Task Oriented Practice
(TOP)

4ESS™ SWITCH

1B PROCESSOR

INITIAL INSTALLATION (for PACIFIC BELL OFFICES)

TOP Comments Hot Line:
Monday through Friday
8:00 a.m. - 4:00 p.m. Eastern Time
Call: 1-800-334-0404
or FAX to: 1-910-727-3043

Developed by
AT&T Network Systems Customer Education & Training

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FIND YOUR JOB IN THE LIST BELOW	THEN GO TO
Acceptance	NTP-002
Assign Office Alarm for Conversion Switch Units	DLP-554
Convert 1A Alarms for 1B Processor Access — Support to Installer (INST)	NTP-014
Install GCP Capture and Remote Recovery Unit — Support to Installer (INST)	NTP-006
Install 1B Processor Conversion Switch Unit on 1A Processor AUB 0 — Support to Installer (INST)	NTP-007
Install 1B Processor CC 0 Conversion Switch Unit Into 1A Processor GCP Signal Path — Support to Installer (INST).	NTP-008
Install 1B Processor Conversion Switch Unit on 1A Processor PUB 0 — Support to Installer (INST)	NTP-009
Install 1B Processor Conversion Switch Unit on 1A Processor SSD — Support to Installer (INST)	NTP-010
Install 1B Processor Conversion Switch Unit on 1A Processor AUB 1 — Support to Installer (INST)	NTP-011
Install 1B Processor CC 1 Conversion Switch Unit Into 1A Processor GCP Signal Path — Support to Installer (INST).	NTP-012
Install 1B Processor Conversion Switch Unit on 1A Processor PUB 1 — Support to Installer (INST)	NTP-013
Perform 1A Processor CC Demand Diagnostics	NTP-003
Scope Auxiliary Unit Buses (AUBs) 0 and 1 Using Phase 99 Diagnostic Tests	NTP-005
Scope Peripheral Unit Buses (PUBs) 0 and 1 Using PUB Looping	NTP-004

No acceptance tests are included in this TOP practice. 1B Processor stand-alone acceptance is performed just prior to installing conversion switch units to the 1A Processor. This acceptance test is contained in TOP AT&T 234-355-015. 1B Processor limited access testing (acceptance/evaluation) is performed after the 1A Processor is connected to the conversion switch units. These acceptance tests are also contained in TOP AT&T 234-355-015. A third acceptance is performed after performing the generic retrofit to 4E19/4E20 generic. These tests are contained in TOP AT&T 234-160-019

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
	NOTE: All input messages are to be entered at 1A Processor MTC terminal		
1	At MTC Terminal, Enter Message **INH:MACLI,CLASS MTCE;REX!** To Inhibit REX	TELCO	—
2	PC Program Stores (PSs 0, 2, 4 or PSs 18, 20, 22) Must Be Equipped With **FE63** Circuit Packs To Perform Items 5 Through 14. If PC Program Stores Contain **FE70** Circuit Packs, Replace **FE70** Circuit Packs With **FE63** Circuit Packs for Following Diagnostics and Subsequent Retrofit Process. If Unable to Replace **FE70** Circuit Packs, Contact Next Higher Technical Support Group	TELCO	—
3	At 1A Processor MCC **PROCESSOR DISPLAY** Panel, Determine Which CC Is Standby (CC With **ACTIVE** Lamp Off)	TELCO	—
4	At MTC Terminal, Remove Standby CC From Service (**RMV:CC a!**)	TELCO	DLP-500
5	Diagnose Standby CC (Item 3) Using PC Option (Three Combinations)	TELCO	DLP-501
6	Remove Power From Standby CC (Item 3) Using Power Switch	TELCO	DLP-504
7	Run Standby CC Power Down Phase 92 Tests (**DGN:CC a:PH 92!**)	TELCO	DLP-505
8	Restore Power to Standby CC Using Power Switch (CC Will Remain Out-of-Service)	TELCO	DLP-506
9	Restore Standby CC to Service (**RST:CC a!**)	TELCO	DLP-507
10	Switch CCs To Make Other CC Standby (**SW:CC!**)	TELCO	DLP-508
11	Remove Standby CC From Service (**RMV:CC a!**)	TELCO	DLP-500
12	Diagnose Standby CC Using PC Option (Three Combinations)	TELCO	DLP-501
13	Remove Power From Standby CC Using Power Switch	TELCO	DLP-504
14	Run Standby CC Power Down Phase 92 Tests (**DGN:CC a:PH 92!**)	TELCO	DLP-505
15	Restore Power to Standby CC Using Power Switch (CC Will Remain Out-of-Service)	TELCO	DLP-506
16	Restore Standby CC to Service (**RST:CC a!**)	TELCO	DLP-507
17	At MTC Terminal, Enter Message **ALW:MACLI,CLASS MTCE!** To Allow REX	TELCO	—

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
	NOTES: 1. Items 1 through 19 are being performed to scope peripheral unit bus (PUB) 0 using PUB looping 2. Use SREC or Beltline terminal with form enter capability to expedite procedure 3. Appropriate Input/Output Manuals must be used if clarification of input message or output message is necessary 4. This procedure must be performed within 2 weeks of installing PUB conversion switch units on 1A Processor 5. Installer must observe PUB scoping		
1	Notify Installer That PU Bus Scoping Will Be Performed	TELCO	—
2	At MTC Terminal, Enter Message **INH:MACLI,CLASS MTCE;REX!** To Inhibit REX	TELCO	—
3	Set Up Storage Oscilloscope	TELCO	DLP-509
4	Store Input Messages on 1A Processor Terminal for PUB Looping Test	TELCO	DLP-511
5	Advance Program and Set Up Loop To Observe PU Write Bus Bit 0 and PU Reply Bus Bit 0	TELCO	DLP-512
6	Scope Bit 0 on PU Write Bus	TELCO	DLP-513
7	Scope Bit 0 on PU Reply Bus	TELCO	DLP-514
8	At 1A Processor Terminal, Enter Stop Looping Message (**EX:PUB 0!**)	TELCO	—
9	Advance Program and Set Up Loop To Observe Bits 1 to 35 on PU Write Bus, Bits 0 to 11 on PU Enable Address Bus, and Bits 1 to 23 on PU Reply Bus	TELCO	DLP-512
10	Scope Bits 1 to 35 on PU Write Bus	TELCO	DLP-515
11	Scope Bits 0 to 11 on PU Enable Address Bus	TELCO	DLP-516
12	Scope Bits 1 to 23 on PU Reply Bus	TELCO	DLP-517
13	At 1A Processor Terminal, Enter Stop Looping Message (**EX:PUB 0!**)	TELCO	—
14	Set Up Loop To Observe PU Control Bus and Miscellaneous Bus Bits	TELCO	DLP-518
15	Scope PU Control Bus and Miscellaneous Bus Bits	TELCO	DLP-519
16	At 1A Processor Terminal, Enter Stop Looping Message (**EX:PUB 0!**)	TELCO	—
17	Stop Maintenance Control Program Client	TELCO	DLP-520
	(Continued on Page 2)		

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
18	Restore Peripheral Unit Bus to Service (PUB 0) (**RST:PUB 0!**)	TELCO	DLP-507
19	Safe Point To Temporarily Stop This Procedure. If Stopping, Perform Items 20 and 21; Otherwise, Continue at Item 23	TELCO	—
20	At MTC Terminal, Enter Message **ALW:MACLI,CLASS MTCE!** To Allow REX	TELCO	—
21	Stop Procedure for Now. Resume at Item 22 When Continuing	TELCO	—
22	At MTC Terminal, Enter Message **INH:MACLI,CLASS MTCE;REX!** To Inhibit REX	TELCO	—
	NOTE: Items 23 through 40 are being performed to scope PUB 1 using PUB looping		
23	Set Up Storage Oscilloscope (if Not Set Up)	TELCO	DLP-509
24	Store Input Messages on 1A Processor Terminal for PUB Looping Test	TELCO	DLP-511
25	Advance Program to Branch To Be Scoped and Set Up Loop To Observe PU Write Bus Bit 0 and PU Reply Bus Bit 0	TELCO	DLP-512
26	Scope Bit 0 on PU Write Bus	TELCO	DLP-513
27	Scope Bit 0 on PU Reply Bus	TELCO	DLP-514
28	At 1A Processor Terminal, Enter Stop Looping Message (**EX:PUB 1!**)	TELCO	—
29	Advance Program to Branch To Be Scoped and Set Up Loop To Observe Bits 1 to 35 on PU Write Bus, Bits 0 to 11 on PU Enable Address Bus, and Bits 1 to 23 on PU Reply Bus	TELCO	DLP-512
30	Scope Bits 1 to 35 on PU Write Bus	TELCO	DLP-515
31	Scope Bits 0 to 11 on PU Enable Address Bus	TELCO	DLP-516
32	Scope Bits 1 to 23 on PU Reply Bus	TELCO	DLP-517
33	At 1A Processor Terminal, Enter Stop Looping Message (**EX:PUB 1!**)	TELCO	—
34	Set Up Loop To Observe PU Control Bus and Miscellaneous Bus Bits	TELCO	DLP-518
35	Scope PU Control Bus and Miscellaneous Bus Bits	TELCO	DLP-519
36	At 1A Processor Terminal, Enter Stop Looping Message (**EX:PUB 1!**)	TELCO	—
37	Stop Maintenance Control Program Client	TELCO	DLP-520
38	Restore Peripheral Unit Bus to Service (PUB 1) (**RST:PUB 1!**)	TELCO	DLP-507

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

39	At MTC Terminal, Enter Message **ALW:MACLI,CLASS MTCE!** To Allow REX	TELCO	—

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
		RESPONSIBILITY	
	NOTES: 1. Items 1 through 24 are being performed to scope auxiliary unit bus (AUB) 0 using Phase 99 diagnostic tests 2. Use SREC or Beltline terminal with form enter capability to expedite procedure 3. Appropriate Input/Output Manuals must be used if clarification of input message or output message is necessary 4. This procedure must be performed within 2 weeks of installing AUB conversion switch units on 1A Processor 5. Installer must observe AUB scoping		
1	Notify Installer That AU Bus Scoping Will Be Performed	TELCO	—
2	At MTC Terminal, Enter Message **INH:MACLI,CLASS MTCE;REX!** To Inhibit REX	TELCO	—
3	Set Up Storage Oscilloscope	TELCO	DLP-521
4	Store AUB 0 Input Messages on 1A Processor IO Terminal (if Not Stored)	TELCO	DLP-522
5	At MTC Terminal, Determine Which API Is Standby (**OP:APSTATUS!**)	TELCO	DLP-523
6	If API 0 Is Not Standby, Switch APIs To Make API 0 Standby (**SW:APS 0!**)	TELCO	DLP-524
7	Remove AUB 0 From Service (**RMV:AUB 0!**)	TELCO	DLP-500
8	Enter Execute Messages for Looping on AU Write Bus (**EX:AUB 0;START!** then **EX:AUB 0:PH 99,ADR 42-75!**)	TELCO	DLP-525
9	Scope AU Write Bus Bits 0 to 23 at BTRs in API 0	TELCO	DLP-526
10	Enter Stop Looping Message (**EX:AUB 0!**)	TELCO	—
11	Enter Execute Message for Looping on AU Address Bus (**EX:AUB 0:PH 99,ADR 75-120!**)	TELCO	DLP-525
12	Scope AU Address Bus Bits 0 to 15 at BTRs in API 0	TELCO	DLP-527
13	Enter Stop Looping Message (**EX:AUB 0!**)	TELCO	—
14	Enter Execute Message for Looping on AU Store Address Bus (**EX:AUB 0:PH 99,ADR 163-206!**)	TELCO	DLP-525
15	Scope AU Store Address Bus Bits 0 to 21 at BTRs in API 0	TELCO	DLP-528
	(Continued on Page 2)		

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
16	Enter Stop Looping Message (**EX:AUB 0!**)	TELCO	—
17	Enter Execute Message for Looping on AU Reply Bus (**EX:AUB 0:PH 99,ADR 120-163!**)	TELCO	DLP-525
18	Scope AU Reply Bus Bits 0 to 23 at BTRs in API 0	TELCO	DLP-529
19	Enter Stop Looping Message (**EX:AUB 0!**)	TELCO	—
20	Stop Maintenance Control Program Client	TELCO	DLP-520
21	At MTC Terminal, Restore AUB 0 to Service (**RST:AUB 0!**)	TELCO	DLP-507
22	Restore DUS 0 to Service (**RST:DUS 0!**)	TELCO	DLP-507
23	Restore API 0 to Service (**RST:API 0!**)	TELCO	DLP-507
24	Safe Point To Temporarily Stop This Procedure. If Stopping, Perform Items 25 and 26; Otherwise, Continue at Item 28	TELCO	—
25	At MTC Terminal, Enter Message **ALW:MACLI,CLASS MTCE!** To Allow REX	TELCO	—
26	Stop Procedure for Now. Resume at Item 27 When Continuing	TELCO	—
27	At MTC Terminal, Enter Message **INH:MACLI,CLASS MTCE;REX!** To Inhibit REX	TELCO	—
	NOTE: Items 28 through 50 are being performed to scope AUB 1 using Phase 99 diagnostic tests		
28	Set Up Storage Oscilloscope (if Not Set Up)	TELCO	DLP-521
29	Store AUB 1 Input Messages on 1A Processor Terminal (if Not Stored)	TELCO	DLP-522
30	At MTC Terminal, Determine Which API Is Standby (**OP:APSTATUS!**)	TELCO	DLP-523
31	If API 1 Is Not Standby, Switch APIs To Make API 1 Standby (**SW:APS 0!**)	TELCO	DLP-524
32	Remove AUB 1 From Service (**RMV:AUB 1!**)	TELCO	DLP-500
33	Enter Execute Messages for Looping on AU Write Bus (**EX:AUB 1;START!** then **EX:AUB 1:PH 99,ADR 212-245!**)	TELCO	DLP-525
34	Scope AU Write Bus Bits 0 to 23 at BTRs in API 1	TELCO	DLP-526
35	Enter Stop Looping Message (**EX:AUB 1!**)	TELCO	—
	(Continued on Page 2)		

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
36	Enter Execute Message for Looping on AU Address Bus (**EX:AUB 1:PH 99,ADR 245-270!**)	TELCO	DLP-525
37	Scope AU Address Bus Bits 0 to 15 at BTRs in API 1	TELCO	DLP-527
38	Enter Stop Looping Message (**EX:AUB 1!**)	TELCO	—
39	Enter Execute Message for Looping on AU Store Address Bus (**EX:AUB 1:PH 99,ADCR 333-356!**)	TELCO	DLP-525
40	Scope AU Store Address Bus Bits 0 to 21 at BTRs in API 1	TELCO	DLP-528
41	Enter Stop Looping Message (**EX:AUB 1!**)	TELCO	—
42	Enter Execute Message for Looping on AU Reply Bus (**EX:AUB 1:PH 99,ADR 270-333!**)	TELCO	DLP-525
43	Scope AU Reply Bus Bits 0 to 23 at BTRs in API 1	TELCO	DLP-529
44	Enter Stop Looping Message (**EX:AUB 1!**)	TELCO	—
45	Stop Maintenance Control Program Client	TELCO	DLP-520
46	At MTC Terminal, Restore AUB 1 to Service (**RST:AUB 1!**)	TELCO	DLP-507
47	Restore DUS 1 to Service (**RST:DUS 1!**)	TELCO	DLP-507
48	Restore API 1 to Service (**RST:API 1!**)	TELCO	DLP-507
49	Enter Message **ALW:MACLI,CLASS MTCE!** To Allow REX	TELCO	—

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

		RESPONSIBILITY	
	WARNING: No other growth or maintenance activity is allowed during this procedure		
	NOTES: 1. This procedure must be performed during light traffic periods 2. Appropriate Input/Output Manuals must be used if clarification of input message or output message is necessary 3. GCP Capture and Remote Recovery Unit will be connected to CC 1 first		
1	Notify Next Higher Technical Support Group That GCP Capture Remote Recovery Unit Installation Is Being Performed. Request Information To Complete Items 2 Through 4	TELCO	—
2	Ensure 1A Processor CC Demand Diagnostics Have Been Successfully Completed Within 1 Week of Performing This Procedure	TELCO	—
3	Ensure No API Interjects, Interrupts, or BLMs Have Occurred Within 24 Hours of Performing This Procedure	TELCO	—
4	Ensure *4ESS*™ Switch Is in Stable Condition With No Audits	TELCO	DLP-530
5	Ensure All 1A Processor and Peripheral Units Are Operating in Normal Duplex Mode	TELCO	DLP-531
6	Mount GCP Capture and Remote Recovery Unit	INST	—
7	At 1A MTC Terminal, Enter Message **INH:MACLI,CLASS MTCE;REX!** To Inhibit REX	TELCO	—
8	At 3B MCRT, Enter Following Messages To Inhibit Automatic Diagnostics: • **INH:DMQ;SRC REX!** • **INH:DMQ;SRC ADP!**	TELCO	—
9	At 1A Processor MCC **PROCESSOR DISPLAY** Panel, Determine Which 1A Processor CC Is Standby (CC With **ACTIVE** Lamp Off)	TELCO	—
10	At 1A MTC Terminal, Diagnose Standby CC (Item 9) Using Restore Message (**RST:CC a!**)	TELCO	DLP-507
11	Switch CCs To Make Other CC Standby (**SW:CC!**)	TELCO	DLP-508
12	Diagnose Standby CC Using Restore Message (**RST:CC a!**)	TELCO	DLP-507
13	At 1A Processor MCC **PROCESSOR DISPLAY** Panel, Determine Which 1A Processor CC Is Standby (CC With **ACTIVE** Lamp Off)	TELCO	—
14	If CC 0 Is Standby, At 1A MTC Terminal, Switch CCs To Make CC 1 Standby (**SW:CC!**)	TELCO	DLP-508
15	Remove CC 1 From Service (**RMV:CC 1!**)	TELCO	DLP-500

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
16	Remove Power From CC 1 Using Power Switch	TELCO	DLP-504
17	Connect Power Cables to CC 1	INST	—
18	At CC 1 Fuse Panel, Install +24V Fuse for GCP Capture and Remote Recovery Unit	INST	—
19	Insert KS-14174,L7 Designation Pin Adjacent to Fuse Installed in Item 18	INST	—
20	At CC 1, Remove Bus Terminating Resistors (BTRs) (if Present) From Signal Cable Locations, Then Connect Signal Cables	INST	—
21	At CC 1, Determine if API 0 and DUS 0 BTRs Are Installed	INST	—
22	If API 0 and DUS 0 BTRs Are Not Installed (Item 21), Perform Items 23 Through 41; Otherwise, Go to Item 42	TELCO/INST	—
23	At 1A MTC Terminal, Determine Which API Is Standby **(OP:APSTATUS!)**	TELCO	DLP-523
24	Diagnose Standby API (Item 23) Using Restore Message **(RST:API a!)**	TELCO	DLP-507
25	Diagnose Standby DUS (Same Member Number Used in Item 24) Using Restore Message **(RST:DUS a!)**	TELCO	DLP-507
26	Switch APIs To Make Other API Standby **(SW:APS 0!)**	TELCO	DLP-524
27	Diagnose Standby API Using Restore Message **(RST:API a!)**	TELCO	DLP-507
28	Diagnose Standby DUS (Same Member Number Used in Item 27) Using Restore Message **(RST:DUS a!)**	TELCO	DLP-507
29	Determine Which API Is Standby **(OP:APSTATUS!)**	TELCO	DLP-523
30	If API 1 Is Standby, Switch APIs To Make API 0 Standby **(SW:APS 0!)**	TELCO	DLP-524
31	Remove API 0 From Service **(RMV:API 0!)**	TELCO	DLP-500
32	Remove Power From API 0 Using Power Switch	TELCO	DLP-504
33	At CC 1, Install BTR for API 0	INST	—
34	Restore Power to API 0 Using Power Switch	TELCO/INST	DLP-506
35	At 1A MTC Terminal, Remove AUB 0 From Service **(RMV:AUB 0!)**	TELCO	DLP-500
36	Remove Power From DUS 0 Using Power Switch	TELCO	DLP-504
37	At CC 1, Install BTR for DUS 0	INST	—

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
38	Restore Power to DUS 0 Using Power Switch	TELCO/INST	DLP-506
39	At 1A MTC Terminal, Restore AUB 0 to Service (RST:AUB 0!)	TELCO/INST	DLP-507
40	Restore DUS 0 to Service (RST:DUS 0!)	TELCO/INST	DLP-507
41	Restore API 0 to Service (RST:API 0!)	TELCO/INST	DLP-507
42	At CC 1 Power Switch, Depress **ON** Switch To Power Up DUS 0 (Leave **ROS/OFF** Switch in **ROS** Position); Ensure **PWR OFF** Lamp Is Off	TELCO/INST	–
43	At GCP Capture and Remote Recovery Unit, Ensure **POWER** LED Is On. If **SET** LED Is On, Depress **RESET** Pushbutton; Ensure **SET** LED Is Off	INST	–
44	At CC 1 Power Switch, Rotate **ROS/OFF** Switch to Normal Position	TELCO/INST	DLP-532
45	If Office Is in 4E18 Generic, Perform Items 46 Through 50; Otherwise, Go to Item 51	TELCO/INST	–
46	At 1A MTC Terminal, Diagnose Standby CC 1 Using Restore Message (RST:CC 1!)	TELCO/INST	DLP-507
47	Switch CCs To Make CC 1 Active (SW:CC!) (GCP Capture and Remote Recovery Unit **SET** LED On)	TELCO	DLP-508
48	Enter Message ALW:ONEB! To Turn Off GCP Capture and Remote Recovery Unit **SET** LED; Ensure **SET** LED Is Off	TELCO/INST	–
49	Enter Message INH:ONEB! To Turn On GCP Capture and Remote Recovery Unit **SET** LED; Ensure **SET** LED Is On	TELCO/INST	–
50	Switch CCs To Make CC 0 Active (SW:CC!)	TELCO	DLP-508
51	Remove Standby CC 1 From Service (RMV:CC 1!)	TELCO	DLP-500
52	At CC 1 Fuse Panel, Remove +24 Fuse (Item 18) for GCP Capture and Remote Recovery Unit; Ensure **POWER** LED Is Off	INST	–
53	At 1A MTC Terminal, Restore CC 1 to Service (RST:CC 1!); Wait 10 Minutes Before Proceeding	TELCO/INST	DLP-507
54	Switch CCs To Make CC 0 Standby (SW:CC!)	TELCO	DLP-508
	NOTE: GCP Capture and Remote Recovery Unit will be connected to CC 0 next		
55	Remove CC 0 From Service (RMV:CC 0!)	TELCO	DLP-500
56	Remove Power From CC 0 Using Power Switch	TELCO	DLP-504
57	Connect Power Cables to CC 0	INST	–

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
58	At CC 0 Fuse Panel, Install +24V Fuse for GCP Capture and Remote Recovery Unit	INST	—
59	Insert KS-14174,L7 Designation Pin Adjacent to Fuse Installed in Item 58	INST	—
60	At CC 0, Remove BTRs (if Present) From Signal Cable Locations, Then Connect Signal Cables	INST	—
61	At CC 0, Determine if API 1 and DUS 1 BTRs Are Installed	INST	—
62	If API 1 and DUS 1 BTRs Are Not Installed (Item 61), Perform Items 63 Through 81; Otherwise, Go to Item 82	TELCO/INST	—
63	At 1A MTC Terminal, Determine Which API Is Standby **(OP:APSTATUS!)**	TELCO	DLP-523
64	Diagnose Standby API (Item 63) Using Restore Message (**RST:API a!**)	TELCO	DLP-507
65	Diagnose Standby DUS (Same Member Number Used in Item 64) Using Restore Message (**RST:DUS a!**)	TELCO	DLP-507
66	Switch APIs To Make Other API Standby (**SW:APS 0!**)	TELCO	DLP-524
67	Diagnose Standby API Using Restore Message (**RST:API a!**)	TELCO	DLP-507
68	Diagnose Standby DUS (Same Member Number Used in Item 67) Using Restore Message (**RST:DUS a!**)	TELCO	DLP-507
69	Determine Which API Is Standby (**OP:APSTATUS!**)	TELCO	DLP-523
70	If API 0 Is Standby, Switch APIs To Make API 1 Standby (**SW:APS 0!**)	TELCO	DLP-524
71	Remove API 1 From Service (**RMV:API 1!**)	TELCO	DLP-500
72	Remove Power From API 1 Using Power Switch	TELCO	DLP-504
73	At CC 0, Install BTR for API 1	INST	—
74	Restore Power to API 1 Using Power Switch	TELCO/INST	DLP-506
75	At 1A MTC Terminal, Remove AUB 1 From Service (**RMV:AUB 1!**)	TELCO	DLP-500
76	Remove Power From DUS 1 Using Power Switch	TELCO	DLP-504
77	At CC 0, Install BTR for DUS 1	INST	—
78	Restore Power to DUS 1 Using Power Switch	TELCO/INST	DLP-506
79	At 1A MTC Terminal, Restore AUB 1 to Service (**RST:AUB 1!**)	TELCO/INST	DLP-507
80	Restore DUS 1 to Service (**RST:DUS 1!**)	TELCO/INST	DLP-507

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
81	Restore API 1 to Service (RST:API 1!)	TELCO/INST	DLP-507
82	At CC 0 Power Switch, Depress **ON** To Power Up CC 0 (Leave **ROS/OFF** Switch in **ROS** Position); Ensure **PWR OFF** Lamp Is Off	TELCO/INST	—
83	At GCP Capture and Remote Recovery Unit, Ensure **POWER** LED Is On. If **SET** LED Is On, Depress **RESET** Pushbutton; Ensure **SET** LED Is Off	INST	—
84	At CC 0 Power Switch, Rotate **ROS/OFF** Switch to Normal Position	TELCO/INST	DLP-532
85	At 1A MTC Terminal, Diagnose Standby CC 0 Using Restore Message (RST:CC 0!) Wait 10 Minutes Before Proceeding	TELCO/INST	DLP-507
86	Switch CCs To Make CC 0 Active (SW:CC!)	TELCO	DLP-508
87	At GCP Capture and Remote Recovery Unit, Depress **RESET** Pushbutton; Ensure **SET** LED Is Off	INST	—
88	Connect P-Wire Paired Cable From **GCP TRIGGER INPUT** Binding Posts at Indicator/Remote Control Unit to GCP Capture and Remote Recovery Unit	INST	—
89	If Office Is in 4E18 Generic, Perform Items 90 Through 92; Otherwise, Go to Item 93	TELCO/INST	—
90	At Indicator/Remote Control Unit, Turn **ALL-1B** Key Switch to **ON** Position and Operate **ARM** Switch to **ALL** Position; Ensure Only Red LEDs Are On	INST	—
91	At 1A MTC Terminal, Enter Message INH:ONEB! To Turn On GCP Capture and Remote Recovery Unit **SET** LED; Ensure All LEDs at Indicator/Remote Control Unit Return to 1A Indication (Green) and **GCP TRIGGER** Lamp Is On (Amber)	TELCO/INST	—
92	Enter Message ALW:ONEB! To Turn Off GCP Capture and Remote Recovery Unit **SET** LED; Ensure **SET** LED Is Off and at Indicator/Remote Control Unit, Ensure **GCP TRIGGER** Lamp Is Off	TELCO/INST	—
93	At 1A MTC Terminal, Remove CC 1 From Service (RMV:CC 1!)	TELCO	DLP-500
94	At CC 1 Fuse Panel, Install +24V Fuse for GCP Capture and Remote Recovery Unit; Ensure **POWER** LED Is On	INST	—
95	At 1A MTC Terminal, Restore CC 1 to Service (RST:CC 1!)	TELCO/INST	DLP-507
96	At Indicator/Remote Control Unit, Turn **ALL-1B** Key Switch to **OFF** Position and **ALL-1A** Key Switch to **ON** Position	INST	—
	(Continued on Page 6)		

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

97	At 1A MTC Terminal, Enter Message **ALW:MACLI,CLASS MTCE!** To Allow REX	TELCO	—
98	At 3B MCRT, Enter Following Messages To Allow Automatic Diagnostics: • **ALW:DMQ;SRC REX!** • **ALW:DMQ;SRC ADP!**	TELCO	—

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

		RESPONSIBILITY	
	WARNING: No other growth or maintenance activity is allowed during this procedure		
	NOTES: 1. This procedure must be used only in PACBELL office 2. 1B Processor AU bus (AUB) cabling must be connected to conversion switch units and verified before performing this procedure 3. 1B GCP processor conversion switch unit alarm cables and remote unit must be connected and verified 4. 1B Processor GCP capture and recovery unit must be installed and verified 5. Appropriate Input/Output manual must be used if clarification of input message or output message is necessary 6. This procedure must be performed during light traffic periods 7. This procedure contains soak interval for verifying system operation and stability during growth. During the soak interval, all abnormal conditions (such as interrupts, interjects, and diagnostic failures related to growth) must be investigated and resolved immediately. Growth equipment, being soaked, must be error free for at least the time specified 8. 1A Processor operation must be closely monitored during this procedure		
1	Notify Next Higher Technical Support Group That AUB Conversion Switch Unit Installation to 1A Processor Is Being Performed. Request Information To Complete Items 2 Through 4	TELCO	—
2	Ensure 1A Processor CC Demand Diagnostics Have Been Successfully Completed Within 1 Week of Performing This Procedure	TELCO	—
3	Ensure No API Interjects or Interrupts or BLMs Have Occurred Within 24 Hours of Performing This Procedure	TELCO	—
4	Ensure ***4ESS***™ Switch Is in Stable Condition With No Audits	TELCO	DLP-530
5	Ensure All 1A Processor and Peripheral Units Are Operating in Normal Duplex Mode	TELCO	DLP-531
6	Set Up Storage Oscilloscope	INST	—
7	Store AUB 0 Input Messages on 1A Processor Terminal for AUB Looping Test	TELCO	DLP-522
8	At MTC Terminal, Enter Message **INH:MACLI,CLASS MTCE;REX!** To Inhibit 1A Processor REX	TELCO	—
	(Continued on Page 2)		

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
9	At APS MCRT, Enter Following Messages To Inhibit Automatic Diagnostics: • INH:DMQ;SRC REX! • INH:DMQ;SRC ADP!	TELCO	—
	NOTE: Items 10 through 17 are being performed to diagnose AUB and associated units		
10	At MTC Terminal, Determine Which API Is Standby (**OP:APSTATUS!**)	TELCO	DLP-523
11	Diagnose AUB (Same Member Number as Standby API) Using Restore Message (**RST:AUB a!**)	TELCO	DLP-507
12	Diagnose DUS (Same Member Number as Standby API) Using Restore Message (**RST:DUS a!**)	TELCO	DLP-507
13	Diagnose API (Item 10) Using Restore Message (**RST:API a!**)	TELCO	DLP-507
	NOTE: Procedure must not be continued until API is restored to service		
14	At MTC Terminal, Switch APIs To Make Other API Standby (**SW:APS 0!**)	TELCO	DLP-524
15	Diagnose AUB (Same Member Number as Standby API) Using Restore Message (**RST:AUB a!**)	TELCO	DLP-507
16	Diagnose DUS (Same Member Number as Standby API) Using Restore Message (**RST:DUS a!**)	TELCO	DLP-507
17	Diagnose Standby API Using Restore Message (**RST:API a!**)	TELCO	DLP-507
	NOTE: Procedure must not be continued until API is restored to service		
18	At MTC Terminal, Determine Which API Is Standby (**OP:APSTATUS!**)	TELCO	DLP-523
19	If API 0 Is Not Standby, Switch APIs To Make API 0 Standby (**SW:APS 0!**)	TELCO	DLP-524
20	Remove AUB 0 From Service (**RMV:AUB 0!**)	TELCO	DLP-500
21	Remove All In-Service Equipped TUCs From Service **(RMV:TUC a!)**	TELCO	DLP-500
22	Remove Power From API 0 Using Power Switch	TELCO	DLP-504
23	Remove Power From DUS 0 Using Power Switch	TELCO	DLP-504
24	At 1B Processor Indicator/Remote Control Unit, Ensure All Switches Associated With Equipped Office Equipment Are Set to 1A Processor Position (Associated LEDs On Green)	TELCO	DLP-533
25	At API Frame 0, Disconnect AUB 0 Cables	INST	—
26	At AUB 0 Conversion Switch Unit, Connect Disconnected End of AUB 0 Cables	INST	—
27	Connect Jumper Cables Between AUB 0 Conversion Switch Unit and API Frame 0	INST	—

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
28	Restore Power to API 0 Using Power Switch (API Will Remain Out-of-Service)	TELCO/INST	DLP-534
29	Restore Power to DUS 0 Using Power Switch (DUS Will Remain Out-of-Service)	TELCO/INST	DLP-534
30	Office Technician Must Observe AUB 0 Scoping Since Successful Completion of This Scoping Will Be Considered Acceptance of AUB 0 Conversion Switch Unit Installation	TELCO	—
	NOTE: Notify next higher technical support if any errors are encountered during diagnostic testing. The test must be immediately aborted		
31	Execute Phase 99 Diagnostic Scoping Test To Verify AUB 0 at AUB 0 Conversion Switch Unit:		
	1. Enter Execute Messages for Looping on AU Write Bus (**EX:AUB 0;START!** then **EX:AUB 0:PH 99,ADR 42-75!**)	TELCO	DLP-525
	2. Scope AU Write Bus Bits 0 to 23 at AUB 0 Conversion Switch Unit	INST/TELCO	DLP-526
	3. Enter Stop Looping Message (**EX:AUB 0!**)	TELCO	—
	4. Enter Execute Message for Looping on AU Address Bus (**EX:AUB 0:PH 99,ADR 75-120!**)	TELCO	DLP-525
	5. Scope AU Address Bus Bits 0 to 15 at AUB 0 Conversion Switch Unit	INST/TELCO	DLP-527
	6. Enter Stop Looping Message (**EX:AUB 0!**)	TELCO	—
	7. Enter Execute Message for Looping on AU Store Address Bus (**EX:AUB 0:PH 99,ADR 163-206!**)	TELCO	DLP-525
	8. Scope AU Store Address Bus Bits 0 to 21 at AUB 0 Conversion Switch Unit	INST/TELCO	DLP-528
	9. Enter Stop Looping Message (**EX:AUB 0!**)	TELCO	—
	10. Enter Execute Message for Looping on AU Reply Bus (**EX:AUB 0:PH 99,ADR 120-163!**)	TELCO	DLP-525
	11. Scope AU Reply Bus Bits 0 to 23 at AUB 0 Conversion Switch Unit	INST/TELCO	DLP-529
	12. Enter Stop Looping Message (**EX:AUB 0!**)	TELCO	—
	13. Stop Maintenance Control Program Client	TELCO	DLP-520
	14. Disconnect Storage Oscilloscope From Conversion Switch Unit	INST	—
32	At MTC Terminal, Restore AUB 0 to Service (**RST:AUB 0!**)	TELCO/INST	DLP-507

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
33	Diagnose DUS 0; Ensure All Phases Run Are ATP or Explainable CATP (**DGN:DUS 0;RAW!**)	TELCO/INST	DLP-535
34	Diagnose API 0; Ensure All Phases Run Are ATP or Explainable CATP (**DGN:API 0;RAW!**)	TELCO/INST	DLP-535
35	Switch CCs (**SW:CC!**)	TELCO	DLP-508
36	Diagnose DUS 0; Ensure All Phases Run Are ATP or Explainable CATP (**DGN:DUS 0;RAW!**)	TELCO/INST	DLP-535
37	Diagnose API 0; Ensure All Phases Run Are ATP or Explainable CATP (**DGN:API 0;RAW!**)	TELCO/INST	DLP-535
38	Restore DUS 0 to Service (**RST:DUS 0!**)	TELCO/INST	DLP-507
39	Restore API 0 to Service (**RST:API 0!**)	TELCO/INST	DLP-507
40	Diagnose AUB 0 Using Restore Message (**RST:AUB 0!**) (ATP Required)	TELCO	DLP-507
41	Scope AU Control Leads at AUB 0 Conversion Switch	TELCO/INST	DLP-536
42	Restore TUCs That Were Removed From Service in Item 21 (**RST:TUC a!**)	TELCO	DLP-507
43	Enter Message **ALW:MACLI,CLASS MTCE!** To Allow REX	TELCO	—
44	At APS MCRT, Enter Following Messages To Allow Automatic Diagnostics: • **ALW:DMQ;SRC REX!** • **ALW:DMQ;SRC ADP!**	TELCO	—
45	Notify Next Higher Technical Support Group That AUB 0 Conversion Switch Unit Installation Is Complete	TELCO	—
46	At MTC Terminal, Switch APIs To Make API 0 Active for Soaking (**SW:APS 0!**)	TELCO	DLP-524
47	Soak AUB 0 Conversion Switch Unit Installation for at Least One Non-Cabling Shift Before Proceeding	TELCO/INST	—

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

		RESPONSIBILITY	
	WARNING: No other growth or maintenance activity is allowed during this procedure		
	NOTES: 1. 1B Processor GCP cabling must be connected to CC 0 GCP conversion switch unit and verified before performing this procedure 2. 1B Processor conversion switch unit alarm cables must be connected and verified 3. 1B Processor GCP capture and recovery unit must be installed and verified 4. Appropriate Input/Output Manuals must be used if clarification of input message or output message is necessary 5. All input messages are to be entered at MTC terminal 6. This procedure must be performed during light traffic periods 7. This procedure contains soak interval for verifying system operation and stability during growth. During the soak interval, all abnormal conditions (such as interrupts, interjects, and diagnostic failures related to growth) must be investigated and resolved immediately. Growth equipment, being soaked, must be error free for at least the time specified 8. 1A Processor operation must be closely monitored during this procedure 9. Procedure may be safely stopped after cabling and successfully testing a unit. If stopping, REX must be allowed. When resuming, Items 1 through 7 should be performed to ensure system stability		
1	Notify Next Higher Technical Support Group That GCP Conversion Switch Unit Installation to 1A Processor Is Being Performed. Request Information To Complete Items 2 Through 4	TELCO	—
2	Ensure 1A Processor CC Demand Diagnostics Have Been Successfully Completed Within 1 Week of Performing This Procedure	TELCO	—
3	Ensure No API Interjects or Interrupts or BLMs Have Occurred Within 24 Hours of Performing This Procedure	TELCO	—
4	Ensure ***4ESS***™ Switch Is in Stable Condition With No Audits	TELCO	DLP-530
5	Ensure All 1A Processor and Peripheral Units Are Operating in Normal Duplex Mode Listed Units Must Be Restored to Service	TELCO	DLP-531
6	Obtain and Set Up Storage Scope	INST	—
7	At MTC Terminal, Enter Message **INH:MACLI,CLASS MTCE;REX!** To Inhibit 1A Processor REX	TELCO	—

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
8	If Office Contains Extended Pollable DIF-E Frames (Member Numbers Greater Than 23), Perform Items 9 Through 24; Otherwise, Go to Item 26	TELCO/INST	—
	NOTE: Items 9 through 25 are being performed to connect GCP cable associated with extended pollable DIF-E frames (member numbers greater than 23)		
9	At 1A Processor MCC **PROCESSOR DISPLAY** Panel, Determine which CC Is Standby (CC With **ACTIVE** Lamp Off)	TELCO	—
10	If CC 1 Is Standby, Switch CCs To Make CC 0 Standby (SW:CC!)	TELCO	DLP-508
11	Diagnose One Extended Pollable DIF-E Frame That GCP Cable Will Terminate Using Restore Message (RST:DIF a,CONTR 0!)	TELCO	DLP-537
12	At 1B Processor Indicator/Remote Control Unit, Ensure All Switches Associated With Equipped Office Equipment Are Set to 1A Processor Position (Associated LEDs On Green)	TELCO	DLP-533
13	Remove CC 0 From Service (RMV:CC 0!)	TELCO	DLP-500
14	At PPI Frame, Install ITE 6922 Cable Discharge Board at 072-26. Disconnect GCP OPPUn Cable for Extended Pollable DIF-E1 Frame	INST	—
15	Connect ITE 6921 Cable Discharge Tool Into Conversion Switch Unit End of Ivory-Colored GCP Jumper Cable. Wait 30 Seconds Before Continuing. At PPI Frame, Connect This Cable to Location Vacated in Item 14	INST	—
16	Disconnect ITE 6921 Cable Discharge Tool From Ivory-Colored GCP Jumper Cable. Connect This Cable to CC 0 GCP Conversion Switch Unit	INST	—
17	Connect ITE 6921 Cable Discharge Tool Into Cable Disconnected In Item 14. Wait 30 Seconds Before Continuing. Disconnect ITE 6921 Cable Discharge Tool and Connect This Cable to CC 0 GCP Conversion Switch Unit	INST	—
18	Restore CC 0 To Service (RST:CC 0!)	TELCO/INST	DLP-507
	NOTE: Items 19 through 24 are being performed to test signal on OPPUn cable to extended pollable DIF-E frame		
19	Office Technician Must Observe Scoping Since Successful Completion of This Scoping Will Be Considered Acceptance of This Portion of CC 0 GCP Conversion Switch Unit Installation	TELCO	—
20	At CC 0 GCP Conversion Switch Unit, Connect Shortage Scope Probe to 4E Probe Point	INST	—

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
21	When Diagnostic Is Run in Item 22, Capture Signal Trace Using Storage Scope (Repeat Until Signal Trace Is Received)	INST	—
22	Diagnose Extended Pollable DIF-E Frame (Item 11) That GCP Cable Is Associated With, Specifying Phase 6 (**DGN:DIF a,CONTR 0:PH 6!**)	TELCO/INST	DLP-538
23	Ensure Signal Trace Has Proper Amplitude (7V to 10V) With Minimum Distortion. When Finished, Remove Scope Adapter	INST	—
24	Restore Extended Pollable DIF-E Frame (Item 11) That GCP Cable Is Associated With (**RST:DIF a,CONTR 0!**)	TELCO	DLP-537
25	Go To Item 43. SCS Does Not Need To Be Cabled Since Extended Pollable DIF-E Frame Has Been Connected	TELCO/INST	—
26	If Office Contains Service Circuit System, and Extended Pollable DIF-E Frame Was Not Connected, Perform Items 27 Through 42; Otherwise, Go to Item 43	TELCO/INST	—
	NOTE: Items 27 through 41 are being performed to connect GCP cables associated with SCS		
27	At 1A Processor MCC **PROCESSOR DISPLAY** Panel, Determine Which CC Is Standby (CC With **ACTIVE** Lamp Off)	TELCO	—
28	If CC 1 Is Standby, Switch CCs To Make CC 0 Standby (**SW:CC!**)	TELCO	DLP-508
29	Diagnose Far-End Unit That GCP OPPUn Cables Will Terminate Using Restore Message (**RST:SCS a,CONTR 0!**)	TELCO	DLP-539
30	At 1B Processor Indicator/Remote Control Unit, Ensure All Switches Associated With Equipped Office Equipment Are Set to 1A Processor Position (Associated LEDs On Green)	TELCO	DLP-533
31	Remove CC 0 From Service (**RMV:CC 0!**)	TELCO	DLP-500
32	At PPI Frame, Install ITE 6922 Cable Discharge Board at 072-26. Disconnect GCP OPPUn Cable for Service Circuit System	INST	—
33	Connect ITE 6921 Cable Discharge Tool Into Conversion Switch Unit End of Ivory-Colored GCP Jumper Cable. Wait 30 Seconds Before Continuing. At PPI Frame, Connect This Cable to Location Vacated in Item 32	INST	—
34	Disconnect ITE 6921 Cable Discharge Tool From Ivory-Colored GCP Jumper Cable. Connect This Cable to CC 0 GCP Conversion Switch Unit	INST	—

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
35	Connect ITE 6921 Cable Discharge Tool Into Cable Disconnected in Item 32. Wait 30 Seconds Before Continuing. Disconnect ITE 6921 Cable Discharge Tool and Connect This Cable to CC 0 GCP Conversion Switch Unit	INST	—
36	Restore CC 0 to Service (**RST:CC 0!**)	TELCO/INST	DLP-507
	NOTE: Items 37 through 42 are being performed to test signal on OPPUn cable to SCS		
37	Office Technician Must Observe Scoping Since Successful Completion of This Scoping Will Be Considered Acceptance of This Portion of CC 0 GCP Conversion Switch Unit Installation	TELCO	—
38	At CC 0 GCP Conversion Switch Unit, Connect Storage Scope Probe to 4E Probe Point	INST	—
39	When Diagnostic Is Run in Item 40, Capture Signal Trace Using Storage Scope (Repeat Until Signal Trace Is Received)	INST	—
40	Diagnose SCS (Item 29) That GCP Cable Is Associated With, Specifying Phase 6 (**DGN:SCS a,CONTR 0:PH 6!**)	TELCO/INST	DLP-540
41	Ensure Signal Trace Has Proper Amplitude (7V to 10V) With Minimum Distortion. When Finished, Remove Scoping Adapter	INST	—
42	Restore SCS (Item 29) That GCP Cable Is Associated With (**RST:SCS a,CONTR 0!**)	TELCO	DLP-539
43	If Possible, Determine if Enough Slack Is Available To Relocate NCLK Chain GCP Cables From PPI Frame to 1B Processor. Perform Item 43.A, 43.B, or 43.C Below:		
	A. If Slack Is Available, Continue at Item 44	INST	—
	B. If Amount of Available Slack Can Not Be Determined, Continue at Item 44	INST	—
	C. If Not Enough Slack Is Available, Continue at Item 70	INST	—
	NOTES: 1. Items 44 through 69 are being performed to install CC 0 GCP conversion switch unit into GCP cable path to network clock (NCLK) chains 2. NCLK chains must be diagnosed in member number 3, 1, 2, and 0 order 3. PUBs must be kept duplex at all times (CATP results will be received if one PUB is OOS. Some hardware checks may be left out)		
	(Continued on Page 5)		

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
44	Diagnose Each NCLK Chain in Following Order Using Restore Message (**RST:NCLK 0,CHAIN a!**): • NCLK Chain 3 • NCLK Chain 1 • NCLK Chain 2 • NCLK Chain 0	TELCO	DLP-541
45	Switch CCs (**SW:CC!**)	TELCO	DLP-508
46	Diagnose Each NCLK Chain in Following Order Using Restore Message (**RST:NCLK 0,CHAIN a!**): • NCLK Chain 3 • NCLK Chain 1 • NCLK Chain 2 • NCLK Chain 0	TELCO	DLP-541
47	At 1A Processor MCC **PROCESSOR DISPLAY** Panel, Determine Which CC is Standby (CC With **ACTIVE** Lamp Off)	TELCO	—
48	If CC 1 Is Standby, Switch CCs To Make CC 0 Standby (**SW:CC!**)	TELCO	DLP-508
49	At 1B Processor Indicator/Remote Control Unit, Ensure All Switches Associated With Equipped Office Equipment Are Set to 1A Processor Position (Associated LEDs On Green)	TELCO	DLP-533
	NOTE: Items 50 through 66 are to be repeated for each NCLK chain in member number 3, 1, 2, and 0 order		
50	Remove CC 0 From Service (**RMV:CC 0!**)	TELCO	DLP-500
51	Remove NCLK Chain (3, 1, 2, or 0) From Service (**RMV:NCLK 0,CHAIN a!**) (a = 3, 1, 2, or 0)	TELCO	—
52	At PPI Frame, Install ITE 6922 Cable Discharge Board at Appropriate Location. Disconnect GCP OPPUn Cable for Removed NCLK Chain (Item 51). If Enough Slack Is Not Available, Go to Item 76; Otherwise, Continue at Item 53	INST	—
53	Connect ITE 6921 Cable Discharge Tool Into Conversion Switch Unit End of Ivory-Colored GCP Jumper Cable. Wait 30 Seconds Before Continuing. At PPI Frame, Connect This Cable To Location Vacated in Item 52	INST	—
54	Disconnect ITE 6921 Cable Discharge Tool From Ivory-Colored GCP Jumper Cable. Connect This Cable to CC 0 GCP Conversion Switch Unit	INST	—
	(Continued on Page 6)		

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
55	Connect ITE 6921 Cable Discharge Tool Into Cable Disconnected in Item 52. Wait 30 Seconds Before Continuing. Disconnect ITE 6921 Cable Discharge Tool and Connect This Cable to CC 0 GCP Conversion Switch Unit	INST	—
56	Restore CC 0 to Service (**RST:CC 0!**)	TELCO/INST	DLP-507
	NOTES: 1. Notify next higher technical support group if errors were encountered during NCLK chain diagnostics 2. Items 57 through 65 are being performed to test signal on OPPUn cable to NCLK chain		
57	Office Technician Must Observe Scoping Since Successful Completion of This Scoping Will Be Considered Acceptance of This Portion of CC 0 GCP Conversion Switch Unit Installation	TELCO	—
58	Switch CCs (**SW:CC!**)	TELCO	DLP-508
59	Remove CC 1 From Service (**RMV:CC 1!**)	TELCO	DLP-500
60	At CC 0 GCP Conversion Switch Unit, Connect Storage Scope Probe to 4E Probe Point	INST	—
61	When Diagnostic Is Run in Item 62, Capture Signal Trace Using Storage Scope (Repeat Until Signal Trace Is Received)	INST	—
	NOTE: Notify next higher technical support group if errors were encountered during NCLK chain diagnostics		
62	Diagnose NCLK Chain (3, 1, 2, or 0) That GCP Cable Is Associated With Specifying Phase 2 (**DGN:NCLK 0,CHAIN a:PH 2!**)	TELCO/INST	DLP-542
63	Ensure Signal Trace Has Proper Amplitude (7V to 10V) With Minimum Distortion. When Finished, Remove Scoping Adapter	INST	—
64	Restore CC 1 to Service (**RST:CC 1!**)	TELCO	DLP-507
65	Restore NCLK Chain (3, 1, 2, or 0) That GCP Cable Is Associated With (**RST:NCLK 0,CHAIN a!**)	TELCO	DLP-541
66	Go to Item 67 (for NCLK Chain 1) or Item 68 (for NCLK Chain 2) or Item 69 (for NCLK Chain 0) or Item 110 (if All NCLK Chains Are Connected)	TELCO/INST	—
67	Repeat Items 47 Through 66 To Install GCP Conversion Switch Unit to NCLK Chain 1	TELCO/INST	—
68	Repeat Items 47 Through 66 To Install GCP Conversion Switch Unit to NCLK Chain 2	TELCO/INST	—

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
69	Repeat Items 47 Through 66 To Install GCP Conversion Switch Unit to NCLK Chain 0	TELCO/INST	—
	NOTES: 1. Items 70 through 106 are being performed to install CC 0 GCP conversion switch unit into GCP cable path to network clock (NCLK) chains. If Items 42 through 69 were performed, go to Item 107 2. NCLK chains must be diagnosed in member number 3, 1, 2, and 0 order 3. PUBs must be kept duplex at all times (CATP results will be received if one PUB is OOS. Some hardware checks may be left out)		
70	Diagnose Each NCLK Chain in Following Order Using Restore Message (**RST:NCLK 0,CHAIN a!**): • NCLK Chain 3 • NCLK Chain 1 • NCLK Chain 2 • NCLK Chain 0	TELCO	DLP-541
71	Switch CCs (**SW:CC!**)	TELCO	DLP-508
72	Diagnose Each NCLK Chain in Following Order Using Restore Message (**RST:NCLK 0,CHAIN a!**): • NCLK Chain 3 • NCLK Chain 1 • NCLK Chain 2 • NCLK Chain 0	TELCO	DLP-541
73	At 1B Processor Indicator/Remote Control Unit, Ensure All Switches Associated With Equipped Office Equipment Are Set to 1A Processor Position (Associated LEDs On Green)	TELCO	DLP-533
	NOTES: Items 74 through 102 are to be repeated for each NCLK chain in member number 3, 1, 2, and 0 order		
74	Determine if 1A Processor CCs Are Duplex. If CCs Are Not Duplex, Restore Out-of-Service CC to Service (**RST:CC a!**)	TELCO	—
75	Remove NCLK Chain (3, 1, 2, or 0) From Service (**RMV:NCLK 0,CHAIN a!**) (a = 3, 1, 2, or 0)	TELCO	—
76	At PPI Frame, Install Two ITE 6922 Cable Discharge Boards at Proper Locations. Disconnect GCP OPPUn Cables (Two) for Removed NCLK Chain (Item 75)	INST	—
77	Connect ITE 6921 Cable Discharge Tool Into Conversion Switch Unit End of One of Ivory-Colored GCP Jumper Cable. Wait 30 Seconds Before Continuing. At PPI Frame, Connect This Cable to Corresponding Location Vacated in Item 76	INST	—

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
78	Disconnect ITE 6921 Cable Discharge Tool From Ivory-Colored GCP Jumper Cable. Connect This Cable to CC 0 GCP Conversion Switch Unit	INST	—
79	Connect ITE 6921 Cable Discharge Tool Into Conversion Switch Unit End of Other Ivory-Colored GCP Jumper Cable. Wait 30 Seconds Before Continuing. At PPI Frame, Connect This Cable to Corresponding Location Vacated in Item 76	INST	—
80	Disconnect ITE 6921 Cable Discharge Tool From Ivory-Colored GCP Jumper Cable. Connect This Cable to CC 0 GCP Conversion Switch Unit	INST	—
81	At NCLK Frame Terminal Strip for Removed NCLK Chain (Item 75), Unwrap CC 0 and 1 GCP Wires. This Disconnects GCP Cables From Both CCs	INST	—
82	Connect ITE 6921 Cable Discharge Tool Into Each CC End of New Cable. Run One New Cable From NCLK Frame to CC 0 GCP Conversion Switch Unit and Other New Cable From NCLK Frame to CC 1 GCP Conversion Switch Unit. Wire Wrap Ends of New Cables to Proper Points at NCLK Frame Terminal Strip for Removed NCLK Chain (Item 75)	INST	—
83	Disconnect ITE 6921 Cable Discharge Tool From New CC 0 GCP Cable and Immediately Connect This Cable to CC 0 GCP Conversion Switch Unit	INST	—
84	Disconnect ITE 6921 Cable Discharge Tool From New CC 1 GCP Cable and Immediately Connect This Cable to CC 1 GCP Conversion Switch Unit	INST	—
	NOTES: 1. Notify next higher technical support group if errors are encountered during NCLK chain diagnostics 2. Items 85 through 102 are being performed to test signal on OPPUn cable to NCLK chain		
85	At 1A Processor MCC **PROCESSOR DISPLAY** Panel, Determine Which CC Is Standby (CC With **ACTIVE** Lamp Off)	TELCO	—
86	If CC 0 Is Standby, Switch CCs To Make CC 1 Standby (**SW:CC!**)	TELCO	DLP-508
87	Remove CC 1 From Service (**RMV:CC 1!**)	TELCO	DLP-500
88	Office Technician Must Observe Scoping Since Successful Completion of This Scoping Will Be Considered Acceptance of This Portion of CC 1 GCP Conversion Switch Unit Installation	TELCO	—
89	At CC 1 GCP Conversion Switch Unit, Connect Storage Scope Probe to 4E Probe Point	INST	—

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
90	When Diagnostic Is Run in Item 91, Capture Signal Trace Using Storage Scope (Repeat Until Signal Trace Is Received)	INST	—
	NOTE: Notify next higher technical support group if errors were encountered during NCLK chain diagnostics		
91	Diagnose NCLK Chain (3, 1, 2, or 0) That GCP Cable Is Associated With Specifying Phase 2 (**DGN:NCLK 0,CHAIN a:PH 2!**)	TELCO/INST	DLP-542
92	Ensure Signal Trace Has Proper Amplitude (7V to 10V) With Minimum Distortion. When Finished, Remove Scoping Adapter	INST	—
93	Restore CC 1 to Service (**RST:CC 1!**)	TELCO	DLP-507
94	At 1A Processor MCC **PROCESSOR DISPLAY** Panel, Determine Which CC is Standby (CC With **ACTIVE** Lamp Off)	TELCO	—
95	If CC 1 Is Standby, Switch CCs To Make CC 0 Standby (**SW:CC!**)	TELCO	DLP-508
96	Remove CC 0 From Service (**RMV:CC 0!**)	TELCO	DLP-500
97	At CC 0 GCP Conversion Switch Unit, Connect Storage Scope Probe to 4E Probe Point	INST	—
98	When Diagnostic Is Run in Item 99, Capture Signal Trace Using Storage Scope (Repeat Until Signal Trace Is Received)	INST	—
	NOTE: Notify next higher technical support group if errors were encountered during NCLK chain diagnostics		
99	Diagnose NCLK Chain (3, 1, 2, or 0) That GCP Cable Is Associated With Specifying Phase 2 (**DGN:NCLK 0,CHAIN a:PH 2!**)	TELCO/INST	DLP-542
100	Ensure Signal Trace Has Proper Amplitude (7V to 10V) With Minimum Distortion. When Finished, Remove Scoping Adapter	INST	—
101	Restore CC 0 to Service (**RST:CC 0!**)	TELCO	DLP-507
102	Restore NCLK Chain (3, 1, 2, or 0) That GCP Cable Is Associated With (**RST:NCLK 0,CHAIN a!**)	TELCO	DLP-541
103	Go to Item 104 (for NCLK Chain 1) or Item 105 (for NCLK Chain 2) or Item 106 (for NCLK Chain 0) or Item 107 (if All NCLK Chains Are Connected)	TELCO/INST	—
104	Repeat Items 75 Through 103 To Install GCP Conversion Switch Unit to NCLK Chain 1	TELCO/INST	—

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
105	Repeat Items 75 Through 103 To Install GCP Conversion Switch Unit to NCLK Chain 2	TELCO/INST	—
106	Repeat Items 75 Through 103 To Install GCP Conversion Switch Unit to NCLK Chain 0	TELCO/INST	—
107	If Possible, Determine if Enough Slack Is Available To Relocate Base SP 0 and 1 CC 0 GCP Cables to 1B Processor After Retrofit. Perform Item 107.A, 107.B, or 107.C Below:		—
	A. If Slack Is Available, Continue at Item 108	INST	—
	B. If Amount of Available Slack Can Not Be Determined, Continue at Item 108	INST	—
	C. If Not Enough Slack Is Available, Continue at Item 136	INST	—
	NOTES: 1. Items 108 through 135 are being performed to install CC 0 GCP conversion switch unit into CGP cable path to base SPs 2. Base SPs must be installed to CC 0 GCP conversion switch unit in following order: SP 0 Controller 0 and SP 0 Controller 1; then SP 1 Controller 0 and SP 1 Controller 1 (GCP cable being moved contains GCPs for both controllers) 3. Items 113 through 134 are to be repeated for each base SP		
108	Obtain and Set Up Storage Oscilloscope (if Not Set Up)	INST	—
109	At 1A Processor MCC **PROCESSOR DISPLAY** Panel, Determine Which CC Is Standby (CC With **ACTIVE** Lamp Off)	TELCO	—
110	If CC 1 Is Standby, Switch CCs To Make CC 0 Standby **(SW:CC!)**	TELCO	DLP-508
111	Diagnose Both Base SP Controller 0 That GCP OPPUn Cable Will Terminate Using Restore Message (**RST:SP a,CONTR 0!**)	TELCO	DLP-543
112	Diagnose Both Base SP Controller 1 That GCP OPPUn Cable Will Terminate Using Restore Message (**RST:SP a,CONTR 1!**)	TELCO	DLP-543
113	At 1B Processor Indicator/Remote Control Unit, Ensure All Switches Associated With Equipped Office Equipment Are Set to 1A Processor Position (Associated LEDs On Green)	TELCO	DLP-533
114	Remove CC 0 From Service (**RMV:CC 0!**)	TELCO	DLP-500
115	At PPI Frame, Install ITE 6922 Cable Discharge Board at 072-30. Disconnect GCP OPPUn Cable for Base SP Controllers 0 and 1. If Enough Slack Is Not Available, Go to Item 143; Otherwise, Continue at Item 116	INST	—

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
116	Connect ITE 6921 Cable Discharge Tool Into Conversion Switch Unit End of Ivory-Colored GCP Jumper Cable. Wait 30 Seconds Before Continuing. At PPI Frame, Connect This Cable to Corresponding Location Vacated in Item 115	INST	—
117	Disconnect ITE 6921 Cable Discharge Tool From Ivory-Colored GCP Jumper Cable. Connect This Cable to CC 0 GCP Conversion Switch Unit	INST	—
118	Connect ITE 6921 Cable Discharge Tool Into Cable Disconnected in Item 115. Wait 30 Seconds Before Continuing. Disconnect ITE 6921 Cable Discharge Tool and Connect This Cable to CC 0 GCP Conversion Switch Unit	INST	—
119	Restore CC 0 to Service (RST:CC 0!)	TELCO/INST	DLP-507
	NOTE: Items 120 through 125 are being performed to test four signals on OPPUn cable to one base SP Controller 0		
120	Office Technician Must Observe Scoping Since Successful Completion of This Scoping Will Be Considered Acceptance of This Portion of CC 0 GCP Conversion Switch Unit Installation	TELCO	—
121	At CC 0 GCP Conversion Switch Unit, Connect Storage Scope Probe to 4E Probe Point	INST	—
122	When Diagnostic Is Run in Item 123, Capture Signal Trace Using Storage Scope (Repeat Until Signal Trace Is Received)	INST	—
123	Diagnose Base SP Controller That GCP Cable Is Associated With, Specifying Phase 2 (DGN:SP a,CONTR 0:PH 2!)	TELCO/INST	DLP-544
124	Ensure Signal Trace Has Proper Amplitude (7V to 10V) With Minimum Distortion. When Finished, Remove Scoping Adapter	INST	—
125	Repeat Items 122 Through 124 for Each Controller 0 Pulse Point	TELCO/INST	—
126	Restore Base SP Controller 0 That GCP Cable Is Associated With (RST:SP a,CONTR 0!)	TELCO	DLP-543
	NOTE: Items 127 through 133 are being performed to test four signals on OPPUn cable to one base SP Controller 1		
127	Office Technician Must Observe Scoping Since Successful Completion of This Scoping Will Be Considered Acceptance of This Portion of CC 0 GCP Conversion Switch Unit Installation	TELCO	—
128	At CC 0 GCP Conversion Switch Unit, Connect Storage Scope Probe to 4E Probe Point	INST	—
	(Continued on Page 12)		

DO THE ITEMS BELOW IN THE ORDER LISTED			FOR DETAILS, GO TO
129	When Diagnostic Is Run in Item 130, Capture Signal Trace Using Storage Scope (Repeat Until Signal Trace Is Received)	INST	—
130	Diagnose Base SP Controller That GCP Cable Is Associated With, Specifying Phase 2 (**DGN:SP a,CONTR 1:PH 2!**)	TELCO/INST	DLP-544
131	Ensure Signal Trace Has Proper Amplitude (7V to 10V) With Minimum Distortion. When Finished, Remove Scoping Adapter	INST	—
132	Repeat Items 128 Through 131 for Each Controller 1 Pulse Point	TELCO/INST	—
133	Restore Base SP Controller That GCP Cable Is Associated With (**RST:SP a,CONTR 1!**)	TELCO	DLP-543
134	Go to Item 135 (for Next Base SP) or Item 165 (if Both Base SPs Are Connected)	TELCO/INST	—
135	Repeat Items 113 Through 134 To Install GCP Conversion Switch Unit to SP 1	TELCO/INST	—
	NOTES: 1. Items 136 through 164 are being performed to install CC 0 GCP conversion switch unit into CGP cable path to base SPs. If Items 108 through 135 were performed, go to Item 165 2. Base SPs must be installed to CC 0 GCP conversion switch unit in following order: SP 0 Controller 0 and SP 0 Controller 1; then SP 1 Controller 0 and SP 1 Controller 1 (GCP cable being moved contains GCPs for both controllers) 3. Items 136 through 163 are to be repeated for each base SP		
136	Obtain and Set Up Storage Oscilloscope (if Not Set Up)	INST	—
137	At 1A Processor MCC **PROCESSOR DISPLAY** Panel, Determine Which CC Is Standby (CC With **ACTIVE** Lamp Off)	TELCO	—
138	If CC 1 Is Standby, Switch CCs To Make CC 0 Standby **(SW:CC!)**	TELCO	DLP-508
139	Diagnose Both Base SP Controller 0 That GCP OPPUn Cable Will Terminate Using Restore Message (**RST:SP a,CONTR 0!**)	TELCO	DLP-543
140	Diagnose Both Base SP Controller 1 That GCP OPPUn Cable Will Terminate Using Restore Message (**RST:SP a,CONTR 1!**)	TELCO	DLP-543
141	At 1B Processor Indicator/Remote Control Unit, Ensure All Switches Associated With Equipped Office Equipment Are Set to 1A Processor Position (Associated LEDs On Green)	TELCO	DLP-533
142	Remove CC 0 From Service (**RMV:CC 0!**)	TELCO	DLP-500

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
143	At PPI Frame, Install ITE 6922 Cable Discharge Board at 072-30. Disconnect CC 0 GCP 1PPUn Cable for Base SP Controllers 0 and 1	INST	—
144	At Base SP Frame Terminal Strip, Unwrap CC 0 GCP Wires. Run New Cable Between CC 1 GCP Conversion Switch Unit and Base SP Frame. Wire Wrap Ends of Cable to Proper Points at Base SP Frame Terminal Strip	INST	—
145	Connect ITE 6921 Cable Discharge Tool Into Conversion Switch Unit End of Ivory-Colored GCP Jumper Cable. Wait 30 Seconds Before Continuing. At PPI Frame, Connect This Cable to Location Vacated in Item 143	INST	—
146	Disconnect ITE 6921 Cable Discharge Tool From Ivory-Colored GCP Jumper Cable. Connect This Cable to CC 0 GCP Conversion Switch Unit	INST	—
147	Connect ITE 6921 Cable Discharge Tool Into Connector End of New Cable Run in Item 144. Wait 30 Seconds Before Continuing. Disconnect ITE 6921 Cable Discharge Tool and Connect This Cable to CC 0 GCP Conversion Switch Unit	INST	—
148	Restore CC 0 to Service (RST:CC 0!)	TELCO/INST	DLP-507
	NOTE: Items 149 through 154 are being performed to test four signals on OPPUn cable to one base SP Controller 0		
149	Office Technician Must Observe Scoping Since Successful Completion of This Scoping Will Be Considered Acceptance of This Portion of CC 0 GCP Conversion Switch Unit Installation	TELCO	—
150	At CC 0 GCP Conversion Switch Unit, Connect Storage Scope Probe to 4E Probe Point	INST	—
151	When Diagnostic Is Run in Item 152, Capture Signal Trace Using Storage Scope (Repeat Until Signal Trace Is Received)	INST	—
152	Diagnose Base SP Controller That GCP Cable Is Associated With, Specifying Phase 2 (DGN:SP a,CONTR 0:PH 2!)	TELCO/INST	DLP-544
153	Ensure Signal Trace Has Proper Amplitude (7V to 10V) With Minimum Distortion. When Finished, Remove Scoping Adapter	INST	—
154	Repeat Items 150 Through 153 for Each Controller 0 Pulse Point	TELCO/INST	—
155	Restore Base SP Controller 0 That GCP Cable Is Associated With (RST:SP a,CONTR 0!)	TELCO	DLP-543
	(Continued on Page 14)		

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
	NOTE: Items 156 through 162 are being performed to test four signals on OPPUn cable to one base SP Controller 1		
156	Office Technician Must Observe Scoping Since Successful Completion of This Scoping Will Be Considered Acceptance of This Portion of CC 0 GCP Conversion Switch Unit Installation	TELCO	—
157	At CC 0 GCP Conversion Switch Unit, Connect Storage Scope Probe to 4E Probe Point	INST	—
158	When Diagnostic Is Run in Item 159, Capture Signal Trace Using Storage Scope (Repeat Until Signal Trace Is Received)	INST	—
159	Diagnose Base SP Controller That GCP Cable Is Associated With, Specifying Phase 2 (DGN:SP a,CONTR 1:PH 2!)	TELCO/INST	DLP-544
160	Ensure Signal Trace Has Proper Amplitude (7V to 10V) With Minimum Distortion. When Finished, Remove Scoping Adapter	INST	—
161	Repeat Items 157 Through 160 for Each Controller 1 Pulse Point	TELCO/INST	—
162	Restore Base SP Controller That GCP Cable Is Associated With (RST:SP a,CONTR 1!)	TELCO	DLP-543
163	Go to Item 164 (for Next Base SP) or Item 165 (if Both Base SPs are Connected)	TELCO/INST	—
164	Repeat Items 141 Through 163 To Install GCP Conversion Switch Unit to SP 1	TELCO/INST	—
	NOTES: 1. Items 165 through 199 are being performed to install CC 0 GCP conversion switch unit into GCP cable path to IOP frame 2. Base IOP frame must be installed to GCP conversion switch unit from lowest to highest member number order 3. Items 165 through 199 are to be repeated for each equipped IOP frame		
165	Obtain and Set Up Storage Oscilloscope (if Not Set Up)	INST	—
166	At 1A Processor MCC **PROCESSOR DISPLAY** Panel, Determine Which CC Is Standby (CC With **ACTIVE** Lamp Off)	TELCO	—
167	If CC 1 Is Standby, Switch CCs To Make CC 0 Standby (SW:CC!)	TELCO	DLP-508
168	Diagnose Lowest IOUS (IOUS 0 to 5) in IOP Frame That GCP OPPUn Cable Will Terminate Using Restore Message (RST:IOUS a,IPUB 0!)	TELCO	DLP-545
169	At 1B Processor Indicator/Remote Control Unit, Ensure All Switches Associated With Equipped Office Equipment Are Set to 1A Processor Position (Associated LEDs On Green)	TELCO	DLP-533

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
170	Remove CC 0 From Service (**RMV:CC 0!**)	TELCO	DLP-500
171	At PPI Frame, Install ITE 6922 Cable Discharge Board at Proper Location. Disconnect GCP 1PPUn Cable for One IOUS	INST	—
172	Connect ITE 6921 Cable Discharge Tool Into Conversion Switch Unit End of Ivory-Colored GCP Jumper Cable. Wait 30 Seconds Before Continuing. At PPI Frame, Connect This Cable to Location Vacated in Item 171	INST	—
173	Disconnect ITE 6921 Cable Discharge Tool From Ivory-Colored GCP Jumper Cable. Connect This Cable to CC 1 GCP Conversion Switch Unit	INST	—
174	Connect ITE 6921 Cable Discharge Tool Into Cable Disconnected in Item 171. Wait 30 Seconds Before Continuing. Disconnect ITE 6921 Cable Discharge Tool and Connect This Cable to CC 1 GCP Conversion Switch Unit	INST	—
175	Restore CC 0 to Service (**RST:CC 0!**)	TELCO/INST	DLP-507
	NOTE: Items 176 through 181 are being performed to test signal on OPPUn cable to lowest IOUS in IOP frame		
176	Office Technician Must Observe Scoping Since Successful Completion of This Scoping Will Be Considered Acceptance of This Portion of CC 0 GCP Conversion Switch Unit Installation	TELCO	—
177	At CC 0 GCP Conversion Switch Unit, Connect Storage Scope Probe to 4E Probe Point	INST	—
178	When Diagnostic Is Run in Item 179, Capture Signal Trace Using Storage Scope (Repeat Until Signal Trace Is Received)	INST	—
179	Diagnose IOUS (Item 168) That GCP Cable Is Associated With (**DGN:IOUS a,IPUB 0!**)	TELCO/INST	DLP-546
180	Ensure Signal Trace Has Proper Amplitude (7V to 10V) With Minimum Distortion. When Finished, Remove Scoping Adapter	INST	—
181	Restore IOUS (Item 168) That GCP Cable Is Associated With (**RST:IOUS a,IPUB 0!**)	TELCO	DLP-545
182	If IOP Frame Contains Two IOUSs and Highest Numbered IOUS Has Not Been Connected to CC 0 GCP Conversion Switch Unit, Perform Items 183 Through 196; Otherwise, Go to Item 199	TELCO/INST	—
183	At 1A Processor MCC **PROCESSOR DISPLAY** Panel, Determine if CC 0 Is Still Standby (CC With **ACTIVE** Lamp Off)	TELCO	—
184	If CC 1 Is Standby, Switch CCs To Make CC 0 Standby (**SW:CC!**)	TELCO	DLP-508

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
185	Diagnose Highest IOUS in IOP Frame That GCP OPPUn Cable Will Terminate Using Restore Message (**RST:IOUS a,IPUB 0!**)	TELCO	DLP-545
186	At 1B Processor Indicator/Remote Control Unit, Ensure All Switches Associated With Equipped Office Equipment Are Still Set to 1A Processor Position (Associated LEDs On Green)	TELCO	DLP-533
187	Remove CC 0 From Service (**RMV:CC 0!**)	TELCO	DLP-500
188	At PPI Frame, Install ITE 6922 Cable Discharge Board at Proper Location. Disconnect GCP 1PPUn Cable for One IOUS	INST	—
189	Connect ITE 6921 Cable Discharge Tool Into Conversion Switch Unit End of Ivory-Colored GCP Jumper Cable. Wait 30 Seconds Before Continuing. At PPI Frame, Connect This Cable to Location Vacated in Item 188	INST	—
190	Disconnect ITE 6921 Cable Discharge Tool From Ivory-Colored GCP Jumper Cable. Connect This Cable to CC 1 GCP Conversion Switch Unit	INST	—
191	Connect ITE 6921 Cable Discharge Tool Into Cable Disconnected in Item 188. Wait 30 Seconds Before Continuing. Disconnect ITE 6921 Cable Discharge Tool and Connect This Cable to CC 1 GCP Conversion Switch Unit	INST	—
192	Restore CC 0 to Service (**RST:CC 0!**)	TELCO/INST	DLP-507
	NOTE: Items 193 through 198 are being performed to test signal on OPPUn cable to highest IOUS in IOP frame		
193	Office Technician Must Observe Scoping Since Successful Completion of This Scoping Will Be Considered Acceptance of This Portion of CC 0 GCP Conversion Switch Unit Installation	TELCO	—
194	At CC 0 GCP Conversion Switch Unit, Connect Storage Scope Probe to 4E Probe Point	INST	—
195	When Diagnostic Is Run in Item 196, Capture Signal Trace Using Storage Scope (Repeat Until Signal Trace Is Received)	INST	—
196	Diagnose IOUS (Item 185) That GCP Cable Is Associated With **(DGN:IOUS a,IPUB 0!)**	TELCO/INST	DLP-546
197	Ensure Signal Trace Has Proper Amplitude (7V to 10V) With Minimum Distortion. When Finished, Remove Scoping Adapter	INST	—
198	Restore IOUS (Item 185) That GCP Cable Is Associated With (**RST:IOUS a,IPUB 0!**)	TELCO	DLP-545
199	Repeat Items 168 Through 198 for Each Equipped IOP Frame (1 or 2)	TELCO/INST	—

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
200	At MTC Terminal, Enter Message **ALW:MACLI,CLASS MTCE!** To Allow REX	TELCO	—
201	Notify Next Higher Technical Support Group That CC 0 GCP Conversion Switch Unit Installation Is Complete	TELCO	—
202	Soak CC 0 GCP Conversion Switch Unit Installation for at Least One Non-Cabling Shift	TELCO/INST	—

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

		RESPONSIBILITY	
	WARNING: No other growth or maintenance activity is allowed during this procedure		
	NOTES: 1. This procedure must be used only in PACBELL office 2. Base IOP must have been reconfigured to access PUB on new primary extension from PUBB frame 3. 1B Processor PUB cabling must be connected to conversion switch units and verified before performing this procedure 4. 1B Processor conversion switch unit alarm cables and remote unit must be connected and verified 5. 1B Processor GCP capture and recovery unit must be installed and verified 6. Appropriate Input/Output Manuals must be used if clarification of input message or output message is necessary 7. All input messages, except for scoping messages, are to be entered at MTC terminal. SREC, Beltline, or applicable terminal is to be used for scoping 8. This procedure must be performed during light traffic periods 9. This procedure contains soak interval for verifying system operation and stability during growth. During the soak interval, all abnormal conditions (such as interrupts, interjects, and diagnostic failures related to growth) must be investigated and resolved immediately. Growth equipment, being soaked, must be error free for at least the time specified 10. 1A Processor operation must be closely monitored during this procedure 11. Items 1 through 9 are being performed to test GCP capture and recovery unit 12. Alarms will be received when switches are set to 1B Processor position		
1	Notify Next Higher Technical Support Group That PUB Conversion Switch Unit Installation to 1A Processor Is Being Performed. Request Information To Complete Items 2 Through 4	TELCO	—
2	Ensure 1A Processor CC Demand Diagnostics Have Been Successfully Completed Within 1 Week of Performing This Procedure	TELCO	—
3	Ensure No API Interjects or Interrupts or BLMs Have Occurred Within 24 Hours of Performing This Procedure	TELCO	—
4	Ensure ***4ESS***™ Switch Is in Stable Condition With No Audits	TELCO	DLP-530
5	Ensure All 1A Processor and Peripheral Units Are Operating in Normal Duplex Mode	TELCO	DLP-531

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
6	Set Up Storage Oscilloscope	INST	—
7	Store PUB 0 Input Messages on 1A Processor Terminal for PUB Looping Test	TELCO	DLP-511
8	At MTC Terminal, Enter Message **INH:MACLI,CLASS MTCE;REX!** To Inhibit 1A Processor REX	TELCO	—
9	Enter Message **STOP:TEST;PUSYS!;** Ensure OK Response Is Received	TELCO	—
10	Diagnose PUB 0 Using Restore Message (**RST:PUB 0!**)	TELCO	DLP-507
11	Diagnose PUB 1 Using Restore Message (**RST:PUB 1!**)	TELCO	DLP-507
12	At 1B Processor Indicator/Remote Control Unit, Ensure All Switches Associated With Equipped Office Equipment Are Set to 1A Processor Position (Associated LEDs On Green)	TELCO	DLP-533
13	Remove PUB 0 From Service (**RMV:PUB 0!**)	TELCO	DLP-500
14	At PUBB Frame, Remove Power Using Power Switch	TELCO	DLP-504
15	At PUBB Frame, Disconnect PUB 0 Cables Going to PPI Frame	INST	—
16	Connect Disconnected End of PUB 0 Cables (Item 15) to PU 1A Connectors on PUB 0 Conversion Switch Unit	INST	—
17	Connect PUB 0 Jumper Cables to 4E Connectors on PUB 0 Conversion Switch Unit	INST	—
18	Connect Other End of PUB 0 Jumper Cables (Item 17) to PUB 0 Connectors on PUBB Frame	INST	—
19	At PUBB Frame Power Switch, Depress **ON** Switch (Leave Power Switch in **ROS** Position); Ensure **PWR OFF** Lamp Is Off	TELCO/INST	—
20	Diagnose PUB 0; Expect CATP Results (**DGN:PUB 0;RAW!**)	TELCO/INST	DLP-535
21	Office Technician Must Observe PUB 0 Scoping Since Successful Completion of This Scoping Will Be Considered Acceptance of PUB 0 Conversion Switch Unit Installation	TELCO	—
22	Execute PUB-Looping Test To Verify PUB 0 at Conversion Switch Unit:		
	1. Advance Program and Set Up Loop To Observe Bit 0 on PU Write and Reply Bus	TELCO	DLP-512
	2. Scope Bit 0 on PU Write Bus at Conversion Switch Unit	INST/TELCO	DLP-513
	3. Scope Bit 0 on PU Reply Bus at Conversion Switch Unit	INST/TELCO	DLP-514
	4. At 1A Processor Terminal, Enter Stop Looping Message (**EX:PUB 0!**)	TELCO	—

DO THE ITEMS BELOW IN THE ORDER LISTED			FOR DETAILS, GO TO
22 (Contd)	5. Advance Program and Set Up Loop to Observe Bits 1 to 35 on PU Write Bus, Bits 0 to 11 on PU Enable Address Bus and Bits 1 to 23 on PU Reply Bus	TELCO	DLP-512
	6. Scope Bits 1 to 35 on PU Write Bus at Conversion Switch Unit	INST/TELCO	DLP-515
	7. Scope Bits 0 to 11 on PU Enable Address Bus at Conversion Switch Unit	INST/TELCO	DLP-516
	8. Scope Bits 1 to 23 on PU Reply Bus at Conversion Switch Unit	INST/TELCO	DLP-517
	9. At 1A Processor Terminal, Enter Stop Looping Message (**EX:PUB 0!**)	TELCO	—
	10. Set Up Loop To Observe PU Control Bus and Miscellaneous Bus Bits	TELCO	DLP-518
	11. Scope PU Control Bus and Miscellaneous Bus Bits at Conversion Switch Unit	INST/TELCO	DLP-519
	12. At 1A Processor Terminal, Enter Stop Looping Message (**EX:PUB 0!**)	TELCO	—
	13. Stop Maintenance Control Program Client	TELCO	DLP-520
	14. Disconnect Storage Oscilloscope From Conversion Switch Unit	INST	—
23	At PUBB Frame Power Switch, Rotate **ROS/OFF** Switch to Normal Position	TELCO/INST	DLP-532
24	At MTC Terminal, Restore PUB 0 to Service (**RST:PUB 0!**)	TELCO/INST	DLP-507
25	Enter Message **TEST:PUSYS!**	TELCO	—
26	Enter Message **ALW:MACLI,CLASS MTCE!** To Allow REX	TELCO	—
27	Notify Next Higher Technical Support Group That PUB 0 Conversion Switch Unit Installation Is Complete	TELCO	—
28	Soak PUB 0 Conversion Switch Unit Installation for at Least One Non-Cabling Shift Before Proceeding	TELCO/INST	—

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

		RESPONSIBILITY	
	WARNING: No other growth or maintenance activity is allowed during this procedure		
	NOTES: 1. 1B Processor SSD cabling must be connected to conversion switch unit and verified before performing this procedure 2. 1B Processor conversion switch unit alarm cables and remote unit must be connected and verified before performing this procedure 3. 1B Processor GCP capture and recovery unit must be installed and verified before performing this procedure 4. Appropriate Input/Output Message Manuals must be used if clarification of input/output messages is necessary 5. This procedure must be performed during light traffic periods 6. 1A Processor operation must be closely monitored during this procedure 7. This procedure may be safely stopped after cabling and successfully testing each unit. If stopping, REX must be allowed. When resuming, Items 1 through 7 must be performed to ensure system stability. The following equipment must have Scan and SD jumper cables installed: • PCD 0, CONV 0 and CONV 1 • PCD 1, CONV 0 and CONV 1 • PCD 0, DAMON 0 and CONV 2 (If equipped) • PCD 1, DAMON 0 and CONV 2 (If equipped) • Each Equipped TUC Pair (0 and 1, ... n) • DUS 0 • DUS 1 • API 0		

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
	• API 1 • IO/IOP Frame 0, IOUS 0, IPUB 0 • IO/IOP Frame 0, IOUS 1, IPUB 1 • IO/IOP Frame 1, IOUS 2, IPUB 0 • IO/IOP Frame 1, IOUS 3, IPUB 1		
1	Notify Next Higher Technical Support Group That SSD Conversion Switch Unit Installation to 1A Processor Is Being Performed. Request Information To Complete Items 2 Through 4	TELCO	—
2	Ensure 1A Processor CC Demand Diagnostics Have Been Successfully Completed Within 1 Week of Performing This Procedure	TELCO	—
3	Ensure No API Interjects or Interrupts or BLMs Have Occurred Within 24 Hours of Performing This Procedure	TELCO	—
4	Ensure *4ESS*™ Switch Is in Stable Condition With No Audits	TELCO	DLP-530
5	Ensure All 1A Processor and Peripheral Units Are Operating in Normal Duplex Mode. All Out-of-Service Units Must Be Restored To Service	TELCO	DLP-531
6	At MTC Terminal, Enter Message **INH:MACLI,CLASS MTCE;REX!** To Inhibit 1A Processor REX	TELCO	—
7	At MTC Terminal, Enter Message **MON:CHAN SREC1!** To Allow Monitoring of SREC1 Channel	TELCO	—
8	If Office Is Equipped With PCD Frame, Go To Item 9. Otherwise, Go To Item 14	TELCO/INST	—
9	Perform Following for PCD 0, CONV 0 and CONV 1; and PCD 1, CONV 0 and CONV 1:	—	—
	1. At 1B Processor Indicator/Remote Control Unit, Ensure All Switches Associated With Equipped Office Equipment Are Set to 1A Processor Position (Associated LEDs On Green)	TELCO	DLP-533
	2. At SSD Conversion Switch Unit, Connect One New Scan and SD Jumper Cable for Applicable PCD Frame (0/1) and Unit (CONV 0/1) Being Connected to Proper 1A SSD Connector	INST	—
	3. Remove Applicable PCD Frame (0/1) and Unit (CONV 0) From Service **(RMV:PCD a,CONV 0!)**	TELCO	DLP-547
	4. Diagnose Applicable PCD Frame (0/1) and Unit (CONV 0) Previously Removed From Service (Item 9.3) **(DGN:PCD a,CONV 0!)**	TELCO	DLP-548

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
9 (Contd)	5. Using Power Switch, Remove Power From Applicable PCD Frame (0/1) and Unit (CONV 0) Previously Removed From Service (Item 9.3)	TELCO	DLP-504
	NOTE: When the SSD cable is removed, the unit diagnostics will start automatically. This is the result of erroneous scan point data received by the 1A Processor. Since the unit is powered down, the diagnostics will fail.		
	6. At PPI Frame, Disconnect Scan and SD Cable Associated With Applicable PCD Frame (0/1) and Unit (CONV 0) Previously Removed From Service (Item 9.3)	INST	—
	7. At SSD Conversion Switch Unit, Connect Scan and SD Cable Previously Disconnected (Item 9.6) to SSD 4E Connector Associated With Applicable PCD Frame (0/1) and Unit (CONV 0/1) Previously Removed From Service (Item 9.3)	INST	—
	8. At PPI Frame, Connect Other End of New Scan and SD Jumper Cable (Item 9.2) to PPI Frame Location Previously Vacated (Item 9.6)	INST	—
	9. Using Power Switch, Restore Power to Applicable PCD Frame (0/1) and Unit (CONV 0) Previously Removed From Service (Item 9.3)	TELCO/INST	DLP-506
	10. Restore Applicable PCD Frame (0/1) and Unit (CONV 0) Previously Removed From Service (Item 9.3) to Service (RST:PCD a,CONV 0!)	TELCO/INST	DLP-549
	11. If Scan and SD Jumper Cable Has Not Been Installed for PCD 1, CONV 0 and CONV 1, Repeat From Item 9.1. Otherwise, Go To Item 10	TELCO/INST	—
10	Perform Following for PCD 0, DAMON 0 and CONV 2 (if equipped); and PCD 1, DAMON 0 and CONV 2 (if equipped):	—	—
	1. At 1B Processor Indicator/Remote Control Unit, Ensure All Switches Associated With Equipped Office Equipment Are Set to 1A Processor Position (Associated LEDs On Green)	TELCO	DLP-533
	2. At SSD Conversion Switch Unit, Connect One New Scan and SD Jumper Cable for Applicable PCD Frame (0/1) and Unit (DAMON 0) Being Connected to Proper 1A SSD Connector	INST	—
	3. Remove Applicable PCD Frame (0/1) and Unit (DAMON 0) From Service (RMV:PCD a,DAMON 0!)	TELCO	DLP-547
	4. Diagnose Applicable PCD Frame (0/1) and Unit (DAMON 0) Previously Removed From Service (Item 10.3) (DGN:PCD a,DAMON 0!)	TELCO	DLP-548

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
10 (Contd)	5. Using Power Switch, Remove Power From Applicable PCD Frame (O/1) and Unit (DAMON 0) Previously Removed From Service (Item 10.3)	TELCO	DLP-504
	6. If PCD Frame (O/1) Is Equipped With Converter 2, Perform Items 10.7 Through 10.9. Otherwise, Go To Item 10.10	TELCO	—
	7. Remove Applicable PCD Frame (O/1) and Unit (CONV 2) From Service (**RMV:PCD a,CONV 2!**)	TELCO	DLP-547
	8. Diagnose Applicable PCD Frame (O/1) and Unit (CONV 2) Previously Removed From Service (Item 10.7) (**DGN:PCD a,CONV 2!**)	TELCO	DLP-548
	9. Using Power Switch, Remove Power From Applicable PCD Frame (O/1) and Unit (CONV 2) Previously Removed From Service (Item 10.7)	TELCO	DLP-504
	NOTE: When the SSD cable is removed, the unit diagnostics will start automatically. This is the result of erroneous scan point data received by the 1A Processor. Since the unit is powered down, the diagnostics will fail.		
	10. At PPI Frame, Disconnect Scan and SD Cable Associated With Applicable PCD Frame (O/1) and Unit (DAMON 0) Previously Removed From Service (Item 10.3)	INST	—
	11. At SSD Conversion Switch Unit, Connect Scan and SD Cable Previously Disconnected (Item 10.10) to SSD 4E Connector Associated With Applicable PCD Frame (O/1) and Unit (DAMON 0) Previously Removed From Service (Item 10.3)	INST	—
	12. At PPI Frame, Connect Other End of New Scan and SD Jumper Cable (Item 10.2) to PPI Frame Location Previously Vacated (Item 10.10)	INST	—
	13. Using Power Switch, Restore Power to Applicable PCD Frame (O/1) and Unit (DAMON 0) Previously Removed From Service (Item 10.3)	TELCO/INST	DLP-506
	14. Restore Applicable PCD Frame (O/1) and Unit (DAMON 0) Previously Removed From Service (Item 10.3) to Service (**RST:PCD a,DAMON 0!**)	TELCO/INST	DLP-549
	15. If PCD Frame (O/1) Is Equipped With Converter 2, Perform Items 10.16 and 10.17. Otherwise, Go To Item 10.18	—	—
	16. Using Power Switch, Restore Power to Applicable PCD Frame (O/1) and Unit (CONV 2) Previously Removed From Service (Item 10.7)	TELCO/INST	DLP-506
	17. Restore Applicable PCD Frame (O/1) and Unit (CONV 2) Previously Removed From Service (Item 10.7) to Service (**RST:PCD a,CONV 2!**)	TELCO/INST	DLP-549

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
10 (Contd)	18. If Scan and SD Jumper Cable Has Not Been Installed for PCD 1, DAMON 0, Repeat From Item 10.1. Otherwise, Go To Item 11	TELCO/INST	—
11	Safe Point to Temporarily Stop This Procedure. If Stopping, Perform Items 12 and 13. Otherwise, Go To Item 14	TELCO/INST	—
12	At MTC Terminal, Enter Message **ALW:MACLI,CLASS MTCE!** to Allow 1A Processor REX	TELCO	—
13	Stop Now Until Resuming	TELCO/INST	—
14	Perform Following for All Equipped TUC Pairs (0 and 1, 2 and 3, ... n):	—	—
	1. At 1B Processor Indicator/Remote Control Unit, Ensure All Switches Associated With Equipped Office Equipment Are Set to 1A Processor Position (Associated LEDs On Green)	TELCO	DLP-533
	2. At SSD Conversion Switch Unit, Connect One New Scan and SD Jumper Cable for Applicable TUC Pair (0 and 1, etc.) Being Connected to Proper 1A SSD Connector	INST	—
	NOTE: One Scan and SD jumper cable is associated with one TUC pair (0 and 1, 2 and 3, ... n). Therefore, Steps 14.3, 14.4, 14.5, 14.9 and 14.10 must be performed on both TUCs		
	3. Remove Applicable TUC Pair (0 and 1, etc.) From Service (**RMV:TUC a!** Then **RMV:TUC b!**)	TELCO	DLP-547
	4. Diagnose Applicable TUC Pair (0 and 1, etc.) Previously Removed From Service (Item 14.3) (**DGN:TUC a!** Then **DGN:TUC b!**)	TELCO	DLP-548
	5. Using Power Switches, Remove Power From Applicable TUC Pair (0 and 1, etc.) Previously Removed From Service (Item 14.3)	TELCO	DLP-504
	NOTE: When the SSD cable is removed, the unit diagnostics will start automatically. This is the result of erroneous scan point data received by the 1A Processor. Since the unit is powered down, the diagnostics will fail.		
	6. At PPI Frame, Disconnect Scan and SD Cable Associated With Applicable TUC Pair (0 and 1, etc.) Previously Removed From Service (Item 14.3)	INST	—
	7. At SSD Conversion Switch Unit, Connect Scan and SD Cable Previously Disconnected (Item 14.6) to SSD 4E Connector Associated With Applicable TUC Pair (0 and 1, etc.) Previously Removed From Service (Item 14.3)	INST	—
	(Continued on Page 7)		

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
14 (Contd)	8. At PPI Frame, Connect Other End of New Scan and SD Jumper Cable (Item 14.2) to PPI Frame Location Previously Vacated (Item 14.6)	INST	—
	9. Using Power Switches, Restore Power to Applicable TUC Pair (0 and 1, etc.) Previously Removed From Service (Item 14.3)	TELCO/INST	DLP-506
	10. Restore Applicable TUC Pair (0 and 1, etc.) Previously Removed From Service (Item 14.3) to Service (**RST:TUC a!**, Then **RST:TUC b!**)	TELCO/INST	DLP-549
	11. If Scan and SD Jumper Cables Have Not Been Installed for All Equipped TUC Pairs (0 and 1, ... n), Repeat From Item 14.1. Otherwise, Go To Item 15	TELCO/INST	—
15	Safe Point to Temporarily Stop This Procedure. If Stopping, Perform Items 16 and 17. Otherwise, Go To Item 18	TELCO/INST	—
16	At MTC Terminal, Enter Message **ALW:MACLI,CLASS MTCE!** to Allow 1A Processor REX	TELCO	—
17	Stop Now Until Resuming	TELCO/INST	—
18	Perform Following for DUS 0 and DUS 1:	—	—
	1. At 1B Processor Indicator/Remote Control Unit, Ensure All Switches Associated With Equipped Office Equipment Are Set to 1A Processor Position (Associated LEDs On Green)	TELCO	DLP-533
	2. At SSD Conversion Switch Unit, Connect One New Scan and SD Jumper Cable for DUS (0/1) Associated With Standby AUB to Proper 1A SSD Connector	INST	—
	3. Remove DUS (0/1) From Service Associated With Standby AUB (**RMV:DUS a!**)	TELCO	DLP-547
	4. Diagnose DUS (0/1) (Item 18.3) Previously Removed From Service (Item 18.3) **(DGN:DUS a!)**	TELCO	DLP-548
	5. Using Power Switch, Remove Power From DUS (0/1) Previously Removed From Service (Item 18.3)	TELCO	DLP-504
	NOTE: When the SSD cable is removed, the unit diagnostics will start automatically. This is the result of erroneous scan point data received by the 1A Processor. Since the unit is powered down, the diagnostics will fail.		
	6. At PPI Frame, Disconnect Scan and SD Cable Associated With Applicable DUS (0/1) Previously Removed From Service (Item 18.3)	INST	—
	(Continued on Page 7)		

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
18 (Contd)	7. At SSD Conversion Switch Unit, Connect Scan and SD Cable Previously Disconnected (Item 18.6) to SSD 4E Connector Associated With Applicable DUS (0/1) Previously Removed From Service (Item 18.3)	INST	—
	8. At PPI Frame, Connect Other End of New Scan and SD Jumper Cable (Item 18.2) to PPI Frame Location Previously Vacated (Item 18.6)	INST	—
	9. Using Power Switch, Restore Power to Applicable DUS (0/1) Previously Removed From Service (Item 18.3)	TELCO/INST	DLP-506
	10. Restore Applicable DUS (0/1) Previously Removed From Service (Item 18.3) to Service (**RST:DUS a!**)	TELCO/INST	DLP-549
	11. At MTC Terminal, Enter Message **SW:APS 0!** To Switch AU Buses	TELCO	—
	12. If Scan and SD Jumper Cables Have Not Been Installed for DUS 0 and DUS 1, Repeat From Item 18.1. Otherwise, Go To Item 19	TELCO/INST	—
19	Safe Point to Temporarily Stop This Procedure. If Stopping, Perform Items 20 and 21. Otherwise, Go To Item 22	TELCO/INST	—
20	At MTC Terminal, Enter Message **ALW:MACLI,CLASS MTCE!** To Allow 1A Processor REX	TELCO	—
21	Stop Now Until Resuming	TELCO/INST	—
22	Perform Following for API 0 and API 1:	—	—
	1. At 1B Processor Indicator/Remote Control Unit, Ensure All Switches Associated With Equipped Office Equipment Are Set to 1A Processor Position (Associated LEDs On Green)	TELCO	DLP-533
	2. At 3B MCRT, Enter Messages **INH:DMQ;SRC REX!** and **INH:DMQ;SRC ADP!** To Inhibit REX	TELCO	—
	3. At SSD Conversion Switch Unit, Connect One New Scan and SD Jumper Cable for Applicable API (0/1) Being Connected to Proper 1A SSD Connector	INST	—
	4. Remove Applicable API (0/1) From Service	TELCO	DLP-547
	5. Diagnose Applicable API (0/1) Previously Removed From Service (Item 22.4) **(DGN:API a!)**	TELCO	DLP-548
	6. Using Power Switch, Remove Power From Applicable API (0/1) Previously Removed From Service (Item 22.4)	TELCO	DLP-504

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
22 (Contd)	**NOTE:** When the SSD cable is removed, the unit diagnostics will start automatically. This is the result of erroneous scan point data received by the 1A Processor. Since the unit is powered down, the diagnostics will fail.		
	7. At PPI Frame, Disconnect Scan and SD Cable Associated With Applicable API (0/1) Previously Removed From Service (Item 22.4)	INST	—
	8. At SSD Conversion Switch Unit, Connect Scan and SD Cable Previously Disconnected (Item 22.7) to SSD 4E Connector Associated With Applicable API (0/1) Previously Removed From Service (Item 22.4)	INST	—
	9. At PPI Frame, Connect Other End of New Scan and SD Jumper Cable (Item 22.3) to PPI Frame Location Previously Vacated (Item 22.7)	INST	—
	10. Using Power Switch, Restore Power to Applicable API (0/1) Previously Removed From Service (Item 22.4)	TELCO/INST	DLP-506
	11. Restore Applicable API (0/1) Previously Removed From Service (Item 22.4) to Service (**RST:API a!**)	TELCO/INST	DLP-549
	12. At MTC Terminal, Enter Message **SW:APS 0!** To Switch AU Buses	TELCO	—
	13. If Scan and SD Jumper Cables Have Not Been Installed for API 0 and API 1, Repeat From Item 22.1. Otherwise, Go To Item 22.14	TELCO/INST	—
	14. At 3B MCRT, Enter Messages **ALW:DMQ;SRC REX!** and **ALW:DMQ;SRC ADP!** To Allow REX	TELCO	—
23	Safe Point to Temporarily Stop This Procedure. If Stopping, Perform Items 24 and 25. Otherwise, Go To Item 26	TELCO/INST	—
24	At MTC Terminal, Enter Message **ALW:MACLI,CLASS MTCE!** To Allow 1A Processor REX	TELCO	—
25	Stop Now Until Resuming	TELCO/INST	—
26	Perform Following for IOP Frame 0,IOUS 0, IPUB 0; IOP Frame 0, IOUS 1, IPUB 1; IOP Frame 1,IOUS 2, IPUB 0 and IO/IOP Frame 1,IOUS 3, IPUB 1:	—	—
	1. At 1B Processor Indicator/Remote Control Unit, Ensure All Switches Associated With Equipped Office Equipment Are Set to 1A Processor Position (Associated LEDs On Green)	TELCO	DLP-533
	(Continued on Page 9)		

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
26 (Contd)	2. At SSD Conversion Switch Unit, Connect One New Scan and SD Jumper Cable for Applicable IOUS IPUB Being Connected to Proper 1A SSD Connector	INST	—
	3. Remove Applicable IOUS and IPUBs From Service	TELCO	DLP-547
	4. Diagnose Applicable IOUS Previously Removed From Service (Item 26.3) (**DGN:IOUS a!**)	TELCO	DLP-548
	5. Using Power Switches, Remove Power From IOUS and IPUB Previously Removed From Service (Item 26.3)	TELCO	DLP-550
	NOTE: When the SSD cable is removed, the unit diagnostics will start automatically. This is the result of erroneous scan point data received by the 1A Processor. Since the unit is powered down, the diagnostics will fail.		
	6. At PPI Frame, Disconnect Scan and SD Cable Associated With IOUS and IPUB Previously Removed From Service (Item 26.3)	INST	—
	7. At SSD Conversion Switch Unit, Connect Scan and SD Cable Previously Disconnected (Item 26.6) to SSD 4E Connector Associated With Applicable IOUS and IPUB and Unit (IOUS/IPUB) Previously Removed From Service (Item 26.3)	INST	—
	8. At PPI Frame, Connect Other End of New Scan and SD Jumper Cable (Item 26.2) to PPI Frame Location Previously Vacated (Item 26.6)	INST	—
	9. Using Power Switches, Restore Power to Applicable IOUS and IPUB (IOUS/IPUB) Previously Removed From Service (Item 26.3)	TELCO/INST	DLP-506
	10. Restore Applicable IOUS and IPUBs Previously Removed From Service (Item 26.3) to Service	TELCO/INST	DLP-549
	11. If Scan and SD Jumper Cables Were Just Connected to IO/IOP Frame 0, IOUS 0, IPUB 0, Go to Item 26.12. Otherwise, Go To Item 26.13	TELCO/INST	—
	12. At MTC Terminal, Enter Message **STOP:MON;CHAN SREC1!**	TELCO	—
	13. If Scan and SD Jumper Cables Were Just Connected to IO/IOP Frame 0, IOUS 0, IPUB 0, Go to Item 26.14. Otherwise, Go To Item 26.15	TELCO/INST	—
	14. At MTC Terminal, Enter Message **MON:CHAN SREC1!**	TELCO	—
	15. If Scan and SD Jumper Cables Have Not Been Installed for IO/IOP Frame 0, IOUS 0, IPUB 0: IO/IOP Frame 0, IOUS 1, IPUB 1: IO/IOP Frame 1, IOUS 2, IPUB 0 and IO/IOP Frame 1, IOUS 3, IPUB 1, Repeat From Item 26.1 Otherwise, Go To Item 27	TELCO/INST	—

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
27	At MTC Terminal, Enter Message **STOP:MON;CHAN SREC1!**	TELCO	—
28	At MTC Terminal, Enter Message **ALW:MACLI,CLASS MTCE!** To Allow 1A Processor REX	TELCO	—
29	Notify Next Higher Technical Support Group That SSD Conversion Switch Unit Is Installed	TELCO	—

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

		RESPONSIBILITY	
	WARNING: No other growth or maintenance activity is allowed during this procedure		
	NOTES: 1. This procedure must be used only in PACBELL office 2. 1B Processor AU bus (AUB) cabling must be connected to conversion switch units and verified before performing this procedure 3. Appropriate Input/Output manual must be used if clarification of input message or output message is necessary 4. This procedure must be performed during light traffic periods 5. This procedure contains soak interval for verifying system operation and stability during growth. During the soak interval, all abnormal conditions (such as interrupts, interjects, and diagnostic failures related to growth) must be investigated and resolved immediately. Growth equipment, being soaked, must be error free for at least the time specified 6. 1A Processor operation must be closely monitored during this procedure		
1	Notify Next Higher Technical Support Group That AUB Conversion Switch Unit Installation to 1A Processor Is Being Performed. Request Information To Complete Items 2 Through 4	TELCO	—
2	Ensure No API Interjects or Interrupts or BLMs Have Occurred Within 24 Hours of Performing This Procedure	TELCO	—
3	Ensure ***4ESS***™ Switch Is in Stable Condition With No Audits	TELCO	DLP-530
4	Ensure All 1A Processor and Peripheral Units Are Operating in Normal Duplex Mode	TELCO	DLP-531
5	Set Up Storage Oscilloscope	INST	—
6	Store AUB 1 Input Messages on 1A Processor Terminal for AUB Looping Test	TELCO	DLP-522
7	At MTC Terminal, Enter Message **INH:MACLI,CLASS MTCE;REX!** To Inhibit 1A Processor REX	TELCO	—
8	At APS MCRT, Enter Following Messages To Inhibit Automatic Diagnostics: • **INH:DMQ;SRC REX!** • **INH:DMQ;SRC ADP!**	TELCO	—
	NOTE: Items 9 through 16 are being performed to diagnose AUB and associated units		
9	At MTC Terminal, Determine Which API Is Standby (**OP:APSTATUS!**)	TELCO	DLP-523

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
10	Diagnose AUB (Same Member Number as Standby API) Using Restore Message (**RST:AUB a!**)	TELCO	DLP-507
11	Diagnose DUS (Same Member Number as Standby API) Using Restore Message (**RST:DUS a!**)	TELCO	DLP-507
12	Diagnose API (Item 9) Using Restore Message (**RST:API a!**)	TELCO	DLP-507
	NOTE: Procedure must not be continued until API is restored to service		
13	At MTC Terminal, Switch APIs To Make Other API Standby (**SW:APS 0!**)	TELCO	DLP-524
14	Diagnose AUB (Same Member Number as Standby API) Using Restore Message (**RST:AUB a!**)	TELCO	DLP-507
15	Diagnose DUS (Same Member Number as Standby API) Using Restore Message (**RST:DUS a!**)	TELCO	DLP-507
16	Diagnose Standby API Using Restore Message (**RST:API a!**)	TELCO	DLP-507
	NOTE: Procedure must not be continued until API is restored to service		
17	At MTC Terminal, Determine Which API Is Standby (**OP:APSTATUS!**)	TELCO	DLP-523
18	If API 1 Is Not Standby, Switch APIs To Make API 1 Standby (**SW:APS 0!**)	TELCO	DLP-524
19	Remove AUB 1 From Service (**RMV:AUB 1!**)	TELCO	DLP-500
20	Remove All In-Service Equipped TUCs From Service **(RMV:TUC a!)**	TELCO	DLP-500
21	Remove Power From API 1 Using Power Switch	TELCO	DLP-504
22	Remove Power From DUS 1 Using Power Switch	TELCO	DLP-504
23	At 1B Processor Indicator/Remote Control Unit, Ensure All Switches Associated With Equipped Office Equipment Are Set to 1A Processor Position (Associated LEDs On Green)	TELCO	DLP-533
24	At API Frame 1, Disconnect AUB 1 Cables	INST	—
25	At AUB 1 Conversion Switch Unit, Connect Disconnected End of AUB 1 Cables	INST	—
26	Connect Jumper Cables Between AUB 1 Conversion Switch Unit and API Frame 1	INST	—
27	Restore Power to API 1 Using Power Switch (API Will Remain Out-of-Service)	TELCO/INST	DLP-534
28	Restore Power to DUS 1 Using Power Switch (DUS Will Remain Out-of-Service)	TELCO/INST	DLP-534
29	Office Technician Must Observe AUB 1 Scoping Since Successful Completion of This Scoping Will Be Considered Acceptance of AUB 1 Conversion Switch Unit Installation	TELCO	—
	(Continued on Page 3)		

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
	NOTE: Notify next higher technical support group if any errors are encountered during diagnostic testing. The test must be immediately aborted		
30	Execute Phase 99 Diagnostic Scoping Test To Verify AUB 1 at AUB 1 Conversion Switch Unit:		
	1. Enter Execute Messages for Looping on AU Write Bus (**EX:AUB 1;START!** then **EX:AUB 1:PH 99,ADR 212-245!**)	TELCO	DLP-525
	2. Scope AU Write Bus Bits 0 to 23 at AUB 1 Conversion Switch Unit	INST/TELCO	DLP-526
	3. Enter Stop Looping Message (**EX:AUB 1!**)	TELCO	—
	4. Enter Execute Message for Looping on AU Address Bus (**EX:AUB 1:PH 99,ADR 245-270!**)	TELCO	DLP-525
	5. Scope AU Address Bus Bits 0 to 15 at AUB 1 Conversion Switch Unit	INST/TELCO	DLP-527
	6. Enter Stop Looping Message (**EX:AUB 1!**)	TELCO	—
	7. Enter Execute Message for Looping on AU Store Address Bus (**EX:AUB 1:PH 99,ADR 333-356!**)	TELCO	DLP-525
	8. Scope AU Store Address Bus Bits 0 to 21 at AUB 1 Conversion Switch Unit	INST/TELCO	DLP-528
	9. Enter Stop Looping Message (**EX:AUB 1!**)	TELCO	—
	10. Enter Execute Message for Looping on AU Reply Bus (**EX:AUB 1:PH 99,ADR 270-333!**)	TELCO	DLP-525
	11. Scope AU Reply Bus Bits 1 to 23 at AUB 1 Conversion Switch Unit	INST/TELCO	DLP-529
	12. Enter Stop Looping Message (**EX:AUB 1!**)	TELCO	—
	13. Stop Maintenance Control Program Client	TELCO	DLP-520
	14. Disconnect Storage Oscilloscope From Conversion Switch Unit	INST	—
31	At MTC Terminal, Restore AUB 1 to Service (**RST:AUB 1!**)	TELCO/INST	DLP-507
32	Diagnose DUS 1; Ensure All Phases Run Are ATP or Explainable CATP (**DGN:DUS 1;RAW!**)	TELCO/INST	DLP-535
33	Diagnose API 1; Ensure All Phases Run Are ATP or Explainable CATP (**DGN:API 1;RAW!**)	TELCO/INST	DLP-535
34	Switch CCs (**SW:CC!**)	TELCO	DLP-508
35	Diagnose DUS 1; Ensure All Phases Run Are ATP or Explainable CATP (**DGN:DUS 1;RAW!**)	TELCO/INST	DLP-535

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
36	Diagnose API 1; Ensure All Phases Run Are ATP or Explainable CATP (**DGN:API 1;RAW!**)	TELCO/INST	DLP-535
37	Restore DUS 1 to Service **(RST:DUS 1!)**	TELCO/INST	DLP-507
38	Restore API 1 to Service **(RST:API 1!)**	TELCO/INST	DLP-507
39	Diagnose AUB 1 Using Restore Message (**RST:AUB 1!**) (ATP Required)	TELCO	DLP-507
40	Scope AU Control Leads at AUB 1 Conversion Switch	TELCO/INST	DLP-536
41	Restore TUCs That Were Removed From Service in Item 20 **(RST:TUC a!)**	TELCO	DLP-507
42	Enter Message **ALW:MACLI,CLASS MTCE!** To Allow REX	TELCO	—
43	At APS MCRT, Enter Following Messages To Allow Automatic Diagnostics: • **ALW:DMQ;SRC REX!** • **ALW:DMQ;SRC ADP!**	TELCO	—
44	Notify Next Higher Technical Support Group That AUB 1 Conversion Switch Unit Installation Is Complete	TELCO	—
45	At MTC Terminal, Switch APIs To Make API 1 Active for Soaking (**SW:APS 0!**)	TELCO	DLP-524
46	Soak AUB 1 Conversion Switch Unit Installation for at Least One Non-Cabling Shift Before Proceeding	TELCO/INST	—

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

		RESPONSIBILITY	
	WARNING: No other growth or maintenance activity is allowed during this procedure		
	NOTES: 1. 1B Processor GCP cabling must be connected to CC 1 GCP conversion switch unit and verified before performing this procedure 2. 1B Processor conversion switch unit alarm cables must be connected and verified 3. 1B Processor GCP capture and recovery unit must be installed and verified 4. Appropriate Input/Output Manuals must be used if clarification of input message or output message is necessary 5. All input messages are to be entered at MTC terminal 6. This procedure must be performed during light traffic periods 7. This procedure contains soak interval for verifying system operation and stability during growth. During the soak interval, all abnormal conditions (such as interrupts, interjects, and diagnostic failures related to growth) must be investigated and resolved immediately. Growth equipment, being soaked, must be error free for at least the time specified 8. 1A Processor operation must be closely monitored during this procedure 9. Procedure may be safely stopped after cabling and successfully testing a unit. If stopping, REX must be allowed. When resuming, Items 1 through 6 should be performed to ensure system stability		
1	Notify Next Higher Technical Support Group That GCP Conversion Switch Unit Installation to 1A Processor Is Being Performed. Request Information To Complete Items 2 and 3	TELCO	—
2	Ensure No API Interjects or Interrupts or BLMs Have Occurred Within 24 Hours of Performing This Procedure	TELCO	—
3	Ensure ***4ESS***™ Switch Is in Stable Condition With No Audits	TELCO	DLP-530
4	Ensure All 1A Processor and Peripheral Units Are Operating in Normal Duplex Mode. Listed Units Must Be Restored to Service	TELCO	DLP-531
5	Obtain and Set Up Storage Scope	INST	—
6	At MTC Terminal, Enter Message **INH:MACLI,CLASS MTCE;REX!** To Inhibit 1A Processor REX	TELCO	—
7	If Office Contains Extended Pollable DIF-E Frames, (Member Numbers Greater Than 23), Perform Items 8 Through 24; Otherwise, Go to Item 25	TELCO/INST	—

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
	NOTE: Items 8 through 24 are being performed to connect GCP cable associated with extended pollable DIF-E frames (member numbers greater than 23)		
8	At 1A Processor MCC **PROCESSOR DISPLAY** Panel, Determine which CC Is Standby (CC With **ACTIVE** Lamp Off)	TELCO	—
9	If CC 0 Is Standby, Switch CCs To Make CC 1 Standby (**SW:CC!**)	TELCO	DLP-508
10	Diagnose One Extended Pollable DIF-E Frame That GCP Cable Will Terminate Using Restore Message (**RST:DIF a,CONTR 1!**)	TELCO	DLP-537
11	At 1B Processor Indicator/Remote Control Unit, Ensure All Switches Associated With Equipped Office Equipment Are Set to 1A Processor Position (Associated LEDs On Green)	TELCO	DLP-533
12	Remove CC 1 From Service (**RMV:CC 1!**)	TELCO	DLP-500
13	At PPI Frame, Install ITE 6922 Cable Discharge Board at 060-26. Disconnect GCP 1PPUn Cable for Extended Pollable DIF-E1 Frame	INST	—
14	Connect ITE 6921 Cable Discharge Tool Into Conversion Switch Unit End of Ivory-Colored GCP Jumper Cable. Wait 30 Seconds Before Continuing. Disconnect ITE 6921 Cable Discharge Tool and at PPI Frame, Connect This Cable to Location Vacated in Item 13	INST	—
15	Disconnect ITE 6921 Cable Discharge Tool From Ivory-Colored GCP Jumper Cable. Connect This Cable to CC 1 GCP Conversion Switch Unit	INST	—
16	Connect ITE 6921 Cable Discharge Tool Into Cable Disconnected In Item 13. Wait 30 Seconds Before Continuing. Disconnect ITE 6921 Cable Discharge Tool and Connect This Cable to CC 1 GCP Conversion Switch Unit	INST	—
17	Restore CC 1 to Service (**RST:CC 1!**)	TELCO/INST	DLP-507
	NOTE: Items 18 through 23 are being performed to test signal on 1PPUn Cable to Extended Pollable DIF-E Frame		
18	Office Technician Must Observe Scoping Since Successful Completion of This Scoping Will Be Considered Acceptance of This Portion of CC 1 GCP Conversion Switch Unit Installation	TELCO	—
19	At CC1 GCP Conversion Switch Unit, Connect Storage Scope Probe to 4E Probe Point	INST	—
20	When Diagnostic Is Run in Item 21, Capture Signal Trace Using Storage Scope (Repeat Until Signal Trace Is Received)	INST	—

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
21	Diagnose Extended Pollable DIF-E Frame (Item 10) That GCP Cable Is Associated With, Specifying Phase 6 (DGN:DIF a,CONTR 1:PH 6!)	TELCO/INST	DLP-538
22	Ensure Signal Trace Has Proper Amplitude (7V to 10V) With Minimum Distortion. When Finished, Remove Scope Adapter	INST	—
23	Restore Extended Pollable DIF-E Frame (Item 10) That GCP Cable Is Associated With (RST:DIF a,CONTR 1!)	TELCO	DLP-537
24	Go To Item 42. SCS Does Not Need To Be Cabled Since Extended Pollable DIF-E Frame Has Been Connected	TELCO/INST	—
25	If Office Contains Service Circuit System, Perform Items 26 Through 41; Otherwise, Go to Item 42	TELCO/INST	—
	NOTE: Items 26 through 41 are being performed to connect GCP cables associated with SCS		
26	At 1A Processor MCC **PROCESSOR DISPLAY** Panel, Determine Which CC Is Standby (CC With **ACTIVE** Lamp Off)	TELCO	—
27	If CC 0 Is Standby, Switch CCs To Make CC 1 Standby (SW:CC!)	TELCO	DLP-508
28	Diagnose Far-End Unit That GCP 1PPUn Cables Will Terminate Using Restore Message (RST:SCS a,CONTR 1!)	TELCO	DLP-539
29	At 1B Processor Indicator/Remote Control Unit, Ensure All Switches Associated With Equipped Office Equipment Are Set to 1A Processor Position (Associated LEDs On Green)	TELCO	DLP-533
30	Remove CC 1 From Service (RMV:CC 1!)	TELCO	DLP-500
31	At PPI Frame, Install ITE 6922 Cable Discharge Board at 060-26. Disconnect GCP 1PPUn Cable for Service Circuit System	INST	—
32	Connect ITE 6921 Cable Discharge Tool Into Conversion Switch Unit End of Ivory-Colored GCP Jumper Cable. Wait 30 Seconds Before Continuing. At PPI Frame, Connect This Cable to Location Vacated in Item 31	INST	—
33	Disconnect ITE 6921 Cable Discharge Tool From Ivory-Colored GCP Jumper Cable. Connect This Cable to CC 1 GCP Conversion Switch Unit	INST	—
34	Connect ITE 6921 Cable Discharge Tool Into Cable Disconnected in Item 31. Wait 30 Seconds Before Continuing. Disconnect ITE 6921 Cable Discharge Tool and Connect THis Cable to CC 1 GCP Conversion Switch Unit	INST	—

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
35	Restore CC 1 to Service (**RST:CC 1!**)	TELCO/INST	DLP-507
	NOTE: Items 36 through 41 are being performed to test signal on 1PPUn cable to SCS		
36	Office Technician Must Observe Scoping Since Successful Completion of This Scoping Will Be Considered Acceptance of This Portion of CC 1 GCP Conversion Switch Unit Installation	TELCO	—
37	At CC 1 GCP Conversion Switch Unit, Connect Storage Scope Probe to 4E Probe Point	INST	—
38	When Diagnostic Is Run in Item 39, Capture Signal Trace Using Storage Scope (Repeat Until Signal Trace Is Received)	INST	—
39	Diagnose SCS (Item 28) That GCP Cable Is Associated With, Specifying Phase 6 (**DGN:SCS a,CONTR 1:PH 6!**)	TELCO/INST	DLP-540
40	Ensure Signal Trace Has Proper Amplitude (7V to 10V) With Minimum Distortion. When Finished, Remove Scoping Adapter	INST	—
41	Restore SCS (Item 28) That GCP Cable Is Associated With (**RST:SCS a,CONTR 1!**)	TELCO	DLP-539
42	If New NCLK Chain Cables Have Already Been Installed, Go to Item 69; Otherwise, Continue at Item 43	TELCO/INST	—
	NOTES: 1. Items 43 through 68 are being performed to install CC 1 GCP conversion switch unit into GCP cable path to network clock (NCLK) chains 2. NCLK chains must be diagnosed in member number 3, 1, 2, and 0 order 3. PUBs must be kept duplex at all times (CATP results will be received if one PUB is OOS. Some hardware checks may be left out)		
43	Diagnose Each NCLK Chain in Following Order Using Restore Message (**RST:NCLK 0,CHAIN a!**): • NCLK Chain 3 • NCLK Chain 1 • NCLK Chain 2 • NCLK Chain 0	TELCO	DLP-541
44	Switch CCs (**SW:CC!**)	TELCO	DLP-508
45	Diagnose Each NCLK Chain in Following Order Using Restore Message (**RST:NCLK 0,CHAIN a!**): • NCLK Chain 3 • NCLK Chain 1 • NCLK Chain 2 • NCLK Chain 0	TELCO	DLP-541

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
46	At 1A Processor MCC **PROCESSOR DISPLAY** Panel, Determine Which CC is Standby (CC With **ACTIVE** Lamp Off)	TELCO	—
47	If CC 0 Is Standby, Switch CCs To Make CC 1 Standby (**SW:CC!**)	TELCO	DLP-508
48	At 1B Processor Indicator/Remote Control Unit, Ensure All Switches Associated With Equipped Office Equipment Are Set to 1A Processor Position (Associated LEDs On Green)	TELCO	DLP-533
	NOTE: Items 49 through 65 are to be repeated for each NCLK chain in member number 3, 1, 2, and 0 order		
49	Remove CC 1 From Service (**RMV:CC 1!**)	TELCO	DLP-500
50	Remove NCLK Chain (3, 1, 2, or 0) From Service (**RMV:NCLK 0,CHAIN a!**) (a = 3, 1, 2, or 0)	TELCO	—
51	At PPI Frame, Install ITE 6922 Cable Discharge Board at Appropriate Location. Disconnect GCP 1PPUn Cable for Removed NCLK Chain (Item 50)	INST	—
52	Connect ITE 6921 Cable Discharge Tool Into Conversion Switch Unit End of Ivory-Colored GCP Jumper Cable. Wait 30 Seconds Before Continuing. At PPI Frame, Connect This Cable To Location Vacated in Item 51	INST	—
53	Disconnect ITE 6921 Cable Discharge Tool From Ivory-Colored GCP Jumper Cable. Connect This Cable to CC 1 GCP Conversion Switch Unit	INST	—
54	Connect ITE 6921 Cable Discharge Tool Into Cable Disconnected in Item 51. Wait 30 Seconds Before Continuing. Disconnect ITE 6921 Cable Discharge Tool and Connect This Cable to CC 1 GCP Conversion Switch Unit	INST	—
55	Restore CC 1 to Service (**RST:CC 1!**)	TELCO/INST	DLP-507
	NOTES: 1. Notify next higher technical support group if errors were encountered during NCLK chain diagnostics 2. Items 56 through 64 are being performed to test signal on 1PPUn cable to NCLK chain		
56	Office Technician Must Observe Scoping Since Successful Completion of This Scoping Will Be Considered Acceptance of This Portion of CC 1 GCP Conversion Switch Unit Installation	TELCO	—
57	Switch CCs (**SW:CC!**)	TELCO	DLP-508
58	Remove CC 0 From Service (**RMV:CC 0!**)	TELCO	DLP-500
	Continued on Page 6)		

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
59	At CC 1 GCP Conversion Switch Unit, Connect Storage Scope Probe to 4E Probe Point	INST	—
60	When Diagnostic Is Run in Item 61, Capture Signal Trace Using Storage Scope (Repeat Until Signal Trace Is Received)	INST	—
	NOTE: Notify next higher technical support group if errors were encountered during NCLK chain diagnostics		
61	Diagnose NCLK Chain (3, 1, 2, or 0) That GCP Cable Is Associated With Specifying Phase 2 (DGN:NCLK 0,CHAIN a:PH 2!)	TELCO/INST	DLP-542
62	Ensure Signal Trace Has Proper Amplitude (7V to 10V) With Minimum Distortion. When Finished, Remove Scoping Adapter	INST	—
63	Restore CC 0 to Service (RST:CC 0!)	TELCO/INST	DLP-507
64	Restore NCLK Chain (3, 1, 2, or 0) That GCP Cable Is Associated With (RST:NCLK 0,CHAIN a!)	TELCO	DLP-541
65	Go to Item 66 (for NCLK Chain 1) or Item 67 (for NCLK Chain 2) or Item 68 (for NCLK Chain 0) or Item 69 (if All NCLK Chains Are Connected)	TELCO/INST	—
66	Repeat Items 46 Through 65 To Install GCP Conversion Switch Unit to NCLK Chain 1	TELCO/INST	—
67	Repeat Items 46 Through 65 To Install GCP Conversion Switch Unit to NCLK Chain 2	TELCO/INST	—
68	Repeat Items 46 Through 65 To Install GCP Conversion Switch Unit to NCLK Chain 0	TELCO/INST	—
69	If Possible, Determine if Enough Slack Is Available To Relocate Base SP 0 and 1 CC 1 GCP Cables to 1B Processor After Retrofit. Perform Item 69.A, 69.B, or 69.C Below:		
	A. If Slack Is Available, Continue at Item 70	INST	—
	B. If Amount of Available Slack Can Not Be Determined, Continue at Item 70	INST	—
	C. If Not Enough Slack Is Available, Continue at Item 99	INST	—
	(Continued on Page 7)		

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
	NOTES: 1. Items 70 through 97 are being performed to install CC 1 GCP conversion switch unit into CGP cable path to base SPs 2. Base SPs must be installed to CC 1 GCP conversion switch unit in following order: SP 0 Controller 0 and SP 0 Controller 1; then SP 1 Controller 0 and SP 1 Controller 1 (GCP cable being moved contains GCPs for both controllers) 3. Items 70 through 97 are to be repeated for each base SP		
70	Obtain and Set Up Storage Oscilloscope (if Not Set Up)	INST	—
71	At 1A Processor MCC **PROCESSOR DISPLAY** Panel, Determine Which CC Is Standby (CC With **ACTIVE** Lamp Off)	TELCO	—
72	If CC 0 Is Standby, Switch CCs To Make CC 1 Standby (SW:CC!)	TELCO	DLP-508
73	Diagnose Both Base SP Controllers 0 That GCP 1PPUn Cable Will Terminate Using Restore Message (RST:SP a,CONTR 0!)	TELCO	DLP-543
74	Diagnose Both Base SP Controllers 1 That GCP 1PPUn Cable Will Terminate Using Restore Message (RST:SP a,CONTR 1!)	TELCO	DLP-543
75	At 1B Processor Indicator/Remote Control Unit, Ensure All Switches Associated With Equipped Office Equipment Are Set to 1A Processor Position (Associated LEDs On Green)	TELCO	DLP-533
76	Remove CC 1 From Service (RMV:CC 1!)	TELCO	DLP-500
77	At PPI Frame, Install ITE 6922 Cable Discharge Board at 060-30. Disconnect GCP 1PPUn Cable for Base SP Controllers 0 and 1. If Enough Slack Is Not Available, Go to Item 106; Otherwise, Continue at Item 78	INST	—
78	Connect ITE 6921 Cable Discharge Tool Into Conversion Switch Unit End of Ivory-Colored GCP Jumper Cable. Wait 30 Seconds Before Continuing. At PPI Frame, Connect This Cable to Location Vacated in Item 77	INST	—
79	Disconnect ITE 6921 Cable Discharge Tool From Ivory-Colored GCP Jumper Cable. Connect This Cable to CC 1 GCP Conversion Switch Unit	INST	—
80	Connect ITE 6921 Cable Discharge Tool Into Cable Disconnected in Item 77. Wait 30 Seconds Before Continuing. Disconnect ITE 6921 Cable Discharge Tool and Connect This Cable to CC 1 GCP Conversion Switch Unit	INST	—
81	Restore CC 1 to Service (RST:CC 1!)	TELCO/INST	DLP-507

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
	NOTE: Items 82 through 88 are being performed to test four signals on 1PPUn cable to one base SP Controller 0		
82	Office Technician Must Observe Scoping Since Successful Completion of This Scoping Will Be Considered Acceptance of This Portion of CC 1 GCP Conversion Switch Unit Installation	TELCO	—
83	At CC 1 GCP Conversion Switch Unit, Connect Storage Scope Probe to 4E Probe Point	INST	—
84	When Diagnostic Is Run in Item 85, Capture Signal Trace Using Storage Scope (Repeat Until Signal Trace Is Received)	INST	—
85	Diagnose Base SP Controller That GCP Cable Is Associated With, Specifying Phase 2 (DGN:SP a,CONTR 0:PH 2!)	TELCO/INST	DLP-544
86	Ensure Signal Trace Has Proper Amplitude (7V to 10V) With Minimum Distortion. When Finished, Remove Scoping Adapter	INST	—
87	Repeat Items 83 Through 86 for Each Controller 0 Pulse Point	TELCO/INST	—
88	Restore Base SP Controller 0 That GCP Cable Is Associated With (RST:SP a,CONTR 0!)	TELCO	DLP-543
	NOTE: Items 89 through 95 are being performed to test four signals on 1PPUn cable to one base SP Controller 1		
89	Office Technician Must Observe Scoping Since Successful Completion of This Scoping Will Be Considered Acceptance of This Portion of CC 1 GCP Conversion Switch Unit Installation	TELCO	—
90	At CC 1 GCP Conversion Switch Unit, Connect Storage Scope Probe to 4E Probe Point	INST	—
91	When Diagnostic Is Run in Item 92, Capture Signal Trace Using Storage Scope (Repeat Until Signal Trace Is Received)	INST	—
92	Diagnose Base SP Controller That GCP Cable Is Associated With, Specifying Phase 2 (DGN:SP a,CONTR 1:PH 2!)	TELCO/INST	DLP-544
93	Ensure Signal Trace has Proper Amplitude (7V to 10V) With Minimum Distortion. When Finished, Remove Scoping Adapter	INST	—
94	Repeat Items 90 Through 93 for Each Controller 1 Pulse Point	TELCO/INST	—
	(Continued on Page 9)		

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
95	Restore Base SP Controller 1 That GCP Cable Is Associated With (RST:SP a,CONTR 1!)	TELCO	DLP-543
96	Go to Item 97 (for Next Base SP) or Item 98 (if Both Base SPs Are Connected)	TELCO/INST	—
97	Repeat Items 75 Through 96 To Install GCP Conversion Switch Unit to SP 1	TELCO/INST	—
98	Go to Item 128 To Connect IOUSs to CC 1 GCP Conversion Switch Unit	TELCO/INST	—
	NOTES: 1. Items 99 through 127 are being performed to install CC 1 GCP conversion switch unit into CGP cable path to base SPs 2. Base SPs must be installed to CC 1 GCP conversion switch unit in following order: SP 0 Controller 0 and SP 0 Controller 1; then SP 1 Controller 0 and SP 1 Controller 1 (GCP cable being moved contains GCPs for both controllers) 3. Items 99 through 127 are to be repeated for each base SP		
99	Obtain and Set Up Storage Oscilloscope (if Not Set Up)	INST	—
100	At 1A Processor MCC **PROCESSOR DISPLAY** Panel, Determine Which CC Is Standby (CC With **ACTIVE** Lamp Off)	TELCO	—
101	If CC 0 Is Standby, Switch CCs To Make CC 1 Standby (SW:CC!)	TELCO	DLP-508
102	Diagnose Both Base SP Controller 0 That GCP 1PPUn Cable Will Terminate Using Restore Message (RST:SP a,CONTR 0!)	TELCO	DLP-543
103	Diagnose Both Base SP Controller 1 That GCP 1PPUn Cable Will Terminate Using Restore Message (RST:SP a,CONTR 1!)	TELCO	DLP-543
104	At 1B Processor Indicator/Remote Control Unit, Ensure All Switches Associated With Equipped Office Equipment Are Set to 1A Processor Position (Associated LEDs On Green)	TELCO	DLP-533
105	Remove CC 1 From Service (RMV:CC 1!)	TELCO	DLP-500
106	At PPI Frame, Install ITE 6922 Cable Discharge Board at 072-30. Disconnect CC 1 GCP 1PPUn Cable for Base SP Controllers 0 and 1	INST	—
107	At Base SP Frame Terminal Strip, Unwrap CC 1 GCP Wires. Run New Cable Between CC 1 GCP Conversion Switch Unit and Base SP Frame. Wire-Wrap Ends of Cable to Proper Points at Base SP Frame Terminal Strip	INST	—
	(Continued on Page 10)		

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
108	Connect ITE 6921 Cable Discharge Tool Into Conversion Switch Unit End of Ivory-Colored GCP Jumper Cable. Wait 30 Seconds Before Continuing. At PPI Frame, Connect This Cable to Location Vacated in Item 106	INST	—
109	Disconnect ITE 6921 Cable Discharge Tool From Ivory-Colored GCP Jumper Cable. Connect This Cable to CC 1 GCP Conversion Switch Unit	INST	—
110	Connect ITE 6921 Cable Discharge Tool Into Connector End of New Cable Run in Item 109. Wait 30 Seconds Before Continuing. Disconnect ITE 6921 Cable Discharge Tool and Connect This Cable to CC 1 GCP Conversion Switch Unit	INST	—
111	Restore CC 1 to Service (RST:CC 1!)	TELCO/INST	DLP-507
	NOTE: Items 112 through 118 are being performed to test four signals on 1PPUn cable to one base SP Controller 0		
112	Office Technician Must Observe Scoping Since Successful Completion of This Scoping Will Be Considered Acceptance of This Portion of CC 1 GCP Conversion Switch Unit Installation	TELCO	—
113	At CC 1 GCP Conversion Switch Unit, Connect Storage Scope Probe to 4E Probe Point	INST	—
114	When Diagnostic Is Run in Item 115, Capture Signal Trace Using Storage Scope (Repeat Until Signal Trace Is Received)	INST	—
115	Diagnose Base SP Controller That GCP Cable Is Associated With, Specifying Phase 2 (DGN:SP a,CONTR 0:PH 2!)	TELCO/INST	DLP-544
116	Ensure Signal Trace Has Proper Amplitude (7V to 10V) With Minimum Distortion. When Finished, Remove Scoping Adapter	INST	—
117	Repeat Items 113 Through 116 for Each Controller 0 Pulse Point	TELCO/INST	—
118	Restore Base SP Controller 0 That GCP Cable Is Associated With (RST:SP a,CONTR 0!)	TELCO	DLP-543
	NOTE: Items 119 through 125 are being performed to test four signals on 1PPUn cable to one base SP Controller 1		
119	Office Technician Must Observe Scoping Since Successful Completion of This Scoping Will Be Considered Acceptance of This Portion of CC 1 GCP Conversion Switch Unit Installation	TELCO	—
	(Continued on Page 11)		

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
120	At CC 1 GCP Conversion Switch Unit, Connect Storage Scope Probe to 4E Probe Point	INST	—
121	When Diagnostic Is Run in Item 122, Capture Signal Trace Using Storage Scope (Repeat Until Signal Trace Is Received)	INST	—
122	Diagnose Base SP Controller That GCP Cable Is Associated With, Specifying Phase 2 (**DGN:SP a,CONTR 1:PH 2!**)	TELCO/INST	DLP-544
123	Ensure Signal Trace has Proper Amplitude (7V to 10V) With Minimum Distortion. When Finished, Remove Scoping Adapter	INST	—
124	Repeat Items 120 Through 123 for Each Controller 1 Pulse Point	TELCO/INST	—
125	Restore Base SP Controller 1 That GCP Cable Is Associated With **(RST:SP a,CONTR 1!)**	TELCO	DLP-543
126	Go to Item 127 (for Next Base SP) or Item 133 (if Both Base SPs Are Connected)	TELCO/INST	—
127	Repeat Items 104 Through 126 To Install GCP Conversion Switch Unit to SP 1	TELCO/INST	—
	NOTES: 1. Items 128 through 163 are being performed to install CC 1 GCP conversion switch unit into GCP cable path to IOP frame 2. Base IOP frames must be installed to GCP conversion switch unit from lowest- to highest-member number order 3. Items 128 through 163 are to repeated for each equipped IOP frame		
128	Obtain and Set Up Storage Oscilloscope (if Not Set Up)	INST	—
129	At 1A Processor MCC **PROCESSOR DISPLAY** Panel, Determine Which CC Is Standby (CC With **ACTIVE** Lamp Off)	TELCO	—
130	If CC 0 Is Standby, Switch CCs To Make CC 1 Standby (**SW:CC!**)	TELCO	DLP-508
131	Diagnose Lowest IOUS (IOUS 0 to 5) in IOP Frame That GCP 1PPUn Cable Will Terminate Using Restore Message (**RST:IOUS a,IPUB 0!**)	TELCO	DLP-545
132	At 1B Processor Indicator/Remote Control Unit, Ensure All Switches Associated With Equipped Office Equipment Are Set to 1A Processor Position (Associated LEDs On Green)	TELCO	DLP-533
133	Remove CC 1 From Service (**RMV:CC 1!**)	TELCO	DLP-500
134	At PPI Frame, Install ITE 6922 Cable Discharge Board at Proper Location. Disconnect GCP 1PPUn Cable for One IOUS	INST	—

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . .

135	Connect ITE 6921 Cable Discharge Tool Into Conversion Switch Unit End of Ivory-Colored GCP Jumper Cable. Wait 30 Seconds Before Continuing. At PPI Frame, Connect This Cable to Location Vacated in Item 134	INST	—
136	Disconnect ITE 6921 Cable Discharge Tool From Ivory-Colored GCP Jumper Cable. Connect This Cable to CC 1 GCP Conversion Switch Unit	INST	—
137	Connect ITE 6921 Cable Discharge Tool Into Cable Disconnected in Item 134. Wait 30 Seconds Before Continuing. Disconnect ITE 6921 Cable Discharge Tool and Connect This Cable to CC 1 GCP Conversion Switch Unit	INST	—
138	Restore CC 1 to Service (RST:CC 1!)	TELCO/INST	DLP-507
	NOTE: Items 139 through 144 are being performed to test signal on 1PPUn cable to lowest IOUS in frame IOP		
139	Office Technician Must Observe Scoping Since Successful Completion of This Scoping Will Be Considered Acceptance of This Portion of CC 1 GCP Conversion Switch Unit Installation	TELCO	—
140	At CC 1 GCP Conversion Switch Unit, Connect Storage Scope Probe to 4E Probe Point	INST	—
141	When Diagnostic Is Run in Item 142, Capture Signal Trace Using Storage Scope (Repeat Until Signal Trace Is Received)	INST	—
142	Diagnose IOUS (Item 131) That GCP Cable Is Associated With (DGN:IOUS a,IPUB 0!)	TELCO/INST	DLP-546
143	Ensure Signal Trace Has Proper Amplitude (7V to 10V) With Minimum Distortion. When Finished, Remove Scoping Adapter	INST	—
144	Restore IOUS (Item 131) That GCP Cable Is Associated With (RST:IOUS a,IPUB 0!)	TELCO	DLP-545
145	If IOP Frame Contains Two IOUSs and Highest-Numbered IOUS Has Not Been Connected to CC 1 GCP Conversion Switch Unit, Perform Items 146 Through 161; Otherwise, Go to Item 162	TELCO/INST	—
146	At 1A Processor MCC **PROCESSOR DISPLAY** Panel, Determine if CC 1 Is Still Standby (CC With **ACTIVE** Lamp Off)	TELCO	—
147	If CC 0 Is Standby, Switch CCs to Make CC 1 Standby (SW:CC!)	TELCO	DLP-508
148	Diagnose Highest IOUS in IOP Frame That GCP 1PPUn Cable Will Terminate Using Restore Message (RST:IOUS a,IPUB 0!)	TELCO	DLP-545

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
149	At 1B Processor Indicator/Remote Control Unit, Ensure All Switches Associated With Equipped Office Equipment Are Set to 1A Processor Position (Associated LEDs On Green)	TELCO	DLP-533
150	Remove CC 1 From Service (**RMV:CC 1!**)	TELCO	DLP-500
151	AT PPI Frame, Install ITE 6922 Cable Discharge Board at Proper Location. Disconnect GCP 1PPUn Cable for IOUS	INST	—
152	Connect ITE 6921 Cable Discharge Tool Into Conversion Switch Unit End of Ivory-Colored GCP Jumper Cable. Wait 30 Seconds Before Continuing. At PPI Frame, Connect This Cable to Location Vacated in Item 151	INST	—
153	Disconnect ITE 6921 Cable Discharge Tool From Ivory-Colored Jumper Cable. Connect This Cable to CC 1 GCP Conversion Switch Unit	INST	—
154	Connect ITE 6921 Cable Discharge Tool Into Cable Disconnected in Item 151. Wait 30 Seconds Before Continuing. Disconnect ITE 6921 Cable Discharge Tool and Connect This Cable to CC 1 GCP Conversion Switch Unit	INST	—
155	Restore CC 1 to Service (**RST:CC 1!**)	TELCO/INST	DLP-507
	NOTE: Items 156 through 161 are being performed to test signal on 1PPUn cable to highest IOUS in IOP frame		
156	Office Technician Must Observe Scoping Since Successful Completion of This Scoping Will Be Considered Acceptance of This Portion of CC 1 GCP Conversion Switch Unit Installation	TELCO	—
157	At CC 1 GCP Conversion Switch Unit, Connect Storage Scope Probe to 4E Probe Point	INST	—
158	When Diagnostic Is Run in Item 159, Capture Signal Trace Using Storage Scope (Repeat Until Signal Trace Is Received)	INST	—
159	Diagnose IOUS (Item 148) That GCP Cable Is Associated With (**DGN:IOUS a,IPUB 0!**)	TELCO/INST	DLP-546
160	Ensure Signal Trace Has Proper Amplitude (7V to 10V) With Minimum Distortion. When Finished, Remove Scoping Adapter	INST	—
161	Restore IOUS (Item 148) That GCP Cable Is Associated With (**RST:IOUS a,IPUB 0!**)	TELCO	DLP-545
162	Repeat Items 131 Through 161 for Each Equipped IOP Frame (1 or 2)	TELCO/INST	—

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
163	At MTC Terminal, Enter Message **ALW:MACLI,CLASS MTCE!** To Allow REX	TELCO	—
164	Notify Next Higher Technical Support Group That CC 1 GCP Conversion Switch Unit Installation Is Complete	TELCO	—
165	Soak CC 1 GCP Conversion Switch Unit Installation for at Least One Non-Cabling Shift	TELCO/INST	—

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

		RESPONSIBILITY	
	WARNING: No other growth or maintenance activity is allowed during this procedure		
	NOTES: 1. This procedure must be used only in PACBELL office 2. 1B Processor PUB cabling must be connected to conversion switch units and verified before performing this procedure 3. Appropriate Input/Output Manuals must be used if clarification of input message or output message is necessary 4. All input messages, except for scoping messages, are to be entered at MTC terminal. SREC, Beltline, or applicable terminal is to be used for scoping 5. This procedure must be performed during light traffic periods 6. This procedure contains soak interval for verifying system operation and stability during growth. During the soak interval, all abnormal conditions (such as interrupts, interjects, and diagnostic failures related to growth) must be investigated and resolved immediately. Growth equipment, being soaked, must be error free for at least the time specified 7. 1A Processor operation must be closely monitored during this procedure		
1	Notify Next Higher Technical Support Group That PUB Conversion Switch Unit Installation to 1A Processor Is Being Performed. Request Information To Complete Items 2 and 3	TELCO	—
2	Ensure No API Interjects or Interrupts Have Occurred Within 24 Hours of Performing This Procedure	TELCO	—
3	Ensure ***4ESS*** Switch Is in Stable Condition	TELCO	DLP-530
4	Ensure All 1A Processor and Peripheral Units Are Operating in Normal Duplex Mode	TELCO	DLP-531
	NOTE: Items 5 through 27 are being performed to connect 1A Processor PUB 1 to PUB 1 conversion switch unit		
5	Set Up Storage Oscilloscope (if Not Set Up)	INST	—
6	Store Input Messages on 1A Processor Terminal for PUB Looping Test	TELCO	DLP-511
7	At MTC Terminal, Enter Message **INH:MACLI,CLASS MTCE;REX!** To Inhibit 1A Processor REX	TELCO	—
8	At MTC Terminal, Enter Message **STOP:TEST;PUSYS!** Ensure OK Response Is Received	TELCO	—
9	Diagnose PUB 0 Using Restore Message (**RST:PUB 0!**)	TELCO	DLP-507
10	Diagnose PUB 1 Using Restore Message (**RST:PUB 1!**)	TELCO	DLP-507

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
11	At 1B Processor Indicator/Remote Control Unit, Ensure All Switches Associated With Equipped Office Equipment Are Set to 1A Processor Position (Associated LEDs On Green)	TELCO	DLP-533
12	Remove PUB 1 From Service (**RMV:PUB 1!**)	TELCO	DLP-500
13	At PUBB Frame, Remove Power Using Power Switch	TELCO	DLP-504
14	At PUBB Frame, Disconnect PUB 1 Cables Going to PPI Frame	INST	—
15	Connect Disconnected End of PUB 1 Cables (Item 14) to PU 1A Connectors on PUB 1 Conversion Switch Unit	INST	—
16	Connect PUB 1 Jumper Cables to 4E Connectors on PUB 1 Conversion Switch Unit	INST	—
17	Connect Other End of PUB 1 Jumper Cables (Item 16) to PUB 1 Connectors on PUBB Frame	INST	—
18	At PUBB Frame Power Switch, Depress **ON** Switch (Leave Power Switch in **ROS** Position); Ensure **PWR OFF** Lamp Is Off	TELCO/INST	—
19	Diagnose PUB 1; Expect CATP Results (**DGN:PUB 1;RAW!**)	TELCO/INST	DLP-535
20	Office Technician Must Observe PUB 1 Scoping Since Successful Completion of This Scoping Will Be Considered Acceptance of PUB 1 Conversion Switch Unit Installation	TELCO	—
21	Execute PUB Looping Test To Verify PUB 1 at Conversion Switch Unit:		
	1. Advance Program and Set Up Loop To Observe Bit 0 on PU Write and Reply Bus	TELCO	DLP-512
	2. Scope Bit 0 on PU Write Bus at Conversion Switch Unit	INST/TELCO	DLP-513
	3. Scope Bit 0 on PU Reply Bus at Conversion Switch Unit	INST/TELCO	DLP-514
	4. At 1A Processor Terminal, Enter Stop Looping Message (**EX:PUB 1!**)	TELCO	—
	5. Advance Program and Set Up Loop to Observe Bits 1 to 35 on PU Write Bus, Bits 0 to 11 on PU Enable Address Bus and Bits 1 to 23 on PU Reply Bus	TELCO	DLP-512
	6. Scope Bits 1 to 35 on PU Write Bus at Conversion Switch Unit	INST/TELCO	DLP-515
	7. Scope Bits 0 to 11 on PU Enable Address Bus at Conversion Switch Unit	INST/TELCO	DLP-516
	8. Scope Bits 1 to 23 on PU Reply Bus at Conversion Switch Unit	INST/TELCO	DLP-517
	9. At 1A Processor Terminal, Enter Stop Looping Message (**EX:PUB 1**)	TELCO	—
	10. Set Up Loop To Observe PU Control Bus and Miscellaneous Bus Bits	TELCO	DLP-518

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
21 (Contd)	11. Scope PU Control Bus and Miscellaneous Bus Bits at Converstion Switch Unit	INST/TELCO	DLP-519
	12. At 1A Processor Terminal, Enter Stop Looping Message (EX:PUB 1!)	TELCO	—
	13. Stop Maintenance Control Program Client	TELCO	DLP-520
	14. Disconnect Storage Oscilloscope From Conversion Switch Unit	INST	—
22	At PUBB Frame Power Switch, Rotate **ROS/OFF** Switch to Normal Position	TELCO/INST	DLP-532
23	At MTC Terminal, Restore PUB 1 to Service (**RST:PUB 1!**)	TELCO/INST	DLP-507
24	Enter Message **TEST:PUSYS!**	TELCO	—
25	At MTC Terminal, Enter Message **ALW:MACLI,CLASS MTCE!** To Allow REX	TELCO	—
26	Notify Next Higher Technical Support Group That PUB 1 Conversion Switch Unit Installation Is Complete	TELCO	—
27	Soak PUB 1 Conversion Switch Unit Installation for at Least One Non-Cabling Shift Before Continuing	TELCO/INST	—

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

		RESPONSIBILITY	
	WARNING: An antistatic wrist strap must be worn to prevent electrostatic discharge and possible damage to circuit packs while handling		
	NOTES: 1.This procedure must be performed during light traffic periods 2.This procedure must be used only in PACBELL office		
1	Determine Base MDN Value for Miscellaneous SD Points That Control Backup Alarms (**VER:UTYPE:GRID 1!**)	TELCO/INST	DLP-551
2	Ensure Office Alarms Are Cleared	TELCO	—
3	Test Office Alarms	TELCO	DLP-552
4	Using Office Drawing T-nnnn-Hn-462, Determine SP Equipment Location of MDN Point (Item 1) for Connecting MDN Cable to OAG 1	INST	—
5	Run Alarm Transfer Control Cable From Base SP Matrix Frame to OAG 1 Unit (Do Not Connect at This Time)	INST	—
6	Notify Next Higher Technical Support Group That Alarms May Be Received	TELCO	—
7	Ensure Office Alarms Are Cleared	TELCO	—
8	At PPI Frame, Disconnect DA00, DA01, and DA02 Cable (From Base SP Matrix Frame)	INST	—
9	At Base SP Matrix Frame, Locate and Mark Backup Software Alarm Cable (DA00, DA01, and DA02) at Locations Determined in Item 4	INST	—
10	At Base SP Matrix Frame, Disconnect Backup Software Alarm Cable (DA00, DA01, DA02, DB00, DB01, and DB02)	INST	—
11	At Base SP Matrix Frame, Connect Alarm Transfer Control Cable (From OAG 1 Unit) to Locations Vacated in Item 10	INST	—
12	At OAG 1 Unit in Miscellaneous A Frame, Connect Alarm Transfer Control Cable (From Base SP Matrix Frame)	INST	—
13	At SS/AL Unit is PPI Frame, Disconnect Cable at Location 137-40RA-110; and Mine This Cable Back to OAG 1 Unit in Miscellaneous A Frame	INST	—

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
14	At OAG 1 Unit in Miscellaneous A Frame, Unwrap Wires of Cable (Item 13) on Terminal Strip **TS A** at Location 040-02	INST	—
15	Route New Cable From OAG 1 Unit in Miscellaneous A Frame to SS/AL Unit in PPI Frame	INST	—
16	At OAG 1 Unit in Miscellaneous A Frame, Wire-Wrap Wires of New Cable (Item 15) on Terminal Strip **TS A** at Location 040-02	INST	—
17	Splice New Cable (Item 15) to End of Special Adapter Cable (labeled **1B CC 0**); Then, at SS/AL Unit in PPI Frame, Connect Special Adapter to Location 137-40RA-110	INST	—
18	At OAG 1 Unit in Miscellaneous A Frame, Connect Intraframe Wiring for Alarm Transfer Control Cable	INST	—
19	Notify Next Higher Technical Support Group That Critical, Major, and Minor Alarms Will Be Received	TELCO	—
20	At 1A MTC Terminal, Enter Message **ORD:SD;OPR:MDN O'a!** To Test DA00 for Critical Alarm (a = Octal MDN Value Determined in Item 1); Ensure Critical Alarm Is Sounded and **ORD:SD;OPR:MDN b, , COMPLETED** Message Is Received (b = Decimal MDN Value)	TELCO/INST	—
21	Enter Message **ORD:SD;RLS:MDN O'a!** To Test DA00 To Retire Critical Alarm (a = Octal MDN Used in Item 15); Ensure Critical Alarm Is Retired and **ORD:SD;RLS:MDN b, , COMPLETED** Message Is Received (b = Decimal MDN Value)	TELCO/INST	—
22	Enter Message **ORD:SD;OPR:MDN O'a+1!** To Test DA01 for Major Alarm (a+1 = Octal MDN Value Determined in Item 1 Plus 1): Ensure Major Alarm Is Sounded and **ORD:SD;OPR:MDN b+1, , COMPLETED** Message Is Received (b+1 = Decimal MDN Value Plus 1)	TELCO/INST	—
23	Enter Message **ORD:SD;RLS:MDN O'a+1!** To Test DA01 To Retire Major Alarm (a+1 = Octal MDN Used in Item 17); Ensure Major Alarm Is Retired and **ORD:SD;RLS:MDN b+1, , COMPLETED** Message Is Received (b+1 = Decimal MDN Value)	TELCO/INST	—
24	Enter Message **ORD:SD;OPR:MDN O'a+2!** To Test DA02 for Minor Alarm (a+2 = Octal MDN Value Determined in Item 1 Plus 2); Ensure Minor Alarm Is Sounded and **ORD:SD;OPR:MDN b+2, , COMPLETED** Message Is Received (b+2 = Decimal MDN Value Plus 2)	TELCO/INST	—
25	Enter Message **ORD:SD;RLS:MDN O'a+2!** To Test DA02 To Retire Major Alarm (a+2 = Octal MDN Used in Item 19); Ensure Minor Alarm Is Retired and **ORD:SD;RLS:MDN b+2, , COMPLETED** Message Is Received (b+2 = Decimal MDN Value)	TELCO/INST	—

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
26	Notify Next Higher Technical Support Group That Critical, Major, and Minor Alarm Testing Is Completed	TELCO	—
	NOTE: Items 27 through 29 are being performed to connect PPI frame to 1B SSD conversion switch and test.		
27	At PPI Frame, Disconnect Alarm Cable	INST	—
28	At SSD Conversion Switch, Connect Alarm Cable Disconnected in Item 27	INST	—
29	Connect Jumper Cable Between PPI Frame and SSD Conversion Switch	INST	—
30	Test Alarms From PPI Frame	TELCO/INST	DLP-553
31	At 1B Processor Utility System Workstation, if I/O Message Process Is Not Started, Start I/O Message Process	INST	—
32	Enable Utility Paging Administration (UPAD) **(ALW:UPAD!)**	INST	—
33	Ensure 1B Processor Complex Units Are In Service **(OP:OOSUNITS!)**	INST	—
	CAUTION: Care must be taken to ensure proper control knobs are operated		
34	At SSD Conversion Switch, Operate Two Control Knobs at Equipment Location 088 Clockwise to **1B** Position	TELCO	—
	NOTE: 1B CVSW OFNL (1B Conversion Switch Off Normal) alarm message will begin printing at 1A MTC terminal		
35	Software Critical Alarm Will Be Received When **AMA [AND ICDR] TRANSFER BUFFER OVERFLOW** Message Is Reported at 1B Processor Utility System Workstation. Ensure the Following: • At Alarm Panel, **AUD** and **CR** Lamps Light • Audible Critical Alarm Sounds • At Top of 1B Processor MCC Terminal Screen, **CRITICAL** Colored White on Red	INST	—
	(Continued on Page 4)		

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
36	At 1B Processor MCC Terminal, Depress **ALM RLS** Key To Retire Critical Alarm. Ensure the Following: • At Alarm Panel, **AUD** and **CR** Lamps Off • Audible Critical Alarm Retired • At Top of 1B Processor MCC Terminal Screen, **CRITICAL** Colored White on Black • At 1B Processor Utility System Workstation, RTR:ALM MOC COMPL Message Is Received Disregard Software Critical Alarm That Will Be Received Periodically	INST	—
	NOTE: Items 37 through 41 are being performed to test 1B Processor software major alarm		
37	At 1B Processor Utility System Workstation, Enter Message **ALW:FNS 0!;** Ensure **ALW:FNS 0 COMPLETED** Message Is Received	INST	—
38	At Back of 1B Processor Cabinet 0, Disconnect Power From Fans at F5 and F6; After Short Period of Time, Ensure the Following: • At Alarm Panel, **AUD** and **MJ** Lamps Light • Audible Major Alarm Sounds • At Top of 1B Processor MCC Terminal Screen, **MAJOR** Colored White on Red	INST	—
39	Connect Power Back to Fans (F5 and F6) Powered Down in Item 38	INST	—
40	At 1B Processor MCC Terminal, Depress **ALM RLS** Key To Retire Major Alarm. Ensure the Following: • At Alarm Panel, **AUD** and **MJ** Lamps Off • Audible Major Alarm Retired • At Top of 1B Processor MCC Terminal Screen, **MAJOR** Colored White on Black • At 1B Processor Utility System Workstation, RTR:ALM MOC COMPL Message Is Received	INST	—
41	At 1B Processor Utility System Workstation, Enter Message **ALW:FNS 0!** To Initialize Fan System; Ensure **ALW:FNS 0 COMPLETED** Message Is Received	INST	—

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
	NOTE: Items 42 through 44 are being performed to test 1B Processor software minor alarm		
42	At 1B Processor Utility System Workstation, Enter Message **INH:MACLI,CLASS MTCE;ALL!.** Ensure the Following: • At Alarm Panel, **AUD** and **MN** Lamps Light • Audible Minor Alarm Sounds • At Top of 1B Processor MCC Terminal Screen, **MINOR** Colored Black on Yellow for Short Time	INST	—
43	At 1B Processor MCC Terminal, Depress **ALM RLS** Key To Retire Minor Alarm at Alarm Panel	INST	—
44	At 1B Processor Utility System Workstation, Enter Message **ALW:MACLI,CLASS MTCE!** To Allow REX	INST	—
	NOTE: Items 45 through 47 are being performed to test 1B Processor hardware major alarm		
45	At Fuse Unit in 1B Processor Cabinet 0, Remove Fuse for PS 0 at Location A046	INST	—
46	Insert Blown Fuse at Location A046; Ensure Audible Major Alarm Sounds	INST	—
47	Remove Blown Fuse (Item 46) and Insert Good Fuse in its Place; Ensure Audible Major Alarm Is Retired	INST	—
	CAUTION: Care must be taken to ensure proper control knobs are operated		
48	At SSD Conversion Switch, Operate Two Control Knobs at Equipment Location 088 Counterclockwise to **1A** Position (**1B CVSW OFNL** Message Will Stop Printing and Critical Alarm Will Stop Sounding)	TELCO	—
49	Notify Next Higher Technical Support Group That Critical, Major, and Minor Alarms Are Completed	TELCO	—

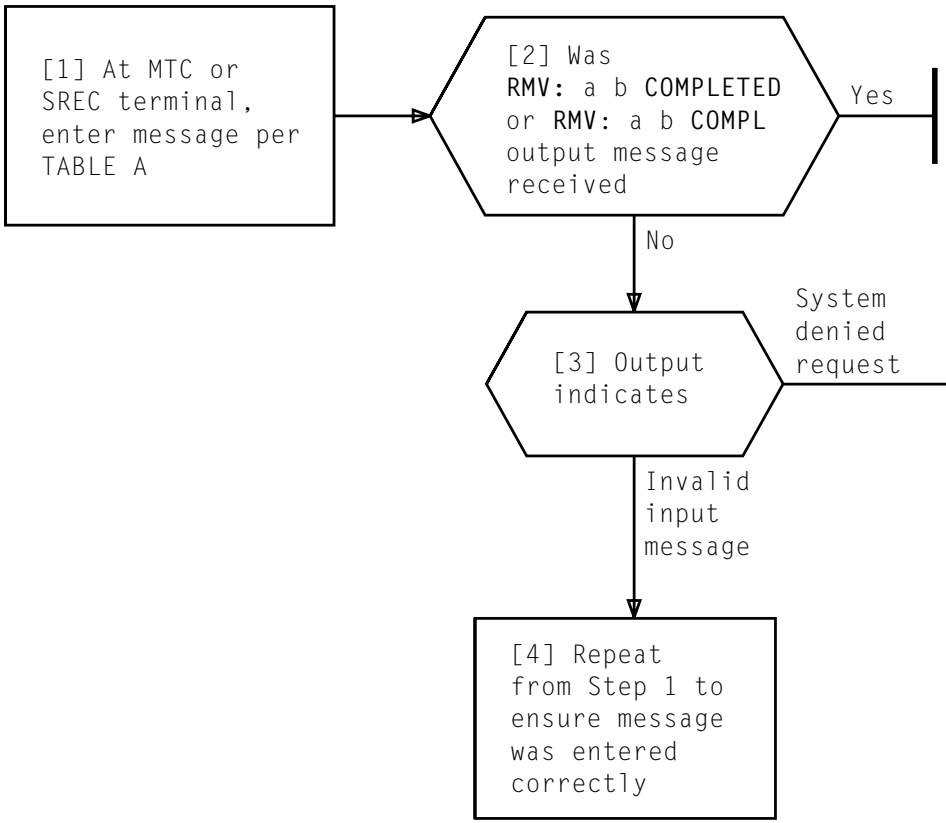


TABLE A

MESSAGE NUMBER	INPUT MESSAGE
1	RMV:a b!

a = API or AUB or CC or DUS or PUB or TUC

b = Member number

REMOVE API, AUB, CC, DUS, PUB, OR TUC FROM SERVICE

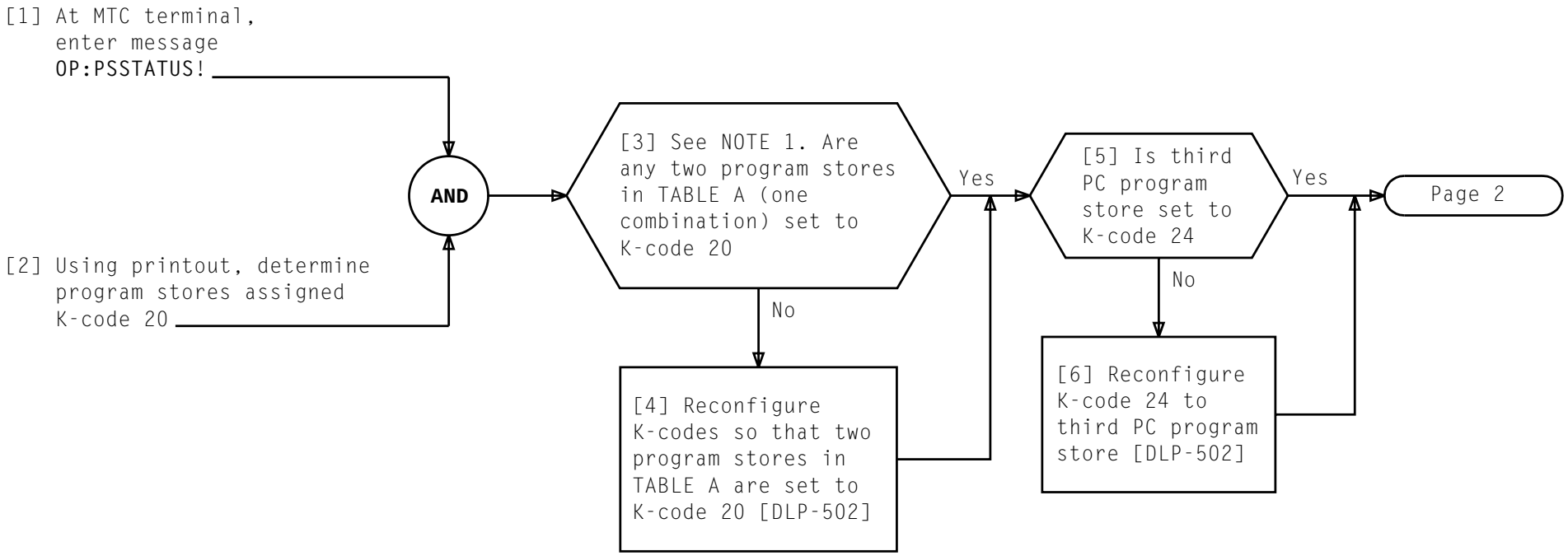
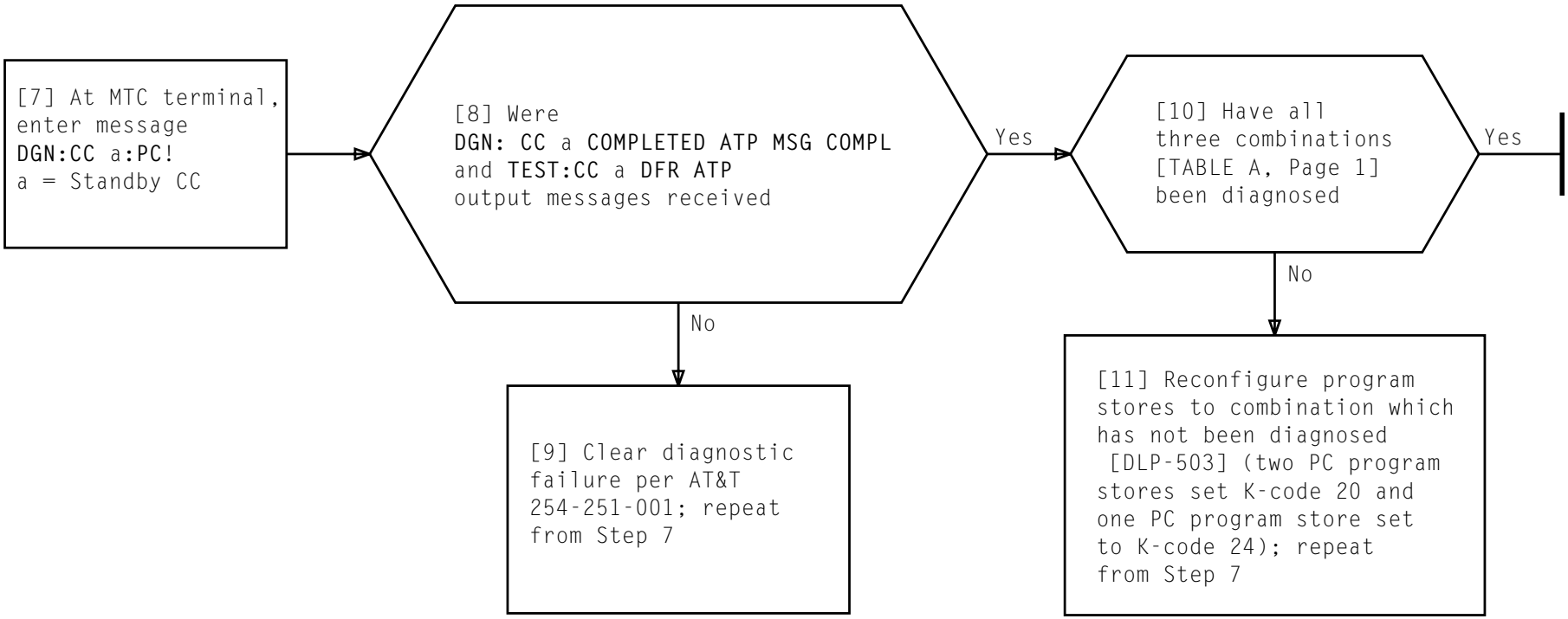


TABLE A	
PC PS COMBINATIONS	
256K START OFFICE	64K START OFFICE
0 and 2	18 and 20
0 and 4	18 and 22
2 and 4	20 and 22

NOTE 1

If office was equipped initially with 256K stores, program stores 0, 2, and 4 are normally the PC stores (K-code 20). If office was equipped initially with 64K stores that were replaced by 256K stores, program stores 18, 20, and 22 are normally the PC stores

RUN 1A PROCESSOR CC DIAGNOSTIC USING PC OPTION



RUN 1A PROCESSOR CC DIAGNOSTIC USING PC OPTION

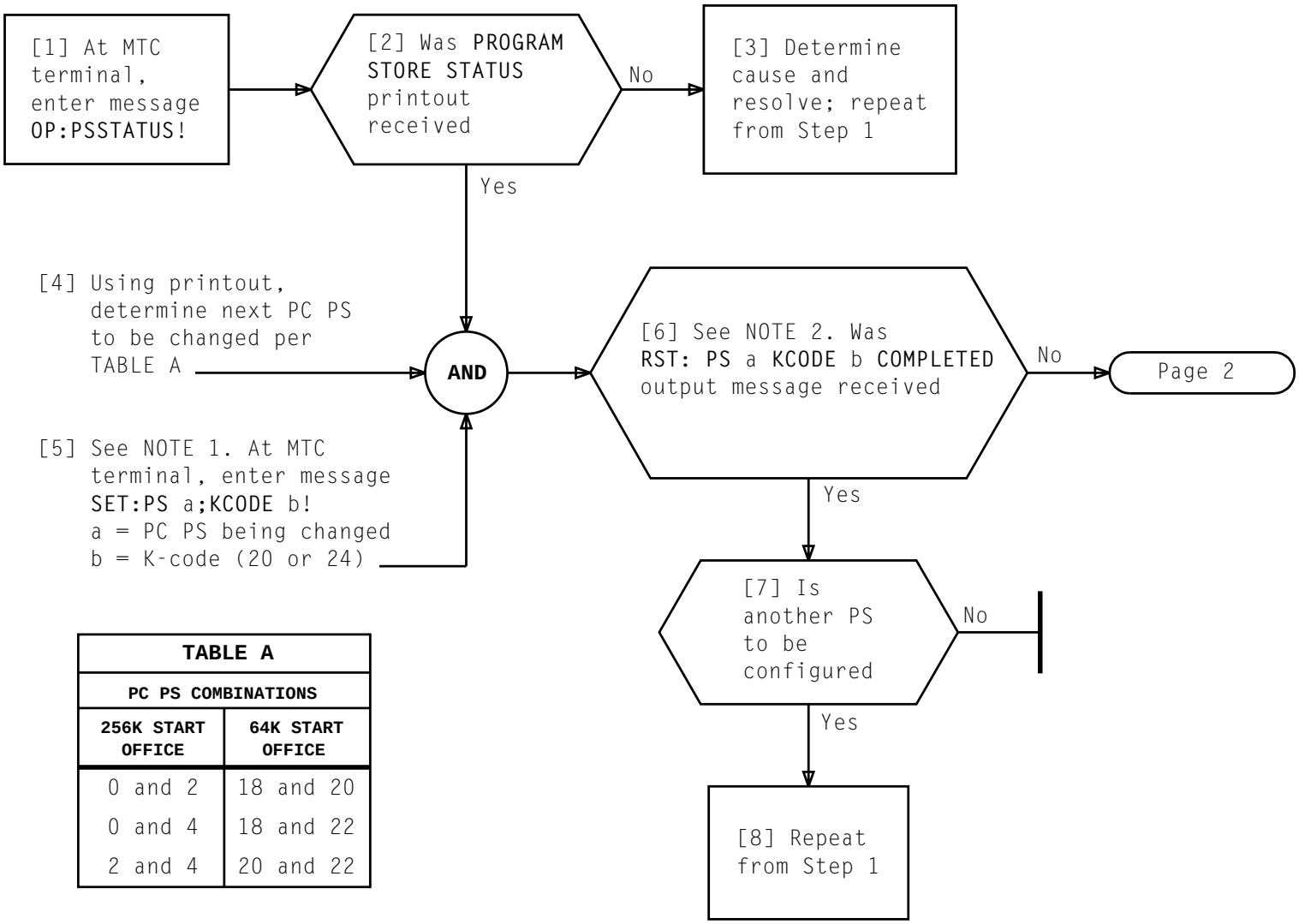
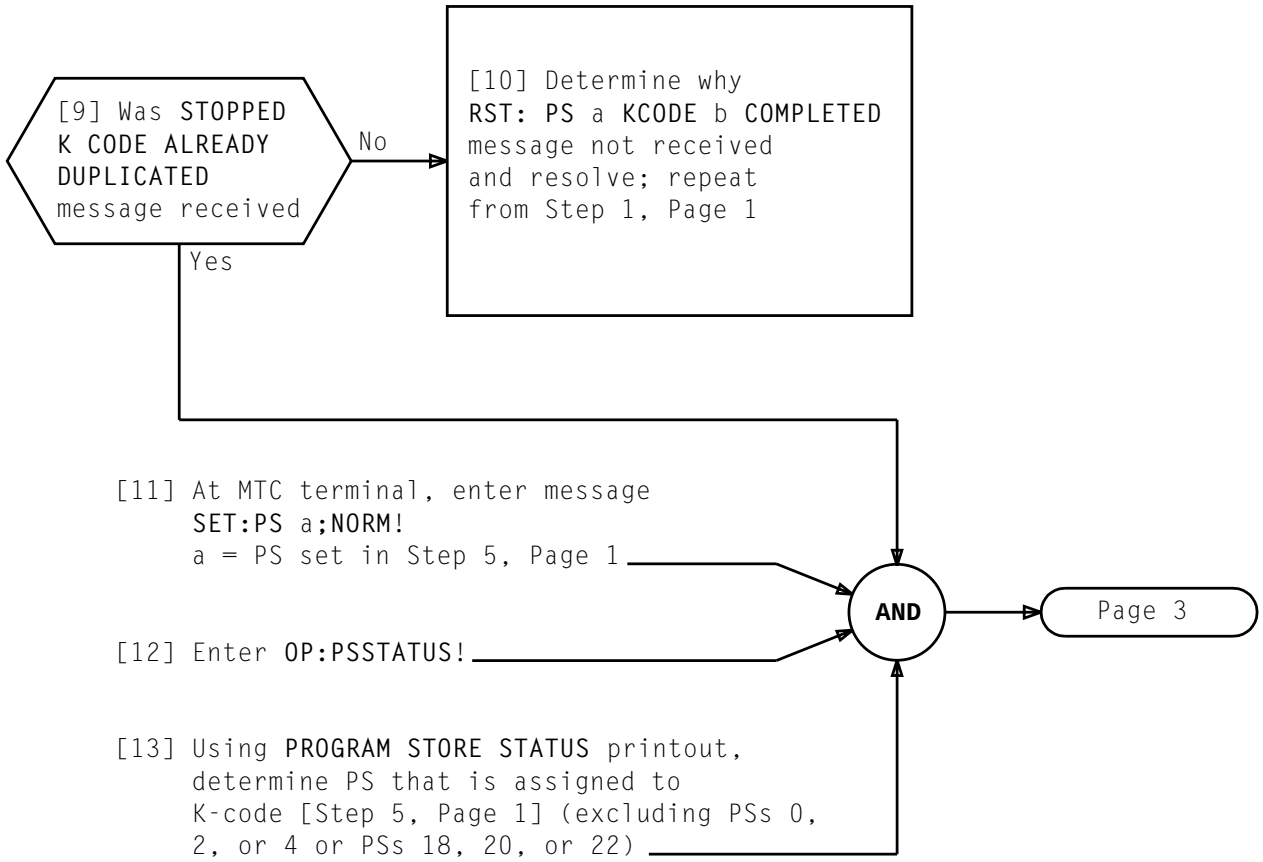


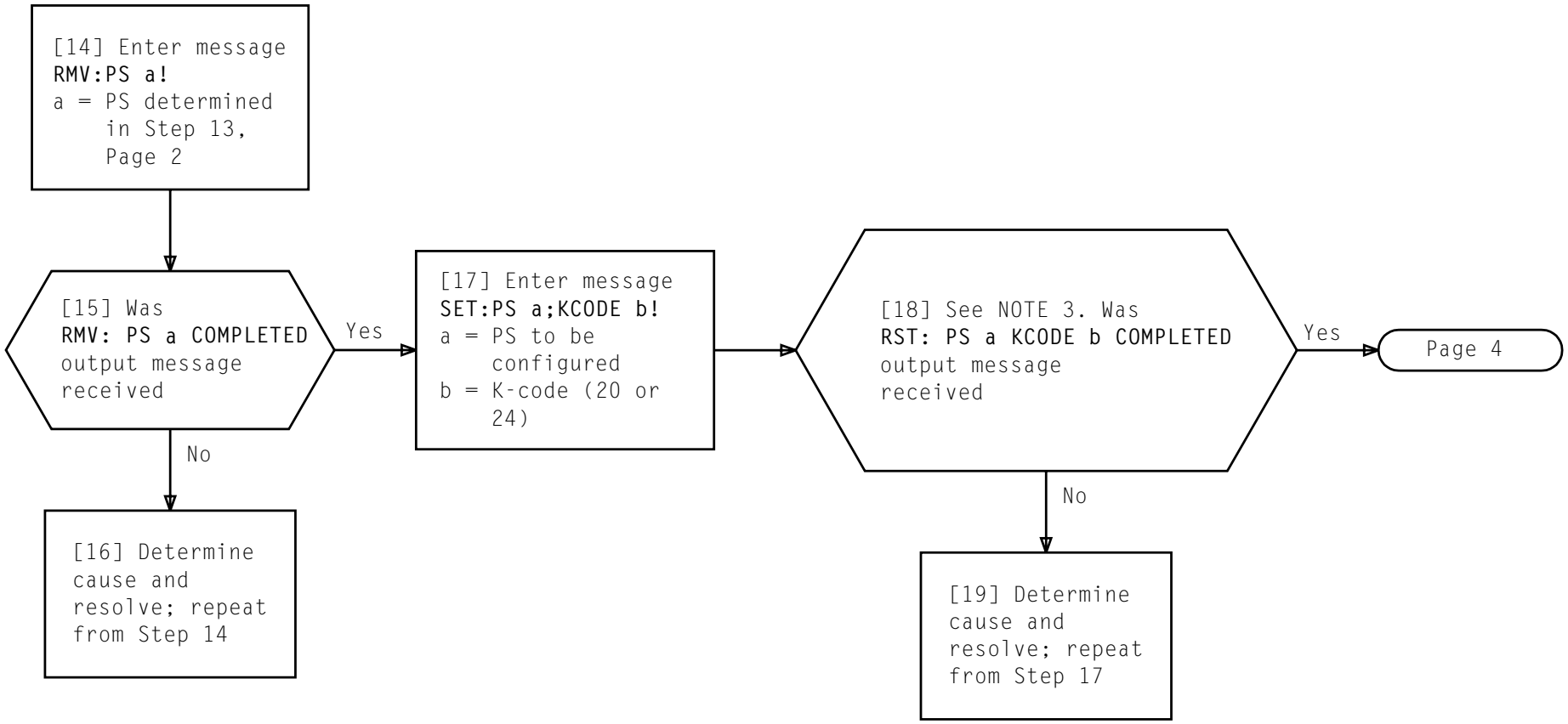
TABLE A	
PC PS COMBINATIONS	
256K START OFFICE	64K START OFFICE
0 and 2	18 and 20
0 and 4	18 and 22
2 and 4	20 and 22

NOTES
1. Program store may need to be removed in order to set PC PS to appropriate K-code
2. CATP bit 15 will be received if standby CC is out-of-service

CONFIGURE PS TO K-CODE

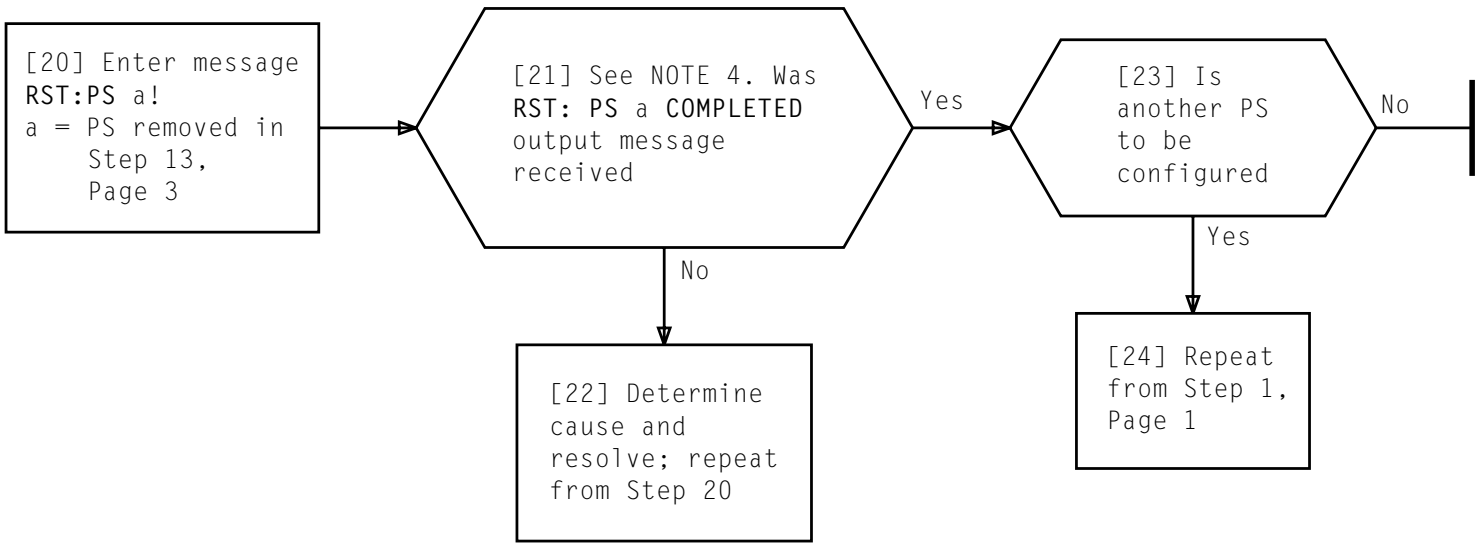


CONFIGURE PS TO K-CODE



NOTE 3
CATP bit 15 will be received if standby CC is out-of-service

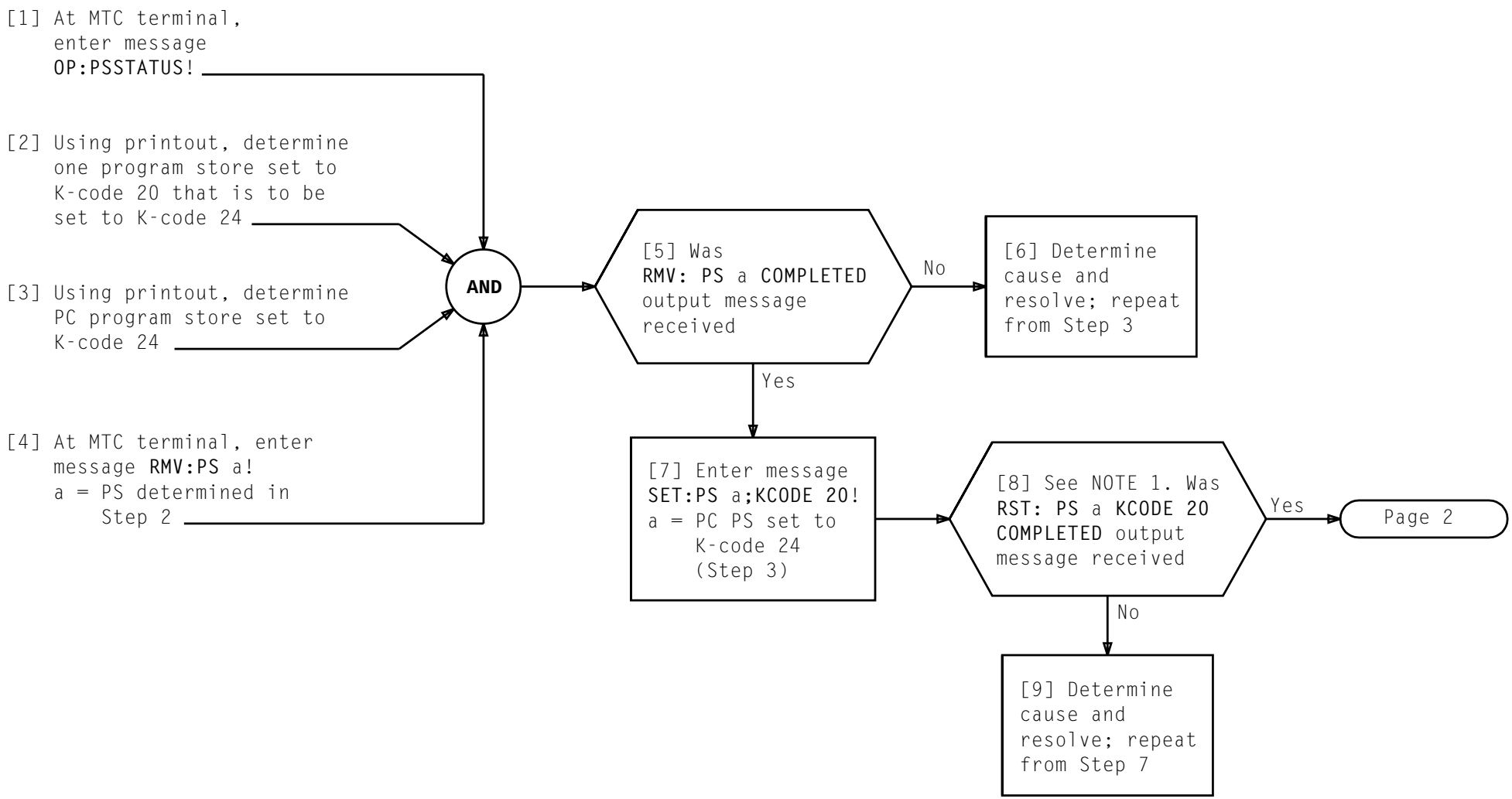
CONFIGURE PS TO K-CODE



NOTE 4
CATP bit 15 will be received if standby CC is out-of-service

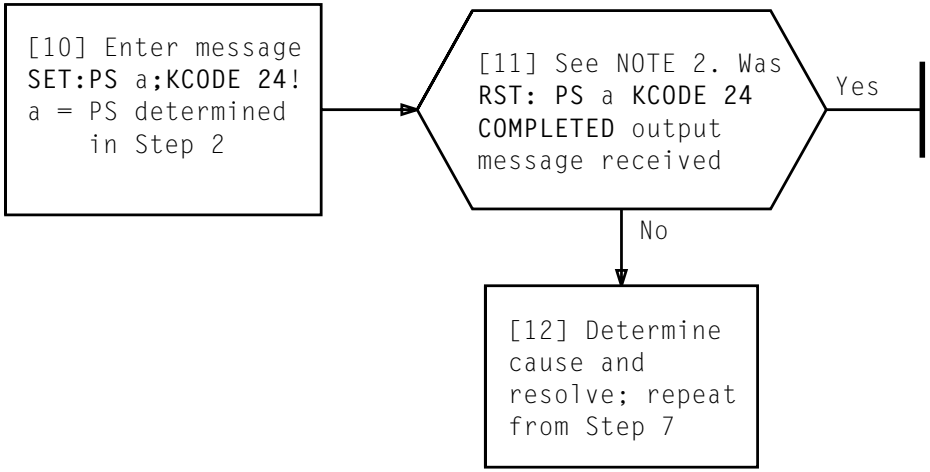
CONFIGURE PS TO K-CODE

CONFIGURE PS TO K-CODE AFTER INITIAL SETTING



NOTE 1
CATP bit 15 will be received if standby CC is out-of-service

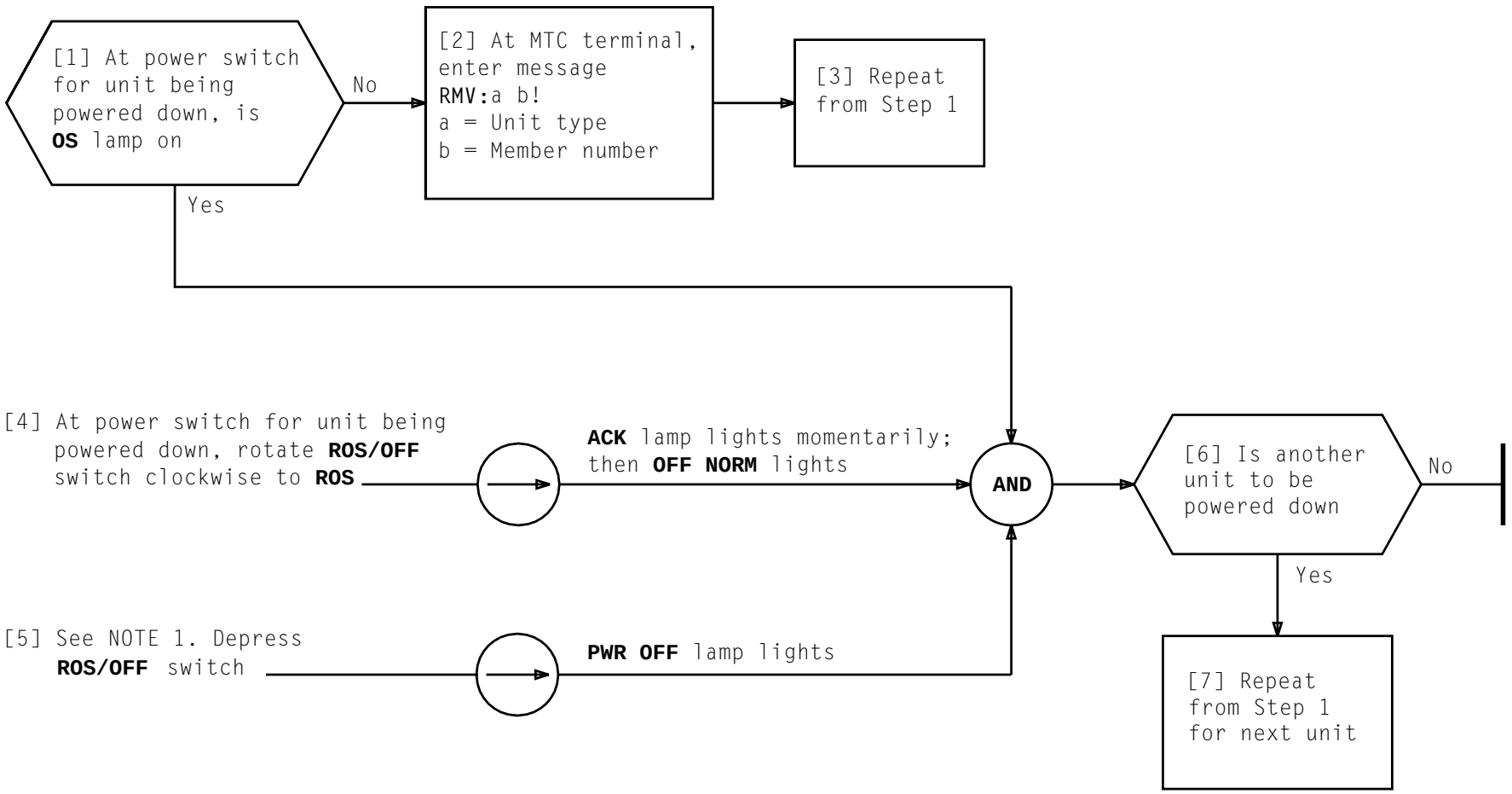
Issue 1	DEC 1995
234-353-003	DLP
PAGE 1 of 2	503



NOTE 2
CATP bit 15 will be received if standby CC is out-of-service

Issue 1	**DEC 1995**
234-353-003	**DLP**
PAGE 2 of 2	**503**

CONFIGURE PS TO K-CODE AFTER INITIAL SETTING



NOTE 1
If power is being removed from converter in PCDF, switch S2 will be set automatically to **OFF** when power is removed

Issue 1	**DEC 1995**
234-353-003	**DLP**
PAGE 1 of 1	**504**

REMOVE POWER FROM UNIT USING POWER SWITCH

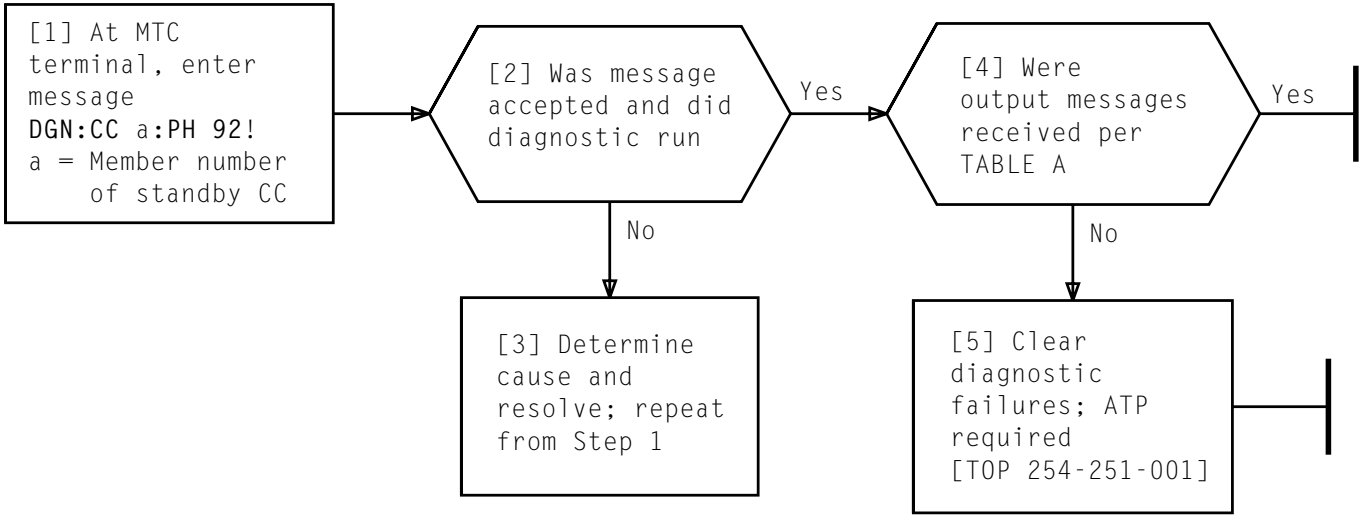
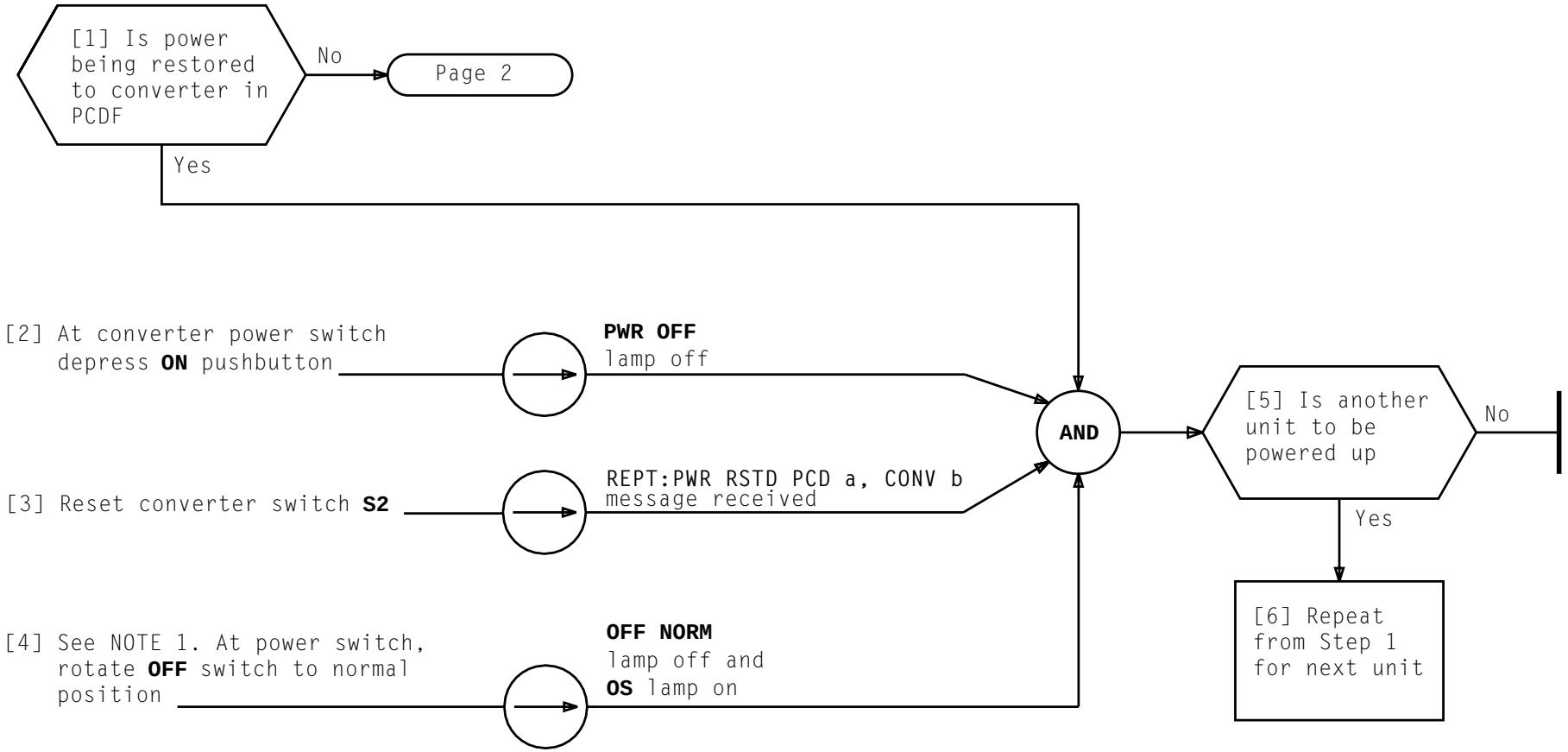


TABLE A

MESSAGE NUMBER	OUTPUT MESSAGES
1	DGN: CC a PH 92 ATP MSG STARTED DGN: CC a COMPLETED ATP MSG COMPL TEST:CC b DFR ATP

a = Member number of standby CC
b = Member number of active CC

DIAGNOSE STANDBY CENTRAL CONTROL — PHASE 92



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

Issue 1	**DEC 1995**
234-353-003	**DLP**
PAGE 1 of 2	**506**

RESTORE POWER WITH POWER SWITCH

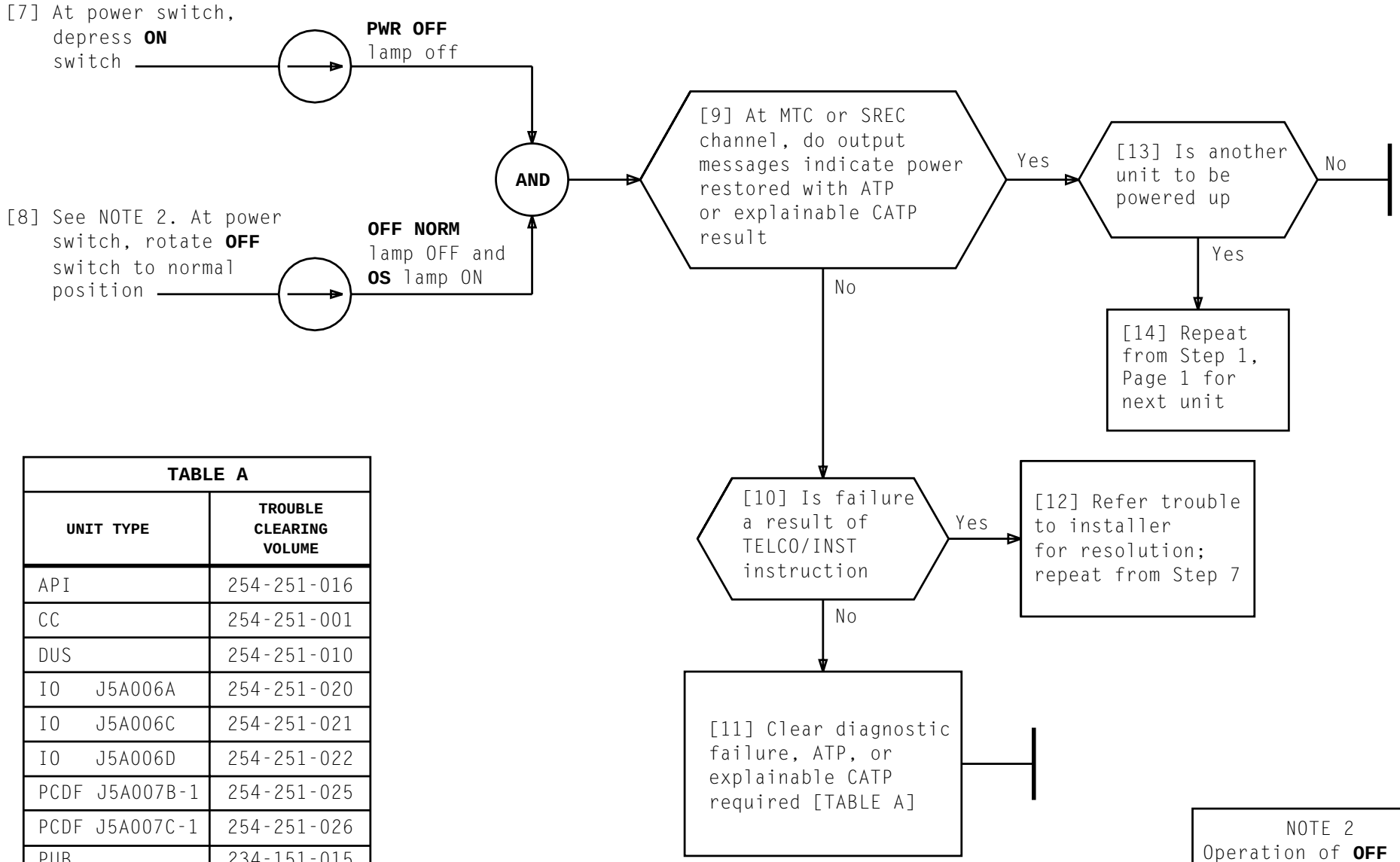


TABLE A	
UNIT TYPE	**TROUBLE CLEARING VOLUME**
API	254-251-016
CC	254-251-001
DUS	254-251-010
IO J5A006A	254-251-020
IO J5A006C	254-251-021
IO J5A006D	254-251-022
PCDF J5A007B-1	254-251-025
PCDF J5A007C-1	254-251-026
PUB	234-151-015
TUC	254-251-010

NOTE 2
Operation of **OFF** switch will cause diagnostic to be run

RESTORE POWER WITH POWER SWITCH

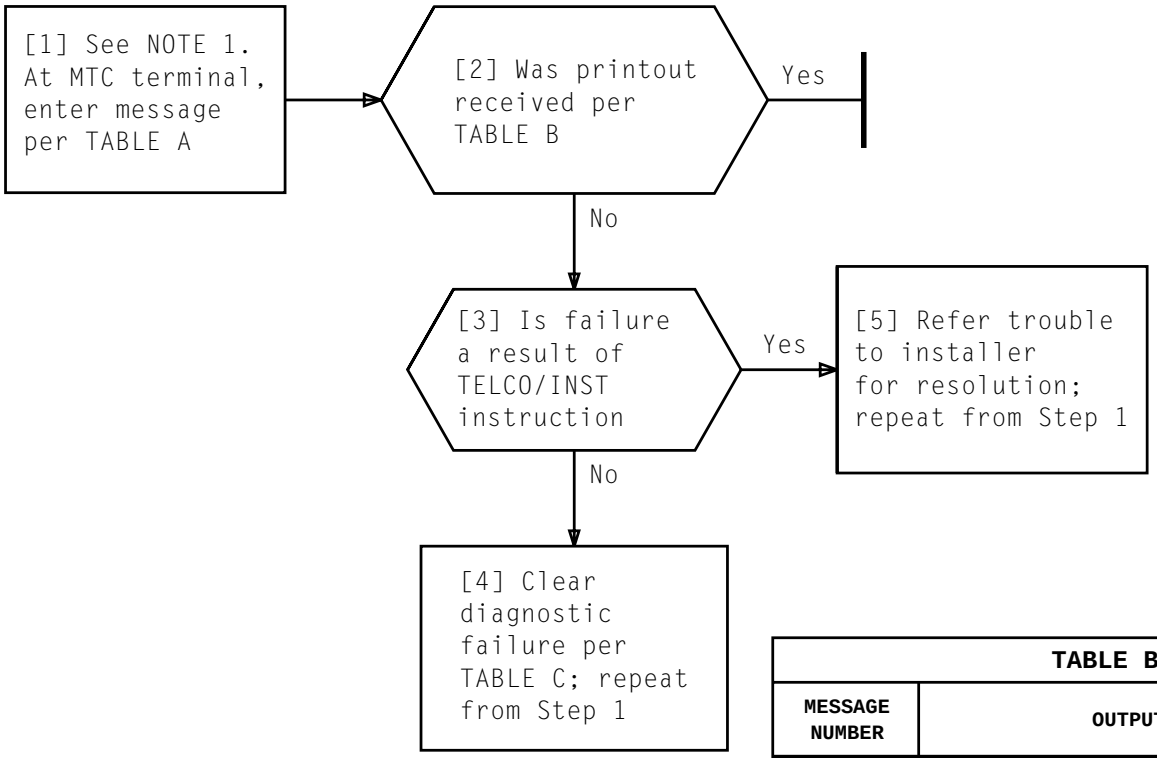


TABLE A

MESSAGE NUMBER	INPUT MESSAGE
1	RST:a b!

a = API, AUB, CC, DUS, IOUS, PUB, or TUC
b = Member number

TABLE B

MESSAGE NUMBER	OUTPUT MESSAGE
1	DGN: a b COMPLETED, c MSG COMPL RST: a b COMPLETED or RST: a b COMPL

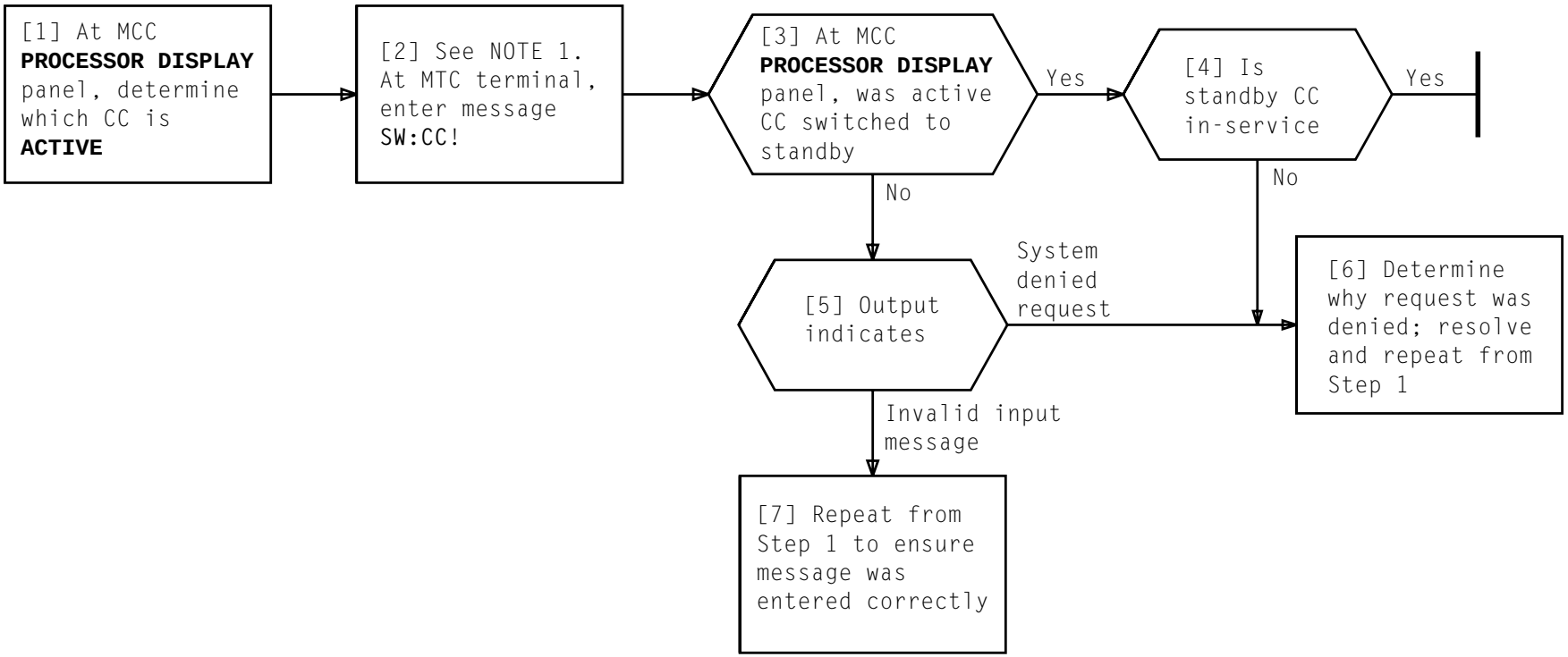
a = API, AUB, CC, IOUS, PUB or TUC
b = Member number
c = ATP or CATP

TABLE C

UNIT TYPE	TROUBLE CLEARING VOLUME
API	254-251-016
AUB	254-251-010
CC	254-251-001
DUS	254-251-010
IOUS (J5A006A)	234-351-020
IOUS (J5A006C)	234-351-021
IOUS (J5A006D)	234-351-022
PUB	234-151-015
TUC	254-251-010

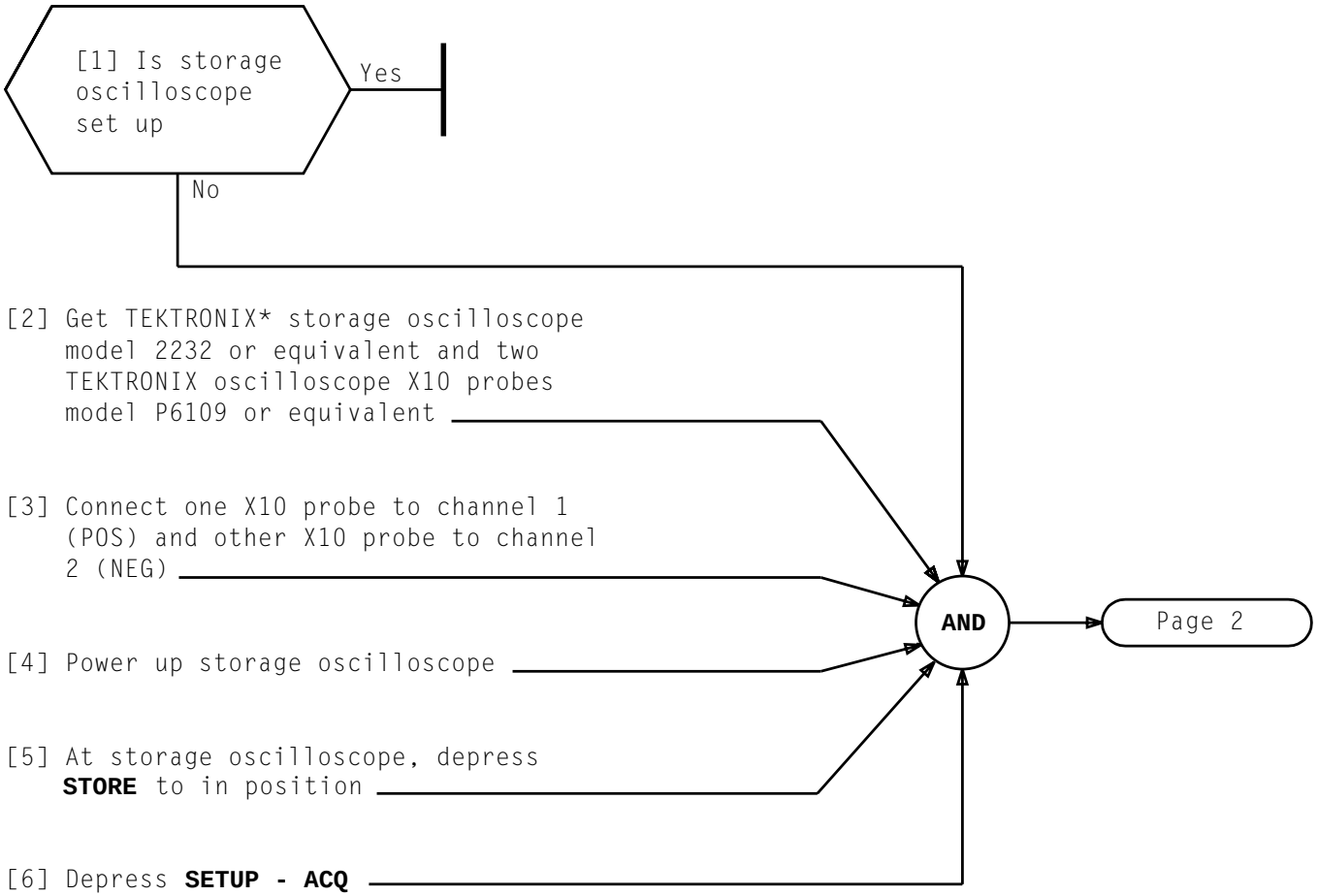
NOTE 1
Restore message will cause diagnostic to be run. Unit will be restored if ATP or CATP

RESTORE API, AUB, CC, DUS, IOUS, PUB, OR TUC TO SERVICE



NOTE 1
B-level interrupt will occur

SWITCH CENTRAL CONTROLS



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SET UP STORAGE OSCILLOSCOPE FOR PUB LOOPING TEST

Issue 1	DEC 1995
234-353-003	DLP
PAGE 1 of 5	509

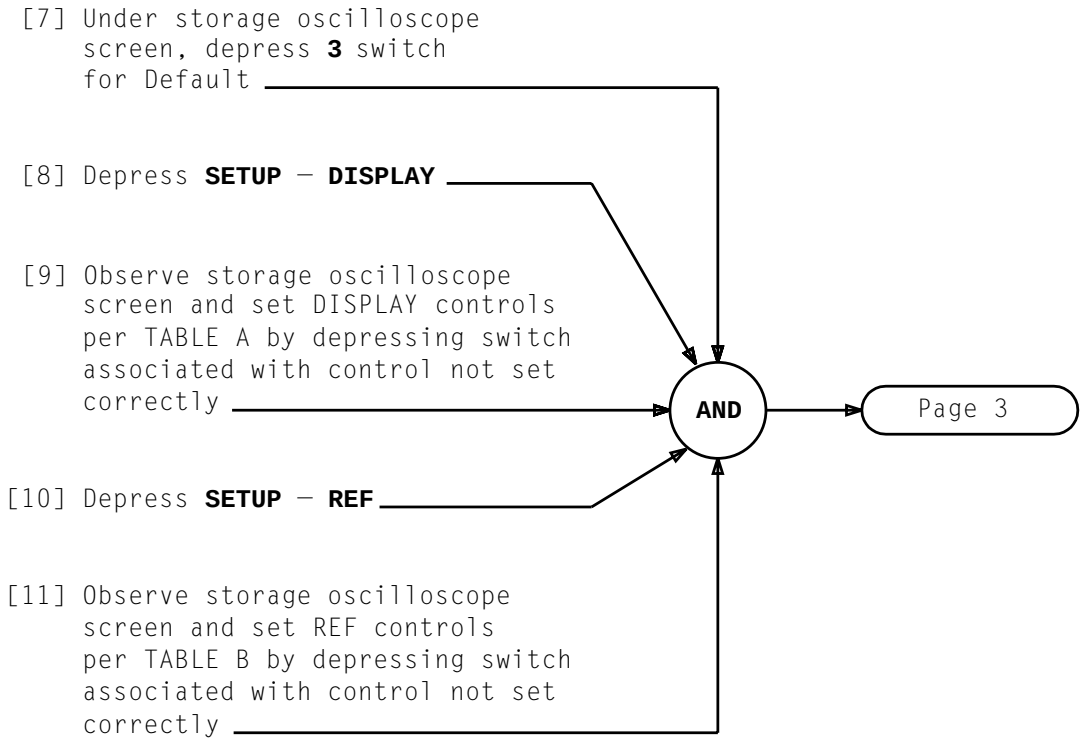


TABLE A

COLUMN	CONTROLS	SWITCH*
1	ΔT	SAVE REF
2	ON	1
3	ON	2

*Switches under display screen are associated with column that they are under

TABLE B

COLUMN	CONTROLS	SWITCH*
1	Format	SAVE REF
2	Ref1	1
3	CH1	2
4	X1	3
5	Vert Gain: 0.2V	4K (for Vert Gain:) and adjust CURSORS to obtain 0.2V

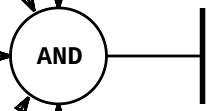
*Switches under display screen are associated with column that they are under

SET UP STORAGE OSCILLOSCOPE FOR PUB LOOPING TEST

[12] Depress **SETUP** – **REF** to return to screen

[13] Determine one location in FIG. 1, Page 5 where bus scoping adapter can be connected

[14] Connect storage scope with bus scoping adapter to connector location determined in Step 13 [see DLP-510 on how to use bus scoping adapter]



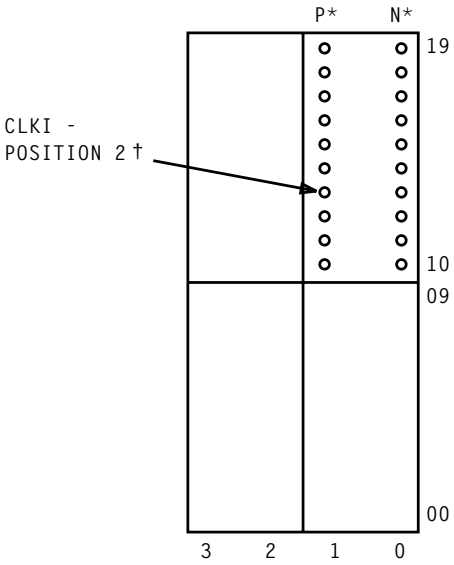
[15] Set bus scoping adapter to position 2

[16] Adjust storage scope per TABLE C, Page 4 for waveform in FIG. 2, Page 5

SET UP STORAGE OSCILLOSCOPE FOR PUB LOOPING TEST

TABLE C
OSCILLOSCOPE CONTROL SETTINGS FOR MODEL 2232

CONTROLS	POSITION
CURSORS	Don't Care
SAVE/CONT	Depress until SAVE is not displayed
STORE	Depress (out)
VAR HOLDOFF	Don't Care
VERTICAL — POSITION (left)	Rotate to 2 o'clock position
VERTICAL — A/B SWP SEP	Don't Care
VERTICAL — POSITION (right)	Rotate to 10 o'clock position
VERTICAL MODE — CH 1 BOTH CH 2	BOTH
VERTICAL MODE — X-Y	Out position
VERTICAL MODE — BW LIMIT	Out position
VERTICAL MODE — ADD ALT CHOP	ADD
VERTICAL — CH 1 VOLTS/DIV	2
VERTICAL — CH 1 VOLTS/DIV — AC GND DC	DC
VERTICAL — INVERT	Depress (in)
VERTICAL — CH 2 VOLTS/DIV	2
VERTICAL — CH 2 VOLTS/DIV — AC GND DC	DC
HORIZONTAL — POSITION	Rotate to 1 o'clock position
HORIZONTAL — MODE	A
HORIZONTAL — A and B SEC/DIV	.2 μs
B TRIGGER — SLOPE	Don't Care
B TRIGGER — LEVEL	Don't Care
A TRIGGER — TV FIELD — NORM	Depress (in)
A TRIGGER — SLOPE	Out position
A TRIGGER — LEVEL	Rotate to 2 o'clock position
A TRIGGER — A & B SOURCE	CH 1
A TRIGGER — A COUPL	NORM
A TRIGGER — A EXT COUPL	Don't Care

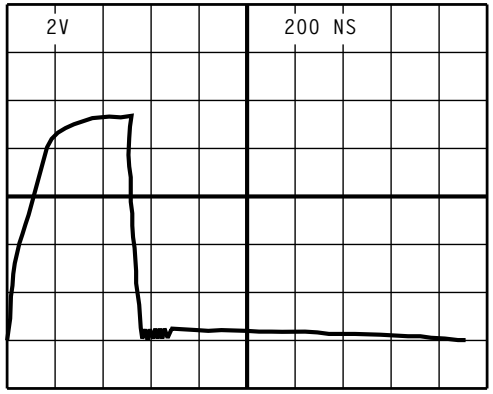


FRAME	
IO	
BUS 0	080-10
BUS 1	080-35
IOP	
BUS 0	080-29
BUS 1	076-29

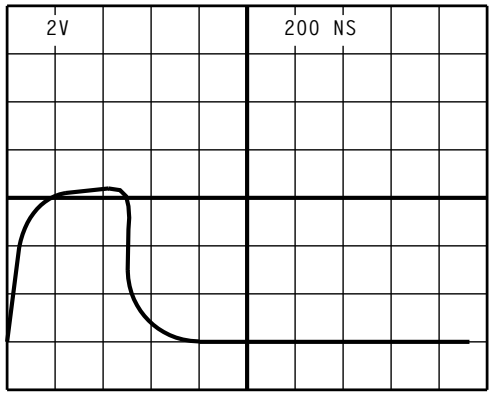
* P FOR POSITIVE LEAD AND
N FOR NEGATIVE LEAD

† POSITION 2 IS ON BUS SCOPING ADAPTER

FIG. 1



NORMAL PULSE AT DRIVER



NORMAL PULSE 500 FEET FROM DRIVER

FIG. 2

SET UP STORAGE OSCILLOSCOPE FOR PUB LOOPING TEST

[1] Ensure scope probes from storage scope are wrapped around each other with positive lead connected to channel 1 and negative lead connected to channel 2 and ground leads are attached together

[2] See FIG. 1, Page 2. At bus scoping adapter, connect probe from channel 1 to P connector and channel 2 to N connector

[3] Connect bus scoping adapter connector to connector at unit/frame to be scoped [FIG. 1, Page 2]

[4] Using bus scoping adapter, starting at position 0, scope each bit, as required through range 0 to 7

[5] If more than one connector is to be scoped, disconnect bus scoping adapter connector and reconnect to another connector to be scoped. Repeat Steps 4 and 5 for each connector to be scoped. See TABLE A for scope adapter position to associated bit

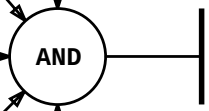


TABLE A

BIT	ASSOCIATED SCOPE ADAPTER POSITION	BIT	ASSOCIATED SCOPE ADAPTER POSITION
0	0	16	0
1	1	17	1
2	2	18	2
3	3	19	3
4	4	20	4
5	5	21	5
6	6	22	6
7	7	23	7
8	0		
9	1		
10	2		
11	3		
12	4		
13	5		
14	6		
15	7		

HOW TO USE BUS SCOPING ADAPTER

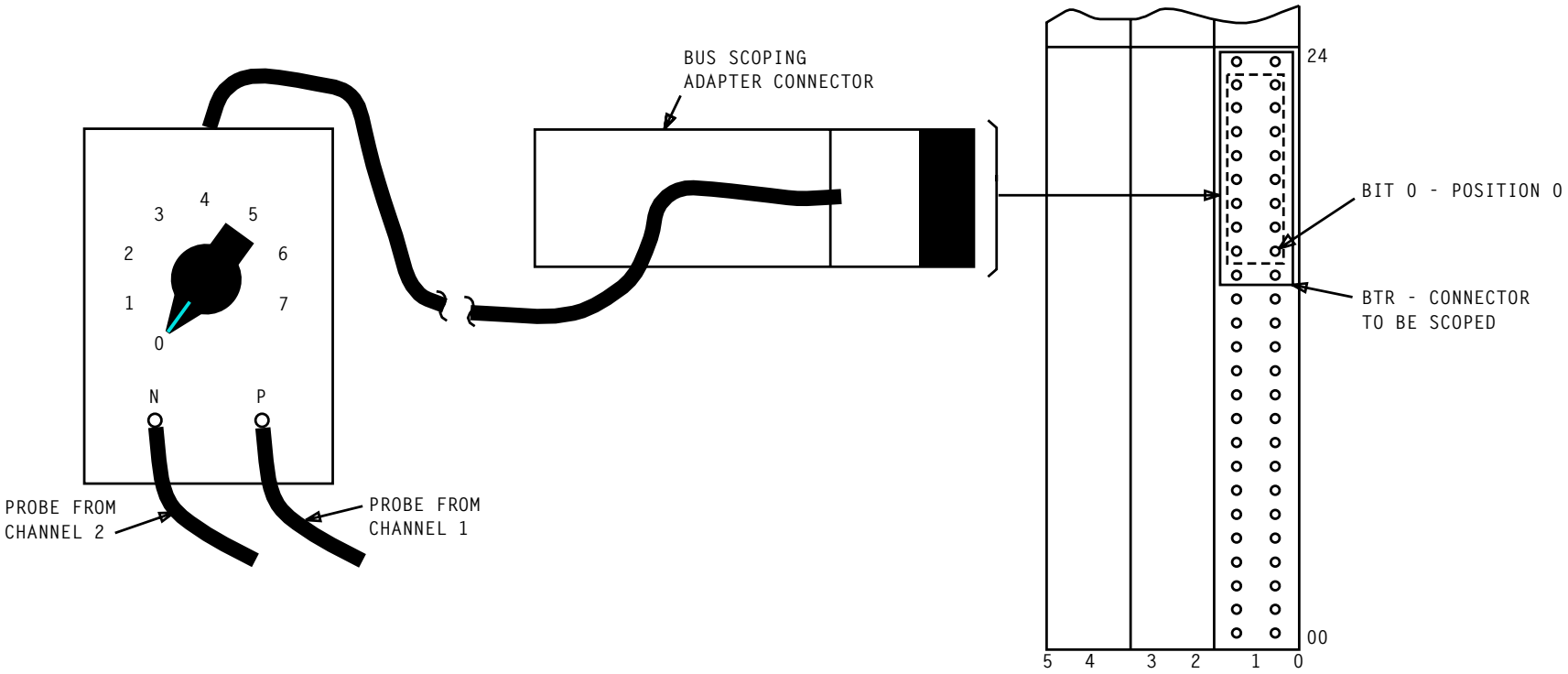


FIG. 1 — Bus Scoping Adapter Connections

HOW TO USE BUS SCOPING ADAPTER

1. Get program listings PR-4A510 (PUDGPBGR) and PR-4A512 (PUDGPB02) (See FIG. 1)

2. Using PR-4A512, verify address of ITEM 1 in TABLE A

3. Using PR-4A510, verify addresses of ITEMS 2 through 6 in TABLE A

TABLE A

ITEM	STATEMENT LABEL	ADDRESS
1	STM10600	543
2	PBTS2600	200
3	PBTS2900	207
4	PBTS3600	246
5	PBTS4400	616
6	PBTS13800	1675

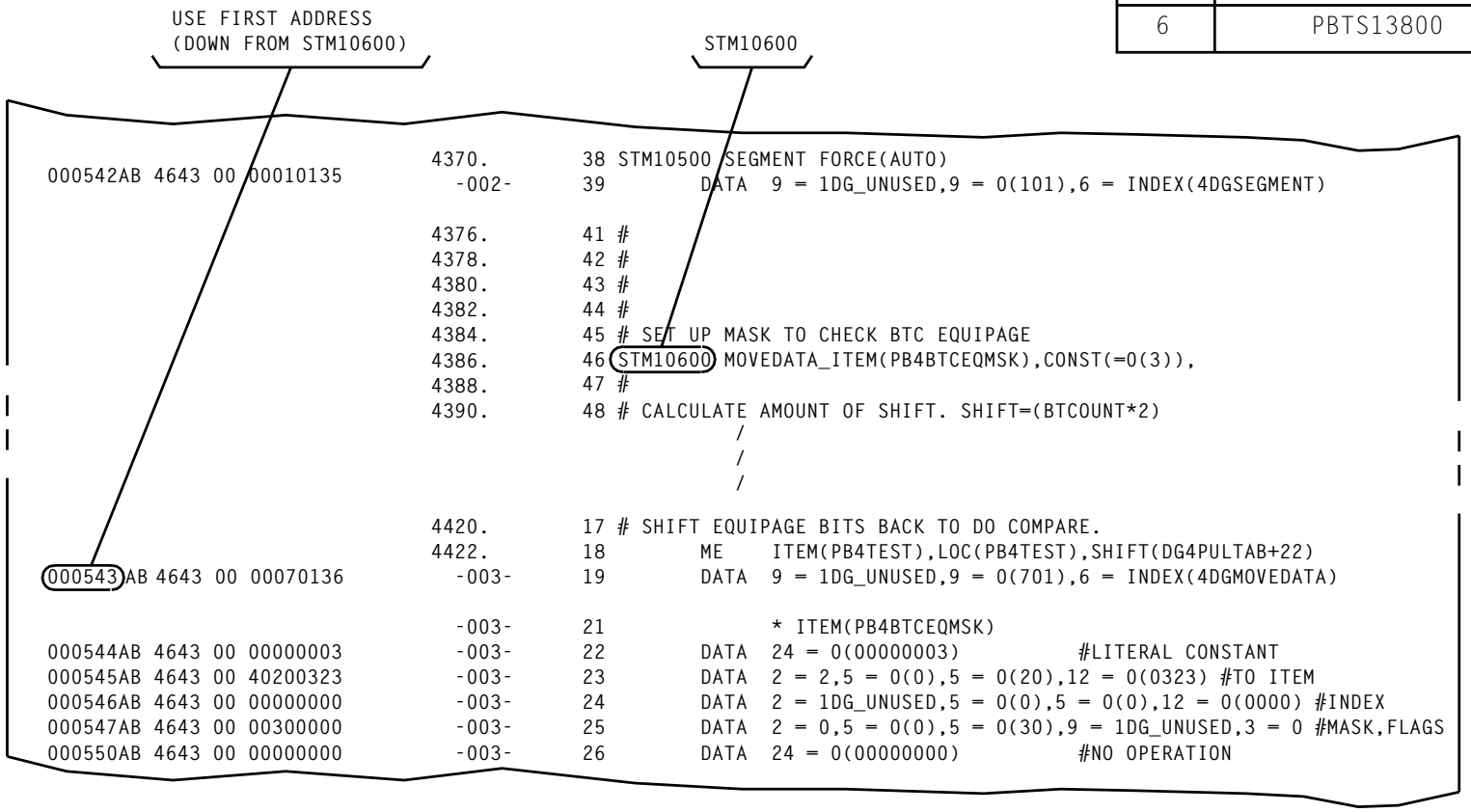


FIG. 1 — Location of STM10600 and Address to Use

STORE INPUT MESSAGES ON 4ESS™ SWITCH INPUT/OUTPUT TERMINAL FOR PUB LOOPING TEST

At SREC or Beltline Terminal:

4. Depress **FORM ENTER** key to **ON**

   CAUTION: The messages must not be entered into system at this time

5. Type input messages per TABLE B

6. Depress **FORM ENTER** key to **OFF**

End of procedure

TABLE B

NUMBER	INPUT MESSAGE	NUMBER	INPUT MESSAGE
1	EX:PUB a;START! a = Bus 0 or 1	7	EX:PUB a:ADR 616-1675! a = Bus 0 or 1
2	EX:PUB a:PH 2,ADR 543! a = Bus 0 or 1	8	OP:MACLI,CLASS MTCE!
3	EX:PUB a;STEP! a = Bus 0 or 1	9	STOP:MACLI,CLASS MTCE,SUBCLASS a! a = CLASS MTCE SUBCLASS number from output message assigned to PUB diagnostic*
4	EX:PUB a:ADR 200-207! a = Bus 0 or 1		*To obtain CLASS MTCE SUBCLASS number, type and send **OP:MACLI,CLASS MTCE!**. From system response, determine which maintenance subclass number is associated with PUB and use that number for **"a"** for NUMBER 10 message
5	EX:PUB a! a = Bus 0 or 1		
6	EX:PUB a:ADR 207-246! a = Bus 0 or 1		

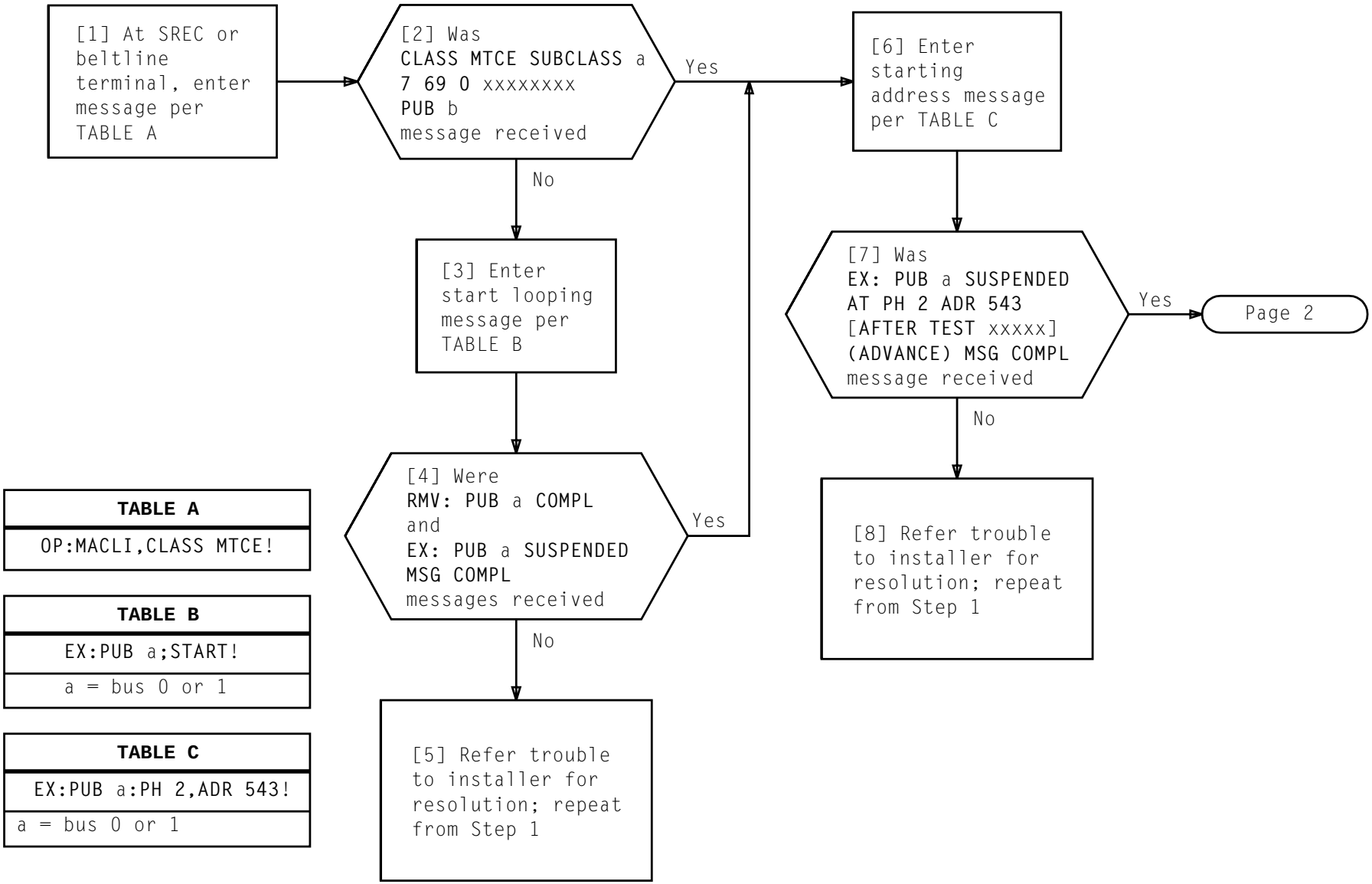


TABLE A
OP:MACLI,CLASS MTCE!

TABLE B
EX:PUB a;START!
a = bus 0 or 1

TABLE C
EX:PUB a:PH 2,ADR 543!
a = bus 0 or 1

ADVANCE PROGRAM AND SET UP LOOP TO OBSERVE BIT ON PU ENABLE ADDRESS AND/OR WRITE AND REPLY BUSES

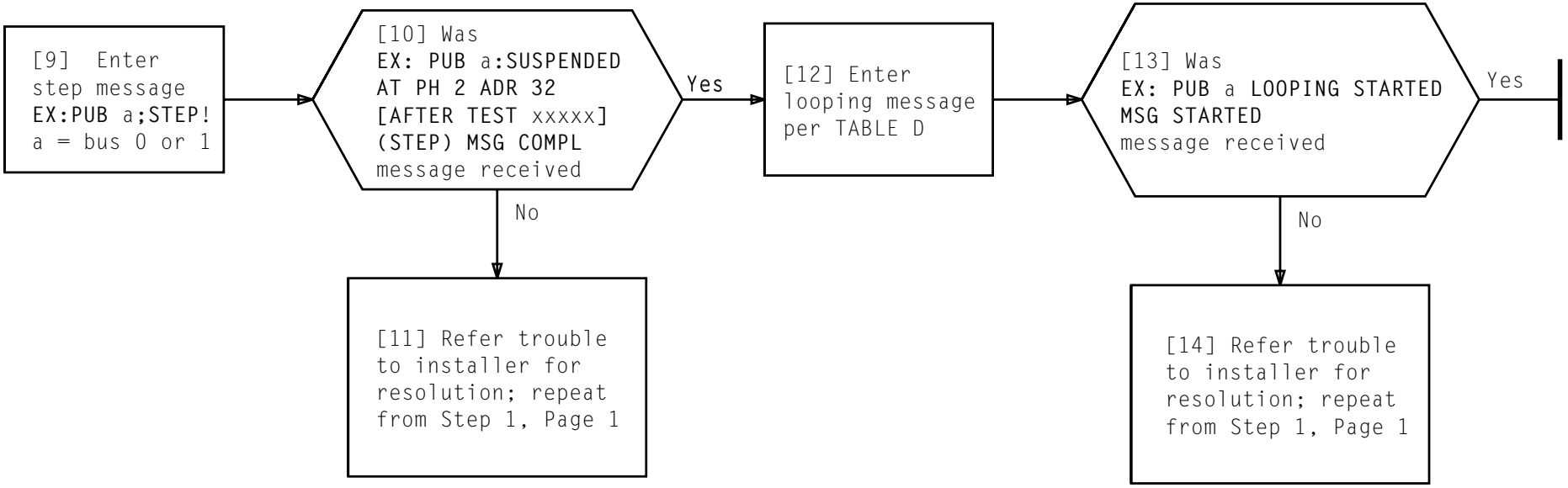


TABLE D
EX:PUB a:ADR b-c!
a = bus 0 or 1 b = 200 for bit 0 PU write and reply bus or 207 for other bits c = 207 for bit 0 PU write and reply bus or 246 for other bits

ADVANCE PROGRAM AND SET UP LOOP TO OBSERVE BIT ON PU ENABLE ADDRESS AND/OR WRITE AND REPLY BUSES

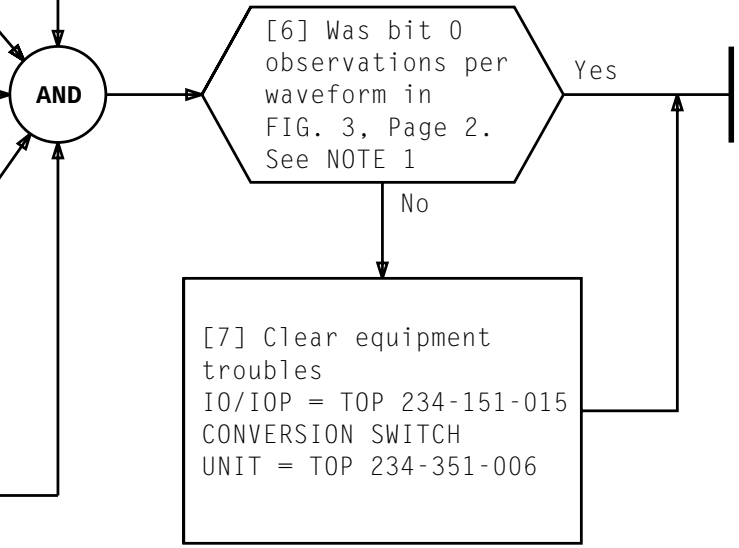
[1] Obtain TEKTRONIX* storage oscilloscope model 2232 or equivalent with two identical X10 (times 10) probes that was set up earlier

[2] Use FIG. 1, Page 2 if scoping prior to inserting Conversion Switch Unit. Use FIG. 2, Page 2 if scoping after inserting Conversion Switch Unit

[3] Locate connector location in FIG., determined in Step 2, for bus to be scoped

[4] Connect storage scope with scoping adapter to connector location determined in Step 2 [See DLP-510 on how to use scope adapter]

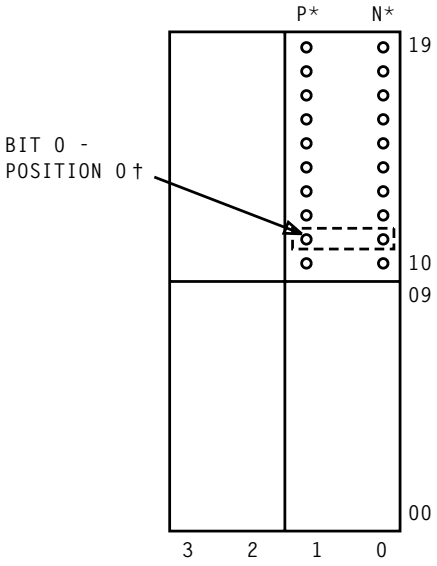
[5] Scope bit 0 in dashed line box, per FIG., determined in Step 2, at connector location in Step 3



NOTE 1
Pulse waveform will vary, depending on distance away from driver. Waveform measurements should be similar to examples shown in FIG. 3, Page 3

* Registered trademark of TEKTRONIX, Inc.

SCOPE PU WRITE BUS BIT 0

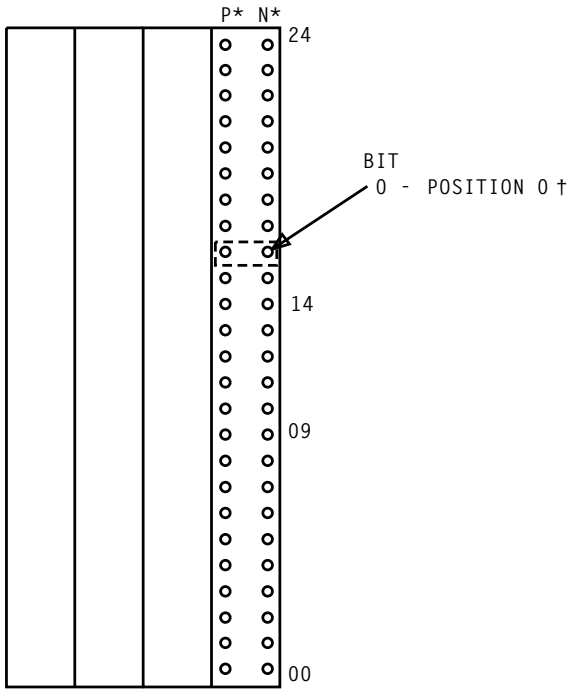


IO	
BUS 0	080-03
BUS 1	080-27
IOP	
BUS 0	080-31
BUS 1	076-31

* P FOR POSITIVE LEAD AND
N FOR NEGATIVE LEAD

† POSITION 0 IS ON BUS SCOPING ADAPTER

FIG. 1



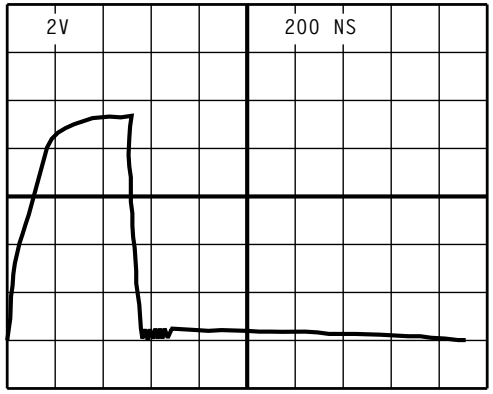
CONVERSION SWITCH UNIT

04-008

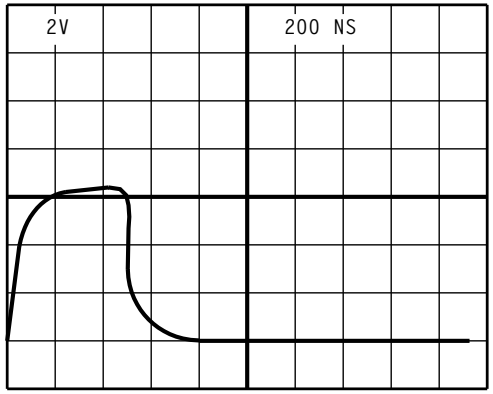
* P FOR POSITIVE LEAD AND
N FOR NEGATIVE LEAD

† POSITION 0 IS ON
BUS SCOPING ADAPTER

FIG. 2



NORMAL PULSE AT DRIVER



NORMAL PULSE 500 FEET FROM DRIVER

FIG. 3

SCOPE PU WRITE BUS BITS 0

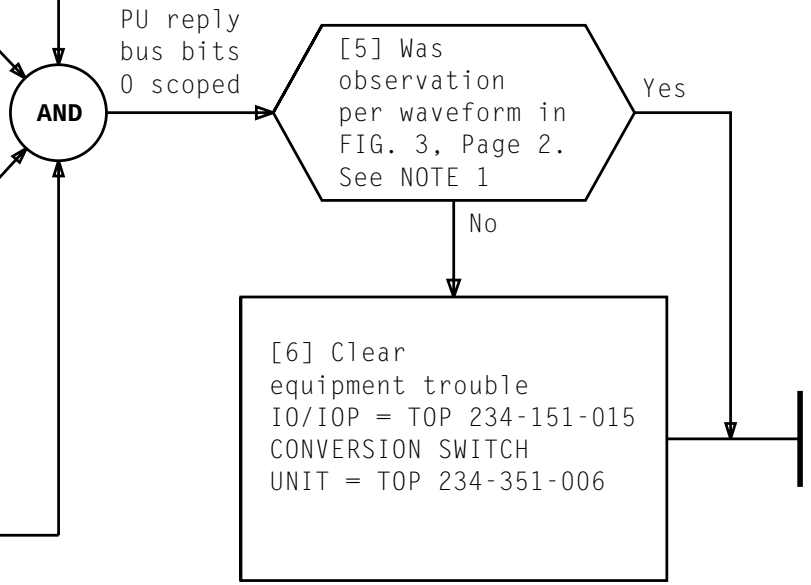
Issue 1	DEC 1995
234-353-003	DLP
PAGE 2 of 2	513

[1] Use FIG. 1, Page 2 if doing initial scoping. Use FIG. 2, Page 2 if adding conversion switch unit

[2] Locate connector location in FIG., determined in Step 1, for bus to be scoped

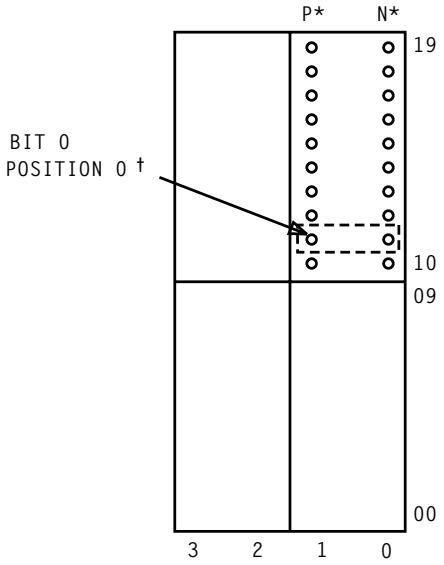
[3] Connect storage scope with bus scoping adapter to connector location determined in Step 2 [See DLP-510 on how to use scope adapter]

[4] Scope bit 0 in dashed line box, per FIG., determined in Step 1, at connector locations on line in Step 2. Observe oscilloscope waveform [FIG. 3, Page 2]. See NOTE 1



NOTE 1
Pulse waveform will vary, depending on distance away from driver. Waveform measurements should be similar to examples shown in FIG. 3, Page 2

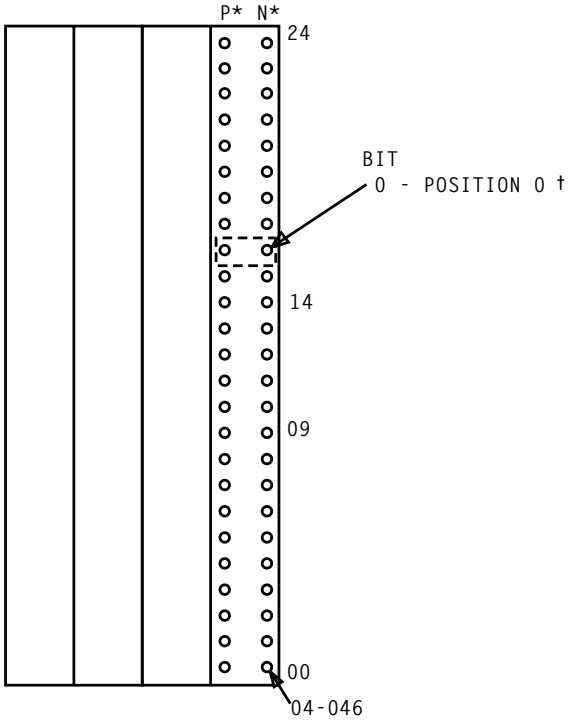
SCOPE PU REPLY BUS BIT 0



FRAME	
IO	
BUS 0	080-11
BUS 1	080-36
IOP	
BUS 0	080-40
BUS 1	076-40

* P FOR POSITIVE LEAD AND
N FOR NEGATIVE LEAD
† POSITION 0 IS ON BUS SCOPING ADAPTER

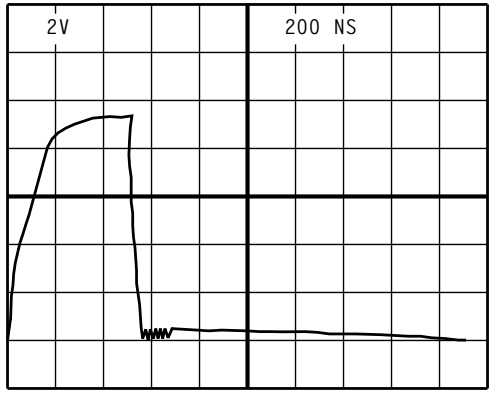
FIG. 1



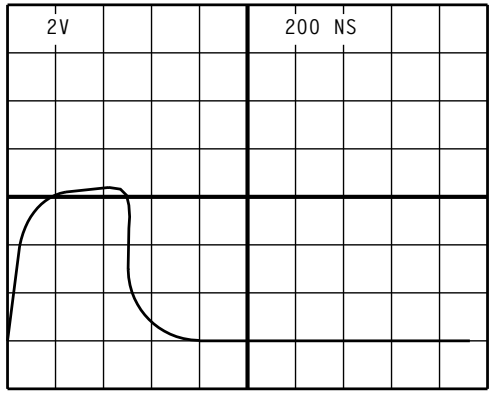
CONVERSION SWITCH UNIT

* P FOR POSITIVE LEAD AND
N FOR NEGATIVE LEAD
† POSITION 0 IS ON BUS SCOPING ADAPTER

FIG. 2



NORMAL PULSE AT DRIVER



NORMAL PULSE 500 FEET FROM DRIVER

FIG. 3

SCOPE PU REPLY BUS BITS 0

[1] Use FIG. 1, Page 2 if scoping prior to inserting Conversion Switch Unit. Use FIG. 2, Page 3 if scoping after inserting Conversion Switch Unit

[2] Locate connector locations in FIG., determined in Step 1, for bus to be scoped

[3] Connect storage scope with bus scoping adapter to connector location determined in Step 2 [see DLP-510 on how to use scope adapter]

[4] Scope bits 1 to 35 in dashed line box, per FIG., determined in Step 1, at connector locations in Step 2. Observe oscilloscope for FIG. 3, Page 4, waveform. See NOTE 1

AND

PU write bus bits 1 to 35 scoped

[5] Were all observations per waveform in FIG. 3, Page 4. See NOTE 1

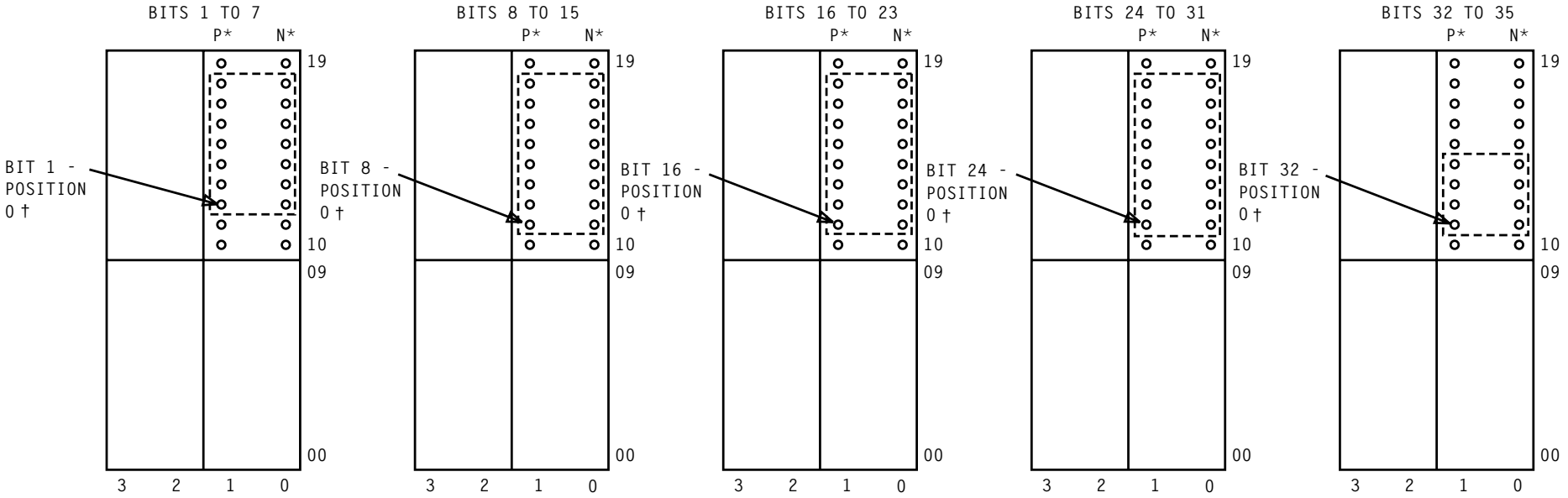
Yes

No

[6] Clear equipment trouble IO/IOP = TOP 234-151-015 CONVERSION SWITCH UNIT = TOP 234-351-006

NOTE 1
Pulse waveform will vary, depending on distance away from driver. Waveform measurements should be similar to examples shown in FIG. 3, Page 4

SCOPE PU WRITE BUS BITS 1 TO 35



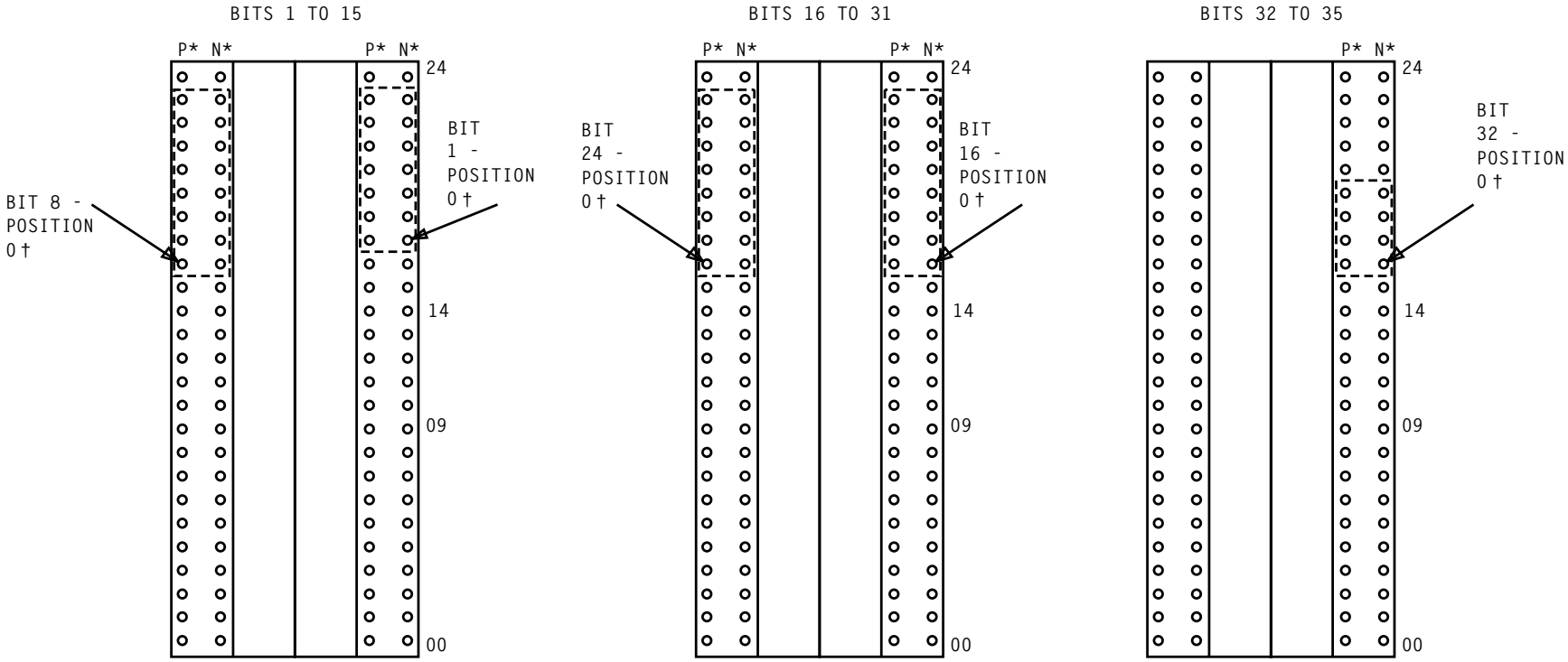
FRAME	BITS 1 TO 7	BITS 8 TO 15	BITS 16 TO 23	BITS 24 TO 31	BITS 32 TO 35
IO					
BUS 0	080-03	080-04	080-05	080-06	080-07
BUS 1	080-27	080-28	080-29	080-31	080-32
IOP					
BUS 0	080-31	080-33	080-34	080-36	080-37
BUS 1	076-31	076-33	076-34	076-36	076-37

* P FOR POSITIVE LEAD AND N FOR NEGATIVE LEAD

† POSITION 0 IS ON BUS SCOPING ADAPTER

FIG. 1

SCOPE PU WRITE BUS BITS 1 TO 35

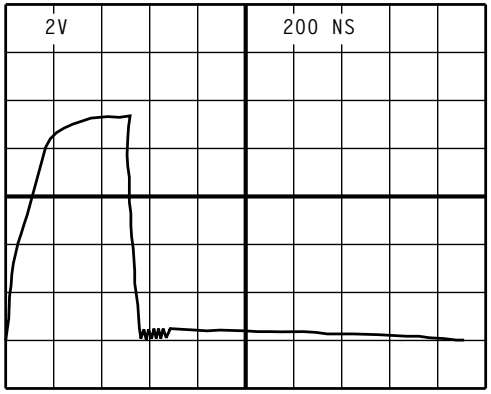


* P FOR POSITIVE LEAD AND
N FOR NEGATIVE LEAD

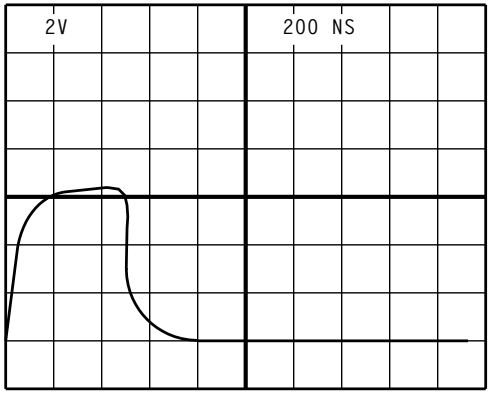
† POSITION 0 IS ON BUS SCOPING ADAPTER

FIG. 2

SCOPE PU WRITE BUS BITS 1 TO 35



NORMAL PULSE AT DRIVER



NORMAL PULSE 500 FEET FROM DRIVER

FIG. 3

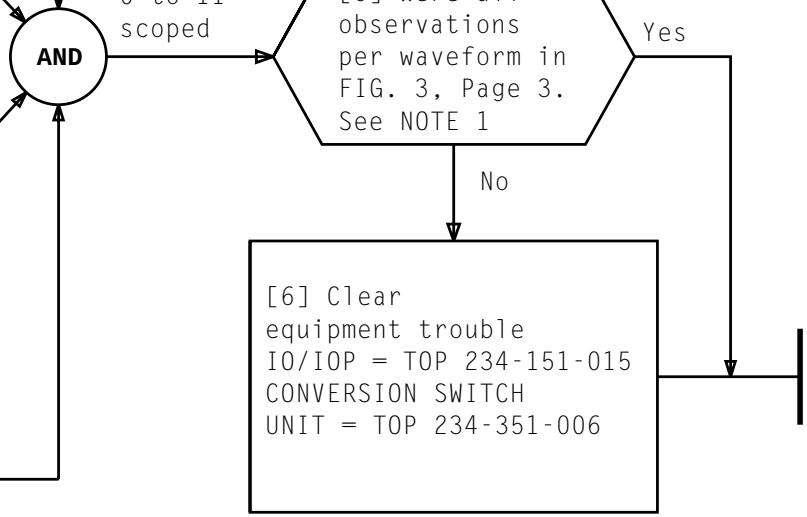
SCOPE PU WRITE BUS BITS 1 TO 35

[1] Use FIG. 1, Page 2 if scoping prior to inserting Conversion Switch Unit. Use FIG. 2, Page 3 if scoping after inserting Conversion Switch Unit

[2] Locate connector locations in FIG., determined in Step 1, for bus to be scoped

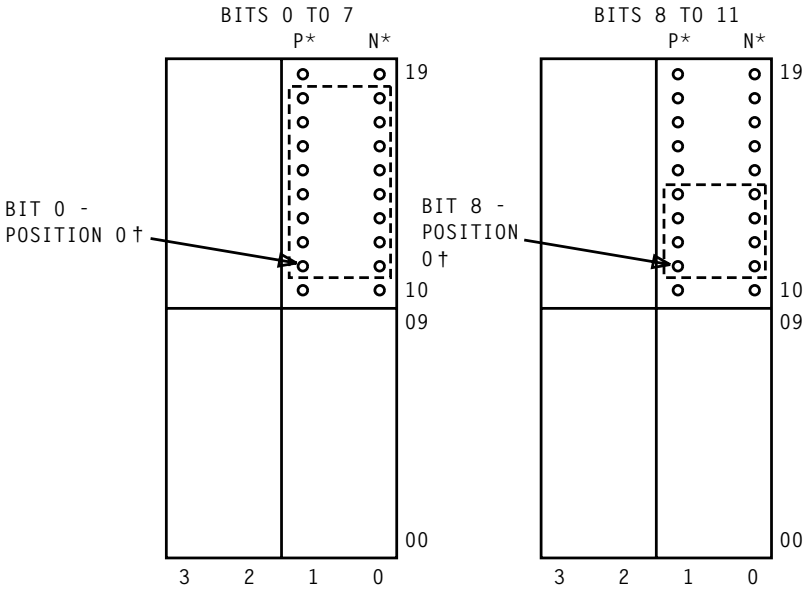
[3] Connect storage scope with bus scoping adapter to connector location determined in Step 2 [see DLP-510 on how to use scope adapter]

[4] Scope bits 0 to 11 in each dashed line box, per FIG., determined in Step 1, at connector locations in Step 2. Observe oscilloscope waveform [FIG. 3, Page 3]. See NOTE 1



NOTE 1
Pulse waveform will vary, depending on distance away from driver. Waveform measurements should be similar to examples shown in FIG. 3, Page 3

SCOPE PU ENABLE ADDRESS BUS BITS 0 TO 11



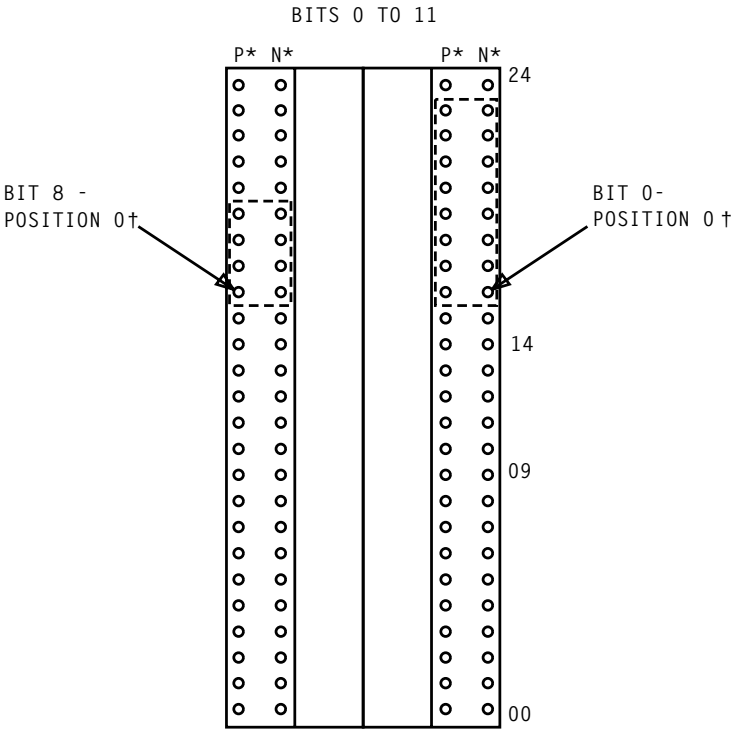
FRAME	BITS 0 TO 7	BITS 8 TO 11
IO		
BUS 0	080-08	080-09
BUS 1	080-33	080-34
IOP		
BUS 0	080-24	080-27
BUS 1	076-24	076-27

* P FOR POSITIVE LEAD AND N FOR NEGATIVE LEAD

† POSITION 0 IS ON BUS SCOPING ADAPTER

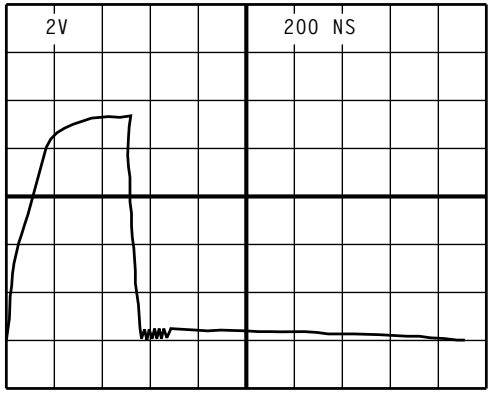
FIG. 1

SCOPE PU ENABLE ADDRESS BUS BITS 0 TO 11

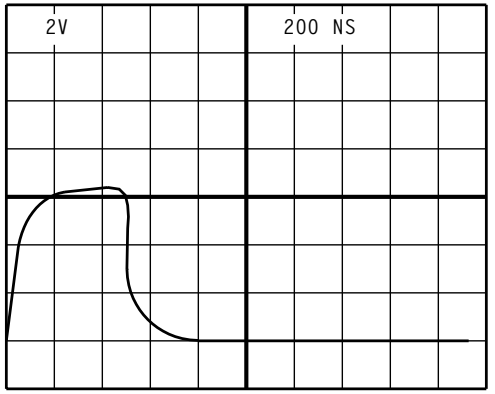


* P FOR POSITIVE LEAD AND
  N FOR NEGATIVE LEAD
† POSITION 0 IS ON BUS SCOPING ADAPTER

FIG. 2



NORMAL PULSE AT DRIVER



NORMAL PULSE 500 FEET FROM DRIVER

FIG. 3

SCOPE PU ENABLE ADDRESS BUS BITS 0 TO 11

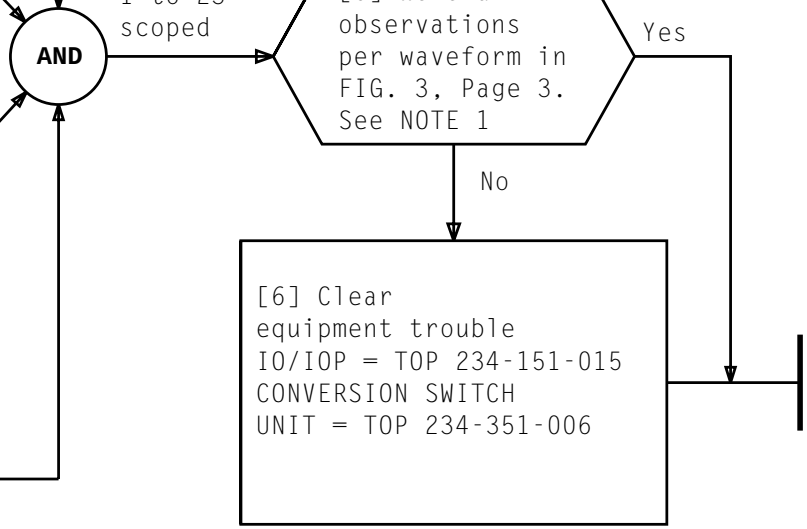
SCOPE PU REPLY BUS BITS 1 TO 23

[1] Use FIG. 1, Page 2 if scoping prior to inserting Conversion Switch Unit. Use FIG. 2, Page 3 if scoping after inserting Conversion Switch Unit

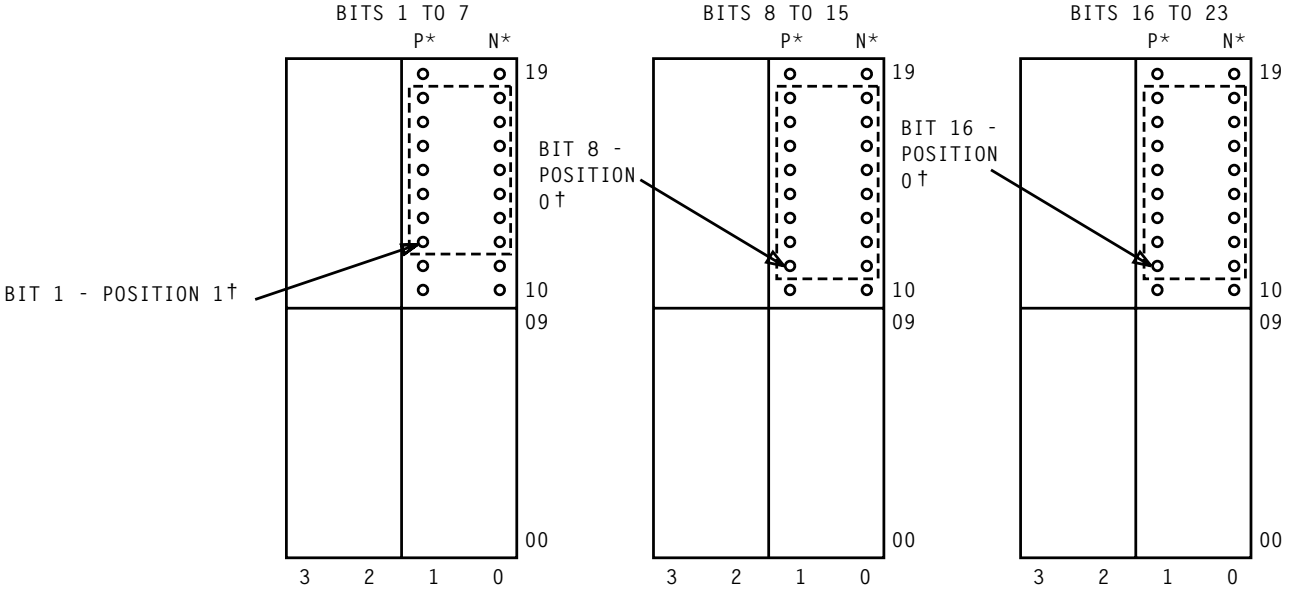
[2] Locate connector locations in FIG., determined in Step 1, for bus to be scoped

[3] Connect storage scope with bus scoping adapter to connector location determined in Step 2 [see DLP-510 on how to use scope adapter]

[4] Scope bits 1 to 23 in each dashed line box, per FIG., determined in Step 1, at connector locations in Step 2. Observe oscilloscope waveform [FIG. 3, Page 3]. See NOTE 1



NOTE 1
Pulse waveform will vary, depending on distance away from driver. Waveform measurements should be similar to examples shown in FIG. 3, Page 3

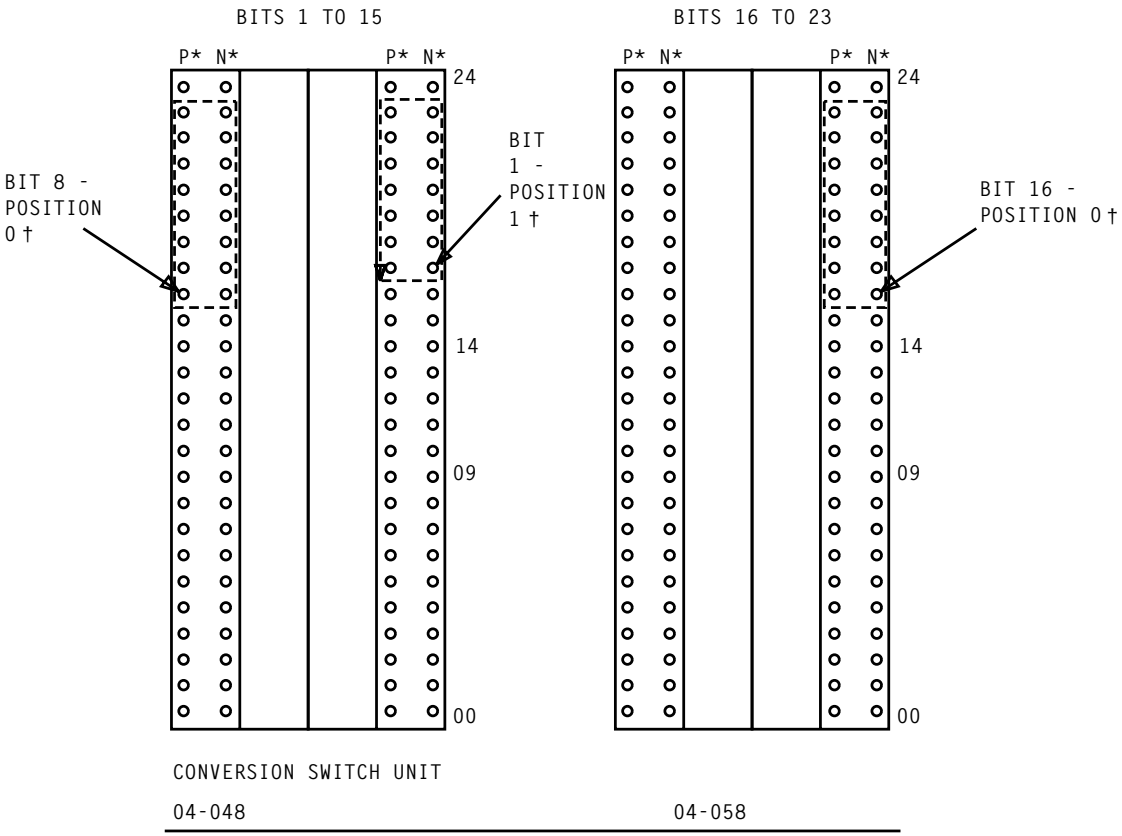


FRAME	BITS 0 TO 7	BITS 8 TO 15	BITS 16 TO 23
IO			
BUS 0	080-11	080-12	080-13
BUS 1	080-36	080-37	080-38
IOP			
BUS 0	080-40	080-41	080-42
BUS 1	076-40	076-41	076-42

* P FOR POSITIVE LEAD AND
N FOR NEGATIVE LEAD
† POSITION GIVEN IS ON BUS SCOPING ADAPTER

FIG. 1

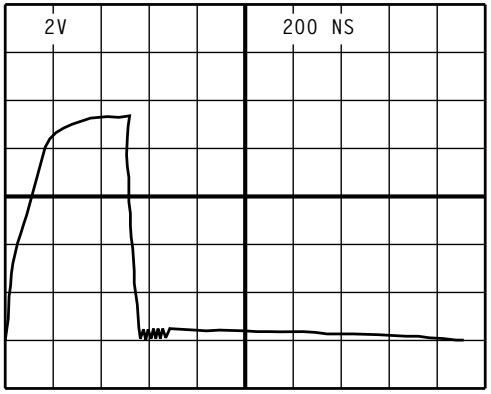
SCOPE PU REPLY BUS BITS 1 TO 23



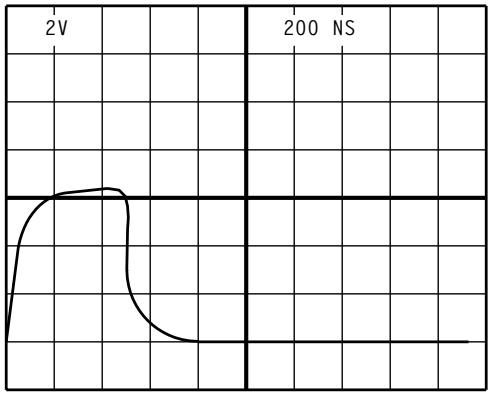
* P FOR POSITIVE LEAD AND
N FOR NEGATIVE LEAD

† POSITION GIVEN IS ON BUS SCOPING ADAPTER

FIG. 2



NORMAL PULSE AT DRIVER



NORMAL PULSE 500 FEET FROM DRIVER

FIG. 3

SCOPE PU REPLY BUS BITS 1 TO 23

Issue 1	DEC 1995
234-353-003	DLP
PAGE 3 of 3	517

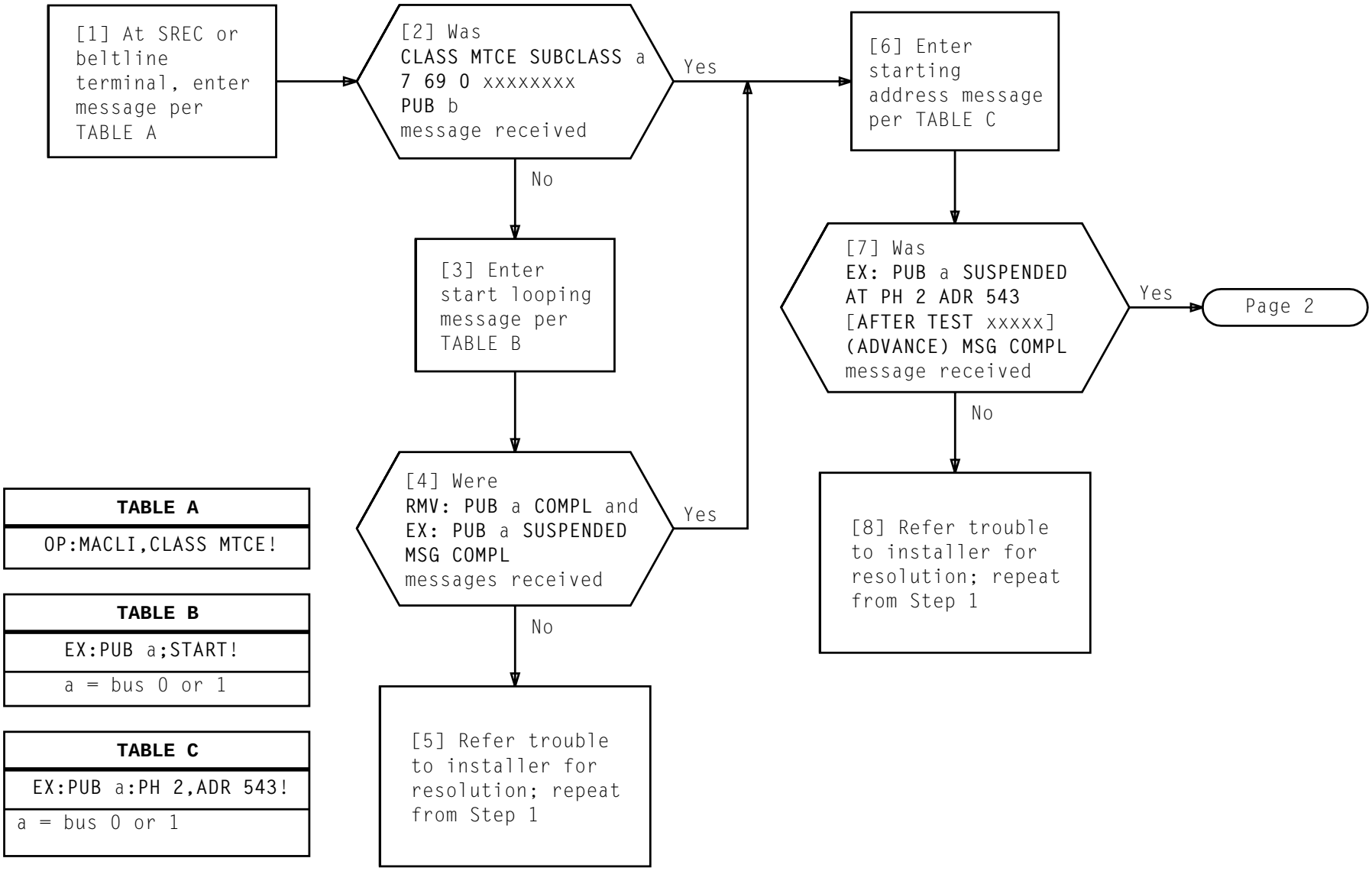


TABLE A
OP:MACLI,CLASS MTCE!

TABLE B
EX:PUB a;START!
a = bus 0 or 1

TABLE C
EX:PUB a:PH 2,ADR 543!
a = bus 0 or 1

ADVANCE PROGRAM AND SET UP LOOP TO OBSERVE PU CONTROL BUS AND MISCELLANEOUS BUS BITS

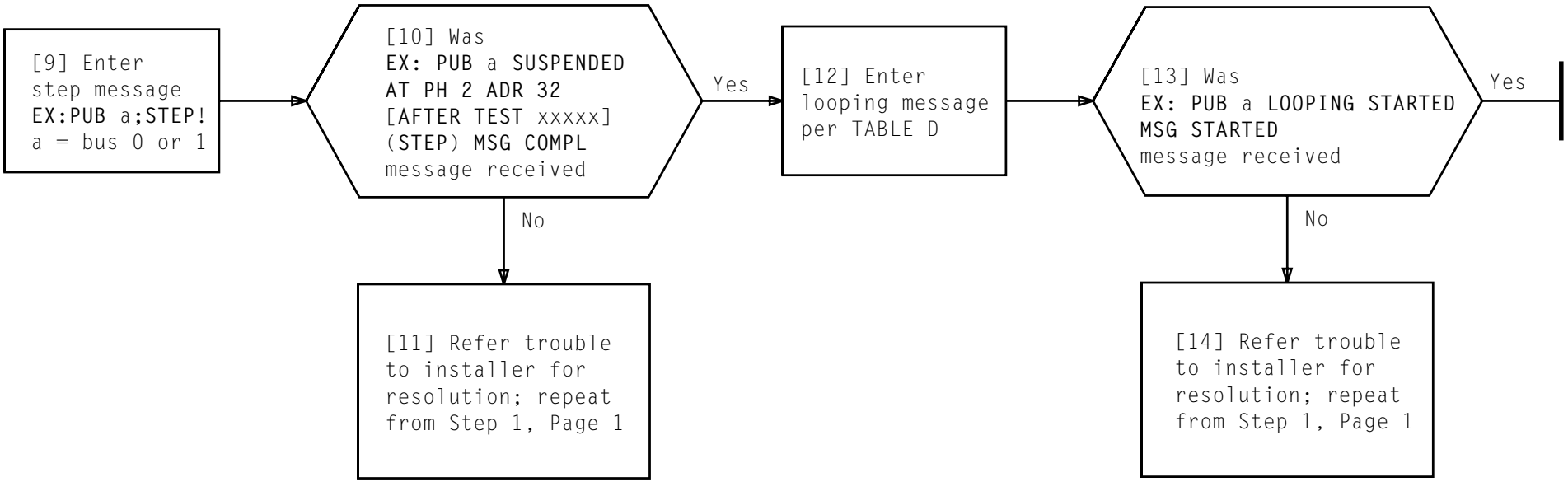
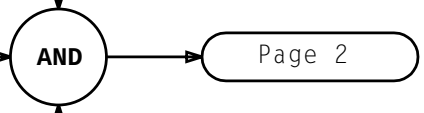


TABLE D
EX:PUB a:ADR 616-1675!
a = bus 0 or 1

ADVANCE PROGRAM AND SET UP LOOP TO OBSERVE PU CONTROL BUS AND MISCELLANEOUS BUS BITS

[1] Use FIG. 1, Page 3 if scoping prior to inserting Conversion Switch Unit. Use FIG. 2, Page 4 if scoping after inserting Conversion Switch Unit

[2] Locate connector locations in FIG., determined in Step 1, for bus branch to be scoped



[3] Connect storage scope with bus scoping adapter to connector location determined in Step 2 [see DLP-510 on how to use scope adapter]

SCOPE PU CONTROL BUS AND MISCELLANEOUS BUS BITS

[4] Scope P- and N-pins in each dashed line box of connectors 2 through 4, per FIG., determined in Step 1, Page 1, at connector locations in Step 2. Observe oscilloscope waveform [FIG. 3, Page 5]. See NOTE 1

[5] Scope P- and N-pins in dashed line box of connector 1, per FIG., determined in Step 1, Page 1, at connector location in Step 2. Observe oscilloscope waveform [FIG. 3, Page 5]. See NOTE 1. If problem occurs in seeing bit, use external trigger on scope and connect to trigger bit associated with faulty bit. See TABLE B and FIG., determined in Step 1, Page 1

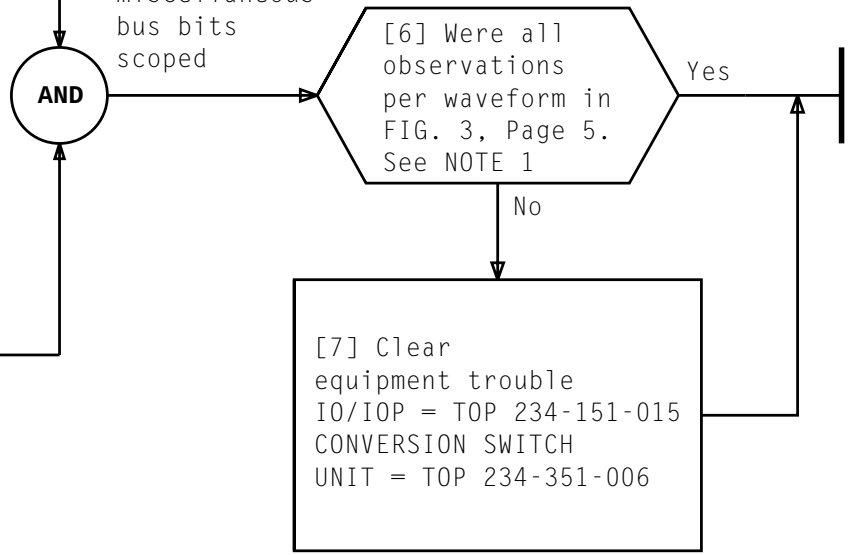
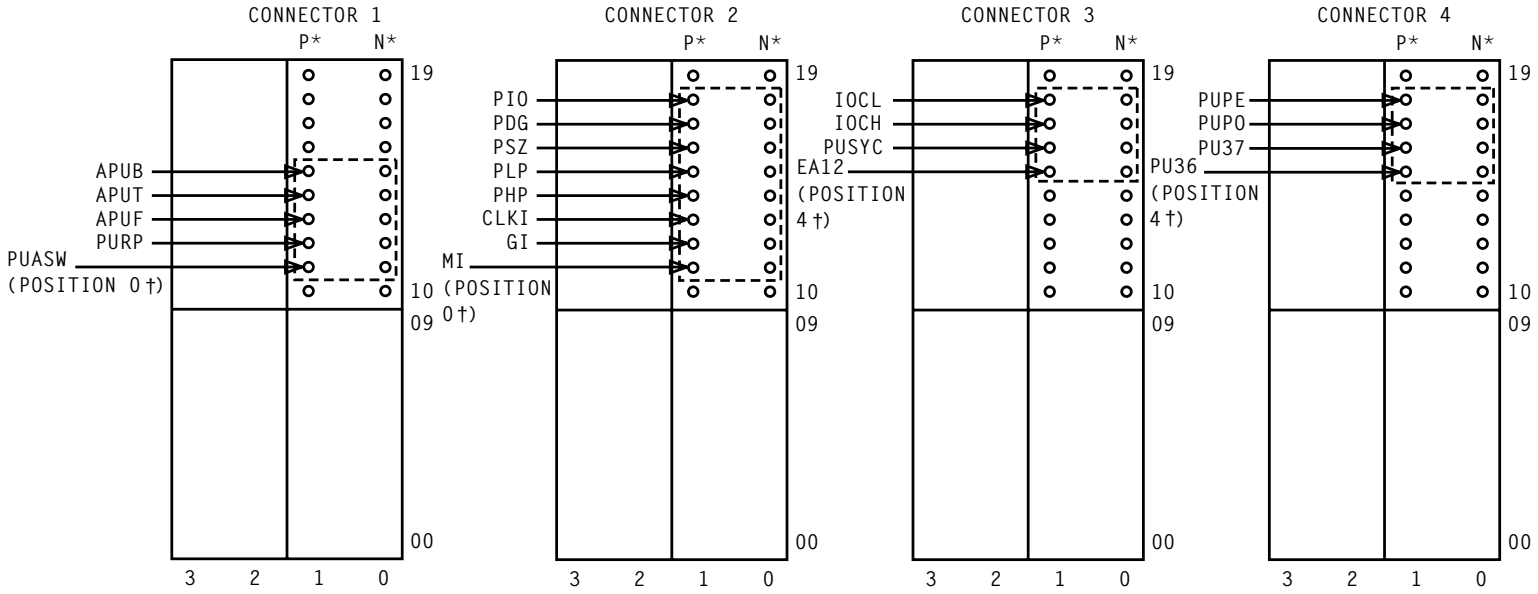


TABLE B	
FAULTY BIT	TRIGGER BIT
APUB	PSZ
APUF	CLKI
APUT	PLP
PUASW	MI
PURP	GI

NOTE 1
Pulse waveform will vary, depending on distance away from driver. Waveform measurements should be similar to examples shown in FIG. 3, Page 5

SCOPE PU CONTROL BUS AND MISCELLANEOUS BUS BITS



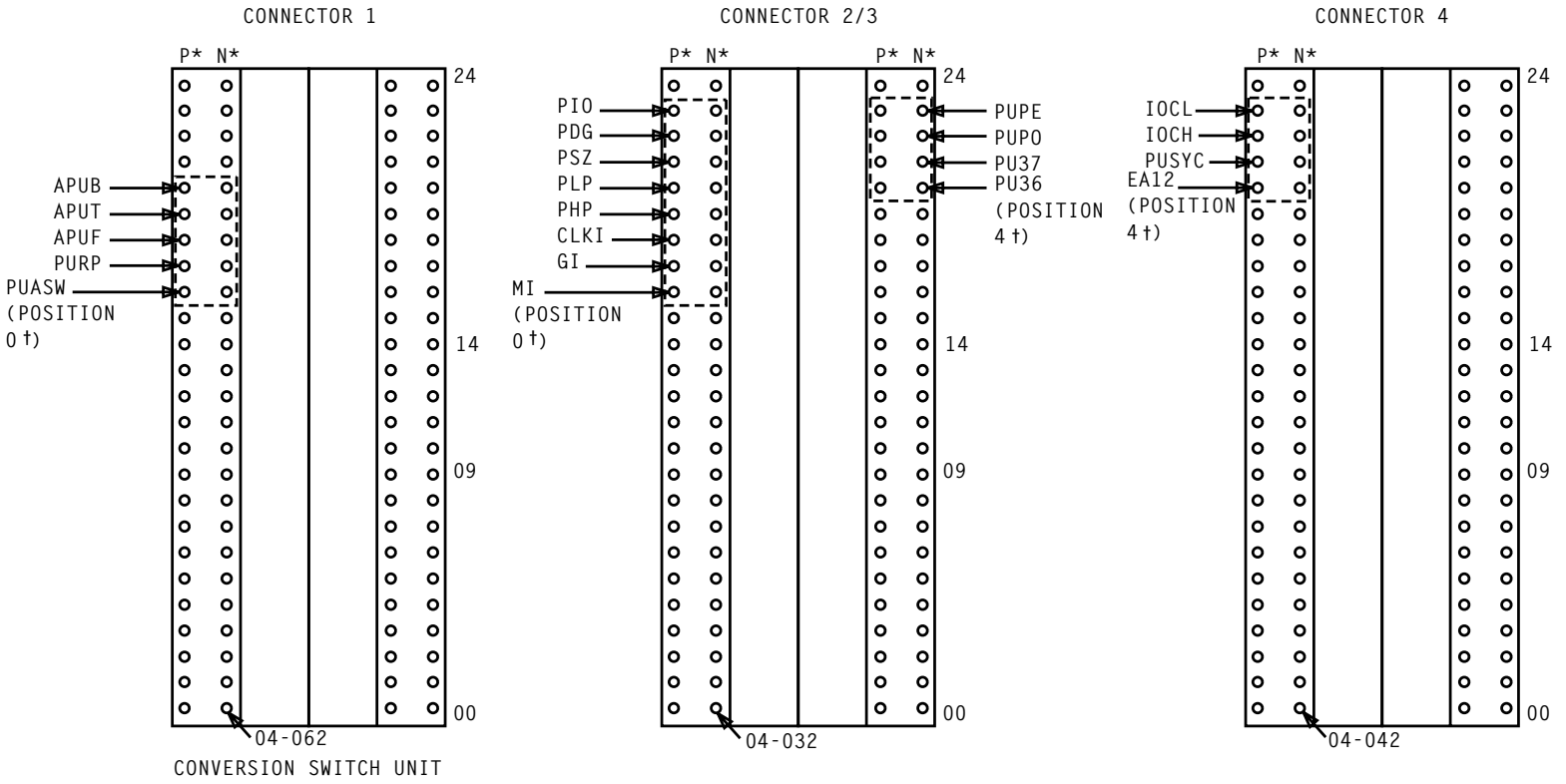
FRAME	CONNECTOR 1	CONNECTOR 2	CONNECTOR 3	CONNECTOR 4
IO				
BUS 0	080-14	080-10	080-09	080-07
BUS 1	080-39	080-35	080-34	080-32
IOP				
BUS 0	080-39	080-29	080-27	080-37
BUS 1	076-39	076-29	076-27	076-37

*P FOR POSITIVE LEAD AND N FOR NEGATIVE LEAD

† POSITION GIVEN IS ON BUS SCOPING ADAPTER

FIG. 1

SCOPE PU CONTROL BUS AND MISCELLANEOUS BUS BITS

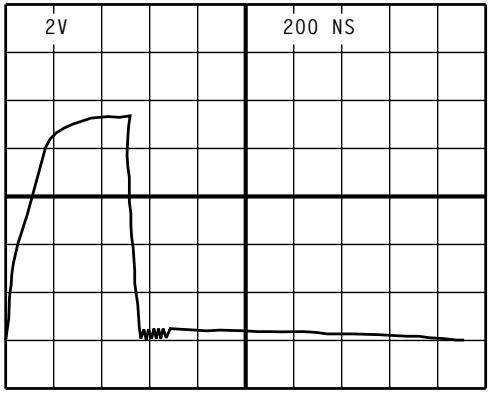


* P FOR POSITIVE LEAD AND
N FOR NEGATIVE LEAD

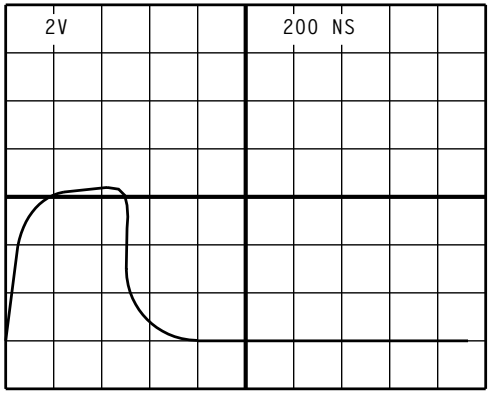
† POSITION GIVEN IS ON BUS SCOPING ADAPTER

FIG. 2

SCOPE PU CONTROL BUS AND MISCELLANEOUS BUS BITS



NORMAL PULSE AT DRIVER



NORMAL PULSE 500 FEET FROM DRIVER

FIG. 3

SCOPE PU CONTROL BUS AND MISCELLANEOUS BUS BITS

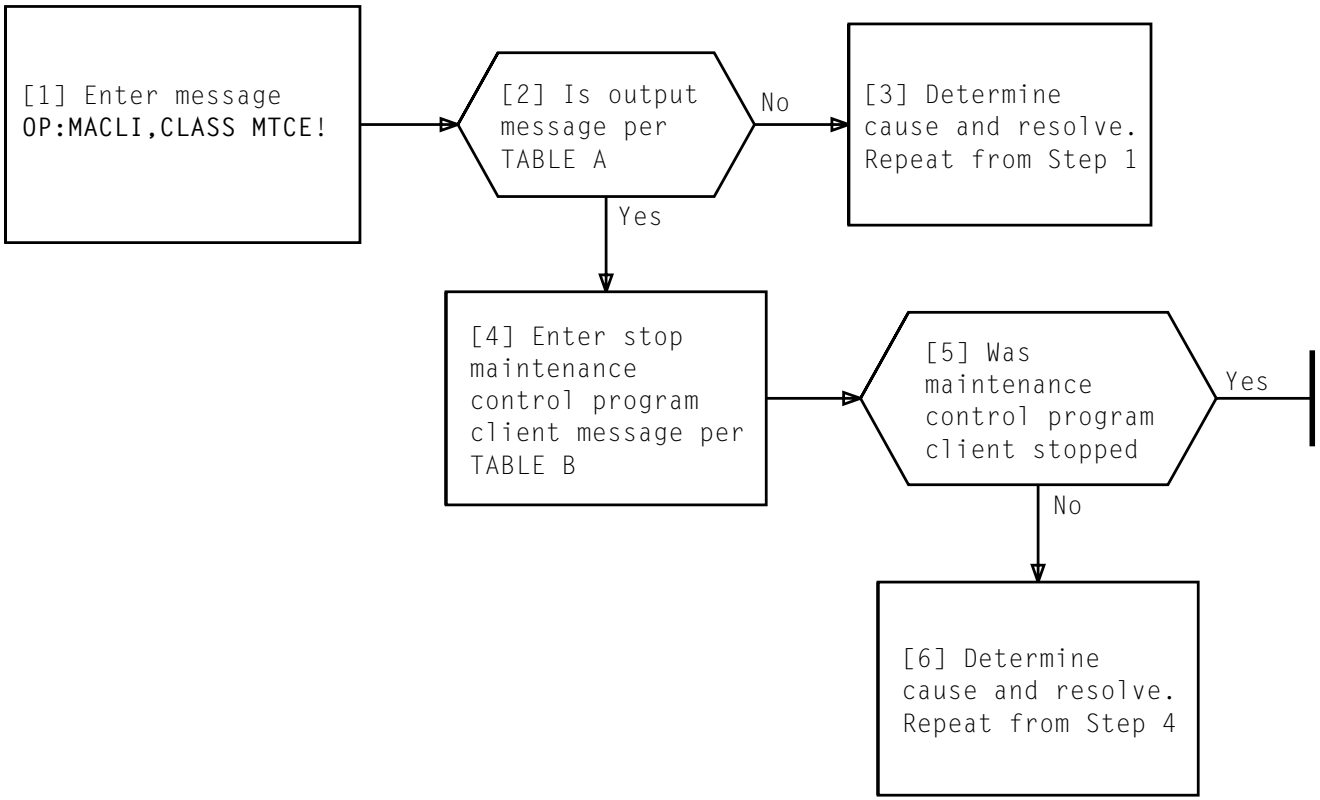
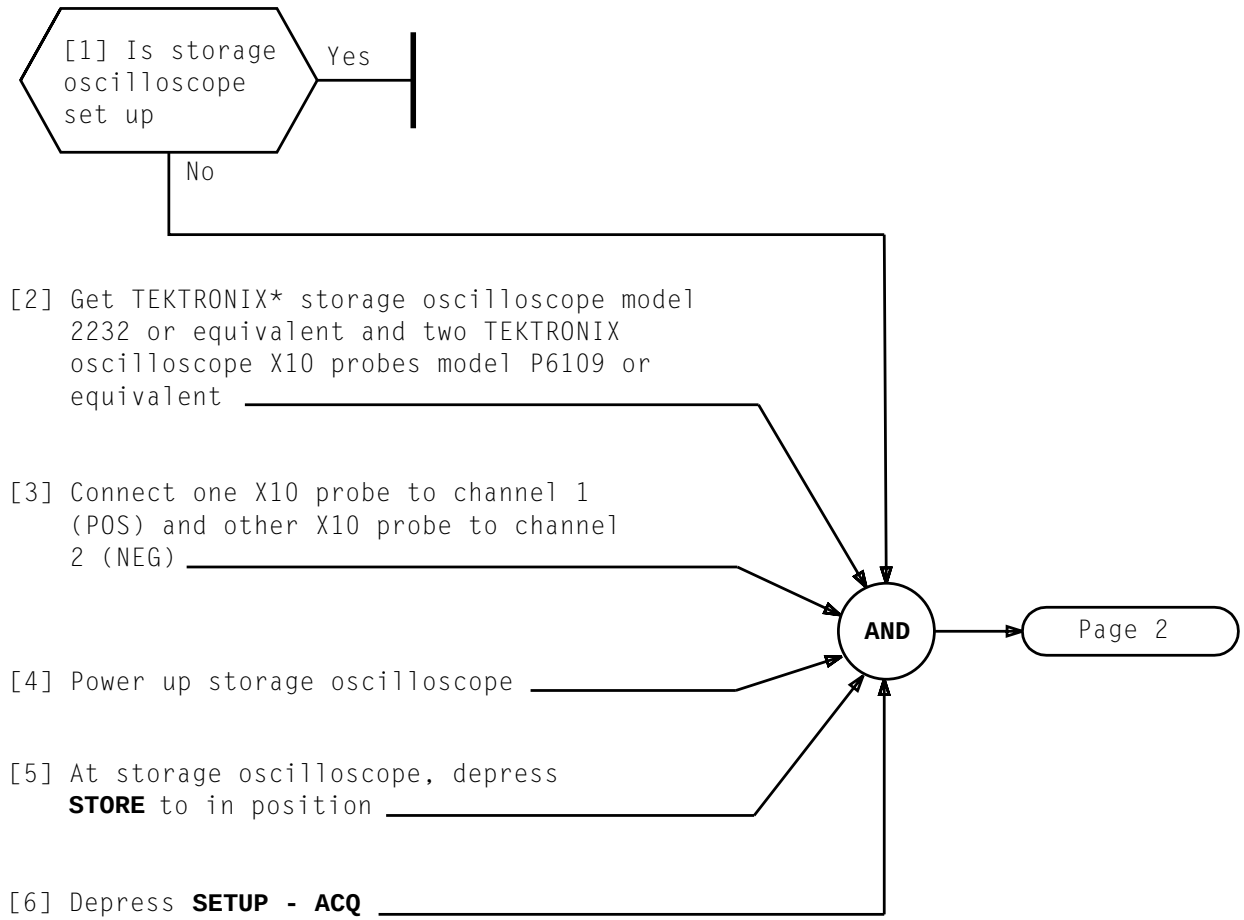


TABLE A
OP:MACLI CLASS MTCE SUBCLASS 0 a - d e f CLASS MTCE SUBCLASS 1 a - d e f CLASS MTCE SUBCLASS 2 a - d e f
a - d = NONE or variable data e = Unit type f = Member number

TABLE B
STOP:MACLI,CLASS MTCE,SUBCLASS a!
a = CLASS MTCE SUBCLASS number from output message assigned to AUB or PUB diagnostics

STOP MAINTENANCE CONTROL PROGRAM CLIENT



* Registered trademark of TEKTRONIX, Inc.

SET UP STORAGE OSCILLOSCOPE FOR SCOPING AU BUS

Issue 1	DEC 1995
234-353-003	DLP
PAGE 1 of 4	521

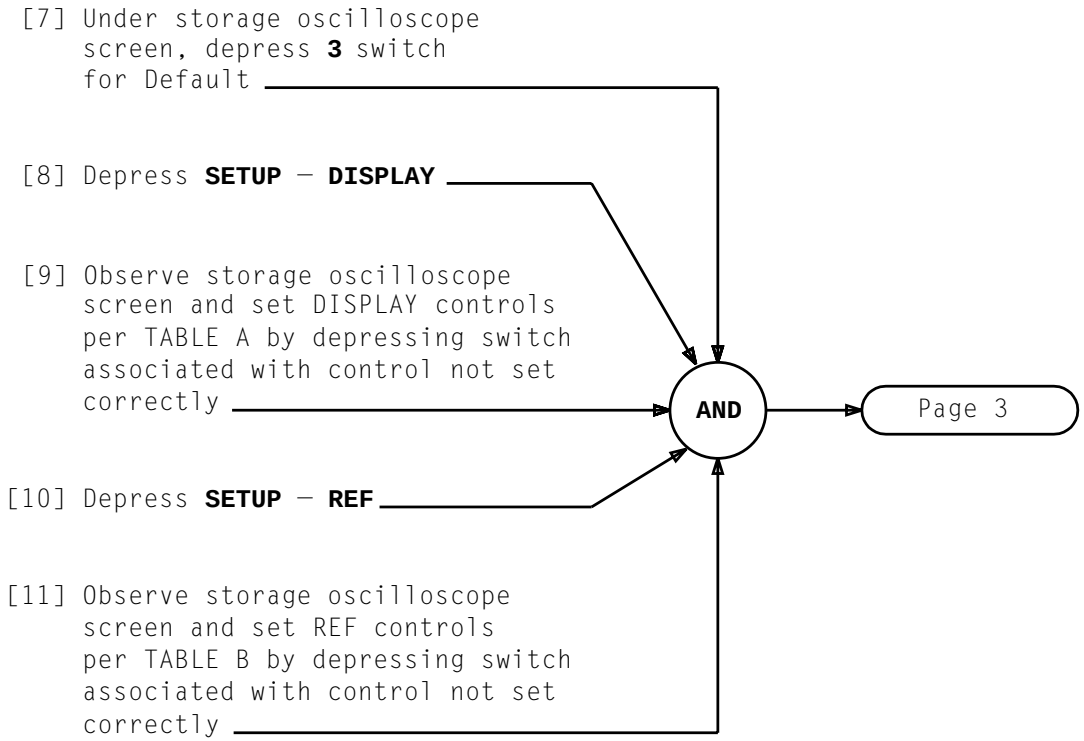


TABLE A

COLUMN	CONTROLS	SWITCH*
1	ΔT	SAVE REF
2	ON	1
3	ON	2

*Switches under display screen are associated with column that they are under

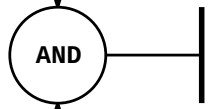
TABLE B

COLUMN	CONTROLS	SWITCH*
1	Format	SAVE REF
2	Ref1	1
3	CH1	2
4	X1	3
5	Vert Gain: 0.2V	4K (for Vert Gain:) and adjust CURSORS to obtain 0.2V

*Switches under display screen are associated with column that they are under

SET UP STORAGE OSCILLOSCOPE FOR SCOPING AU BUS

[12] Depress **SETUP** – **REF** to return to screen



[13] Set 2232 storage oscilloscope
controls per TABLE C, Page 4

SET UP STORAGE OSCILLOSCOPE FOR SCOPING AU BUS

TABLE C — OSCILLOSCOPE CONTROL SETTINGS FOR MODEL 2232	
CONTROLS	**POSITION**
CURSORS	Don't Care
SAVE/CONT	Depress until SAVE is not displayed
STORE	Depress (in)
VAR HOLDOFF	Don't Care
VERTICAL — POSITION (left)	Rotate to 11 o'clock position
VERTICAL — A/B SWP SEP	Don't Care
VERTICAL — POSITION (right)	Rotate to 12 o'clock position
VERTICAL MODE — CH 1 BOTH CH 2	BOTH
VERTICAL MODE — X-Y	Out position
VERTICAL MODE — BW LIMIT	Out position
VERTICAL MODE — ADD ALT CHOP	ADD
VERTICAL — CH 1 VOLTS/DIV	2
VERTICAL — CH 1 VOLTS/DIV — AC GND DC	DC
VERTICAL — INVERT	Depress (in)
VERTICAL — CH 2 VOLTS/DIV	2
VERTICAL — CH 2 VOLTS/DIV — AC GND DC	DC
HORIZONTAL — POSITION	Rotate to 1 o'clock position
HORIZONTAL — MODE	A
HORIZONTAL — A and B SEC/DIV	.1 μs
B TRIGGER — SLOPE	Don't Care
B TRIGGER — LEVEL	Don't Care
A TRIGGER — TV FIELD — NORM	Depress (in)
A TRIGGER — SLOPE	Out position
A TRIGGER — LEVEL	Rotate to 1 o'clock position
A TRIGGER — A & B SOURCE	CH 1
A TRIGGER — A COUPL	NORM
A TRIGGER — A EXT COUPL	Don't Care

At SREC or Beltline Terminal:

[1] Depress **FORM ENTER** key to **ON**

[2] Read NOTE 1. Type input messages per TABLE A

[3] Depress **FORM ENTER** key to **OFF**

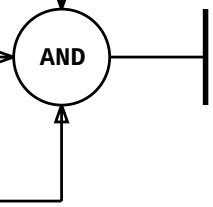


TABLE A

NUMBER	INPUT MESSAGES
1	INH:MACLI,CLASS MTCE;REX!
2	EX:AUB a;START! a = Bus 0 or 1
3	EX:AUB a:PH 99,ADR b a = Bus 0 or 1 b = 42-75 (for bus 0) or 212-245 (for bus 1)
4	EX:AUB a:PH 99,ADR b a = Bus 0 or 1 b = 75-120 (for bus 0) or 245-270 (for bus 1)
5	EX:AUB a:PH 99,ADR b a = Bus 0 or 1 b = 163-206 (for bus 0) or 333-356 (for bus 1)
6	EX:AUB a:PH 99,ADR b a = Bus 0 or 1 b = 120-163 (for bus 0) or 270-333 (for bus 1)
7	EX:AUB a! a = Bus 0 or 1
8	OP:MACLI,CLASS MTCE!
9	STOP:MACLI,CLASS MTCE,SUBCLASS a! a = CLASS MTCE SUBCLASS number from OP:MACLI output message assigned to AUB diagnostics.
10	ALW:MACLI,CLASS MTCE!

NOTE 1
Messages must not be entered into system at this time

STORE AU BUS PHASE 99 INPUT MESSAGES

[1] At MTC terminal, enter message
OP:APSTATUS!

AND

[2] Using printout and FIG. 1, determine API member number assigned SBY and record as standby for later use

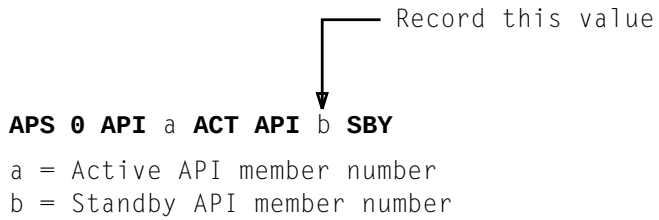
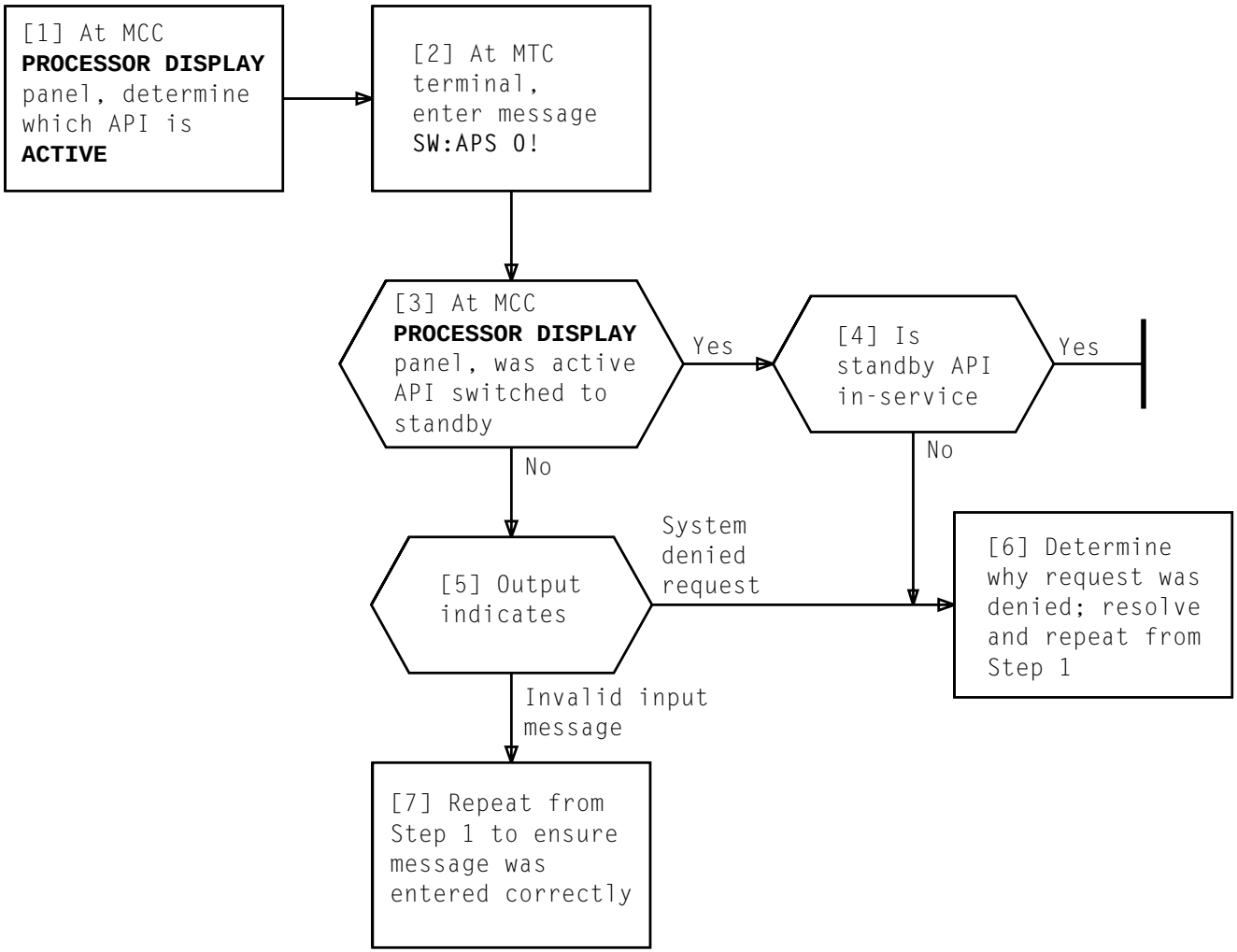
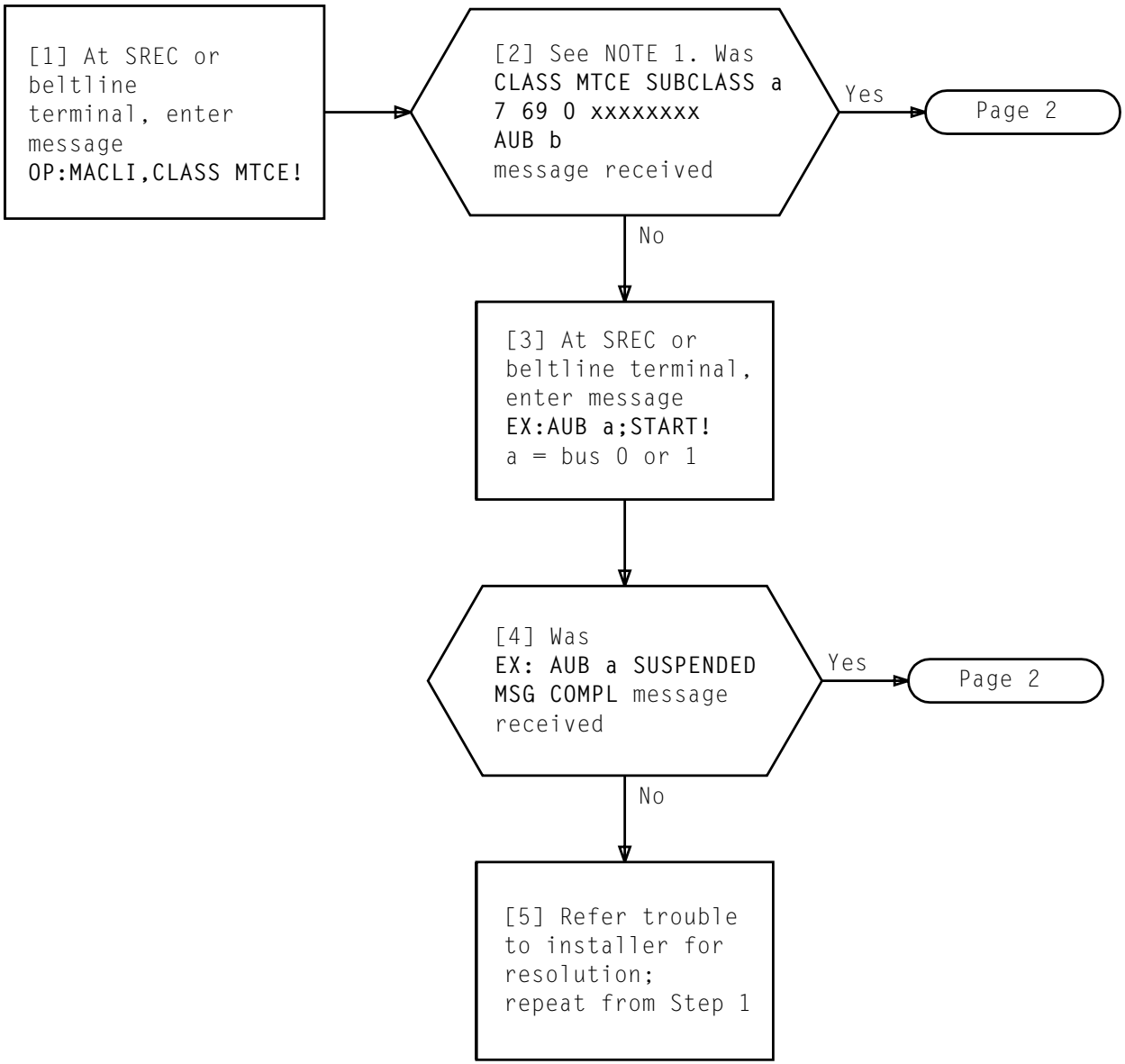


FIG. 1 — Sample OP:APSTATUS Printout

DETERMINE STANDBY API


[1] At MCC **PROCESSOR DISPLAY** panel, determine which API is **ACTIVE**
[2] At MTC terminal, enter message SW:APS 0!
[3] At MCC **PROCESSOR DISPLAY** panel, was active API switched to standby
Yes
[4] Is standby API in-service
Yes
No
No
System denied request
[5] Output indicates
[6] Determine why request was denied; resolve and repeat from Step 1
Invalid input message
[7] Repeat from Step 1 to ensure message was entered correctly

SWITCH APIs



NOTE 1
If problem occurs when setting up loop, use program listing ABDG99 (PR-5A737)

ENTER EXECUTE MESSAGES FOR LOOPING ON SPECIFIED AU BUS

[6] Using TABLE A, determine TABLE that contains input message for AU bus to be scoped

[7] At SREC or beltline terminal, enter in looping message determined in Step 6

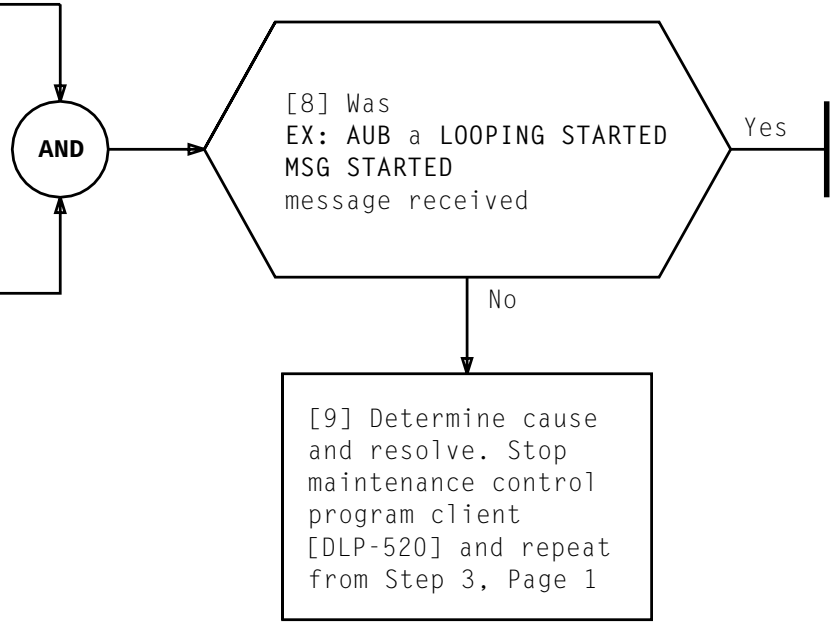


TABLE A	
AU BUS	TABLE
Write	B
Address	C
Store-Address	D
Reply	E

ENTER EXECUTE MESSAGES FOR LOOPING ON SPECIFIED AU BUS

TABLE B — AU WRITE BUS
EX:AUB a:PH 99,ADR b!
a = Bus 0 or 1 b = 42-75 (for bus 0) or 212-245 (for bus 1)

TABLE C — AU ADDRESS BUS
EX:AUB a:PH 99,ADR b!
a = Bus 0 or 1 b = 75-120 (for bus 0) or 245-270 (for bus 1)

TABLE D — AU STORE ADDRESS BUS
EX:AUB a:PH 99,ADR b!
a = Bus 0 or 1 b = 163-206 (for bus 0) or 333-356 (for bus 1)

TABLE E — AU REPLY BUS
EX:AUB a:PH 99,ADR b!
a = Bus 0 or 1 b = 120-163 (for bus 0) or 270-333 (for bus 1)

ENTER EXECUTE MESSAGES FOR LOOPING ON SPECIFIED AU BUS

[1] Using TABLE A, determine FIG. that contains last frame/unit where AU write bus is to be scoped

[2] Locate connector locations in FIG., determined in Step 1, for bus section to be scoped

[3] Connect storage scope with bus scoping adapter to connector location determined in Step 2 [see DLP-510 on how to use bus scoping adapter]

[4] See NOTE 1. Adjust storage scope to observe waveform for bit 0 pattern per FIG. 3, Page 3

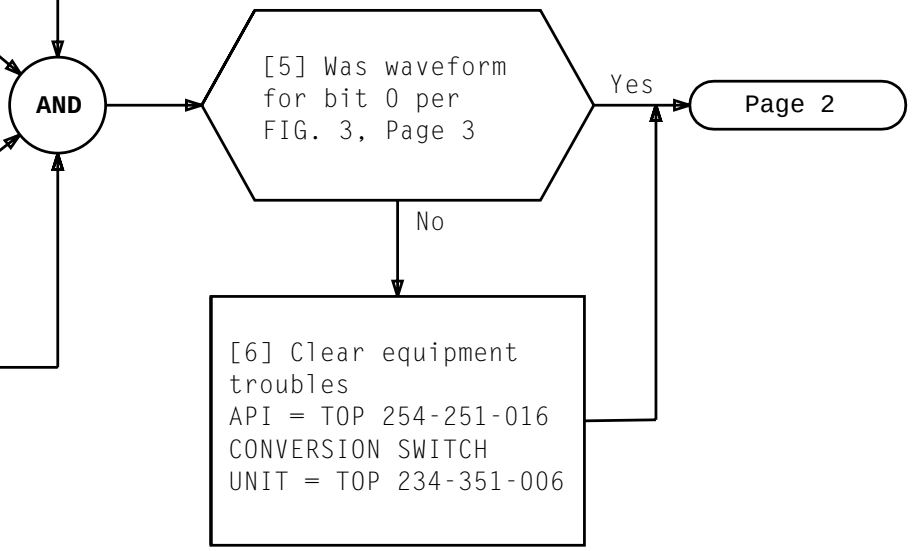
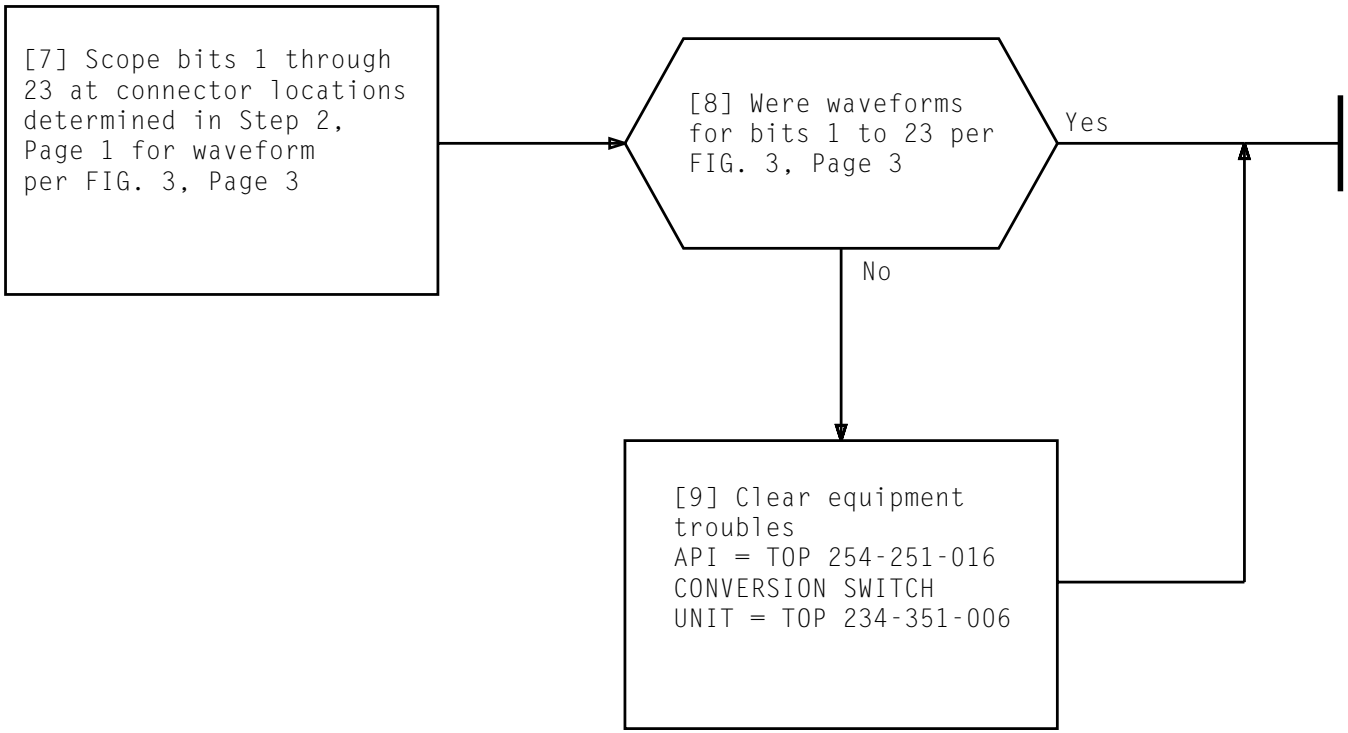


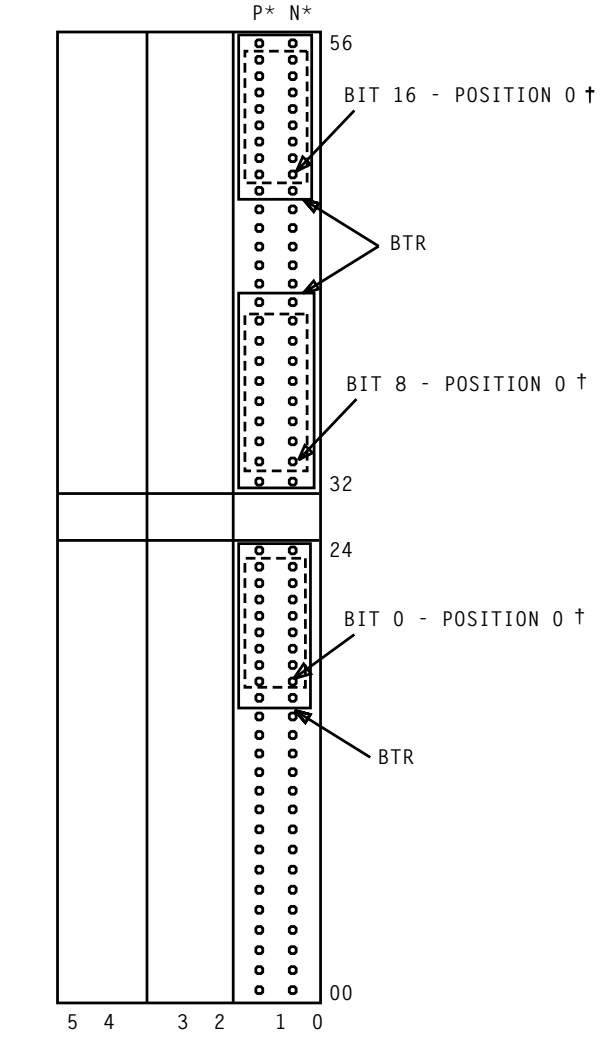
TABLE A		
FRAME/UNIT	**FIG.**	**PAGE**
API	1	3
AUB CONVERSION SWITCH UNIT	2	4

NOTE 1
CURSORS may also need to be adjusted to observe bit pattern

SCOPE AU WRITE BUS BITS 0 TO 23



SCOPE AU WRITE BUS BITS 0 TO 23



* P FOR POSITIVE LEAD
N FOR NEGATIVE LEAD
† POSITION 0 IS ON BUS SCOPING ADAPTER

FIG. 1

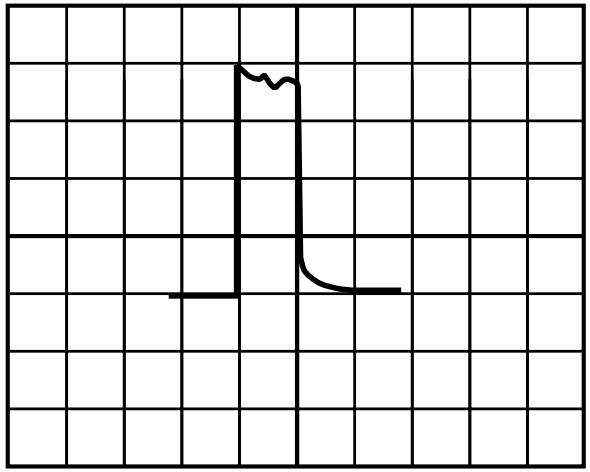
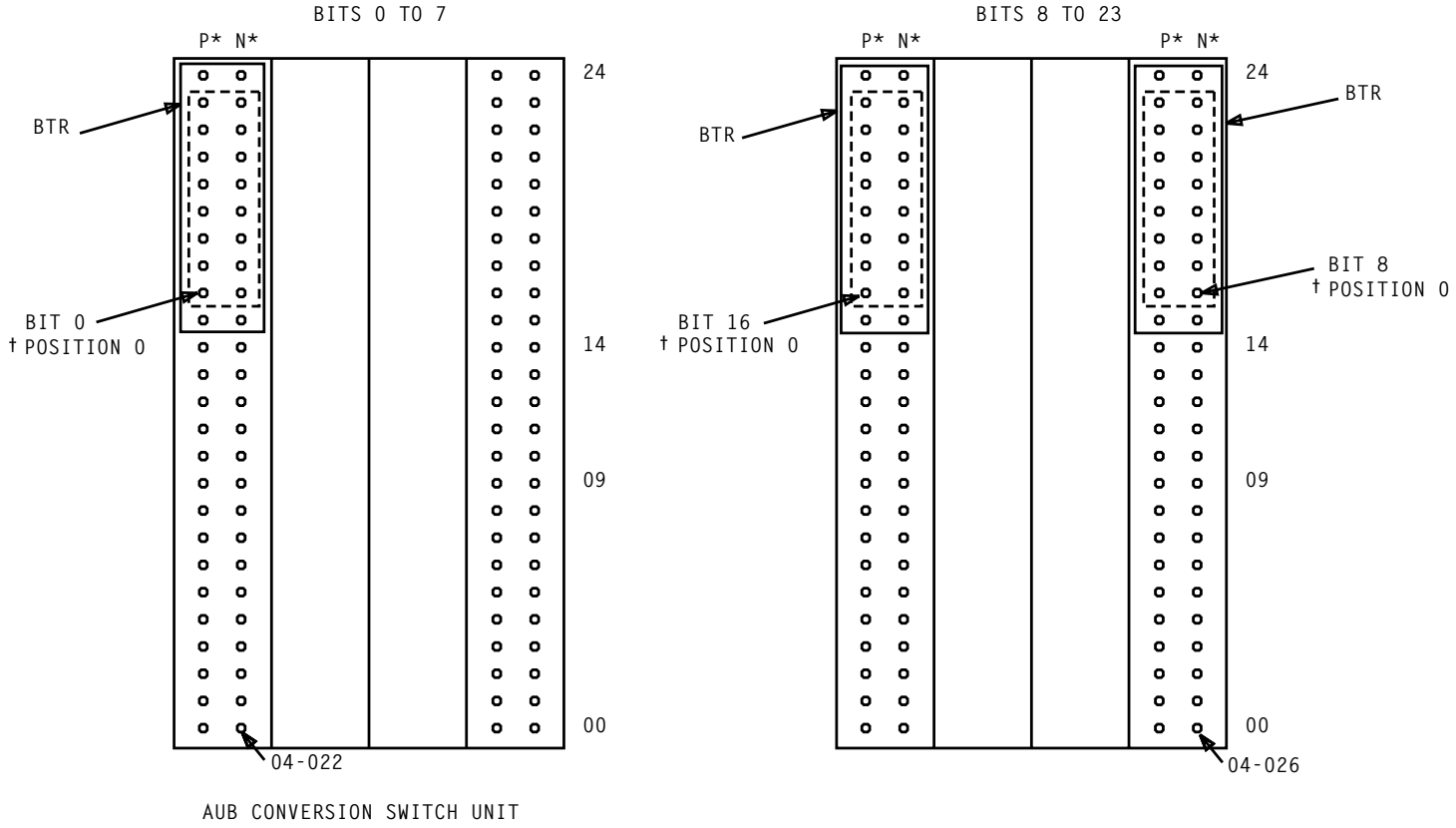


FIG. 3 - Typical Waveform

SCOPE AU WRITE BUS BITS 0 TO 23



* P FOR POSITIVE LEAD AND
N FOR NEGATIVE LEAD
† POSITION 0 IS ON SCOPE ADAPTER

FIG. 2

SCOPE AU WRITE BUS BITS 0 TO 23

[1] Using TABLE A, determine FIG. that contains last frame/unit where AU address bus is to be scoped

[2] Locate connector locations in FIG., determined in Step 1, for bus section to be scoped

[3] Connect storage scope with bus scoping adapter to connector location determined in Step 2 [see DLP-510 on how to use scope adapter]

[4] See NOTE 1. Scope bits 0 through 15 at connector locations determined in Step 2 for waveform per FIG. 3, Page 2

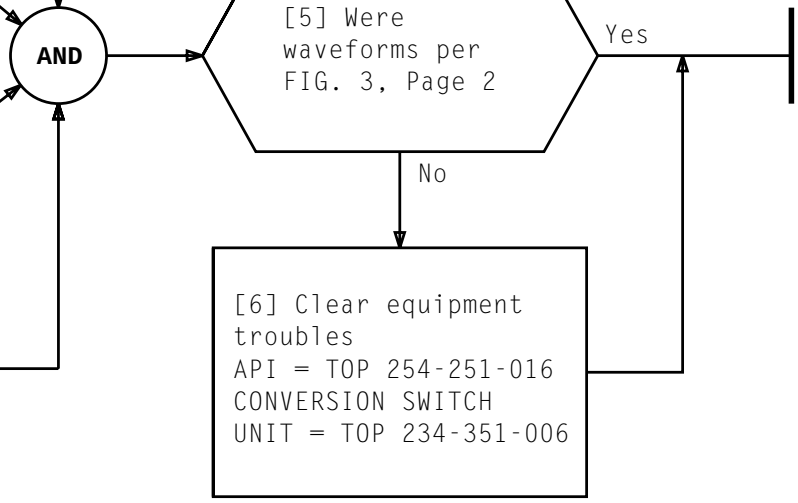
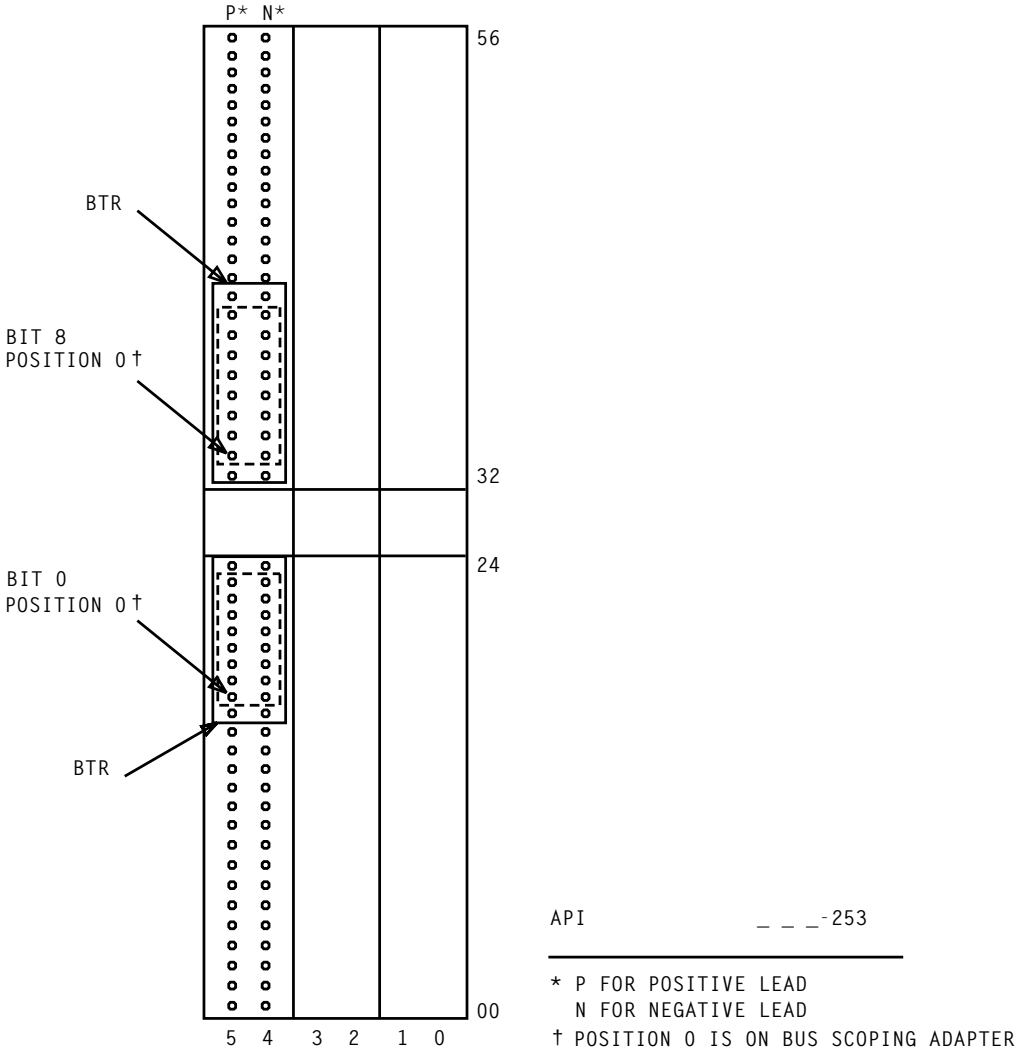


TABLE A		
FRAME/UNIT	**FIG.**	**PAGE**
API	1	2
AUB CONVERSION SWITCH UNIT	2	3

NOTE 1
CURSORS may need to be adjusted to observe bit pattern

SCOPE AU ADDRESS BUS BITS 0 TO 15



API _ _ _-253

* P FOR POSITIVE LEAD
  N FOR NEGATIVE LEAD
† POSITION 0 IS ON BUS SCOPING ADAPTER

FIG. 1

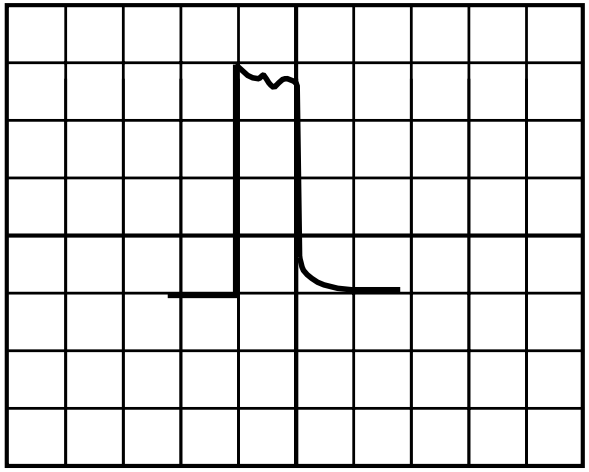
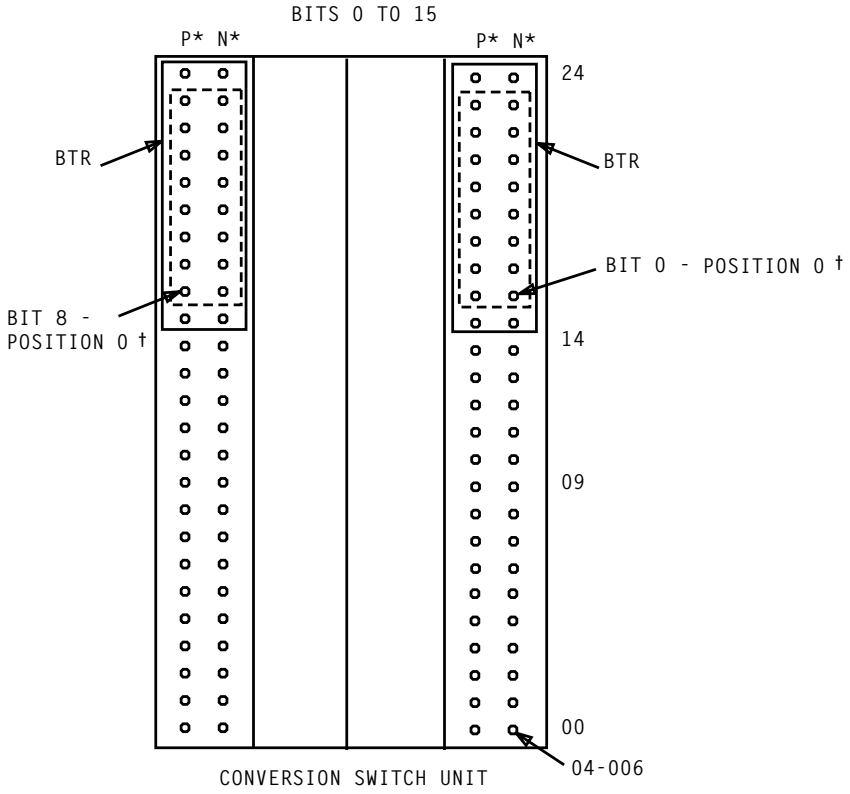


FIG. 3 - Typical Waveform

SCOPE AU ADDRESS BUS BITS 0 TO 15



* P FOR POSITIVE LEAD AND
N FOR NEGATIVE LEAD

† POSITION 0 IS ON BUS SCOPING ADAPTER

FIG. 2

SCOPE AU ADDRESS BUS BITS 0 TO 15

[1] Using TABLE A, determine FIG. that contains last frame/unit where AU address bus is to be scoped

[2] Locate connector locations in FIG., determined in Step 1, for bus section to scoped

[3] Connect storage scope with scoping adapter to connector location determined in Step 2 [See DLP-510 on how to use scope adapter]

[4] See NOTE 1. Scope bits 0 through 21 at connector locations determined in Step 2 for waveform per FIG. 3, Page 2

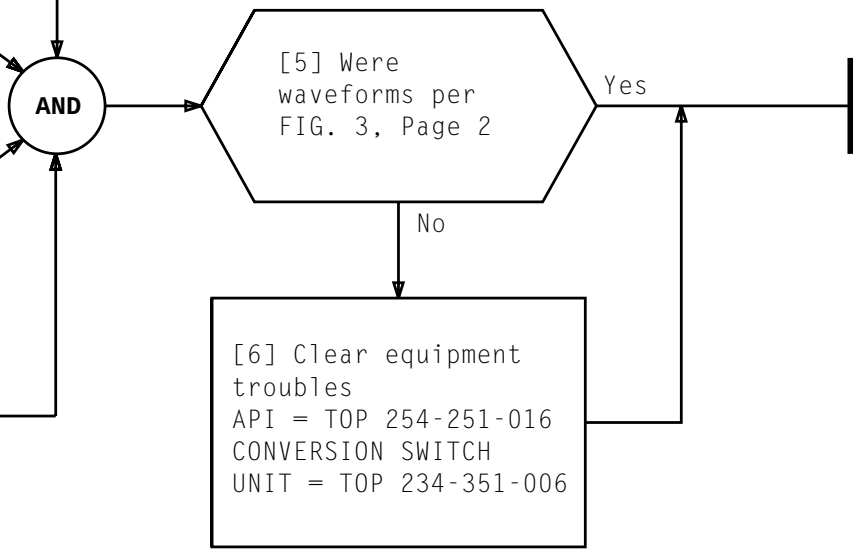
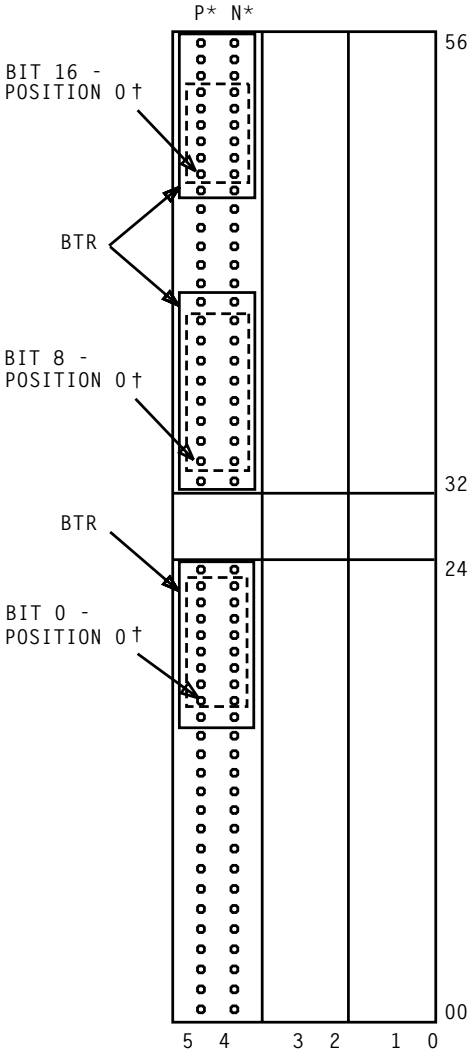


TABLE A		
FRAME/UNIT	**FIG.**	**PAGE**
API	1	2
AUB CONVERSION SWITCH UNIT	2	3

NOTE 1
CURSORS may need to be adjusted to observe bit pattern

SCOPE AU STORE ADDRESS BUS BITS 0 TO 21



API _ _ _-265

* P FOR POSITIVE LEAD
N FOR NEGATIVE LEAD
† POSITION 0 IS ON BUS SCOPING ADAPTER

FIG. 1

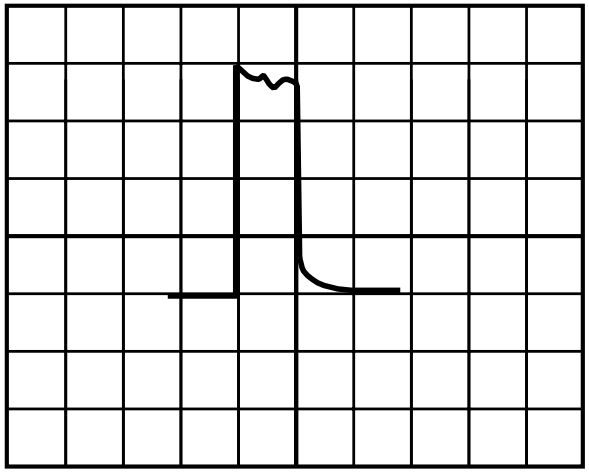
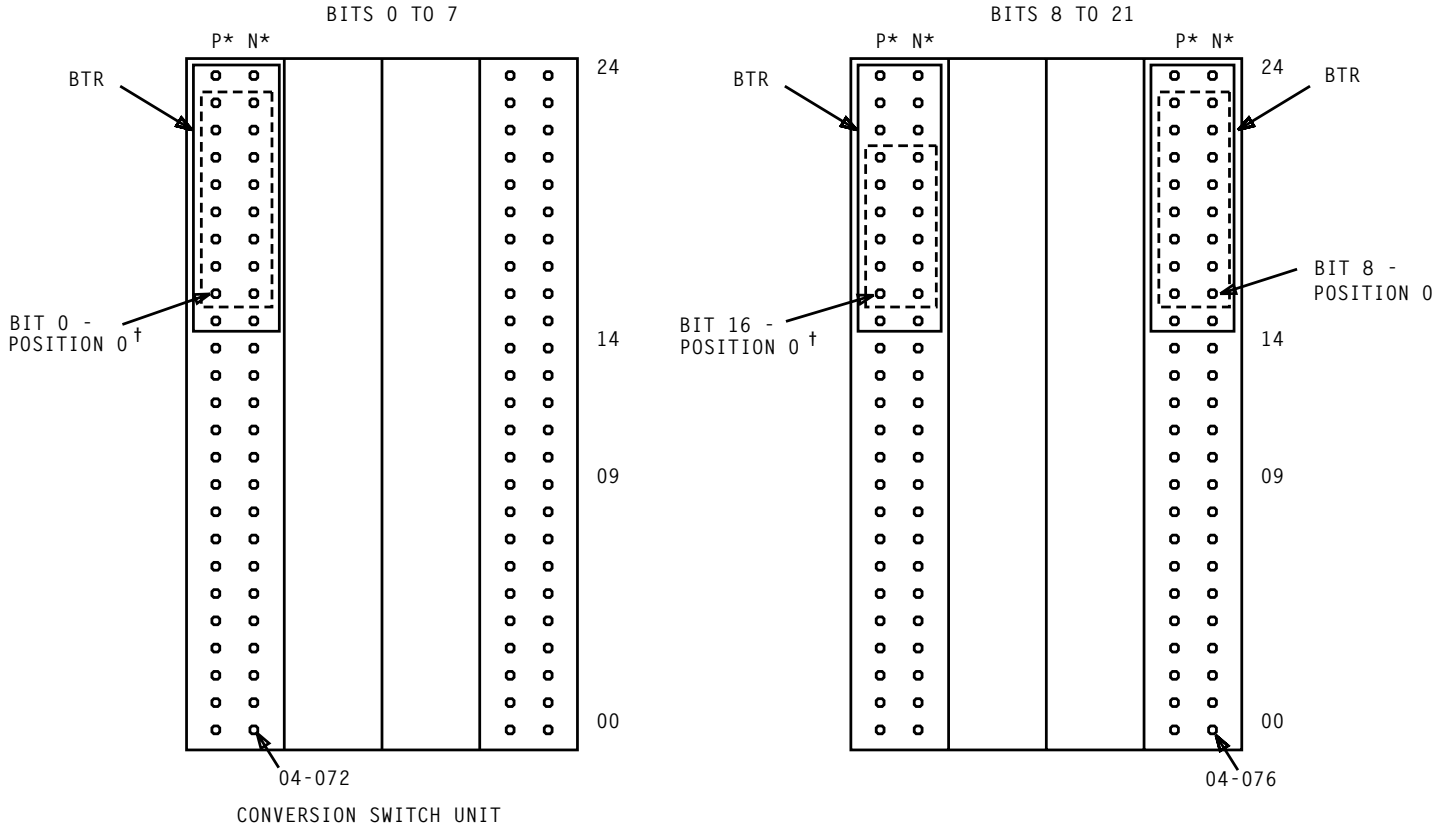


FIG. 3 - Typical Waveform

SCOPE AU STORE ADDRESS BUS BITS 0 TO 21



* P FOR POSITIVE LEAD AND
N FOR NEGATIVE LEAD

† POSITION 0 IS ON BUS SCOPING ADAPTER

FIG. 2

SCOPE AU STORE ADDRESS BUS BITS 0 TO 21

SCOPE AU REPLY BUS BITS 0 TO 23

[1] Using TABLE A, determine FIG. that contains last frame/unit where AU reply bus is to be scoped

[2] Locate connector locations in FIG., determined in Step 1, for bus section to be scoped

[3] Connect storage scope with scoping adapter to connector location determined in Step 2 [see DLP-510 on how to use scope adapter]

[4] See NOTES 1 and 2. Scope bits 0 through 23 at connector locations determined in Step 2 for waveform per FIG. 3, Page 2

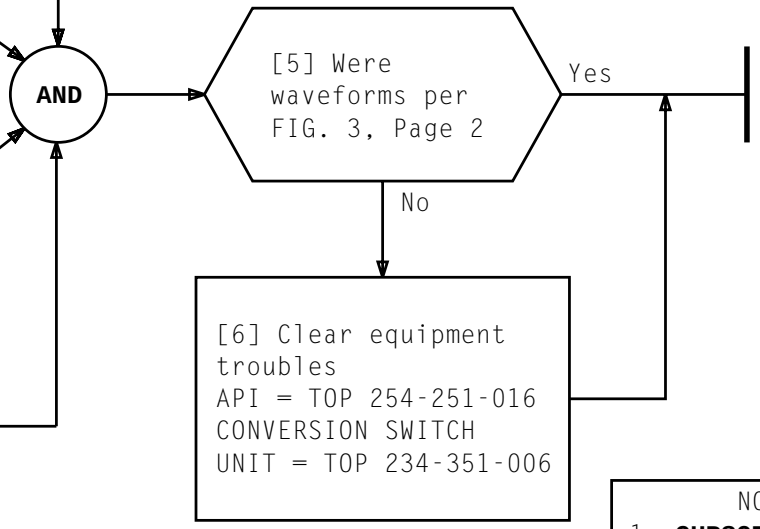
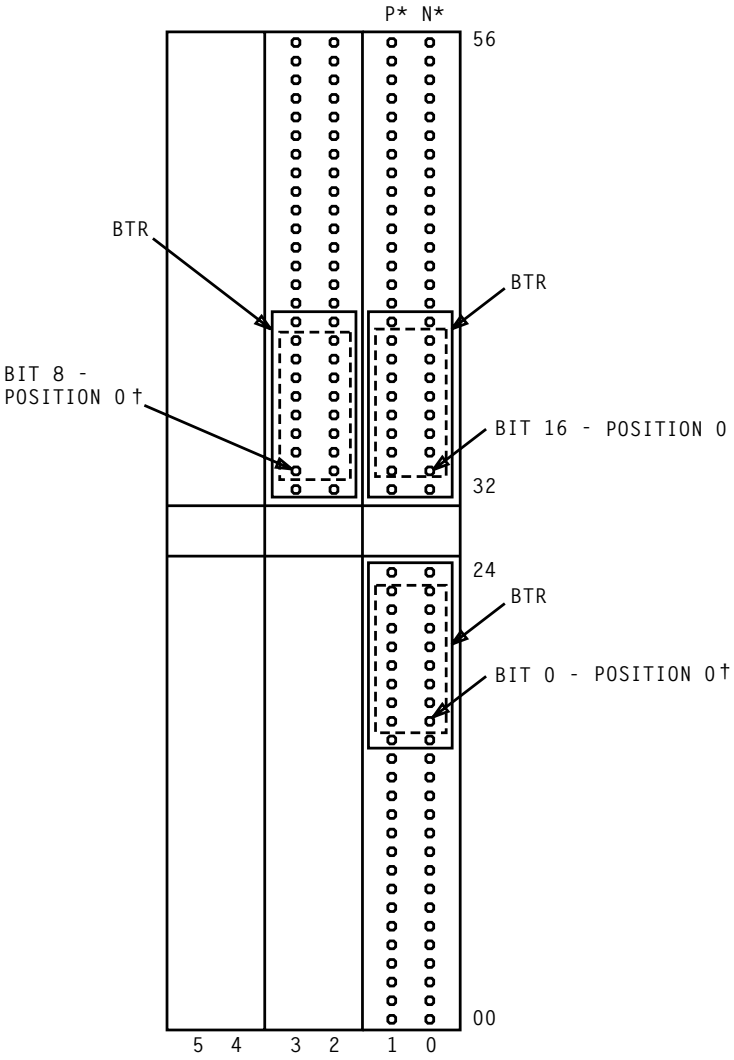


TABLE A		
FRAME/UNIT	**FIG.**	**PAGE**
API	1	2
AUB CONVERSION SWITCH UNIT	2	3

NOTES

1. **CURSORS** may need to be adjusted to observe bit pattern
2. Width of valid AU reply bus pulse can be 70 ns to 180 ns (DMA) or 300 ns to 600 ns (GCP). FIG. 3, Page 2 shows a typical reply pulse (DMA) which is 100 ns wide



API _ _ _ 265

* P FOR POSITIVE LEAD
N FOR NEGATIVE LEAD
† POSITION 0 IS ON BUS SCOPING ADAPTER

FIG. 1

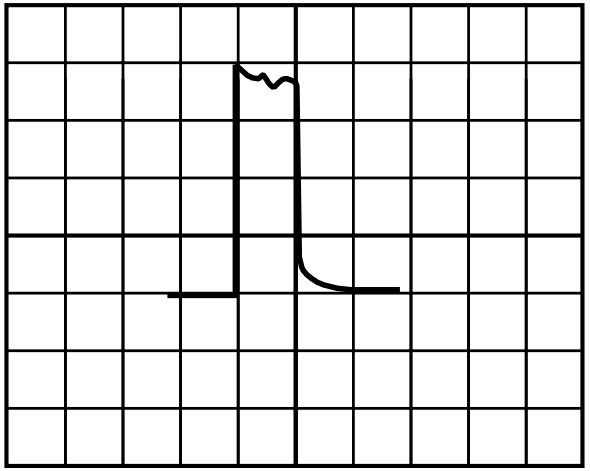
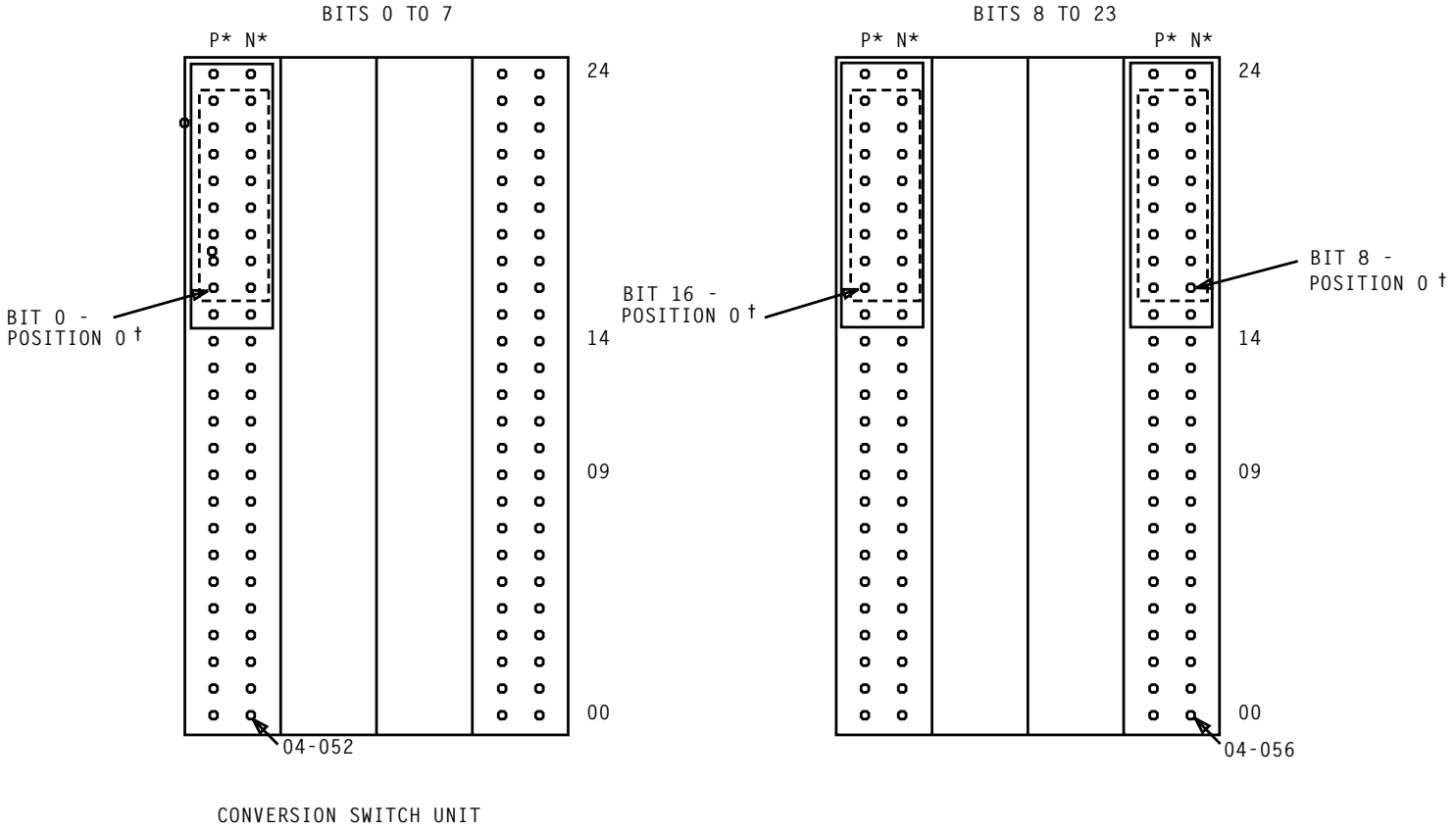


FIG. 3 - Typical Waveform

SCOPE AU REPLY BUS BITS 0 TO 23

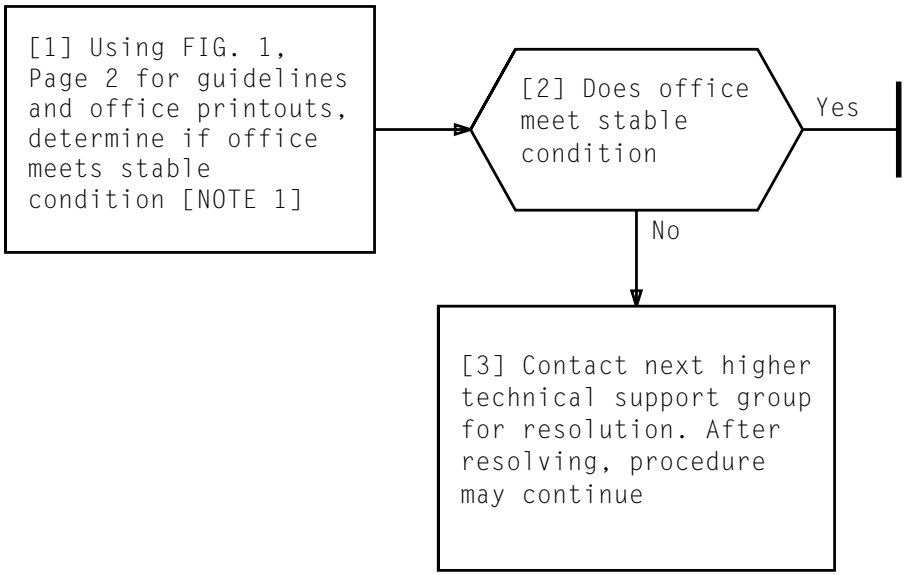
Issue 1	DEC 1995
234-353-003	DLP
PAGE 2 of 3	529



* P FOR POSITIVE LEAD AND
N FOR NEGATIVE LEAD
† POSITION 0 IS ON BUS SCOPING ADAPTER

FIG. 2

SCOPE AU REPLY BUS BITS 0 TO 23



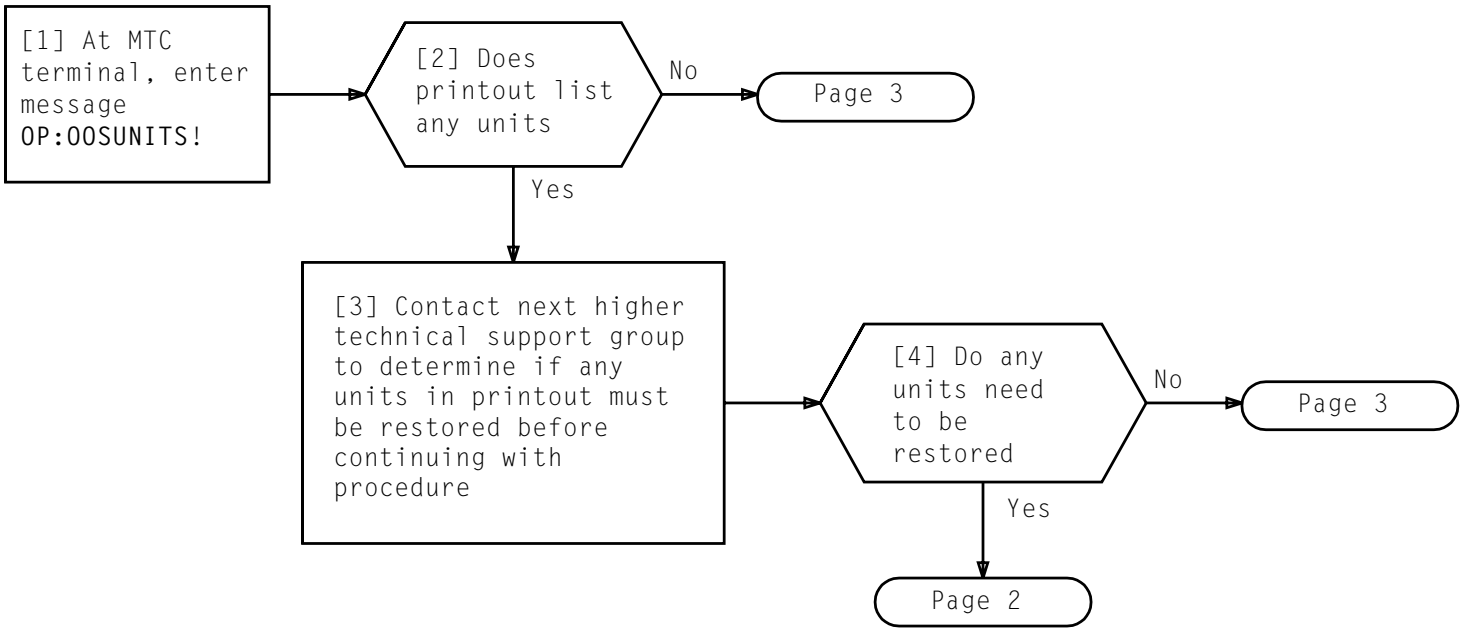
NOTE 1
FIG. 1 is based on 7-day rolling average for all per day measures; all other measures are as indicated. All resolved troubles are discounted from measures

DETERMINE IF OFFICE IS STABLE

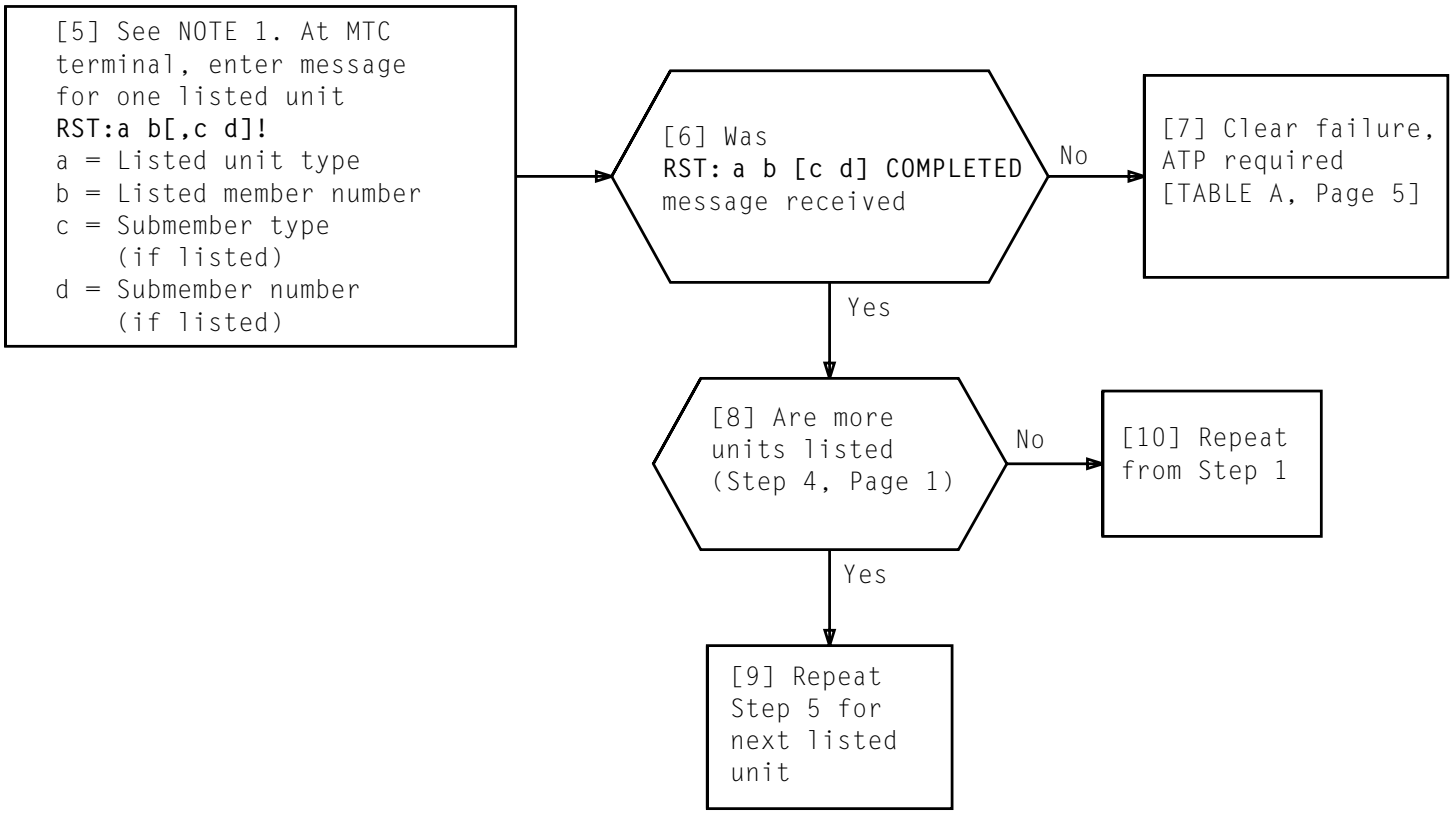
• INTERRUPTS	
1A PROCESSOR	≤ 1 PER MEMBER NUMBER PER DAY ≤ 3 PER DAY TOTAL
TMS, NC, PUB, IO, CCIS	≤ 2 PER MEMBER NUMBER PER DAY ≤ 4 PER DAY TOTAL
PERIPHERY, PER OPERATIONAL SP CORE (SP, DT, TSI) OR DIF (DIF, TSI COMPLEX) (THE ALLOWABLE DAILY INTERRUPT COUNT SHALL NOT EXCEED 25, REGARDLESS OF OFFICE SIZE)	≤ 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

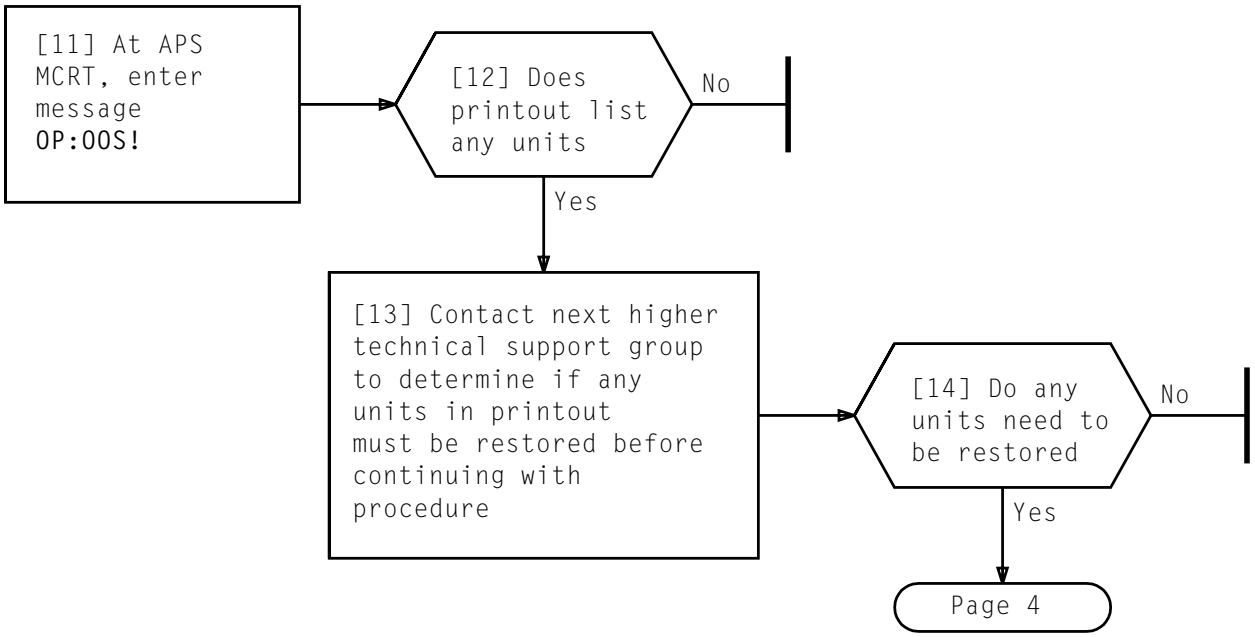


ENSURE ALL UNITS ARE IN-SERVICE

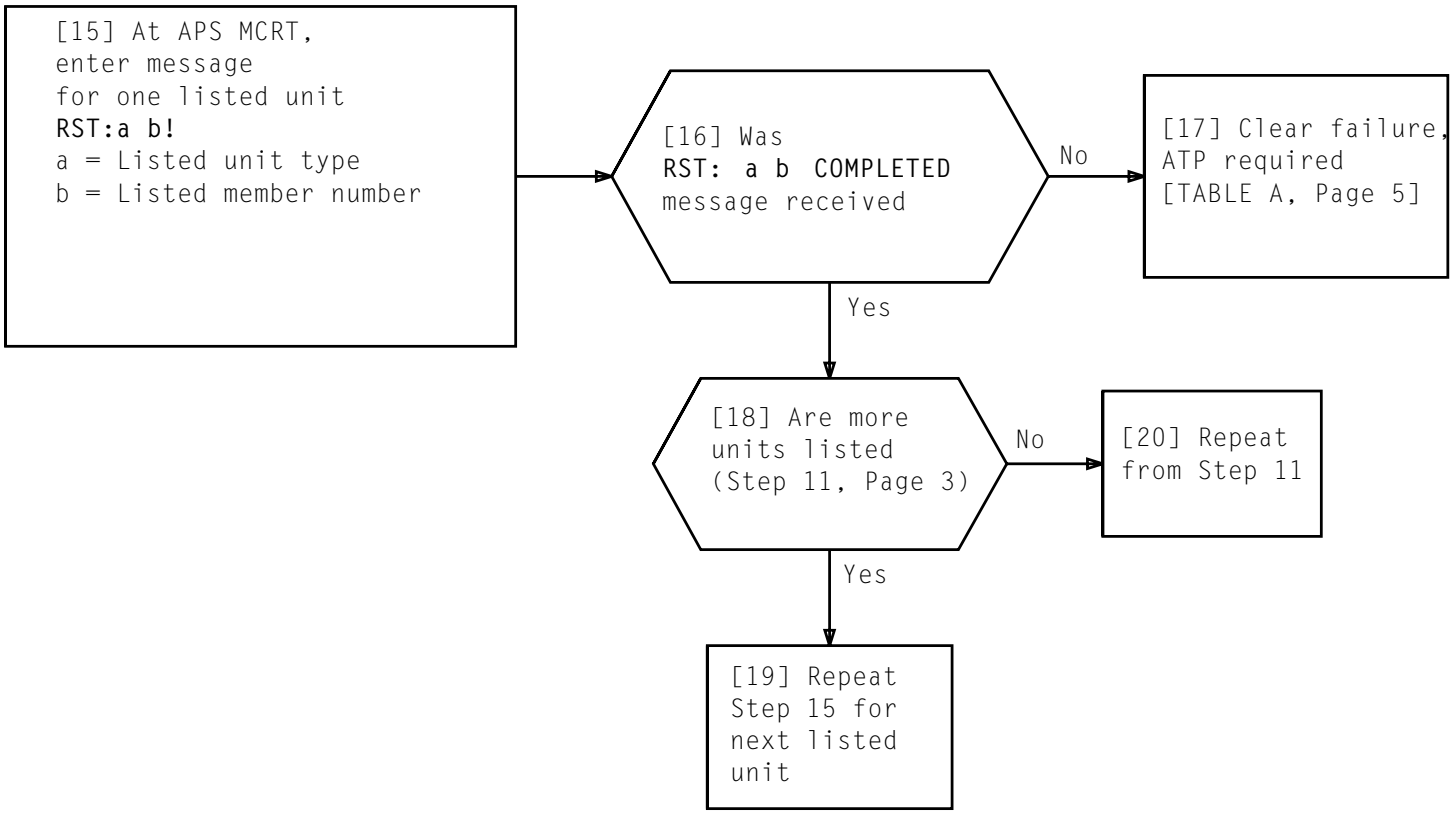


NOTE 1
Variables c and d are only to be used if submember is listed

ENSURE ALL UNITS ARE IN-SERVICE



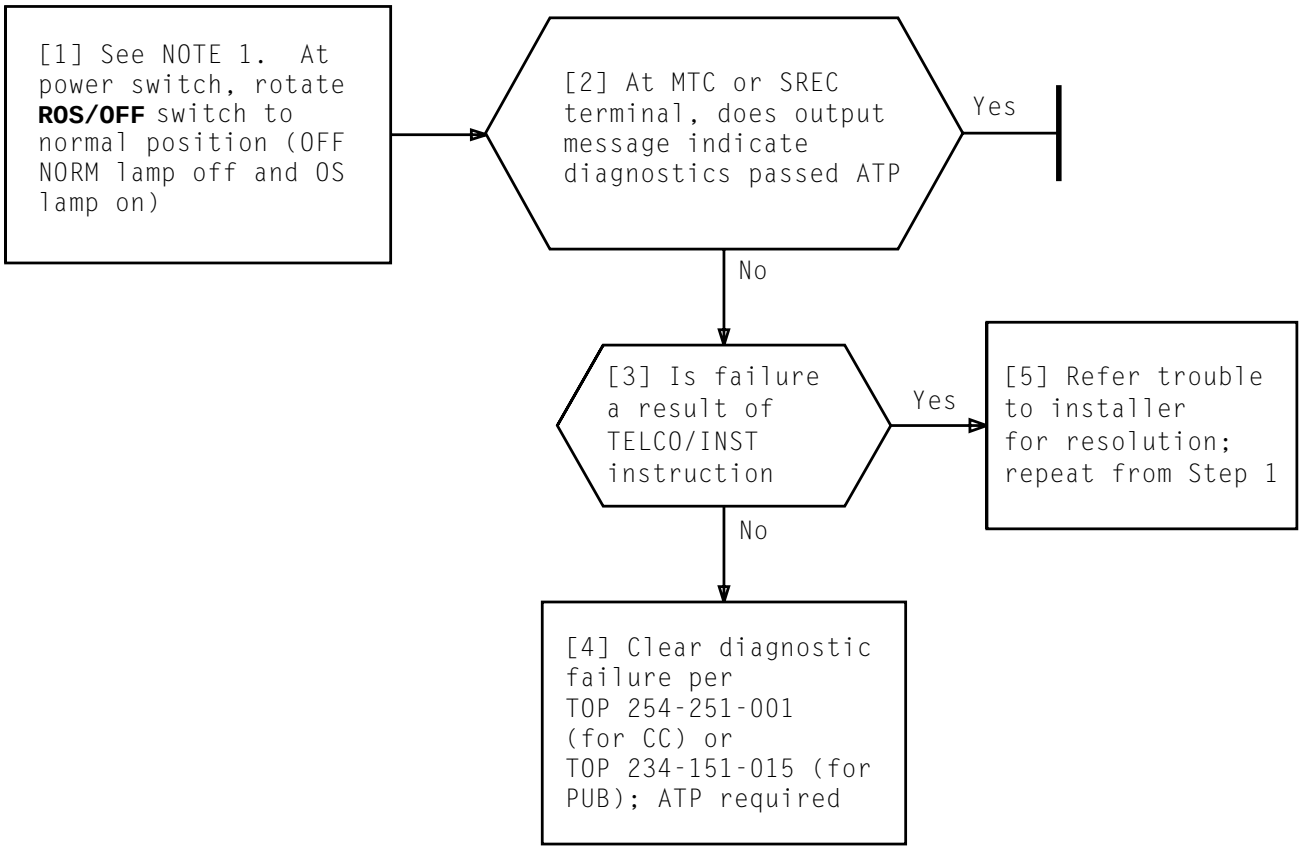
ENSURE ALL UNITS ARE IN-SERVICE



ENSURE ALL UNITS ARE IN-SERVICE

TABLE A			
UNIT TYPE	**TROUBLE CLEARING VOLUME**	**UNIT TYPE**	**TROUBLE CLEARING VOLUME**
3B Computer Model 1	254-301-812 254-301-813	MCC/PPI	234-151-006
3B Computer Model 2/3	254-302-812	MFS	234-151-041
ADS (TUC and DUS)	254-251-010	MISC A, B, C	234-151-043
API	254-251-016	NCLK	234-151-013
AUB	254-251-010	PCDF J5A007B	254-251-025
CC	254-251-001	PCDF J5A007C	254-251-026
CNI	234-151-120	PS	254-251-005
CS	254-251-005	PUBB	234-151-015
DIF	234-151-055	SCS	234-151-077 (LEC) 234-151-077AC (AT&T)
DT	234-151-045	SP1	234-151-031
EST	234-151-050	SP2	234-151-032
IO J5A006A	254-251-020	TGR	234-151-033
IO J5A006C	254-251-021	TMS	234-151-011
IO J5A006D	254-251-022	TSI	234-151-012
		VIF	234-151-025

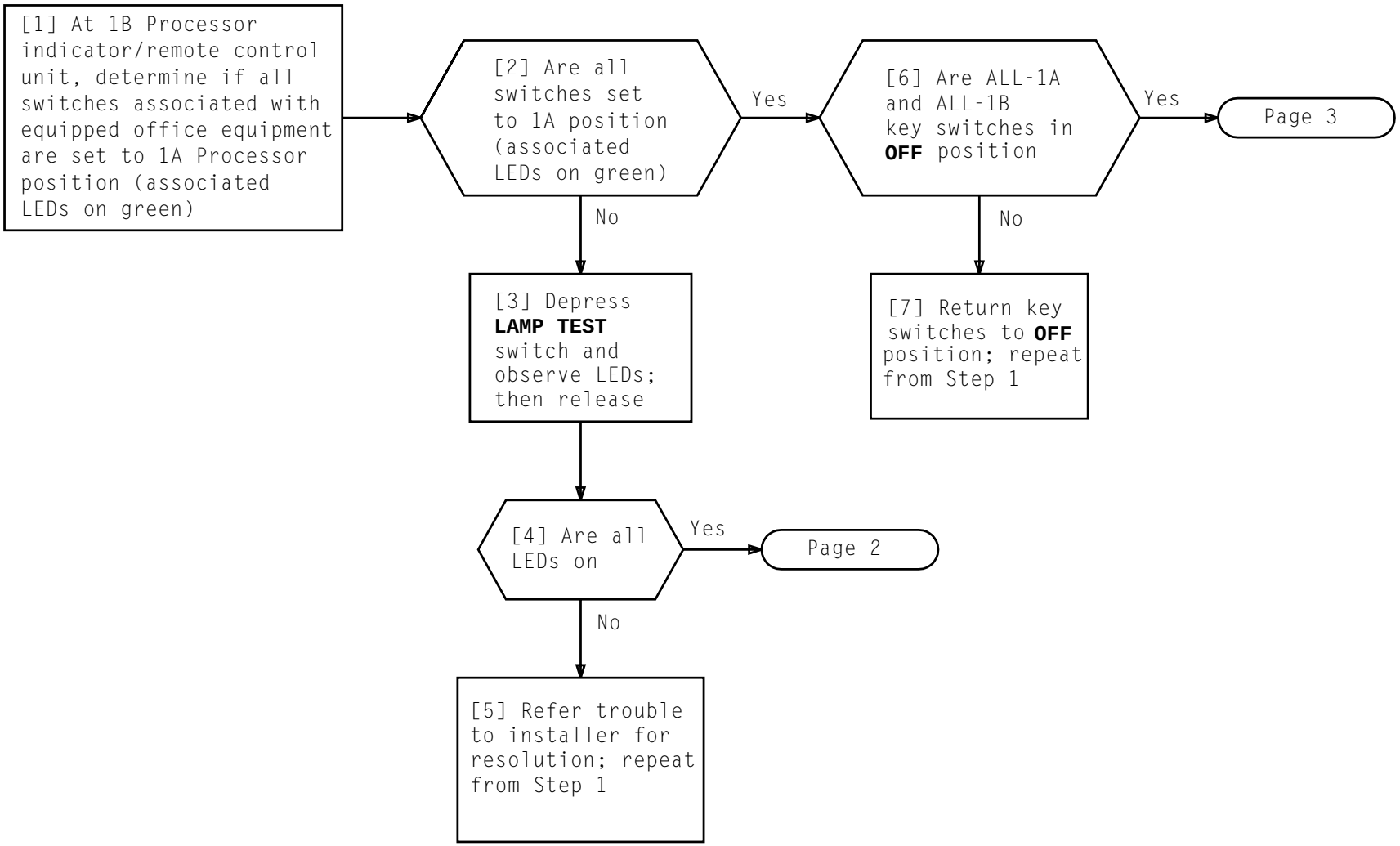
ENSURE ALL UNITS ARE IN-SERVICE



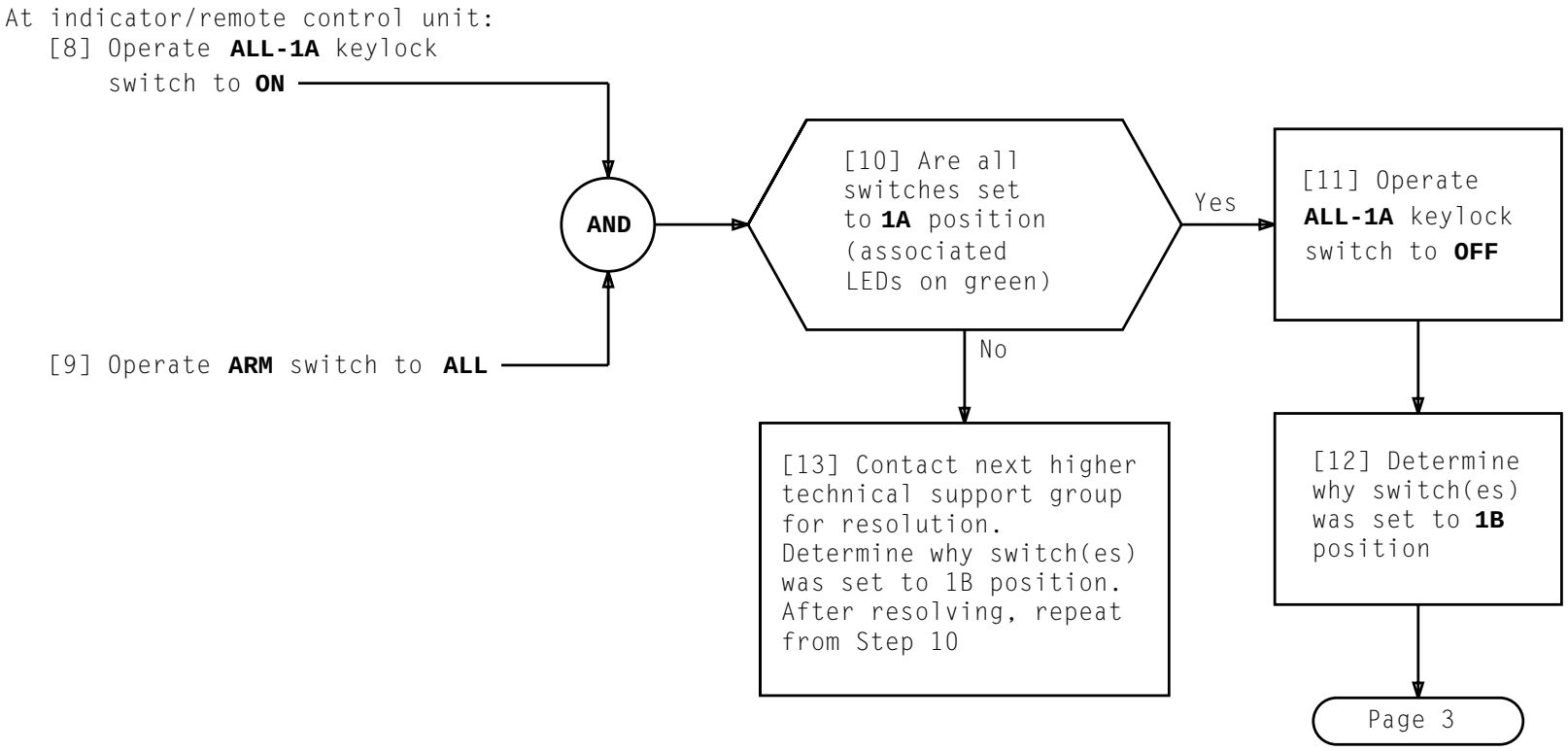
ROTATE ROS/OFF SWITCH TO NORMAL POSITION

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

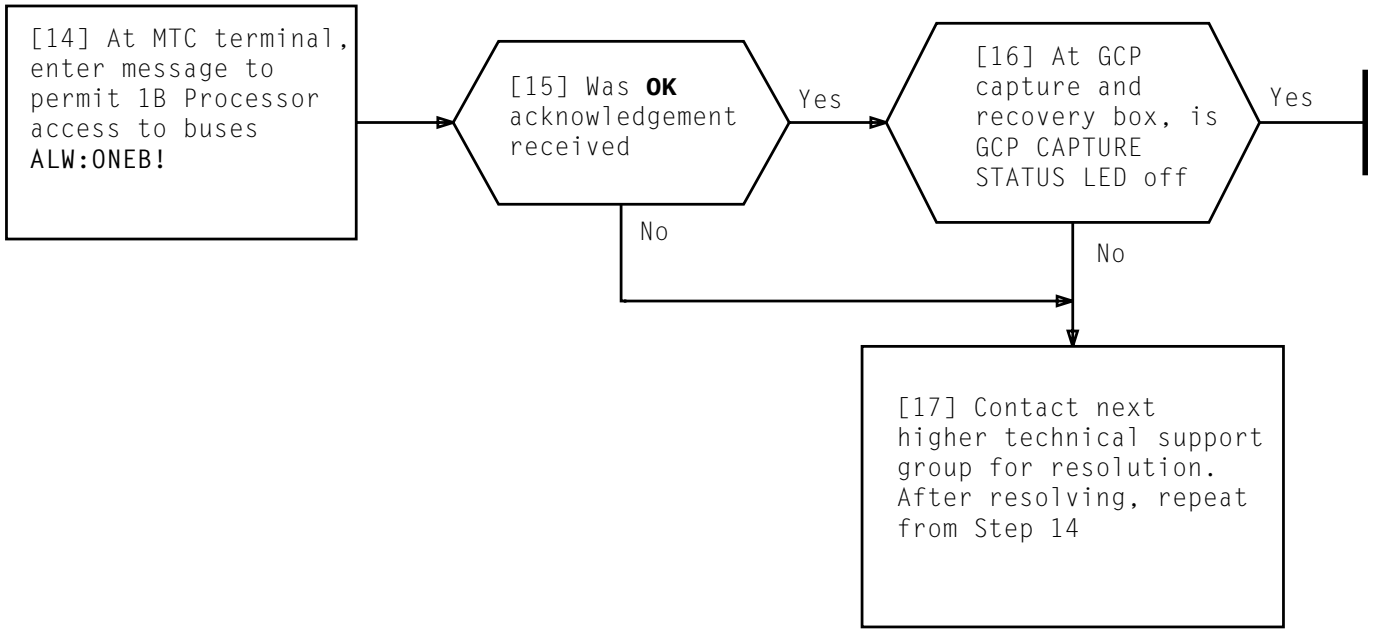
Issue 1	**DEC 1995**
234-353-003	**DLP**
PAGE 1 of 1	**532**



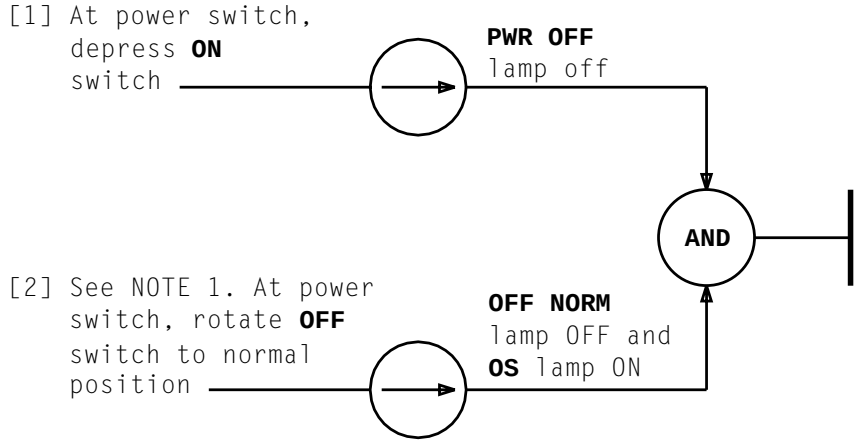
ENSURE 1B PROCESSOR INDICATOR/REMOTE CONTROL UNIT SWITCHES SET TO 1A PROCESSOR POSITION AND PERMIT BUS ACCESS



ENSURE 1B PROCESSOR INDICATOR/REMOTE CONTROL UNIT SWITCHES SET TO 1A PROCESSOR POSITION AND PERMIT BUS ACCESS



ENSURE 1B PROCESSOR INDICATOR/REMOTE CONTROL UNIT SWITCHES SET TO 1A PROCESSOR POSITION AND PERMIT BUS ACCESS



RESTORE POWER WITH POWER SWITCH

NOTE 1 Operation of **OFF** switch will cause diagnostic to be run	
Issue 1	**DEC 1995**
234-353-003	**DLP**
PAGE 1 of 1	**534**

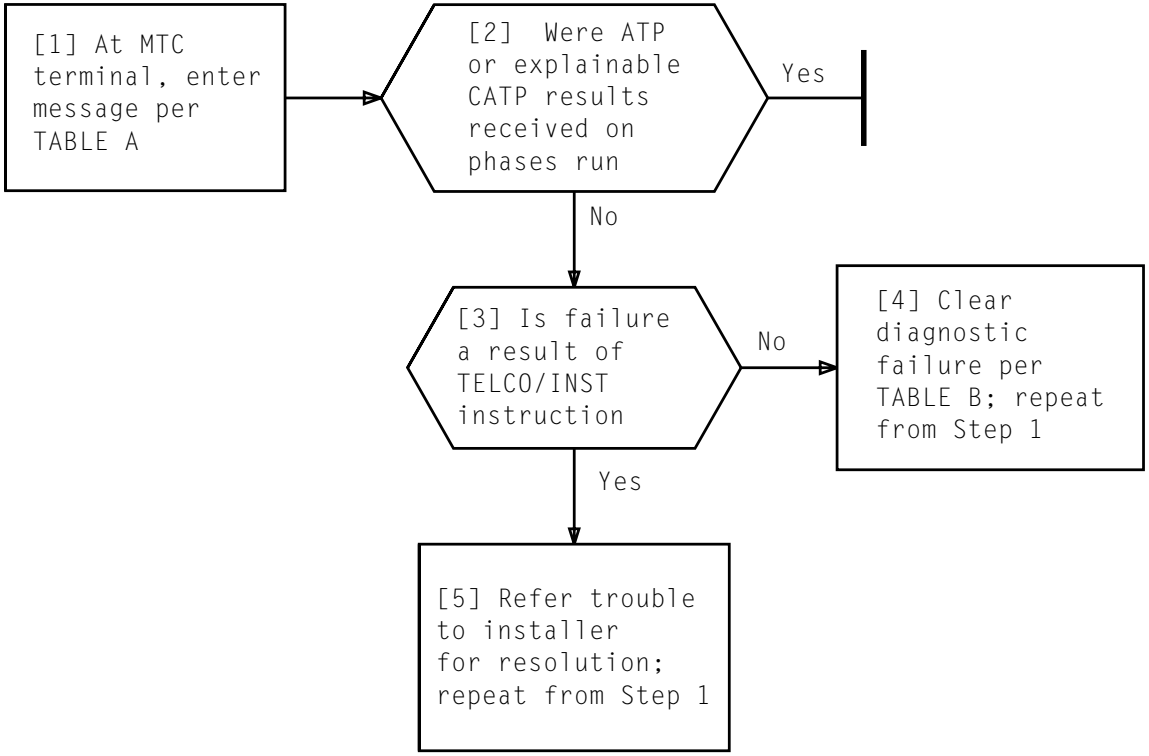


TABLE A	
MESSAGE NUMBER	**INPUT MESSAGE**
1	DGN:a b;RAW!
a = API or AUB or CC or DUS or PUB or TUC	
b = Member number	

TABLE B	
UNIT TYPE	**TROUBLE CLEARING VOLUME**
API	254-251-016
AUB	254-251-010
CC	254-251-001
DUS	254-251-010
PUBB	234-151-015
TUC	254-251-010
Conversion Switch Unit	234-351-006

DIAGNOSE API, AUB, CC, DUS, PUB OR TUC

SCOPE AU CONTROL LEADS

[1] Ensure that scope probes are wrapped around each other with positive lead connected to Channel 1 and negative lead connected to Channel 2 and that ground leads are attached together

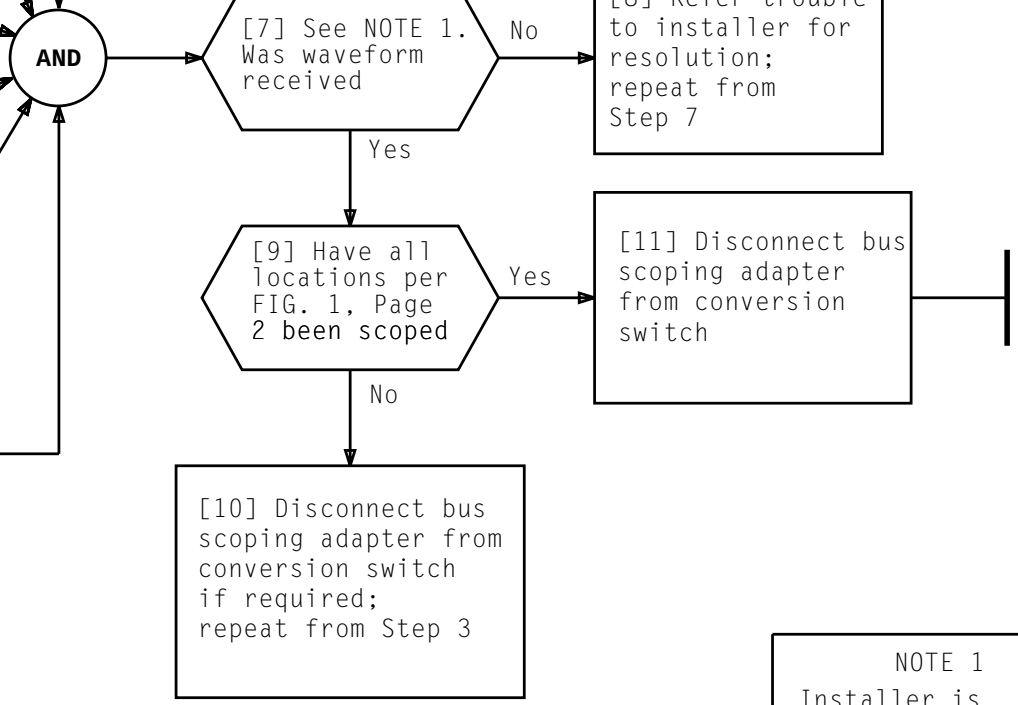
[2] At oscilloscope, depress **STORE** to in position

[3] At AUB conversion switch, connect bus scoping adapter to one location per FIG. 1, Page 2. See DLP-510 on how to use bus scoping adapter

[4] At oscilloscope, depress **SGL SWP** repeatedly until **READY** LED lights

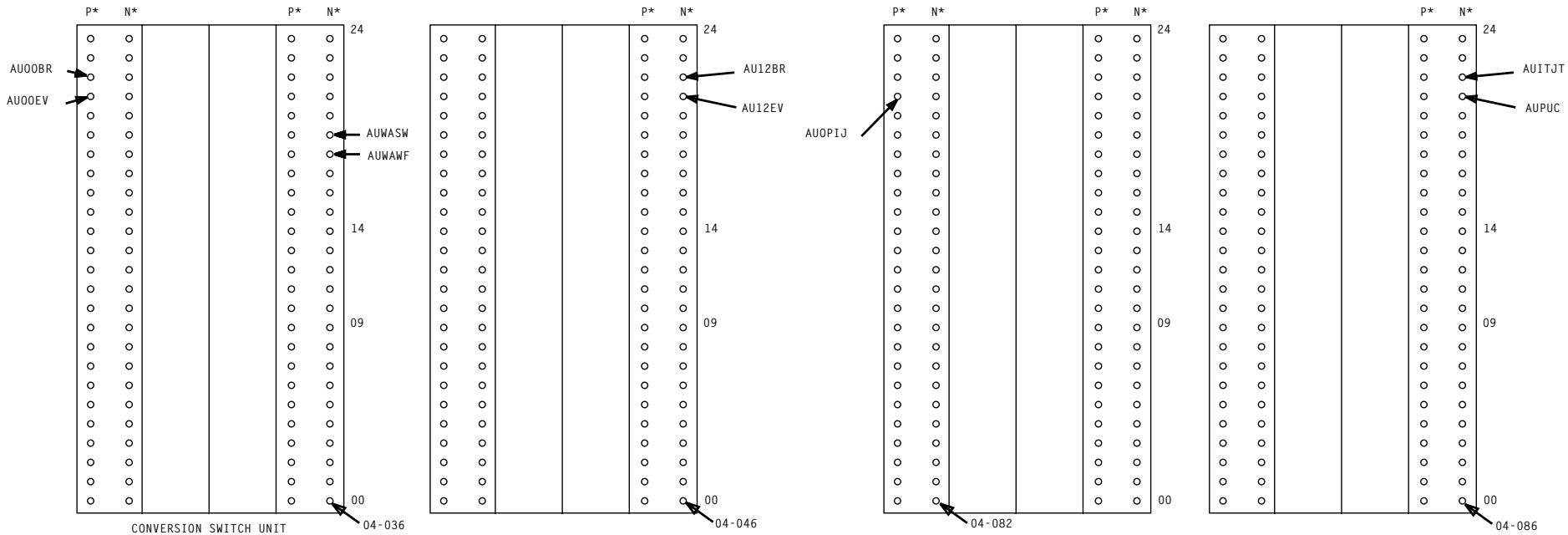
[5] Depress **SAVE/CONT** twice

[6] At MTC terminal, enter message per TABLE A, Page 3 associated with bit being scoped. Message may need to be reentered if waveform is not received



NOTE 1
Installer is responsible to scope for waveform

Issue 1	**DEC 1995**
234-353-003	**DLP**
PAGE 1 of 3	**536**



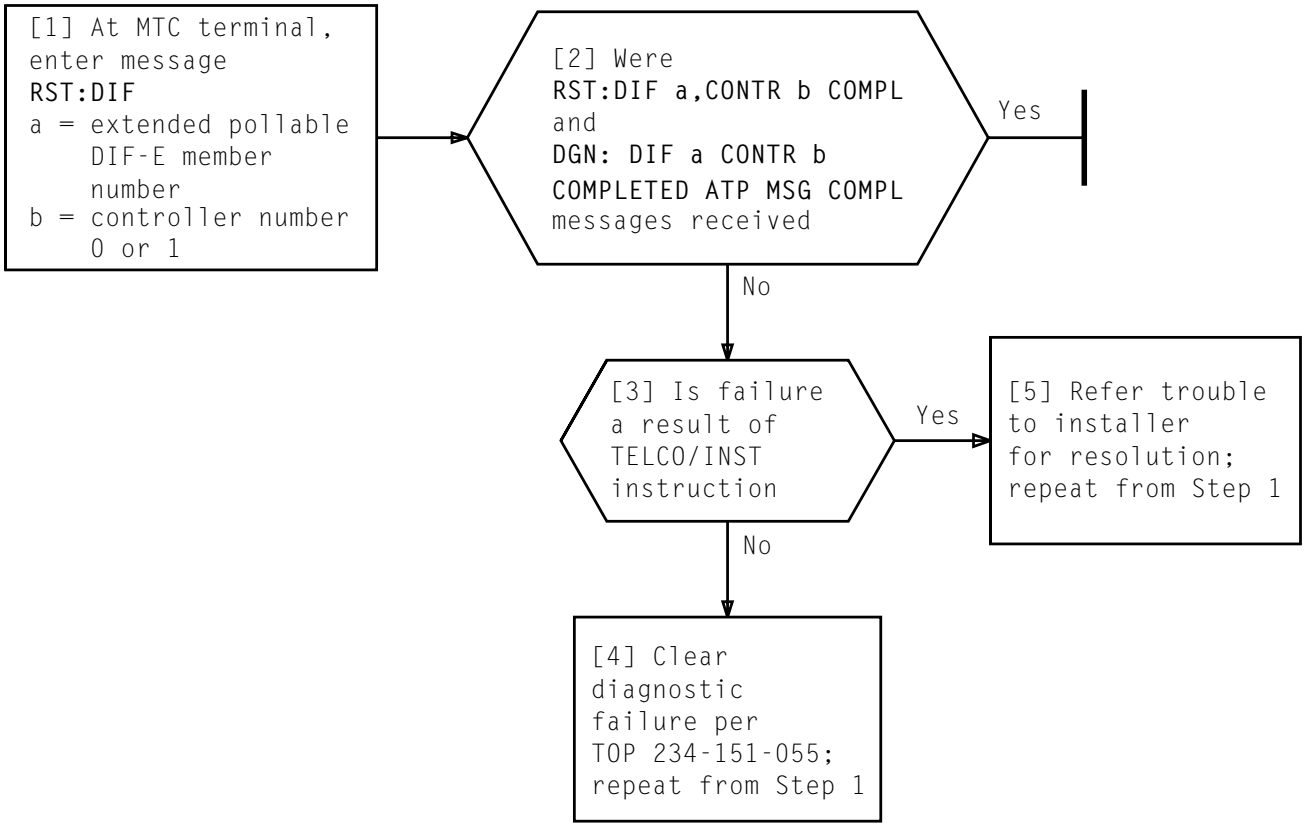
* P FOR POSITIVE LEAD AND
N FOR NEGATIVE LEAD

FIG. 1

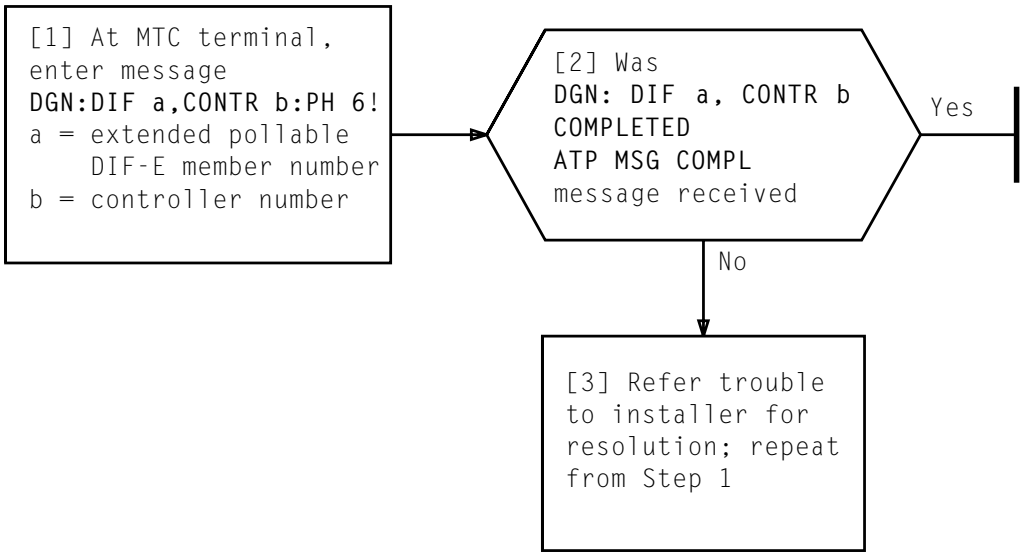
SCOPE AU CONTROL LEADS

TABLE A		
BIT NAME	**BUS SCOPING ADAPTER POSITION**	**INPUT MESSAGE**
AUWAWF	2	RST:AUB a!
AUWASW	3	RST:AUB a!
AU00EV	5	RST:API a!
AU00BR	6	RST:API a!
AU12EV	5	RST:DUS a!
AU12BR	6	RST:DUS a!
AUOPLJ	7	RST:AUB a!
AUPUC	5	RST:AUB a!
AUITJT	6	RST:AUB a!
a = 0 or 1 - associated with conversion switch being scoped		

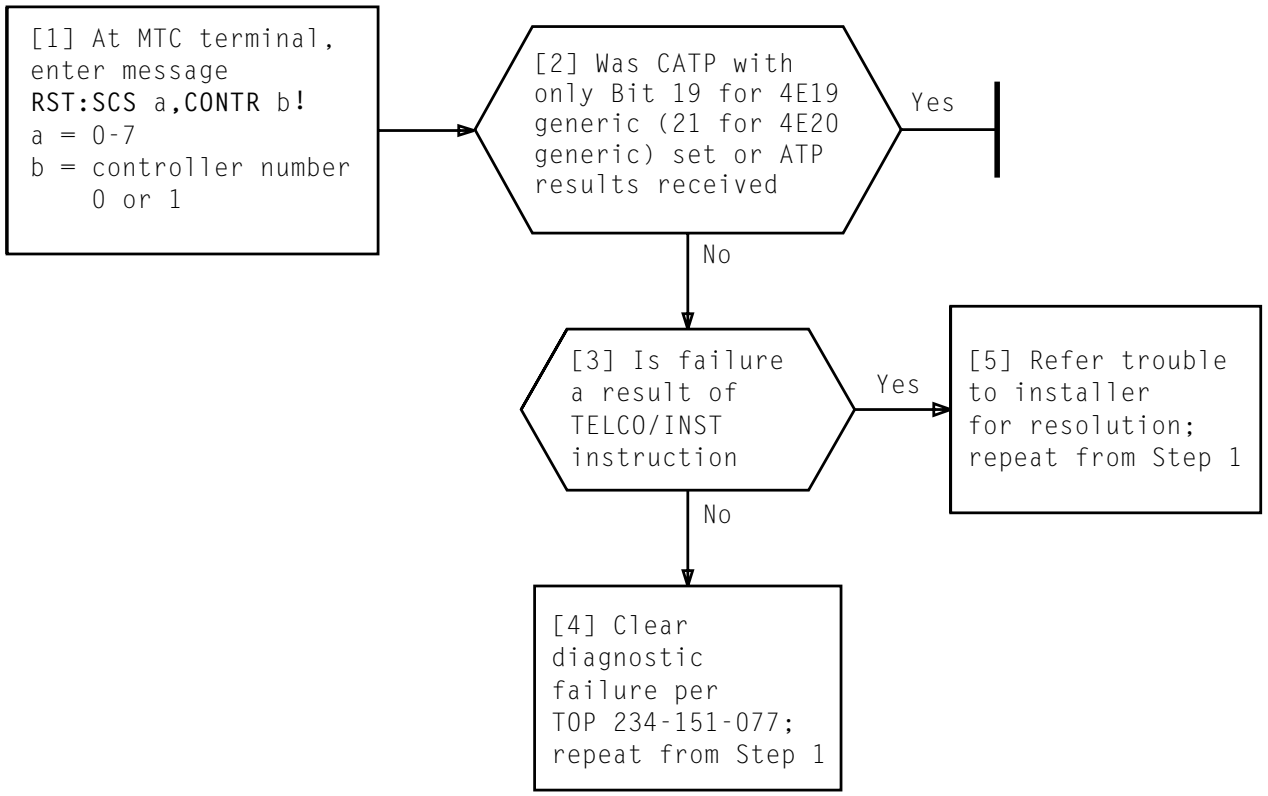
SCOPE AU CONTROL LEADS



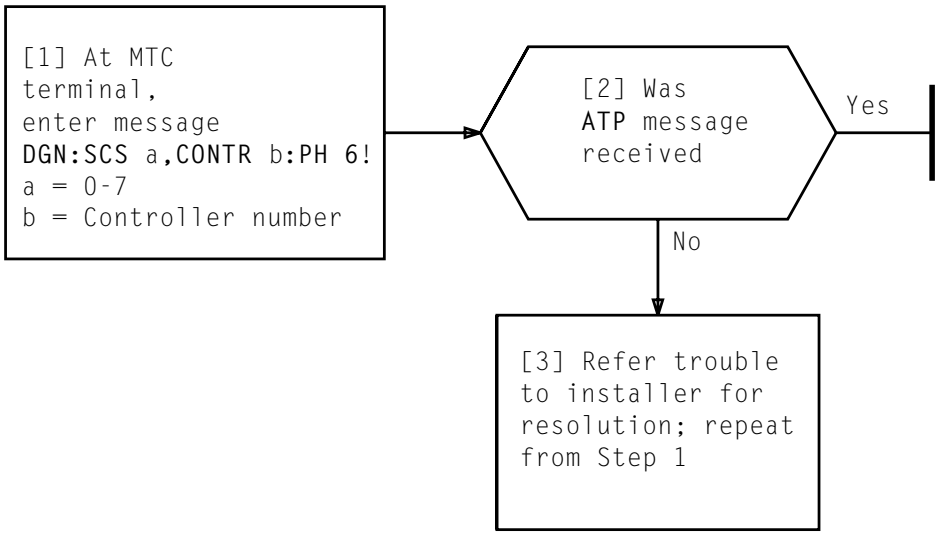
RESTORE EXTENDED POLLABLE DIF-E TO SERVICE



DIAGNOSE EXTENDED POLLABLE DIF-E PHASE 6



RESTORE SCS CONTROLLER TO SERVICE



DIAGNOSE SCS CONTROLLER

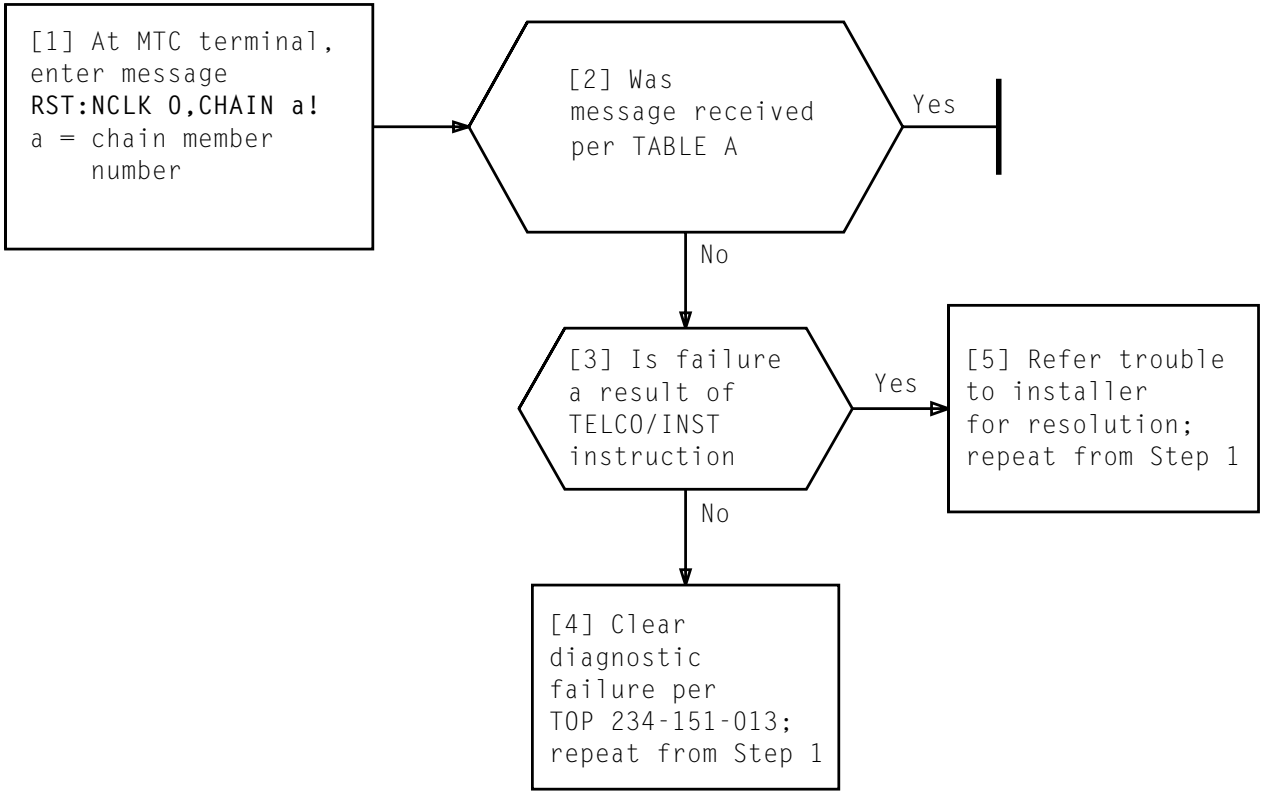
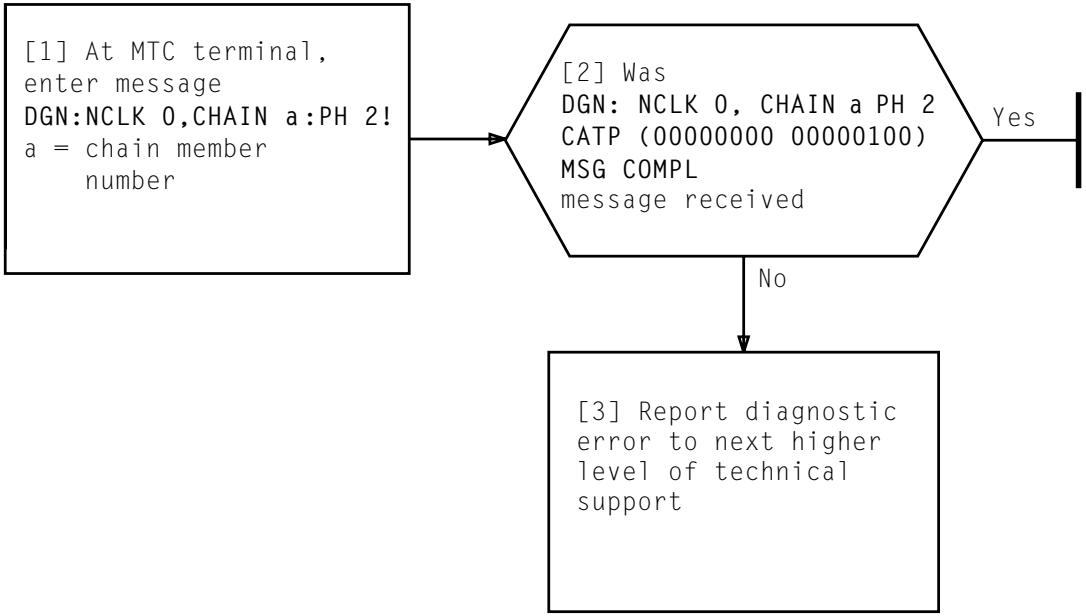


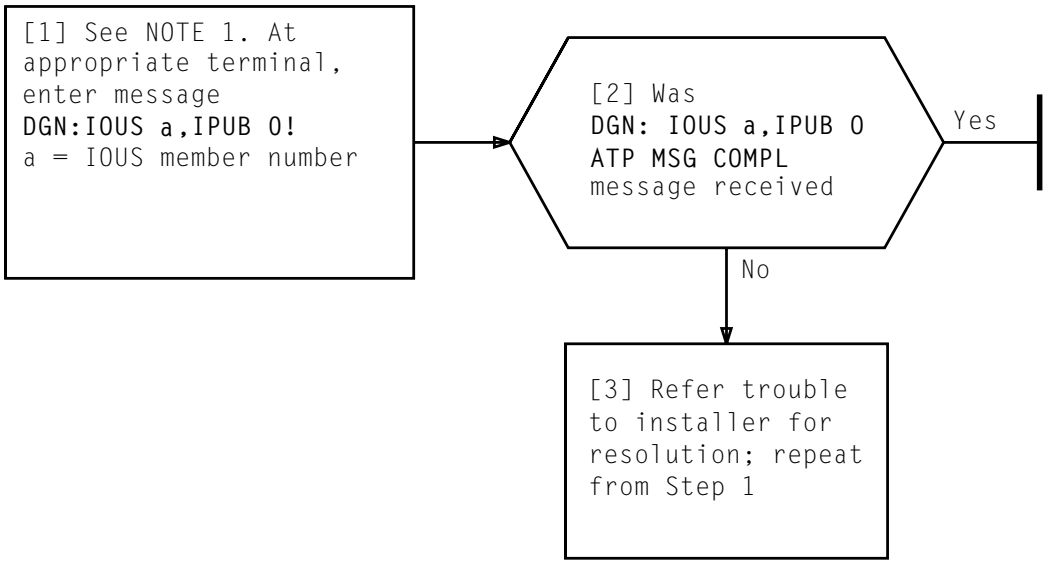
TABLE A

MESSAGE NUMBER	OUTPUT MESSAGES
1	RMV: NCLK 0, CHAIN a COMPL DGN: NCLK 0, CHAIN a COMPLETED ATP MSG COMPL REPT:NCLK 0:OSC I/S - CHAIN a RESTORED (WITH OSC) COMPLETE RST: NCLK 0, CHAIN a COMPL

RESTORE NETWORK CLOCK CHAIN TO SERVICE



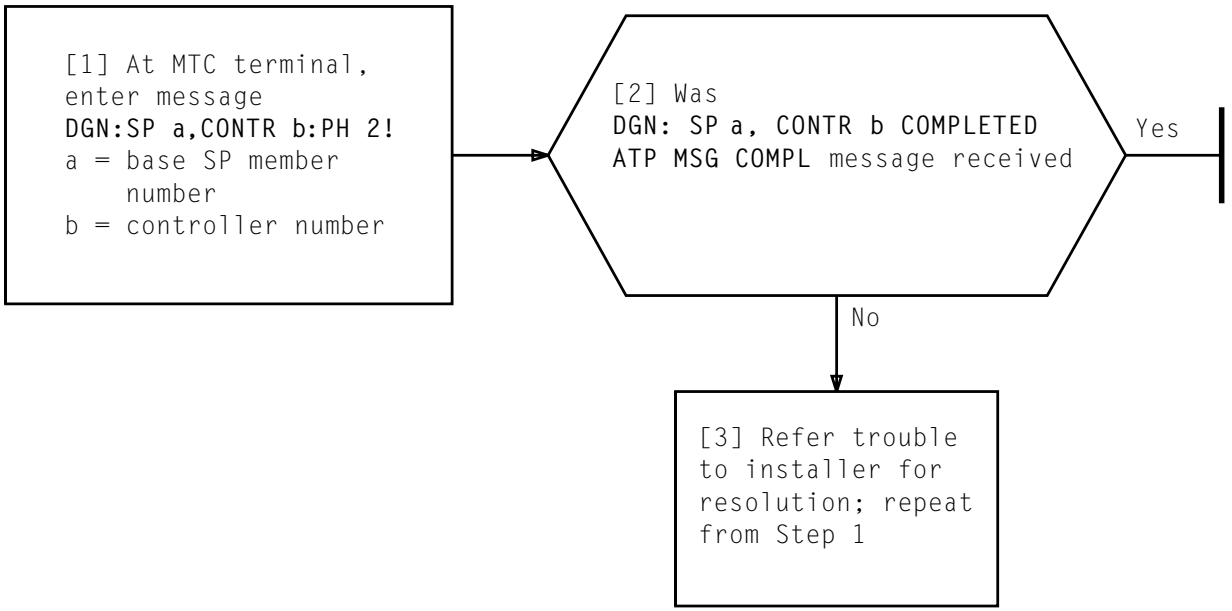
DIAGNOSE NETWORK CLOCK CHAIN SPECIFYING PHASE 2



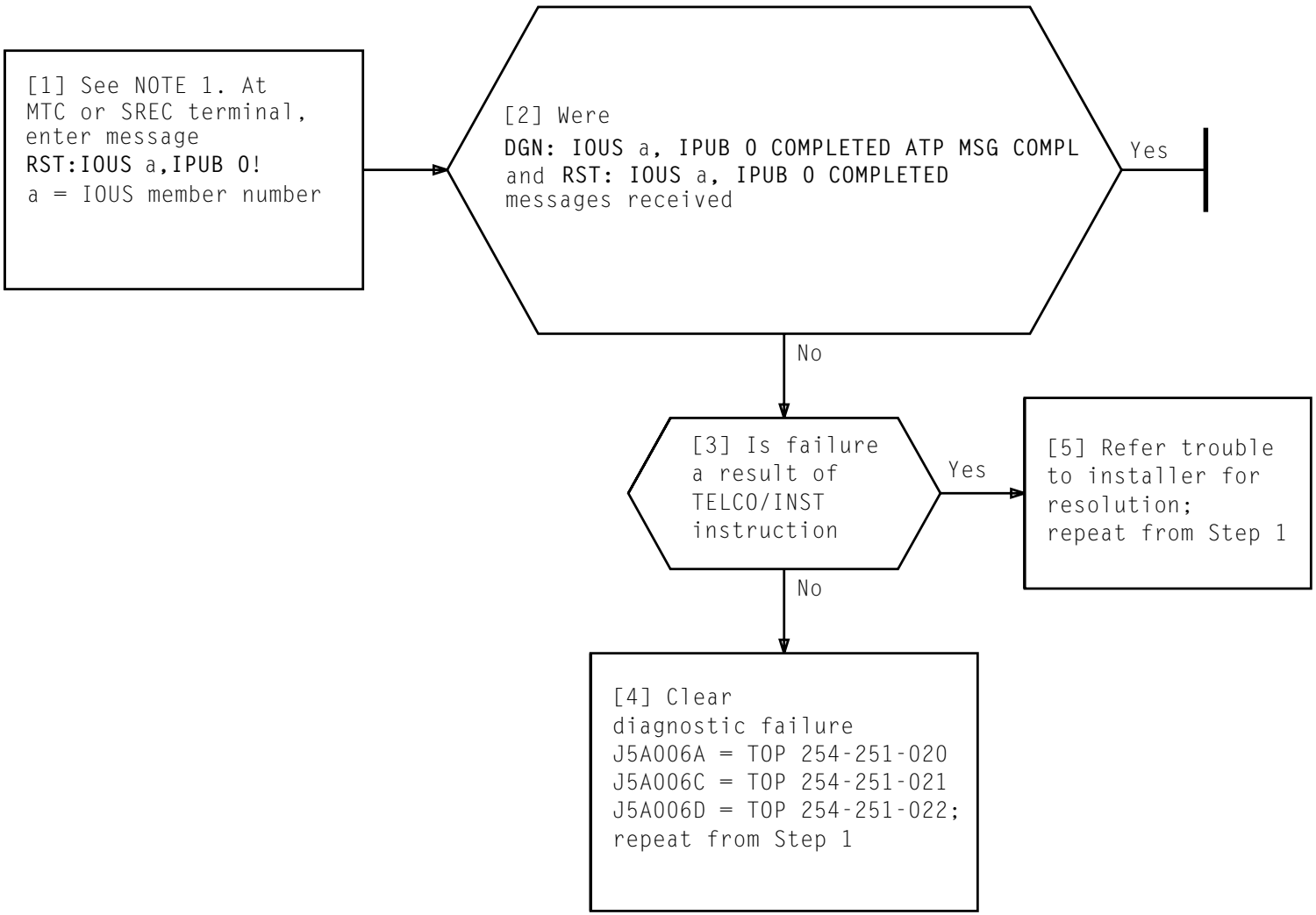
NOTE 1

If IOUS 0 is being diagnosed, SREC1 terminal must be used to enter DGN message

DIAGNOSE IO/IOP IPUB

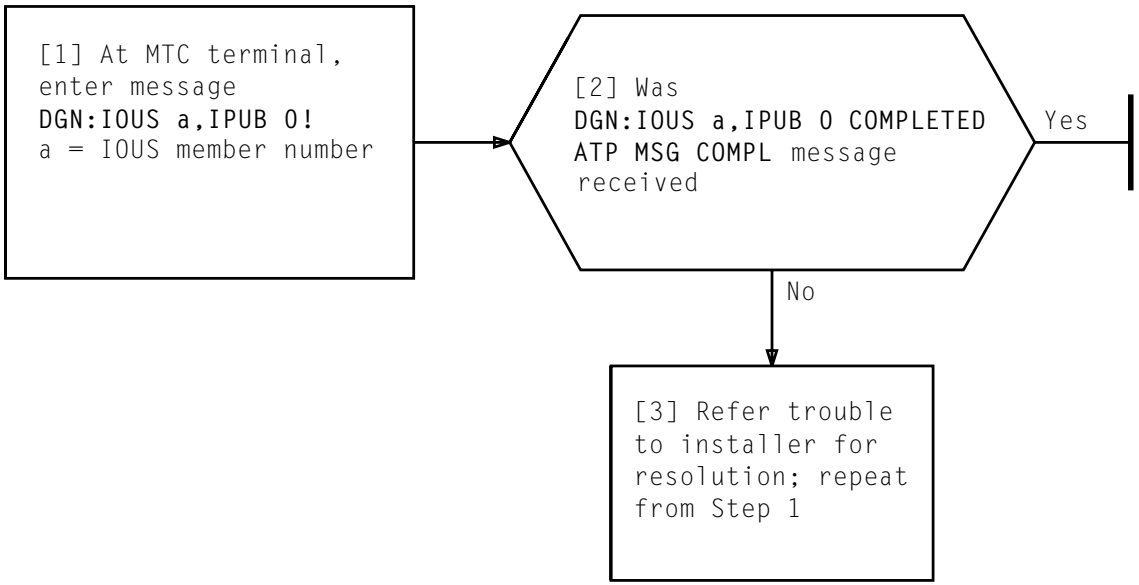


DIAGNOSE BASE SP CONTROLLER PHASE 2

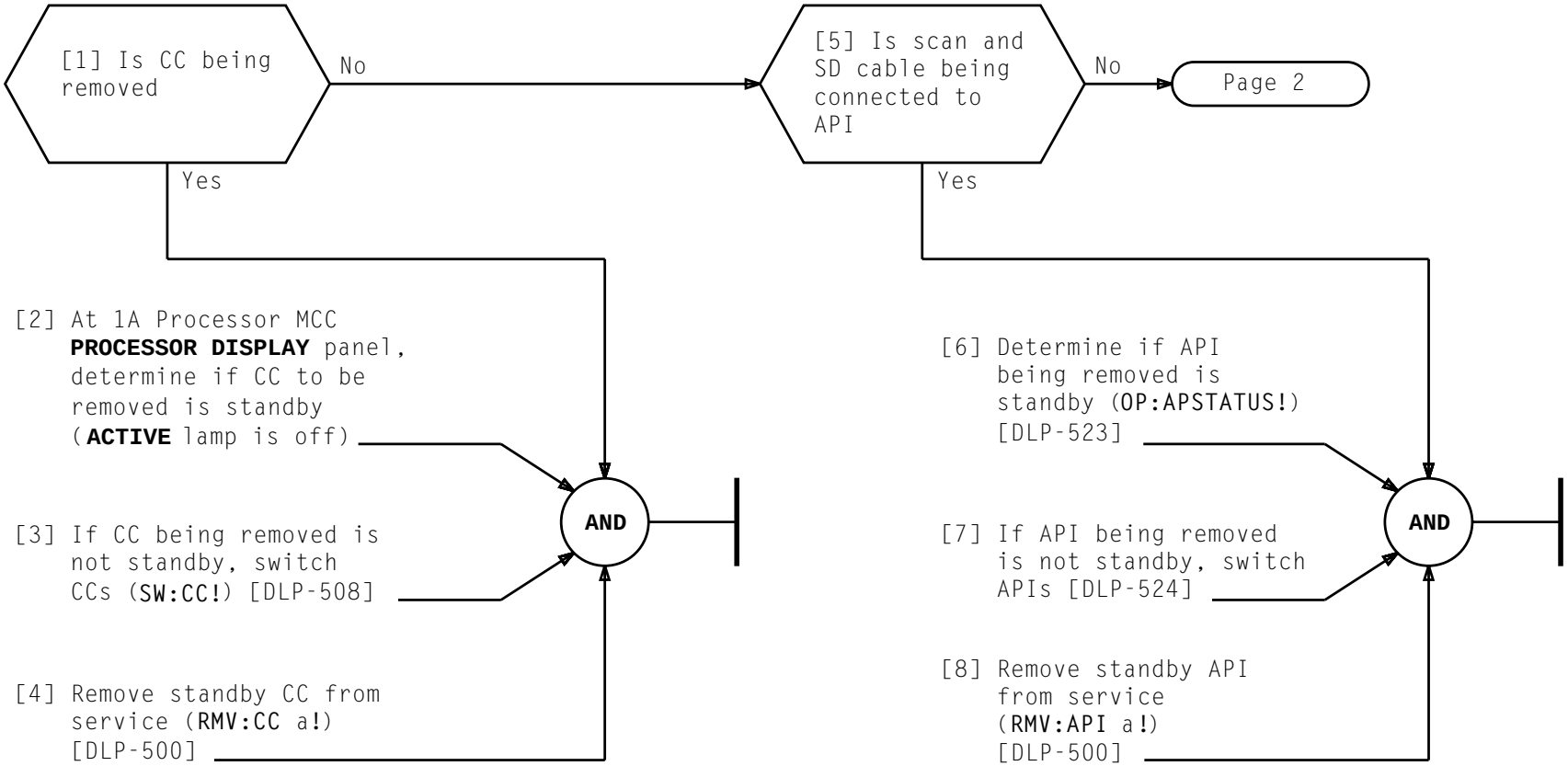


RESTORE IO/IOP TO SERVICE

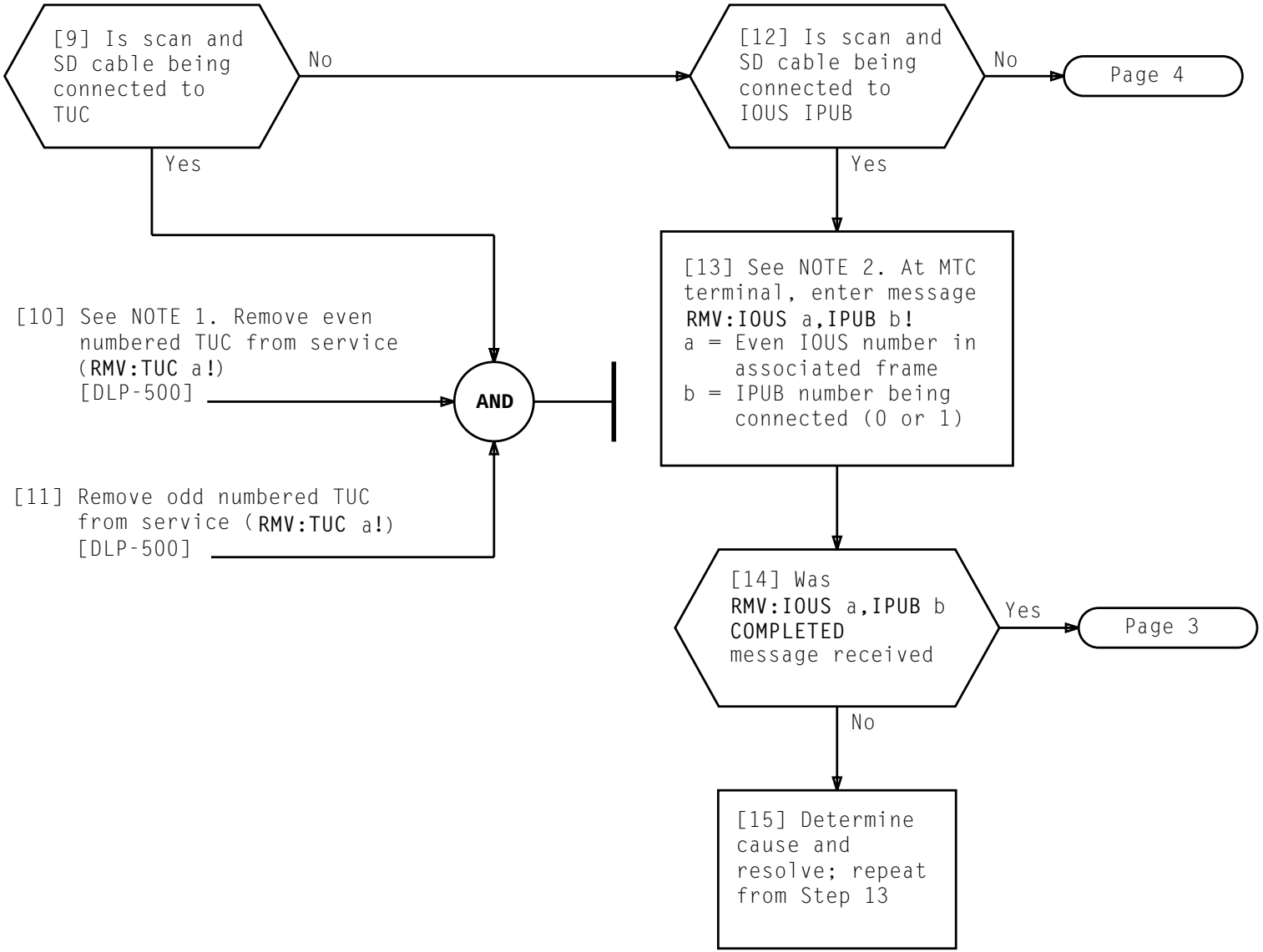
NOTE 1
If IOUS 0 is being restored, SREC terminal must be used to enter RST message



DIAGNOSE IO/IOP



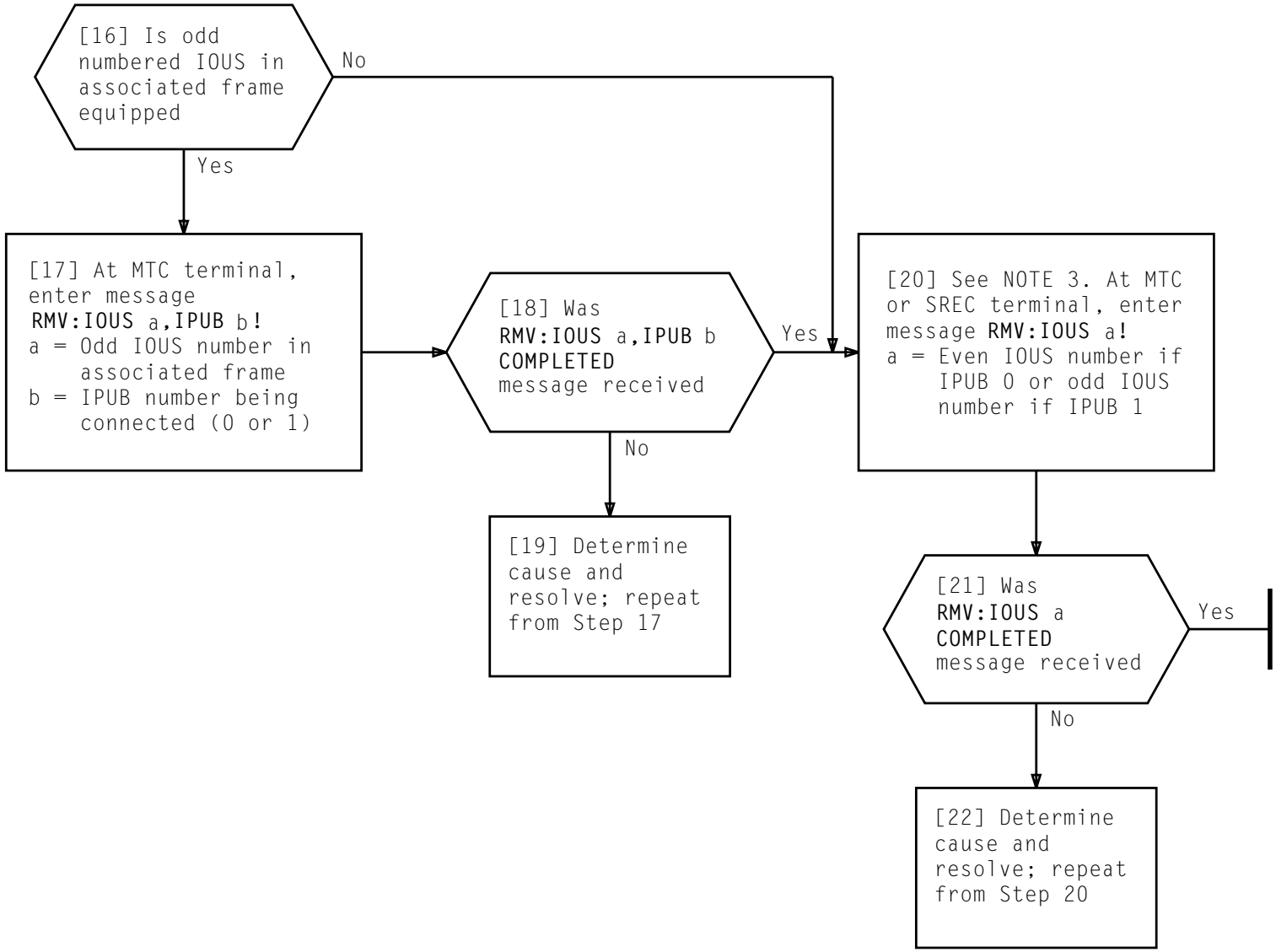
REMOVE UNIT OR FRAME FROM SERVICE



NOTES

1. One scan and SD cable is associated with one TUC pair (0 and 1, 2, and 3, etc).
2. Even and odd IOUSs in IO/IOP frame are associated with each IPUB

REMOVE UNIT OR FRAME FROM SERVICE



NOTE 3
Message must be entered from SREC terminal if removing IOUS 0 or MTC terminal if removing any other IOUS

REMOVE UNIT OR FRAME FROM SERVICE

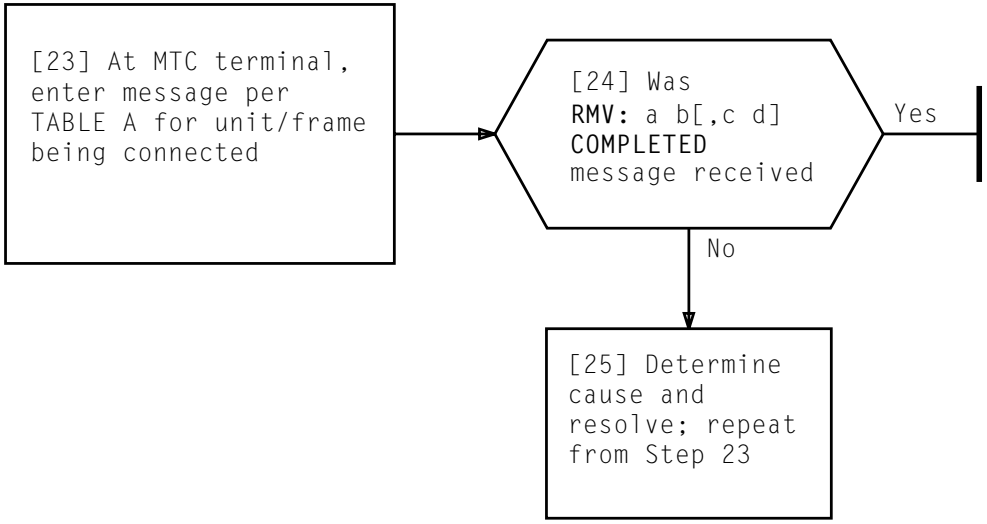
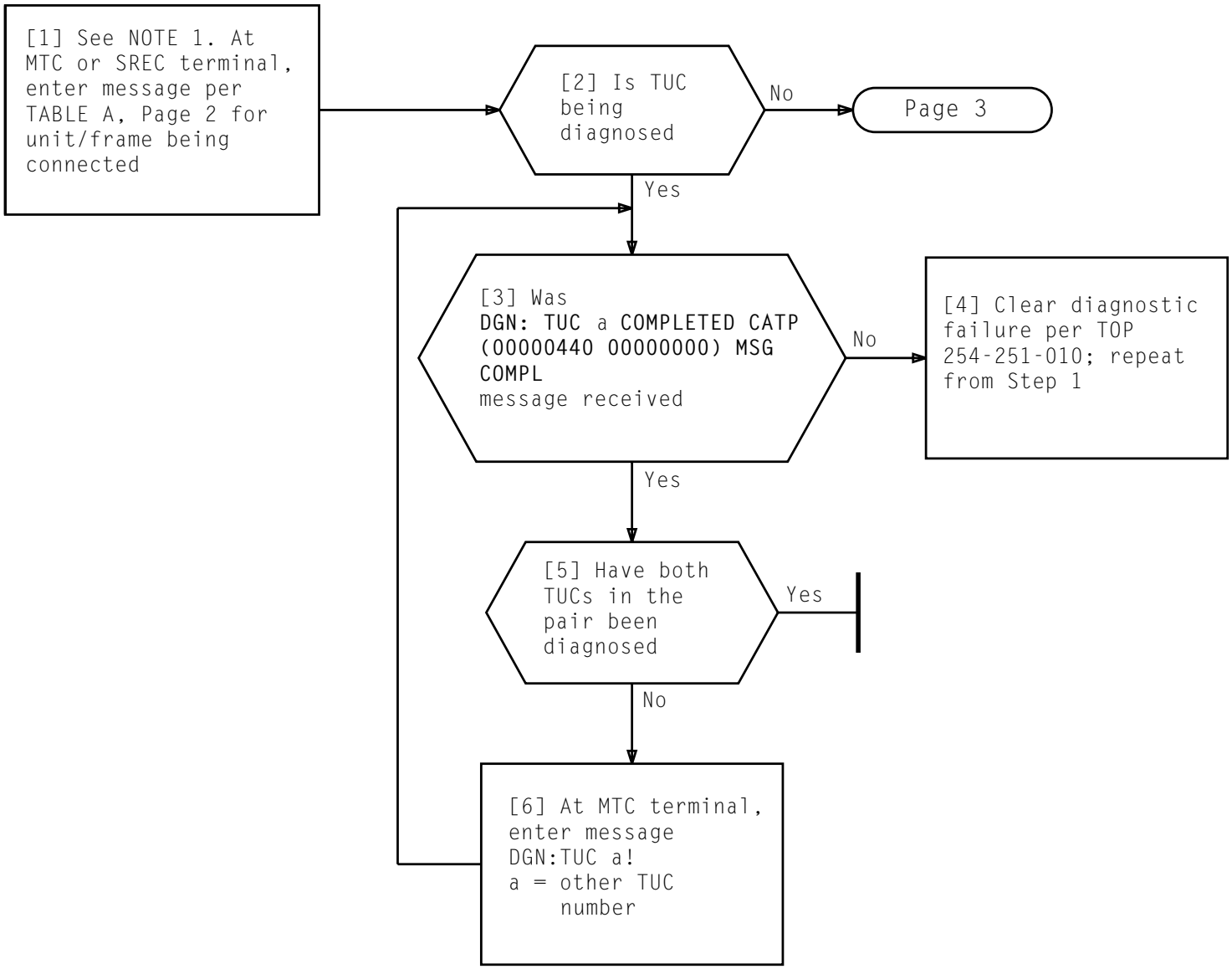


TABLE A

MESSAGE NUMBER	INPUT MESSAGES
1	RMV:PCD a,CONV b! a = PCD number (0 or 1) b = Converter number (0, 1, or 2)
2	RMV:PCD a,DAMON 0 a = PCD number (0 or 1)
3	RMV:DUS a! a = DUS number (0 or 1)

REMOVE UNIT OR FRAME FROM SERVICE

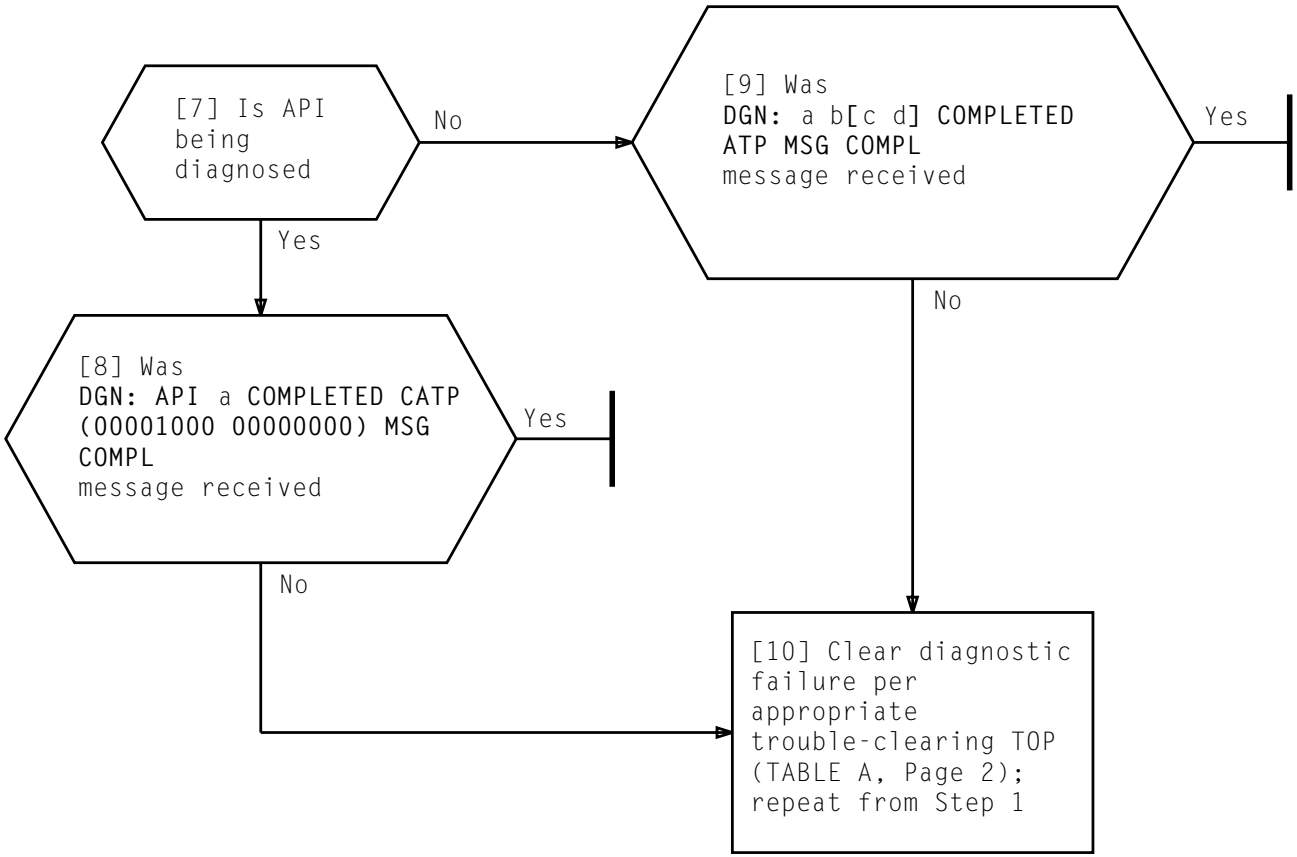


NOTE 1
If IOUS 0 is being diagnosed, SREC terminal must be used to enter message. MTC terminal should be used for all other diagnostics

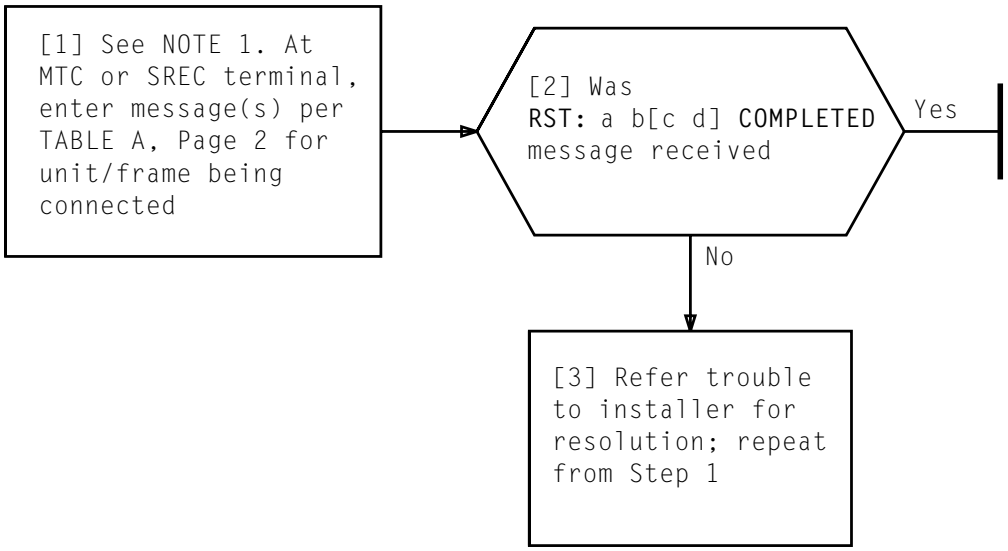
Issue 1	**DEC 1995**
234-353-003	**DLP**
PAGE 1 of 3	**548**

DIAGNOSE UNIT OR FRAME

TABLE A		
MESSAGE NUMBER	**INPUT MESSAGE**	**TROUBLE-CLEARING VOLUME**
1	DGN:PCD a,CONV b! a = PCD number (0 or 1) b = Converter number (0, 1, or 2)	J5A007B = 254-251-025 J5A007C = 254-251-026
2	DGN:PCD a,DAMON 0! a = PCD number (0 or 1)	
3	DGN:TUC c! c = TUC member number	254-251-010
4	DGN:DUS d! d = DUS member number (0 or 1)	
5	DGN:API e! e = API member number (0 or 1)	254-251-016
6*	DGN:IOUS f! f = IOUS number	J5A006A = 254-251-020 J5A006C = 254-251-021 J5A006D = 254-251-022
* IPUBs are not diagnsosed		



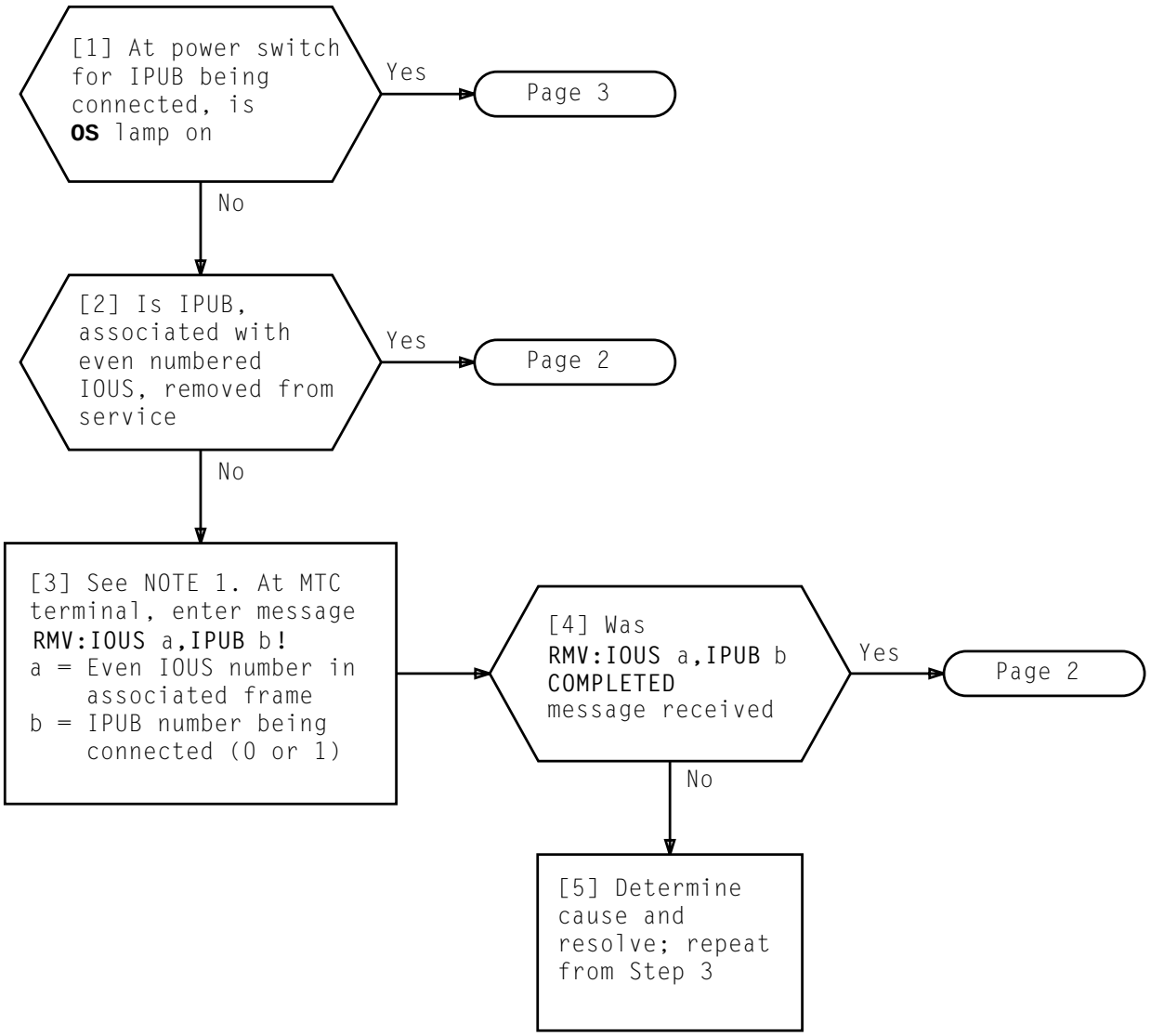
DIAGNOSE UNIT OR FRAME



NOTE 1
When restoring IOUS 0, RST messages must be entered from SREC terminal

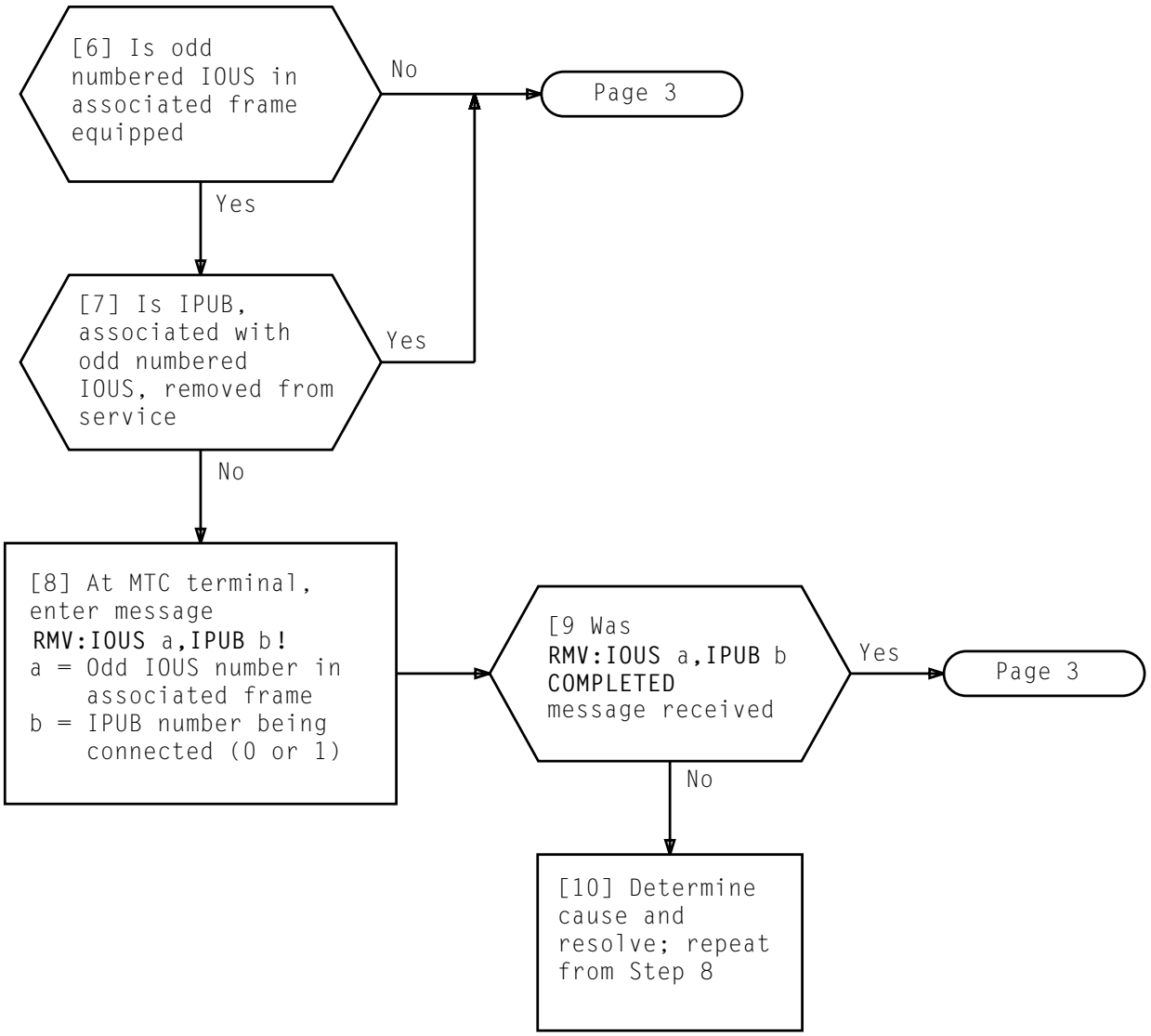
RESTORE UNIT OR FRAME TO SERVICE

TABLE A		
MESSAGE NUMBER	**INPUT MESSAGE**	**TROUBLE-CLEARING VOLUME**
1	RST:PCD a,CONV b! a = PCD number (0 or 1) b = Converter number (0, 1, or 2)	J5A007B = 254-251-025 J5A007C = 254-251-026
2	RST:PCD a,DAMON 0! a = PCD number (0 or 1)	
3	RST:TUC c! c = TUC member number	254-251-010
4	RST:DUS d! d = DUS member number (0 or 1)	
5	RST:API e! e = API member number (0 or 1)	254-251-016
6	RST:IOUS f,IPUB g! RST:IOUS h,IPUB g! f = Even IOUS number (0 or 1) g = IPUB number (0 or 1) h = Odd IOUS number (if equipped) RST:IOUS f!	J5A006A = 254-251-020 J5A006C = 254-251-021 J5A006D = 254-251-022
7	RST:CC i!	254-251-001

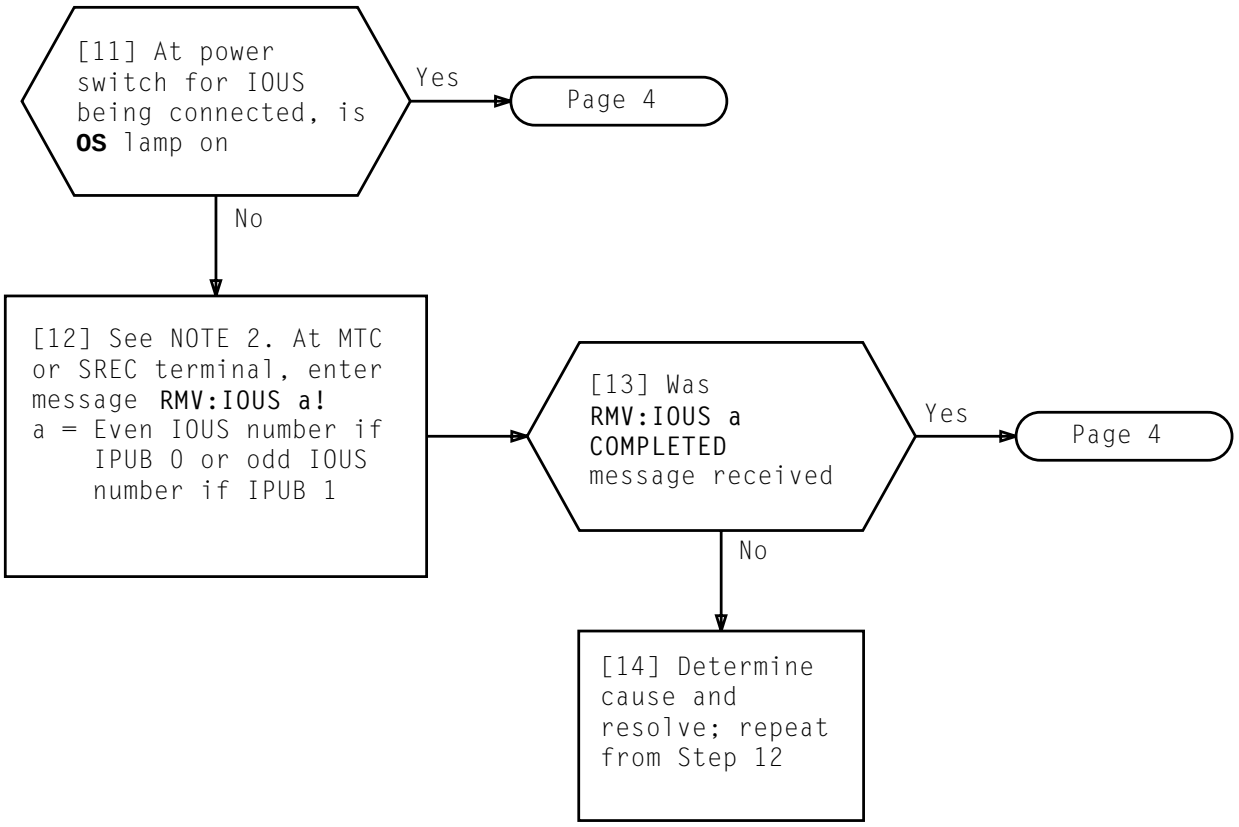


REMOVE POWER FROM IOUS/IPUB USING POWER SWITCH

NOTE 1
Even and odd IOUSs in IO/IOP frame are associated with each IPUB



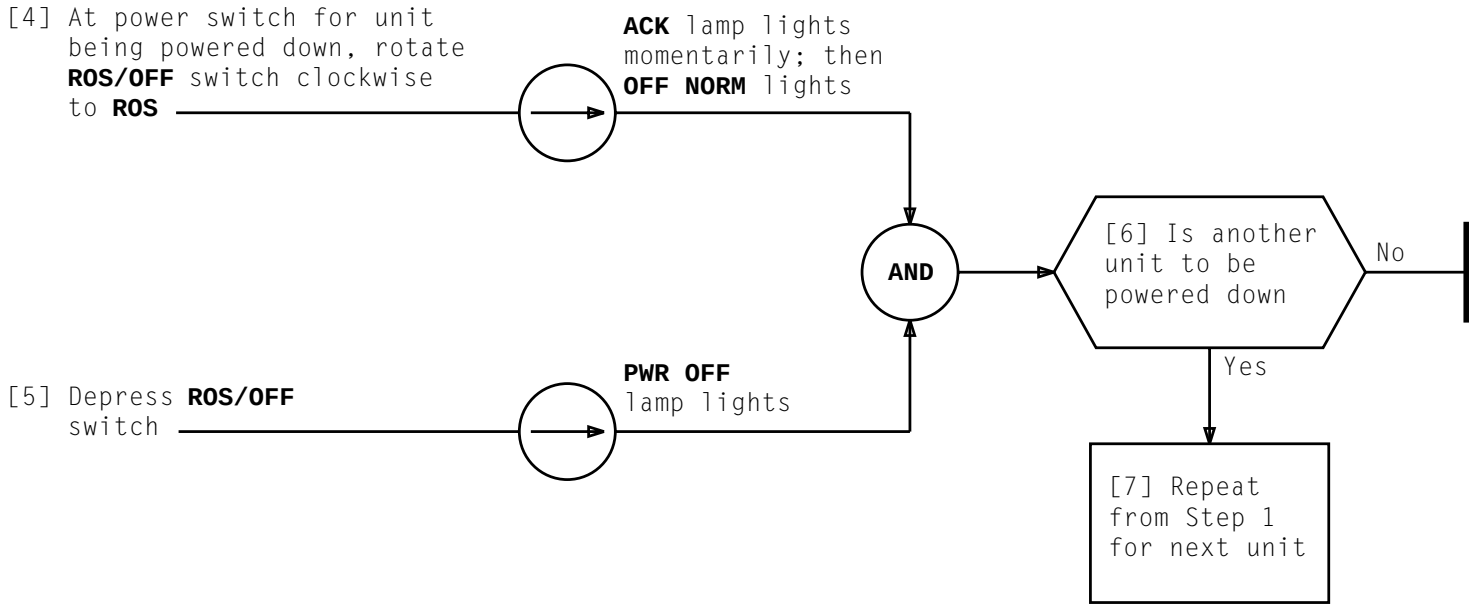
REMOVE POWER FROM IOUS/IPUB USING POWER SWITCH



REMOVE POWER FROM IOUS/IPUB USING POWER SWITCH

NOTE 2

Message must be entered from SREC terminal if removing IOUS 0 or MTC terminal if removing any other IOUS



REMOVE POWER FROM IOUS/IPUB USING POWER SWITCH

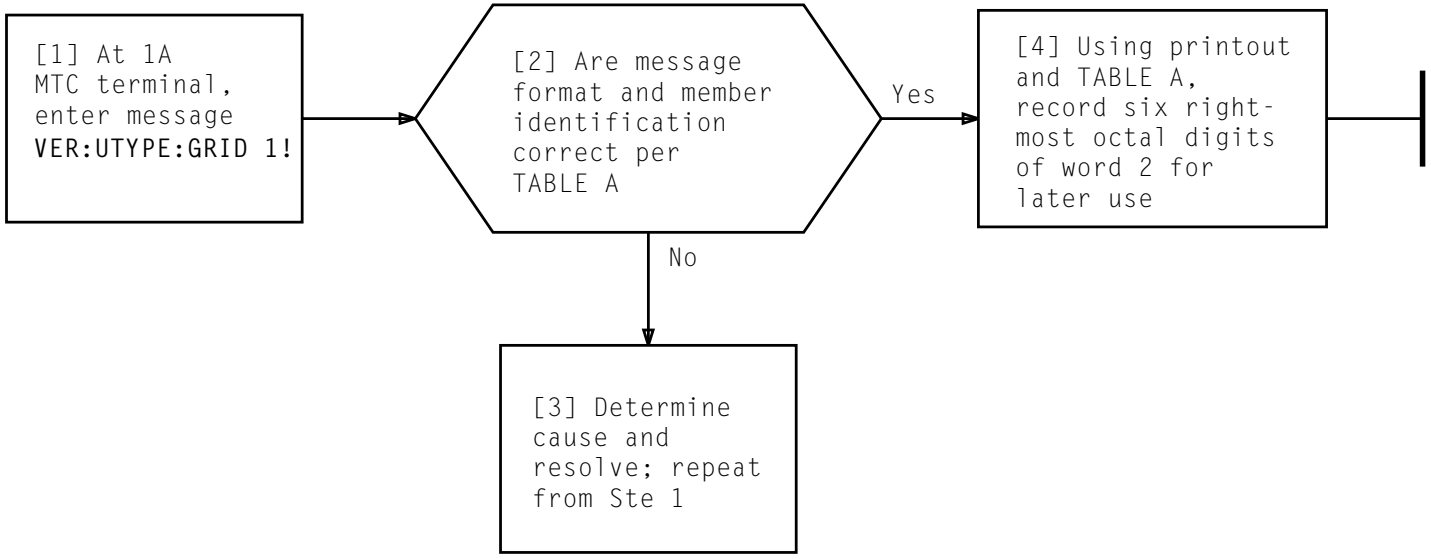


TABLE A

MESSAGE NUMBER	OUTPUT MESSAGE
1	VER:UTMN;OPT(),CUR: FLN a, UTYN GRID, MEMN 1, ME OPER, ENTRY ADDRESS b, ENTRY SIZE 4, CUR WORD 0 _____ _____ (WORD 2) _____

a = Floor location number
b = Starting octal address for unit type entry

DETERMINE MDN VALUE FOR MISCELLANEOUS SD POINTS

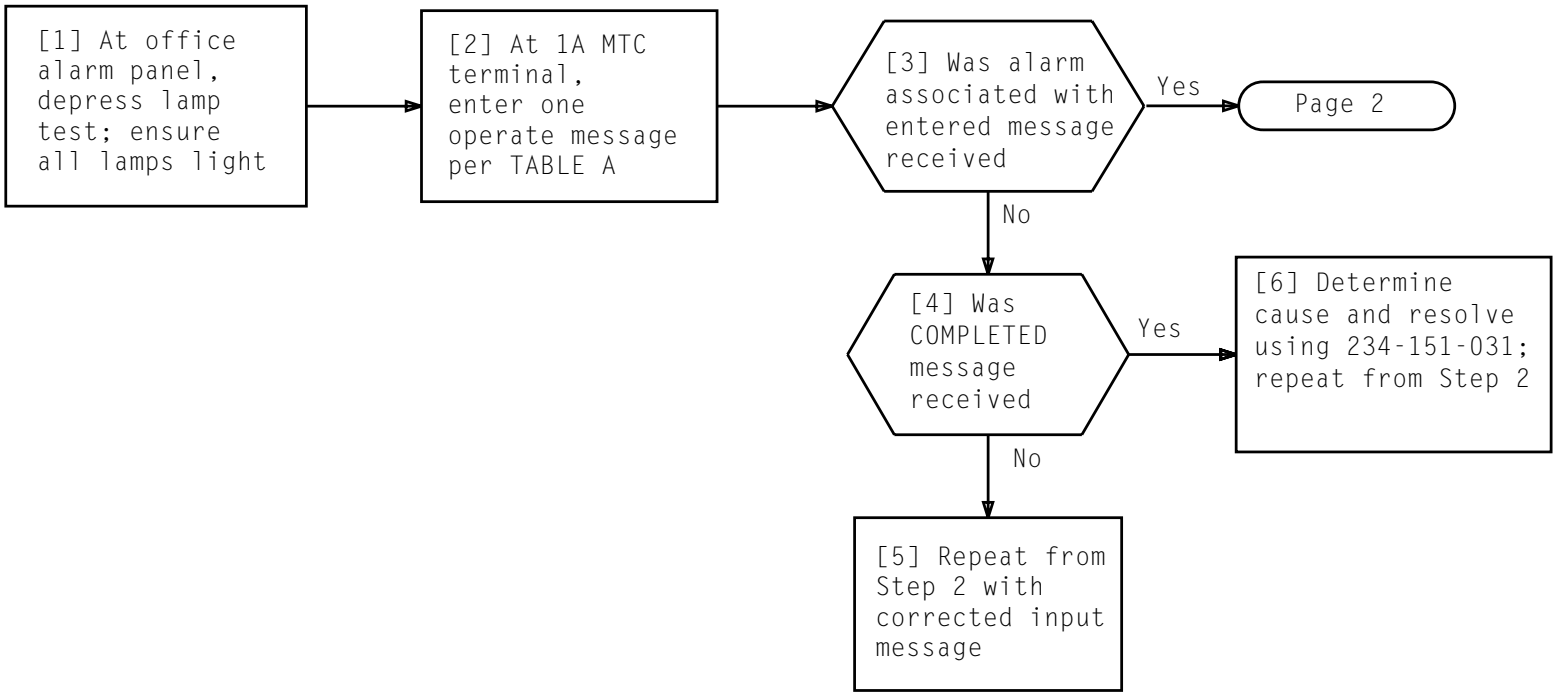


TABLE A

ALARM	OPERATE INPUT MESSAGE
CRITICAL	ORD:SD;OPR:MDN O'a!
MAJOR	ORD:SD;OPR:MDN O'a+1!
MINOR	ORD:SD;OPR:MDN O'a+2!

a = Octal MDN value recorded earlier
a+1 = Octal MDN value recorded earlier plus 1
a+2 = Octal MDN value recorded earlier plus 2

TEST OFFICE ALARMS

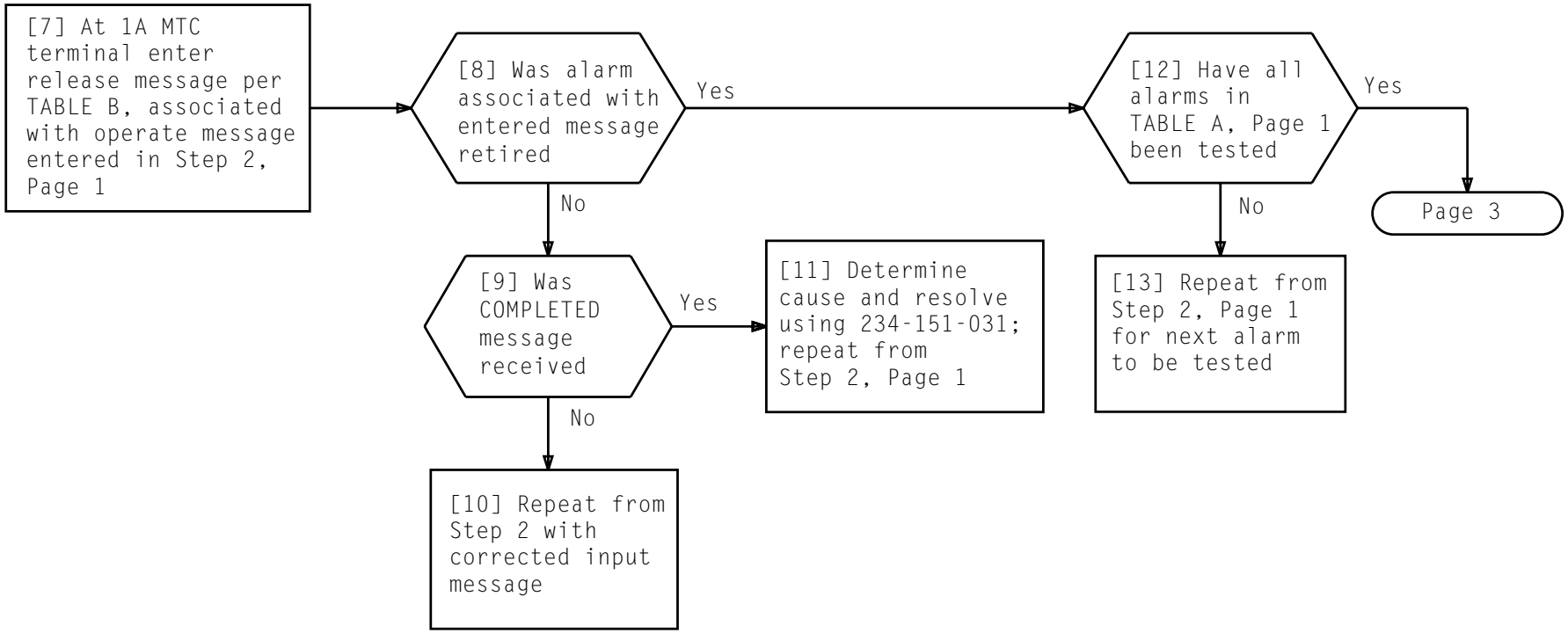


TABLE A

ALARM	RELEASE INPUT MESSAGE
CRITICAL	ORD:SD;RLS:MDN 0'a!
MAJOR	ORD:SD;RLS:MDN 0'a+1!
MINOR	ORD:SD;RLS:MDN 0'a+2!

a = Octal MDN value recorded earlier
a+1 = Octal MDN value recorded earlier plus 1
a+2 = Octal MDN value recorded earlier plus 2

TEST OFFICE ALARMS

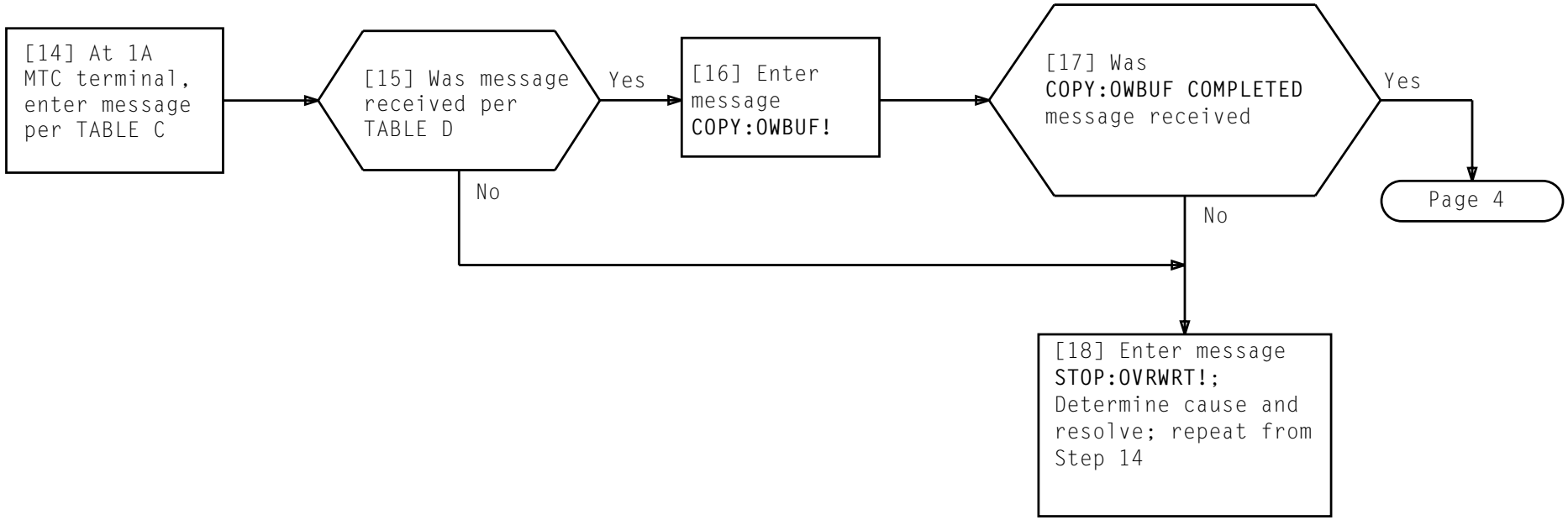
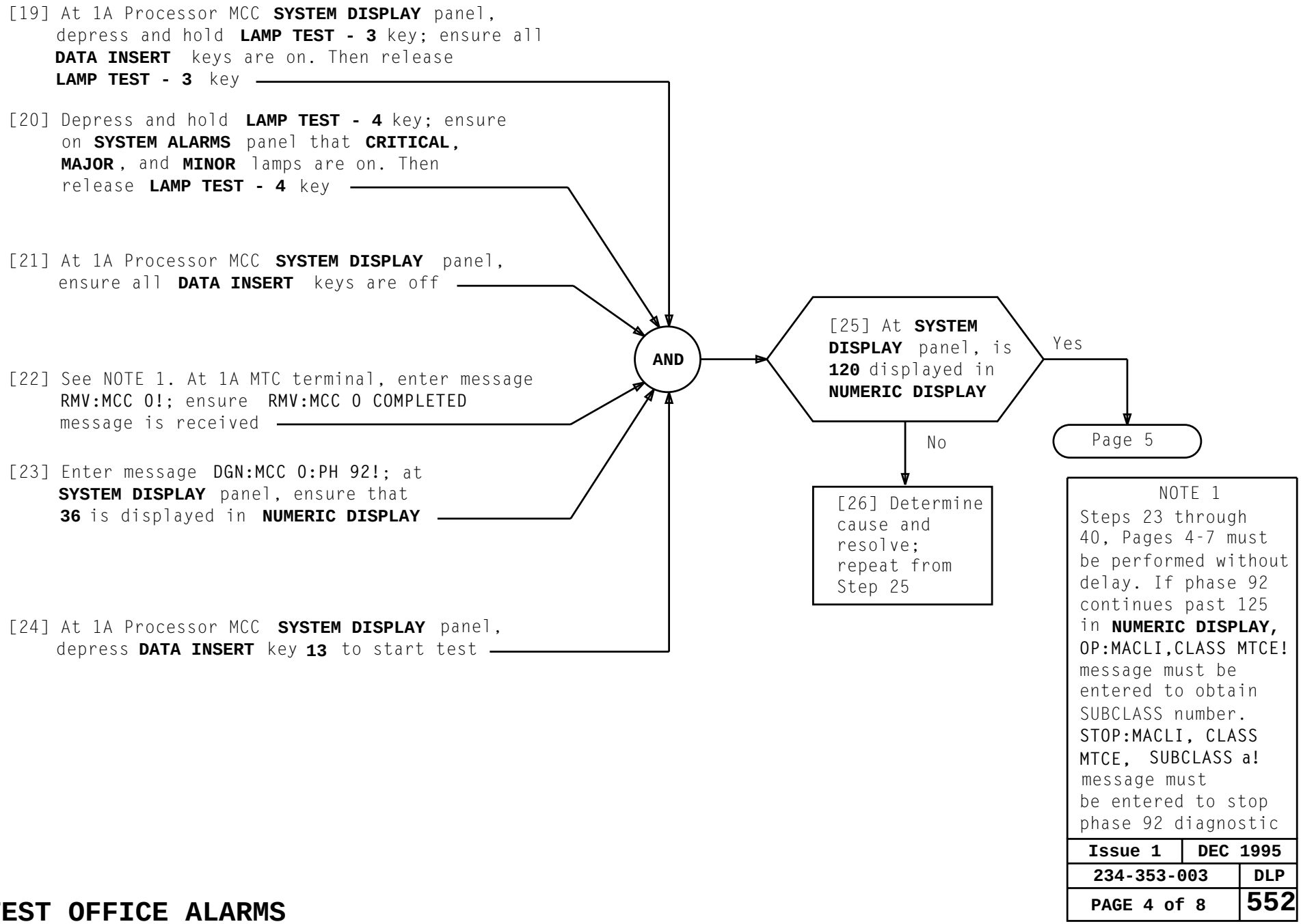


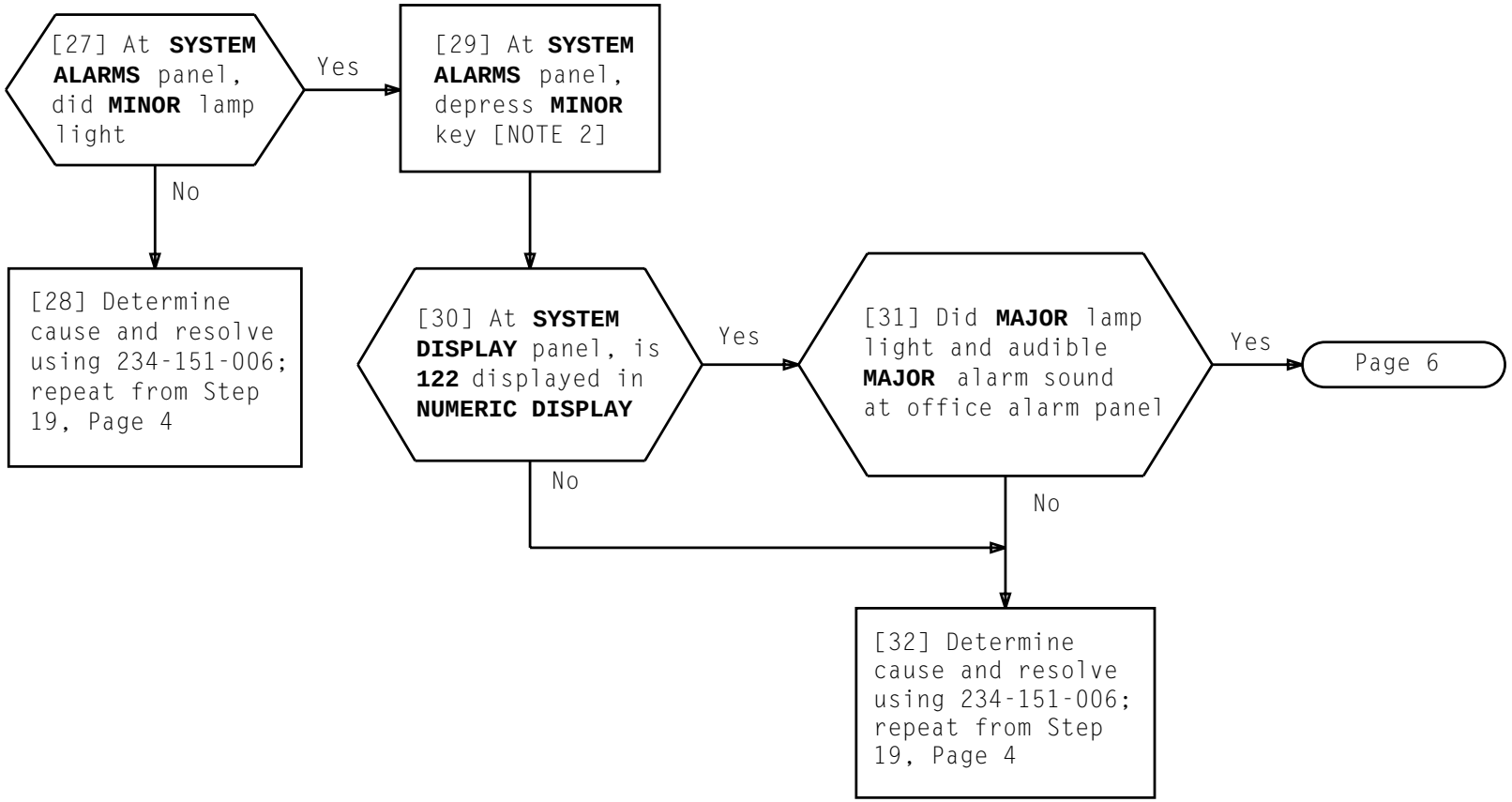
TABLE C

MESSAGE NUMBER	INPUT MESSAGE
1	IN:OWBUF:FS,ID GEN,ADR 6477633,DATA (20041336,122),OLDDATA (14,3661413)!

TABLE D

MESSAGE NUMBER	OUTPUT MESSAGE
1	IN:OWBUF FS ADR OLDDATA NEWDATA 06477633 00000014 20041336 03661413 00000122

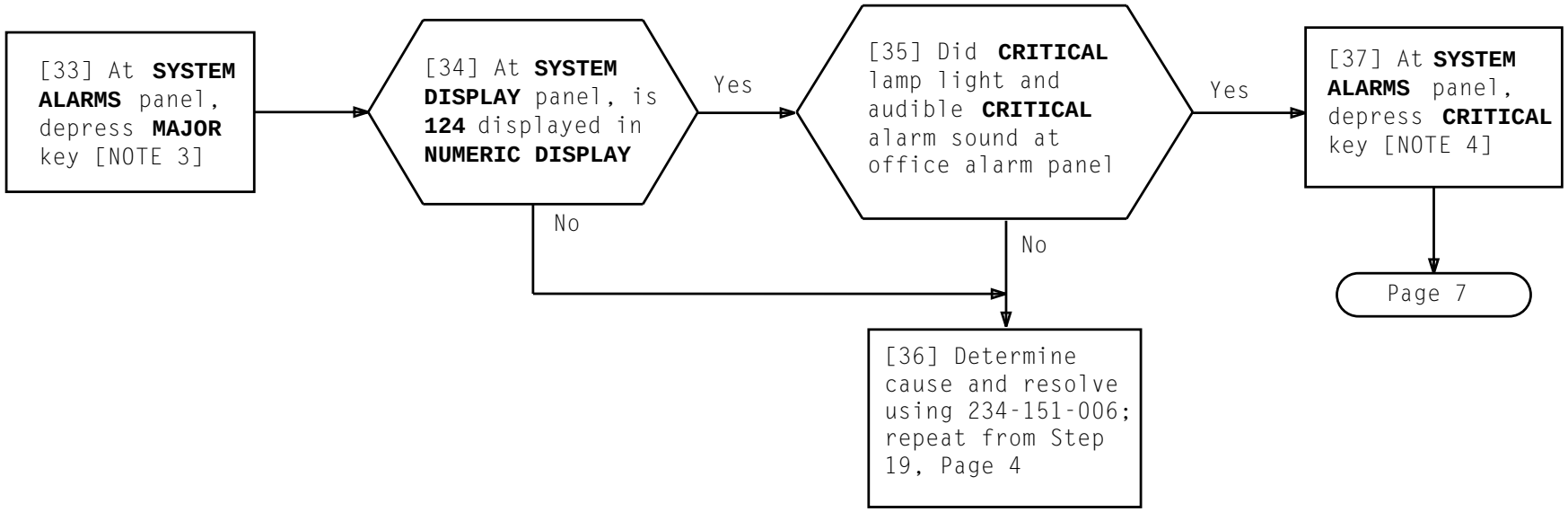

[19] At 1A Processor MCC **SYSTEM DISPLAY** panel, depress and hold **LAMP TEST - 3** key; ensure all **DATA INSERT** keys are on. Then release **LAMP TEST - 3** key
[20] Depress and hold **LAMP TEST - 4** key; ensure on **SYSTEM ALARMS** panel that **CRITICAL, MAJOR**, and **MINOR** lamps are on. Then release **LAMP TEST - 4** key
[21] At 1A Processor MCC **SYSTEM DISPLAY** panel, ensure all **DATA INSERT** keys are off
[22] See NOTE 1. At 1A MTC terminal, enter message RMV:MCC 0!; ensure RMV:MCC 0 COMPLETED message is received
[23] Enter message DGN:MCC 0:PH 92!; at **SYSTEM DISPLAY** panel, ensure that **36** is displayed in **NUMERIC DISPLAY**
[24] At 1A Processor MCC **SYSTEM DISPLAY** panel, depress **DATA INSERT** key **13** to start test
AND
[25] At **SYSTEM DISPLAY** panel, is **120** displayed in **NUMERIC DISPLAY**
Yes
No
Page 5
[26] Determine cause and resolve; repeat from Step 25
NOTE 1
Steps 23 through 40, Pages 4-7 must be performed without delay. If phase 92 continues past 125 in **NUMERIC DISPLAY,** OP:MACLI,CLASS MTCE! message must be entered to obtain SUBCLASS number. STOP:MACLI, CLASS MTCE, SUBCLASS a! message must be entered to stop phase 92 diagnostic



NOTE 2

MINOR lamp should extinguish

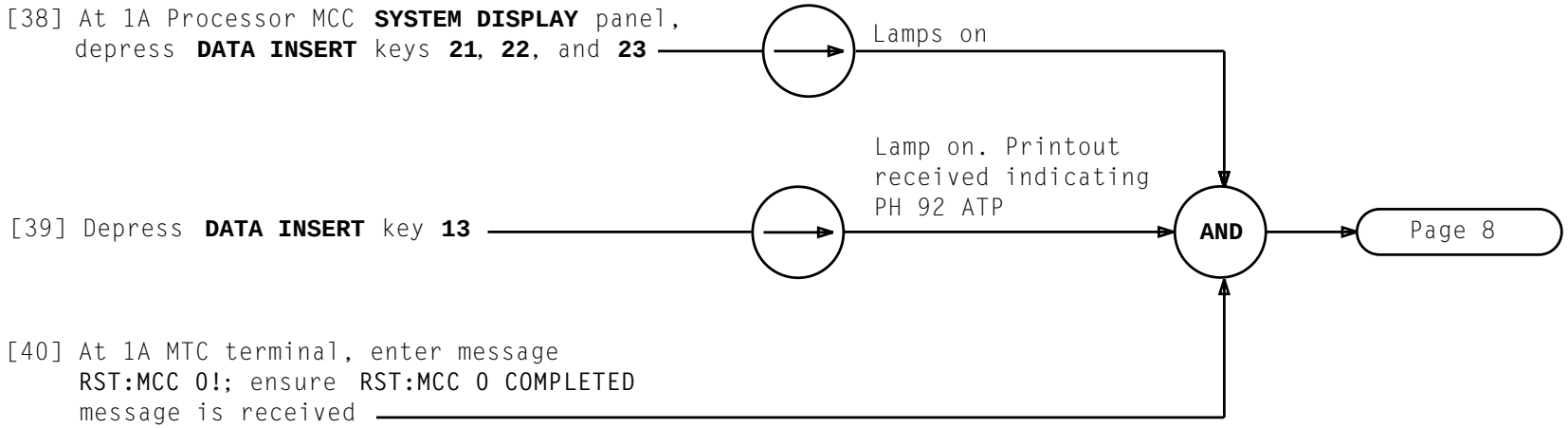
TEST OFFICE ALARMS



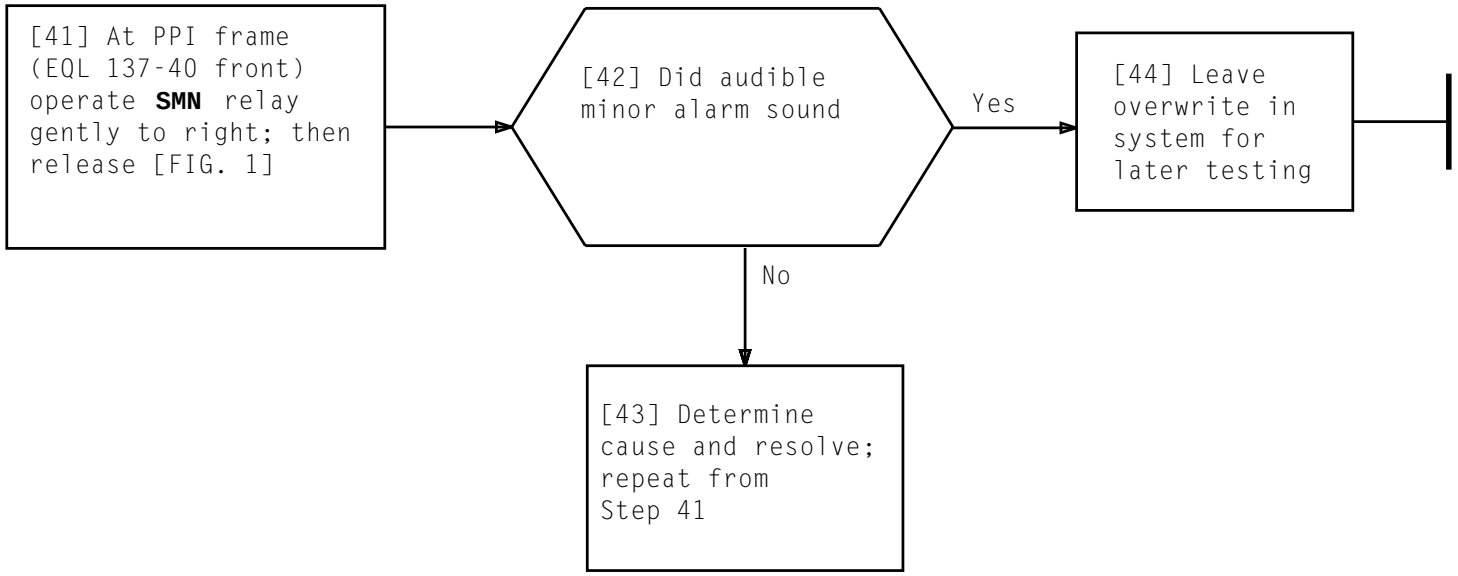
NOTES

3. **MAJOR** lamp will extinguish and audible major alarm will retire
4. **CRITICAL** lamp will extinguish and audible critical alarm will retire

TEST OFFICE ALARMS



TEST OFFICE ALARMS



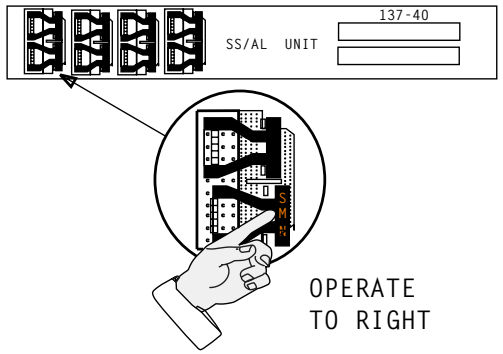


FIG. 1 - Relay Location in PPI Frame

TEST OFFICE ALARMS

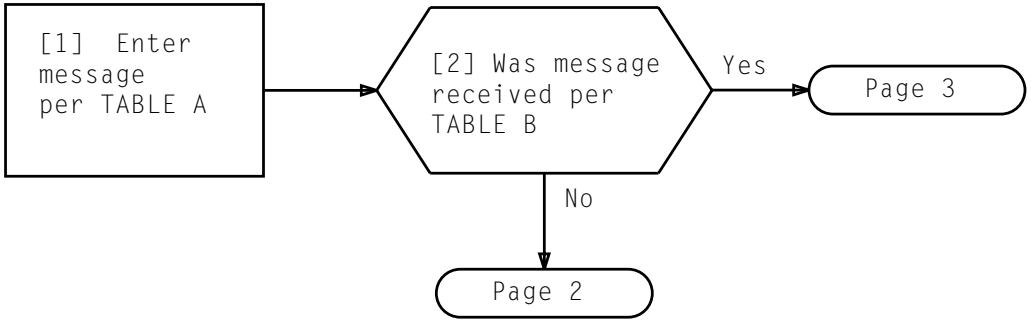


TABLE A	
MESSAGE NUMBER	**INPUT MESSAGE**
1	DUMP:FS,ACT,ID GEN,ADR 6477633,L2!

TABLE B	
MESSAGE NUMBER	**OUTPUT MESSAGE**
1	DUMP:FS,ACT,ADR 6477633,INC +0 COMPLETED 06477633 20041336 00000122

TEST ALARMS FROM PPI FRAME

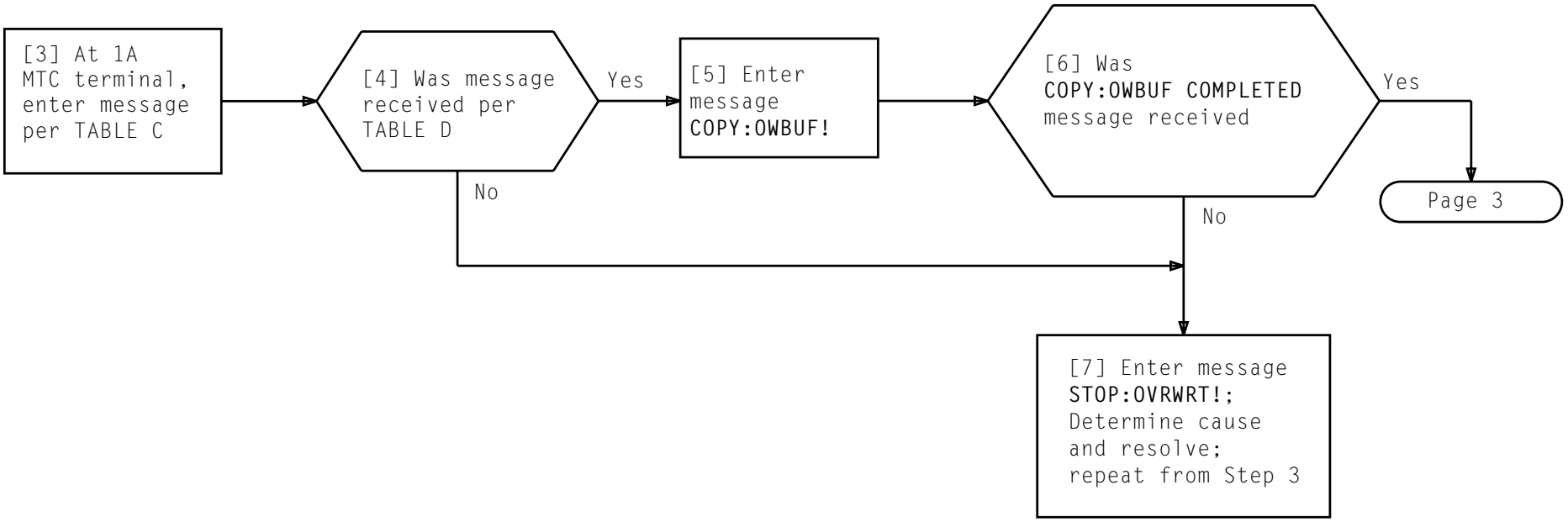


TABLE C

MESSAGE NUMBER	INPUT MESSAGE
1	IN:OWBUF:FS,ID GEN,ADR 6477633,DATA (20041336,122),OLDDATA (14,3661413)!

TABLE D

MESSAGE NUMBER	OUTPUT MESSAGE
1	IN:OWBUF FS ADR OLDDATA NEWDATA FS ADR 00000014 20041336 03661413 00000122

TEST ALARMS FROM PPI FRAME

[8] At 1A Processor MCC **SYSTEM DISPLAY** panel, depress and hold **LAMP TEST - 3** key; ensure all **DATA INSERT** keys are on. Then release **LAMP TEST - 3** key

[9] Depress and hold **LAMP TEST - 4** key; ensure on **SYSTEM ALARMS** panel that **CRITICAL, MAJOR**, and **MINOR** lamps are on. Then release **LAMP TEST - 4** key

[10] At 1A Processor MCC **SYSTEM DISPLAY** panel, ensure all **DATA INSERT** keys are off

[11] At office alarm panel, depress lamp test; ensure all lamps light

[12] See NOTE 1. At 1A MTC terminal, enter message RMV:MCC 0!; ensure RMV:MCC 0 COMPLETED message is received

[13] Enter message DGN:MCC 0:PH 92!; at **SYSTEM DISPLAY** panel, ensure that **36** is displayed in **NUMERIC DISPLAY**

[14] At 1A Processor MCC **SYSTEM DISPLAY** panel, depress **DATA INSERT** key **13** to start test

AND

[15] At **SYSTEM DISPLAY** panel, is **120** displayed in **NUMERIC DISPLAY**

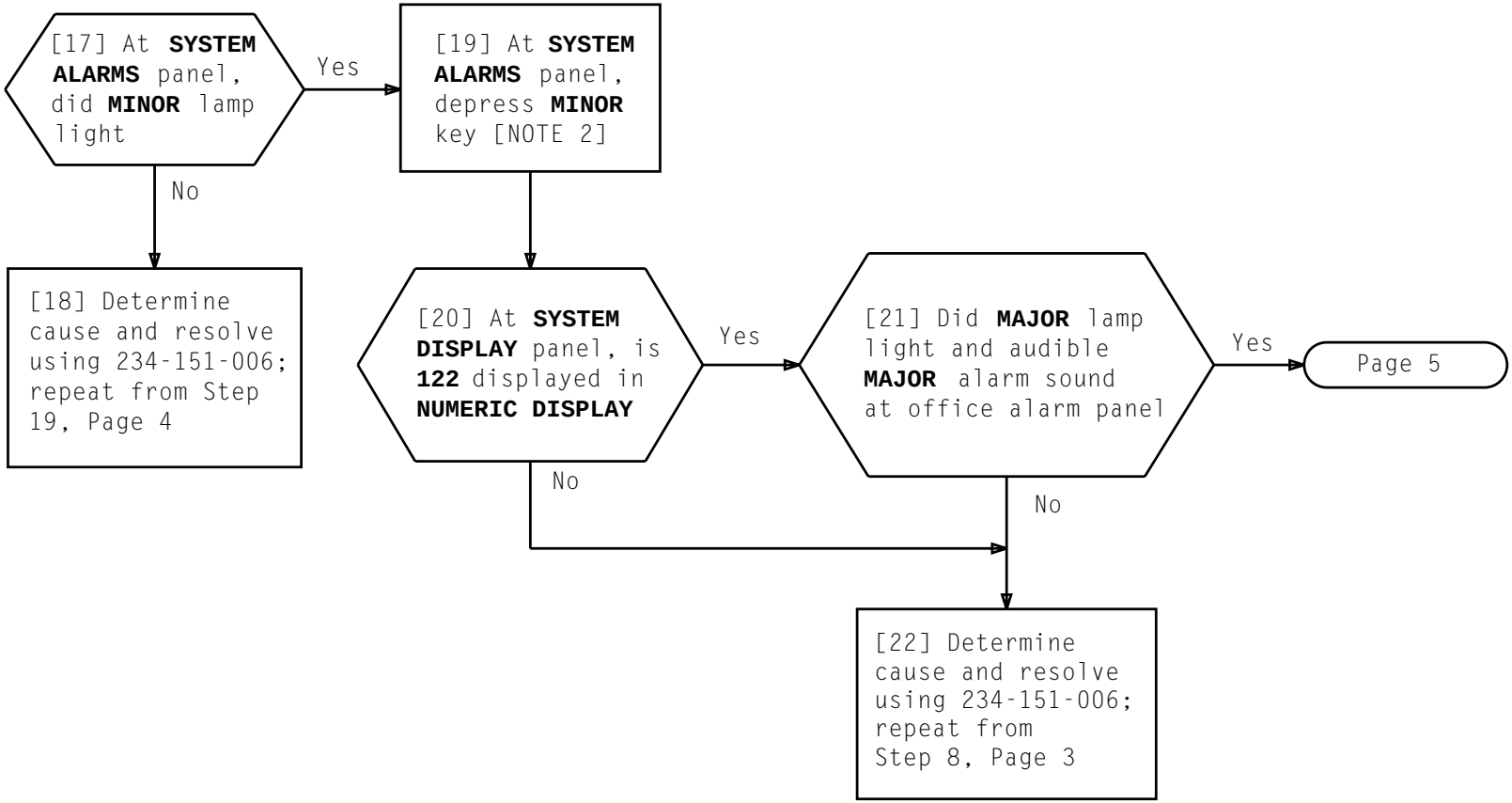
Yes → Page 4

No → [16] Determine cause and resolve; repeat from Step 15

NOTE 1

Steps 13 through 30, Pages 3-6 must be performed without delay. If phase 92 continues past 125 in **NUMERIC DISPLAY,** OP:MACLI,CLASS MTCE! message must be entered to obtain SUBCLASS number. STOP:MACLI, CLASS MTCE, SUBCLASS a! message must be entered to stop phase 92 diagnostic

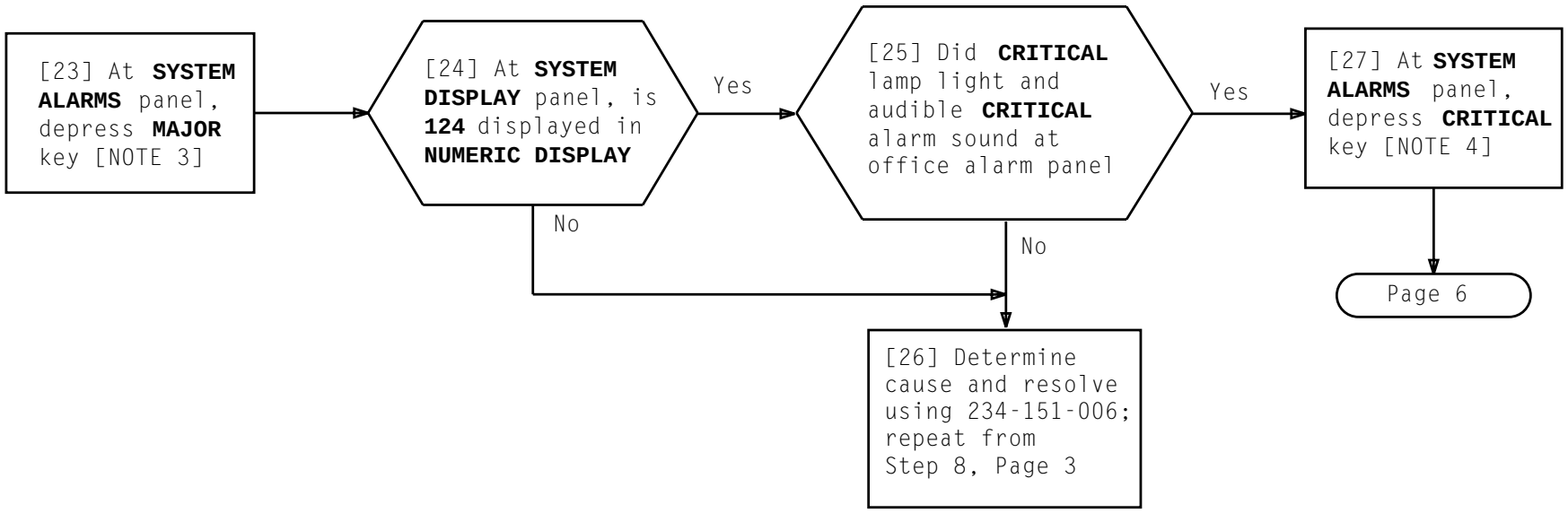
TEST ALARMS FROM PPI FRAME



NOTE 2

MINOR lamp should extinguish

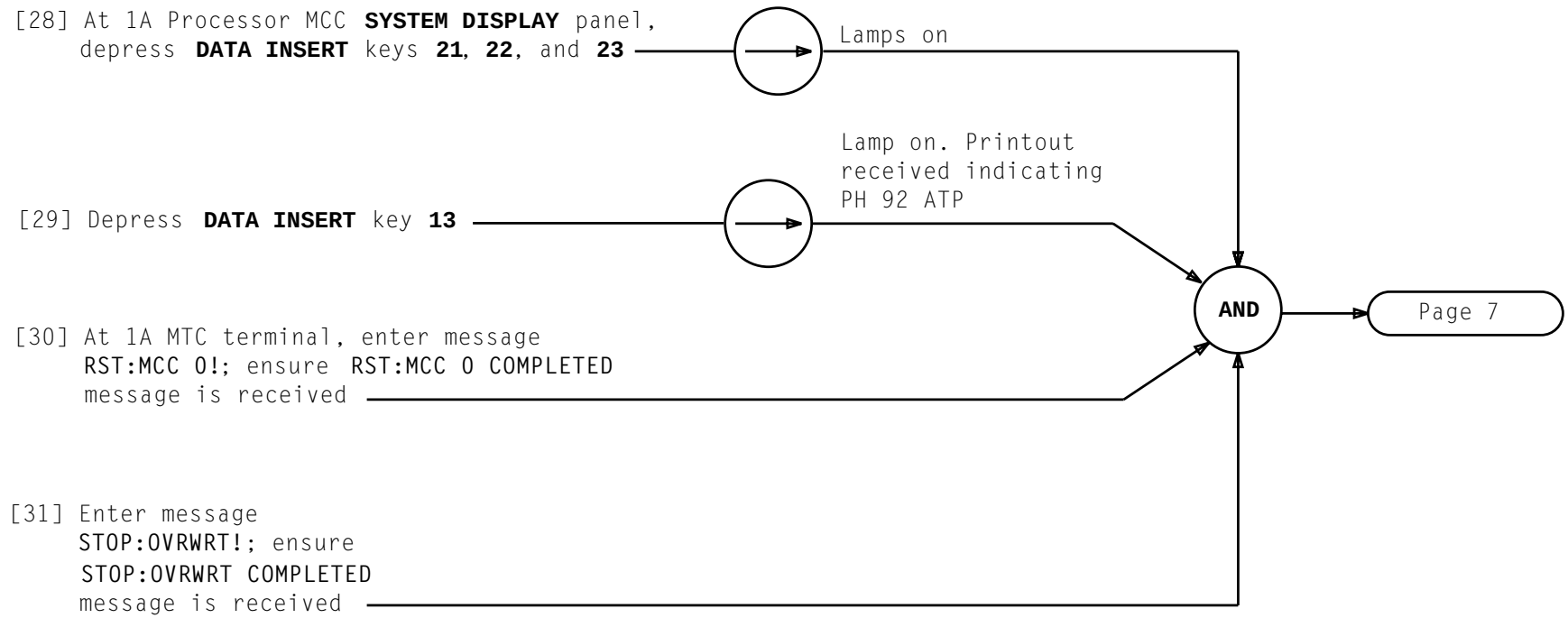
TEST ALARMS FROM PPI FRAME



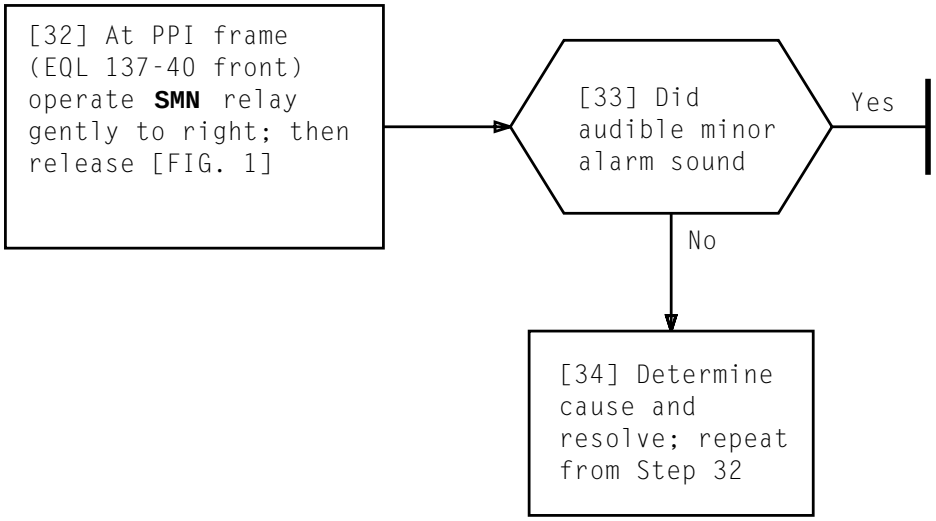
NOTES

3. **MAJOR** lamp will extinguish and audible major alarm will retire
4. **CRITICAL** lamp will extinguish and audible critical alarm will retire

TEST ALARMS FROM PPI FRAME



TEST ALARMS FROM PPI FRAME



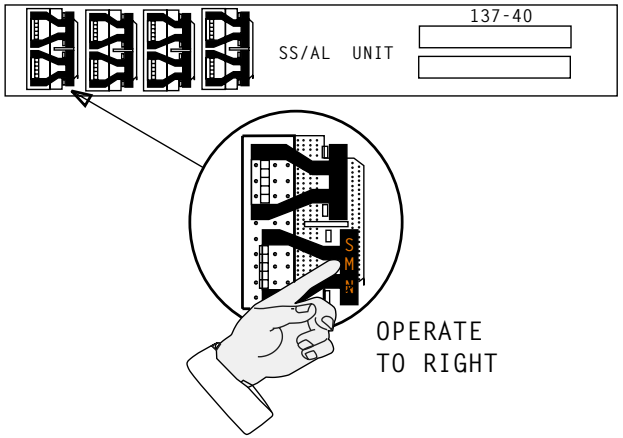
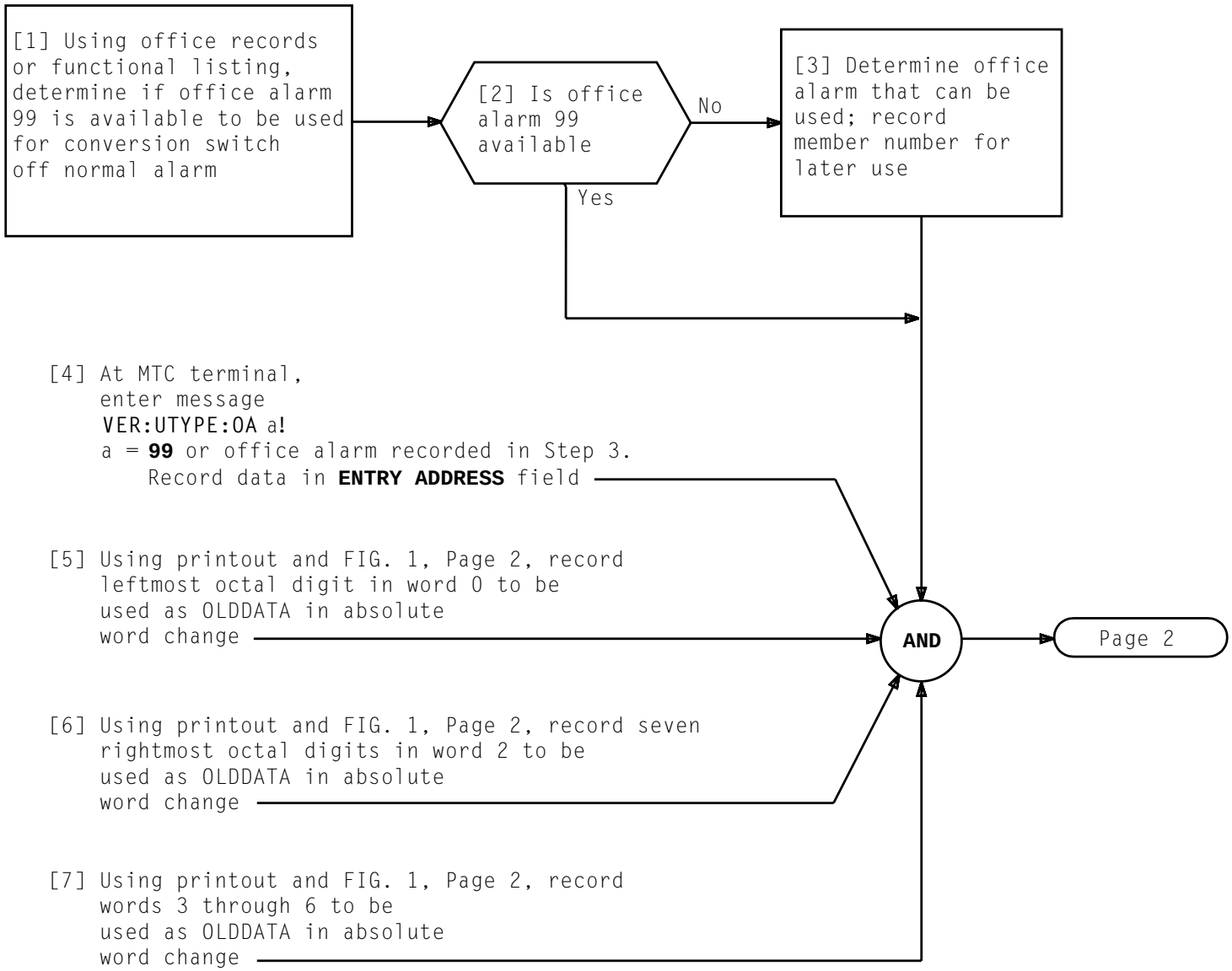


FIG. 1 - Relay Location in PPI Frame

TEST ALARMS FROM PPI FRAME



ASSIGN OFFICE ALARM FOR CONVERSION SWITCH UNIT (PERFORMED FOR LEC OFFICES)

[8] Determine floor number where conversion switch units are located

[9] Convert floor number (Step 8) to binary and record in FIG. 2 in Binary Value row (Binary Bit Positions 8 through 17)

AND

Page 3

[10] Using FIG. 2, convert binary to octal and record in FIG. 2 in Octal Value row

VER:UTMN;OPT()CUR: FLN _____ UTYN OA,

MEMN _____, ME UNEQ,
ENTRY ADDRESS _____ ENTRY SIZE 7,

CUR
WORD 0 WORD 0 _____ WORD 2 WORD 3
WORD 4 WORD 5 WORD 6

FIG. 1 - OA Unit Type Printout

Binary Bit Position →	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Binary Value →	0	0	0	_	_	_	_	_	_	_	_	_	_	1	0	0	0	1	0	1	1
Octal Value →		0			_			_			_			_			1			3	

FIG. 2 - Binary to Octal Conversion

ASSIGN OFFICE ALARM FOR CONVERSION SWITCH UNIT (PERFORMED FOR LEC OFFICES)

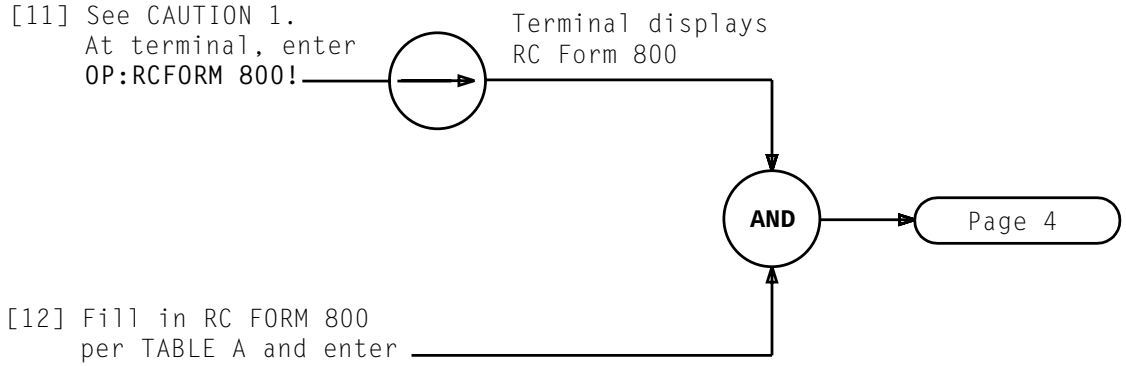


TABLE A

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 recorded in Step 1, Page 1
d = Order number
e = **2**
f = **21**
g = **0** (Zero)
h = **O** (Letter O)
i = Octal value in FIG. 2, Page 2
j = Octal data recorded in Step 6, Page 1

ASSIGN OFFICE ALARM FOR CONVERSION SWITCH UNIT (PERFORMED FOR LEC OFFICES)

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

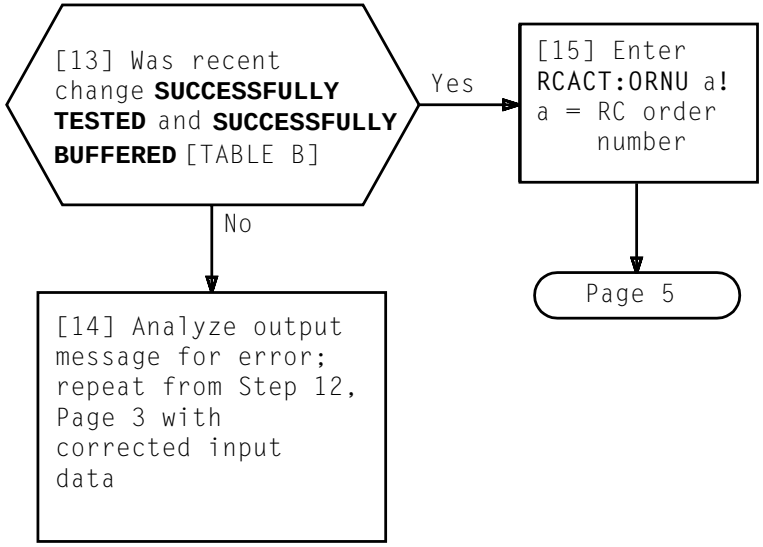


TABLE B

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 2, SIZE 21, DISP 0, BINOCT 0, NEWDATA c, OLDDATA d, REMARKS_ ! REPT:RC DUMP OF UNIT TYPE ENTRY AS IT WILL APPEAR AFTER THE MESSAGE IS ACTIVATED WORD 0 _____ _____ _____ _____ _____ _____ _____

a = address recorded in Step 1, Page 1
b = order number
c = entered NEWDATA
d = entered OLDDATA

ASSIGN OFFICE ALARM FOR CONVERSION SWITCH UNIT (PERFORMED FOR LEC OFFICES)

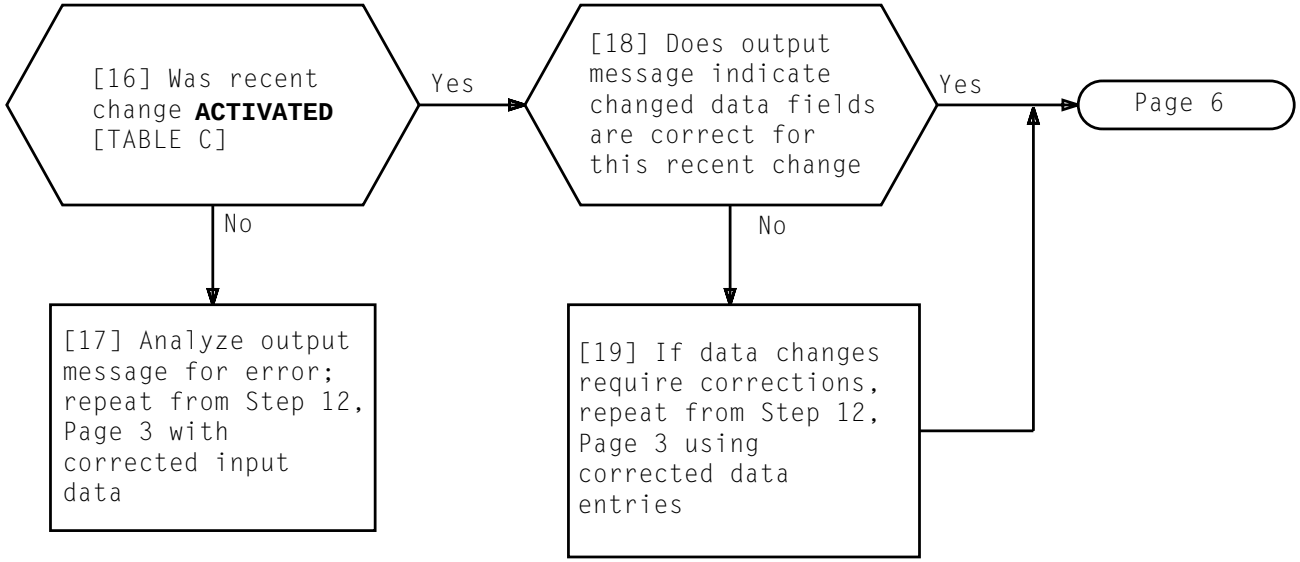


TABLE C

MESSAGE NUMBER	OUTPUT MESSAGE
1	RC ORNU a ACTIVATED RC:FUNC;CHG;OPT(ABSOLUTE),BUF: FSONLY N, ADDRESSa, ORNU b, WORDNO 2, SIZE 21, DISP 0, BINOCT 0, NEWDATA c, OLDDATA d, REMARKS _ !

a = address recorded in Step 1, Page 1
b = order number
c = entered NEWDATA
d = entered OLDDATA

ASSIGN OFFICE ALARM FOR CONVERSION SWITCH UNIT (PERFORMED FOR LEC OFFICES)

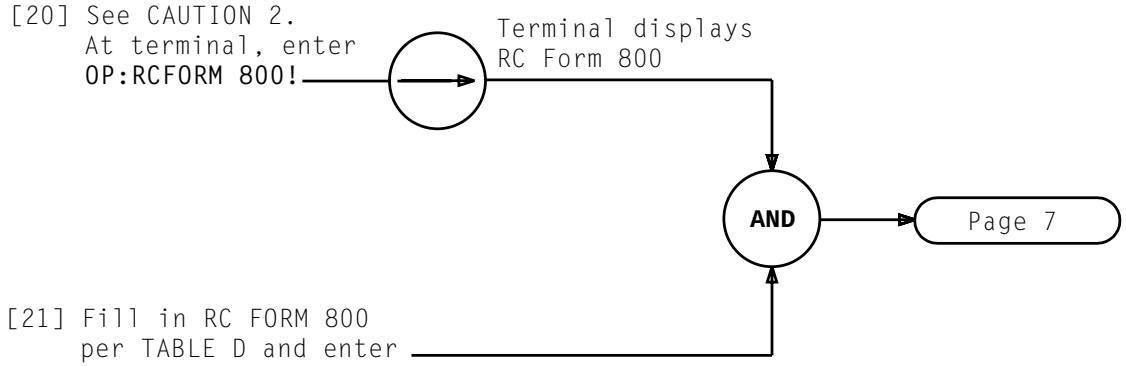


TABLE D

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 recorded in Step 1, Page 1
d = Order number
e = **3**
f = **24**
g = **0** (Zero)
h = **O** (Letter O)
i = **20653123** (ascii for **CVS**)
j = Octal data (Word 3) recorded in Step 7, Page 1

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

ASSIGN OFFICE ALARM FOR CONVERSION SWITCH UNIT (PERFORMED FOR LEC OFFICES)

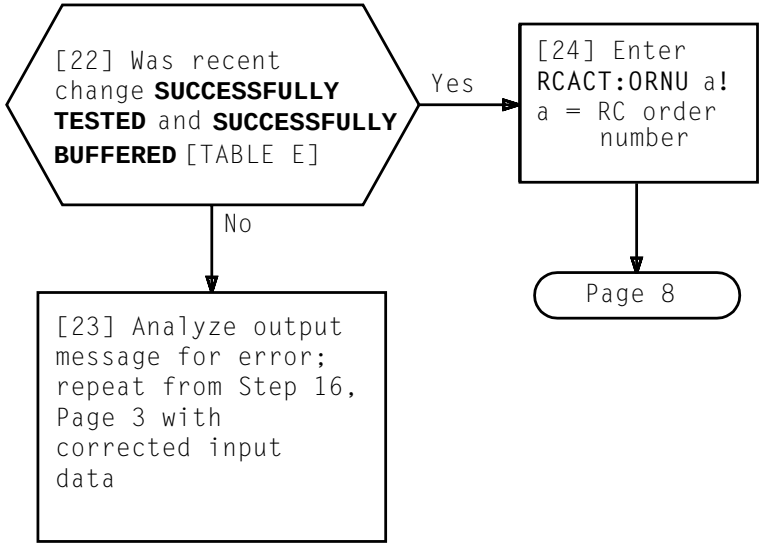


TABLE E

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 3, SIZE 24, DISP 0, BINOCT 0, NEWDATA 20653123, OLDDATA c, REMARKS_ ! REPT:RC DUMP OF UNIT TYPE ENTRY AS IT WILL APPEAR AFTER THE MESSAGE IS ACTIVATED WORD 0 _____ _____ _____ 20653123 _____ _____ _____

a = address recorded in Step 1, Page 1
b = order number
c = entered OLDDATA

ASSIGN OFFICE ALARM FOR CONVERSION SWITCH UNIT (PERFORMED FOR LEC OFFICES)

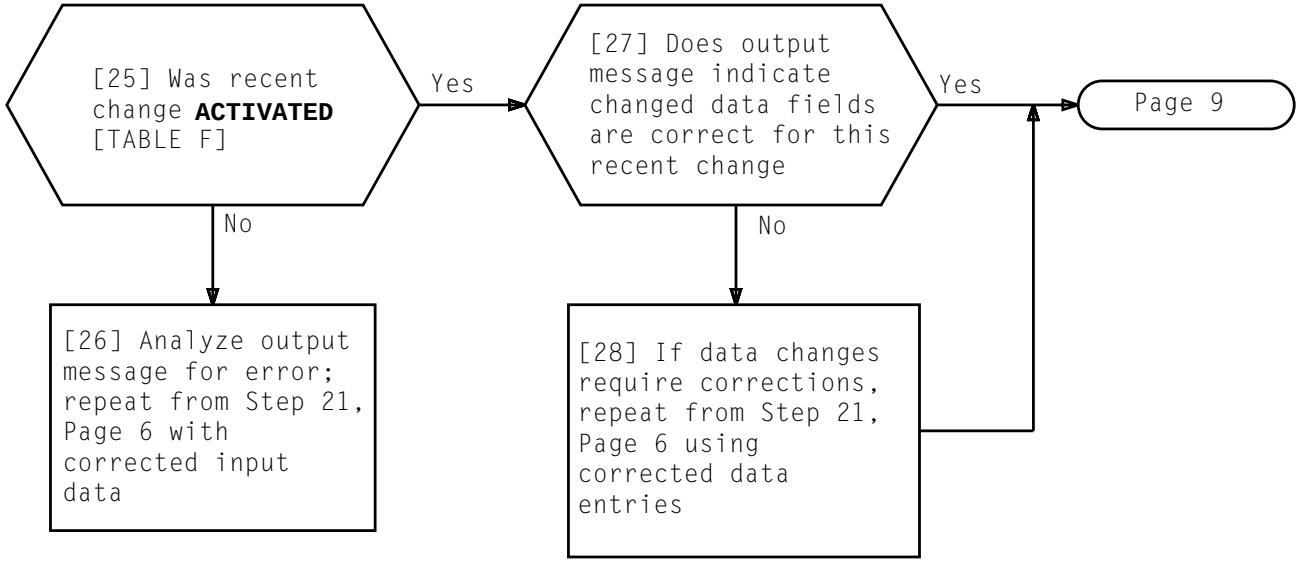


TABLE F

MESSAGE NUMBER	OUTPUT MESSAGE
1	RC ORNU a ACTIVATED RC:FUNC;CHG;OPT(ABSOLUTE),BUF: FSONLY N, ADDRESS a, ORNU b, WORDNO 3, SIZE 24, DISP 0, BINOCT 0, NEWDATA 20653123, OLDDATA c, REMARKS _ !

a = address recorded in Step 1, Page 1
b = order number
c = entered OLDDATA

ASSIGN OFFICE ALARM FOR CONVERSION SWITCH UNIT (PERFORMED FOR LEC OFFICES)

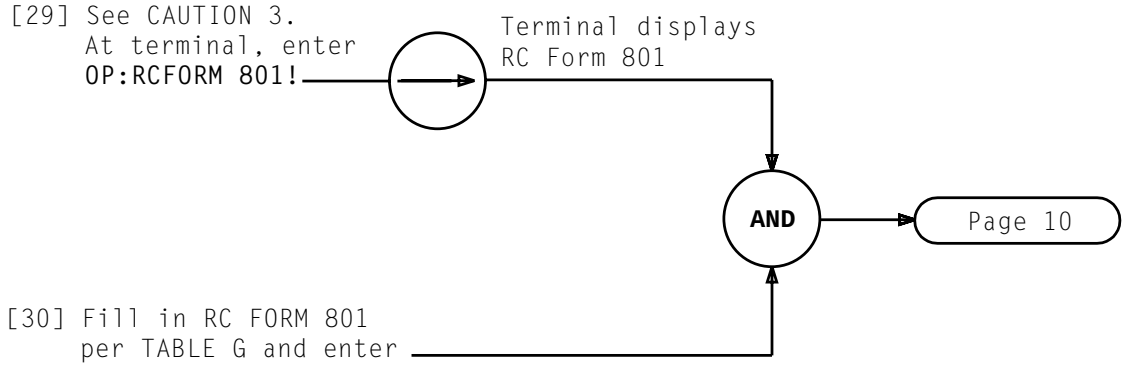


TABLE G

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 recorded in Step 1, Page 1
d = Order number
e = **4**
f = **24**
g = **0** (Zero)
h = **O** (Letter O)
i = **25620117** (ascii for **W**<space>**O**)
j = Octal data (Word 4) recorded in Step 7, Page 1

ASSIGN OFFICE ALARM FOR CONVERSION SWITCH UNIT (PERFORMED FOR LEC OFFICES)

CAUTION 3
Calling up RC Form will cause all CRT data to be cleared

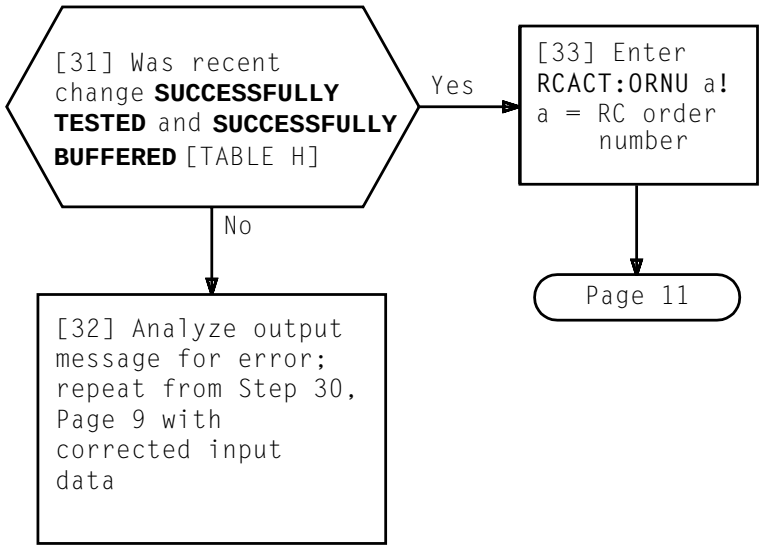


TABLE H

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 4, SIZE 24, DISP 0, BINOCT 0, NEWDATA 25620117, OLDDATA c, REMARKS_ ! REPT:RC DUMP OF UNIT TYPE ENTRY AS IT WILL APPEAR AFTER THE MESSAGE IS ACTIVATED WORD 0 _____ _____ _____ _____ 25620117 _____ _____

a = address recorded in Step 1, Page 1
b = order number
c = entered OLDDATA

ASSIGN OFFICE ALARM FOR CONVERSION SWITCH UNIT (PERFORMED FOR LEC OFFICES)

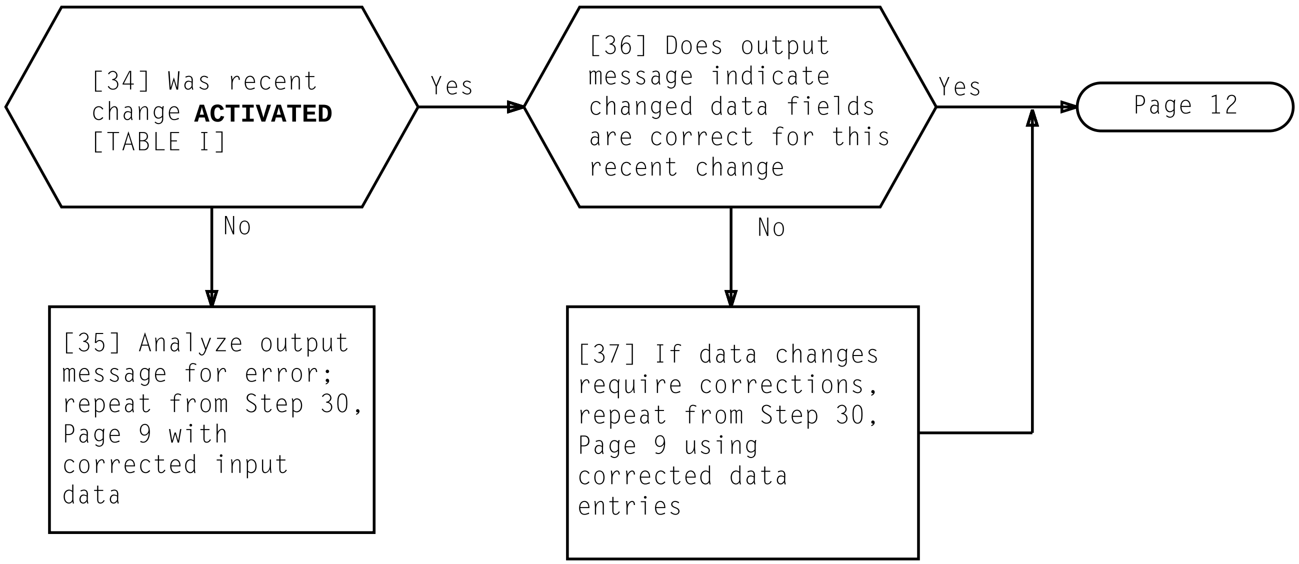


TABLE I

MESSAGE NUMBER	OUTPUT MESSAGE
1	RC ORNU a ACTIVATED RC:FUNC;CHG;OPT(ABSOLUTE),BUF: FSONLY N, ADDRESS a, ORNU b, WORDNO 4, SIZE 24, DISP 0, BINOCT 0, NEWDATA 25620117, OLDDATA c, REMARKS _ !

a = address recorded in Step 1, Page 1
b = order number
c = entered OLDDATA

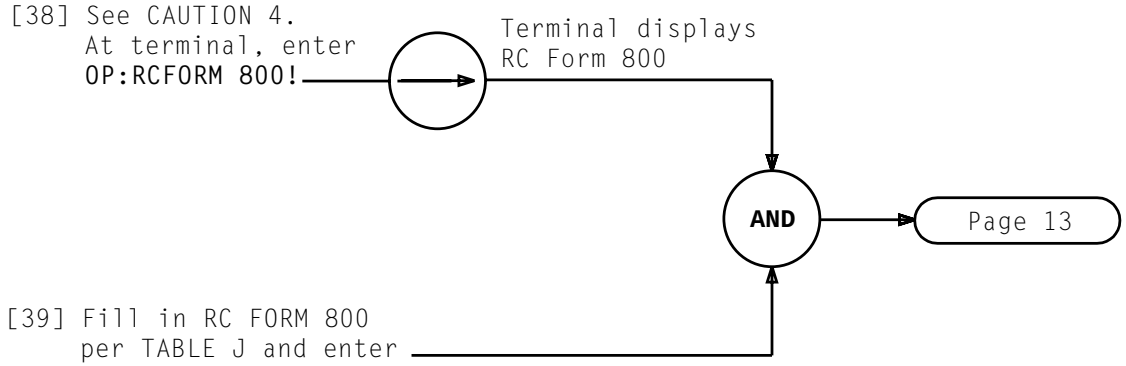


TABLE J

MESSAGE NUMBER	INPUT MESSAGE
1	RC:FUNC;CHG;OPT(TRANS),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 recorded in Step 1, Page 1
d = Order number
e = **5**
f = **24**
g = **0** (Zero)
h = **O** (Letter O)
i = **21447114** (ascii for **FNL**)
j = Octal data (Word 5) recorded in Step 7, Page 1

ASSIGN OFFICE ALARM FOR CONVERSION SWITCH UNIT (PERFORMED FOR LEC OFFICES)

CAUTION 4
Calling up RC Form will cause all CRT data to be cleared

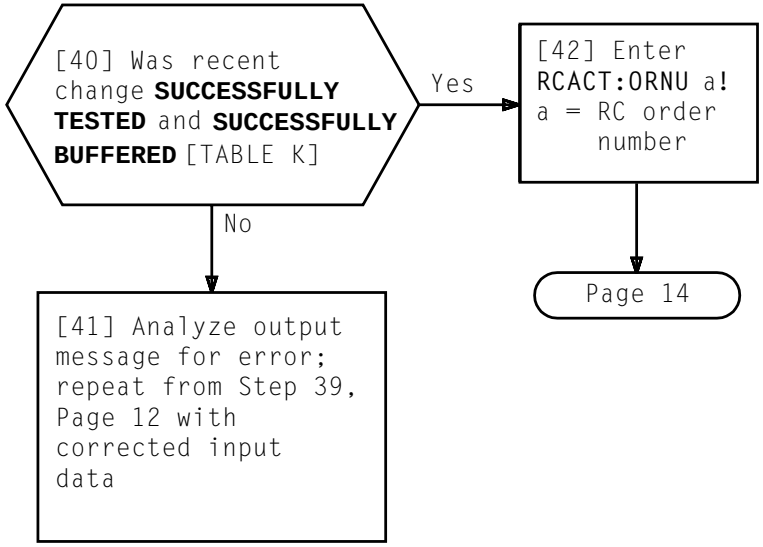


TABLE K

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 5, SIZE 24, DISP 0, BINOCT 0, NEWDATA 21447114, OLDDATA c, REMARKS_ ! REPT:RC DUMP OF UNIT TYPE ENTRY AS IT WILL APPEAR AFTER THE MESSAGE IS ACTIVATED WORD 0 _____ _____ _____ _____ _____ 21447114 _____ _____

a = address recorded in Step 1, Page 1
b = order number
c = entered OLDDATA

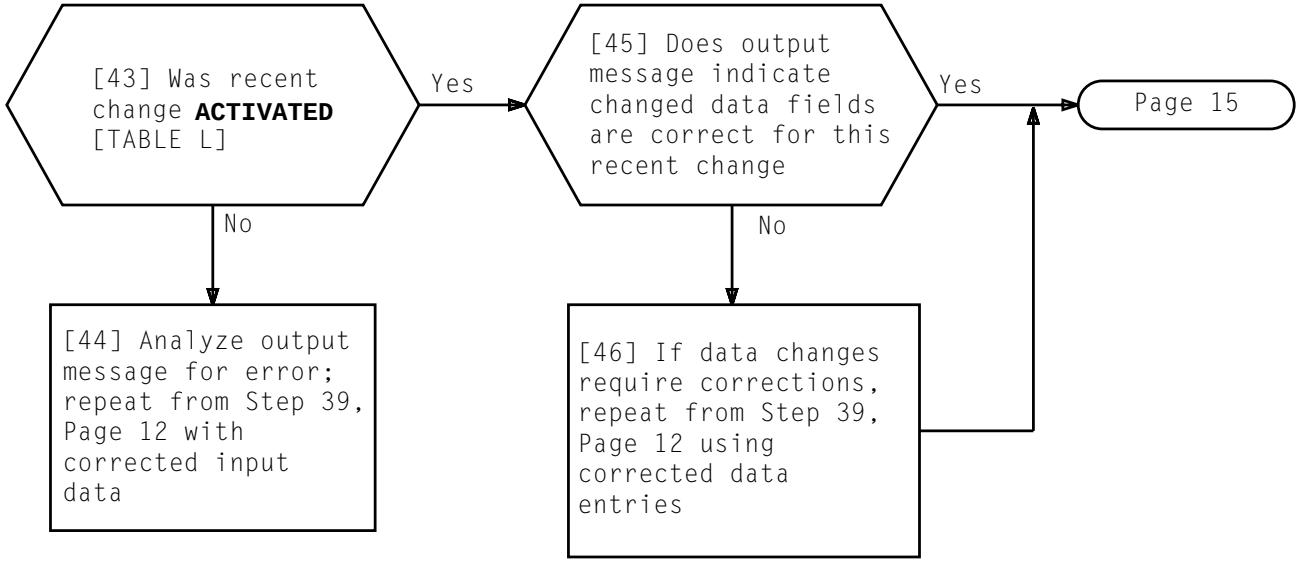


TABLE L

MESSAGE NUMBER	OUTPUT MESSAGE
1	RC ORNU a ACTIVATED RC:FUNC;CHG;OPT(ABSOLUTE),BUF: FSONLY N, ADDRESS a, ORNU b, WORDNO 5, SIZE 24, DISP 0, BINOCT 0, NEWDATA 21447114, OLDDATA c, REMARKS _ !

a = address recorded in Step 1, Page 1
b = order number
c = entered OLDDATA

ASSIGN OFFICE ALARM FOR CONVERSION SWITCH UNIT (PERFORMED FOR LEC OFFICES)

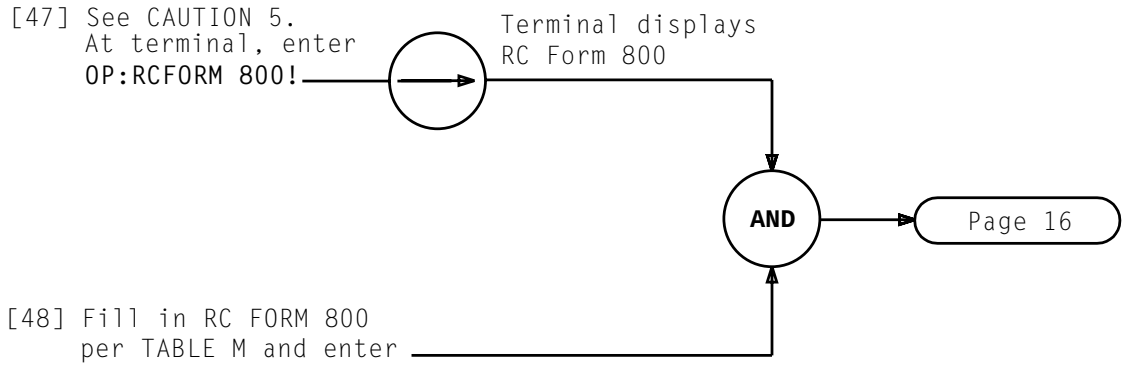


TABLE M

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 recorded in Step 1, Page 1
d = Order number
e = **6**
f = **24**
g = **0** (Zero)
h = **O** (Letter O)
i = **10020040** (ascii for <space><space><space>)
j = Octal data (Word 6) recorded in Step 7, Page 1

CAUTION 5
Calling up RC Form will cause all CRT data to be cleared

ASSIGN OFFICE ALARM FOR CONVERSION SWITCH UNIT (PERFORMED FOR LEC OFFICES)

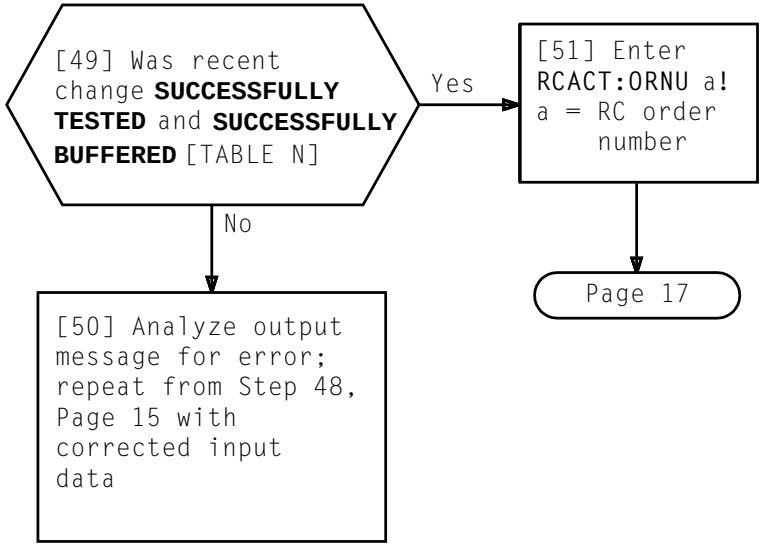


TABLE N

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 6, SIZE 24, DISP 0, BINOCT 0, NEWDATA 10020040, OLDDATA c, REMARKS_ ! REPT:RC DUMP OF UNIT TYPE ENTRY AS IT WILL APPEAR AFTER THE MESSAGE IS ACTIVATED WORD 0 _____ _____ _____ _____ _____ _____ 10020040

a = address recorded in Step 1, Page 1
b = order number
c = entered OLDDATA

ASSIGN OFFICE ALARM FOR CONVERSION SWITCH UNIT (PERFORMED FOR LEC OFFICES)

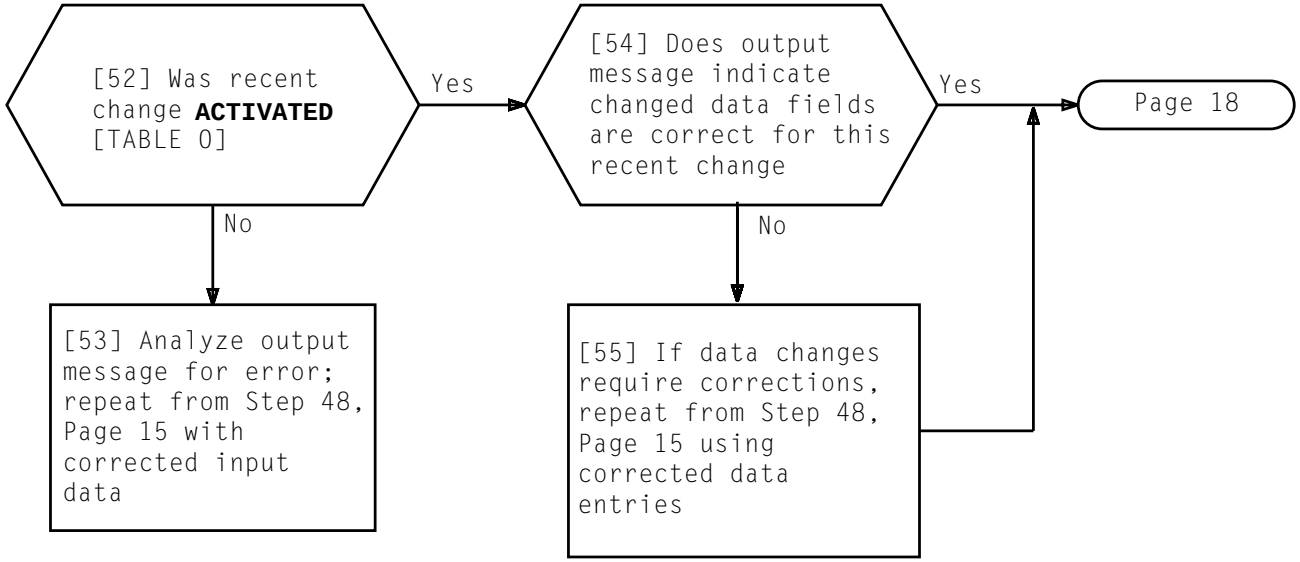


TABLE O

MESSAGE NUMBER	OUTPUT MESSAGE
1	RC ORNU a ACTIVATED RC:FUNC;CHG;OPT(ABSOLUTE),BUF: FSONLY N, ADDRESS a, ORNU b, WORDNO 6, SIZE 24, DISP 0, BINOCT 0, NEWDATA 10020040, OLDDATA c, REMARKS _ !

a = address recorded in Step 1, Page 1
b = order number
c = entered OLDDATA

ASSIGN OFFICE ALARM FOR CONVERSION SWITCH UNIT (PERFORMED FOR LEC OFFICES)

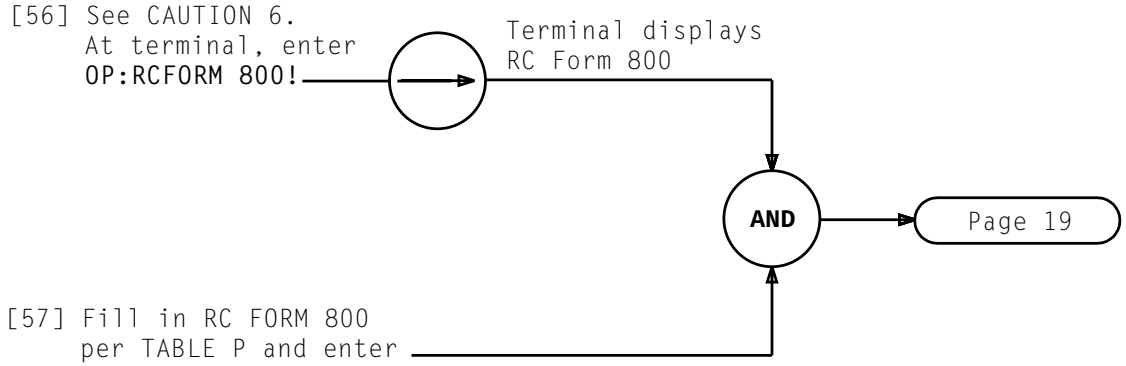


TABLE P

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 recorded in Step 1, Page 1
d = Order number
e = **0** (Zero)
f = **3**
g = **21**
h = **O** (Letter O)
i = **6** (sets office alarm to operational)
j = Octal data recorded in Step 5, Page 1

ASSIGN OFFICE ALARM FOR CONVERSION SWITCH UNIT (PERFORMED FOR LEC OFFICES)

CAUTION 6
Calling up RC Form will cause all CRT data to be cleared

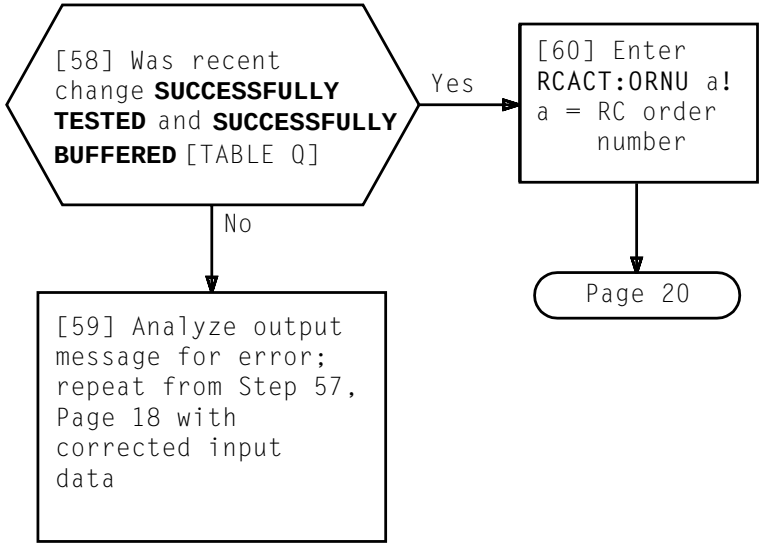


TABLE Q

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 0, SIZE 3, DISP 21, BINOCT 0, NEWDATA 6, OLDDATA c, REMARKS_ ! REPT:RC DUMP OF UNIT TYPE ENTRY AS IT WILL APPEAR AFTER THE MESSAGE IS ACTIVATED WORD 0 6_____ _____ _____ _____ _____ _____ _____

a = address recorded in Step 1, Page 1
b = order number
c = entered OLDDATA

ASSIGN OFFICE ALARM FOR CONVERSION SWITCH UNIT (PERFORMED FOR LEC OFFICES)

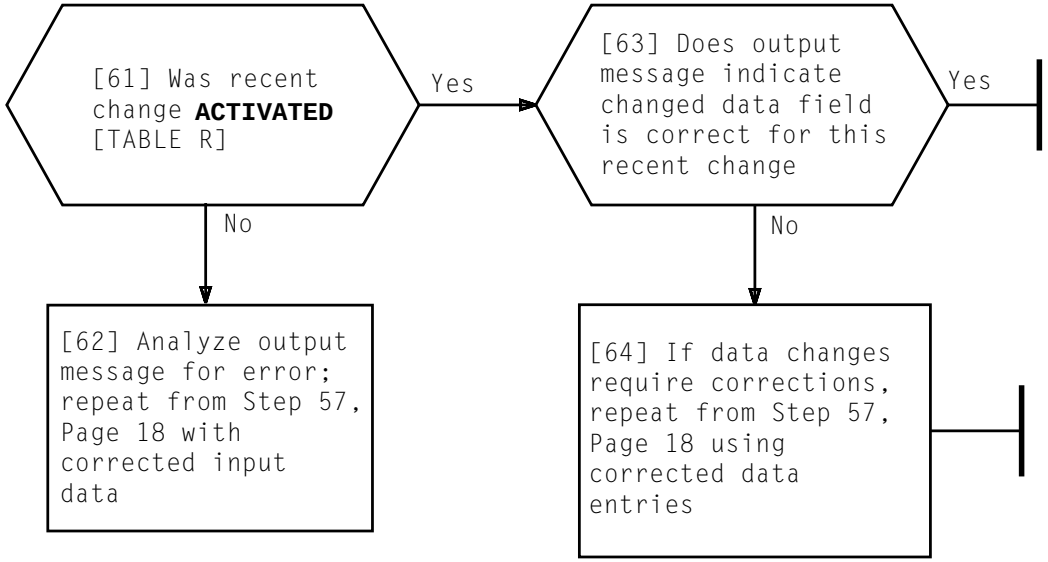


TABLE R

MESSAGE NUMBER	OUTPUT MESSAGE
1	RC ORNU a ACTIVATED RC:FUNC;CHG;OPT(ABSOLUTE),BUF: FSONLY N, ADDRESS a, ORNU b, WORDNO 0, SIZE 3, DISP 21, BINOCT 0, NEWDATA 6, OLDDATA c, REMARKS _ !

a = address recorded in Step 1, Page 1
b = order number
c = entered OLDDATA

ASSIGN OFFICE ALARM FOR CONVERSION SWITCH UNIT (PERFORMED FOR LEC OFFICES)

ITEM	ISSUE	ITEM	ISSUE	ITEM	ISSUE	ITEM	ISSUE	ITEM	ISSUE	ITEM	ISSUE
IXL-001		DLP-521		TNG-893							
NTP-002		DLP-522									
NTP-003		DLP-523									
NTP-004		DLP-524									
NTP-005		DLP-525									
NTP-006		DLP-526									
NTP-007		DLP-527									
NTP-008		DLP-528									
NTP-009		DLP-529									
NTP-010		DLP-530									
NTP-011		DLP-531									
NTP-012		DLP-532									
NTP-013		DLP-533									
NTP-014		DLP-534									
DLP-500		DLP-535									
DLP-501		DLP-536									
DLP-502		DLP-537									
DLP-503		DLP-538									
DLP-504		DLP-539									
DLP-505		DLP-540									
DLP-506		DLP-541									
DLP-507		DLP-542									
DLP-508		DLP-543									
DLP-509		DLP-544									
DLP-510		DLP-545									
DLP-511		DLP-546									
DLP-512		DLP-547									
DLP-513		DLP-548									
DLP-514		DLP-549									
DLP-515		DLP-550									
DLP-516		DLP-551									
DLP-517		DLP-552									
DLP-518		DLP-553									
DLP-519		DLP-554									
DLP-520		CKL-891									