be worn to prevent electrostatic discharge and possible damage to circuit packs while handling 2. No other growth or maintenance activity is allowed during this procedure		
	NOTES: 1. Appropriate Input/Output manuals must be used if clarification of input message or output message is necessary 2. This procedure must be performed during light traffic periods 3. 4ESS ™ switch operation must be closely monitored while performing this procedure 4. Corrective action must be taken immediately on any activity that may cause any unit to go out of service (OOS) 5. Stability of office must be maintained throughout this procedure		
1	Notify Next Higher Support Organization That DIU, and Associated TSI Port and ESU Are Being Degrown. Obtain Information for Items 2 and 3 From Next Higher Technical Support Group	TELCO	—
2	Ensure 4ESS Switch Is in Stable Condition	TELCO	DLP-638
3	Ensure 1B Processor and Peripheral Units Are Operating in Normal Duplex Mode	TELCO	DLP-639
4	Determine From Company Order the DIU Number To Be Degrown and Associated DIF, TSI, and ESU, if Required	TELCO	—
5	Obtain From Appropriate Administration Center the Base Trunk Assignment Number (TAN) Served by DIU To Be Degrown	TELCO	—
6	Verify TAN to DIU Assignment (VER:TRKNAME,TAN a;DETL!)	TELCO	DLP-564
7	Change Degrowth DIU Trunks to Circuit Administration Disabled (CAD.DSA) State and Verify	TELCO	DLP-565
	NOTE: All TANs assigned to degrowth DIU must be in CAD.DSA state in output message of Item 7 before continuing with this procedure.		
8	If Service Circuit Trunks Are Associated With Degrowth DIU, Request Appropriate Administration Center To Delete Service Circuit Trunks Served by DIU To Be Degrown Using RC Form 202	TELCO	—
	(Continued on Page 2)		

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

9	Request Appropriate Administration Center To Determine If Any TANTOTANs and/or Nailup Connections Are Assigned to SPC in Associated TSI	TELCO	—
10	If TANTOTANs Are Assigned, Obtain CIN Assignments of TANTOTANs on SPC To Be Degrown for Later Use	TELCO	—
11	If Nailup Connections Are Assigned, Obtain TAN Assignments of Nailup Connections on SPC To Be Degrown for Later Use	TELCO	—
12	If TANTOTANs Are Assigned to SPC Being Degrown (Item 9), Using CIN Assignments Obtained in Item 10, Take Down Each TANTOTAN (ORD:TANTOTAN;RLS,CIN a:CIN b!)	TELCO	DLP-619
13	If Nailup Connections Are Assigned to SPC Being Degrown (Item 9), Request Appropriate Administration Center To Delete Each Nailup Connection on List Obtained in Item 11 Using RC Form 206	TELCO	—
14	Verify That Spare DIU in Degrowth DIF Is Available (OP:OOSUNITS:DIF!)	TELCO	DLP-566
15	Remove Degrowth DIU From Service (RMV:DIF a,DIU b!)	TELCO	DLP-567
	<i>CAUTION: Assure that power is on at degrowth DIU before proceeding. Power must remain on until the DIU and TSI port are degrown to unequipped and the TSI port is looped back.</i>		
16	Recent Change Submember Equipage From OPER to SGRO Using RC Form 701 (Degrow) (Degrowth DIU)	TELCO	DLP-527
17	Enter Message To Run Peripheral Unit Status Audit (AUD:PUSTAT!); Wait for Message Complete (MSG COMPL)	TELCO	—
18	Diagnose Degrowth DIU (DGN:DIF a,DIU b!)	TELCO	—
19	At MCC EQUIPMENT STATUS Panel, Depress DIGITAL INTERFACE Key and Assure That No DIU Is Listed for Degrowth Associated Half of DIF (0-15 or 16-31)	TELCO	—
20	If EST Exists Between Degrowth DIU and Associated TSI Port and EST Is Equipped With Operational ESU That Is Associated With Degrowth DIU/TSI Port, Perform the Following:		
	1. Remove Associated ESU From Service (RMV:EST a,ESU b!)	TELCO	DLP-569
	2. Recent Change Submember Equipage From OPER to SGRO Using RC Form 701 (Degrow) (ESU Associated With Degrowth DIU)	TELCO	DLP-527

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

20 (Contd)	3. Diagnose Degrowth Associated ESU (DGN:EST a,ESU b!)	TELCO	—
	4. At MCC EQUIPMENT STATUS Panel, Depress ECHO SUPP TERMINAL Key and Assure That No ESU Is Listed for Degrowth Associated EST	TELCO	—
	NOTES: 1. The DIU (and ESU, if applicable) may remain in special growth state and the DIU and ESU equipment may remain installed within the operational frame(s) until circuit order work requires the DIU equipment for future reuse, providing the DIU equipment or data cables are not removed or disturbed. 2. This is a safe point to temporarily stop this procedure.		
21	If Degrowth DIU Circuit Packs Are To Be Removed From DIF Frame:		
	1. Recent Change Submember Equipage From OPER to SGRO Using RC Form 701 (Degrow) (TSI Port Associated With Degrowth DIU)	TELCO	DLP-527
	2. Enter Message To Apply TSI Port Pest Control to Degrowth Associated TSI Port (INH:TSI a,SPC b,PORT c!)	TELCO	—
	3. Recent Change Submember Equipage From SGRO to GROW Using RC Form 701 (Degrow) (Degrowth DIU)	TELCO	DLP-527
	4. Recent Change Submember Equipage From GROW to UNEQ Using RC Form 701 (Degrow) (Degrowth DIU)	TELCO	DLP-527
	5. If ESU Is Associated With Degrowth DIU:		
	1. Recent Change Submember Equipage From SGRO to GROW Using RC Form 701 (Degrow) (ESU Associated With Degrowth DIU)	TELCO	DLP-527
	2. At Degrowth ESU, Replace FB618 Circuit Pack With FB619 Strap Pack	TELCO	DLP-570
	3. Recent Change Submember Equipage From GROW to UNEQ Using RC Form 701 (Degrow) (ESU Associated With Degrowth DIU)	TELCO	DLP-527
	6. Recent Change Submember Equipage From SGRO to GROW Using RC Form 701 (Degrow) (TSI Port Associated With Degrowth DIU)	TELCO	DLP-527
	7. Recent Change Submember Equipage From GROW to UNEQ Using RC Form 701 (Degrow) (TSI Port Associated With Degrowth DIU)	TELCO	DLP-527
	8. Disconnect Degrown TSI Port Cables and Install TSI Looping Cables or Terminator	TELCO	DLP-571

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

21 (Contd)	9. Enter Message To Allow Degrowth TSI Port (ALW:TSI a,SPC b,PORT c!)	TELCO	—
	10. Remove Power From Degrowth DIU Using UNIT Power Switch	TELCO	—
	11. Remove Degrowth DIU Circuit Packs, Power Units, and Disconnect Cabling	TELCO	DLP-598
	12. If Degrown ESU Circuit Packs Are To Be Removed From EST, Remove ESU Circuit Packs	TELCO	DLP-568

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

		RESPONSIBILITY	
	WARNINGS: 1. An antistatic wrist strap must be worn to prevent electrostatic discharge and possible damage to circuit packs while handling 2. No other growth or maintenance activity is allowed during this procedure		
	NOTES: 1. Appropriate Input/Output manuals must be used if clarification of input message or output message is necessary 2. This procedure must be performed during light traffic periods 3. 4ESS ™ switch operation must be closely monitored while performing this procedure 4. Corrective action must be taken immediately on any activity that may cause any unit to go out of service (OOS) 5. Stability of office must be maintained throughout this procedure		
1	Notify Next Higher Support Organization That DT Frame Is Being Degrown. Obtain Information for Items 2 and 3 From Next Higher Technical Support Group	TELCO	—
2	Ensure 4ESS Switch Is in Stable Condition	TELCO	DLP-638
3	Ensure 1B Processor and Peripheral Units Are Operating in Normal Duplex Mode	TELCO	DLP-639
4	Assure That the Following Prerequisites Have Been Met: • Verify That Digroup Terminal (DT) Considered for Degrowth Contains Only Message Trunk Assignments • All DTUs and Associated TSI Ports and ESUs Have Been Degrown From Degrowth DT per NTP-020	TELCO	—
5	Recent Change and Verify Member Equipage of Degrowth DT From OPER to SGRO (Degrow) Using RC Form 701	TELCO	DLP-526
6	Run Peripheral Unit Status Audit (AUD:PUSTAT!)	TELCO	—
7	Recent Change and Verify Member Equipage of Degrowth DT From SGRO to GROW (Degrow) Using RC Form 701	TELCO	DLP-526
8	Recent Change and Verify Member Equipage of Degrowth DT From GROW to UNEQ (Degrow) Using RC Form 701	TELCO	DLP-526

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

9	Verify That SP2/DT Interface Data Reflects Degrowth of DT by Dumping Call Store Address of SP4RCRTSTAT (Contact Local Assistance Center for Assistance)	TELCO	DLP-599
10	Remove Power From Degrowth DT Controllers 0 and 1 and Spare DTU (DTU 8) Using Power Switches	INST	—
11	Remove + 140V and + 24V Fuses at Power Distribution Bays and Remove Power Cables From DT	INST	—
12	Remove SP2 to DT Frame Interface Cables and TSI Clock Interface Cables	INST	—
13	Install Looping Devices for Transmission Facilities at DSX, LT-1, or Repeater Bays	INST	—
14	Remove Transmission Cables Between DTF and DSX, LT-1, or Repeater Bays	INST	—
15	Remove Alarm Wiring in Degrown DTF; If DTF Is in Middle of Lineup, Place New Cable Between Remaining Frames to Bridge Open	INST	—
16	Remove Private Signal Leads — MSD (DA0/0/-DA0/8) and MSN (SCA0/0/-SCA0/1)	INST	—
17	Remove DTF Common Circuits (Telephone Jacks, TTY Jacks, Appliance Outlets)	INST	—
18	Remove Degrown DT Frame From Lineup	INST	—

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

		RESPONSIBILITY	
	WARNINGS: 1. An antistatic wrist strap must be worn to prevent electrostatic discharge and possible damage to circuit packs while handling 2. No other growth or maintenance activity is allowed during this procedure		
	NOTES: 1. Appropriate Input/Output manuals must be used if clarification of input message or output message is necessary 2. This procedure must be performed during light traffic periods 3. 4ESS ™ switch operation must be closely monitored while performing this procedure 4. Corrective action must be taken immediately on any activity that may cause any unit to go out of service (OOS) 5. Stability of office must be maintained throughout this procedure		
1	Notify Next Higher Support Organization That VIF Is Being Degrown. Obtain Information for Items 2 and 3 From Next Higher Technical Support Group	TELCO	—
2	Ensure 4ESS Switch Is in Stable Condition	TELCO	DLP-638
3	Ensure 1B Processor and Peripheral Units Are Operating in Normal Duplex Mode	TELCO	DLP-639
4	Assure That All VIUs and Associated TSI Ports and ESUs Have Been Degrown From Degrowth VIF per NTP-016	TELCO	—
5	Recent Change and Verify Member Equipage of Degrowth VIF From OPER to SGRO (Degrow) Using RC Form 701	TELCO	DLP-526
6	Run Peripheral Unit Status Audit (AUD:PUSTAT!)	TELCO	—
7	Recent Change and Verify Member Equipage of Degrowth VIF From SGRO to GROW (Degrow) Using RC Form 701	TELCO	DLP-526
8	Remove Power From Degrowth VIF Controllers, IPUBS and Spare VIU (VIU 7) Via Power Switches	TELCO	—
	NOTE: Do not remove +140V and +24V power from degrowth VIF at power distribution frame at this time.		
	(Continued on Page 2)		

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

9	Remove Degrowth VIF From Peripheral Unit Bus Using Selected Option A or B in TOP 234-353-045; Then Continue This Procedure at Item 9 Upon Completion		
	A. When Degrowth Frame Is Last Frame on PUB Branch	TELCO/INST	—
	B. When Degrowth Frame Is Between Two Operational Frames on PUB Branch	TELCO/INST	—
10	Recent Change and Verify Member Equipage of Degrowth VIF From GROW to UNEQ (Degrow) Using RC Form 701	TELCO	DLP-526
	<i>CAUTION: Assure that Installer removes clock cables per Installation Handbook to prevent possible service interruption.</i>		
11	Remove Clock Cables Between Degrowth VIF and Associated TSI	INST	—
12	Remove Transmission Cables Between Degrowth VIF Frame and Toll Terminal Frame(s)	INST	—
13	Cables Between Toll Terminal Frame(s) and SP1 Containing E and M Leads Associated With Degrowth VIF May Be Removed at This Time or When Degrowing Toll Terminal Frame(s)	INST	—
14	Remove Alarm Cables in Degrowth VIF. If VIF Is in Middle of Lineup, Place New Cable Between Remaining Frames to Bridge Open	INST	—
15	Remove Private Signal Leads (MSD, PP, MSN)	INST	—
16	Remove +140V and +24V Power From Degrowth VIF at Power Distribution Frame	INST	—
17	Remove Degrowth VIF Common Circuits (Telephone Jacks, TTY Jacks, Appliance Outlets)	INST	—
18	Remove Degrowth VIF Frame From Lineup	INST	—
19	At Degrowth Associated TSI, Connect Strapping Per SD-4A083-01 NOTE 256 (for TSI-B Frame) or SD-4A011 NOTE 245 (for TSI Frame) for Each SPC Associated With Degrowth VIUs	INST	—
20	Diagnose TSI Controllers 0 and 1 Associated With Degrowth VIF (DGN:TSI a,CONTR b!)	TELCO/INST	—

**DEGROW VOICEBAND INTERFACE (VIF) FRAME — SUPPORT TO
INSTALLER (INST)**

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

		RESPONSIBILITY	
	WARNINGS: 1. An antistatic wrist strap must be worn to prevent electrostatic discharge and possible damage to circuit packs while handling 2. No other growth or maintenance activity is allowed during this procedure		
	CAUTIONS 1. Only MF or DTMF, with normal breakage DIUs, may be equipped when MF or DTMF DIUs utilizes a breakage TSI. It is critical that strict hardware configuration guidelines be followed. The growth configuration should be verified to prevent system interruption. If problems occur in verifying, contact appropriate installation support group 2. This procedure must be performed during light traffic periods		
	NOTES: 1. Appropriate Input/Output manuals must be used if clarification of input message or output message is necessary 2. This procedure must be performed during light traffic periods 3. 4ESS ™ switch operation must be closely monitored while performing this procedure 4. Corrective action must be taken immediately on any activity that may cause any unit to go out of service (OOS) 5. Stability of office must be maintained throughout this procedure 6. If DIF-E1 (member number 24 through 31) is to be added, verify that assigned PUB branch contains only above noted DIF-E1 member numbers. Cabling and wiring changes associated with PUBB frame, are required. Refer to SD-4A019-01 LDI 8A and SD-4A038-01 LDI 7A 7. SM10 DIU can only be grown in 4E14 or later generic office 8. SM9 or SM10 DIUs must be grown into MF 4 state of DTMF frame type		
1	Notify Next Higher Support Organization That Domestic DIF-E1 Is Being Added. Obtain Information for Items 2 and 3 From Next Higher Technical Support Group	TELCO	—
2	Ensure 4ESS Switch Is in Stable Condition	TELCO	DLP-638
3	Ensure 1B Processor and Peripheral Units Are Operating in Normal Duplex Mode	TELCO	DLP-639
4	Perform Preliminary Installation Activities and Assure That DIF-E1 Power Verification Test Is Completed	INST	—

**ADD DIGITAL INTERFACE (DIF-E1) DOMESTIC — SUPPORT TO
INSTALLER (INST)**

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

5	Determine Submember Numbers and Type of DIUs To Be Grown From Company Order:		
	A. Voice DIUs (Submembers 0-31)	TELCO/INST	—
	B. MF or DTMF DIUs (Submembers 1, 18, 9, 26)	TELCO/INST	—
	C. All Other DIUs	TELCO/INST	—
	<i>CAUTION: The DIF-E1 unit-type structure must be verified carefully to assure that the software reflects the feature configuration engineered for this frame.</i>		
6	Verify DIF-E1 Unit Type (UT) Translator and Compare Translations Data Against Wiring Records:		
	1. Verify DIF-E1 UT Translator (VER:UTYPE:DIF a!) and Record TSI Port to DIU Assignment for Each Growth DIU for Later Reference	TELCO/INST	DLP-602
	2. Compare Translations Data Against Wiring Records	INST	—
	3. If LIST 14 (SM9 Pack) or LIST 15 (SM10 Pack) DIU Is Being Added, Verify That DIUs 32 and 33 Are Equal to or Greater Than List Number of Associated Growth Unit	INST	—
	4. Verify DIF Type Table	TELCO/INST	DLP-616
7	Verify TSI Port to DIU Assignment and TSI Port Equipage Data of Connecting TSI Frame(s) UT Translators, and Compare Translations Data Against Wiring Records:		
	1. Verify TSI UT Translator for One TSI Member Number Recorded in Item 6.1 (VER:UTYPE:TSI a!)	TELCO/INST	DLP-548
	2. Repeat Item 7.1 for Each TSI Member Number Recorded in Item 6.1	TELCO/INST	—
	3. Compare Translations Data Against Wiring Records	INST	—
8	Remove Growth DIF-E1 Power Using Power Switches	INST	—
9	Connect Strapping for K-Code, MI, GI, and Buffer Poll Option	INST	—
10	Connect Private Signal Leads (MSN-MDN) Assignments, Master Timing Links, and Alarms	INST	—
11	Restore Power to Growth DIF-E1 Using Power Switches	INST	—
12	Verify Major and Minor Alarms	INST	—
13	Recent Change and Verify DIF-E1 Member Equipage From UNEQ to GROW	TELCO	DLP-500

**ADD DIGITAL INTERFACE (DIF-E1) DOMESTIC — SUPPORT TO
INSTALLER (INST)**

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

14	Extend or Insert the Peripheral Unit Bus Per TOP 234-353-045; Continue This Procedure at Item 15 Upon Completion	TELCO/INST	—
15	At 1B MTC Terminal, Enter RMV:PUB 0! To Remove Peripheral Unit Bus 0 From Service	TELCO	—
16	Apply Power to Growth DIF-E1 IPUB 0, and Controllers 0 and 1 (IPUB 1 Must Be Powered Down)	INST	—
17	Diagnose DIF-E1 Controllers 0 and 1, Specifying Phases 1 and 2, PUB 0, and GROWTH	INST	—
18	Diagnose DIF-E1 Controllers 0 and 1, Specifying Phases 1 Through 21, PUB 0, and GROWTH	INST	—
19	Remove Power From DIF-E1 IPUB 0	INST	—
20	Restore Peripheral Unit Bus 0 to Service (RST:PUB 0!)	TELCO/INST	DLP-503
21	At 1B MTC Terminal, Enter RMV:PUB 1! To Remove Peripheral Unit Bus 1 From Service	TELCO	—
22	Apply Power to Growth DIF-E1 IPUB 1	INST	—
23	Diagnose DIF-E1 Controllers 0 and 1, Specifying Phases 1 and 2, PUB 1, and GROWTH	INST	—
24	Diagnose DIF-E1 Controllers 0 and 1, Specifying Phases 1 Through 21, PUB 1, and GROWTH	INST	—
25	Restore Peripheral Unit Bus 1 to Service (RST:PUB 1!)	TELCO/INST	DLP-503
26	If Repair or Maintenance Was Required to IPUB or Controller Access Circuitry During IPUB 1 Testing:		
	1. Remove Power From DIF-E1 IPUB 1	INST	—
	2. Repeat From Item 15	TELCO/INST	—
27	Apply Power to DIF-E1 IPUB 0	INST	—
28	Recent Change and Verify DIF-E1 Member Equipage From GROW to SGRO	TELCO	DLP-500
29	Diagnose DIF-E1 Controllers 0 and 1, Specifying Phases 1 Through 21 and GROWTH	INST	—
30	Recent Change and Verify DIF-E1 Submember Equipage From UNEQ to GROW:		
	A. DIU 32 (Spare Low) (SME Name-DIUSPQA Index Number=175)	TELCO	DLP-501
	B. DIU 33 (Spare High) (SME Name-DIUSPQB Index Number=176)	TELCO	DLP-501
31	Diagnose Spare DIUs (DIU 32 and 33) Specifying GROWTH	INST	—
	(Continued on Page 4)		

**ADD DIGITAL INTERFACE (DIF-E1) DOMESTIC — SUPPORT TO
INSTALLER (INST)**

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

32	Recent Change and Verify DIF-E1 Submember Equipage From GROW to SGR0:		
	A. DIU 32 (Spare Low) (SME Name=DIUSPQA Index Number=175)	TELCO	DLP-501
	B. DIU 33 (Spare High) (SME Name=DIUSPQB Index Number=176)	TELCO	DLP-501
33	Diagnose Spare DIUs (DIU 32 and 33)	INST	—
	NOTE: Both IPUBs must be powered.		
34	Diagnose DIF-E1 Controllers 0 and 1, Specifying Phases 22 and PSW, and GROWTH	INST	—
35	Recent Change and Verify DIF-E1 Submember Equipage From UNEQ to GROW (Initially Supplied DIUs)	TELCO	DLP-501
36	Diagnose Each Initially Supplied DIU Specifying Appropriate Phases and GROWTH:		
	A. Specify Phases 1 Through 4 for MF or DTMF DIU (NTR on Phases 3 and 4)	INST	—
	B. Specify Phases 1 Through 3 for All Other DIUs	INST	—
37	Recent Change and Verify DIF-E1 Submember Equipage From GROW to SGR0 (Initially Supplied DIUs)	TELCO	DLP-501
38	Diagnose Each Initially Supplied DIU Specifying Appropriate Phases and GROWTH:		
	A. Specify Phases 1 Through 4 for MF or DTMF DIU	INST	—
	B. Specify Phases 1 Through 3 for All Other DIUs	INST	—
39	Diagnose DIF-E1 Controllers 0 and 1, Specifying Phases 1 Through 22, PSW, and GROWTH	INST	—
40	Enter Message To Apply Port Pest to Each TSI Port Connecting to Initially Supplied DIUs (INH:TSI a,SPC b,PORT c!)	TELCO	—
41	Remove TSI Looping Terminators and DIU Output Loop Cables and Connect Signal Cables to DIUs and TSI Ports	INST	—
42	Recent Change and Verify TSI Submember Equipage From UNEQ to GROW:		
	1. TSI Port, Connecting to Initially Supplied DIU, Recorded in Item 6.1	TELCO	DLP-501
	2. Repeat Item 42.1 for Each TSI Port Recorded in Item 6.1	TELCO	—
	(Continued on Page 5)		

**ADD DIGITAL INTERFACE (DIF-E1) DOMESTIC — SUPPORT TO
INSTALLER (INST)**

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

43	Recent Change and Verify TSI Submember Equipage From GROW to SGRO:		
	1. TSI Port, Connecting to Initially Supplied DIU, Recorded in Item 6.1	TELCO	DLP-501
	2. Repeat Item 43.1 for Each TSI Port Recorded in Item 6.1	TELCO	—
44	Diagnose and Restore Connecting TSI Frame(s) Controllers 0 and 1 Specifying Appropriate Phase and GROWTH	TELCO	DLP-522
45	Diagnose DIF-E1 Controllers 0 and 1, Specifying Phases 1 Through 22, PSW, and GROWTH	INST	—
46	Diagnose DIF-E1 Controllers 0 and 1, Specifying Appropriate Phases, MEMOPT 0, and GROWTH:		
	A. Specify Phases 24 Through 30 If Growth DIF-E1 Is for Voice Capability Only	INST	—
	B. Specify Phases 24 Through 29 If Growth DIF-E1 is for MF, 4-State, or DTMF Capability	INST	—
47	At Bus Interface Units 0 and 1 and at Controller 0, Rotate OFF Switch to Normal Position and Controller 1 OFF Switch to ROS	INST	—
48	Recent Change and Verify DIF-E1 Member Equipage From SGRO to OPER	TELCO	DLP-500
49	Enter Message To Restore and Initialize Controller 0 to Simplex Operation (RST:DIF a,CONTR 0!) CATP and Restore COMPLETE Required: INST Clear Equipment Troubles	TELCO/INST	—
50	Enter Message To Run Peripheral Unit Status Audit (AUD:PUSTAT!); Wait for Message Complete (MSG COMPL)	TELCO	—
51	Restore and Initialize DIF-E1 Controller 1 Using CONT1 Power Switch	INST	—
52	Recent Change and Verify DIF-E1 Submember Equipage From SGRO to OPER:		
	A. DIU 32 (Spare Low) (SME Name=DIUSPQA Index Number=175)	TELCO	DLP-501
	B. DIU 33 (Spare High) (SME Name=DIUSPQB Index Number=176)	TELCO	DLP-501
53	Restore Spare DIUs:		
	A. Enter Message To Restore DIU 32 (RST:DIF a,DIU 32!) ATP and Restore COMPLETE Required; INST Clear Equipment Troubles	TELCO/INST	DLP-512
	B. Enter Message To Restore DIU 33 (RST:DIF a,DIU 33!) ATP and Restore COMPLETE Required; INST Clear Equipment Troubles	TELCO/INST	DLP-512
	(Continued on Page 6)		

**ADD DIGITAL INTERFACE (DIF-E1) DOMESTIC — SUPPORT TO
INSTALLER (INST)**

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

54	For Each DIU With Trunks Connected or Transmission Equipment Ready for Test, Perform the Following:		
	1. Recent Change and Verify Submember Equipage From SGRO to OPER:		
	1. TSI Port Associated With DIU	TELCO	DLP-501
	2. Associated DIU	TELCO	DLP-501
	NOTE: An indicated service-degrading condition will occur after AUD:PUSTAT message is entered.		
	2. Enter Message To Run Peripheral Unit Status Audit (AUD:PUSTAT!); Wait for Message Complete (MSG COMPL)	TELCO	—
	3. Enter Message To Restore DIU (RST:DIF a,DIU b!) ATP and Restore COMPLETE Required; INST Clear Equipment Troubles	TELCO/INST	DLP-512
	4. Enter Message To Allow Growth Associated TSI Port (ALW:TSI a,SPC b,PORT c!)	TELCO	—
	5. Repeat From Item 54.1 for Additional TSI-DIU Interfaces	TELCO/INST	—
55	If MF or DTMF DIUs Being Grown, Continue; Otherwise, End of Procedure	TELCO/INST	—
56	Verify Assignment of Growth MF or DTMF DIU Service Circuits and Test:		
	1. Check Growth DIU Receiver Service Circuits; Look for Traffic Numbers Associated With Growth DIU (OP:TRKSTAT,CIN a SVC b;SUM:NUM 16,STAT CAD.DSA! b = *MFR**** for MF Service Circuits or *DMRV*** for DTMF Service Circuits)	TELCO/INST	DLP-614
	2. Set Trunk Status for 16 Receivers in Newly Grown DIU to Maint Lockout State (SET:TRKSTAT MTC.LK0,CIN a SVC b;SUM:NUM 16! b = *MFR**** for MF Service Circuits or *DMRV*** for DTMF Service Circuits)	TELCO/INST	—
	3. Verify That Transmitter Is Active for Testing Receivers	TELCO/INST	DLP-617
	4. Enter Message To Idle a Tone Detector for Testing Receivers (SCHED:TRKTEST,OPR:TIMEON 0000,TIMEOFF 0001!)	TELCO	—
	(Continued on Page 7)		

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

56 (Contd)	NOTE: A tone detector must be idle active before receiver testing can be performed.		
	5. Test Growth DIU Receiver Service Circuits (TEST:TRK,CIN a SVC b;SVC:TSG,STAT MTC.LK0,PALL! b = *MFR**** for MF Service Circuits or *DMRV*** for DTMF Service Circuits)	TELCO/INST	DLP-615
	6. Check Growth DIU Transmitter Service Circuits; Look for Traffic Numbers Associated With Growth DIU (OP:TRKSTAT,CIN a SVC b;SUM:NUM 16,STAT CAD.DSA! b = *MFX**** for MF Service Circuits or *DMXM*** for DTMF Service Circuits)	TELCO/INST	DLP-614
	7. Set Trunk Status for 16 Transmitters in Newly Grown DIU to Maint Lockout State (SET:TRKSTAT MTC.LK0,CIN a SVC b;SUM:NUM 16! b = *MFX**** for MF Service Circuits or *DMXM*** for DTMF Service Circuits)	TELCO/INST	—
	8. Verify That Receiver Is Active for Testing Transmitters	TELCO/INST	DLP-617
	9. Test Growth DIU Transmitter Service Circuits (TEST:TRK,CIN a SVC b;SVC:TSG,STAT MTC.LK0,PALL! b = *MFX**** for MF Service Circuits or *DMXM*** for DTMF Service Circuits)	TELCO/INST	DLP-615
57	Bring Newly Grown MF or DTMF DIU Service Circuits to Active State:		
	1. For Receivers, Input SET:TRKSTAT ACT,CIN a SVC b;SUM:NUM 16! b = *MFR**** for MF Service Circuits or *DMRV*** for DTMF Service Circuits	TELCO/INST	—
	2. For Transmitters, Input SET:TRKSTAT ACT,CIN a SVC b;SUM:NUM 16! b = *MFX**** for MF Service Circuits or *DMXM*** for DTMF Service Circuits	TELCO/INST	—
58	If DIU 18, 9, or 26 Was Grown, Repeat From Item 56 for Each DIU Equipped	TELCO/INST	—

**ADD DIGITAL INTERFACE (DIF-E1) DOMESTIC — SUPPORT TO
INSTALLER (INST)**

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

		RESPONSIBILITY	
	WARNINGS: 1. An antistatic wrist strap must be worn to prevent electrostatic discharge and possible damage to circuit packs while handling 2. No other growth or maintenance activity is allowed during this procedure		
	NOTES: 1. Appropriate Input/Output manuals must be used if clarification of input message or output message is necessary 2. This procedure must be performed during light traffic periods 3. 4ESS ™ switch operation must be closely monitored while performing this procedure 4. Corrective action must be taken immediately on any activity that may cause any unit to go out of service (OOS) 5. Stability of office must be maintained throughout this procedure		
1	Notify Next Higher Support Organization That DIF Frame Is Being Degrown. Obtain Information for Items 2 and 3 From Next Higher Technical Support Group	TELCO	—
2	Ensure 4ESS Switch Is in Stable Condition	TELCO	DLP-638
3	Ensure 1B Processor and Peripheral Units Are Operating in Normal Duplex Mode	TELCO	DLP-639
4	Assure That the Following Prerequisites Have Been Met: • Verify That Digital Interface (DIF) Considered for Degrowth Contains only Message Trunk Assignments • All DIUs and Associated TSI Ports and ESUs Have Been Degrown From Degrowth DIF per NTP-026	TELCO	—
5	Degrow Spare DIUs (DIU 32 and 33) as Follows:		
	1. Recent Change Submember Equipage From OPER to SGRO Using RC Form 701 (Degrow) (Degrowth DIU 32)	TELCO	DLP-527
	2. Recent Change Submember Equipage From SGRO to GROW Using RC Form 701 (Degrow) (Degrowth DIU 32)	TELCO	DLP-527
	(Continued on Page 2)		

**DEGROW DIGITAL INTERFACE (DIF) FRAME — SUPPORT TO
INSTALLER (INST)**

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

5 (Contd)	3. Recent Change Submember Equipage From GROW to UNEQ Using RC Form 701 (Degrow) (Degrowth DIU 32)	TELCO	DLP-527
	4. Repeat Item 2 for DIU 33	TELCO	—
6	Recent Change and Verify Member Equipage of Degrowth DIF From OPER to SGRO (Degrow) Using RC Form 701	TELCO	DLP-526
7	Run Peripheral Unit Status Audit (AUD:PUSTAT!)	TELCO	—
8	Recent Change and Verify Member Equipage of Degrowth DIF From SGRO to GROW (Degrow) Using RC Form 701	TELCO	DLP-526
9	Remove Power From Degrowth DIF Controllers, IPUBS and Spare DIUs Using Power Switches	TELCO	—
	NOTE: Do not remove +140V and +24V power from degrowth DIF at the power distribution frame at this time.		
10	Remove Degrowth DIF From Peripheral Unit Bus Using Selected Option A or B in TOP 234-353-045; Then Continue This Procedure at Item 11 Upon Completion:		
	A. When Degrowth Frame Is Last Frame on PUB Branch	TELCO/INST	—
	B. When Degrowth Frame Is Between Two Operational Frames on PUB Branch	TELCO/INST	—
11	Recent Change and Verify Member Equipage of Degrowth DIF From GROW to UNEQ (Degrow) Using RC Form 701	TELCO	DLP-526
	<i>CAUTION: Assure that clock cables are removed per Installation Handbook, Section 208 to prevent possible service interruption.</i>		
12	Remove Clock Cables Between Degrowth DIF and Associated EST/TSI	INST	—
13	Install Looping Devices for Transmission Facilities at DSX, LT-1, or Repeater Bays	INST	—
14	Remove Transmission Cables Between Degrowth DIF Frame and Toll Terminal Frame(s)	INST	—
15	Remove Alarm Cables in Degrowth DIF; If DIF Is in Middle of Lineup, Place New Cable Between Remaining Frames to Bridge Open	INST	—
16	Remove Private Signal Leads (MSD, PP, MSN)	INST	—
17	Remove +140V and +24V Power From Degrowth DIF at Power Distribution Frame	INST	—
	(Continued on Page 3)		

**DEGROW DIGITAL INTERFACE (DIF) FRAME — SUPPORT TO
INSTALLER (INST)**

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

18	Remove Degrowth DIF Common Circuits (Telephone Jacks, TTY Jacks, Appliance Outlets)	INST	—
19	Remove Degrown DIF Frame From Lineup	INST	—

**DEGROW DIGITAL INTERFACE (DIF) FRAME — SUPPORT TO
INSTALLER (INST)**

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

		RESPONSIBILITY	
	WARNINGS: 1. An antistatic wrist strap must be worn to prevent electrostatic discharge and possible damage to circuit packs while handling 2. No other growth or maintenance activity is allowed during this procedure		
	NOTES: 1. Appropriate Input/Output manuals must be used if clarification of input message or output message is necessary 2. This procedure must be performed during light traffic periods 3. 4ESS ™ switch operation must be closely monitored while performing this procedure 4. Corrective action must be taken immediately on any activity that may cause any unit to go out of service (OOS) 5. Stability of office must be maintained throughout this procedure		
1	Notify Next Higher Support Organization That EST Frame Is Being Degrown. Obtain Information for Items 2 and 3 From Next Higher Technical Support Group	TELCO	—
2	Ensure 4ESS Switch Is in Stable Condition	TELCO	DLP-638
3	Ensure 1B Processor and Peripheral Units Are Operating in Normal Duplex Mode	TELCO	DLP-639
4	Assure That Associated DIF, DT and/or VIF Have Been Degrown; Degrowth of DIF, DT and/or VIF Are Contained in NTP-030, NTP-028, and/or NTP-029, Respectively	TELCO	—
5	Degrow Submember Equipage of Degrowth EST, (Spare ESU 14) to UNEQ Using RC Form 701:		
	1. Recent Change and Verify Submember Equipage of ESU 14 From OPER to SGRO (Degrow) Using RC Form 701	TELCO	DLP-527
	2. Recent Change and Verify Submember Equipage of ESU 14 From SGRO to GROW (Degrow) Using RC Form 701	TELCO	DLP-527
	3. Recent Change and Verify Submember Equipage of ESU 14 From GROW to UNEQ (Degrow) Using RC Form 701	TELCO	DLP-527
6	Recent Change and Verify Member Equipage of Degrowth EST From OPER to SGRO (Degrow) Using RC Form 701	TELCO	DLP-526
7	Run Peripheral Unit Status Audit (AUD:PUSTAT!)	TELCO	—

DEGROW ECHO SUPPRESSOR TERMINAL (EST) FRAME — SUPPORT TO INSTALLER (INST)

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

8	Recent Change and Verify Member Equipage of Degrowth EST From SGR0 to GROW (Degrow) Using RC Form 701	TELCO	DLP-526
9	Remove Power From Degrowth EST Controllers, IPUBS and Spare ESU (ESU 14) Using Power Switches	TELCO	—
	NOTE: Do not remove +140V and +24V power from degrowth EST at the power distribution frame at this time.		
10	Remove Degrowth EST From Peripheral Unit Bus Using Selected Option A or B in TOP 234-353-045; Then Continue This Procedure at Item 11 Upon Completion:		
	A. When Degrowth Frame Is Last Frame on PUB Branch	TELCO/INST	—
	B. When Degrowth Frame Is Between Two Operational Frames on PUB Branch	TELCO/INST	—
11	Recent Change and Verify Member Equipage of Degrowth EST From GROW to UNEQ (Degrow) Using RC Form 701	TELCO	DLP-526
	<i>CAUTION: Assure that clock cables are removed per Installation Handbook, Section 204 to prevent possible service interruption.</i>		
12	Remove Clock Cables Between Degrowth EST and Associated TSI	INST	—
13	Remove Alarm Cables in Degrowth EST; If EST Is in Middle of Lineup, Place New Cable Between Remaining Frames to Bridge Open	INST	—
14	Remove Private Signal Leads (MSD, PP, MSN)	INST	—
15	Remove +140V and +24V Power From Degrowth EST at Power Distribution Frame	INST	—
16	Remove Degrowth EST Common Circuits (Telephone Jacks, TTY Jacks, Appliance Outlets)	INST	—
17	Remove Degrown EST Frame From Lineup	INST	—

**DEGROW ECHO SUPPRESSOR TERMINAL (EST) FRAME — SUPPORT TO
INSTALLER (INST)**

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

		RESPONSIBILITY	
	WARNINGS: 1. An antistatic wrist strap must be worn to prevent electrostatic discharge and possible damage to circuit packs while handling 2. No other growth or maintenance activity is allowed during this procedure		
	NOTES: 1. Appropriate Input/Output manuals must be used if clarification of input message or output message is necessary 2. This procedure must be performed during light traffic periods 3. 4ESS ™ switch operation must be closely monitored while performing this procedure 4. Corrective action must be taken immediately on any activity that may cause any unit to go out of service (OOS) 5. Stability of office must be maintained throughout this procedure 6. Assure that DCS 5X400-6 on J5X059B for WA wiring options to the growth DIF-E1 frame have been completed 7. ODA associated with the retrofit must have updated the trunk translations to define the growth service circuit DIUs or PECC will have to be contacted through proper channels for overwrites to define the growth service circuit DIUs 8. If 1, 9, 18, 26 DIUs are equipped and being converted, DIUs must be degrown to SGRO state 9. If frame type is to be converted from MF to MF 4 state, DIU degrowth is NOT required 10. A DIF-E1 can contain up to 4 MF DIUs or 4 DTMF DIUs (1, 18, 9, and 26) but not a combination of both. DIUs 1, 18, 9, and 26 should be grown in sequence 11. If SM9 or SM10 DIU is being added, it may be added only to DIF-E1 with an MTHG of 4 or 5		
1	Notify Next Higher Support Organization That DIU and Domestic DIF-E1 Frame Are Being Converted. Obtain Information for Items 2 and 3 From Next Higher Technical Support Group	TELCO	—
2	Ensure 4ESS Switch Is in Stable Condition	TELCO	DLP-638
3	Ensure 1B Processor and Peripheral Units Are Operating in Normal Duplex Mode	TELCO	DLP-639
4	If DIUs Must Be Degrown to SGRO State, Perform Items 5 Through 23; Otherwise, Go to Item 24 [NOTES 8 and 9 above].	TELCO	—
CONVERT DIU AND DIF-E1 DOMESTIC FRAME IF REQUIRED		Issue 1	SEP 1997
		234-353-030	NTP
		PAGE 1 of 7	032

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

5	Determine From Company Order the DIU Number To Be Degrown and Associated DIF, TSI, and ESU, if Required	TELCO	—
6	Obtain From Appropriate Administration Center the Base Trunk Assignment Number (TAN) Served by DIU To Be Degrown	TELCO	—
7	Verify TAN to DIU Assignment (VER:TRKNAME,TAN a;DETL!)	TELCO	DLP-564
8	Change Degrowth DIU Trunks to Circuit Administration Disabled (CAD.DSA) State and Verify	TELCO	DLP-565
	NOTE: All TANs assigned to the degrowth DIU must be in CAD.DSA state in output message of Item 8 before continuing with this procedure.		
9	If RMS-D2 Is Associated With Degrowth DIU, Perform Items 10 and 11; Otherwise, Go to Item 12	TELCO	—
10	Request TOC To Set All Resources to Out-of-Service	TELCO	—
11	Request Appropriate Administration Center To Update DS-1 Interface to Reflect Changed DIU	TELCO	—
12	If Service Circuit Trunks Are Associated With Degrowth DIU, Request Appropriate Administration Center to Delete Service Circuit Trunks Served by DIU To Be Degrown Using RC Form 202	TELCO	—
13	Request Appropriate Administration Center To Determine If Any TANTOTANs and/or Nailup Connections Are Assigned to SPC in Associated TSI	TELCO	—
14	If TANTOTANs Are Assigned, Obtain CIN Assignments of TANTOTANs on SPC To Be Degrown for Later Use	TELCO	—
15	If Nailup Connections Are Assigned, Obtain TAN Assignments of Nailup Connections on SPC To Be Degrown for Later Use	TELCO	—
16	If TANTOTANs Are Assigned to SPC Being Degrown (Item 13), Using CIN Assignments Obtained in Item 11, Take Down Each TANTOTAN (ORD:TANTOTAN;RLS,CIN a,DIU b!)	TELCO	DLP-619
17	If Nailup Connections Are Assigned to SPC Being Degrown (Item 13), Request Appropriate Administration Center To Delete Each Nailup Connection on List Obtained in Item 15 Using Recent Change Form 206	TELCO	—
18	Verify That Spare DIU in Degrowth DIF Is Available (OP:OOSUNITS:DIF!)	TELCO	DLP-566
19	Remove Degrowth DIU From Service (RMV:DIF a,DIU b!)	TELCO	DLP-567

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

	<i>CAUTION: Assure that power is on at degrowth DIU before proceeding. Power must remain on until the DIU and TSI port are degrown to SGRO and the TSI port is pested.</i>		
20	Recent Change Submember Equipage From OPER to SGRO Using RC Form 701 (Degrow) (Degrowth DIU)	TELCO	DLP-527
21	Enter Message To Run Peripheral Unit Status Audit (AUD:PUSTAT!); Wait for Message Complete (MSG COMPL)	TELCO	—
22	Diagnose Degrowth DIU (DGN:DIF a,DIU b!)	TELCO	—
23	At 1B Procesor MCC Terminal, On 108 Page, Enter 857 and Assure That No DIU Is Listed for Degrowth Associated Half of DIF (0-15 or 16-31)	TELCO	—
24	If EST Exists Between Degrowth DIU and Associated TSI Port and EST Is Equipped With Operational ESU That Is Associated With Degrowth DIU/TSI Port, Perform the Following:		
	1. Remove Associated ESU From Service (RMV:EST a,ESU b!)	TELCO	DLP-569
	2. Recent Change Submember Equipage From OPER to SGRO Using RC Form 701 (Degrow) (ESU Associated With Degrowth DIU)	TELCO	DLP-527
	3. Diagnose Degrowth Associated ESU (DGN:EST a,ESU b!)	TELCO	—
	4. At 1B Processor MCC Terminal, On 108 Page, Enter 859 and Assure That No ESU Is Listed for Degrowth Associated EST	TELCO	—
25	Recent Change Submember Equipage From OPER to SGRO Using RC Form 701 (Degrow) (TSI Port Associated With Degrowth DIU)	TELCO	DLP-527
26	Enter Message To Apply TSI Port Pest Control to Degrowth Associated TSI Port (INH:TSI a,SPC b,PORT c!)	TELCO	—
	NOTE: This is a safe point to temporarily stop this procedure.		
27	Determine From Company Order if DIF-E1 Domestic Frame Is To Be Converted to MF, DTMF, or 4 State	TELCO	—
28	If Frame Is Not To Be Converted, Go to Item 43	TELCO	—
29	Diagnose DIF-E1 Controllers 0 and 1 Using Restore Message (RST:DIF a,CONTR b!)	TELCO	DLP-521
30	Assure Availability of Equipment Required To Convert DIF-E1	TELCO	DLP-606

CONVERT DIU AND DIF-E1 DOMESTIC FRAME IF REQUIRED

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

31	At 1B MTC Terminal, Enter RMV:DIF a,CONTR 0! To Remove DIF-E1 Controller 0 From Service	TELC0	—
32	At DIF-E1 Using CONTR0 Power Switch, Rotate OFF Switch to ROS ; After Observing ACK Response, Power Down Controller 0	TELC0	—
33	Replace DIF-E1 Controller 0 Circuit Packs With New Circuit Packs To Convert Controller 0	TELC0	DLP-607
34	Perform Functional Word Change of DIF-E1 Controller 0 Firmware Version Data (MP and SP)	TELC0	DLP-604
35	Perform Functional Word Change of DIF-E1 MTHG Value	TELC0	DLP-605
36	Restore Power to DIF-E1 Controller 0 Using CONTR0 Power Switch and Rotate OFF Switch to Normal Position	TELC0	DLP-507
	NOTE: A diagnostic of controller 0 should occur with ATP results. Controller 0 should be left out of service due to input message of Item 31.		
37	Configure DIF-E1 Controller 0 as the Active Controller:		
	NOTE: Items 37.1 through 37.4 must not be performed on the hour or half hour.		
	1. Enter OP:MACLI,CLASS MTCE! and Ensure MACLI Is Clear (NONE). Do Not Continue Until MACLI Is Clear	TELC0	—
	2. Enter SW:DIF a!	TELC0	—
	3. Verify That Controller 0 Is Active Using Dump Message (DUMP:DIF a,CREG!)	TELC0	DLP-613
	4. At 1B Processor MCC Terminal, On 108 Page, Enter 857 and Assure That Controller 1 for Degrowth Associated DIF Is Listed	TELC0	—
38	Remove Power From Controller 1 of DIF-E1 Being Converted Using CONTR1 Power Switch; Rotate OFF Switch to ROS ; After Observing ACK Response, Power Down Controller 1	TELC0	—
39	Replace DIF-E1 Controller 1 Circuit Packs With New Circuit Packs To Convert Controller 1	TELC0	DLP-608
40	Perform Functional Word Change of DIF-E1 Controller 1 Firmware Version Data (MP and SP)	TELC0	DLP-609
41	Verify DIF Type Table	TELC0	DLP-616
42	Restore Power to DIF-E1 Controller 1 Using CONTR1 Power Switch and Rotate OFF Switch to Normal Position (Restore Complete Required)	TELC0	DLP-507
43	If DIU Was Degrown in This Procedure, Continue; Otherwise, End of Procedure	TELC0	—

CONVERT DIU AND DIF-E1 DOMESTIC FRAME IF REQUIRED

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

44	Determine Frame Location of DIU Equipment To Be Grown and Select Circuit Packs	TELCO	DLP-540
45	Determine Functional Assignment for Digroup(s) in DIU Being Grown	TELCO	DLP-636
46	Obtain Printout of Current Entry Data for DIU Being Converted and Save for Later Use (VER:UTYPE:DIF a,SME b!)	TELCO	DLP-640
47	Using Printout (Item 46), Determine if THW and THW5 Are Set Properly. If THW and THW5 Are Not Set Properly, Record Correct Value for Later Use	TELCO	DLP-641
48	Using RC Form 702, Recent Change Digroup(s) to Appropriate Functional Assignment for DIU Being Grown	TELCO	DLP-645
49	If SM9 Circuit Pack or SM10 Circuit Pack Is Being Added in DIU Being Converted, Verify Circuit Pack in Associated Spare DIU 32 or 33 Is Equal to or Greater Than DIU Being Converted	TELCO	—
50	If DIU 32 or 33 (Spare DIU) Is To Be Changed:		
	1. Diagnose Spare DIU (DGN:DIF a,DIU b!); ATP Required	TELCO	—
	2. Remove Power From Spare DIU Using Unit Power Switch	TELCO	—
	3. Replace Spare DIU Circuit Packs With Required Circuit Packs	TELCO	—
	4. Perform Functional Word Change of Spare DIU Type Hardware	TELCO	DLP-618
	5. Restore Power to Spare DIU Using Unit Power Switch	TELCO	—
	6. Restore Spare DIU to Service (RST:DIF a,DIU b!); ATP Required	TELCO	—
51	Remove Power to Growth DIU Using Unit Power Switch	TELCO	—
52	If Facility Alarm Occurs, Reset Alarm	TELCO	—
53	Install Growth DIU Circuit Packs and Power Converters; Place Power Converter Switches to ON	TELCO	DLP-541
54	Apply Power to Growth DIU Using Unit Power Switch	TELCO	—
55	Diagnose Growth DIU; ATP Required (DGN:DIF a,DIU b:GROWTH!)	TELCO	DLP-502
56	Recent Change and Verify Submember Equipage SGR0 to OPER (TSI Port Associated With Added DIU)	TELCO	DLP-501
	(Continued on Page 6)		

CONVERT DIU AND DIF-E1 DOMESTIC FRAME IF REQUIRED

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

57	If ESU Is Associated With Added DIU, Recent Change and Verify ESU Submember Equipage SGR0 to OPER	TELCO	DLP-501
58	Recent Change and Verify Submember Equipage SGR0 to OPER (Connecting DIU)	TELCO	DLP-501
	NOTE: An indicated service-degrading condition will occur after AUD:PUSTAT message is entered.		
59	Enter Message To Run Peripheral Unit Status Audit (AUD:PUSTAT!); Wait for Message Complete (MSG COMPL)	TELCO	—
60	If ESU Is Associated With Added DIU, Restore ESU (RST:EST a,ESU b!)	TELCO	DLP-542
61	Restore Growth Associated DIU (RST:DIF a,DIU b!)	TELCO	DLP-512
62	Enter Message To Allow Growth Associated TSI Port (ALW:TSI a,SPC b,PORT c!)	TELCO	—
63	If RMS-D2 Is Associated With Changed DIU, Perform Items 64 and 65; Otherwise, Go to Item 66	TELCO	—
64	Request TOC To Do Complete Download From CMS	TELCO	—
65	Request TOC To Activate DS-1 Interface	TELCO	—
66	If TANTOTANs Were Released in Item 15, Connect Each TANTOTAN (ORD:TANTOTAN;CONN,CIN a:CIN b!)	TELCO	DLP-619
67	If Nailup Connections Were Deleted in Item 16, Request Appropriate Administration Center To Connect Each Nailup Using RC Form 205	TELCO	—
68	If MF or DTMF DIU Being Grown, Continue; Otherwise, End of Procedure	TELCO	—
69	If Any Service Circuit Trunks Are Required, Request Appropriate Administration Center To Add Trunks Using RC Form 200	TELCO	—
70	Verify Assignment of Growth MF or DTMF DIU Service Circuits and Test:		
	1. Check Growth DIU Receiver Service Circuits, Look for Traffic Numbers Associated With Growth DIU (OP:TRKSTAT,CIN a SVC b;SUM:NUM 16,STAT CAD.DSA! b = *MFR**** for MF Service Circuits or *DMRV*** for DTMF Service Circuits)	TELCO	DLP-614
	2. Set Trunk Status for 16 Receivers in Newly Grown DIU to Maint Lockout State (SET:TRKSTAT MTC.LK0,CIN a SVC b;SUM:NUM 16! b = *MFR**** for MF Service Circuits or *DMRV*** for DTMF Service Circuits)	TELCO	—

CONVERT DIU AND DIF-E1 DOMESTIC FRAME IF REQUIRED

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

70 (Contd)	3. Verify That Transmitter Is Active for Testing Receivers	TELCO	DLP-617
	4. Enter Message To Idle a Tone Detector for Testing Receivers (SCHED:TRKTEST,OPR:TIMEON 0000,TIMEOFF 0001!)	TELCO	—
	NOTE: A tone detector must be idle active before receiver testing can be performed.		
	5. Test Growth DIU Receiver Service Circuits (TEST:TRK,CIN a SVC b;SVC:TSG,STAT MTC.LK0,PALL! b = *MFR**** for MF Service Circuits or *DMRV*** for DTMF Service Circuits)	TELCO	DLP-615
	6. Check Growth DIU Transmitter Service Circuits, Look for Traffic Numbers Associated With Growth DIU (OP:TRKSTAT,CIN a SVC b;SUM:NUM 16,STAT CAD.DSA! b = *MFX**** for MF Service Circuits or *DMXM*** for DTMF Service Circuits)	TELCO	DLP-614
	7. Set Trunk Status for 16 Transmitters in Newly Grown DIU to Maint Lockout State (SET:TRKSTAT MTC.LK0,CIN a SVC b;SUM:NUM 16! b = *MFX**** for MF Service Circuits or *DMXM*** for DTMF Service Circuits)	TELCO	—
	8. Verify That Receiver Is Active for Testing Transmitters	TELCO	DLP-617
	9. Test Growth DIU Transmitter Service Circuits (TEST:TRK,CIN a SVC b;SVC:TSG,STAT MTC.LK0,PALL! b = *MFX**** for MF Service Circuits or *DMXM*** for DTMF Service Circuits)	TELCO	DLP-615
71	Bring Newly Grown MF or DTMF DIU Service Circuits to Active State:		
	1. For Receivers, Input SET:TRKSTAT ACT,CIN a SVC b;SUM:NUM 16! b = *MFR**** for MF Service Circuits or *DMRV*** for DTMF Service Circuits	TELCO	—
	2. For Transmitters, Input SET:TRKSTAT ACT,CIN a SVC b;SUM:NUM 16! b = *MFX**** for MF Service Circuits or *DMXM*** for DTMF Service Circuits	TELCO	—

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

		RESPONSIBILITY	
	WARNINGS: 1. An antistatic wrist strap must be worn to prevent electrostatic discharge and possible damage to circuit packs while handling 2. No other growth or maintenance activity is allowed during this procedure		
	NOTES: 1. Appropriate Input/Output manuals must be used if clarification of input message or output message is necessary 2. This procedure must be performed during light traffic periods 3. 4ESS ™ switch operation must be closely monitored while performing this procedure 4. Corrective action must be taken immediately on any activity that may cause any unit to go out of service (OOS) 5. Stability of office must be maintained throughout this procedure 6. In the following procedure, DIF refers to either DIF-E1 Domestic or DIF unless DIF-E1 specified 7. A DIF-E1 can contain up to 4 MF DIUs or 4 DTMF DIUs (1, 18, 9, and 26), but not a combination of both. DIUs 1, 18, 9, and 26 should be grown in sequence 8. SM10 DIU can only be grown in 4E14 or later generic office 9. If SM9 or SM10 DIU is being added, it may be added only to DIF-E1 with an MTHG of 4 or 5 10. A DIF (J68960A) can only contain voice DIUs 11. All operational DIUs must be in-service		
1	Notify Next Higher Support Organization That DIU Is Being Added to Domestic DIF-E1 or J68960A DIF. Obtain Information for Items 2 and 3 From Next Higher Technical Support Group	TELCO	—
2	Ensure 4ESS Switch Is in Stable Condition	TELCO	DLP-638
3	Ensure 1B Processor and Peripheral Units Are Operating in Normal Duplex Mode	TELCO	DLP-639
4	Determine DIF Member Number and DIU To Be Added	TELCO/INST	—
5	Determine Frame Locations for DIU To Be Added and Select Circuit Packs	INST	—
	(Continued on Page 2)		

ADD DIGITAL INTERFACE UNIT (DIU) TO OPERATIONAL DIGITAL INTERFACE (DIF-E1) DOMESTIC OR DIF (J68960A) – SUPPORT TO INSTALLER (INST)

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

6	Verify DIF and EST (if Applicable) Unit Type (UT) Translator and Compare Translations Data Against Wiring Records:		
	1. Verify DIF UT Data Associated With Growth DIU (VER:UTYPE:DIF a!)	TELCO/INST	DLP-610
	2. If ESU Is Associated With Growth DIU, Verify ESU to Growth DIU Assignment and ESU Equipage Status in EST UT Translator (VER:UTYPE:EST a!) Strap Through EST	TELCO/INST	DLP-546
	3. Compare Translations Data Against Wiring Records	INST	—
7	Verify DIF Type Table	TELCO/INST	DLP-616
8	If LIST 14 (SM9 Pack) or LIST 15 (SM10 Pack) DIU Being Added, Verify That DIUs 32 and 33 Are Equal to or Greater Than LIST Number of Associated Growth Unit	INST	—
9	Verify Time Slot Interchange (TSI) UT Translator and Compare Translations Data Against Wiring Records:		
	1. Determine Which TSI Member Number Has Port Connecting to Growth DIU	TELCO	—
	2. Verify TSI Port to DIU Assignment and TSI-SPC Port Equipage Data of TSI UT Translator (VER:UTYPE:TSI a!)	TELCO/INST	DLP-548
	3. Compare Translations Data Against Wiring Records	INST	—
10	Diagnose DIF Controllers 0 and 1 Using Restore Message (RST:DIF a,CONTR b!)	TELCO	DLP-521
11	If DIU 32 or 33 (Spare DIU) Is To Be Changed:		
	1. Diagnose Spare DIU (DGN:DIF a,DIU b!); ATP Required	TELCO	—
	2. Remove Power From Spare DIU Using Unit Power Switch	TELCO	—
	3. Replace Spare DIU Circuit Packs With Required Circuit Packs	INST	—
	4. Perform Functional Word Change of Spare DIU Type	TELCO	DLP-618
	5. Restore Power to Spare DIU Using Unit Power Switch	TELCO/INST	—
	6. Restore Spare DIU to Service (RST:DIF a,DIU b!); ATP Required	TELCO/INST	—
12	Assure That Power to Growth DIU Is Off Using Unit Power Switch	INST	—
13	Install Growth DIU Circuit Packs and Power Converters and Verify Fuses	INST	—
	(Continued on Page 3)		

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

14	Verify That Input/Output Looping Devices Are in Place for Growth DIU Output (T, R) and at DSX1 or Directly Connecting LT1 Bays	INST	—
15	Recent Change and Verify Submember Equipage From UNEQ to GROW (Growth DIU)	TELCO	DLP-501
16	Apply Power to Growth DIU Using Unit Power Switch	TELCO/INST	—
17	Diagnose Growth DIU, Specifying Growth and Appropriate Phases (CATP Expected); INST Clear Equipment Troubles:		
	A. Specify Phases 1 Through 4 for MF or DTMF DIU (NTR on Phases 3 and 4)	TELCO/INST	DLP-611
	B. Specify Phases 1 Through 3 All Other DIUs	TELCO	DLP-611
18	Recent Change and Verify Submember Equipage From GROW to SGRO (Growth DIU)	TELCO	DLP-501
19	Diagnose Growth DIU, Specifying Growth and Appropriate Phases (ATP Required); INST Clear Equipment Troubles:		
	A. Specify Phases 1 Through 4 for MF or DTMF DIU	TELCO/INST	DLP-612
	B. Specify Phases 1 Through 3 for All Other DIUs	TELCO/INST	DLP-612
	NOTE: Items 20 through 26 must be performed without interruption		
20	Enter Messages To Apply Pests on TSI Port Connecting to Growth DIU, Growth DIF, and if Associated, EST:		
	1. INH:TSI a,SPC b,PORT c!	TELCO	—
	2. INH:DIF a,APUF!	TELCO	—
	3. INH:DIF a,APUT!	TELCO	—
	4. If EST Associated: INH:EST a,APUF!	TELCO	—
	5. If EST Associated: INH:EST a,APUT!	TELCO	—
21	Connect TSI Port Cables:		
	A. If No EST Exists Between Growth DIU and Associated TSI, Remove TSI Looping Terminators and DIU Output Loop Cables; Connect Signal Cables at Growth DIU and TSI Port	INST	—
	NOTE: If an EST exists between growth DIF-E1 and associated TSI, ESU must be in strap through condition and marked unequipped in translations.		

ADD DIGITAL INTERFACE UNIT (DIU) TO OPERATIONAL DIGITAL INTERFACE (DIF-E1) DOMESTIC OR DIF (J68960A) – SUPPORT TO INSTALLER (INST)

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

21 (Contd)	B. If EST Exists Between Growth DIF-E1 and Associated TSI, Remove Looping Terminators at TSI Port and Associated DIU; Connect Signal Cables at FB619 Strap Pack of ESU at DIU and at TSI Ports	INST	—
22	Recent Change and Verify Submember Equipage UNEQ to GROW (TSI Port Connecting to Growth DIU)	TELCO	DLP-501
23	Recent Change and Verify Submember Equipage GROW to SGRO (TSI Port Connecting to Growth DIU)	TELCO	DLP-501
24	Diagnose and Restore Connecting TSI Controllers 0 and 1 (Specifying Appropriate Phase and Growth)	TELCO/INST	DLP-522
25	Enter Message To Diagnose Growth DIU (DGN:DIF a,DIU b:GROWTH!) ATP Required; INST Clear Equipment Troubles	TELCO/INST	DLP-520
26	Enter Messages To Allow Pests on Growth DIF and If Associated, EST:		
	1. ALW:DIF a,APUF!	TELCO	—
	2. ALW:DIF a,APUT!	TELCO	—
	3. If EST Associated: ALW:EST a,APUF!	TELCO	—
	4. If EST Associated: ALW:EST a,APUT!	TELCO	—
27	Activate DIU Equipment:		
	A. For DIU With Trunks Connected or Transmission Equipment Ready for Test That Is To Interface to TSI Via Equipped ESU, Complete DIU/ESU/TSI Interface Using NTP-011 (Echo Suppressor Unit Growth)	TELCO/INST	—
	B. For DIU With Trunks Connected or Transmission Equipment Ready for Test That Is To Interface Directly to TSI or Via Strap Through FB619 Pack in EST (Unequipped ESU Position), Perform the Following:		
	1. Recent Change and Verify Submember Equipage From SGRO to OPER:		
	1. TSI Port Associated With DIU	TELCO	DLP-501
	2. Associated DIU	TELCO	DLP-501
	(Continued on Page 5)		

ADD DIGITAL INTERFACE UNIT (DIU) TO OPERATIONAL DIGITAL INTERFACE (DIF-E1) DOMESTIC OR DIF (J68960A) – SUPPORT TO INSTALLER (INST)

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

27 (Contd)	NOTE: An indicated service-degrading condition will occur after AUD:PUSTAT message is entered.		
	2. Enter Message To Run Peripheral Unit Status Audit (AUD:PUSTAT!); Wait for Message Complete (MSG COMPL)	TELCO	—
	3. Enter Message To Restore DIU (RST:DIF a,DIU b!) ATP and Restore COMPLETE Required; INST Clear Equipment Troubles	TELCO/INST	DLP-512
	4. Enter Message To Allow Growth Associated TSI Port (ALW:TSI a,SPC b,PORT c!)	TELCO	—
28	If MF or DTMF DIU Being Grown, Continue; Otherwise, End of Procedure	TELCO/INST	—
29	Verify Assignment of Growth MF or DTMF DIU Service Circuits and Test:		
	1. Check Growth DIU Receiver Service Circuits, Look for Traffic Numbers Associated With Growth DIU (OP:TRKSTAT,CIN a SVC b;SUM:NUM 16,STAT CAD.DSA! b = *MFR**** for MF Service Circuits or *DMRV*** for DTMF Service Circuits)	TELCO	DLP-614
	2. Set Trunk Status for 16 Receivers in Newly Grown DIU to Maint Lockout State (SET:TRKSTAT MTC.LKO,CIN a SVC b;SUM:NUM 16! b = *MFR**** for MF Service Circuits or *DMRV*** for DTMF Service Circuits)	TELCO/INST	—
	3. Verify That Transmitter Is Active for Testing Receivers	TELCO/INST	DLP-617
	4. Enter Message To Idle a Tone Detector for Testing Receivers (SCHED:TRKTEST,OPR:TIMEON 0000,TIMEOFF 0001!)	TELCO	—
	NOTE: A tone detector must be idle active before receiver testing can be performed.		
	5. Test Growth DIU Receiver Service Circuits (TEST:TRK,CIN a SVC b;SVC:TSG,STAT MTC.LKO,PALL! b = *MFR**** for MF Service Circuits or *DMRV*** for DTMF Service Circuits)	TELCO/INST	DLP-615
	6. Check Growth DIU Transmitter Service Circuits, Look for Traffic Numbers Associated With Growth DIU (OP:TRKSTAT,CIN a SVC b;SUM:NUM 16,STAT CAD.DSA! b = *MFX**** for MF Service Circuits or *DMXM*** for DTMF Service Circuits)	TELCO/INST	DLP-614
	7. Set Trunk Status for 16 Transmitters in Newly Grown DIU to Maint Lockout State (SET:TRKSTAT MTC.LKO,CIN a SVC b;SUM:NUM 16! b = *MFX**** for MF Service Circuits or *DMXM*** for DTMF Service Circuits)	TELCO/INST	—

**ADD DIGITAL INTERFACE UNIT (DIU) TO OPERATIONAL DIGITAL INTERFACE
(DIF-E1) DOMESTIC OR DIF (J68960A) – SUPPORT TO INSTALLER (INST)**

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

29 (Contd)	8. Verify That Receiver Is Active for Testing Transmitters	TELCO/INST	DLP-617
	9. Test Growth DIU Transmitter Service Circuits (TEST:TRK,CIN a SVC b;SVC:TSG,STAT MTC.LKO,PALL! b = *MFX**** for MF Service Circuits or *DMXM*** for DTMF Service Circuits)	TELCO/INST	DLP-615
30	Bring Newly Grown MF or DTMF DIU Service Circuits to Active State:		
	1. For Receivers, Input SET:TRKSTAT ACT,CIN a SVC b;SUM:NUM 16! b = *MFR**** for MF Service Circuits or *DMRV*** for DTMF Service Circuits	TELCO/INST	—
	2. For Transmitters, Input SET:TRKSTAT ACT,CIN a SVC b;SUM:NUM 16! b = *MFX**** for MF Service Circuits or *DMXM*** for DTMF Service Circuits	TELCO/INST	—

**ADD DIGITAL INTERFACE UNIT (DIU) TO OPERATIONAL DIGITAL INTERFACE
(DIF-E1) DOMESTIC OR DIF (J68960A) – SUPPORT TO INSTALLER (INST)**

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

		RESPONSIBILITY	
	WARNINGS: 1. An antistatic wrist strap must be worn to prevent electrostatic discharge and possible damage to circuit packs while handling 2. No other growth or maintenance activity is allowed during this procedure		
	NOTES: 1. F-Link removal must be completed and verified before performing this procedure 2. The terms first and second terminal units refer to primary (first) and backup (second) terminals of a domestic terminal unit pair. These terminals are also referred to as mates 3. This procedure is to be used to remove the first TGR frame, it's mate and if an Enhanced Terminal, the associated Data Set frame. 4. Input messages are to be entered at a 1B Processor terminal (MTC, SREC1, beltline) 5. Appropriate Input/Output Manuals must be used if clarification of input message or output message is necessary 6. This procedure must be performed during light traffic periods 7. 4ESS ™ Switch operation must be closely monitored while performing this procedure 8. Corrective action must be taken immediately on any activity that may cause any unit to go out of service (OOS) 9. Stability of office must be maintained throughout this procedure		
1	Determine TGR Frame Number To Be Degrown and Associated SP and DIF, DT, or VIF Unit, if Required	TELCO/INST	—
2	While On-Site Personnel Are Performing Items 3 Through 33, Determine Cable Assignments for Degrowth TGR Frames That Are To Be Removed and Record for Later Use	INST	—
3	Notify Next Higher Technical Support Group That CCIS TGR Basic Frame Complex Is Being Degrown. Obtain Information for Items 4 and 5 From Next Higher Technical Support Group	TELCO	—
4	Ensure 1B Processor Routine Exerciser (REX) Successfully Diagnosed 1B Processor Equipment Within 24 Hours of Performing This Procedure	TELCO	—
5	Ensure 4ESS Switch Is in Stable Condition	TELCO	DLP-638
6	At 1B MTC Terminal, Enter Message INH:MACLI,CLASS MTCE;REX! To Inhibit REX	TELCO	—
7	Ensure 1B Processor and Peripheral Units Are Running in Normal Duplex Mode	TELCO	DLP-639
	(Continued on Page 2)		

DEGROW CCIS TERMINAL GROUP BASIC FRAME COMPLEX — SUPPORT TO INSTALLER (INST)

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

8	At 1B MTC Terminal, Enter Message OP:SLKSTAT;ALL! and Determine if All Signaling Links Associated With Degrowth TGR Frames Are Set to SELF LOOP	TELCO	—
9	If All Signaling Links Associated With Degrowth TGR Frames Are Set to SELF LOOP (Item 8), Go to Item 21; Otherwise, Perform Items 10 Through 20 To Set Signaling Links to SELF LOOP	TELCO	—
10	Verify From Printout (Item 8) That SLK STAT Is 00S for Signaling Links Associated With Degrowth TGR Frames	TELCO	—
11	At 1B MTC Terminal, Enter Message INH:AUD:NUM 49! To Inhibit Audit 49	TELCO	—
12	Enter Message RMV:SIGLK aabb! (aa = 2-Digit TGR Number, bb = 2-Digit TER Number) To Remove Signaling Link for One Degrowth Terminal Unit in First TGR Frame	TELCO	—
13	Enter Message RMV:TGR a,TER b! (a = TGR Number, b = TER Number) To Remove One Terminal Unit in First TGR Frame	TELCO	—
14	Perform Functional Word Change of Removed Terminal Unit for Loop Data for Self-Synchronization	TELCO	DLP-532
15	Disable Direct Signaling Traffic Configuration for Removed Terminal Unit	TELCO	DLP-620
16	At 1B MTC Terminal, Enter Message RST:TGR a,TER b! (a = TGR Number, b = TER Number) To Restore Removed Terminal Unit	TELCO	—
17	Enter Message RST:SIGLK aabb! (aa = 2-Digit TGR Number, bb = 2-Digit TER Number) To Restore Signaling Link	TELCO	—
18	Repeat From Item 12 for Each Terminal Unit Supplied With First TGR Frame	TELCO	—
19	Enter Message AUD:PUSTAT! To Run Peripheral Unit Status Audit	TELCO	—
20	Enter Message OP:SLKSTAT;ALL! . Verify From Printout That SLK STAT Is INS and VFL Is SELF LOOPED for Each Terminal Unit in First TGR Frame	TELCO	—
21	Verify if Terminal Units in Degrowth TGR Frames Are Not Unequipped (VER:UTYPE:TGR a!)	TELCO	DLP-648
22	If All Terminal Units in Degrowth TGR Frames Are Unequipped, Go to Item 33; Otherwise, Perform Items 23 Through 32 To Degrow Terminal Units	TELCO	—
23	Enter Message RMV:TGR a,TER b! (a = TGR Number, b = TER Number) To Remove One Terminal Unit in First TGR Frame	TELCO	—
24	Repeat Item 23 for Each Terminal Unit Supplied With First TGR Frame	TELCO	—

**DEGROW CCIS TERMINAL GROUP BASIC FRAME COMPLEX — SUPPORT
TO INSTALLER (INST)**

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

	<i>CAUTION: In Item 25, equipage must be changed only to SGRO state</i>		
25	Recent Change Submember Equipage From OPER to SGRO Using RC Form 701 (Degrow) (All Terminal Units Supplied With First TGR Frame)	TELCO	DLP-527
26	At 1B MTC Terminal, Enter Message AUD:PUSTAT! To Run Peripheral Unit Status Audit	TELCO	—
	<i>CAUTION: In Item 27, equipage must be changed only to GROW state</i>		
27	Recent Change Submember Equipage From SGRO to GROW Using RC Form 701 (Degrow) (All Terminal Units Supplied With First TGR Frame)	TELCO	DLP-527
28	Repeat Items 25 Through 27 for the Mate TGR Frame	TELCO	—
29	Recent Change Submember Equipage From GROW to UNEQ Using RC Form 701 (Degrow) (All Terminal Units Supplied With Mate TGR Frame)	TELCO	DLP-527
30	Remove Power From Each Terminal Unit Supplied With Mate TGR Frame Using Unit Power Switch	TELCO	—
31	Recent Change Submember Equipage From GROW to UNEQ Using RC Form 701 (Degrow) (All Terminal Units Supplied With First TGR Frame)	TELCO	DLP-527
32	Remove Power From Each Terminal Unit Supplied With First TGR Frame Using Unit Power Switch	TELCO	—
33	Ensure Power Is Removed From All Terminal Units in Degrowth TGR Frames	TELCO	—
	<i>CAUTION: In Item 34, equipage must be changed only to SGRO</i>		
34	Recent Change and Verify First TGR Frame Member Equipage From OPER to SGRO Using RC Form 701 (Degrow)	TELCO	DLP-526
35	At 1B MTC Terminal, Enter Message AUD:PUSTAT! To Run Peripheral Unit Status Audit	TELCO	—
36	Enter Message DGN:TGR a,CONTR 0:PH 1! To Diagnose Degrowth TGR Frame Specifying PH 1; Ensure ATP or CATP Response Is Received (Software Will Recognize Equipage State Change When Diagnosing the Degrowth TGR Frame)	TELCO	—
	<i>CAUTION: An F-level interrupt may be received during item 37</i>		
37	Remove Power From First TGR Frame Controllers 0 and 1, and IPUBs 0 and 1 Using Power Switches (OS and ACK Lamps Will Not Light)	TELCO	—
	(Continued on Page 4)		

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

	<i>CAUTION: In Item 38, equipage must be changed only to GROW</i>		
38	Recent Change and Verify First TGR Frame Member Equipage From SGR0 to GROW Using RC Form 701 (Degrow)	TELCO	DLP-526
39	Repeat Items 34 Through 38 for Mate TGR Frame	TELCO	—
40	Recent Change and Verify First TGR Frame Member Equipage From GROW to UNEQ Using RC Form 701 (Degrow)	TELCO	DLP-526
41	Recent Change and Verify Mate TGR Frame Member Equipage From GROW to UNEQ Using RC Form 701 (Degrow)	TELCO	DLP-526
42	At 1B MTC Terminal, Enter Message INH:AUDMSG:NUM 49! To Inhibit Audit Messages	TELCO	—
43	Enter Message ALW:AUD:NUM 49! To Allow Audit 49	TELCO	—
44	Enter Message AUD:NUM 49! To Run Audit 49; Wait for AUD:NUM 49 COMPLETE 0 ERRORS DETECTED Output Message. If Errors Are Found, Repeat This Item Until 0 ERRORS Received	TELCO	—
45	Enter Message ALW:AUDMSG:NUM 49! To Allow Audit Messages	TELCO	—
46	Safe Point To Temporarily Stop This Procedure. If Stopping, Perform Items 47 and 48; Otherwise, Go to Item 50	TELCO/INST	—
47	At 1B MTC Terminal, Enter Message ALW:MACLI,CLASS MTCE! To Allow REX	TELCO	—
48	Stop Procedure for Now. Continue at Item 49 When Resuming	TELCO/INST	—
49	At 1B MTC Terminal, Enter Message INH:MACLI,CLASS MTCE;REX! To Inhibit REX	TELCO	—
50	Remove Degrowth TGR Frames From Peripheral Unit Bus Using Selected Option A or B in TOP 234-353-045. Continue This Procedure at Item 51 Upon Completion:		
	A. When Degrowth Frame Is Last Frame on PUB Branch	TELCO/INST	—
	B. When Degrowth Frame Is Between Two Operational Frames on PUB Branch	TELCO/INST	—
51	At 1B MTC Terminal, Enter Message INH:AUDMSG:NUM 49! To Inhibit Audit Messages	TELCO	—
52	Enter Message AUD:NUM 49! To Run Audit 49; Wait for AUD:NUM 49 COMPLETE 0 ERRORS DETECTED Output Message. If Errors Are Found, Repeat This Item Until 0 ERRORS Received	TELCO	—
	(Continued on Page 5)		

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

53	Enter Message ALW:AUDMSG:NUM 49! To Allow Audit Messages	TELCO	—
54	Remove +140V and +24V Power for Degrowth TGR Frames and Disconnect Associated Power Cables		
	1. At Area Bus Center (ABC) Associated With +140VA Power to Degrowth TGR Frame, Remove 140VA Indicator Fuse for Degrowth TGR Frame	TELCO	—
	2. At ABC, Remove +140VA Load Fuse for Degrowth TGR Frame	INST	—
	3. At ABC, Disconnect 140VA and 140 RTNA Power Cables Associated With Degrowth TGR Frame	INST	—
	4. At Degrowth TGR Frame, Disconnect 140VA Power Cables	INST	—
	5. Repeat Items 54.1 Through 54.4 for 140VB Power	TELCO/INST	—
	6. If +24V Is Being Supplied to Degrowth TGR Frame From J5A007B PCD Frame, Perform Items 54.7 and 54.8; Otherwise, Go to Item 54.9	TELCO	—
	7. At 1B MTC Terminal, Enter Message RMV:PCD a,DAMON 0! (a = 0 for A Fuses or 1 for B Fuses) To Remove Power From PCD Frame Associated With Degrowth TGR Frame; Ensure RMV: PCD a, DAMON 0 COMPL Message Is Received	TELCO	—
	8. Go to Item 54.10	TELCO	—
	9. At PD Frame Associated With +24V Power to Degrowth TGR Frame, Remove +24V Indicator Fuse or Removable LED if J5A007C PCD Frame for Degrowth TGR Frame	TELCO	—
	10. At PD Frame, Remove +24V Load Fuse for Degrowth TGR Frame	TELCO	—
	11. At PD Frame, Disconnect +24VA and 24 RTNA Power Cables Associated With Degrowth TGR Frame	INST	—
	12. If +24V Was Supplied to Degrowth TGR Frame From J5A007B PCD Frame, at 1B MTC Terminal, Enter Message RST:PCD a,DAMON 0! (a = 0 for A Fuses or 1 for B Fuses) To Remove Power From PCD Frame Associated With Degrowth TGR Frame; Ensure RST: PCD a, DAMON 0 COMPL Message Is Received	TELCO	—
	13. At Degrowth TGR Frame, Disconnect +24VA Power Cables	INST	—
	14. Repeat Items 54.6 Through 54.13 for +24VB Power	INST	—
	(Continued on Page 6)		

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

55	Disconnect Cables Between Degrowth TGR and MFS Frames	INST	—
56	If Data Set Frame Is To Be Removed, Perform Functional Word Change To Degrow Data Set Frame Member Equipage From OPER (11) to UNEQ (00); Bits 23 and 22 in Word 0	TELCO	DLP-525
57	Remove Alarm Cables for Degrowth Frames; If Degrowth Frames Are in Middle of Lineup, Connect New Alarm Cable Between Remaining Frames to Bridge Open	INST	—
58	At PPL Power Switch On One SP Frame Containing MSN, MDN, and PP Cables Determined in Step 1, Rotate ROS Switch to ROS Position and Depress ROS Switch; Ensure OS and PWR OFF Lamps Are On	TELCO	—
	<i>CAUTION: In Items 59 and 60, care must be taken to make sure that leads do not short together</i>		
59	At Degrowth TGR Frames, Disconnect MSN, MDN, and PP Cables Associated With SP Frame (Item 58)	INST	—
60	At SP Frame, Disconnect MSN, MDN, and PP Cables	INST	—
61	Work MSN, MDN, and PP Cables (Item 59) Back to SP Frame (Item 58)	INST	—
62	At PPL Power Switch (Item 58), Rotate ROS Switch to Normal Position and Depress ON Switch; Ensure OS and PWR OFF Lamps Are Off	TELCO/INST	—
63	If MSN, MDN, and PP Cables for Degrowth TGR Frames Are Connected to Another SP Frame, Repeat Items 59 Through 62	TELCO/INST	—
64	At 1B MTC Terminal, Enter Message ALW:MACLI,CLASS MTCE! To Allow REX	TELCO	—
65	Remove Common Circuits (Telephone Jacks, TTY Jacks, AC Outlets) From Degrowth TGR Frames	INST	—
66	If Data Set Frame Is To Be Removed, Remove Cables and Common Circuits as Required	INST	—
67	Remove Degrowth TGR Frames From Lineup	INST	—
68	If Data Set Frame Is To Be Removed, Remove Data Set Frame From Lineup	INST	—
69	Notify Next Higher Technical Support Group That CCIS TGR Frame Complex Is Complete	TELCO	—

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

		RESPONSIBILITY	
	WARNINGS: 1. An antistatic wrist strap must be worn to prevent electrostatic discharge and possible damage to circuit packs while handling 2. No other growth or maintenance activity is allowed during this procedure		
	NOTES: 1. Appropriate Input/Output manuals must be used if clarification of input message or output message is necessary 2. This procedure must be performed during light traffic periods 3. 4ESS™ switch operation must be closely monitored while performing this procedure 4. Corrective action must be taken immediately on any activity that may cause any unit to go out of service (OOS) 5. Stability of office must be maintained throughout this procedure		
1	Notify Next Higher Support Organization That Amplifier and Pad Unit Are Being Adjusted Circuit Packs. Obtain Information for Items 2 and 3 From Next Higher Technical Support Group	TELCO	—
2	Ensure 4ESS Switch Is in Stable Condition	TELCO	DLP-638
3	Ensure 1B Processor and Peripheral Units Are Operating in Normal Duplex Mode	TELCO	DLP-639
4	Remove Associated Signal Link From Service	TELCO	DLP-621
5	At TTY, Enter RMV:TGR a,TER b! (a = Terminal Group, b = Terminal Number)	TELCO	—
	NOTE: Power switch associated with TERMINAL 01 is associated with amplifier and pad unit 01.		
6	Determine Power Switch Associated With Amplifier and Pad Unit To Be Adjusted	TELCO	DLP-622
7	At Appropriate Power Switch, Rotate ROS/OFF Switch to ROS Response: ACK Lamp Flashes; Then OS and OFF NORM Lamps Light	TELCO	—
8	At Appropriate Power Switch, Depress ROS/OFF Switch Response: PWR OFF Lamp Lights	TELCO	—
9	Adjust Amplifier and Pads Using RMS-D2	TELCO	DLP-623
	NOTE: If OS lamp flashes off and on and remains lighted, diagnostic failed.		

ADJUST AMPLIFIER AND PAD UNIT

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

10	At Power Switch, Rotate ROS/OFF Switch 1/4-Turn Counterclockwise to Normal Position <i>Response: OS and OFF NORM Lamps Go Off</i>	TELCO	—
11	At TTY, Enter RST:TGR a,TER b! (a = Terminal Group, b = Terminal Number)	TELCO	—
12	At 1B MTC Terminal, Enter RST:SIGLK a! (a = Signal Link Number Removed in Item 4)	TELCO	—
13	Inform STP Office That Signal Link Is Restored to Service	TELCO	—

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

		RESPONSIBILITY	
	WARNINGS: 1. An antistatic wrist strap must be worn to prevent electrostatic discharge and possible damage to circuit packs while handling 2. No other growth or maintenance activity is allowed during this procedure		
	NOTES: 1. Appropriate Input/Output manuals must be used if clarification of input message or output message is necessary 2. This procedure must be performed during light traffic periods 3. 4ESS ™ switch operation must be closely monitored while performing this procedure 4. Corrective action must be taken immediately on any activity that may cause any unit to go out of service (OOS) 5. Stability of office must be maintained throughout this procedure 6. The terms first and second terminal unit refer to primary (first) and backup (second) terminal of a domestic terminal unit pair, or primary (first) and secondary (second) terminal of an international terminal unit group. These terminal units are also referred to as mates 7. Terminal units of a domestic pair or international group must not reside in the same terminal group (TGR) frame 8. Only one terminal unit is to be changed at a time		
1	Notify Next Higher Support Organization That Enhanced Terminal Unit (4800 BPS) Is Being Converted to Standard Terminal Unit (2400 BPS). Obtain Information for Items 2 and 3 From Next Higher Technical Support Group	TELCO	—
2	Ensure 4ESS Switch Is in Stable Condition	TELCO	DLP-638
3	Ensure 1B Processor and Peripheral Units Are Operating in Normal Duplex Mode	TELCO	DLP-639
4	Verify That 201D-L1 Data Set Is Available	TELCO	—
5	Determine Member Number of TGR Frame and Terminal Unit To Be Converted From Enhanced To Standard (2400 bps) Operation From Company Order	TELCO	—
6	At MTC Channel, Enter OP:SLKSTAT;SLK ab! (a = TGR Number, b = TER Number). Determine From Printout if VFL Is SELF LOOPED for Terminal Unit Being Converted	TELCO	DLP-624
	(Continued on Page 2)		

**CONVERT ENHANCED TERMINAL UNIT (4800 BPS) TO STANDARD
TERMINAL UNIT (2400 BPS)**

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

7	If Terminal Unit Is NOT Self Looped, Perform Items 8 Through 21; Otherwise, Go to Item 22	TELCO	—
8	Coordinate With Far End of Terminal Unit (Item 5) Schedule for Turndown of VFL	TELCO	—
9	Request TOC To Verify That VFL Assigned To Terminal Unit Being Converted Is Deactivated and That Interoffice Signaling Link Is Out-Of-Service	TELCO	—
10	At MTC Channel, Enter INH:AUD:NUM 49! To Inhibit Audit 49	TELCO	—
11	At 1B MTC Terminal, Enter RMV:SIGLK ab! (a = TGR Number, b = TER Number) To Remove Signaling Link for Terminal Unit Being Converted	TELCO	—
12	At 1B MTC Terminal, Enter OP:SLKSTAT;SLK ab! (a = TGR Number, b = TER Number). Verify From Printout that SLK STAT Is OOS	TELCO	—
13	At 1B MTC Terminal, Enter RMV:TGR a,TER b! (a = TGR Number, b = TER Number) To Remove Terminal Unit Being Converted	TELCO	—
14	Perform Functional Word Change of Removed Terminal Unit for Loop Data for Self-Synchronization	TELCO	DLP-532
15	Disable Direct Signaling Traffic Configuration for Removed Terminal Unit	TELCO	DLP-620
16	At 1B MTC Terminal, Enter RST:TGR a,TER b! (a = TGR Number, b = TER Number) To Restore Removed Terminal Unit	TELCO	—
17	At 1B MTC Terminal, Enter RST:SIGLK ab! (a = TGR Number, b = TER Number) To Restore Signaling Link	TELCO	—
18	At 1B MTC Terminal, Enter ALW:AUD:NUM 49! To Allow Audit 49	TELCO	—
19	At 1B MTC Terminal, Enter AUD:NUM 49! To Run Audit 49; Wait for AUD:NUM 49 COMPLETE 0 ERRORS DETECTED Output Message	TELCO	—
20	At 1B MTC Terminal, Enter AUD:PUSTAT! To Run Peripheral Unit Status Audit	TELCO	—
21	At 1B MTC Terminal, Enter OP:SLKSTAT;SLK ab! (a = TGR Number, b = TER Number). Verify From Printout That SLK STAT Is INS and VFL Is SELF LOOPED for Terminal Unit Being Converted	TELCO	—
	NOTE: If data is changed in Item 22, data must be changed to test state only		
22	Verify Unit Type Data for Terminal Unit Being Converted and Perform Functional Word Change(s), as Required (Record Order Number(s) for Later Use)	TELCO	DLP-625

**CONVERT ENHANCED TERMINAL UNIT (4800 BPS) TO STANDARD
TERMINAL UNIT (2400 BPS)**

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

23	At 1B MTC Terminal, Enter RMV:TGR a,TER b! (a = TGR Number, b = TER Number) To Remove Terminal Unit Being Converted	TELCO	—
24	Remove Power From Terminal Unit Being Converted Using Terminal Power Switch	TELCO	—
25	If C-MT Is Not Flashing in Data Set Alphanumeric Display on 2048A Data Set Associated With Terminal Unit Being Converted, Set Execution of CONTINUOUS MODEM TEST	TELCO	DLP-631
26	Disconnect Cables Between 2048A Data Set (Item 25) and Associated Terminal Modem Interface (TMI) Unit	TELCO	—
27	At Terminal Unit Being Converted, Replace TMI Unit With 201D-L1 Data Set	TELCO	DLP-632
28	Activate Recent Change(s) Performed in Item 22	TELCO	DLP-633
29	Restore Power To Terminal Unit Being Converted and Restore To Service; ATP Results Required	TELCO	DLP-593
30	Verify Associated Signaling Link Was Put in Service	TELCO	DLP-594
31	Leave Associated Signaling Link in Local Loop Mode Until Associated Network Services Complex Is Installed	TELCO	—
32	Repeat Items 4 Through 31 for Mate Terminal Unit	TELCO	—

**CONVERT ENHANCED TERMINAL UNIT (4800 BPS) TO STANDARD
TERMINAL UNIT (2400 BPS)**

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

		RESPONSIBILITY	
	WARNINGS: 1. An antistatic wrist strap must be worn to prevent electrostatic discharge and possible damage to circuit packs while handling 2. No other growth or maintenance activity is allowed during this procedure		
	NOTES: 1. Appropriate Input/Output manuals must be used if clarification of input message or output message is necessary 2. This procedure must be performed during light traffic periods 3. 4ESS™ switch operation must be closely monitored while performing this procedure 4. Corrective action must be taken immediately on any activity that may cause any unit to go out of service (OOS) 5. Stability of office must be maintained throughout this procedure		
1	Notify Next Higher Support Organization That DIF Firmware Version Data (MP and SP) Is Being Changed. Obtain Information for Items 2 and 3 From Next Higher Technical Support Group	TELCO	—
2	Ensure 4ESS Switch Is in Stable Condition	TELCO	DLP-638
3	Ensure 1B Processor and Peripheral Units Are Operating in Normal Duplex Mode	TELCO	DLP-639
4	Determine DIF Frame Member Number That Is Changing DIF Firmware State	TELCO	—
5	Request Firmware Version Data (MP and SP) To Be Entered From Support Organization	TELCO	—
6	Diagnose DIF Controllers 0 and 1 Using Restore Message (RST:DIF a,CONTR b!)	TELCO	DLP-521
7	At 1B Processor MCC Terminal, On 108 Page, Enter 857 and Ensure CONTR 0 and CONTR 1 Are Not Listed for DIF Being Changed	TELCO	—
8	At MTCE Channel, Enter Message RMV:DIF a,CONTR 0! (a = DIF Member Number [Item 1]). Ensure RMV:DIF a CONTR 0 COMPL Message Is Received	TELCO	—
9	Perform Functional Word Change of DIF Controller 0 Firmware Version Data (MP and SP) Using Data Determined in Item 5	TELCO	DLP-604
	NOTE: Controller 0 will be left out of service after diagnostic is run due to earlier RMV message		
10	Diagnose DIF Controller 0; ATP Required (DGN:DIF a,CONTR 0:PH (14,17)!!)	TELCO	DLP-634
CHANGE DIF FIRMWARE VERSION DATA (MP AND SP)		Issue 1	SEP 1997
		234-353-030	NTP
		PAGE 1 of 2	037

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

11	Configure DIF Controller 0 as the Active Controller:		
	NOTE: Items 11.1 through 11.4 must not be performed on the hour or half-hour		
	1. At 1B MTC Terminal, Enter OP:MACLI,CLASS MTCE! and Ensure MACLI Is Clear (NONE). Do Not Continue Until MACLI Is Clear	TELCO	—
	2. At 1B MTC Terminal, Enter SW:DIF a! (a = DIF Member Number)	TELCO	—
	3. Verify That Controller 0 Is Active Using Dump Message (DUMP:DIF a,CREG!)	TELCO	DLP-613
	4. At 1B Processor MCC Terminal, On 108 Page, Enter 857 and Ensure CONTR 1 for DIF Is Listed	TELCO	—
12	Perform Functional Word Change of DIF Controller 1 Firmware Version Data (MP and SP) Using Data Determined in Item 5	TELCO	DLP-609
13	Restore DIF Controller 1 to Service (RST:DIF a,CONTR 1!)	TELCO	DLP-635

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

		RESPONSIBILITY	
	WARNINGS: 1. An antistatic wrist strap must be worn to prevent electrostatic discharge and possible damage to circuit packs while handling 2. No other growth or maintenance activity is allowed during this procedure		
	NOTES: 1. Appropriate Input/Output manuals must be used if clarification of input message or output message is necessary 2. This procedure must be performed during light traffic periods 3. 4ESS ™ switch operation must be closely monitored while performing this procedure 4. Corrective action must be taken immediately on any activity that may cause any unit to go out of service (OOS) 5. Stability of office must be maintained throughout this procedure 6. Appropriate provisioning group or machine administration center will be notified during this procedure to delete trunks (if assigned) to digroup(s) being changed 7. Any digroup set to THW 6 or THW 7 cannot be changed using this procedure. An ODA update must be used to change these values		
1	Notify Next Higher Support Organization That Functional Assignment(s) of DIU Digroup(s) Is Being Changed or Added. Obtain Information for Items 2 and 3 From Next Higher Technical Support Group	TELCO	—
2	Ensure 4ESS Switch Is in Stable Condition	TELCO	DLP-638
3	Ensure 1B Processor and Peripheral Units Are Operating in Normal Duplex Mode	TELCO	DLP-639
4	Determine From Company Order Frame, Unit, and Digroup Numbers Associated With Functional Assignments To Be Changed	TELCO	—
5	Determine New Functional Assignment for Each Digroup To Be Changed in One DIU	TELCO	DLP-636
6	Determine if Proper Circuit Pack (SM1B, SM9 or SM10) Is Equipped for Each Digroup To Be Changed in One DIU	TELCO	DLP-637
7	Determine if Proper Circuit Pack(s) (SM1B, SM9 or SM10) That Will Support New Functional Assignments Is Equipped in Spare DIU (DIU 32 for DIUs 0 Through 16 or DIU 33 for DIUs 17 Through 31) Associated With Digroup Being Changed	TELCO	DLP-637
	(Continued on Page 2)		

CHANGE OR ADD FUNCTIONAL ASSIGNMENT(S) OF DIGITAL INTERFACE UNIT (DIU) DIGROUP(S)

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

8	If Proper Circuit Packs Are Not Installed (Items 6 and 7), Procedure Must Be Stopped. Use Appropriate Procedure in This Document To Convert DIU Containing Digroup(s) Being Changed and/or Associated Spare DIU	TELCO	—
9	Notify Next Higher Technical Support Group That Functional Assignment for DIU Digroup Change Is Going To Be Performed. Obtain Information for Items 10 and 11 From Next Higher Technical Support Group	TELCO	—
10	Ensure 1B Processor Routine Exerciser (REX) Successfully Diagnosed 1B Processor Equipment Within 24 Hours of Performing This Procedure	TELCO	—
11	Ensure 4ESS Switch Is in Stable Condition	TELCO	DLP-638
12	At 1B MTC Terminal, Enter Message <code>INH:MACLI,CLASS MTCE;REX!</code> To Inhibit REX	TELCO	—
13	Ensure 1B Processor and Peripheral Units Are Operating in Normal Duplex Mode	TELCO	DLP-639
14	Obtain Printout of Current Entry Data for DIU Containing Digroup(s) Being Changed and Save for Later Use (<code>VER:UTYPE:DIF a,SME b!</code>)	TELCO	DLP-640
15	Using Printout (Item 14), Determine if THW and THW5 Are Set Properly. If THW and THW5 Are Not Set Properly, Stop This Procedure and Perform [NTP-032]	TELCO	DLP-641
16	Determine if Trunks Are Assigned to Digroup(s) Being Changed. If Trunks Are Assigned, Record OTAN, CIN, and Decimal TSGN Fields for Later Use (<code>VER:TRKNAME,DIF a,DIU b,DG c;DETL!</code>)	TELCO	DLP-642
17	If Trunks Are Assigned (Item 16), Perform Items 18 Through 20; Otherwise, Go to Item 21	TELCO	—
18	Obtain Trunk Status for Each Digroup Being Changed and Save Printout for Later Use (<code>OP:TRKSTAT,OTAN a:NUM 24!</code>)	TELCO	DLP-643
19	Set Trunks to CAD.DSA State for Each Digroup Being Changed (<code>SET:TRKSTAT CAD.DSA,OTAN a:NUM 24!</code>)	TELCO	DLP-644
20	Request Appropriate Provisioning Group or Machine Administration Center To Delete Trunks Assigned to Digroup(s) Being Changed. Furnish Work Center With Data Recorded in Item 16	TELCO	—
21	Using RC Form 702, Recent Change Digroup(s) to New Functional Assignment for One DIU	TELCO	DLP-645
22	At 1B MTC Terminal, Enter Message <code>AUD:PUSTAT!</code> To Audit Peripheral Hardware and Software Status; Ensure <code>AUD:PUSTAT DIF a MSG COMPL</code> Message Is Received	TELCO	—

CHANGE OR ADD FUNCTIONAL ASSIGNMENT(S) OF DIGITAL INTERFACE UNIT (DIU) DIGROUP(S)

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

23	Enter Message OP:00SUNIT:DIF! ; Ensure DIU Associated With Changed Digroup(s) Is Not Listed (DIU Is in Service)	TELCO	—
24	Request Appropriate Provisioning Group or Machine Administration Center To Assign Trunks Associated With Digroup(s) Being Changed	TELCO	—
25	Set Trunks (Item 18) Back to ACT State for Each Changed Digroup (SET:TRKSTAT ACT,OTAN a:NUM b!)	TELCO	DLP-646
26	At 1B MTC Terminal, Enter Message ALW:MACLI,CLASS MTCE! To Allow REX	TELCO	—

**CHANGE OR ADD FUNCTIONAL ASSIGNMENT(S) OF DIGITAL INTERFACE
UNIT (DIU) DIGROUP(S)**

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

		RESPONSIBILITY	
	WARNINGS: 1. An antistatic wrist strap must be worn to prevent electrostatic discharge and possible damage to circuit packs while handling 2. No other growth or maintenance activity is allowed during this procedure		
	NOTES: 1. Appropriate Input/Output manuals must be used if clarification of input message or output message is necessary 2. This procedure must be performed during light traffic periods 3. 4ESS ™ switch operation must be closely monitored while performing this procedure 4. Corrective action must be taken immediately on any activity that may cause any unit to go out of service (OOS) 5. Stability of office must be maintained throughout this procedure		
1	Using Company Order, Determine Which DIUs Are To Be Converted	TELCO	—
2	Notify Next Higher Support Organization That Non-Service DIU Packs Are Being Converted to New SM-Type Circuit Packs in DIF-E1 Frame. Obtain Information for Items 3 and 4 From Next Higher Technical Support Group	TELCO	—
3	Ensure 4ESS Switch Is in Stable Condition	TELCO	DLP-638
4	Ensure 1B Processor and Peripheral Units Are Operating in Normal Duplex Mode	TELCO	DLP-639
5	If DIU 32 and/or DIU 33 Are To Be Converted, Perform Items 6 Through 13; Otherwise, Go to Item 14	TELCO	—
	NOTE: Items 6 through 12 are to be performed on one spare DIU; then repeated for second spare DIU, if necessary		
6	At Unit Power Switch for One Spare DIU (32 or 33) Being Converted, Ensure MM LED Is On Green. If MM LED Is Not On, the Spare DIU Is Protection Switched. This Must Be Released Before Continuing	TELCO	—
7	At 1B MTC Terminal, Enter Message DGN:DIF a,DIU b! To Diagnose Spare DIU (Item 6); ATP Response Required (a = DIF Member Number, b = Spare DIU Submember Number - 32 or 33)	TELCO	—
8	At Unit Power Switch for Spare DIU (Item 6), Operate PWR Switch Down To Remove Power [MM LED Extinguishes; PWR OFF LED (if Equipped) Is On Red]	TELCO	—
9	At Spare DIU (Item 6), Replace Circuit Packs With New SM-Type Circuit Packs	TELCO	—

CONVERT NON-SERVICE CIRCUIT DIU PACKS TO NEW SM-TYPE CIRCUIT PACKS IN DIF-E1 FRAME

Issue 1	SEP 1997
234-353-030	NTP
PAGE 1 of 3	039

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

	<i>WARNING: The following procedure must be carefully followed, due to the possibility of service impact</i>		
10	Perform Functional Word Change of Spare DIU Type Hardware	TELCO	DLP-647
11	At Unit Power Switch for Spare DIU (Item 6), Operate PWR Switch Up To Restore Power [MM LED On Green; PWR OFF LED (if Equipped) Extinguishes]	TELCO	—
12	At 1B MTC Terminal, Enter Message RST:DIF a,DIU b! To Restore Spare DIU (Item 6) to Service; ATP Response Required (a = DIF Member Number, b = Spare DIU Submember Number – 32 or 33)	TELCO	—
13	If Second Spare DIU Is To Be Converted, Repeat Items 6 Through 12; Otherwise, Continue With Next Item	TELCO	—
14	At 1B MTC Terminal, Enter Message INH:AUDMSG:NUM 27! To Inhibit Audit Message 27	TELCO	—
	NOTE: Items 15 through 28 are to be performed on one DIU (0 Through 31) being converted at a time		
15	At Unit Power Switch for Spare DIU Associated With DIU Being Converted (DIU 32 for DIUs 0 Through 15 or DIU 33 for DIUs 16 Through 31), Ensure MM LED Is On Green. If MM LED Is Not On, the Spare DIU May Be Protection Switched. This Must Be Released Before Continuing	TELCO	—
16	At 1B Processor MCC Terminal, If System Status Page (108 Page) Is Not Displayed, Enter 108 To Obtain 108 Page	TELCO	—
17	On 108 Page, Ensure 810 - SDC Is Colored White on Black; If 810 - SDC Is Colored White on Red, Contact Next Higher Technical Support Group for Resolution. Do Not Continue Until Service-Degrading Condition Is Cleared	TELCO	—
18	At 1B MTC Terminal, Enter Message RMV:DIF a,DIU b! To Remove One DIU Being Converted From Service (a = DIF Member Number, b = DIU Submember Number); Ensure RMV: DIF a, DIU b MSG COMPL Message Is Received	TELCO	—
19	On 108 Page, Ensure 810 - SDC Is Colored White on Black; If 810 - SDC Is Colored White On Red, Contact Next Higher Technical Support Group for Resolution. Do Not Continue Until Service-Degrading Condition Is Cleared	TELCO	—
20	At Unit Power Switch for DIU Being Converted, Ensure MM LED Is On Green	TELCO	—
	(Continued on Page 3)		

**CONVERT NON-SERVICE CIRCUIT DIU PACKS TO NEW SM-TYPE
CIRCUIT PACKS IN DIF-E1 FRAME**

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

21	Operate PWR Switch Down To Remove Power From DIU Being Converted (Item 18) [PWR OFF LED (if Equipped) Is On Red]	TELCO	—
22	At DIU (Item 18), Replace Circuit Packs With New SM Type Circuit Packs	TELCO	—
23	Perform Funcional Word Change of Type Hardware for DIU Being Converted	TELCO	DLP-647
24	At Unit Power Switch for DIU (Item 18), Operate PWR Switch Up to Restore Power [PWR OFF LED (if Equipped) Extinguishes]	TELCO	—
25	At 1B MTC Terminal, Enter Message RST:DIF a,DIU b! To Restore DIU (Item 18) to Service (a = DIF Member Number, b = DIU Submember Number); Ensure RST: DIF a, DIU b MSG COMPL Message Is Received	TELCO	—
26	Enter Message AUD:PUSTAT! To Run Peripheral Unit Status Audit	TELCO	—
27	Enter Message AUD:NUM 27! To Run Audit 27; Ensure 0 ERRORS Message Is Received	TELCO	—
28	Safe Point To Temporarily Stop This Procedure. If Stopping, Perform Itmes 29 and 30; Otherwise, Go to Item 32	TELCO	—
29	At 1B MTC Terminal, Enter Message ALW:AUDMSG:NUM 27! To Allow Audit Message 27	TELCO	—
30	Stop Procedure for Now. Continue at Item 31 When Resuming	TELCO	—
31	At 1B MTC Terminal, Enter Message INH:AUDMSG:NUM 27! To Inhibit Audit Message 27	TELCO	—
32	Repeat Items 15 Through 28 for Each DIU Being Converted in DIF-E1 Frame; Continue With Next Item When All DIUs in DIF-E1 Frame Have Been Converted	TELCO	—
33	At 1B MTC Terminal, Enter Message ALW:AUDMSG:NUM 27! To Allow Audit Message 27	TELCO	—

**CONVERT NON-SERVICE CIRCUIT DIU PACKS TO NEW SM-TYPE
CIRCUIT PACKS IN DIF-E1 FRAME**

SUMMARY

Call up recent change (RC) Form 700 on CRT. Using terminal, fill in blanks on RC Form 700 to change submember equipage to grow. Using the assigned order number, activate the recent change; then verify current translations.

[1] See CAUTION 1. At 1B MTC terminal, enter
OP:RCFORM 700!

CRT displays
RC Form 700

RC Form 700
filled in
and entered

AND

[2] Fill in blanks on
RC Form 700 per
TABLE A and enter
message

[3] Was recent change
SUCCESSFULLY TESTED
and **SUCCESSFULLY**
BUFFERED [TABLE B,
Page 2]

Yes

Page 2

No

[4] Analyze output
message for error;
repeat from Step 1
with corrected
input data

TABLE A

MESSAGE NUMBER	OUTPUT MESSAGE
1	RC:UTYPE;CHG;OPT(EQP,GROW),TST: UTYN a, ORNU b, MEMN c, ME (d , d), OLD NEW SUBMEM ----, SME (----, ----), OLD NEW REMARKS-----!
a = Unit type = DIF, DT, EST, TGR, or VIF b = RC order number c = Member number of growth frame d = UNEQ, GROW or GROW, SGRO or SGRO, OPER	

CAUTION 1

*Calling up RC
form will cause
all CRT data to
be cleared*

Issue 1	SEP 1997
234-353-030	DLP
PAGE 1 of 2	500

RECENT CHANGE AND VERIFY MEMBER EQUIPAGE

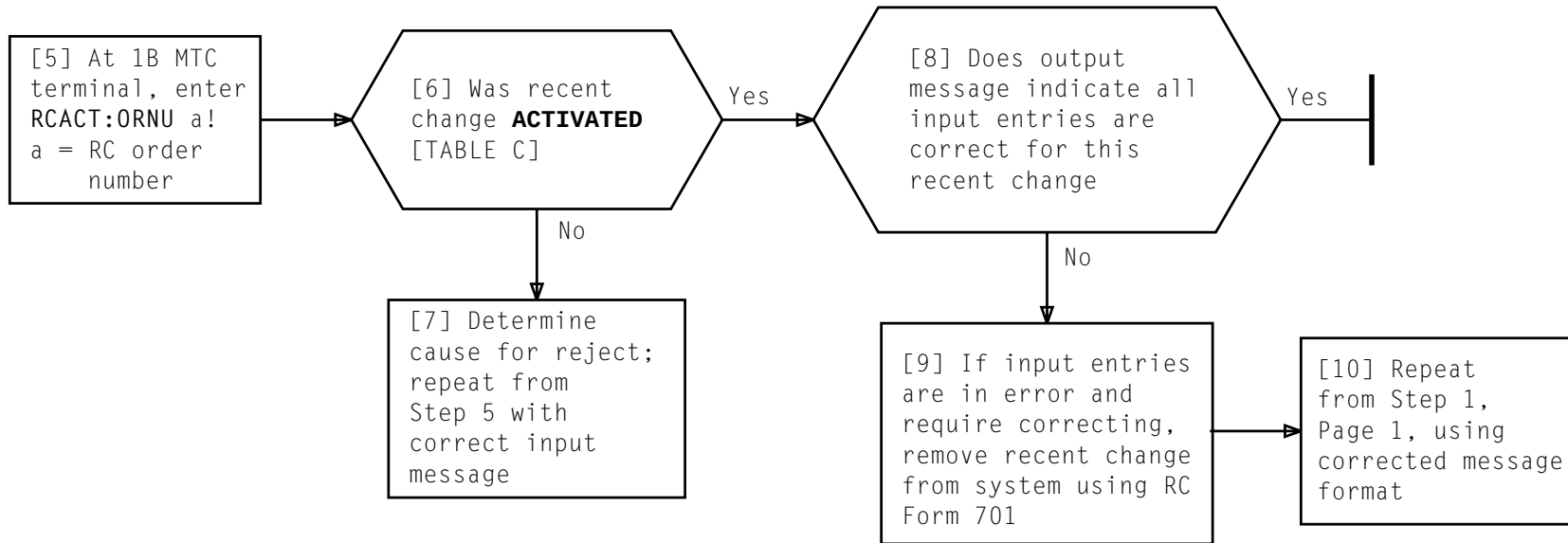


TABLE B	
MESSAGE NUMBER	OUTPUT MESSAGE
1	RC ORNU b, SUCCESSFULLY TESTED RC ORNU b, SUCCESSFULLY BUFFERED RC:UTYPE;CHG;OPT(EQP,GROW),BUF: UTYN a, ORNU b, OLD NEW MEMN c, ME (d , d), OLD NEW SUBMEM ----, SME (----, ----), REMARKS-----!
a = Unit type = VIF, DT, TGR, EST, or DIF b = RC order number c = Member number of growth frame d = Entered member equipage	

TABLE C	
MESSAGE NUMBER	OUTPUT MESSAGE
1	RC ORNU b ACTIVATED RC:UTYPE;CHG;OPT(EQP,GROW),BUF: UTYN a, ORNU b, OLD NEW MEMN c, ME (d , d), OLD NEW SUBMEM ----, SME (----, ----), REMARKS-----!
a = Unit type = VIF, DT, TGR, EST or DIF b = RC order number c = Member number of growth frame d = Entered member equipage	

RECENT CHANGE AND VERIFY MEMBER EQUIPAGE

Issue 1	SEP 1997
234-353-030	DLP
PAGE 2 of 2	500

SUMMARY

Call up recent change (RC) Form 700 on CRT. Using terminal, fill in blanks on RC Form 700 to change submember equipage. Using the assigned order number, activate the recent change; then verify current translations.

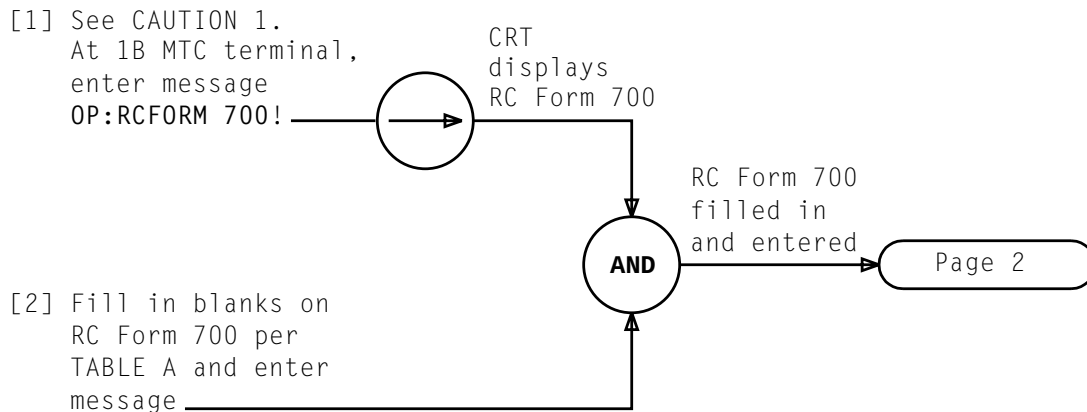


TABLE A

MESSAGE NUMBER	INPUT MESSAGE
1	RC:UTYPE;CHG;OPT(EQP,GROW),TST: UTYN a, ORNU b, MEMN c, ME ($\frac{OLD}{---}$, $\frac{NEW}{---}$), SUBMEM d, SME (e , e), REMARKS-----!
a = Unit type = VIF, DT, TGR, EST, TSI, DIF, or SP b = RC order number c = Member number of growth associated frame d = Submember name = VIUEQ(0 to 6) (for VIU 0-6) = DTUEQ(0 to 7) (for DTU 0-7) = TMGRP(0 to 15) (for TGR 0-15) = ESEQ(0 to 14) (for ESU 0-14) = TOPRTEQ(0 to 6) (for SPC 0, Ports 0-6) = T1PRTEQ(0 to 6) (for SPC 1, Ports 0-6) = SP2EQ1 (for DT Interface Unit 1) = DIUEQ(0 to 31) (for DIU 0-31) = DIUSPQA (for Spare DIU 32) = DIUSPQB (for Spare DIU 33) e = UNEQ, GROW or = GROW, SGRO or = SGRO, OPER	

CAUTION 1
Calling up RC form will cause all CRT data to be cleared

Issue 1	SEP 1997
234-353-030	DLP
PAGE 1 of 5	501

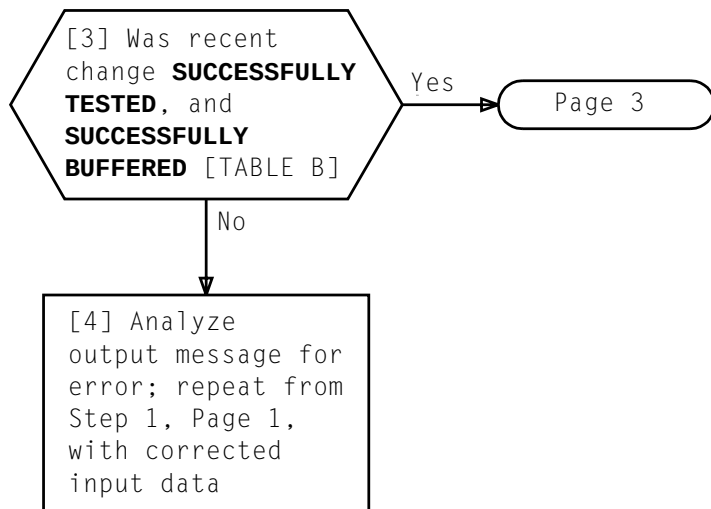


TABLE B	
MESSAGE NUMBER	OUTPUT MESSAGE
1	RC ORNU b SUCCESSFULLY TESTED RC ORNU b SUCCESSFULLY BUFFERED RC:UTYPE;CHG;OPT(EQP,GROW),BUF: UTYN a, ORNU b, OLD NEW MEMN c, ME (----,----), OLD NEW SUBMEM d, SME (e , e), REMARKS ----- !

a = Unit type = VIF, DT, TGR, EST, TSI,
DIF, or SP

b = RC order number

c = Member number of growth associated
frame

d = Submember name
 = VIUEQ(0 to 6) (for VIU 0-6)
 = DTUEQ(0 to 7) (for DTU 0-7)
 = TMGRP(0 to 15) (for TGR 0-15)
 = ESEQ(0 to 14) (for ESU 0-14)
 = TOPRTEQ(0 to 6) (for SPC 0,
Ports 0-6)
 = T1PRTEQ(0 to 6) (for SPC 1,
Ports 0-6)
 = SP2EQ1 (for DT Interface Unit 1)
 = DIUEQ(0 to 31) (for DIU 0-31)
 = DIUSPQA (for Spare DIU 32)
 = DIUSPQB (for Spare DIU 33)

e = Entered submember equipage

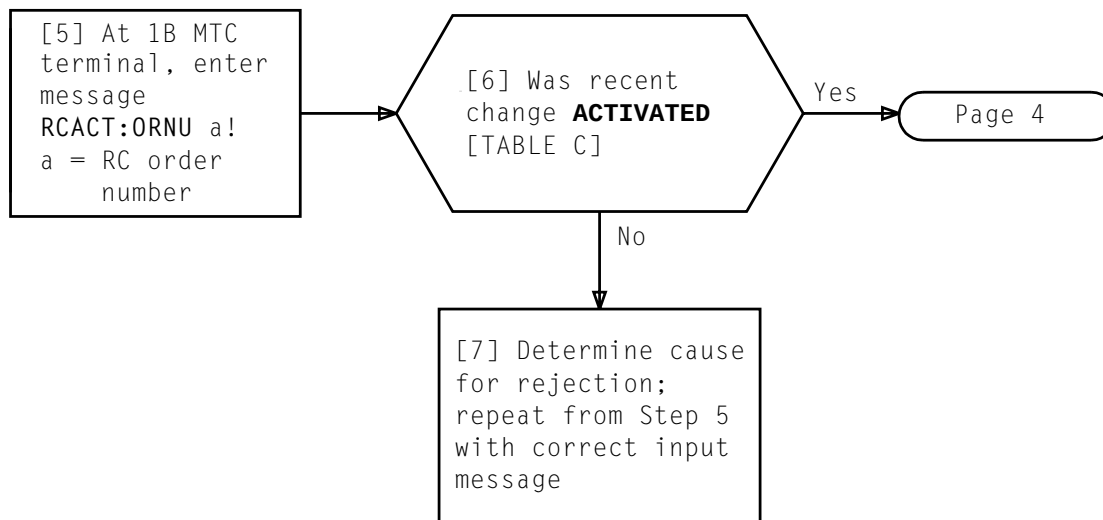
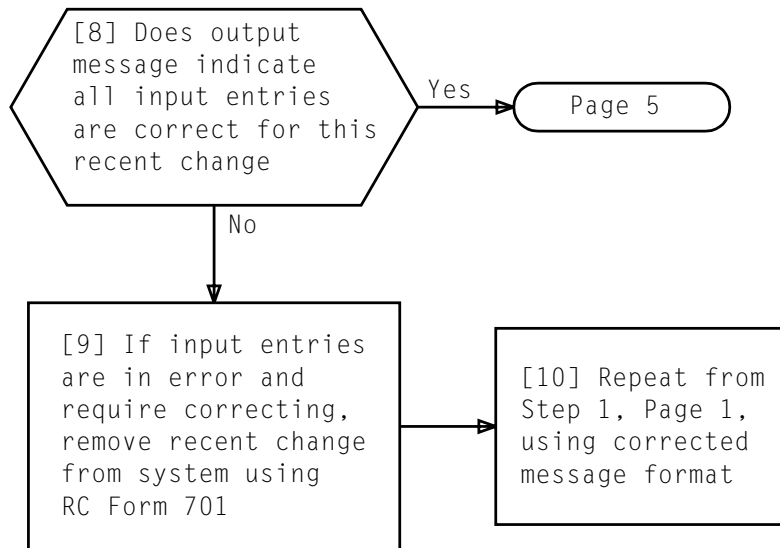


TABLE C	
MESSAGE NUMBER	OUTPUT MESSAGE
1	RC ORNU b ACTIVATED RC:UTYPE;CHG;OPT(EQP,GROW),BUF: UTYN a, ORNU b, MEMN c, ME (OLD NEW OLD NEW), SUBMEM d, SME (e , e), REMARKS-----!
a = Unit type = VIF, DT, TGR, EST, TSI, or DIF b = RC order number c = Member number of growth associated frame d = Submember name = VIUEQ(0 to 6) (for VIU 0-6) = DTUEQ(0 to 7) (for DTU 0-7) = TMGRP(0 to 15) (for TGR 0-15) = ESEQ(0 to 14) (for ESU 0-14) = TOPRTEQ(0 to 6) (for SPC 0, Ports 0-6) = T1PRTEQ(0 to 6) (for SPC 1, Ports 0-6) = SP2EQ1 (for DT Interface Unit 1) = DIUEQ(0 to 31) (for DIU 0-31) = DIUSPQA (for Spare DIU 32) = DIUSPQB (for Spare DIU 33) = Entered submember equipage e = Entered submember equipage	



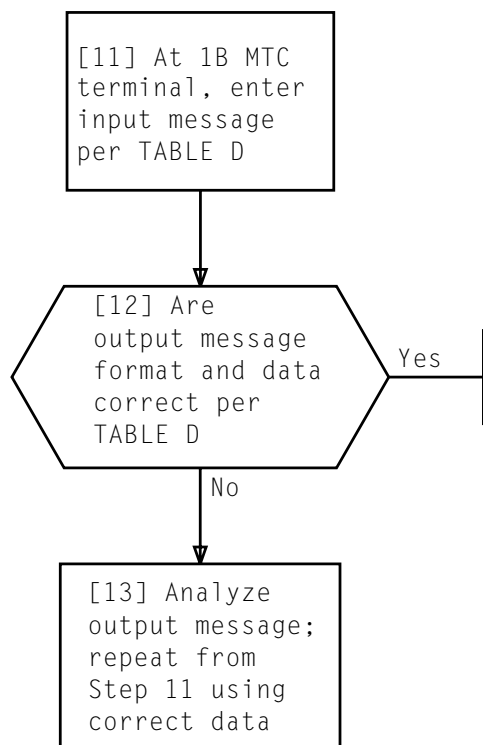


TABLE D												
INPUT MESSAGE				OUTPUT MESSAGE								
VER:UTYPE:b c,SME f!				VER:UTMN;OPT(SME),CUR: FLN a, UTYN b, MEMN c, ME d, SUBMEM f, SME e,								
a = Floor location number b = Unit Type = VIF, DT, TGR, TSI, EST, DIF, or SP c = Member number of growth associated frame d = GROW, SGRO, or OPER e = Entered submember equipage f = SME index number =												
VIF/DT UNIT	INDEX NO.	TGR TERMINAL UNIT	INDEX NO.	TSI PORT	INDEX NO.	EST UNIT	INDEX NO.	DIF UNIT	INDEX NO.	DIF UNIT	INDEX NO.	
VIU-0	09	0	32	SPC 0-0	56	0	128	0	143	17	160	
	1 10	1	33	1	57	1	129	1	144	18	161	
	2 11	2	34	2	58	2	130	2	145	19	162	
	3 12	3	35	3	59	3	131	3	146	20	163	
	4 13	4	36	4	60	4	132	4	147	21	164	
	5 14	5	37	5	61	5	133	5	148	22	165	
DTU-0	6 15	6	38	6	62	6	134	6	149	23	166	
		7	39	SPC 1-0	63	7	135	7	150	24	167	
	1 111	8	40		1	64	8	136	8	151	25	168
	2 112	9	41		2	65	9	137	9	152	26	169
	3 113	10	42		3	66	10	138	10	153	27	170
	4 114	11	43		4	67	11	139	11	154	28	171
	5 115	12	44		5	68	12	140	12	155	29	172
	6 116	13	45	6	69	13	141	13	156	30	173	
	7 117	14	46	SP2 DT INTERFACE UNIT		14	142	14	157	31	174	
		15	47				15	158	32	175		
							16	159	33	176		
					0	120						
					1	121						

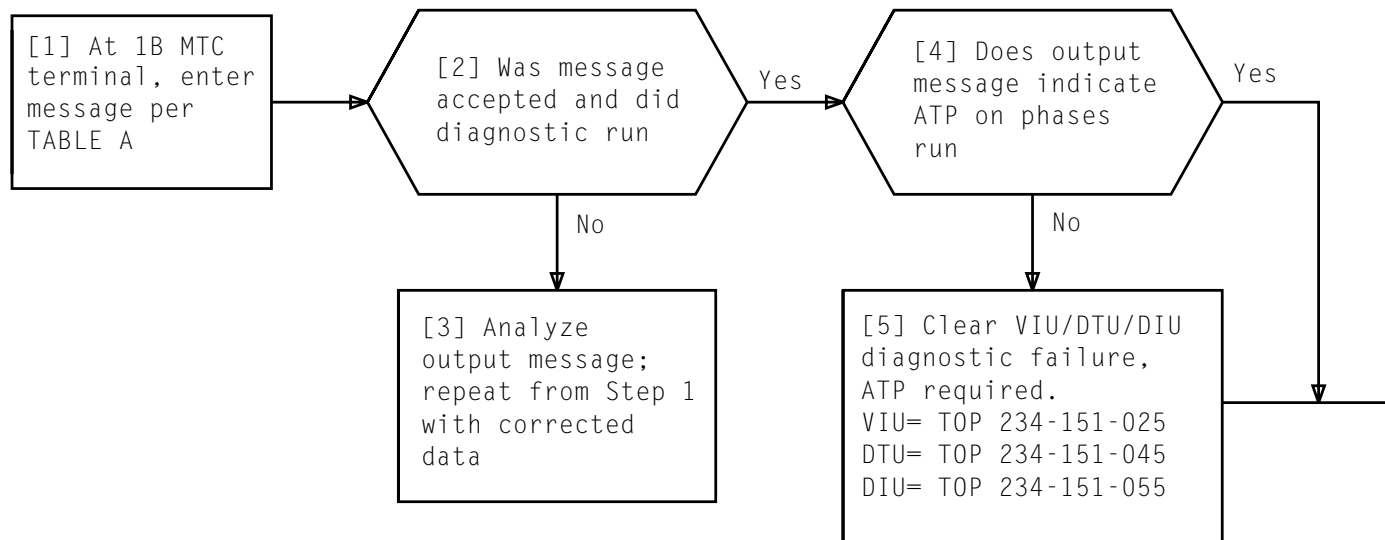
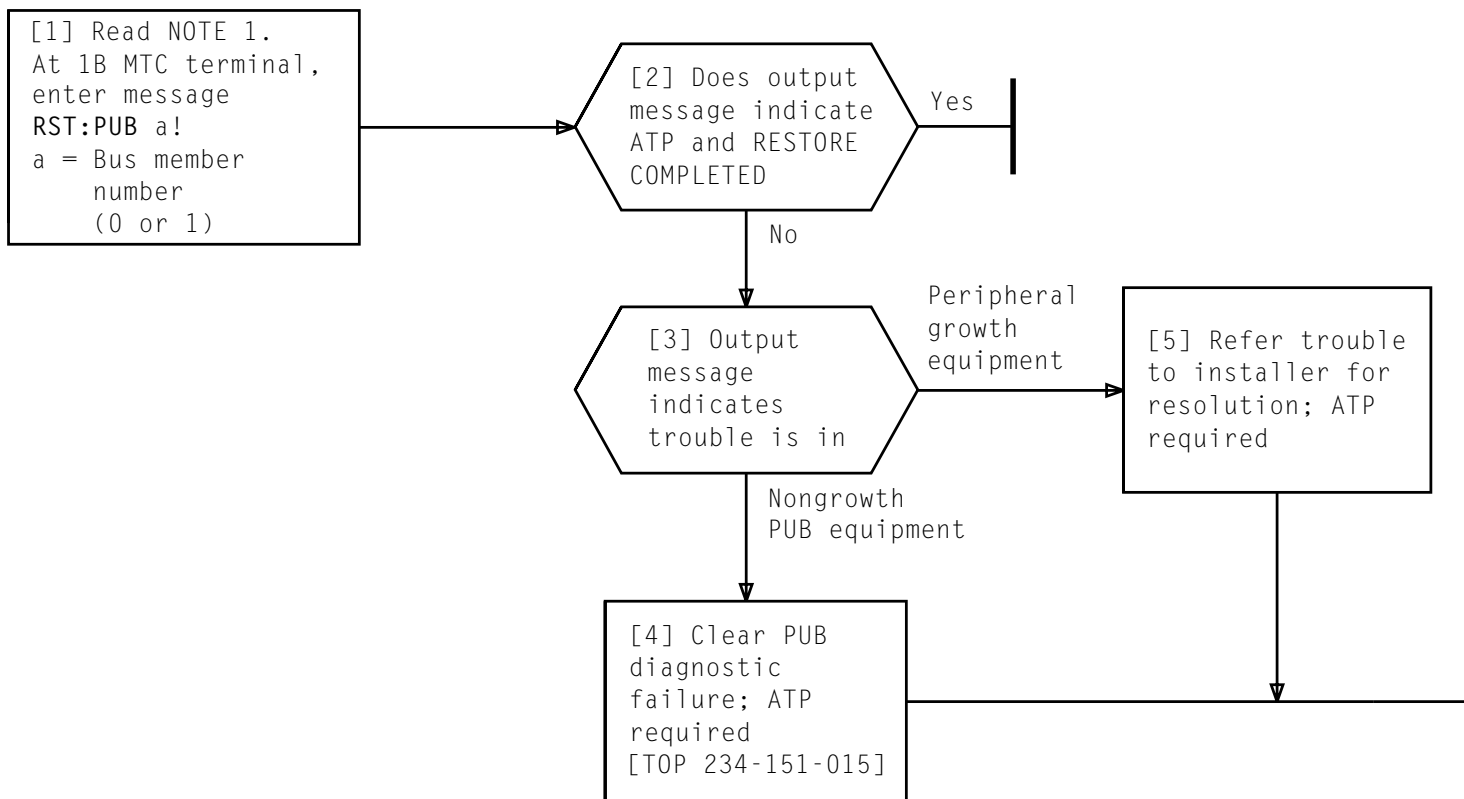


TABLE A	
MESSAGE NUMBER	INPUT MESSAGE
1	DGN:a b,c d:GROWTH!
a = Unit type-VIF or DT or DIF b = Member number of growth associated frame c = Subunit type-VIU or DTU or DIU d = Submember number of growth associated unit	



NOTE 1 Restore message will cause PUB diagnostic to be run. PUB will be restored if ATP		
Issue 1	SEP 1997	
234-353-030	DLP	
PAGE 1 of 1	503	

- [1] Note word in output message containing trunk scan point to be verified
- [2] Convert six rightmost digits of word to be verified to decimal SP member, row, and column numbers using FIG. 1. Record results
- [3] Get office record T-nnnn-Hn-460-xx or equivalent.
xx = SP member number determined in Step 2
- [4] Add decimal number per TABLE A to SP row number determined in Step 2. Record new result
- [5] Search ROW and COL listing in office record and locate row and column previously recorded

TABLE A	
FOURTH RIGHTMOST OCTAL DIGIT IN ENTRY WORD EQUALS	DECIMAL NUMBER TO BE ADDED
0 or 1	0
2 or 3	64
4 or 5	128
6 or 7	192

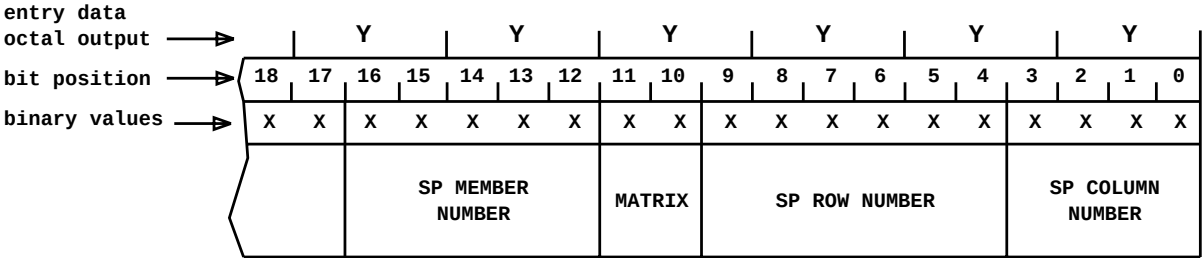
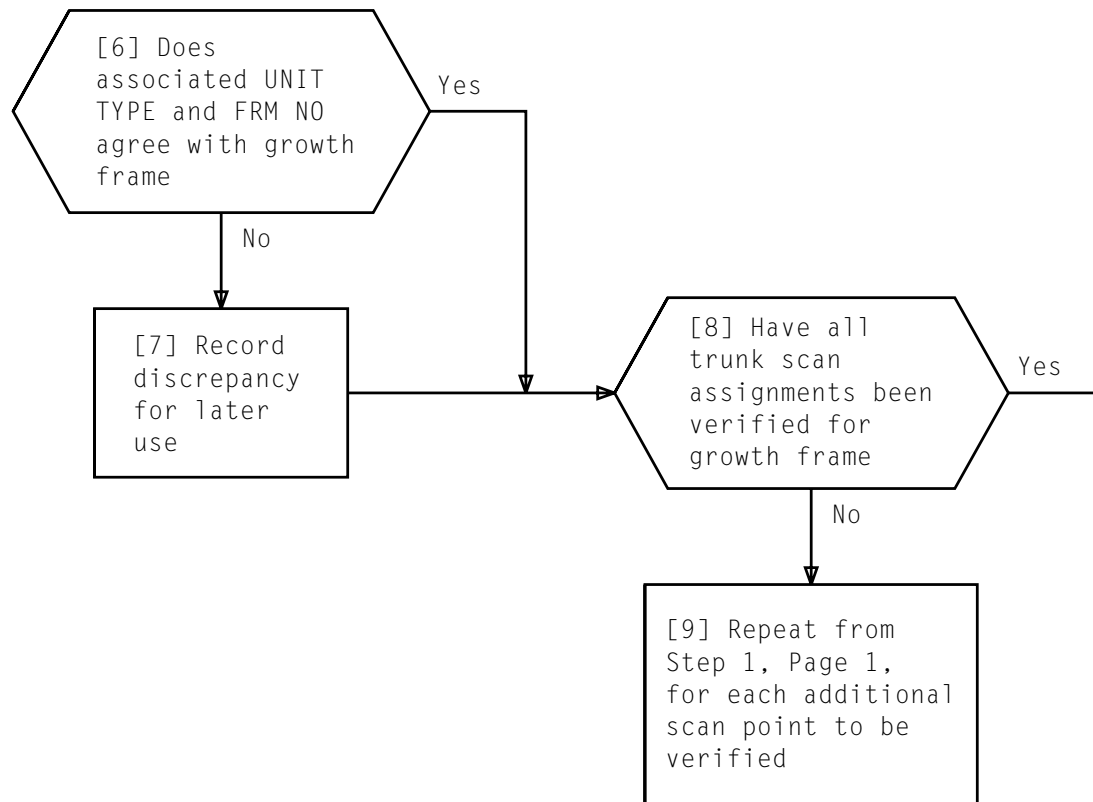


FIG. 1 – Entry Data Word Layout

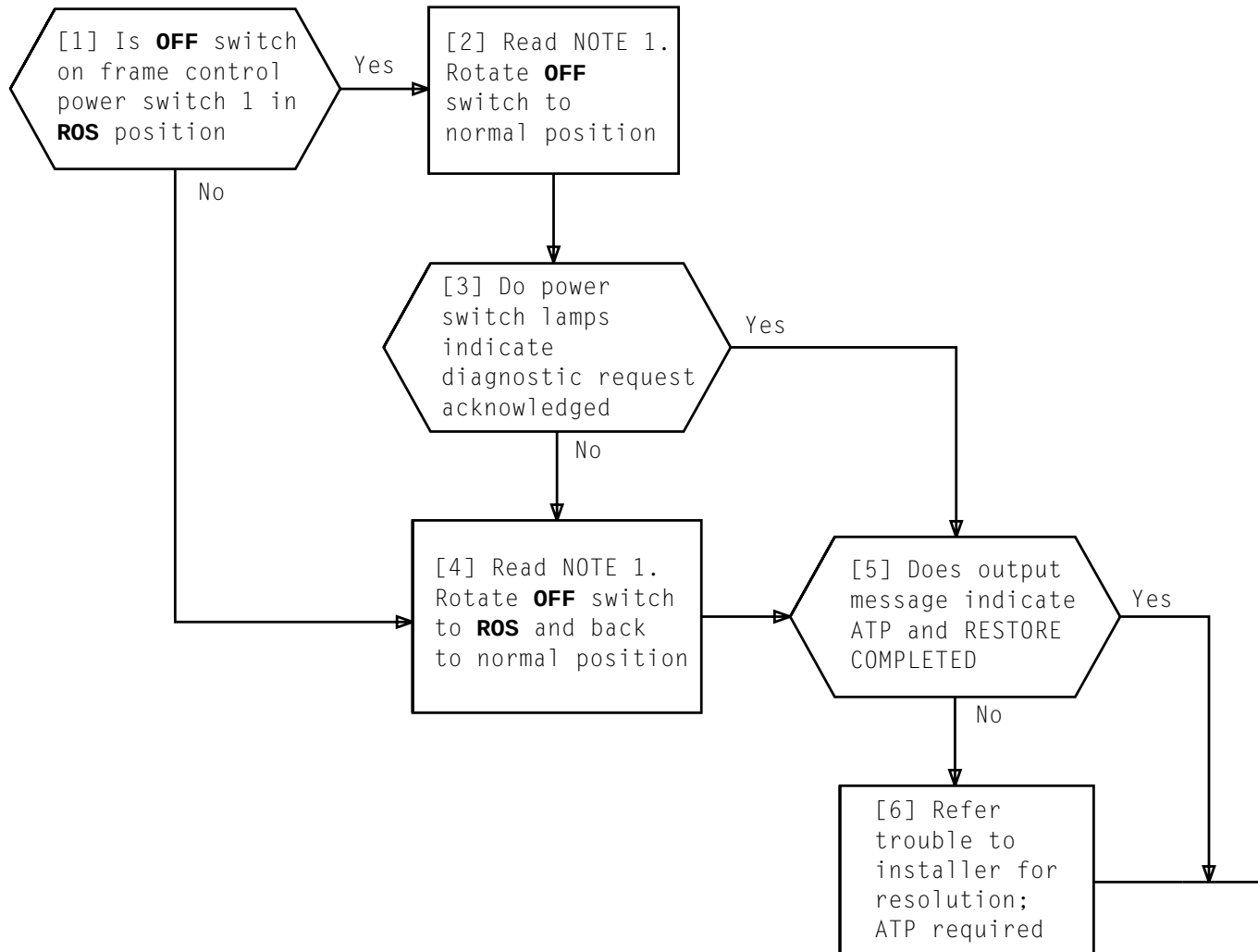


VERIFY TRUNK SCAN POINT ASSIGNMENT(S) FOR GROWTH FRAME

Issue 1	SEP 1997
234-353-030	DLP
PAGE 2 of 2	504

SUMMARY

Frame controller 1 power switch is restored to normal. If controller 1 diagnostics are ATP, the controller is restored and initialized.



NOTE 1
Operation of **OFF** switch should cause diagnostic to be run. Controller will be restored and initialized if ATP

RESTORE AND INITIALIZE CONTROLLER 1

Issue 1	SEP 1997
234-353-030	DLP
PAGE 1 of 1	505

SUMMARY

Using verify entry input message, call up VIF UT translator associated with growth VIU and verify that resulting terminal octal output data, when converted, agrees with office

records. Refer to entry word explanations in TABLE B, Page 4, as required, for assistance in interpreting specific data field. If it is determined that UT entry data is in error, word change(s) may be required.

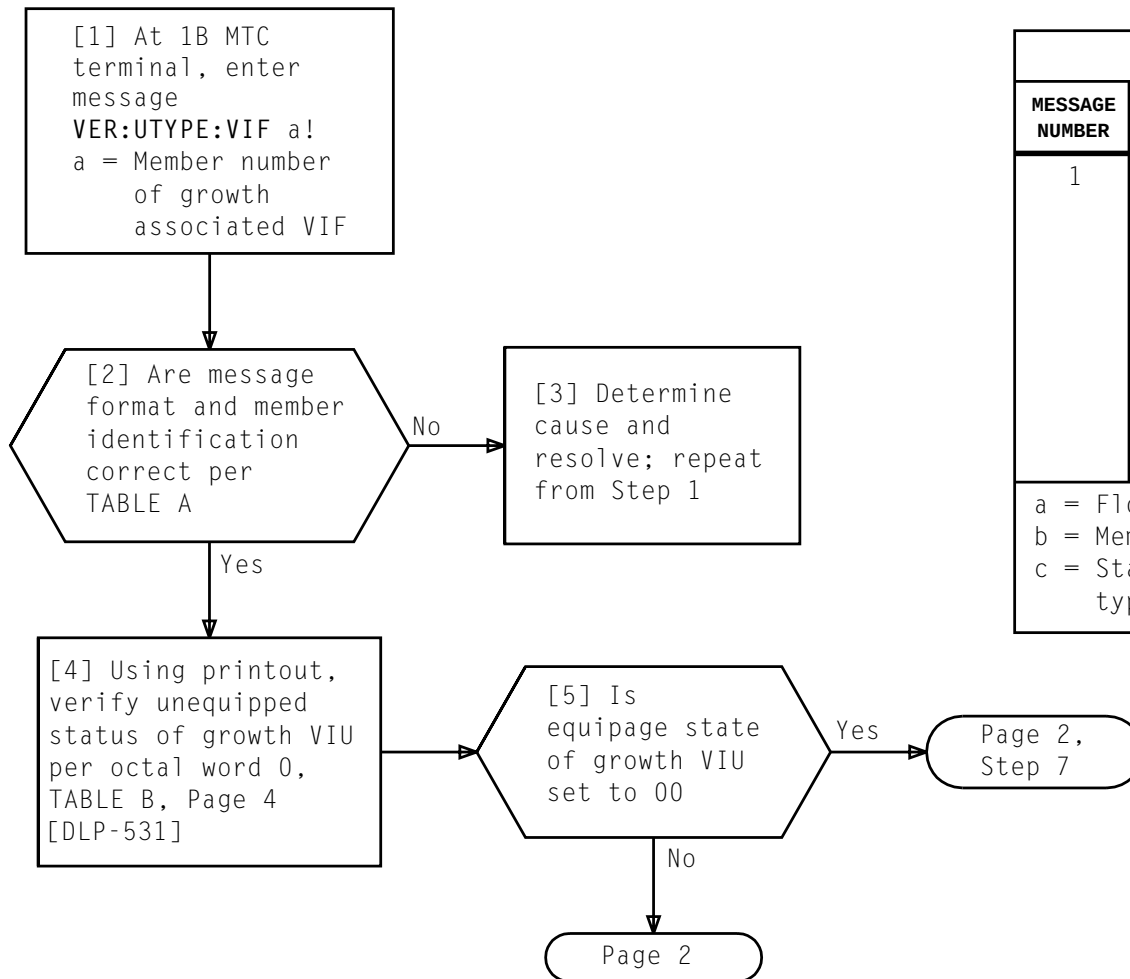
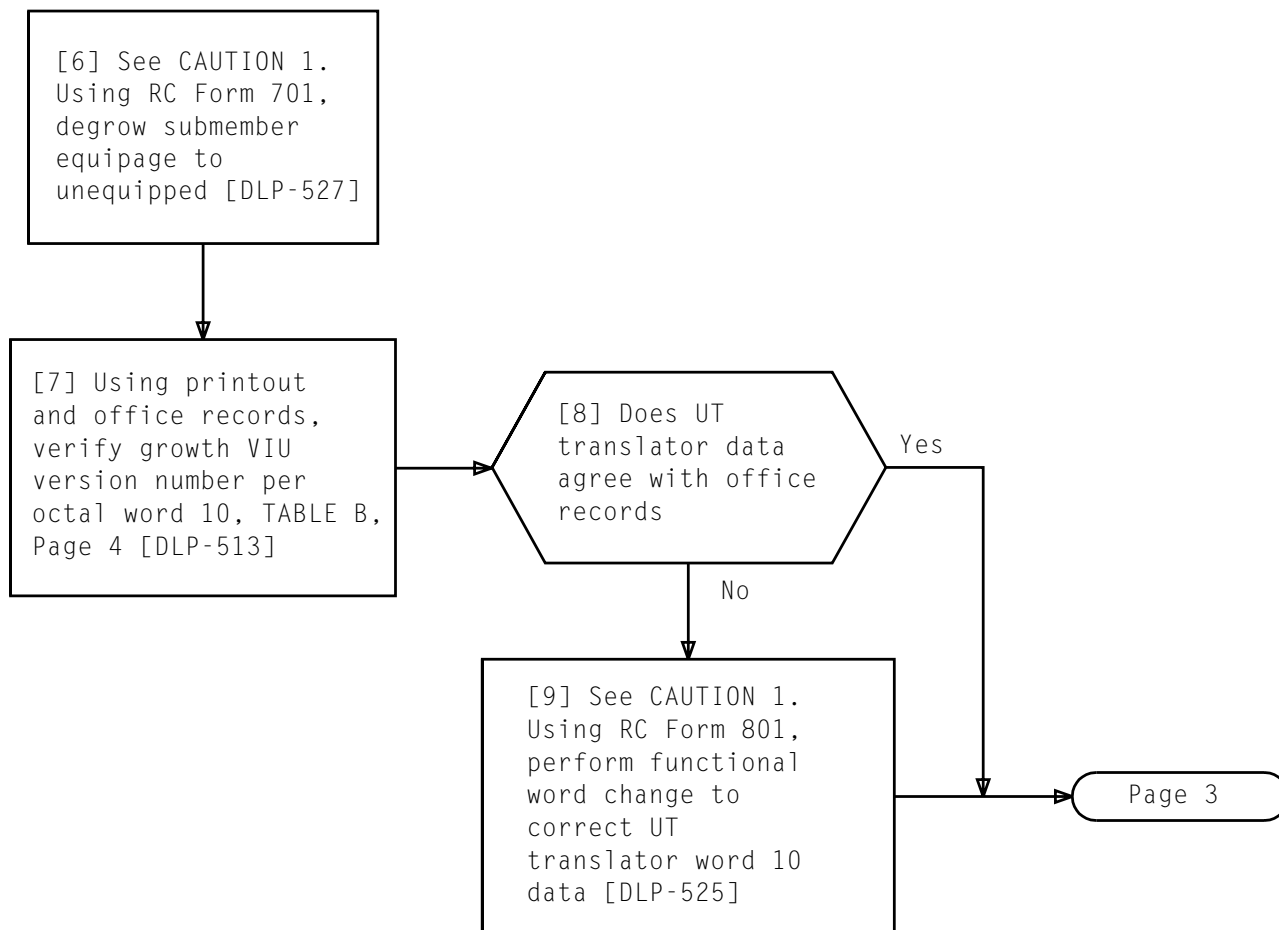


TABLE A	
MESSAGE NUMBER	OUTPUT MESSAGE
1	VER:UTMN;OPT(),CUR: FLN a, UTYN VIF, MEMN b, ME OPER, ENTRY ADDRESS c, ENTRY SIZE 16, CUR WORD 0 ___ ___ ___ ___ WORD 10 ___ ___ ___ ___ ___ ___ ___ ___
a = Floor location number b = Member number of growth associated VIF c = Starting octal address for unit type entry	



CAUTION 1 <i>Depending on local procedures, supervisory or TELCO engineering approval must be obtained prior to performing any data change</i>	
Issue 1	SEP 1997
234-353-030	DLP
PAGE 2 of 6	506

VERIFY VIU TO TSI PORT ASSIGNMENT, VERSION NUMBER, AND GROWTH VIU EQUIPAGE STATUS

[10] Using TABLE C, identify octal word associated with growth VIU

[11] Using printout and office records, verify growth VIU to TSI port assignment per octal word identified in Step 10 and located in TABLE B, Page 4 [DLP-533]

TABLE C	
VIU	OCTAL WORD
0, 1	14
2, 3	15
4, 5	16
6	17

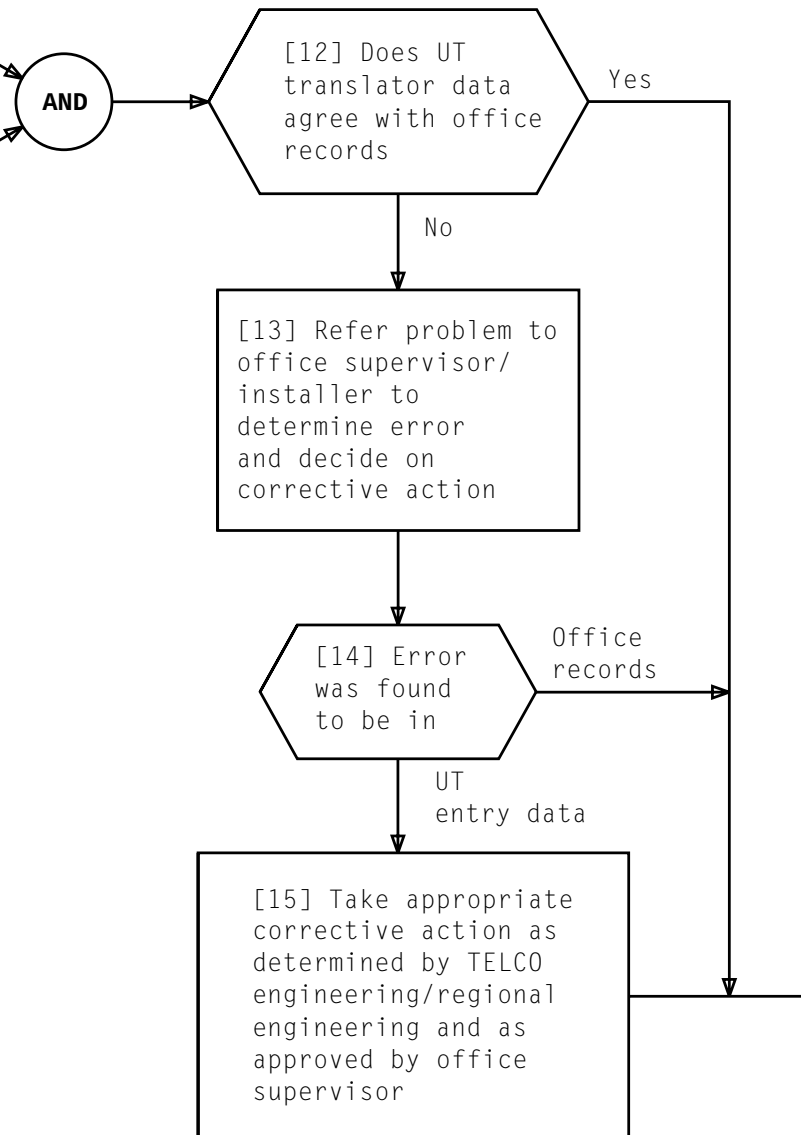


TABLE B

ENTRY WORD (OCTAL)	UT ENTRY DATA AND WORD CONFIGURATION																																																
0	entry data																																																
	octal output →	<table><tr><td colspan="4">1</td><td colspan="4">0</td><td colspan="4">6</td><td colspan="2">Y</td><td colspan="2">Y</td><td colspan="2">Y</td><td colspan="2">Y</td><td colspan="2">Y</td></tr></table>																								1				0				6				Y		Y		Y		Y		Y			
	1				0				6				Y		Y		Y		Y		Y																												
	bit position →	<table><tr><td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td><td>16</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td><td>0</td></tr></table>																								23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0																									
binary values →	<table><tr><td>0</td><td>0</td><td>1</td><td>0</td><td>0</td><td>0</td><td>1</td><td>1</td><td>0</td><td>0</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td></tr></table>																								0	0	1	0	0	0	1	1	0	0	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
0	0	1	0	0	0	1	1	0	0	X	X	X	X	X	X	X	X	X	X	X	X	X	X																										
											6		5		4		3		2		1		0																										
											VIU NO.																																						
											VIU SUBMEMBER EQUIPAGE																																						
	XX = 2-digit code giving status of VIUS = 00 = unequipped = 11 = operational																																																
	Y...Y = Variable octal numbers																																																
10	entry data																																																
	octal output →	<table><tr><td colspan="4">Y</td><td colspan="4">Y</td><td colspan="4">Y</td><td colspan="2">Y</td><td colspan="2">Y</td><td colspan="2">Y</td><td colspan="2">Y</td><td colspan="2">Y</td></tr></table>																								Y				Y				Y				Y		Y		Y		Y		Y			
	Y				Y				Y				Y		Y		Y		Y		Y																												
	bit position →	<table><tr><td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td><td>16</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td><td>0</td></tr></table>																								23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0																									
binary values →	<table><tr><td>0</td><td>0</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>V</td><td>V</td><td>V</td><td>V</td><td>V</td><td>V</td></tr></table>																								0	0	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	V	V	V	V	V	V	
0	0	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	V	V	V	V	V	V																										
			7		6		5		4		3		2		1		0																																
			VIU NO.																																														
			VIU VERSION NUMBER																																														
	XX = Version numbers of VIUS as reflected in appropriate office record drawings and shipping information																																																
	Y...Y = Variable octal numbers																																																

VERIFY VIU TO TSI PORT ASSIGNMENT, VERSION NUMBER, AND GROWTH VIU EQUIPAGE STATUS

TABLE B (Contd)

ENTRY WORD (OCTAL)	UT ENTRY DATA AND WORD CONFIGURATION																												
14	entry data octal output →	0				Y				Y				Y				Y				Y				Y			
	bit position →	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0				
	binary values →	0	0	0	0	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
						TSI MEMBER NUMBER						SPC 0/1	TSI PORT NO.				TSI MEMBER NUMBER						SPC 0/1	TSI PORT NO.					
												VIU 1 TO TSI PORT ASSIGNMENT						VIU 0 TO TSI PORT ASSIGNMENT											
		X...X = Converts to decimal VIU-TSI port assignment as reflected in office record drawing T-nnnn-Hn-467 or equivalent Y...Y = Variable octal numbers																											

15	entry data octal output →	0				Y				Y				Y				Y				Y				Y			
	bit position →	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0				
	binary values →	0	0	0	0	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
						TSI MEMBER NUMBER						SPC 0/1	TSI PORT NO.				TSI MEMBER NUMBER						SPC 0/1	TSI PORT NO.					
												VIU 3 TO TSI PORT ASSIGNMENT						VIU 2 TO TSI PORT ASSIGNMENT											
		X...X = Converts to decimal VIU-TSI port assignment as reflected in office record drawing T-nnnn-Hn-467 or equivalent Y...Y = Variable octal numbers																											

VERIFY VIU TO TSI PORT ASSIGNMENT, VERSION NUMBER, AND GROWTH VIU EQUIPAGE STATUS

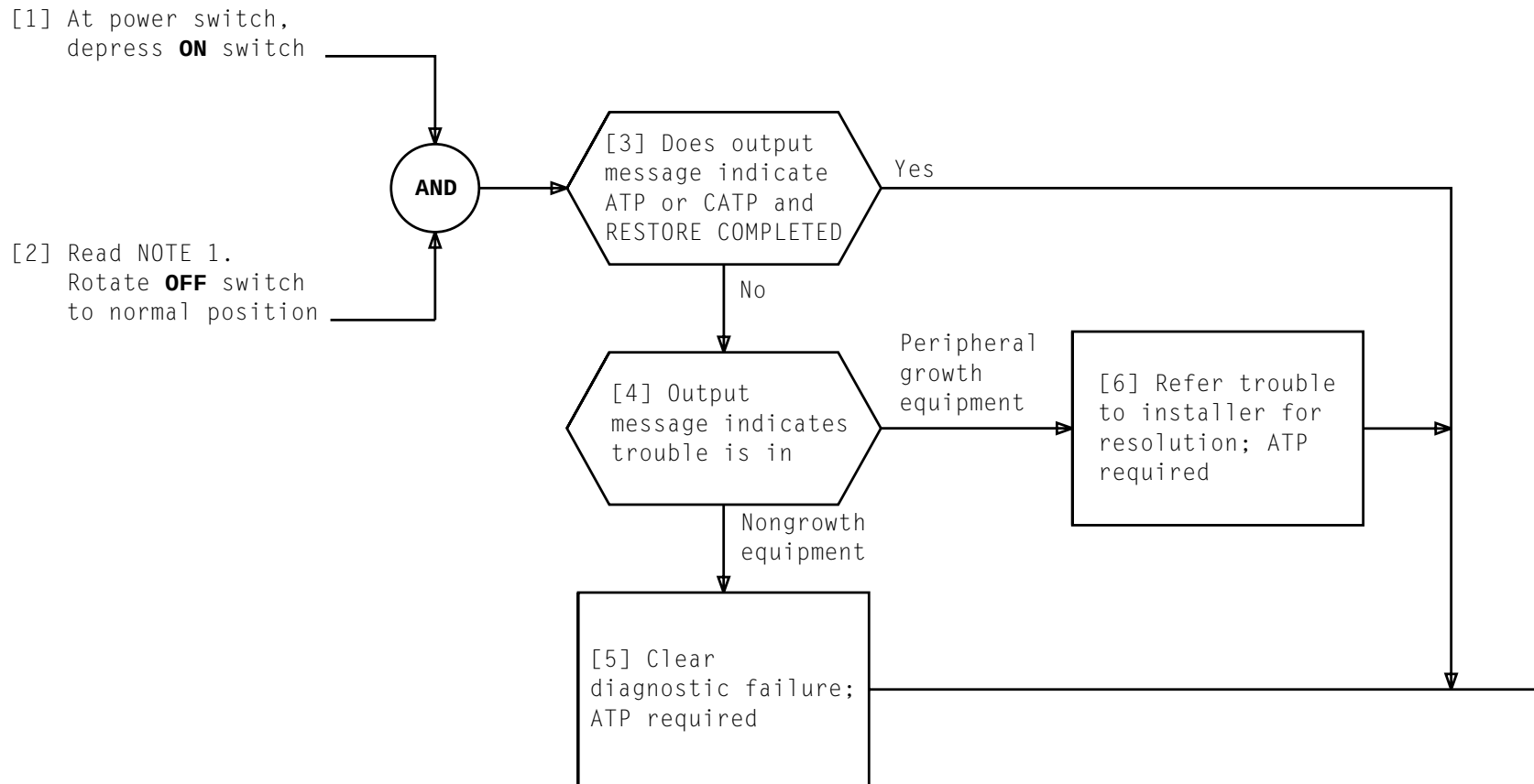
Issue 1	SEP 1997
234-353-030	DLP
PAGE 5 of 6	506

TABLE B (Contd)

ENTRY WORD (OCTAL)	UT ENTRY DATA AND WORD CONFIGURATION																																																																																																															
16	entry data octal output →	<table><tr><td colspan="4">0</td><td colspan="4">Y</td><td colspan="4">Y</td><td colspan="4">Y</td><td colspan="4">Y</td><td colspan="4">Y</td><td colspan="4">Y</td></tr><tr><td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td><td>16</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td><td>0</td></tr></table>																								0				Y				Y				Y				Y				Y				Y				23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0																																			
	0				Y				Y				Y				Y				Y				Y																																																																																							
	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0																																																																																								
	bit position →																																																																																																															
	binary values →	<table><tr><td>0</td><td>0</td><td>0</td><td>0</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td></tr><tr><td colspan="4"></td><td colspan="8">TSI MEMBER NUMBER</td><td>SPC 0/1</td><td colspan="4">TSI PORT NO.</td><td colspan="8">TSI MEMBER NUMBER</td><td>SPC 0/1</td><td colspan="4">TSI PORT NO.</td></tr><tr><td colspan="12"></td><td colspan="12">VIU 5 TO TSI PORT ASSIGNMENT</td><td colspan="10">VIU 4 TO TSI PORT ASSIGNMENT</td></tr></table>																								0	0	0	0	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X					TSI MEMBER NUMBER								SPC 0/1	TSI PORT NO.				TSI MEMBER NUMBER								SPC 0/1	TSI PORT NO.																VIU 5 TO TSI PORT ASSIGNMENT												VIU 4 TO TSI PORT ASSIGNMENT								
0	0	0	0	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X																																																																																									
				TSI MEMBER NUMBER								SPC 0/1	TSI PORT NO.				TSI MEMBER NUMBER								SPC 0/1	TSI PORT NO.																																																																																						
												VIU 5 TO TSI PORT ASSIGNMENT												VIU 4 TO TSI PORT ASSIGNMENT																																																																																								
	X...X = Converts to decimal VIU-TSI port assignment as reflected in office record drawing T-nnnn-Hn-467 or equivalent												Y...Y = Variable octal numbers																																																																																																			
17	entry data octal output →	<table><tr><td colspan="4">0</td><td colspan="4">Y</td><td colspan="4">Y</td><td colspan="4">Y</td><td colspan="4">Y</td><td colspan="4">Y</td><td colspan="4">Y</td></tr><tr><td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td><td>16</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td><td>0</td></tr></table>																								0				Y				Y				Y				Y				Y				Y				23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0																																			
	0				Y				Y				Y				Y				Y				Y																																																																																							
	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0																																																																																								
	bit position →																																																																																																															
	binary values →	<table><tr><td>0</td><td>0</td><td>0</td><td>0</td><td>V</td><td>V</td><td>V</td><td>V</td><td>V</td><td>V</td><td>V</td><td>0</td><td>0</td><td>0</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td></tr><tr><td colspan="14"></td><td colspan="8">TSI MEMBER NUMBER</td><td>SPC 0/1</td><td colspan="2">TSI PORT NO.</td></tr><tr><td colspan="14"></td><td colspan="10">VIU 6 TO TSI PORT ASSIGNMENT</td></tr></table>																								0	0	0	0	V	V	V	V	V	V	V	0	0	0	X	X	X	X	X	X	X	X	X	X															TSI MEMBER NUMBER								SPC 0/1	TSI PORT NO.																VIU 6 TO TSI PORT ASSIGNMENT																							
0	0	0	0	V	V	V	V	V	V	V	0	0	0	X	X	X	X	X	X	X	X	X	X																																																																																									
														TSI MEMBER NUMBER								SPC 0/1	TSI PORT NO.																																																																																									
														VIU 6 TO TSI PORT ASSIGNMENT																																																																																																		
	X...X = Converts to decimal VIU-TSI port assignment as reflected in office record drawing T-nnnn-Hn-467 or equivalent												Y...Y = Variable octal numbers																																																																																																			

VERIFY VIU TO TSI PORT ASSIGNMENT, VERSION NUMBER, AND GROWTH VIU EQUIPAGE STATUS

Issue 1	SEP 1997
234-353-030	DLP
PAGE 6 of 6	506



NOTE 1
Operation of **OFF** switch will cause diagnostic to be run

Issue 1	SEP 1997
234-353-030	DLP
PAGE 1 of 1	507

RESTORE FRAME POWER WITH POWER SWITCH

SUMMARY

Using verify entry input message, call up growth VIF UT translator and verify that the resulting terminal octal output data, when converted, agrees with office records.

Refer to entry word explanations in TABLE B, Page 5, as required, for assistance in interpreting specific data fields. If it is determined that UT entry data is in error, word change(s) may be required.

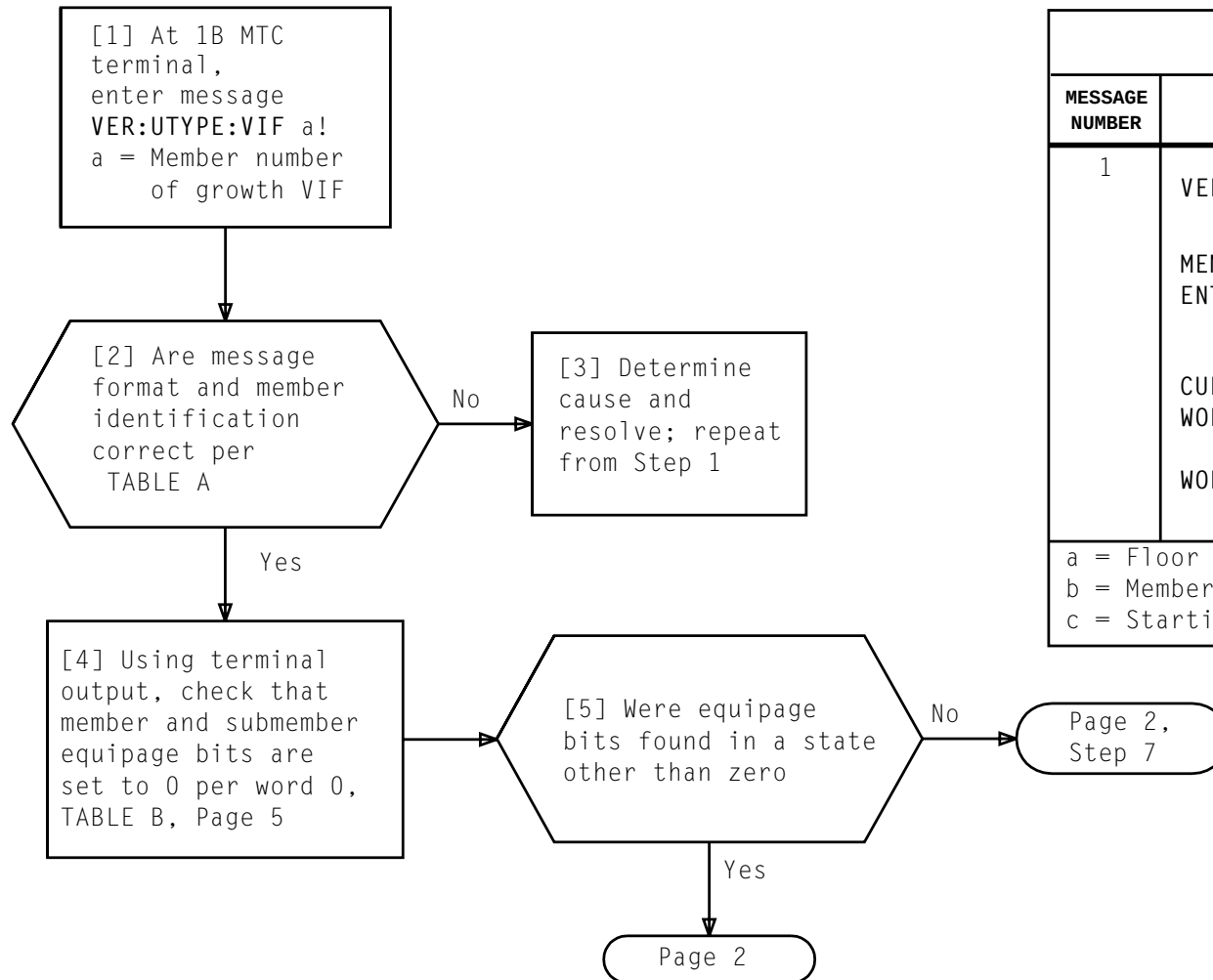
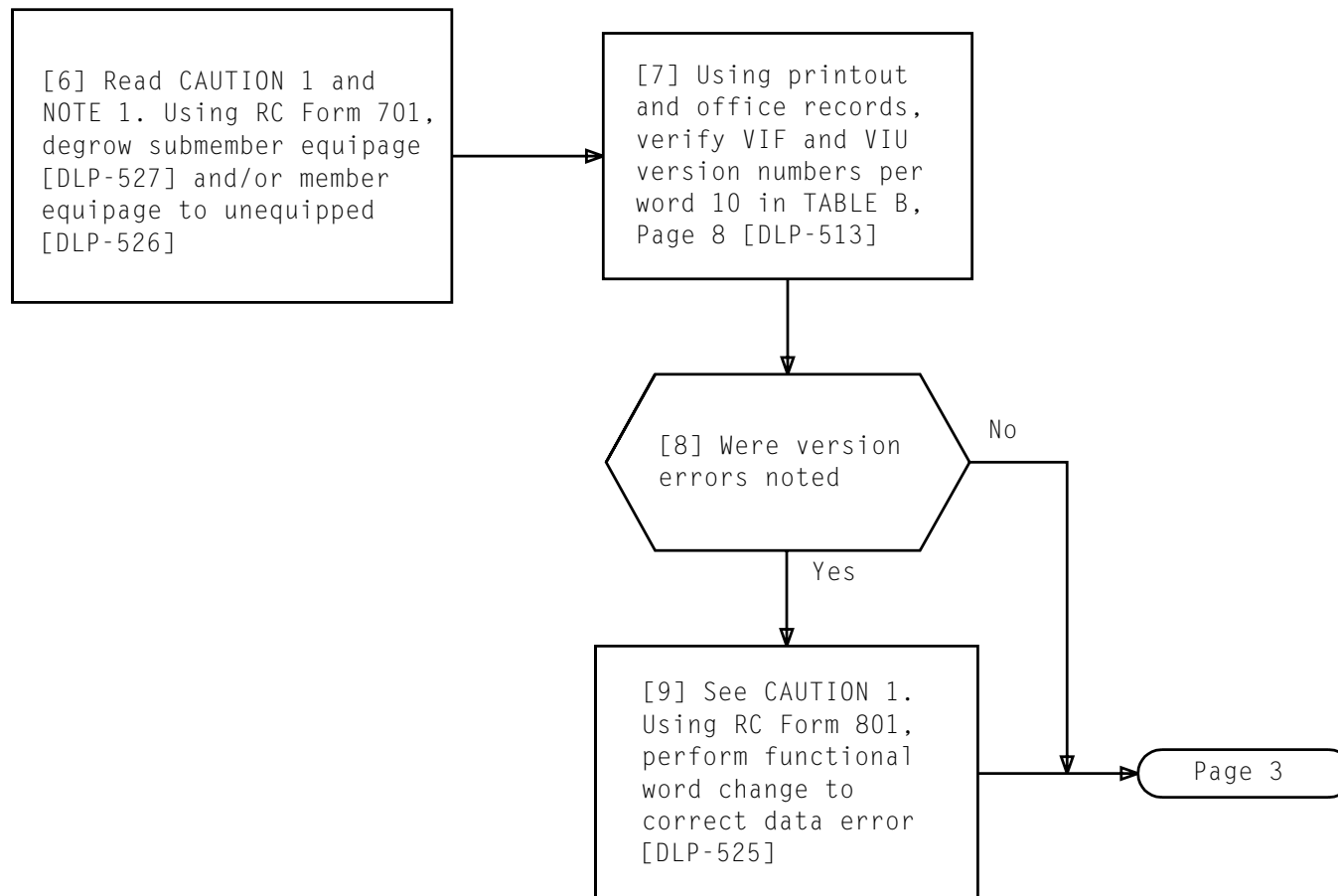


TABLE A

MESSAGE NUMBER	OUTPUT MESSAGE
1	VER:UTMN;OPT(),CUR: FLN a, UTYN VIF, MEMN b, ME UNEQ, ENTRY ADDRESS c, ENTRY SIZE 16, CUR WORD 0 _____ _____ WORD 10 _____ _____ _____
a = Floor location number b = Member number of growth VIF c = Starting octal address for unit type entry	



NOTE 1
Submember equipage must be degrown first, if required, followed by degrowth of member equipage, if required

CAUTION 1
Depending on local procedures, supervisory or TELCO engineering approval must be obtained prior to performing any data change

Issue 1	SEP 1997
234-353-030	DLP
PAGE 2 of 12	508

Using printout, TABLE B, Page 5, and office records:

[10] Verify miscellaneous member-type data
of word 0, bits 18 through 23

[11] Verify alarm grid, lineup, and frame assignment
for growth frame per word 1 [DLP-523]

[12] Verify PUB branch assignment for growth frame
per word 3 [DLP-524]

[13] Verify scan point assignments for growth VIF
per words 3 and 4 [DLP-529]

[14] Verify member version for growth
frame per word 11

[15] Verify SD and pulse point assignments
for growth VIF per words 2, 5, 6, 7,
12, and 13 [DLP-528]

[16] Verify VIU to TSI port assignment for
growth VIF per words 14, 15, 16, and
17 [DLP-533]

[17] Verify TSI supplying clock to growth
VIF per word 17 [DLP-582]

AND

AND

Page 4

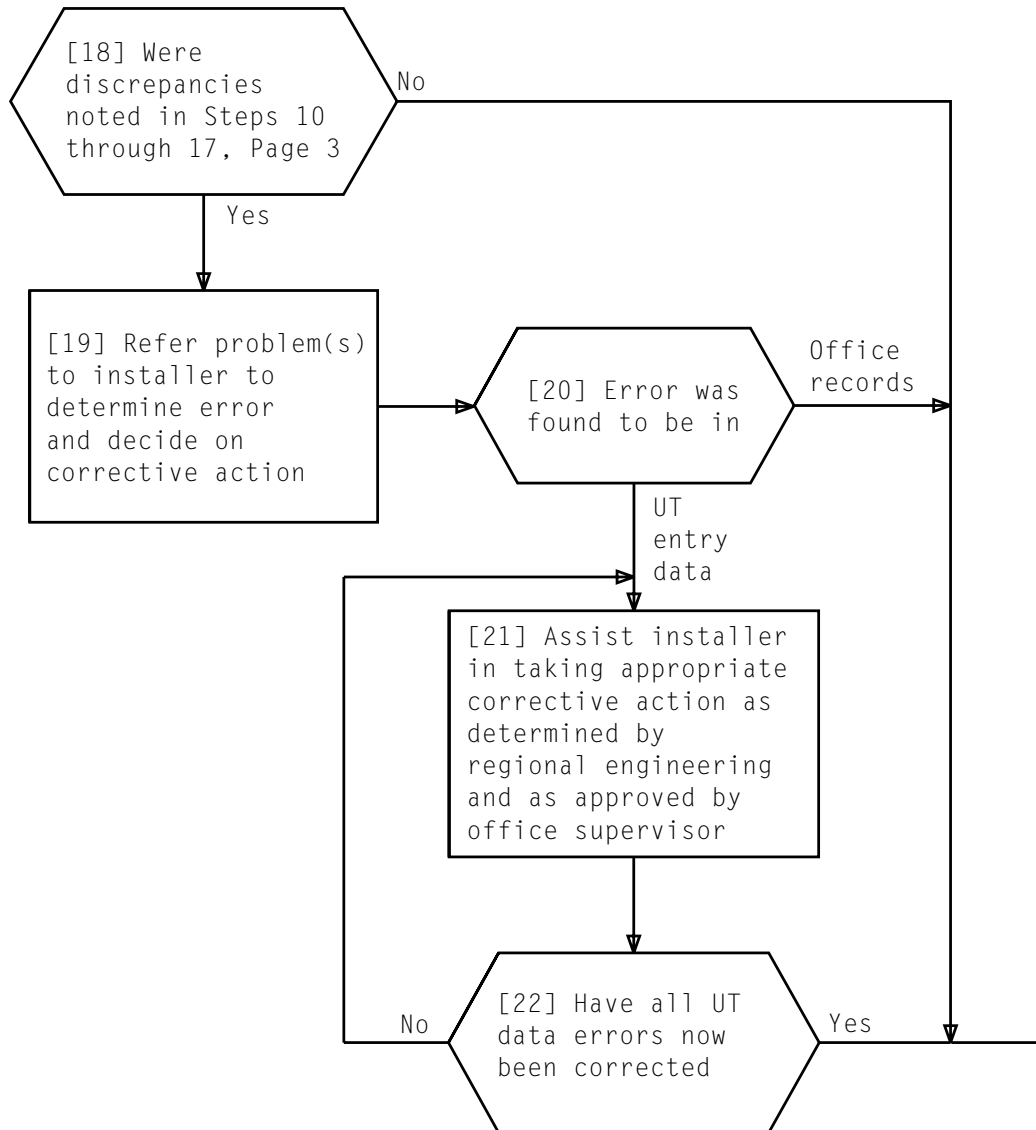


TABLE B																									
ENTRY WORD (OCTAL)	UT ENTRY DATA AND WORD CONFIGURATION																								
0	entry data																								
	octal output →	1			0			0			0			0			0			0					
	bit position →	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
	binary values →	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		MEMBER TYPE			MEMBER TYPE HARDWARE GENERATION			MEMBER EQUIPAGE				6		5		4		3		2		1		0	
	VIU NO.																								
	VIU SUBMEMBER EQUIPAGE																								
1	entry data																								
	octal output →	Y			Y			Y			Y			Y			Y			Y					
	bit position →	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
	binary values →	Z	Z	Z	Z	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
		ASSIGNED ALARM GRID NUMBER				FRAME LINEUP NUMBER										FRAME NUMBER									
		X...X = Converts to decimal frame info as reflected in office floor plan drawing										ZZZZ = Converts to decimal alarm grid number as reflected in office record drawings T-nnnn-Hn-400, 401, or 402 or equivalent													
		Y = Variable octal numbers																							

TABLE B (Contd)																																				
ENTRY WORD (OCTAL)	UT ENTRY DATA AND WORD CONFIGURATION																																			
2	entry data octal output	0					0					Y					Y					Y					Y					Y				
	bit position	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0											
	binary values	0	0	0	0	0	0	0	X	X	X	X	X	0	X	X	X	X	X	X	X	X	X	X	X											
										SP MEMBER NUMBER					SP ROW NUMBER							SP COLUMN NUMBER														
	BASE SP PULSE POINT																																			
X...X = Converts to decimal SP info as reflected in office record drawing T-nnnn-Hn-462 or equivalent										Y = Variable octal numbers																										
3	entry data octal output	Y					Y					Y					Y					Y					Y									
	bit position	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0											
	binary values	0	1	Z	Z	Z	0	0	X	X	X	X	X	0	X	X	X	X	X	X	X	X	X	X	X											
		PUB BRANCH NUMBER ASSIGNMENT						SP MEMBER NUMBER					SP ROW NUMBER							SP COLUMN NUMBER																
	MEMBER BASE MISCELLANEOUS SCAN NUMBER																																			
X...X = Converts to decimal SP info as reflected in office record drawing T-nnnn-Hn-461 or equivalent Y = Variable octal numbers										ZZZ = 3-digit code corresponding to lettered PUB branch as reflected in office record drawing T-nnnn-Hn-3840 or equivalent										= 000 - branch A&B 100 - branch K&L 001 - branch C&D 101 - branch M&R 010 - branch E&F 110 - branch T&V 011 - branch G&H 111 - branch W&X																

TABLE B (Contd)									
ENTRY WORD (OCTAL)	UT ENTRY DATA AND WORD CONFIGURATION								
4	entry data octal output →	0 0 Y Y Y Y Y Y							
	bit position →	23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 0							
	binary values →	0 0 0 0 0 0 0 X X X X X 0 X X X X X X X X X X X							
		<table><tr><td></td><td>SP MEMBER NUMBER</td><td>SP ROW NUMBER</td><td>SP COLUMN NUMBER</td></tr><tr><td colspan="4">BUS BASE MISCELLANEOUS SCAN NUMBER</td></tr></table>		SP MEMBER NUMBER	SP ROW NUMBER	SP COLUMN NUMBER	BUS BASE MISCELLANEOUS SCAN NUMBER		
	SP MEMBER NUMBER	SP ROW NUMBER	SP COLUMN NUMBER						
BUS BASE MISCELLANEOUS SCAN NUMBER									
	X...X = Converts to decimal SP info as reflected in office record drawing T-nnnn-Hn-461 or equivalent								
	Y = Variable octal numbers								
5	entry data octal output →	0 0 Y Y Y Y Y Y							
	bit position →	23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 0							
	binary values →	0 0 0 0 0 0 0 X X X X X 0 X X X X X X X X X X							
		<table><tr><td></td><td>SP MEMBER NUMBER</td><td>SP ROW NUMBER</td><td>SP COLUMN NUMBER</td></tr><tr><td colspan="4">DUPLICATE BASE SP PULSE POINT</td></tr></table>		SP MEMBER NUMBER	SP ROW NUMBER	SP COLUMN NUMBER	DUPLICATE BASE SP PULSE POINT		
	SP MEMBER NUMBER	SP ROW NUMBER	SP COLUMN NUMBER						
DUPLICATE BASE SP PULSE POINT									
	X...X = Converts to decimal SP info as reflected in office record drawing T-nnnn-Hn-462 or equivalent								
	Y = Variable octal numbers								
6	entry data octal output →	0 0 Y Y Y Y Y Y							
	bit position →	23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 0							
	binary values →	0 0 0 0 0 0 0 X X X X X 0 X X X X X X X X X X							
		<table><tr><td></td><td>SP MEMBER NUMBER</td><td>SP ROW NUMBER</td><td>SP COLUMN NUMBER</td></tr><tr><td colspan="4">MEMBER BASE MISCELLANEOUS SD NUMBER</td></tr></table>		SP MEMBER NUMBER	SP ROW NUMBER	SP COLUMN NUMBER	MEMBER BASE MISCELLANEOUS SD NUMBER		
	SP MEMBER NUMBER	SP ROW NUMBER	SP COLUMN NUMBER						
MEMBER BASE MISCELLANEOUS SD NUMBER									
	X...X = Converts to decimal SP info as reflected in office record drawing T-nnnn-Hn-462 or equivalent								
	Y = Variable octal numbers								

TABLE B (Contd)

ENTRY WORD (OCTAL)	UT ENTRY DATA AND WORD CONFIGURATION																									
7	entry data																									
	octal output																									
	bit position																									
	binary values																									
		0		0		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		
		23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	
		0	0	0	0	0	0	0	X	X	X	X	X	0	X	X	X	X	X	X	X	X	X	X	X	
										SP MEMBER NUMBER				SP ROW NUMBER								SP COLUMN NUMBER				
		BUS BASE MISCELLANEOUS SD NUMBER																								
		X...X = Converts to decimal SP info as reflected in office record drawing T-nnnn-Hn-462 or equivalent																								
		Y = Variable octal numbers																								
10	entry data																									
	octal output																									
	bit position																									
	binary values																									
			Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y	
			23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
		0	0	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
			7		6		5		4		3		2		1		0		CONTR 1				CONTR 0			
			(SPARE VIU)		VIU NO.																VIF CONTROLLER NO.					
			VERSION NUMBER																							
		XX = Version numbers of VIF equipment as reflected in appropriate office records and shipping information																								
		Y = Variable octal numbers																								

TABLE B (Contd)																																																																																																																									
ENTRY WORD (OCTAL)	UT ENTRY DATA AND WORD CONFIGURATION																																																																																																																								
11	entry data octal output bit position binary values <table><tr><td>Y</td><td>Y</td><td>Y</td><td>Y</td><td>Y</td><td>Y</td><td>Y</td><td>Y</td><td>Y</td><td>Y</td><td>Y</td><td>Y</td><td>Y</td><td>Y</td><td>Y</td><td>Y</td><td>Y</td><td>Y</td><td>Y</td><td>Y</td><td>Y</td><td>Y</td><td>Y</td><td>Y</td></tr><tr><td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td><td>16</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td><td>0</td></tr><tr><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td></tr><tr><td colspan="24">MEMBER VERSION CLASS AC</td></tr></table> Y...Y = Values as determined by next higher technical support group	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	MEMBER VERSION CLASS AC																																															
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12	entry data octal output bit position binary values <table><tr><td>0</td><td>0</td><td>Y</td><td>Y</td><td>Y</td><td>Y</td><td>Y</td><td>Y</td><td>Y</td><td>Y</td><td>Y</td><td>Y</td><td>Y</td><td>Y</td><td>Y</td><td>Y</td><td>Y</td><td>Y</td><td>Y</td><td>Y</td><td>Y</td><td>Y</td><td>Y</td><td>Y</td></tr><tr><td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td><td>16</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td><td>0</td></tr><tr><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>0</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td></tr><tr><td colspan="7"></td><td colspan="5">SP MEMBER NUMBER</td><td colspan="8">SP ROW NUMBER</td><td colspan="4">SP COLUMN NUMBER</td></tr><tr><td colspan="24">MTCE ISOLATION BASE PULSE POINT</td></tr></table> X...X = Converts to decimal SP info as reflected in office record drawing T-nnnn-Hn-462 or equivalent Y = Variable octal numbers	0	0	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	0	0	0	0	0	0	0	X	X	X	X	X	0	X	X	X	X	X	X	X	X	X	X	X								SP MEMBER NUMBER					SP ROW NUMBER								SP COLUMN NUMBER				MTCE ISOLATION BASE PULSE POINT																							
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TABLE B (Contd)

ENTRY WORD (OCTAL)	UT ENTRY DATA AND WORD CONFIGURATION																																																															
13	entry data																																																															
	octal output →	<table><tr><td colspan="4">0</td><td colspan="4">0</td><td colspan="4">Y</td><td colspan="4">Y</td><td colspan="4">Y</td><td colspan="4">Y</td><td colspan="4">Y</td><td colspan="4">Y</td></tr></table>																								0				0				Y				Y				Y				Y				Y				Y										
	0				0				Y				Y				Y				Y				Y				Y																																			
	bit position →	<table><tr><td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td><td>16</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td><td>0</td></tr></table>																								23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0															
	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0																																								
binary values →	<table><tr><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>0</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td></tr></table>																								0	0	0	0	0	0	0	0	X	X	X	X	X	0	X	X	X	X	X	X	X	X	X	X	X															
0	0	0	0	0	0	0	0	X	X	X	X	X	0	X	X	X	X	X	X	X	X	X	X	X																																								
	<table><tr><td colspan="8" rowspan="2"></td><td colspan="4">SP MEMBER NUMBER</td><td colspan="8">SP ROW NUMBER</td><td colspan="4">SP COLUMN NUMBER</td></tr><tr><td colspan="16">DUPLICATE MTCE ISOLATION BASE PULSE POINT</td></tr></table>																																SP MEMBER NUMBER				SP ROW NUMBER								SP COLUMN NUMBER				DUPLICATE MTCE ISOLATION BASE PULSE POINT															
								SP MEMBER NUMBER				SP ROW NUMBER								SP COLUMN NUMBER																																												
								DUPLICATE MTCE ISOLATION BASE PULSE POINT																																																								
	X...X = Converts to decimal SP info as reflected in office record drawing T-nnnn-Hn-462 or equivalent												Y...Y = Variable octal numbers																																																			
14	entry data																																																															
	octal output →	<table><tr><td colspan="4">0</td><td colspan="4">Y</td><td colspan="4">Y</td><td colspan="4">Y</td><td colspan="4">Y</td><td colspan="4">Y</td><td colspan="4">Y</td></tr></table>																								0				Y				Y				Y				Y				Y				Y														
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	bit position →	<table><tr><td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td><td>16</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td><td>0</td></tr></table>																								23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0															
	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0																																								
binary values →	<table><tr><td>0</td><td>0</td><td>0</td><td>0</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td></tr></table>																								0	0	0	0	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X																
0	0	0	0	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X																																									
	<table><tr><td colspan="4" rowspan="2"></td><td colspan="6">TSI MEMBER NUMBER</td><td>SPC 0/1</td><td>TSI PORT NO.</td><td colspan="6">TSI MEMBER NUMBER</td><td>SPC 0/1</td><td>TSI PORT NO.</td></tr><tr><td colspan="8">VIU 1 TO TSI LEVEL ASSIGNMENT</td><td colspan="8">VIU 0 TO TSI LEVEL ASSIGNMENT</td></tr></table>																												TSI MEMBER NUMBER						SPC 0/1	TSI PORT NO.	TSI MEMBER NUMBER						SPC 0/1	TSI PORT NO.	VIU 1 TO TSI LEVEL ASSIGNMENT								VIU 0 TO TSI LEVEL ASSIGNMENT											
				TSI MEMBER NUMBER						SPC 0/1	TSI PORT NO.	TSI MEMBER NUMBER						SPC 0/1	TSI PORT NO.																																													
				VIU 1 TO TSI LEVEL ASSIGNMENT								VIU 0 TO TSI LEVEL ASSIGNMENT																																																				
	X...X = Converts to decimal VIU-TSI level assignment as reflected in office record drawing T-nnnn-Hn-467 or equivalent												Y...Y = Variable octal numbers																																																			

TABLE B (Contd)

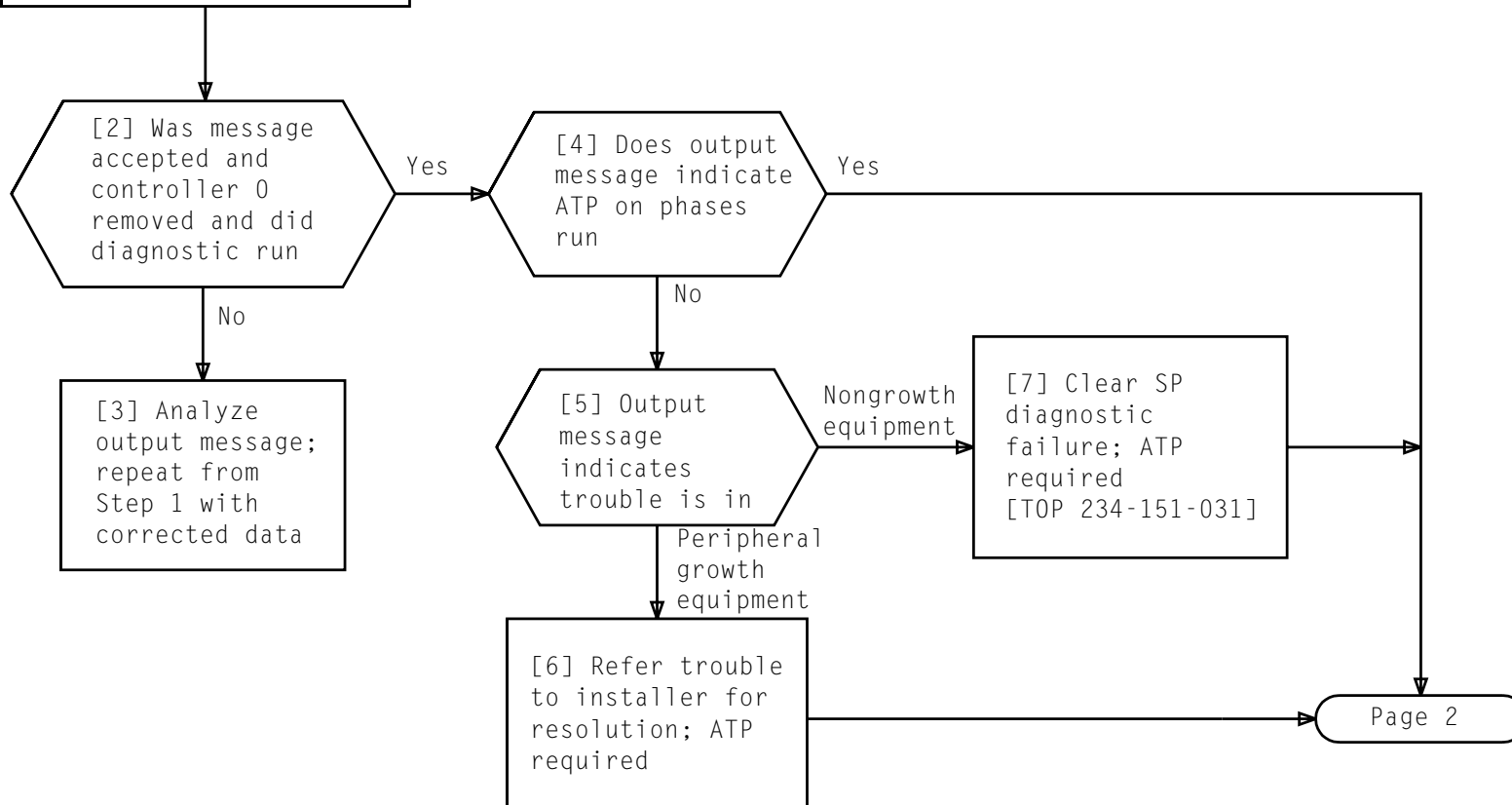
ENTRY WORD (OCTAL)	UT ENTRY DATA AND WORD CONFIGURATION																																		
15	entry data octal output →	0				Y				Y				Y				Y				Y				Y									
	bit position →	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0										
	binary values →	0	0	0	0	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X										
						TSI MEMBER NUMBER						SPC 0/1	TSI PORT NO.		TSI MEMBER NUMBER						SPC 0/1	TSI PORT NO.													
		VIU 3 TO TSI LEVEL ASSIGNMENT										VIU 2 TO TSI LEVEL ASSIGNMENT																							
X...X = Converts to decimal VIU-TSI level assignment as reflected in office record drawing T-nnnn-Hn-467 or equivalent																										Y...Y = Variable octal numbers									
16	entry data octal output →	0				Y				Y				Y				Y				Y				Y									
	bit position →	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0										
	binary values →	0	0	0	0	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X										
						TSI MEMBER NUMBER						SPC 0/1	TSI PORT NO.		TSI MEMBER NUMBER						SPC 0/1	TSI PORT NO.													
		VIU 5 TO TSI LEVEL ASSIGNMENT										VIU 4 TO TSI LEVEL ASSIGNMENT																							
X...X = Converts to decimal VIU-TSI level assignment as reflected in office record drawing T-nnnn-Hn-467 or equivalent																										Y...Y = Variable octal numbers									

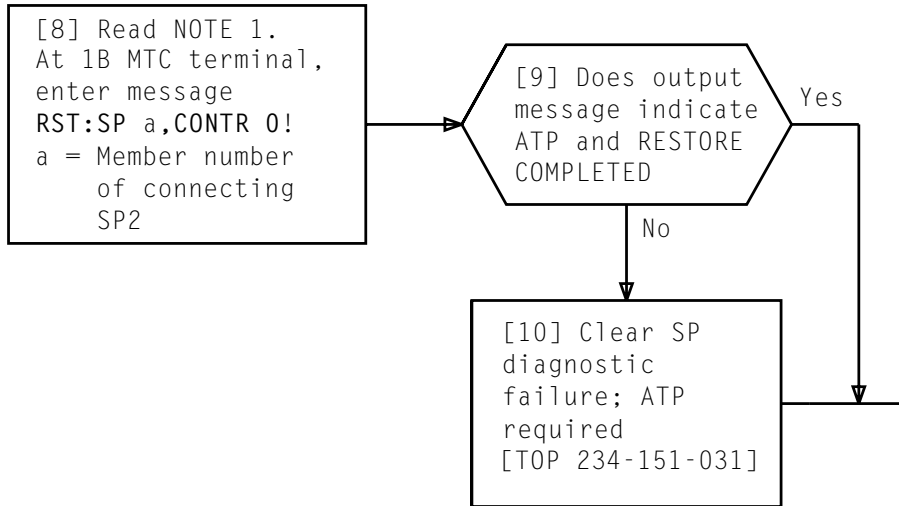
TABLE B (Contd)	
ENTRY WORD (OCTAL)	UT ENTRY DATA AND WORD CONFIGURATION
17	entry data octal output → 0 Y Y Y Y Y Y Y bit position → 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 0 binary values → 0 0 0 0 U U U U U U Z 0 0 0 X X X X X X X X X X TSI MEMBER DELIVERING CLOCK TO THIS VIF SPC 0/1 TSI MEMBER NUMBER SPC 0/1 TSI PORT NO. VIU 6 TO TSI LEVEL ASSIGNMENT
	X...X = Converts to decimal VIU-TSI level assignment as reflected in office record drawing T-nnnn-Hn-467 or equivalent Y...Y = Variable octal numbers Z = TSI SPC number (0/1) which connects to growth VIF

SUMMARY

Diagnose SP controller 0 specifying growth. After ATP, restore controller to service.

[1] At 1B MTC terminal,
enter message
DGN:SP a,CONTR 0:GROWTH!
a = Member number of
connecting SP2





NOTE 1 Restore input message will cause SP diagnostic to be run. Controller will be restored if ATP		
Issue 1	SEP 1997	
234-353-030	DLP	
PAGE 2 of 2	509	

SUMMARY

Diagnose TSI frame controllers 0 and 1 specifying GROWTH and phase 13 for J4A001A TSI or phase 20 for J4A001B TSI. After ATP, restore controllers to service.

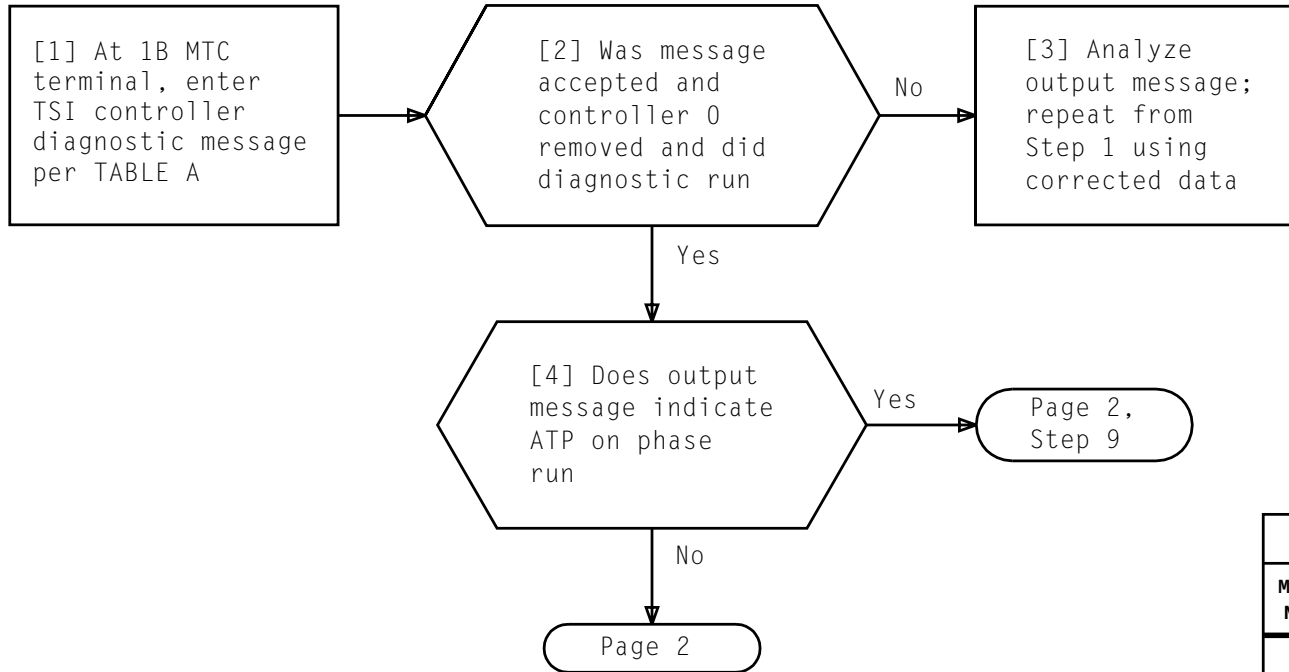
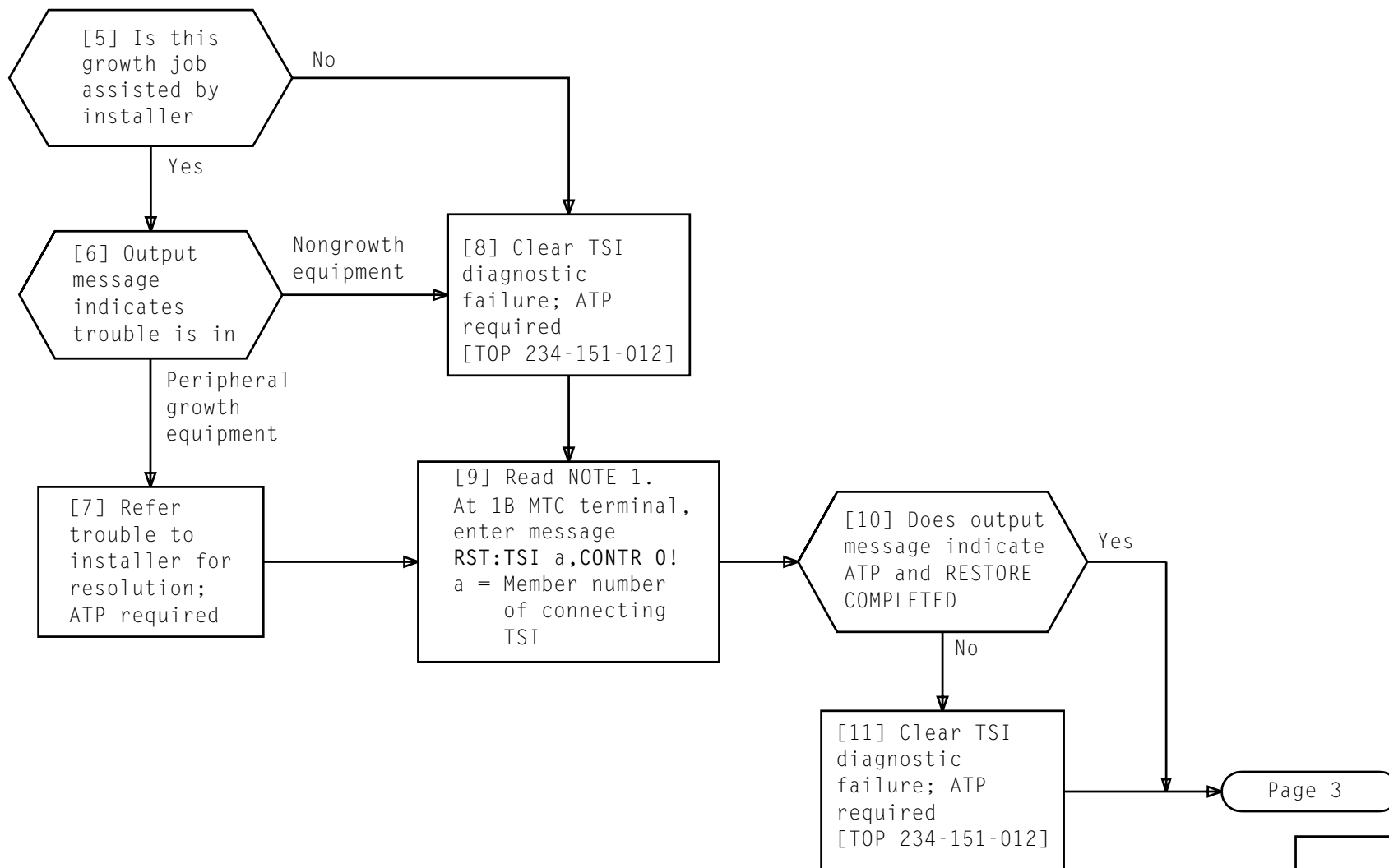


TABLE A	
MESSAGE NUMBER	INPUT MESSAGE
1	DGN:TSI a,CONTR 0:PH b,GROWTH!
a = Member number of connecting TSI b = Phase: 13 (for J4A001A TSI) or 20 (for J4A001B TSI)	

DIAGNOSE SPECIFYING APPROPRIATE PHASE AND GROWTH AND RESTORE CONNECTING TSI CONTROLLERS 0 AND 1

Issue 1	SEP 1997
234-353-030	DLP
PAGE 1 of 4	510



NOTE 1 Restore input message will cause diagnostic to be run and controller to be restored if ATP			
Issue 1	SEP	1997	
234-353-030	DLP		
PAGE 2 of 4	510		

DIAGNOSE SPECIFYING APPROPRIATE PHASE AND GROWTH AND RESTORE CONNECTING TSI CONTROLLERS 0 AND 1

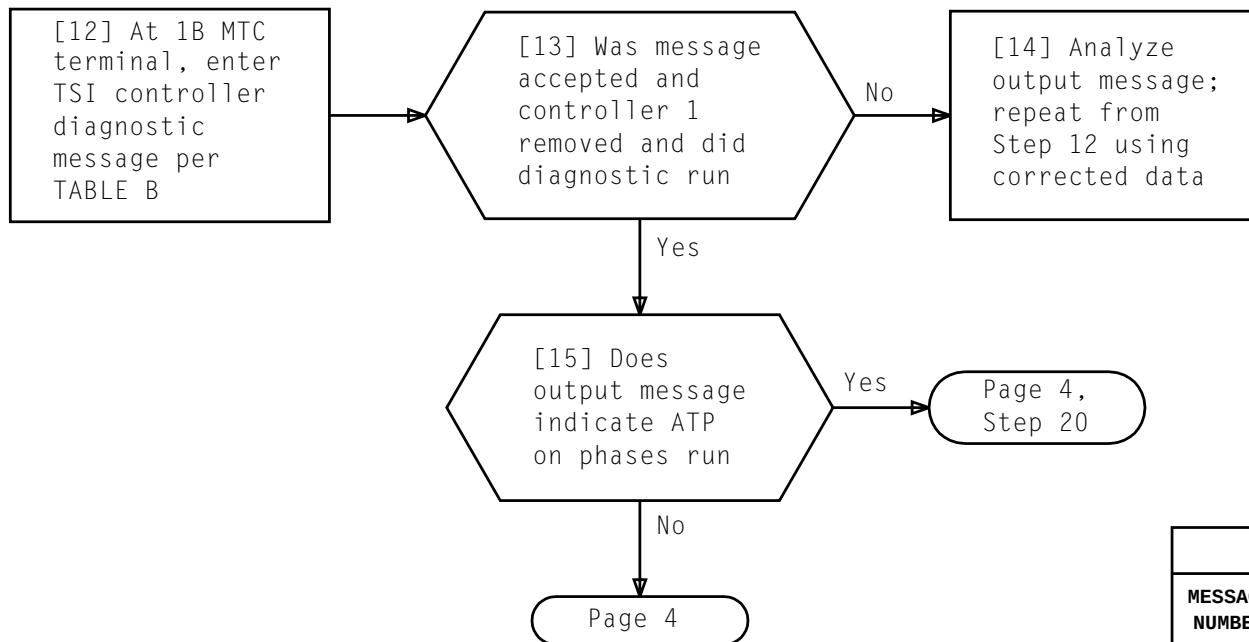
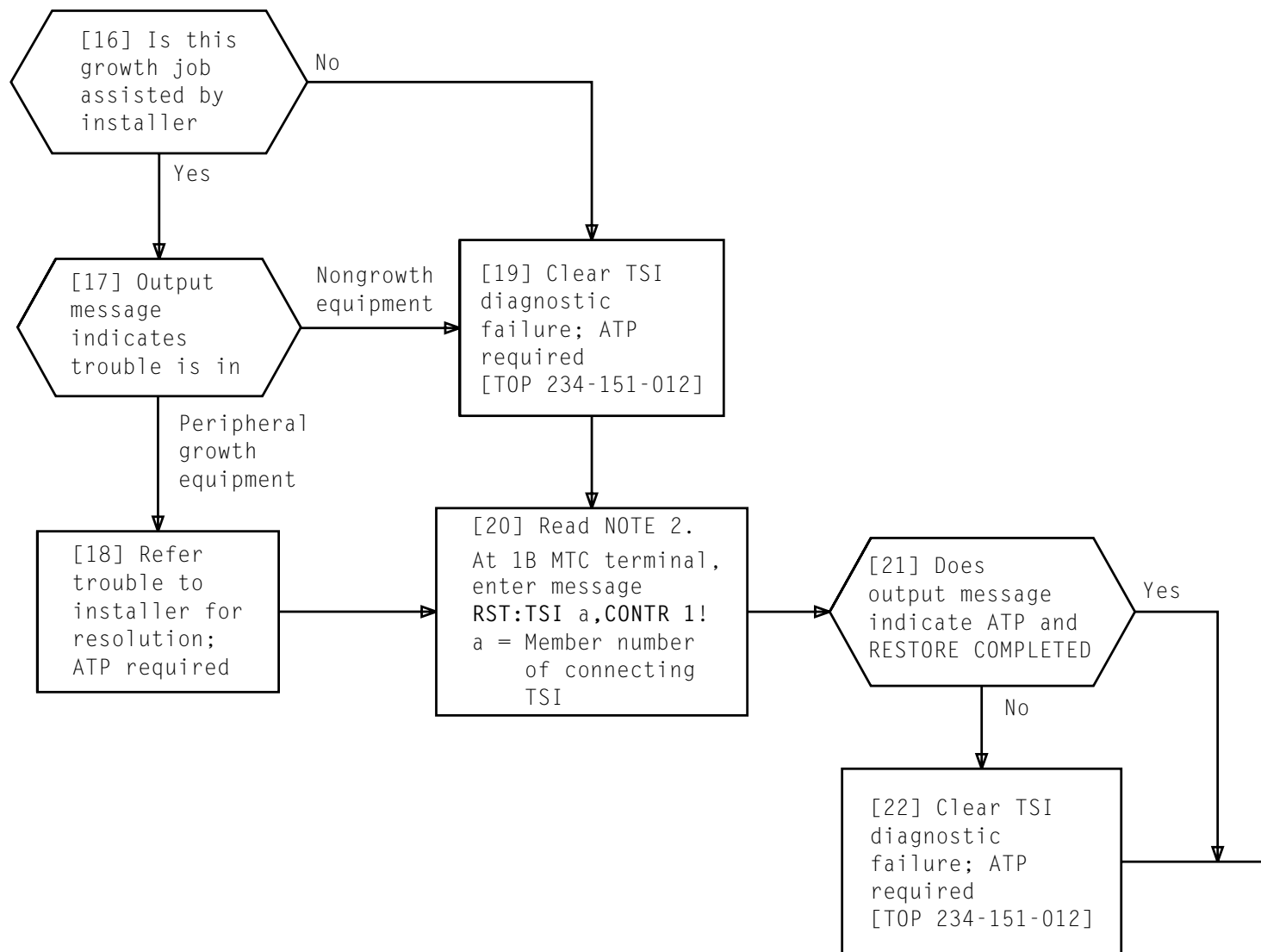


TABLE B	
MESSAGE NUMBER	OUTPUT MESSAGE
1	DGN:TSI a,CONTR 1:PH b,GROWTH!
a = Member number of connecting TSI b = Phase: 13 (for J4A001A TSI) or 20 (for J4A001B TSI)	

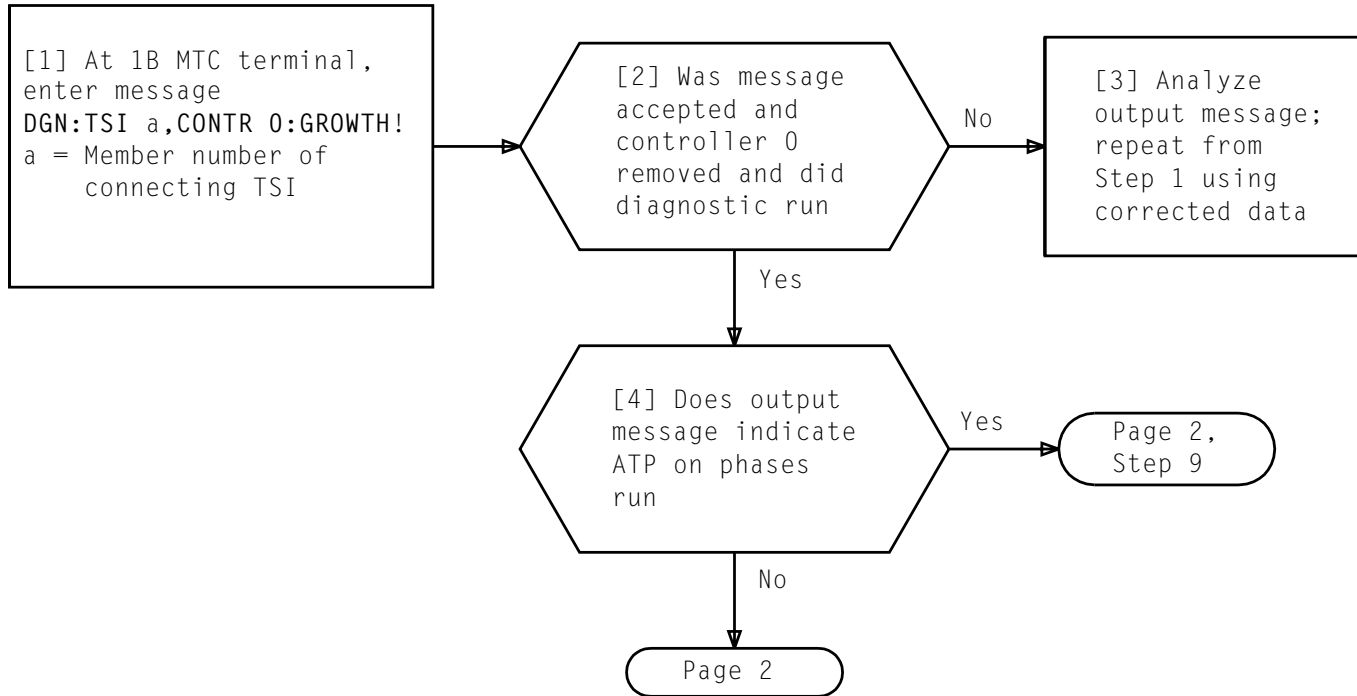


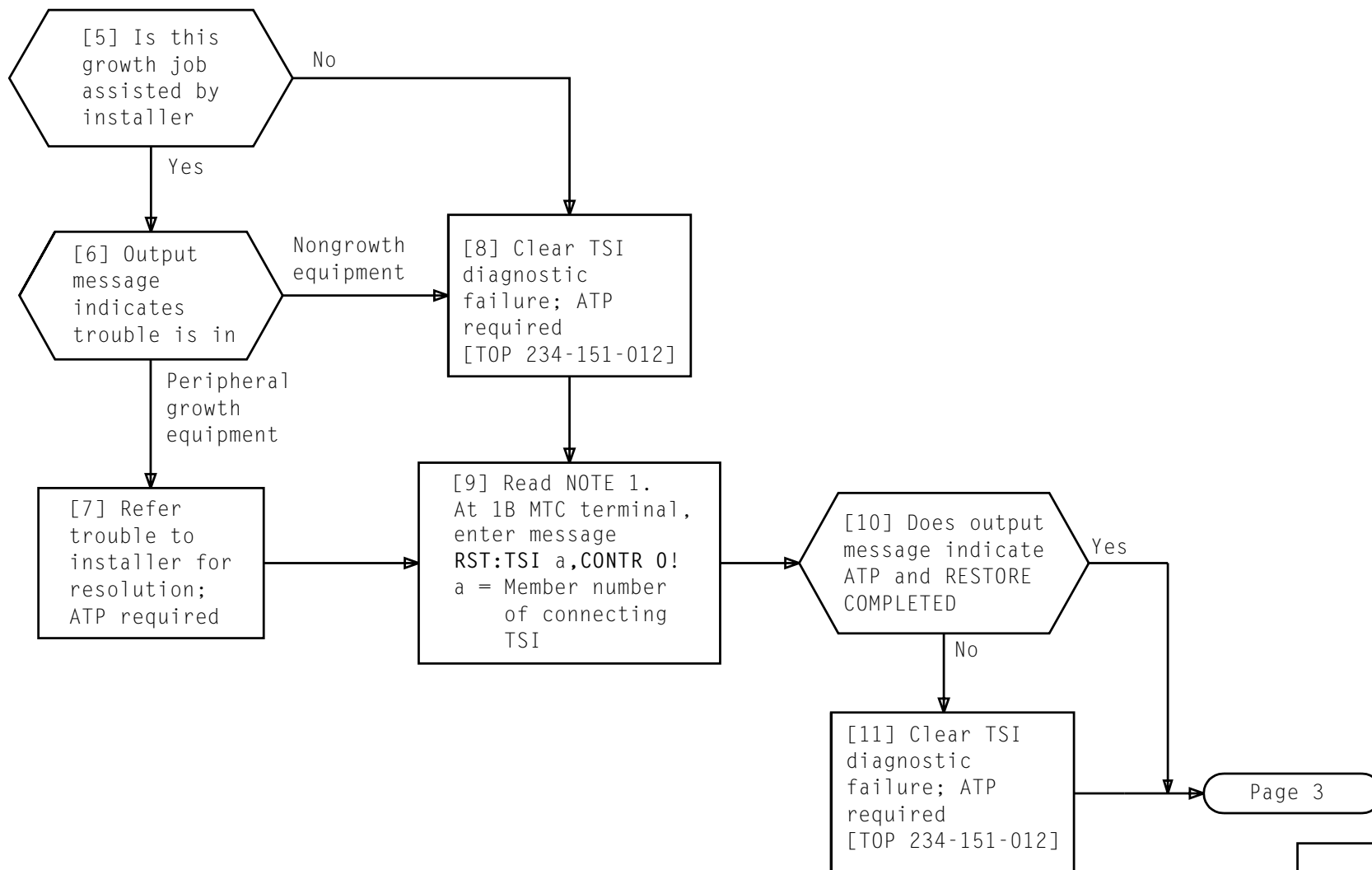
NOTE 2 Restore input message will cause diagnostic to be run and controller to be restored if ATP			
Issue 1	SEP	1997	
234-353-030	DLP		
PAGE 4 of 4	510		

DIAGNOSE SPECIFYING APPROPRIATE PHASE AND GROWTH AND RESTORE CONNECTING TSI CONTROLLERS 0 AND 1

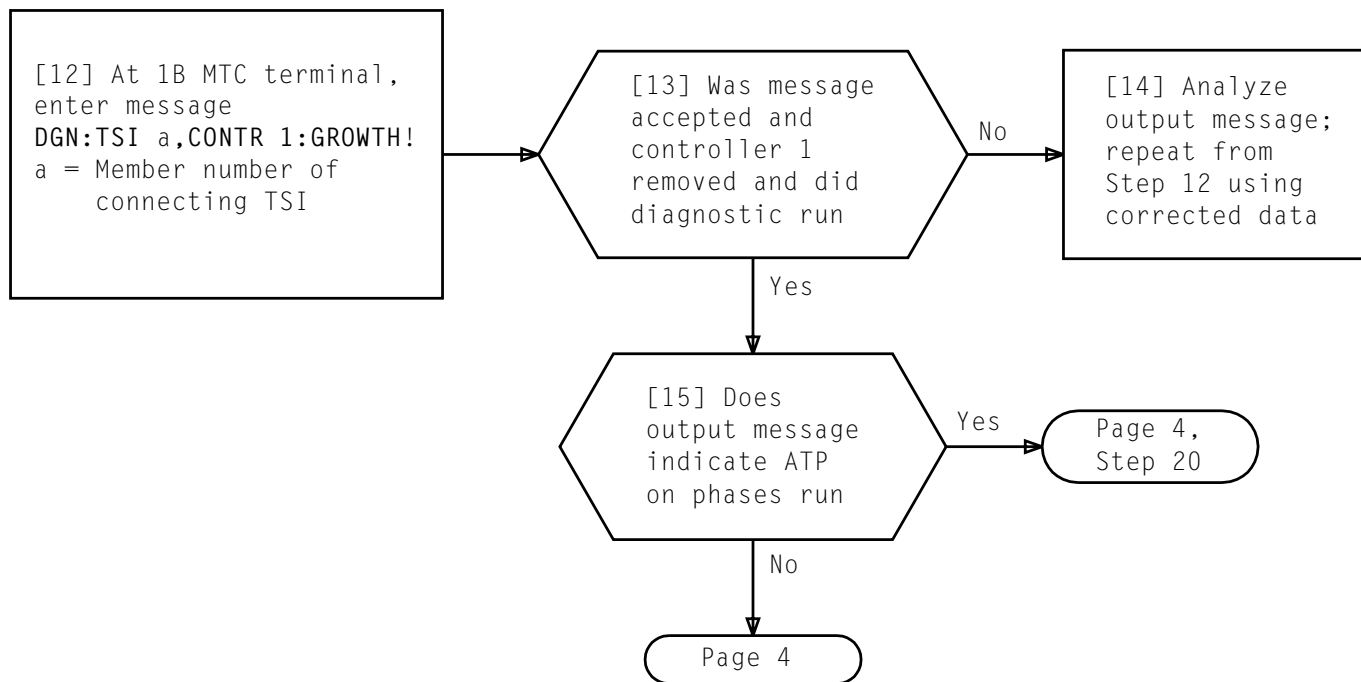
SUMMARY

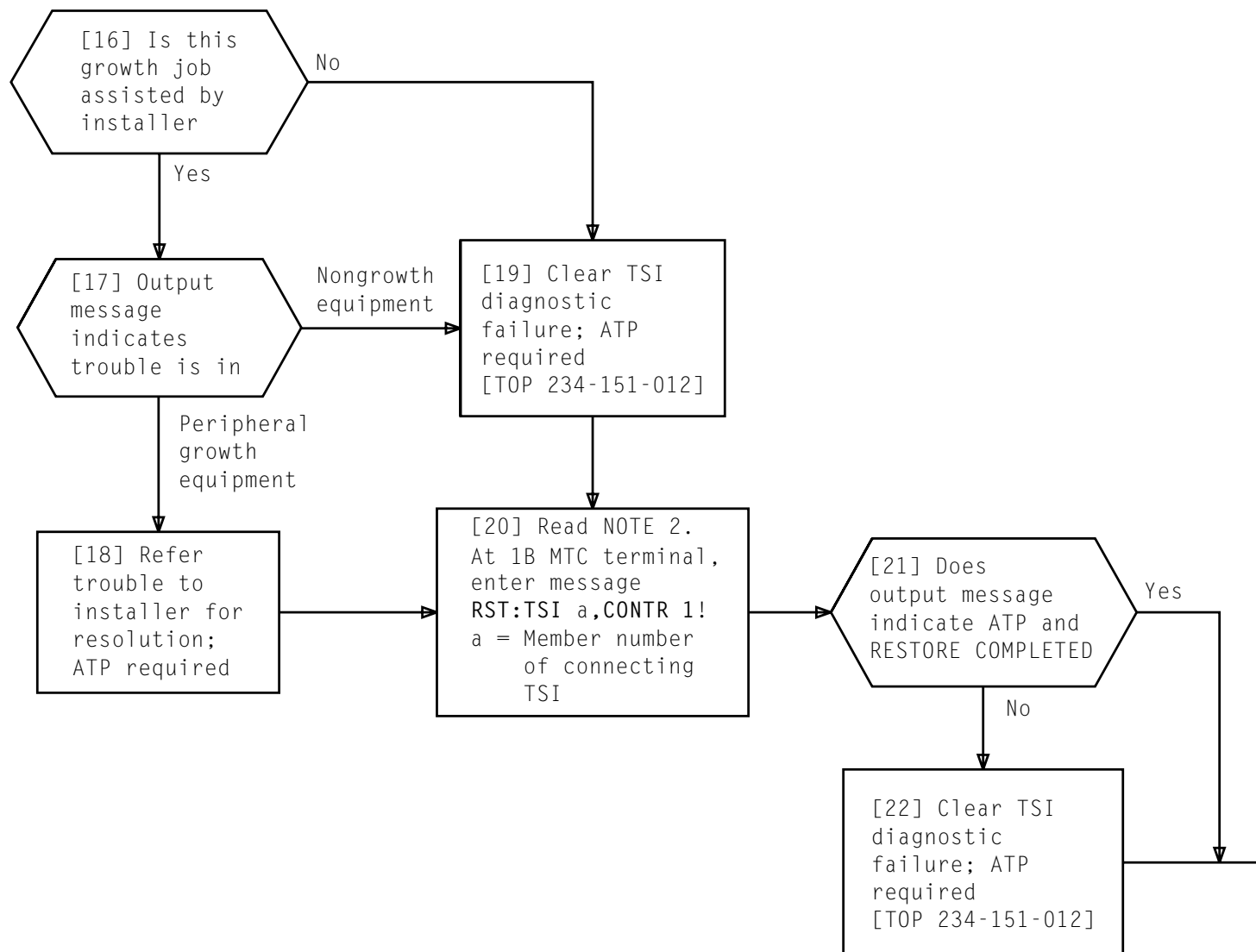
Diagnose TSI frame controllers 0 and 1 specifying GROWTH. After ATP, restore controllers to service.





NOTE 1 Restore input message will cause diagnostic to be run and controller to be restored if ATP			
Issue 1		SEP 1997	
234-353-030			DLP
PAGE 2 of 4			511





NOTE 2 Restore input message will cause diagnostic to be run and controller to be restored if ATP	
Issue 1	SEP 1997
234-353-030	DLP
PAGE 4 of 4	511

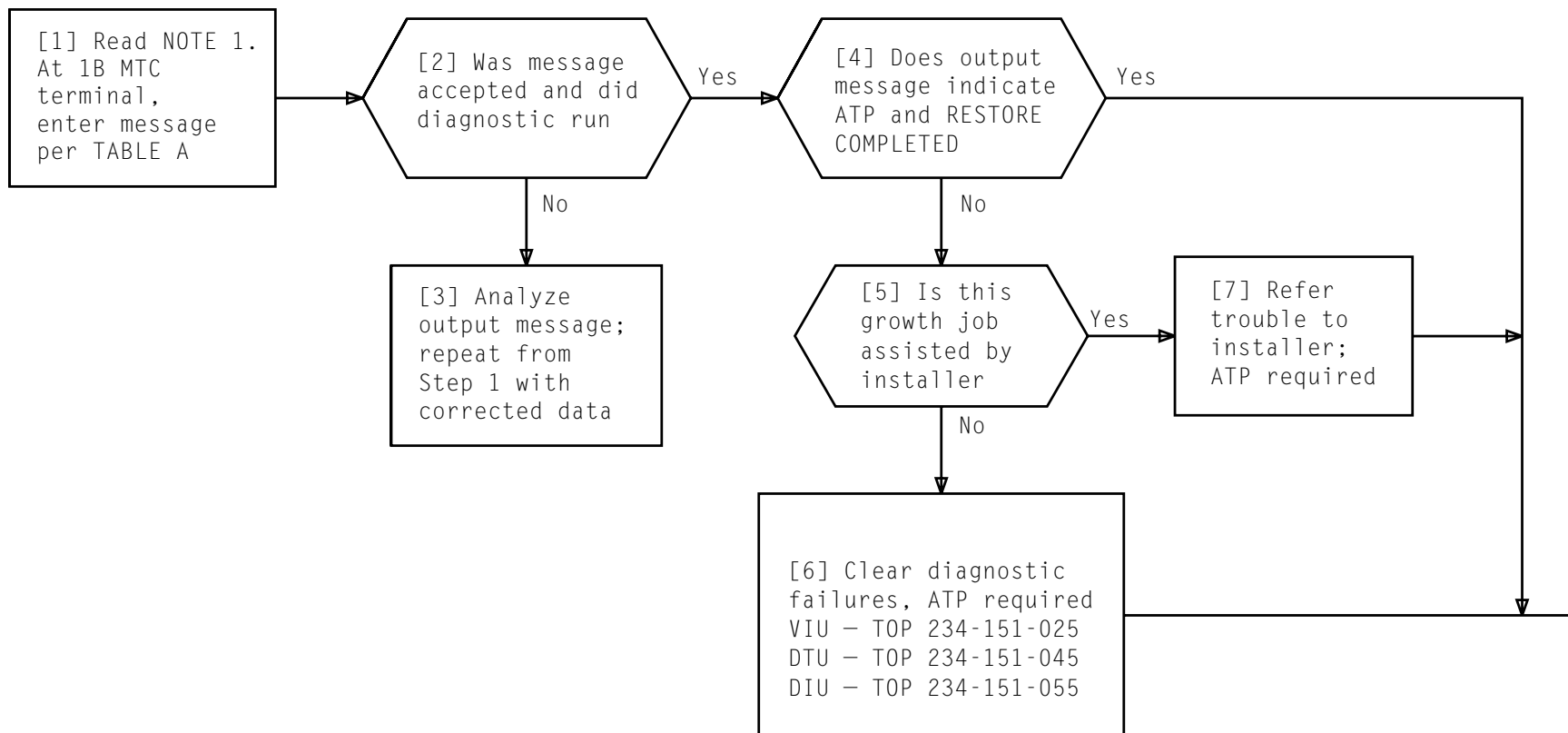


TABLE A	
MESSAGE NUMBER	INPUT MESSAGE
1	RST:a b,c d!
a = Unit type = VIF or DT or DIF b = Member number of growth associated frame c = Submember type = VIU or DTU or DIU d = Submember number of growth unit	

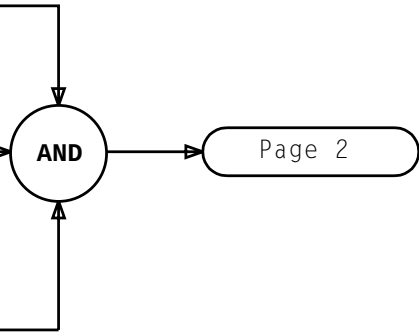
NOTE 1 Restore input message will cause diagnostic to be run and VIU/DTU/DIU to be restored, if ATP	
Issue 1	SEP 1997
234-353-030	DLP
PAGE 1 of 1	512

RESTORE VIU/DTU/DIU

[1] Note contents of word(s) in entry
output message containing version
data to be verified

[2] For each controller and/or submember
convert octal digits to version number
per FIG. 1 and record

[3] Obtain from shipping information
or installer, issue number(s) for
each growth frame controller and/or
submember



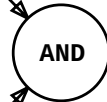
entry data																												
octal output	Y				Y				Y				Y				Y				Y				Y			
bit position	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0				
binary values	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
	8				7				6				5				4				3				2			
	UNIT NUMBER																CONTROLLER 1				CONTROLLER 0							
	SUBMEMBER VERSION NUMBER																CONTROLLER VERSION NUMBER											

FIG. 1 – Typical Word Layout for Version Number Data

VERIFY CONTROLLER AND/OR SUBMEMBER VERSION NUMBERS

[4] Using TABLE A, select version numbers associated with LDI issues of Step 3. See NOTE 1

[5] Compare version numbers in Step 4 with version numbers calculated in Step 2



[6] Record discrepancies found in Step 5

TABLE A					
UNIT	SD NUMBER	MEMBER VERSION NUMBER			
		0	1	2	3
VIF Controller	5G156-01	*1A	1A	4C	5G
	5G158-01	1A	4A	5A	6F
VIF Unit	5G156-01	1A	5B	—	—
	5G157-01	1A	5A	—	—
TGR Controller	4A054-01	1A	—	—	—
DT Controller	6G114-01	1A	—	—	—
DT Unit	6G114-01	1A	—	—	—
EST Controller	5G168-01	1A	—	—	—
EST Unit	5G168-01	1A	—	—	—
* LDI Issue Numbers					

NOTE 1
PECC diagnostic center may be consulted for current version information if not listed in TABLE A

Issue 1	SEP 1997
234-353-030	DLP
PAGE 2 of 2	513

SUMMARY

Using verify entry input message, call up TGR UT translator and verify that resulting TTY octal output data, when converted, agrees with office records. Refer

to entry word explanations in TABLE B, Page 5, as required, for assistance in interpreting specific data fields. If it is determined that UT entry data is in error, word change(s) may be required.

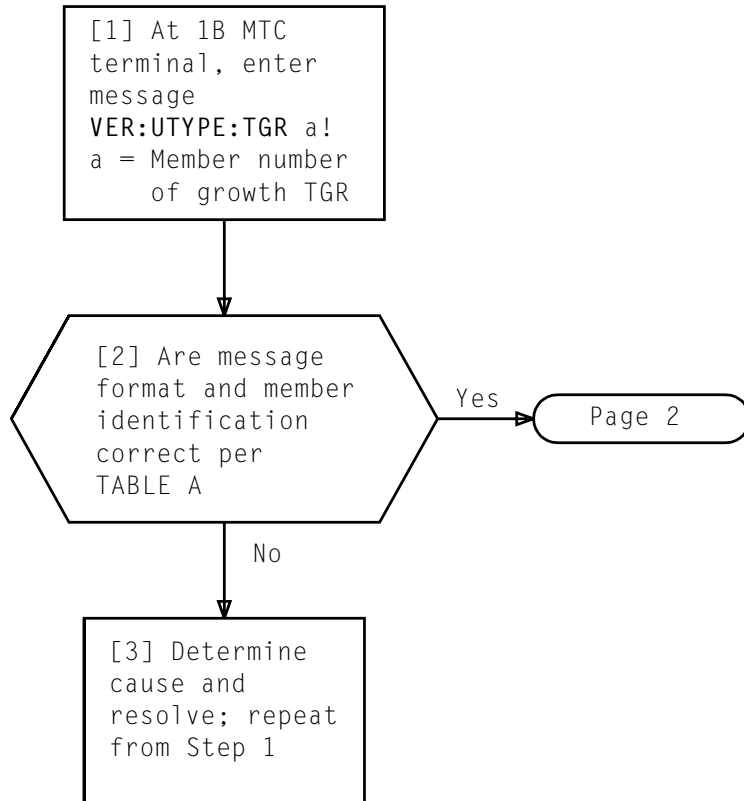
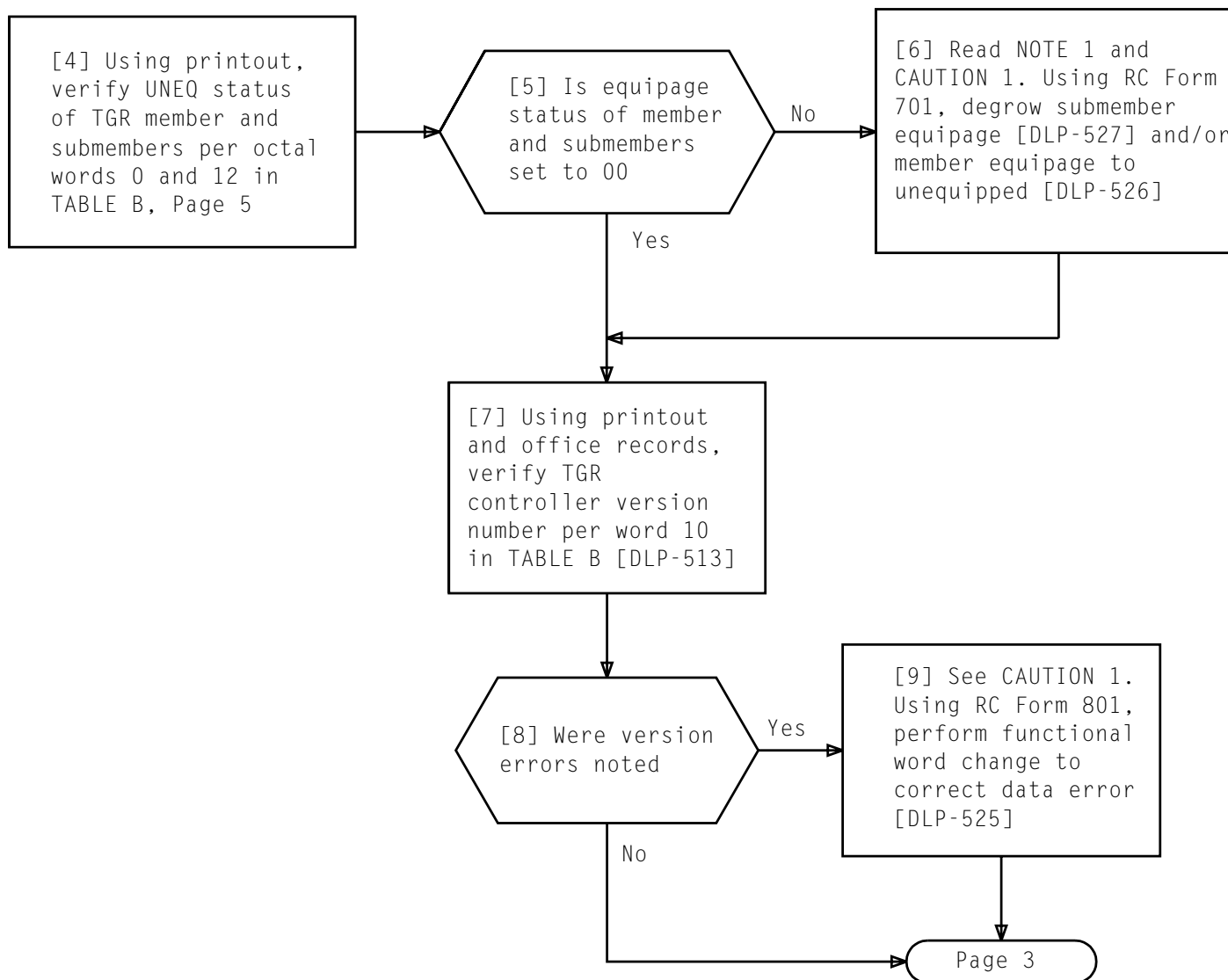


TABLE A

MESSAGE NUMBER	INPUT MESSAGE
1	VER:UTMN,OPT(),CUR: FLN a, UTYN TGR, MEMN b, ME UNEQ, ENTRY ADDRESS c, ENTRY SIZE 81, CUR WORD 0 _____ _____ WORD 10 _____ _____ WORD 20 _____ _____ • • • • WORD 110 _____ _____ WORD 120 _____

a = Floor location number
b = Member number of growth TGR
c = Starting address (Word 0)



NOTE 1 Submember equipage must be degrown first, if required, followed by degrowth of member equipage, if required		
CAUTION 1 Depending on local procedures, supervisory or TELCO engineering approval must be obtained prior to performing any data changes		
Issue 1	SEP 1997	
234-353-030	DLP	
PAGE 2 of 13	514	

Using printout, TABLE B, Page 5; and
office records:

[10] Verify miscellaneous member
type data of bits 18 through 23
per word 0

[11] Verify alarm grid, lineup, and
frame assignment for growth frame
per word 1 [DLP-523]

[12] Verify PUB branch assignment
for growth frame per word 3
[DLP-524]

[13] Verify SD and pulse point
assignments for growth TGR
per words 2, 5, 6, 7, and 14
[DLP-528]

[14] Verify member version data
per word 11

[15] Verify scan point assignments
for growth frame per words 3, 4,
13, 15, 16, 17, and 20 [DLP-529]

AND

Page 4

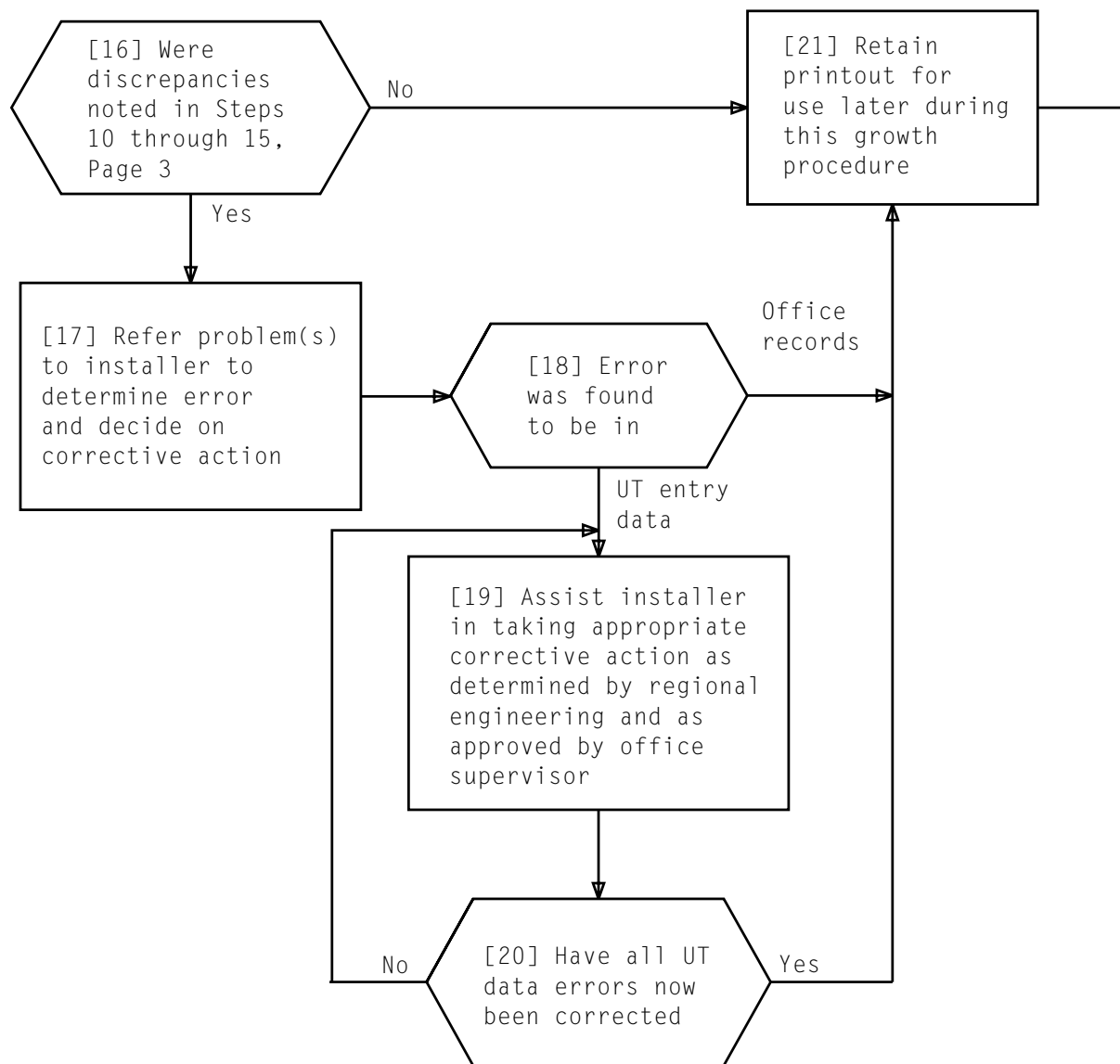


TABLE B																																																																																																																																																								
ENTRY WORD (OCTAL)	UT ENTRY DATA AND WORD CONFIGURATION																																																																																																																																																							
0	entry data octal output	<table><tr><td colspan="3">1</td><td colspan="3">0</td><td colspan="3">0</td><td colspan="3">0</td><td colspan="3">0</td><td colspan="3">0</td><td colspan="3">0</td></tr><tr><td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td><td>16</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td><td>0</td></tr><tr><td>0</td><td>0</td><td>1</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></tr><tr><td colspan="3">MEMBER TYPE</td><td colspan="3">MEMBER TYPE HARDWARE GENERATION</td><td colspan="3">MEMBER EQUIPAGE</td><td colspan="2">7</td><td colspan="2">6</td><td colspan="2">5</td><td colspan="2">4</td><td colspan="2">3</td><td colspan="2">2</td><td colspan="2">1</td><td colspan="2">0</td></tr><tr><td colspan="19">TERMINAL UNIT NUMBER</td></tr><tr><td colspan="19">TERMINAL UNIT SUBMEMBER EQUIPAGE</td></tr></table>																			1			0			0			0			0			0			0			23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	MEMBER TYPE			MEMBER TYPE HARDWARE GENERATION			MEMBER EQUIPAGE			7		6		5		4		3		2		1		0		TERMINAL UNIT NUMBER																			TERMINAL UNIT SUBMEMBER EQUIPAGE																		
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TABLE B (Contd)																									
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	binary values	0	0	0	0	0	0	0	X	X	X	X	X	0	X	X	X	X	X	X	X	X	X	X	X
									SP MEMBER NUMBER					SP ROW NUMBER						SP COLUMN NUMBER					
	BASE SP PULSE POINT																								
X...X = Converts to decimal SP info as reflected in office record drawing T-nnnn-Hn-462 or equivalent																									
Y = Variable octal numbers																									
3	entry data octal output	Y		Y		Y		Y		Y		Y		Y		Y									
	bit position	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
	binary values	0	1	Z	Z	Z	0	0	X	X	X	X	X	0	X	X	X	X	X	X	X	X	X	X	X
				PUB BRANCH NUMBER ASSIGNMENT				SP MEMBER NUMBER					SP ROW NUMBER						SP COLUMN NUMBER						
	MEMBER BASE MISCELLANEOUS SCAN NUMBER																								
X...X = Converts to decimal SP info as reflected in office record drawing T-nnnn-Hn-461 or equivalent																									
Y = Variable octal numbers																									
ZZZ = 3-digit code corresponding to lettered PUB branch as reflected in office record drawing T-nnnn-Hn-3840 or equivalent																									
= 000 - branch A&B 100 - branch K&L 001 - branch C&D 101 - branch M&R 010 - branch E&F 110 - branch T&V 011 - branch G&H 111 - branch W&X																									

TABLE B (Contd)																																																																																																									
ENTRY WORD (OCTAL)	UT ENTRY DATA AND WORD CONFIGURATION																																																																																																								
4	octal output bit position binary values <table><tr><td>0</td><td>0</td><td>Y</td><td>Y</td><td>Y</td><td>Y</td><td>Y</td><td>Y</td></tr><tr><td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td><td>16</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td><td>0</td></tr><tr><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>0</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td></tr><tr><td colspan="7"></td><td colspan="5">SP MEMBER NUMBER</td><td colspan="8">SP ROW NUMBER</td><td colspan="4">SP COLUMN NUMBER</td></tr><tr><td colspan="24">BUS BASE MISCELLANEOUS SCAN NUMBER</td></tr></table> X...X = Converts to decimal SP info as reflected in office record drawing T-nnnn-Hn-461 or equivalent Y = Variable octal numbers	0	0	Y	Y	Y	Y	Y	Y	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	0	0	0	0	0	0	0	X	X	X	X	X	0	X	X	X	X	X	X	X	X	X	X	X								SP MEMBER NUMBER					SP ROW NUMBER								SP COLUMN NUMBER				BUS BASE MISCELLANEOUS SCAN NUMBER																							
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TABLE B (Contd)									
ENTRY WORD (OCTAL)	UT ENTRY DATA AND WORD CONFIGURATION								
5	entry data	0		0		Y		Y	
	octal output								
	bit position	23	22	21	20	19	18	17	16
	binary values	0	0	0	0	0	0	0	X
6	entry data	0		0		Y		Y	
	octal output								
	bit position	23	22	21	20	19	18	17	16
	binary values	0	0	0	0	0	0	0	X

X...X = Converts to decimal SP info
as reflected in office record
drawing T-nnnn-Hn-462 or equivalent

Y = Variable octal numbers

X...X = Converts to decimal SP info
as reflected in office record
drawing T-nnnn-Hn-462 or equivalent

Y = Variable octal numbers

TABLE B (Contd)																					
ENTRY WORD (OCTAL)	UT ENTRY DATA AND WORD CONFIGURATION																				
7	entry data																				
	octal output	0 0 Y Y Y Y Y Y																			
	bit position	23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 0																			
	binary values	0 0 0 0 0 0 0 X X X X X 0 X X X X X X X X X X																			
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X...X = Converts to decimal SP info as reflected in office record drawing T-nnnn-Hn-462 or equivalent Y = Variable octal numbers																					
10	entry data																				
	octal output	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 Y Y																			
	bit position	23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 0																			
	binary values	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 X X X X X																			
		CONTROLLER 1 CONTROLLER 0 TGR CONTROLLER VERSION NUMBER																			
X...X = Version numbers of TGR equipment as reflected in appropriate office record drawings and shipping info Y = Variable octal numbers																					

TABLE B (Contd)																																																																																																																																																	
ENTRY WORD (OCTAL)	UT ENTRY DATA AND WORD CONFIGURATION																																																																																																																																																
11	entry data octal output bit position binary values <table><tr><td>Y</td><td>Y</td><td>Y</td><td>Y</td><td>Y</td><td>Y</td><td>Y</td><td>Y</td><td>Y</td><td>Y</td><td>Y</td><td>Y</td><td>Y</td><td>Y</td><td>Y</td><td>Y</td><td>Y</td><td>Y</td><td>Y</td><td>Y</td><td>Y</td><td>Y</td><td>Y</td><td>Y</td></tr><tr><td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td><td>16</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td><td>0</td></tr><tr><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td></tr><tr><td colspan="24">MEMBER VERSION</td></tr></table> Y...Y = Values as determined by next higher technical support group	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	MEMBER VERSION																																																																							
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								TERMINAL UNIT SUBMEMBER EQUIPAGE																																																																																																																																									

TABLE B (Contd)

ENTRY WORD (OCTAL)	UT ENTRY DATA AND WORD CONFIGURATION																								
13	entry data																								
	octal output																								
	bit position																								
	binary values																								
		0		0		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y	
		23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
		0	0	0	0	0	0	0	X	X	X	X	X	0	X	X	X	X	X	X	X	X	X	X	X
									SP MEMBER NUMBER					SP ROW NUMBER							SP COLUMN NUMBER				
		TERMINAL UNIT BASE MISCELLANEOUS SCAN NUMBER																							
		X...X = Converts to decimal SP info as reflected in office record drawing T-nnnn-Hn-461 or equivalent																							
		Y = Variable octal numbers																							
14	entry data																								
	octal output																								
	bit position																								
	binary values																								
		0		0		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y	
		23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
		0	0	0	0	0	0	0	X	X	X	X	X	0	X	X	X	X	X	X	X	X	X	X	X
									SP MEMBER NUMBER					SP ROW NUMBER							SP COLUMN NUMBER				
		TERMINAL UNIT BASE MISCELLANEOUS SD NUMBER																							
		X...X = Converts to decimal SP info as reflected in office record drawing T-nnnn-Hn-462 or equivalent																							
		Y = Variable octal numbers																							

TABLE B (Contd)	
ENTRY WORD (OCTAL)	UT ENTRY DATA AND WORD CONFIGURATION
15	entry data octal output → 0 0 Y Y Y Y Y Y bit position → 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 0 binary values → 0 0 0 0 0 0 0 X X X X X 0 X X X X X X X X X X X SP MEMBER NUMBER SP ROW NUMBER SP COLUMN NUMBER CONTROL 0 LOW PRIORITY MISCELLANEOUS SCAN NUMBER X...X = Converts to decimal SP info as reflected in office record drawing T-nnnn-Hn-461 or equivalent Y = Variable octal numbers
16	entry data octal output → 0 0 Y Y Y Y Y Y bit position → 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 0 binary values → 0 0 0 0 0 0 0 X X X X X 0 X X X X X X X X X X X SP MEMBER NUMBER SP ROW NUMBER SP COLUMN NUMBER CONTROL 0 HIGH PRIORITY MISCELLANEOUS SCAN NUMBER X...X = Converts to decimal SP info as reflected in office record drawing T-nnnn-Hn-461 or equivalent Y = Variable octal numbers

TABLE B (Contd)	

ENTRY WORD (OCTAL)	UT ENTRY DATA AND WORD CONFIGURATION																																																																																																																																
17	entry data																																																																																																																																
	octal output																																																																																																																																
	bit position																																																																																																																																
	binary values																																																																																																																																
	<table style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td colspan="2" style="width: 10%;">0</td> <td colspan="2" style="width: 10%;">0</td> <td colspan="2" style="width: 10%;">Y</td> <td colspan="2" style="width: 10%;">Y</td> <td colspan="2" style="width: 10%;">Y</td> <td colspan="2" style="width: 10%;">Y</td> <td colspan="2" style="width: 10%;">Y</td> <td colspan="2" style="width: 10%;">Y</td> </tr> <tr> <td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td><td>16</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td><td>0</td> </tr> <tr> <td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>0</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td> </tr> <tr> <td colspan="7" rowspan="2"></td> <td colspan="5">SP MEMBER NUMBER</td> <td colspan="7">SP ROW NUMBER</td> <td colspan="5">SP COLUMN NUMBER</td> </tr> <tr> <td colspan="17">CONTROL 1 LOW PRIORITY MISCELLANEOUS SCAN NUMBER</td> </tr> </table>																								0		0		Y		Y		Y		Y		Y		Y		23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	0	0	0	0	0	0	0	X	X	X	X	X	0	X	X	X	X	X	X	X	X	X	X	X								SP MEMBER NUMBER					SP ROW NUMBER							SP COLUMN NUMBER					CONTROL 1 LOW PRIORITY MISCELLANEOUS SCAN NUMBER																
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0	0	0	0	0	0	0	X	X	X	X	X	0	X	X	X	X	X	X	X	X	X	X	X																																																																																																										
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	X...X = Converts to decimal SP info as reflected in office record drawing T-nnnn-Hn-461 or equivalent Y = Variable octal numbers																																																																																																																																

SUMMARY
Diagnose TGR controller 0. After ATP, restore controller 0 to service. Repeat diagnostic and restoral for controller 1.

[1] At 1B MTC terminal,
enter message
DGN:TGR a,CONTR 0!
a = Member number
of growth TGR

[2] Was message
accepted and did
diagnostic run

Yes

[4] Does output
message indicate
ATP on phases
run

Yes

[3] Analyze output
message; repeat
from Step 1 using
corrected data

No

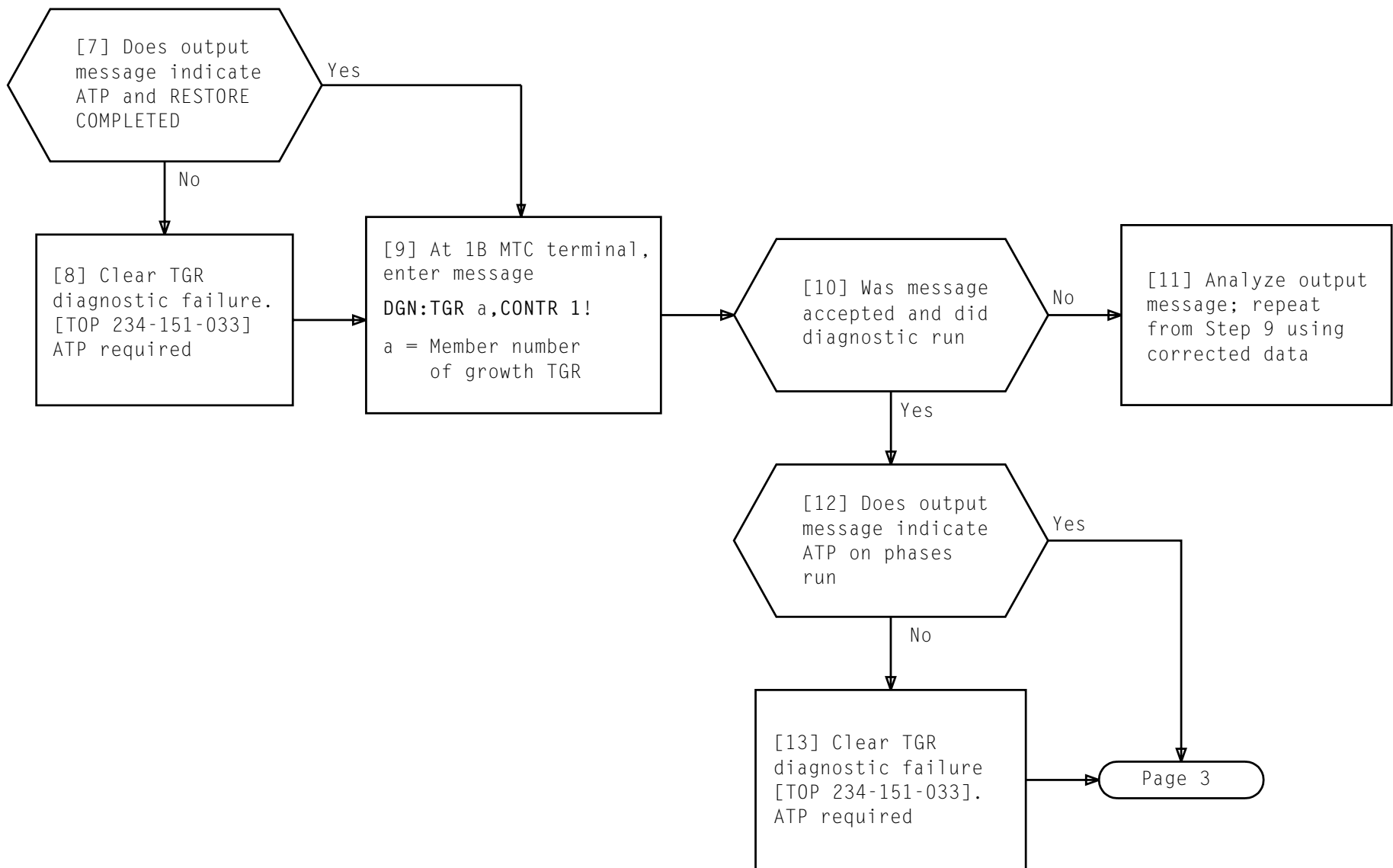
No

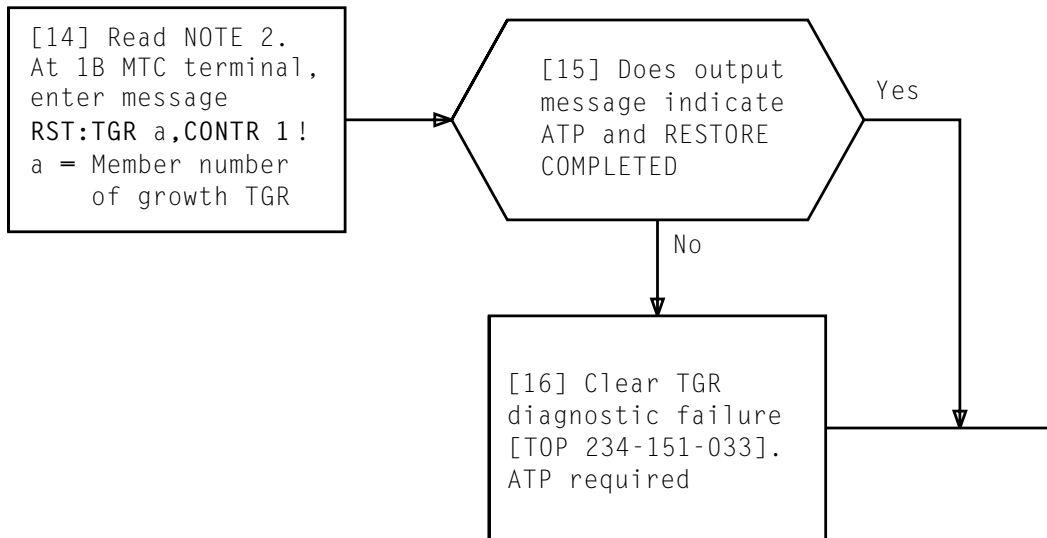
[5] Clear TGR
diagnostic failure
[TOP 234-151-033].
ATP required

[6] Read NOTE 1.
At 1B MTC terminal,
enter message
RST:TGR a,CONTR 0!
a = Member number
of growth TGR

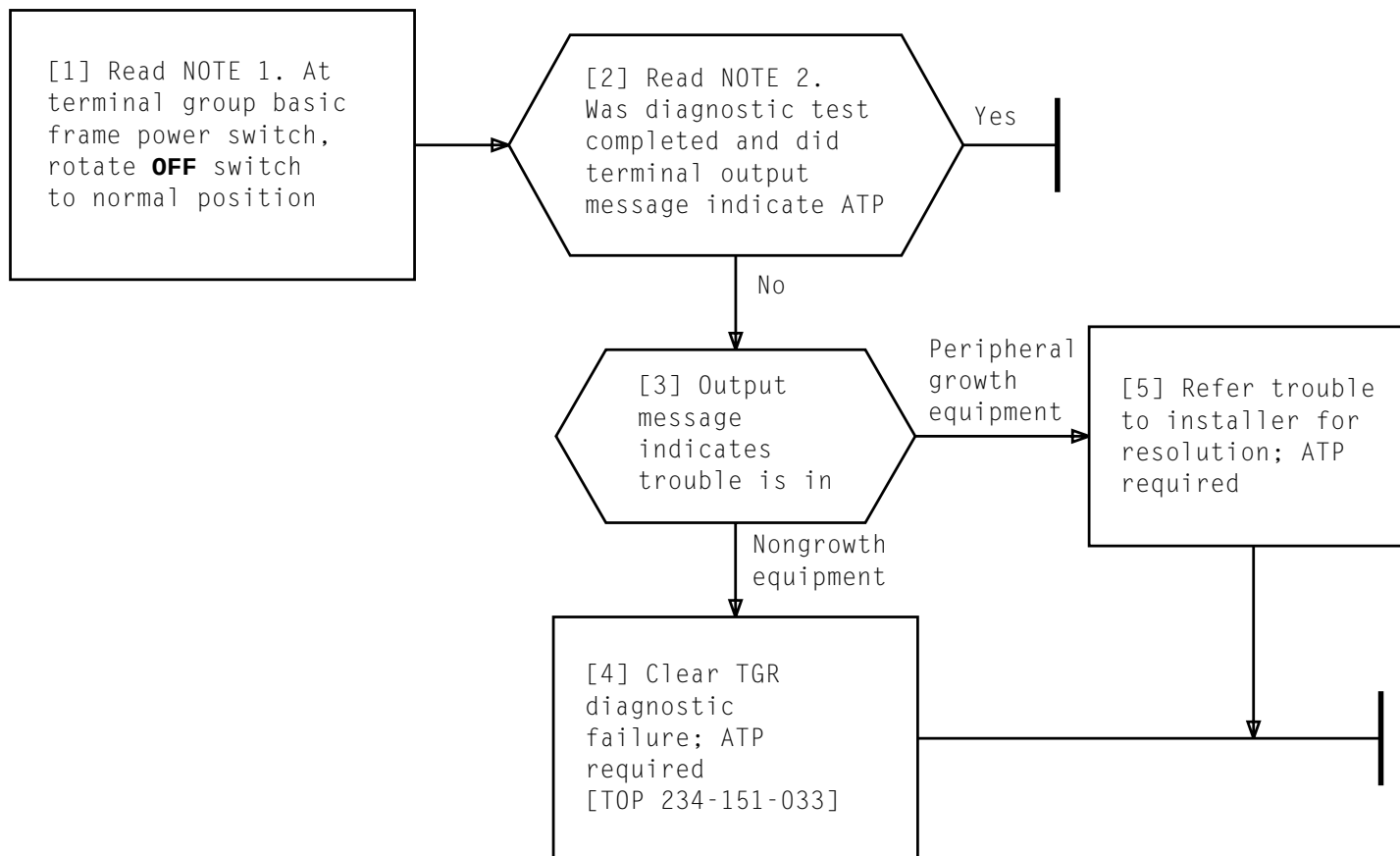
Page 2

NOTE 1 Restore input message will cause TGR diagnostic to be run and controller to be restored, if ATP		
Issue 1	SEP 1997	
234-353-030	DLP	
PAGE 1 of 3	515	





NOTE 2 Restore input message will cause TGR diagnostic to be run and controller to be restored, if ATP		
Issue 1	SEP 1997	
234-353-030	DLP	
PAGE 3 of 3	515	



NOTES			
1. An automatic diagnostic will occur on frame controller			
2. If diagnostic indicated ATP, OFF NORM and OS lamps will go off. If diagnostic fails, OS lamp will remain lighted and OFF NORM lamp will go off			
Issue 1	SEP 1997		
234-353-030	DLP		
PAGE 1 of 1	516		

SUMMARY

Using verify entry input message, verify current state of member and subtype equipage of connecting SP2 and port assignment data. Compare entry data output of WORD 0 and port assignment with expected data in TABLE B, Page 3.

[1] At 1B MTC terminal,
enter message
VER:UTYPE:SP a!
a = Member number of
connecting SP

[2] Are message
format and member
identification
correct per
TABLE A

Yes

No

[3] Determine
cause and
resolve; repeat
from Step 1

[4] Compare WORD 0 of entry output
and TABLE B to verify member
equipage and submember equipage
(SP2EQ) associated with growth
DT

[5] Note equipage status
for later use

[6] Compare information at end of
entry output and TABLE B to
verify connecting SP2 port
assignment of DT being added

AND

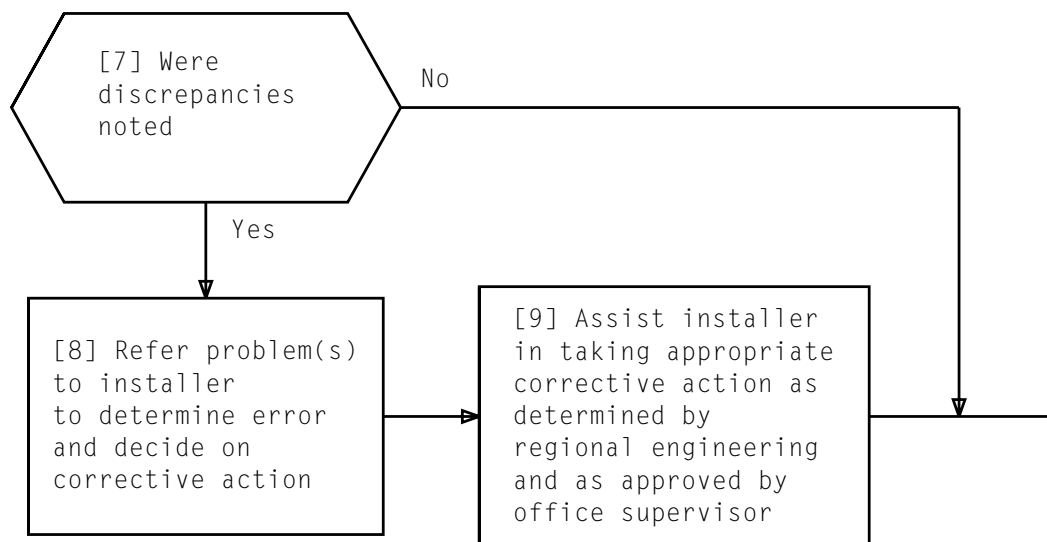
Page 2

TABLE A

MESSAGE NUMBER	OUTPUT MESSAGE
1	VER:UTMN;OPT,CUR: FLN a, UTYN SP, MEMN b, ME OPER, ENTRY ADDRESS c, ENTRY SIZE 16, CUR WORD 0 _____ WORD 10 _____ _____

a = Floor location number
b = Member number of connecting SP
c = Starting octal address for
unit type entry

VERIFY SP2 PORT ASSIGNMENT AND EQUIPAGE STATUS OF CONNECTING SP2 EQUIPMENT



VERIFY SP2 PORT ASSIGNMENT AND EQUIPAGE STATUS OF CONNECTING SP2 EQUIPMENT

Issue 1	SEP 1997
234-353-030	DLP
PAGE 2 of 3	517

TABLE B																																																																																							
ENTRY WORD (OCTAL)		UT ENTRY DATA AND WORD CONFIGURATION																																																																																					
0	entry data	2		0		6		0		0		Y		Y		Y																																																																							
	octal output																																																																																						
	bit position	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0																																																														
	binary values	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	X	X	X	X	X	X	X	X																																																														
								MEMBER EQUIP										3		2		1		0																																																															
		SP2EQ																																																																																					
	SUBTYPE SUBMEMBER EQUIPAGE																																																																																						
XX = 01 For SP2EQ in growth state or = 11 For SP2EQ in operational state. Y = Variable octal numbers																																																																																							
VER:UTMN;OPT(MISC),CUR:UTYN SP, MEMN a, <table><tr><td></td><td>SP PORT</td><td>DIGROUP</td><td>TERMINAL</td><td></td><td>SP PORT</td><td>DIGROUP</td><td>TERMINAL</td></tr><tr><td rowspan="4">* SP2EQ0</td><td>1</td><td></td><td>b</td><td rowspan="4">* SP2EQ2</td><td>9</td><td></td><td>c</td></tr><tr><td>2</td><td></td><td>b</td><td>10</td><td></td><td>c</td></tr><tr><td>3</td><td></td><td>b</td><td>11</td><td></td><td>c</td></tr><tr><td>4</td><td></td><td>b</td><td>12</td><td></td><td>c</td></tr><tr><td rowspan="4">* SP2EQ1</td><td>5</td><td></td><td>c</td><td rowspan="4">* SP2EQ3</td><td>13</td><td></td><td>c</td></tr><tr><td>6</td><td></td><td>c</td><td>14</td><td></td><td>c</td></tr><tr><td>7</td><td></td><td>c</td><td>15</td><td></td><td>c</td></tr><tr><td>8</td><td></td><td>c</td><td>16</td><td></td><td>c</td></tr></table> a = Member number of SP2 associated with growth DT b = Member number of E & M type digroup terminal frame assigned to associated SP port c = Member number of CCIS type digroup terminal frame assigned to associated SP port * = For information only – not part of VER:UTMN output message																													SP PORT	DIGROUP	TERMINAL		SP PORT	DIGROUP	TERMINAL	* SP2EQ0	1		b	* SP2EQ2	9		c	2		b	10		c	3		b	11		c	4		b	12		c	* SP2EQ1	5		c	* SP2EQ3	13		c	6		c	14		c	7		c	15		c	8		c	16		c
	SP PORT	DIGROUP	TERMINAL		SP PORT	DIGROUP	TERMINAL																																																																																
* SP2EQ0	1		b	* SP2EQ2	9		c																																																																																
	2		b		10		c																																																																																
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	8		c		16		c																																																																																

VERIFY SP2 PORT ASSIGNMENT AND EQUIPAGE STATUS OF
 CONNECTING SP2 EQUIPMENT

SUMMARY

Using verify entry input message, call up growth DT UT translator and verify that resulting TTY octal output data, when converted, agrees with office records.

Refer to entry word explanations of in TABLE B, Page 5, as required, for assistance in interpreting specific data fields. If it is determined that UT entry data is in error, word change(s) may be required.

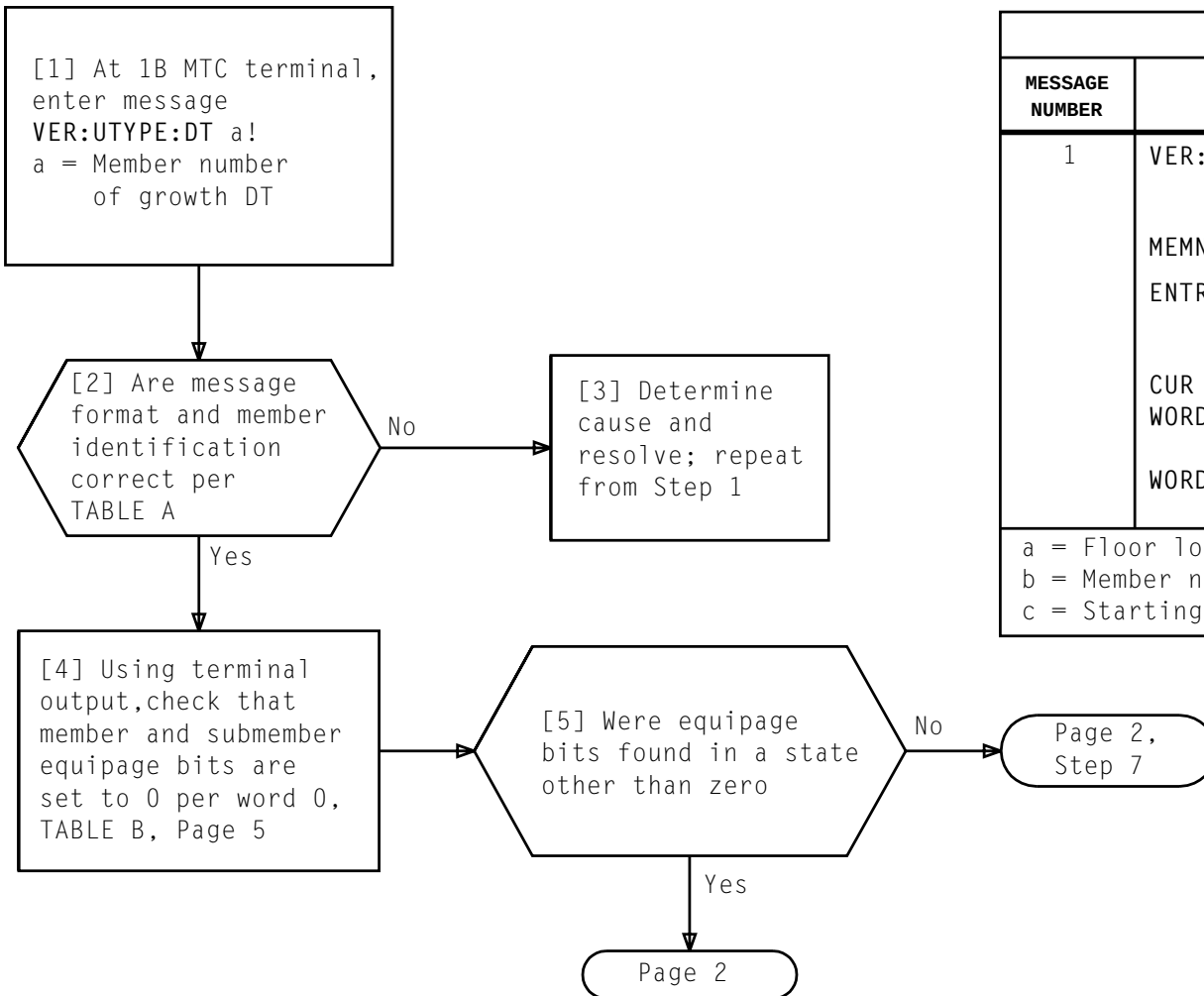
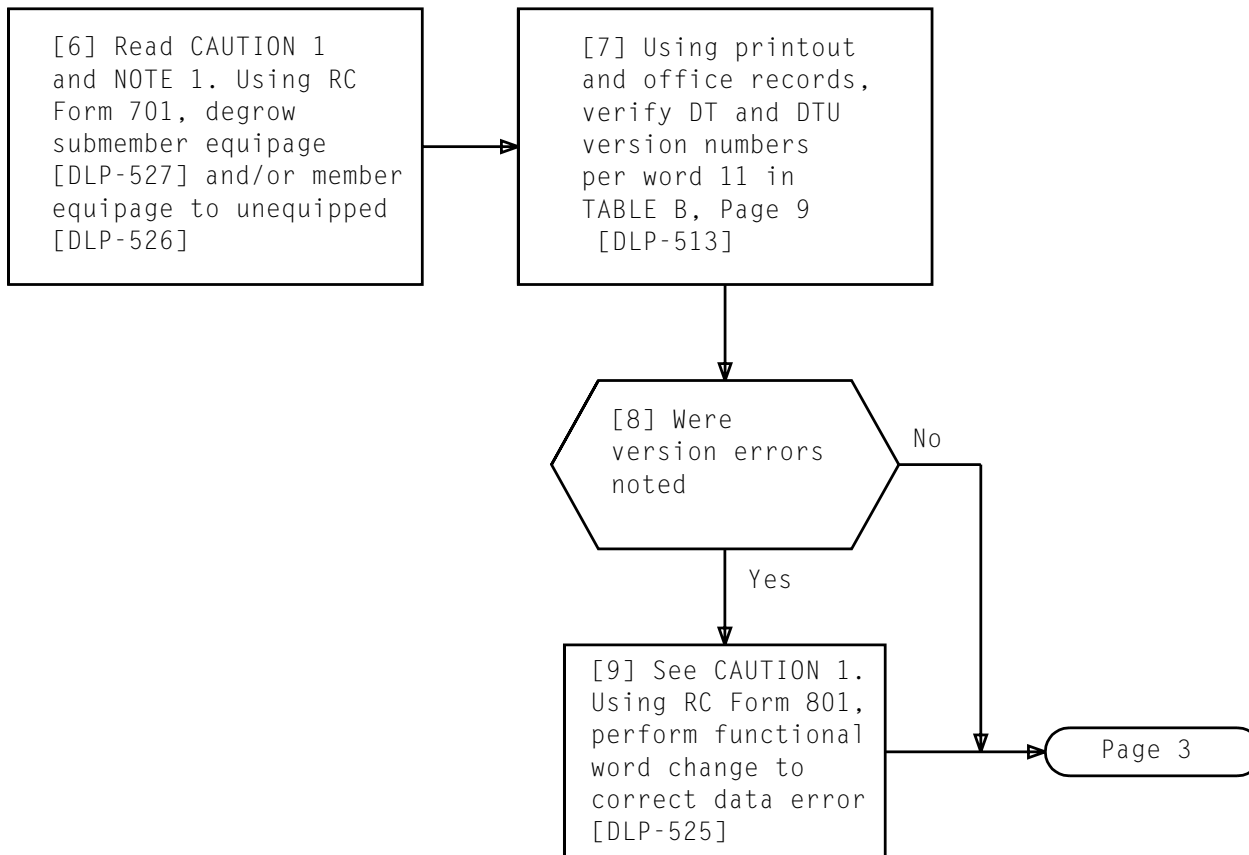


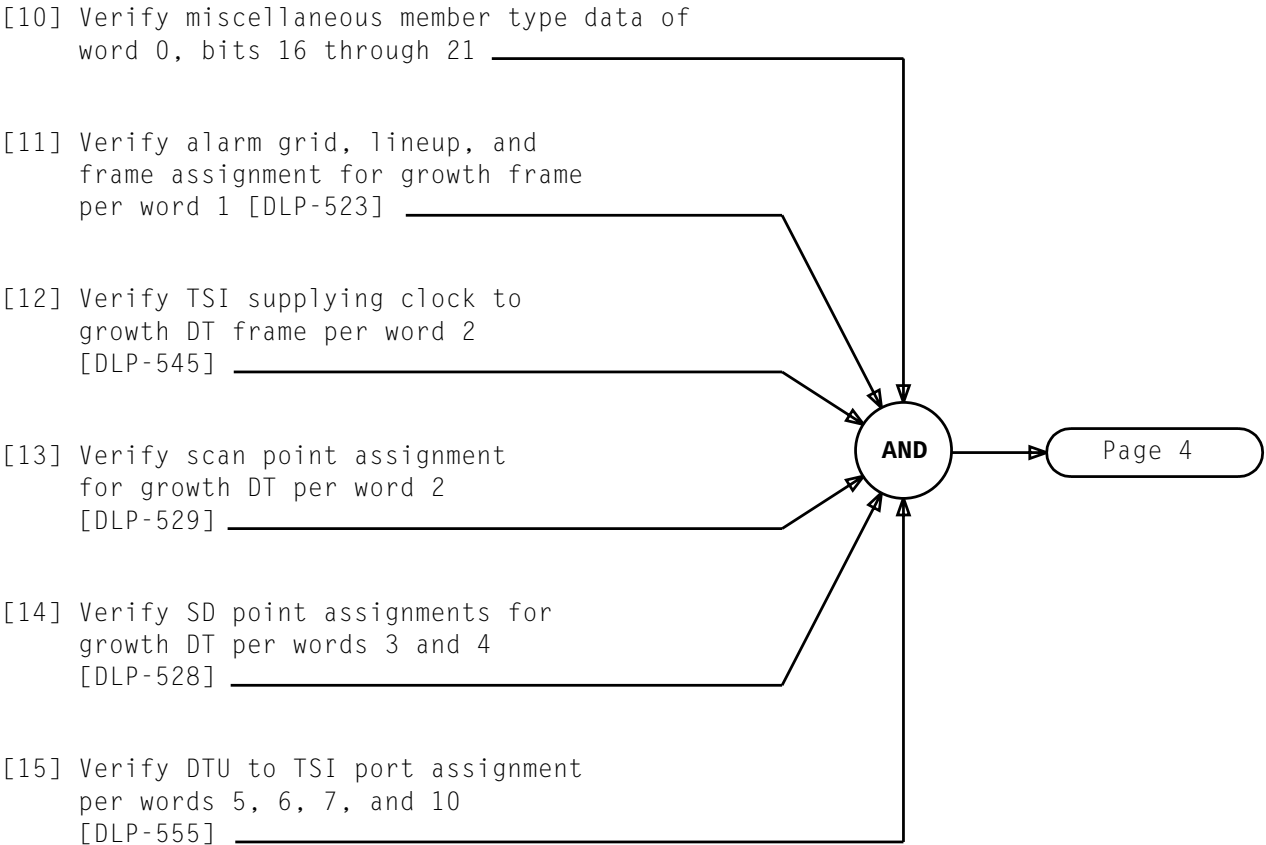
TABLE A

MESSAGE NUMBER	OUTPUT MESSAGE
1	VER:UTMN;OPT(),CUR: FLN a, UTYN DT, MEMN b, ME UNEQ, ENTRY ADDRESS c, ENTRY SIZE 10, CUR WORD 0 ____ ____ ____ ____ ____ ____ ____ ____ WORD 10 ____ ____ ____ ____ ____ ____ ____ ____
a = Floor location number b = Member number of growth DT c = Starting octal address for unit type entry	



NOTE 1 Submember equipage must be degrown first, if required, followed by degrowth of member equipage, if required	
CAUTION 1 <i>Depending on local procedures, supervisory or TELCO engineering approval must be obtained prior to performing any data change</i>	
Issue 1	SEP 1997
234-353-030	DLP
PAGE 2 of 9	518

Using printout, TABLE B, Page 5, and office records:



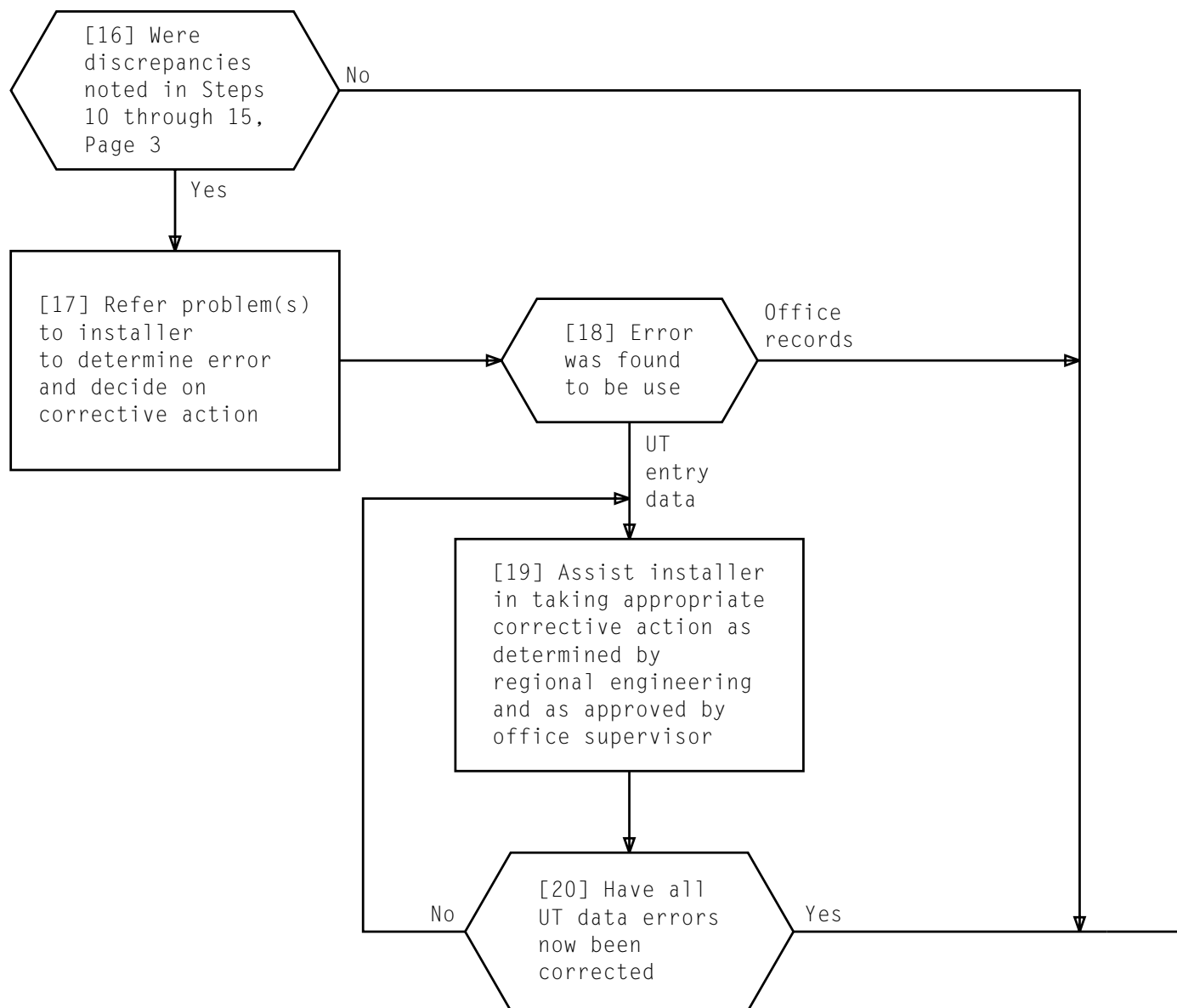


TABLE B																										
ENTRY WORD (OCTAL)	UT ENTRY DATA AND WORD CONFIGURATION																									
0	entry data																									
	octal output	→	0		Y		0		0		0		0		0		0		0							
	bit position	→	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
	binary values	→	0 0		0 0		X		0 0 0		0 0		0 0		0 0		0 0		0 0		0 0		0 0		0 0	
		MEMBER EQUIPAGE		MEMBER TYPE		MEMBER TYPE HARDWARE GENERATION		7		6		5		4		3		2		1		0				
																			DTU NO.							
																			DTU SUBMEMBER EQUIPAGE							

TABLE B (Contd)																									
ENTRY WORD (OCTAL)	UT ENTRY DATA AND WORD CONFIGURATION																								
2	entry data octal output	Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y			
	bit position	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
	binary values	U	U	U	U	U	U	Z	X	X	X	X	X	0	X	X	X	X	X	X	X	X	X	X	X
	TSI MEMBER DELIVERING CLOCK TO THIS DT							SPC 0/1	SP MEMBER NUMBER					SP ROW NUMBER							SP COLUMN NUMBER				
	BASE MISCELLANEOUS SCAN POINT																								
X...X = Converts to decimal SP info as reflected in office record drawing T-nnnn-Hn-461 or equivalent												Y = Variable octal numbers Z = TSI SPC number (0/1) which connects to growth DT													
3	entry data octal output	0		0		Y		Y		Y		Y		Y		Y		Y		Y		Y			
	bit position	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
	binary values	0	0	0	0	0	0	0	X	X	X	X	X	0	X	X	X	X	X	X	X	X	X	X	X
								SP MEMBER NUMBER					SP ROW NUMBER							SP COLUMN NUMBER					
	BASE MISCELLANEOUS DISTRIBUTOR NUMBER 1																								
X...X = Converts to decimal SP info as reflected in office record drawing T-nnnn-Hn-462 or equivalent												Y = Variable octal numbers													

TABLE B (Contd)																																																																																																								
ENTRY WORD (OCTAL)	UT ENTRY DATA AND WORD CONFIGURATION																																																																																																							
4	entry data octal output bit position binary values <table><tr><td>0</td><td>0</td><td>Y</td><td>Y</td><td>Y</td><td>Y</td><td>Y</td><td>Y</td></tr><tr><td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td><td>16</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td><td>0</td></tr><tr><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>0</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td></tr><tr><td colspan="7"></td><td colspan="4">SP MEMBER NUMBER</td><td colspan="8">SP ROW NUMBER</td><td colspan="4">SP COLUMN NUMBER</td></tr><tr><td colspan="24">BASE MISCELLANEOUS DISTRIBUTOR NUMBER 2</td></tr></table> X...X = Converts to decimal SP info as reflected in office record drawing T-nnnn-Hn-462 or equivalent Y = Variable octal numbers	0	0	Y	Y	Y	Y	Y	Y	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	0	0	0	0	0	0	0	X	X	X	X	X	0	X	X	X	X	X	X	X	X	X	X	X								SP MEMBER NUMBER				SP ROW NUMBER								SP COLUMN NUMBER				BASE MISCELLANEOUS DISTRIBUTOR NUMBER 2																							
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TABLE B (Contd)

ENTRY WORD (OCTAL)	UT ENTRY DATA AND WORD CONFIGURATION																								
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		VERSION NUMBER																																															
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VER:UTMN;OPT(MISC),CUR: MEMN a, SP PORT																									UTYN DT, a = Member number of this DT																								
																									b = SP2 member number associated with this DT																								
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SUMMARY

Using verify entry input message, call up DT UT translator associated with growth DTU and verify that resulting octal output data, when converted, agrees with office records.

Refer to entry word explanations in TABLE B, Page 4, as required, for assistance in interpreting specific data field. If it is determined that UT entry data is in error, word change(s) may be required.

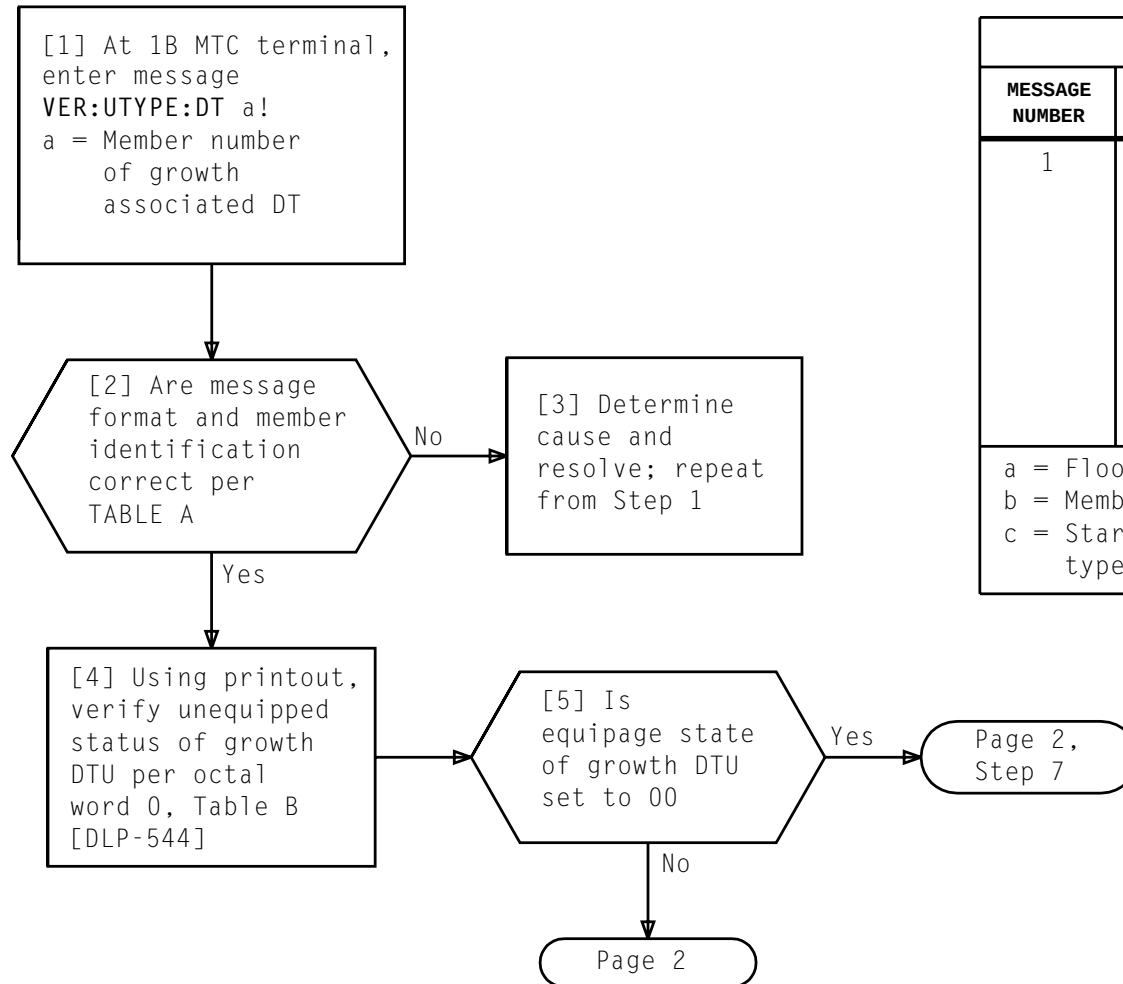
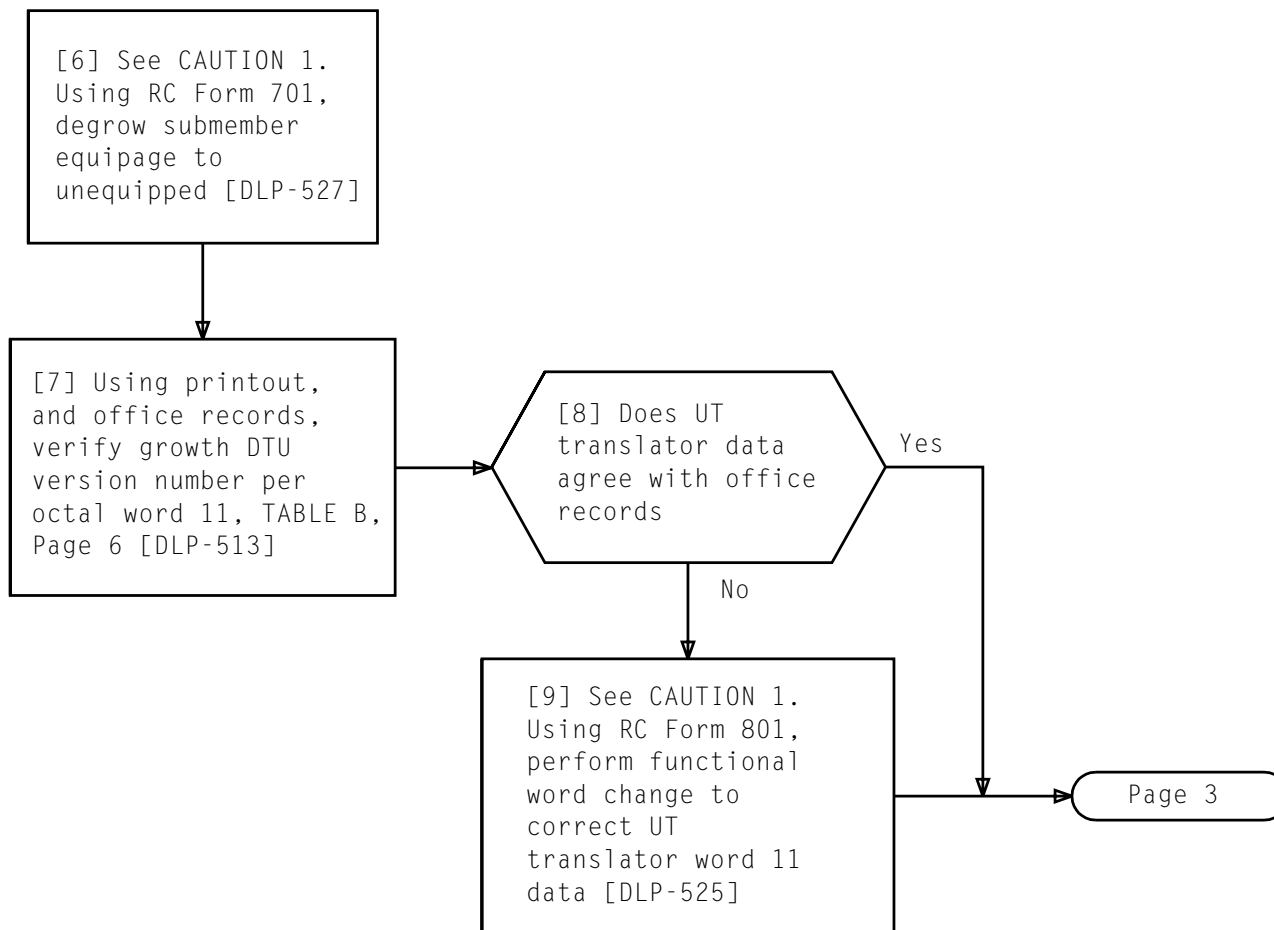


TABLE A

MESSAGE NUMBER	OUTPUT MESSAGE
1	VER:UTMN;OPT(),CUR: FLN a, UTYN DT, MEMN b, ME OPER, ENTRY ADDRESS c, ENTRY SIZE 10, CUR WORD 0 ___ ___ ___ ___ WORD 10 ___ ___
a = Floor location number b = Member number of growth associated DT c = Starting octal address for unit type entry	



VERIFY DTU TO TSI PORT ASSIGNMENT, VERSION NUMBER, AND GROWTH DTU EQUIPAGE STATUS

CAUTION 1 <i>Depending on local procedures, supervisory or TELCO engineering approval must be obtained prior to performing any data change</i>	
Issue 1	SEP 1997
234-353-030	DLP
PAGE 2 of 6	519

[10] Using TABLE C, identify octal word associated with growth DTU

[11] Using printout and office records, verify growth DTU to TSI port assignment per octal word identified in Step 10 and located in TABLE B, Page 4 [DLP-555]

TABLE C	
DTU	OCTAL WORD
0, 1	5
2, 3	6
4, 5	7
6, 7	10

AND

[12] Does UT translator data agree with office record

Yes

No

[13] Refer problem to office supervisor/ installer to determine error and decide on corrective action

[14] Error was found to be in

Office record

UT entry data

[15] Take appropriate corrective action as determined by TELCO engineering/ regional engineering and as approved by office supervisor

VERIFY DTU TO TSI PORT ASSIGNMENT, VERSION NUMBER, AND GROWTH DTU EQUIPAGE STATUS

Issue 1	SEP 1997
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PAGE 3 of 6	519

TABLE B

TABLE B

ENTRY WORD (OCTAL)	UT ENTRY DATA AND WORD CONFIGURATION																																																																																																																																					
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VERIFY DTU TO TSI PORT ASSIGNMENT, VERSION NUMBER, AND GROWTH DTU EQUIPAGE STATUS

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11	entry data octal output bit position binary values <table><tr><td>Y</td><td>Y</td><td>Y</td><td>Y</td><td>Y</td><td>Y</td><td>Y</td><td>Y</td></tr><tr><td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td><td>16</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td><td>0</td></tr><tr><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>V</td><td>V</td><td>V</td><td>V</td><td>V</td><td>V</td></tr><tr><td colspan="8">8</td><td colspan="7">7</td><td colspan="7">6</td><td colspan="7">5</td><td colspan="7">4</td><td colspan="7">3</td><td colspan="7">2</td><td colspan="7">1</td><td colspan="7">0</td></tr><tr><td colspan="28">DTU NO.</td></tr><tr><td colspan="28">VERSION NUMBER</td></tr></table> XX = Version numbers of DTUs as reflected in appropriate office record drawings and shipping information Y...Y = Variable octal numbers	Y	Y	Y	Y	Y	Y	Y	Y	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	V	V	V	V	V	V	8								7							6							5							4							3							2							1							0							DTU NO.																												VERSION NUMBER																											
Y	Y	Y	Y	Y	Y	Y	Y																																																																																																																																																																										
23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0																																																																																																																																																										
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	V	V	V	V	V	V																																																																																																																																																										
8								7							6							5							4							3							2							1							0																																																																																																																								
DTU NO.																																																																																																																																																																																	
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VERIFY DTU TO TSI PORT ASSIGNMENT, VERSION NUMBER, AND GROWTH DTU EQUIPAGE STATUS

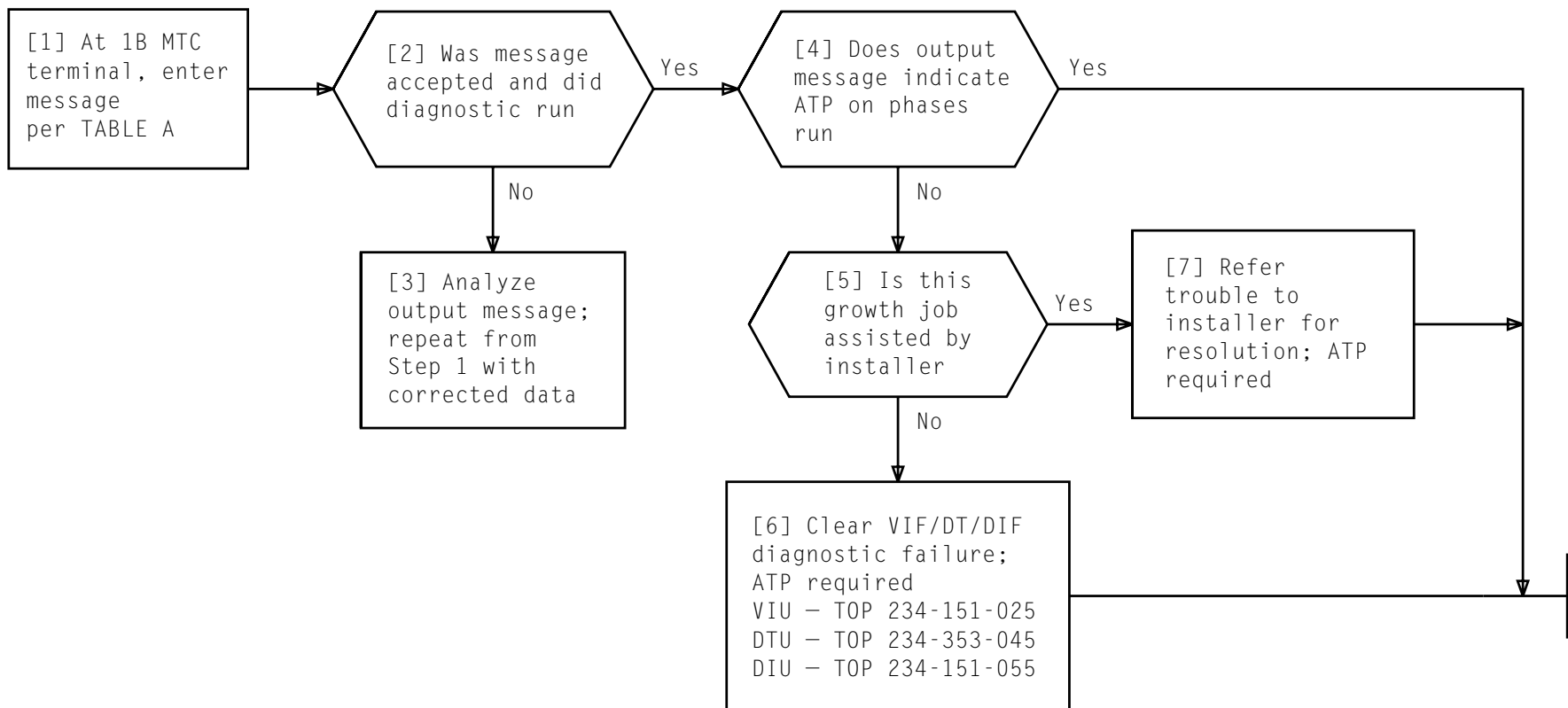
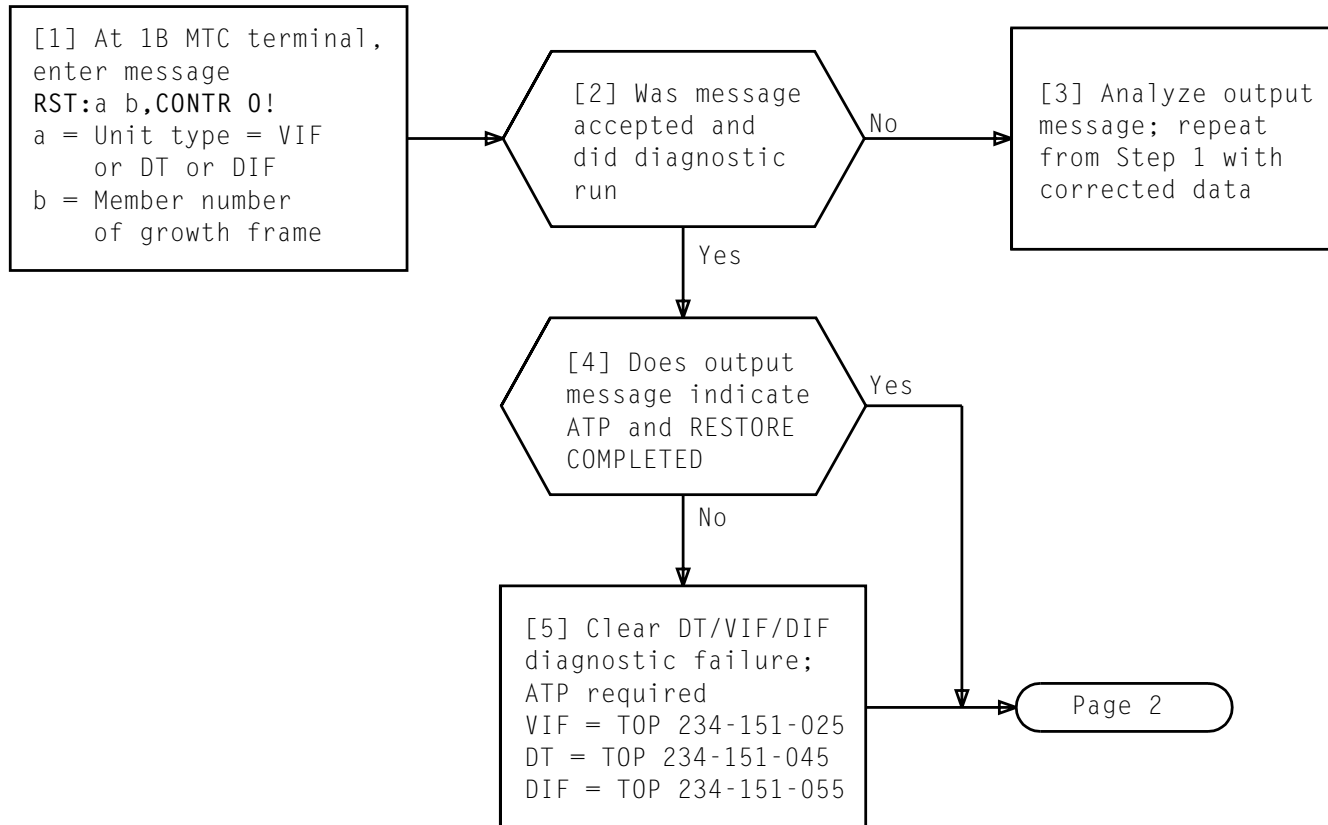


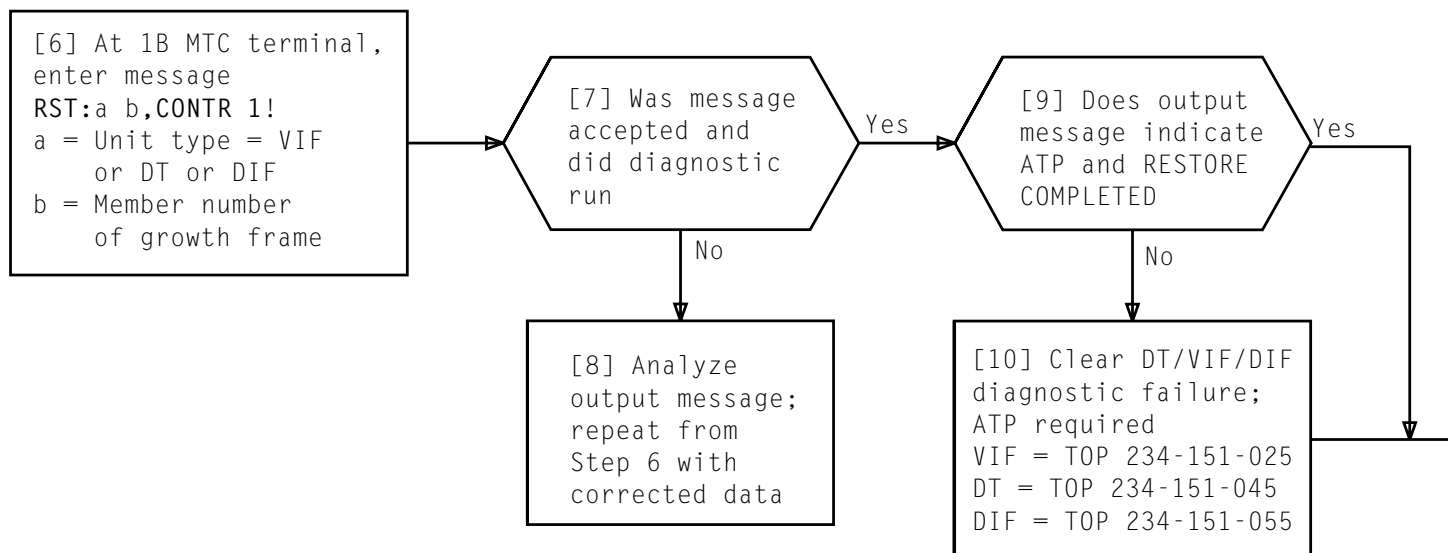
TABLE A

MESSAGE NUMBER	INPUT MESSAGE
1	DGN:a b,c d:GROWTH!
a = Unit type = VIF or DT or DIF b = Member number of growth associated frame c = Submember type = VIU or DTU or DIU d = Submember number of growth unit	

SUMMARY

Diagnose VIF/DT/DIF using controller 0. When ATP, repeat diagnostic using controller 1.

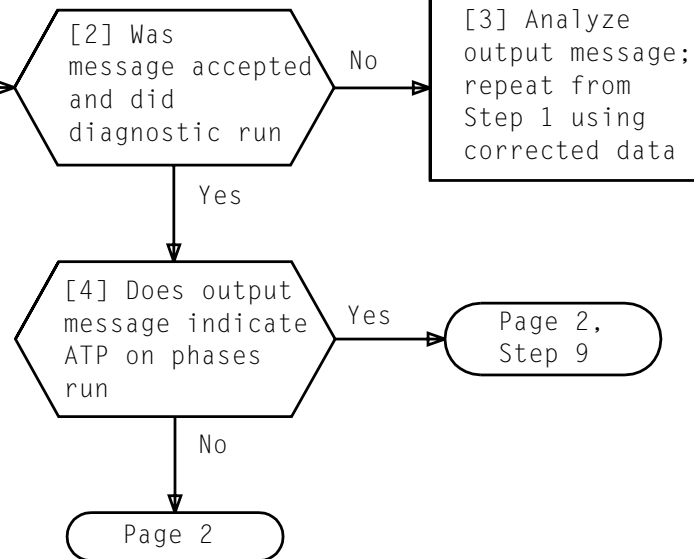


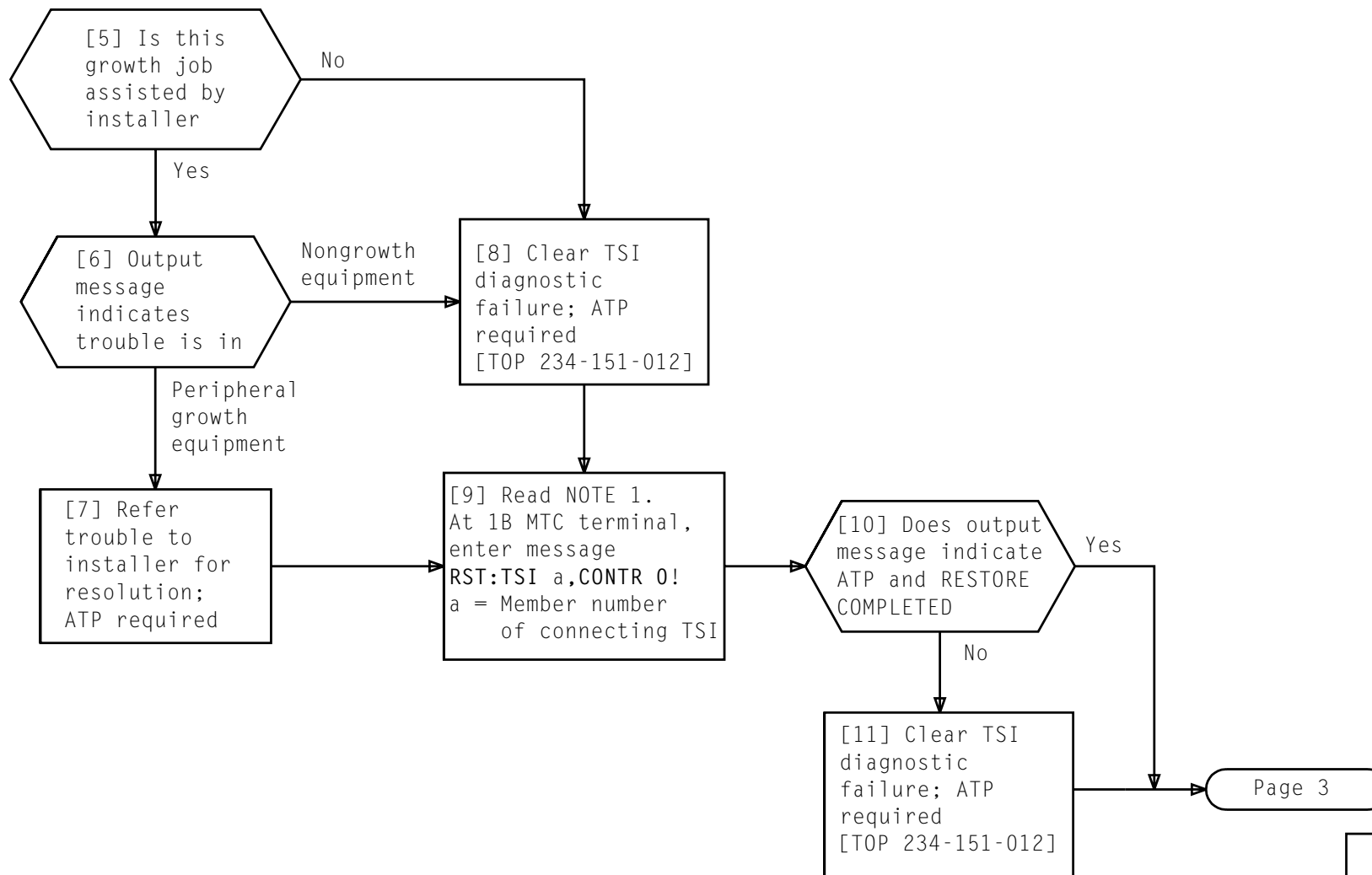


SUMMARY

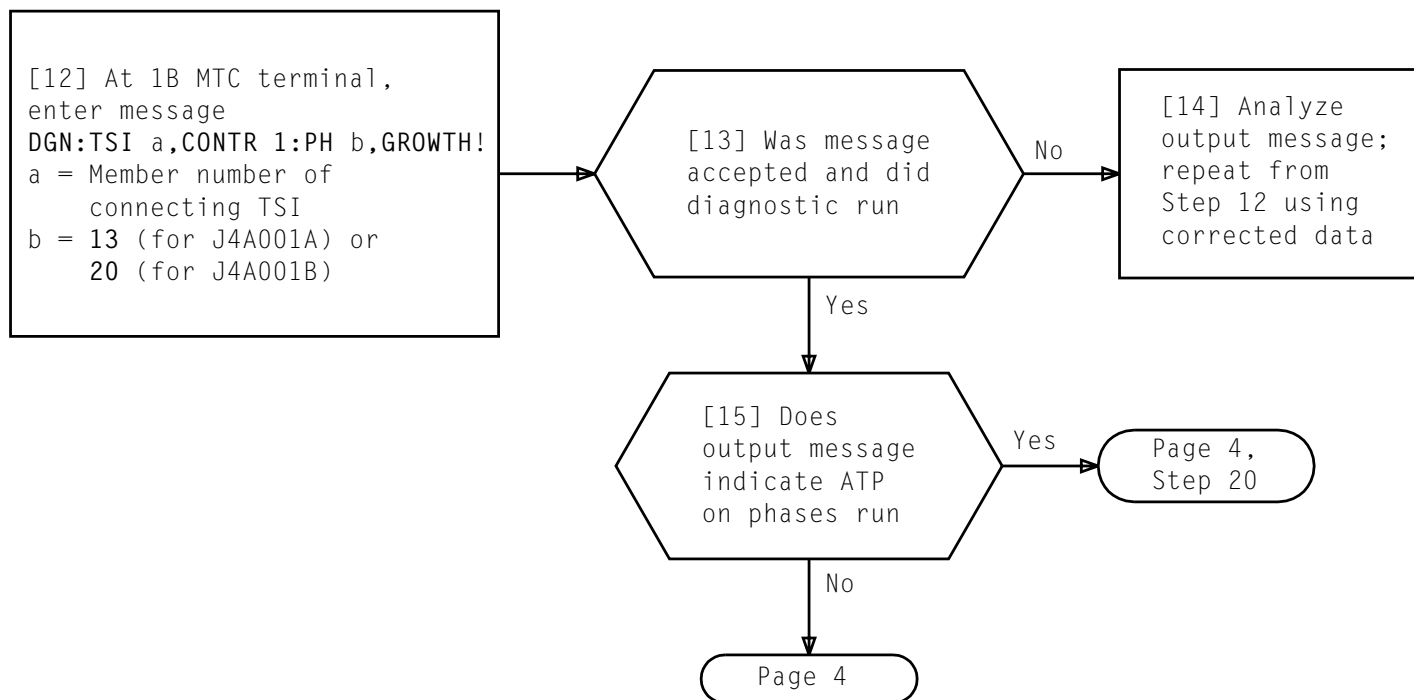
Diagnose TSI frame(s) controllers 0 and 1 specifying PHASE 20 and GROWTH. After ATP, restore controller to service.

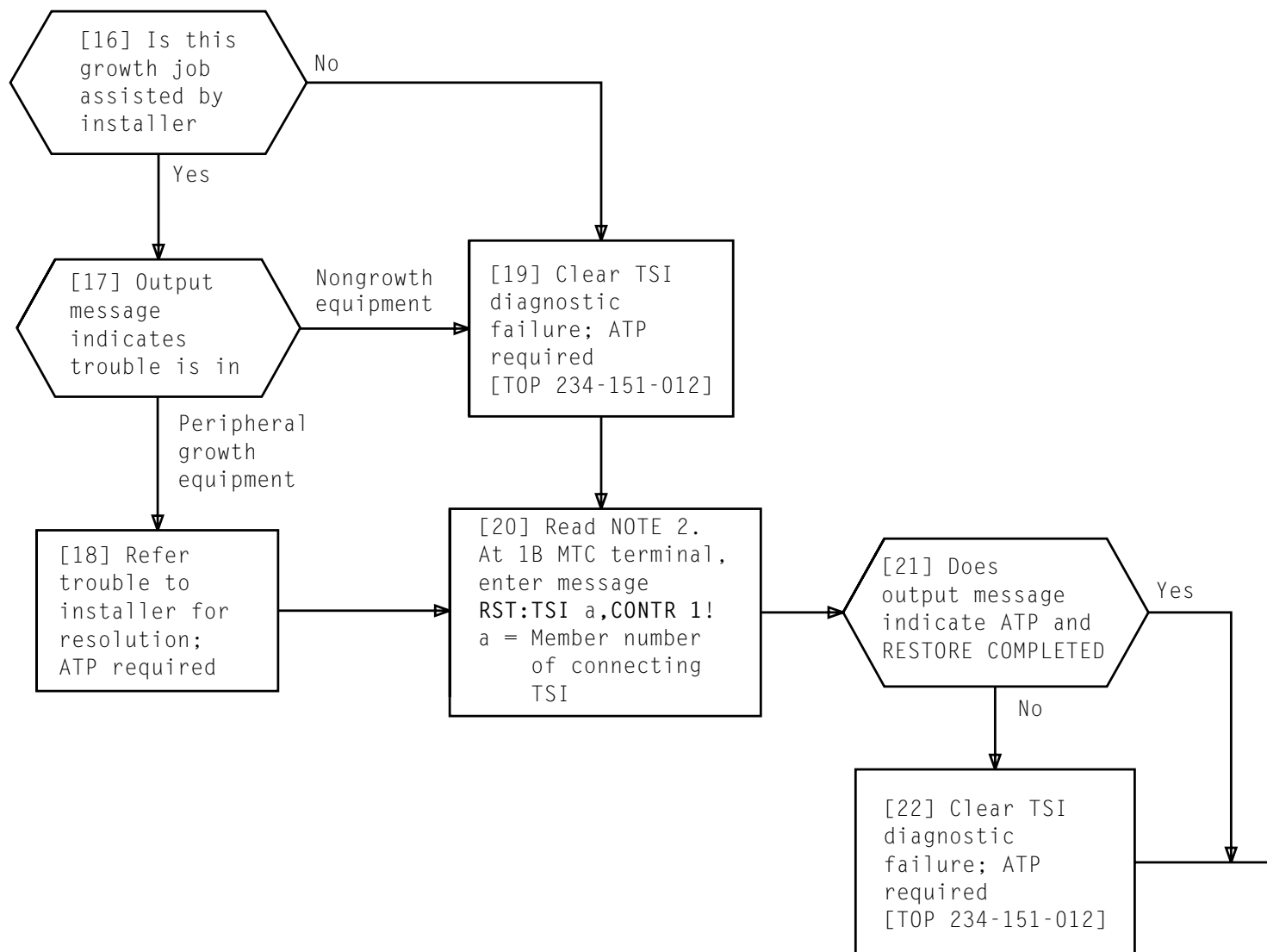
[1] At 1B MTC terminal,
enter message
DGN:TSI a,CONTR 0:PH b,GROWTH!
a = Member number of
connecting TSI
b = 13 (for J4A001A) or
20 (for J4A001B)





NOTE 1 Restore input message will cause diagnostic to be run and controller to be restored if ATP	
Issue 1	SEP 1997
234-353-030	DLP
PAGE 2 of 4	522





NOTE 2 Restore input message will cause diagnostic to be run and controller to be restored if ATP		
Issue 1	SEP 1997	
234-353-030	DLP	
PAGE 4 of 4	522	

SUMMARY

Convert octal digits of entry output data word 1 to binary. Determine decimal number of grid, lineup and frame using FIG. 1. Compare calculated data with office records and floor plan drawing as required. If UT data does not agree with office records, record discrepancies for later reference.

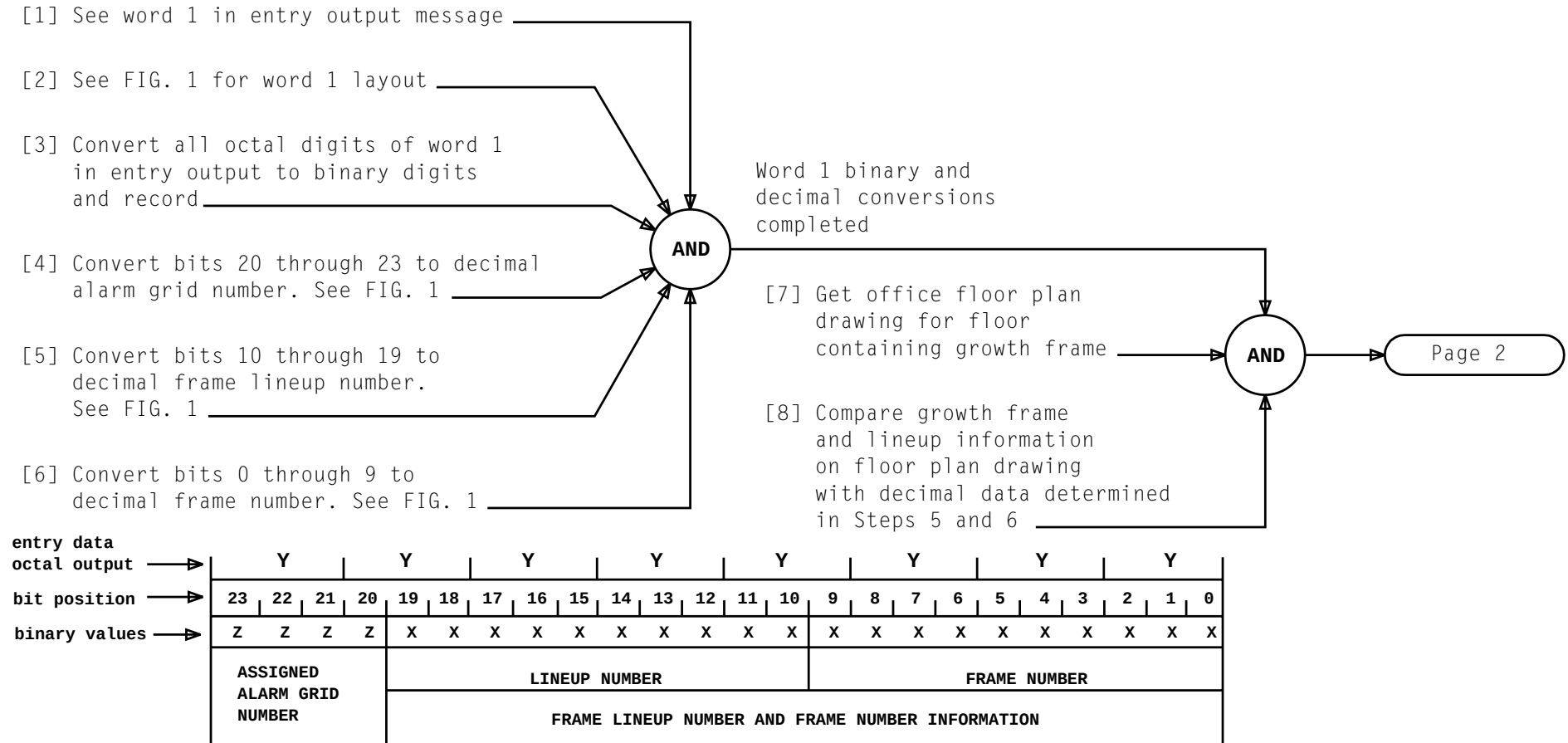


FIG. 1 – Entry Data Word 1 Layout

VERIFY ALARM GRID, LINEUP AND FRAME ASSIGNMENT FOR GROWTH FRAME

Issue 1	SEP 1997
234-353-030	DLP
PAGE 1 of 2	523

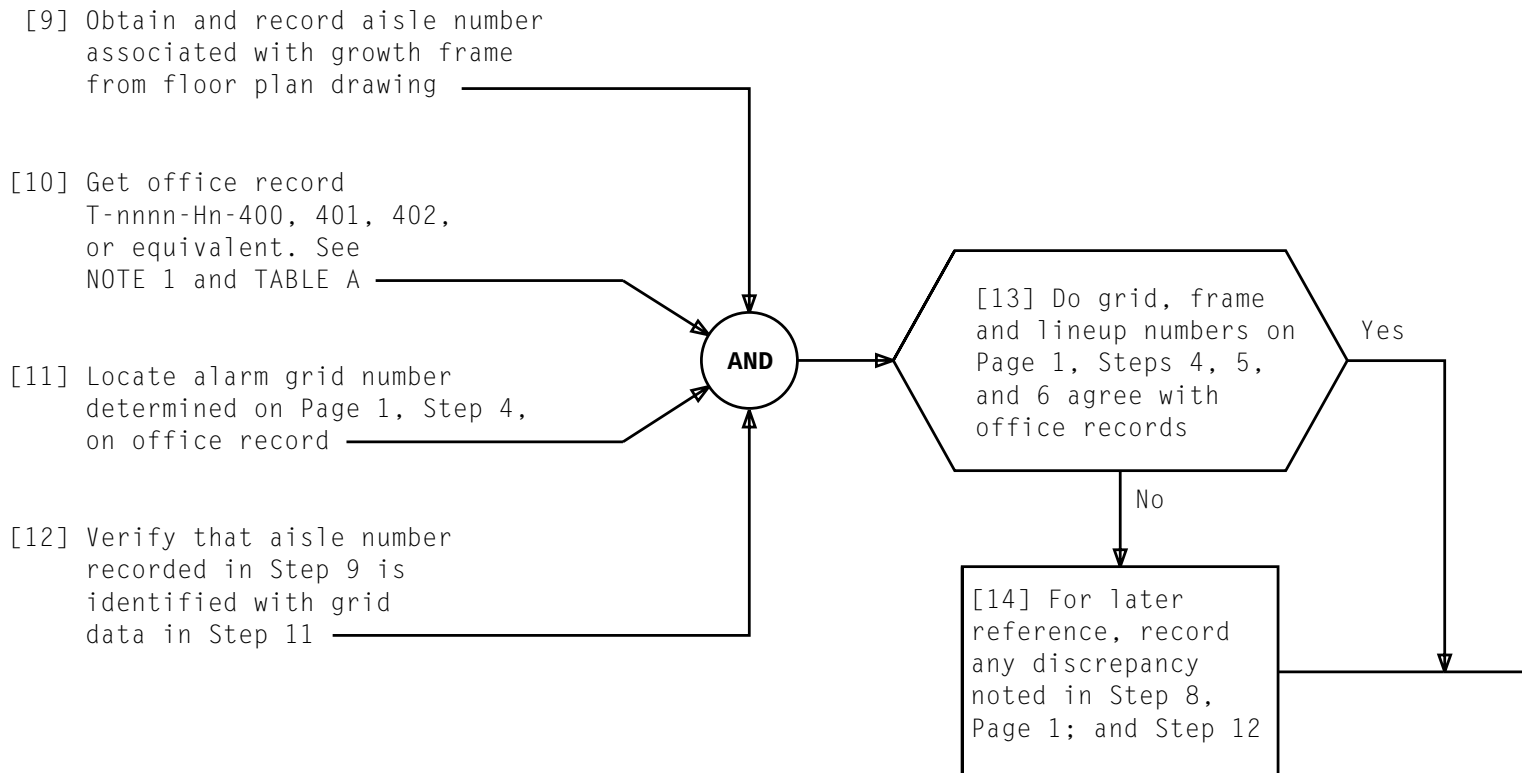
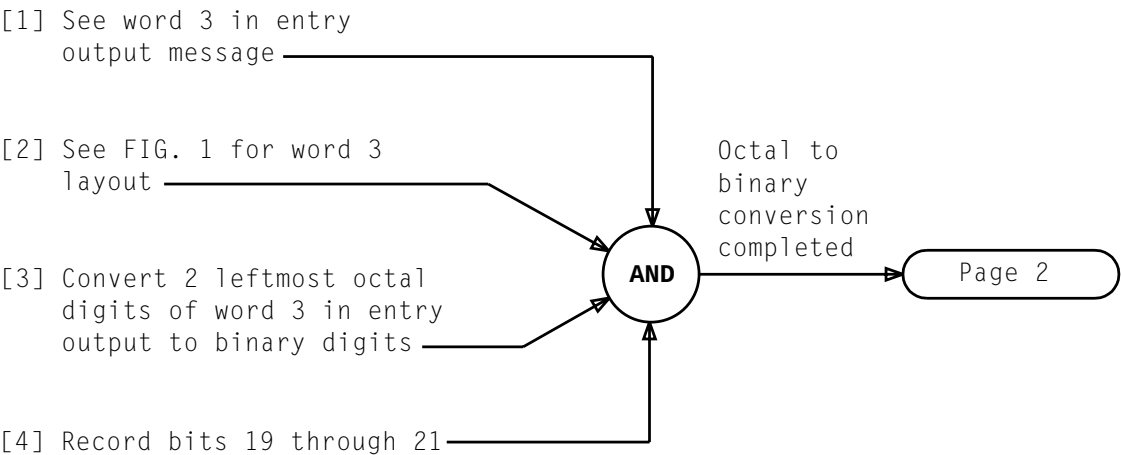


TABLE A	
ALARM GRIDS	DRAWING NUMBER
1 through 5	T-nnnn-Hn-400
6 through 10	T-nnnn-Hn-401
11 through 15	T-nnnn-Hn-402

NOTE 1 n = Office unique drawing identification number	
Issue 1	SEP 1997
234-353-030	DLP
PAGE 2 of 2	523

SUMMARY Convert two leftmost octal digits of entry output data word 3 to binary. Determine PUB branch binary code for growth	frame from TABLE A, Page 2, and office record T-nnnn-Hn-3840 or equivalent. If binary code does not agree with UT entry data, record discrepancy for later reference.



entry data																								
octal output	Y		Y		Y		Y		Y		Y		Y		Y		Y							
bit position	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
binary values	0	1	Z	Z	Z	0	0	X	X	X	X	X	0	X	X	X	X	X	X	X	X	X	X	X
			PUB BRANCH NUMBER ASSIGNMENT						SP MEMBER NUMBER				SP ROW NUMBER								SP COLUMN NUMBER			
	MEMBER BASE MISCELLANEOUS SCAN NUMBER																							

FIG. 1 – Entry Data Word 3 Layout

[5] Get office record drawing T-nnnn-Hn-3840
or equivalent. See NOTE 1

[6] Locate TABLE C on drawing. See FIG. 2

[7] Locate line on TABLE C
containing growth frame

[8] Read left to **BUS 0 & 1** column
and note PUB branch letter

AND

[9] See TABLE A.
Note 3-digit code
associated with
PUB branch letter
in Step 8

Page 3

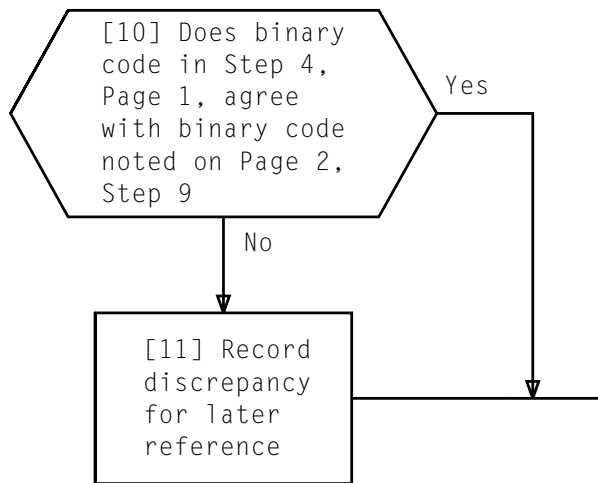
TABLE C							
LINE NO.	BUS 0&1	FROM	THROUGH	TO	TOTAL LENGTH	TOTAL LOAD	NOTE OR TABLE
1	A	PUBB		1/0 1		1	
2	B	PUBB	TS1 00,01,02,03,04,05,06,13,12,11,10,09,08,07,	TS1 28		44	1
3	C	PUBB	VIF 020,019;SP 03;VIF 018,017,016,014,015;SP	VIF 013		12	2
4	D	PUBB	VIF 010,009; VIF 008,007,006,004,005;	VIF 003		13	2
5	E	PUBB		TG1935.1		1	
6	F	PUBB	SP II 7,8,9,10	SPII 11		6	
7	G	PUBB	SP 01	SP 00		2	
8	H	PUBB	SP 2,12,13	SP 2 14		4	
9	K	PUBB	VIF 023,022,021,SP 04,VIF 025	VIF 024		6	2
10	L	PUBB					
11	M	PUBB					
12	R	PUBB					
13	T	PUBB					
14	V	PUBB					
15	W	PUBB					
16	X	PUBB					
LNN	BS	FROM		TO	TO LG	TO LD	NTTB

FIG. 2 – Typical Table C of 3840 Drawing

TABLE A	
PUB BRANCH LETTER	3-DIGIT CODE
A and B	000
C and D	001
E and F	010
G and H	011
K and L	100
M and R	101
T and V	110
W and X	111

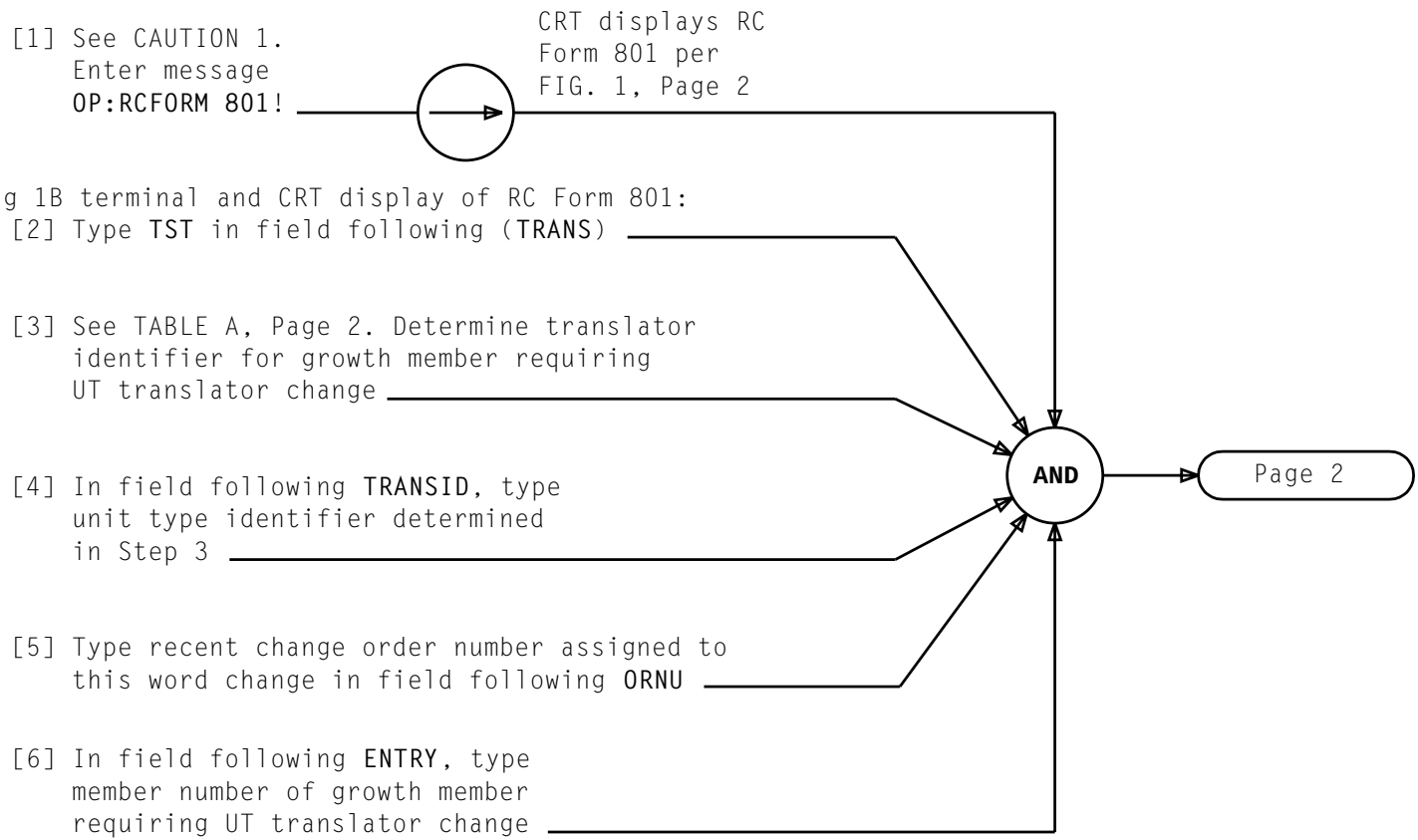
NOTE 1 n = Office Unique drawing identification numbers	
Issue 1	SEP 1997
234-353-030	DLP
PAGE 2 of 3	524

VERIFY PUB BRANCH ASSIGNMENT FOR GROWTH FRAME



VERIFY PUB BRANCH ASSIGNMENT FOR GROWTH FRAME

Issue 1	SEP 1997
234-353-030	DLP
PAGE 3 of 3	524



**PERFORM FUNCTIONAL WORD CHANGE TO CORRECT
UT TRANSLATOR WORD THEN VERIFY**

<i>CAUTION 1</i> <i>Calling up an RC form will cause all CRT data to be cleared</i>			
Issue 1		SEP 1997	
234-353-030			DLP
PAGE 1 of 6			525

[7] In field following **WORDNO**,
type decimal number of
UT translator word to
be changed _____

[9] In field following SIZE,
type decimal number of
bits determined in Step 8.
See example in FIG. 2,
Page 3 _____

[11] In field following DISP,
type decimal number
determined in Step 10.
See example in
FIG. 2



```

RC:FUNC;CHG;OPT(TRANS),_ _ _ :      TRANSID _ _ _ _ ,
ORNU _ _ _ _ _ _ _ _ ,
ENTRY _ _ _ _ _ _ _ _ , WORDNO _ _ _ _ _ ,
SIZE _ _ _ ,      DISP _ _ _ _ ,
BINOCT _ _ _ ,
NEWDATA _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ ,
OLDDATA _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ ,
REMARKS _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ !

```

GROWTH MEMBER REQUIRING UT TRANSLATOR CHANGE	TRANSLATOR IDENTIFIER (TRANSID)
Digroup Terminal	UTDT
Terminal Group	UTTGR
Voiceband Interface	UTVIF
Echo Suppressor Terminal	UTEST
Digital Interface	UTDIF
CCIS Data Set Frame	UTCCDS

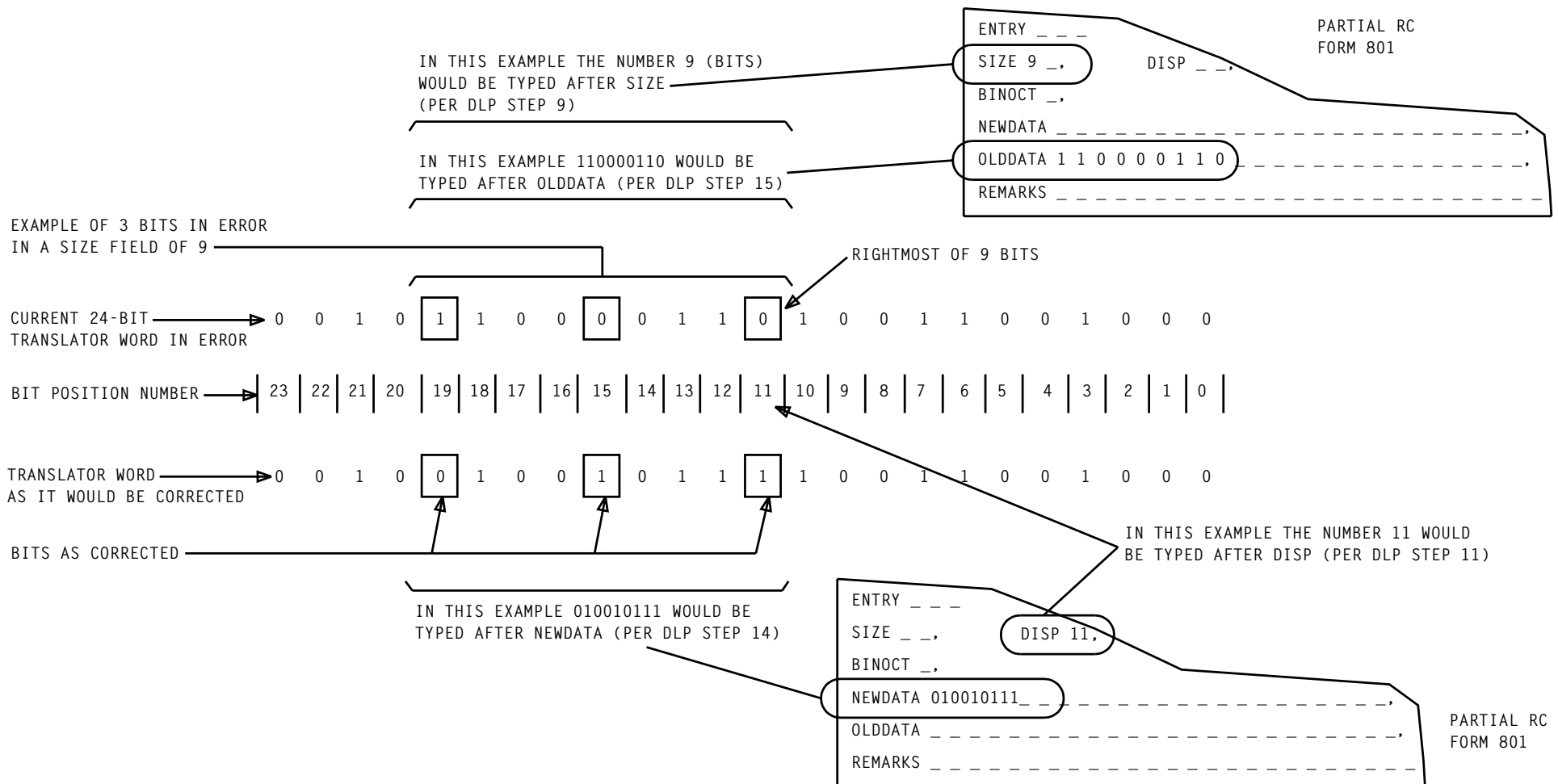


FIG. 2 – Example of Functional Word Change Considerations

PERFORM FUNCTIONAL WORD CHANGE TO CORRECT
UT TRANSLATOR WORD THEN VERIFY

Issue 1	SEP 1997
234-353-030	DLP
PAGE 3 of 6	525

Using 1B terminal and CRT display of
RC Form 801:

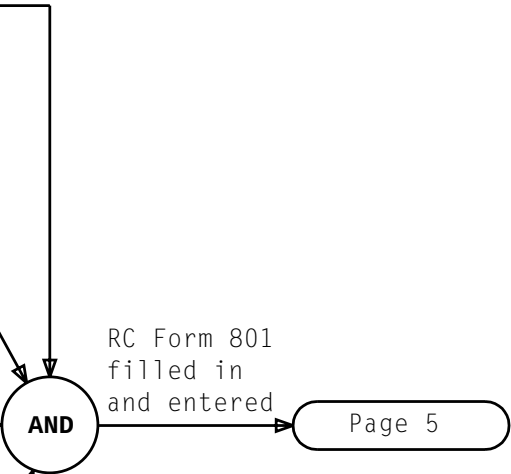
[12] Type **B** in field following
BINOCT _____

[13] Read NOTE 1. Determine
binary bits to be inserted
into UT translator word to
correct that word. See
example in FIG. 2,
Page 3 _____

[14] In field following **NEWDATA**,
type binary bits
determined in Step 13. See
example in FIG. 2 _____

[15] Read NOTE 2. In field
following **OLDDATA**, type
current binary contents
of only that portion of
the UT translator word
requiring change. See
example in FIG. 2 _____

[16] Enter form _____



NOTES		
1. Quantity of binary bits to be entered as NEWDATA must be equal to decimal number entered as SIZE		
2. Quantity of binary bits to be entered as OLDDATA must be equal to quantity of bits entered as NEWDATA		
Issue 1	SEP 1997	
234-353-030	DLP	
PAGE 4 of 6	525	

**PERFORM FUNCTIONAL WORD CHANGE TO CORRECT
UT TRANSLATOR WORD THEN VERIFY**

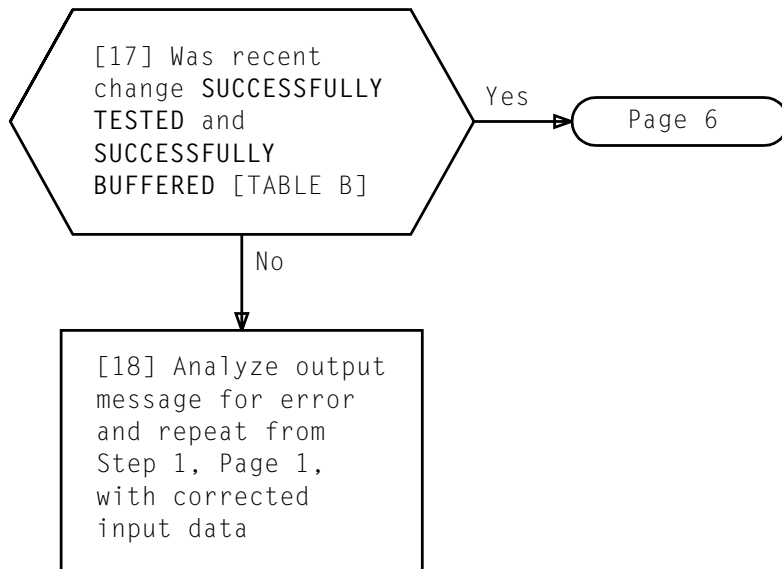


TABLE B	
MESSAGE NUMBER	OUTPUT MESSAGE
1	RC ORNU a SUCCESSFULLY TESTED RC ORNU a SUCCESSFULLY BUFFERED RC:FUNC;CHG;OPT(TRANS),BUF: TRANSID b, ORNU a, ENTRY c, WORDNO d, SIZE e, DISP f, BINOC B, NEWDATA g, OLDDATA h, REMARKS _ _ _ _ _! REPT:RC DUMP OF UNIT TYPE ENTRY AS IT WILL APPEAR AFTER THE MESSAGE IS ACTIVATED WORD 0 _ _ _ _ _ _ _ _ WORD 10 _ _ _ _ _ _ _ _
a = RC order number b = Translator identifier c = Member number of growth frame d = Number of word changed (decimal) e = Number of bits changed (decimal) f = Number of rightmost bit position (decimal) g = New data inserted (binary) h = Old data (binary)	

**PERFORM FUNCTIONAL WORD CHANGE TO CORRECT
UT TRANSLATOR WORD THEN VERIFY**

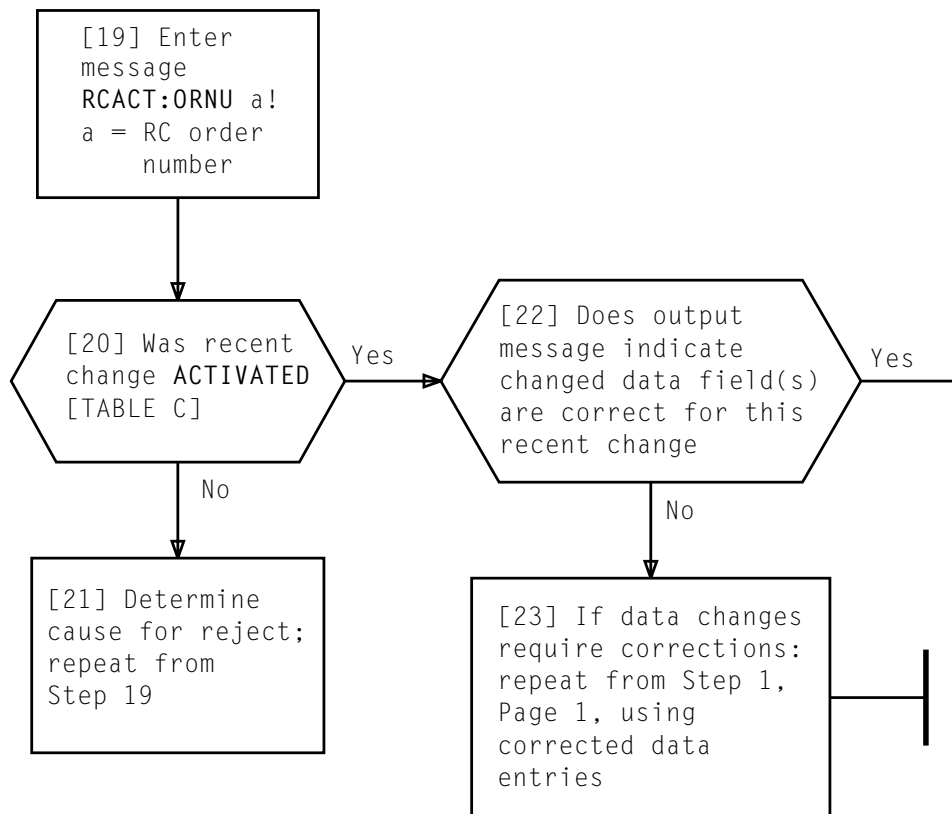


TABLE C	
MESSAGE NUMBER	OUTPUT MESSAGE
1	RC ORNU a ACTIVATED RC:FUNC;CHG;OPT(TRANS),BUF: TRANSID b, ORNU a, ENTRY c, WORDNO d, SIZE e, DISP f, BINOCT B, NEWDATA g, OLDDATA h, REMARKS..... !
a = RC order number b = Translator identifier c = Member number of growth frame d = Number of word changed (decimal) e = Number of bits changed (decimal) f = Number of rightmost bit position (decimal) g = New data inserted (binary) h = Old data (binary)	

**PERFORM FUNCTIONAL WORD CHANGE TO CORRECT
UT TRANSLATOR WORD THEN VERIFY**

Issue 1	SEP 1997
234-353-030	DLP
PAGE 6 of 6	525

SUMMARY

Call up RC Form 701 on CRT. Using TTY, fill in blank fields on form to degrow state of member equipage (ME) from OPER to SGRO and/or from SGRO to GROW and/or from GROW to UNEQ. Using assigned order numbers, activate each recent change then verify completion of each change of state.

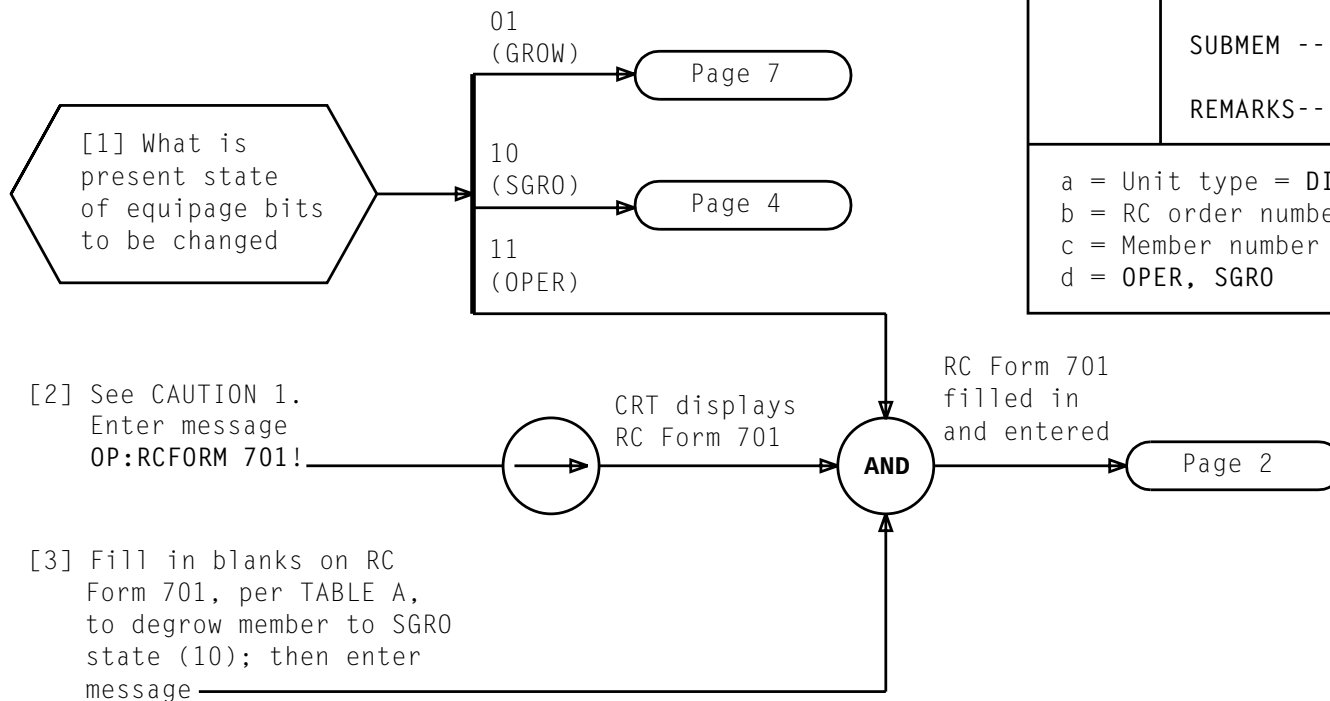


TABLE A

MESSAGE NUMBER	INPUT MESSAGE
1	RC:UTYPE;CHG;OPT(EQP,DEGROW),TST: UTYN a, ORNU b, MEMN c, ME (d , d), SUBMEM ----, SME (----, ----), REMARKS-----!

a = Unit type = DIF, DT, EST, TGR, or VIF
 b = RC order number
 c = Member number of degrowth frame
 d = OPER, SGRO

CAUTION 1
 Calling up RC form will cause all CRT data to be cleared

Issue 1	SEP 1997
234-353-030	DLP
PAGE 1 of 9	526

RECENT CHANGE MEMBER EQUIPAGE USING RC FORM 701 (DEGROW)

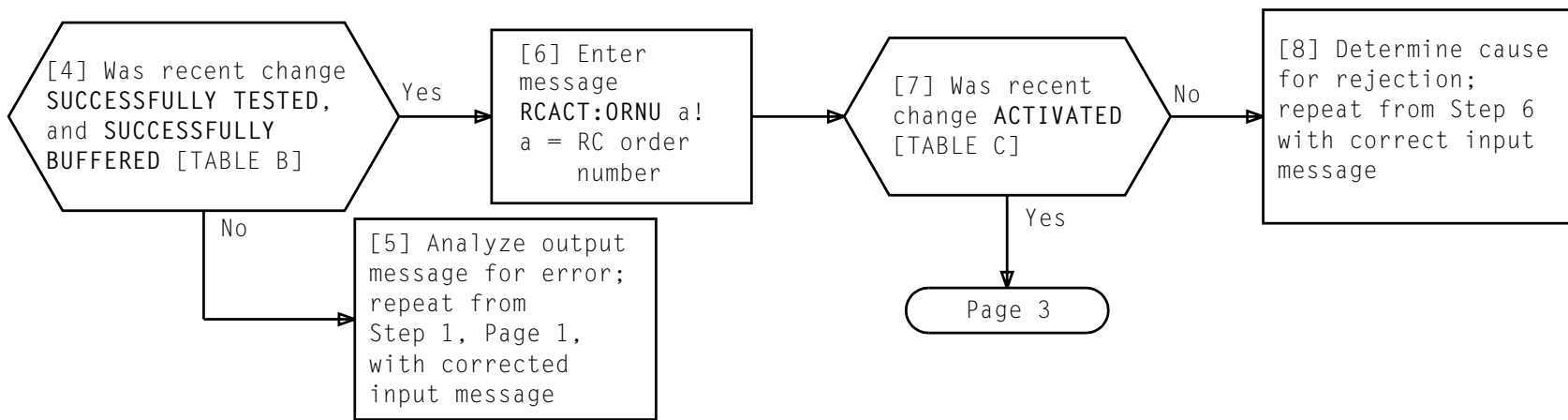
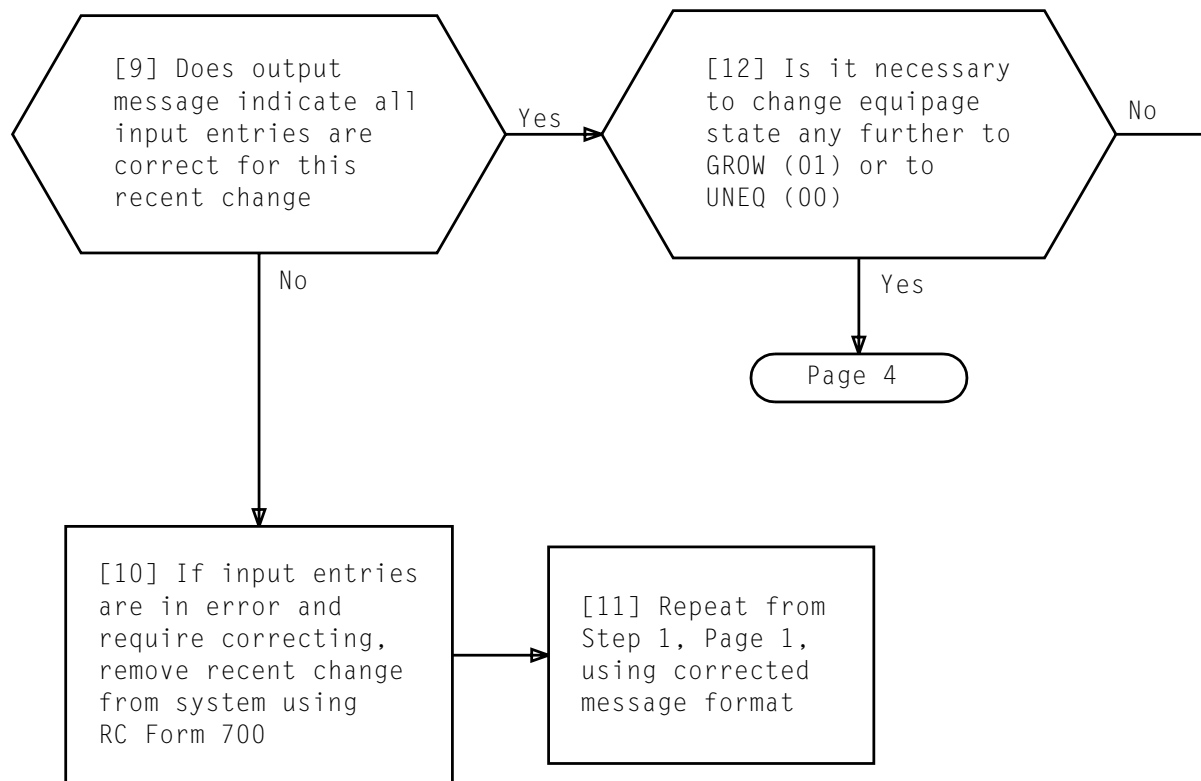


TABLE B	
MESSAGE NUMBER	OUTPUT MESSAGE
1	RC ORNU b SUCCESSFULLY TESTED RC ORNU b SUCCESSFULLY BUFFERED RC:UTYPE;CHG;OPT(EQP,DEGROW),BUF: UTYN a, ORNU b, OLD NEW MEMN c, ME (OPER, SGRO), OLD NEW SUBMEM ----, SME (----, ----), REMARKS-----!
a = Unit type = DIF, DT, EST, TGR, or VIF b = RC order number c = Member number of degrowth frame	

TABLE C	
MESSAGE NUMBER	OUTPUT MESSAGE
1	RC ORNU b ACTIVATED RC:UTYPE;CHG;OPT(EQP,DEGROW),BUF: UTYN a, ORNU b, OLD NEW MEMN c, ME (OPER, SGRO), OLD NEW SUBMEM ----, SME (----, ----), REMARKS-----!
a = Unit type = DIF, DT, EST, TGR, or VIF b = RC order number c = Member number of degrowth frame	



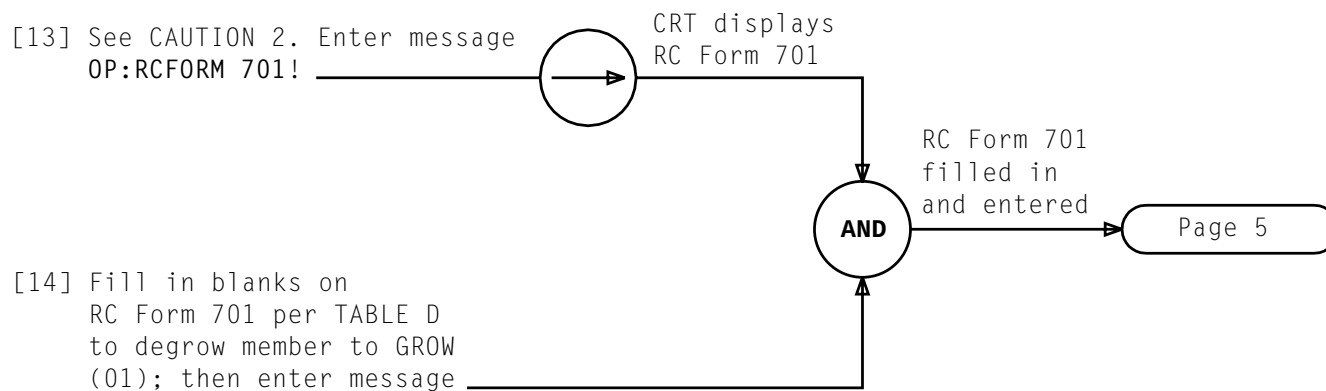


	TABLE D
MESSAGE NUMBER	INPUT MESSAGE
1	RC:UTYPE;CHG;OPT(EQP,DEGROW),TST: UTYN a, ORNU b, OLD NEW MEMN c, ME (d, d), OLD NEW SUBMEM ----, SME (----, ----), REMARKS-----!
a = Unit type = DIF, DT, EST, TGR, or VIF b = RC order number c = Member number of degrowth frame d = SGRO, GROW,	

CAUTION 2
Calling up
RC form will
cause all CRT
data to be
cleared

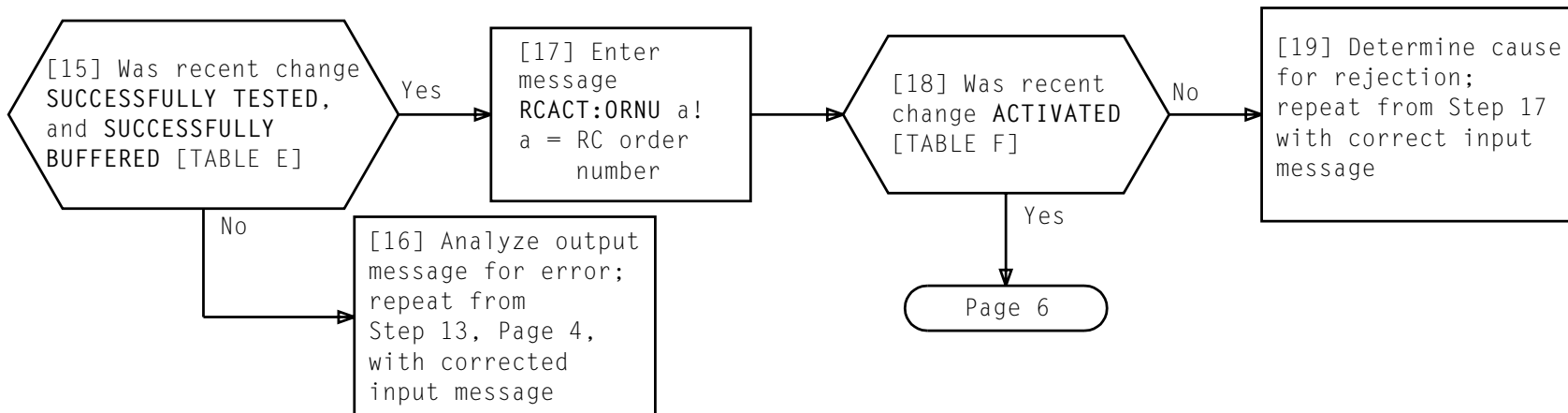
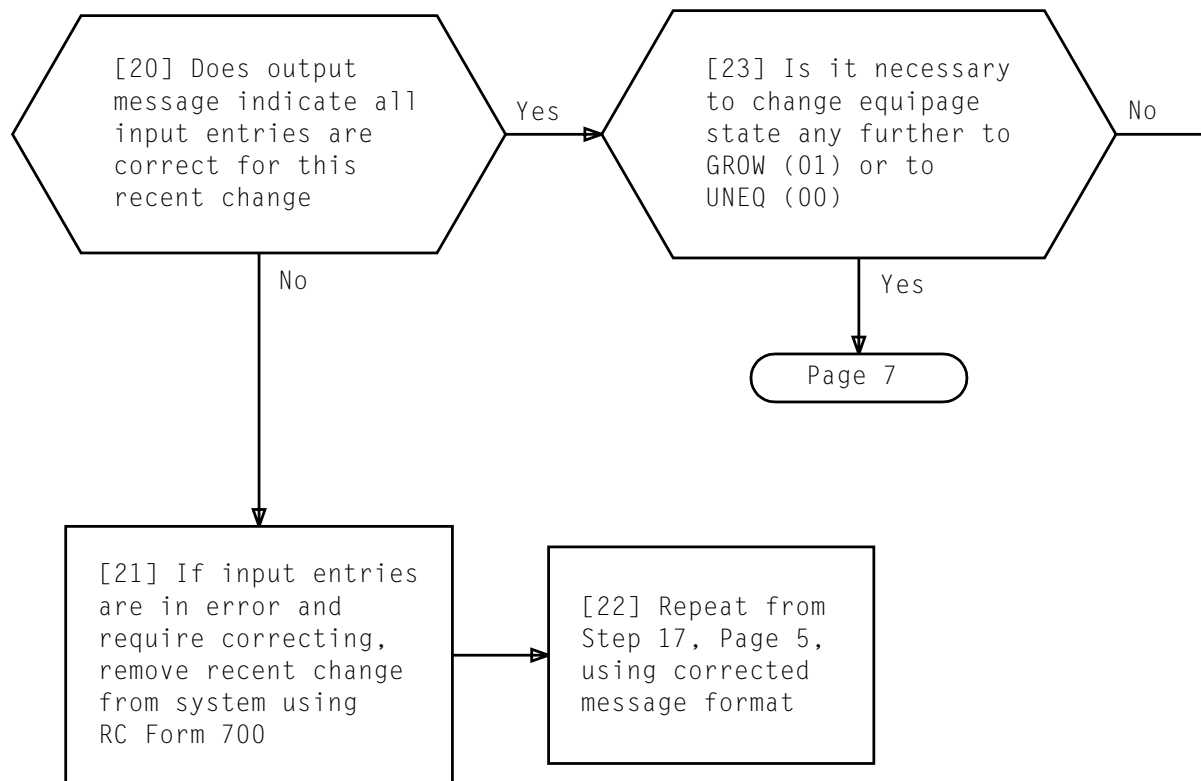


TABLE E

MESSAGE NUMBER	OUTPUT MESSAGE
1	RC ORNU b SUCCESSFULLY TESTED RC ORNU b SUCCESSFULLY BUFFERED RC:UTYPE;CHG;OPT(EQP,DEGROW),BUF: UTYN a, ORNU b, OLD NEW MEMN c, ME (SGRO, GROW), OLD NEW SUBMEM ----, SME (----, ----), REMARKS-----!
a = Unit type = DIF, DT, EST, TGR, or VIF b = RC order number c = Member number of degrowth frame	

TABLE F

MESSAGE NUMBER	OUTPUT MESSAGE
1	RC ORNU b ACTIVATED RC:UTYPE;CHG;OPT(EQP,DEGROW),BUF: UTYN a, ORNU b, OLD NEW MEMN c, ME (SGRO, GROW), OLD NEW SUBMEM ----, SME (----, ----), REMARKS-----!
a = Unit type = DIF, DT, EST, TGR, or VIF b = RC order number c = Member number of degrowth frame	



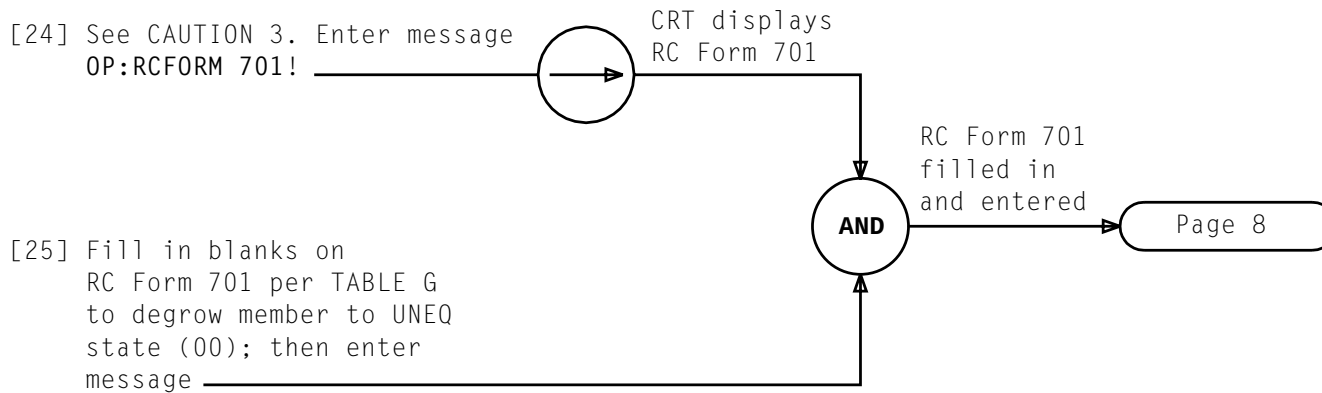


TABLE G	
MESSAGE NUMBER	INPUT MESSAGE
1	RC:UTYPE;CHG;OPT(EQP,DEGROW),TST: UTYN a, ORNU b, OLD NEW MEMN c, ME (d, d), OLD NEW SUBMEM ----, SME (----, ----), REMARKS-----!
a = Unit type = DIF, DT, EST, TGR, or VIF b = RC order number c = Member number of degrowth frame d = GROW, UNEQ	

CAUTION 3 Calling up RC form will cause all CRT data to be cleared	
Issue 1	SEP 1997
234-353-030	DLP
PAGE 7 of 9	526

RECENT CHANGE MEMBER EQUIPAGE USING RC FORM 701 (DEGROW)

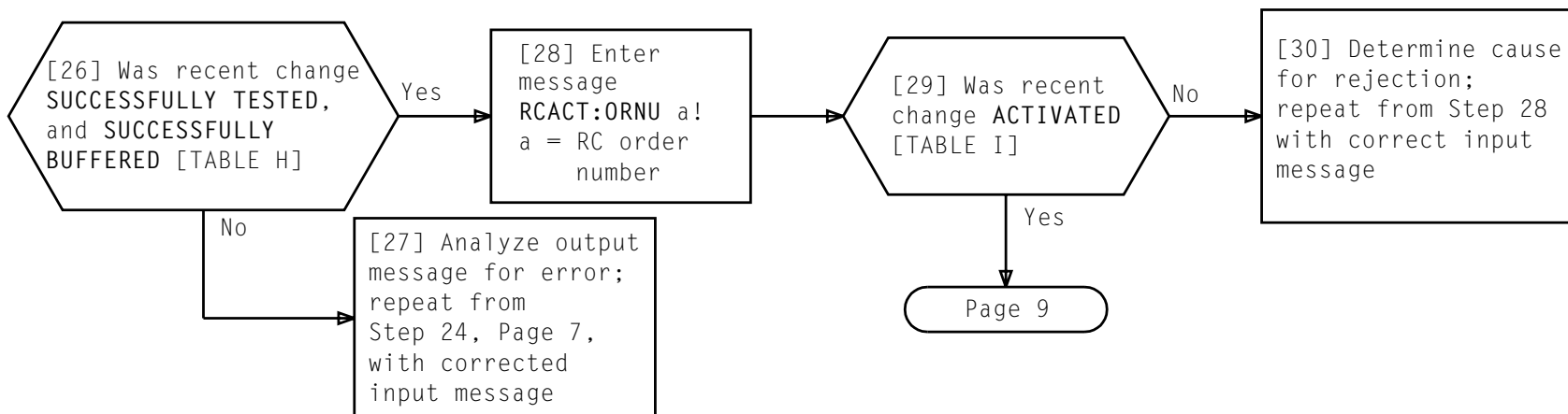
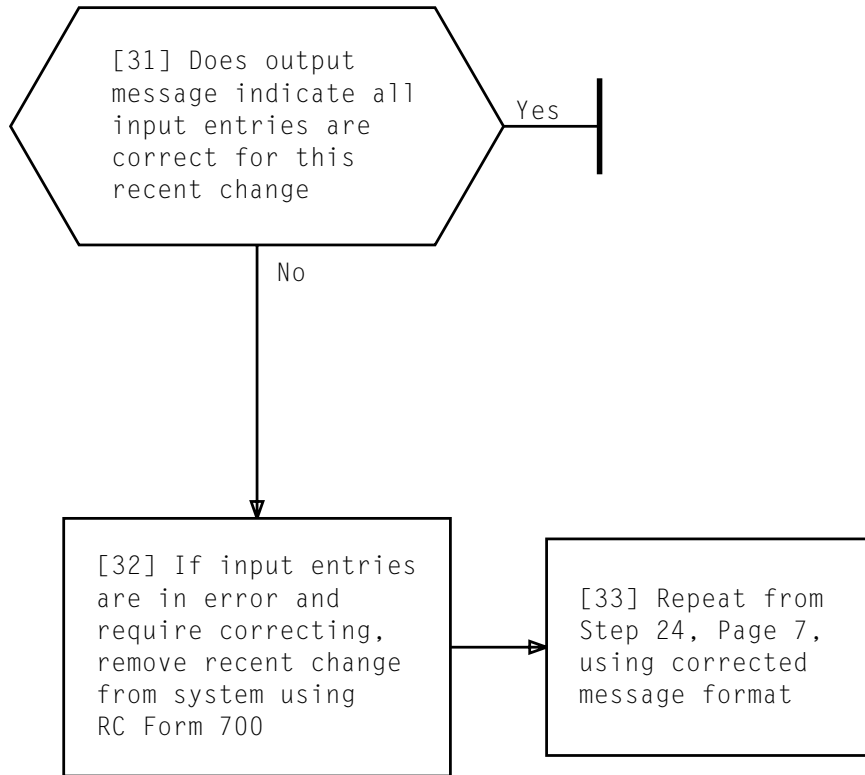


TABLE H	
MESSAGE NUMBER	OUTPUT MESSAGE
1	RC ORNU b SUCCESSFULLY TESTED RC ORNU b SUCCESSFULLY BUFFERED RC:UTYPE;CHG;OPT(EQP,DEGROW),BUF: UTYN a, ORNU b, OLD NEW MEMN c, ME (GROW, UNEQ), OLD NEW SUBMEM ----, SME (----, ----), REMARKS-----!
a = Unit type = DIF, DT, EST, TGR, or VIF b = RC order number c = Member number of degrowth frame	

TABLE I	
MESSAGE NUMBER	OUTPUT MESSAGE
1	RC ORNU b ACTIVATED RC:UTYPE;CHG;OPT(EQP,DEGROW),BUF: UTYN a, ORNU b, OLD NEW MEMN c, ME (GROW, UNEQ), OLD NEW SUBMEM ----, SME (----, ----), REMARKS-----!
a = Unit type = DIF, DT, EST, TGR, or VIF b = RC order number c = Member number of degrowth frame	



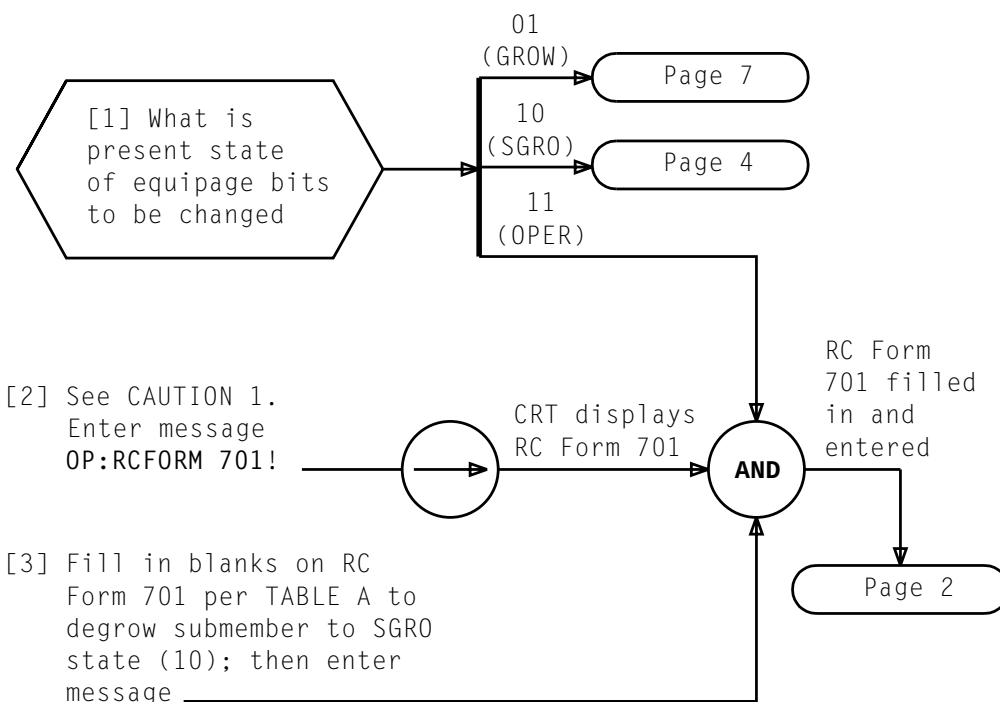


TABLE A	
MESSAGE NUMBER	INPUT MESSAGE
1	RC:UTYPE,CHG;OPT(EQP,DEGROW),TST: UTYN a, ORNU b, OLD NEW MEMN c, ME (----, ----), OLD NEW SUBMEM d, SME (e , e), REMARKS-----!
a = Unit type = VIF, DT, TSI, TGR, EST, or DIF b = RC order number c = Member number of degrowth frame d = Submember name = TOPRTEQ(0 to 6) (for SPC 0, Ports 0-6) = T1PRTEQ(0 to 6) (for SPC 1, Ports 0-6) = VIUEQ(0 to 6) (for VIU 0-6) = DTUEQ(0 to 7) (for DTU 0-7) = ESEQ(0 to 14) (for ESU 0-14) = TMGRP(0 to 15) (for Terminal Units 0-15) = DIUEQ(0 to 31) (for DIU 0-31) = DIUSPQA (for Spare DIU 32) = DIUSPQB (for Spare DIU 33) e = OPER, SGRO	

CAUTION 1 <i>Calling up RC form will cause all CRT data to be cleared</i>	
Issue 1	SEP 1997
234-353-030	DLP
PAGE 1 of 9	527

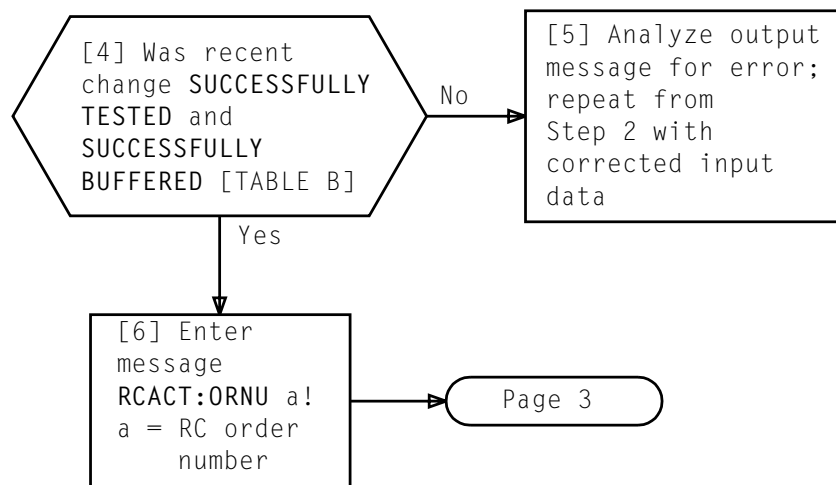


TABLE B	
MESSAGE NUMBER	OUTPUT MESSAGE
1	RC ORNU b SUCCESSFULLY TESTED RC ORNU b SUCCESSFULLY BUFFERED RC:UTYPE,CHG;OPT(EQP,DEGROW),BUF: UTYN a, ORNU b, OLD NEW MEMN c, ME (----, ----), OLD NEW SUBMEM d, SME (OPER, SGRO), REMARKS-----!
a = Unit type = VIF, DT, TSI, TGR, EST, or DIF b = RC order number c = Member number of degrowth frame d = Submember name = TOPRTEQ(0 to 6) (for SPC 0 Ports 0-6) = T1PRTEQ(0 to 6) (for SPC 1 Ports 0-6) = VIUEQ(0 to 6) (for VIU 0-6) = DTUEQ(0 to 7) (for DTU 0-7) = ESEQ(0 to 14) (for ESU 0-14) = TMGRP(0 to 15) (for Terminal Units 0-15) = DIUEQ(0 to 31) (for DIU 0-31) = DIUSPQA (for Spare DIU 32) = DIUSPQB (for Spare DIU 33)	

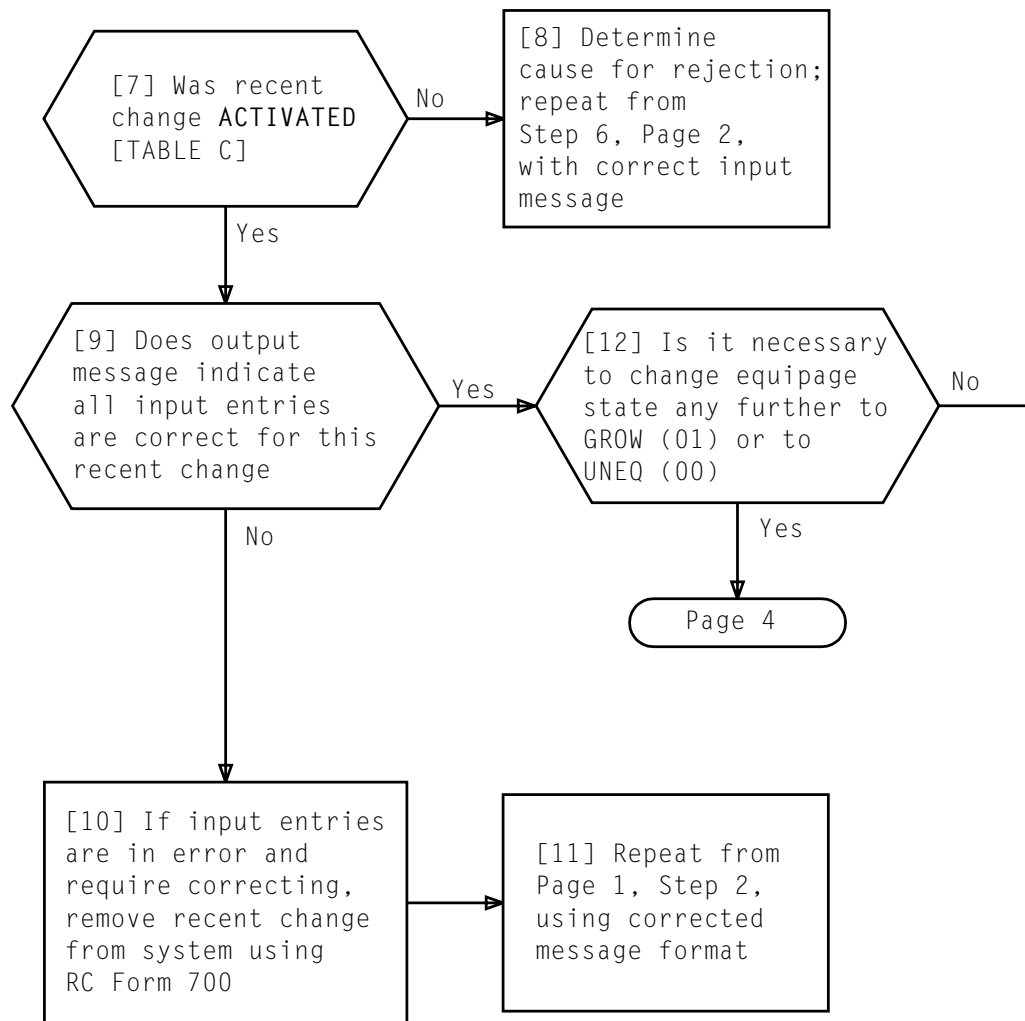


TABLE C	
MESSAGE NUMBER	OUTPUT MESSAGE
1	RC ORNU b ACTIVATED RC:UTYPE,CHG;OPT(EQP,GROW),BUF: UTYN a, ORNU b, MEMN c, ME (----, ----), SUBMEM d, SME (OPER, SGRO), REMARKS-----!
a = Unit type = VIF, DT, TSI, TGR, EST, or DIF b = RC order number c = Member number of degrowth frame d = Submember name = TOPRTEQ(0 to 6) (for SPC 0, Ports 0-6) = T1PRTEQ(0 to 6) (for SPC 1, Ports 0-6) = VIUEQ(0 to 6) (for VIU 0-6) = DTUEQ(0 to 7) (for DTU 0-7) = ESEQ(0 to 14) (for ESU 0-14) = TMGRP(0 to 15) (for Terminal Units 0-15) = DIUEQ(0 to 31) (for DIU 0-31) = DIUSPQA (for Spare DIU 32) = DIUSPQB (for Spare DIU 33)	

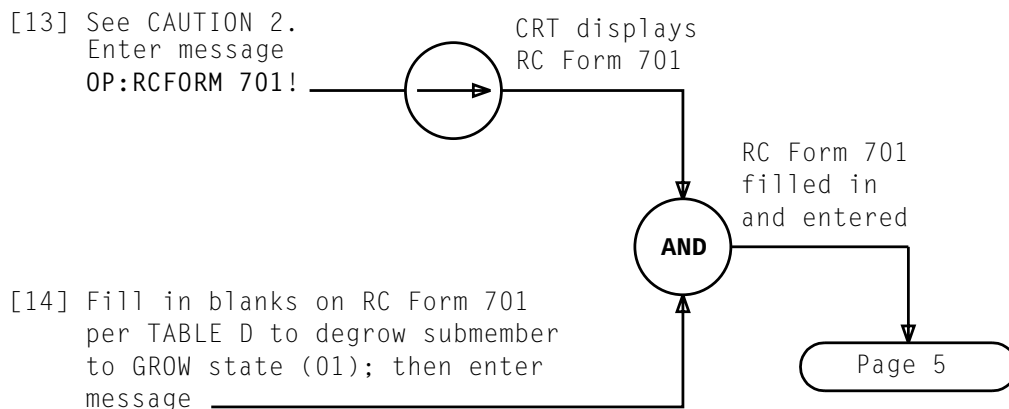


TABLE D	
MESSAGE NUMBER	INPUT MESSAGE
1	RC:UTYPE;CHG;OPT(EQP,DEGROW),TST: UTYN a, ORNU b, MEMN c, ME (----, ----), SUBMEM d, SME (e , e), REMARKS-----!
a = Unit type = VIF, DT, TSI, TGR, EST, or DIF b = RC order number c = Member number of degrowth frame d = Submember name = TOPRTEQ(0 to 6) (for SPC 0 Ports 0-6) = T1PRTEQ(0 to 6) (for SPC 1 Ports 0-6) = VIUEQ(0 to 6) (for VIU 0-6) = DTUEQ(0 to 7) (for DTU 0-7) = ESEQ(0 to 14) (for ESU 0-14) = TMGRP(0 to 15) (for Terminal Units 0-15) = DIUEQ(0 to 31) (for DIU 0-31) = DIUSPQA (for Spare DIU 32) = DIUSPQB (for Spare DIU 33) e = SGRO, GROW	

CAUTION 2 Calling up RC form will cause all CRT data to be cleared	
Issue 1	SEP 1997
234-353-030	DLP
PAGE 4 of 9	527

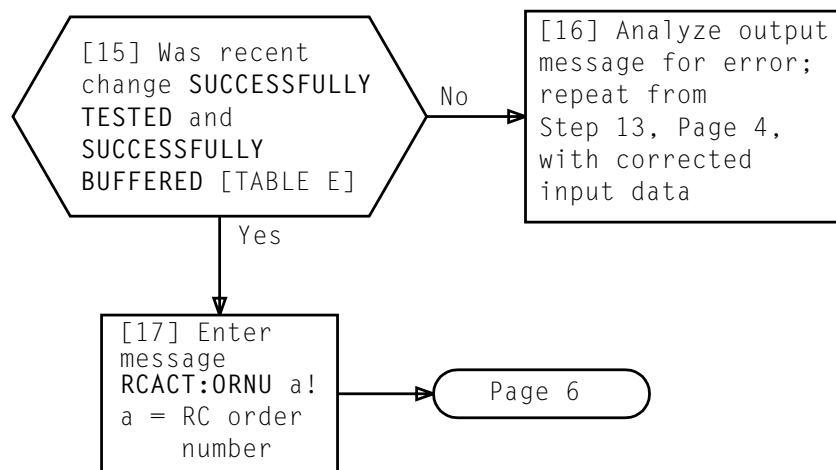


TABLE E	
MESSAGE NUMBER	OUTPUT MESSAGE
1	RC ORNU b SUCCESSFULLY TESTED RC ORNU b SUCCESSFULLY BUFFERED RC:UTYPE,CHG;OPT(EQP,DEGROW),BUF: UTYN a, ORNU b, OLD NEW MEMN c, ME (----, ----), OLD NEW SUBMEM d, SME (SGRO, GROW), REMARKS-----!
a = Unit type = VIF, DT, TSI, TGR, EST, or DIF b = RC order number c = Member number of degrowth frame d = Submember name = TOPRTEQ(0 to 6) (for SPC 0 Ports 0-6) = T1PRTEQ(0 to 6) (for SPC 1 Ports 0-6) = VIUEQ(0 to 6) (for VIU 0-6) = DTUEQ(0 to 7) (for DTU 0-7) = ESEQ(0 to 14) (for ESU 0-14) = TMGRP(0 to 15) (for Terminal Units 0-15) = DIUEQ(0 to 31) (for DIU 0-31) = DIUSPQA (for Spare DIU 32) = DIUSPQB (for Spare DIU 33)	

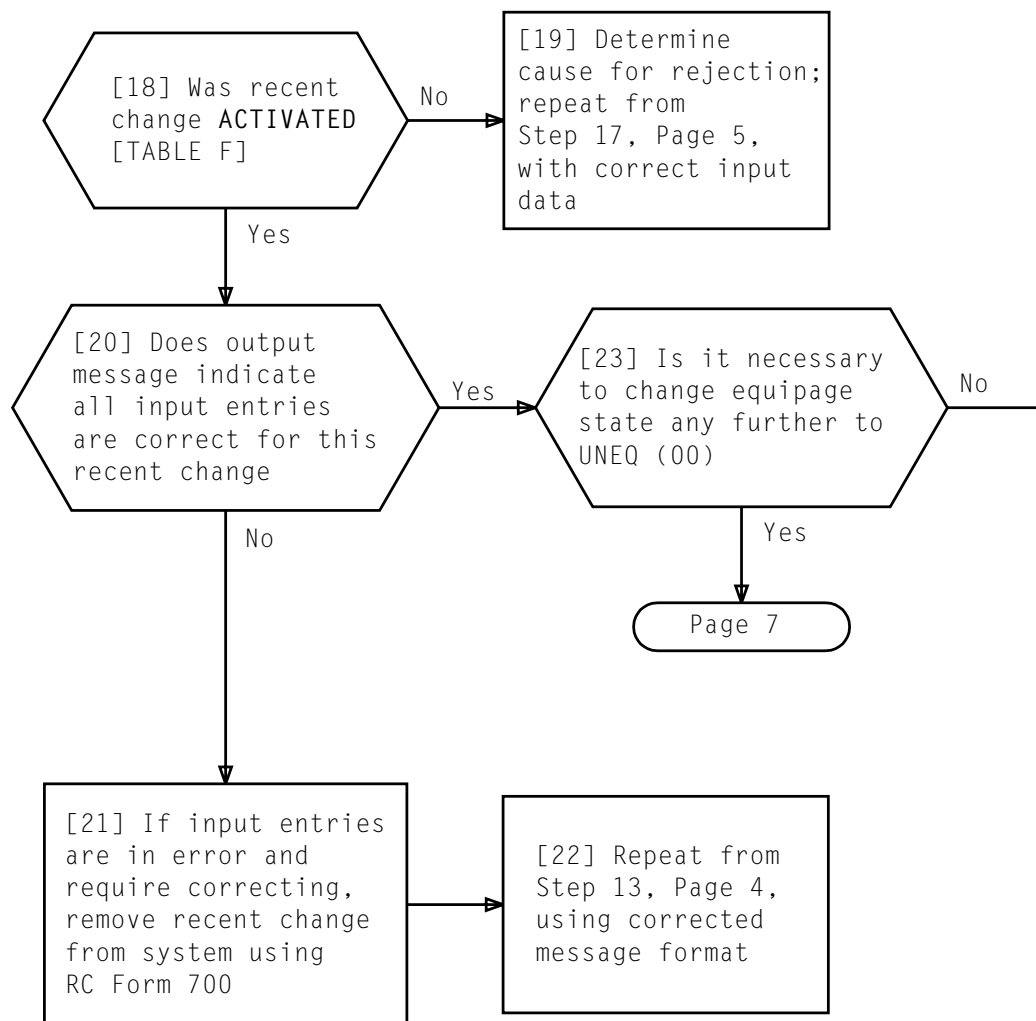


TABLE F	
MESSAGE NUMBER	OUTPUT MESSAGE
1	RC ORNU b ACTIVATED RC:UTYPE,CHG;OPT(EQP,GROW),BUF: UTYN a, ORNU b, OLD NEW MEMN c, ME (----, ----), OLD NEW SUBMEM d, SME (SGRO, GROW), REMARKS-----!
a = Unit type = VIF, DT, TSI, TGR, EST, or DIF b = RC order number c = Member number of degrowth frame d = Submember name = TOPRTEQ(0 to 6) (for SPC 0 Ports 0-6) = T1PRTEQ(0 to 6) (for SPC 1 Ports 0-6) = VIUEQ(0 to 6) (for VIU 0-6) = DTUEQ(0 to 7) (for DTU 0-7) = ESEQ(0 to 14) (for ESU 0-14) = TMGRP(0 to 15) (for Terminal Units 0-15) = DIUEQ(0 to 31) (for DIU 0-31) = DIUSPQA (for Spare DIU 32) = DIUSPQB (for Spare DIU 33)	

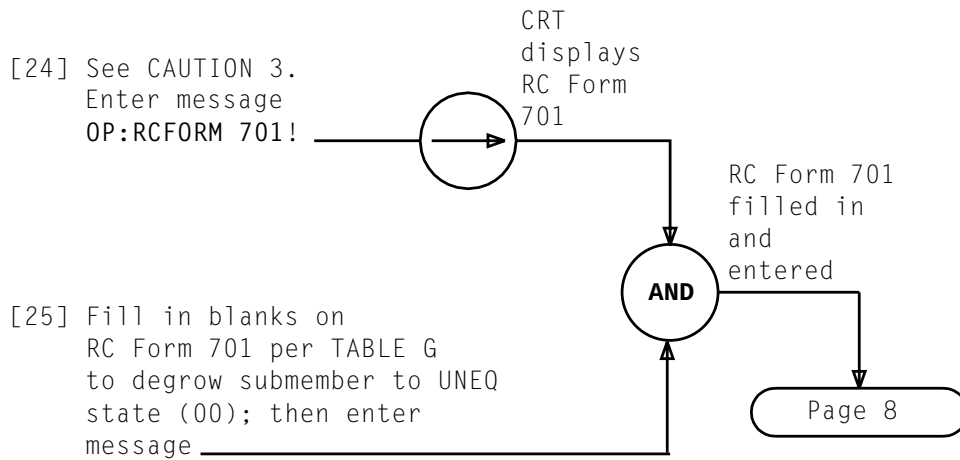


TABLE G	
MESSAGE NUMBER	INPUT MESSAGE
1	RC:UTYPE;CHG;OPT(EQP,DEGROW),TST: UTYN a, ORNU b, OLD NEW MEMN c, ME (----, ----), OLD NEW SUBMEM d, SME (e , e), REMARKS-----!
a = Unit type = VIF, DT, TSI, TGR, EST, or DIF b = RC order number c = Member number of degrowth frame d = Submember name = TOPRTEQ(0 to 6) (for SPC 0, Ports 0-6) = T1PRTEQ(0 to 6) (for SPC 1, Ports 0-6) = VIUEQ(0 to 6) (for VIU 0-6) = DTUEQ(0 to 7) (for DTU 0-7) = ESEQ(0 to 14) (for ESU 0-14) = TMGRP(0 to 15) (for Terminal Units 0-15) = DIUEQ(0 to 31) (for DIU 0-31) = DIUSPQA (for Spare DIU 32) = DIUSPQB (for Spare DIU 33) e = GROW, UNEQ	

CAUTION 3 <i>Calling up RC form will cause all CRT data to be cleared</i>	
Issue 1	SEP 1997
234-353-030	DLP
PAGE 7 of 9	527

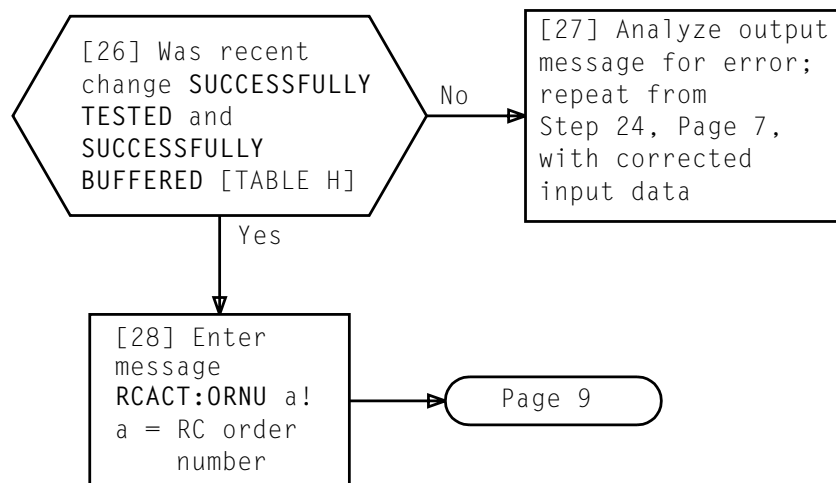


TABLE H	
MESSAGE NUMBER	OUTPUT MESSAGE
1	RC ORNU b SUCCESSFULLY TESTED RC ORNU b SUCCESSFULLY BUFFERED RC:UTYPE,CHG;OPT(EQP,DEGROW),BUF: UTYN a, ORNU b, OLD NEW MEMN c, ME (----, ----), OLD NEW SUBMEM d, SME (GROW, UNEQ), REMARKS-----!
a = Unit type = VIF, DT, TSI, TGR, EST, or DIF b = RC order number c = Member number of degrowth frame d = Submember name = TOPRTEQ(0 to 6) (for SPC 0, Ports 0-6) = T1PRTEQ(0 to 6) (for SPC 1, Ports 0-6) = VIUEQ(0 to 6) (for VIU 0-6) = DTUEQ(0 to 7) (for DTU 0-7) = ESEQ(0 to 14) (for ESU 0-14) = TMGRP(0 to 15) (for Terminal Units 0-15) = DIUEQ(0 to 31) (for DIU 0-31) = DIUSPQA (for Spare DIU 32) = DIUSPQB (for Spare DIU 33)	

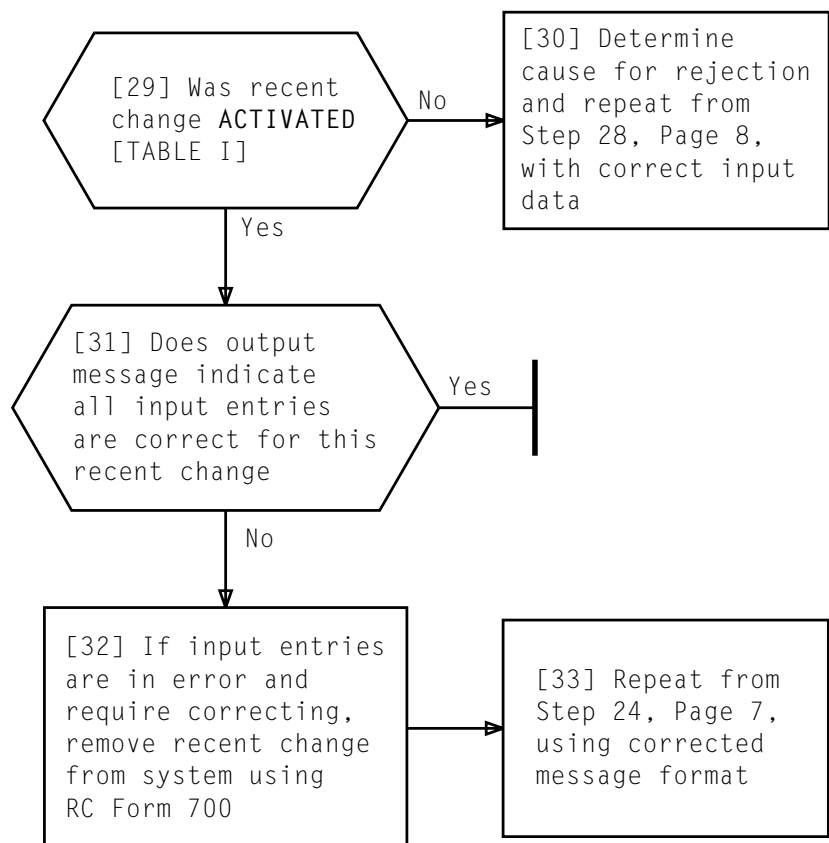


TABLE I	
MESSAGE NUMBER	OUTPUT MESSAGE
1	RC ORNU b ACTIVATED RC:UTYPE,CHG;OPT(EQP,GROW),BUF: UTYN a, ORNU b, OLD NEW MEMN c, ME (----, ----), OLD NEW SUBMEM d, SME (GROW, UNEQ), REMARKS-----!
a = Unit type = VIF, DT, TSI, TGR, EST, or DIF b = RC order number c = Member number of degrowth frame d = Submember name = TOPRTEQ(0 to 6) (for SPC 0, Ports 0-6) = T1PRTEQ(0 to 6) (for SPC 1, Ports 0-6) = VIUEQ(0 to 6) (for VIU 0-6) = DTUEQ(0 to 7) (for DTU 0-7) = ESEQ(0 to 14) (for ESU 0-14) = TMGRP(0 to 15) (for Terminal Units 0-15) = DIUEQ(0 to 31) (for DIU 0-31) = DIUSPQA (for Spare DIU 32) = DIUSPQB (for Spare DIU 33)	

- [1] Note word in output message containing SD or pulse point to be verified
- [2] Convert six rightmost digits of word to be verified to decimal SP member, row, and column numbers using FIG. 1. Record results
- [3] Get office record T-nnnn-Hn-462-xx or equivalent. xx = SP member number determined in Step 2

- [5] Add 64 decimal to SP row number determined in Step 2. Record new result

- [6] Search ROW and COL listing in office record and locate row and column previously recorded

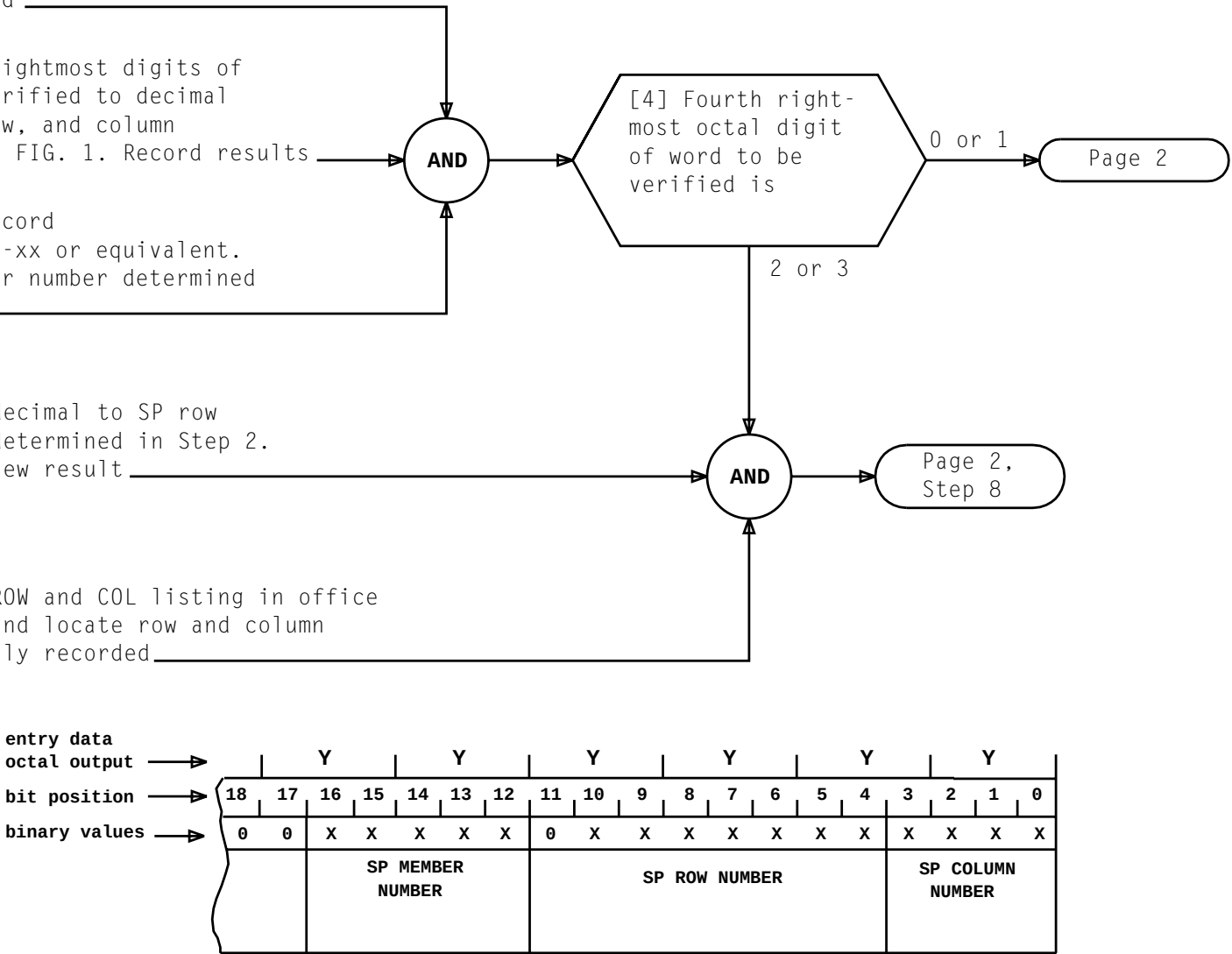
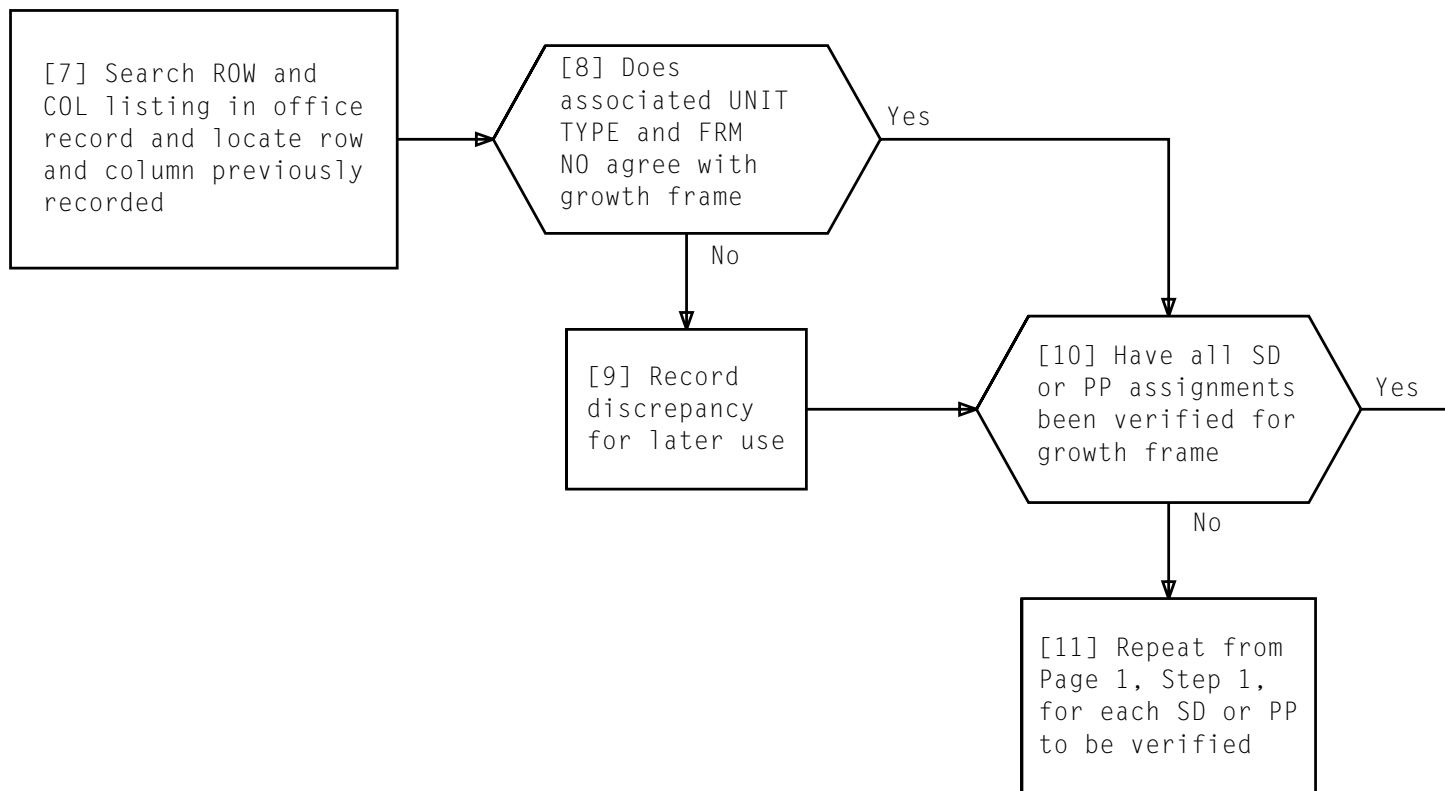


FIG. 1 – Entry Data Word Layout

VERIFY SD OR PULSE POINT ASSIGNMENTS FOR GROWTH FRAME

Issue 1	SEP 1997
234-353-030	DLP
PAGE 1 of 2	528



VERIFY SD OR PULSE POINT ASSIGNMENTS FOR GROWTH FRAME

Issue 1	SEP 1997
234-353-030	DLP
PAGE 2 of 2	528

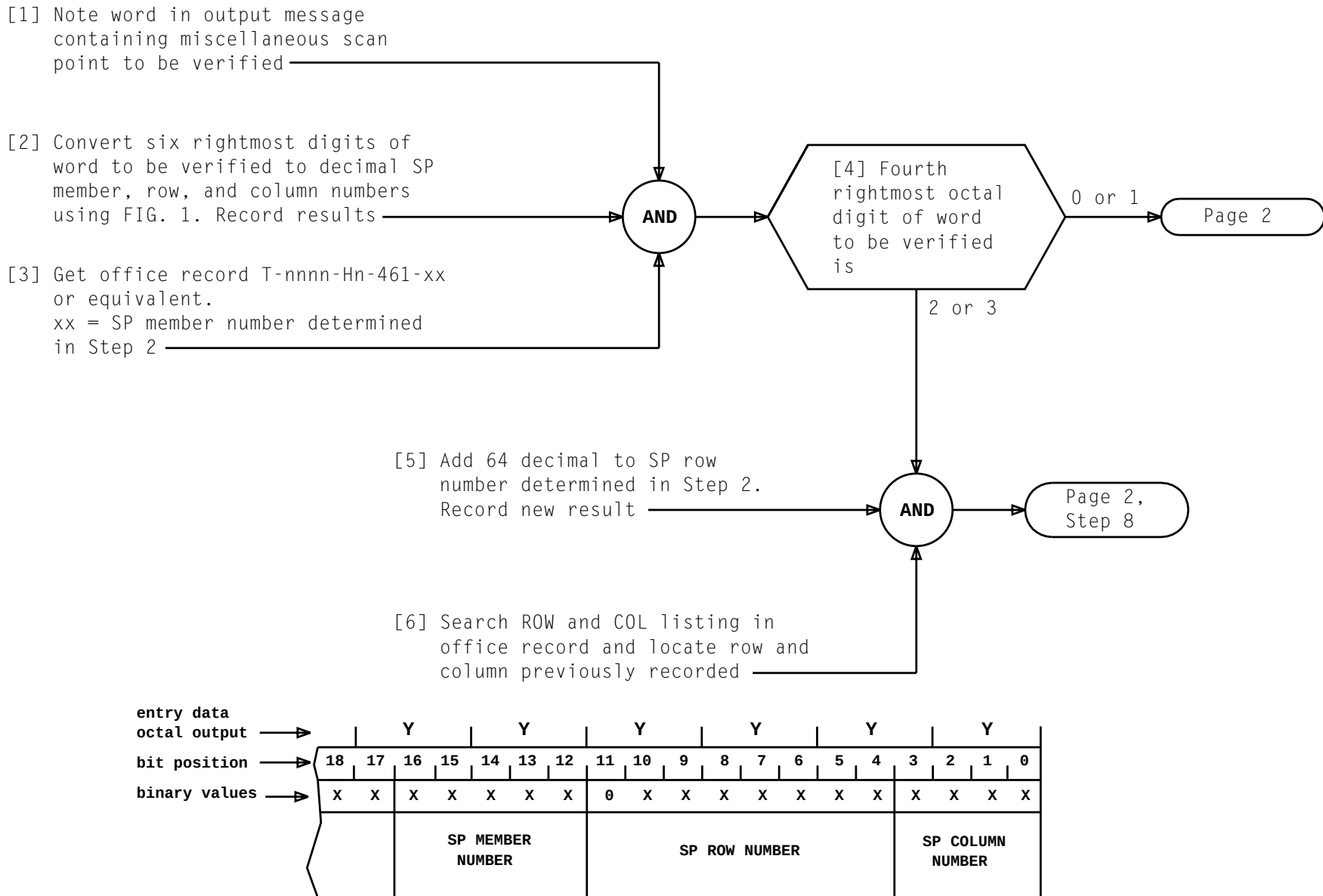
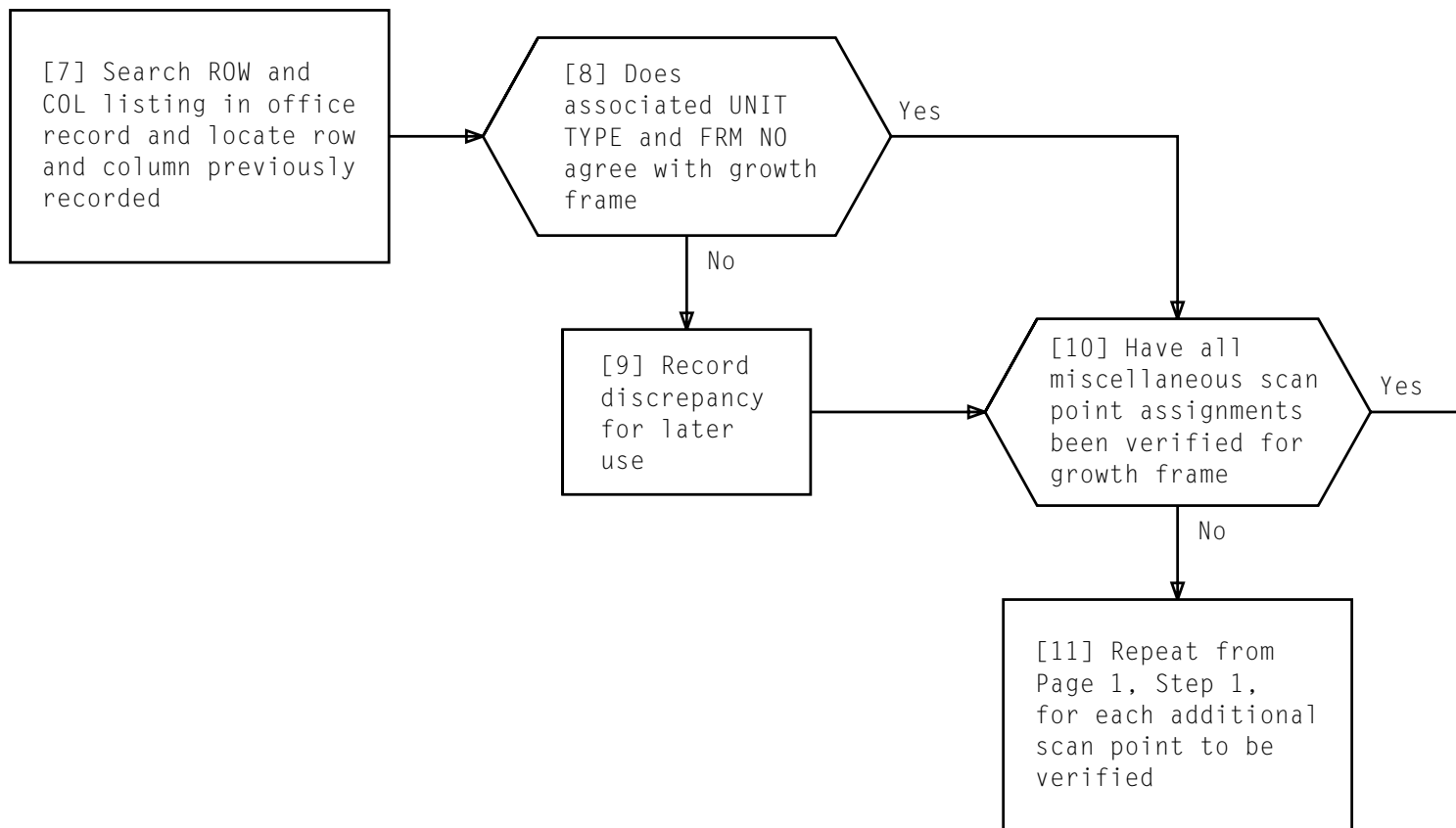


FIG. 1 – Entry Data Word Layout

Issue 1	SEP 1997
234-353-030	DLP
PAGE 1 of 2	529

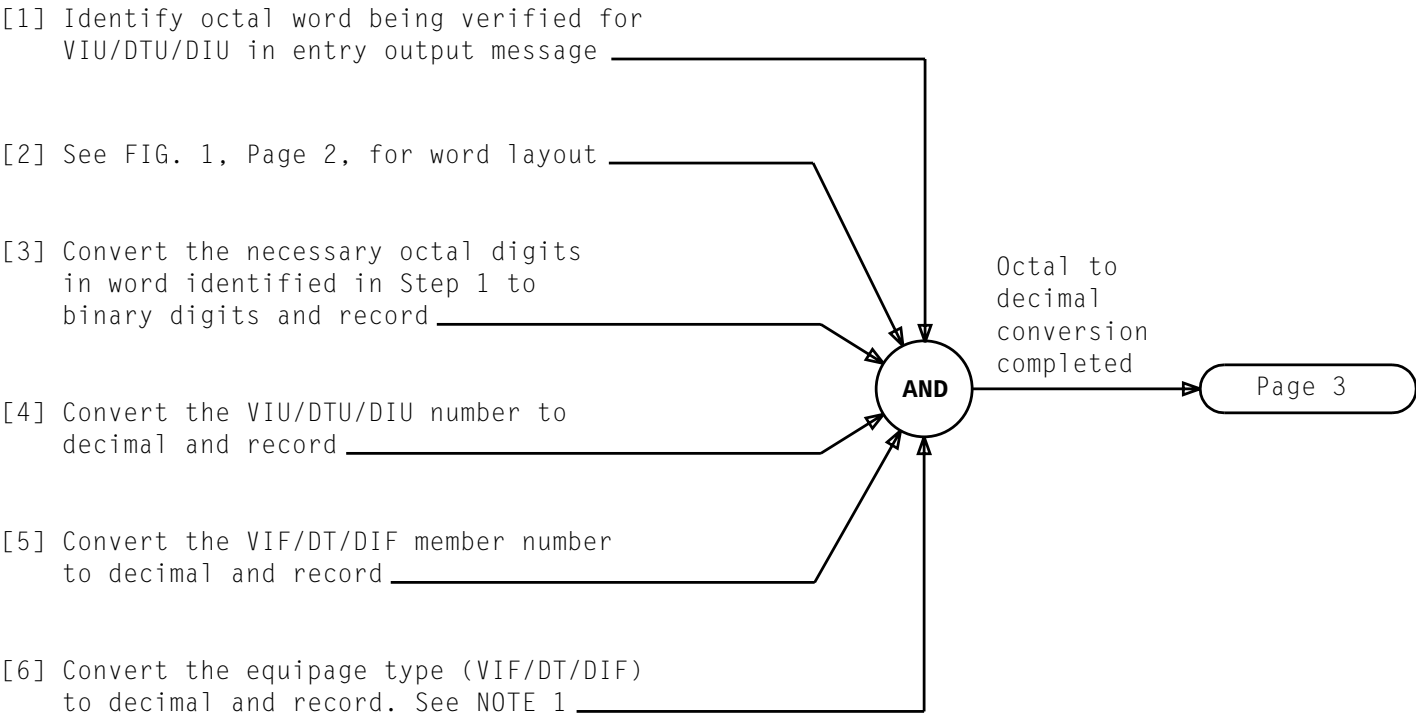
VERIFY MISCELLANEOUS SCAN POINT ASSIGNMENT(S) FOR GROWTH FRAME



VERIFY MISCELLANEOUS SCAN POINT ASSIGNMENT(S) FOR GROWTH FRAME

Issue 1	SEP 1997
234-353-030	DLP
PAGE 2 of 2	529

SUMMARY Convert octal digits representing VIU/DTU/DIU information of entry output word(s) to decimal. Compare entry output data against office records. If entry data and office	records do not agree, record discrepancies for later use. If this procedure is used as a result of a VIF/DT/DIF frame growth, repeat procedure for each VIU/DTU/DIU being equipped.



NOTE 1 Bits 15 through 12 set to 0011 for VIF or 0001 for DT or 0100 for DIF		
Issue 1	SEP 1997	
234-353-030	DLP	
PAGE 1 of 3	530	

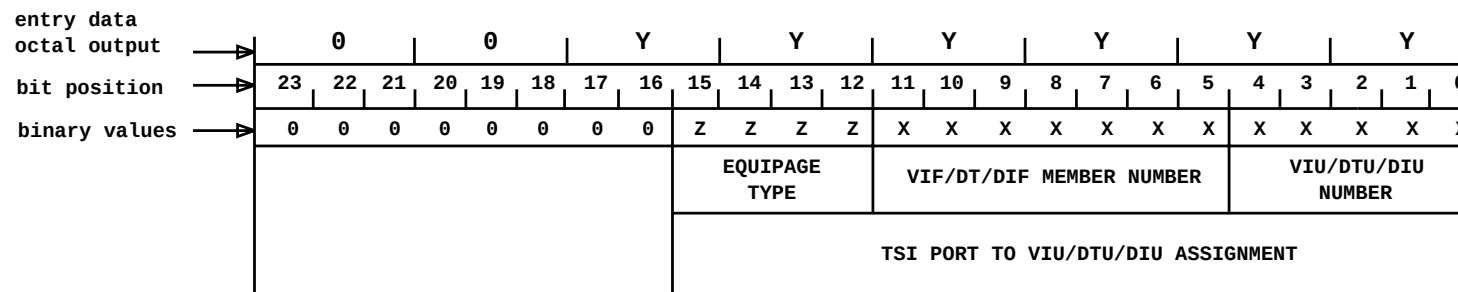
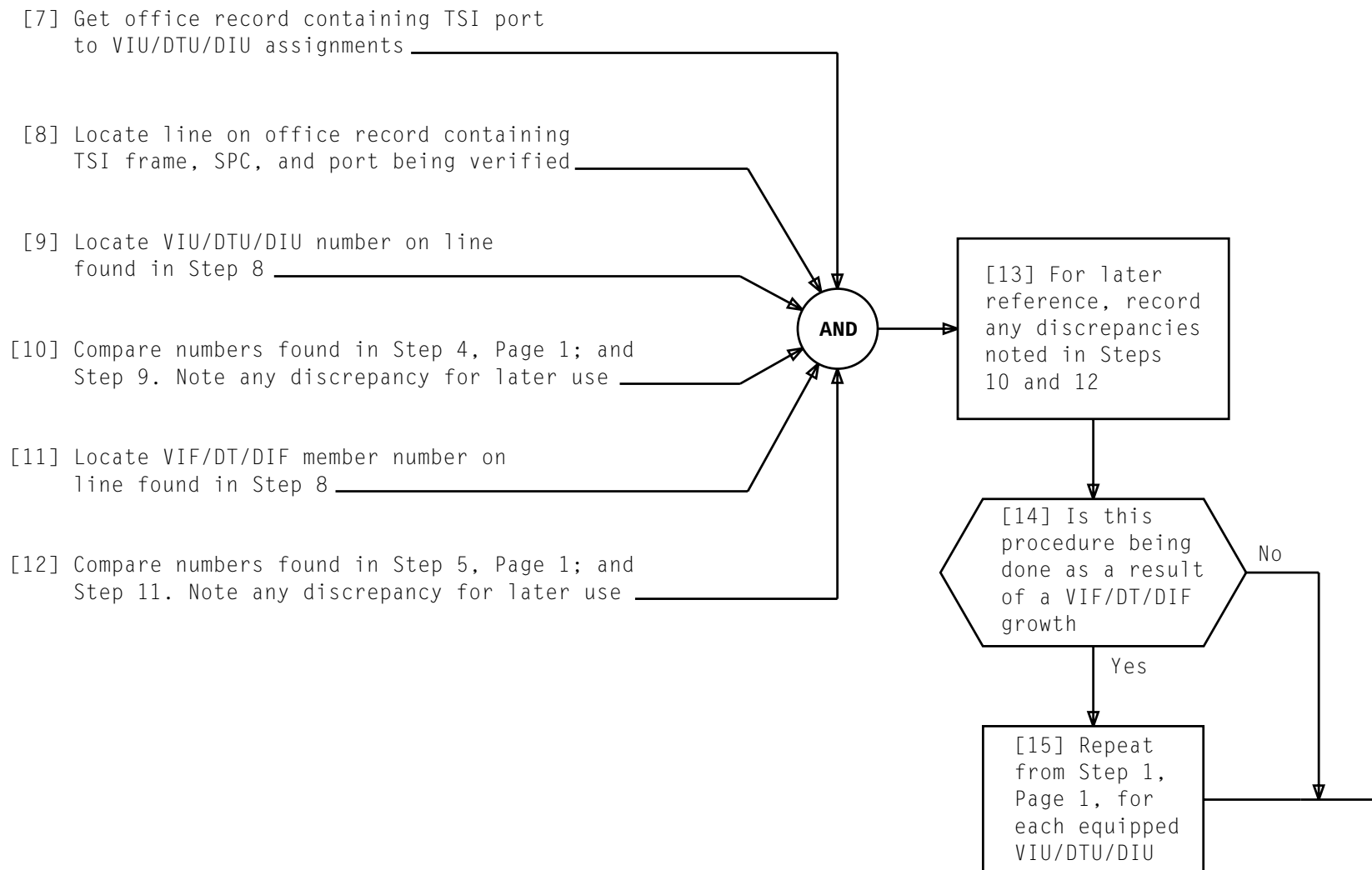


FIG. 1 – Office Generic Word Layout for TSI Port Assignment

VERIFY TSI PORT TO VIU/DTU/DIU ASSIGNMENT

Issue 1	SEP 1997
234-353-030	DLP
PAGE 2 of 3	530



VERIFY TSI PORT TO VIU/DTU/DIU ASSIGNMENT

Issue 1	SEP 1997
234-353-030	DLP
PAGE 3 of 3	530

SUMMARY

Verify from entry output message that growth VIU submember bits are set to zero. If UT data is in error, note discrepancy for later use.

[1] See octal word 0 in entry output message

[2] See FIG. 1 for word 0 layout

[3] Convert five rightmost octal digits of word 0 in entry output to binary digits

[4] Using TABLE A, identify bits associated with growth VIU

[5] Check that equipage bits identified in Step 4 are set to zero (unequipped) in entry output

AND

[6] For later reference, note value of bits if other than 00

TABLE A

GROWTH VIU	ASSOCIATED BITS
0	0, 1
1	2, 3
2	4, 5
3	6, 7
4	8, 9
5	10, 11
6	12, 13

entry data
octal output

bit position

binary values

1			0			6			Y		Y		Y		Y		Y						
23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
										X	X	X	X	X	X	X	X	X	X	X	X	X	
										6		5		4		3		2		1		0	
										VIU NO.													
										VIU SUBMEMBER EQUIPAGE													

FIG. 1 – Entry Data Word 0 Layout

VERIFY UNEQUIPPED STATUS OF GROWTH VIU

Issue 1	SEP 1997
234-353-030	DLP
PAGE 1 of 1	531

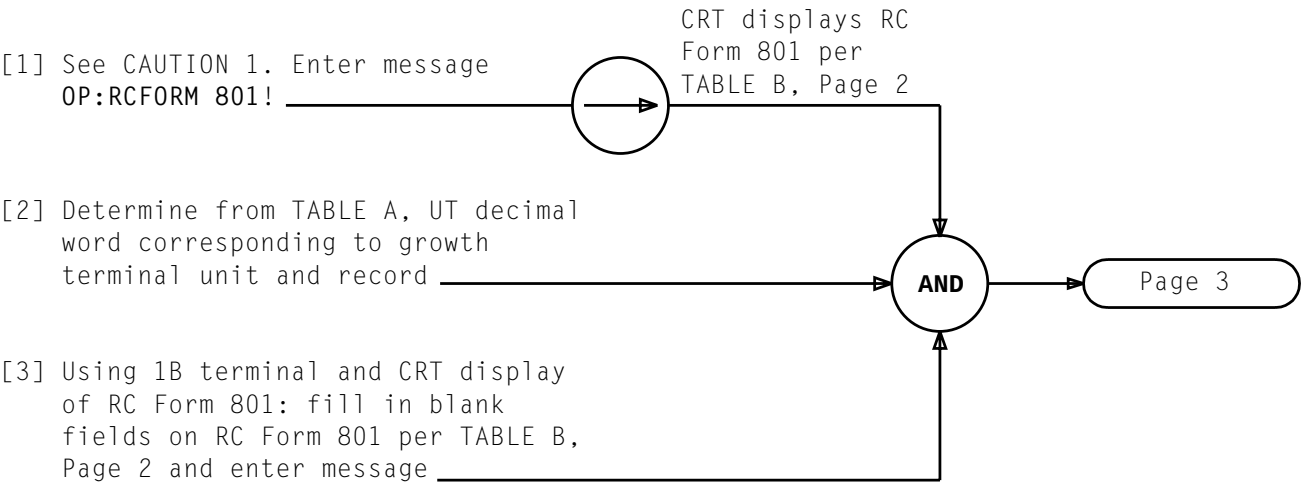


TABLE A			
GROWTH TERMINAL UNIT	UT DECIMAL WORD	GROWTH TERMINAL UNIT	UT DECIMAL WORD
0	18	8	50
1	22	9	54
2	26	10	58
3	30	11	62
4	34	12	66
5	38	13	70
6	42	14	74
7	46	15	78

PERFORM FUNCTIONAL WORD CHANGE OF TGR TERMINAL
UNIT LOOP DATA FOR SELF-SYNCHRONIZATION

CAUTION 1
Calling up
RC form will
cause all CRT
data to be
cleared

Issue 1

SEP 1997

234-353-030

DLP

PAGE 1 of 5

532

TABLE B	
MESSAGE NUMBER	INPUT MESSAGE
1	RC:FUNC;CHG;OPT(TRANS),a: TRANSID b, ORNU c, ENTRY d, WORDNO e, SIZE f, DISP g, BINOCT h, NEWDATA i, OLDDATA j, REMARKS..... !
a = TST b = UTTGR c = RC order number d = Member number of TGR containing growth terminal unit e = UT decimal word number previously recorded in Step 2 f = 1 g = 23 h = B i = 1 j = 0	

**PERFORM FUNCTIONAL WORD CHANGE OF TGR TERMINAL
UNIT LOOP DATA FOR SELF-SYNCHRONIZATION**

Issue 1	SEP 1997
234-353-030	DLP
PAGE 2 of 5	532

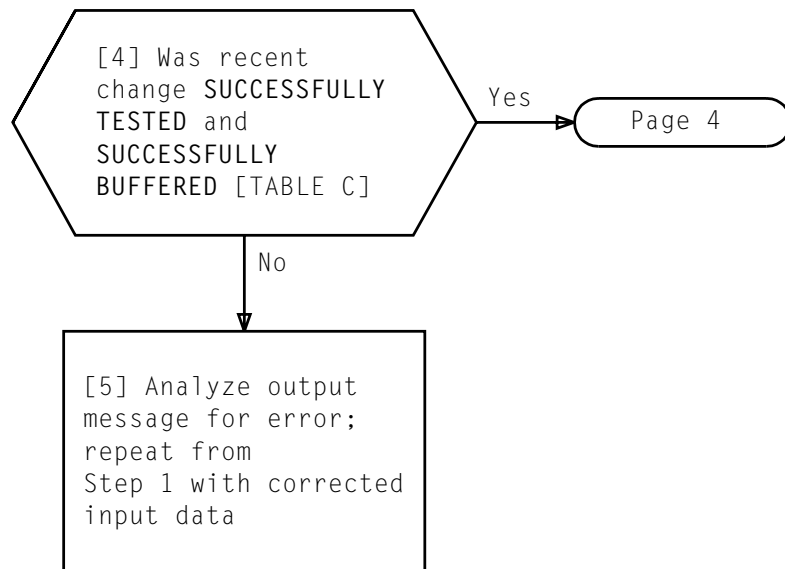


TABLE C	
MESSAGE NUMBER	OUTPUT MESSAGE
1	RC ORNU a SUCCESSFULLY TESTED RC ORNU a SUCCESSFULLY BUFFERED RC:FUNC;CHG;OPT(TRANS),BUF: TRANSID UTTGR, ORNU a, ENTRY b, WORDNO c, SIZE 1, DISP 23, BINOCT B, NEWDATA 1, OLDDATA 0, REMARKS _ _ _ _ _! REPT:RC DUMP OF UNIT TYPE ENTRY AS IT WILL APPEAR AFTER THE MESSAGE IS ACTIVATED WORD 0 _ _ _ _ WORD 10 _ _ _ _
a = RC order number b = Member number of TGR containing growth terminal unit c = UT decimal word number previously recorded in Step 2, Page 1	

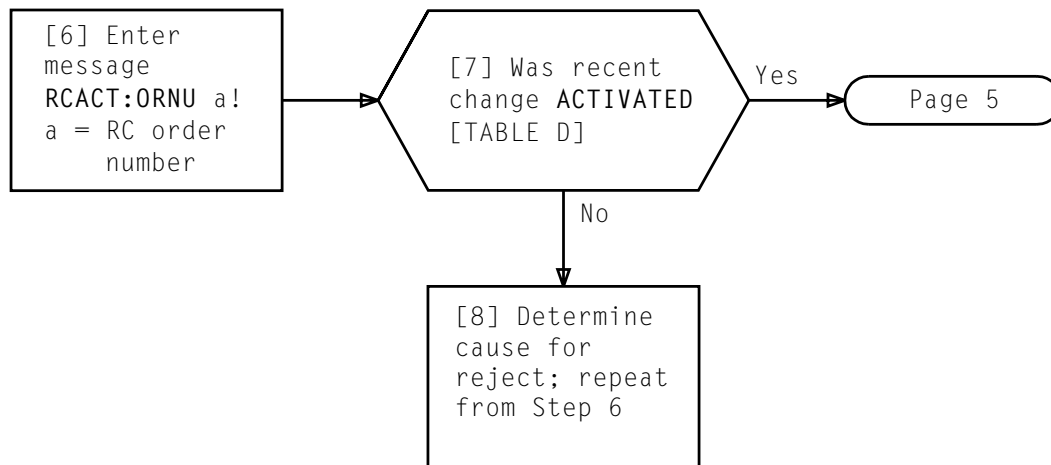
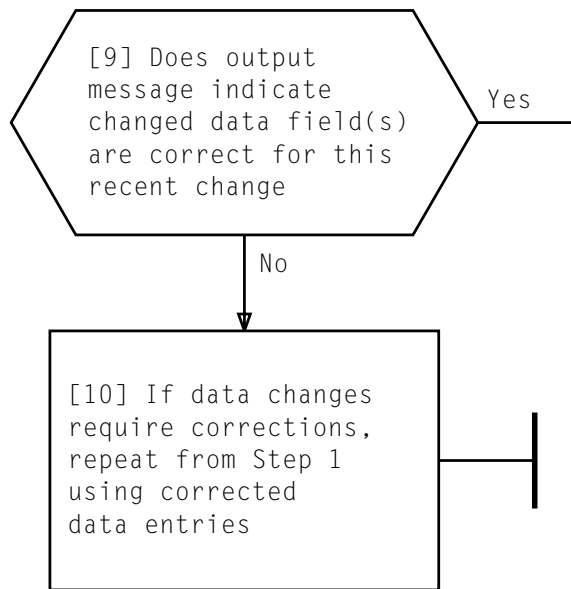


TABLE D	
MESSAGE NUMBER	OUTPUT MESSAGE
1	RC ORNU a ACTIVATED RC:FUNC;CHG;OPT(TRANS),BUF: TRANSID UTTGR, ORNU a, ENTRY b, WORDNO c, SIZE 1, DISP 23, BINOCT B, NEWDATA 1, OLDDATA 0, REMARKS..... !
a = RC order number b = Member number of TGR containing growth terminal unit c = UT decimal word number previously recorded in Step 2, Page 1	

PERFORM FUNCTIONAL WORD CHANGE OF TGR TERMINAL UNIT LOOP DATA FOR SELF-SYNCHRONIZATION

Issue 1	SEP 1997
234-353-030	DLP
PAGE 4 of 5	532

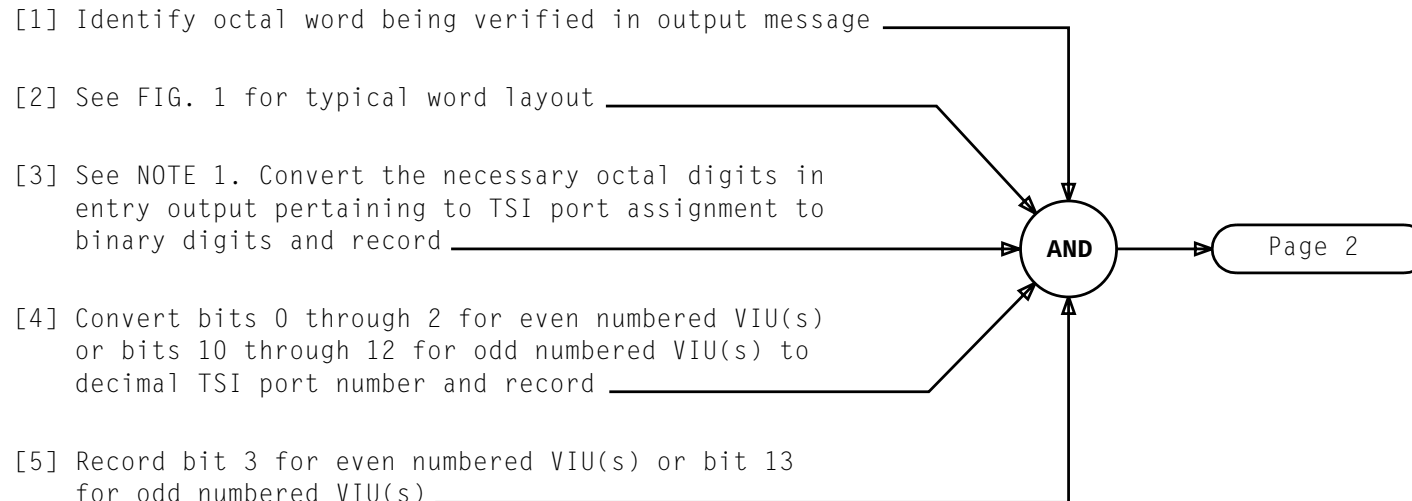


**PERFORM FUNCTIONAL WORD CHANGE OF TGR TERMINAL
UNIT LOOP DATA FOR SELF-SYNCHRONIZATION**

Issue 1	SEP 1997
234-353-030	DLP
PAGE 5 of 5	532

SUMMARY

Convert octal digits representing TSI information of entry output word to decimal. Compare entry output data against office records. If entry output data and office records do not agree, record discrepancies for later reference. If this procedure is done as a result of a VIF addition, repeat procedure for each equipped VIU.



entry data																												
octal output	0				Y				Y				Y				Y				Y				Y			
bit position	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0				
binary values	0	0	0	0	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
					TSI MEMBER NUMBER						SPC 0/1	TSI PORT NO.			TSI MEMBER NUMBER						SPC 0/1	TSI PORT NO.						
					VIU 1, 3, OR 5 TO TSI LEVEL ASSIGNMENT										VIU 0, 2, 4 OR 6 TO TSI LEVEL ASSIGNMENT													

FIG. 1 – Typical Word Layout Pertaining to TSI Port Assignment

NOTE 1

For even numbered VIU(s), the four rightmost digits will be converted and for odd numbered VIU(s), the five leftmost digits will be converted

VERIFY GROWTH VIU TO TSI PORT ASSIGNMENT

Issue 1	SEP 1997
234-353-030	DLP
PAGE 1 of 3	533

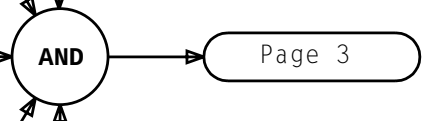
[6] Convert bits 4 through 9 for even
numbered VIU(s) or bits 14 through
19 for odd numbered VIU(s) to decimal
TSI member number and record

[7] Get office record containing
VIU to TSI port assignments

[8] Locate line on office record
containing the VIF frame
and unit being grown

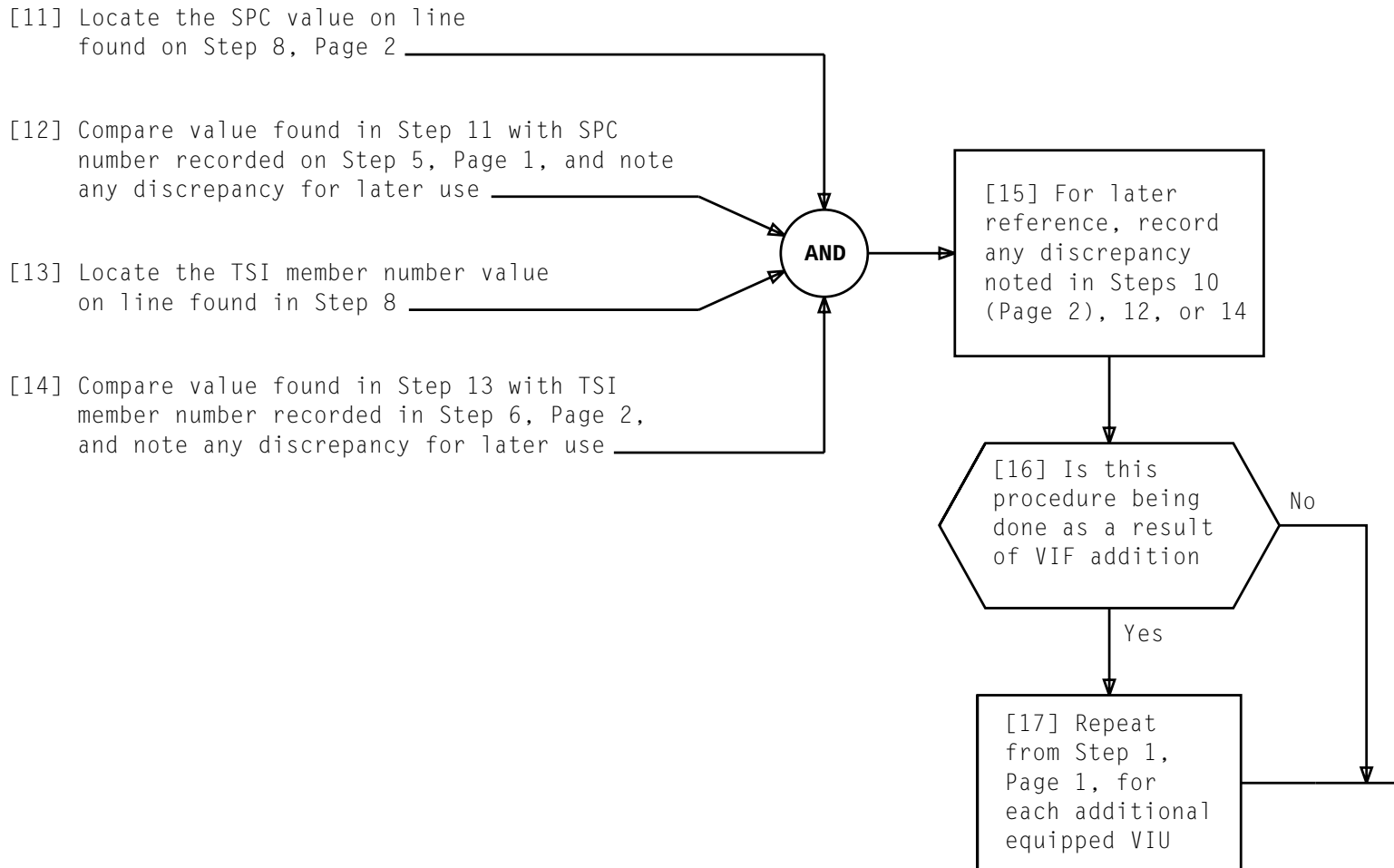
[9] Locate the TSI port number value
on line found in Step 8

[10] Compare value found in Step 9
with TSI port number recorded
in Step 4, Page 1, and note any
discrepancy for later use



VERIFY GROWTH VIU TO TSI PORT ASSIGNMENT

Issue 1	SEP 1997
234-353-030	DLP
PAGE 2 of 3	533



[1] At 1B MTC terminal,
enter message
VER:UTYPE:EST a,SME b!
a = Member number of
growth associated
EST
b = Growth SME index
number per TABLE A

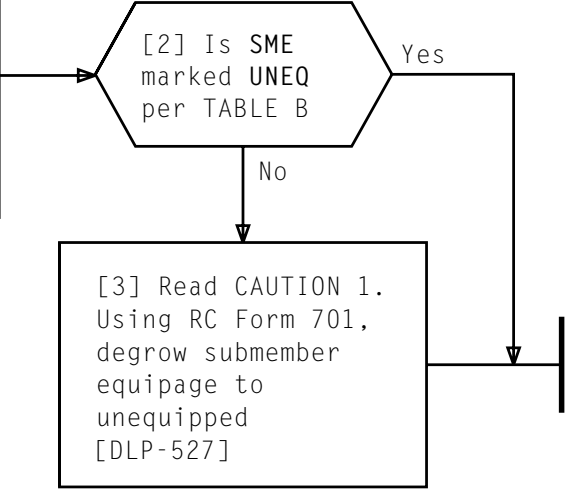


TABLE B	
MESSAGE NUMBER	OUTPUT MESSAGE
1	VER:UTMN;OPT(SME),CUR: FLN a, UTYN EST, MEMN b, ME OPER, SUBMEM c, SME UNEQ,
a = Floor location number b = Member number of growth associated EST c = Growth SME index number	

TABLE A															
SME	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14
INDEX NO.	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142

VERIFY UNEQUIPPED STATUS OF GROWTH ESU

CAUTION 1
Depending on
local procedures,
supervisory or
TELCO engineering
approval must be
obtained prior to
performing any
data change

Issue 1

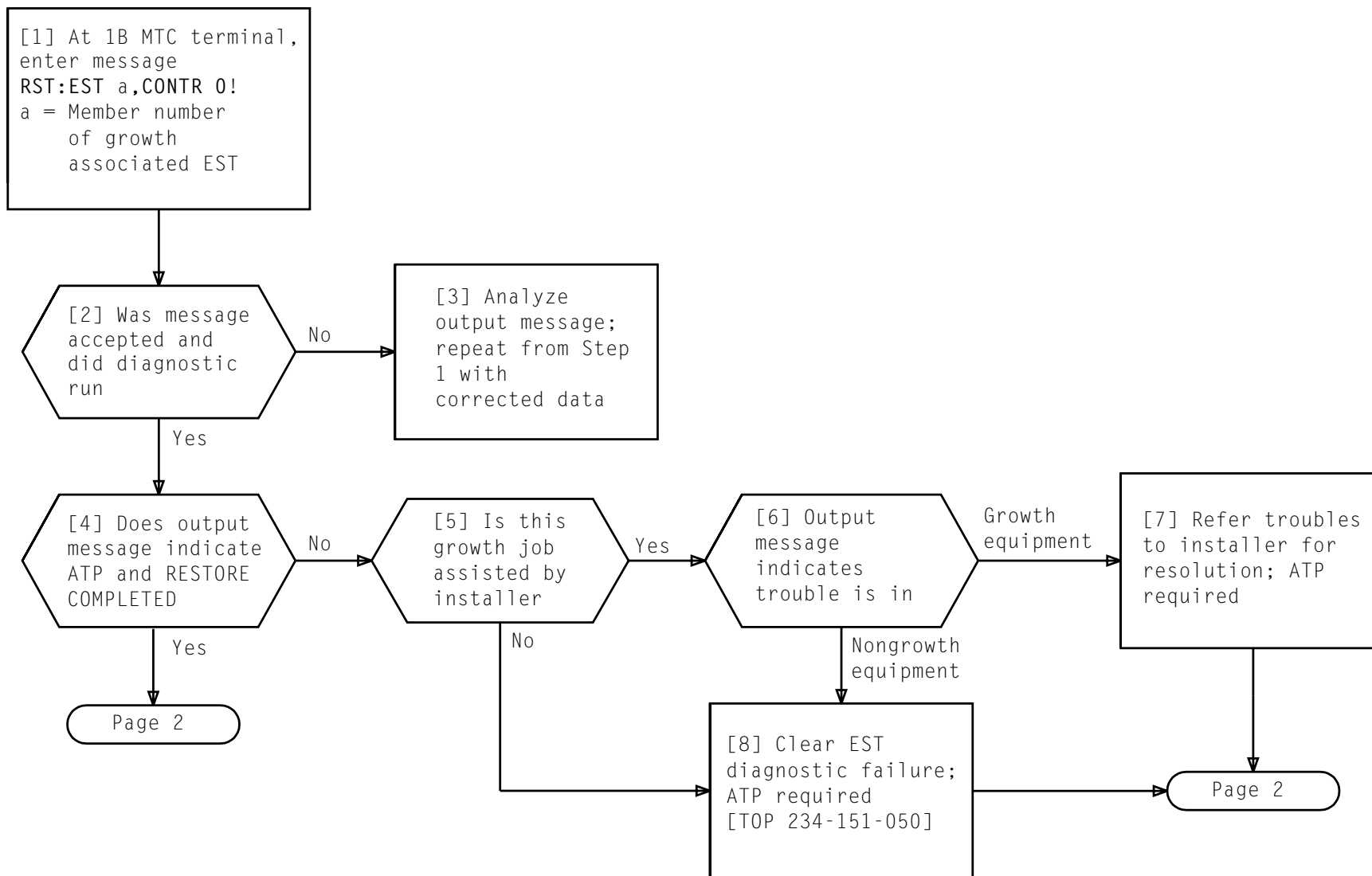
SEP 1997

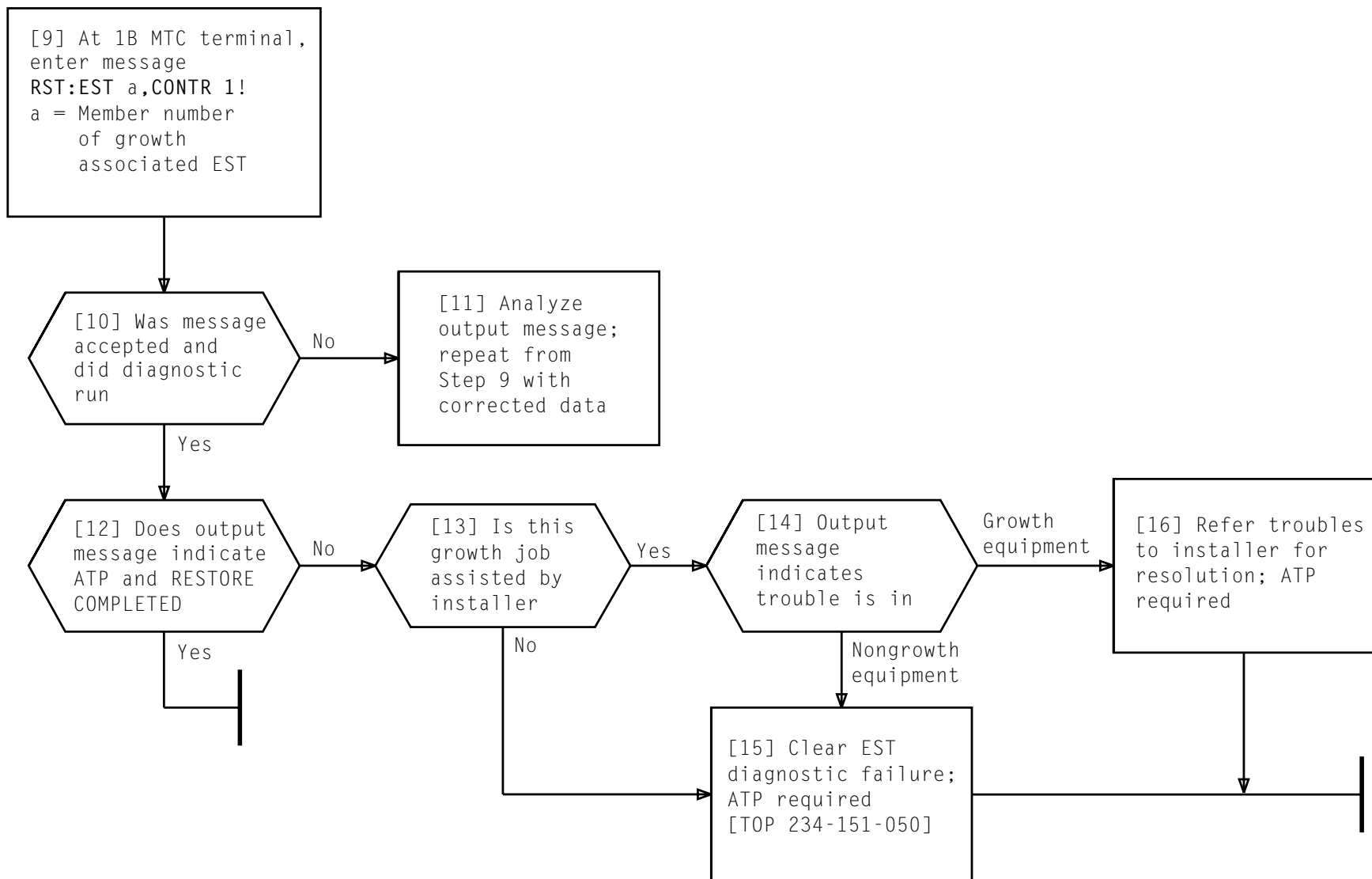
234-353-030

DLP

PAGE 1 of 1

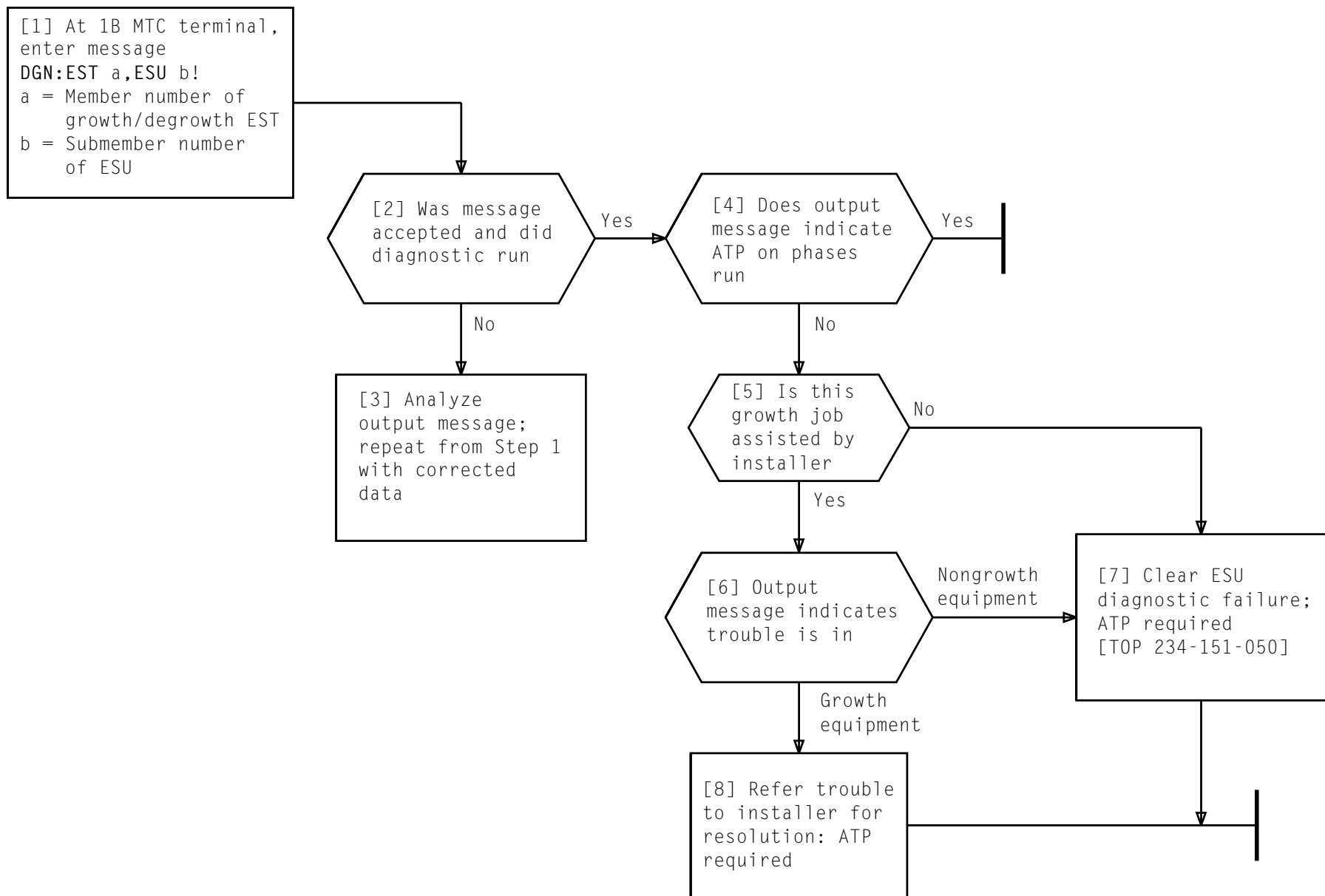
534

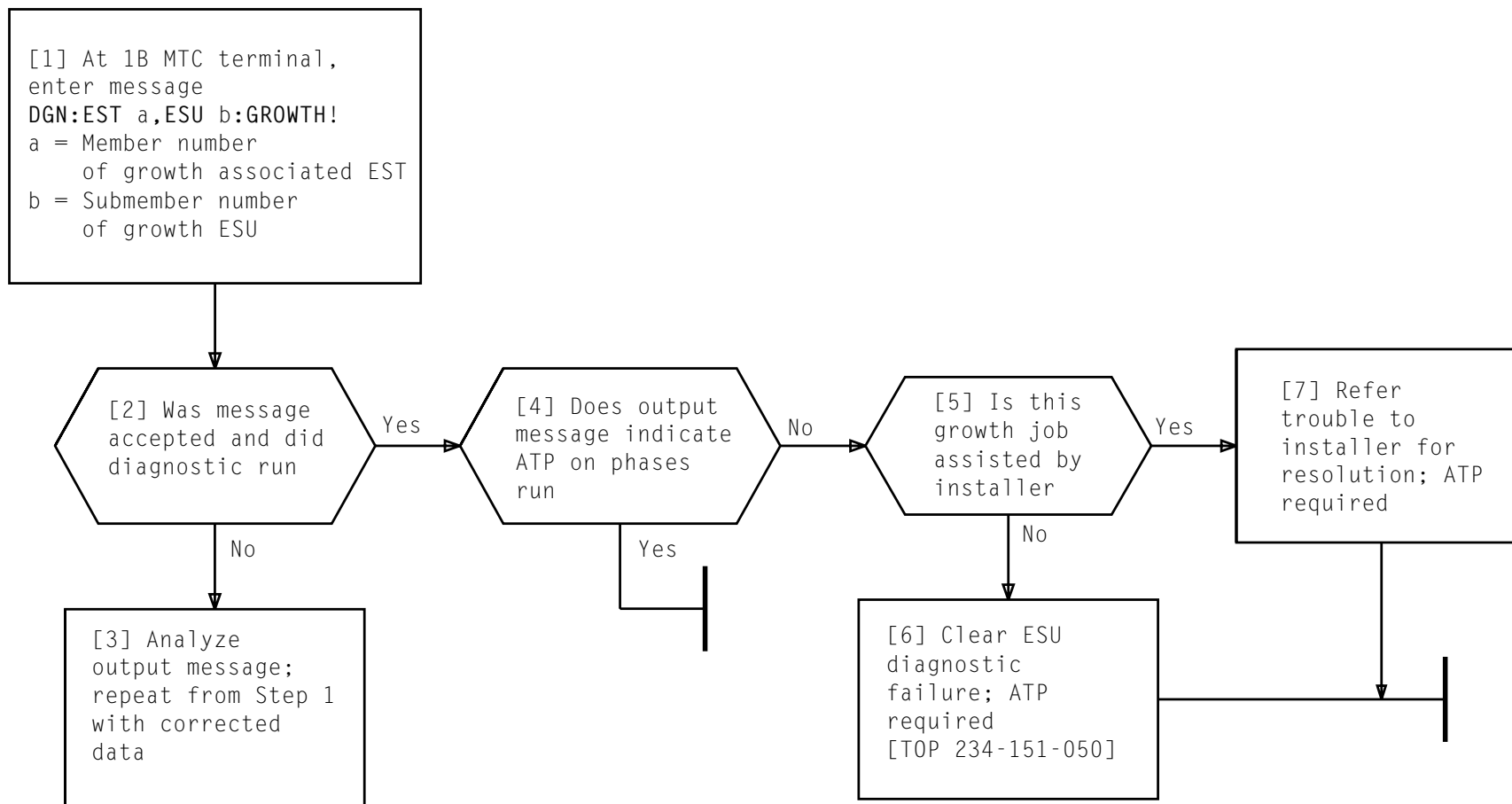




DIAGNOSE GROWTH EST USING RESTORE MESSAGE

Issue 1	SEP 1997
234-353-030	DLP
PAGE 2 of 2	535





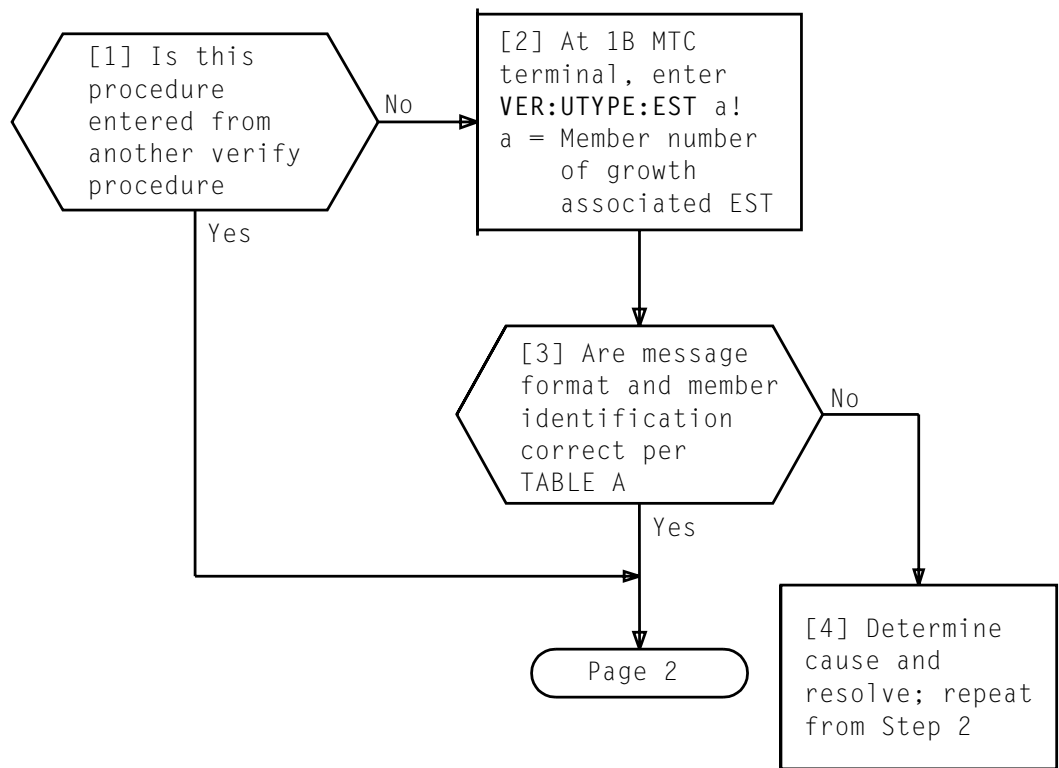


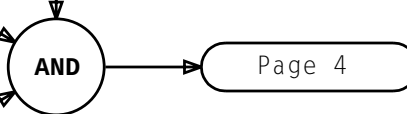
TABLE A	
MESSAGE NUMBER	OUTPUT MESSAGE
1	VER:UTMN;OPT(),CUR: FLN a, UTYN EST, MEMN b, ME OPER, ENTRY ADDRESS c, ENTRY SIZE 26, CUR WORD 0 _____ WORD 10 _____ WORD 20 _____ WORD 30 _____
a = Floor location number b = Member number of growth associated EST c = Starting octal address for unit type entry	

[5] Using FIG. 1 and FIG. 2,
Page 2, determine octal word
associated with growth ESU

[6] Note contents of word in
entry output message
containing version data
to be verified

[7] For growth ESU, convert
octal digits to version
number per word obtained
in Step 5 and record

[8] Obtain from shipping information
or installer, LDI issue number for
growth ESU



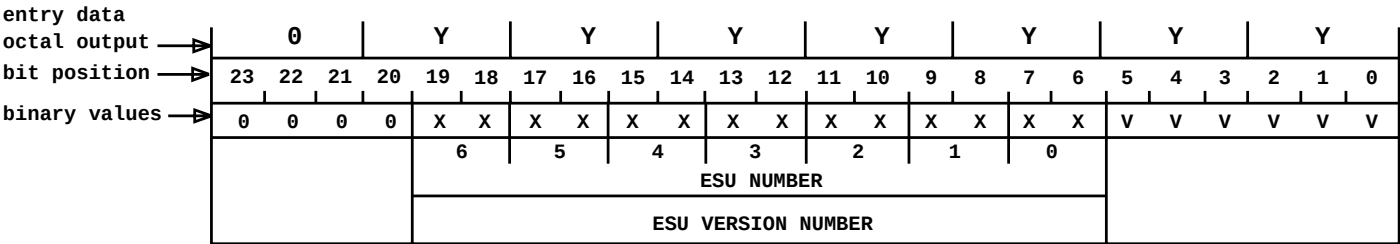


FIG. 1 – Entry Word 10 Layout

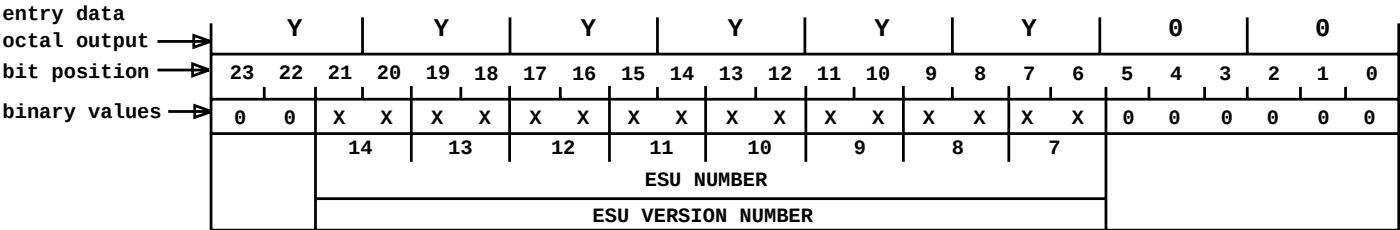


FIG. 2 – Entry Word 12 Layout

VERIFY GROWTH ESU VERSION NUMBER

[9] Using TABLE B, select version number associated with LDI issue on Step 8, Page 2. See NOTE 1

[10] Compare version numbers in Step 9 with version numbers calculated on Step 7, Page 2

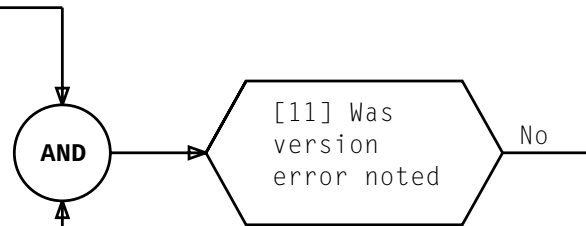


TABLE B			
UNIT	SD NUMBER	MEMBER VERSION NO.	
		0	1
ESU	5G168-01	*1A	—
* LDI Issue Number			

[14] See CAUTION 1. Using RC Form 801, perform functional word change to correct data error [DLP-525]

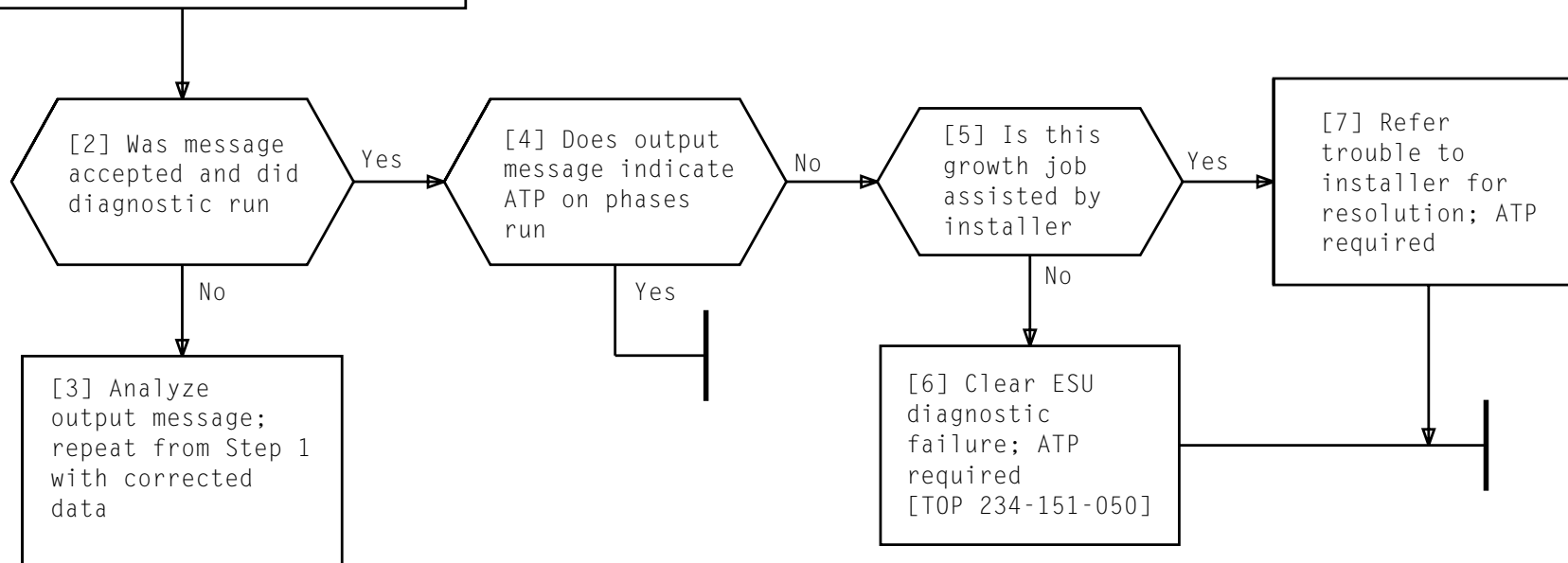
[13] Record any discrepancies found in Step 10

NOTE 1
PECC diagnostic center may be consulted for current version information if not listed in TABLE B

CAUTION 1
Depending on local procedure, supervisory or TELCO engineering approval must be obtained prior to performing any data change

Issue 1	SEP 1997
234-353-030	DLP
PAGE 4 of 4	538

[1] At 1B MTC terminal,
enter message
DGN:EST a,ESU b:PH 1-3,GROWTH,ESCSEL!
a = Member number of growth
associated EST
b = Submember number of growth ESU



DIAGNOSE GROWTH ESU (PHASES 1-3)

Issue 1	SEP 1997
234-353-030	DLP
PAGE 1 of 1	539

[1] Determine location of DIU to be grown and its associated power converters using FIG. 1

[2] Select circuit packs per TABLE A for DIU to be grown

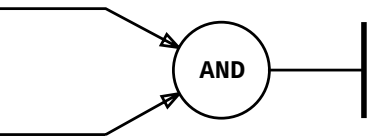


TABLE A		
QUANTITY	NUMBER	NAME
5	SM1B	DIGROUP INTERFACE (VOICE) or
4	SM6	DIGROUP INTERFACE (MF) or
4	SM7	DIGROUP INTERFACE (DTMF) or
5	SM9	DIGROUP INTERFACE (All other DIU types) or
5	SM10	DIGROUP INTERFACE (All other DIU types)
1	SM2	CONTROL INTERFACE
1	SM3	DS120 RECEIVER FRAMER AND TEST ACCESS
1	SM4	DS120 TRANSMIT CONVERTER AND LINE DRIVER/EQUALIZER
1	SM5	UNIT CLOCK GENERATOR
1	140E	POWER UNIT
1	141C1	POWER UNIT (for SM6, 7, 9, or 10) or
1	141L1	POWER UNIT (for SM1)

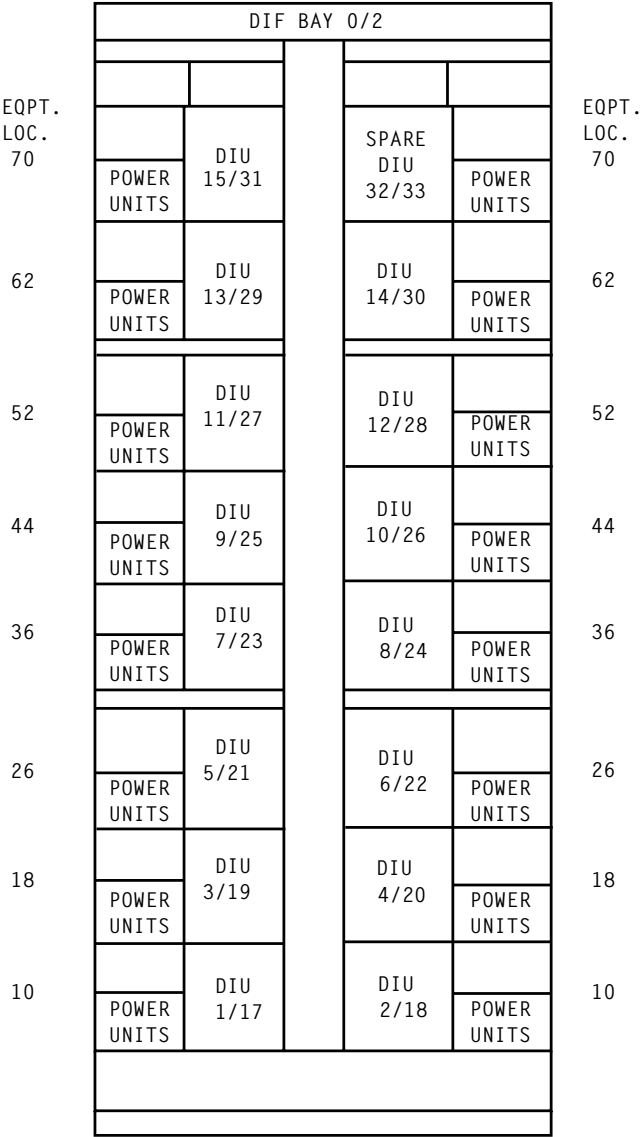


FIG. 1 – DIF BAY 0 or 2 – Front View

[1] At Growth DIU, assure that **UNIT** power switch is in OFF (down) position. See FIG. 1, Page 2

[2] Set power switches on 140E and 141C1/141L1 power units to OFF (down) position

[3] At Growth DIU fuse holder, ensure fuse is removed. See FIG. 1

[4] Install 140E and 141C1/141L1 power units per FIG. 1

[5] See WARNING 1. Install growth DIU circuit packs per FIG. 1

[6] Install fuse in growth DIU fuse holder (If growing SM6, 7, 9, or 10, ensure 2 amp fuse is installed)

[7] Set power switches on 140E and 141C1/141L1 power units to ON (up) position

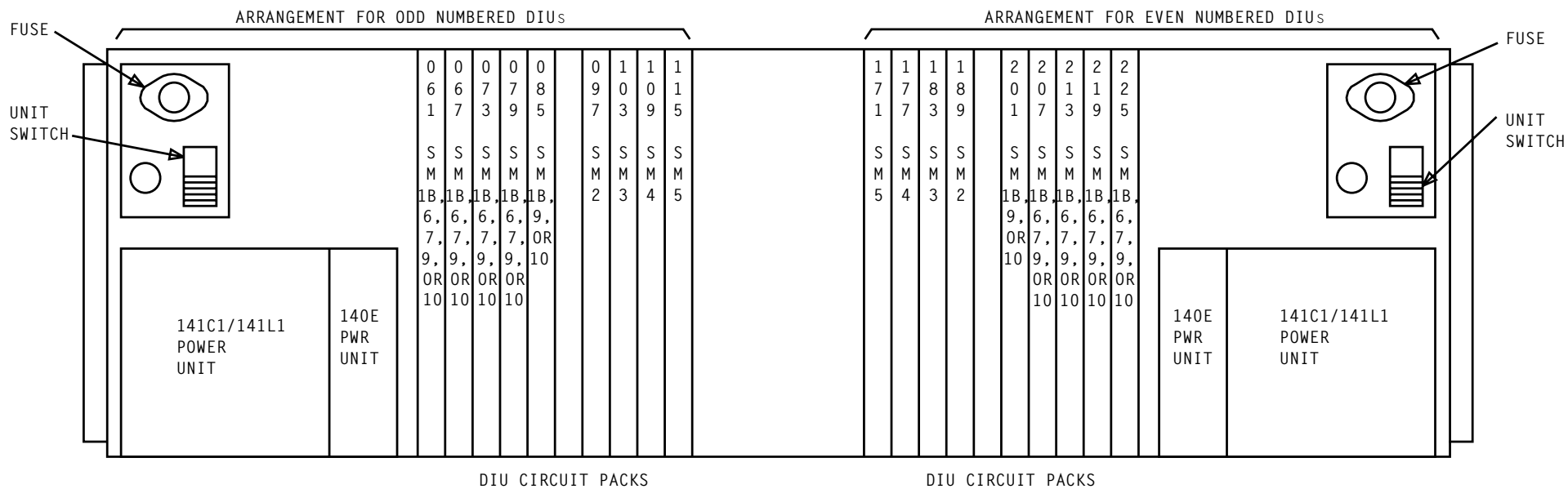
AND

```
graph LR; S1[1] --> AND((AND)); S2[2] --> AND; S3[3] --> AND; S4[4] --> AND; S5[5] --> AND; S6[6] --> AND; S7[7] --> AND; AND --> OUT[ ]
```

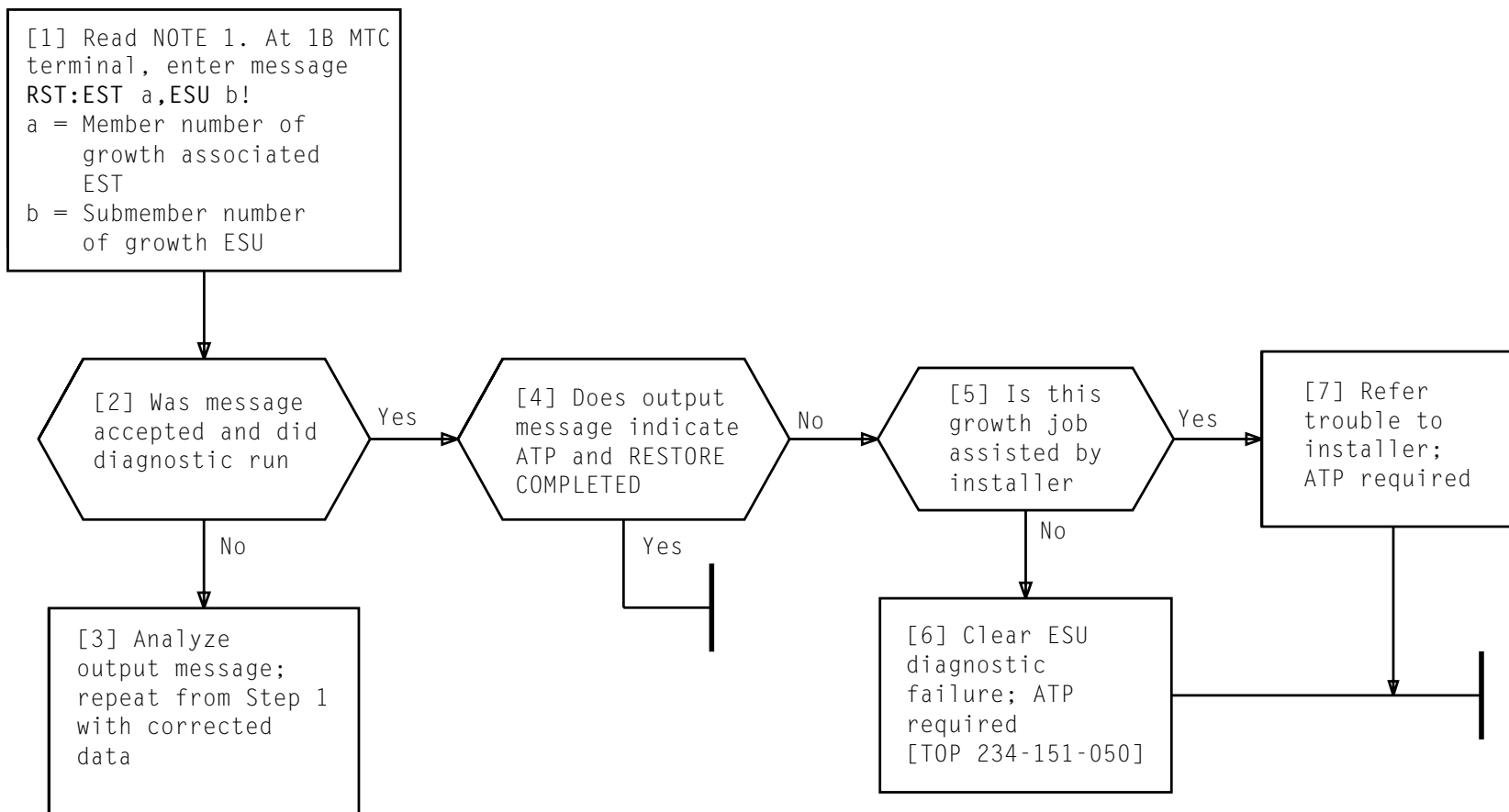
INSTALL GROWTH DIU CIRCUIT PACKS AND POWER UNITS

WARNING 1
An antistatic wrist strap must be worn to prevent electrostatic discharge and possible damage to circuit packs while handling

Issue 1	SEP 1997
234-353-030	DLP
PAGE 1 of 2	541



INSTALL GROWTH DIU CIRCUIT PACKS AND POWER UNITS



NOTE 1 Restore input message will cause diagnostic to be run and ESU to be restored, if ATP		
Issue 1	SEP 1997	
234-353-030	DLP	
PAGE 1 of 1	542	

SUMMARY

Using verify entry message, call up growth associated TSI UT translator and determine TSI member equipage status. Verify that EST indicator bit is set to 0 and that ESU strap indicator bits are set to ones. Also verify EST member number.

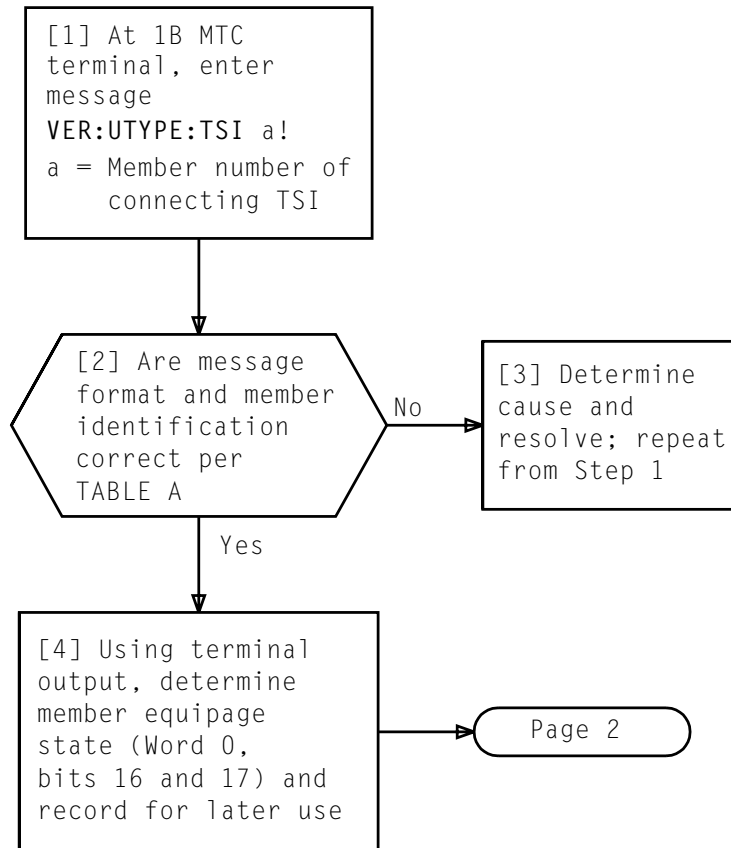


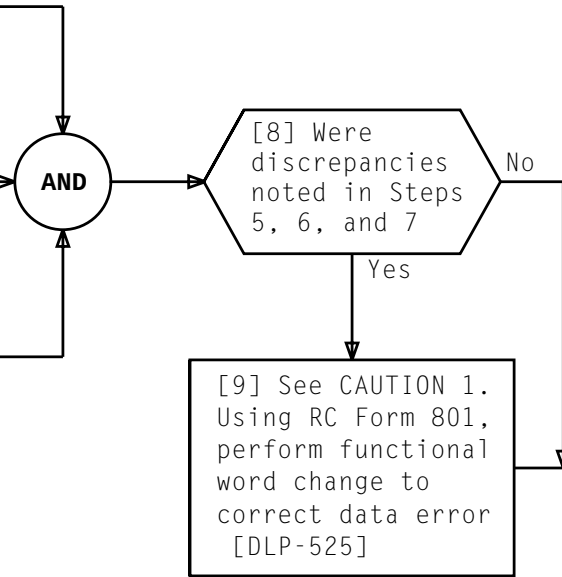
TABLE A

MESSAGE NUMBER	OUTPUT MESSAGE
1	VER:UTMN;OPT(),CUR: FLN a, UTYN TSI, MEMN b, ME c, ENTRY ADDRESS d, ENTRY SIZE 34, CUR WORD 0 _____ WORD 10 _____ WORD 20 _____ WORD 30 _____ WORD 40 _____
a = Floor location number b = Member number of connecting TSI c = GROW or SGRO or OPER d = Starting octal address for unit type entry	

[5] Using printout, verify that bit 23 of word 5 per FIG. 1 is set to 0

[6] Using printout and office records, verify EST member number per word 5 in FIG. 1 [DLP-551]

[7] Using printout and FIG. 2 and 3, verify that ESU strap indicators per words 14 and 15 are all set to 1



entry data	Y			Y			
octal output							
bit position	23	22	21	20	19	18	17
binary values	0	Z	Z	Z	Z	Z	
	E	EST MEMBER NUMBER					
	S						
	T						
	I						

FIG. 1 – Part of Entry Data Octal Word 5 Pertaining to EST Indicator

entry data	7			7			Y	
octal output								
bit position	23	22	21	20	19	18	17	16
binary values	1	1	1	1	1	1	1	X
	6	5	4	3	2	1	0	
	ESU NO.							
	ESU STRAP INDICATOR SPC 0							

FIG. 2 – Part of Entry Data Octal Word 14 Pertaining to SPC 0 Strap Indicator

entry data	7				7				Y			
octal output												
bit position	23	22	21	20	19	18	17	16				
binary values	1	1	1	1	1	1	1	X				
	13	12	11	10	9	8	7					
	ESU NO.											
	ESU STRAP INDICATOR SPC 1											

FIG. 3 – Part of Entry Data Octal Word 15 Pertaining to SPC 1 Strap Indicator

CAUTION 1
Depending on local procedures, supervisory or TELCO engineering approval must be obtained prior to performing any data change

Issue 1	SEP 1997
234-353-030	DLP
PAGE 2 of 2	543

SUMMARY

Verify from entry output message that growth DTU submember bits are set to zero. If UT data is in error, note discrepancy for later use.

[1] See octal word 0 in entry output message and FIG. 1

[2] Convert six rightmost octal digits of word 0 in entry output to binary digits

[3] Using TABLE A, identify bits associated with growth DTU

[4] Check that equipage bits identified in Step 3 are set to zero (unequipped) in entry output

AND

[5] For later reference, note value of bits if other than 00

TABLE A

GROWTH DTU	ASSOCIATED BITS
0	0, 1
1	2, 3
2	4, 5
3	6, 7
4	8, 9
5	10, 11
6	12, 13
7	14, 15

entry data
octal output

bit position

binary values

6				Y				Y				Y				Y				Y				Y				Y			
23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0								
1	1	0	0	X	0	0	0	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X									
								7	6	5	4	3	2	1	0																
								DTU NO.																							
								DTU SUBMEMBER EQUIPAGE																							

FIG. 1 – Entry Data Word 0 Layout

VERIFY UNEQUIPPED STATUS OF GROWTH DTU

Issue 1	SEP 1997
234-353-030	DLP
PAGE 1 of 1	544

- [4] Note bit 17 and record for SPC assignment. See TABLE A _____

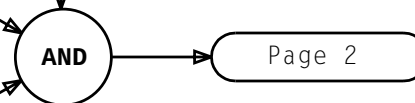


TABLE A	
BIT 17	SPC NO
0	0
1	1

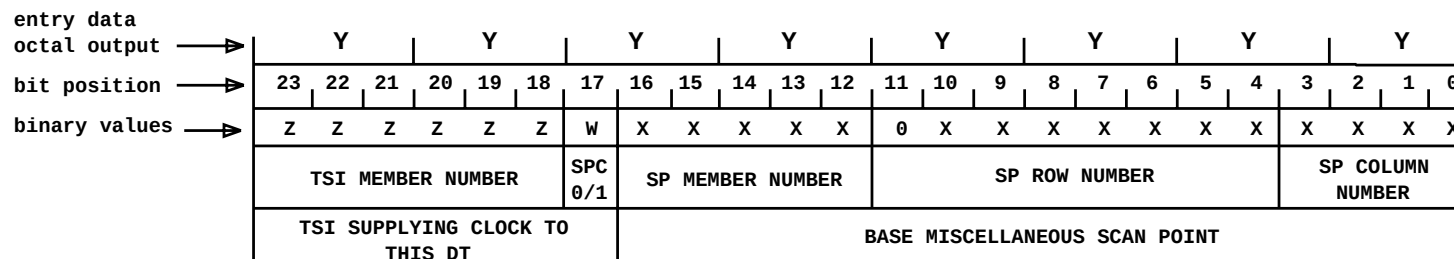
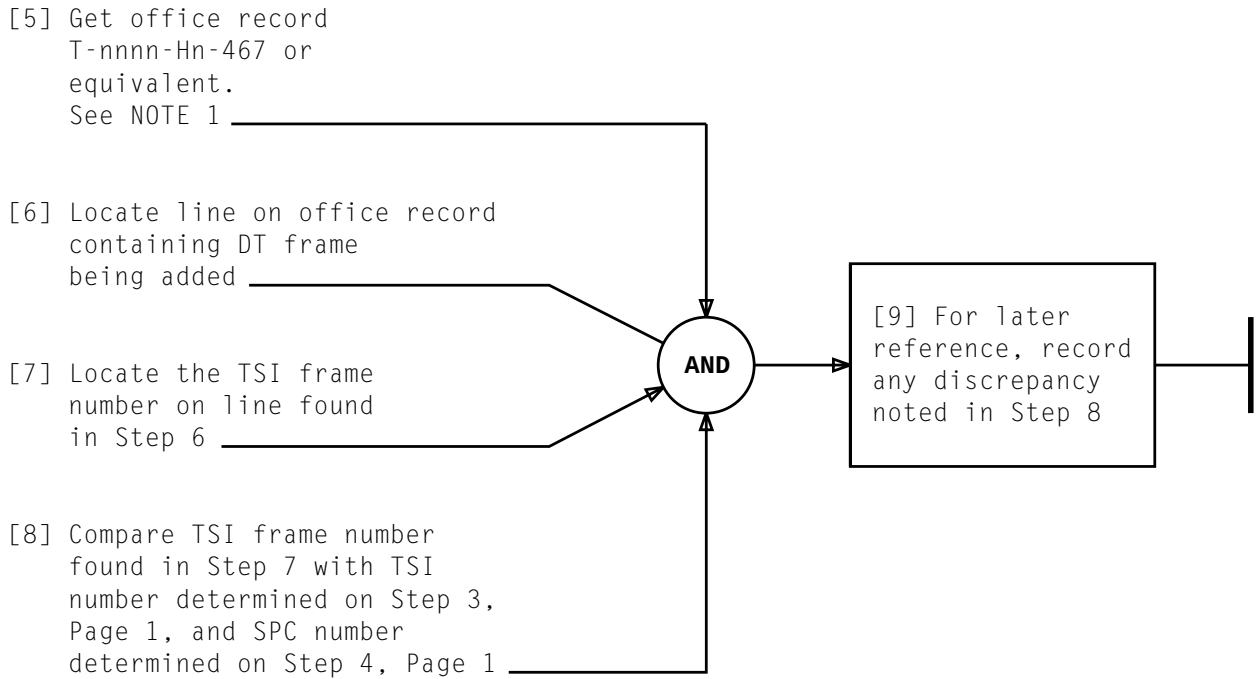


FIG. 1 – Entry Data Word 2 Layout

VERIFY TSI SUPPLYING CLOCK TO GROWTH DT

Issue 1	SEP 1997
234-353-030	DLP
PAGE 1 of 2	545



VERIFY TSI SUPPLYING CLOCK TO GROWTH DT

NOTE 1 n = Office unique drawing number		
Issue 1	SEP 1997	
234-353-030	DLP	
PAGE 2 of 2	545	

SUMMARY

Using verify entry input message, call up EST UT translator associated with growth VIF/DT/DIF and verify that resulting octal output data, when converted, agrees with office

records. Refer to entry word explanations in TABLE B, Page 4, as required, for assistance in interpreting specific data fields. If it is determined that UT entry data is in error, word change(s) may be required.

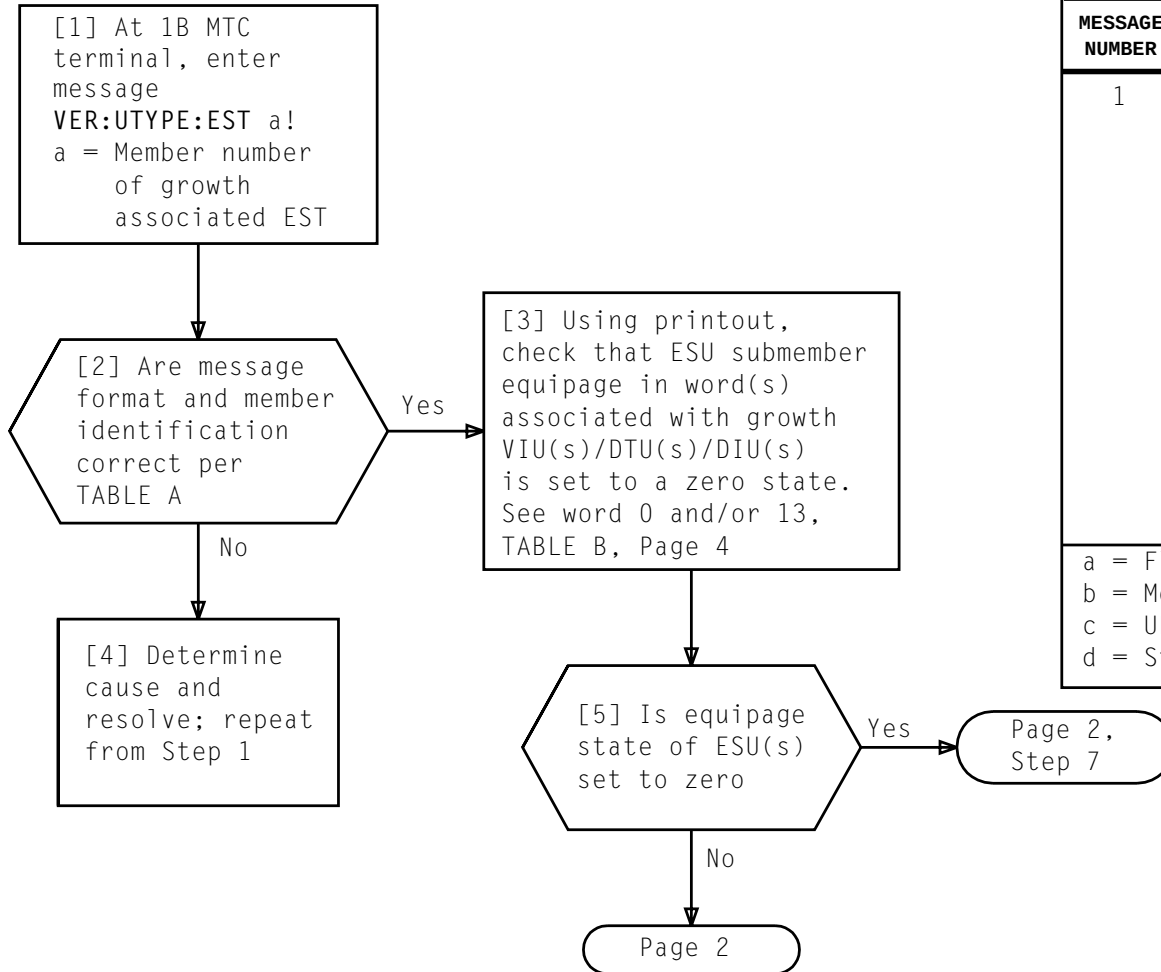


TABLE A

MESSAGE NUMBER	OUTPUT MESSAGE
1	VER:UTMN;OPT(),CUR: FLN a, UTYN EST, MEMN b, ME c, ENTRY ADDRESS d, ENTRY SIZE 26, CUR WORD 0 _____ WORD 10 _____ WORD 20 _____ WORD 30 _____
a = Floor location number b = Member number of growth associated EST c = UNEQ or OPER d = Starting octal address for unit type entry	

[6] See CAUTION 1. Using RC form 701, degrow submember equipage in error [DLP-527]

[7] Using TABLE C, identify word(s) for associated ESUs

[8] Use printout, office records, and TABLE B, Page 4, to verify ESU to VIU/DTU/DIU assignment per word(s) identified in Step 7 [DLP-550]

AND

Page 3

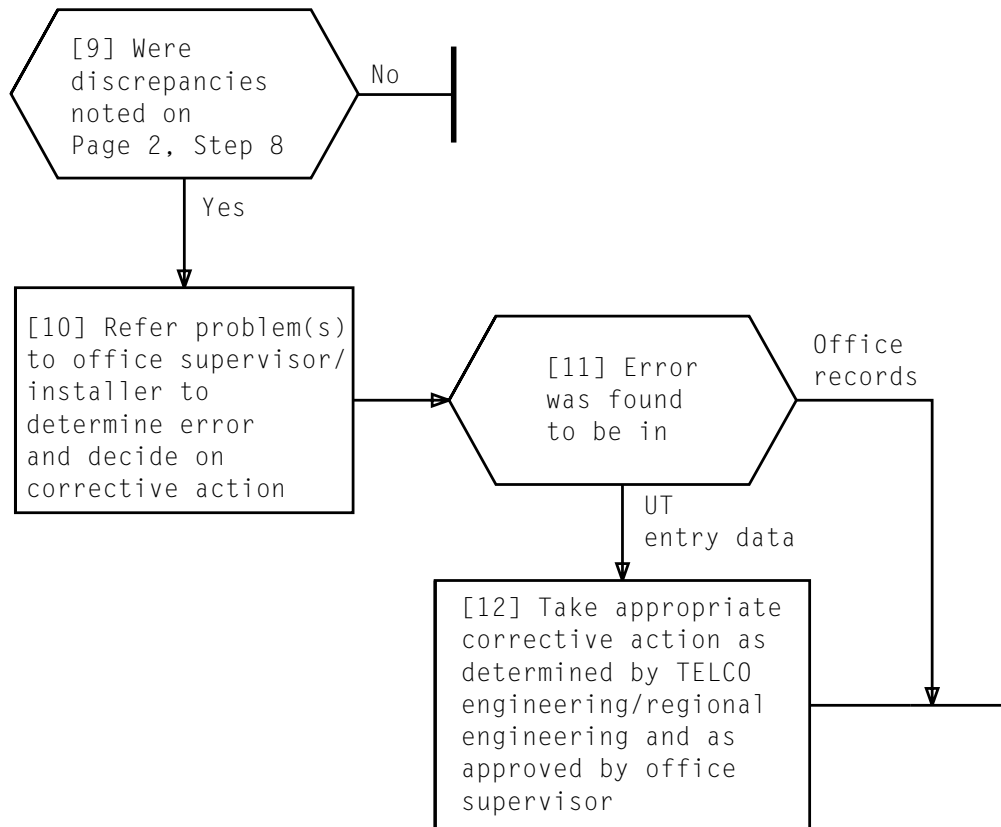
TABLE C

ESU	OCTAL WORD
0	14
1	15
2	16
3	17
4	20
5	21
6	22
7	23
8	24
9	25
10	26
11	27
12	30
13	31

CAUTION 1
Depending on local procedures, supervisory or TELCO engineering approval must be obtained prior to performing any data change

Issue 1	SEP 1997
234-353-030	DLP
PAGE 2 of 5	546

**VERIFY ESU SUBMEMBER EQUIPAGE AND ESU TO VIU/DTU/DIU ASSIGNMENT
IN EST UT TRANSLATOR**



**VERIFY ESU SUBMEMBER EQUIPAGE AND ESU TO VIU/DTU/DIU ASSIGNMENT
IN EST UT TRANSLATOR**

Issue 1	SEP 1997
234-353-030	DLP
PAGE 3 of 5	546

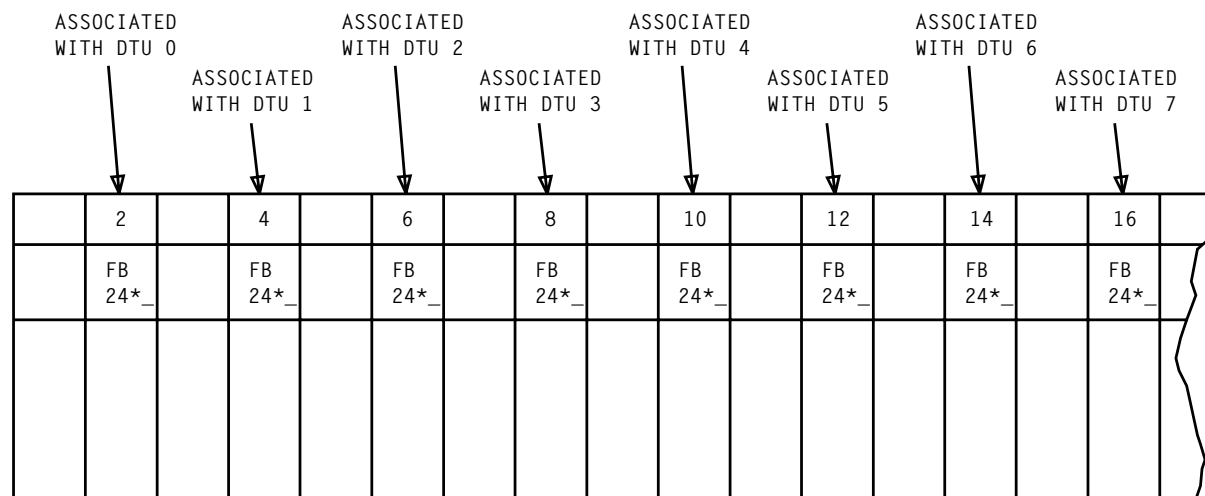
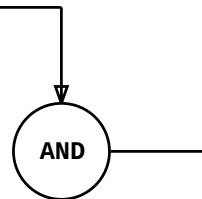
ENTRY WORD (OCTAL)	UT ENTRY DATA AND WORD CONFIGURATION																								
0	entry data	1		0		Y		Y		Y		Y		Y		Y									
	octal output																								
	bit position	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
	binary values	0	0	1	0	0	0	W	W	0	0	X	X	X	X	X	X	X	X	X	X	X	X	X	X
											6	5		4		3		2		1		0			
											ESU NUMBER														
											ESU SUBMEMBER EQUIPAGE														
	Y = Variable octal data																XX = 00 for unequipped 01 for grow 10 for special growth 11 for operational								
13	entry data	0		0		Y		Y		Y		Y		Y		Y									
	octal output																								
	bit position	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
	binary values	0	0	0	0	0	0	0	0	1	1	X	X	X	X	X	X	X	X	X	X	X	X	X	X
											14	13		12		11		10		9		8		7	
											ESU NUMBER														
											ESU SUBMEMBER EQUIPAGE														
	Y = Variable octal data																XX = 00 for unequipped 01 for grow 10 for special growth 11 for operational								

TABLE B (Contd)																																																	
ENTRY WORD (OCTAL)	UT ENTRY DATA AND WORD CONFIGURATION																																																
14 through 31	entry data octal output →	0				0				0				Y				Y				Y				Y				Y																			
	bit position →	23		22		21		20		19		18		17		16		15		14		13		12		11		10		9		8		7		6		5		4		3		2		1		0	
	binary values →	0		0		0		0		0		0		0		0		Z		Z		Z		Z		X		X		X		X		X		X		X		X		X		X					
																	EQUIPAGE TYPE				VIF/DT/DIF MEMBER NUMBER						VIU/DTU/DIU NUMBER																						
	ESU TO VIU/DTU/DIU ASSIGNMENT																																																
	X...X = Converts to decimal VIF/DT/DIF assignment as reflected in office record drawing T-nnnn-Hn-xxx or equivalent																																																
												ZZZZ = 0011 for VIF 0001 for DT 0100 for DIF Y = Variable octal number																																					

VERIFY ESU SUBMEMBER EQUIPAGE AND ESU TO VIU/DTU/DIU ASSIGNMENT
 IN EST UT TRANSLATOR

[1] Verify that associated circuit pack is installed in line equalizer panel for growth DTU. See FIG. 1 and 2

[2] Verify that associated circuit pack is installed in protection switch panel for growth DTU. See FIG. 1 and FIG. 3, Page 2



* TYPE OF FB 24 _ CIRCUIT PACKS TO BE USED IS DETERMINED BY CABLE DISTANCE FROM DTF TO DSX-1, LT-1, OR REPEATER BAY. SEE BELOW.

0 TO 219 FT	FB 246
220 TO 439 FT	FB 247
440 TO 655 FT	FB 248

FIG. 2 – Line Equalizer Panel – Front View

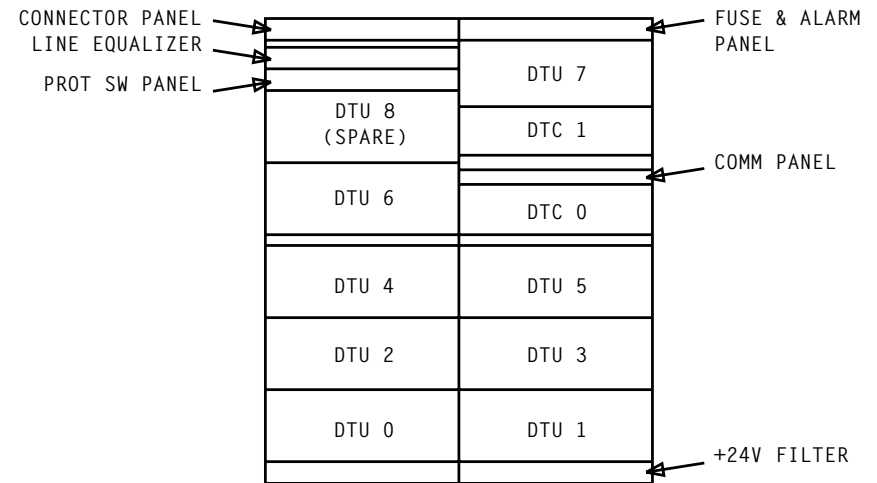


FIG. 1 – Digroup Terminal Frame – Front View

VERIFY ASSOCIATED CIRCUIT PACK IS INSTALLED IN LINE EQUALIZER AND PROTECTION SWITCH PANELS (DT FRAME J68952B-1)

Issue 1	SEP 1997
234-353-030	DLP
PAGE 1 of 2	547

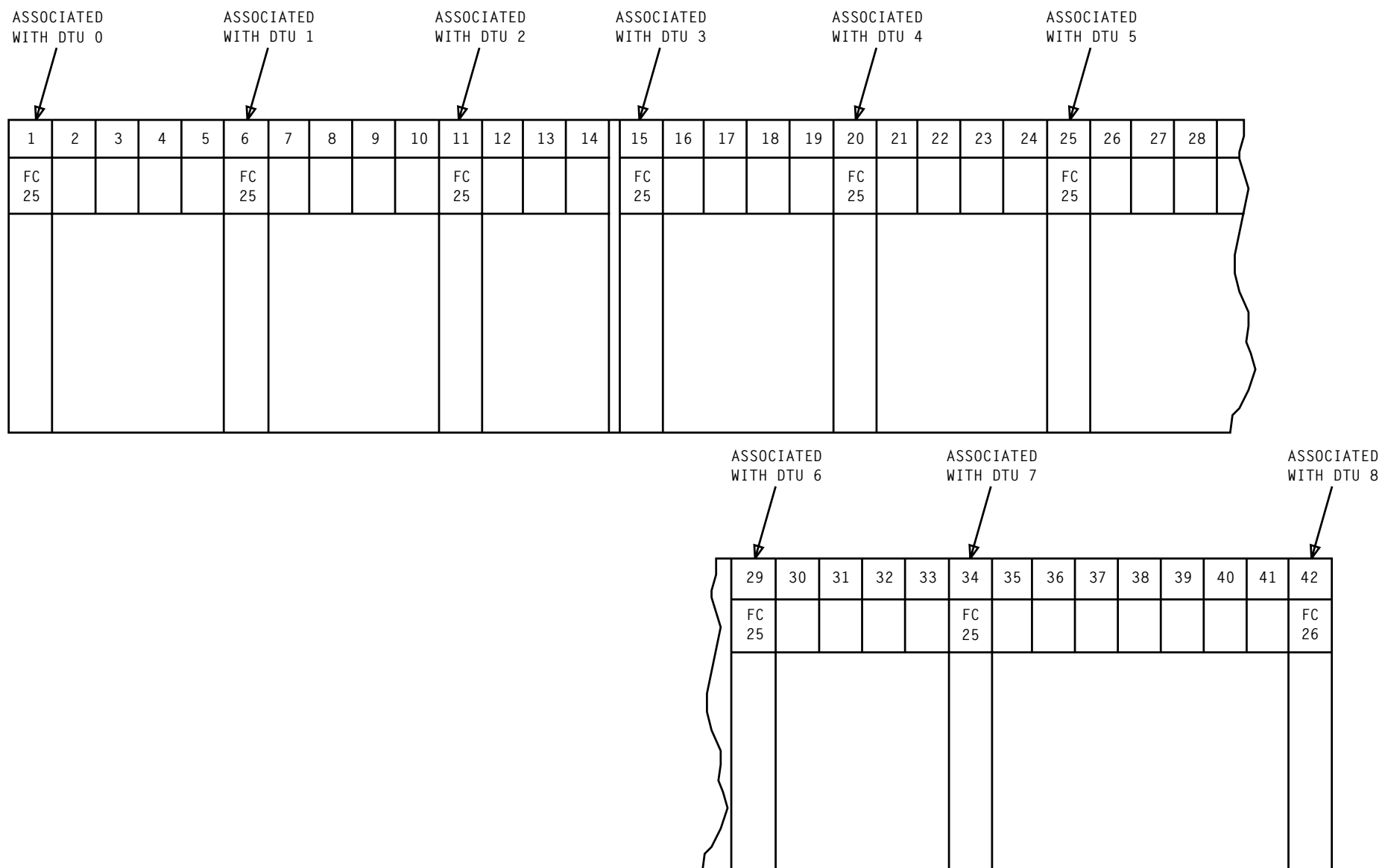


FIG. 3 – Protection Switch Panel – Front View

**VERIFY ASSOCIATED CIRCUIT PACK IS INSTALLED IN LINE
EQUALIZER AND PROTECTION SWITCH PANELS (DT FRAME J68952B-1)**

Issue 1	SEP 1997
234-353-030	DLP
PAGE 2 of 2	547

SUMMARY

Using verify entry input message, call up connecting TSI UT translator and verify that resulting octal output data, when converted, agrees with office records.

Refer to entry word explanations in TABLE B, Page 4, as required, for assistance in interpreting specific data fields. If it is determined that UT entry data is in error, word change(s) may be required.

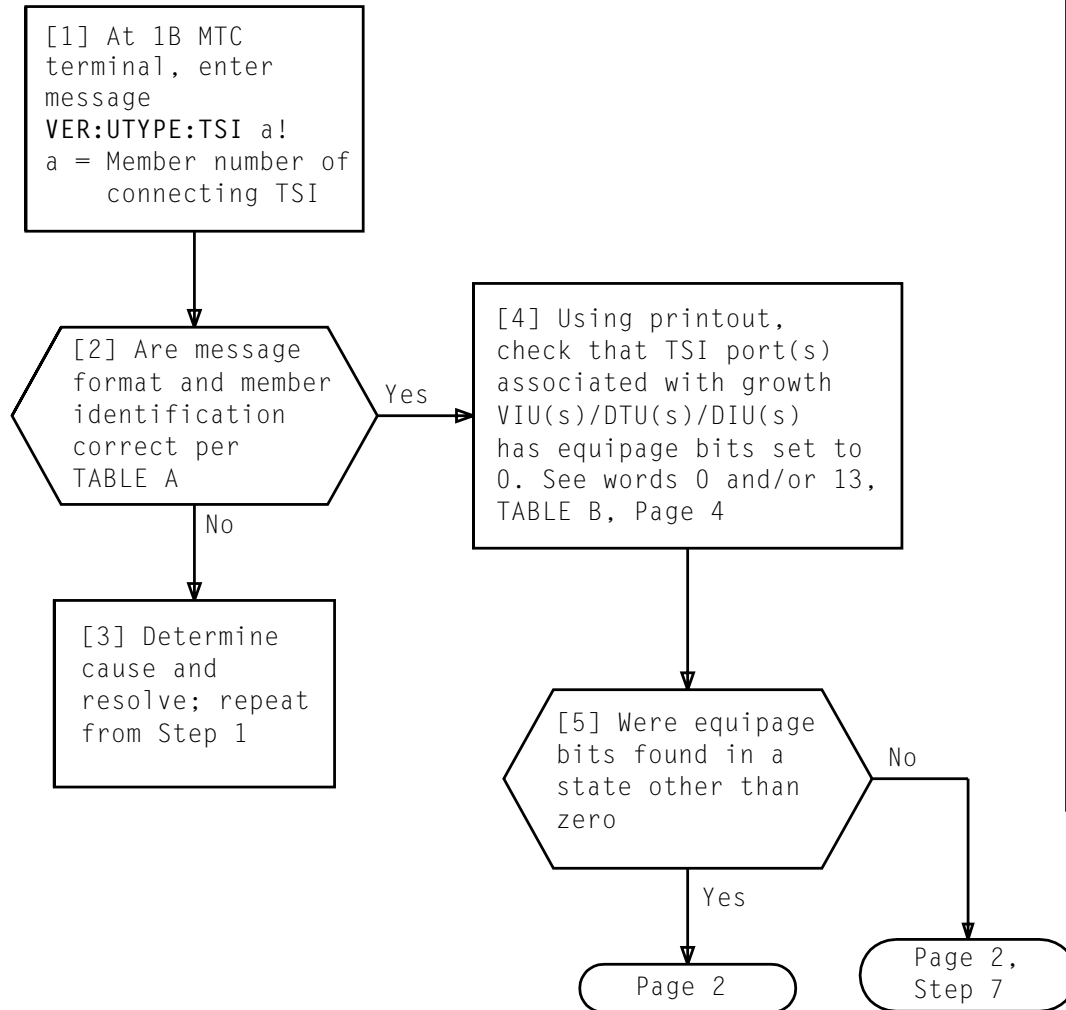


TABLE A

MESSAGE NUMBER	OUTPUT MESSAGE
1	VER:UTMN;OPT(),CUR: FLN a, UTYN TSI, MEMN b, ME OPER, ENTRY ADDRESS c, ENTRY SIZE 34, CUR WORD 0 _____ WORD 10 _____ WORD 20 _____ WORD 30 _____ WORD 40 _____
a = Floor location number b = Member number of connecting TSI c = Starting octal address for unit type entry	

VERIFY TSI PORT TO VIU/DTU/DIU ASSIGNMENT AND TSI PORT SUBMEMBER EQUIPAGE DATA OF TSI UT TRANSLATOR

Issue 1	SEP 1997
234-353-030	DLP
PAGE 1 of 6	548

[6] See CAUTION 1. Using RC Form 701, degrow submember equipage to unequipped [DLP-527]

[7] If growth is being performed in AT&T office, verify Integrated Services Digital Network (ISDN) interface capability per bit 0 in words 14 and 15 in TABLE B

[8] Using TABLE C, identify word(s) for associated SPC-PORT

[9] Use printout, office records, and TABLE B, Page 4, to verify TSI port to VIU/DTU/DIU assignment per word(s) identified in Step 8 [DLP-530]

AND

Page 3

TABLE C

SPC AND TSI PORT	OCTAL WORD
SPC 0 - PORT 0	21
SPC 0 - PORT 1	22
SPC 0 - PORT 2	23
SPC 0 - PORT 3	24
SPC 0 - PORT 4	25
SPC 0 - PORT 5	26
SPC 0 - PORT 6	27
SPC 1 - PORT 0	31
SPC 1 - PORT 1	32
SPC 1 - PORT 2	33
SPC 1 - PORT 3	34
SPC 1 - PORT 4	35
SPC 1 - PORT 5	36
SPC 1 - PORT 6	37

CAUTION 1

Depending on local procedures, supervisory or TELCO engineering approval must be obtained prior to performing any data change

Issue 1	SEP 1997
234-353-030	DLP
PAGE 2 of 6	548

VERIFY TSI PORT TO VIU/DTU/DIU ASSIGNMENT AND TSI PORT SUBMEMBER EQUIPAGE DATA OF TSI UT TRANSLATOR

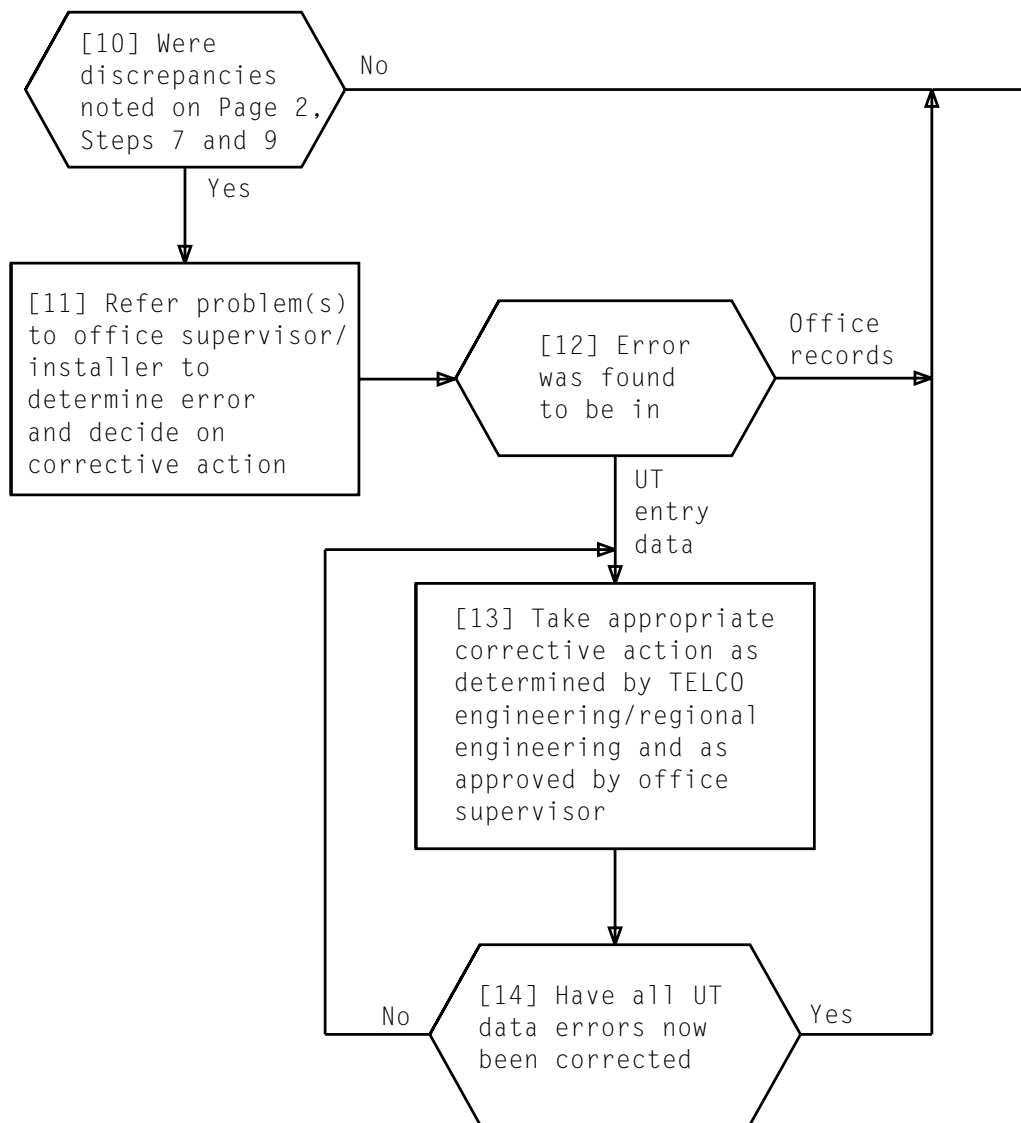


TABLE B																			
ENTRY WORD (OCTAL)	UT ENTRY DATA AND WORD CONFIGURATION																		
0	entry data	Y		Y		6		Y		Y		Y		Y		Y		Y	
	octal output																		
	bit position	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6
	binary values	W	W	W	Z	Z	Z	1	1	0	0	X	X	X	X	X	X	X	X
												6	5	4	3	2	1	0	
										TSI PORT NUMBER - SPC 0									
										TSI PORT SUBMEMBER EQUIPAGE									
X...X = 00 for unequipped port = 11 for operational port										Y = Variable octal numbers									
13	entry data	0		0		0		Y		Y		Y		Y		Y		Y	
	octal output																		
	bit position	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6
	binary values	0	0	0	0	0	0	0	0	0	0	X	X	X	X	X	X	X	X
												6	5	4	3	2	1	0	
										TSI PORT NUMBER - SPC 1									
										TSI PORT SUBMEMBER EQUIPAGE									
X...X = 00 for unequipped ports = 11 for operational ports										Y = Variable octal numbers									

VERIFY TSI PORT TO VIU/DTU/DIU ASSIGNMENT AND TSI PORT SUBMEMBER EQUIPAGE DATA OF TSI UT TRANSLATOR

TABLE B (Contd)

ENTRY WORD (OCTAL)	UT ENTRY DATA AND WORD CONFIGURATION																																
14	entry data octal output →	Y				Y				Y				0				0				0				0				Y			
	bit position →	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0								
	binary values →	X	X	X	X	X	X	X	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Z					
		6	5	4	3	2	1	0																									
		ESU NO.																															
		ESU STRAP INDICATOR - SPC 0																															
	Z = 0 = SPC 0 does not have ISDN Interface Capability 1 = SPC 0 does have ISDN Interface Capability Y = Variable octal number																																
	15	entry data octal output →	Y				Y				Y				0				0				0				0				Y		
bit position →		23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0								
binary values →		X	X	X	X	X	X	X	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Z					
		13	12	11	10	9	8	7																									
		ESU NO.																															
		ESU STRAP INDICATOR - SPC 1																															
Z = 0 = SPC 1 does not have ISDN Interface Capability 1 = SPC 1 does have ISDN Interface Capability Y = Variable octal number																																	

VERIFY TSI PORT TO VIU/DTU/DIU ASSIGNMENT AND TSI PORT SUBMEMBER EQUIPAGE DATA OF TSI UT TRANSLATOR

Issue 1	SEP 1997
234-353-030	DLP
PAGE 5 of 6	548

TABLE B (Contd)

ENTRY WORD (OCTAL)	UT ENTRY DATA AND WORD CONFIGURATION																												
21 through 27 and 31 through 37	entry data octal output	0				0				Y				Y				Y				Y				Y			
	bit position	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0				
	binary values	0	0	0	0	0	0	0	0	Z	Z	Z	Z	X	X	X	X	X	X	X	X	X	X	X	X				
										EQUIPAGE TYPE				VIF/DT/DIF MEMBER NUMBER								VIU/DTU/DIU NUMBER							
										TSI PORT TO VIU/DTU/DIU ASSIGNMENT																			
	X...X = Converts to decimal TSI-VIU/DTU/DIU info as reflected in office record drawing T-nnnn-Hn-467 or equivalent												Y = Variable octal numbers ZZZZ = 0011 for VIF 0001 for DT 0100 for DIF																

VERIFY TSI PORT TO VIU/DTU/DIU ASSIGNMENT AND TSI PORT SUBMEMBER EQUIPAGE DATA OF TSI UT TRANSLATOR

SUMMARY

Using verify entry input message, call up growth EST UT translator and verify that resulting terminal octal output data, when converted, agrees with office records. Refer to

entry word explanations in TABLE B, Page 6, as required, for assistance in interpreting specific data fields. If it is determined that UT entry data is in error, word change(s) may be required.

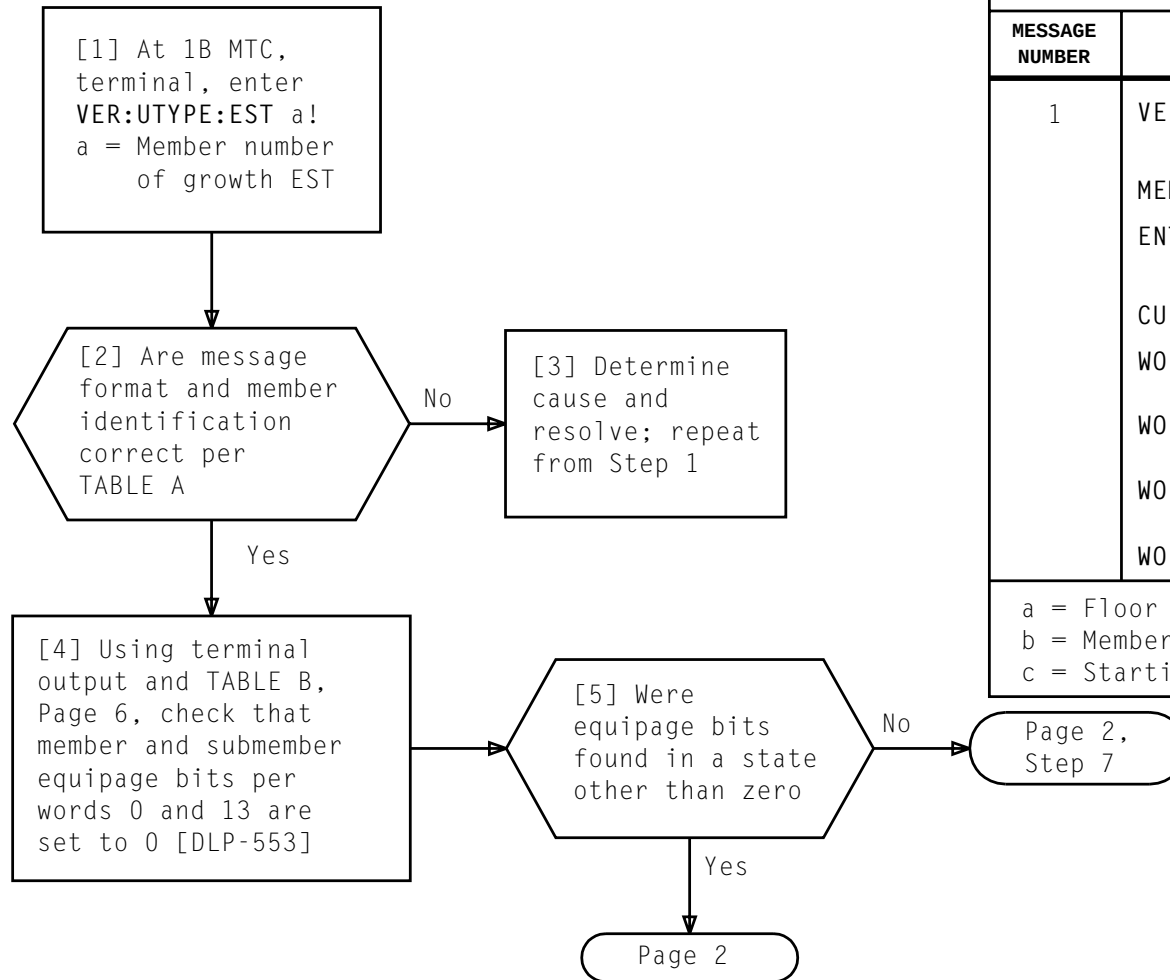
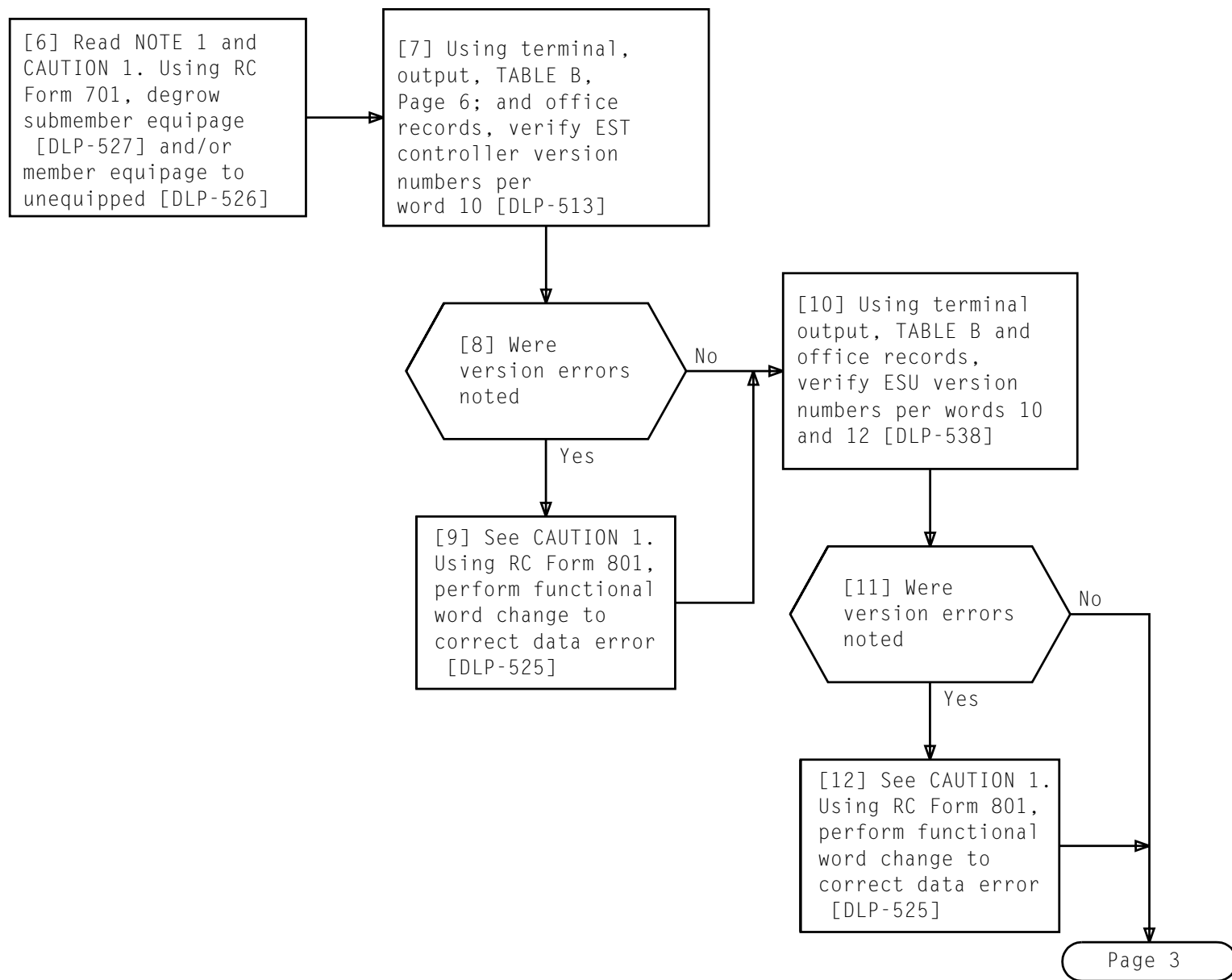


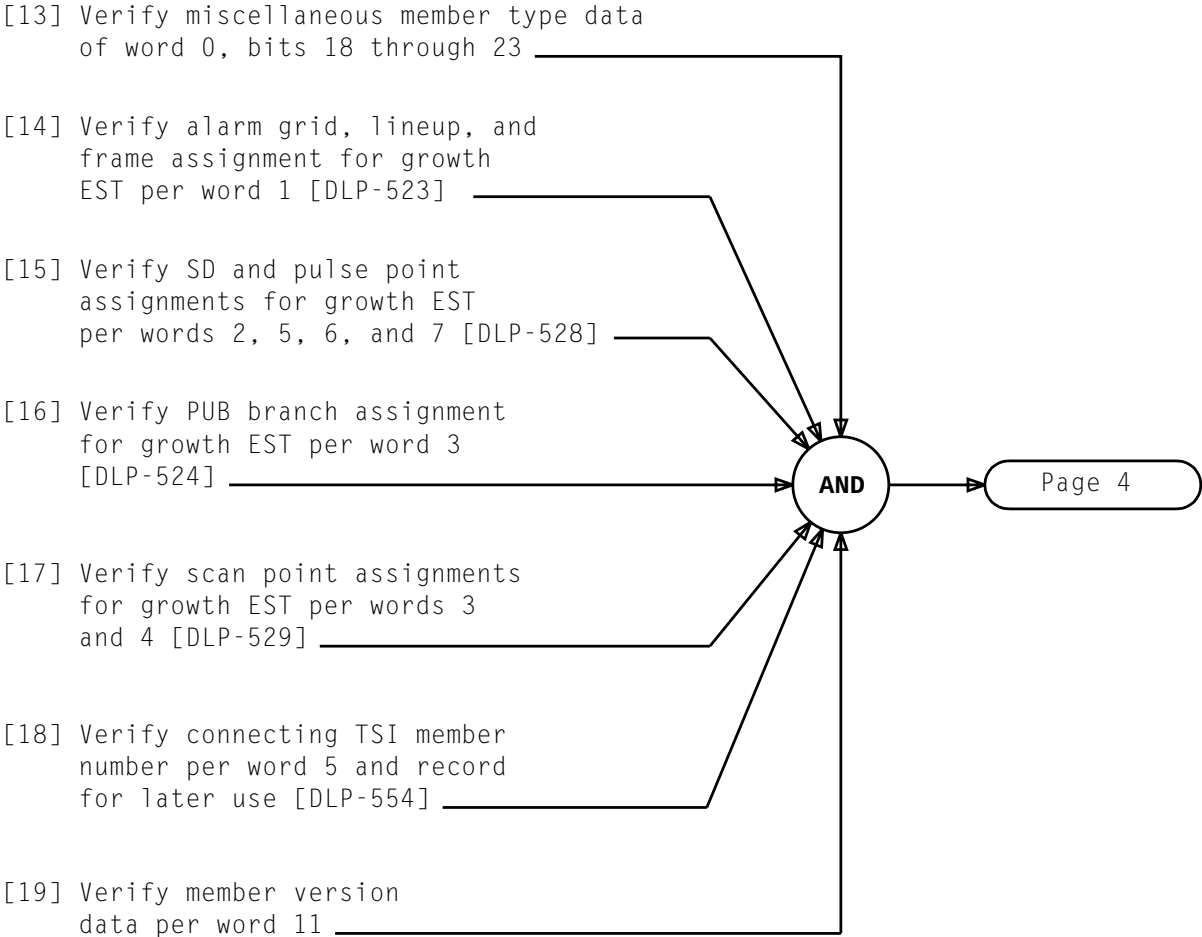
TABLE A

MESSAGE NUMBER	OUTPUT MESSAGE
1	VER:UTMN;OPT(),CUR: FLN a, UTYN EST, MEMN b, ME UNEQ, ENTRY ADDRESS c, ENTRY SIZE 26, CUR WORD 0 _____ WORD 10 _____ WORD 20 _____ WORD 30 _____
a = Floor location number b = Member number of growth EST c = Starting octal address for unit type entry	



NOTE 1 Submember equipage must be degrown first, if required, followed by degrowth of member equipage, if required	
CAUTION 1 Depending on local procedures, supervisory or TELCO engineering approval must be obtained prior to performing any data change	
Issue 1	SEP 1997
234-353-030	DLP
PAGE 2 of 12	549

Using terminal output, TABLE B, Page 6; and office records:



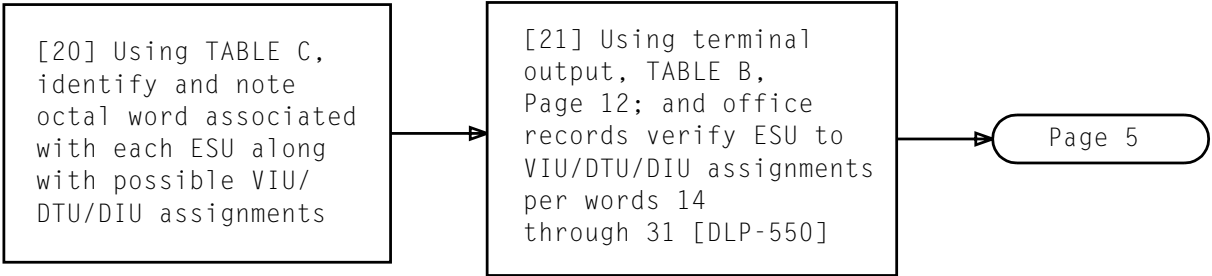


TABLE C				
ESU	OCTAL WORD	POSSIBLE UNIT ASSIGNMENT		
		VIU	DTU	DIU
0	14	0	0	0/16
1	15	1	1	1/17
2	16	2	2	2/18
3	17	3	3	3/19
4	20	4	4	4/20
5	21	5	5	5/21
6	22	6	6	6/22
7	23	0	0	8/24
8	24	1	1	9/25
9	25	2	2	10/26
10	26	3	3	11/27
11	27	4	4	12/28
12	30	5	5	13/29
13	31	6	6	14/30

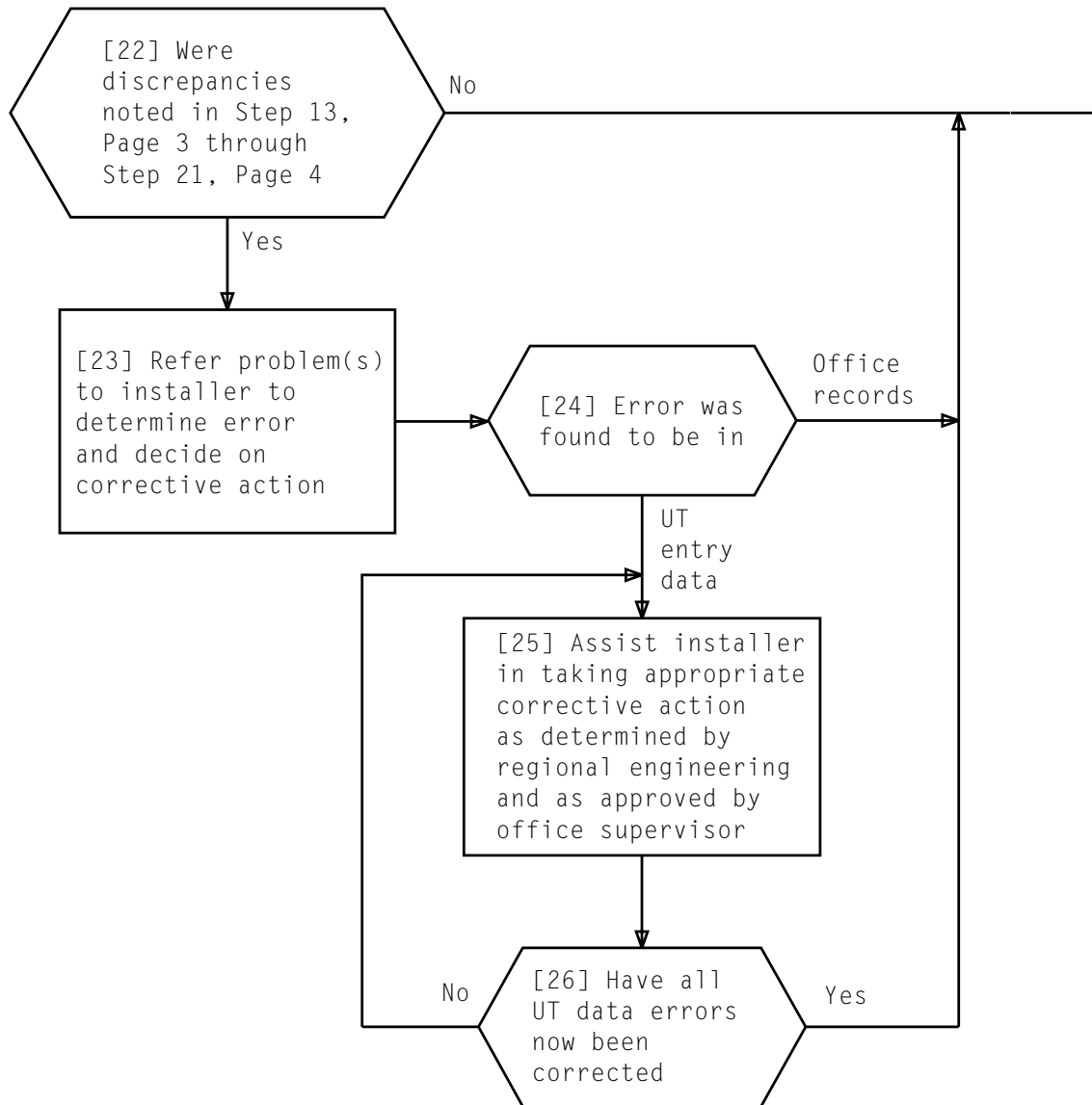


TABLE B																																																	
ENTRY WORD (OCTAL)	UT ENTRY DATA AND WORD CONFIGURATION																																																
0	entry data octal output	<table><tr><td colspan="4">1</td><td colspan="3">0</td><td colspan="3">0</td><td colspan="3">0</td><td colspan="3">0</td><td colspan="3">0</td><td colspan="3">0</td><td colspan="3">0</td></tr></table>																							1				0			0			0			0			0			0			0		
	1				0			0			0			0			0			0			0																										
	bit position	<table><tr><td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td><td>16</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td><td>0</td></tr></table>																							23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	
	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0																									
	binary values	<table><tr><td>0</td><td>0</td><td>1</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></tr></table>																							0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																									
	MEMBER TYPE				MEMBER TYPE HARDWARE GENERATION				MEMBER EQUIPAGE								6		5		4		3		2		1		0																				
	ESU NUMBER																																																
	ESU SUBMEMBER EQUIPAGE																																																
1	entry data octal output	<table><tr><td colspan="4">Y</td><td colspan="3">Y</td><td colspan="3">Y</td><td colspan="3">Y</td><td colspan="3">Y</td><td colspan="3">Y</td><td colspan="3">Y</td><td colspan="3">Y</td></tr></table>																							Y				Y			Y			Y			Y			Y			Y			Y		
	Y				Y			Y			Y			Y			Y			Y			Y																										
	bit position	<table><tr><td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td><td>16</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td><td>0</td></tr></table>																							23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	
	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0																									
binary values	<table><tr><td>Z</td><td>Z</td><td>Z</td><td>Z</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td><td>X</td></tr></table>																							Z	Z	Z	Z	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
Z	Z	Z	Z	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X																										
	ASSIGNED ALARM GRID NUMBER				FRAME LINEUP NUMBER										FRAME NUMBER																																		
X...X = Converts to decimal frame info as reflected in office floor plan drawing ZZZZ = Converts to decimal alarm grid number as reflected in office record drawings T-nnnn-Hn-400, 401, or 402 or equivalent Y= Variable octal numbers																																																	

TABLE B (Contd)																												
ENTRY WORD (OCTAL)	UT ENTRY DATA AND WORD CONFIGURATION																											
2	entry data	0		0		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y				
	octal output																											
	bit position	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0			
	binary values	0	0	0	0	0	0	0	X	X	X	X	X	0	X	X	X	X	X	X	X	X	X	X	X			
									SP MEMBER NUMBER					SP ROW NUMBER								SP COLUMN NUMBER						
BASE SP PULSE POINT																												
X...X = Converts to decimal SP info as reflected in office record drawing T-nnnn-Hn-462 or equivalent												Y = Variable octal numbers																
3	entry data	Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y				
	octal output																											
	bit position	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0			
	binary values	0	1	Z	Z	Z	0	0	X	X	X	X	X	0	X	X	X	X	X	X	X	X	X	X	X			
				PUB BRANCH NUMBER ASSIGNMENT					SP MEMBER NUMBER					SP ROW NUMBER								SP COLUMN NUMBER						
MEMBER BASE MISCELLANEOUS SCAN NUMBER																												
X...X = Converts to decimal SP info as reflected in office record drawing T-nnnn-Hn-461 or equivalent												ZZZ = 3-digit code corresponding to lettered PUB branch as reflected in office record drawing T-nnnn-Hn-3840 or equivalent													= 000 - branch A&B		100 - branch K&L	
Y = Variable octal numbers																									001 - branch C&D		101 - branch M&R	
																									010 - branch E&F		110 - branch T&V	
																									011 - branch G&H		111 - branch W&X	

TABLE B (Contd)																																											
ENTRY WORD (OCTAL)		UT ENTRY DATA AND WORD CONFIGURATION																																									
4	entry data	0						0						Y						Y						Y						Y						Y					
	octal output																																										
	bit position	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0																		
	binary values	0	0	0	0	0	0	0	X	X	X	X	X	0	X	X	X	X	X	X	X	X	X	X	X	X	X																
										SP MEMBER NUMBER					SP ROW NUMBER										SP COLUMN NUMBER																		
	BUS BASE MISCELLANEOUS SCAN NUMBER																																										
X...X = Converts to decimal SP info as reflected in office record drawing T-nnnn-Hn-461 or equivalent Y = Variable octal numbers																																											
5	entry data	Y						Y						Y						Y						Y						Y											
	octal output																																										
	bit position	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0																		
	binary values	Z	Z	Z	Z	Z	Z	0	X	X	X	X	X	0	X	X	X	X	X	X	X	X	X	X	X	X	X																
		TSI MEMBER NUMBER								SP MEMBER NUMBER					SP ROW NUMBER										SP COLUMN NUMBER																		
	DUPLICATE BASE SP PULSE POINT																																										
X...X = Converts to decimal SP info as reflected in office record drawing T-nnnn-Hn-462 or equivalent Y = Variable octal numbers Z..Z = TSI Member Number Assignment																																											

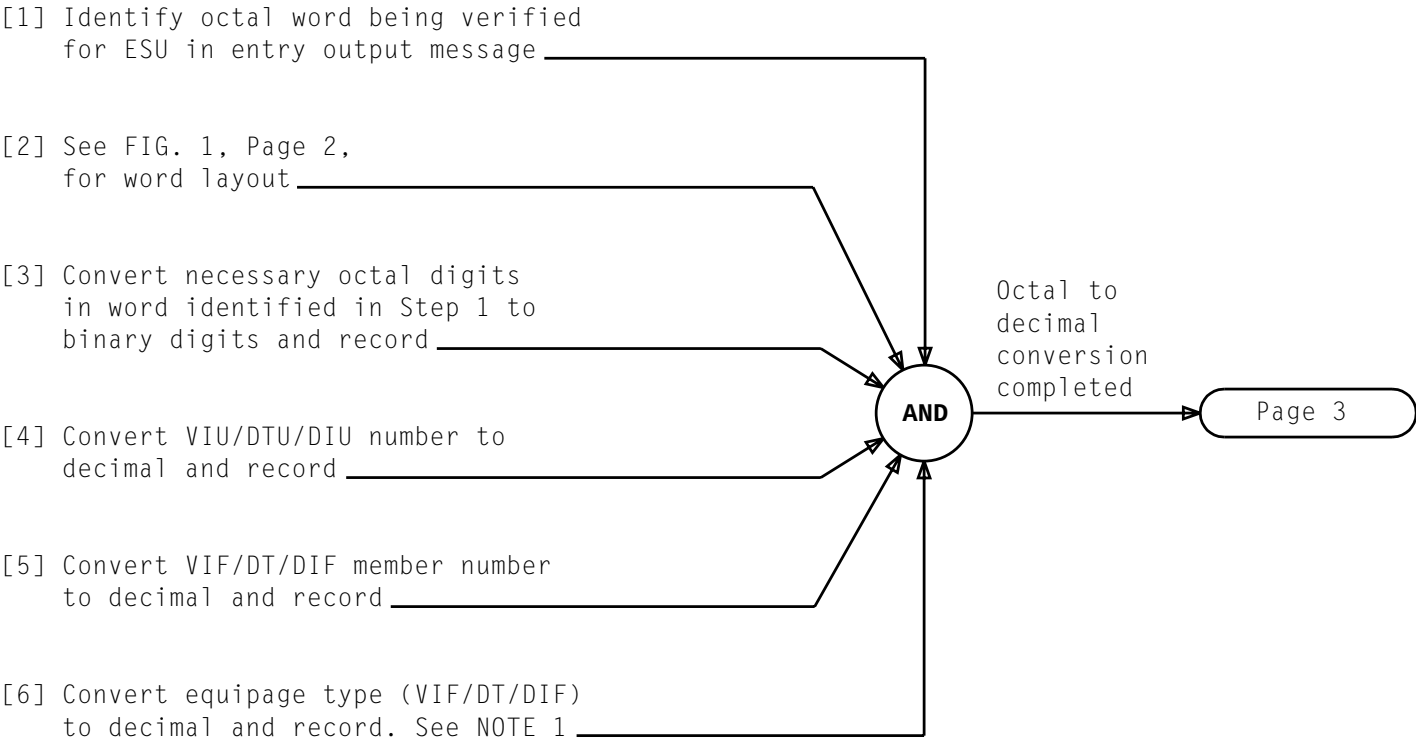
TABLE B (Contd)																									
ENTRY WORD (OCTAL)	UT ENTRY DATA AND WORD CONFIGURATION																								
6	entry data octal output →	0		0		Y		Y		Y		Y		Y		Y									
	bit position →	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
	binary values →	0	0	0	0	0	0	0	X	X	X	X	X	0	X	X	X	X	X	X	X	X	X	X	X
									SP MEMBER NUMBER				SP ROW NUMBER							SP COLUMN NUMBER					
									MEMBER BASE MISCELLANEOUS SD NUMBER																
		X...X = Converts to decimal SP info as reflected in office record drawing T-nnnn-Hn-462 or equivalent																							
	Y = Variable octal numbers																								
7	entry data octal output →	0		0		Y		Y		Y		Y		Y		Y									
	bit position →	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
	binary values →	0	0	0	0	0	0	0	X	X	X	X	X	0	X	X	X	X	X	X	X	X	X	X	X
									SP MEMBER NUMBER				SP ROW NUMBER							SP COLUMN NUMBER					
									BUS BASE MISCELLANEOUS SD NUMBER																
		X...X = Converts to decimal SP info as reflected in office record drawing T-nnnn-Hn-462 or equivalent																							
	Y = Variable octal numbers																								

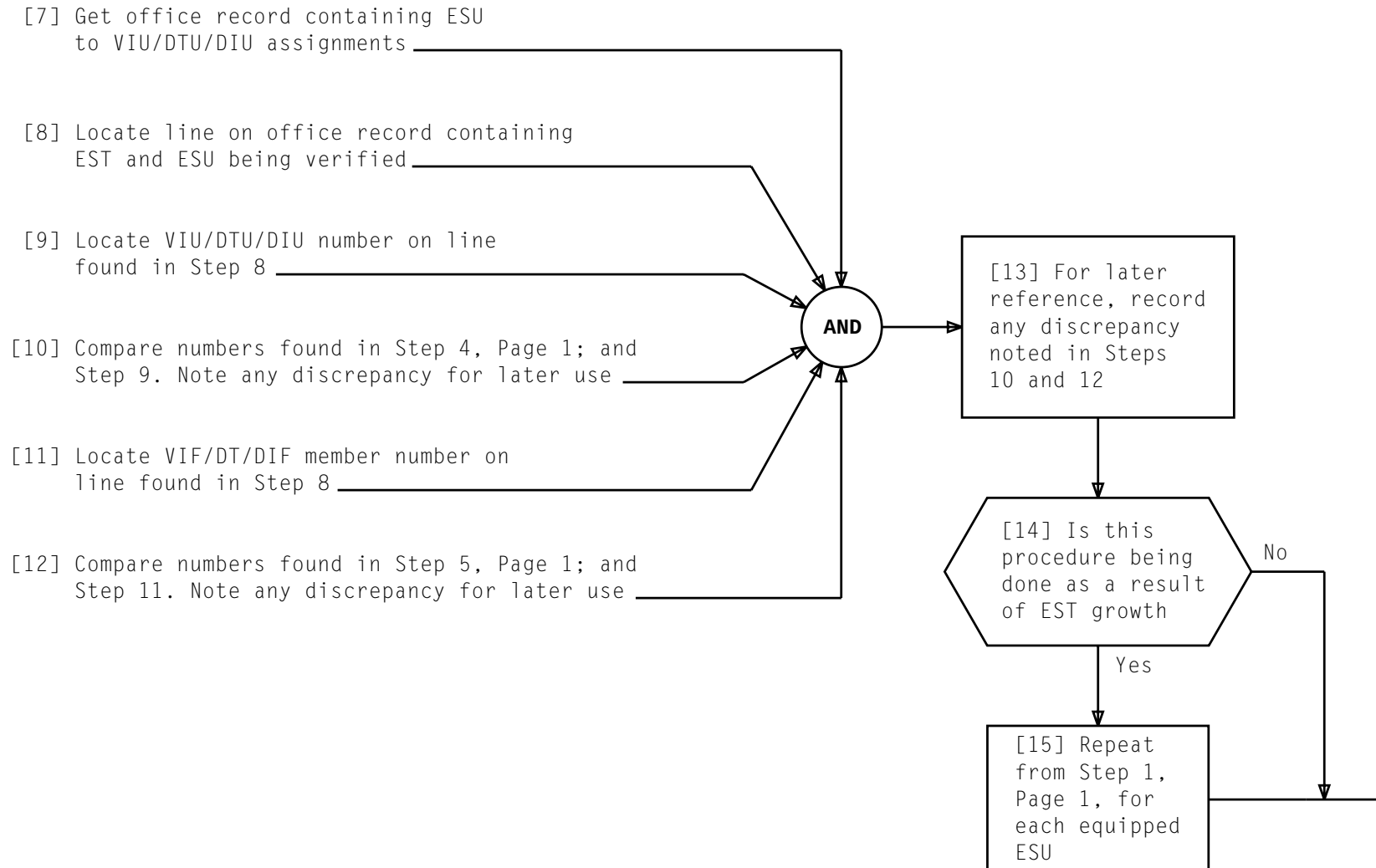
TABLE B (Contd)	
ENTRY WORD (OCTAL)	UT ENTRY DATA AND WORD CONFIGURATION
10	entry data octal output → 0 Y Y Y Y Y Y Y bit position → 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 0 binary values → 0 0 0 0 X X X X X X X X X X X X X X X X X X X 6 5 4 3 2 1 0 ESU NUMBER ESU VERSION NUMBER CONTROLLER CONTROLLER 1 0 EST CONTROLLER VERSION NUMBER X...X = Version numbers of EST equipment as reflected in appropriate office record drawing and shipping information Y = Variable octal numbers
11	entry data octal output → Y Y Y Y Y Y Y Y bit position → 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 0 binary values → X X X X X X X X X X X X X X X X X X X X X X X MEMBER VERSION CLASS AC Y...Y = Values as determine from PA-4A000 or Functional ODA Listing

TABLE B (Contd)																									
ENTRY WORD (OCTAL)	UT ENTRY DATA AND WORD CONFIGURATION																								
12	entry data																								
	octal output																								
	bit position																								
	binary values																								
		Y		Y		Y		Y		Y		Y		Y		0		0							
		23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
		0	0	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	0	0	0	0	0	0
				14		13		12		11		10		9		8		7							
		ESU NUMBER																							
		ESU VERSION NUMBER																							
	XX = Version number of EST equipment as reflected in appropriate office record drawing and shipping information																								
	Y = Variable octal numbers																								
13	entry data																								
	octal output																								
	bit position																								
	binary values																								
		0		0		0		0		0		0		0		0		0		0		0		0	
		23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
										14		13		12		11		10		9		8		7	
		ESU NUMBER																							
		ECHO SUPPRESSOR SUBMEMBER EQUIPAGE																							

TABLE B (Contd)																							
ENTRY WORD (OCTAL)	UT ENTRY DATA AND WORD CONFIGURATION																						
14 through 31																							

SUMMARY Convert octal digits representing VIU/DTU/DIU information of entry output word(s) to decimal. Compare entry output data against office records. If entry data and office	records do not agree, record discrepancies for later use. If this procedure is used as a result of an EST growth, repeat procedure for each ESU being equipped.





VERIFY ESU TO VIU/DTU/DIU ASSIGNMENT

Issue 1	SEP 1997
234-353-030	DLP
PAGE 3 of 3	550

SUMMARY

Convert octal digits of word 5 representing EST member number to decimal. Using appropriate office record, look up EST member number associated with TSI and compare with value in entry output. If entry output data does not agree, note discrepancies for later use.

[1] See word 5 in entry output message

[2] See FIG. 1 for word 5 layout

[3] Convert two leftmost octal digits of word 5 in entry output to binary digits and record

[4] Convert bits 18 through 22 to decimal EST member number and record

[5] Get appropriate office record reflecting TSI/EST interface

[6] Locate growth associated TSI member number data in record

AND

[7] Note EST member number associated with corresponding TSI data in Step 6

[8] Compare EST member number in Steps 4 and 7. Note any discrepancy for later use

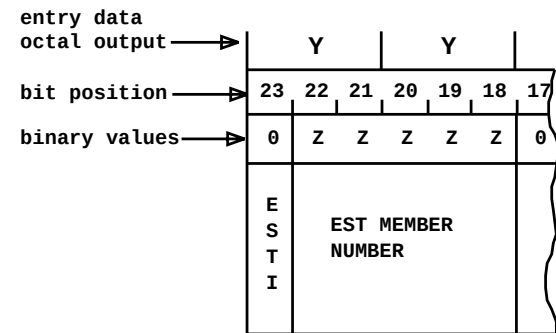


FIG. 1 – Part of Entry Data Word 5 Pertaining to EST Member Number and Indicator

VERIFY EST MEMBER NUMBER

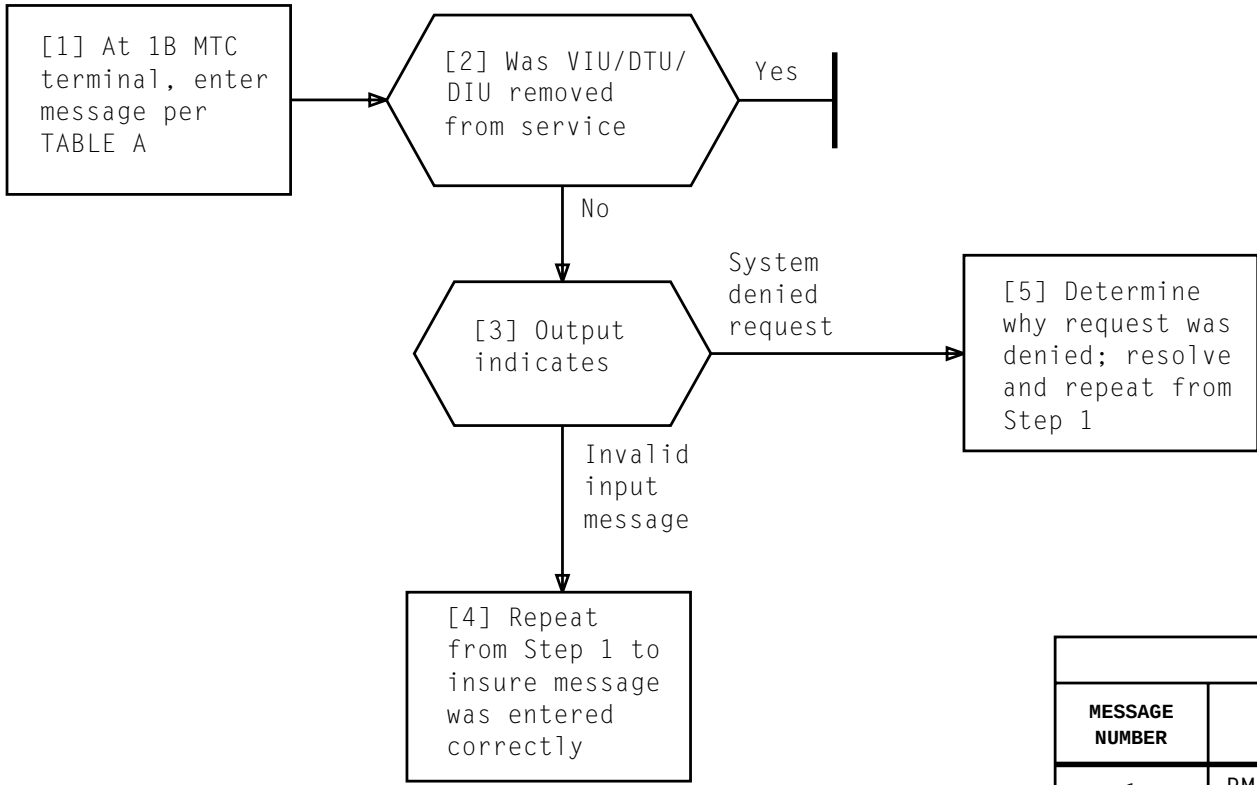
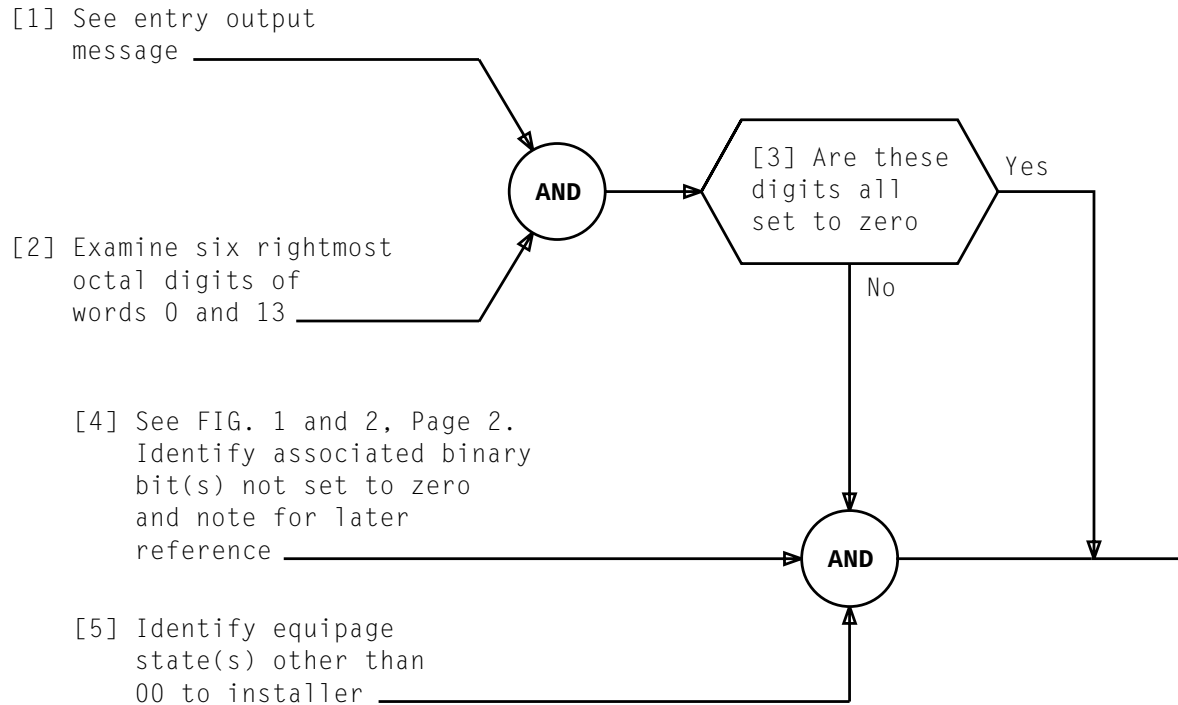


TABLE A	
MESSAGE NUMBER	INPUT MESSAGE
1	RMV:a b,c d!
a = Unit type-VIF or DT or DIF b = Member number of growth associated frame c = Subunit type-VIU or DTU or DIU d = Submember number of growth associated unit	

SUMMARY

Verify from entry output message that EST member and submember equipage bits are set to 0. Note any discrepancies for later reference.



VERIFY UNEQUIPPED STATE OF GROWTH EST MEMBER AND SUBMEMBER EQUIPAGE

Issue 1	SEP 1997
234-353-030	DLP
PAGE 1 of 2	553

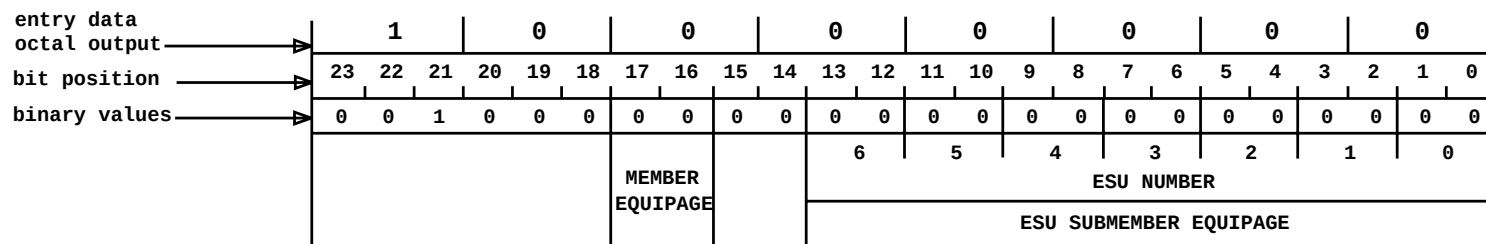


FIG. 1 – Entry Word 0 Layout

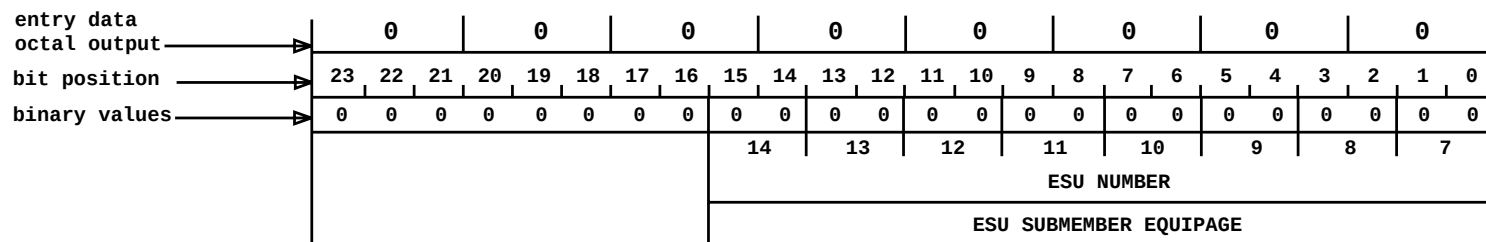


FIG. 2 – Entry Word 13 Layout

VERIFY UNEQUIPPED STATE OF GROWTH EST MEMBER AND
SUBMEMBER EQUIPAGE

SUMMARY

Convert octal digits representing EST to TSI assignment in entry output word 5 to decimal. Compare the entry output data against office records. If entry output data and office records do not agree, record discrepancy for later reference.

[1] See word 5 in entry output message

[2] See FIG. 1 for word 5 layout

```
[3] Convert two leftmost octal digits
of word 5 in entry output to
decimal TSI member number
and record _____
```

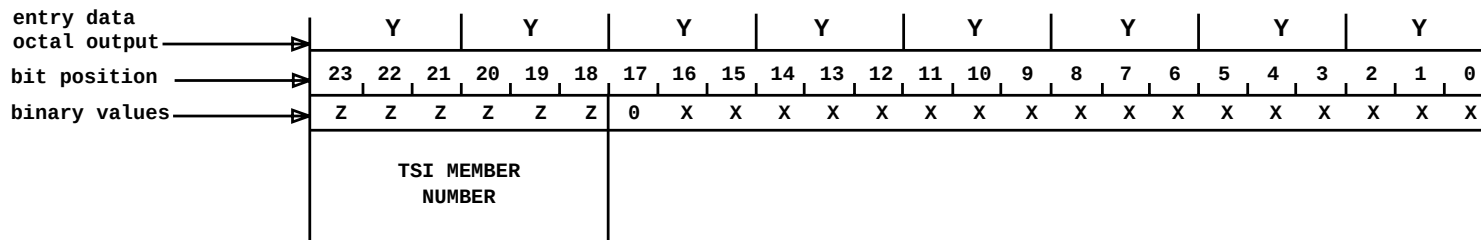
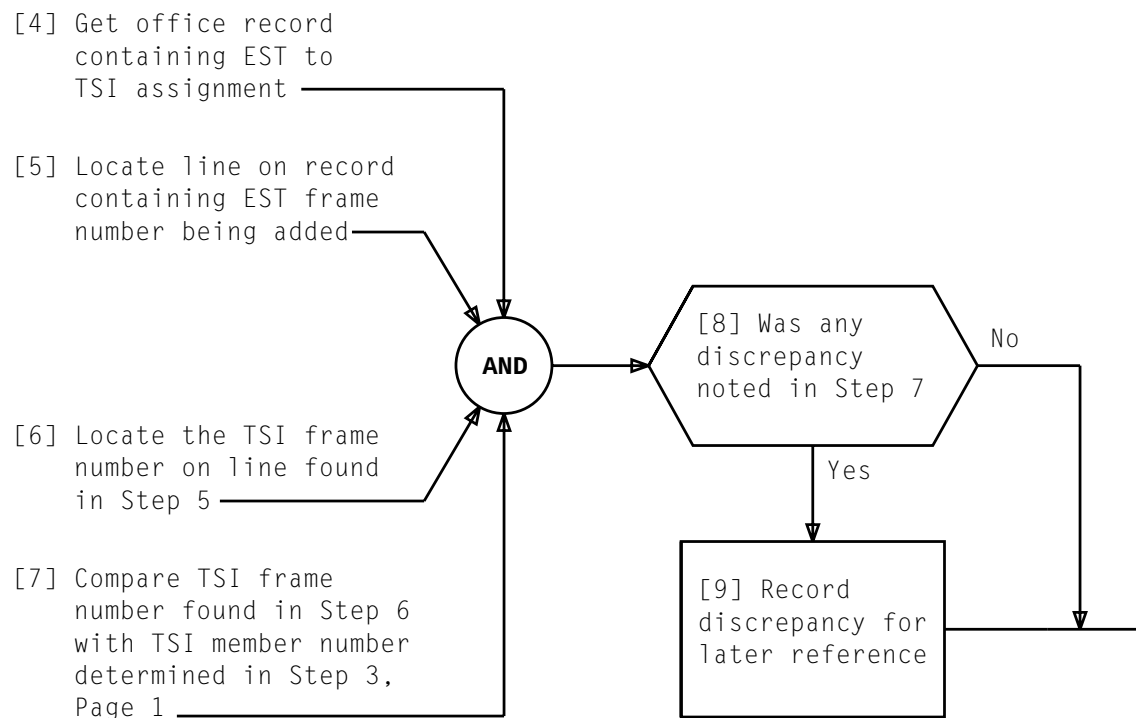


FIG. 1 – Entry Data Word 5 Layout

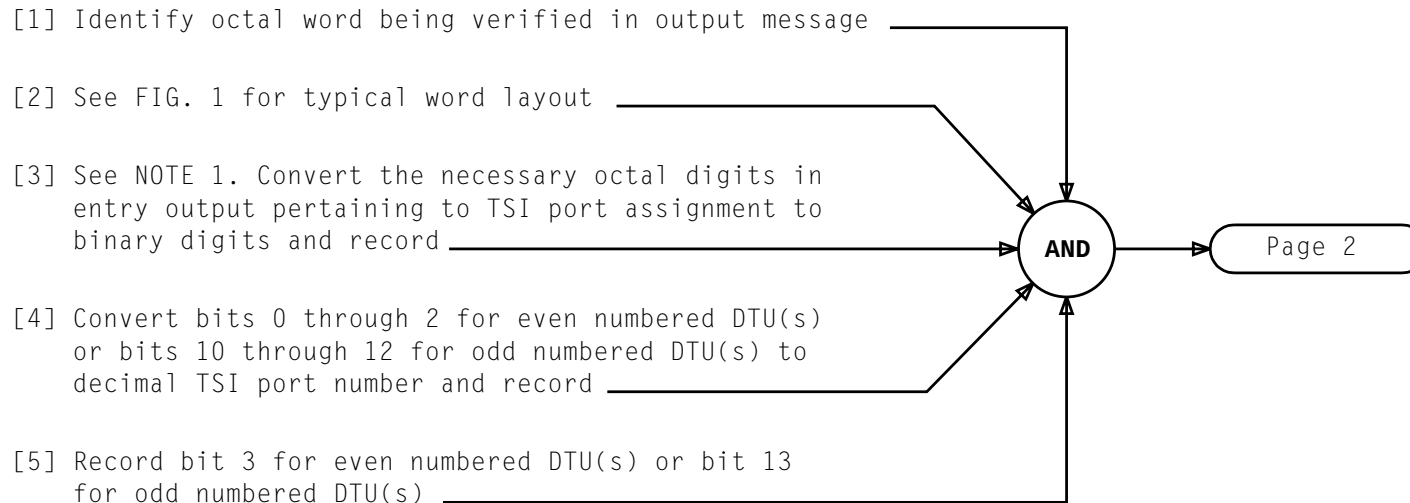


VERIFY GROWTH EST TO TSI ASSIGNMENT

Issue 1	SEP 1997
234-353-030	DLP
PAGE 2 of 2	554

SUMMARY

Convert octal digits representing TSI information of entry output word to decimal. Compare entry output data against office records. If entry output data and office records do not agree, record discrepancies for later reference. If this procedure is done as a result of a DT addition, repeat procedure for each equipped DTU.



entry data																								
octal output	0				Y				Y				Y				Y				Y			
bit position	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
binary values	0	0	0	0	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	TSI MEMBER NUMBER										SPC 0/1	TSI PORT NO.	TSI MEMBER NUMBER										SPC 0/1	TSI PORT NO.
	DTU 1, 3, 5 OR 7 TO TSI LEVEL ASSIGNMENT												DTU 0, 2, 4 OR 6 TO TSI LEVEL ASSIGNMENT											

FIG. 1 – Typical Word Layout Pertaining to TSI Port Assignment

NOTE 1

For even numbered DTU(s), the four rightmost octal digits will be converted and for odd numbered DTU(s), the five left-most octal digits will be converted

VERIFY GROWTH DTU TO TSI PORT ASSIGNMENT

Issue 1	SEP 1997
234-353-030	DLP
PAGE 1 of 3	555

[6] Convert bits 4 through 9 for even
numbered DTU(s) or bits 14 through
19 for odd numbered DTU(s) to decimal
TSI member number and record

[7] Get office record containing
DTU to TSI port assignments

[8] Locate line on record
containing the DT frame
and unit being grown

[9] Locate the TSI port number value
on line found in Step 8

[10] Compare value found in Step 9
with TSI port number recorded
in Step 4, Page 1, and note any
discrepancy for later use

AND

Page 3

VERIFY GROWTH DTU TO TSI PORT ASSIGNMENT

Issue 1	SEP 1997
234-353-030	DLP
PAGE 2 of 3	555

[11] Locate the SPC value on line
found on Step 8, Page 2

[12] Compare value found in Step 11 with SPC
number recorded in Step 5, Page 1, and note
any discrepancy for later use

[13] Locate the TSI member number value
on line found on Step 8, Page 2

[14] Compare value found in Step 13 with TSI
member number recorded in Step 6, Page 2,
and note any discrepancy for later use

AND

[15] For later
reference, record
any discrepancy
noted in Steps 10,
12, or 14

[16] Is this
procedure being
done as a result of
DT frame addition

No

Yes

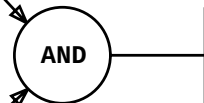
[17] Repeat from
Step 1, Page 1,
for each
additional
equipped DTU

VERIFY GROWTH DTU TO TSI PORT ASSIGNMENT

Issue 1	SEP 1997
234-353-030	DLP
PAGE 3 of 3	555

[1] Determine location of DTU to be added. See FIG. 1

[2] Select circuit packs per TABLE A for DTU to be added



CONNECTOR PANEL
LINE EQUALIZER
PROT SW PANEL

FUSE & ALM
PANEL

COMM PANEL

+24V
FILTER

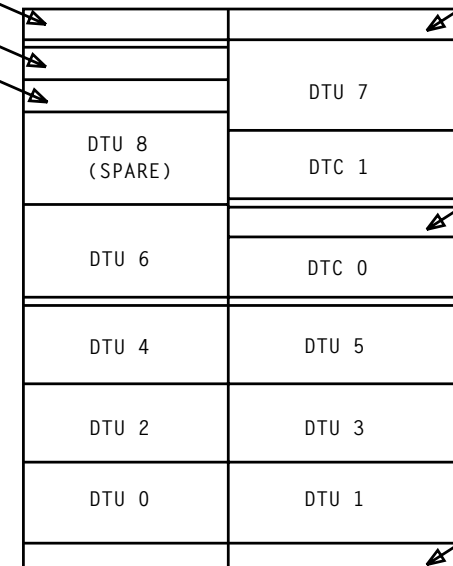


FIG. 1 – Digroup Terminal Frame – Front View

TABLE A					
DTU PLUG-IN CIRCUIT PACKS					
QUANTITY	NUMBER	NAME	QUANTITY	NUMBER	NAME
5	FA1110	Receive Converter	1	FA1134	Three Random Access Memory
5	FA1111	Receive Store Control			
1	FA1114	Receiver Multiplex 2	1	FA1135	Two Random Access Memory
1	FA1115B	Transmit Processing			
1	FA1116	Framing Logic	5	FA1136	Transmit Converter
1	FA1117	Old Data Store Logic	1	FA1137	Unit System Clock Generator
1	FA1118	Suitability Store Logic			
2	FA1119	8-Bit Recirculating Store	1	FA1138	Generation and Decoding
1	FA1120	Signaling	1	FA1139	Bipolar Violation Detector Unit ESR
1	FA1121	Local Alarm			
1	FA1122	Remote Alarm	1	FA1143	Unit Line Clock
1	FA1123	T Access and Transmitter	5	FB235	Bipolar to Unipolar Converter
1	FA1124	Receiver Access			
1	FA1125	TSI Link Receiver	1	FB239B	Regulator
2	FA1127	Error Source Register	1	FB241	Data and Timing
1	FA1129	GWC Decoding	1	FA243	TSI Line Driver
1	FA1131	E & M Store	1	140C	Power Unit
3	FA1132	Clock Select	1	146C	Power Unit

DETERMINE DTU EQUIPMENT TO BE ADDED AND SELECT CIRCUIT PACKS (J68952B-1)

Issue 1	SEP 1997
234-353-030	DLP
PAGE 1 of 1	556

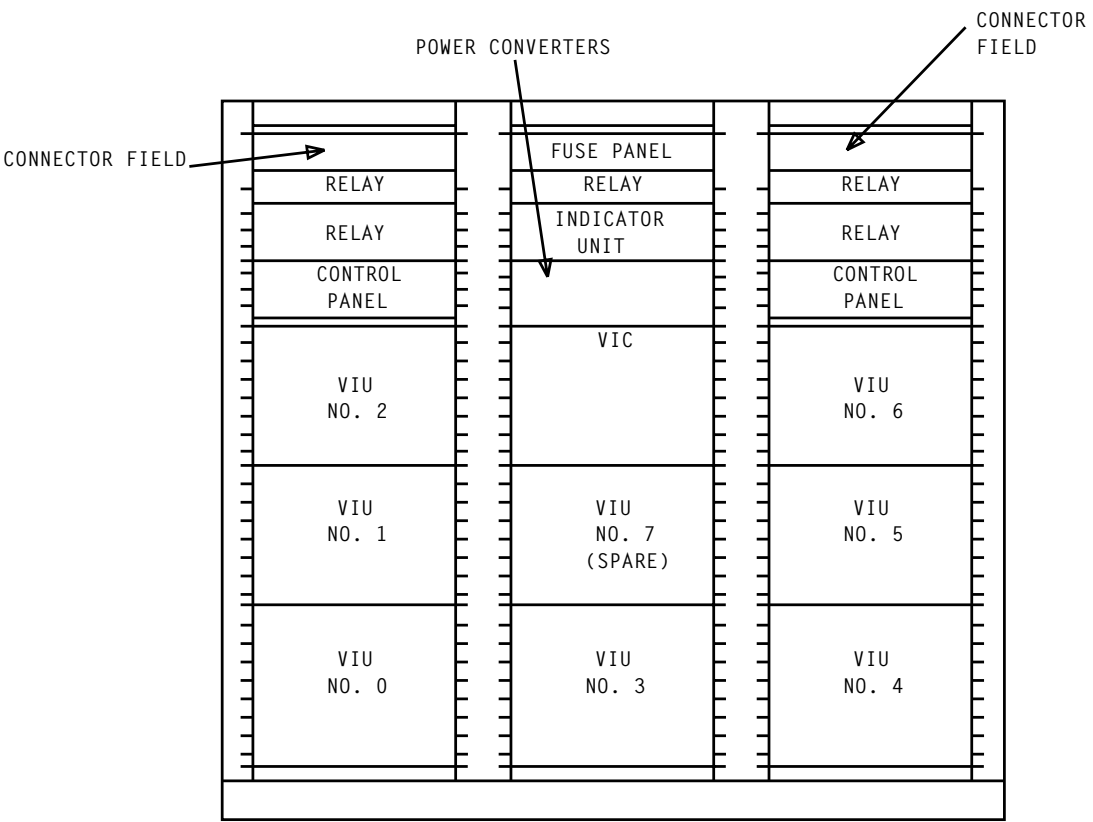
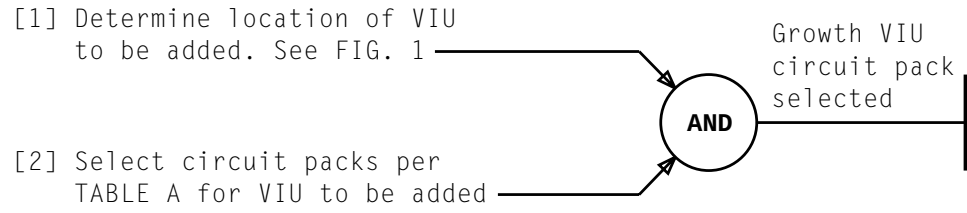


FIG. 1 – VIF Frame – Front View

TABLE A		
VIU PLUG-IN CIRCUIT PACKS		
QUANTITY	NUMBER	NAME
1	80A	Power Unit
1	81A	Power Unit
1	FA571	PCM Cable Transmitter
2	FA720	Transfer Gate Timing Logic
4	FA721	Translator
1	FA722	Select and Hold Timing Logic
2	FA723	Coder-Timing Logic
2	FA724	Decoder-Timing Logic
1	FA725	Coder Output PCM
1	FA726	Decoder Output PCM
1	FA727	Access 1
1	FA728	Access 2
1	FA729	Clock Select and Buffer
1	FA730	Retiming Register
1	FA731	Maintenance Control
1	FA732	Access Control
1	FA733	Serial Framing Detector and Squelch
1	FB220	PCM Dual Line Driver
1	FB480	Equalizer Timing Extractor
16	JA1	Input Gate and Filter
16	JA2	Output Gate and Filter
2	JA3	Transfer Gate
2	JA4	Signal and Distortion Detectors
2	JA5	Select and Hold
2	JA6	Coder
2	JA7	Decoder

[1] At VIF fuse panel, remove **+140V** and **+24V** fuses (if installed) for VIU being added. See FIG. 1

Page 6

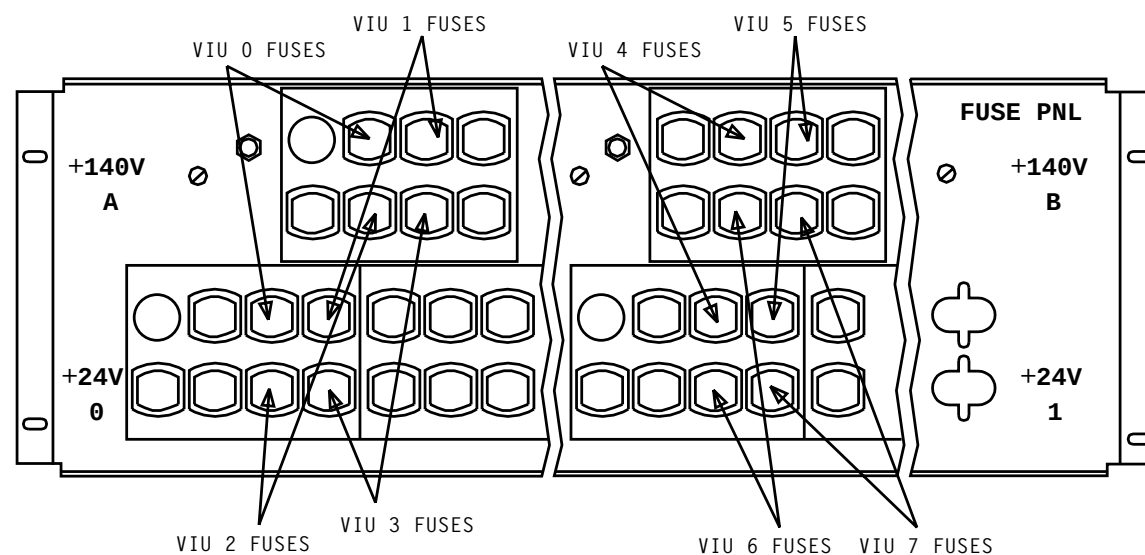


FIG. 1

REMOVE POWER AND INSTALL VIU CIRCUIT PACKS AND POWER UNITS

Issue 1	SEP 1997
234-353-030	DLP
PAGE 1 of 3	560

[2] Verify that **INPUT** switches on VIU 80A POWER UNIT and 81A POWER UNIT are set to **OFF**. See FIGs. 2 and 3

[3] Install 80A and 81A power units in added VIU position per FIG. 4

[4] See WARNING 1. Install VIU circuit packs per FIG. 4

AND

Page 3

WARNING 1
An antistatic wrist strap must be worn to prevent electrostatic discharge and possible damage to circuit packs while handling

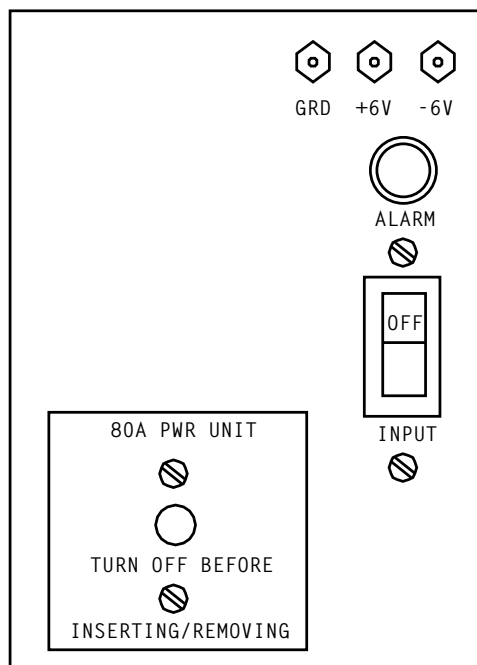


FIG. 2

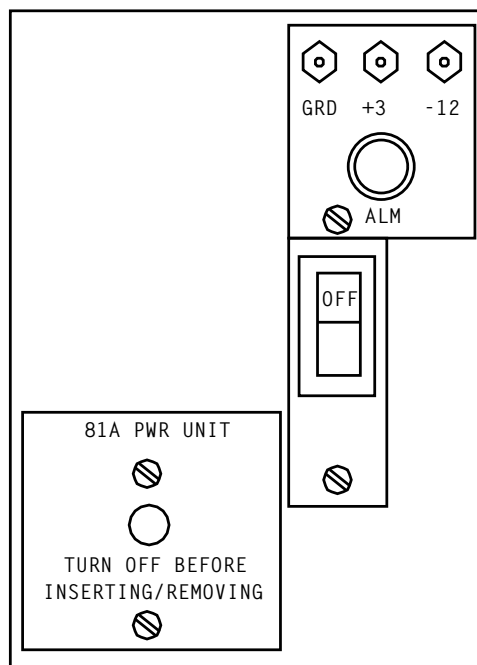


FIG. 3

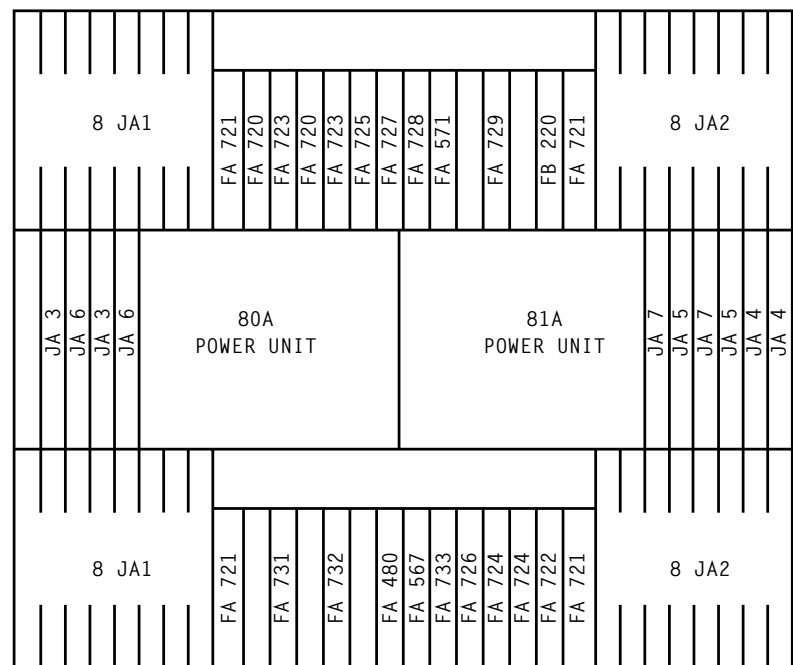


FIG. 4

REMOVE POWER AND INSTALL VIU CIRCUIT PACKS AND POWER UNITS

Issue 1	SEP 1997
234-353-030	DLP
PAGE 2 of 3	560

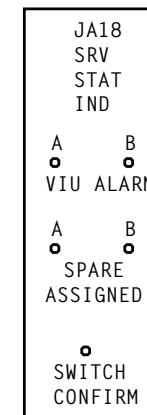
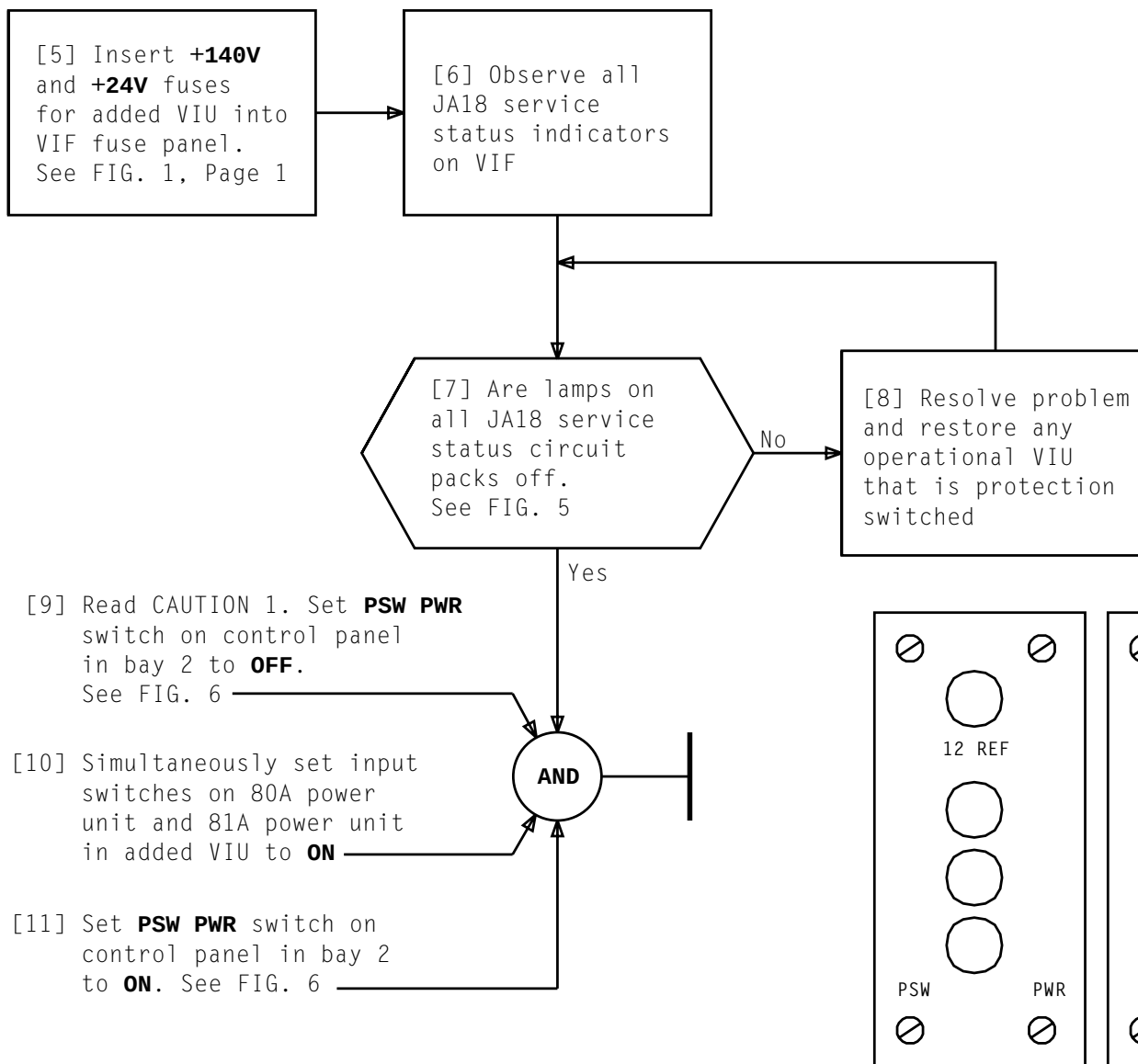


FIG. 5

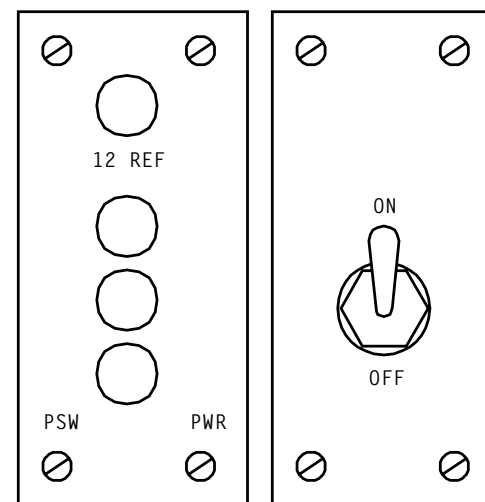


FIG. 6

CAUTION 1
To avoid possible service interruption, Steps 9 through 11 must be completed without interruption

Issue 1	SEP 1997
234-353-030	DLP
PAGE 3 of 3	560

[1] Obtain KS-14510/L5 multimeter
(or equivalent)

[2] Connect black test lead to
- **OHMS** pin jack on multimeter

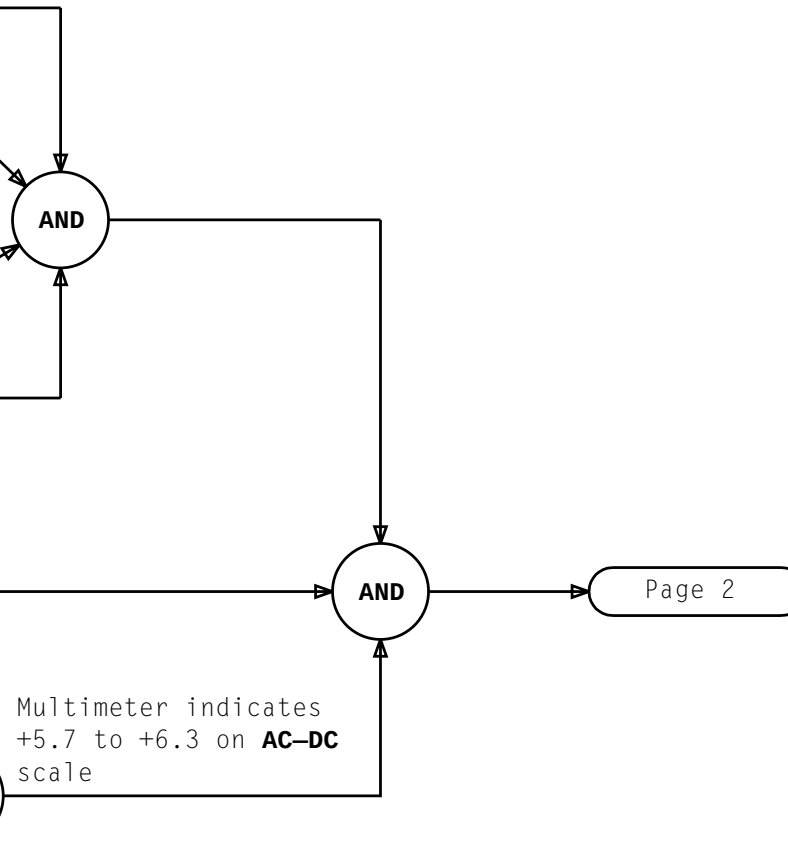
[3] Connect red test lead to +
pin jack on multimeter

[4] Rotate **RANGE** switch to
12 DC VOLTS

[5] Connect black test lead probe to
GND pin jack on 80A power
converter for
VIU being added

[6] Connect red test lead
probe to **+6V** pin jack
on 80A power converter
in Step 5

Multimeter indicates
+5.7 to +6.3 on **AC-DC**
scale



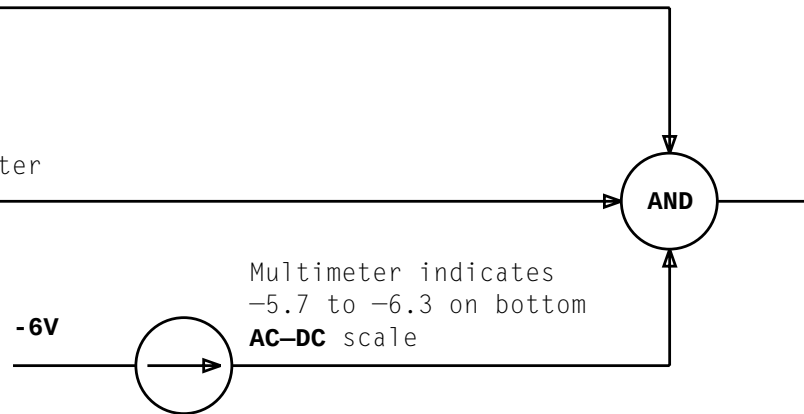
CHECK 80A DC-DC POWER CONVERTER 6 AND -6 VOLT OUTPUT OF GROWTH VIU BEING ADDED

Issue 1	SEP 1997
234-353-030	DLP
PAGE 1 of 2	561

[7] Remove red and black test lead probes from pin jacks on 80A power converter

[8] Connect red test lead probe to **GND** pin jack on 80A power converter of VIU being added

[9] Connect black test lead probe to **-6V** on 80A power converter in Step 8



**CHECK 80A DC-DC POWER CONVERTER 6 AND -6 VOLT OUTPUT
OF GROWTH VIU BEING ADDED**

Issue 1	SEP 1997
234-353-030	DLP
PAGE 2 of 2	561

[1] Obtain KS-14510/L5 multimeter
(or equivalent)

[2] Connect black test lead to
– **OHMS** pin jack on multimeter

[3] Connect red test lead to +
pin jack on multimeter

[4] Rotate **RANGE** switch to
12 DC VOLTS

[5] Connect black test lead probe to
GND pin jack on 81A power
converter for
VIU being added

[6] Connect red test lead
probe to **+3V** pin jack
on 81A power converter
in Step 5

Multimeter indicates
2.75 to 3.25 on **AC-DC**
scale

AND

AND

Page 2

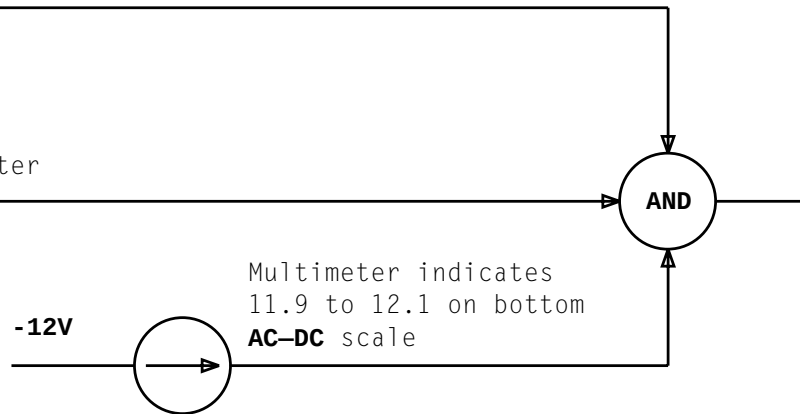
CHECK 81A DC-DC POWER CONVERTER 3 AND –12 VOLT OUTPUT OF GROWTH VIU

Issue 1	SEP 1997
234-353-030	DLP
PAGE 1 of 2	562

[7] Remove red and black test lead probes from pin jacks on 81A power converter

[8] Connect red test lead probe to **GND** pin jack on 81A power converter for VIU being added

[9] Connect black test lead probe to **-12V** on 81A power converter in Step 8



CHECK 81A DC-DC POWER CONVERTER 3 AND -12 VOLT OUTPUT OF GROWTH VIU

Issue 1	SEP 1997
234-353-030	DLP
PAGE 2 of 2	562

[1] At TSI frame, remove TSI terminator loop cable or looping terminator from TSI port that will connect to added VIU. See FIG. 1

[2] At TSI frame, connect T and R coaxial cables (2) to TSI port (SPC and level no.) associated with added VIU

[3] At VIF, connect T and R coaxial cables (2) at added VIU output ports per FIG. 2

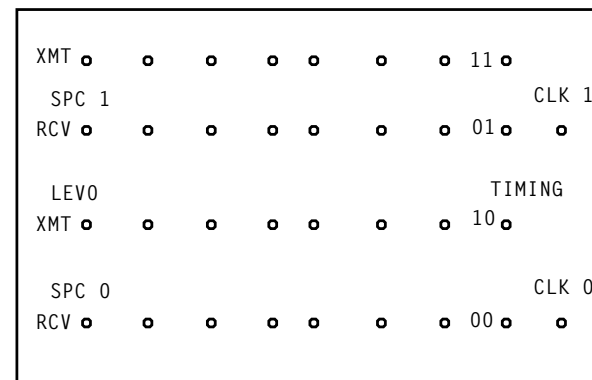
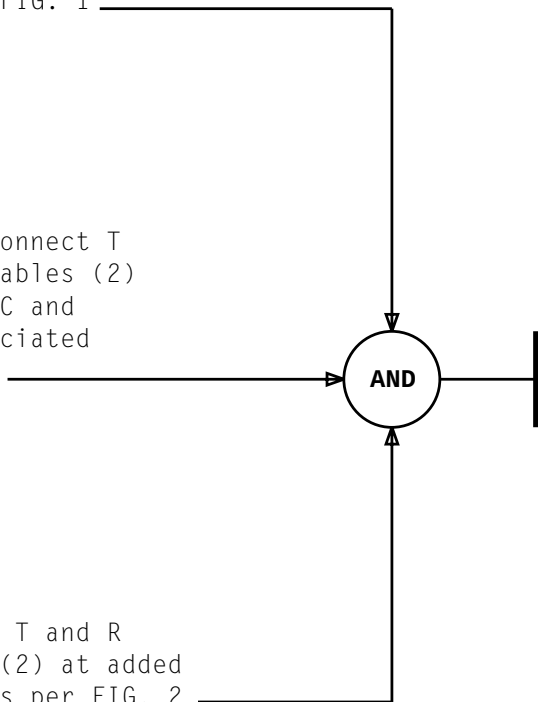


FIG. 1 – TSI Port Locations

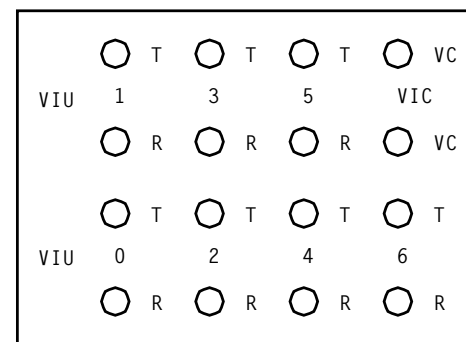


FIG. 2 – VIU Port Locations

REMOVE TSI PORT LOOP AND CONNECT DATA CABLES TO TSI PORT AND VIU

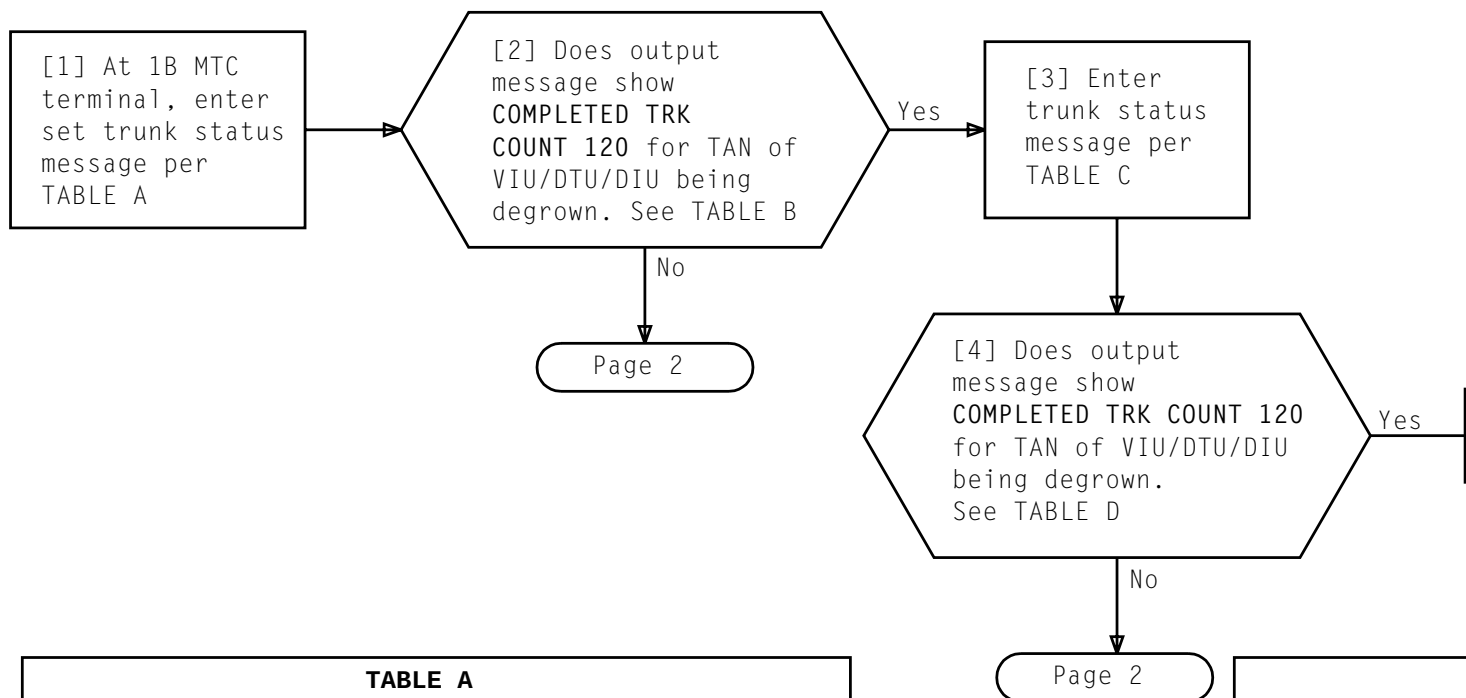


TABLE A	
MESSAGE NUMBER	INPUT MESSAGE
1	SET:TRKSTAT CAD.DSA,OTAN a;SUM:NUM 120!
a = Octal trunk assignment number (previously recorded)	

TABLE B	
MESSAGE NUMBER	OUTPUT MESSAGE
1	SET:TRKSTAT OTAN a NUM,SUM COMPLETED TRK COUNT 120
a = First octal trunk assignment number of trunks assigned to VIU/DTU/DIU being degrown	

TABLE C	
MESSAGE NUMBER	INPUT MESSAGE
1	OP:TRKSTAT,OTAN a;SUM:NUM 120!
a = First trunk assignment number of trunks assigned to VIU/DTU/DIU being degrown	

TABLE D	
MESSAGE NUMBER	OUTPUT MESSAGE
1	OP:TRKSTAT OTAN a NUM,SUM COMPLETED TRK COUNT 120
a = First octal trunk assignment number of trunks assigned to VIU/DTU/DIU being degrown	

CHANGE DEGROWTH VIU/DTU/DIU TRUNKS TO CIRCUIT ADMINISTRATION DISABLED STATE AND VERIFY

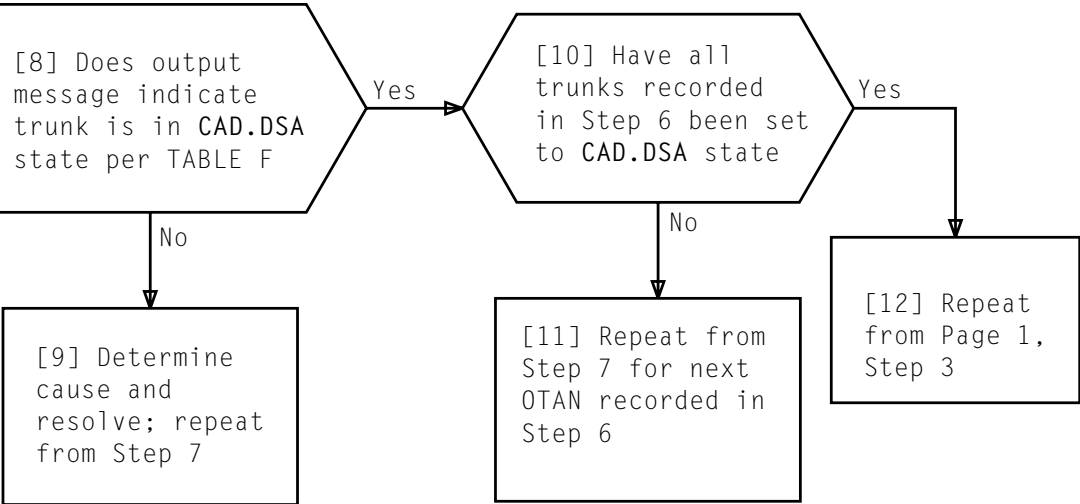
Issue 1	SEP 1997
234-353-030	DLP
PAGE 1 of 2	565

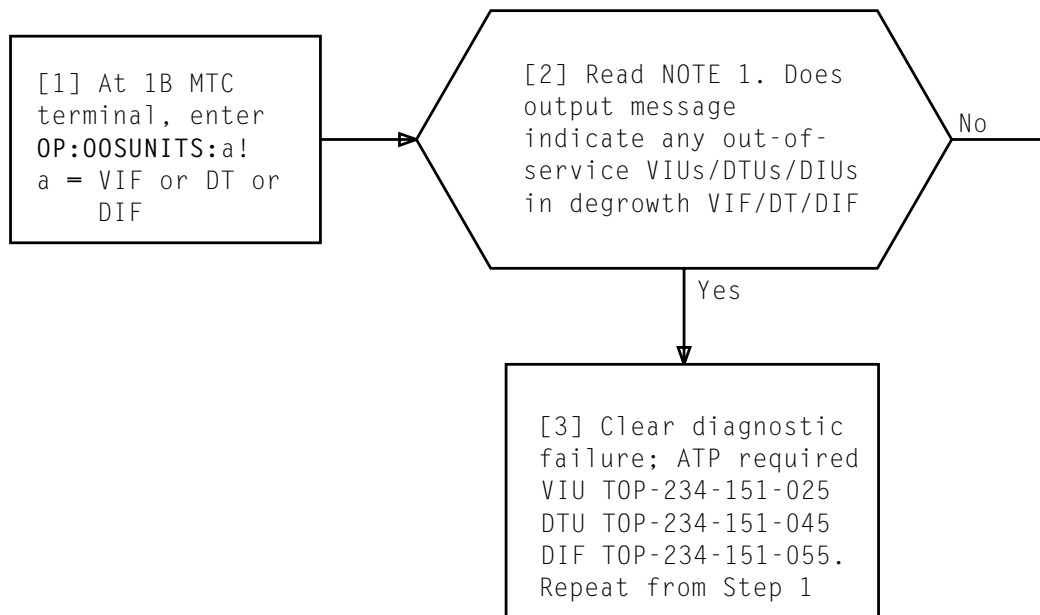
- [5] Enter trunk status message per TABLE E
- [6] Using output message, record OTAN of each trunk not set to CAD.DSA state. See TABLE F
- [7] Enter set trunk status message using one OTAN recorded in Step 6 per TABLE G

TABLE E	
MESSAGE NUMBER	INPUT MESSAGE
1	OP:TRKSTAT,OTAN a:NUM 120!
a = First octal trunk assignment number of VIU/DTU/DIU being degrown	

TABLE F	
MESSAGE NUMBER	OUTPUT MESSAGE
1	OP:TRKSTAT CAD.DSA <a> TRAF ,OTANc . . . OP:TRKSTAT ,OTAND NUM COMPLETED TRK COUNT 120
a = Maintenance control status b = State of trunk c = Trunk assignment number d = First trunk assignment number of trunks	

TABLE G	
MESSAGE NUMBER	INPUT MESSAGE
1	SET:TRKSTAT CAD.DSA,OTAN a!
a = Octal trunk assignment number	





NOTE 1 The spare VIU/DTU/ DIU must not be protection switched in the spare position		
Issue 1	SEP 1997	
234-353-030	DLP	
PAGE 1 of 1	566	

VERIFY THAT SPARE VIU/DTU/DIU IS AVAILABLE

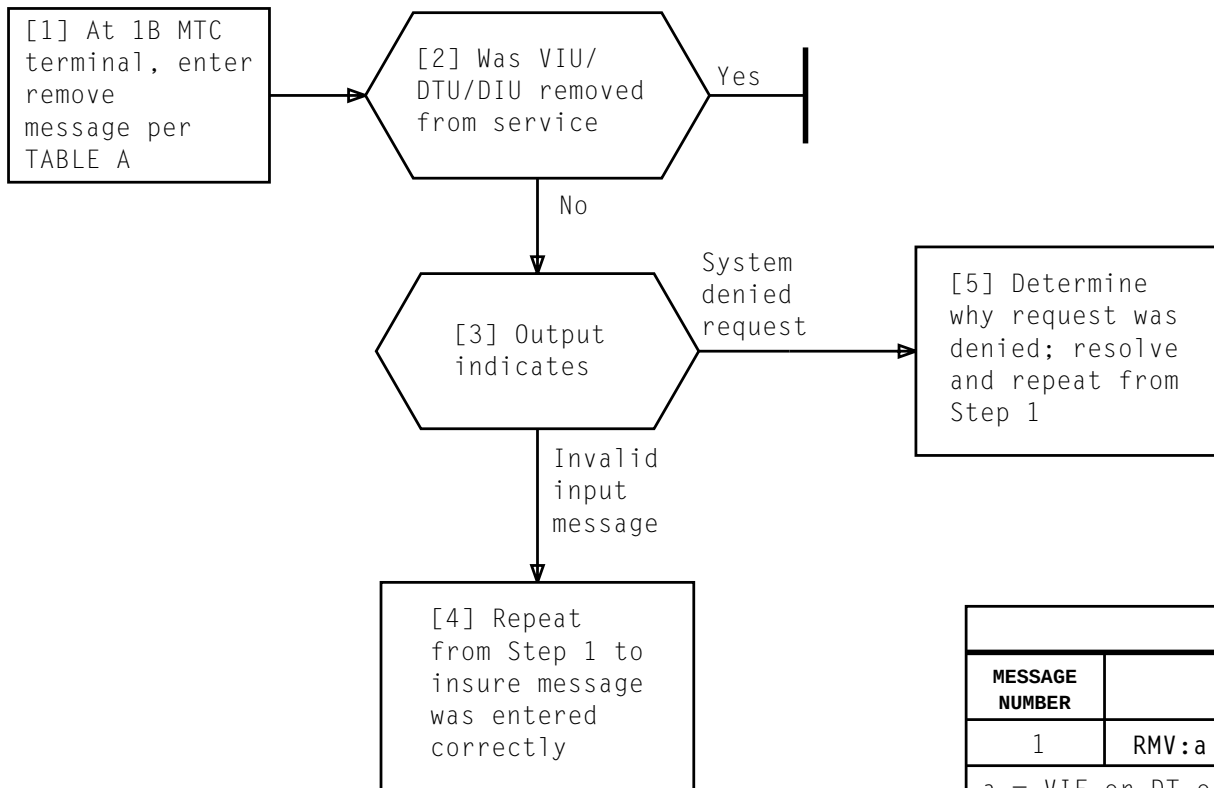


TABLE A	
MESSAGE NUMBER	INPUT MESSAGE
1	RMV:a b,c d!
a = VIF or DT or DIF b = Member number of degrowth associated VIF/DT/DIF c = VIU or DTU or DIU d = Submember number of degrowth VIU/DTU/DIU	

[1] Determine location of degrown ESU and its associated power converter using FIG. 1

Page 2

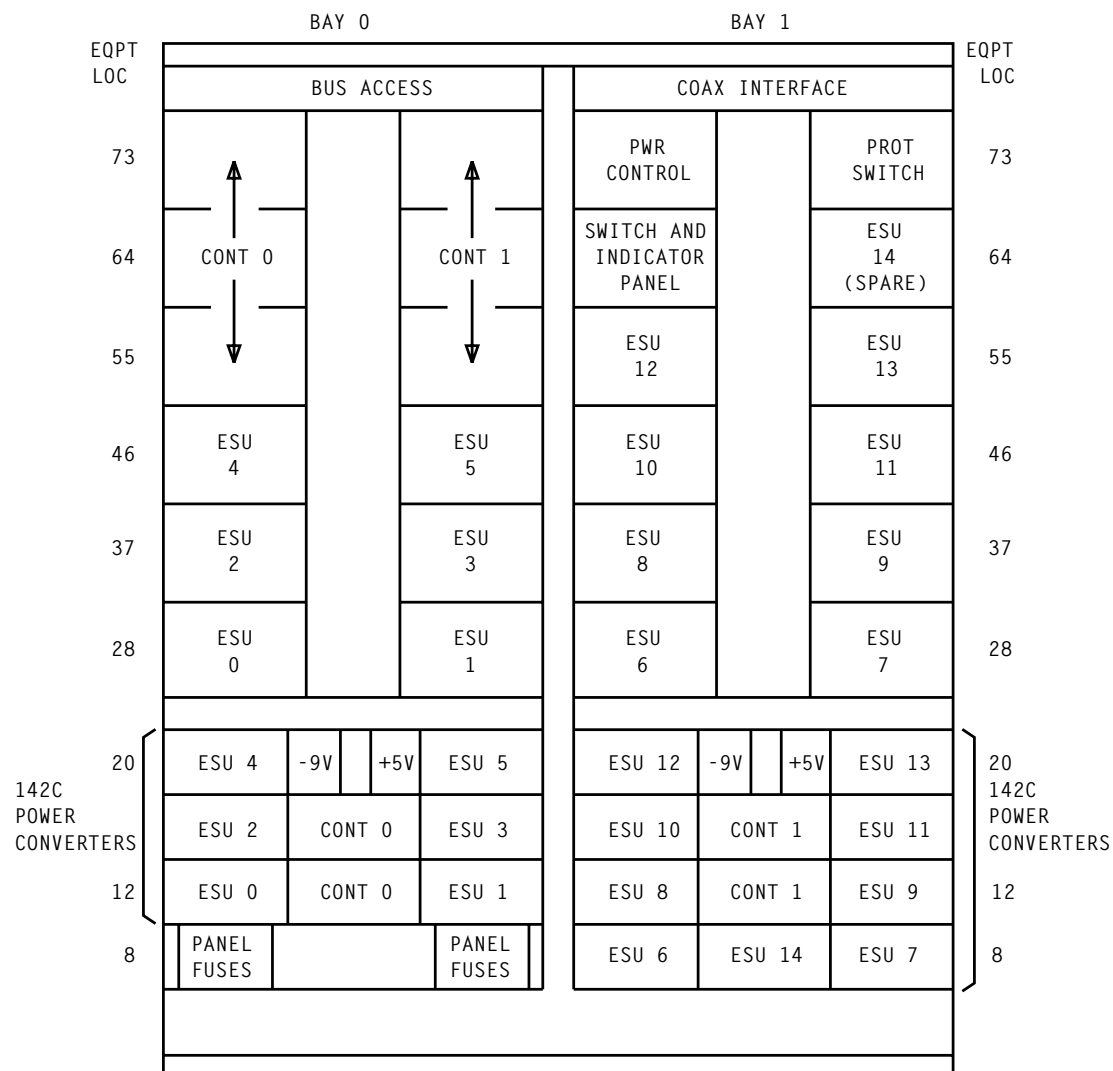


FIG. 1 – Echo Suppressor Terminal – Front View

REMOVE DEGROWN ESU CIRCUIT PACKS AND POWER UNIT

Issue 1	SEP 1997
234-353-030	DLP
PAGE 1 of 2	568

[2] At EST fuse panel, remove **+140V** fuse (if installed) for degrown ESU [FIG. 2]

[3] Verify that power switch on degrown ESU 142C power unit is set to OFF position

[4] Remove 142C power unit

[5] See WARNING 1. Remove degrown ESU circuit packs per FIG. 3

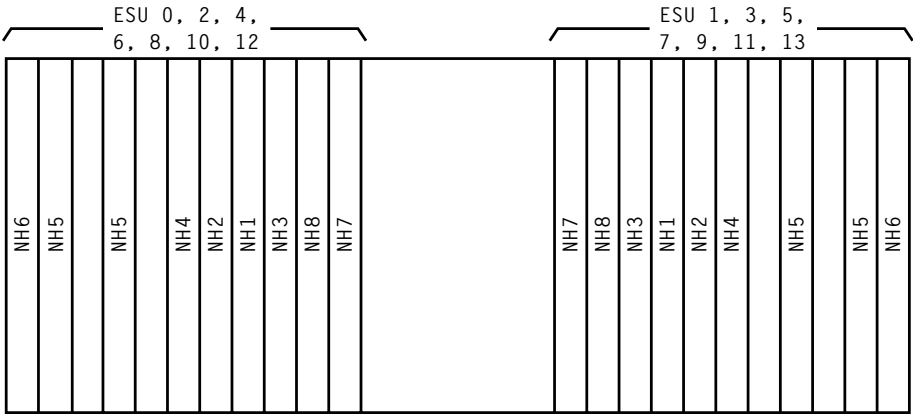
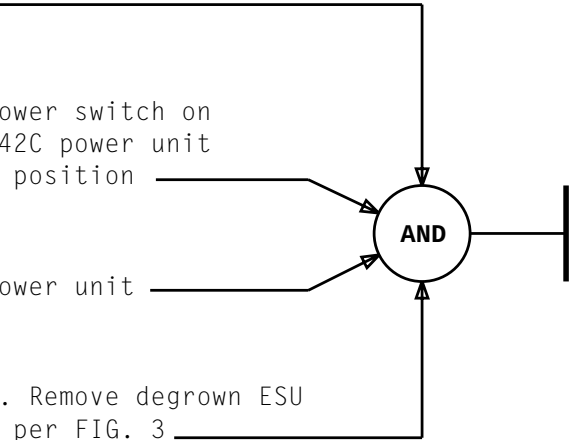


FIG. 3 – ESU Circuit Packs

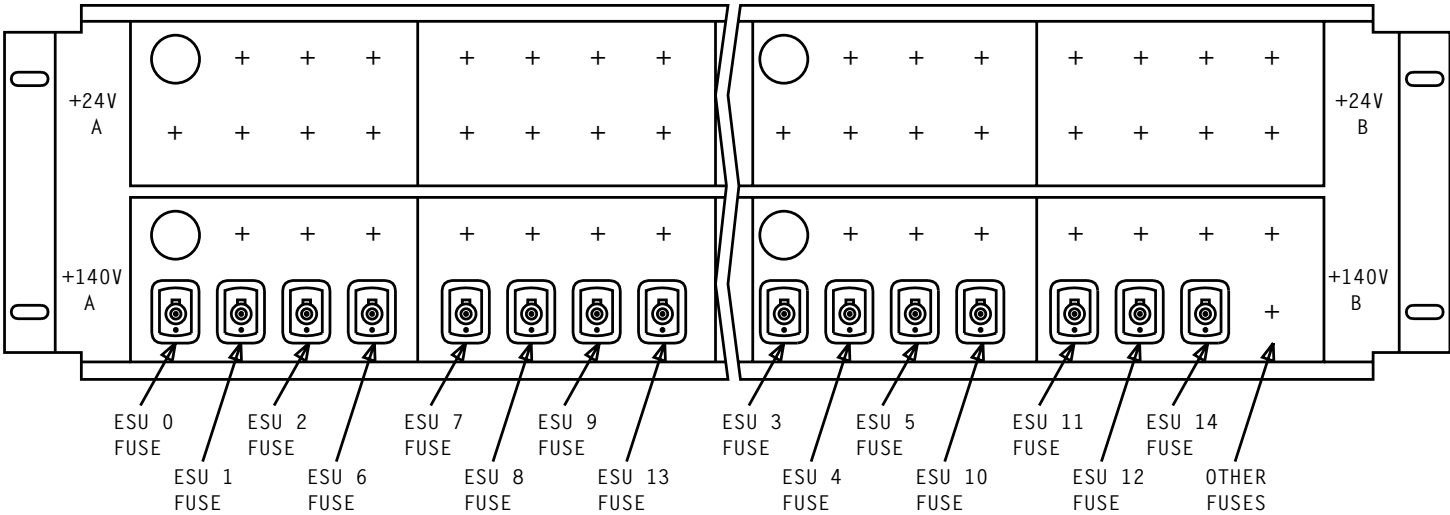
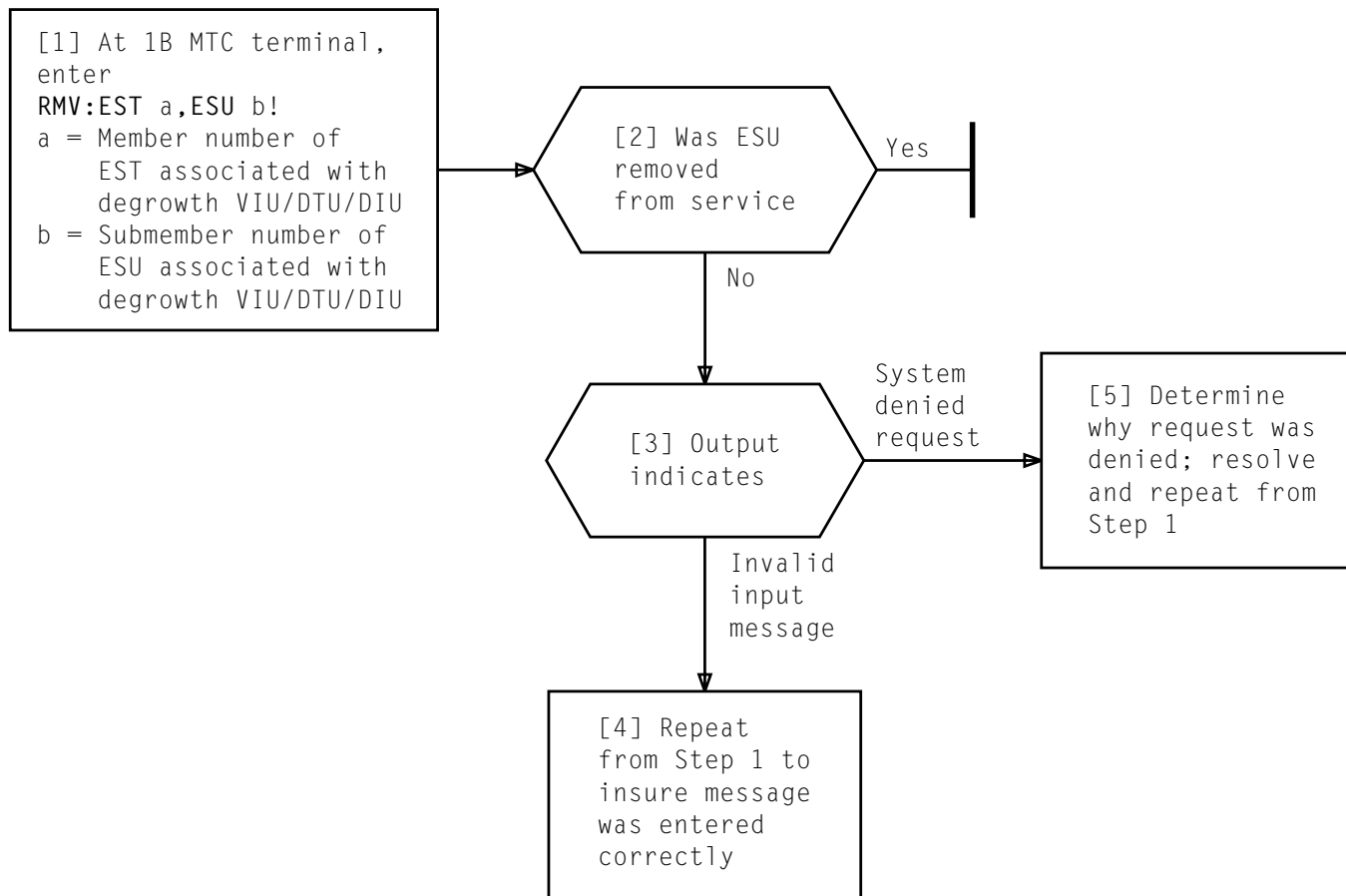


FIG. 2 – EST Fuse Panel – Front View

WARNING 1
An antistatic wrist strap must be worn to prevent electrostatic discharge and possible damage to circuit packs while handling

REMOVE DEGROWN ESU CIRCUIT PACKS AND POWER UNIT



[1] See WARNING 1. At degrowth-related ESU,
remove **FB618** circuit pack associated
with degrowth VIU/DTU

[2] At circuit pack removed in
Step 1, disconnect EST to TSI
port data cables

[3] At circuit pack removed in Step 1,
disconnect ESU to VIU/DTU data cables

[4] Get **FB619** strap pack

[5] Connect TSI port to ESU data cables
at **FB619** strap pack

[6] Connect VIU to ESU data cables at
FB619 strap pack

[7] At degrowth-associated EST, install
FB619 strap pack

AND

Strap pack
installed

REPLACE FB618 CIRCUIT PACK WITH FB619 STRAP PACK

WARNING 1
*An antistatic
wrist strap must
be worn to prevent
electrostatic
discharge and
possible damage
to circuit packs
while handling*

Issue 1 | SEP 1997

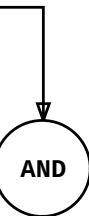
234-353-030 | DLP

PAGE 1 of 1 | **570**

[1] At TSI frame, disconnect two T and R coaxial cables from TSI port (SPC and level No.) associated with degrown VIU/DTU/DIU.
See FIG. 1 (TSI) or FIG. 2 (TSI-2)

[2] Get looping terminator (ED4A143) or TSI loop cable (ED4A802)

[3] Connect looping terminator or loop cable to TSI port associated with degrown VIU/DTU/DIU



[4] Were loop cables or terminator used in Step 3

Loop cables

Looping terminator

[5] Tag T and R cables removed in Step 1 and place in cable form

[6] Connect T and R cables removed in Step 1 to looping terminator (installed in Step 3) at TSI port associated with degrown VIU/DTU/DIU

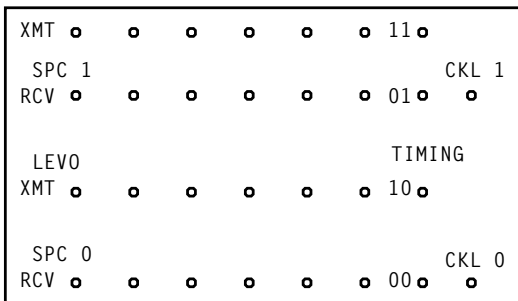


FIG. 1 – TSI Port Locations (J4A001A)

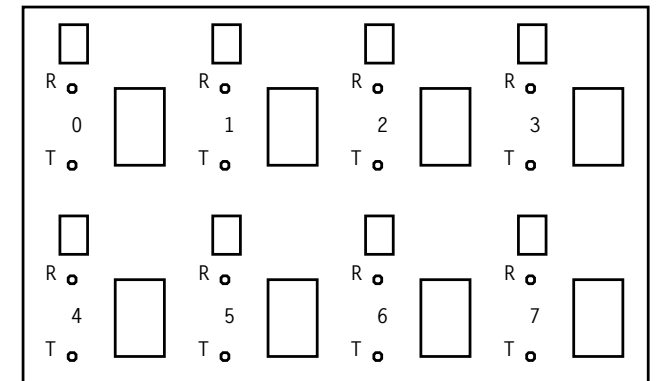


FIG. 2 – TSI-2 Port Locations (J4A001B)

DISCONNECT TSI PORT CABLES AND INSTALL LOOPING CABLE OR TERMINATOR

Issue 1	SEP 1997
234-353-030	DLP
PAGE 1 of 1	571

[1] At degrowth VIU, set
INPUT switch on 80A
 and 81A power unit to **OFF**.
 See FIG. 1 and 2

[2] At VIF fuse panel,
 remove **+24V** fuses
 for VIU being
 degrown. See FIG. 3

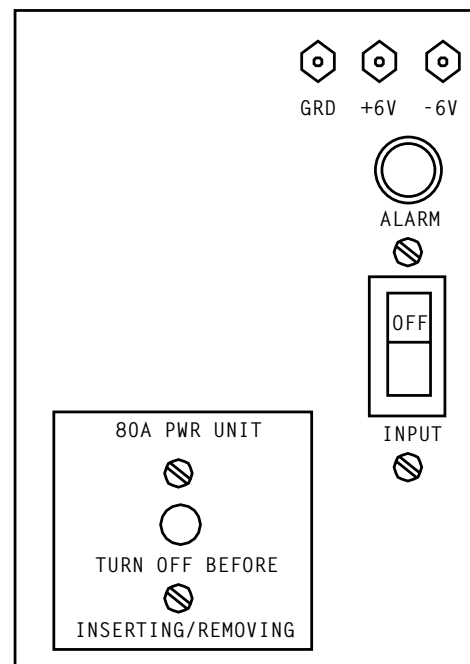
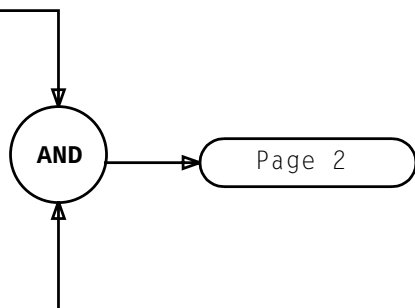


FIG. 1

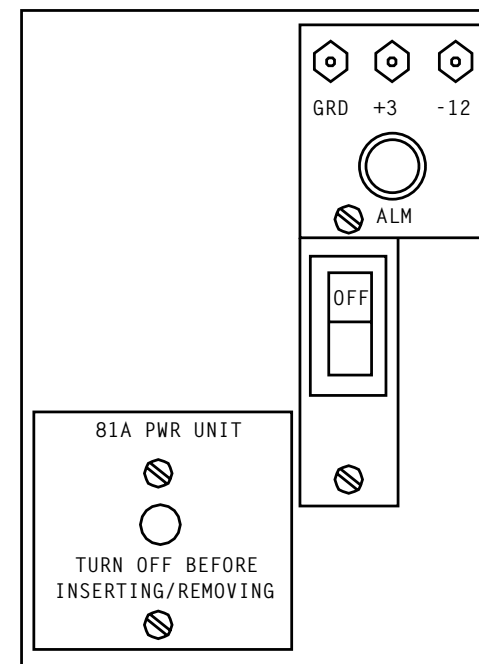


FIG. 2

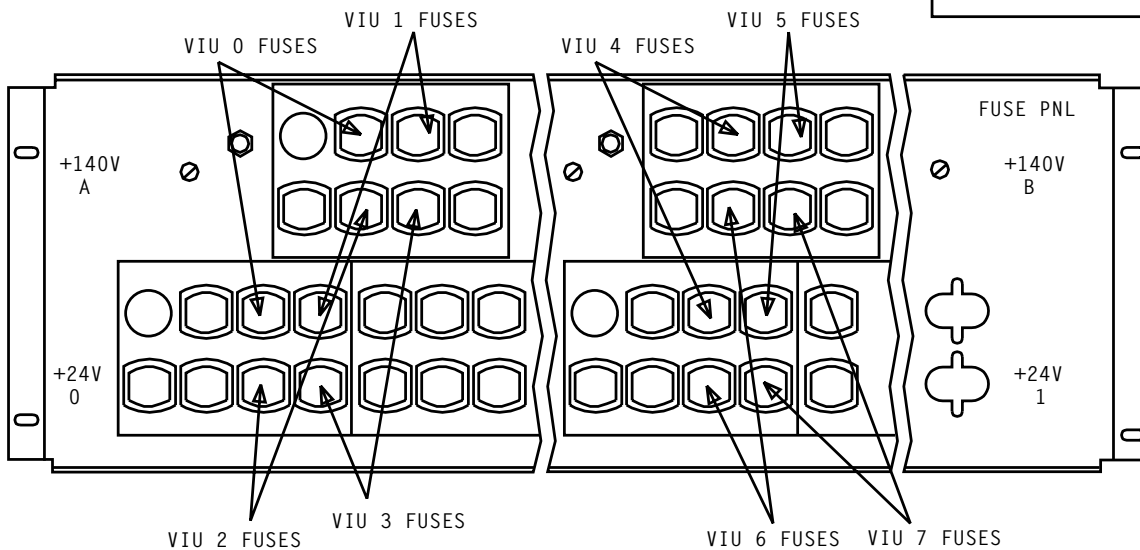


FIG. 3

REMOVE VIU CIRCUIT PACKS AND POWER UNITS AND DISCONNECT CABLES

Issue 1	SEP 1997
234-353-030	DLP
PAGE 1 of 2	572

At degrowth VIU:

[3] Remove 80A and 81A
power units per FIG. 4

[4] See WARNING 1.
Remove VIU circuit
packs per FIG. 4

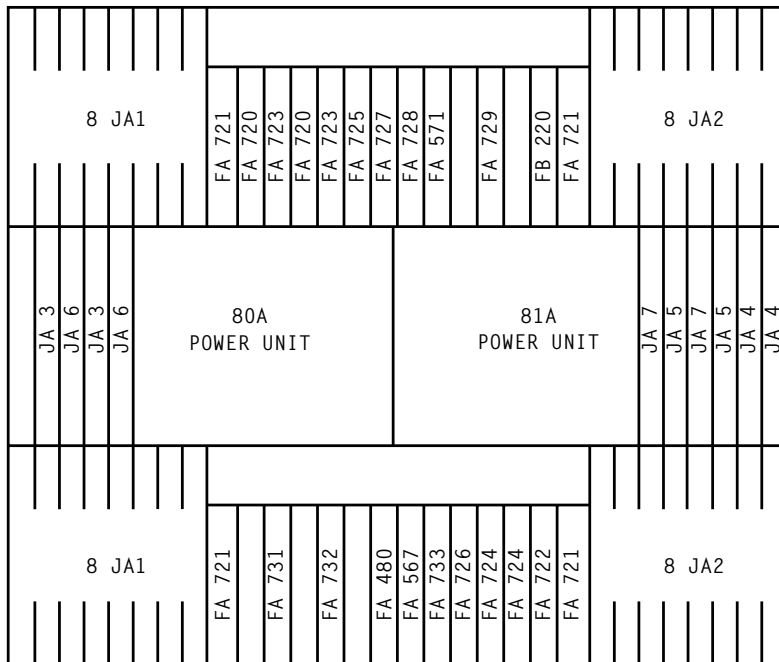


FIG. 4

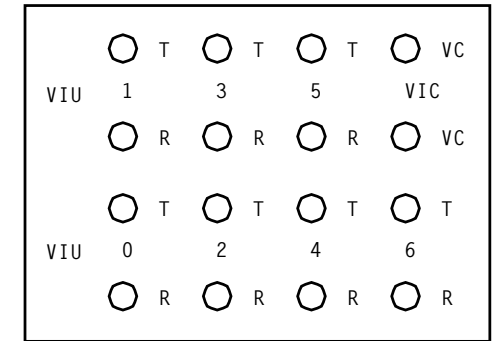
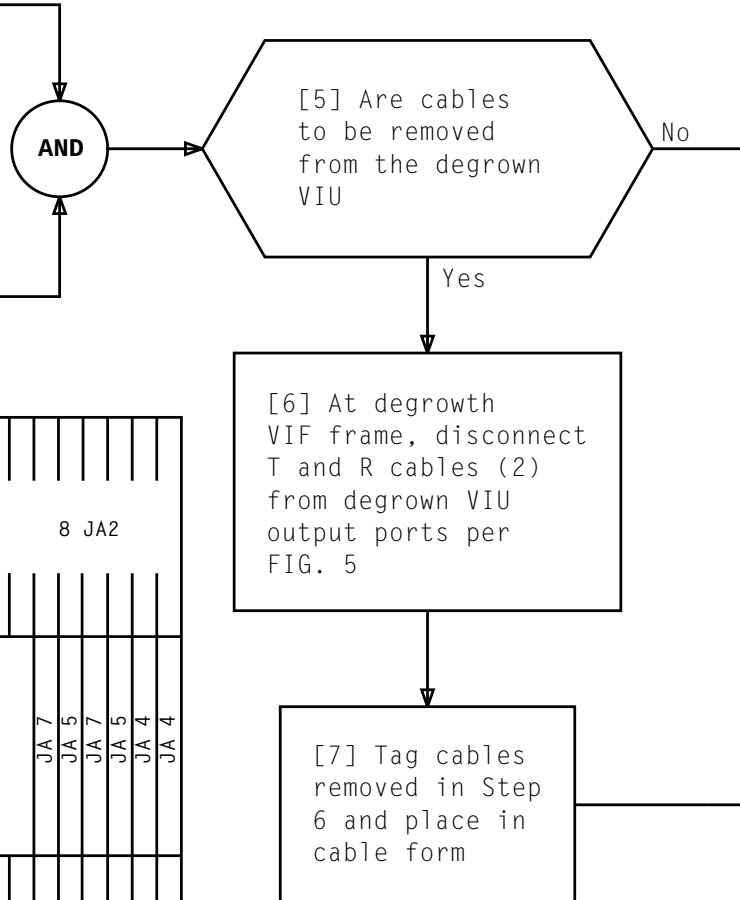


FIG. 5 – VIU Port Locations

WARNING 1
An antistatic wrist strap must be worn to prevent electrostatic discharge and possible damage to circuit packs while handling

[1] Determine location of DTU to be added. See FIG. 1

[2] Select circuit packs per TABLE A for DTU to be added

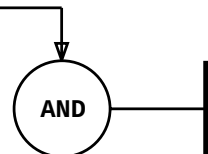


TABLE A					
DTU PLUG-IN CIRCUIT PACKS					
QUANTITY	NUMBER	NAME	QUANTITY	NUMBER	NAME
10	FA633	Random Access Memory	1	FA1126	Bipolar Violation Detector and Unit
5	FA1110	Receive Converter			Error Source Register
5	FA1111	Receive Store Control			Scanner
5	FA1112	Transmit Converter	2	FA1127	Error Source Register
1	FA1113	Receiver Multiplex 1	1	FA1128	GBC Decoding
1	FA1114	Receiver Multiplex 2	1	FA1129	GWC Decoding
1	FA1115	Transmit Processing	1	FA1130	GGC Decoding
1	FA1116	Framing Logic	1	FA1131	E & M Store
1	FA1117	Old Data Store Logic	3	FA1132	Clock Select
1	FA1118	Suitability Store Logic	5	FB235	Bipolar to Unipolar Converter
2	FA1119	8-Bit Recirculating Store			
1	FA1120	Signaling	1	FB239	Regulator
1	FA1121	Local Alarm	1	FB241	Data and Timing
1	FA1122	Remote Alarm	1	FA243	TSI Line Driver
1	FA1123	T Access and Transmitter	3	145A	Power Unit
1	FA1124	Receiver Access	1	145B	Power Unit
1	FA1125	TSI Link Receiver			

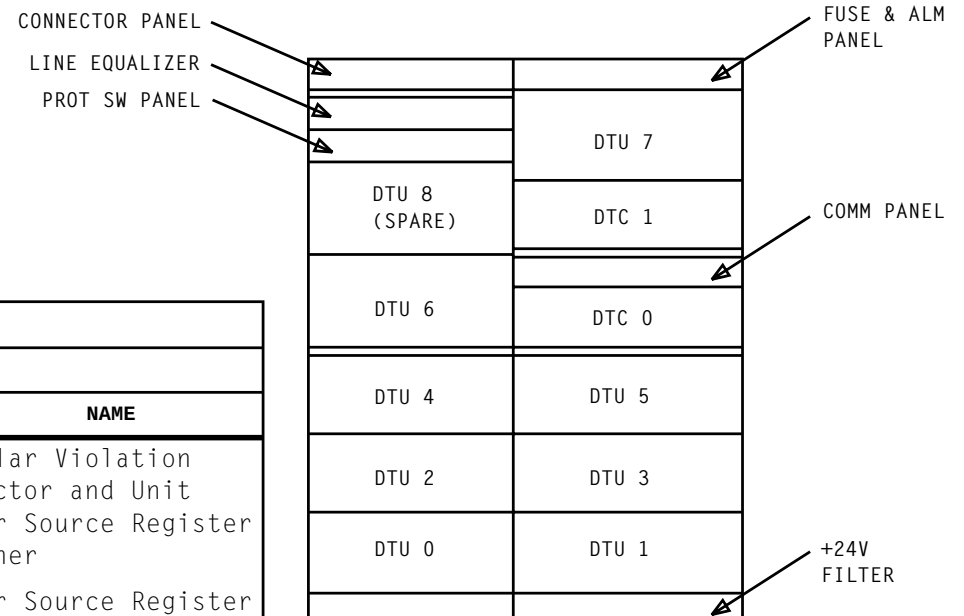


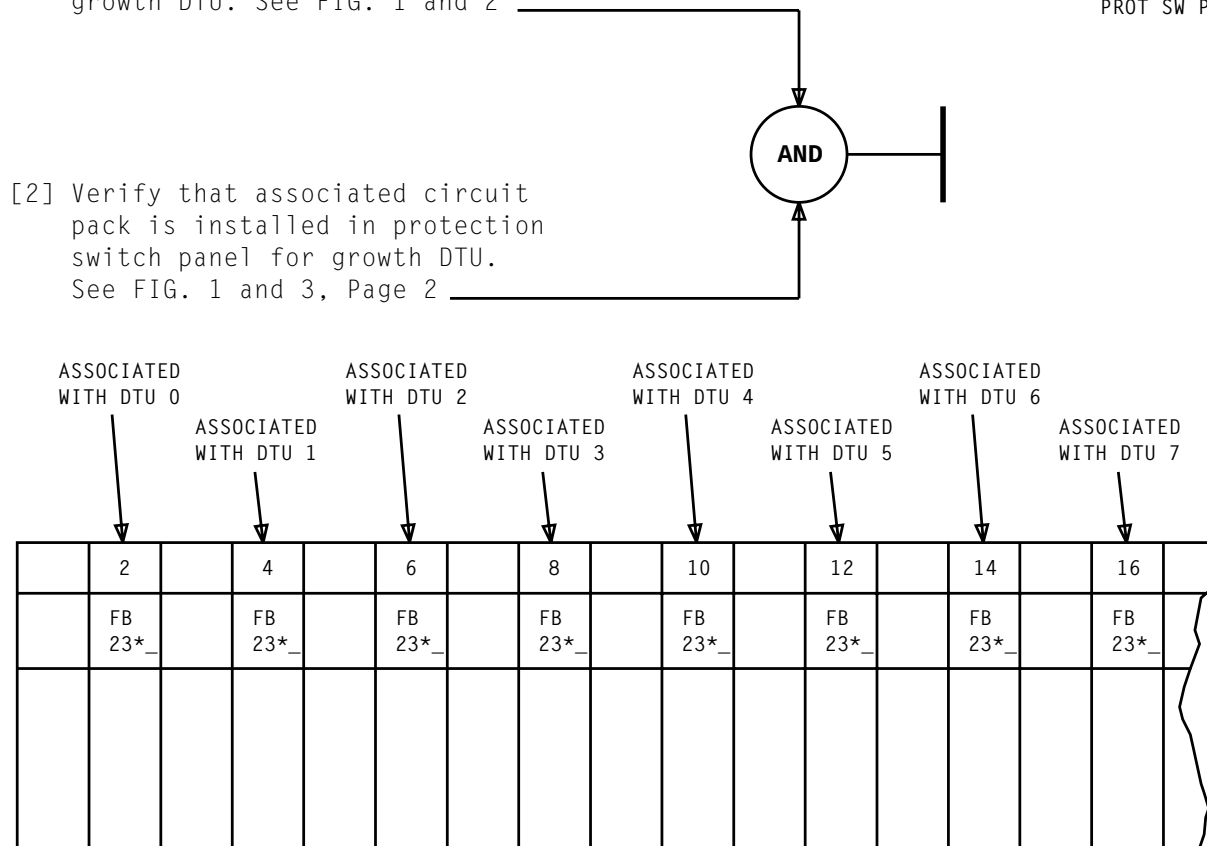
FIG. 1 – Digroup Terminal Frame – Front View

DETERMINE DTU EQUIPMENT TO BE ADDED AND SELECT CIRCUIT PACKS (J68952A-1)

Issue 1	SEP 1997
234-353-030	DLP
PAGE 1 of 1	573

[1] Verify that associated circuit pack is installed in line equalizer panel for growth DTU. See FIG. 1 and 2

[2] Verify that associated circuit pack is installed in protection switch panel for growth DTU. See FIG. 1 and 3, Page 2



* TYPE OF FB 23 _ CIRCUIT PACKS TO BE USED IS DETERMINED BY CABLE DISTANCE FROM DTF TO DSX-1, LT-1, OR REPEATER BAY. SEE BELOW.

TO DSX-1_____ OR LT-1_____		TO REPEATER BAY_____	
0 TO 54 FT	FB 236	0 TO 149 FT	FB 236
55 TO 354 FT	FB 237	150 TO 449 FT	FB 237
355 TO 655 FT	FB 238	450 TO 750 FT	FB 238

FIG. 2 – Line Equalizer Panel – Front View

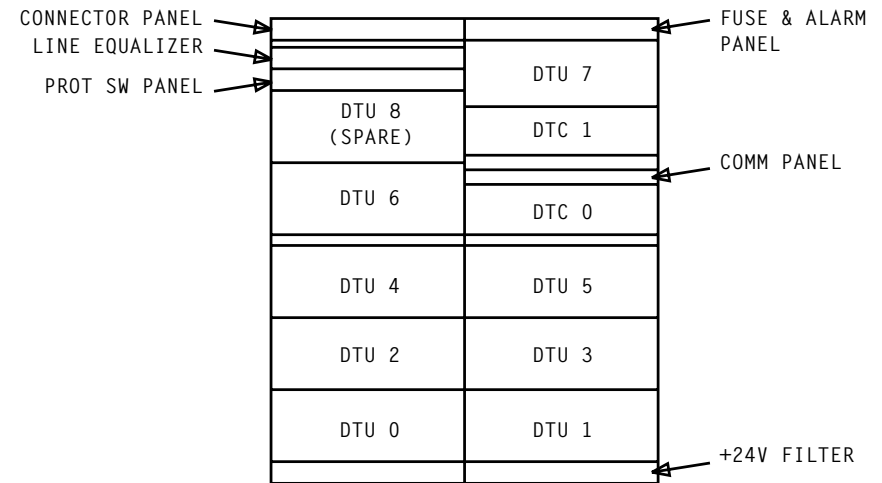


FIG. 1 – Digroup Terminal Frame – Front View

VERIFY ASSOCIATED CIRCUIT PACK IS INSTALLED IN LINE EQUALIZER AND PROTECTION SWITCH PANELS (DT FRAME J68952A-1)

Issue 1	SEP 1997
234-353-030	DLP
PAGE 1 of 2	574

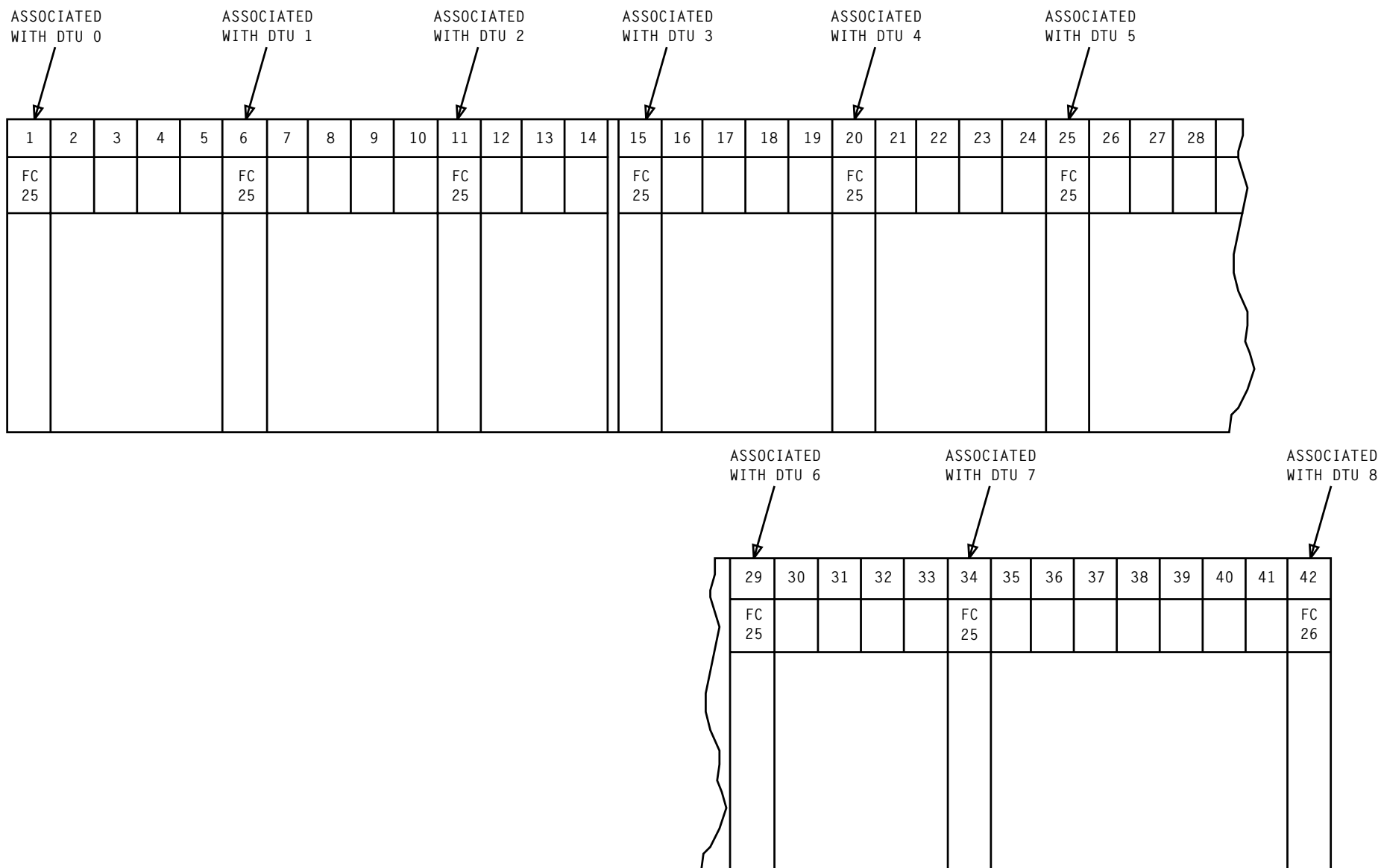


FIG. 3 – Protection Switch Panel – Front View

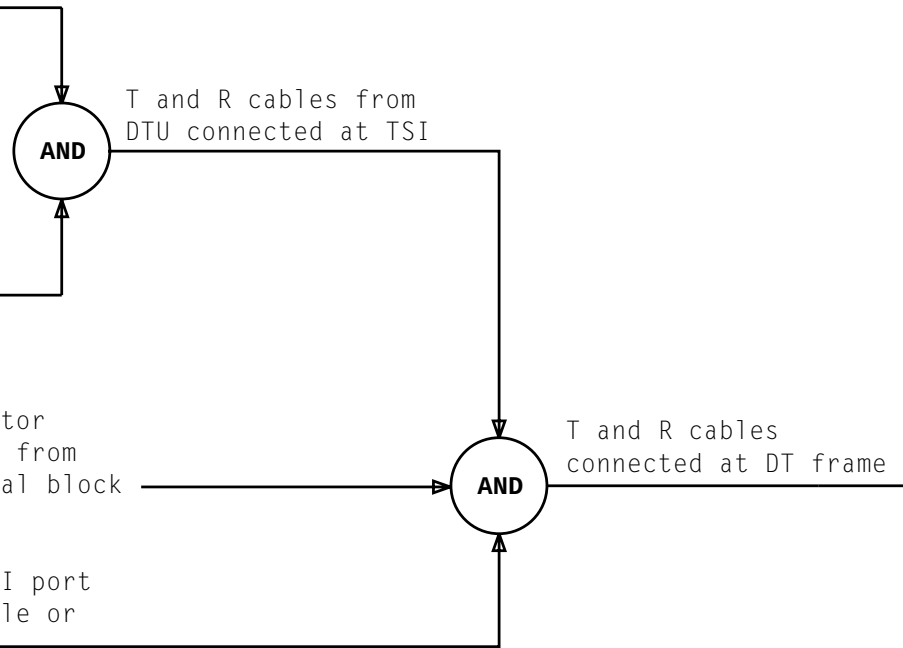
**VERIFY ASSOCIATED CIRCUIT PACK IS INSTALLED IN LINE
EQUALIZER AND PROTECTION SWITCH PANELS (DT FRAME J68952A-1)**

[1] At TSI frame, remove TSI
loop cable or looping terminator,
as applicable, from TSI port
that will connect to added DTU

[2] Connect T and R cables from
growth DTU to terminals where
loop cable was removed

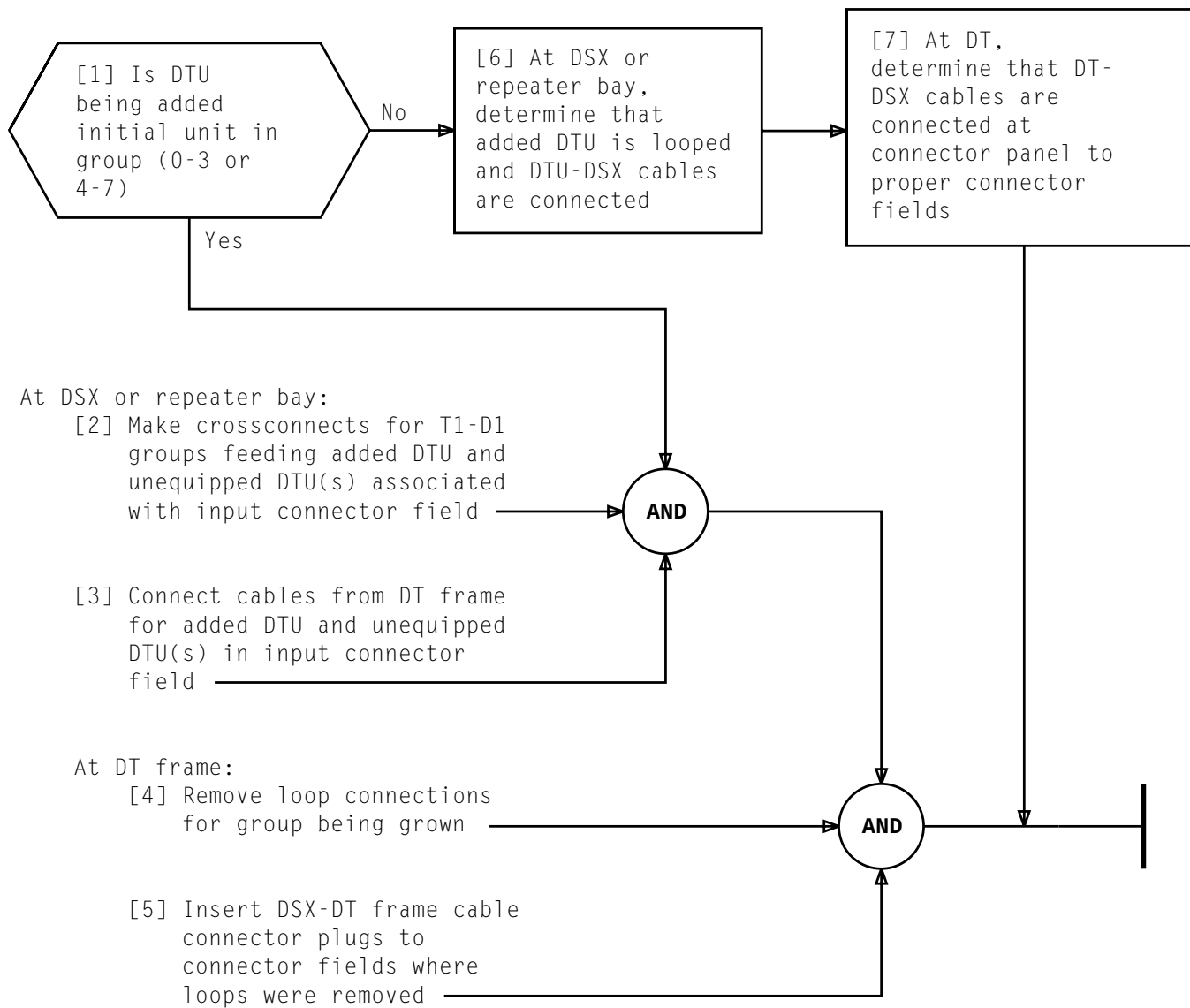
[3] At digroup terminal frame connector
panel, remove T and R loop cable from
growth DTU output coaxial terminal block

[4] Connect interface cables from TSI port
to terminal block where loop cable or
H connector block was removed



**REMOVE TSI PORT LOOP CABLES AND DTU OUTPUT LOOP CABLES AND
CONNECT DATA CABLES TO TSI PORT AND DTU**

Issue 1	SEP 1997
234-353-030	DLP
PAGE 1 of 1	575

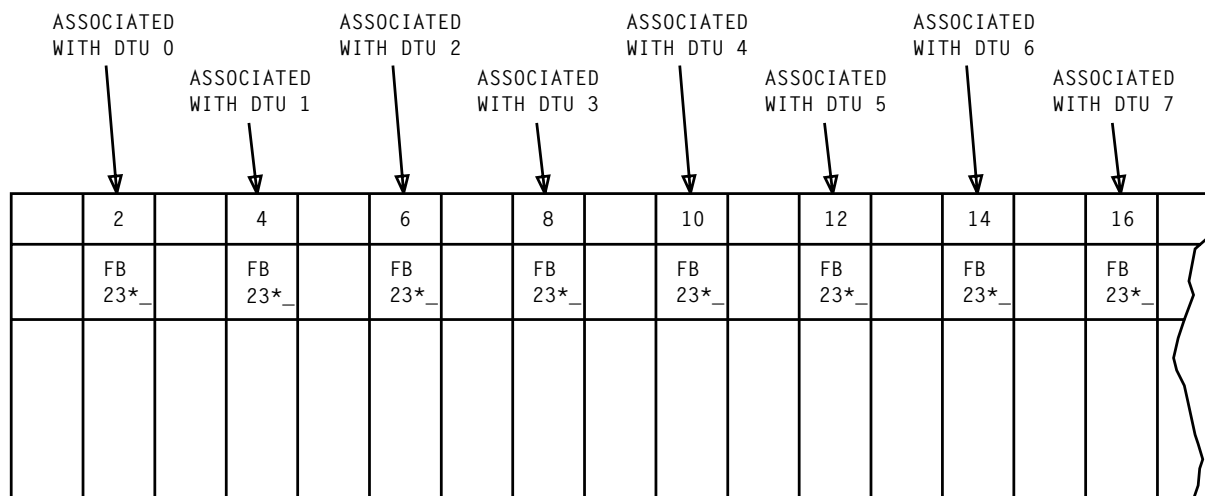
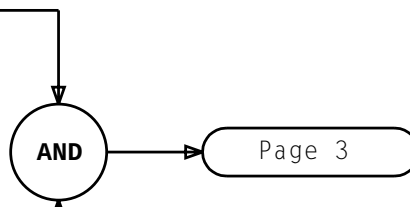


COMPLETE CABLING AND LOOP CONNECTIONS

Issue 1	SEP 1997
234-353-030	DLP
PAGE 1 of 1	576

[1] See WARNING 1. Remove associated circuit pack from line equalizer panel for degrowth DTU. See FIG. 1 and 2

[2] See WARNING 1. Remove associated circuit pack from protection switch panel for degrowth DTU. See FIG. 1 and FIG. 3, Page 2



* TYPE OF FB 23 _ CIRCUIT PACKS USED IS DETERMINED BY CABLE DISTANCE FROM DTF TO DSX-1, LT-1, OR REPEATER BAY. SEE BELOW.

TO DSX-1_____ OR LT-1_____		TO REPEATER BAY_____	
0 TO 54 FT	FB 236	0 TO 149 FT	FB 236
55 TO 354 FT	FB 237	150 TO 449 FT	FB 237
355 TO 655 FT	FB 238	450 TO 750 FT	FB 238

FIG. 2 – Line Equalizer Panel – Front View

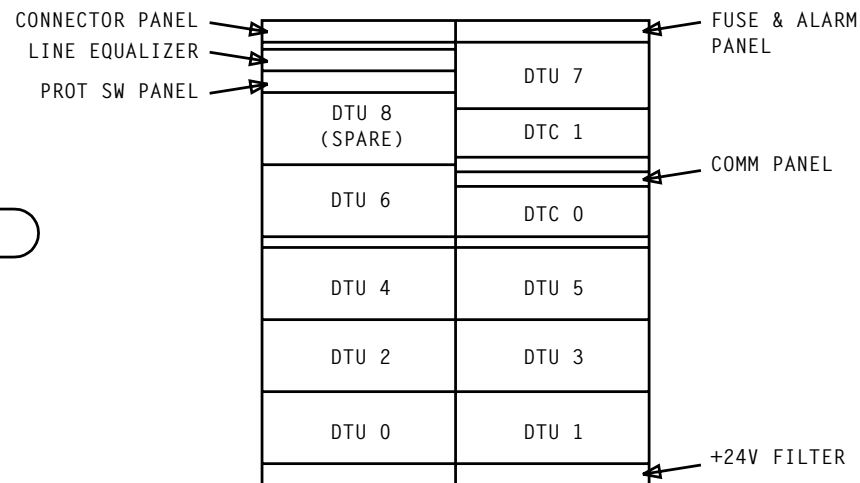


FIG. 1 – Digroup Terminal Frame – Front View

REMOVE DEGROWTH DTU CIRCUIT PACK POWER UNITS AND DISCONNECT CABLES (J68952A-1)

WARNING 1	
<i>An antistatic wrist strap must be worn to prevent electrostatic discharge and possible damage to circuit packs while handling</i>	
Issue 1	SEP 1997
234-353-030	DLP
PAGE 1 of 3	577

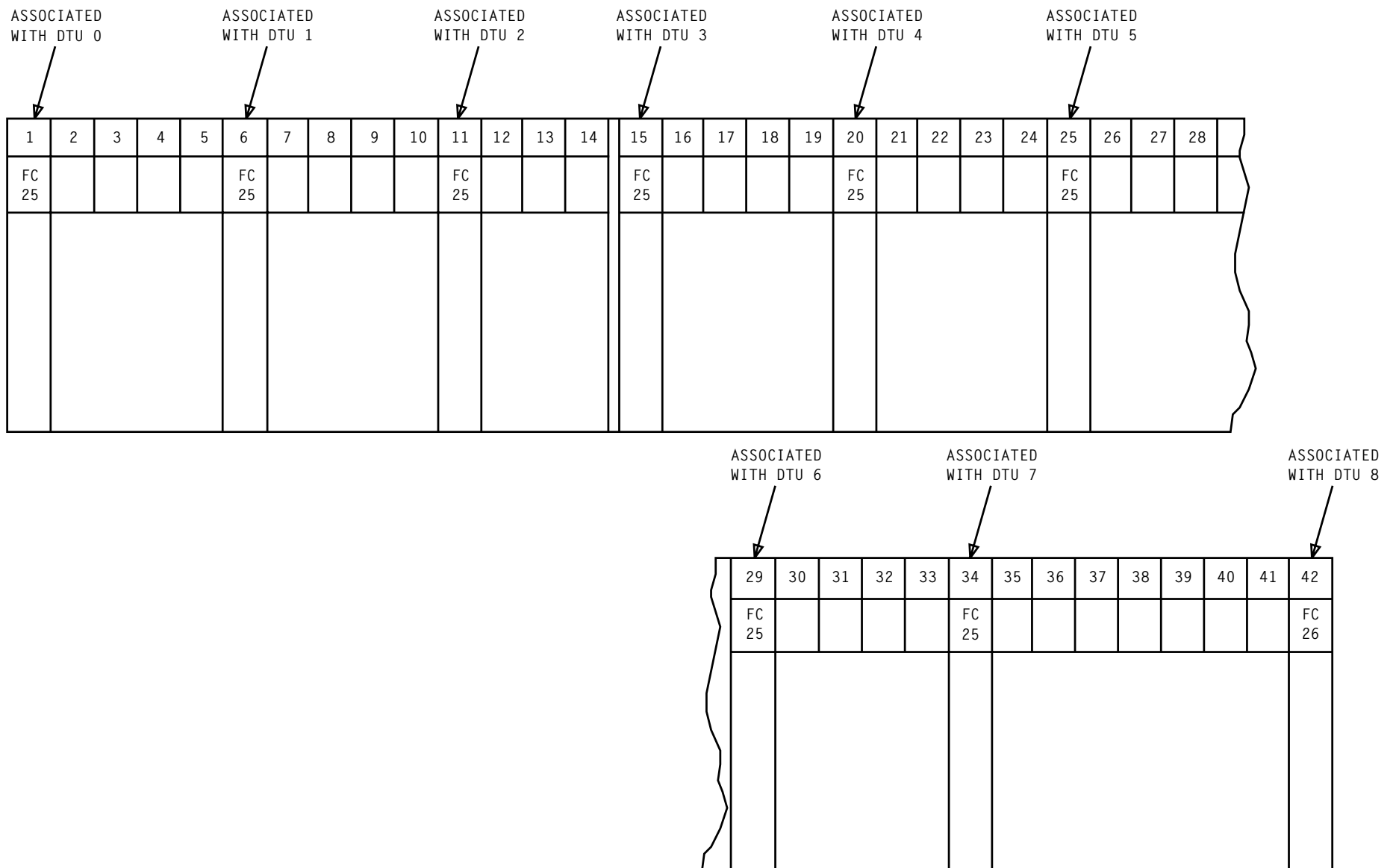
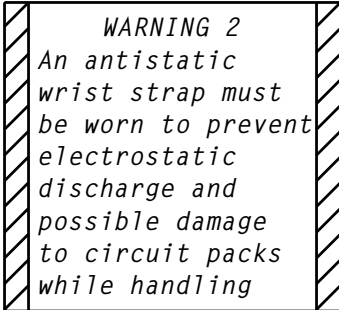


FIG. 3 – Protection Switch Panel – Front View

REMOVE DEGROWTH DTU CIRCUIT PACK POWER UNITS AND DISCONNECT CABLES (J68952A-1)

[3] Set **PWR OFF**
switch to **OFF**.
See FIG. 4 _____



REMOVE DEGROWTH DTU CIRCUIT PACKS AND POWER UNITS AND DISCONNECT CABLES (J68952A-1)

Issue 1	SEP 1997
234-353-030	DLP
PAGE 3 of 3	577

[1] See WARNING 1. Remove associated circuit pack from line equalizer panel for degrown DTU. See FIG. 1 and 2

[2] See WARNING 1. Remove associated circuit pack from protection switch panel for degrown DTU. See FIG. 1 and FIG. 3, Page 2

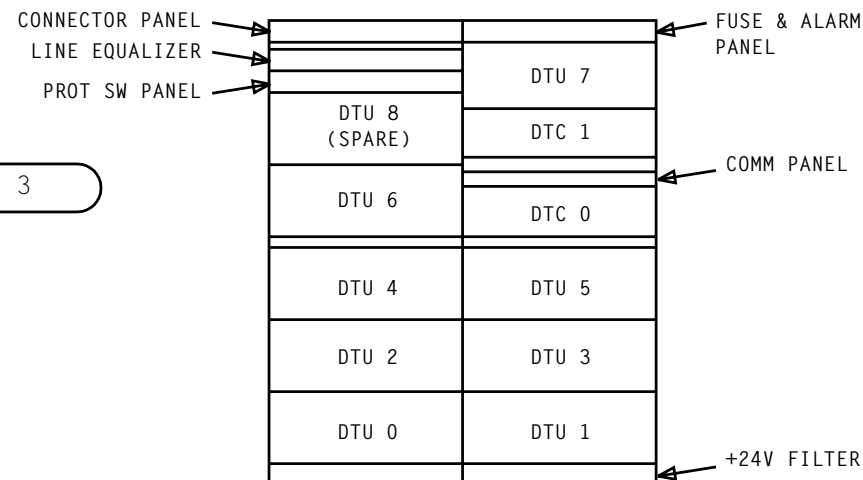
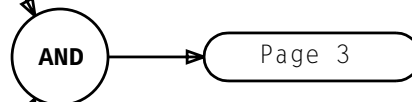
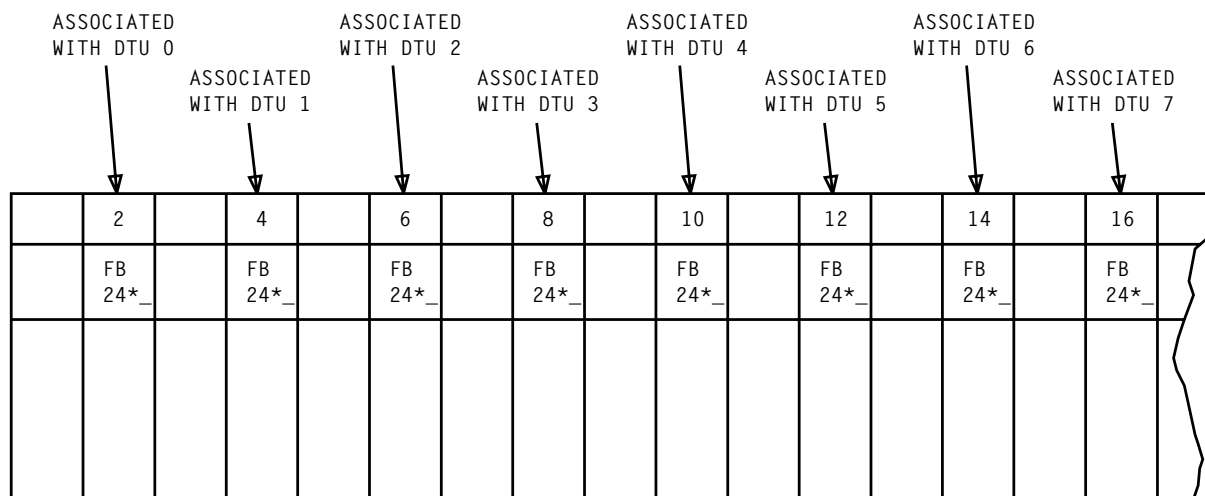


FIG. 1 – Digroup Terminal Frame – Front View



* TYPE OF FB 24 _ CIRCUIT PACKS TO BE USED IS DETERMINED BY CABLE DISTANCE FROM DTF TO DSX-1, LT-1 OR REPEATER BAY. SEE BELOW.

0 TO 219 FT FB 246
 220 TO 439 FT FB 247
 440 TO 655 FT FB 248

FIG. 2 – Line Equalizer Panel – Front View

REMOVE DEGROWTH DTU CIRCUIT PACK, POWER UNITS AND DISCONNECT CABLES (J68952B-1)

WARNING 1	
<i>An antistatic wrist strap must be worn to prevent electrostatic discharge and possible damage to circuit packs while handling</i>	
Issue 1	SEP 1997
234-353-030	DLP
PAGE 1 of 3	578

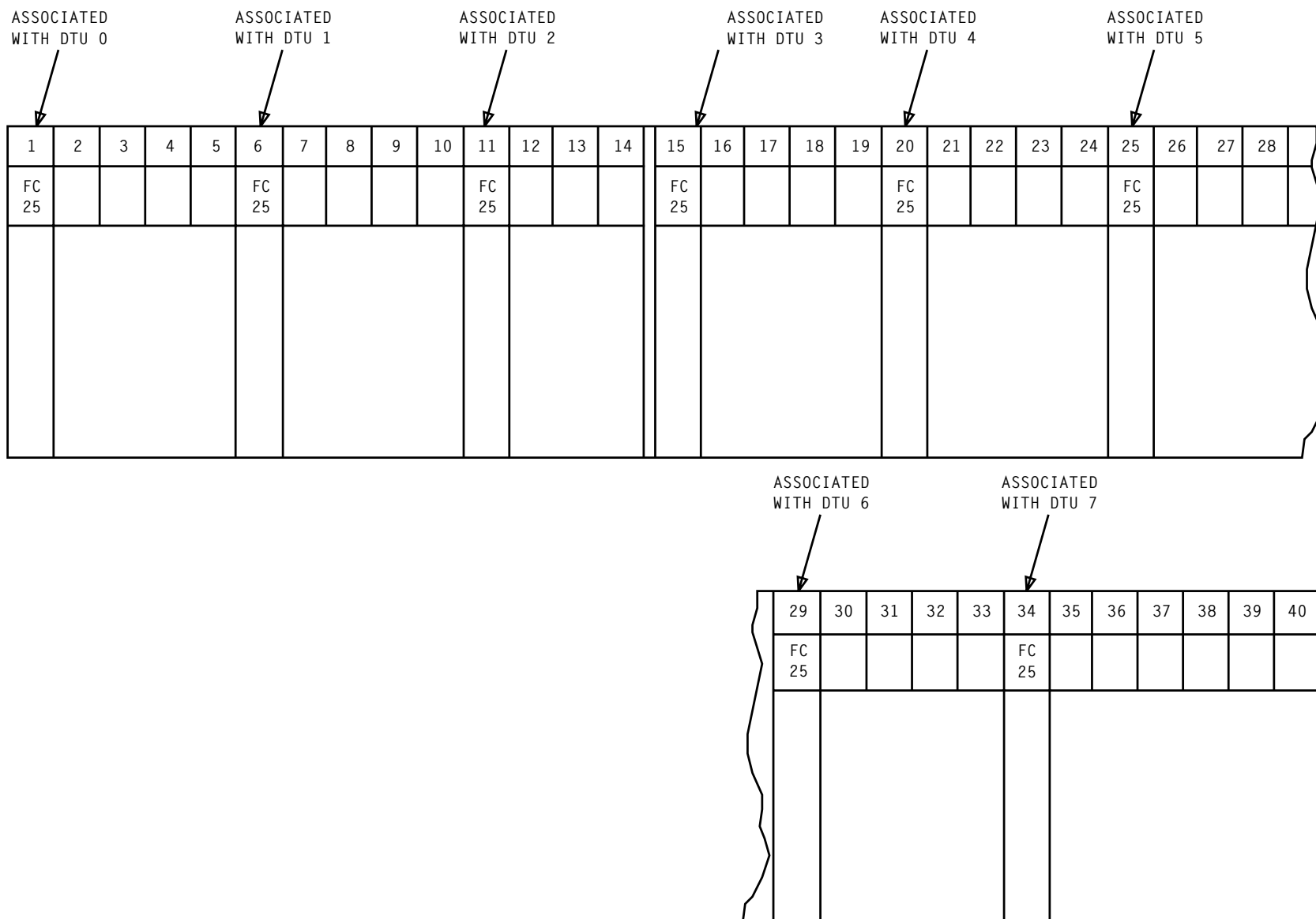


FIG. 3 – Protection Switch Panel – Front View

REMOVE DEGROWTH DTU CIRCUIT PACK, POWER UNITS AND DISCONNECT CABLES (J68952B-1)

Issue 1	SEP 1997
234-353-030	DLP
PAGE 2 of 3	578

[1] Determine location of ESU to be grown and its associated power converter using FIG. 1

[2] Select circuit packs per TABLE A for ESU to be grown

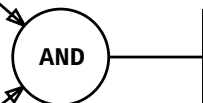


TABLE A		
ESU PLUG-IN CIRCUIT PACKS		
QUANTITY	NUMBER	NAME
1	NH1	TR Interface
1	NH2	Receive Path
1	NH3	Transmit Path
1	NH4	ESU Processor
2	NH5	Stretch/Compare
1	NH6	Tone Detector
1	NH7	ESU Controller Interface Scanner And Clock Interface
1	NH8	ESU Controller Interface Status And Maintenance Bus Interface
1	FB618	Coax Interface
1	142C	Power Unit

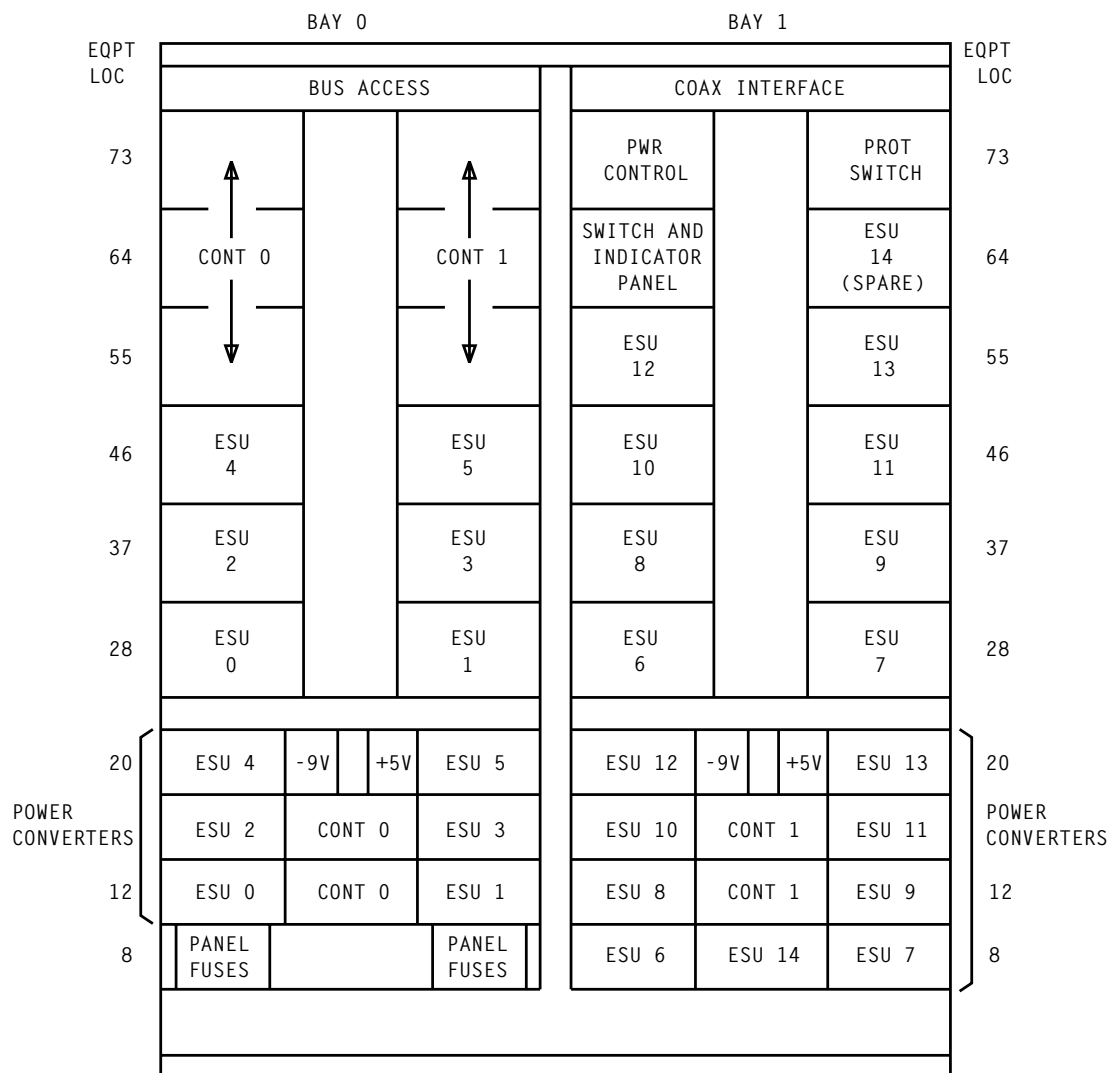


FIG. 1 – Echo Suppressor Terminal – Front View

[1] At EST fuse panel, remove **+140V** fuse (if installed) for growth ESU using FIG. 1

[2] Verify that power switch on growth ESU 142C power unit is to OFF position

[3] Install 142C power unit

[4] See WARNING 1. Install growth ESU circuit packs per FIG. 2

[5] Insert fuse removed in Step 1

[6] Set power switch on 142C power unit to ON position

ESU 0, 2, 4, 6, 8, 10, 12									ESU 1, 3, 5, 7, 9, 11, 13																						
NH6	NH5		NH5		NH4	NH2	NH1	NH3	NH8	NH7										NH7	NH8	NH3	NH1	NH2	NH4	NH5		NH5		NH6	
0 1	0 2	0 4		0 6	0 7	0 8	0 9	1 0	1 1										1 2	1 3	1 4	1 5	1 6	1 7	1 9		2 1		2 2		
DESIGNATIONS																															

FIG. 2 – ESU Circuit Packs

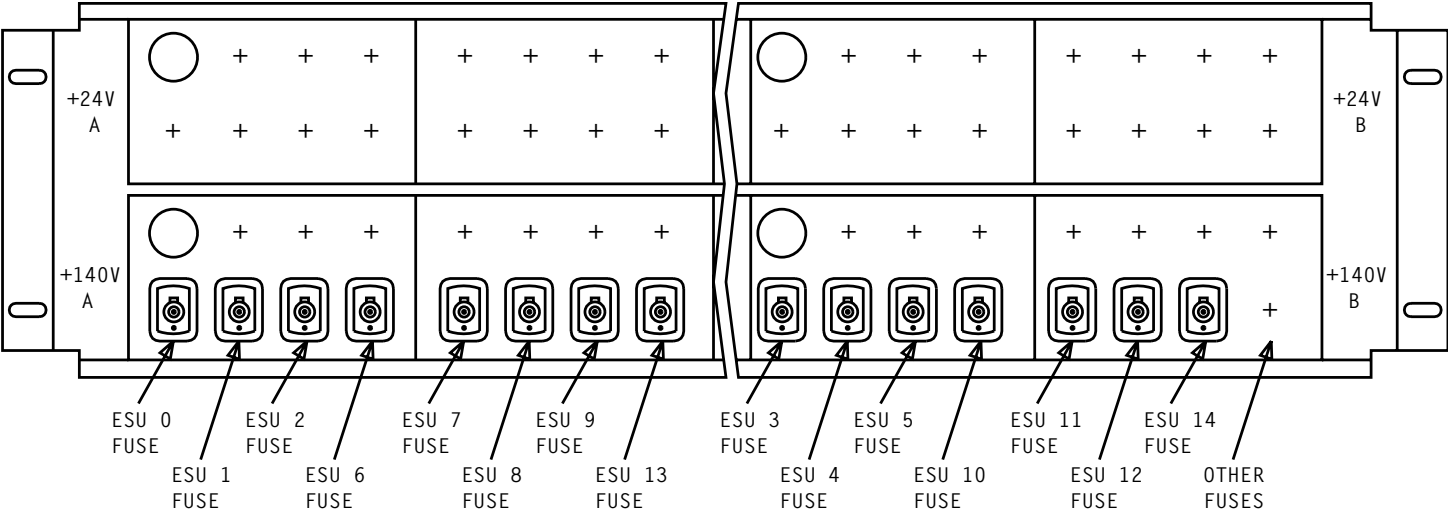


FIG. 1 – EST Fuse Panel – Front View

WARNING 1
An antistatic wrist strap must be worn to prevent electrostatic discharge and possible damage to circuit packs while handling

Issue 1	SEP 1997
234-353-030	DLP
PAGE 1 of 1	580

INSTALL GROWTH ESU CIRCUIT PACKS AND POWER UNIT

EQPT
LOC
80

	R(0) R(00) T(00) T(0)	
13	FB618/FB619	ESU 0
	R(1) R(01) T(01) T(1)	
15	FB618/FB619	ESU 1
	R(2) R(02) T(02) T(2)	
17	FB618/FB619	ESU 2
	R(3) R(03) T(03) T(3)	
19	FB618/FB619	ESU 3
	R(4) R(04) T(04) T(4)	
21	FB618/FB619	ESU 4
	R(5) R(05) T(05) T(5)	
23	FB618/FB619	ESU 5
	R(6) R(06) T(06) T(6)	
25	FB618/FB619	ESU 6
	R(0) R(10) T(10) T(0)	
27	FB618/FB619	ESU 7
	R(1) R(11) T(11) T(1)	
29	FB618/FB619	ESU 8
	R(2) R(12) T(12) T(2)	
31	FB618/FB619	ESU 9
	R(3) R(13) T(13) T(3)	
33	FB618/FB619	ESU 10
	R(4) R(14) T(14) T(4)	
35	FB618/FB619	ESU 11
	R(5) R(15) T(15) T(5)	
37	FB618/FB619	ESU 12
	R(6) R(16) T(16) T(6)	
39	FB618/FB619	ESU 13

EQPT
LOC
80

FIG. 1 – Location of T and R Cables and FB619/FB618 Packs

LOCATION OF T AND R DATA CABLES AND FB619/FB618 CIRCUIT PACKS

Issue 1	SEP 1997
234-353-030	DLP
PAGE 1 of 1	581

SUMMARY

Convert octal digits representing TSI clock information of entry output word 17 to decimal. Compare entry output data against office records. If entry data and office records do not agree, record for later use.

[1] See octal word 17 in entry output message

[2] Convert four leftmost octal digits of word 17 in entry output to binary digits and record

[3] Convert bits 14 through 19 to decimal TSI member number and record. See FIG. 1

[4] Note bit 13 and record for SPC assignment. See TABLE A

Octal to decimal conversion completed

Page 2

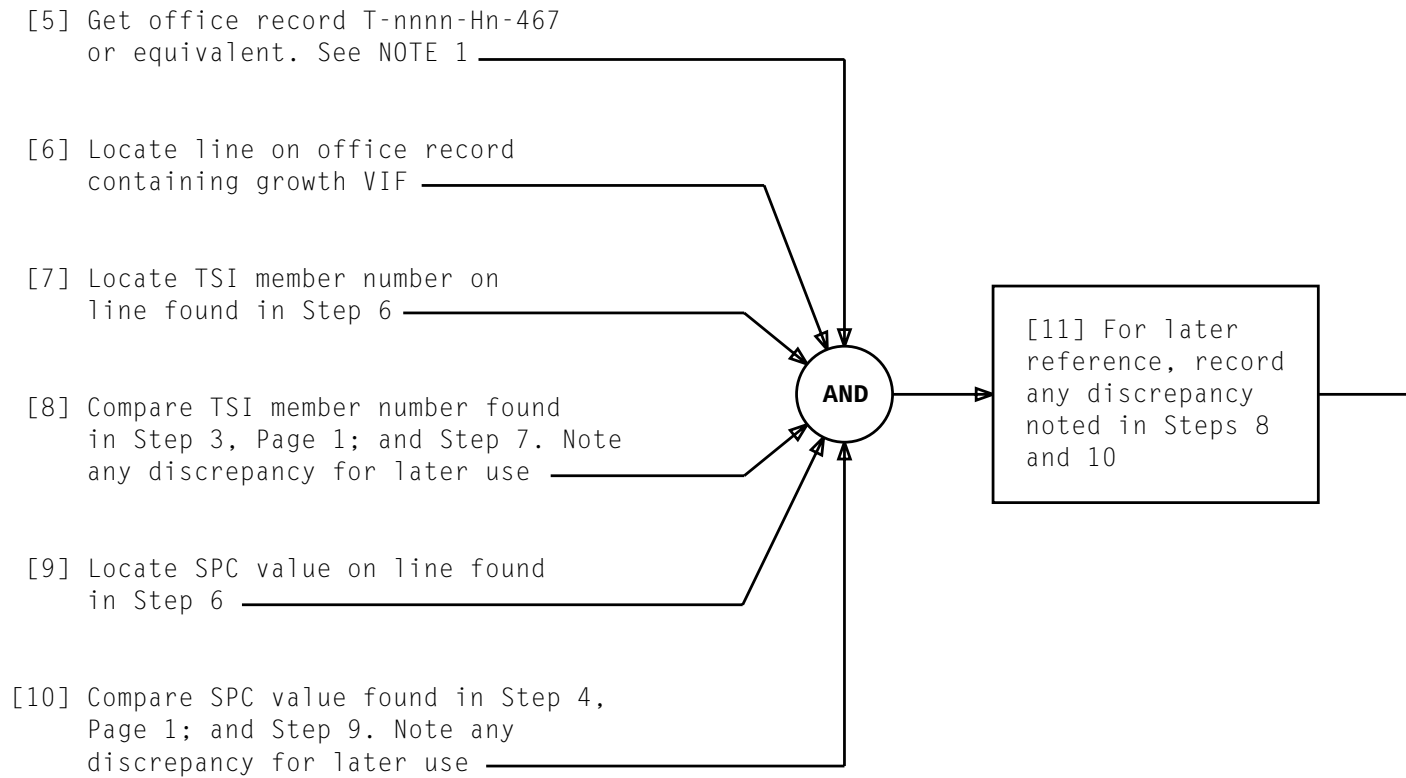
TABLE A	
BIT 13 VALUE	SPC ASSIGNED
0	0
1	1

entry data																												
octal output	0				Y				Y				Y				Y				Y				Y			
bit position	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0				
binary values	0	0	0	0	U	U	U	U	U	U	Z	0	0	0	X	X	X	X	X	X	X	X	X	X				
					TSI MEMBER NUMBER							SPC 0/1																
					TSI SUPPLYING CLOCK TO THIS VIF																							

FIG. 1 – Entry Data Word 17 Layout

VERIFY TSI SUPPLYING CLOCK TO GROWTH VIF

Issue 1	SEP 1997
234-353-030	DLP
PAGE 1 of 2	582



VERIFY TSI SUPPLYING CLOCK TO GROWTH VIF

NOTE 1 n = Office unique drawing number		
Issue 1	SEP 1997	
234-353-030	DLP	
PAGE 2 of 2	582	

[1] At bay 1 of TSI, remove looping terminator from TSI port that will connect to growth DIU. See FIG. 1

[2] At TSI frame, connect T and R coaxial cables to TSI port identified in Step 1. See FIG. 1

[3] At DIF Protection Switch Relay pack, connect T and R coaxial cables to growth DIU output port. See FIG. 2

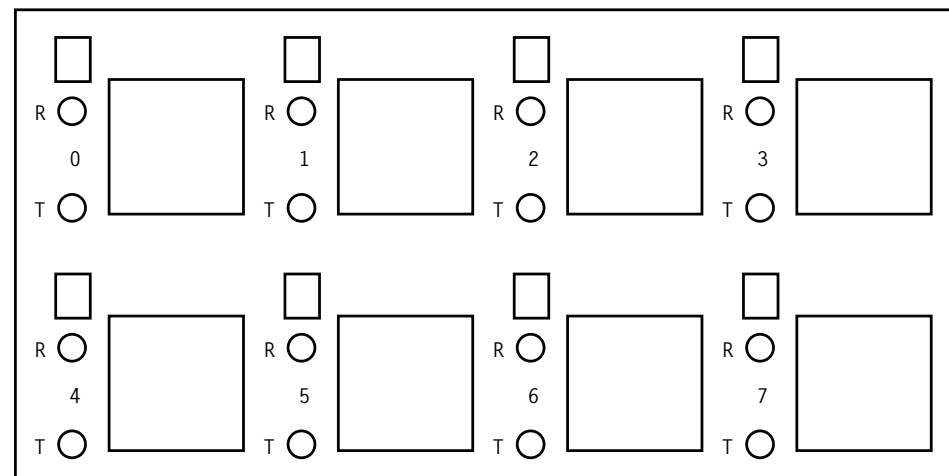
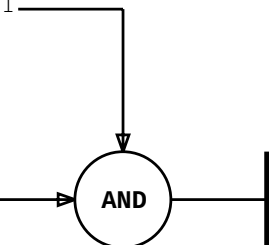


FIG. 1 – TSI Input/Output Ports

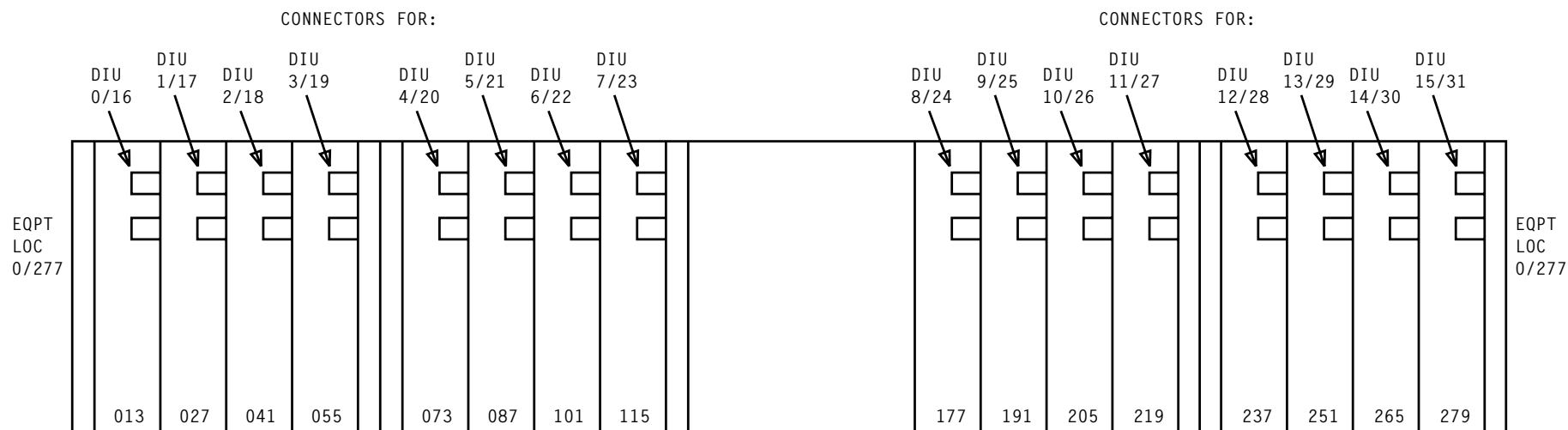


FIG. 2 – T and R Cable Assignments at Protection Switch Relay Packs of DIF (Bay 0 or 2)

REMOVE TSI PORT LOOP AND CONNECT DATA CABLES TO TSI PORT AND GROWTH DIU

Issue 1	SEP 1997
234-353-030	DLP
PAGE 1 of 1	583

SUMMARY

Convert octal digits representing TSI information of entry output word(s) to decimal. Compare entry output data against office records. If entry data and office records

do not agree, record discrepancies for later use. If this procedure is used as a result of a DIF growth, repeat procedure for each DIU being equipped.

[1] Identify octal word being verified for DIU in entry output message using TABLE A

[2] See FIG. 1 for word layout

[3] Convert the four rightmost octal digits in word identified in Step 1 to binary digits and record

[4] Convert bits 0 through 2 to decimal TSI port number and record

[5] Record bit 3 for SPC assignment

[6] Convert bits 4 through 9 to decimal TSI member number and record

Octal to decimal conversion completed

AND

Page 2

TABLE A

DIU	OCTAL WORD	DIU	OCTAL WORD
0	16	16	36
1	17	17	37
2	20	18	40
3	21	19	41
4	22	20	42
5	23	21	43
6	24	22	44
7	25	23	45
8	26	24	46
9	27	25	47
10	30	26	50
11	31	27	51
12	32	28	52
13	33	29	53
14	34	30	54
15	35	31	55

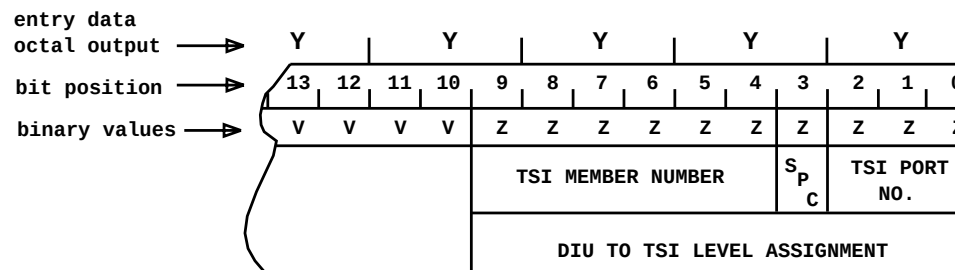
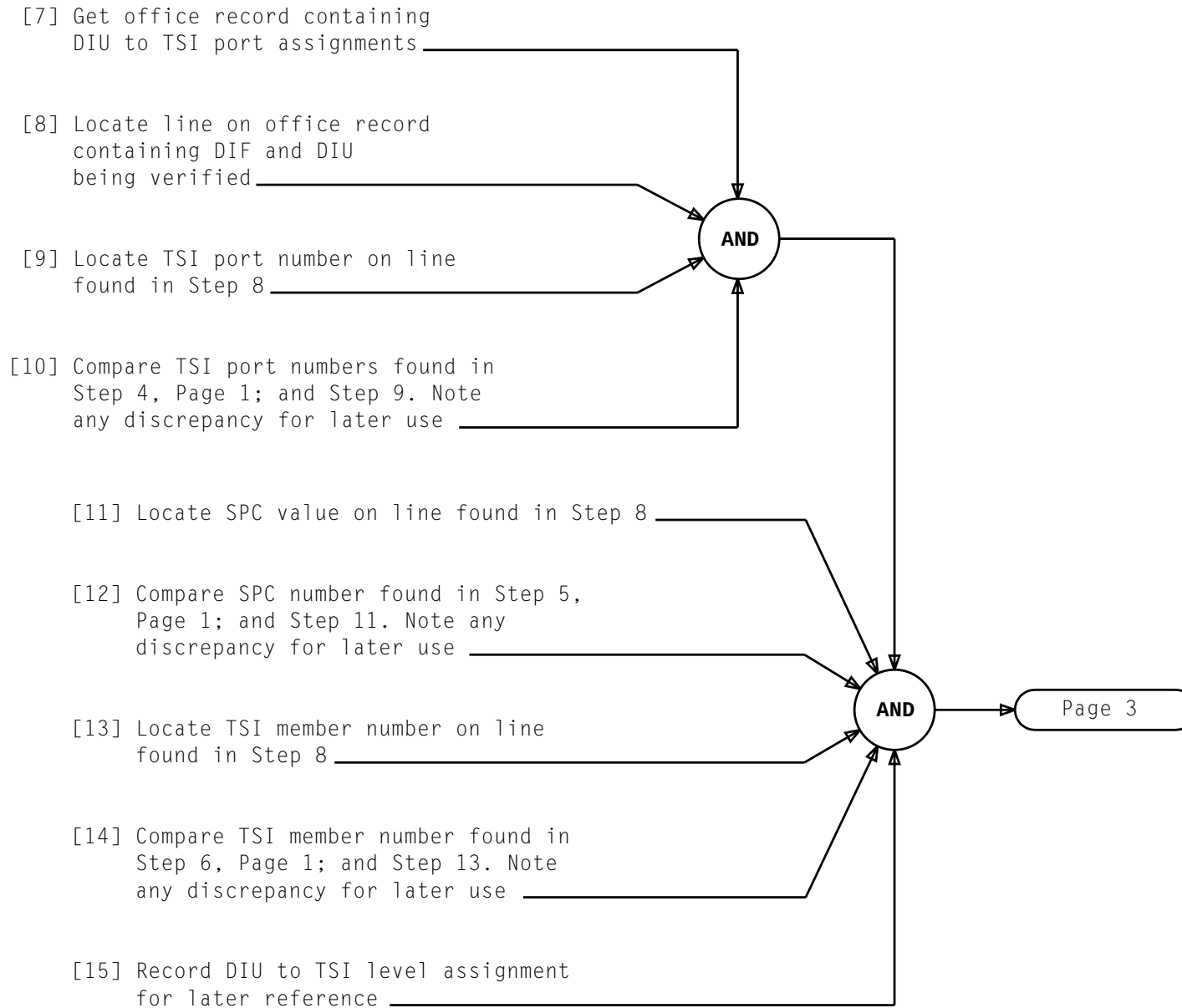


FIG. 1 – Word Layout Pertaining to TSI Port Assignment

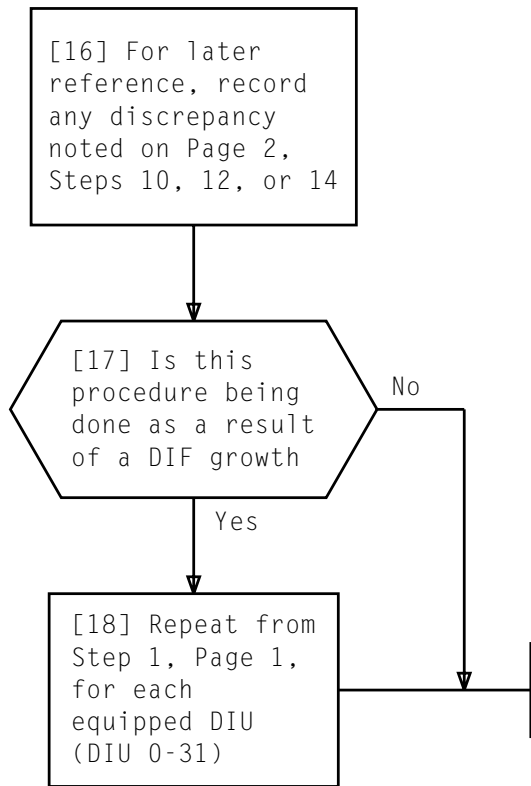
VERIFY DIU TO TSI PORT ASSIGNMENT

Issue 1	SEP 1997
234-353-030	DLP
PAGE 1 of 3	584



VERIFY DIU TO TSI PORT ASSIGNMENT

Issue 1	SEP 1997
234-353-030	DLP
PAGE 2 of 3	584



SUMMARY

Using TGR SME verify input message, call up terminal unit UT translator and verify that resulting octal output data, when converted, agrees with office records. Refer to entry word

explanations in TABLE C, Page 7 or TABLE D, Page 9, as required, for assistance in interpreting specific data fields. If it is determined that UT or SLC entry data is in error, word change(s) may be required.

[1] At 1B MTC terminal, enter SME verify message per TABLE A for terminal unit to be added

[2] Does output data [TABLE B] indicate correct number for TGR frame and growth terminal unit

Yes

Page 2

No

[3] Determine cause and resolve; repeat from Step 1

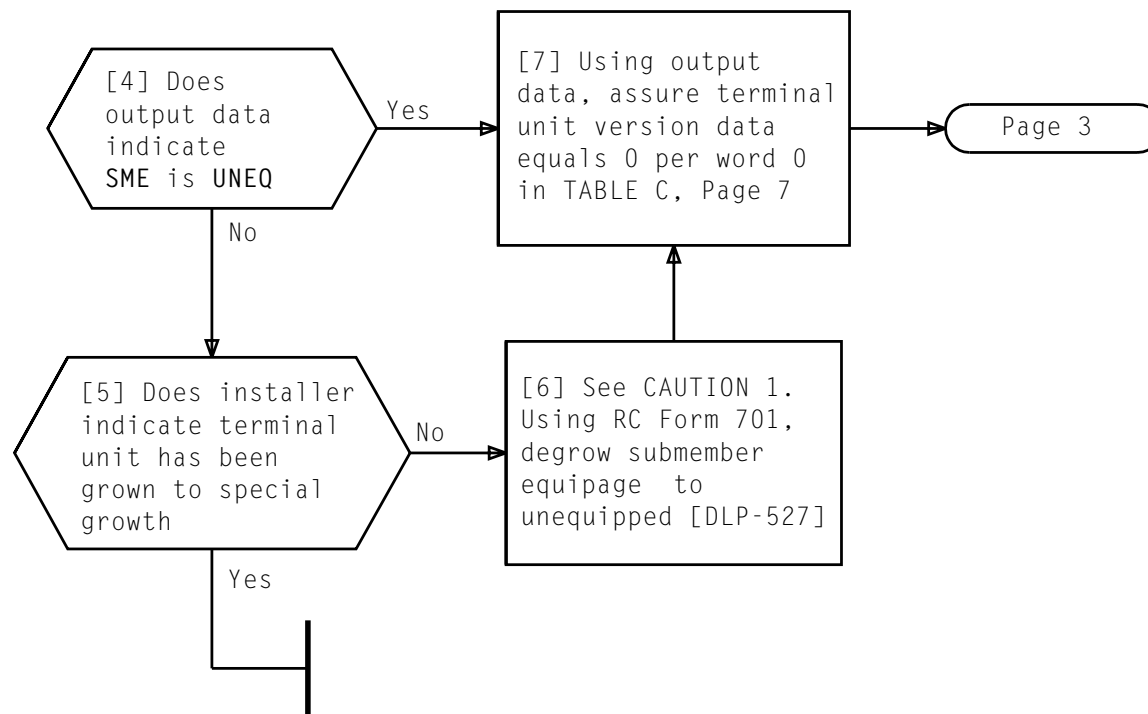
TABLE A

MESSAGE NUMBER	INPUT MESSAGE
1	VER:UTYPE:TGR a,SME b!
a = Member number of TGR b = Submember index number	
Terminal Unit	Index Number
0	32
1	33
2	34
3	35
4	36
5	37
6	38
7	39
8	40
9	41
10	42
11	43
12	44
13	45
14	46
15	47

TABLE B

MESSAGE NUMBER	OUTPUT MESSAGE
1	VER:UTMN;OPT(SME),CUR: FLN a, UTYN TGR, MEMN b, ME j, SUBMEM c, SME i, TERM d, ADR UTYPE DATA e (WORD 0) (WORD 3) TERM USE k MATE USE k TERM NUM f TGR g SLC TRANS DATA ADR SLC DATA h (WORD 0) (WORD 3)
a = Floor location number b = Member number of TGR c = Index number of growth terminal unit d = Growth terminal unit number e = Starting octal address of UTYPE DATA f = Submember number of mate terminal unit g = Member number of TGR containing mate terminal unit h = Starting address of SLC DATA i = UNEQ or SGRO j = UNEQ or OPER k = DOM or INTL	

Issue 1	SEP 1997
234-353-030	DLP
PAGE 1 of 9	585



CAUTION 1 <i>Depending on local procedures, supervisory or TELCO engineering approval must be obtained prior to performing any data changes</i>	
Issue 1	SEP 1997
234-353-030	DLP
PAGE 2 of 9	585

Using UTYPE DATA in output data
and office records:

[8] Verify TSN assignments [DLP-504] per
TABLE C, Pages 7 and 8, words 0, 1, and 2 for
domestic service or words 0 and 1 for
international service

Using output data:

[9] Verify that OPERATIONAL TYPE data
is set to correct value per
word 0 in TABLE C, Page 7

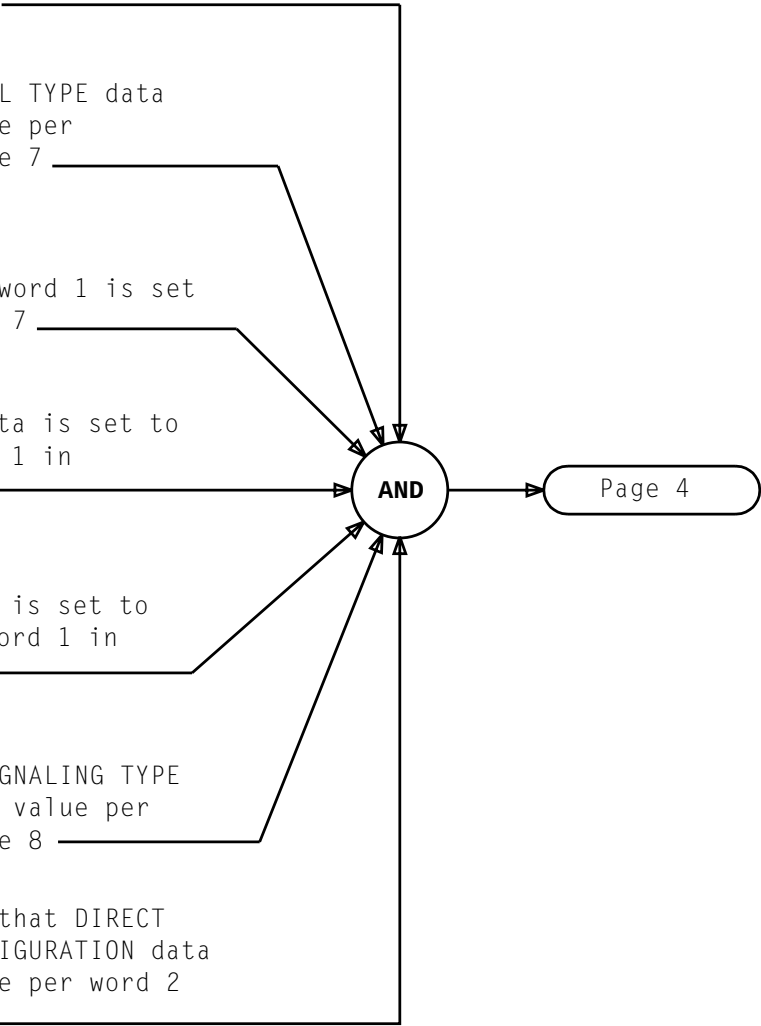
[10] Verify that bit 23 in word 1 is set
to 0 per TABLE C, Page 7

[11] Verify that SYNCPOL data is set to
correct value per word 1 in
TABLE C, Page 7

[12] Verify that STYPE data is set to
to correct value per word 1 in
TABLE C, Page 7

[13] Verify that GENERIC SIGNALING TYPE
data is set to correct value per
word 2 in TABLE C, Page 8

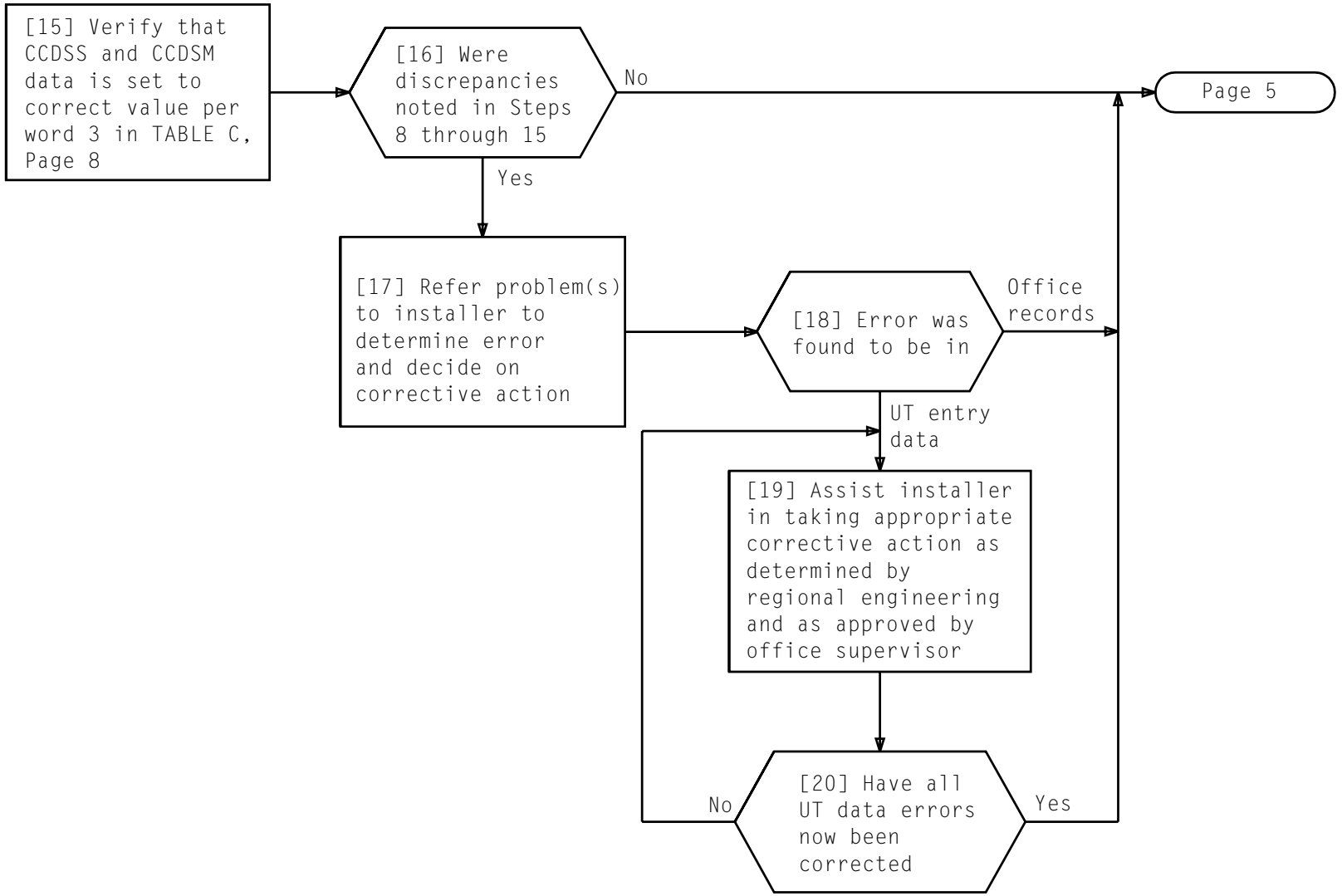
[14] See CAUTION 2. Verify that DIRECT
SIGNALING TRAFFIC CONFIGURATION data
is set to correct value per word 2
in TABLE C, Page 8



VERIFY TERMINAL UNIT DATA OF TGR UT TRANSLATOR

CAUTION 2
Incorrect setting
will affect
proper handling
of direct
signaling
traffic

Issue 1	SEP 1997
234-353-030	DLP
PAGE 3 of 9	585



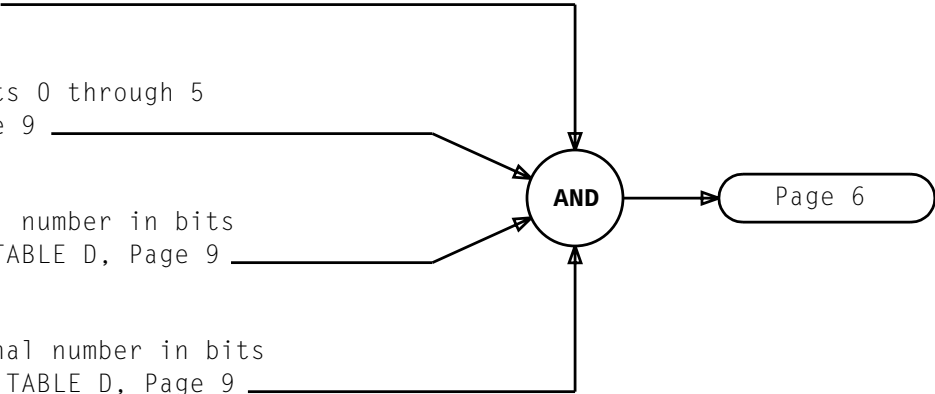
Using SLC TRANS DATA in output data:

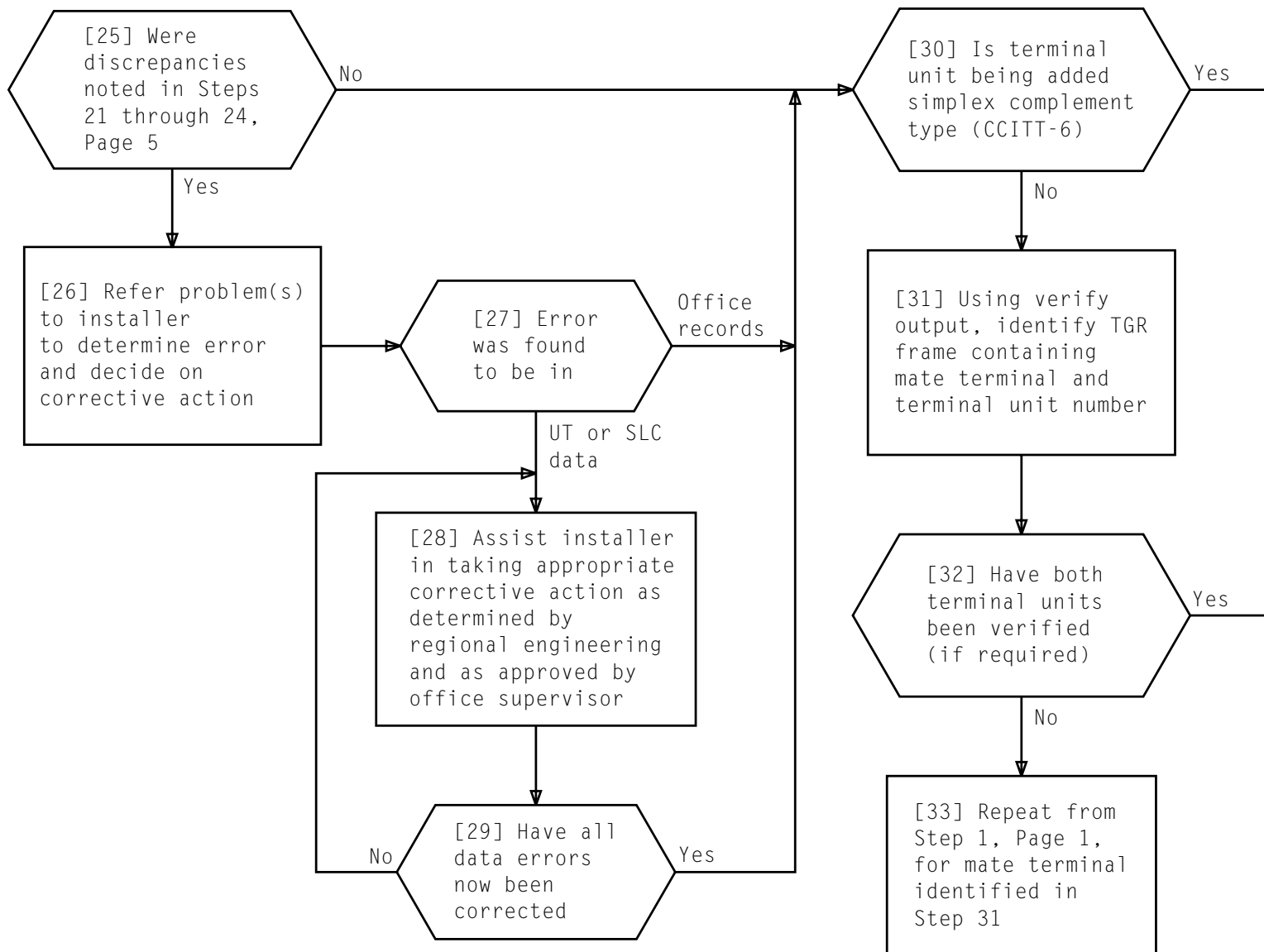
[21] Verify EMC data in bit 23 of
word 0 per TABLE D, Page 9

[22] Verify SLC type data in bits 0 through 5
of word 0 per TABLE D, Page 9

[23] Verify SLC primary terminal number in bits
0 through 7 of word 1 per TABLE D, Page 9

[24] Verify SLC secondary terminal number in bits
8 through 15 of word 1 per TABLE D, Page 9





VERIFY TERMINAL UNIT DATA OF TGR UT TRANSLATOR

Issue 1	SEP 1997
234-353-030	DLP
PAGE 6 of 9	585

TABLE C

ENTRY WORD (OCTAL)	UTYPE DATA AND WORD CONFIGURATION																								
0	entry data octal output	0			Y			Y			Y			Y			Y			Y					
	bit position	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
	binary values	0	0	0	0	W	W	W	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	TERMINAL UNIT VERSION NUMBER		OPERATIONAL TYPE					SP MEMBER NUMBER					MATRIX			SP ROW NUMBER						SP COLUMN NUMBER			
TERMINAL UNIT TRUNK SCANNER NUMBER																									
X...X = Converts to decimal SP info as reflected in office record drawing T-nnnn-H-460 or equivalent												Y = Variable octal numbers WWW 001 for A-link 011 for international F-link 110 for domestic F-link 101 for N-link													

1	entry data octal output	Y			Y			Y			Y			Y			Y			Y					
	bit position	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
	binary values	0	0	W	Z	Z	Z	Z	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	L O O P			S Y N C P O L	STYPE				SP MEMBER NUMBER					MATRIX			SP ROW NUMBER						SP COLUMN NUMBER		
PRIMARY VOICE FREQUENCY LINK TRUNK SCANNER NUMBER																									
W = 0 for control office (even sync) 1 for non-control office (odd sync)																									
X...X = Converts to decimal SP info as reflected in office record drawing T-nnnn-H-460 or equivalent																									
Y = Variable octal numbers																									
Z...Z = Converts to STYPE data as reflected in equipment list for CCIS frame												= 0 for Domestic Terminal Unit (IGFET Memory) (J99360A-1, List 1) 1 for Cost Reduced Terminal Bipolar Memory 2 for International Terminal Unit (IGFET Memory) (J99360A-1, List 1 and 2) 3 for International Terminal Unit (Bipolar Memory) (J99360C-1, List 1 and 2) 4 for Domestic Terminal Unit (Bipolar Memory) (J99360C-1, List 1 and 4) 5 for Domestic Terminal With Cryptographic Device, Terminal Modem Interface, and IGFET Memory (J99360C-1, List 5) 6 for Domestic Terminal With Cryptographic Device, Terminal Modem Interface, and Bipolar Memory (J99360C-1, List 5)													

TABLE C (Contd)

ENTRY WORD (OCTAL)	UTYPE DATA AND WORD CONFIGURATION																											
2	entry data																											
	octal output																											
	bit position																											
	binary values																											
	0				Y				Y				Y				Y				Y				Y			
	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0				
	0	0	0	Z	W	U	U	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
	GENERIC SIGNALING TYPE					DIR. SIG. CONFIG.		SP MEMBER NUMBER					MATRIX		SP ROW NUMBER						SP COLUMN NUMBER							
																					RESERVE VOICE FREQUENCY LINK TRUNK SCANNER NUMBER							
	X...X = Converts to decimal SP info as reflected in office record drawing T-nnnn-Hn-460 or equivalent																											
Y = Variable octal numbers																												
UU = 10 – Signaling Link associated with No. 2 STP																												
01 – Signaling Link will carry Direct Signaling Traffic																												
00 – Signaling Link will not carry Direct Signaling Traffic; also, associated with network service complex (N-link or F-link)																												
3	entry data																											
	octal output																											
	bit position																											
	binary values																											
	Y				Y				Y				Y				Y				Y							
	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0				
	X	X	X	X	W	W	W	W																				
	CCDSM				CCDSS				SIGNALING LINK COMPLEMENT INDEX								TGR NO.				TERMINAL NO.							
																					BACKUP TERMINAL							
	Y = Variable octal numbers																											
W...W = Converts to data set submember number (0-15); data set unit 0, data sets 1-8 equal submember numbers 0-7, data set unit 1, data sets 1-8 equal submember numbers 8-15																												
X...X = Converts to data set frame member number (0-15)																												

TABLE D																												
ENTRY WORD (OCTAL)	SLC ENTRY DATA AND WORD CONFIGURATION																											
0	entry data																											
	octal output																											
	bit position	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0			
	binary values	Z	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	X	X	X	X	X	X			
	E M C																			SLC TYPE								
Z = Emergency control end, 0 = near end or 1 = far end X...X = 000001 if terminal unit is load sharing, or = 000010 if terminal unit is synchronized reserve, or = 000000 if unit is unassigned = 000011 if terminal unit is simplex complement type (CCITT-6), or = 000100 if terminal unit is CCIS domestic																												
1	entry data																											
	octal output																											
	bit position	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0			
	binary values	0	0	0	0	0	0	0	0	Z	Z	Z	Z	Z	Z	Z	Z	X	X	X	X	X	X	X	X			
										TGR MEM. NO.				TERM NO.				TGR MEM. NO.				TERM NO.						
									SECONDARY TERMINAL NUMBER								PRIMARY TERMINAL NUMBER											
X...X = Converts to decimal first terminal unit number as reflected in appropriate office record drawing Z...Z = If the primary terminal unit being added is simplex complement type (CCITT-6) these bits will be set to 0 or converts to decimal second terminal unit number as reflected in appropriate office record drawing																												
2	Not used – Set to 0																											
3	Not used – Set to 0																											

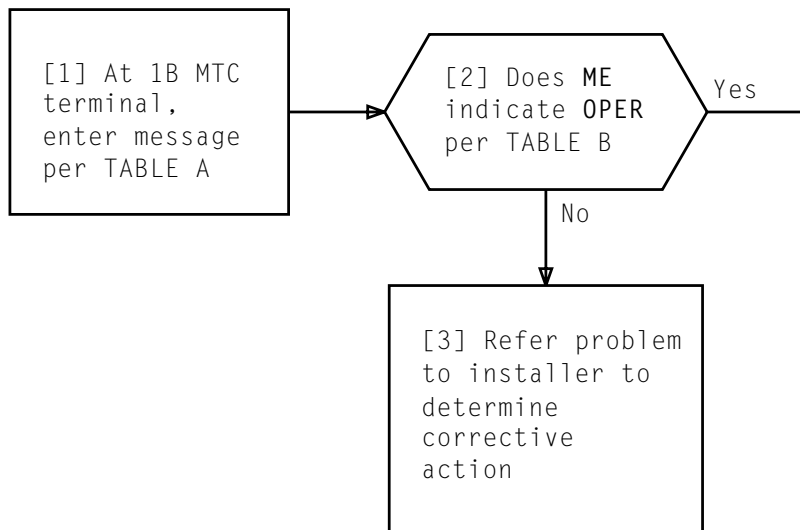


TABLE A	
MESSAGE NUMBER	INPUT MESSAGE
1	VER:UTYPE:CCDS a,ME!
a = Member number of CCDS frame	

TABLE B	
MESSAGE NUMBER	OUTPUT MESSAGE
1	VER:UTMN;OPT(ME),CUR: FLN a, UTYN CCDS, MEMN b, ME OPER,
a = Floor location number b = Member number of CCDS frame	

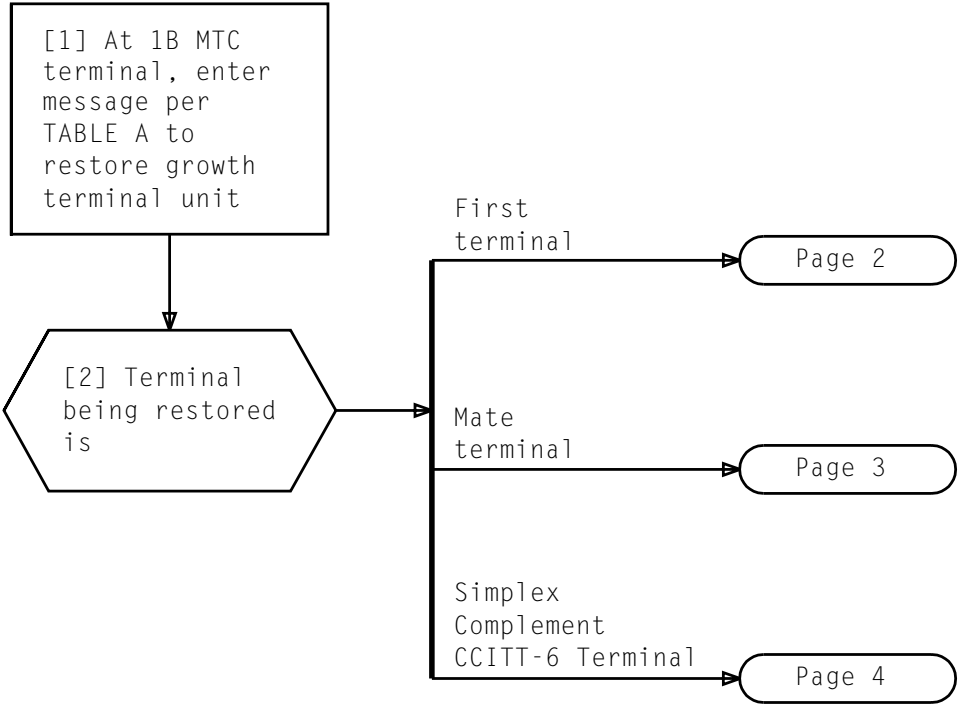
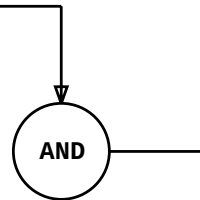


TABLE A	
MESSAGE NUMBER	INPUT MESSAGE
1	RST:TGR a,TER b!
a = Member number of Growth associated TGR	
b = Growth terminal unit number	

[3] Read NOTE 1. Observe output messages for printout per TABLE B indicating completion of terminal and signaling link restoral



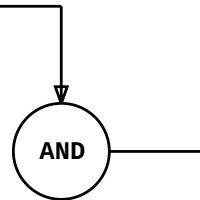
[4] If printout indicates restoral not successful, refer to installer

TABLE B												
MESSAGE NUMBER		OUTPUT MESSAGE										
FIRST TERMINAL UNIT	1	REPT:SLKSTAT;SLK a:b										
		SLK	STAT	LS	SLC	TGR	TER	STAT	DSM	DSS	VFL	STAT
	a	INS	d	e	f	h	INS	j	k	SELF	LOOPED	ACT
MATE TERMINAL UNIT	c	00S	d	e	g	i	00S	j	k	SELF	LOOPED	STBY
	a = Signaling link associated with growth terminal unit b = Reason for status change. Expect ELT* c = Signaling link associated with mate terminal unit d = Link state. Expect 19 for first terminal and 1 for mate terminal* e = Signaling link complement number f = TGR number containing growth terminal unit g = TGR containing mate terminal unit h = Growth terminal unit number i = Mate terminal unit number j = Associated data set frame member number k = Data set associated with growth terminal unit											
} if enhanced terminal												
* Additional message parameters, other than those specified, may be obtained from I/O manual												

NOTE 1
A series of output messages will be received during restoral process giving status of terminal unit being restored, associated signaling links and signaling link complement translator. TABLE B provides expected state output message which will be received indicating completion of restoral process

RESTORE TERMINAL UNIT TO SERVICE AND VERIFY STATUS OF TERMINAL AND SIGNALING LINK

[5] Read NOTE 2. Observe output messages for printout per TABLE C indicating completion of terminal and signaling link restoral



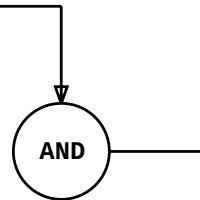
[6] If printout indicates restoral not successful, refer to installer

TABLE C											
MESSAGE NUMBER	OUTPUT MESSAGE										
1	REPT:SLKSTAT;SLK a:b										
	SLK	STAT	LS	SLC	TGR	TER	STAT	DSM	DSS	VFL	STAT
	a	INS	d	e	f	h	INS	j	k	SELF LOOPED	ACT
	c	INS	d	e	g	i	INS	j	k	SELF LOOPED	ACT
a = Signaling link associated with growth terminal unit b = Reason for status change. Expect ESUTO* c = Signaling link associated with mate terminal unit d = Link state. Expect 15 for both first and mate terminals* e = Signaling link complement number f = TGR number containing growth terminal unit g = TGR containing mate terminal unit h = Growth terminal unit number i = Mate terminal unit number j = Associated data set frame member number k = Data set associated with growth terminal unit } if enhanced terminal * Additional message parameters, other than those specified, may be obtained from I/O manual											

NOTE 2
A series of output messages will be received during restoral process giving status of terminal unit being restored, associated signaling links and signaling link complement translator. TABLE C provides expected state output message which will be received indicating completion of restoral process

RESTORE TERMINAL UNIT TO SERVICE AND VERIFY STATUS OF TERMINAL AND SIGNALING LINK

[7] Read NOTE 3. Observe output messages for printout per TABLE D indicating completion of terminal and signaling link restoral



[8] If printout indicates restoral not successful, refer to installer

TABLE D	
MESSAGE NUMBER	OUTPUT MESSAGE
1	REPT:SLKSTAT;SLK a:b SLK STAT LS SLC TGR TER STAT DSM DSS VFL STAT a INS c d e f INS g h SELF LOOPED ACT
a = Signaling link associated with growth terminal unit b = Reason for status change. Expect ELT* c = Link state. Expect 20* d = Signaling link complement number e = TGR containing growth terminal unit f = Growth terminal unit number g = Associated data set frame member number h = Data set associated with growth terminal unit } if enhanced terminal * Additional message parameters, other than those specified, may be obtained from I/O manual	

FIRST
TERMINAL
UNIT

NOTE 3	
A series of output messages will be received during restoral process giving status of terminal unit being restored, associated signaling links and signaling link complement translator. TABLE D provides expected state output message which will be received indicating completion of restoral process	
Issue 1	SEP 1997
234-353-030	DLP
PAGE 4 of 4	587

RESTORE TERMINAL UNIT TO SERVICE AND VERIFY STATUS OF TERMINAL AND SIGNALING LINK

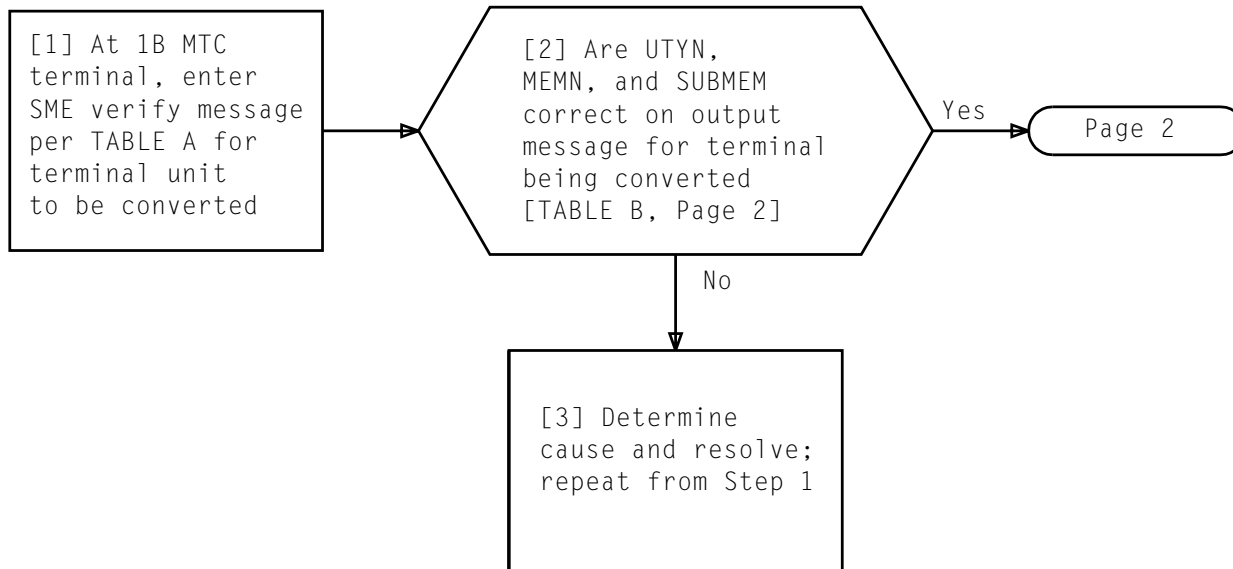


TABLE A	
MESSAGE NUMBER	INPUT MESSAGE
1	VER:UTYPE:TGR a,SME b!
a = Member number of TGR containing terminal to be converted b = Submember index number of terminal to be converted	
Terminal Unit	Index No.
0	32
1	33
2	34
3	35
4	36
5	37
6	38
7	39
8	40
9	41
10	42
11	43
12	44
13	45
14	46
15	47

Using verify output message:

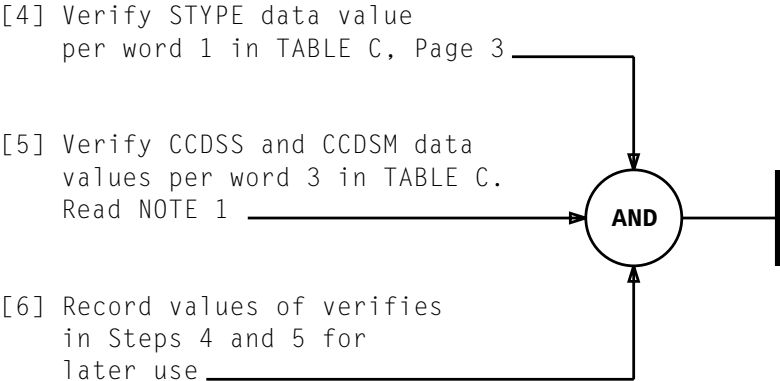


TABLE B	
MESSAGE NUMBER	OUTPUT MESSAGE
1	VER:UTMN;OPT(SME),CUR: FLN a, UTYN TGR, MEMN b, ME OPER, SUBMEM c, SME OPER, TERM d, ADR e (WORD 0) (WORD 3) TERM USE k MATE USE k TERM NUM f TGR g SLC TRANS DATA ADR h (WORD 0) (WORD 3) a = Floor location number b = Member number of TGR containing terminal unit to be converted c = Index number of terminal unit to be converted d = Terminal unit submember number to be converted e = Starting octal address of UTYPE DATA f = Submember number of mate terminal unit g = Member number of TGR containing mate terminal unit h = Starting address of SLC DATA k = DOM

NOTE 1

The CCDSS and CCDSM data of word 3 could be set to zeros and will be changed to correct values later in the conversion process

Issue 1	SEP 1997
234-353-030	DLP
PAGE 2 of 3	588

TABLE C

UTYPE DATA AND WORD CONFIGURATION

ENTRY WORD (OCTAL)	UTYPE DATA AND WORD CONFIGURATION																												
1	entry data octal output →	Y		Y		Y		Y		Y		Y		Y		Y													
	bit position →	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0				
	binary values →	0	0	W	Z	Z	Z	Z	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
		L	O	O	P		S	Y	N	C	P	O	L	STYPE				SP MEMBER NUMBER				MATRIX		SP ROW NUMBER				SP COLUMN NUMBER	
		PRIMARY VOICE FREQUENCY LINK TRUNK SCANNER NUMBER																											
		Y = Variable octal numbers Z...Z = Converts = 0 for Domestic Terminal Unit (IGFET Memory) (J99360A-1, List 1) to STYPE 1 for Cost Reduced Terminal (Bipolar Memory) data as 2 for International Terminal Unit (IGFET Memory) (J99360A-1, List 1 and 2) reflected 3 for International Terminal Unit (Bipolar Memory) (J99360C-1, List 1 and 2) in 4 for Domestic Terminal Unit (Bipolar Memory) (J99360C-1, List 1 and 4) equipment 5 for Domestic Terminal With Cryptographic Device, Terminal Modem Interface, and IGFET Memory list for (J99360C-1, List 5) CCIS frame 6 for Domestic Terminal With Cryptographic Device, Terminal Modem Interface, and BIPOLAR Memory (J99360C-1, List 5)																											
3	entry data octal output →	Y		Y		Y		Y		Y		Y		Y		Y		Y											
	bit position →	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0				
	binary values →	X	X	X	X	W	W	W	W	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V				
		CCDSM				CCDSS				SIGNALING LINK COMPLEMENT INDEX								TGR NO.		TERMINAL NO.									
		BACKUP TERMINAL																											
		W...W = Converts to data set submember number (0-15); data set unit 0, data sets 1-8 equal submember numbers 0-7, data set unit 1, data sets 1-8 equal submember numbers 8-15 X...X = Converts to data set frame member number (0-15) Y = Variable octal number																											

SUMMARY

Call up RC Form 801 on CRT. Using terminal, fill in blank fields on form to change terminal unit CCDSS and CCDSM data within the selected word of the TGR UT translator. Enter message; then verify inactive translations.

```
RC:FUNC;CHG;OPT(TRANS), ---:      TRANSID-----,
ORNU -----,
ENTRY -----, WORDNO -----,
SIZE --, DISP --,
BINOCT --,
NEWDATA -----,
OLDDATA -----,
REMARKS ----- !
```

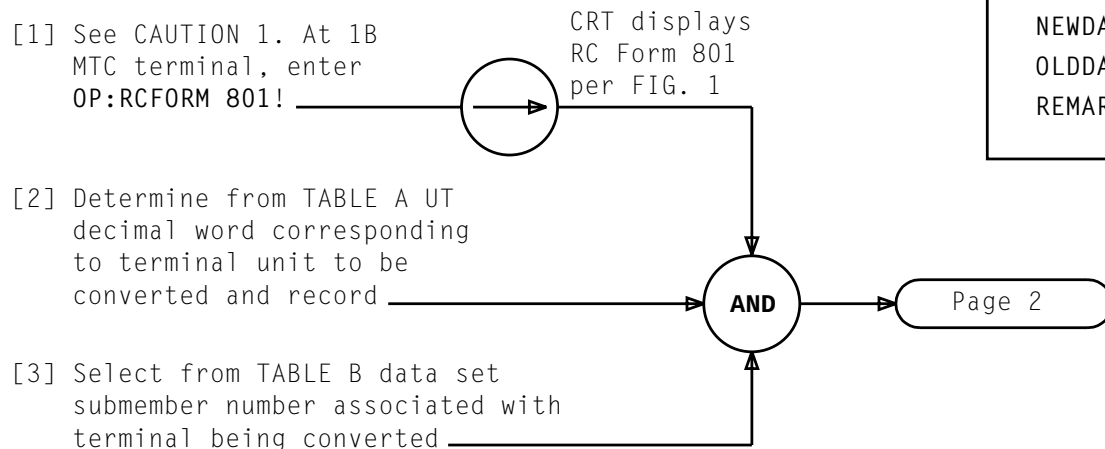


FIG. 1 – Blank RC Form 801

TABLE B																
DATA SET UNIT	0								1							
DATA SET NUMBER*	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
DATA SET SUBMEMBER NUMBER (CCDS)	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
* Associated TGR member number and Terminal number are stamped on data set mounting designation strip																

TABLE A			
TERMINAL UNIT	UT DECIMAL WORD	TERMINAL UNIT	UT DECIMAL WORD
0	20	8	52
1	24	9	56
2	28	10	60
3	32	11	64
4	36	12	68
5	40	13	72
6	44	14	76
7	48	15	80

CAUTION 1
Calling up RC form will cause all CRT data to be cleared

PERFORM FUNCTIONAL WORD CHANGE OF TGR TERMINAL CCDSS AND CCDSM DATA

Issue 1	SEP 1997
234-353-030	DLP
PAGE 1 of 3	589

[4] Read NOTES 1 and 2.
Using terminal and CRT
display of RC Form 801:
fill in blank fields on
RC Form 801 per TABLE C
and enter message

Page 3

TABLE C	
MESSAGE NUMBER	OUTPUT MESSAGE
1	RC:FUNC;CHG;OPT(TRANS),a: TRANSID b, ORNU c, ENTRY d, WORDNO e, SIZE f, DISP g, BINOCT h, NEWDATA i, OLDDATA j, REMARKS..... !
a = TST b = UTTGR c = RC order number d = Member number of TGR containing terminal unit being converted e = UT decimal word determined in Step 2 f = 8 g = 16 h = B i = XXXXXXXY CCDS submember number (in binary) associated with terminal being converted (see Step 3) Associated CCDS frame member number in binary (0-15) j = Contents in binary of current data in CCDSM and CCDS fields being changed	

NOTES

1. The quantity of binary bits to be entered as **NEWDATA** must be equal to decimal number entered as **SIZE**.
2. The quantity of binary bits to be entered as **OLDDATA** must be equal to quantity of bits entered as **NEWDATA**

**PERFORM FUNCTIONAL WORD CHANGE OF TGR TERMINAL CCDS AND
CCDSM DATA**

Issue 1	SEP 1997
234-353-030	DLP
PAGE 2 of 3	589

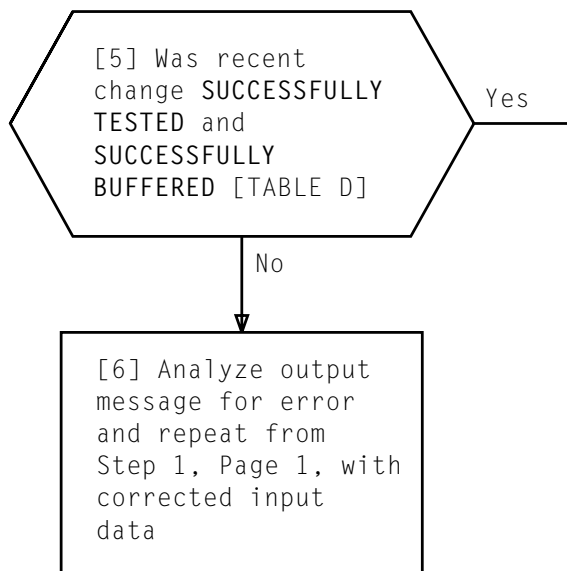


TABLE D	
MESSAGE NUMBER	OUTPUT MESSAGE
1	RC ORNU a SUCCESSFULLY TESTED RC ORNU a SUCCESSFULLY BUFFERED RC:FUNC;CHG;OPT(TRANS),BUF: TRANSID UTTGR, ORNU a, ENTRY b, WORDNO c, SIZE 8, DISP 16, BINOC B, NEWDATA d, OLDDATA e, REMARKS _ _ _ _ _ ! REPT:RC DUMP OF UNIT TYPE ENTRY AS IT WILL APPEAR AFTER THE MESSAGE IS ACTIVATED WORD 0 _ _ _ _ _ WORD 10 _ _ _ _ _
a = RC order number b = Member number of TGR containing terminal unit being converted c = UT decimal word determined in Step 2 d = XXXXXXXY CCDS submember number (in binary) associated with terminal being converted (see Step 3) Associated CCDS frame member number in binary (0-15) e = Contents in binary of current data in CCDSM and CCDS fields being changed	

SUMMARY

Call up RC Form 801 on CRT. Using terminal, fill in blank fields on form to identify and to change terminal unit STYPE data within the selected word of the TGR UT translator. Enter message, then verify inactive translations.

```
RC:FUNC;CHG;OPT(TRANS), ---:      TRANSID-----,
ORNU -----,
ENTRY -----, WORDNO -----,
SIZE --, DISP --,
BINOCT --,
NEWDATA -----,
OLDDATA -----,
REMARKS ----- !
```

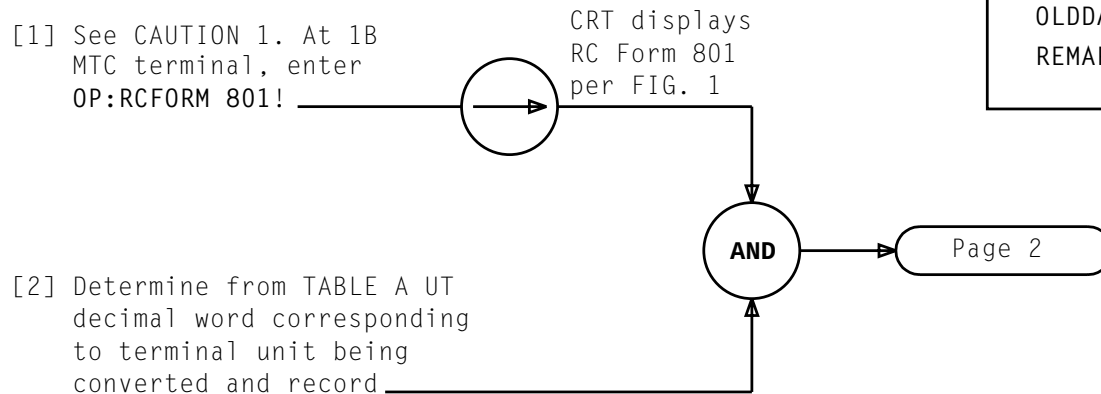


FIG. 1 – Blank RC Form 801

TABLE A			
TERMINAL UNIT	UT DECIMAL WORD	TERMINAL UNIT	UT DECIMAL WORD
0	18	8	50
1	22	9	54
2	26	10	58
3	30	11	62
4	34	12	66
5	38	13	70
6	42	14	74
7	46	15	78

CAUTION 1
Calling up RC form will cause all CRT data to be cleared

PERFORM FUNCTIONAL WORD CHANGE OF TGR TERMINAL UNIT STYPE DATA

[3] Determine from TABLE B
new data corresponding to
terminal unit type to be
converted _____

[4] Determine from TABLE C old
data corresponding to terminal
unit to be converted _____

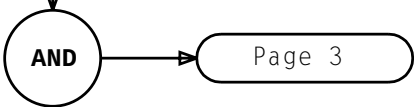


TABLE B	
TERMINAL UNIT TYPE	NEW DATA
* Domestic terminal with cryptographic device. Terminal modem interface and IGFET memory (J99360C-1, List 5)	0101
† Domestic terminal with cryptographic device. Terminal modem interface, and BIPOLAR memory (J99360C-1, List 5)	0110
* Identified by terminal unit being equipped with FA632 circuit packs † Identified by terminal unit being equipped with FA646B circuit packs	

TABLE C	
TERMINAL UNIT TYPE	OLD DATA
Domestic Terminal Unit (IGFET Memory) (J99360A-1, List 1)	0000
Domestic Terminal Unit (Bipolar Memory) (J99360C-1, List 1)	0001
Domestic Terminal Unit (Bipolar Memory) (J99360C-1, List 1 and 4)	0100

PERFORM FUNCTIONAL WORD CHANGE OF TGR TERMINAL
UNIT STYPE DATA

Issue 1	SEP 1997
234-353-030	DLP
PAGE 2 of 4	590

[5] Read NOTES 1 and 2.
Using terminal and CRT
display of RC Form 801:
fill in blank fields on
RC Form 801 per TABLE D
and enter message

Page 4

TABLE D	
MESSAGE NUMBER	OUTPUT MESSAGE
1	RC:FUNC;CHG;OPT(TRANS),a: TRANSID b, ORNU c, ENTRY d, WORDNO e, SIZE f, DISP g, BINOCT h, NEWDATA i, OLDDATA j, REMARKS..... !
a = TST b = UTTGR c = RC order number d = Member number of TGR containing terminal unit being converted e = UT decimal word determined in Step 2 f = 4 g = 17 h = B i = New data determined in Step 3 j = Old data determined in Step 4	

NOTES

1. The quantity of binary bits to be entered as NEWDATA must be equal to decimal number entered as SIZE.
2. The quantity of binary bits to be entered as OLDDATA must be equal to quantity of bits entered as NEWDATA

**PERFORM FUNCTIONAL WORD CHANGE OF TGR TERMINAL
UNIT STYPE DATA**

Issue 1	SEP 1997
234-353-030	DLP
PAGE 3 of 4	590

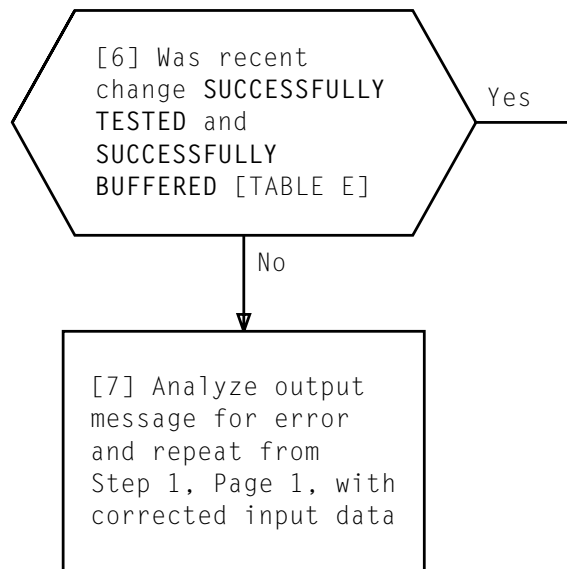


TABLE E					
MESSAGE NUMBER	OUTPUT MESSAGE				
1	RC ORNU a SUCCESSFULLY TESTED RC ORNU a SUCCESSFULLY BUFFERED RC:FUNC;CHG;OPT(TRANS),BUF: TRANSID UTTGR, ORNU a, ENTRY b, WORDNO c, SIZE 4, DISP 17, BINOCT B, NEWDATA d, OLDDATA e, REMARKS _ _ _ _ _ ! REPT:RC DUMP OF UNIT TYPE ENTRY AS IT WILL APPEAR AFTER THE MESSAGE IS ACTIVATED WORD 0 _____ _____ _____ WORD 10 _____ _____ _____				
a = RC order number b = Member number of TGR containing terminal unit being converted c = UT decimal word determined in Step 2 d = New data determined in Step 3 e = Old data determined in Step 4					

At TGR terminal unit to be converted:

[1] Loosen four mounting screws
on the MODEM

[2] Remove MODEM

[3] Carefully insert replacement
terminal modem interface unit

[4] Tighten four mounting screws

AND

[5] Terminal
being
converted is

J99360A-1

[6] See WARNING 1.
Install **FA632**
circuit packs at
equipment locations
06-11, 06-12, 02-11,
and 02-29

J99360C-1

[7] See WARNING 1.
Install **FA646B**
circuit packs at
equipment locations
06-10 and 02-10

WARNING 1
An antistatic
wrist strap must
be worn to
prevent
electrostatic
discharge and
possible damage
to circuit packs
while handling

Issue 1 SEP 1997

234-353-030 DLP

PAGE 1 of 1 591

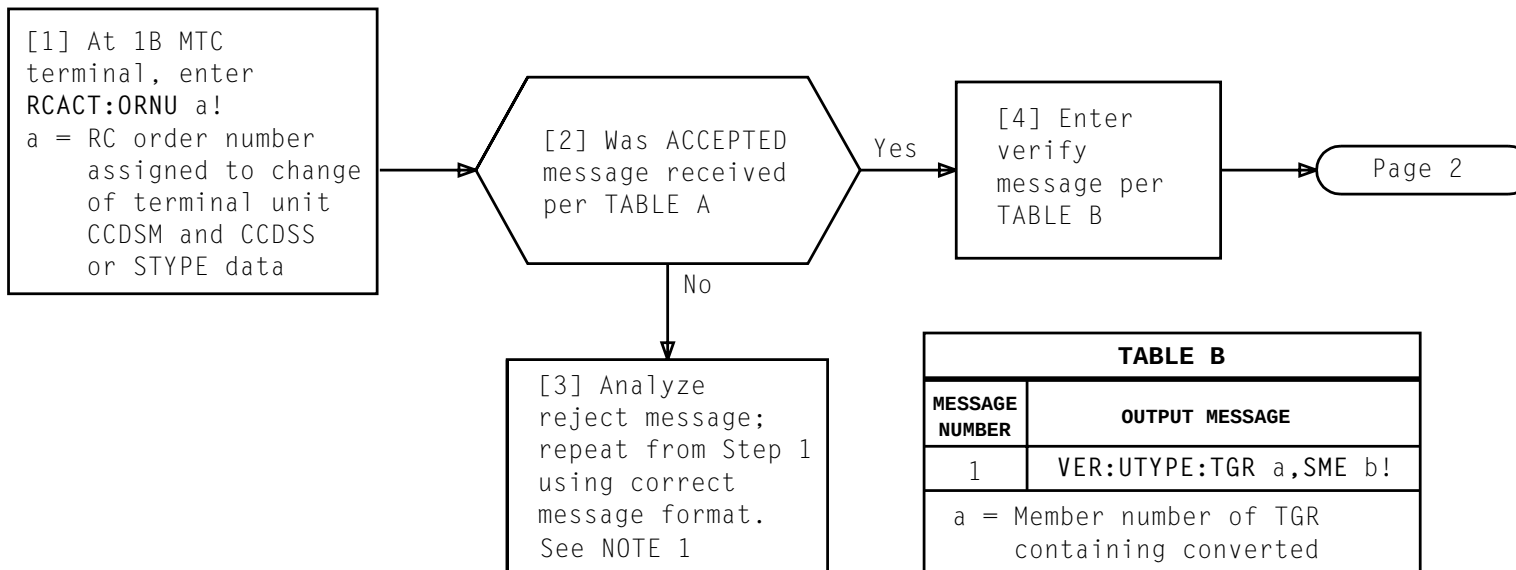


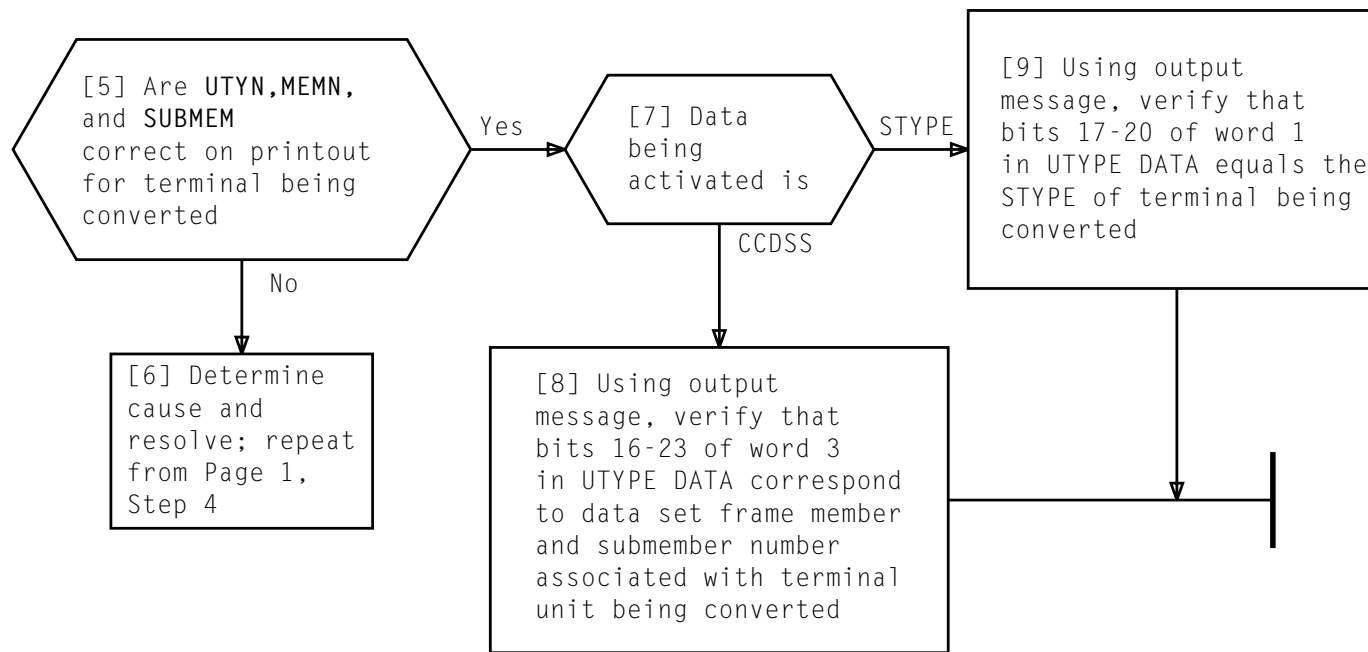
TABLE A	
MESSAGE NUMBER	INPUT MESSAGE
1	RC ORNU a ACCEPTED FOR ACT STATE
a = RC order number	

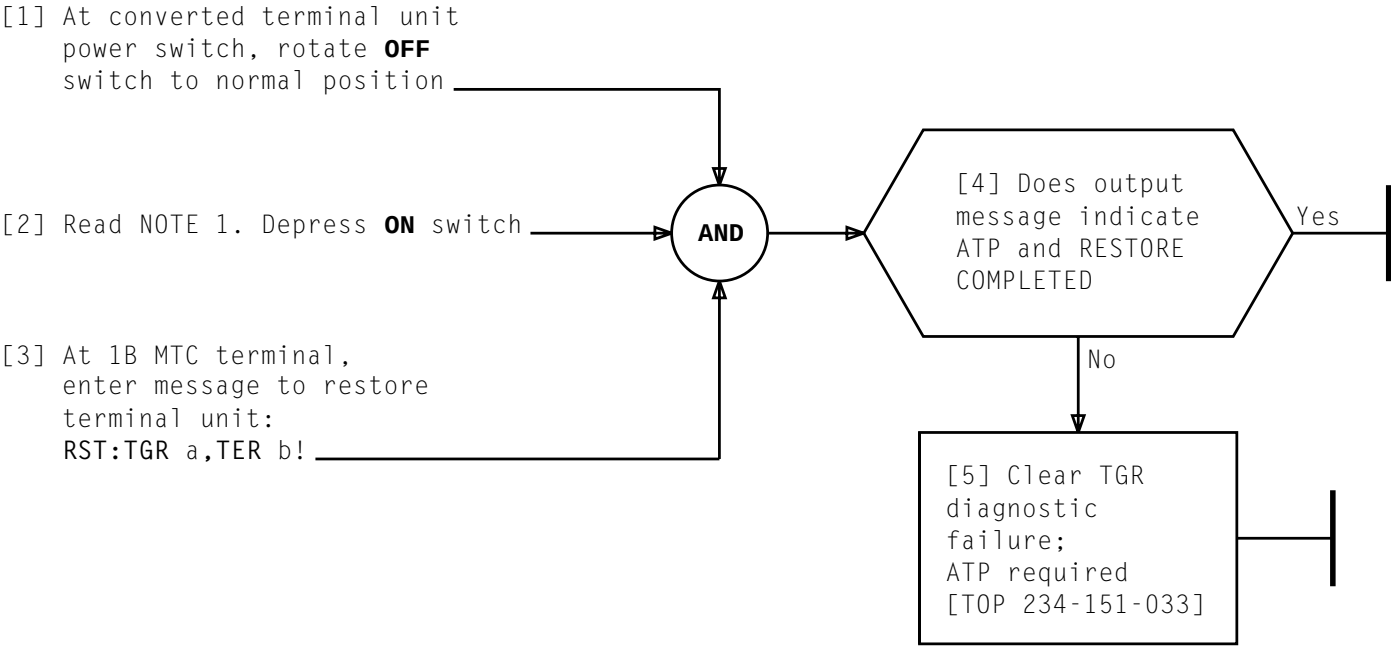
TABLE B	
MESSAGE NUMBER	OUTPUT MESSAGE
1	VER:UTYPE:TGR a,SME b!
a = Member number of TGR containing converted terminal	
b = Submember index number	
Terminal Unit	Index No.
0	32
1	33
2	34
3	35
4	36
5	37
6	38
7	39
8	40
9	41
10	42
11	43
12	44
13	45
14	46
15	47

NOTE 1
Reject could
result from
other than
message format
error

ACTIVATE TGR TERMINAL CCDSM, CCDSS, AND STYPE DATA

Issue 1	SEP 1997
234-353-030	DLP
PAGE 1 of 2	592





POWER UP CONVERTED TERMINAL AND RESTORE TO SERVICE

NOTE 1 Operation of ON switch will cause diagnostic to be run			
Issue 1		SEP 1997	
234-353-030			DLP
PAGE 1 of 1			593

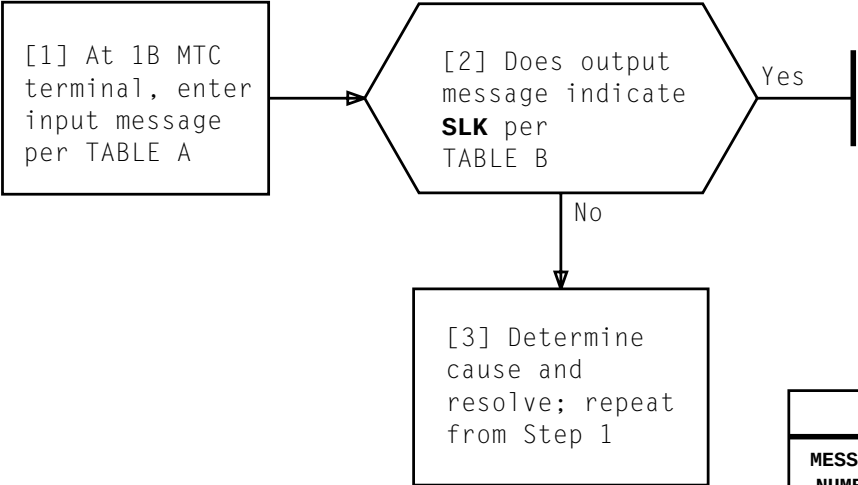


TABLE A	
MESSAGE NUMBER	INPUT MESSAGE
1	OP:SLKSTAT;SLK ab!
a = Member number of TGR containing converted terminal	
b = Submember number of converted terminal	

TABLE B											
MESSAGE NUMBER	OUTPUT MESSAGE										
1	REPT:SLKSTAT;SLK a;b										
FIRST TERMINAL UNIT	SLK	STAT	LS	SLC	TGR	TER	STAT	DSM	DSS	VFL	STAT
	a	INS	d	e	f	h	INS	j	k	m	ACT/STBY
MATE TERMINAL UNIT										m	ACT/STBY
	c	INS	d	e	g	i	INS	j	l	n	ACT/STBY
										n	ACT/STBY
a = Signaling link associated with converted terminal unit											
b = Reason for status change. Expect ESUTO											
c = Signaling link associated with mate terminal											
d = Link state. Expect 15 for both first and mate terminals											
e = Signaling link complement number											
f = TGR frame member number containing converted terminal unit											
g = TGR containing mate terminal											
h = First terminal unit number											
i = Mate terminal unit number											
j = Associated data set frame member number											
k = Data set associated with converted terminal unit											
l = Data set associated with mate terminal											
m = VFL CIN associated with converted terminal											
n = VFL CIN associated with mate terminal											

1. Verify that data set battery switch is set to ON.
(The switch is on when the rocker is depressed toward the white dot)

NOTE: Data set must be removed from mounting for access to battery switch.

2. Verify data set options; at data set front panel:

- 2.1. Place **TEST/CMD** switch in **CMD**

Response: Alphanumeric display indicates **MDCK** or **DSAB**

- 2.2. Operate and hold **BWD/FWD** switch in **FWD** until alphanumeric display indicates **DSOP**

Response: Alphanumeric display indicates **DSOP**

- 2.3. Depress **EXEC**

Response: Alphanumeric display indicates **OP**** with ****** flashing

NOTE: The options for 2048A data set are A2, B1, C5, D7, and E5.

- 2.4. Operate and hold **-/+** in **+** and the installed options will appear in order on the alphanumeric display

Response: Alphanumeric display indicates all installed options in sequence

- 2.5. If data set options indicated are not correct: set correct options in 2048A data set [DLP-600]

3. Verify network address:

- 3.1. Assure **TEST/CMD** switch in **CMD**

Response: Alphanumeric display indicates **MDCK** or **DSAB**

- 3.2. Operate and hold **BWD/FWD** switch in **BWD** until alphanumeric display indicates **DSNA**

Response: Alphanumeric display indicates **DSNA**

- 3.3. Depress **EXEC**

Response: Alphanumeric display indicates **NA01**

- 3.4. If network address is not set to NA01: set network address to correct value [DLP-601]

- 3.5. Place **TEST/CMD** switch in normal position

Response: Alphanumeric display returns to normal indication

NOTE: Expected display will be **FA** (facility failure).

End of procedure

CHECK 2048A DATA SET OPTIONS AND SWITCH SETTINGS

Issue 1	SEP 1997
234-353-030	DLP
PAGE 1 of 1	595

List of equipment required to convert standard terminal unit to enhanced operation:

1. One J99360CB-1 terminal modem interface unit equipped with

- 1 **AR924** Circuit Pack
- 1 **AR925** Circuit Pack
- 1 **AR927** Circuit Pack
- 1 **AR928** Circuit Pack
- 1 **AR929** Circuit Pack
- 1 **AR930** Circuit Pack
- 1 **20851** Power Pack

2. Additional terminal unit memory packs required:

- A. For J99360A terminal unit
 - 4 – **FA632** circuit packs
- B. For J99360C terminal unit
 - 2 – **FA646B** circuit packs

3. Terminal unit to data set cabling

- 1 – M25A cord
- 1 – M37A cord

End of procedure

EQUIPMENT REQUIRED TO CONVERT ONE TERMINAL UNIT TO ENHANCED OPERATION

Issue 1	SEP 1997
234-353-030	DLP
PAGE 1 of 1	596

1. Place **TEST/CMD** switch in **CMD**.

Response: Alphanumeric display indicates **MDCK** or **DSAB**.

2. Operate and hold **BWD/FWD** switch in **FWD** until alphanumeric display indicates **MTCE**.

Response: Alphanumeric display indicates **MTCE**.

3. Depress **EXEC**.

Response: Alphanumeric display indicates **MC/I**.

4. Depress **EXEC**.

Response: Display changes to **MC/0**.

5. Place **TEST/CMD** switch in normal position.

Response: Alphanumeric display returns to normal indication.

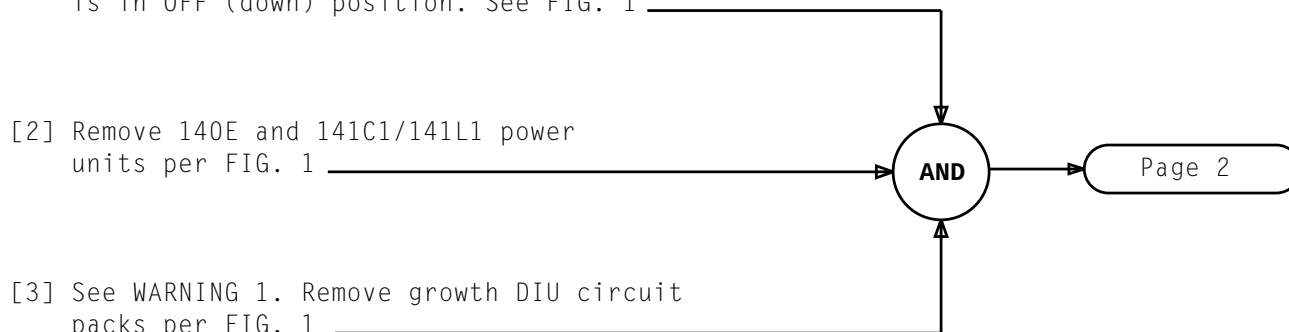
STOP EXECUTION OF CONTINUOUS MODEM TEST

Issue 1	SEP 1997
234-353-030	DLP
PAGE 1 of 1	597

[1] At degrowth DIU, assure that **UNIT** power switch is in OFF (down) position. See FIG. 1

[2] Remove 140E and 141C1/141L1 power units per FIG. 1

[3] See WARNING 1. Remove growth DIU circuit packs per FIG. 1



WARNING 1
An antistatic wrist strap must be worn to prevent electrostatic discharge and possible damage to circuit packs while handling

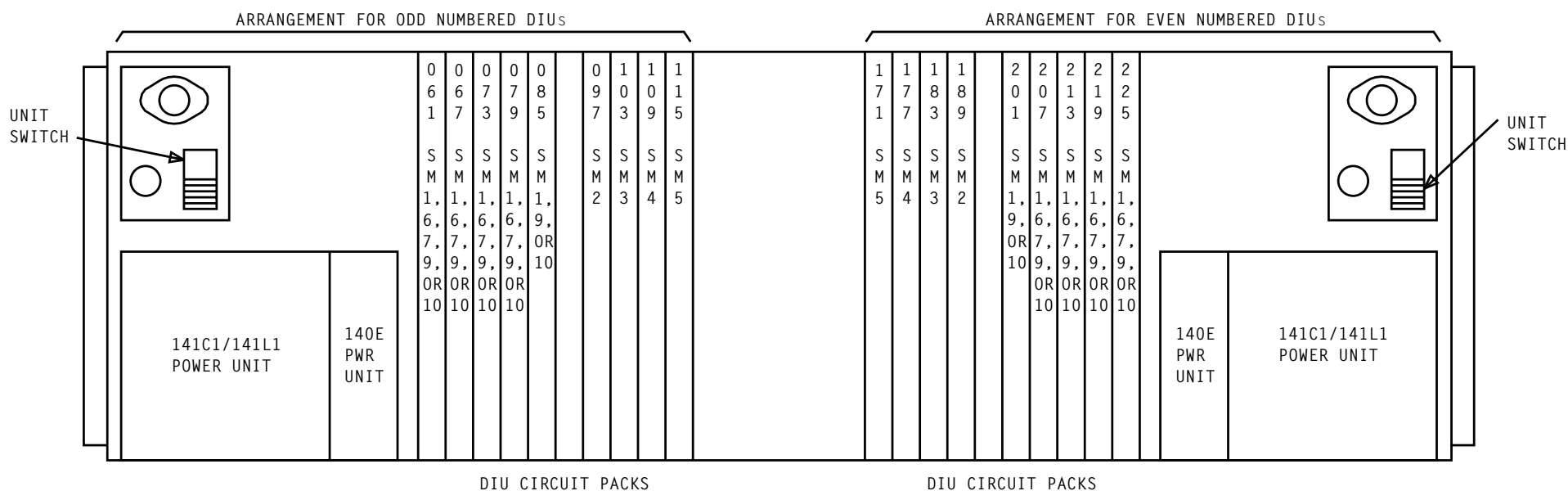


FIG. 1 – DIU Circuit Pack and Power Unit Arrangement

REMOVE DEGROWTH DIU CIRCUIT PACKS, POWER UNITS AND DISCONNECT CABLING

Issue 1	SEP 1997
234-353-030	DLP
PAGE 1 of 2	598

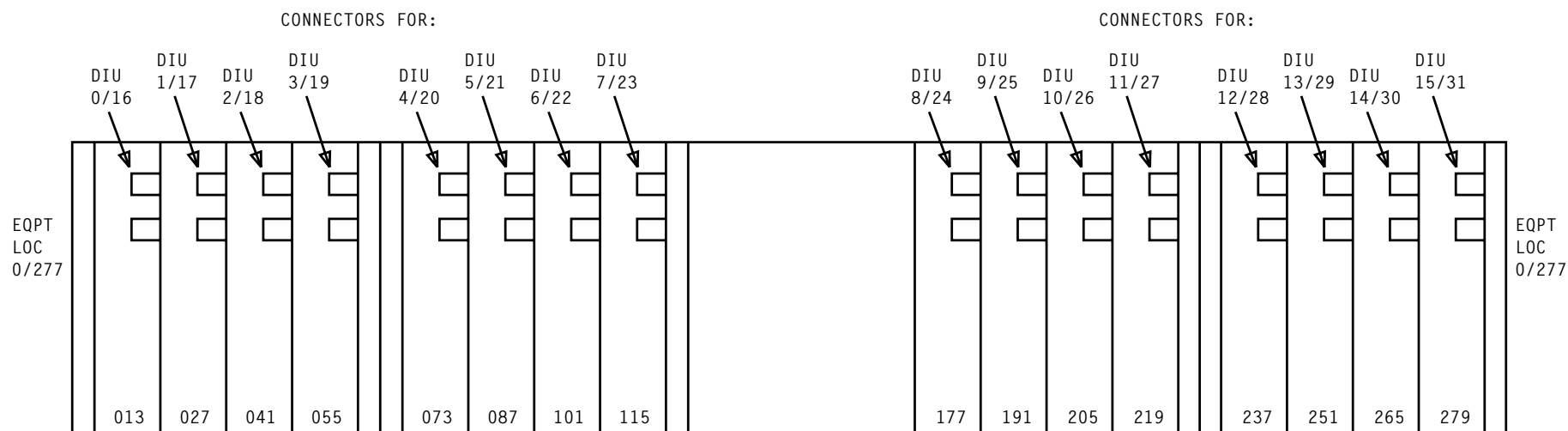
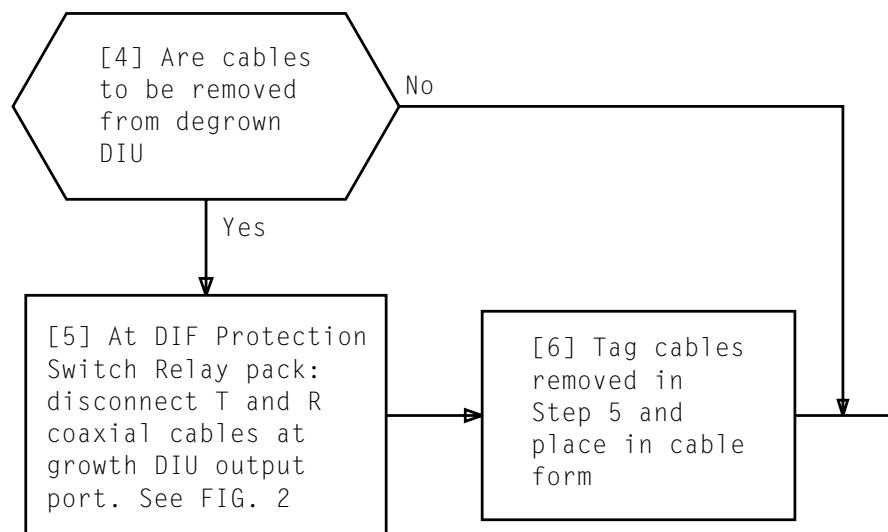


FIG. 2 – T and R Cable Assignments at Protection Switch Relay Packs of DIF (Bay 0 or 2)

REMOVE DEGROWTH DIU CIRCUIT PACKS, POWER UNITS AND DISCONNECT CABLING

Issue 1	SEP 1997
234-353-030	DLP
PAGE 2 of 2	598

1. General

- 1.1 The address SP4RCRTSTAT contains information concerning the routing status of the SP2s and their associated DTs.
- 1.2 Each SP2 has four words assigned to it. The first two are for Controller 0, and the second two are for Controller 1. The word layouts for Controller 1 are the same as the ones for Controller 0.
- 1.3 The first word for each controller is the routing status for DTs 0-7 and has the word layout shown in TABLE A, Page 2, word 0. The second word for each controller is the routing status for DTs 8-15 and has the word layout shown in TABLE A, word 1.
- 1.4 Since an office may have as many as 32 SP2s, 128 words must be dumped beginning with the SP4RCRTSTAT octal address. The first four words are for SP2 member number 0; the second four are for member number 1, etc. See FIG. 1.

2. Procedure

- 2.1 Using compool, determine address for SP4RCRTSTAT
- 2.2 Dump call store address of SP4RCRTSTAT by entering message at 1B MTC terminal: DUMP:CSS,ADR a,L128!
(a = address determined in Step 2.1)
- 2.3 At 1B MTC terminal, enter message: VER:UTYPE:DT a!
(a = degrowth DT member number) and determine SP2 member number associated with degrowth DT.

- 2.4 From printout of address dump, determine the four words assigned to the SP2 member number associated with the degrowth DT.
- 2.5 Using the four words found in Step 2.4 and TABLE A, Page 2; verify that the routing flops are pested for the degrowth unit. If routing flops are not pested, contact appropriate support organization.

38 DUMP:CSS,INDIR 0,ADR 15063,INC + 0 COMPLETED					
SP2 MEMBER NUMBER 0					
		CONTROLLER 0		CONTROLLER 1	
MEMBER NO. 1 CONTROLLER 0	00015063	14000000	00000000	14000000	00000000
		04040004			
	00015070	00000000	10100010	00000000	00000000
		00000000	00000000	00000000	00000000
	00015100	00000000	00000000	00000000	00000000
		00000000	00000000	00000000	00000000
		00000000	00000000	00000000	00000000
		00000000	00000000	00000000	00000000
MEMBER NO. 1 CONTROLLER 1					

FIG. 1 – Example of Address (15063) Dump

**VERIFY CALL STORE ADDRESS OF SP4RCRTSTAT
REFLECTS DEGROWTH OF DIGROUP TERMINAL**

Issue 1	SEP 1997
234-353-030	DLP
PAGE 1 of 2	599

TABLE A

ROUTING STATUS WORD	ROUTING STATUS DATA FOR CONTROLLERS 0 AND 1																																						
0/2	bit position									Z					Z					Z					Z					Z					Z				
		23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0														
	binary values	X	X	X	X	X	X	X	X	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a														
										DT 7		DT 6		DT 5		DT 4		DT 3		DT 2		DT 1		DT 0															
										Routing Status of SP2 Controllers and Associated DTs																													
aa = 00 – Routing Flops are Pested 01 – Receive from DT via Link 0 10 – Receive from DT via Link 1 Z...Z = Variable octal numbers																																							

	ROUTING STATUS DATA FOR CONTROLLERS 0 AND 1																																						
1/3	bit position									Z					Z					Z					Z					Z					Z				
		23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0														
	binary values	X	X	X	X	X	X	X	X	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a														
										DT 15		DT 14		DT 13		DT 12		DT 11		DT 10		DT 9		DT 8															
										Routing Status of SP2 Controllers and Associated DTs																													
aa = 00 – Routing Flops are Pested 01 – Receive from DT via Link 0 10 – Receive from DT via Link 1 Z...Z = Variable octal numbers																																							

Issue 1	SEP 1997
234-353-030	DLP
PAGE 2 of 2	599

At data set front panel:

1. Assure that **TEST/CMD** switch is set to **CMD** position and **MDCK** or **DSAB** appears at alphanumeric display

2. Operate and hold **BWD/FWD** switch in **FWD** until alphanumeric display indicates **MTCE**

Response: **MTCE** appears at alphanumeric display

3. Momentarily depress **EXEC** switch

Response: **MC/O** appears at alphanumeric display

4. Momentarily depress **EXEC** switch

Response: **MC/I** appears at alphanumeric display

5. Operate and hold **BWD/FWD** switch in **FWD** until alphanumeric display indicates **CHOP**

Response: **CHOP** appears at alphanumeric display

6. Momentarily depress **EXEC** switch

Response: **CH**** appears at alphanumeric display with
** flashing

NOTE: Completion of Steps 7, 7.1, and/or 7.2 will result in data set options being installed and/or removed to equip data set with required options **A2**, **B1**, **C5**, **D7**, and **E5**. Review these three steps prior to starting the process.

7. To display all available options: operate and hold the **-/+** switch in **+** position

Response: Alphanumeric display indicates all available options in sequence (such as, **bbA1**, where **bb** equals blank character positions in display) and with previously installed options shown as **bx** (where **xx** equals option designation)

- 7.1 To install an option: When the desired option is displayed, release the **-/+** switch and momentarily depress the **EXEC** switch

Response: Alphanumeric display changes to indicate the option is now installed (such as **bB5**)

- 7.2 To remove an installed option: When an unwanted option is displayed (such as **bc7**), release the **-/+** switch and momentarily depress the **EXEC** switch

Response: Alphanumeric display changes to indicate unwanted option is now removed (such as **bbc7**)

8. When only the required options are installed: Operate and hold **BWD/FWD** switch in **FWD** position until alphanumeric display indicates **MTCE**

Response: **MTCE** appears at alphanumeric display

9. Momentarily depress **EXEC** switch two times with at least a 1-second interval

Response: **MC/I** appears at alphanumeric display and then changes to **MC/O**

10. Operate and hold **BWD/FWD** switch in **FWD** position until alphanumeric display indicates **DSOP**

Response: **DSOP** appears at alphanumeric display

11. Momentarily depress **EXEC** switch

Response: **OP**** appears at alphanumeric display with ****** flashing

12. Operate and hold **-/+** switch in **+** position; verify that each required option is indicated at the alphanumeric display

Response: Options **A2**, **B1**, **C5**, **D7**, and **E5** appear in sequence on the alphanumeric display

End of procedure

SET CORRECT OPTIONS IN 2048A DATA SET

Issue 1	SEP 1997
234-353-030	DLP
PAGE 2 of 2	600

At data set front panel:

1. Assure that **TEST/CMD** switch is set to **CMD** position and **MDCK** or **DSAB** appears at alphanumeric display

2. Operate and hold **BWD/FWD** switch in **FWD** until alphanumeric display indicates **MTCE**

Response: **MTCE** appears at alphanumeric display

3. Momentarily depress **EXEC** switch two times with at least a 1-second interval

Response: **MC/O** appears at alphanumeric display and then changes to **MC/I**

4. Operate and hold **BWD/FWD** switch in **FWD** until alphanumeric display indicates **CHNA**

Response: **CHNA** appears at alphanumeric display

5. Momentarily depress **EXEC** switch

Response: **NA**** appears at alphanumeric display with ****** flashing

NOTE: Completion of Steps 6 and 7 will result in the network address being set to 01. Review these two steps before starting the process.

6. Operate and hold **-/+** switch in **+** position

Response: Each possible network address appears in sequence at alphanumeric display

7. When **NA01** appears at alphanumeric display: Release **-/ +** switch and momentarily depress **EXEC** switch

Response: **NA01** flashes one time on alphanumeric display

8. Operate and hold **BWD/FWD** switch in **FWD** position until alphanumeric display indicates **MTCE**

Response: **MTCE** appears at alphanumeric display

9. Momentarily depress **EXEC** switch two times with at least a 1-second interval

Response: **MC/I** appears at alphanumeric display and then changes to **MC/O**

End of procedure

SET NETWORK ADDRESS TO CORRECT VALUE

Issue 1	SEP 1997
234-353-030	DLP
PAGE 1 of 1	601

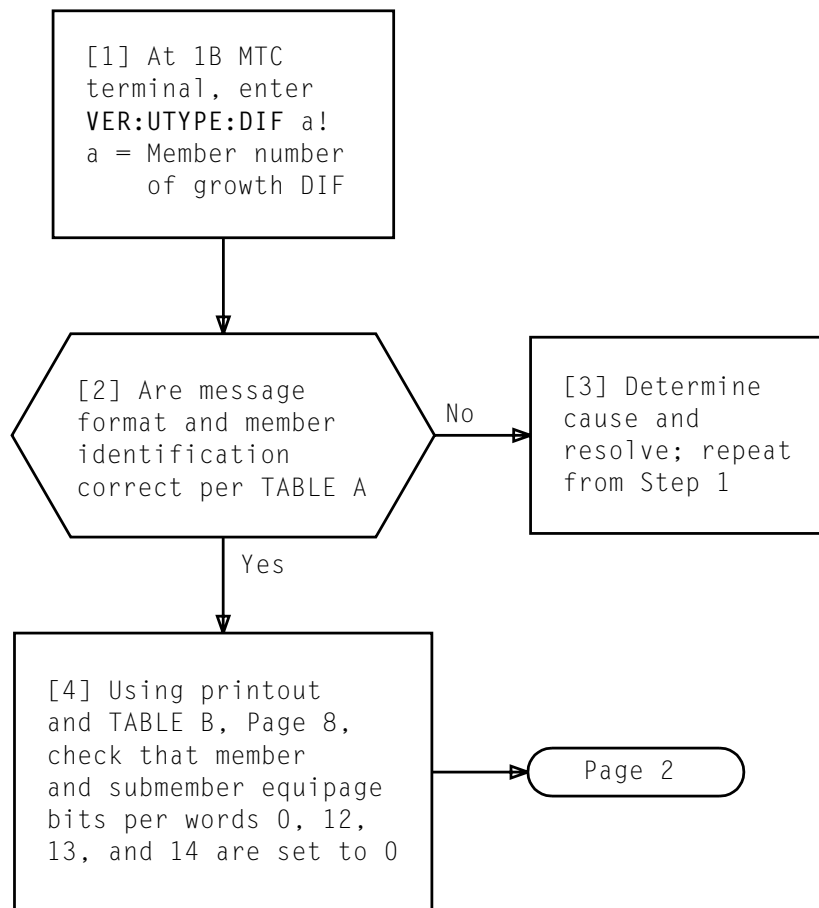
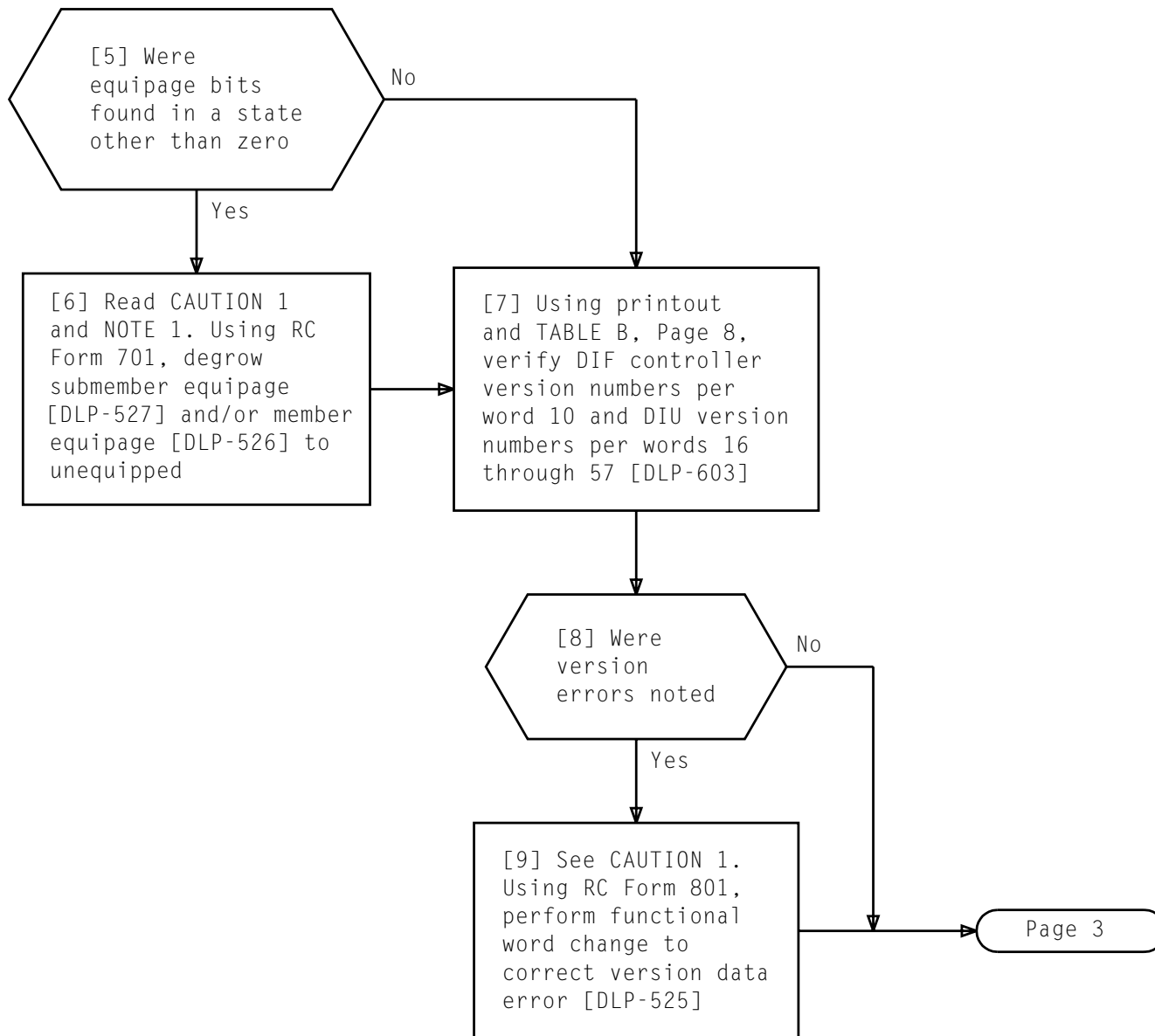
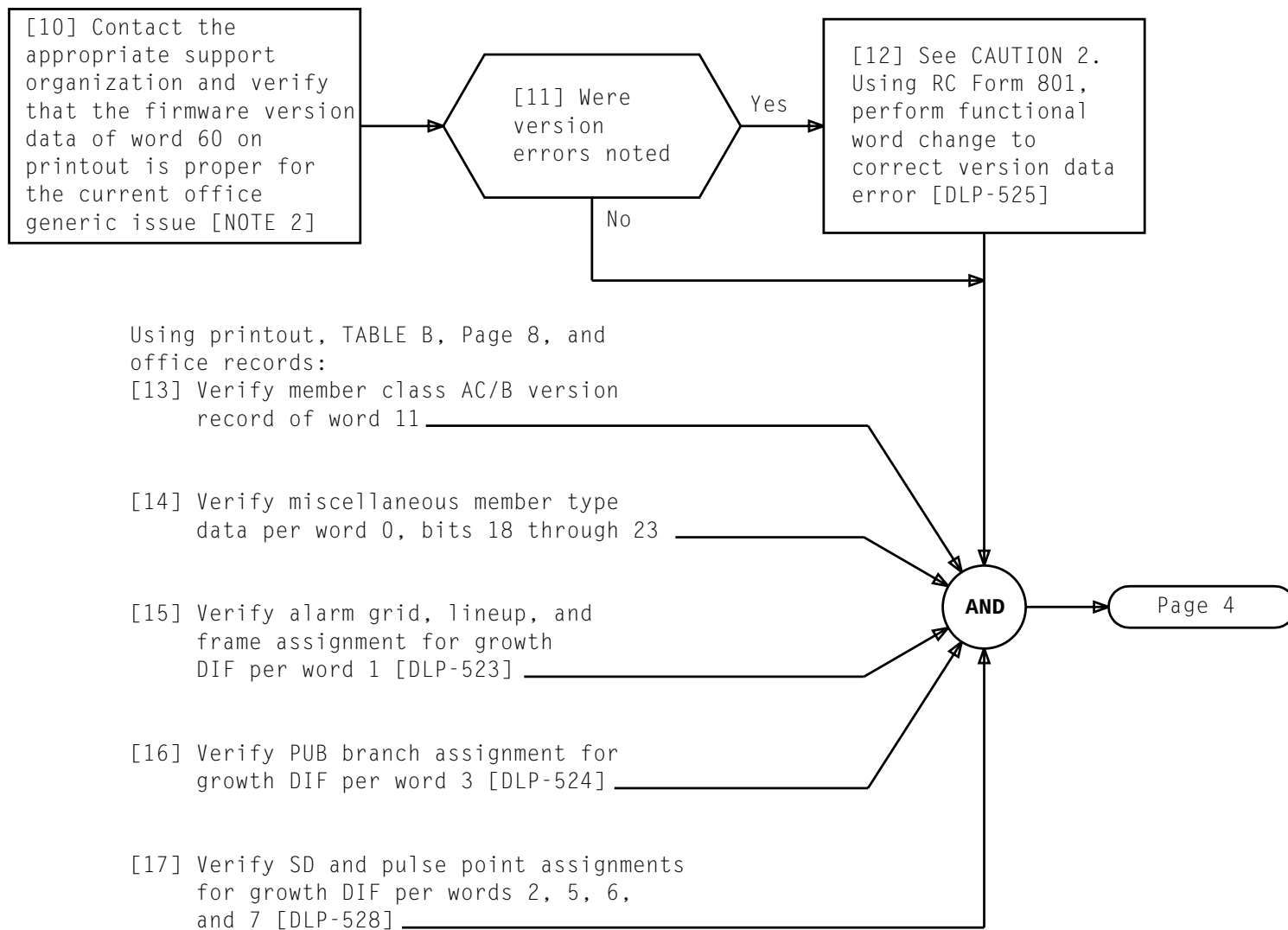


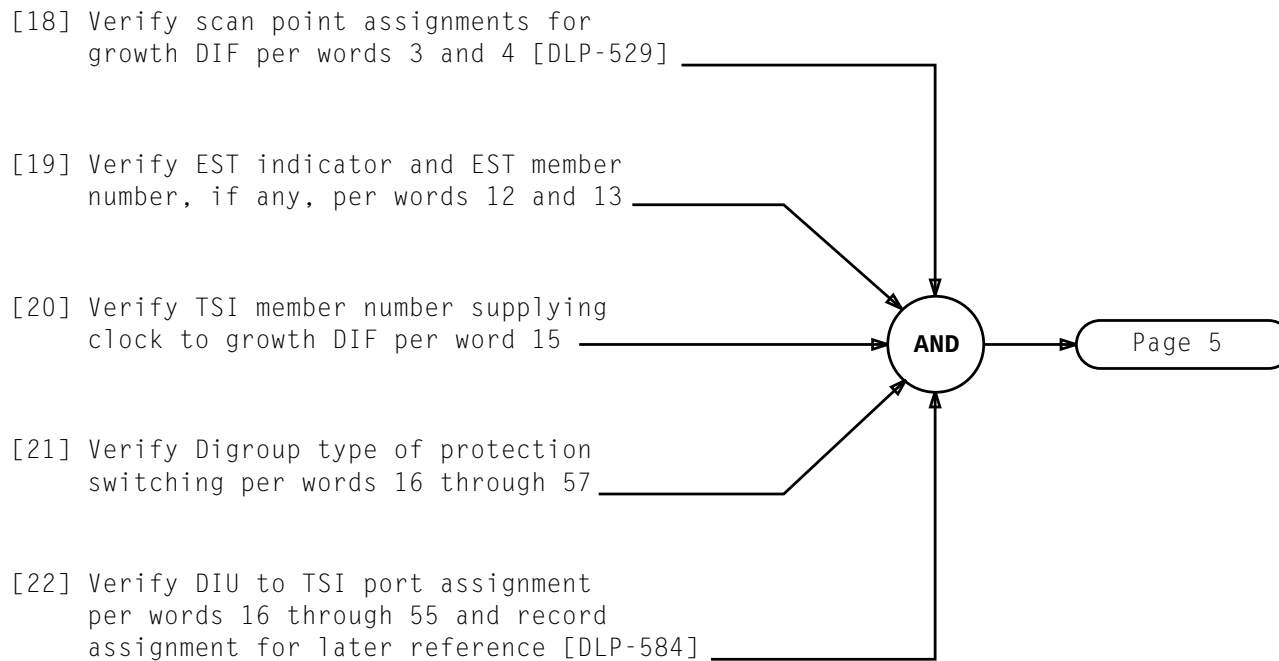
TABLE A	
MESSAGE NUMBER	OUTPUT MESSAGE
1	VER:UTMN;OPT(),CUR: FLN a, UTYN DIF, MEMN b, ME UNEQ, ENTRY ADDRESS c, ENTRY SIZE 83, CUR WORD 0 ____ ____ ____ ____ ____ ____ ____ ____ WORD 10 ____ ____ ____ ____ ____ ____ ____ ____ WORD 20 ____ ____ ____ ____ ____ ____ ____ ____ • • • • WORD 120 ____ ____ ____
a = Floor location number b = Member number of growth associated DIF c = Starting octal address for UT entry	

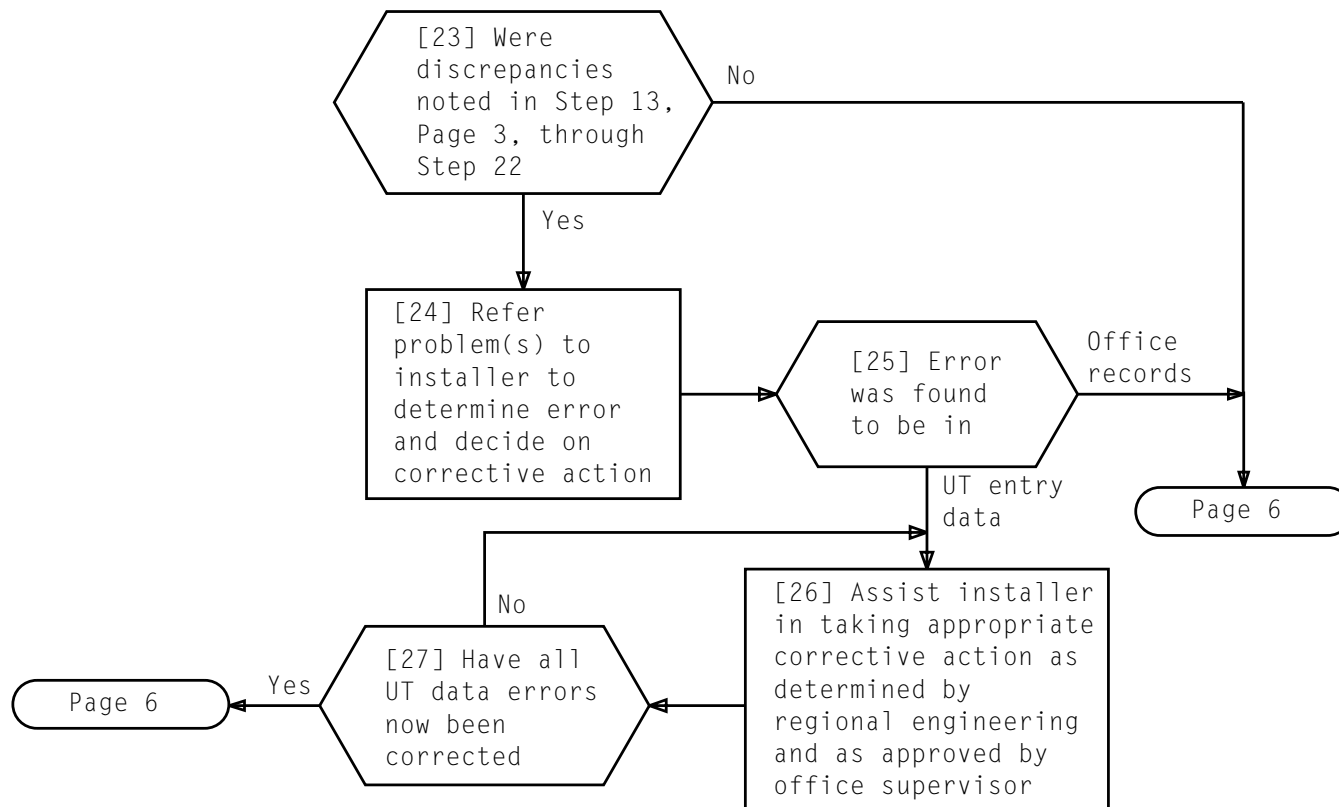


NOTE 1 Submember equipage must be degrown first, if required, followed by degrowth of member equipage, if required	
CAUTION 1 Depending on local procedures, supervisory or TELCO engineering approval must be obtained prior to performing any data change	
Issue 1	SEP 1997
234-353-030	DLP
PAGE 2 of 19	602



NOTE 2 Support organization may be TCC, SMCC, NESAC, or PECC, as applicable	
CAUTION 2 Depending on local procedures, supervisory or TELCO engineering approval must be obtained prior to performing any data change	
Issue 1	SEP 1997
234-353-030	DLP
PAGE 3 of 19	602



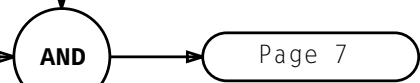


Using printout, TABLE B, Page 8, and office records:

[28] Verify Type Hardware per words
16 through 57

[29] Verify Type of Digroup per words
61 through 122

[30] Verify Type of Hardware for Digroup 5
per words 61 through 120



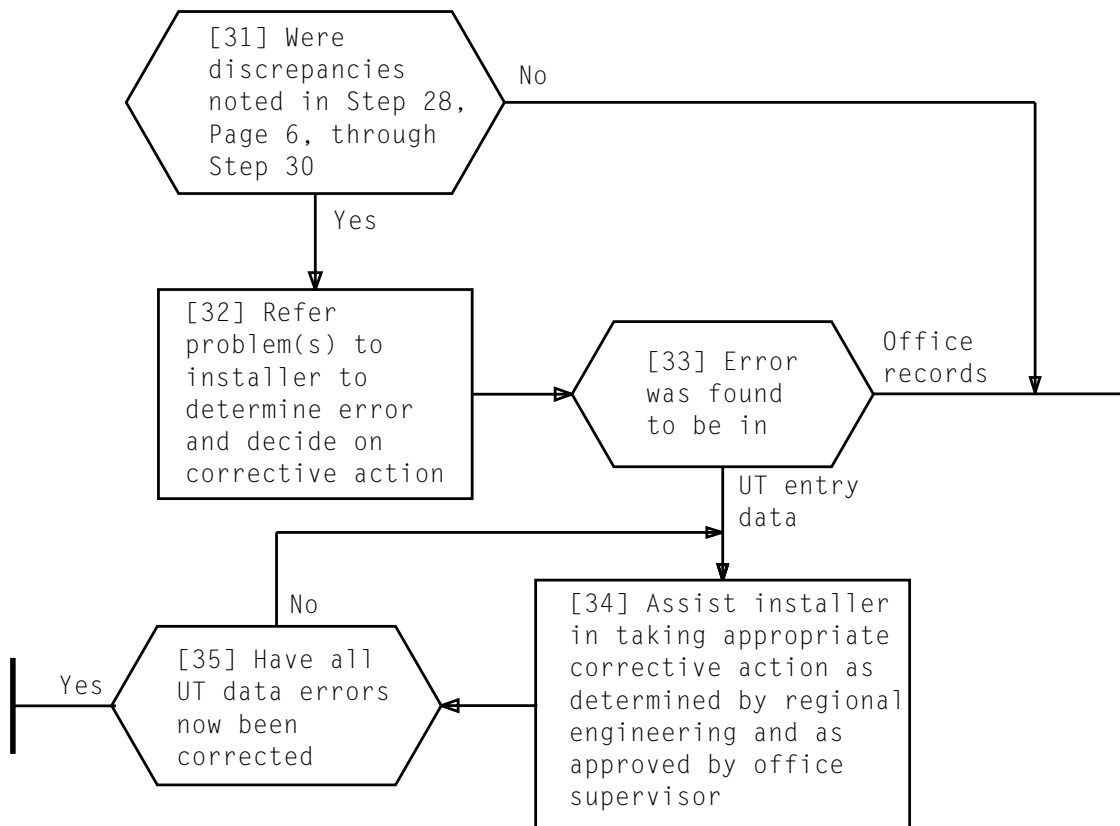


TABLE B

ENTRY
WORD
(OCTAL)

UT ENTRY DATA AND WORD CONFIGURATION

0

entry data octal output	Z			Y			0			0			0			0			0			0			
bit position	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	
binary values	0	X	X	X	X	X	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	MEMBER TYPE			MEMBER TYPE HARDWARE GENERATION			MEMBER EQUIPAGE			DIU 7		DIU 6		DIU 5		DIU 4		DIU 3		DIU 2		DIU 1		DIU 0	
										SUBMEMBER EQUIPAGE (DIU 0-7)															

Y = 0 – DIF per J68960A

Z = 1 – DIF per J68960A

1 – DIF-E1 per J5X059B-2 Lists 1, 2, 3, and 4

2 – DIF-E1 per J5X059B

3 – DIF-E1 Frame for MF Signaling

4 – DIF-E1 Frame for DTMF Signaling with or without 4 State

5 – DIF-E1 Frame for MF Signaling with 4 State

1

entry data octal output	Y				Y				Y				Y				Y				Y			
bit position	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
binary values	Z	Z	Z	Z	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	ASSIGNED ALARM GRID NUMBER				FRAME LINEUP NUMBER										FRAME NUMBER									

X...X = Converts to decimal frame info
as reflected in office floor
plan drawing

Y = Variable octal numbers

ZZZZ = Converts to decimal alarm grid
number as reflected in office
record drawings
T-nnnn-Hn-400, 401, or 402
or equivalent

Issue 1	SEP 1997
234-353-030	DLP
PAGE 8 of 19	602

TABLE B (Contd)

ENTRY WORD (OCTAL)	UT ENTRY DATA AND WORD CONFIGURATION																																
2	entry data octal output	0				0				0				0				Y				Y				Y				Y			
	bit position	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0								
	binary values	0	0	0	0	0	0	0	0	0	0	0	0	0	X	X	X	X	X	X	X	X	X	X	X								
									SP MEMBER NUMBER				SP ROW NUMBER								SP COLUMN NUMBER												
	BASE SP PULSE POINT																																
	X...X = Converts to decimal SP info as reflected in office record drawing T-nnnn-Hn-462 or equivalent												Y = Variable octal numbers																				

3	entry data octal output	Y				Y				Y				Y				Y				Y				Y						
	bit position	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0							
	binary values	0	1	Z	Z	Z	0	0	X	X	X	X	X	0	X	X	X	X	X	X	X	X	X	X	X							
			PUB BRANCH NUMBER ASSIGNMENT						SP MEMBER NUMBER				SP ROW NUMBER								SP COLUMN NUMBER											
	MEMBER BASE MISCELLANEOUS SCAN NUMBER																															
	X...X = Converts to decimal SP info as reflected in office record drawing T-nnnn-Hn-461 or equivalent												ZZZ = 3-digit code corresponding to lettered PUB branch as reflected in office record drawing T-nnnn-Hn-3840 or equivalent												= 000 - branch A&B 001 - branch C&D 010 - branch E&F 011 - branch G&H				100 - branch K&L 101 - branch M&R 110 - branch T&V 111 - branch W&X			
	Y = Variable octal numbers																															

TABLE B (Contd)

ENTRY WORD (OCTAL)	UT ENTRY DATA AND WORD CONFIGURATION																																
4	entry data octal output	Y				Y				Y				Y				Y				Y				Y							
	bit position	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0								
	binary values	0	0	0	0	0	0	0	X	X	X	X	X	0	X	X	X	X	X	X	X	X	X	X	X								
										SP MEMBER NUMBER				SP ROW NUMBER								SP COLUMN NUMBER											
		BUS BASE MISCELLANEOUS SCAN NUMBER																															
	X...X = Converts to decimal SP info as reflected in office record drawing T-nnnn-Hn-462 or equivalent																																
	Y = Variable octal numbers																																
5	entry data octal output	0				0				0				1				Y				Y				Y				Y			
	bit position	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0								
	binary values	0	0	0	0	0	0	0	0	0	0	0	1	0	X	X	X	X	X	X	X	X	X	X	X								
										SP MEMBER NUMBER				SP ROW NUMBER								SP COLUMN NUMBER											
		DUPLICATE BASE SP PULSE POINT																															
	X...X = Converts to decimal SP info as reflected in office record drawing T-nnnn-Hn-461 or equivalent																																
	Y = Variable octal numbers																																

TABLE B (Contd)

ENTRY WORD (OCTAL)	UT ENTRY DATA AND WORD CONFIGURATION																																
6	entry data octal output	0				0				Y				Y				Y				Y				Y				Y			
	bit position	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0								
	binary values	0	0	0	0	0	0	0	X	X	X	X	X	0	X	X	X	X	X	X	X	X	X	X	X								
									SP MEMBER NUMBER				SP ROW NUMBER								SP COLUMN NUMBER												
									MEMBER BASE MISCELLANEOUS SD NUMBER																								
X...X = Converts to decimal SP info as reflected in office record drawing T-nnnn-Hn-462 or equivalent								Y = Variable octal numbers																									
7	entry data octal output	0				0				Y				Y				Y				Y				Y							
	bit position	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0								
	binary values	0	0	0	0	0	0	0	X	X	X	X	X	0	X	X	X	X	X	X	X	X	X	X	X								
									SP MEMBER NUMBER				SP ROW NUMBER								SP COLUMN NUMBER												
									BUS BASE MISCELLANEOUS SD NUMBER																								
X...X = Converts to decimal SP info as reflected in office record drawing T-nnnn-Hn-462 or equivalent								Y = Variable octal numbers																									
10	entry data octal output	0				0				0				0				0				Y				Y							
	bit position	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0								
	binary values	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	X	X	X	X	X	X								
																			CONTROLLER 1			CONTROLLER 0											
																			DIF CONTROLLER VERSION NUMBER														
XXX = Version numbers of DIF controllers as reflected in appropriate office record and shipping information												Y = Variable octal numbers																					

TABLE B (Contd)

ENTRY WORD (OCTAL)	UT ENTRY DATA AND WORD CONFIGURATION																								
11	entry data																								
	octal output																								
	bit position	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
	binary values	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
MEMBER CLASS AC/B VERSION RECORD																									
Y...Y = Values as determined from next higher technical support group																									
12	entry data																								
	octal output																								
	bit position	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
	binary values	X	Z	Z	Z	Z	Z	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	E S T I A	EST MEMBER NUMBER "A"								DIU 15		DIU 14		DIU 13		DIU 12		DIU 11		DIU 10		DIU 9		DIU 8	
		SUBMEMBER EQUIPAGE (DIU 8-15)																							
X = EST Indicator "A" 0 = DIF is not associated with an EST 1 = DIF is associated with an EST Y = Variable octal numbers																									
Z...Z = First EST member number associated (if any) with DIF (DIUs 0-6 and 8-14)																									

TABLE B (Contd)																																					
ENTRY WORD (OCTAL)	UT ENTRY DATA AND WORD CONFIGURATION																																				
15	entry data octal output	Y						Y						0				0				0				0				0				0			
	bit position	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0												
	binary values	X	X	X	X	X	X	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0												
	TSI MEMBER DELIVERING CLOCK TO THIS DIF																																				
	X.X = Converts to decimal TSI number as reflected in appropriate office record Y = Variable octal numbers																																				

TABLE B (Contd)

ENTRY WORD (OCTAL)

UT ENTRY DATA AND WORD CONFIGURATION

entry data octal output

bit position

binary values

U	U	Y	Y	Y	Y	Y	Y																
23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
0	0	W	W	W	W	Z	Z	Z	V	V	V	V	V	X	X	X	X	X	X	X	X	X	X
		TYPE HARDWARE				DIU VERSION NUMBER			5	4	3	2	1	TSI MEMBER NUMBER						S P C		TSI PORT NO.	
DIU TO TSI LEVEL ASSIGNMENT																							

X...X = Converts to decimal DIU-TSI level assignment as reflected in office record drawing T-nnnn-Hn-467 or equivalent

Y = Variable Octal Numbers

ZZZ = Version numbers of DIUs as reflected in appropriate office record and shipping info

UU = Type Hardware (Octal)

00 = DIU unequipped

01 = DIU hardware pack is SM1B

02 = Unassigned

03 = Unassigned

04 = Unassigned

05 = Unassigned

06 = DIU is used for MF service circuit

07 = DIU is used for DTMF service circuit

10 = Unassigned

11 = DIU hardware pack is SM9

12 = DIU hardware pack is SM10

V = Digroup Type of Protection Switching

0 = Trunks on Digroup not to be removed when DIU protection switched

1 = Trunks on Digroup to be removed when DIU protection switched

* Word associated with each DIU as follows:

DIU	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
WORD	16	17	20	21	22	23	24	25	26	27	30	31	32	33	34	35	36	37	40	41	42	43	44	45	46	47	50	51	52	53	54	55

16* through 55

TABLE B (Contd)

ENTRY WORD (OCTAL)	UT ENTRY DATA AND WORD CONFIGURATION																																																																																																																																																																																																																														
56* and 57	entry data octal output																																																																																																																																																																																																																														
	bit position																																																																																																																																																																																																																														
	binary values																																																																																																																																																																																																																														
	<table><tr><td colspan="4">U</td><td colspan="4">U</td><td colspan="3">Y</td><td colspan="3">Y</td><td colspan="3">Y</td><td colspan="3">0</td><td colspan="3">0</td><td colspan="3">0</td></tr><tr><td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td><td>16</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td><td>0</td><td colspan="10"></td></tr><tr><td>0</td><td>0</td><td>W</td><td>W</td><td>W</td><td>W</td><td>Z</td><td>Z</td><td>Z</td><td>V</td><td>V</td><td>V</td><td>V</td><td>V</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></tr><tr><td colspan="4"></td><td colspan="4">TYPE HARDWARE</td><td colspan="3">DIU VERSION NUMBER</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td><td colspan="17"></td></tr><tr><td colspan="4"></td><td colspan="4"></td><td colspan="3"></td><td colspan="5">DIGROUP TYPE OF PROT. SW</td><td colspan="17"></td></tr><tr><td colspan="18">SPARE A/B - DIU 32/33</td><td colspan="14"></td></tr></table>																																U				U				Y			Y			Y			0			0			0			23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0											0	0	W	W	W	W	Z	Z	Z	V	V	V	V	V	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					TYPE HARDWARE				DIU VERSION NUMBER			5	4	3	2	1																													DIGROUP TYPE OF PROT. SW																						SPARE A/B - DIU 32/33																															
	U				U				Y			Y			Y			0			0			0																																																																																																																																																																																																							
	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0																																																																																																																																																																																																							
	0	0	W	W	W	W	Z	Z	Z	V	V	V	V	V	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																																																																																																																																																																																														
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01 = DIU hardware pack is SM1B																																																																																																																																																																																																																															
02 = Unassigned																																																																																																																																																																																																																															
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05 = Unassigned																																																																																																																																																																																																																															
06 = DIU is used for MF service circuit																																																																																																																																																																																																																															
07 = DIU is used for DTMF service circuit																																																																																																																																																																																																																															
10 = Unassigned																																																																																																																																																																																																																															
11 = DIU hardware pack is SM9																																																																																																																																																																																																																															
12 = DIU hardware pack is SM10																																																																																																																																																																																																																															
V = Digroup Type of Protection Switching																																																																																																																																																																																																																															
0 = Trunks on Digroup not to be removed when DIU protection switched																																																																																																																																																																																																																															
1 = Trunks on Digroup to be removed when DIU protection switched																																																																																																																																																																																																																															
* Word associated with each DIU as follows:																																																																																																																																																																																																																															
<table><tr><td>DIU</td><td>SPARE A (32)</td><td>SPARE B (33)</td></tr><tr><td>WORD</td><td>56</td><td>57</td></tr></table>																																		DIU	SPARE A (32)	SPARE B (33)	WORD	56	57																																																																																																																																																																																								
DIU	SPARE A (32)	SPARE B (33)																																																																																																																																																																																																																													
WORD	56	57																																																																																																																																																																																																																													

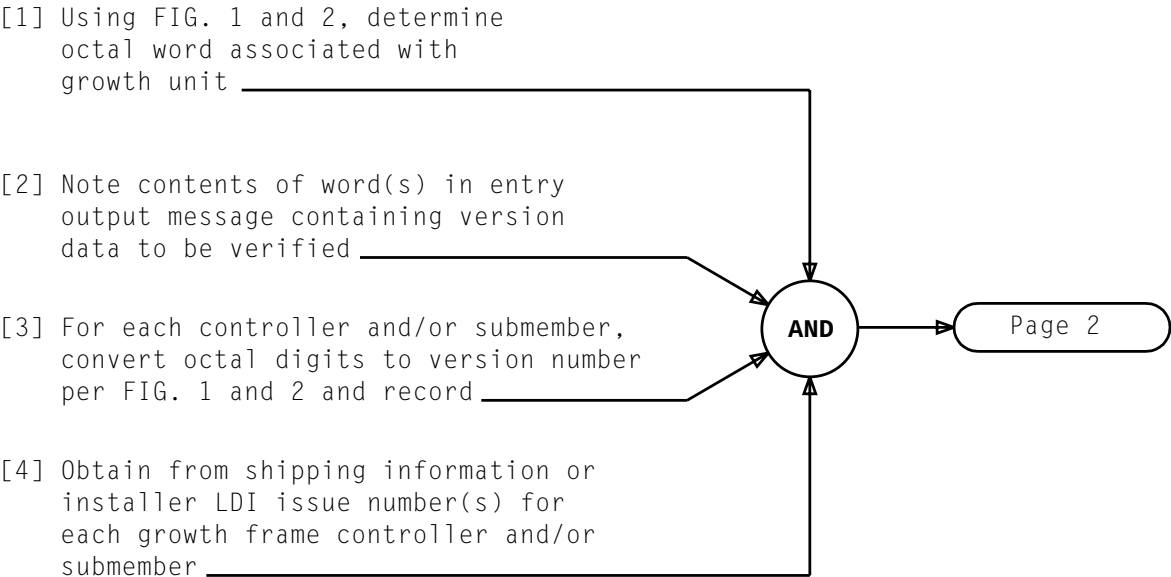
TABLE B (Contd)																													
ENTRY WORD (OCTAL)	UT ENTRY DATA AND WORD CONFIGURATION																												
60	entry data octal output →	Y				Y				Y				Y				Y				Y				Y			
	bit position →	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0				
	binary values →	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
		EXECUTIVE CONTROLLER				SIGNAL PROCESSOR				MAINTENANCE PROCESSOR				EXECUTIVE CONTROLLER				SIGNAL PROCESSOR				MAINTENANCE PROCESSOR							
		CONTROLLER 1												CONTROLLER 0															
		FIRMWARE VERSION DATA																											
XXX = Version numbers of DIF firmware as reflected in appropriate office record												Y = Variable octal numbers																	

TABLE B (Contd)

ENTRY WORD (OCTAL)	UT ENTRY DATA AND WORD CONFIGURATION																																
61* through 120	entry data																																
	octal output																																
	bit position																																
	binary values																																

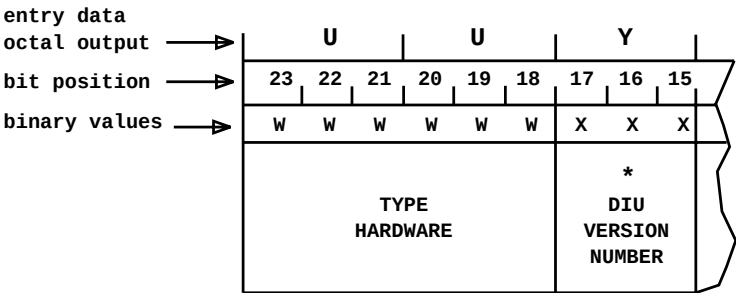
TABLE B (Contd)

ENTRY WORD (OCTAL)	UT ENTRY DATA AND WORD CONFIGURATION																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
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0		0				Y			Y		
10	9	8	7	6	5	4	3	2	1	0	
0	0	0	0	0	X	X	X	X	X	X	
					CONTROLLER 1			CONTROLLER 0			
					DIF CONTROLLER VERSION NUMBER						

FIG. 1 – Entry Word 10 Layout



* Word associated with each DIU as follows:

DIU	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33
WORD	16	17	20	21	22	23	24	25	26	27	30	31	32	33	34	35	36	37	40	41	42	43	44	45	46	47	50	51	52	53	54	55	56	57

FIG. 2 – Entry Words 16 Through 57 Layout

[5] Using TABLE A, select version numbers associated with LDI issues on Page 1, Step 4.
See NOTE 1

[6] Compare version numbers in Step 5 with version numbers calculated on Page 1, Step 3

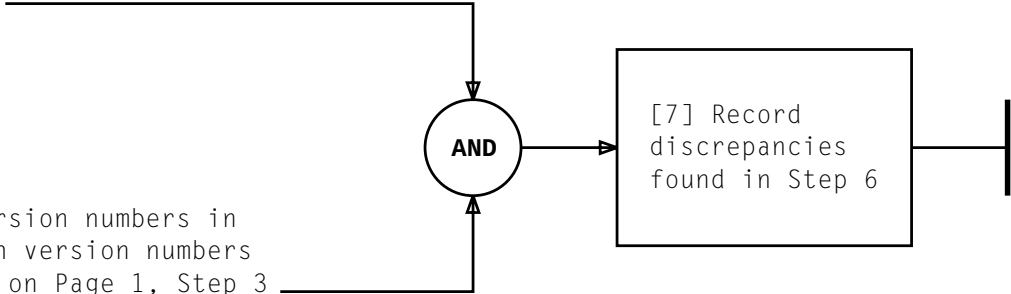


TABLE A					
UNIT	SD NUMBER	MEMBER VERSION NUMBER			
		0	1	2	3
DIF-E1 Controller	5X400-01	*1A	—	—	—
DIF-E1 Unit	5X400-01	—	1A	—	—
DIF-E1 Controller	5X400-02	1A	—	—	—
DIF-E1 Unit	5X400-02	—	1A	—	—
DIF Controller	5G208-01	1A	—	—	—
DIF Unit	5G208-01	—	1A	—	—
* LDI Issue Numbers					

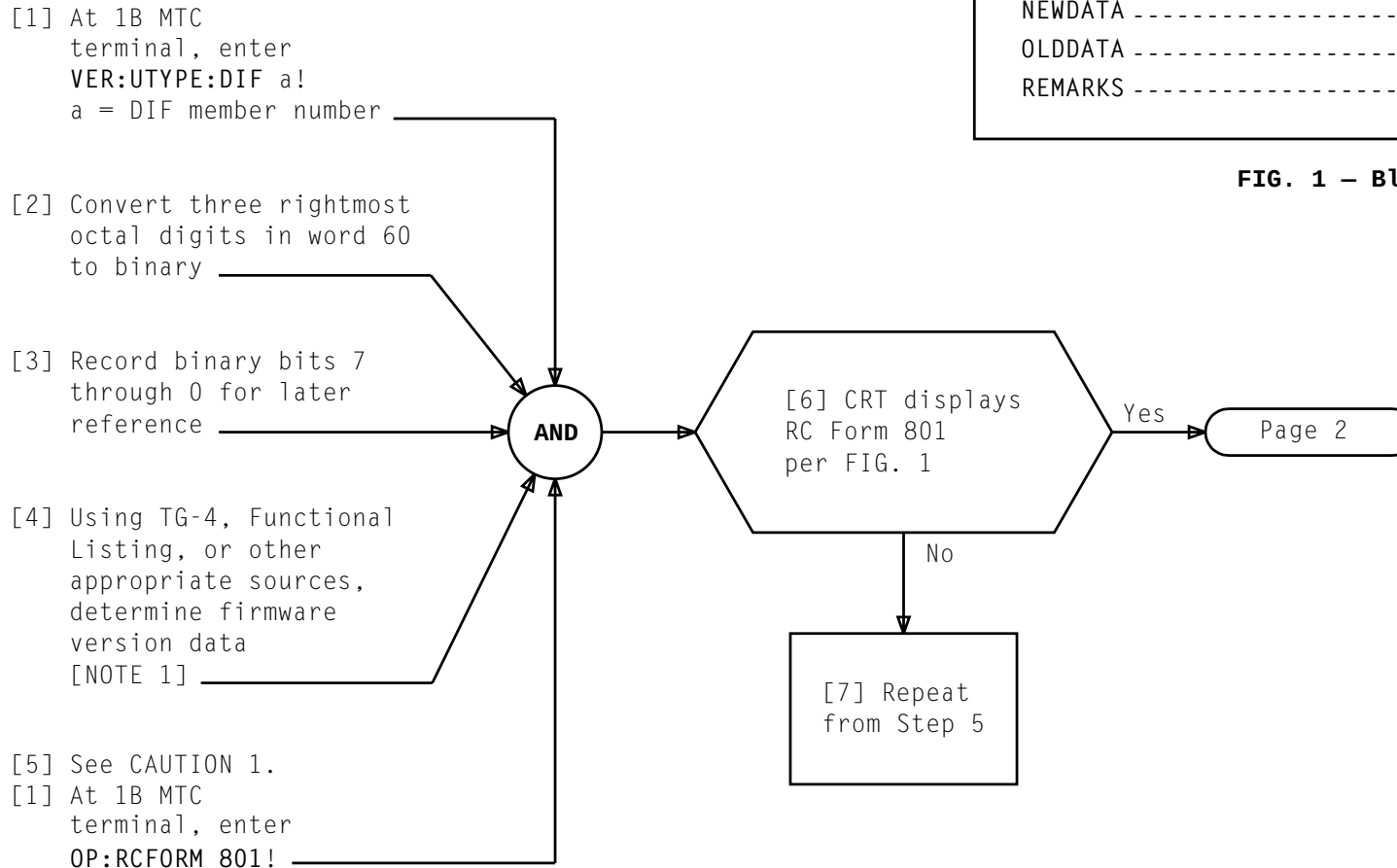
NOTE 1
PECC diagnostic center may be consulted for current version information if not listed in TABLE A

SUMMARY

Call up RC Form 801 on CRT. Using terminal, fill in blank fields on form to identify and to change terminal unit MP and SP data within the selected word of the DIF UT translator. Enter message; then verify inactive translations.

```
RC:FUNC;CHG;OPT(TRANS), ---:      TRANSID-----,
ORNU -----,
ENTRY -----, WORDNO -----,
SIZE .., DISP ..,
BINOCT ..,
NEWDATA -----,
OLDDATA -----,
REMARKS ----- !
```

FIG. 1 – Blank RC Form 801



NOTE 1
PECC diagnostic center may be consulted for current version information

CAUTION 1
*Calling up
RC form will
cause all CRT
data to be
cleared*

PERFORM FUNCTIONAL WORD CHANGE OF DIF-E1 CONTROLLER 0 FIRMWARE VERSION DATA (MP AND SP)

[8] Read NOTES 2 and 3.
Using terminal and CRT
display of RC Form 801,
fill in blank fields on
RC Form 801 per TABLE A
and enter message

Page 3

TABLE A	
MESSAGE NUMBER	OUTPUT MESSAGE
1	RC:FUNC;CHG;OPT(TRANS),a: TRANSID b, ORNU c, ENTRY d, WORDNO e, SIZE f, DISP g, BINOCT h, NEWDATA i, OLDDATA j, REMARKS !
a = TST b = UTDIF c = RC order number d = DIF member number e = 48 f = 8 g = 0 h = B i = Firmware version data in binary determined in Step 4 (8 binary bits required) j = Binary bits 7-0 recorded in Step 3	

NOTES

2. The quantity of binary bits to be entered as **NEWDATA** must be equal to decimal number entered as **SIZE**
3. The quantity of binary bits to be entered as **OLDDATA** must be equal to quantity of bits entered as **NEWDATA**

**PERFORM FUNCTIONAL WORD CHANGE OF DIF-E1 CONTROLLER 0
FIRMWARE VERSION DATA (MP AND SP)**

Issue 1	SEP 1997
234-353-030	DLP
PAGE 2 of 4	604

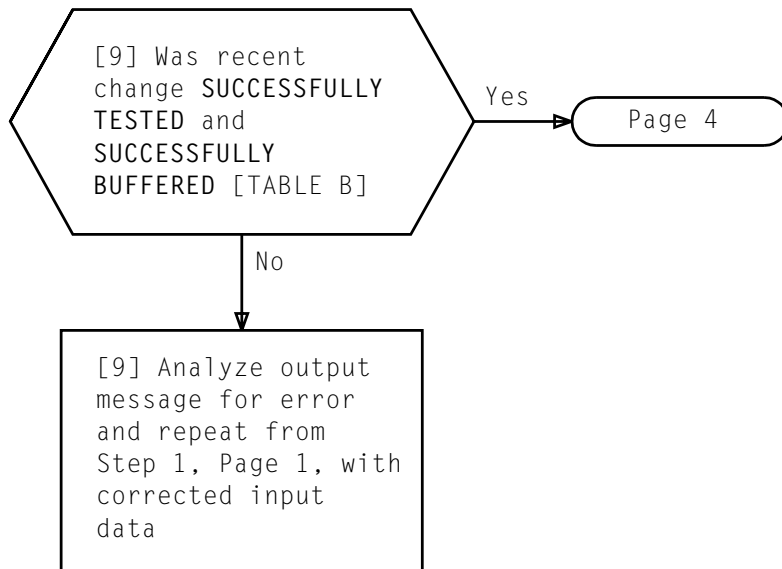


TABLE B	
MESSAGE NUMBER	OUTPUT MESSAGE
1	RC ORNU a SUCCESSFULLY TESTED RC ORNU a SUCCESSFULLY BUFFERED RC:FUNC;CHG;OPT(TRANS),BUF: TRANSID UTDIF, ORNU a, ENTRY b, WORDNO 48, SIZE 8, DISP 0, BINOCT B, NEWDATA c, OLDDATA d, REMARKS _ _ _ _ _! REPT:RC DUMP OF UNIT TYPE ENTRY AS IT WILL APPEAR AFTER THE MESSAGE IS ACTIVATED WORD 0 _ _ _ _ _ WORD 10 _ _ _ _ _ WORD 120 _ _ _ _ _
a = RC order number b = DIF member number c = New data entered d = Old data entered	

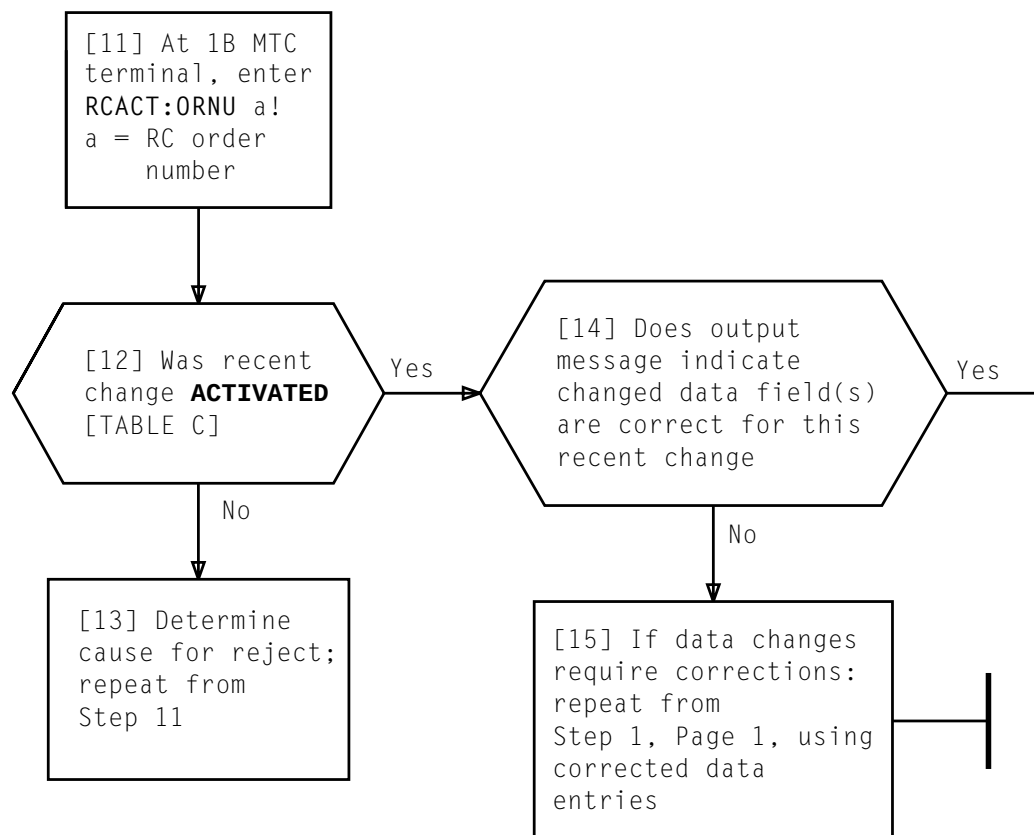


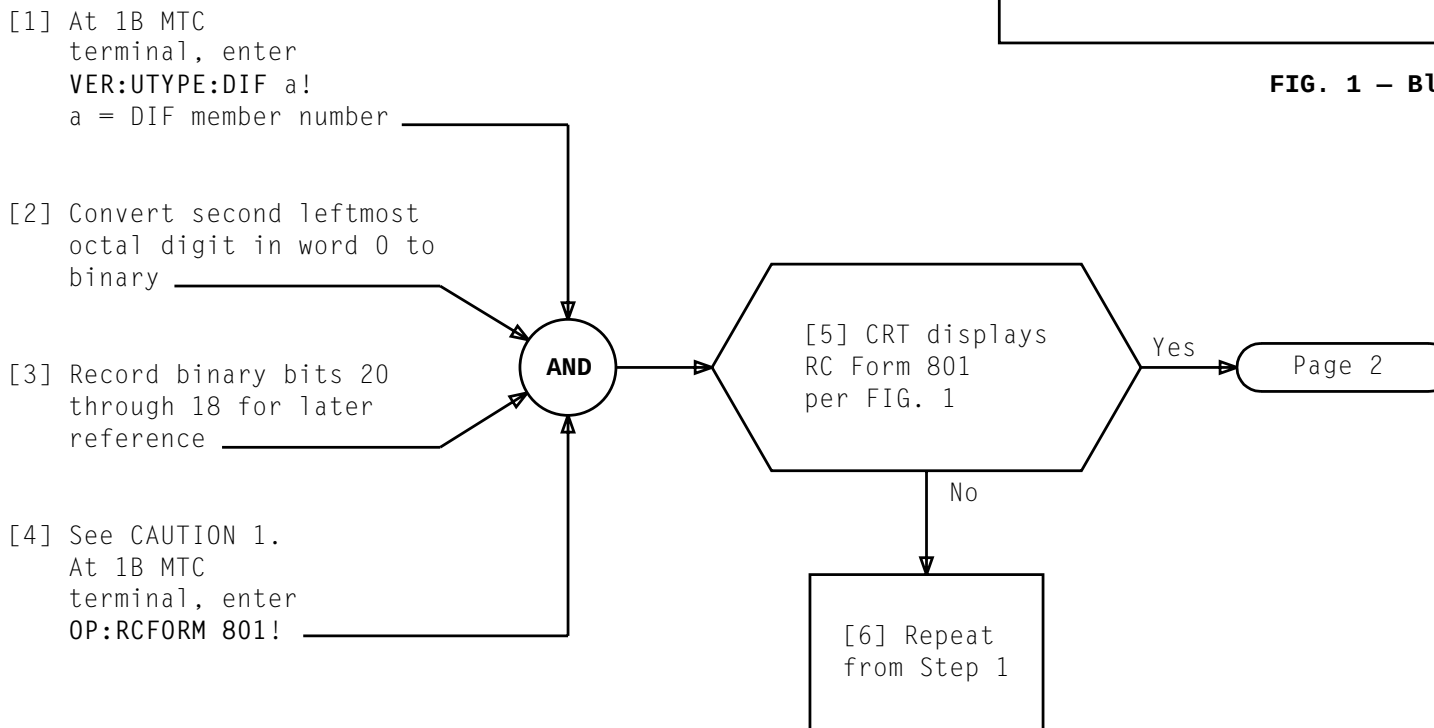
TABLE C	
MESSAGE NUMBER	INPUT MESSAGE
1	RC ORNU a ACTIVATED RC:FUNC;CHG;OPT(TRANS),BUF: TRANSID UTDIF, ORNU a, ENTRY b, WORDNO 48, SIZE 8, DISP 0, BINOCT B, NEWDATA c, OLDDATA d, REMARKS..... !
a = RC order number b = DIF member number c = New data entered d = Old data entered	

SUMMARY

Call up RC Form 801 on CRT. Using terminal, fill in blank fields on form to identify and to change terminal unit MP and SP data within the selected word of the DIF UT translator. Enter message; then verify inactive translations.

```
RC:FUNC;CHG;OPT(TRANS), ---:      TRANSID-----,
ORNU -----,
ENTRY -----, WORDNO -----,
SIZE .., DISP ..,
BINOCT ..,
NEWDATA -----,
OLDDATA -----,
REMARKS ----- !
```

FIG. 1 – Blank RC Form 801



CAUTION 1
Calling up
RC form will
cause all CRT
data to be
cleared

Issue 1	SEP 1997
234-353-030	DLP
PAGE 1 of 4	605

[7] Read NOTES 1 and 2.
Using terminal and CRT
display of RC Form 801,
fill in blank fields on
RC Form 801 per TABLE A
and enter message

Page 3

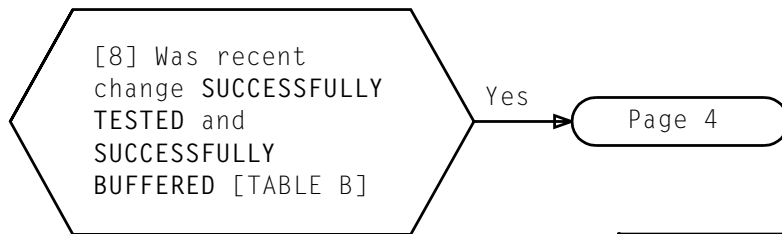
TABLE A	
MESSAGE NUMBER	OUTPUT MESSAGE
1	RC:FUNC;CHG;OPT(TRANS),a: TRANSID b, ORNU c, ENTRY d, WORDNO e, SIZE f, DISP g, BINOCT h, NEWDATA i, OLDDATA j, REMARKS..... !
a = TST b = UTDIF c = RC order number d = DIF member number e = 0 f = 3 g = 18 h = B i = 011 (for MF) or 100 (for DTMF with or without 4 State) or 101 (for MF 4 State) j = Binary bits 20-18 recorded in Step 3	

NOTES

1. The quantity of binary bits to be entered as **NEWDATA** must be equal to decimal number entered as **SIZE**
2. The quantity of binary bits to be entered as **OLDDATA** must be equal to quantity of bits entered as **NEWDATA**

Issue 1	SEP 1997
234-353-030	DLP
PAGE 2 of 4	605

PERFORM FUNCTIONAL WORD CHANGE OF DIF-E1 MTHG DATA



[9] Analyze output message for error and repeat from Step 1, Page 1, with corrected input data

TABLE B	
MESSAGE NUMBER	OUTPUT MESSAGE
1	RC ORNU a SUCCESSFULLY TESTED RC ORNU a SUCCESSFULLY BUFFERED RC:FUNC;CHG;OPT(TRANS),BUF: TRANSID UTDIF, ORNU a, ENTRY b, WORDNO 0, SIZE 3, DISP 18, BINOCT B, NEWDATA c, OLDDATA d, REMARKS _ _ _ _ _! REPT:RC DUMP OF UNIT TYPE ENTRY AS IT WILL APPEAR AFTER THE MESSAGE IS ACTIVATED WORD 0 _ _ _ _ _ WORD 10 _ _ _ _ _ . . . WORD 120 _ _ _ _ _
a = RC order number b = DIF member number c = New data entered d = Old data entered	

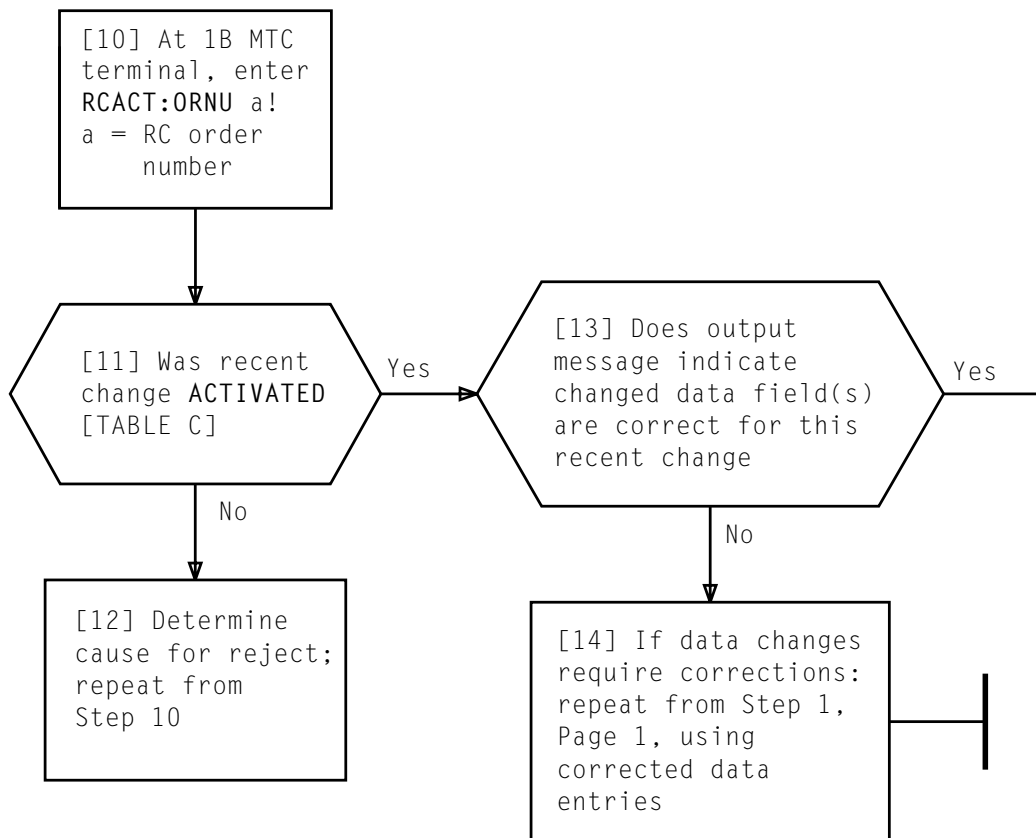


TABLE C	
MESSAGE NUMBER	OUTPUT MESSAGE
1	RC ORNU a ACTIVATED RC:FUNC;CHG;OPT(TRANS),BUF: TRANSID UTDIF, ORNU a, ENTRY b, WORDNO 0, SIZE 3, DISP 18, BINOC T B, NEWDATA c, OLDDATA d, REMARKS..... !
a = RC order number b = DIF member number c = New data entered d = Old data entered	

A list of circuit packs required to convert DIF-E1 domestic frame to multifrequency, DTMF, or 4 State Capability (both controllers) follows:

1. Two circuit packs each of the following:

TM10B

TM371

TM372 or **TM684** [NOTE]

TM373

TM374

NOTE: CN 8225MV must be applied before **TM684** can be used

2. Two circuit packs of one of the following:

MC4A034A1 (for MF only capability)

MC4A035A1 (for DTMF and/or 4 State capability)

MC4A044A1 (for MF and/or 4 State capability)

3. Two circuit packs of one of the following:

TM376 (when using MC4A034A1 circuit pack)

TM377 (when using MC4A035A1 or MC4A044A1 circuit pack)

4. Four circuit packs of **TM375**.

CIRCUIT PACKS REQUIRED TO CONVERT ONE DIF-E1 DOMESTIC FRAME TO MF, DTMF, OR 4 STATE CAPABILITY

Issue 1	SEP 1997
234-353-030	DLP
PAGE 1 of 1	606

At DIF-E1 frame to be converted:

[1] See WARNING 1 and NOTE 1. Remove circuit packs from controller 0 [TABLE A]

[2] See WARNING 1. Install new circuit packs for controller 0 [TABLE B] if not already installed

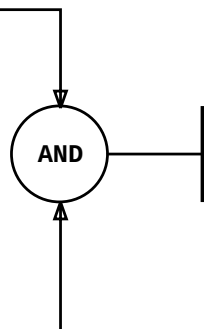


TABLE A		
LOCATION	QTY	CIRCUIT PACK
170-025	1	MC4A033A1/MC4A034A1
170-055	1	TM10
170-097	1	TM7
152-007	1	TM306
152-013	1	TM306
152-019	1	TM305
152-025	1	TM307
152-031	1	TM304
152-037	1	TM303
152-043	1	TM302
152-103	1	TM366
152-115	1	TM366
144-049	1	TM16
144-097	1	TM362/TM376

TABLE B		
LOCATION	QTY	CIRCUIT PACK
170-025	1	MC4A034A1 (for MF only capability) or MC4A035A1 (for DTMF and/or 4 State capability) or MC4A044A1 (for MF and/or 4 State capability)
170-055	1	TM10B
170-097	1	TM371
152-037	1	TM374
152-043	1	TM373
152-103	1	TM375
152-115	1	TM375
144-049	1	TM372 or TM684*
144-097	1	TM376 (when using MC4A034A1 circuit pack) or TM377 (when using MC4A035A1 or MC4A044A1 circuit pack)
*CN 8225MV must be applied before TM684 can be used		

NOTE 1

Some circuit packs may have been removed and replaced earlier. Only circuit packs listed in TABLE A are to be removed

WARNING 1

An antistatic wrist strap must be worn to prevent electrostatic discharge and possible damage to circuit packs while handling

REPLACE DIF-E1 CONTROLLER 0 CIRCUIT PACKS WITH NEW CIRCUIT PACKS TO CONVERT CONTROLLER 0 TO MF, DTMF, OR 4 STATE

Issue 1	SEP 1997
234-353-030	DLP
PAGE 1 of 1	607

At DIF-E1 frame to be converted:

[1] See WARNING 1 and NOTE 1. Remove circuit packs from controller 1 [TABLE A]

[2] See WARNING 1. Install new circuit packs for controller 1 [TABLE B] if not already installed

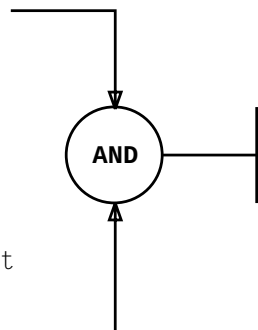


TABLE A

LOCATION	QTY	CIRCUIT PACK
170-189	1	TM7
170-231	1	TM10
170-261	1	MC4A033A1/MC4A034A1
152-171	1	TM366
152-183	1	TM366
152-243	1	TM302
152-249	1	TM303
152-255	1	TM304
152-261	1	TM307
152-267	1	TM305
152-273	1	TM306
152-279	1	TM306
144-189	1	TM362/TM376
144-237	1	TM16

TABLE B

LOCATION	QTY	CIRCUIT PACK
170-189	1	TM371
170-231	1	TM10B
170-261	1	MC4A034A1 (for MF only capability) or MC4A035A1 (for DTMF and/or 4 State capability) or MC4A044A1 (for MF and/or 4 State capability)
152-171	1	TM375
152-183	1	TM375
152-243	1	TM373
152-249	1	TM374
144-189	1	TM376 (when using MC4A034A1 circuit pack) or TM377 (when using MC4A035A1 or MC4A044A1 circuit pack)
144-237	1	TM372 or TM684*

* CN 8225MV must be applied before **TM684** can be used

NOTE 1

Some circuit packs may have been removed and replaced earlier. Only circuit packs listed in TABLE A are to be removed

WARNING 1

An antistatic wrist strap must be worn to prevent electrostatic discharge and possible damage to circuit packs while handling

REPLACE DIF-E1 CONTROLLER 1 CIRCUIT PACKS WITH NEW CIRCUIT PACKS TO CONVERT CONTROLLER 1 TO MF, DTMF, OR 4 STATE

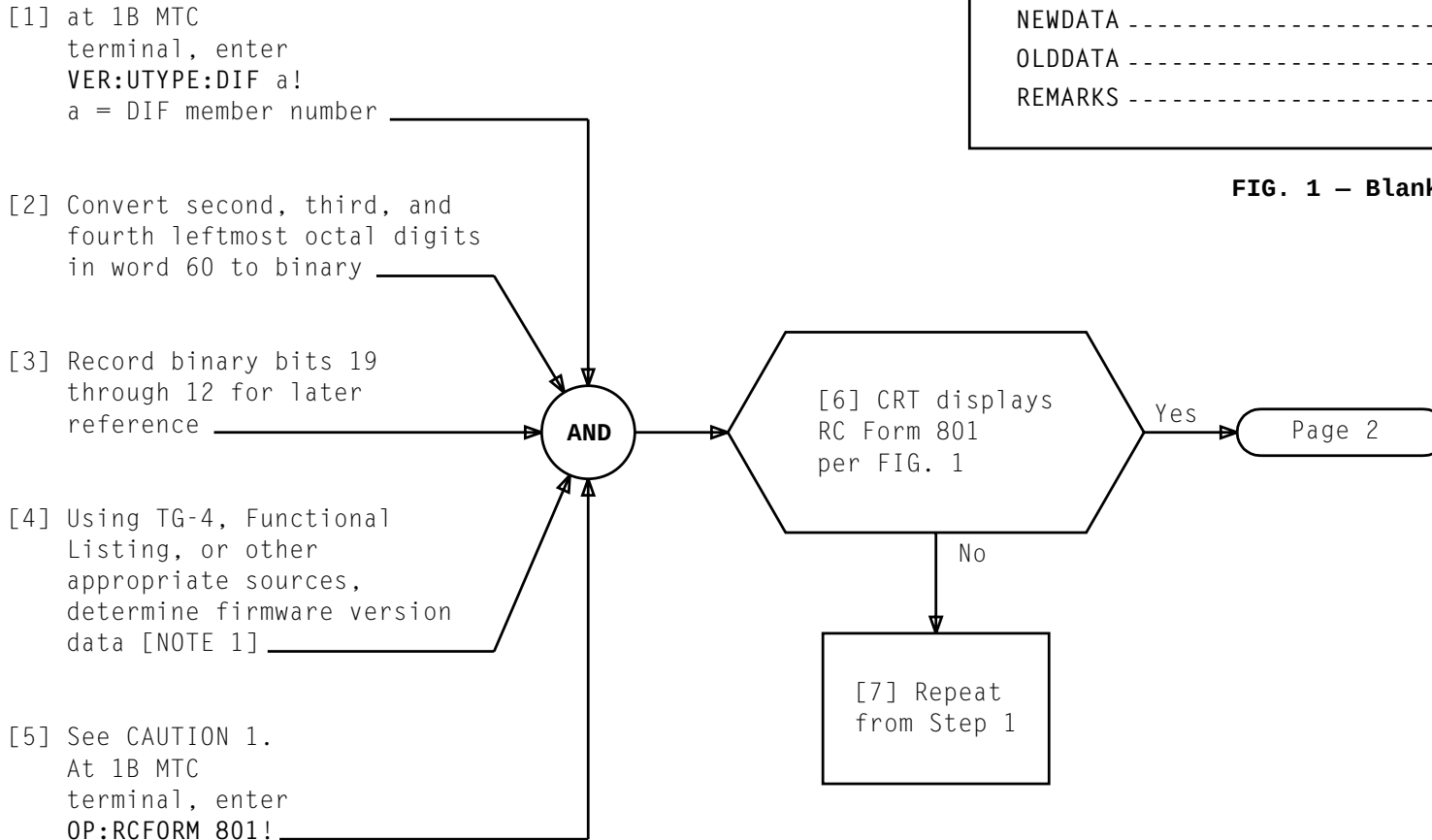
Issue 1	SEP 1997
234-353-030	DLP
PAGE 1 of 1	608

SUMMARY

Call up RC Form 801 on CRT. Using terminal, fill in blank fields on form to change MP and SP firmware data within the selected word of the DIF UT translator. Enter message; then verify.

```
RC:FUNC;CHG;OPT(TRANS), ---:      TRANSID-----,
ORNU -----,
ENTRY -----, WORDNO -----,
SIZE .., DISP ..,
BINOCT ..,
NEWDATA -----,
OLDDATA -----,
REMARKS ----- !
```

FIG. 1 – Blank RC Form 801



NOTE 1
PECC diagnostic center may be consulted for current version information

CAUTION 1
*Calling up
RC form will
cause all CRT
data to be
cleared*

PERFORM FUNCTIONAL WORD CHANGE OF DIF-E1 CONTROLLER 1 FIRMWARE VERSION DATA (MP AND SP)

[8] Read NOTES 2 and 3.
Using terminal and CRT
display of RC Form 801,
fill in blank fields on
RC Form 801 per TABLE A
and enter message

Page 3

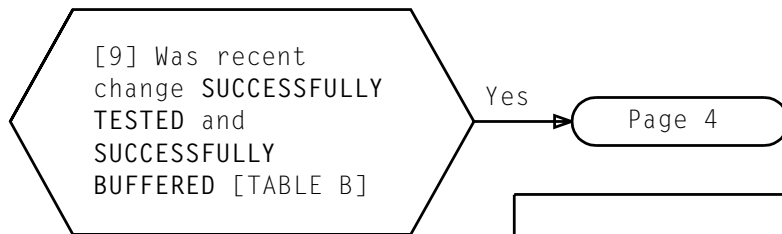
TABLE A	
MESSAGE NUMBER	OUTPUT MESSAGE
1	RC:FUNC;CHG;OPT(TRANS),a: TRANSID b, ORNU c, ENTRY d, WORDNO e, SIZE f, DISP g, BINOCT h, NEWDATA i, OLDDATA j, REMARKS..... !
a = TST b = UTDIF c = RC order number d = DIF member number e = 48 f = 8 g = 12 h = B i = Firmware version data in binary determined in Step 4 (8 binary bits required) j = Binary bits 19-12 recorded in Step 3	

NOTES

2. The quantity of binary bits to be entered as **NEWDATA** must be equal to decimal number entered as **SIZE**
3. The quantity of binary bits to be entered as **OLDDATA** must be equal to quantity of bits entered as **NEWDATA**

**PERFORM FUNCTIONAL WORD CHANGE OF DIF-E1 CONTROLLER 1
FIRMWARE VERSION DATA (MP AND SP)**

Issue 1	SEP 1997
234-353-030	DLP
PAGE 2 of 4	609



[10] Analyze output message for error; repeat from Step 1, Page 1, with corrected input data

TABLE B	
MESSAGE NUMBER	OUTPUT MESSAGE
1	RC ORNU a SUCCESSFULLY TESTED RC ORNU a SUCCESSFULLY BUFFERED RC:FUNC;CHG;OPT(TRANS),BUF: TRANSID UTDIF, ORNU a, ENTRY b, WORDNO 48, SIZE 8, DISP 12, BINOCT B, NEWDATA c, OLDDATA d, REMARKS _ _ _ _ _! REPT:RC DUMP OF UNIT TYPE ENTRY AS IT WILL APPEAR AFTER THE MESSAGE IS ACTIVATED WORD 0 _ _ _ _ _ WORD 10 _ _ _ _ _ . . . WORD 120 _ _ _ _ _
a = RC order number b = DIF member number c = New data entered d = Old data entered	

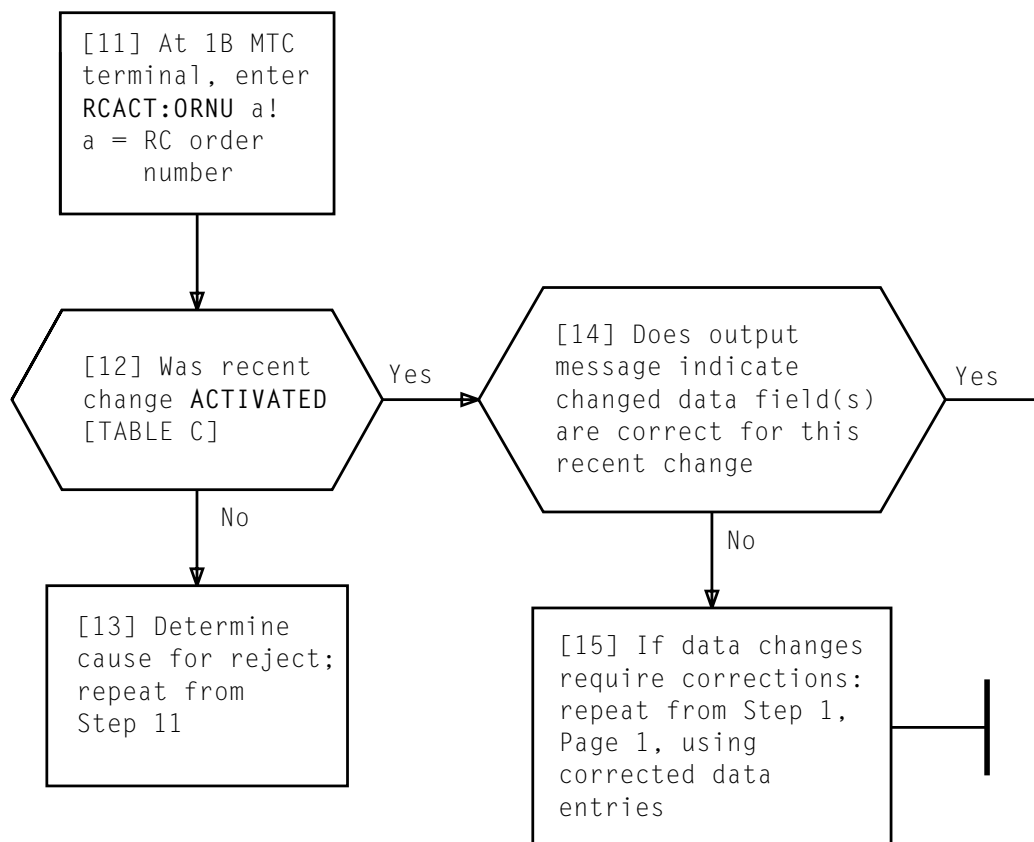


TABLE C	
MESSAGE NUMBER	OUTPUT MESSAGE
1	RC ORNU a ACTIVATED RC:FUNC;CHG;OPT(TRANS),BUF: TRANSID UTDIF, ORNU a, ENTRY b, WORDNO 48, SIZE 8, DISP 12, BINOCT B, NEWDATA c, OLDDATA d, REMARKS..... !
a = RC order number b = DIF member number c = New data entered d = Old data entered	

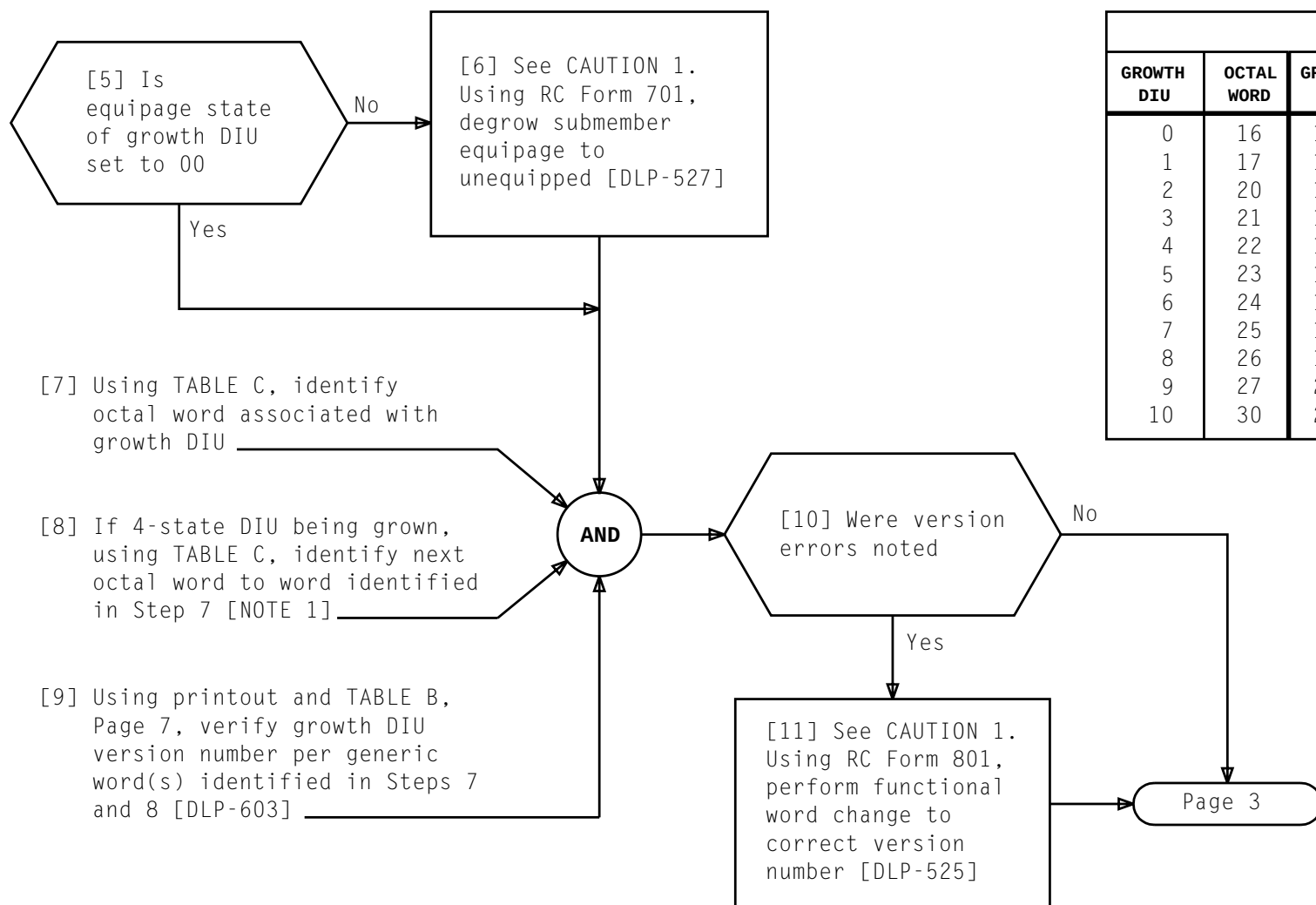
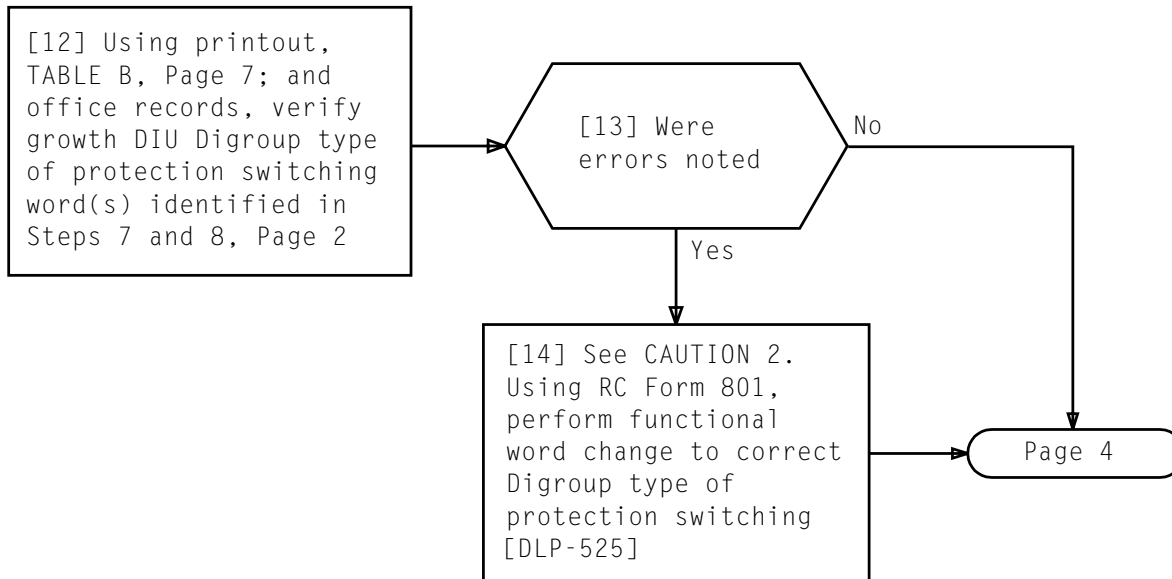


TABLE C					
GROWTH DIU	OCTAL WORD	GROWTH DIU	OCTAL WORD	GROWTH DIU	OCTAL WORD
0	16	11	31	22	44
1	17	12	32	23	45
2	20	13	33	24	46
3	21	14	34	25	47
4	22	15	35	26	50
5	23	16	36	27	51
6	24	17	37	28	52
7	25	18	40	29	53
8	26	19	41	30	54
9	27	20	42	31	55
10	30	21	43		

NOTE 1
If 4-state DIU is being grown, the following odd numbered DIU must be unequipped or a PIU DIU (SM1B – non E&M signaling)

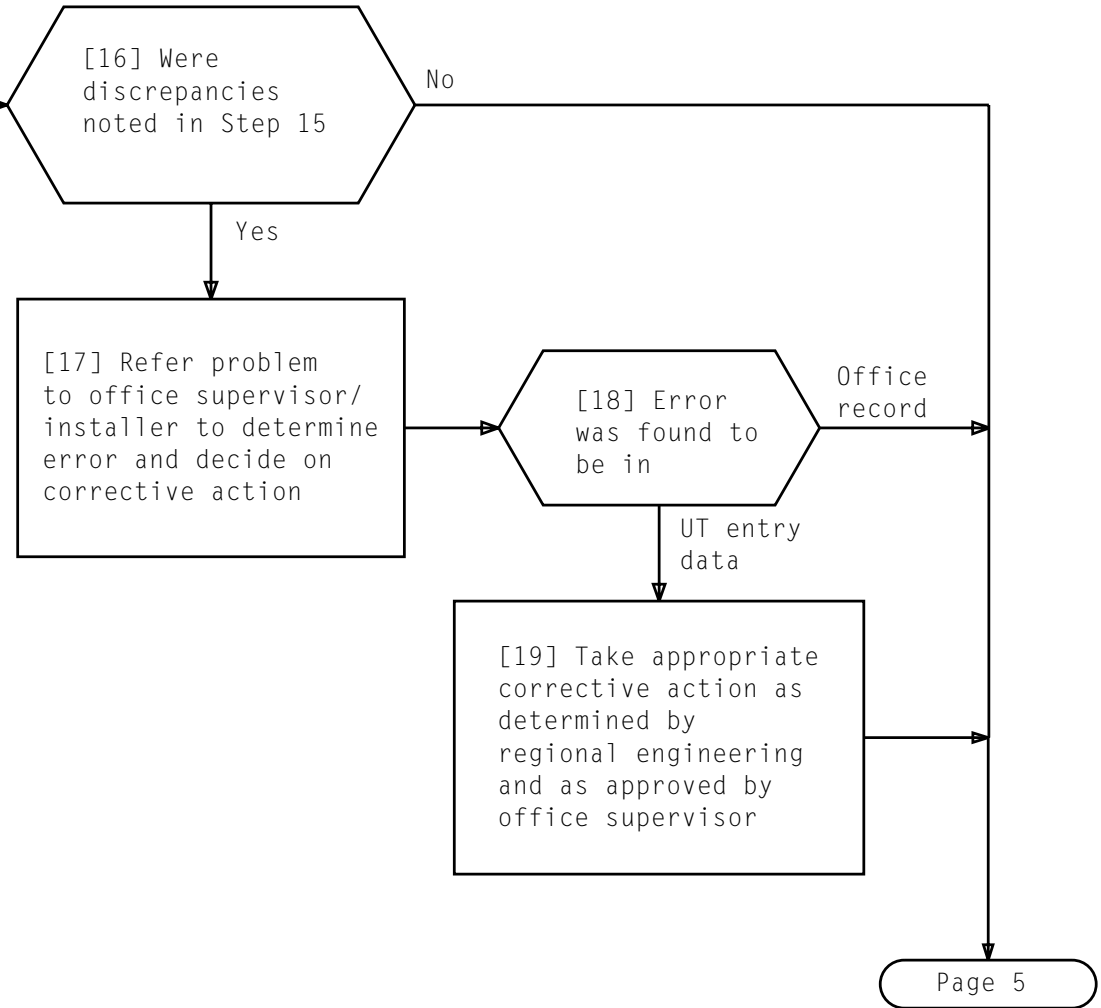
CAUTION 1
Depending on local procedures, supervisory or TELCO engineering approval must be obtained prior to performing any data change

Issue 1	SEP 1997
234-353-030	DLP
PAGE 2 of 10	610



<i>CAUTION 2</i> <i>Depending on local procedures, supervisory or TELCO engineering approval must be obtained prior to performing any data change</i>	
Issue 1	SEP 1997
234-353-030	DLP
PAGE 3 of 10	610

[15] Using printout, TABLE B, Page 7;
and office records, verify growth
DIU to TSI port assignment per
word(s) identified in Steps 7
and 8, Page 2 [DLP-584]



[20] Using printout, TABLE B, Page 7,
and office records, verify Type
Hardware per word(s) identified
in Steps 7 and 8, Page 2

[21] Using TABLE D, identify
octal word associated with
growth DIU

[22] If 4-state DIU being grown,
using TABLE D, identify next
octal word to word identified
in Step 21 [NOTE 2]

Using printout, TABLE B, Page 7,
and office records:

[23] Verify Type of Digroup per
word(s) identified in Steps
21 and 22

[24] Verify Type of Hardware for
Digroup 5 per word(s) identified
in Steps 21 and 22

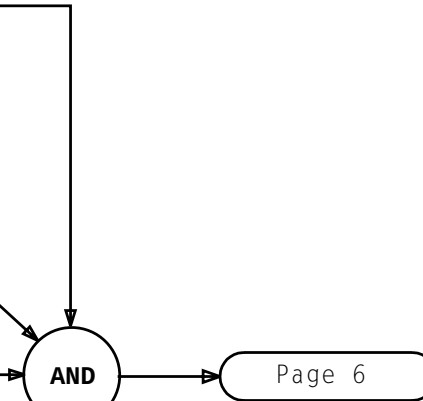
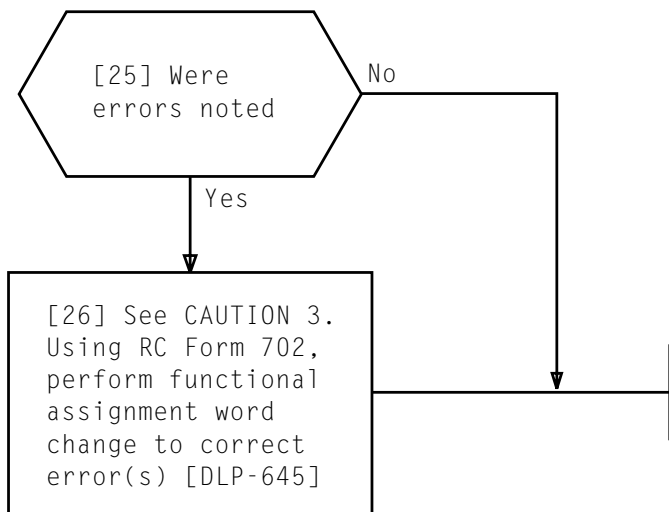


TABLE D					
GROWTH DIU	OCTAL WORD	GROWTH DIU	OCTAL WORD	GROWTH DIU	OCTAL WORD
0	61	11	74	22	107
1	62	12	75	23	110
2	63	13	76	24	111
3	64	14	77	25	112
4	65	15	100	26	113
5	66	16	101	27	114
6	67	17	102	28	115
7	70	18	103	29	116
8	71	19	104	30	117
9	72	20	105	31	120
10	73	21	106		

NOTE 2 If 4-state DIU is being grown, the following odd numbered DIU must be unequipped or a PIU DIU (SM1B – non E&M signaling)	
Issue 1	SEP 1997
234-353-030	DLP
PAGE 5 of 10	610



<i>CAUTION 3</i> <i>Depending on local procedures, supervisory or TELCO engineering approval must be obtained prior to performing any data change</i>	
Issue 1	SEP 1997
234-353-030	DLP
PAGE 6 of 10	610

VERIFY DIF UT DATA ASSOCIATED WITH GROWTH DIU

TABLE B																									
ENTRY WORD (OCTAL)	UT ENTRY DATA AND WORD CONFIGURATION																								
0	entry data																								
	octal output																								
	bit position																								
	binary values																								
		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y	
		23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
		0	W	W	Z	Z	Z	1	1	X	X	X	X	X	X	X	X	X	X	X	X	X	1	1	
										DIU 7	DIU 6		DIU 5		DIU 4		DIU 3		DIU 2		DIU 1		DIU 0		
		SUBMEMBER EQUIPAGE (DIU 0-7)																							
		XX = Equipage Status of DIU 00 = Unequipped 11 = Operational																							
		Y = Variable Octal Numbers																							
12	entry data																								
	octal output																								
	bit position																								
	binary values																								
		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y	
		23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
		W	Z	Z	Z	Z	Z	0	0	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
										DIU 15	DIU 14		DIU 13		DIU 12		DIU 11		DIU 10		DIU 9		DIU 8		
		SUBMEMBER EQUIPAGE (DIU 8-15)																							
		XX = Equipage Status of DIU 00 = Unequipped 11 = Operational																							
		Y = Variable Octal Numbers																							

TABLE B (Contd)

ENTRY WORD (OCTAL)	UT ENTRY DATA AND WORD CONFIGURATION																								
13	entry data																								
	octal output																								
	bit position																								
	binary values																								

TABLE B (Contd)

ENTRY WORD (OCTAL)	UT ENTRY DATA AND WORD CONFIGURATION																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
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X...X = Converts to decimal DIU-TSI level assignment as reflected in office record drawing T-nnnn-Hn-467 or equivalent

Y = Variable Octal Numbers

ZZZ = Version numbers of DIUs as reflected in appropriate office record and shipping info

UU = Type Hardware (Octal)
 00 = DIU unequipped
 01 = DIU hardware pack is SM1B
 02 = Unassigned
 03 = Unassigned
 04 = Unassigned
 05 = Unassigned
 06 = DIU is used for MF service circuit
 07 = DIU is used for DTMF service circuit
 10 = Unassigned
 11 = DIU hardware pack is SM9
 12 = DIU hardware pack is SM10

V = Digroup Type of Protection Switching
 0 = Trunks on Digroup not to be removed when DIU protection switched
 1 = Trunks on Digroup to be removed when DIU protection switched

TABLE B (Contd)

ENTRY WORD (OCTAL)	UT ENTRY DATA AND WORD CONFIGURATION																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
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		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y	

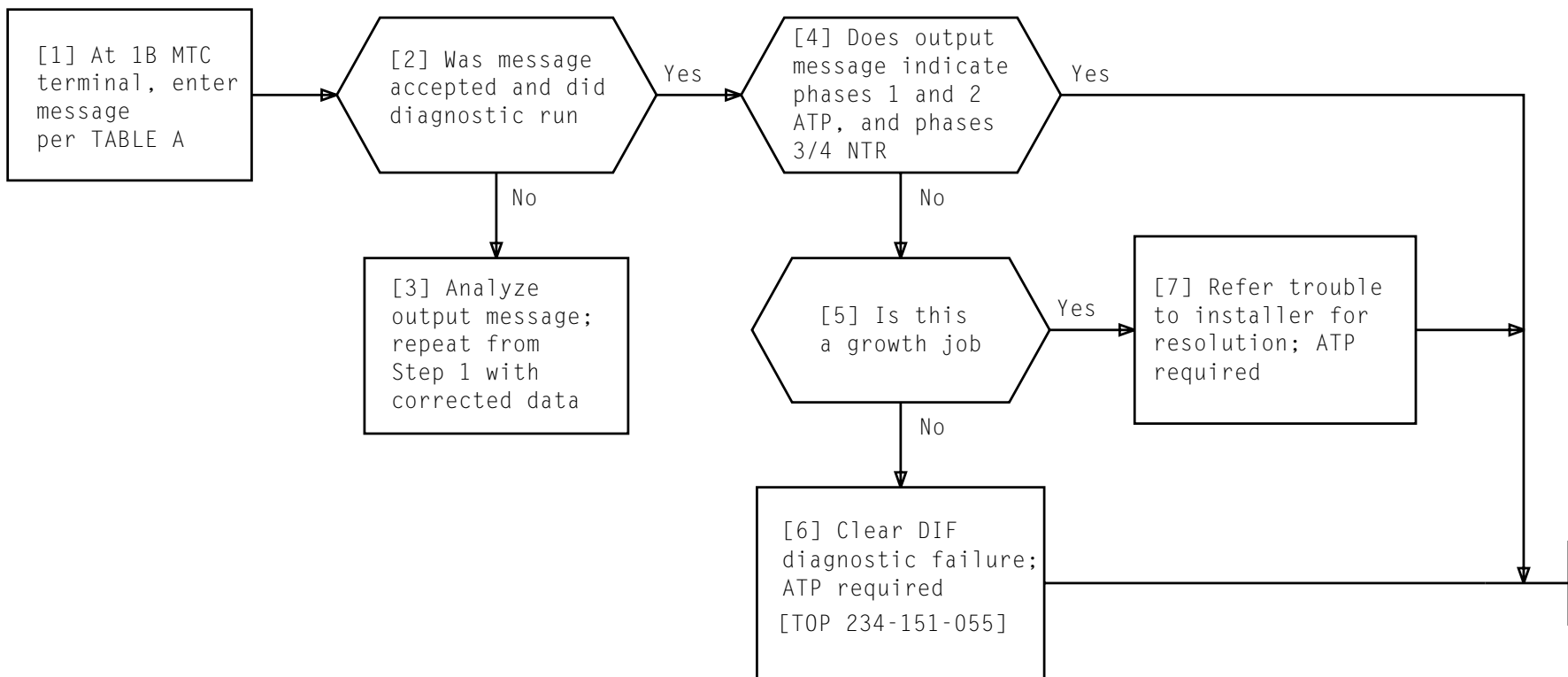


TABLE A	
MESSAGE NUMBER	INPUT MESSAGE
1	DGN:DIF a,DIU b:PH c,GROWTH!
a = Member number of growth DIF b = Submember number of growth DIU c = 1-4 (for MF or DTMF DIU) or 1-3 (for all other DIUs)	

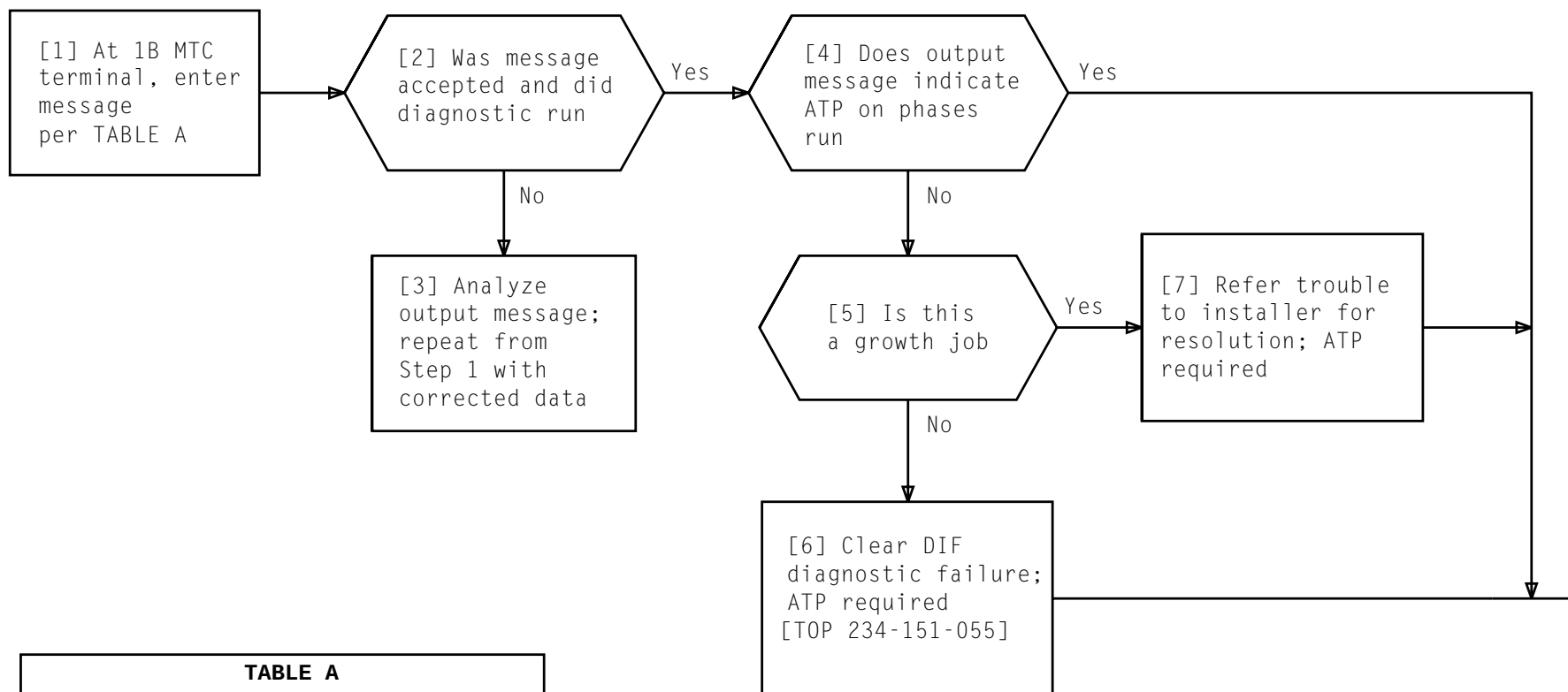


TABLE A	
MESSAGE NUMBER	INPUT MESSAGE
1	DGN:DIF a,DIU b:PH c,GROWTH!
a = Member number of growth DIF b = Submember number of growth DIU c = 1-4 (for MF or DTMF DIU) or 1-3 (for all other DIUs)	

TABLE B		
ENTRY WORD (OCTAL)	UT ENTRY DATA AND WORD CONFIGURATION	
0 and 1	entry data octal output →	Y Y Y Y Y Y Y Y
	bit position →	23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 0
	binary values →	
		Z
Z = Controller 0/1 Status 0 = Inactive 1 = Active Y = Variable Octal Number		

SUMMARY

Using Trunk Status message in TABLE A verifies that growth service circuits are preassigned to TSG and in CAD disabled state.

[1] At 1B MTC terminal, enter input message per TABLE A to verify MF or DTMF service circuits associated with growth DIU

[2] Does output message show growth service circuits preassigned and in CAD disabled state [TABLE B]

Yes

No

[3] Refer to appropriate support organization to assign service circuit trunks; repeat from Step 1

TABLE A

MESSAGE NUMBER	INPUT MESSAGE		
1	OP:TRKSTAT,CIN a SVC b;SUM:NUM 16,STAT CAD.DSA!		
a = Base traffic number of service circuit associated with growth DIU b = *MFR**** or *DMRV*** for Receivers *MFX**** or *DMXM*** for Transmitters			
†DIF	DIU	CKT	†TRAFFIC #
4	1	00	400
4	18	16	416
4	9	32	432
4	26	48	448
10	1	00	1000
10	18	16	1016
10	9	32	1032
10	26	48	1048
† For DIF numbers 2 to 23, use DIF number for first number of traffic number i.e., DIF 12 Traffic numbers = 1200, 1216, 1232, and 1248			

TABLE B

MESSAGE NUMBER	OUTPUT MESSAGE
1	OP:TRKSTAT CAD.DSA, CIN a SVC b 51T NUM, SUM COMPLETED TRK COUNT 16 06/27/84 08:56:34 #040
	a = Base traffic number of service circuits associated with growth DIU b = *MFR**** or *DMRV*** for Receivers *MFX**** or *DMXM*** for Transmitters

VERIFY GROWTH MF OR DTMF DIU SERVICE CIRCUITS ARE ASSIGNED TO TSG

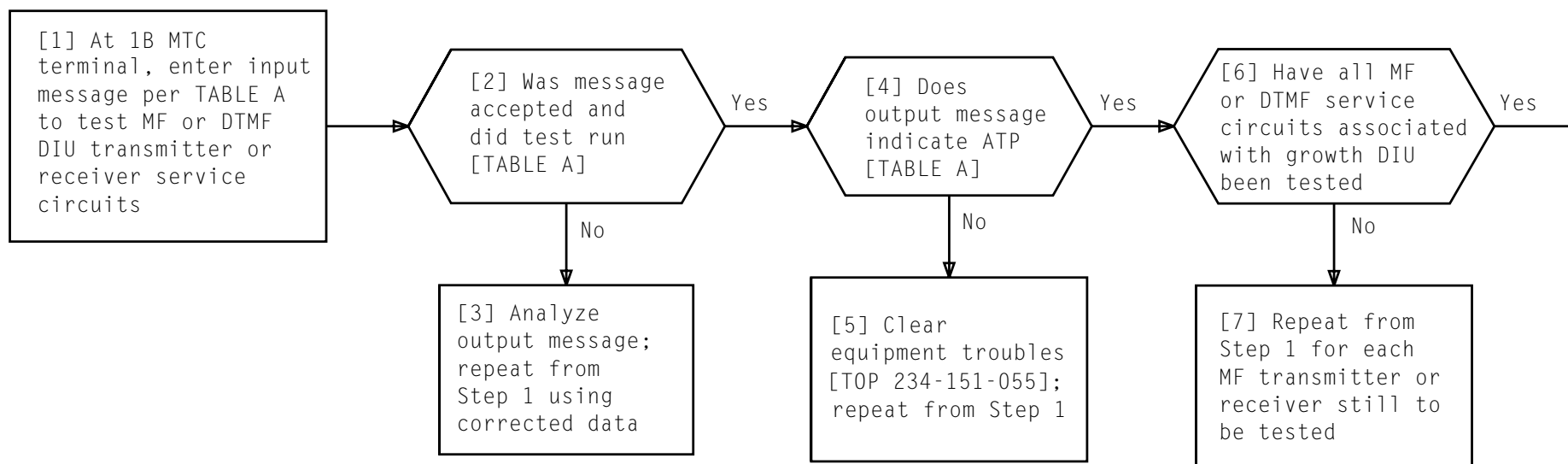


TABLE A	
INPUT MESSAGE	OUTPUT MESSAGE
TEST:TRK,CIN a SVC b;SVC:TSG,STAT MTC.LK0,PALL!	TEST:TRK,CIN a SVC b;SVC,ATP
a = Base traffic number of first service circuit associated with growth DIU b = *MFR**** or *DMRV*** for Receivers *MFx**** or *DMXM*** for Transmitters	

TEST MF OR DTMF TRANSMITTER AND/OR RECEIVER SERVICE CIRCUITS OF GROWTH DIU

Issue 1	SEP 1997
234-353-030	DLP
PAGE 1 of 1	615

[1] Using compool, determine address for OD4DIFTYPE

[2] At 1B MTC terminal, enter message
DUMP:CSS,ADR a,L 32!
a = Address determined in Step 1

[3] Using printout and TABLE A, record data word equal to growth associated DIF member number

[4] Convert two rightmost octal digits of data word (Step 2) to binary

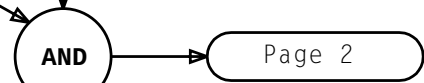


TABLE A	
MESSAGE NUMBER	OUTPUT MESSAGE
1	DUMP:CSS,INDIR 0,ADR a,INC +0 COMPLETED
	a (WORD 0) _____
	(WORD 4) _____
	a + 10 (WORD 8) _____
	(WORD 12) _____
	a + 20 (WORD 16) _____
	(WORD 20) _____
	a + 30 (WORD 24) _____
(WORD 28) _____	
a = Address determined in Step 1	

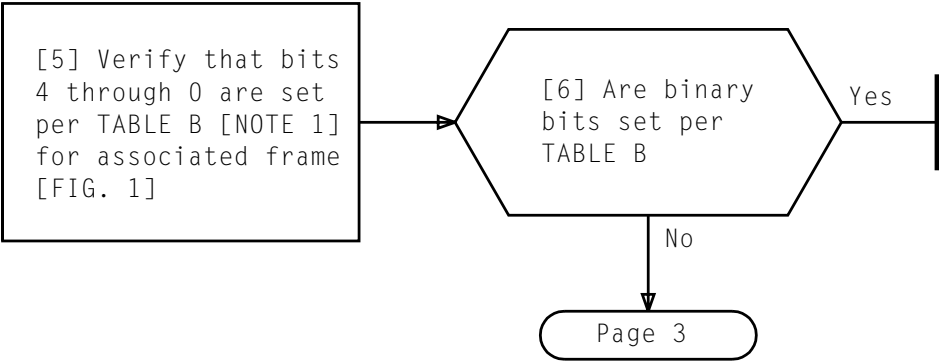


TABLE B		
FRAME	MTHG	BITS 4-0
DTMF DIF-E1*	4	01000
DIF (J68960A)	0	00100
MF DIF-E1*	3 or 5	00001
Voice DIF-E1*	1	10000
* DIF-E1 is J5X059B		

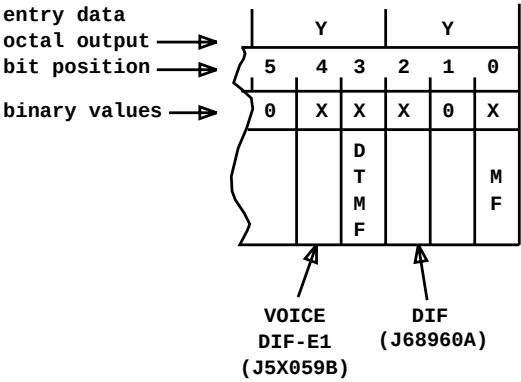


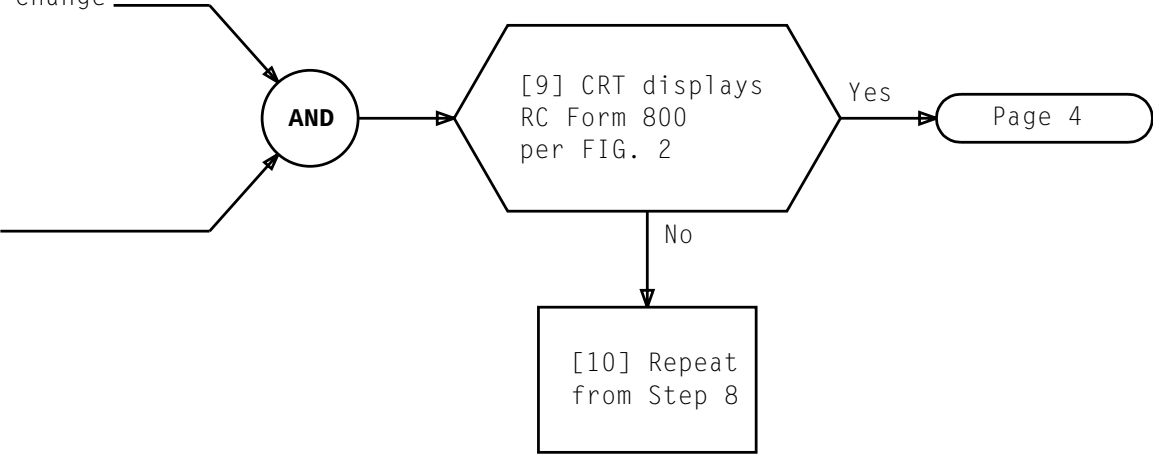
FIG. 1

VERIFY DIF TYPE TABLE

NOTE 1	
MTHG column in TABLE A is associated with Word 0 in unit type translator of DIF type being grown	
Issue 1	SEP 1997
234-353-030	DLP
PAGE 2 of 6	616

[7] Record binary value of bits 4 through 0 for use as OLDDATA in word change

[8] See CAUTION 1.
At 1B MTC terminal, enter
OP:RCFORM 800!



RC:FUNC;CHG;OPT (ABSOLUTE),---	:	FSONLY _ ,	ADDRESS -----,
ORNU -----,			
WORDNO -----,			
SIZE -- ,	DISP -- ,		
BINOCT _ ,			
NEWDATA -----,			
OLDDATA -----,			
REMARKS -----			!

FIG. 2 – Blank RC Form 800

CAUTION 1
Calling up
RC form will
cause all CRT
data to be
cleared

Issue 1	SEP 1997
234-353-030	DLP
PAGE 3 of 6	616

[11] Read NOTES 1 and 2.
Using terminal and CRT
display of RC Form 800,
fill in blank fields on
RC Form 800 per TABLE C
and enter message

Page 5

TABLE C

MESSAGE NUMBER	INPUT MESSAGE
1	RC:FUNC;CHG;OPT(ABSOLUTE),a: FSONLY b, ADDRESS c, ORNU d, WORDNO e, SIZE f, DISP g, BINOCT h, NEWDATA i, OLDDATA j, REMARKS
a = TST b = N c = Address determined in Step 1, Page 1 d = RC order number e = DIF member number f = 5 g = 0 h = B i = 01000 (for DTMF frame) 00100 (for DIF J68960A) 00001 (for MF frame) 10000 (for DIF-E1 J5X059B) j = Binary bits 4 through 0 recorded in Step 7, Page 3	

NOTES

1. The quantity of binary bits to be entered as **NEWDATA** must be equal to decimal number entered as **SIZE**
2. The quantity of binary bits to be entered as **OLDDATA** must be equal to quantity of bits entered as **NEWDATA**

Issue 1	SEP 1997
234-353-030	DLP
PAGE 4 of 6	616

VERIFY DIF TYPE TABLE

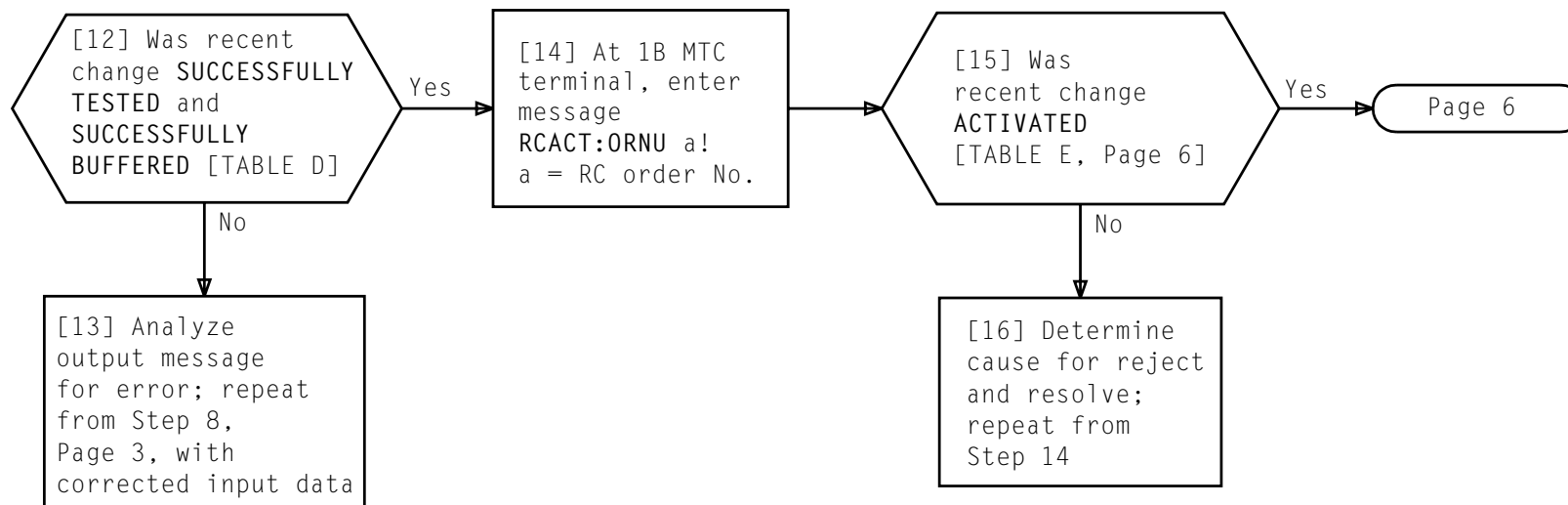


TABLE D	
MESSAGE NUMBER	OUTPUT MESSAGE
1	RC ORNU a SUCCESSFULLY TESTED RC ORNU a SUCCESSFULLY BUFFERED RC:FUNC;CHG;OPT(ABSOLUTE),BUF: FSONLY N,ADDRESS a, ORNU b, WORDNO c, SIZE 5, DISP 0, BINOCT B, NEWDATA d, OLDDATA e, REMARKS ----- !
a = Address determined in Step 1, Page 1 b = RC Order number c = DIF member number d = New data entered e = Old data entered	

VERIFY DIF TYPE TABLE

Issue 1	SEP 1997
234-353-030	DLP
PAGE 5 of 6	616

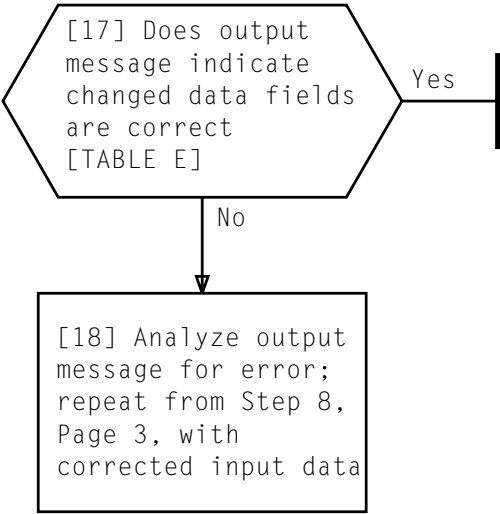


TABLE E	
MESSAGE NUMBER	OUTPUT MESSAGE
1	RC ORNU a ACTIVATED RC:FUNC;CHG;OPT(ABSOLUTE),BUF: FSONLY N,ADDRESS a, ORNU b, WORDNO c, SIZE 5, DISP 0, BINOCT B, NEWDATA d, OLDDATA e, REMARKS ----- ! a = Address determined in Step 1, Page 1 b = RC Order number c = DIF member number d = New data entered e = Old data entered

[1] See NOTES 1 and 2. Enter message per TABLE A

[2] Using terminal, locate and record octal value for TSGN

[3] Enter message per TABLE B using recorded octal value (Step 2)

AND

[4] Does printout indicate ASN under STATUS column for any circuit

Yes

No

[5] Refer to appropriate support organization to assign receivers or transmitters. Repeat from Step 1

TABLE A

MESSAGE NUMBER	INPUT MESSAGE		
1	VER:TRKNAME,CIN a SVC b;DETL!		
a = Base traffic number of service circuit associated with growth DIU			
b = *MFR**** or *DMRV*** when testing transmitters *MFX**** or *DMXM*** when testing receivers			
†DIF	DIU	CKT	†TRAFFIC #
4	1	00	400
4	18	16	416
4	9	32	432
4	26	48	448
10	1	00	1000
10	18	16	1016
10	9	32	1032
10	26	48	1048
† For DIF numbers 2 to 31, use DIF number for first number of traffic number i.e., DIF 12 Traffic numbers = 1200, 1216, 1232, and 1248			

TABLE B

MESSAGE NUMBER	INPUT MESSAGE
1	VER:TSG:TSGN 0'a!
a = octal value recorded in Step 2	

NOTES

1. When testing receiver service circuits, transmitter must be assigned and active.
2. When testing transmitter service circuits, receiver must be assigned and active

Issue 1 SEP 1997

234-353-030 DLP

PAGE 1 of 1 617

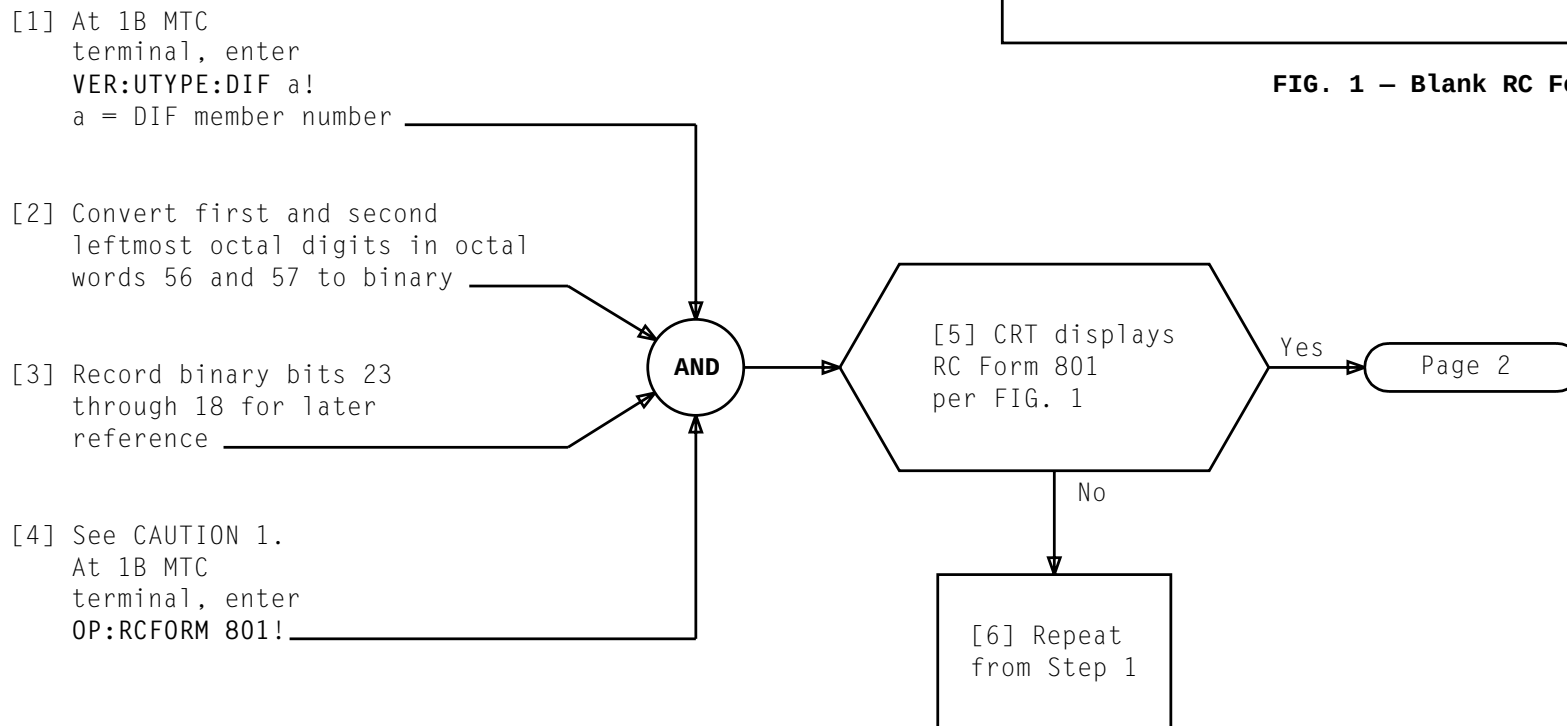
VERIFY UNIT IS ACTIVE

SUMMARY

Call up RC Form 801 on CRT. Using terminal, fill in blank fields on form to identify and to change terminal unit MP and SP data within the selected word of the DIF UT translator. Enter message; then verify inactive translations.

```
RC:FUNC;CHG;OPT(TRANS), ---:      TRANSID-----,
ORNU -----,
ENTRY -----, WORDNO -----,
SIZE .., DISP ..,
BINOCT ..,
NEWDATA -----,
OLDDATA -----,
REMARKS ----- !
```

FIG. 1 – Blank RC Form 801



CAUTION 1
Calling up
RC form will
cause all CRT
data to be
cleared

PERFORM FUNCTIONAL WORD CHANGE OF DIU TYPE DATA

[7] Read NOTES 1 and 2.
Using terminal and CRT
display of RC Form 801,
fill in blank fields on
RC Form 801 per TABLE A
and enter message

Page 3

TABLE A

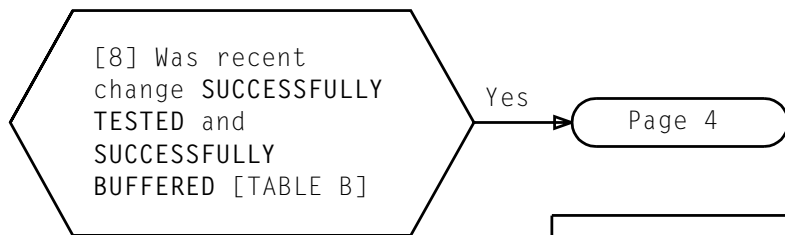
MESSAGE NUMBER	OUTPUT MESSAGE
1	RC:FUNC;CHG;OPT(TRANS),a: TRANSID b, ORNU c, ENTRY d, WORDNO e, SIZE f, DISP g, BINOCT h, NEWDATA i, OLDDATA j, REMARKS..... !
a = TST b = UTDIF c = RC order number d = DIF member number e = 46 (for DIU 32) 47 (for DIU 33) f = 6 g = 18 h = B i = 000001 (for SM1B circuit pack) 001001 (for SM9 circuit pack) 001010 (for SM10 circuit pack) j = Binary bits 23-18 recorded in Step 3, Page 1	

NOTES

1. The quantity of binary bits to be entered as **NEWDATA** must be equal to decimal number entered as **SIZE**
2. The quantity of binary bits to be entered as **OLDDATA** must be equal to quantity of bits entered as **NEWDATA**

Issue 1	SEP 1997
234-353-030	DLP
PAGE 2 of 4	618

PERFORM FUNCTIONAL WORD CHANGE OF DIU TYPE DATA



[9] Analyze output message for error; repeat from Step 1, Page 1, with corrected input data

TABLE B	
MESSAGE NUMBER	OUTPUT MESSAGE
1	RC ORNU a SUCCESSFULLY TESTED RC ORNU a SUCCESSFULLY BUFFERED RC:FUNC;CHG;OPT(TRANS),BUF: TRANSID UTDIF, ORNU a, ENTRY b, WORDNO c, SIZE 6, DISP 18, BINOCT B, NEWDATA d, OLDDATA e, REMARKS _ _ _ _ _! REPT:RC DUMP OF UNIT TYPE ENTRY AS IT WILL APPEAR AFTER THE MESSAGE IS ACTIVATED WORD 0 _ _ _ _ _ WORD 10 _ _ _ _ _ . . WORD 120 _ _ _ _ _
a = RC order number b = DIF member number c = Word number entered d = New data entered e = Old data entered	

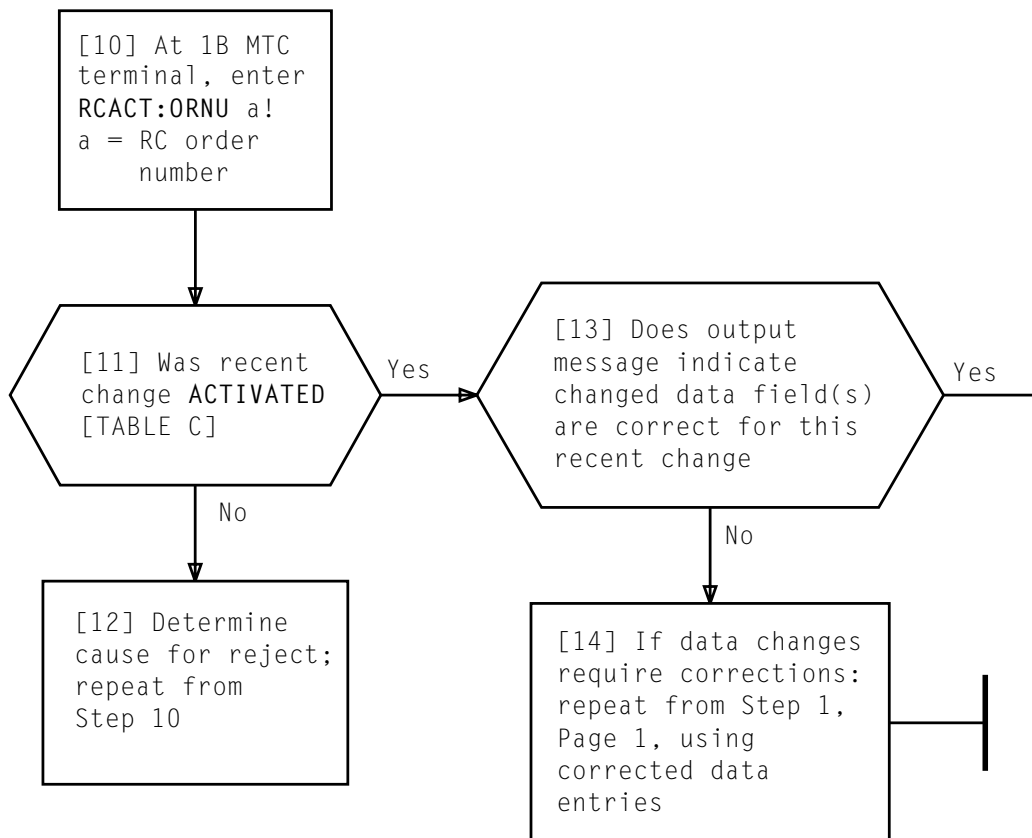
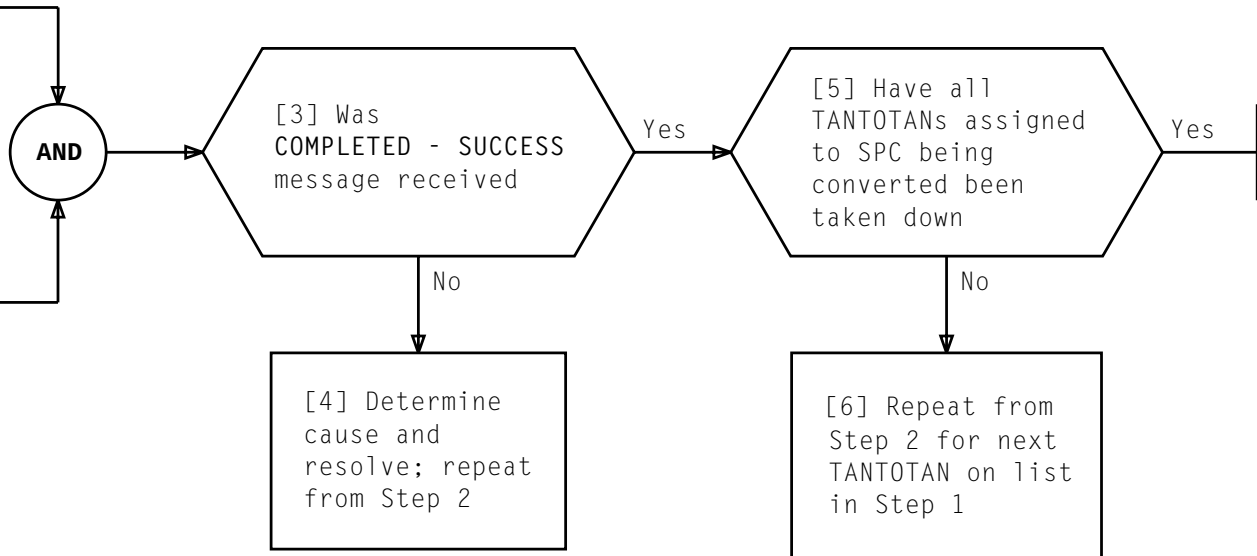


TABLE C	
MESSAGE NUMBER	OUTPUT MESSAGE
1	RC ORNU a ACTIVATED RC:FUNC;CHG;OPT(TRANS),BUF: TRANSID UTDIF, ORNU a, ENTRY b, WORDNO c, SIZE 6, DISP 18, BINOCT B, NEWDATA d, OLDDATA e, REMARKS..... !
a = RC order number b = DIF member number c = Word number entered d = New data entered e = Old data entered	

[1] Obtain CIN assignments of TANTOTANs on SPC being converted

[2] At MTCE channel, enter message for one TANTOTAN on list in Step 1
 ORD:TANTOTAN;a,CIN b:CIN c!
 a = RLS (to take down TANTOTAN) or CONN (to connect TANTOTAN)
 b = CIN of First Trunk
 c = CIN of Second Trunk



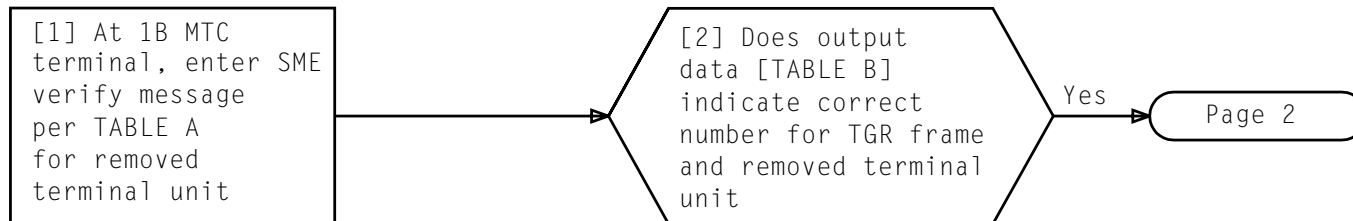


TABLE A																																			
MESSAGE NUMBER	INPUT MESSAGE																																		
1	VER:UTYPE:TGR a,SME b!																																		
a = Member number of TGR b = Index number associated with terminal unit: <table> <tr> <th>Terminal Unit</th><th>Index Number</th></tr> <tr><td>0</td><td>32</td></tr> <tr><td>1</td><td>33</td></tr> <tr><td>2</td><td>34</td></tr> <tr><td>3</td><td>35</td></tr> <tr><td>4</td><td>36</td></tr> <tr><td>5</td><td>37</td></tr> <tr><td>6</td><td>38</td></tr> <tr><td>7</td><td>39</td></tr> <tr><td>8</td><td>40</td></tr> <tr><td>9</td><td>41</td></tr> <tr><td>10</td><td>42</td></tr> <tr><td>11</td><td>43</td></tr> <tr><td>12</td><td>44</td></tr> <tr><td>13</td><td>45</td></tr> <tr><td>14</td><td>46</td></tr> <tr><td>15</td><td>47</td></tr> </table>		Terminal Unit	Index Number	0	32	1	33	2	34	3	35	4	36	5	37	6	38	7	39	8	40	9	41	10	42	11	43	12	44	13	45	14	46	15	47
Terminal Unit	Index Number																																		
0	32																																		
1	33																																		
2	34																																		
3	35																																		
4	36																																		
5	37																																		
6	38																																		
7	39																																		
8	40																																		
9	41																																		
10	42																																		
11	43																																		
12	44																																		
13	45																																		
14	46																																		
15	47																																		

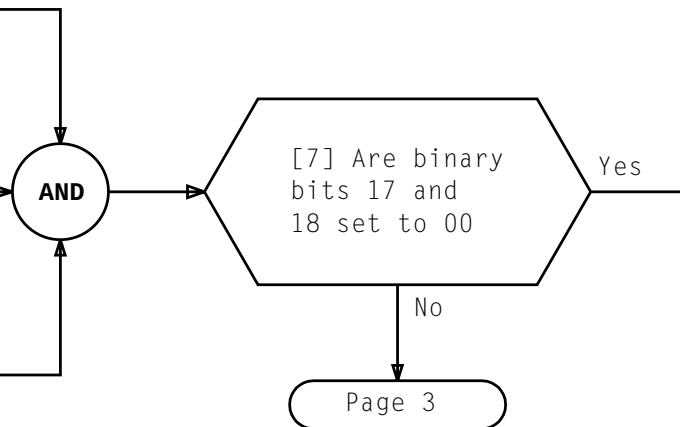
[3] Determine causes and resolve; repeat from Step 1

TABLE B	
MESSAGE NUMBER	OUTPUT MESSAGE
1	VER:UTMN;OPT(SME),CUR: FLN a, UTYN TGR, MEMN b, ME OPER, SUBMEM c, SME OPER, TERM d, ADR e (WORD 0) UTYPE DATA (WORD 3) TERM USE i MATE USE i TERM NUM f TGR g SLC TRANS DATA ADR h (WORD 0) SLC DATA (WORD 3)
a = Floor location number b = Member number of TGR c = Index number of growth terminal unit d = Growth terminal unit number e = Starting octal address of UTYPE DATA f = Submember number of mate terminal unit g = Member number of TGR containing mate terminal unit h = Starting address of SLC DATA i = DOM or INTL	

[4] Using printout and
TABLE B, Page 1, record
UTYPE data word 2

[5] Convert second and
third leftmost octal
digits of data word
2 (Step 4) to binary

[6] Determine if bits
17 and 18 are 00
[FIG. 1]



entry data																								
octal output	0		Y		Y		Y		Y		Y		Y		Y		Y							
bit position	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
binary values	0	0	0	Z	W	U	U	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	GENERIC SIGNALING TYPE					DIR. SIG. CONFIG.		SP MEMBER NUMBER					MATRIX		SP ROW NUMBER					SP COLUMN NUMBER				
	RESERVE VOICE FREQUENCY LINK TRUNK SCANNER NUMBER																							

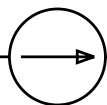
FIG. 1 – Data Word 2 Layout

[8] See CAUTION 1.
At 1B MTC terminal,
enter message
OP:RCFORM 801!

CRT displays RC
Form 801 per
TABLE D, Page 4

[9] Determine from TABLE C, UT decimal
word corresponding to removed
terminal unit and record _____

[10] Using 1B terminal and CRT display
of RC Form 801, fill in blank
fields on RC Form 801 per TABLE D,
Page 4 and enter message _____



AND

Page 5

TABLE C

GROWTH TERMINAL UNIT	UT DECIMAL WORD	GROWTH TERMINAL UNIT	UT DECIMAL WORD
0	19	8	51
1	23	9	55
2	27	10	59
3	31	11	63
4	35	12	67
5	39	13	71
6	43	14	75
7	47	15	79

CAUTION 1

*Calling up
RC form will
cause all CRT
data to be
cleared*

Issue 1 **SEP 1997**

234-353-030 **DLP**

PAGE 3 of 6 **620**

DISABLE DIRECT SIGNALING TRAFFIC CONFIGURATION

TABLE D	
MESSAGE NUMBER	INPUT MESSAGE
1	RC:FUNC;CHG;OPT(TRANS),a: TRANSID b, ORNU c, ENTRY d, WORDNO e, SIZE f, DISP g, BINOCT h, NEWDATA i, OLDDATA j, REMARKS..... !
a = TST b = UTTGR c = RC order number d = Member number of TGR containing growth terminal unit e = UT decimal word number previously recorded in Step 9 f = 2 g = 17 h = B i = 00 j = Old data from Step 6, Page 2	

CAUTION 1 Calling up RC form will cause all CRT data to be cleared	
Issue 1	SEP 1997
234-353-030	DLP
PAGE 4 of 6	620

DISABLE DIRECT SIGNALING TRAFFIC CONFIGURATION

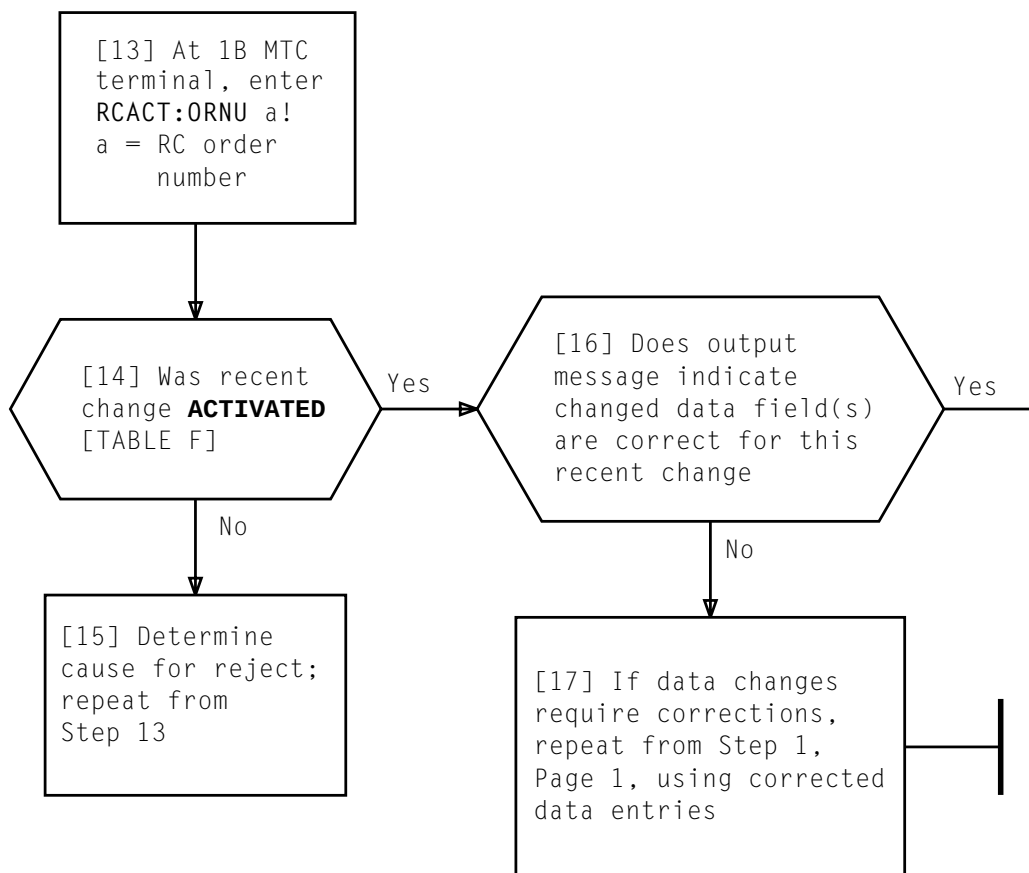


TABLE F	
MESSAGE NUMBER	OUTPUT MESSAGE
1	RC ORNU a ACTIVATED RC:FUNC;CHG;OPT(TRANS),BUF: TRANSID UTTGR, ORNU a, ENTRY b, WORDNO c, SIZE 2, DISP 17, BINOC B, NEWDATA 00, OLDDATA d, REMARKS_____ !
a = RC order number b = Member number of TGR containing growth terminal unit c = UT decimal word number previously recorded in Step 9, Page 3 d = Old data from Step 6, Page 2	

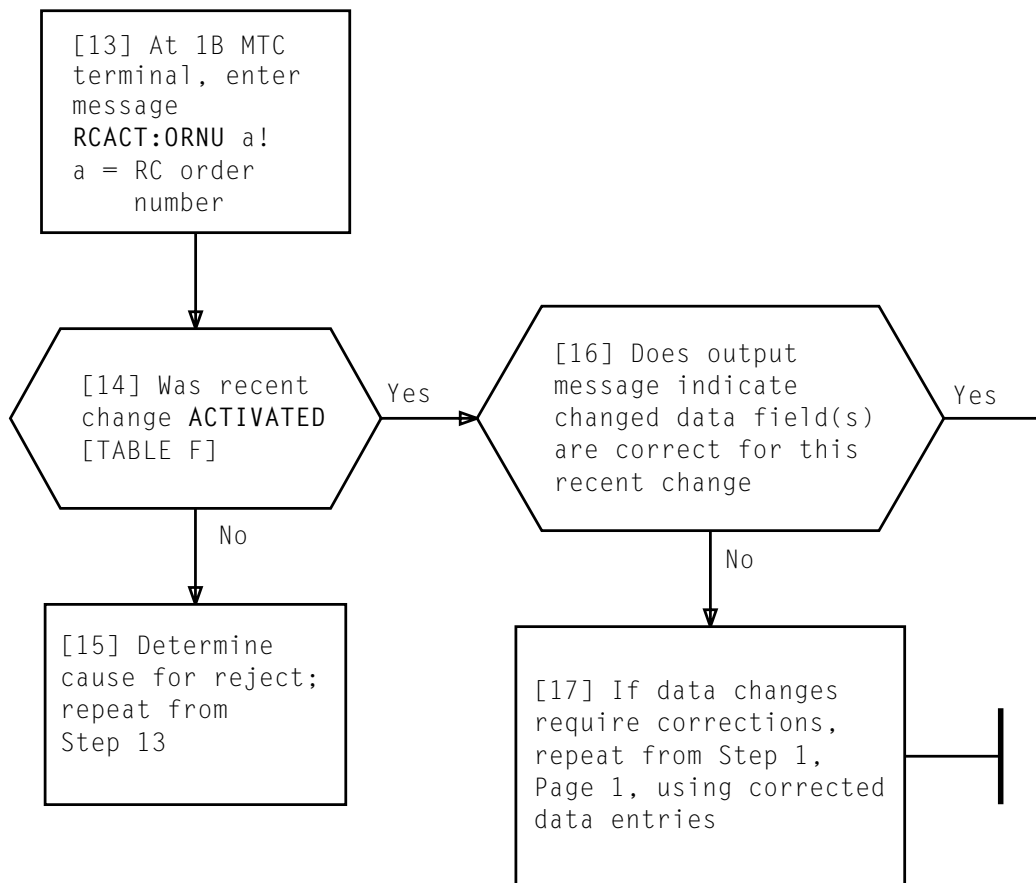
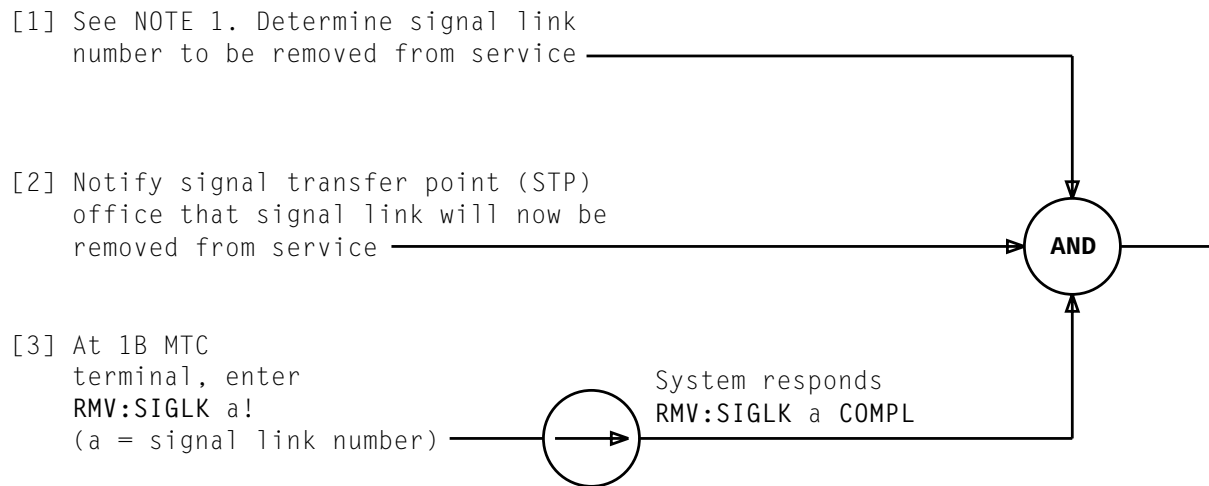


TABLE F	
MESSAGE NUMBER	OUTPUT MESSAGE
1	RC ORNU a ACTIVATED RC:FUNC;CHG;OPT(TRANS),BUF: TRANSID UTTGR, ORNU a, ENTRY b, WORDNO c, SIZE 2, DISP 17, BINOCT B, NEWDATA 00, OLDDATA d, REMARKS..... !
a = RC order number b = Member number of TGR containing growth terminal unit c = UT decimal word number previously recorded in Step 9, Page 3 d = Old data from Step 6, Page 2	



NOTE 1
Signal link number is a 4-digit number. First two digits are terminal group number; second two digits are terminal unit number within terminal group

Issue 1	SEP 1997
234-353-030	DLP
PAGE 1 of 1	621

REMOVE CCIS SIGNAL LINK FROM SERVICE

NOTE: For power switch and fuse locations, first digit indicates in which bay or frame the unit is located.
0 = Bay 0, Basic Frame
1 = Bay 1, Basic Frame
2 = 1st Supplementary Frame
3 = 2nd Supplementary Frame

1. Identify power switch associated with amplifier and pad unit [TABLE A]
End of procedure

TABLE A	
UNIT	PWR SWITCH LOCATION
TERM 00	054-27
TERM 01	054-31
TERM 02	054-35
TERM 03	154-27
TERM 04	154-31
TERM 05	154-35
TERM 06	254-27
TERM 07	254-31
TERM 08	254-35
TERM 09	254-39
TERM 10	254-43
TERM 11	354-27
TERM 12	354-31
TERM 13	354-35
TERM 14	354-39
TERM 15	354-43

IDENTIFY POWER SWITCH LOCATION

[1] If D4 channel units are associated with terminal to be adjusted, ensure channel unit pads have been adjusted for 0 drop across the **4ESS**TM switch

[2] At 1B MTC terminal, enter
VER:TRKNAME,CIN a MIS*TERM* b:OTAN!**
a = traffic number (TFN) of terminal =
TGR number times 16 plus terminal
number within TGR
b = office identity

[3] Record octal TAN (OTAN) from output (Step 2) for later reference

[4] At terminal associated with AMP/PAD to be adjusted, remove terminal modem interface (TMI) unit

[5] On facility test panel at location 27-37, connect transmission measuring set (TMS) [600 ohm terminated] to **RCV-B** (a) (a = terminal to be adjusted) test jack [FIG. 1, Page 2, for domestic, FIG. 2 for international]

AND

Page 3

ADJUST AMPLIFIER AND PAD ON AMP/PAD UNIT USING RMS-D2

Issue 1	SEP 1997
234-353-030	DLP
PAGE 1 of 8	623

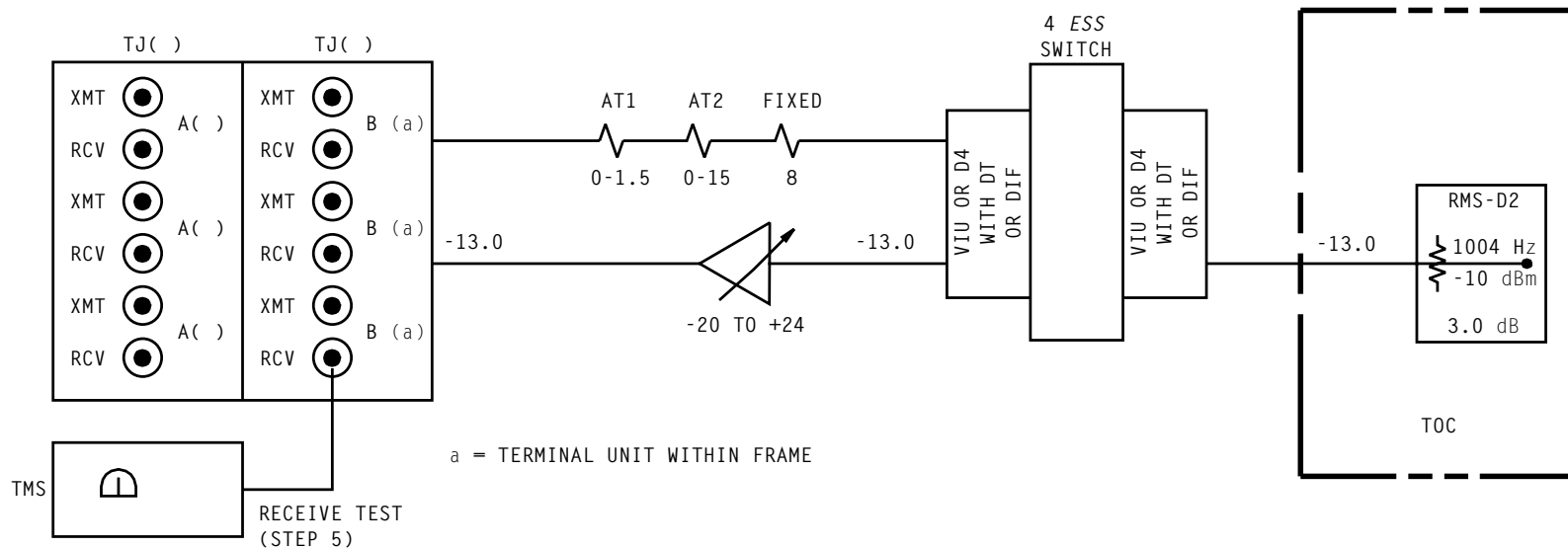


FIG. 1 – TMS and Loopback Connections – Domestic

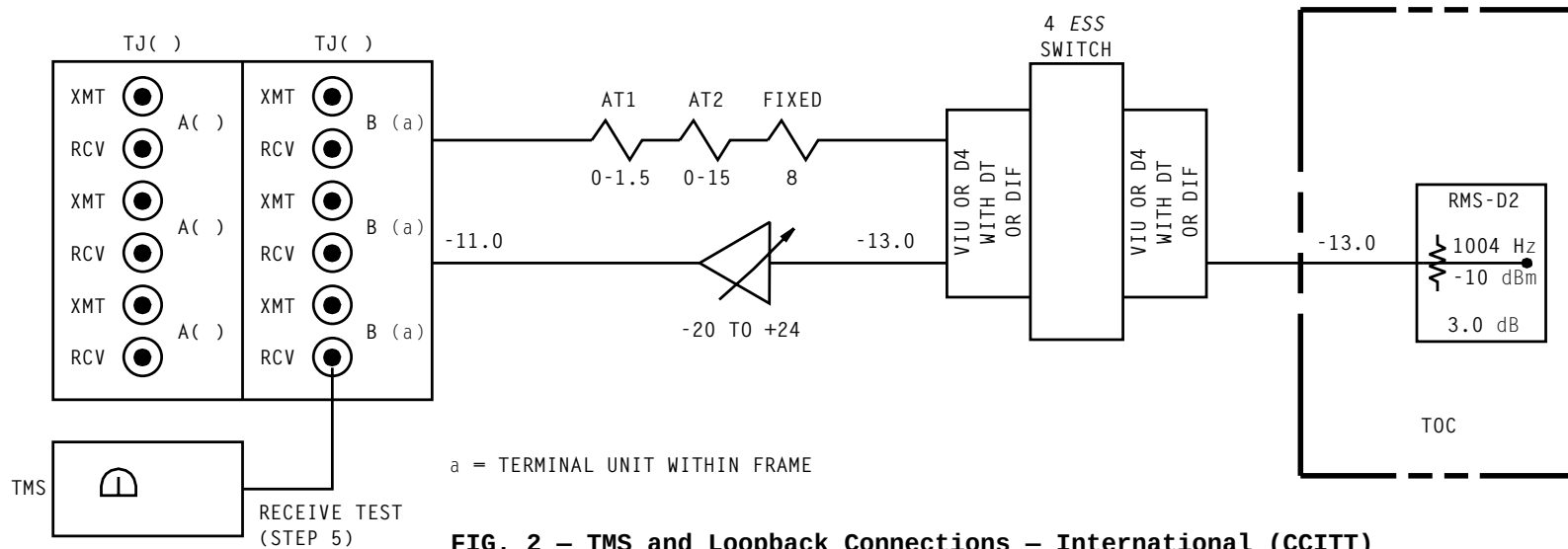
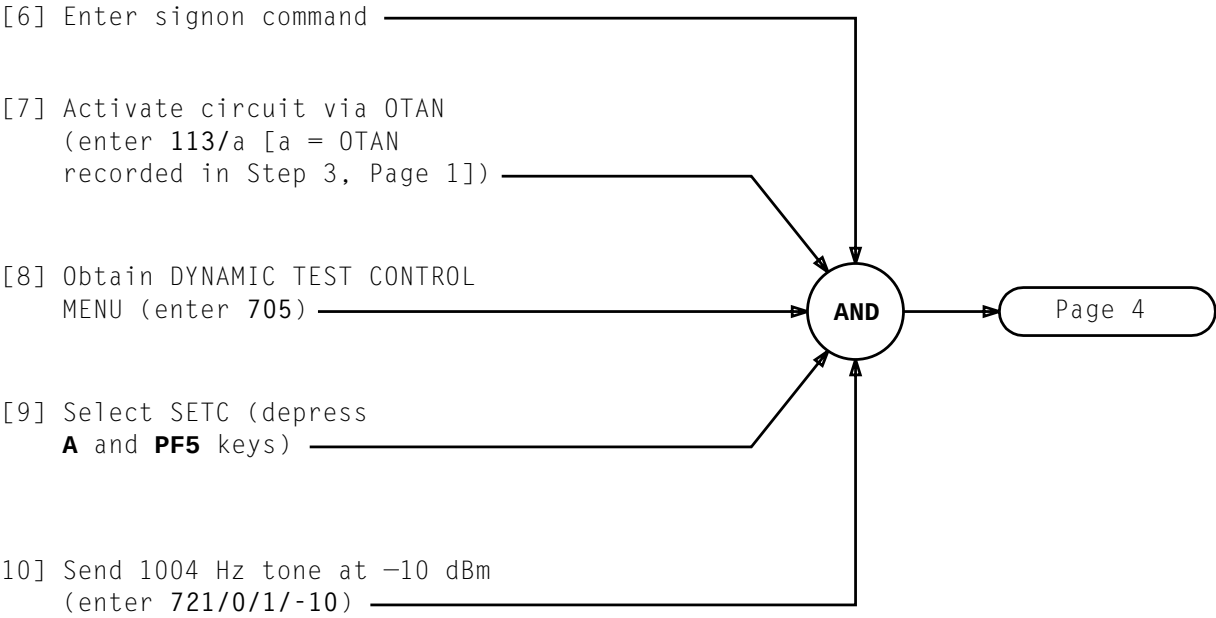


FIG. 2 – TMS and Loopback Connections – International (CCITT)

ADJUST AMPLIFIER AND PAD ON AMP/PAD UNIT USING RMS-D2

Issue 1	SEP 1997
234-353-030	DLP
PAGE 2 of 8	623

Request TOC to [using trunk
work station (TWS)]:



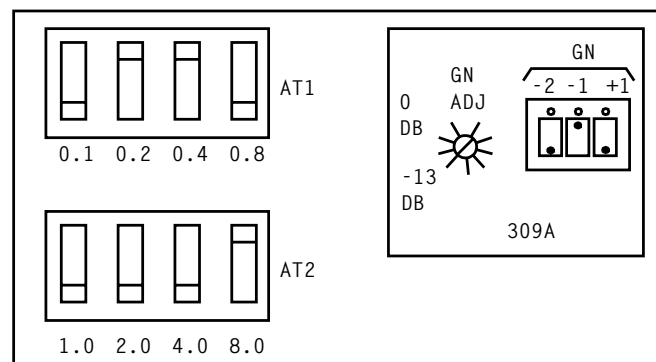
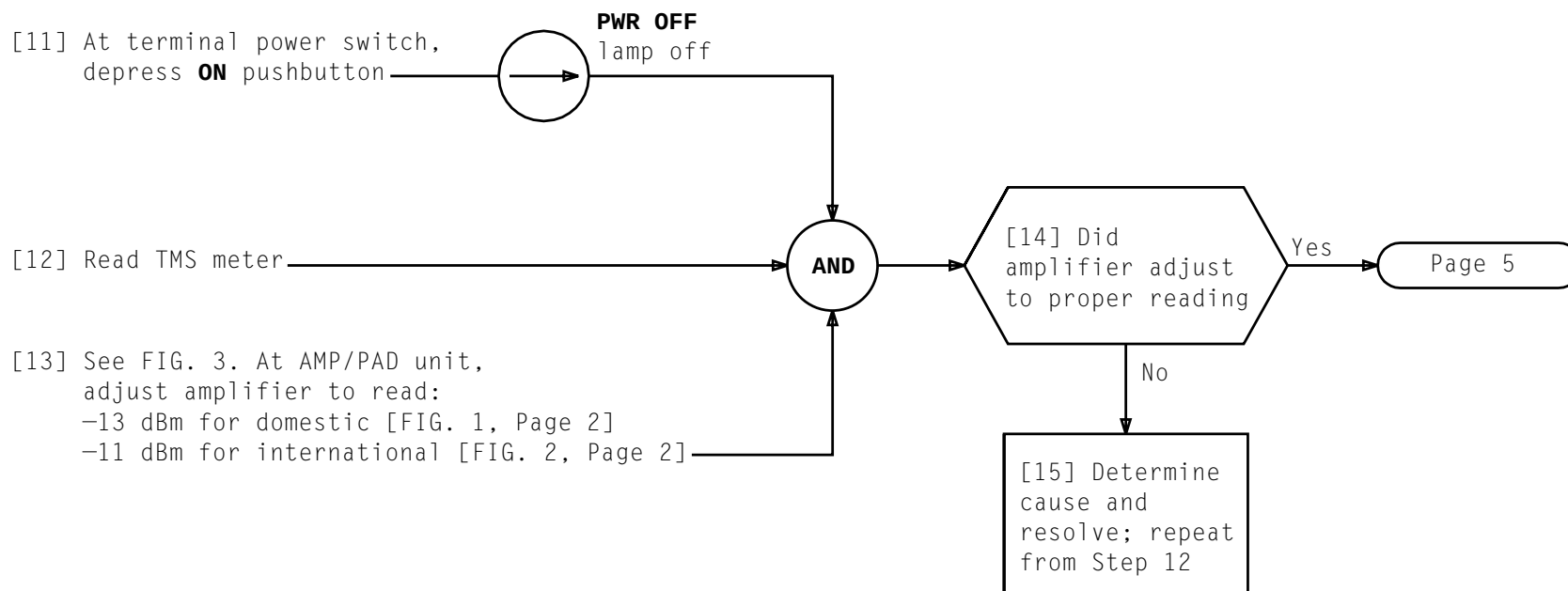


FIG. 3 – CCIS Amplifier and Pad Unit

ADJUST AMPLIFIER AND PAD ON AMP/PAD UNIT USING RMS-D2

Issue 1	SEP 1997
234-353-030	DLP
PAGE 4 of 8	623

At facility test panel:

[16] Remove TMS

[17] Patch **RCV-B** (a) (a = terminal to be adjusted) test jack to **XMT-B** (a) test jack [FIG. 4, Page 6 or FIG. 5]

[18] See FIG. 3, Page 4. At AMP/PAD unit, pre-set **AT1** and **AT2** to 7.9

Request TOC to (using TWS):

[19] Release tone (depress **E** and **PF1** keys)

[20] Send 1004 Hz tone at 0 dBm (enter 721/0/1/0)

AND

Page 7

ADJUST AMPLIFIER AND PAD ON AMP/PAD UNIT USING RMS-D2

Issue 1	SEP 1997
234-353-030	DLP
PAGE 5 of 8	623

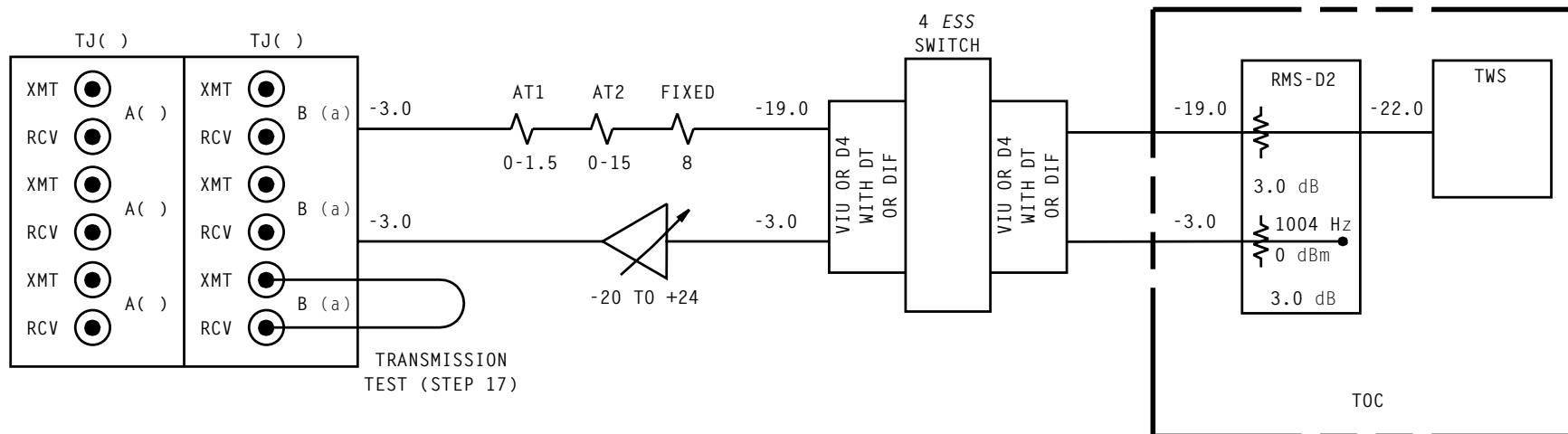


FIG. 4 – Loopback Connections – Domestic

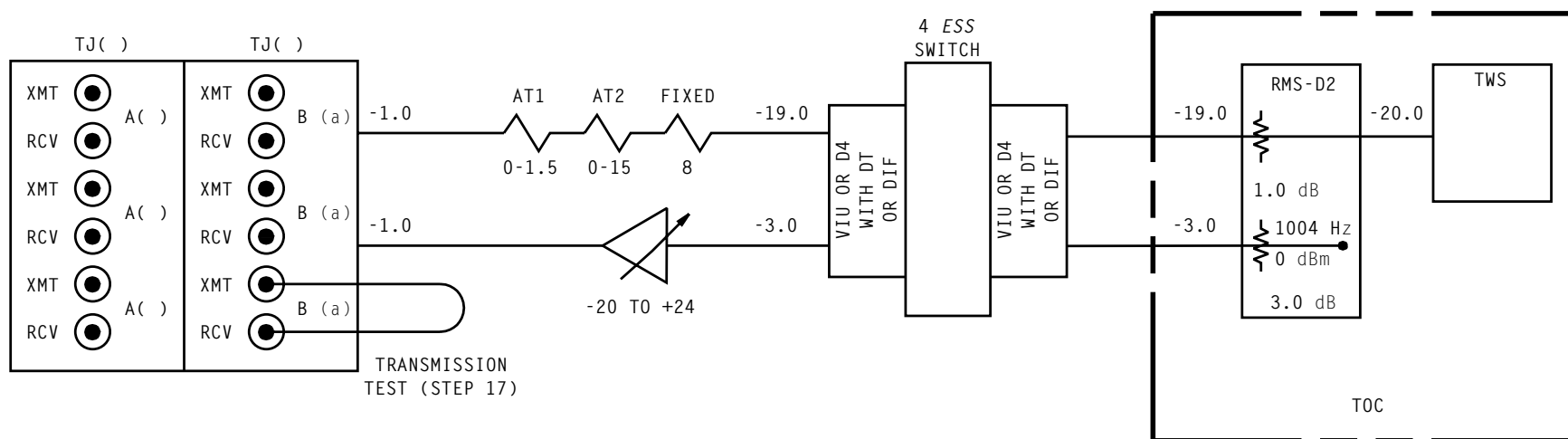
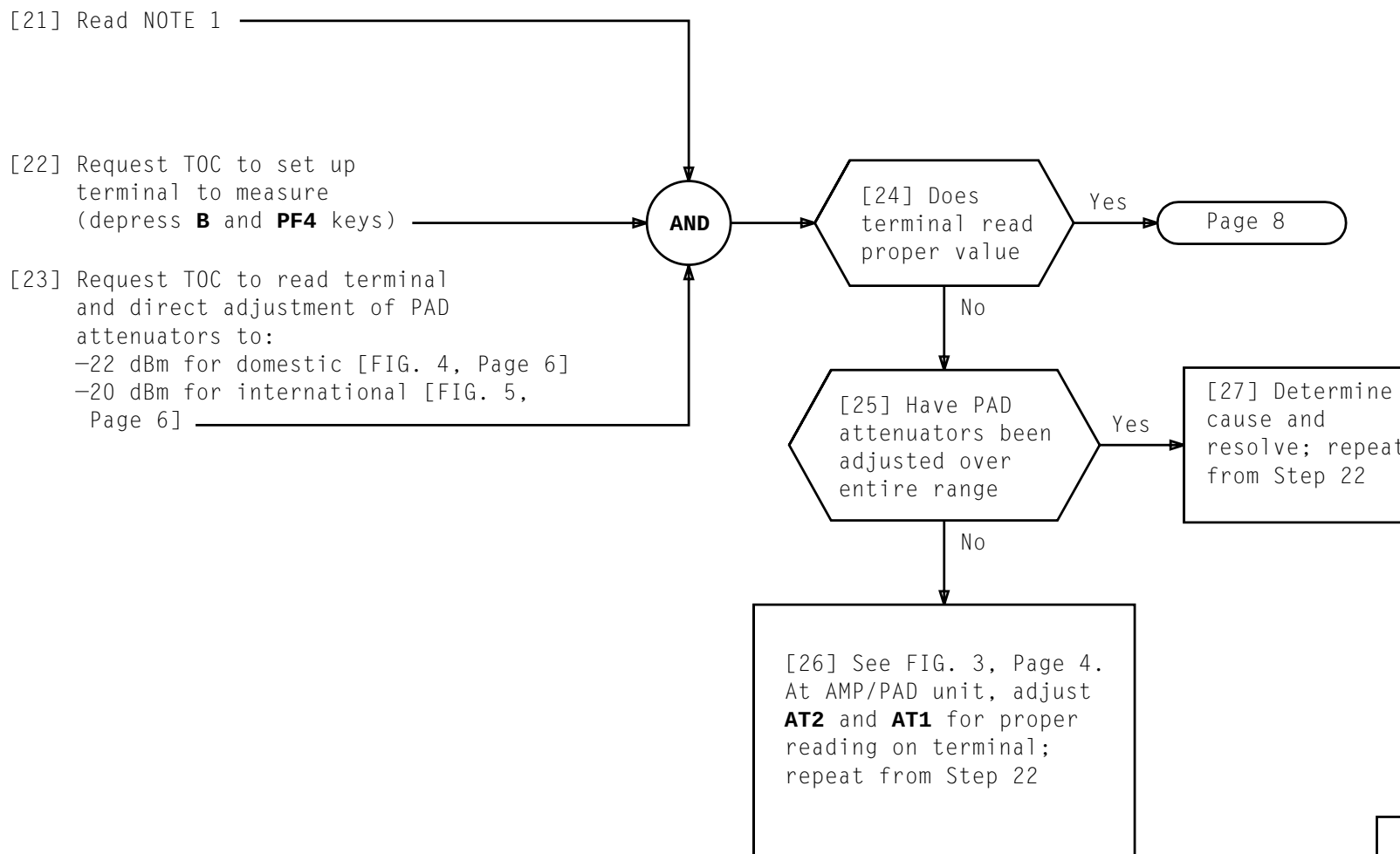


FIG. 5 – Loopback Connections – International (CCITT)

ADJUST AMPLIFIER AND PAD ON AMP/PAD UNIT USING RMS-D2

Issue 1	SEP 1997
234-353-030	DLP
PAGE 6 of 8	623



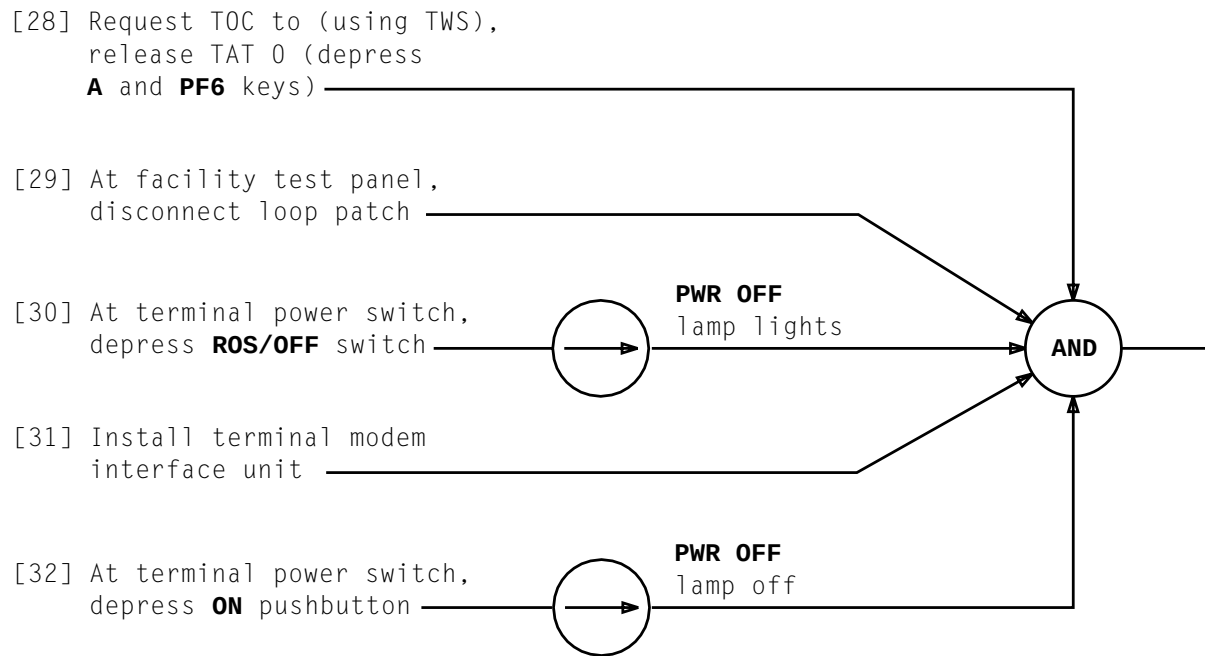
NOTE 1

Steps 22 and 23 must be performed for each PAD attenuator adjustment. TWS terminal will not continuously sample level readings

Issue 1	SEP 1997

234-353-030	DLP

PAGE 7 of 8	623



ADJUST AMPLIFIER AND PAD ON AMP/PAD UNIT USING RMS-D2

Issue 1	SEP 1997
234-353-030	DLP
PAGE 8 of 8	623

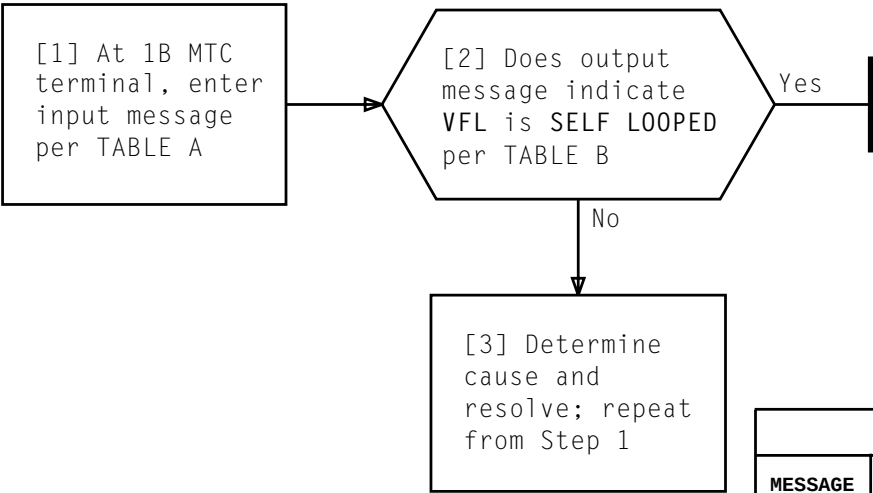
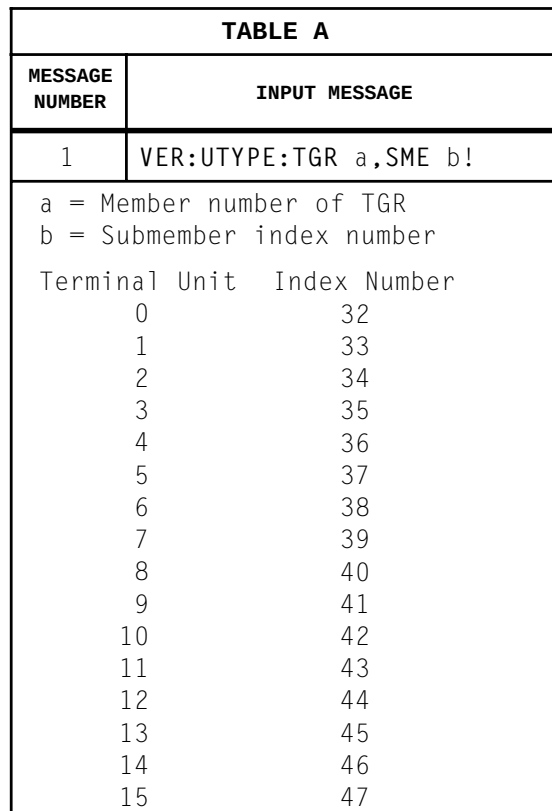


TABLE A	
MESSAGE NUMBER	INPUT MESSAGE
1	OP:SLKSTAT;SLK ab!
a = Member number of TGR containing converted terminal	
b = Submember number of converted terminal	

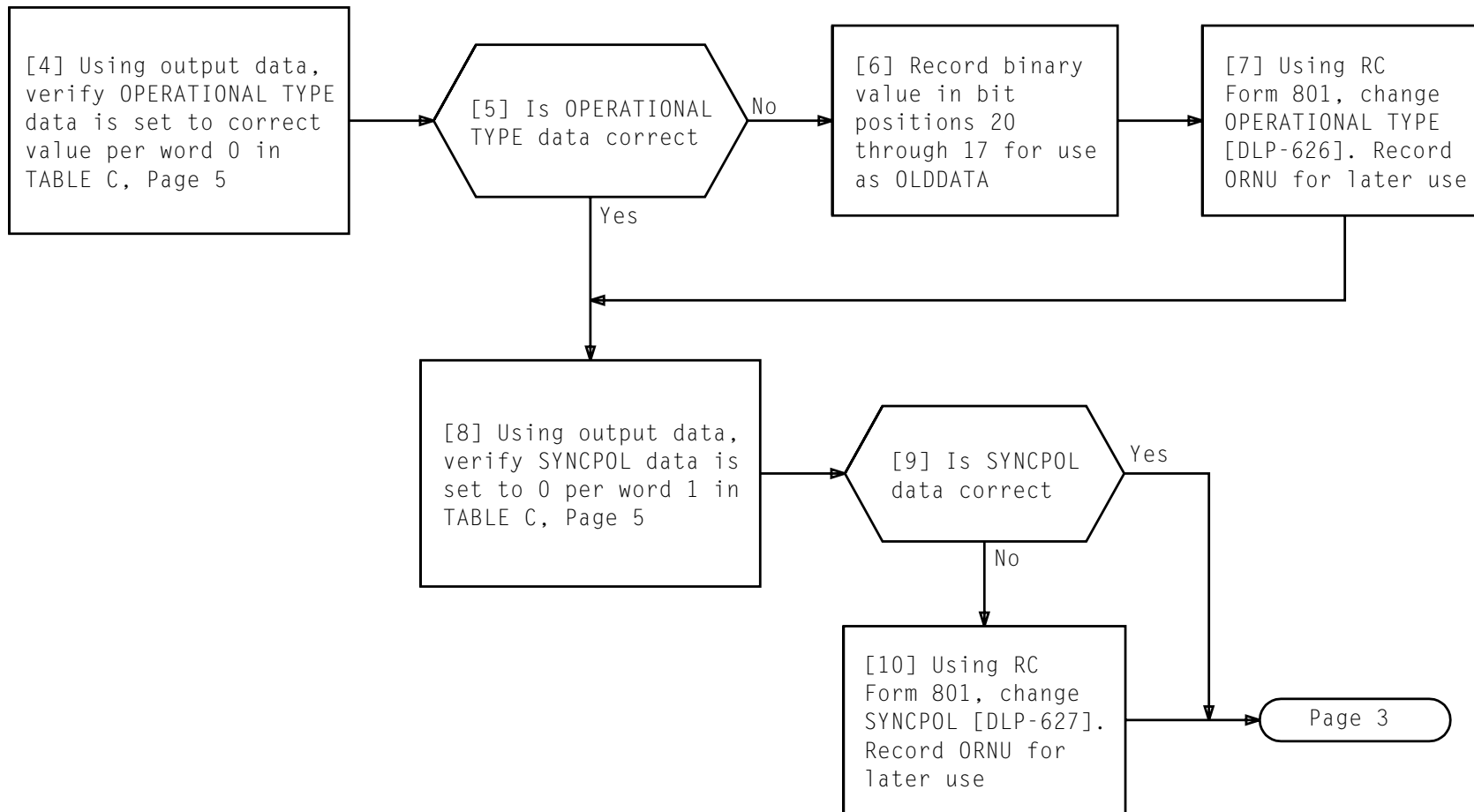
FIRST
TERMINAL
UNIT

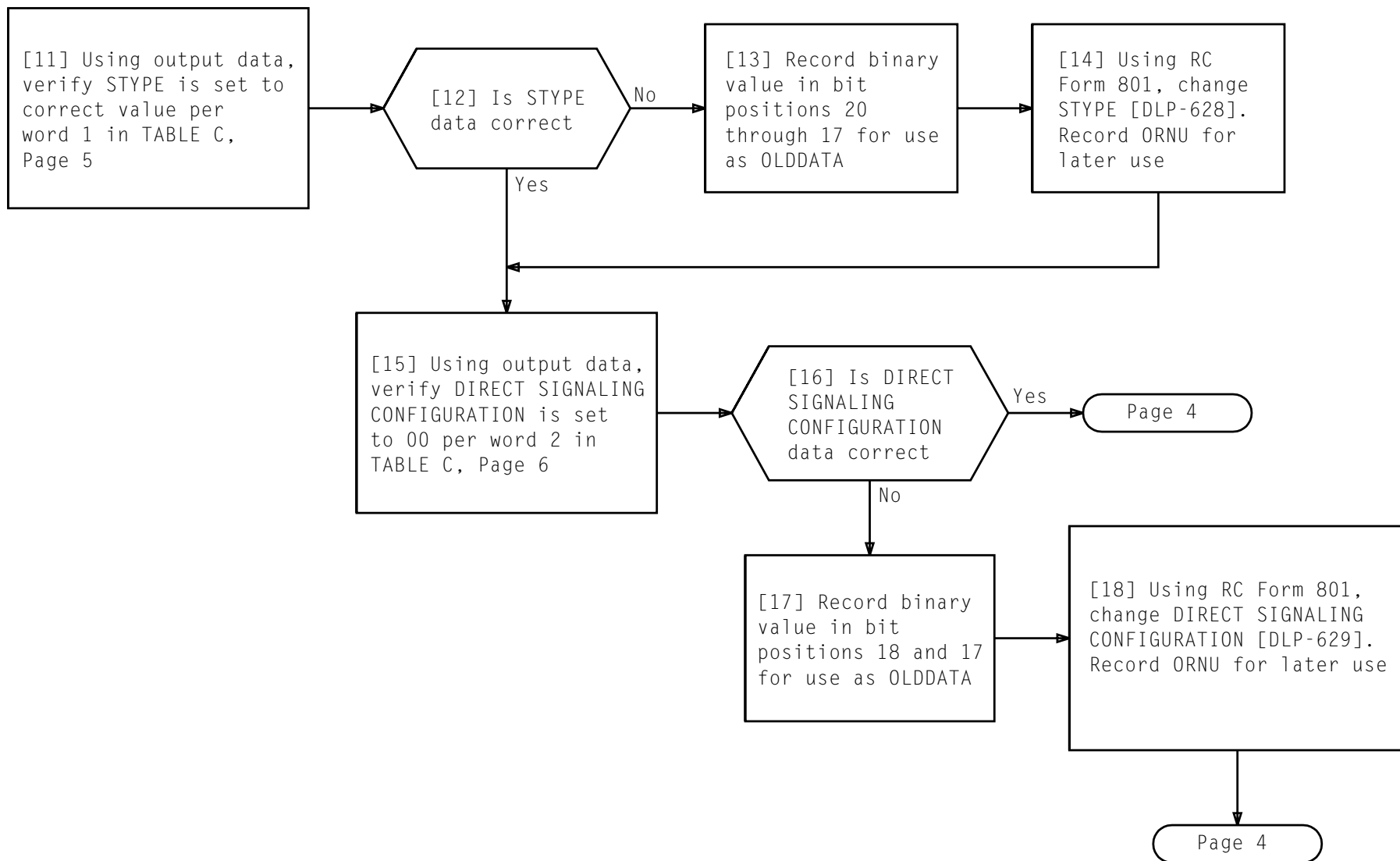
MATE
TERMINAL
UNIT

TABLE B	
MESSAGE NUMBER	OUTPUT MESSAGE
1	REPT:SLKSTAT;SLK a;b SLK STAT LS SLC TGR TER STAT DSM DSS VFL STAT a INS d e f h INS j k SELF LOOPED ACT/STBY c INS d e g i INS j l SELF LOOPED ACT/STBY
a = Signaling link associated with converted terminal unit b = Reason for status change c = Signaling link associated with mate terminal d = Link state e = Signaling link complement number f = TGR frame member number containing converted terminal unit g = TGR containing mate terminal h = First terminal unit number i = Mate terminal unit number j = Associated data set frame member number k = Data set associated with converted terminal unit l = Data set associated with mate terminal	



Issue 1	SEP 1997
234-353-030	DLP
PAGE 1 of 6	625





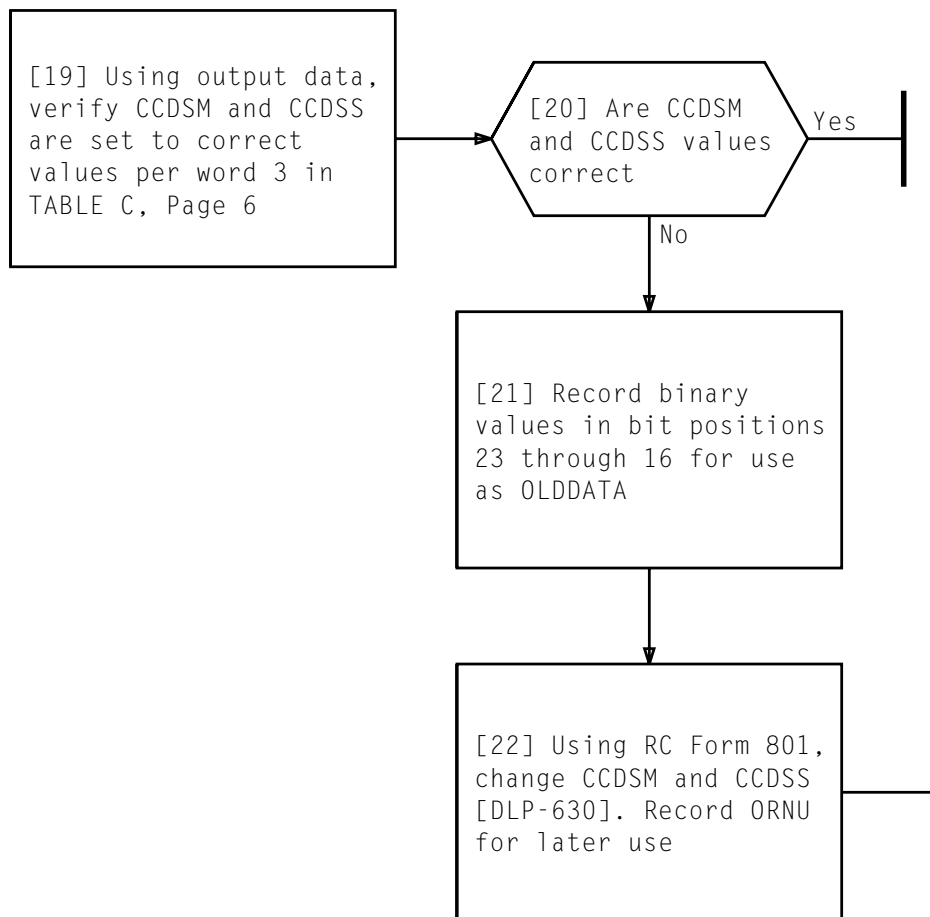


TABLE C																									
ENTRY WORD (OCTAL)		UT DATA AND WORD CONFIGURATION																							
0	entry data octal output	0			2			Y			Y			Y			Y			Y			Y		
	bit position	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
	binary values	0	0	0	0	1	0	1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
		TERMINAL UNIT VERSION NUMBER			OPERATIONAL TYPE			SP MEMBER NUMBER			MATRIX			SP ROW NUMBER						SP COLUMN NUMBER					
		TERMINAL UNIT TRUNK SCANNER NUMBER																							
	Y = Variable octal numbers																								
1	entry data octal output	4			Y			Y			Y			Y			Y			Y			Y		
	bit position	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
	binary values	1	0	0	Z	Z	Z	Z	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
		L O O P		SYNCPOL	STYPE			SP MEMBER NUMBER			MATRIX			SP ROW NUMBER						SP COLUMN NUMBER					
		PRIMARY VOICE FREQUENCY LINK TRUNK SCANNER NUMBER																							
	Y = Variable octal numbers																								
	Z...Z = Converts = 0 for Domestic Terminal Unit (IGFET Memory) (J99360A-1, List 1) to STYPE 1 for Cost Reduced Terminal Bipolar Memory data as 4 for Domestic Terminal Unit (Bipolar Memory) (J99360C-1, List 1 and 4) reflected in equipment list for CCIS frame																								

TABLE C (Contd)

ENTRY WORD (OCTAL)	UT DATA AND WORD CONFIGURATION																								
2	entry data																								
	octal output																								
	bit position																								
	binary values																								
		0		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y	
		23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
		0	0	0	Z	W	0	0	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
		GENERIC SIGNALING TYPE				DIR. SIG. CONFIG.		SP MEMBER NUMBER				MATRIX		SP ROW NUMBER						SP COLUMN NUMBER					
		RESERVE VOICE FREQUENCY LINK TRUNK SCANNER NUMBER																							
		Y = Variable octal numbers																							
3	entry data																								
	octal output																								
	bit position																								
	binary values																								
		0		0		Y		Y		Y		Y		Y		Y		Y		Y		Y		Y	
		23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
		0	0	0	0	0	0	0	0	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
		CCDSM				CCDSS				SIGNALING LINK COMPLEMENT INDEX								TGR NO.				TERMINAL NO.			
		BACKUP TERMINAL																							
		Y = Variable octal numbers																							

SUMMARY

Call up RC Form 801 on CRT. Using terminal, fill in blank fields on form to identify and to change terminal unit OPERATIONAL TYPE data within the selected word of the TGR UT translator. Enter message, then verify inactive translations.

[1] See CAUTION 1.
At 1B MTC
terminal, enter
OP:RCFORM 801!

CRT displays
RC Form 801
per FIG. 1

[2] Determine from TABLE A UT
decimal word corresponding
to terminal unit being
converted and record _____

AND

Page 2

```
RC:FUNC;CHG;OPT(TRANS), ---:      TRANSID_____,
ORNU _____,
ENTRY _____, WORDNO _____,
SIZE __, DISP __,
BINOCT __,
NEWDATA _____,
OLDDATA _____,
REMARKS _____ !
```

FIG. 1 – Blank RC Form 801

TABLE A

TERMINAL UNIT	UT DECIMAL WORD	TERMINAL UNIT	UT DECIMAL WORD
0	17	8	49
1	21	9	53
2	25	10	57
3	29	11	61
4	33	12	65
5	37	13	69
6	41	14	73
7	45	15	77

CAUTION 1

*Calling up
RC form will
cause all CRT
data to be
cleared*

Issue 1	SEP 1997
234-353-030	DLP
PAGE 1 of 3	626

**PERFORM FUNCTIONAL WORD CHANGE OF TGR TERMINAL
UNIT OPERATIONAL TYPE DATA**

[3] Read NOTES 1 and 2.
Using terminal and CRT
display of RC Form 801,
fill in blank fields on
RC Form 801 per TABLE B
and enter message

Page 3

TABLE B	
MESSAGE NUMBER	OUTPUT MESSAGE
1	RC:FUNC;CHG;OPT(TRANS),a: TRANSID b, ORNU c, ENTRY d, WORDNO e, SIZE f, DISP g, BINOCT h, NEWDATA i, OLDDATA j, REMARKS..... !
a = TST b = UTTGR c = RC order number d = Member number of TGR containing terminal unit being converted e = UT decimal word determined in Step 2, Page 1 f = 4 g = 17 h = B i = 0101 j = Old data recorded in verify	

NOTES

1. The quantity of binary bits to be entered as NEWDATA must be equal to decimal number entered as SIZE.
2. The quantity of binary bits to be entered as OLDDATA must be equal to quantity of bits entered as NEWDATA

**PERFORM FUNCTIONAL WORD CHANGE OF TGR TERMINAL
UNIT OPERATIONAL TYPE DATA**

Issue 1	SEP 1997
234-353-030	DLP
PAGE 2 of 3	626

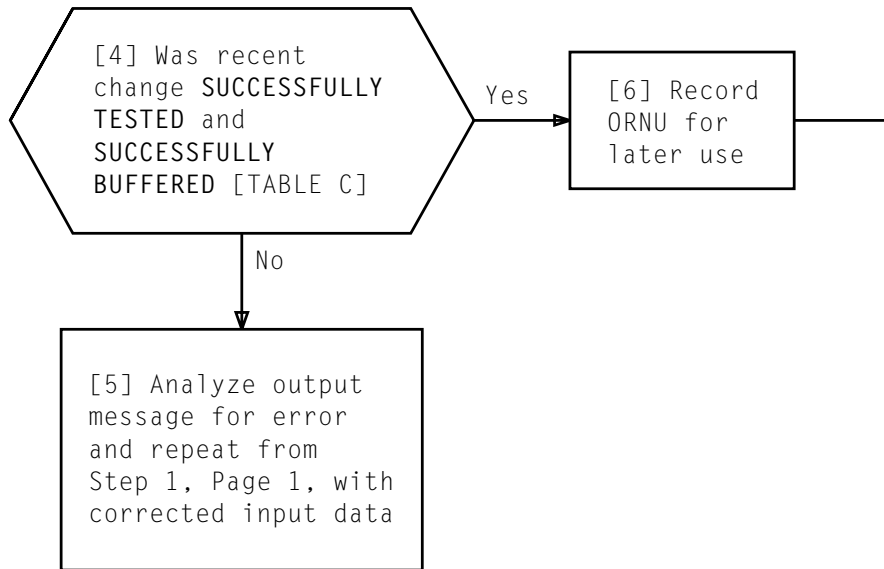


TABLE C	
MESSAGE NUMBER	OUTPUT MESSAGE
1	RC ORNU a SUCCESSFULLY TESTED RC ORNU a SUCCESSFULLY BUFFERED RC:FUNC;CHG;OPT(TRANS),BUF: TRANSID UTTGR, ORNU a, ENTRY b, WORDNO c, SIZE 4, DISP 17, BINOCT B, NEWDATA 0101, OLDDATA d, REMARKS _ _ _ _ _! REPT:RC DUMP OF UNIT TYPE ENTRY AS IT WILL APPEAR AFTER THE MESSAGE IS ACTIVATED WORD 0 _ _ _ _ WORD 10 _ _ _ _
a = RC order number b = Member number of TGR containing terminal unit being converted c = UT decimal word determined in Step 2, Page 1 d = Old data recorded in verify	

SUMMARY

Call up RC Form 801 on CRT. Using terminal, fill in blank fields on form to identify and to change terminal unit SYNCPOL data within the selected word of the TGR UT translator. Enter message; then verify inactive translations.

[1] See CAUTION 1.
At 1B MTC
terminal, enter
OP:RCFORM 801!

CRT displays
RC Form 801
per FIG. 1

AND

Page 2

[2] Determine from TABLE A UT
decimal word corresponding
to terminal unit being
converted and record _____

```
RC:FUNC;CHG;OPT(TRANS), ---:      TRANSID-----,
ORNU -----,
ENTRY -----, WORDNO -----,
SIZE --, DISP --,
BINOCT --,
NEWDATA -----,
OLDDATA -----,
REMARKS ----- !
```

FIG. 1 – Blank RC Form 801

TABLE A			
TERMINAL UNIT	UT DECIMAL WORD	TERMINAL UNIT	UT DECIMAL WORD
0	18	8	50
1	22	9	54
2	26	10	58
3	30	11	62
4	34	12	66
5	38	13	70
6	42	14	74
7	46	15	78

CAUTION 1
Calling up
RC form will
cause all CRT
data to be
cleared

**PERFORM FUNCTIONAL WORD CHANGE OF TGR TERMINAL
UNIT SYNCPOL DATA**

Issue 1	SEP 1997
234-353-030	DLP
PAGE 1 of 3	627

[3] Read NOTES 1 and 2.
Using terminal and CRT
display of RC Form 801,
fill in blank fields on
RC Form 801 per TABLE B
and enter message

Page 3

TABLE B

MESSAGE NUMBER	OUTPUT MESSAGE
1	RC:FUNC;CHG;OPT(TRANS),a: TRANSID b, ORNU c, ENTRY d, WORDNO e, SIZE f, DISP g, BINOCT h, NEWDATA i, OLDDATA j, REMARKS..... !
a = TST b = UTTGR c = RC order number d = Member number of TGR containing terminal unit being converted e = UT decimal word determined in Step 2, Page 1 f = 1 g = 21 h = B i = 0 j = 1	

NOTES

1. The quantity of binary bits to be entered as **NEWDATA** must be equal to decimal number entered as **SIZE**.
2. The quantity of binary bits to be entered as **OLDDATA** must be equal to quantity of bits entered as **NEWDATA**

**PERFORM FUNCTIONAL WORD CHANGE OF TGR TERMINAL
UNIT SYNC POL DATA**

Issue 1	SEP 1997
234-353-030	DLP
PAGE 2 of 3	627

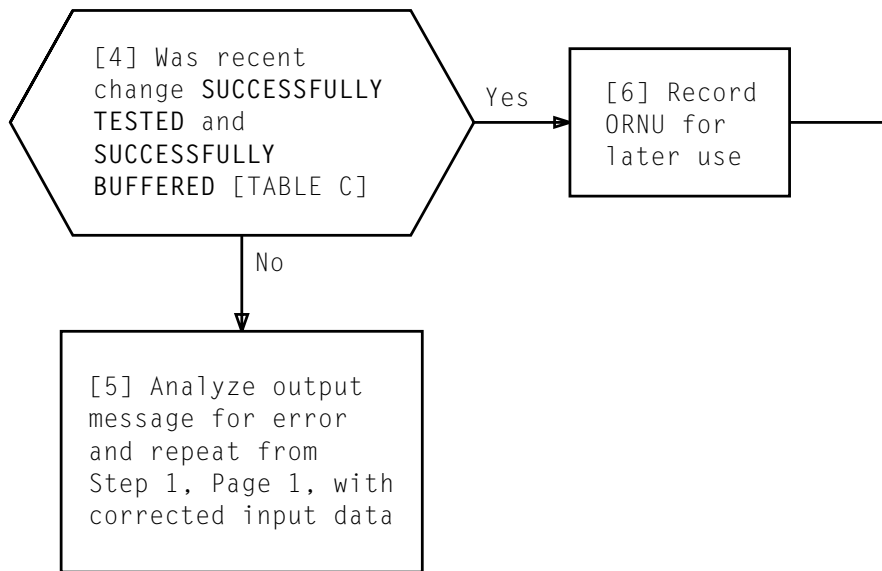


TABLE C	
MESSAGE NUMBER	OUTPUT MESSAGE
1	RC ORNU a SUCCESSFULLY TESTED RC ORNU a SUCCESSFULLY BUFFERED RC:FUNC;CHG;OPT(TRANS),BUF: TRANSID UTTGR, ORNU a, ENTRY b, WORDNO c, SIZE 1, DISP 21, BINOCT B, NEWDATA 0, OLDDATA 1, REMARKS _ _ _ _ _! REPT:RC DUMP OF UNIT TYPE ENTRY AS IT WILL APPEAR AFTER THE MESSAGE IS ACTIVATED WORD 0 _ _ _ _ WORD 10 _ _ _ _
a = RC order number b = Member number of TGR containing terminal unit being converted c = UT decimal word determined in Step 2, Page 1	

SUMMARY

Call up RC Form 801 on CRT. Using terminal, fill in blank fields on form to identify and to change terminal unit STYPE data within the selected word of the TGR UT translator. Enter message; then verify inactive translations.

RC:FUNC;CHG;OPT(TRANS), ---: TRANSID-----,
ORNU -----,
ENTRY -----, WORDNO -----,
SIZE --, DISP --,
BIN OCT --,
NEWDATA -----,
OLDDATA -----,
REMARKS ----- !

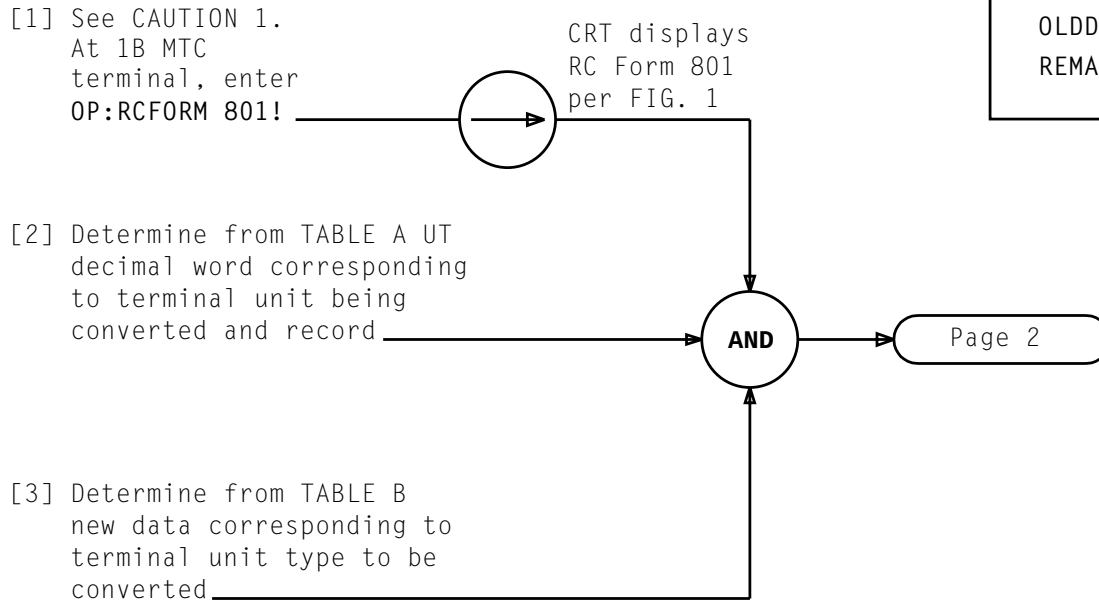


FIG. 1 – Blank RC Form 801

TABLE A			
TERMINAL UNIT	UT DECIMAL WORD	TERMINAL UNIT	UT DECIMAL WORD
0	18	8	50
1	22	9	54
2	26	10	58
3	30	11	62
4	34	12	66
5	38	13	70
6	42	14	74
7	46	15	78

TABLE B	
TERMINAL UNIT TYPE	NEW DATA
Domestic Terminal Unit (IGFET Memory) (J99360A-1, List 1)	0000
Domestic Terminal Unit (Bipolar Memory) (J99360C-1, List 1)	0001
Domestic Terminal Unit (Bipolar Memory) (J99360C-1, List 1 and 4)	0100

PERFORM FUNCTIONAL WORD CHANGE OF TGR TERMINAL UNIT STYPE DATA

CAUTION 1
Calling up RC form will cause all CRT data to be cleared

Issue 1	SEP 1997
234-353-030	DLP
PAGE 1 of 3	628

[4] Read NOTES 1 and 2.
Using terminal and CRT
display of RC Form 801,
fill in blank fields on
RC Form 801 per TABLE C
and enter message

Page 3

TABLE C	
MESSAGE NUMBER	OUTPUT MESSAGE
1	RC:FUNC;CHG;OPT(TRANS),a: TRANSID b, ORNU c, ENTRY d, WORDNO e, SIZE f, DISP g, BINOCT h, NEWDATA i, OLDDATA j, REMARKS..... !
a = TST b = UTTGR c = RC order number d = Member number of TGR containing terminal unit being converted e = UT decimal word determined in Step 2, Page 1 f = 4 g = 17 h = B i = New data determined in Step 3, Page 1 j = Old data recorded in verify	

NOTES

1. The quantity of binary bits to be entered as **NEWDATA** must be equal to decimal number entered as **SIZE**.
2. The quantity of binary bits to be entered as **OLDDATA** must be equal to quantity of bits entered as **NEWDATA**

**PERFORM FUNCTIONAL WORD CHANGE OF TGR TERMINAL
UNIT STYPE DATA**

Issue 1	SEP 1997
234-353-030	DLP
PAGE 2 of 3	628

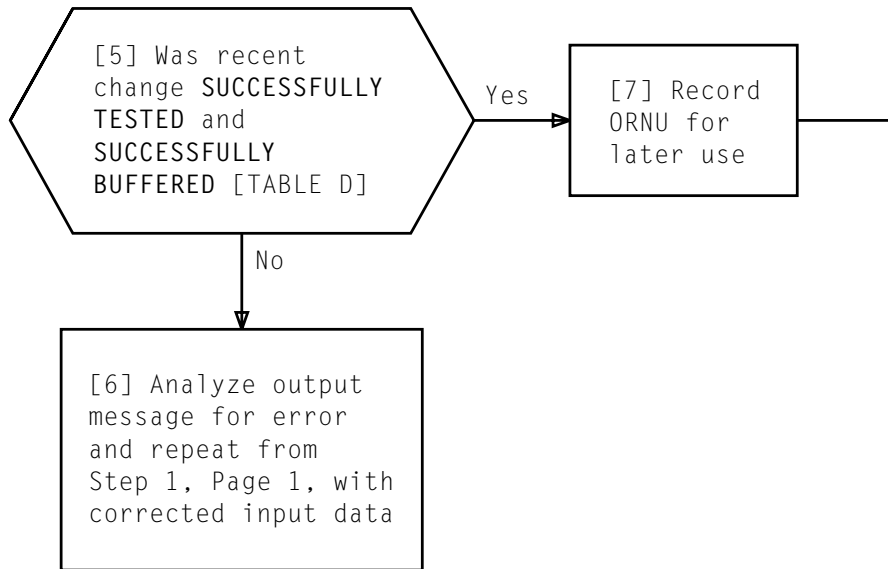


TABLE D	
MESSAGE NUMBER	OUTPUT MESSAGE
1	RC ORNU a SUCCESSFULLY TESTED RC ORNU a SUCCESSFULLY BUFFERED RC:FUNC;CHG;OPT(TRANS),BUF: TRANSID UTTGR, ORNU a, ENTRY b, WORDNO c, SIZE 4, DISP 17, BINOCT B, NEWDATA d, OLDDATA e, REMARKS _ _ _ _ _! REPT:RC DUMP OF UNIT TYPE ENTRY AS IT WILL APPEAR AFTER THE MESSAGE IS ACTIVATED WORD 0 _ _ _ _ WORD 10 _ _ _ _
a = RC order number b = Member number of TGR containing terminal unit being converted c = UT decimal word determined in Step 2, Page 1 d = New data determined in Step 3, Page 1 e = Old data recorded in verify	

SUMMARY

Call up RC Form 801 on CRT. Using terminal fill in blank fields on form to identify and to change terminal unit DIRECT SIGNALING CONFIGURATION data within the selected word of the TGR UT translator. Enter message, then verify inactive translations.

[1] See CAUTION 1.
At 1B MTC
terminal, enter
OP:RCFORM 801!

CRT displays
RC Form 801
per FIG. 1

AND

Page 2

[2] Determine from TABLE A UT
decimal word corresponding
to terminal unit being
converted and record _____

```
RC:FUNC;CHG;OPT(TRANS), ---:      TRANSID-----,
ORNU -----,
ENTRY -----, WORDNO -----,
SIZE --, DISP --,
BINOCT --,
NEWDATA -----,
OLDDATA -----,
REMARKS ----- !
```

FIG. 1 – Blank RC Form 801

TABLE A			
TERMINAL UNIT	UT DECIMAL WORD	TERMINAL UNIT	UT DECIMAL WORD
0	19	8	51
1	23	9	55
2	27	10	59
3	31	11	63
4	35	12	67
5	39	13	71
6	43	14	75
7	47	15	79

CAUTION 1

*Calling up RC form
will cause all CRT
data to be cleared*

Issue 1	SEP 1997
234-353-030	DLP
PAGE 1 of 3	629

**PERFORM FUNCTIONAL WORD CHANGE OF TGR TERMINAL
UNIT DIRECT SIGNALING CONFIGURATION DATA**

Page 3

```
a = TST
b = UTTGR
c = RC order number
d = Member number of TGR containing
    terminal unit being converted
e = UT decimal word determined in Step 2, Page 1
f = 2
g = 17
h = B
i = 00
j = Old data recorded in verify
```

1. The quantity of binary bits to be entered as **NEWDATA** must be equal to decimal number entered as **SIZE**.
2. The quantity of binary bits to be entered as **OLDDATA** must be equal to quantity of bits entered as **NEWDATA**

Issue 1	SEP 1997
234-353-030	DLP
PAGE 2 of 3	629

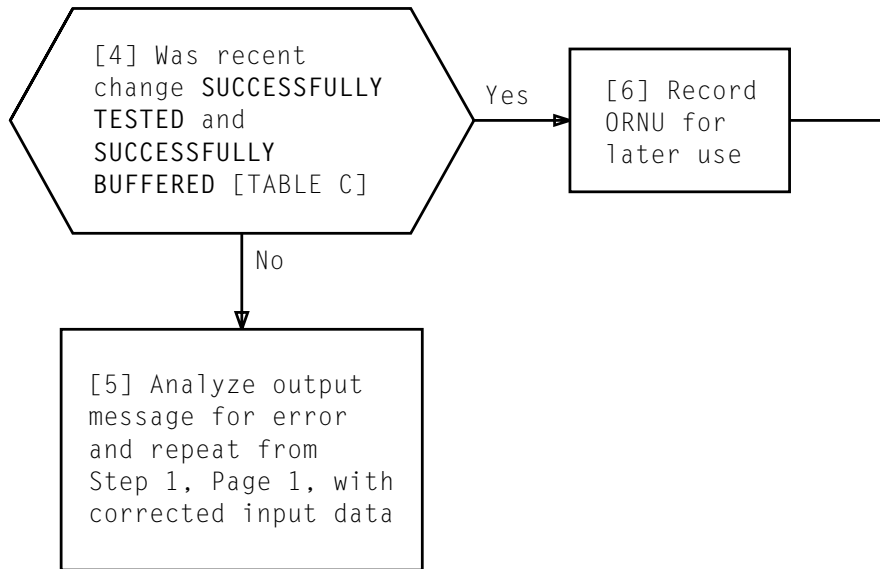


TABLE C	
MESSAGE NUMBER	OUTPUT MESSAGE
1	RC ORNU a SUCCESSFULLY TESTED RC ORNU a SUCCESSFULLY BUFFERED RC:FUNC;CHG;OPT(TRANS),BUF: TRANSID UTTGR, ORNU a, ENTRY b, WORDNO c, SIZE 2, DISP 17, BINOCT B, NEWDATA 00, OLDDATA d, REMARKS _ _ _ _ _! REPT:RC DUMP OF UNIT TYPE ENTRY AS IT WILL APPEAR AFTER THE MESSAGE IS ACTIVATED WORD 0 _ _ _ _ WORD 10 _ _ _ _
a = RC order number b = Member number of TGR containing terminal unit being converted c = UT decimal word determined in Step 2, Page 1 d = Old data recorded in verify	

SUMMARY

Call up RC Form 801 on CRT. Using terminal fill in blank fields on form to identify and to change terminal unit CCDSM and CCDSS data within the selected word of the TGR UT translator. Enter message; then verify inactive translations.

```
RC:FUNC;CHG;OPT(TRANS), ---:      TRANSID-----,
ORNU -----,
ENTRY -----, WORDNO -----,
SIZE --, DISP --,
BINOCT --,
NEWDATA -----,
OLDDATA -----,
REMARKS ----- !
```

[1] See CAUTION 1.
At 1B MTC
terminal, enter
OP:RCFORM 801!

CRT displays
RC Form 801
per FIG. 1

[2] Determine from TABLE A UT
decimal word corresponding
to terminal unit being
converted and record _____

AND

Page 2

FIG. 1 – Blank RC Form 801

TABLE A			
TERMINAL UNIT	UT DECIMAL WORD	TERMINAL UNIT	UT DECIMAL WORD
0	20	8	52
1	24	9	56
2	28	10	60
3	32	11	64
4	36	12	68
5	40	13	72
6	44	14	76
7	48	15	80

CAUTION 1
Calling up
RC form will
cause all CRT
data to be
cleared

**PERFORM FUNCTIONAL WORD CHANGE OF TGR TERMINAL
UNIT CCDSM AND CCDSS DATA**

Issue 1	SEP 1997
234-353-030	DLP
PAGE 1 of 3	630

[3] Read NOTES 1 and 2.
Using terminal and CRT
display of RC Form 801,
fill in blank fields on
RC Form 801 per TABLE B
and enter message

Page 3

TABLE B	
MESSAGE NUMBER	OUTPUT MESSAGE
1	RC:FUNC;CHG;OPT(TRANS),a: TRANSID b, ORNU c, ENTRY d, WORDNO e, SIZE f, DISP g, BINOCT h, NEWDATA i, OLDDATA j, REMARKS..... !
a = TST b = UTTGR c = RC order number d = Member number of TGR containing terminal unit being converted e = UT decimal word determined in Step 2, Page 1 f = 8 g = 16 h = B i = 00000000 j = Old data recorded in verify	

NOTES

1. The quantity of binary bits to be entered as **NEWDATA** must be equal to decimal number entered as **SIZE**.
2. The quantity of binary bits to be entered as **OLDDATA** must be equal to quantity of bits entered as **NEWDATA**

**PERFORM FUNCTIONAL WORD CHANGE OF TGR TERMINAL
UNIT CCDSM AND CCDSS DATA**

Issue 1	SEP 1997
234-353-030	DLP
PAGE 2 of 3	630

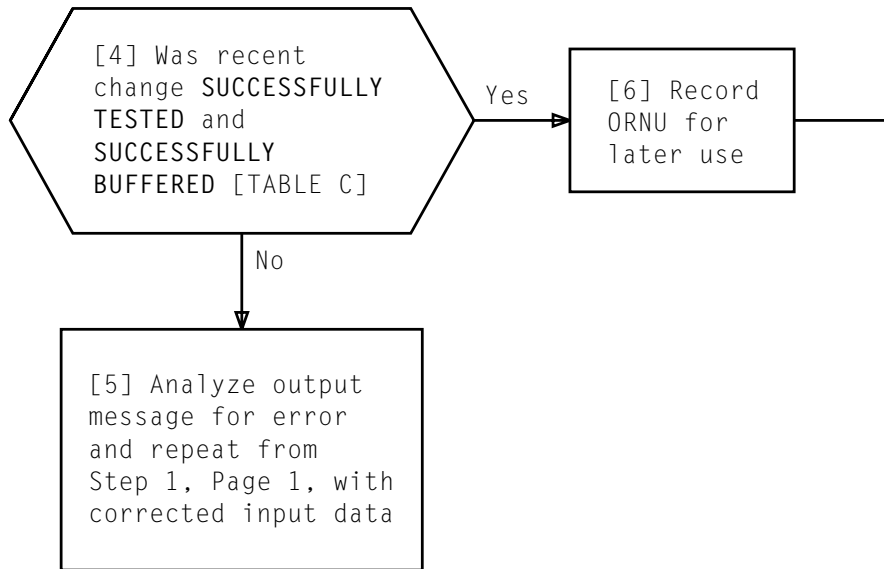


TABLE C	
MESSAGE NUMBER	OUTPUT MESSAGE
1	RC ORNU a SUCCESSFULLY TESTED RC ORNU a SUCCESSFULLY BUFFERED RC:FUNC;CHG;OPT(TRANS),BUF: TRANSID UTTGR, ORNU a, ENTRY b, WORDNO c, SIZE 8, DISP 16, BINOCT B, NEWDATA 00000000, OLDDATA d, REMARKS _ _ _ _ _! REPT:RC DUMP OF UNIT TYPE ENTRY AS IT WILL APPEAR AFTER THE MESSAGE IS ACTIVATED WORD 0 _ _ _ _ WORD 10 _ _ _ _
a = RC order number b = Member number of TGR containing terminal unit being converted c = UT decimal word determined in Step 2, Page 1 d = Old data recorded in verify	

1. Place **TEST/CMD** switch in **CMD**.

Response: Alphanumeric display indicates **MDCK** or **DSAB**.

2. Operate and hold **BWD/FWD** switch in **FWD** until alphanumeric display indicates **MTCE**.

Response: Alphanumeric display indicates **MTCE**.

3. Depress **EXEC**.

Response: Alphanumeric display indicates **MC/O**.

4. Depress **EXEC**.

Response: Alphanumeric display indicates **MC/I**.

5. Place **TEST/CMD** switch in normal position.

Response: Alphanumeric display flashes **MTCE**.

6. Place **TEST/CMD** switch in **TEST**.

Response: Alphanumeric display indicates **PORT**,
AUTO, or **MT**.

7. Operate and hold **BWD/FWD** switch in **FWD** until alphanumeric display indicates **C-MT**.

Response: Alphanumeric display indicates **C-MT**.

8. Depress **EXEC**.

Response: Alphanumeric display flashes **C-MT**.

SET EXECUTION OF CONTINUOUS MODEM TEST

Issue 1	SEP 1997
234-353-030	DLP
PAGE 1 of 1	631

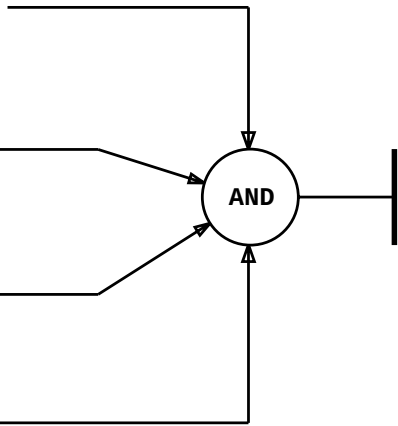
At TGR terminal unit to be converted:

[1] Loosen four mounting screws
on terminal modem interface unit

[2] Remove terminal modem
interface unit

[3] Carefully insert replacement
201D modem

[4] Tighten four mounting screws



REPLACE TMI WITH 201D MODEM

Issue 1	SEP 1997
234-353-030	DLP
PAGE 1 of 1	632

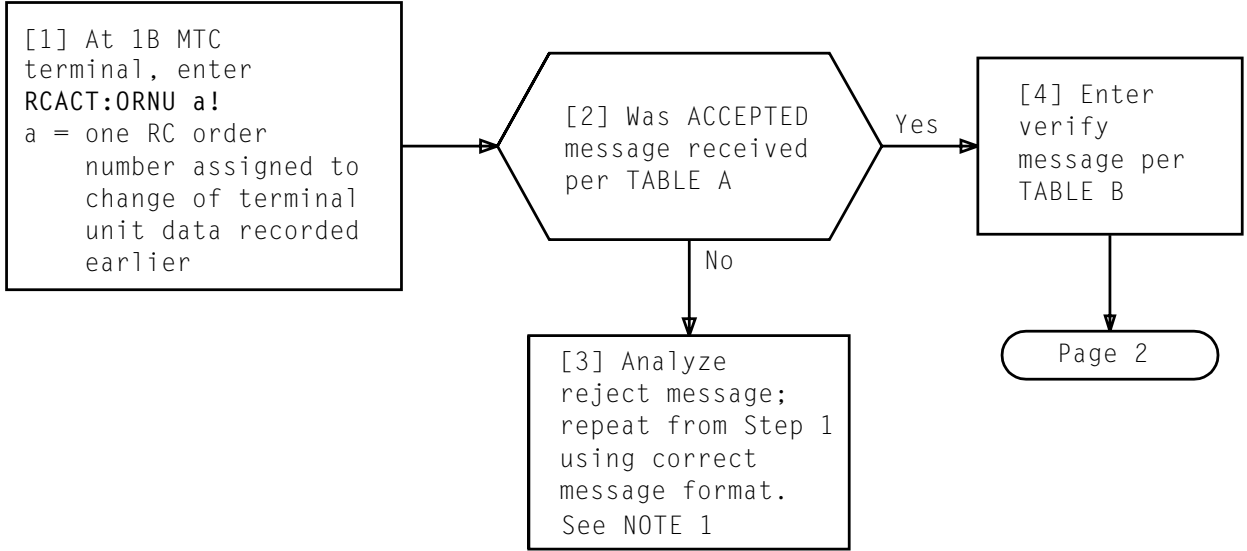
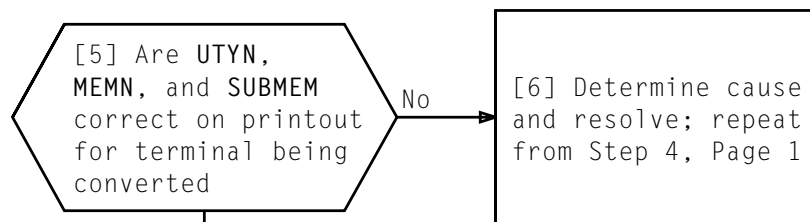


TABLE A	
MESSAGE NUMBER	OUTPUT MESSAGE
1	RC ORNU a ACCEPTED FOR ACT STATE
a = RC order number	

TABLE B	
MESSAGE NUMBER	INPUT MESSAGE
1	VER:UTYPE:TGR a,SME b!
a = Member number of TGR containing converted terminal b = Submember index number	
Terminal Unit	Index No.
0	32
1	33
2	34
3	35
4	36
5	37
6	38
7	39
8	40
9	41
10	42
11	43
12	44
13	45
14	46
15	47

NOTE 1
Reject could result
from other than
message format error

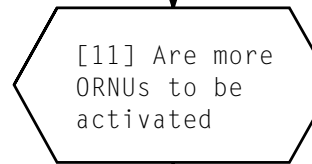
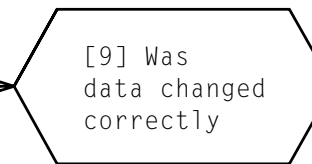
Issue 1	SEP 1997
234-353-030	DLP
PAGE 1 of 2	633



[7] Using TABLE C, determine word number and bit position(s) for change just activated

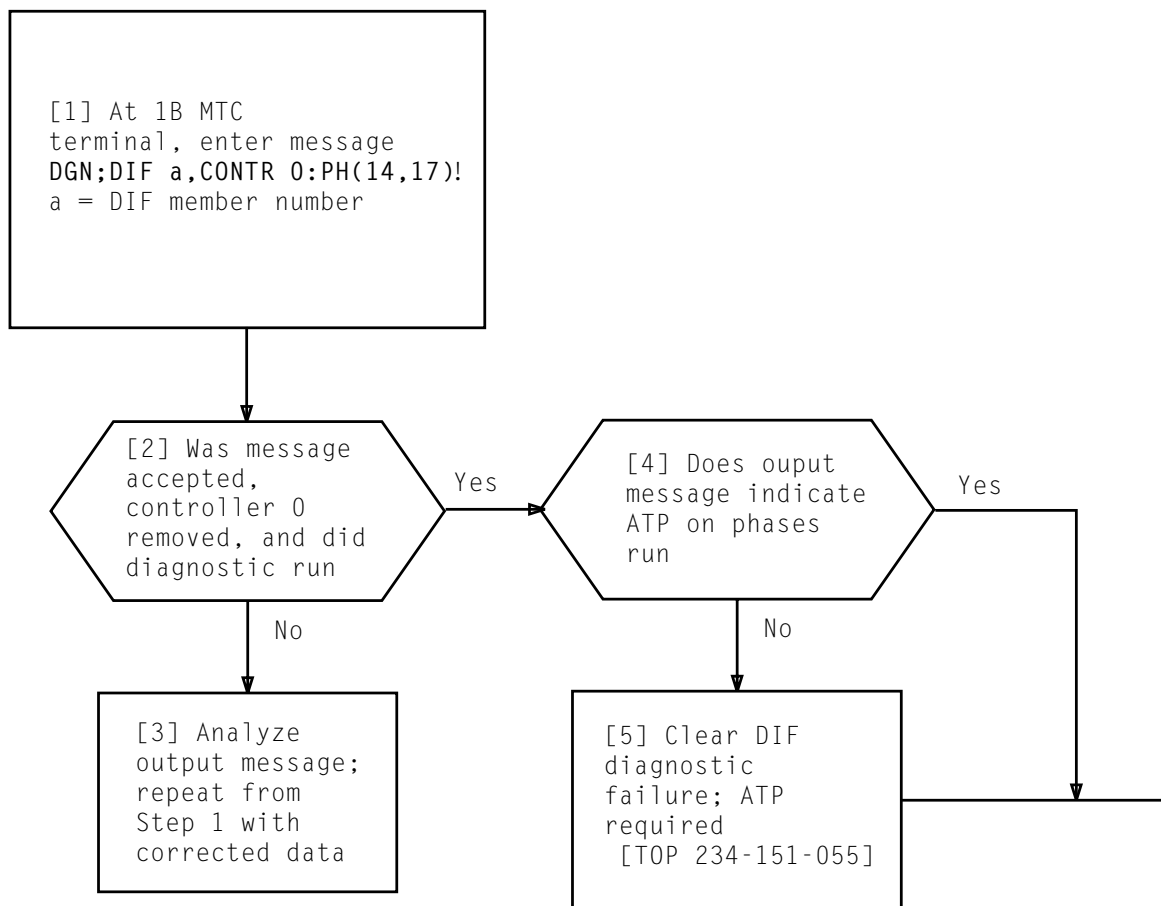
[8] Using output data and information in Step 7, determine if terminal unit data was changed correctly

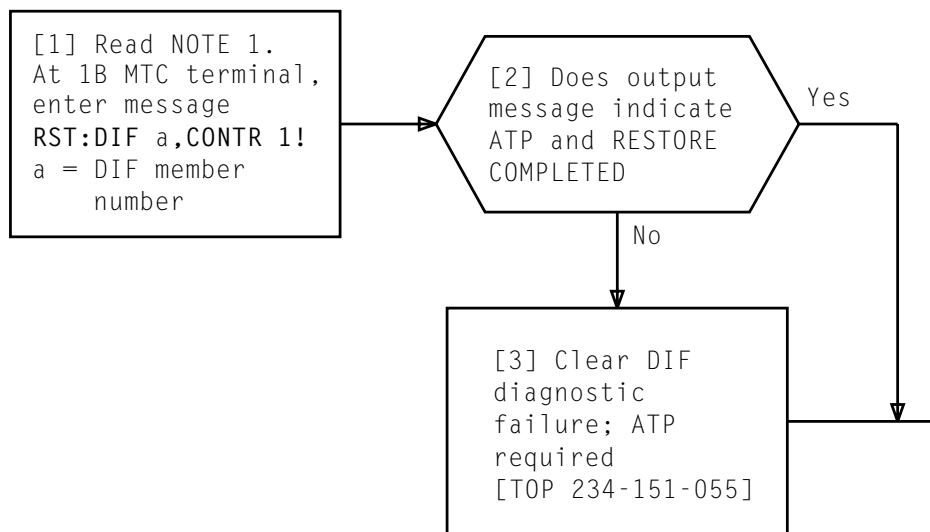
AND



[12] Repeat from Step 1, Page 1 for next ORNU

TABLE C		
TERMINAL UNIT CHANGE DATA	WORD NUMBER	BIT POSITION(S)
OPERATIONAL TYPE	0	20 through 17
SYNCPOL	1	21
STYPE	1	20 through 17
DIRECT SIGNALING CONFIGURATION	2	18 and 17
CCDSM and CCDSS	3	23 through 16





NOTE 1 Restore input message will cause SP diagnostic to be run. Controller will be restored if ATP		
Issue 1	SEP 1997	
234-353-030	DLP	
PAGE 1 of 1	635	

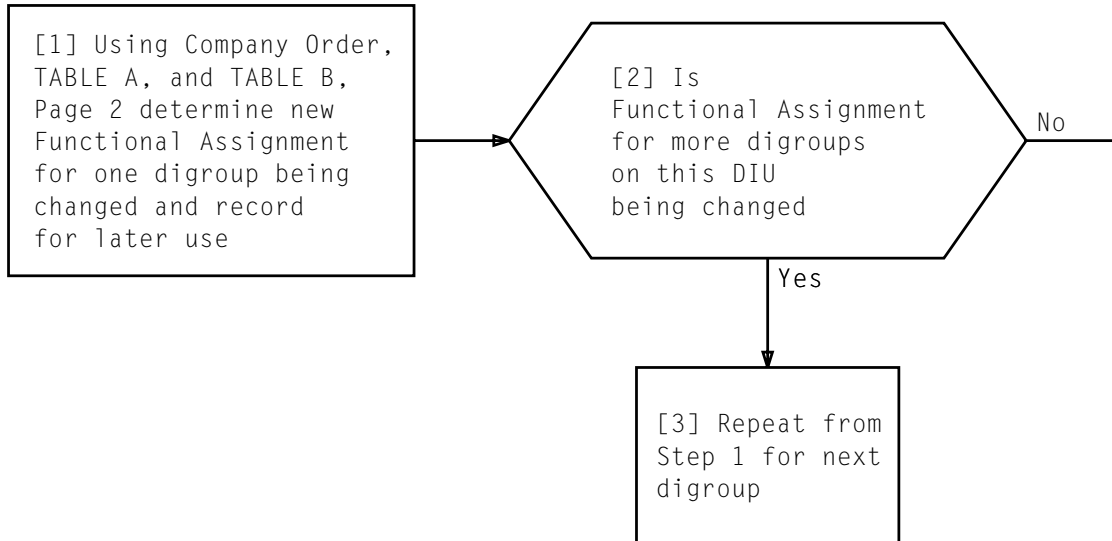


TABLE A	
FUNCTIONAL ASSIGNMENT	TYPE OF DIGROUP
0	No Assignment
1	SF ZCS (RB or 64R)
2	SF B8ZS (RB or 64C)
3	SF ZCS (CCITT5 4-STATE ONLY)
4	ESF B8ZS (CCITT5 4-STATE ONLY)
5	ESF ZCS (RB or 64R)
6	ESF B8ZS (RB or 64C)
7	ESF B8ZS (64C ONLY)
8	ESF B8ZS (64C WITH PCC)
B8ZS - Binary with 8 Zero Substitution ESF - Extended Super Framing PCC - Per-Call Control RB - Robbed Bit SF - Super Framing ZCS - Zero Code Suppression 64C - 64Kb Clear 64R - 64Kb Restricted	

DETERMINE FUNCTIONAL ASSIGNMENT FOR DIGROUP CHANGE

Issue 1	SEP 1997
234-353-030	DLP
PAGE 1 of 2	636

TABLE B						
THW	THW5	TDG (TYPE OF DIGROUP)				
		DIGROUP 1	DIGROUP 2	DIGROUP 3	DIGROUP 4	DIGROUP 5
0	0	0	0	0	0	0
1	0	1	1	1	1	1
6	1	0	0	0	0	1
6	9	0	0	0	0	1,2,5,6,7
6	10	0	0	0	0	1,2,5,6,7,8
7	1	0	0	0	0	1
7	9	0	0	0	0	1,2,5,6,7
7	10	0	0	0	0	1,2,5,6,7,8
9	0	1,2,5,6,7 3,4	1,2,5,6,7 3,4	1,2,5,6,7 3,4	1,2,5,6,7 3,4	1,2,5,6,7 3,4
10	0	1,2,5,6,7,8 3,4	1,2,5,6,7,8 3,4	1,2,5,6,7,8 3,4	1,2,5,6,7,8 3,4	1,2,5,6,7,8 3,4
THW = Circuit pack code for digroup 1 through digroup 4 (and digroup 5 if THW5 is 0) THW5 = Circuit pack code for digroup 5 (used when office equipped with digital interface service circuit units) THW and THW5 = 0 = no assignment 7 = SM7 1 = SM1B 9 = SM9 6 = SM6 10 = SM10						

DETERMINE FUNCTIONAL ASSIGNMENT FOR DIGROUP CHANGE

Issue 1	SEP 1997
234-353-030	DLP
PAGE 2 of 2	636

[1] Using company order and TABLE A, Page 2,
determine circuit pack associated
with Functional Assignment for one
digroup

[2] Using FIG. 1, Page 2, determine location
of DIU that contains digroup(s)
being changed

[3] Using FIG. 2, Page 3,
determine location of digroup
being changed

[4] At locations determined in
Steps 2 and 3, determine if
proper circuit pack is equipped

AND

[5] Is
proper circuit
pack installed

No

[6] Record that
proper circuit
pack is not
installed

Yes

[7] Have all
circuit packs for
digroup(s) being
changed been
verified

Yes

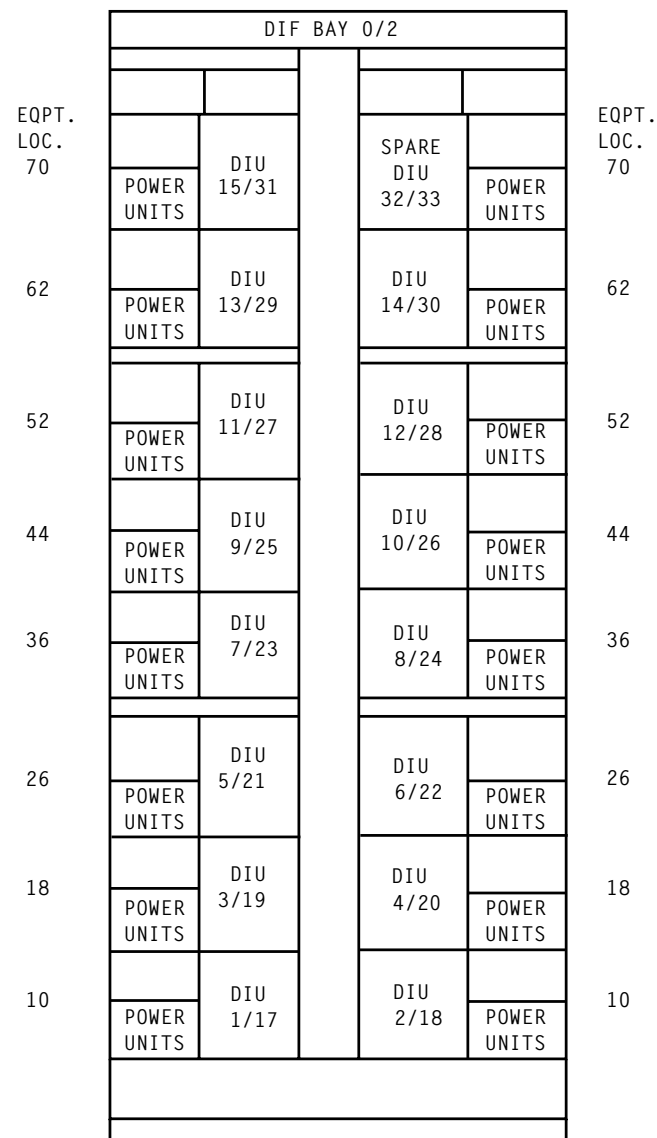
No

[8] Repeat
from Step 1
for next
digroup

**DETERMINE IF PROPER CIRCUIT PACK IS INSTALLED FOR DIGROUP
BEING CHANGED**

Issue 1	SEP 1997
234-353-030	DLP
PAGE 1 of 3	637

TABLE A	
FUNCTIONAL ASSIGNMENT	CIRCUIT PACK
0	None
1	SM1B, SM9 or SM10
2	SM9 or SM10
3	SM9 or SM10
4	SM9 or SM10
5	SM9 or SM10
6	SM9 or SM10
7	SM9 or SM10
8	SM10



DETERMINE IF PROPER CIRCUIT PACK IS INSTALLED FOR DIGROUP BEING CHANGED

Issue 1	SEP 1997
234-353-030	DLP
PAGE 2 of 3	637

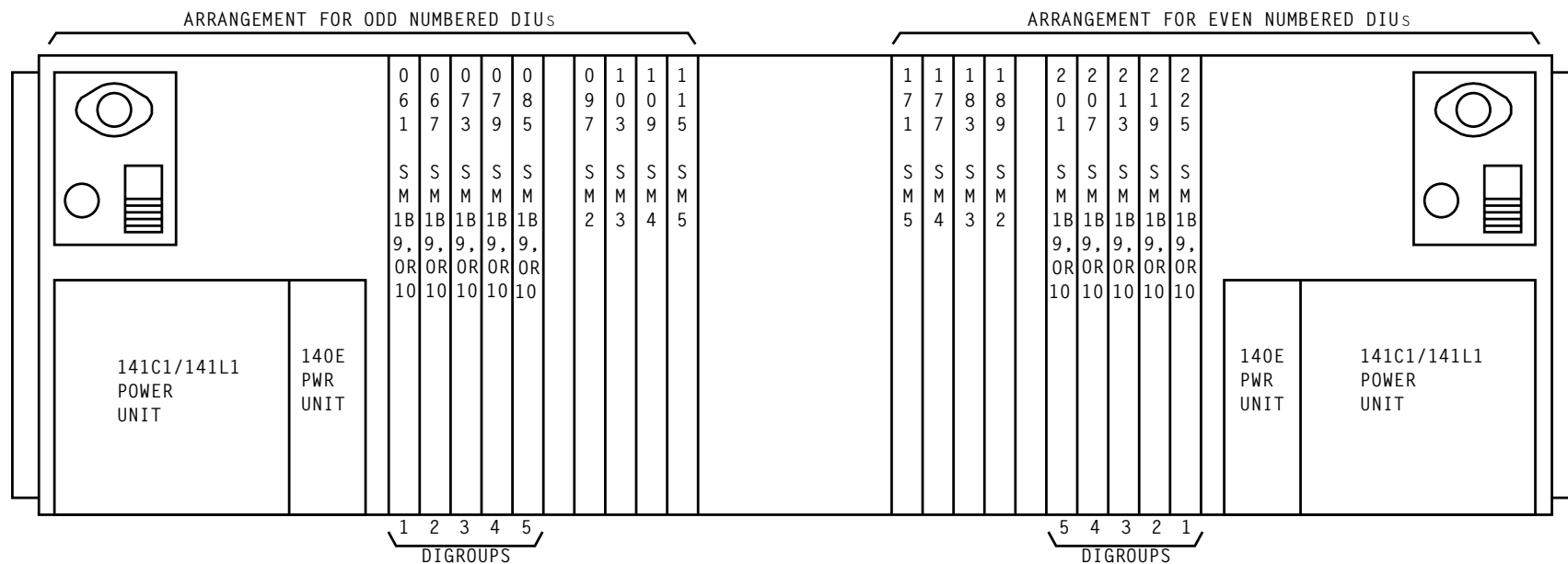
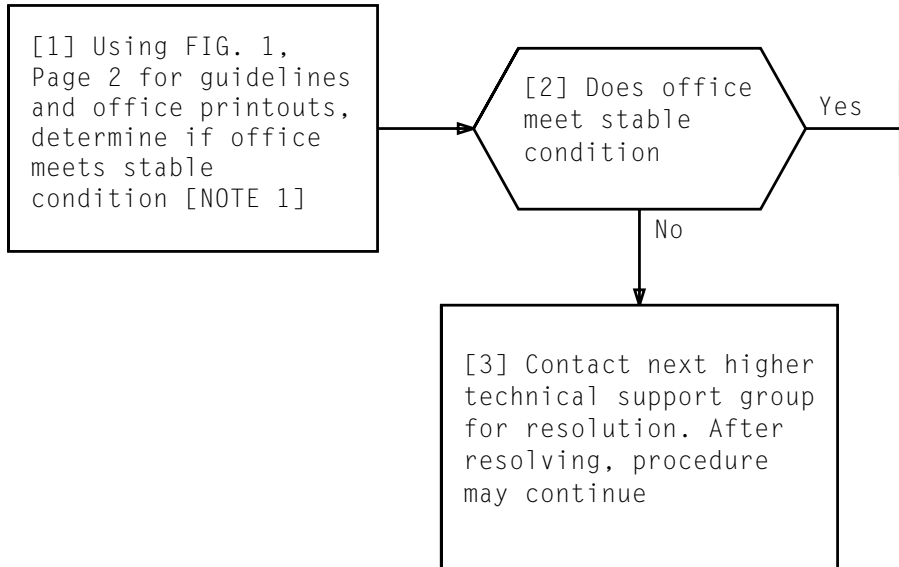


FIG. 2 – DIU Circuit Pack Arrangement

DETERMINE IF PROPER CIRCUIT PACK IS INSTALLED FOR DIGROUP BEING CHANGED

Issue 1	SEP 1997
234-353-030	DLP
PAGE 3 of 3	637



DETERMINE IF OFFICE IS STABLE

NOTE 1

FIG. 1 is based on 7-day rolling average for all per-day measures; all other measures are as indicated. All resolved troubles are discounted from measures

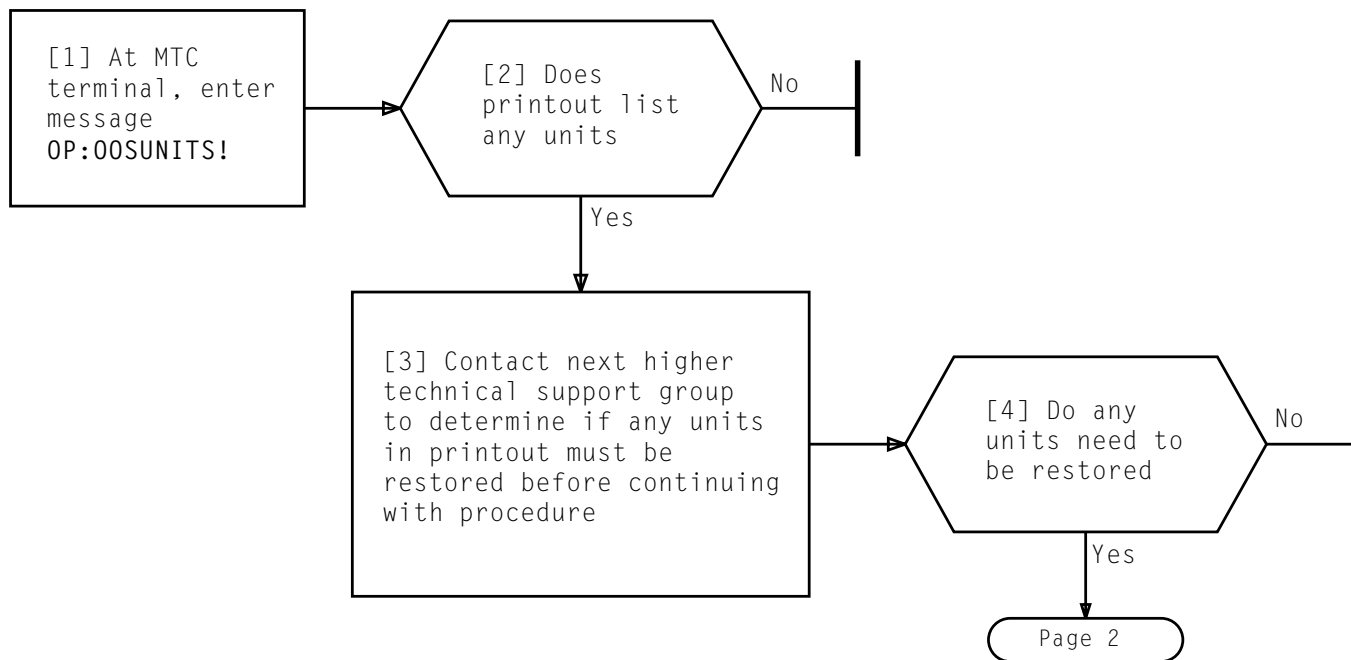
Issue 1	SEP 1997
234-353-030	DLP
PAGE 1 of 2	638

• INTERRUPTS		
1B PROCESSOR		≤ 1 PER MEMBER NUMBER PER DAY ≤ 3 PER DAY TOTAL
TMS, NC, PUB, IO, CCIS		≤ 2 PER MEMBER NUMBER PER DAY ≤ 4 PER DAY TOTAL
PERIPHERY, PER OPERATIONAL SP CORE (SP, DT, TSI) OR DIF (DIF, TSI COMPLEX) (THE ALLOWABLE DAILY INTERRUPT COUNT SHALL NOT EXCEED 25, REGARDLESS OF OFFICE SIZE)		≤ 3 PER DAY
PBFRs		≤ 1 PER DAY
• INTERJECTS		≤ 2 PER MEMBER NUMBER PER DAY ≤ 5 PER DAY TOTAL
• BASE LEVEL		
ANALYZED, CORRECTED AND/OR UNDERSTOOD		
• PHASES/DUPLEX FAILURES		
DIRECTED PHASE 1		≤ 1 IN 2 WEEKS
SYSTEM PHASE 1		≤ 1 IN 1 WEEK
PHASE 2 OR 3		≤ 1 IN 4 WEEKS
DT, VIF, OR EST		≤ 1 IN 4 WEEKS
TGR/TER LINK PAIR		≤ 1 IN 2 WEEKS
• OUT-OF-SERVICE UNITS		
NUMBER OUT-OF-SERVICE		≤ 5 AT ANYTIME
CRITICAL UNITS:		
CC	DIF PS TMSP	
CS	LN PUB TSI	
CU	NCLK SP	
• 3B COMPUTER		
INTERRUPTS		≤ 3 PER DAY
PHASE 1		≤ 1 IN 4 WEEKS
PHASE 2 OR 3		≤ 1 IN 4 WEEKS
CNI RING INIT		≤ 1 IN 2 WEEKS
CNI RING TRANSPORT ERRORS		≤ 2 PER DAY
DLNE ERRORS		≤ 1 PER DAY

FIG. 1 - Office Stability Guidelines

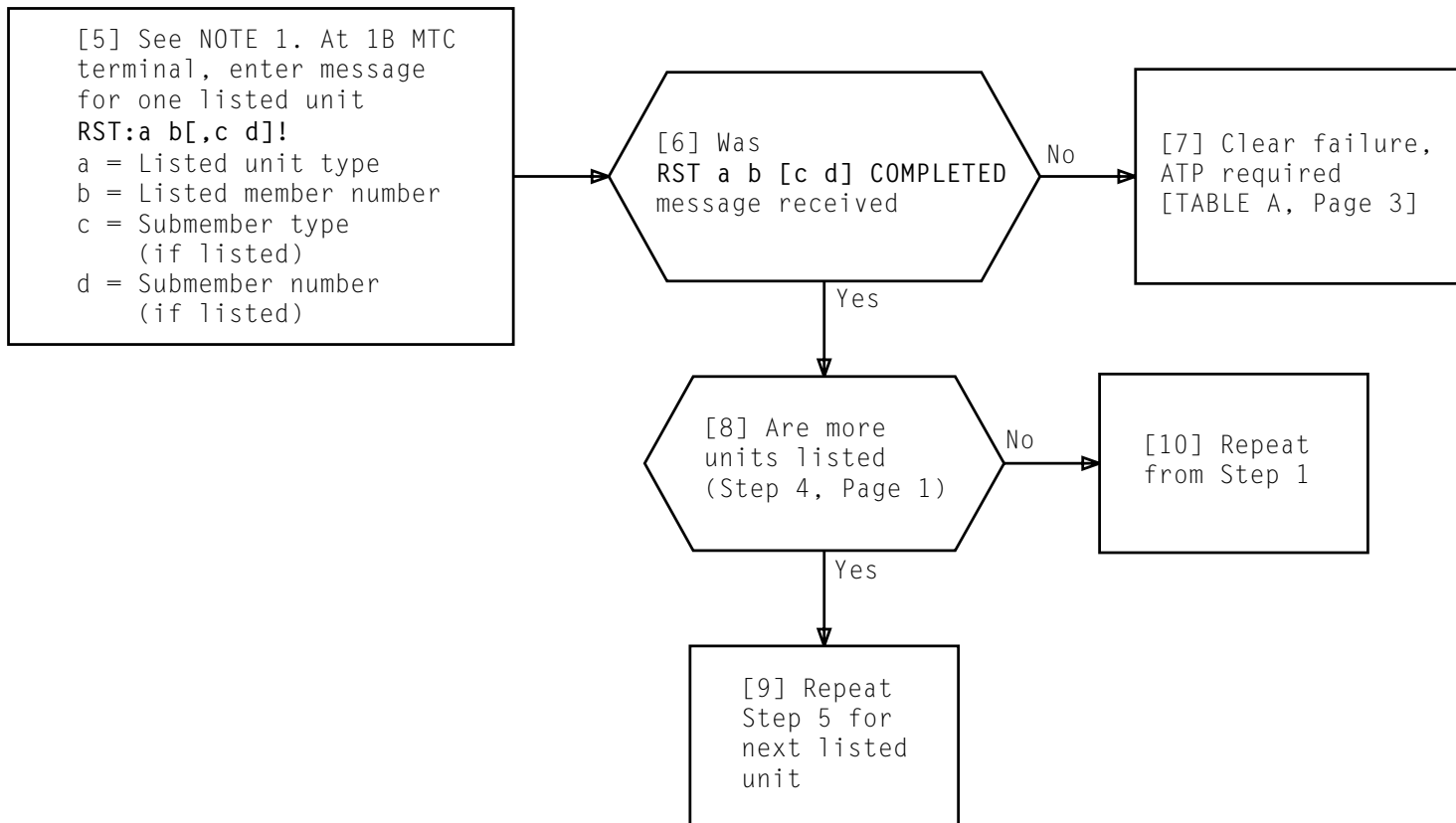
DETERMINE IF OFFICE IS STABLE

Issue 1	SEP 1997
234-353-030	DLP
PAGE 2 of 2	638



ENSURE ALL UNITS ARE IN-SERVICE

Issue 1	SEP 1997
234-353-030	DLP
PAGE 1 of 3	639



NOTE 1 Variables c and d are only to be used if submember is listed			
Issue 1		SEP 1997	
234-353-030			DLP
PAGE 2 of 3			639

ENSURE ALL UNITS ARE IN-SERVICE

TABLE A			
UNIT TYPE	TROUBLE-CLEARING VOLUME	UNIT TYPE	TROUBLE-CLEARING VOLUME
3B Computer Model 1	254-301-812	MFS	234-151-041
	254-301-813	MISC A, B, C	234-151-043
3B Computer Model 2/3	254-302-812	NCLK	234-151-013
ADS (TUC and DUS)	234-351-010	PCDF J5A007B	234-351-025
API	234-351-016	PCDF J5A007C	234-351-026
AUB	234-351-010	PUBB	234-151-015
CNI	234-151-120	SCS	234-151-077
DIF	234-151-055	SP1	234-151-031
DT	234-151-045	SP2	234-151-032
EST	234-151-050	TGR	234-151-033
IO J5A006A	234-351-020	TMS	234-151-011
IO J5A006C	234-351-021	TSI	234-151-012
IO J5A006D	234-351-022	VIF	234-151-025

ENSURE ALL UNITS ARE IN-SERVICE

Issue 1	SEP 1997
234-353-030	DLP
PAGE 3 of 3	639

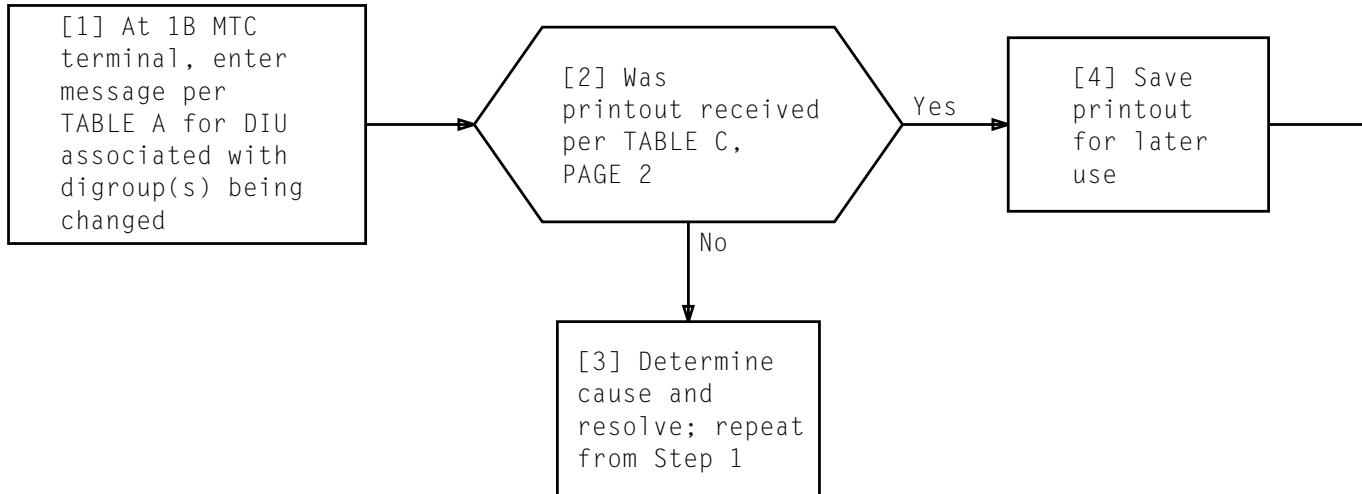


TABLE A	
MESSAGE NUMBER	INPUT MESSAGE
1	VER:UTYPE:DIF a,SME b!
a = DIF member number b = SME index number per TABLE B	

TABLE B			
DIU	SME INDEX	DIU	SME INDEX
0	143	17	160
1	144	18	161
2	145	19	162
3	146	20	163
4	147	21	164
5	148	22	165
6	149	23	166
7	150	24	167
8	151	25	168
9	152	26	169
10	153	27	170
11	154	28	171
12	155	29	172
13	156	30	173
14	157	31	174
15	158	32	175
16	159	33	176

OBTAIN CURRENT DIU ENTRY DATA AND SAVE

TABLE B	
MESSAGE NUMBER	OUTPUT MESSAGE
1	VER:UTMN;OPT(SME),CUR: FLN a UTYN DIF, MEMN b, ME OPR, SUBMEM c, SME OPR, SMTYPE , DIGROUP1 DIGROUP2 DIGROUP3 DIGROUP4 DIGROUP5 THW d, THW5 e, TDG f, g, h, i, j,
a = Floor number b = DIF member number c = DIU index number d = Type of hardware - 0 or 1 (SM1B), 6 (SM6), 7 (SM7), 8 (SM8), 9 (SM9) or 10 (SM10) e = Type of hardware for digroup 5 - 0 or 1 (SM1B), 9 (SM9), or 10 (SM10) f - j = Type of digroup - blank for No assignment 1 for SF ZCS (RB or 64R) 2 for SF B8ZS (RB or 64C) 3 for SF ZCS (CCITT5 4-STATE ONLY) 4 for ESF B8ZS (CCITT5 4-STATE ONLY) 5 for ESF ZCS (RB or 64R) 6 for ESF B8ZS (RB or 64C) 7 for ESF B8ZS (64C ONLY) 8 for ESF B8ZS (64C WITH PCC)	

OBTAIN CURRENT DIU ENTRY DATA AND SAVE

Issue 1	SEP 1997
234-353-030	DLP
PAGE 2 of 2	640

[1] Using new functional assignment(s) for one digroup, recorded earlier and TABLE A, Page 2, determine THW value

[2] Using new functional assignment(s) for one digroup, recorded earlier and TABLE A, Page 2, determine THW5 value

[3] Using VER:UTYPE printout, previously saved, determine if THW is set to value determined in Step 1

[4] Using VER:UTYPE printout, previously saved, determine if THW5 is set to value determined in Step 2

AND

[5] Are THW and THW5 fields set properly

Yes

No

[6] Record that field(s) was not set to proper value

[7] Are more digroups to be changed

No

Yes

[8] Repeat from Step 1 for next digroup

DETERMINE IF THW AND THW5 FIELDS ARE SET PROPERLY

Issue 1	SEP 1997
234-353-030	DLP
PAGE 1 of 2	641

TABLE A						
THW	THW5	TDG (TYPE OF DIGROUP)				
		DIGROUP 1	DIGROUP 2	DIGROUP 3	DIGROUP 4	DIGROUP 5
blank	blank	blank	blank	blank	blank	blank
1	blank	1	1	1	1	1
6	1	blank	blank	blank	blank	1
6	9	blank	blank	blank	blank	1,2,5,6,7
6	10	blank	blank	blank	blank	1,2,5,6,7,8
7	1	blank	blank	blank	blank	1
7	9	blank	blank	blank	blank	1,2,5,6,7
7	10	blank	blank	blank	blank	1,2,5,6,7,8
9	blank	1,2,5,6,7 3,4	1,2,5,6,7 3,4	1,2,5,6,7 3,4	1,2,5,6,7 3,4	1,2,5,6,7 3,4
10	blank	1,2,5,6,7,8 3,4	1,2,5,6,7,8 3,4	1,2,5,6,7,8 3,4	1,2,5,6,7,8 3,4	1,2,5,6,7,8 3,4
THW = Circuit pack code for digroup 1 through digroup 4 (and digroup 5 if THW5 is 0) THW5 = Circuit pack code for digroup 5 (used when DIU equipped with digital interface service circuit units) THW and THW5 = blank = no assignment 7 = SM7 1 = SM1B 9 = SM9 6 = SM6 10 = SM10						

Issue 1	SEP 1997
234-353-030	DLP
PAGE 2 of 2	641

DETERMINE IF THW AND THW5 FIELDS ARE SET PROPERLY

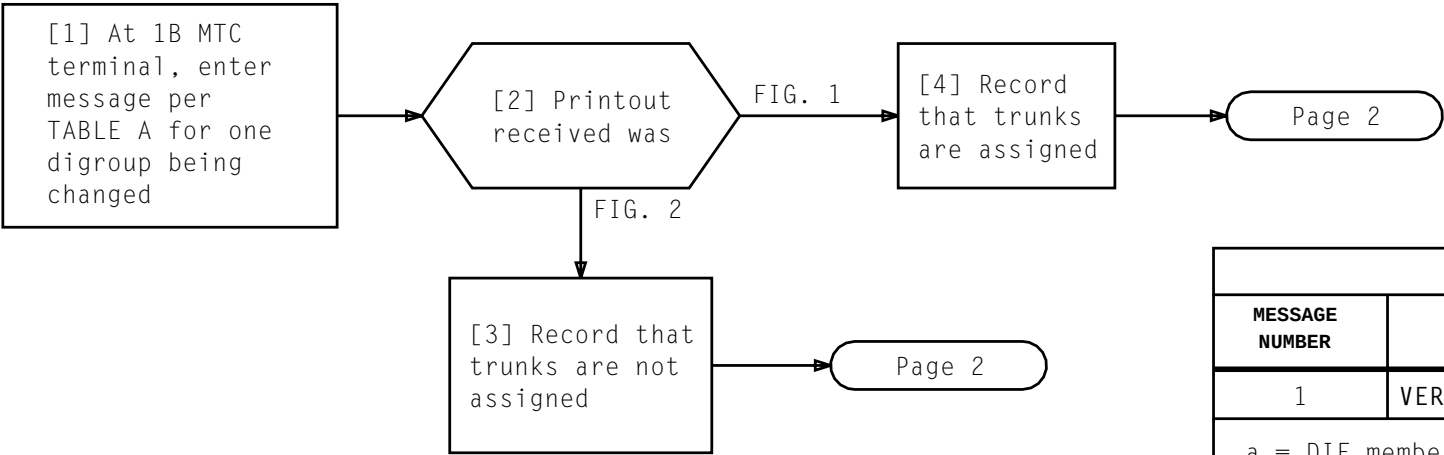


TABLE A	
MESSAGE NUMBER	INPUT MESSAGE
1	VER:TRKNAME,DIF a,DIU b,DG c;DETL!
a = DIF member number b = DIU number c = Digroup number	

VER:TRKNAME,DIF a,DIU b,DG c:ISC xxxx OSC xxxx

Record this data

OTAN d - TAN xx x x xxx
CIN eee eeee ee ee eee eee - BTFN xxx

TSN xxxxxxx - TSN 0'xxxxxx
DIF a,DIU b,DG c

TSGN 0'x D' f FENBEA xxxxxxxx

Record this data

.

.

.

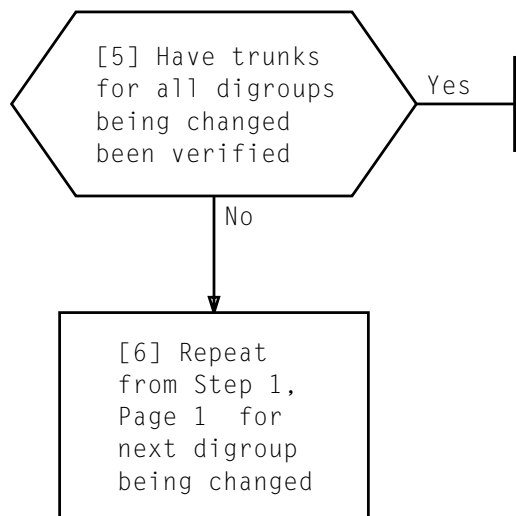
VER:TRKNAME,DIF a,DIU b,DG c: UNA

FIG. 2 - VER TRKNAME Printout (Trunks Not Assigned)

FIG. 1 - VER:TRKNAME Printout (Trunks Assigned)

DETERMINE IF TRUNKS ARE ASSIGNED

Issue 1	SEP 1997
234-353-030	DLP
PAGE 1 of 2	642



DETERMINE IF TRUNKS ARE ASSIGNED

Issue 1	SEP 1997
234-353-030	DLP
PAGE 2 of 2	642

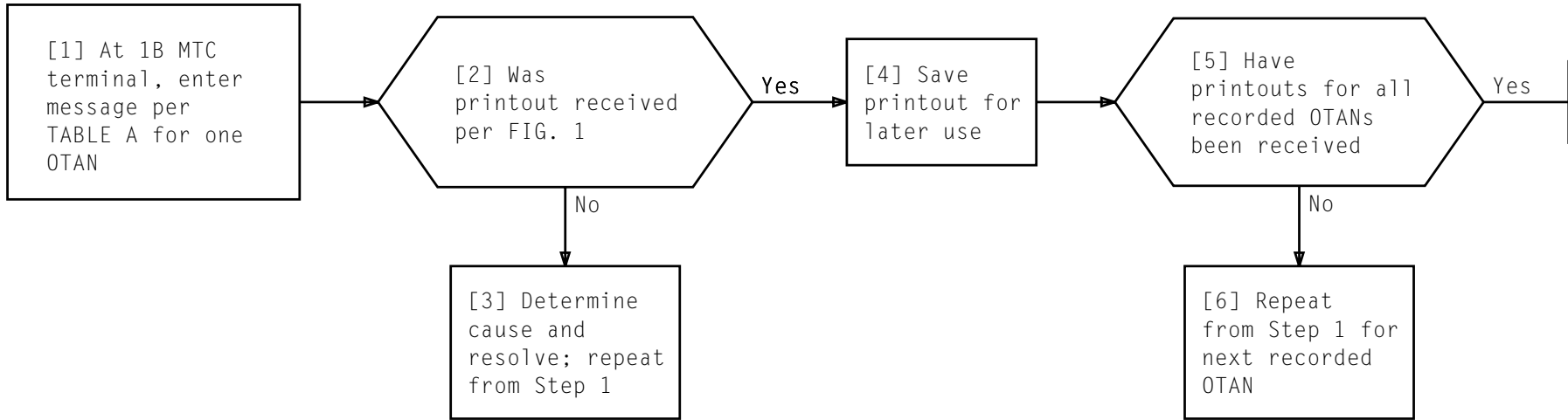


TABLE A	
MESSAGE NUMBER	INPUT MESSAGE
1	OP:TRKSTAT,OTAN a:NUM 24!
a = OTAN associated with digroup being changed that was recorded earlier	

OP:TRKSTAT ACT TRAF<xxx yyy> ,OTAN a **[NOTE]**

OP:TRKSTAT ACT ,OTAN a NUM, COMPLETED
TRK COUNT 24

a = OTAN of trunk

NOTE: For each trunk assigned to digroup being changed, a 1-line printout will be received

FIG. 1 - OP:TRKSTAT Printout

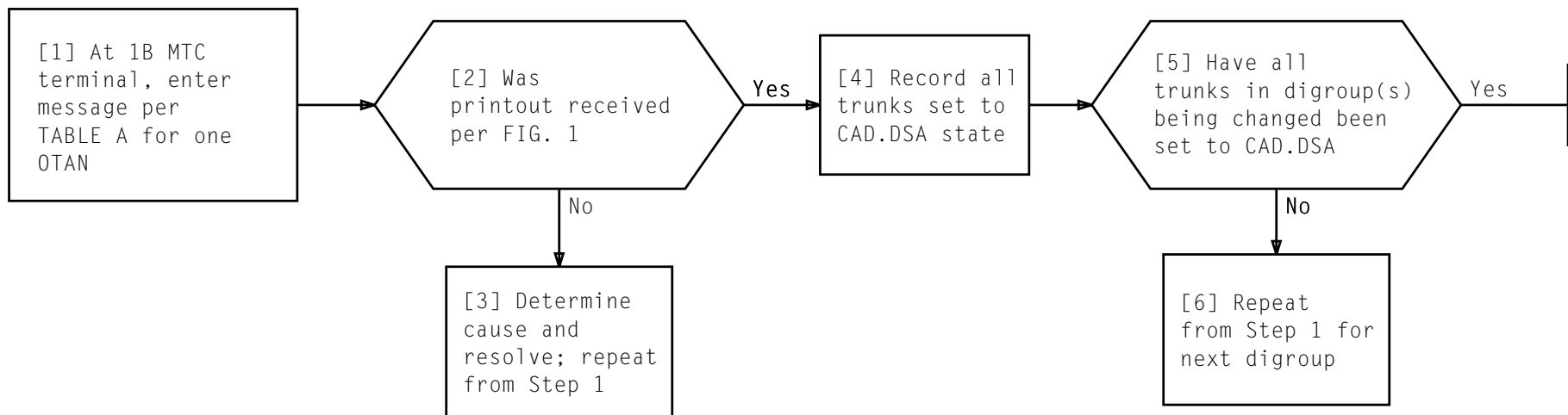


TABLE A	
MESSAGE NUMBER	INPUT MESSAGE
1	SET:TRKSTAT CAD.DSA,OTAN a:NUM 24!
a = OTAN associated with digroup being changed that was recorded earlier	

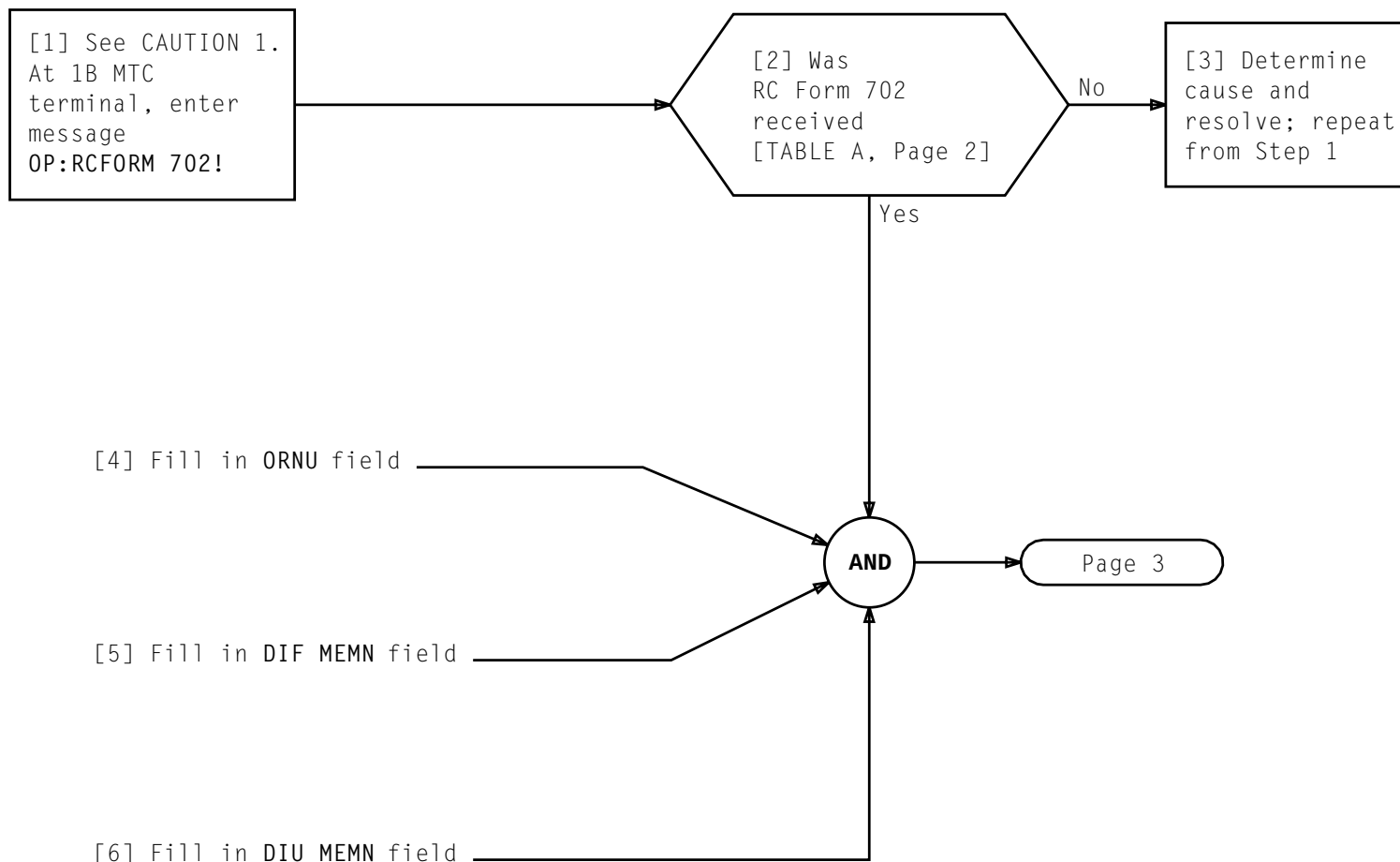
SET:TRKSTAT CAD.DSA<MAN> TRAF<xxx yyy> ,OTAN a **[NOTE]**

SET:TRKSTAT CAD.DSA ,OTAN a NUM,STAT ACT COMPLETED
TRK COUNT b

a = OTAN of trunk set to CAD.DSA
b = Number of trunks for a given digroup set to CAD.DSA

NOTE: For each trunk assigned to digroup being changed, a 1-line printout will be received

FIG. 1 - SET:TRKSTAT Printout



CAUTION 1 <i>Calling up RC Form will cause all CRT data to be cleared</i>			
Issue 1		SEP 1997	
234-353-030			DLP
PAGE 1 of 9			645

RECENT CHANGE DIGROUP(S) TO NEW FUNCTIONAL ASSIGNMENT

TABLE A	
MESSAGE NUMBER	OUTPUT MESSAGE
1	RC:UTYPE;CHG;OPT(DIU),TST: ORNU a, DIF MEMN b, DIU MEMN c, DIGROUP1 DIGROUP2 DIGROUP3 DIGROUP4 DIGROUP5 THW d, THW5 e, TDG f, g, h, i, j, REMARKS _____!
a = Order number b = DIF member number c = DIU member number d = Type of hardware - 0 or 1 (SM1B), 6 (SM6), 7 (SM7), 8 (SM8), 9 (SM9) or 10 (SM10) e = Type of hardware for digroup 5*† - 0 or 1 (SM1B), 9 (SM9), or 10 (SM10) f - j = Type of digroup*† - blank for No assignment† 1 for SF ZCS (RM or 64R) 2 for SF B8ZS (RB or 64C) 3 for SF ZCS (CCITT5 4-STATE ONLY) 4 for ESF B8ZS (CCITT5 4-STATE ONLY) 5 for ESF ZCS (RB or 64R) 6 for ESF B8ZS (RB or 64C) 7 for ESF B8ZS (64C ONLY) 8 for ESF B8ZS (64C WITH PCC)	
* THW and THW5 cannot be changed to blank when equipage is in a state other than UNEQ. Next higher technical support group must be contacted † This information can be obtained from the TEO or Switch Engineer	

RECENT CHANGE DIGROUP(S) TO NEW FUNCTIONAL ASSIGNMENT

Issue 1	SEP 1997
234-353-030	DLP
PAGE 2 of 9	645

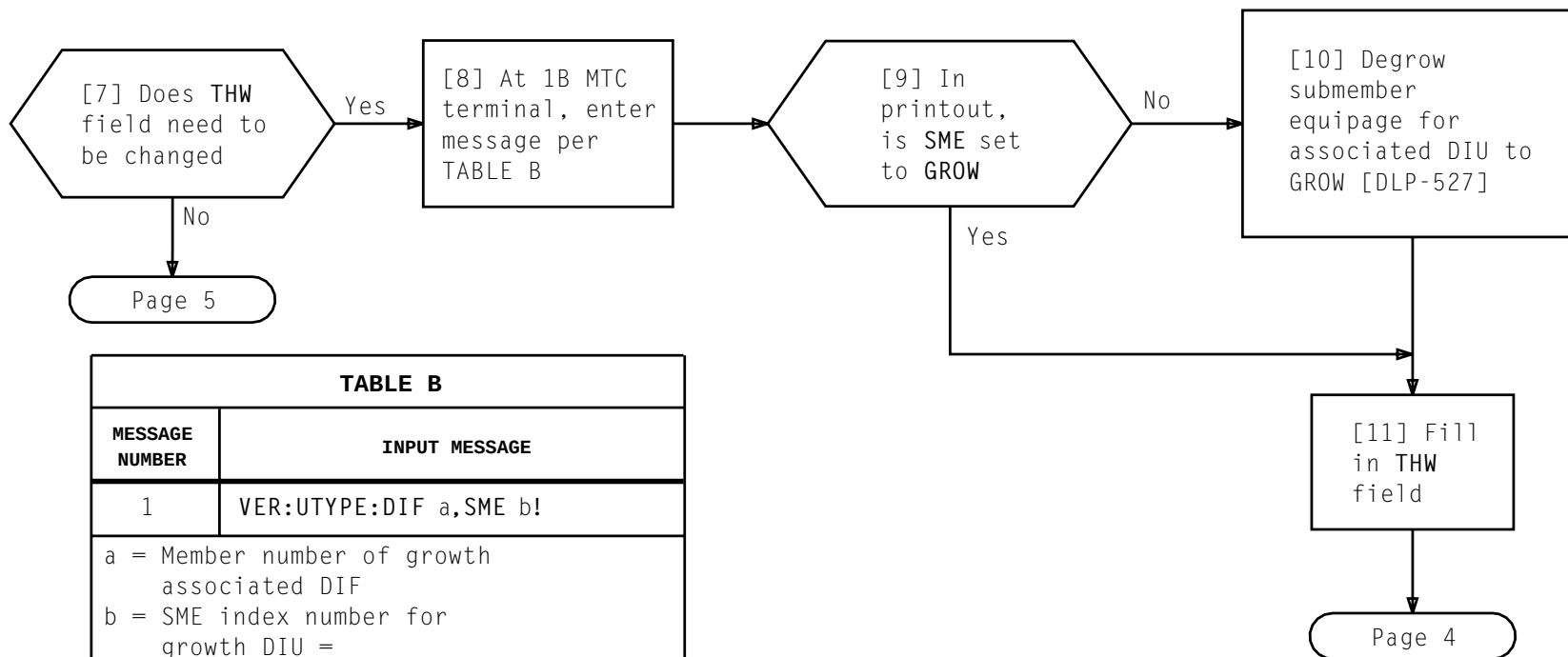
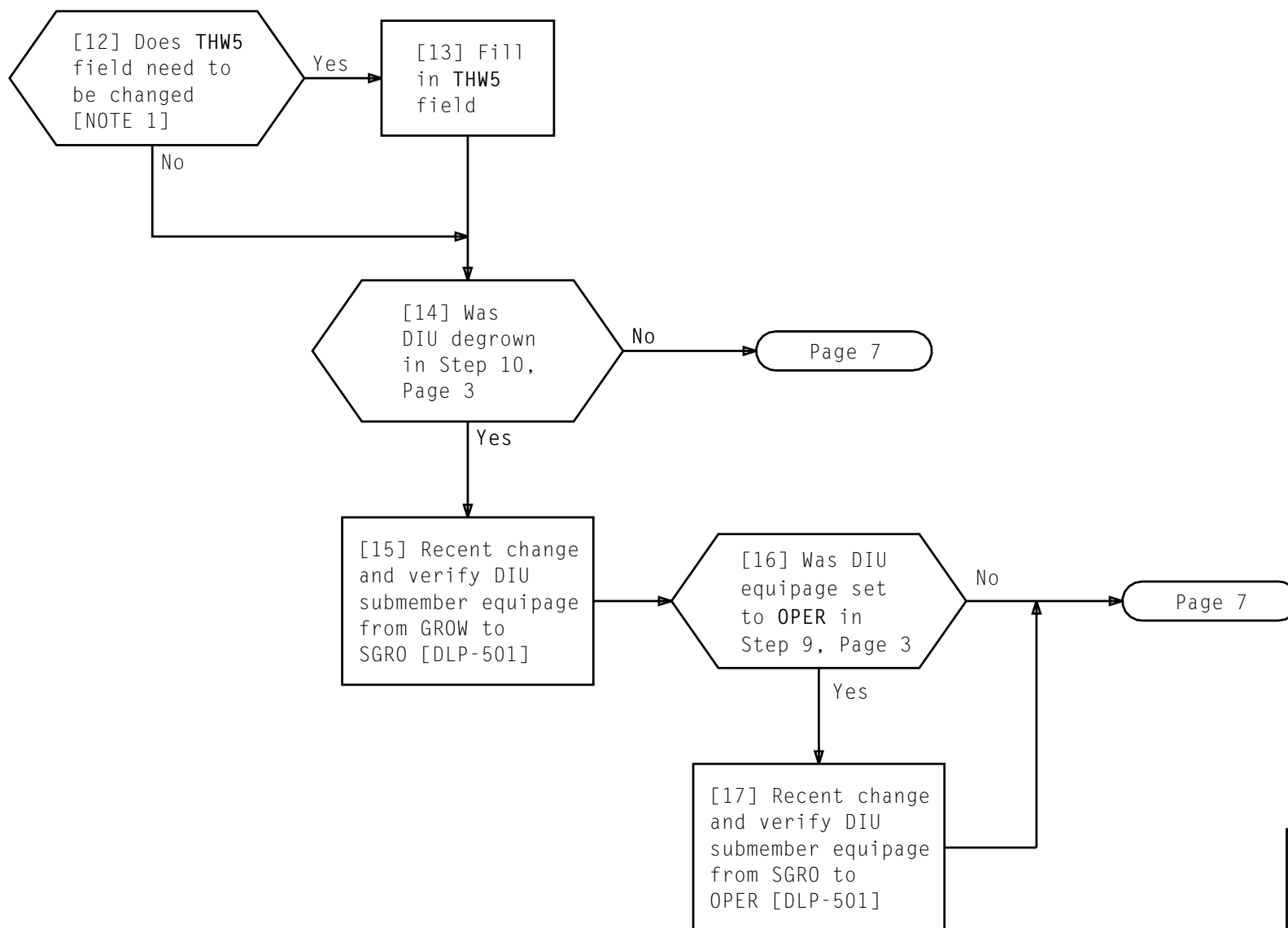


TABLE B					
MESSAGE NUMBER		INPUT MESSAGE			
1		VER:UTYPE:DIF a,SME b!			
a = Member number of growth associated DIF b = SME index number for growth DIU =					
DIU	INDEX NO.	DIU	INDEX NO.	DIU	INDEX NO.
0	143	12	155	23	166
1	144	13	156	24	167
2	145	14	157	25	168
3	146	15	158	26	169
4	147	16	159	27	170
5	148	17	160	28	171
6	149	18	161	29	172
7	150	19	162	30	173
8	151	20	163	31	174
9	152	21	164	32	175
10	153	22	165	33	176
11	154				



NOTE 1
THW5 field only
needs to be
changed if THW
is set to 6 or 7

Issue 1	SEP 1997
234-353-030	DLP
PAGE 4 of 9	645

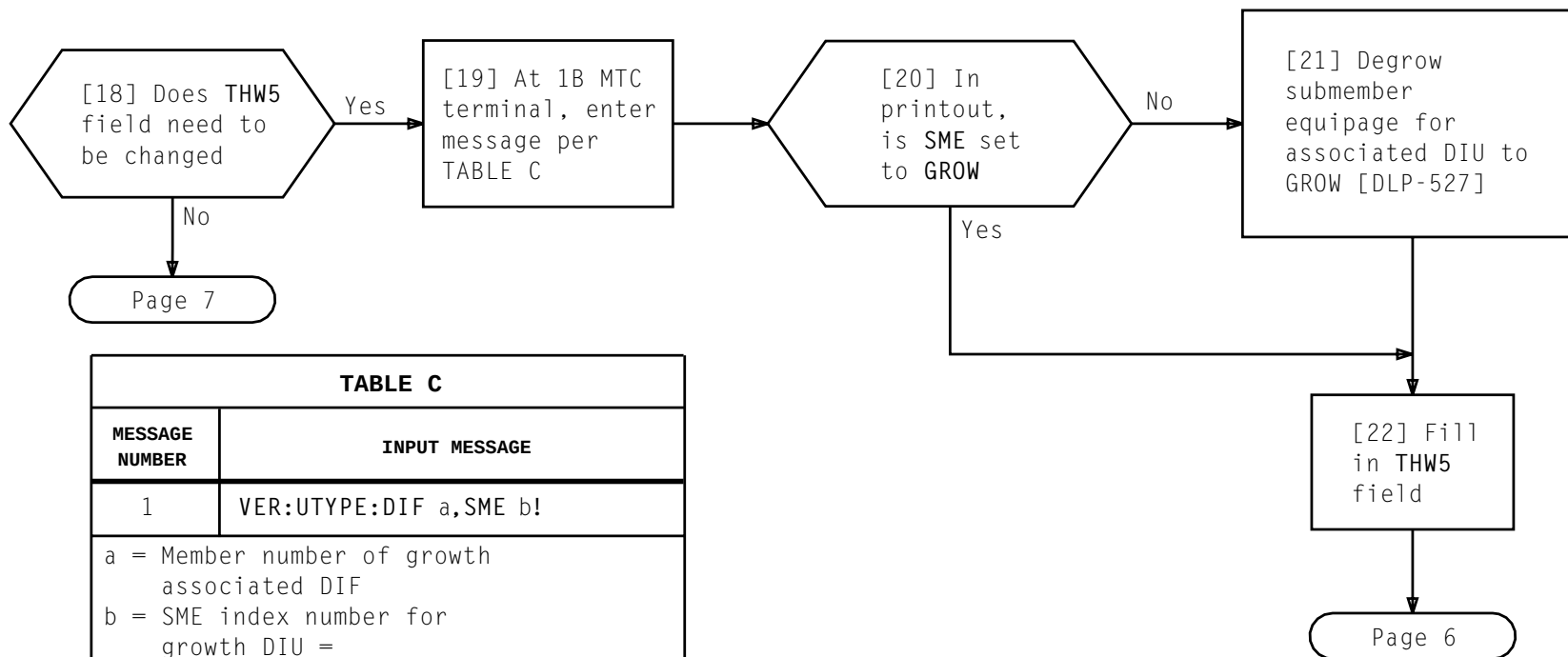
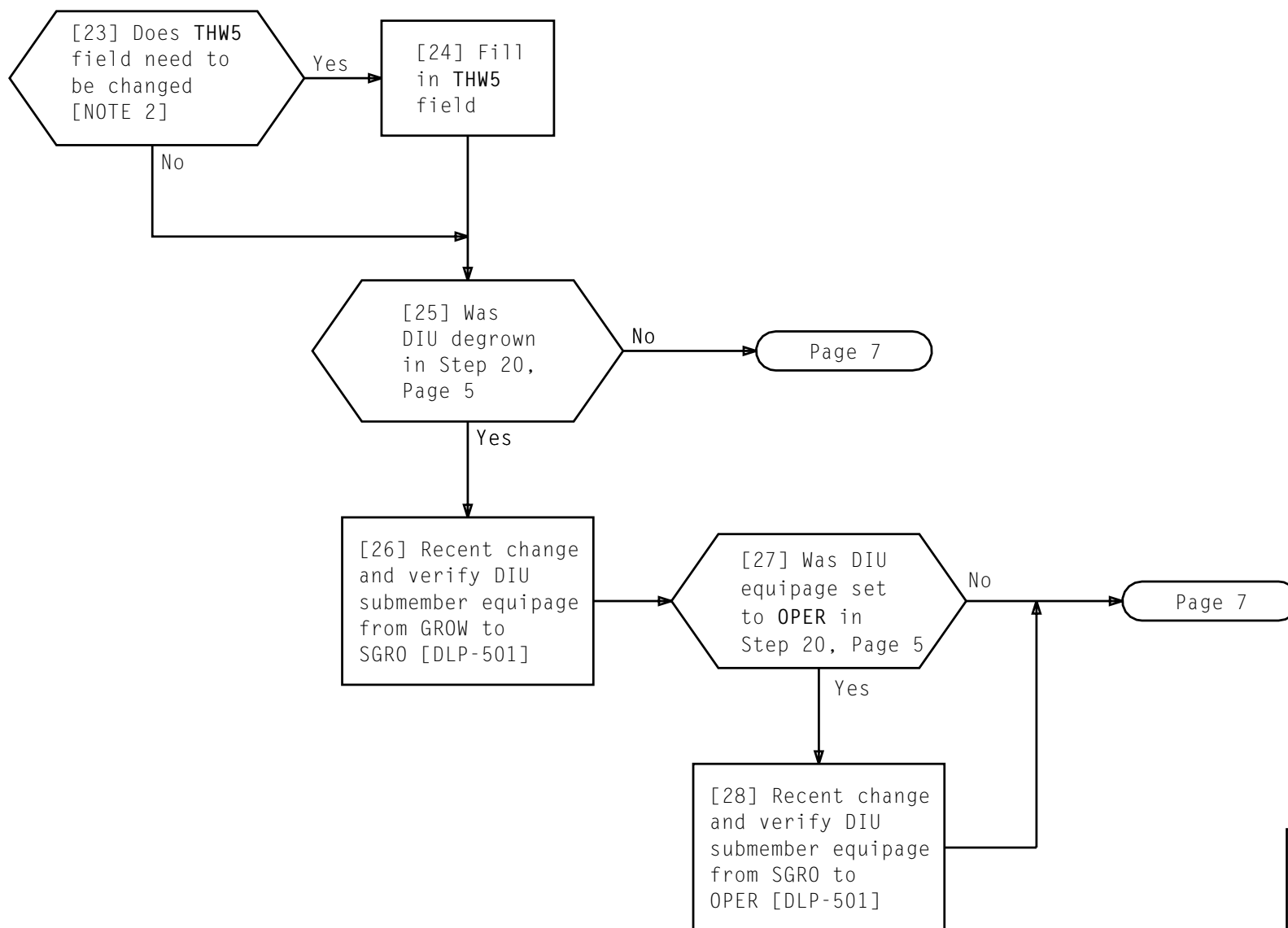


TABLE C					
MESSAGE NUMBER		INPUT MESSAGE			
1		VER:UTYPE:DIF a,SME b!			
a = Member number of growth associated DIF b = SME index number for growth DIU =					
DIU	INDEX NO.	DIU	INDEX NO.	DIU	INDEX NO.
0	143	12	155	23	166
1	144	13	156	24	167
2	145	14	157	25	168
3	146	15	158	26	169
4	147	16	159	27	170
5	148	17	160	28	171
6	149	18	161	29	172
7	150	19	162	30	173
8	151	20	163	31	174
9	152	21	164	32	175
10	153	22	165	33	176
11	154				



NOTE 2
THW5 field only
needs to be
changed if THW
is set to 6 or 7

Issue 1	SEP 1997
234-353-030	DLP
PAGE 6 of 9	645

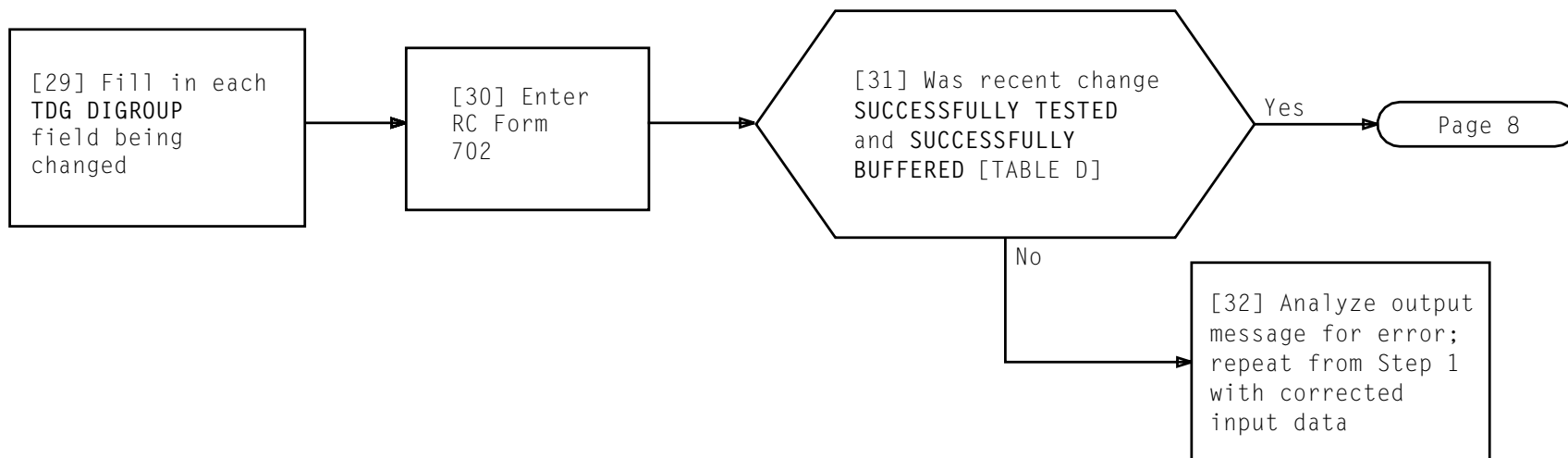


TABLE D	
MESSAGE NUMBER	OUTPUT MESSAGE
1	RC ORNU a, SUCCESSFULLY TESTED RC ORNU a, SUCCESSFULLY BUFFERED RC:UTYPE;CHG;OPT(DIU),TST: ORNU a, DIF MEMN b, DIU MEMN c, DIGROUP1 DIGROUP2 DIGROUP3 DIGROUP4 DIGROUP5 THW d, THW5 e, TDG f, g, h, i, j, REMARKS _____!

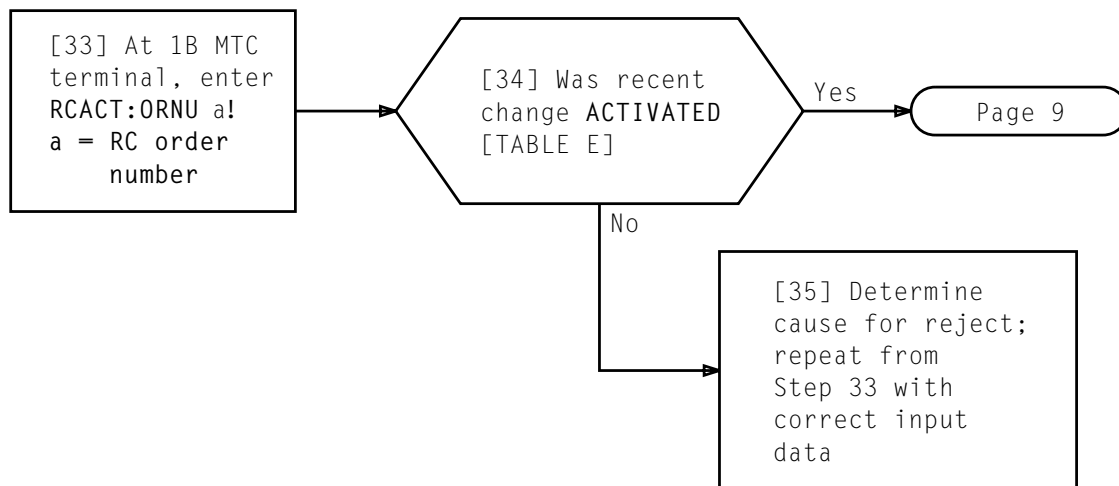
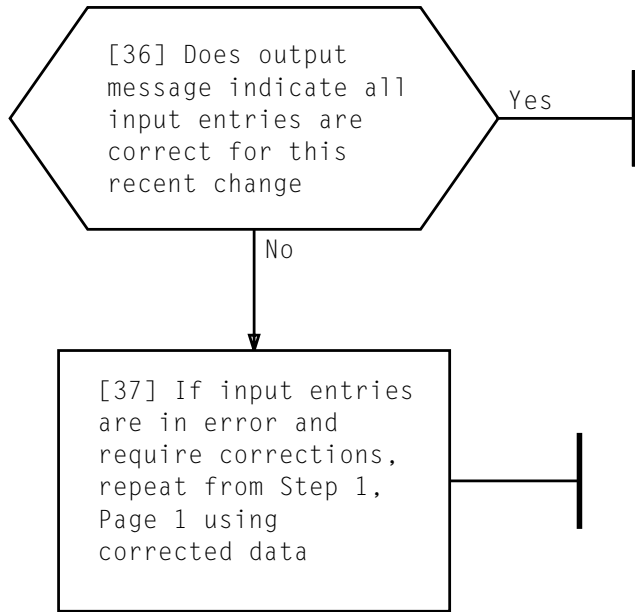


TABLE E	
MESSAGE NUMBER	OUTPUT MESSAGE
1	RC ORNU a, ACTIVATED RC:UTYPE;CHG;OPT(DIU),TST: ORNU a, DIF MEMN b, DIU MEMN c, DIGROUP1 DIGROUP2 DIGROUP3 DIGROUP4 DIGROUP5 THW d, THW5 e, TDG f, g, h, i, j, REMARKS _____!

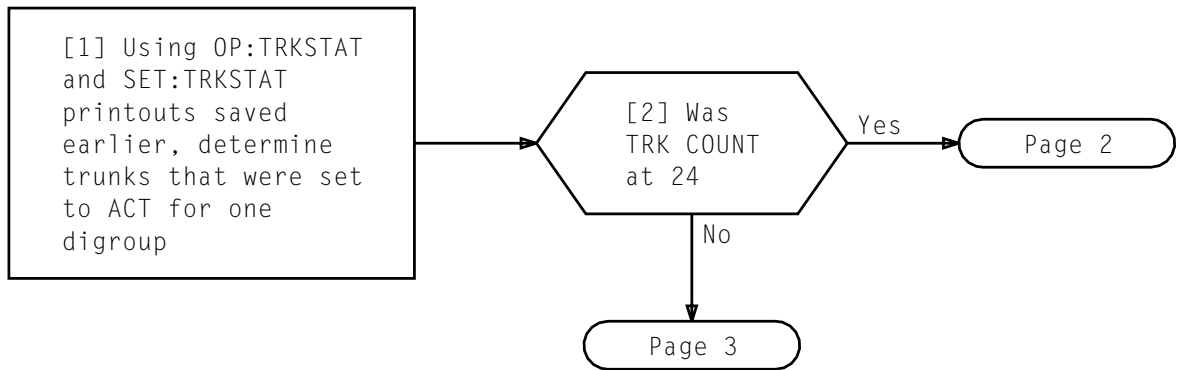
RECENT CHANGE DIGROUP(S) TO NEW FUNCTIONAL ASSIGNMENT

Issue 1	SEP 1997
234-353-030	DLP
PAGE 8 of 9	645



RECENT CHANGE DIGROUP(S) TO NEW FUNCTIONAL ASSIGNMENT

Issue 1	SEP 1997
234-353-030	DLP
PAGE 9 of 9	645



SET TRUNKS BACK TO ACT FOR CHANGED DIGROUP(S)

Issue 1	SEP 1997
234-353-030	DLP
PAGE 1 of 4	646

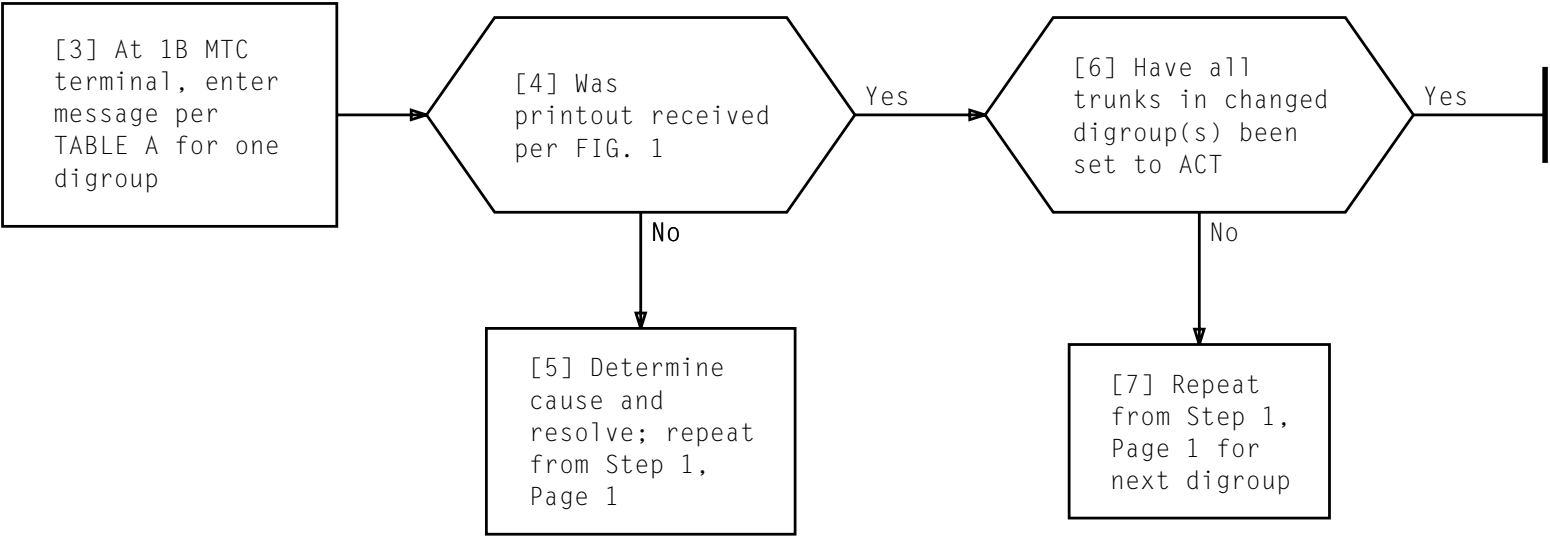


TABLE A	
MESSAGE NUMBER	INPUT MESSAGE
1	SET:TRKSTAT ACT,OTAN a:NUM 24!
a = OTAN associated with digroup being changed that was recorded earlier	

SET:TRKSTAT ACT TRAF< IDLE 1> ,OTAN a [NOTE]

SET:TRKSTAT ACT ,OTAN a NUM COMPLETED
TRK COUNT 24

a = OTAN number of trunk set to ACT

NOTE: For each trunk set to ACT, a 1-line printout will be received

FIG. 1 - SET:TRKSTAT Printout

SET TRUNKS BACK TO ACT FOR CHANGED DIGROUP(S)

Issue 1	SEP 1997
234-353-030	DLP
PAGE 2 of 4	646

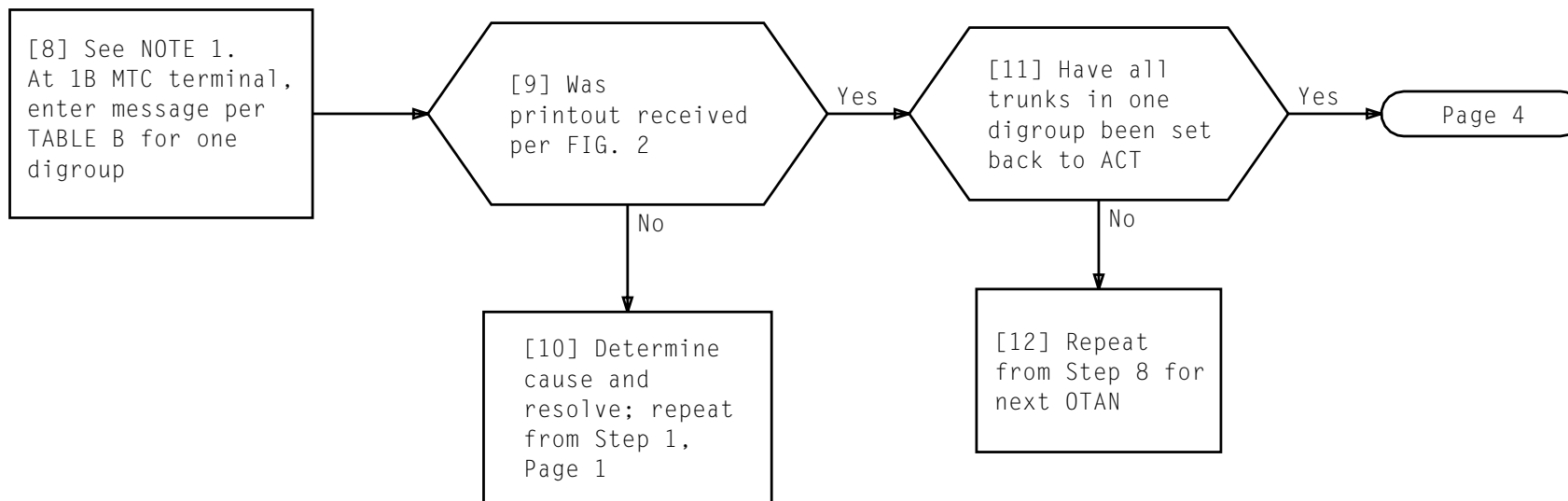


TABLE B	
MESSAGE NUMBER	INPUT MESSAGE
1	SET:TRKSTAT ACT,OTAN a:NUM b!
a = OTAN associated with digroup being changed that was recorded earlier b = Number of consecutive OTANs to be set back to ACT	

SET:TRKSTAT ACT TRAF< IDLE 1> ,OTAN a **[NOTE]**

SET:TRKSTAT ACT ,OTAN a NUM COMPLETED
TRK COUNT b

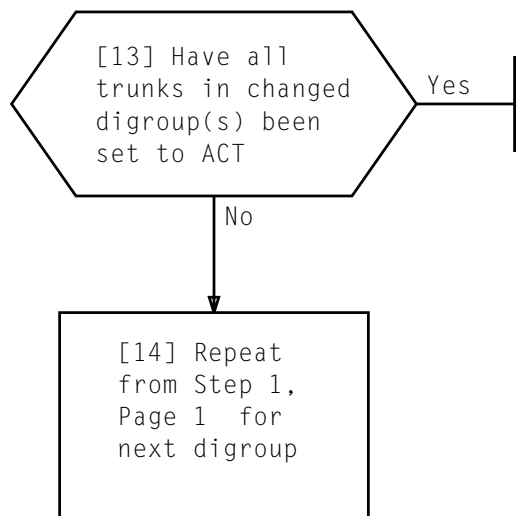
a = OTAN number of trunk set to ACT
b = trunks for a given digroup set to ACT

NOTE: For each trunk set to ACT, a 1-line printout will be received

FIG. 2 - SET:TRKSTAT Printout

SET TRUNKS BACK TO ACT FOR CHANGED DIGROUP(S)

Issue 1	SEP 1997
234-353-030	DLP
PAGE 3 of 4	646



SET TRUNKS BACK TO ACT FOR CHANGED DIGROUP(S)

Issue 1	SEP 1997
234-353-030	DLP
PAGE 4 of 4	646

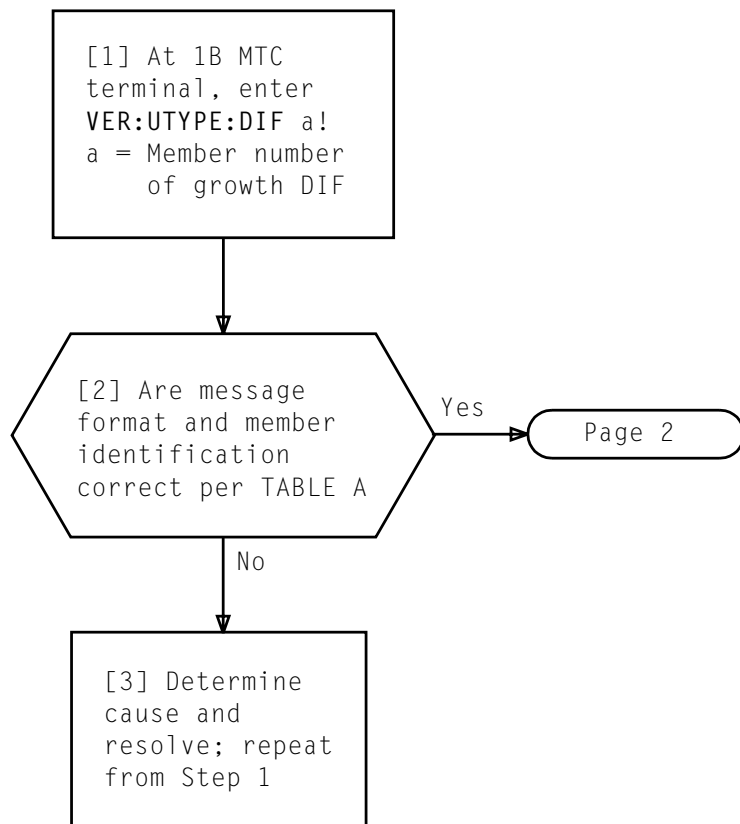


TABLE A				
MESSAGE NUMBER	OUTPUT MESSAGE			
1	VER:UTMN;OPT(),CUR: FLN a, UTYN DIF,			
	MEMN b, ME UNEQ, ENTRY ADDRESS c, ENTRY SIZE 83,			
	CUR			
	WORD 0	_____	_____	_____
		_____	_____	_____
	WORD 10	_____	_____	_____
		_____	(WORD 16)	(WORD 17)
	WORD 20	(WORD 20)	(WORD 21)	(WORD 22)
		(WORD 24)	(WORD 25)	(WORD 26)
	WORD 30	(WORD 30)	(WORD 31)	(WORD 32)
		(WORD 34)	(WORD 35)	(WORD 36)
	WORD 40	(WORD 40)	(WORD 41)	(WORD 42)
		(WORD 44)	(WORD 45)	(WORD 46)
	WORD 50	(WORD 50)	(WORD 51)	(WORD 52)
		(WORD 54)	(WORD 55)	(WORD 56)
			•	
			•	
	WORD 120	_____	_____	_____
a = Floor location number b = Member number of growth associated DIF c = Starting octal address for UT entry				

[4] Using TABLE B, determine
octal word associated with
DIU being converted

[5] Using printout, TABLE A,
Page 1, and TABLE C, Page 3,
convert two leftmost octal
digits in octal word
determined in Step 4
to binary

[6] Record binary bits 23
through 18 for later
reference

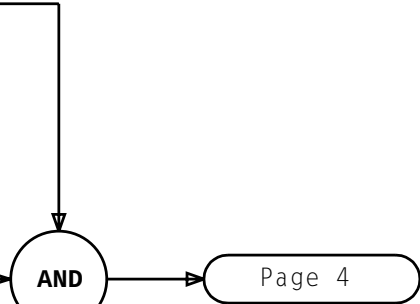


TABLE B			
DIU	OCTAL WORD NUMBER	DIU	OCTAL WORD NUMBER
0	16	17	37
1	17	18	40
2	20	19	41
3	21	20	42
4	22	21	43
5	23	22	44
6	24	23	45
7	25	24	46
8	26	25	47
9	27	26	50
10	30	27	51
11	31	28	52
12	32	29	53
13	33	30	54
14	34	31	55
15	35	32	56
16	36	33	57

TABLE C

16*
through
55

entry data
octal output

bit position

binary values

CONVERT THESE OCTAL DIGITS TO BINARY

U	U	Y	Y	Y	Y	Y	Y																	
23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	
0	0	W	W	W	W	Z	Z	Z	V	V	V	V	V	X	X	X	X	X	X	X	X	X	X	
		TYPE HARDWARE				DIU VERSION NUMBER			5	4	3	2	1	TSI MEMBER NUMBER						S P C	TSI PORT NO.			
DIU TO TSI LEVEL ASSIGNMENT																								

56*
and
57

entry data
octal output

bit position

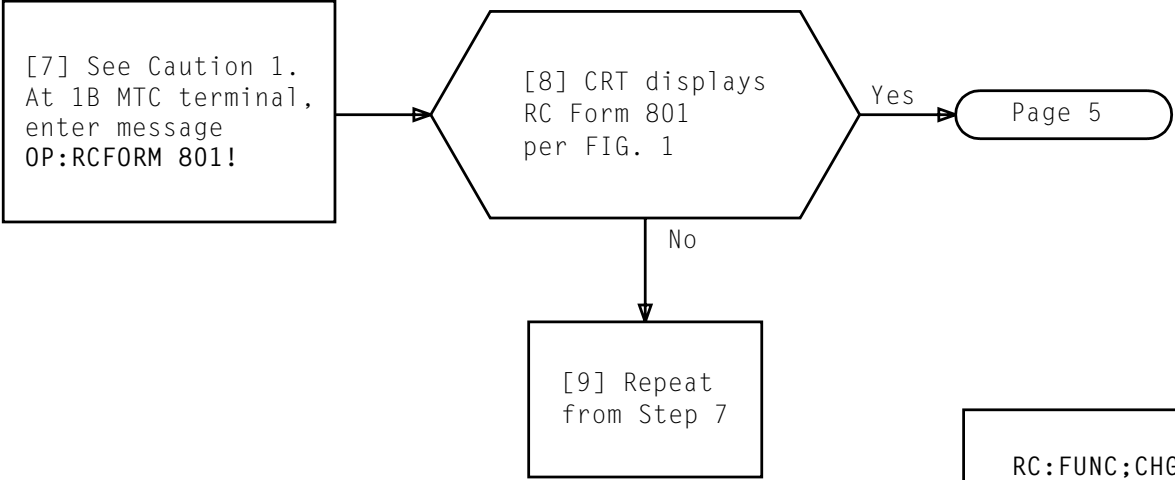
binary values

CONVERT THESE OCTAL DIGITS TO BINARY

U	U	Y	Y	Y	0	0	0																
23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
0	0	W	W	W	W	Z	Z	Z	V	V	V	V	V	0	0	0	0	0	0	0	0	0	0
		TYPE HARDWARE				DIU VERSION NUMBER			5	4	3	2	1										
SPARE A/B - DIU 32/33																							

* Word associated with each DIU as follows:

DIU	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33
WORD	16	17	20	21	22	23	24	25	26	27	30	31	32	33	34	35	36	37	40	41	42	43	44	45	46	47	50	51	52	53	54	55	56	57



RC:FUNC;CHG;OPT(TRANS), ---:	TRANSID.....,
ORNU -----,	
ENTRY -----, WORDNO -----,	
SIZE --, DISP --,	
BINOCT --,	
NEWDATA -----,	
OLDDATA -----,	
REMARKS -----	!

FIG. 1 – Blank RC Form 801

PERFORM FUNCTIONAL WORD CHANGE OF DIU TYPE DATA

CAUTION 1
Calling up
RC form will
cause all CRT
data to be
cleared

Issue 1	SEP 1997
234-353-030	DLP
PAGE 4 of 7	647

[10] Read NOTES 1 and 2.
At 1B terminal, fill
in blank fields on
RC Form 801 per
TABLE D and enter
message

Page 6

TABLE E			
DIU	DECIMAL WORD NUMBER	DIU	DECIMAL WORD NUMBER
0	14	17	31
1	15	18	32
2	16	19	33
3	17	20	34
4	18	21	35
5	19	22	36
6	20	23	37
7	21	24	38
8	22	25	39
9	23	26	40
10	24	27	41
11	25	28	42
12	26	29	43
13	27	30	44
14	28	31	45
15	29	32	46
16	30	33	47

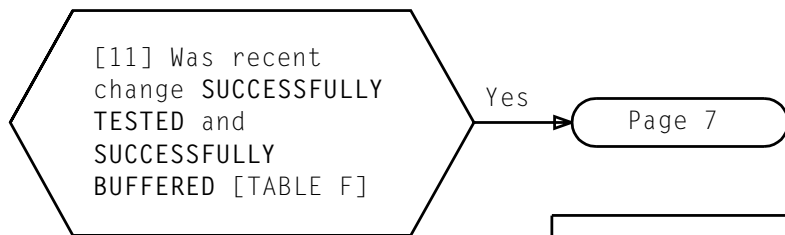
TABLE D	
MESSAGE NUMBER	OUTPUT MESSAGE
1	RC:FUNC;CHG;OPT(TRANS),a: TRANSID b, ORNU c, ENTRY d, WORDNO e, SIZE f, DISP g, BINOCT h, NEWDATA i, OLDDATA j, REMARKS..... !
a = TST b = UTDIF c = RC order number d = DIF member number e = Decimal word number per TABLE E for DIU being converted f = 6 g = 18 h = B i = 000001 (for SM1B circuit pack) 001001 (for SM9 circuit pack) 001010 (for SM10 circuit pack) j = Binary bits 23-18 recorded in Step 6, Page 2	

NOTES

1. The quantity of binary bits to be entered as **NEWDATA** must be equal to decimal number entered as **SIZE**
2. The quantity of binary bits to be entered as **OLDDATA** must be equal to quantity of bits entered as **NEWDATA**

Issue 1	SEP 1997
234-353-030	DLP
PAGE 5 of 7	647

PERFORM FUNCTIONAL WORD CHANGE OF DIU TYPE DATA



[12] Analyze output message for error; repeat from Step 1, Page 1, with corrected input data

TABLE F	
MESSAGE NUMBER	OUTPUT MESSAGE
1	RC ORNU a SUCCESSFULLY TESTED RC ORNU a SUCCESSFULLY BUFFERED RC:FUNC;CHG;OPT(TRANS),BUF: TRANSID UTDIF, ORNU a, ENTRY b, WORDNO c, SIZE 6, DISP 18, BINOCT B, NEWDATA d, OLDDATA e, REMARKS _ _ _ _ _! REPT:RC DUMP OF UNIT TYPE ENTRY AS IT WILL APPEAR AFTER THE MESSAGE IS ACTIVATED WORD 0 _ _ _ _ _ WORD 10 _ _ _ _ _ . . WORD 120 _ _ _ _ _
a = RC order number b = DIF member number c = Word number entered d = New data entered e = Old data entered	

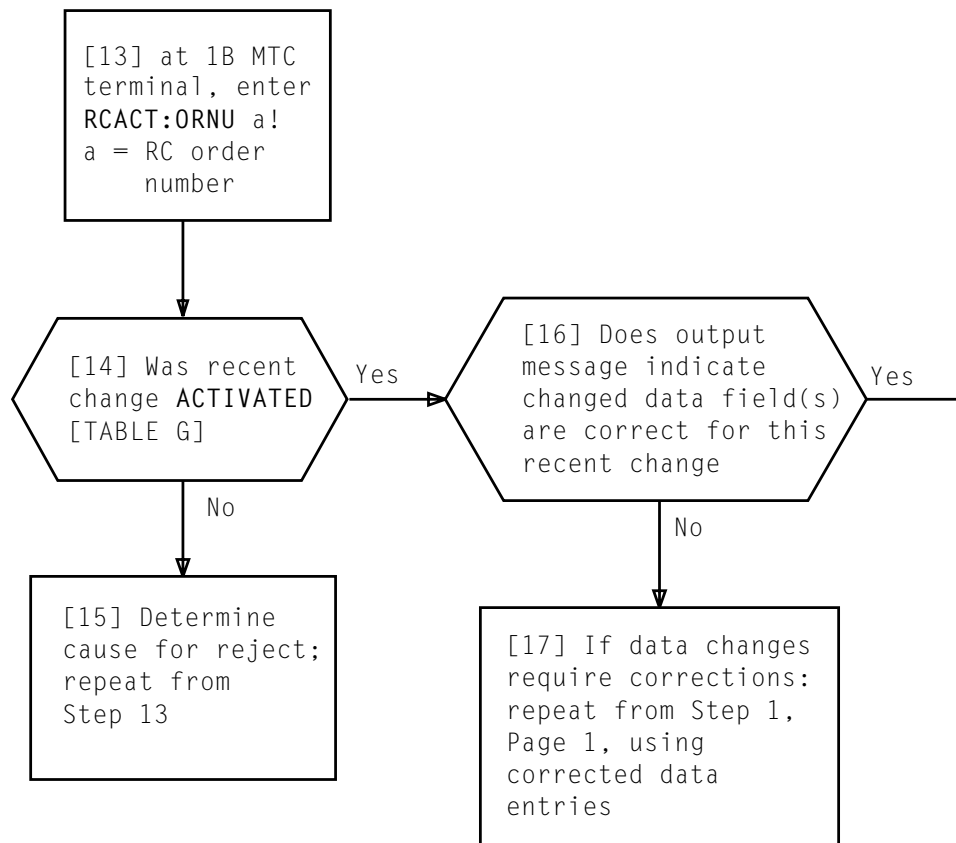


TABLE G	
MESSAGE NUMBER	OUTPUT MESSAGE
1	RC ORNU a ACTIVATED RC:FUNC;CHG;OPT(TRANS),BUF: TRANSID UTDIF, ORNU a, ENTRY b, WORDNO c, SIZE 6, DISP 18, BINOCT B, NEWDATA d, OLDDATA e, REMARKS..... !
a = RC order number b = DIF member number c = Word number entered d = New data entered e = Old data entered	

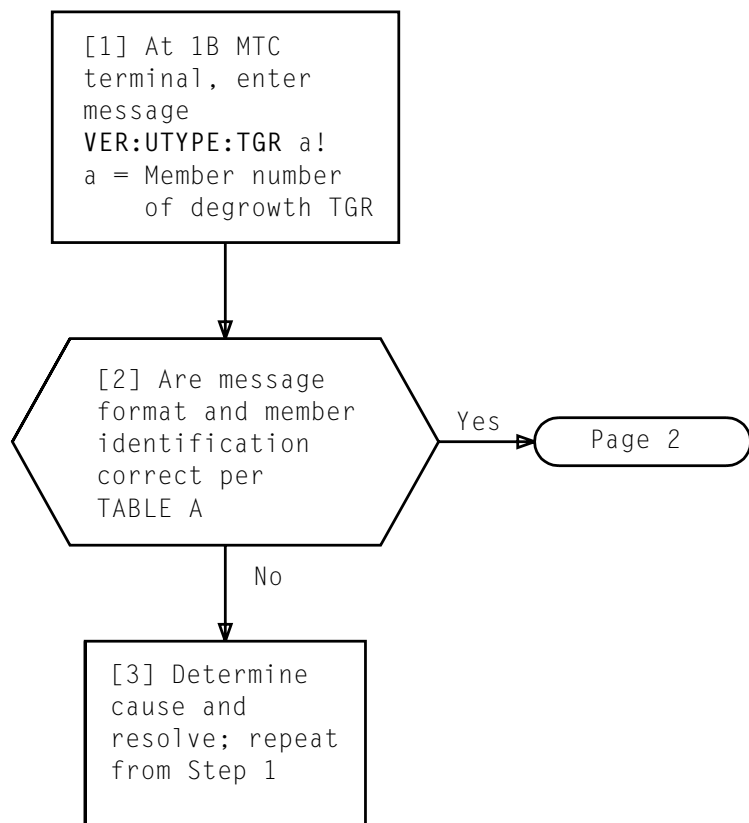
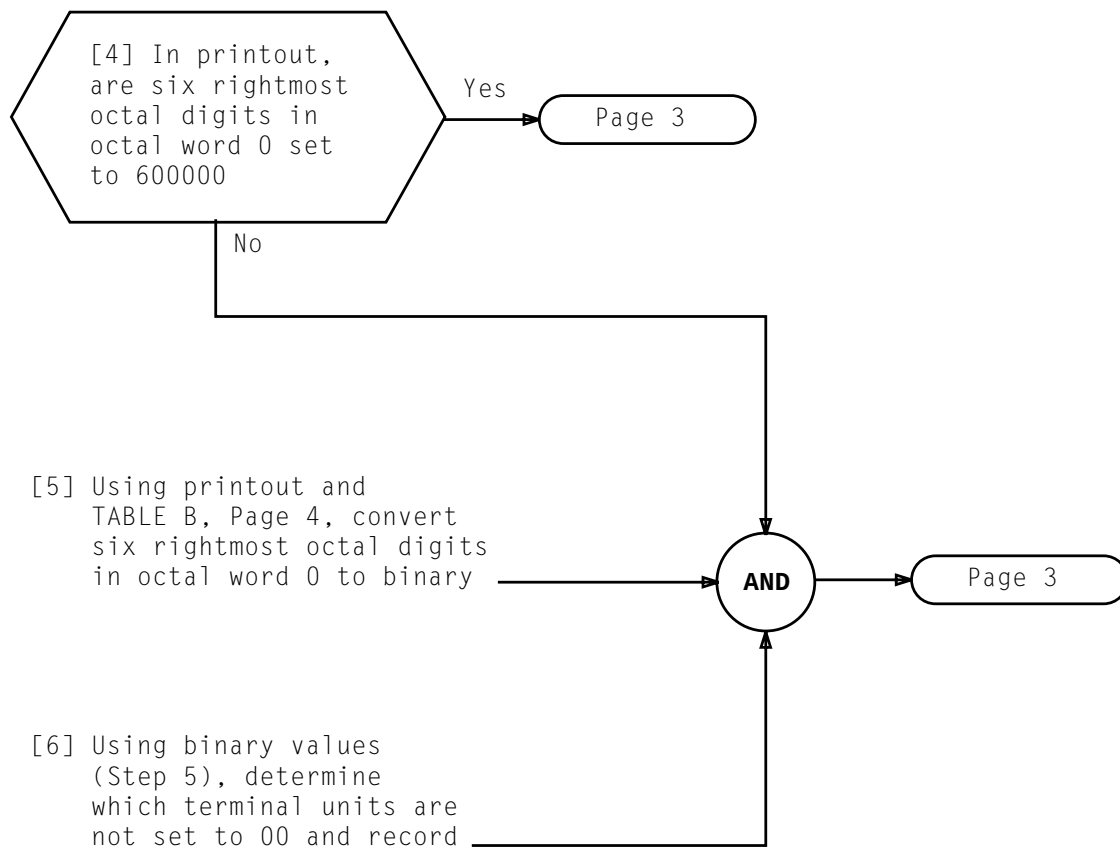
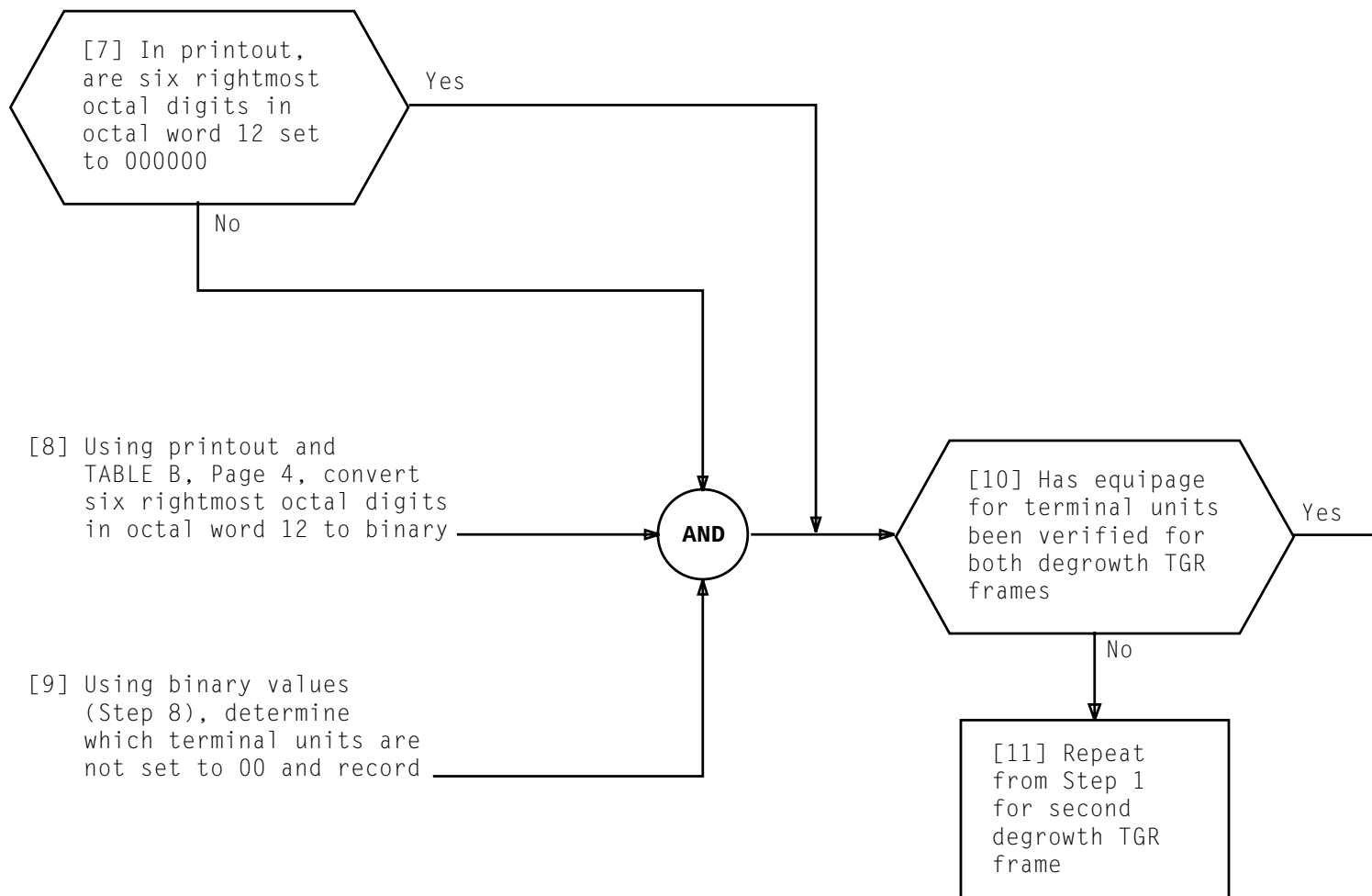


TABLE A	
MESSAGE NUMBER	INPUT MESSAGE
1	VER:UTMN,OPT(),CUR: FLN a, UTYN TGR, MEMN b, ME UNEQ, ENTRY ADDRESS c, ENTRY SIZE 81, CUR WORD 0 _____ _____ _____ _____ _____ _____ _____ _____ WORD 10 _____ _____ _____ _____ _____ _____ _____ _____ WORD 20 _____ _____ _____ _____ _____ _____ _____ _____ • • • • WORD 110 _____ _____ _____ _____ _____ _____ _____ _____ WORD 120 _____ _____ _____ _____ _____ _____ _____ _____ WORD 120 _____
a = Floor location number b = Member number of growth TGR c = Starting address (Word 0)	



DETERMINE IF TERMINAL UNITS ARE UNEQUIPPED

Issue 1	SEP 1997
234-353-030	DLP
PAGE 2 of 4	648



DETERMINE IF TERMINAL UNITS ARE UNEQUIPPED

Issue 1	SEP 1997
234-353-030	DLP
PAGE 3 of 4	648

TABLE B																					
ENTRY WORD (OCTAL)	UT ENTRY DATA AND WORD CONFIGURATION																				
0	entry data																				
	octal output																				
	bit position																				
	binary values																				

DETERMINE IF TERMINAL UNITS ARE UNEQUIPPED

ITEM	ISSUE	ITEM	ISSUE	ITEM	ISSUE	ITEM	ISSUE	ITEM	ISSUE	ITEM	ISSUE
IXL-001		NTP-036		DLP-531		DLP-566		DLP-601		DLP-636	
NTP-002		NTP-037		DLP-532		DLP-567		DLP-602		DLP-637	
NTP-003		NTP-038		DLP-533		DLP-568		DLP-603		DLP-638	
NTP-004		NTP-039		DLP-534		DLP-569		DLP-604		DLP-639	
NTP-005		DLP-500		DLP-535		DLP-570		DLP-605		DLP-640	
NTP-006		DLP-501		DLP-536		DLP-571		DLP-606		DLP-641	
NTP-007		DLP-502		DLP-537		DLP-572		DLP-607		DLP-642	
NTP-008		DLP-503		DLP-538		DLP-573		DLP-608		DLP-643	
NTP-009		DLP-504		DLP-539		DLP-574		DLP-609		DLP-644	
NTP-010		DLP-505		DLP-540		DLP-575		DLP-610		DLP-645	
NTP-011		DLP-506		DLP-541		DLP-576		DLP-611		DLP-646	
NTP-012		DLP-507		DLP-542		DLP-577		DLP-612		DLP-647	
NTP-013		DLP-508		DLP-543		DLP-578		DLP-613		DLP-648	
NTP-014		DLP-509		DLP-544		DLP-579		DLP-614		CKL-891	
NTP-015		DLP-510		DLP-545		DLP-580		DLP-615		TNG-893	
NTP-016		DLP-511		DLP-546		DLP-581		DLP-616		DPL-895	
NTP-017		DLP-512		DLP-547		DLP-582		DLP-617			
NTP-018		DLP-513		DLP-548		DLP-583		DLP-618			
NTP-019		DLP-514		DLP-549		DLP-584		DLP-619			
NTP-020		DLP-515		DLP-550		DLP-585		DLP-620			
NTP-021		DLP-516		DLP-551		DLP-586		DLP-621			
NTP-022		DLP-517		DLP-552		DLP-587		DLP-622			
NTP-023		DLP-518		DLP-553		DLP-588		DLP-623			
NTP-024		DLP-519		DLP-554		DLP-589		DLP-624			
NTP-025		DLP-520		DLP-555		DLP-590		DLP-625			
NTP-026		DLP-521		DLP-556		DLP-591		DLP-626			
NTP-027		DLP-522		DLP-557		DLP-592		DLP-627			
NTP-028		DLP-523		DLP-558		DLP-593		DLP-628			
NTP-029		DLP-524		DLP-559		DLP-594		DLP-629			
NTP-030		DLP-525		DLP-560		DLP-595		DLP-630			
NTP-031		DLP-526		DLP-561		DLP-596		DLP-631			
NTP-032		DLP-527		DLP-562		DLP-597		DLP-632			
NTP-033		DLP-528		DLP-563		DLP-598		DLP-633			
NTP-034		DLP-529		DLP-564		DLP-599		DLP-634			
NTP-035		DLP-530		DLP-565		DLP-600		DLP-635			
☒ REVISED OR ADDED ITEM ☐ CANCELED ITEM									Issue 1	SEP 1997	
CHECKLIST									234-353-030		CKL
									PAGE 1 of 1		891