Task Oriented Practice (TOP)
Service Circuit System (SCS)
Growth/Degrowth - 4ESS™ Switch

1. General

1.001 This addendum supplements TOP 234-153-060AC, Issue 6.

1.002 This addendum is being issued to add field comments to this TOP.

2. Attachments

2.001 Place this pink sheet in front of the practice. Insert the attached pages in place of the corresponding numbered pages:

- NTP-008, Page 1 (Revised) and NTP-008, Page 2 (Revised)
- NTP-008, Page 3 (Revised) and NTP-008, Page 4 (Revised)
- NTP-008, Page 5 (Revised) and NTP-008, Page 6 (Revised)
- NTP-008, Page 7 (Revised) and NTP-008, Page 8 (Revised)
- NTP-008, Page 9 (Revised) and NTP-008, Page 10 (Revised)
- NTP-008, Page 11 (Revised) and NTP-008, Page 12 (Revised)
- NTP-008, Page 13 (Revised) and NTP-008, Page 14 (Revised)
- NTP-008, Page 15 (Revised) and NTP-008, Page 16 (Revised)

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- NTP-008, Page 17 (Revised) and NTP-008, Page 18 (Revised)
- NTP-008, Page 19 (Revised) and NTP-008, Page 20 (Revised)
- NTP-008, Page 21 (Revised) and Blank Page
- DLP-549, Page 1 (Revised) and DLP-549, Page 2 (Revised)
- DLP-549, Page 3 (Revised) and DLP-549, Page 4 (Revised)
- DLP-549, Page 5 (Revised) and DLP-549, Page 6 (Revised)
- DLP-549, Page 7 (Revised) and DLP-549, Page 8 (Revised)
- DLP-549, Page 9 (Revised) and DLP-549, Page 10 (Revised)
- DLP-549, Page 11 (Revised) and DLP-549, Page 12 (Revised)
- DLP-549, Page 13 (Revised) and DLP-549, Page 14 (Revised)
- DLP-549, Page 15 (Revised) and DLP-549, Page 16 (Revised)

3. Issuing Organization

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Add Service Circuit Unit(s)

DO THE ITEMS BELOW IN THE ORDER LISTED		FOR DETAILS, GO TO	
	4ESS*™ *SWITCH OFFICE PRELIMINARY CHECK		
1	Ensure that the *4ESS* switch is currently running in 4E22 R4 Generics or later.	Telco	—
2	Ensure that within the last 24 hours the Processor has not experienced any TTY terminal suspends, bootstraps, diagnostic failures, or overloads.	Telco	—

3	Ensure that disks and Input/Output Processors (IOPs) are in the duplex mode and that the 3B Control Units (CUs) are in ACTIVE-STANDBY mode. Routine Exercise (REX) and the Peripheral Unit System Exerciser (PUSYS) should be disabled, and should remain disabled during the entire growth process. This is accomplished by entering the following at the 1B Maintenance (MTC) terminal:
	
	1. **INH:MACLI,CLASS MTCE;REX!**
	
	Response: `MACLI,CLASS MTCE INHIBITED`
	`AUTOMATIC JOB SCHEDULING`
	`DISALLOWED`
	
	2. **STOP:TEST;PUSYS!**
	
	Response: `OK`
		Telco	—

4	Ensure that diagnostics on the duplexed 3B CUs have been run to completion within the last 24 hours.	Telco	—
5	Ensure that the SCS growth complex is in service, operating in duplex, and has run diagnostics to completion within the last 24 hours.	Telco	—
6	Ensure that all processor and/or system problems have been cleared before growth activity begins.	Telco	—
7	Contact the Network Control Center (NCC) to have NCC ensure that no Software Updates (SUs) or Broadcast Warning Messages (BWMs) for SCS system files will be applied during growth/conversion. Also, have NCC ensure that Centralized Announcement Update Control System (CAUCS) has been inhibited from updating announcements to this 4ESS switch office for the affected Announcement Set(s) during growth/conversion.	Telco	—

DO THE ITEMS BELOW IN THE ORDER LISTED			FOR DETAILS, GO TO
8	Ensure that the AAP/SCS LAN connection is present and active, if applicable. A. At the AAP console, log in as **aapusr** and select option 2 from the menu. B. Poke **118** for link status. Response: LAN links are displayed as active. C. Enter **q** to quit. D. If the LAN is out of service, resolve the problem and contact the next level of support, if necessary. **Do not continue to the next step until the LAN is present and active.** Also ensure that the Announcement Administration Processor (AAP) (if it is operational) has no announcement updates queued for this SCU's Announcement Set by selecting option 4 at the AAP console and entering: **OP:ANNUPD** Response: `OP:ANNUPD AAP System Error, #1149` `Database empty` ***Note:*** If not empty, have announcement updates stored in AAP moved to the proper SCU(s) and verify the AANUPD database is cleared before proceeding.	Telco	—
9	Check office records/Pre Condition Order(PCO)/Main Material Order(MMO)/ Telephone Equipment Order (TEO) to confirm the following for each growth SCU/disk pair: • Type of Service Circuit (0-7) • Disk Capacity - Translator (0-3) • Announcement Set (A-Z) • AT&T Trigger Platform Feature (Monitor Yes or No) • Optional MSP Circuit Pack (1, 2, and/or 3) Retain this information for future use in this procedure.	Telco/Inst	—

DO THE ITEMS BELOW IN THE ORDER LISTED			FOR DETAILS, GO TO
10	Verify the SCS Unit Type (UT) Translator and compare the SCU Subunit Data **for each growth SCU** against office records/PCO /MMO/TEO. Also compare each growth SCU to Time Slot Interchange (TSI) Port assignment against office wiring records. Similarly, check that all translation information matches the growth SCU's hardware. The SCU Subunit Data and the associated TSI Port assignments are contained in the three words specified by the SCS UT Translator for each SCU. ***Note:*** This verify must be done separately for each growth SCU beginning with the lowest-numbered SCU.	Telco/Inst	DLP-549
11	Verify the associated TSI UT Translator(s) and compare the assignment/equipage of the TSI Port to each growth SCU against office wiring records.	Telco/Inst	DLP-516
12	Ensure that diagnostics on the associated TSI Frames have been run to completion within the last 24 hours.	Telco	—

DO THE ITEMS BELOW IN THE ORDER LISTED			FOR DETAILS, GO TO
	4ESS SWITCH TO SERVICE CIRCUIT SYSTEM PRELIMINARY INTERCONNECT		
13	Ensure that all Scan Point and Signal Distributor (SD) Point connections from the growth SCU(s) to the *4ESS* switch Signal Processor (SP) are completed.	Inst	—
14	Ensure that the Alarm connection from the growth SCU(s) to the *4ESS* switch Power Alarm Grid is completed.	Inst	—
15	Ensure that the DS-120 cable(s) from the growth SCU(s) to the associated TSI Ports have been set in place but **not connected**.	Inst	—
16	Ensure that the fiber-optic ribbon cable(s) are present at the rear of the SCU cabinet. This cable should be connected at the backplane of the growth SCU(s), but **not** at the Optical Cross-Connect Panel.	Inst	—
17	Ensure that the Local Area Network (LAN) cable(s) for the growth SCU(s) are in place at the rear of the SCU cabinet. These cables should be daisy-chained between all SCUs and terminated at both ends.	Inst	—
18	Ensure that the Small Computer System Interface (SCSI) Bus Cables for the disk pair(s) associated with the growth SCU(s) are in place at the rear of the SCU cabinet.	Inst	—
19	If this SCU is to provide announcement expansion, verify that the white wire (required when TN9001 and TN9002 circuit packs are to be used) is installed at the SCU backplane. If not already installed, install the white wire.	Inst	—
20	Ensure that the Active/Standby cable(s) from the growth SCU(s) to all other SCUs are properly connected. These cables are daisy-chained between all SCUs.	Inst	—
21	If the first SCU of SCUs 8-15 is being grown, go to Step 22. If one of the SCUs 8-15 is already in service or if none of the SCUs 8-15 are being grown, go to Step 35.	Inst	—
22	At the Optical Cross-Connect Panel (OCCP), install Fiber Shorting Contacts (CC# 846832087) at connector locations for SCUs 8-15.	Inst	—

DO THE ITEMS BELOW IN THE ORDER LISTED			FOR DETAILS, GO TO
23	At the 1B MTC terminal, remove one Service Circuit Controller (SCC) from service by entering: **RMV:SCS** *a*,**CONTR** *b*! where *a* = Member Number (0-7) *b* = SCC Number (0 or 1) Response: PF followed by: RMV:SCS*a*,CONTR *b* COMPL	Telco	—
24	Power-down the out-of-service SCC: 1. At the IPUB associated with the SCC, press the **OFF** button on the TN1671 circuit pack. 2. At the SCC, press the **OFF** button on the TN1984 circuit pack.	Inst	—
25	Install circuit packs at the out-of-service SCC. 1. At horizontal EQL 016 of the SCC, install a 410AA Power Converter circuit pack. 2. At horizontal EQL 056 of the SCC, install a KCN3 Extended Bus Interface circuit pack.	Inst	—
26	Power-up the out-of-service SCC: 1. At the IPUB associated with the SCC, press the **ON** button on the TN1671 circuit pack. 2. At the SCC, press the **ON** button on the TN1984 circuit pack.	Inst	—
27	At the 1B MTC terminal, diagnose the out-of-service SCC by entering: **DGN:SCS** *a*,**CONTR** *b*! where *a* = Member Number (0-7) *b* = SCC Number (0 or 1) Response: The screen returns an output message with ATP.	Telco	—

DO THE ITEMS BELOW IN THE ORDER LISTED		FOR DETAILS, GO TO	
28	At the 1B MTC terminal, restore the out-of-service SCC to service by entering: **RST:SCS** *a*,**CONTR** *b*! where *a* = Member Number (0-7) *b* = SCC Number (0 or 1) Response: The screen returns an output message with `CATP`, then `RESTORE COMPLETE`. Bit **21** will be **set** in the CATP **reason word** (unless the SCS is equipped with one or more SCUs in the SCU8 to SCU15 range), indicating that the `unused EBI link test skipped`. This is the only allowable exception (no other bits in the CATP reason word should be set).	Telco	—
29	At the 1B MTC terminal, remove the other Service Circuit Controller (SCC) from service by entering: **RMV:SCS** *a*,**CONTR** *b*! where *a* = Member Number (0-7) *b* = SCC Number (0 or 1) Response: `PF` followed by: `RMV:SCS` *a*, `CONTR` *b* `COMPL`	Telco	—
30	Power-down the out-of-service SCC: 1. At the IPUB associated with the SCC, press the **OFF** button on the TN1671 circuit pack. 2. At the SCC, press the **OFF** button on the TN1984 circuit pack.	Inst	—
31	Install circuit packs at the out-of-service SCC. 1. At horizontal EQL 016 of the SCC, install a 410AA Power Converter circuit pack. 2. At horizontal EQL 056 of the SCC, install a KCN3 Extended Bus Interface circuit pack.	Inst	—
32	Power-up the out-of-service SCC: 1. At the IPUB associated with the SCC, press the **ON** button on the TN1671 circuit pack. 2. At the SCC, press the **ON** button on the TN1984 circuit pack.	Inst	—

DO THE ITEMS BELOW IN THE IRDER LISTED			FOR DETAILS, GO TO
33	At the 1B MTC terminal, diagnose the out-of-service SCC by entering: **DGN:SCS** *a*,**CONTR** *b*! where *a* = Member Number (0-7) *b* = SCC Number (0 or 1) Response: The screen returns an output message with ATP.	Telco	—
34	At the 1B MTC terminal, restore the out-of-service SCC to service by entering: **RST:SCS** *a*,**CONTR** *b*! where *a* = Member Number (0-7) *b* = SCC Number (0 or 1) Response: The screen returns an output message with CATP, then RESTORE COMPLETE. Bit **21** will be **set** in the CATP **reason word** (unless the SCS is equipped with one or more SCUs in the SCU8 to SCU15 range), indicating that the unused EBI link test skipped. This is the only allowable exception (no other bits in the CATP reason word should be set).	Telco	—
35	This is a **Safe Stop Point**. If stopping, perform Steps 36 and 37. Otherwise, go to Step 39.	Telco/Inst	—
36	At the 1B MTC terminal, allow REX by entering: **ALW:MACLI,CLASS MTCE!** Response: AUTOMATIC JOB SCHEDULING RESUMED	Telco	—
37	Stop procedure for now. Resume at Step 38 when continuing.	Telco/Inst	—
38	Perform Steps 1 through 8 of this procedure. Then continue to the next step.	Telco/Inst	—
	CIRCUIT PACK INSTALLATION FOR GROWTH SCU(S) AND ASSOCIATED DISK PAIR(S) ***Note:*** Steps 39 through 45 should be completed for each growth SCU, beginning with the lowest-numbered growth SCU. These steps should be completed in their entirety for each growth SCU before continuing with the next growth SCU.		

DO THE ITEMS BELOW IN THE ORDER LISTED		FOR DETAILS, GO TO	
39	Verify that fuses are installed in the Fuse and Filter Unit for the growth SCU and associated disk pair(s). (See the labeling on the fuse panel cover for fuse locations and sizes.)	Inst	—
40	***Note:*** If this SCU is to provide announcement expansion verify/replace the TN1977 with the TN9001 circuit pack and the TN1983 with the TN9002. Install circuit packs in the growth SCU and the associated Hard Disk Unit (HDU).	Inst	—
41	This is a **Safe Stop Point**. If stopping, perform Steps 42 and 43. Otherwise, go to Step 45.	Telco/Inst	—
42	At the 1B MTC terminal, allow REX by entering: **ALW:MACLI,CLASS MTCE!** Response: `AUTOMATIC JOB SCHEDULING RESUMED`	Telco	—
43	Stop procedure for now. Resume at Step 44 when continuing.	Telco/Inst	—
44	Perform Steps 1 through 8 of this procedure. Then continue to the next step.	Telco/Inst	—
45	Power-up the growth SCU and the associated disk pair(s). 1. At the growth Hard Drive Unit(s), press the **ON** button to power the Disk Power Controller (DPC) UN356 circuit pack. ***Caution: Wait at least 60 seconds before proceeding with the next step. This allows the disk drives to spin up to operational speed.*** 2. At the growth SCU, press the **ON** button to power the Master Power Controller (MPC) TN1984 circuit pack.	Inst	—
46	Have Steps 39 through 45 been completed for all growth SCUs? If **YES**, continue to Step 47. If **NO**, repeat Steps 39 through 45 for the next growth SCU.	Inst	—

DO THE ITEMS BELOW IN THE ORDER LISTED			FOR DETAILS, GO TO
	SCS-RELATED TSI GROWTH ***Note:*** Steps 47 through 62 should be completed for each growth SCU, beginning with the lowest-numbered growth SCU. These steps should be completed in their entirety for each growth SCU before continuing with the next growth SCU.		
47	Recent change and verify the associated TSI submember equipage from UNEQ to GROW using RC Form 700.	Telco	DLP-506
48	Recent change and verify the associated TSI submember equipage from GROW to SGRO using RC Form 700.	Telco	DLP-507
49	This is a **Safe Stop Point**. If stopping, perform Steps 50 and 51. Otherwise, go to Step 53, being sure to read the heading preceding Step 53.	Telco/Inst	—
50	At the 1B MTC terminal, allow REX by entering: **ALW:MACLI,CLASS MTCE!** Response: `AUTOMATIC JOB SCHEDULING RESUMED`	Telco	—
51	Stop procedure for now. Resume at Step 52 when continuing.	Telco/Inst	—
52	Perform Steps 1 through 8 of this procedure. Then continue to the next step.	Telco/Inst	—

DO THE ITEMS BELOW IN THE ORDER LISTED			FOR DETAILS, GO TO
	SCU AND ASSOCIATED DISK PAIR GROWTH		
53	At the Optical Cross-Connect Panel (OCCP), move or remove the growth SCU(s) Fiber Shorting Contacts (CC# 846832087) and connect the associated fiber-optic ribbon cable.	Inst	—
54	Recent change and verify growth SCU equipage from UNEQ to GROW using RC Form 700.	Telco	DLP-502
55	Recent change and verify associated disk pair and MSP equipage from UNEQ to GROW using RC Form 703.	Telco	DLP-503
56	At the 1B MTC terminal, diagnose the growth SCU and the associated disk pair using Phases 1 through 7 by entering: **DGN:SCS** *x*,**SCU z:PH 1-7!** where *x* = Member Number (0-7) *z* = Submember Number (0-15) Response: The screen returns output messages with ATP for each valid phase.	Telco/Inst	—
57	Recent change and verify growth SCU equipage from GROW to SGRO using RC Form 700.	Telco	DLP-504
58	Recent change and verify associated disk pair and MSP equipage from GROW to SGRO using RC Form 703.	Telco	DLP-505
59	At the 1B MTC terminal, diagnose the growth SCU and the associated disk pair using Phases 1 through 7 by entering: **DGN:SCS** *x*,**SCU** *z*:**PH 1-7!** where *x* = Member Number (0-7) *z* = Submember Number (0-15) Response: The screen returns output messages with ATP for each valid phase.	Telco/Inst	—
60	At the 1B MTC terminal, diagnose SCS Controller 0 by entering: **DGN:SCS** *x*,**CONTR 0!** where *x* = Member Number (0-7) Response: The screen returns an output message with ATP.	Telco/Inst	—

DO THE ITEMS BELOW IN THE ORDER LISTED			FOR DETAILS, GO TO
61	At the 1B MTC terminal, restore SCS Controller 0 by entering: **RST:SCS *x*,CONTR 0!** where *x* = Member Number (0-7) Response: The screen returns an output message with `CATP`, then `RESTORE COMPLETE`. Bit **21** will be **set** in the CATP **reason word** (unless the SCS is equipped with one or more SCUs in the SCU8 to SCU15 range), indicating that the `unused EBI link test skipped`. This is the only allowable exception (no other bits in the CATP reason word should be set).	Telco/Inst	—
62	At the 1B MTC terminal, diagnose SCS Controller 1 by entering: **DGN:SCS *x*,CONTR 1!** where *x* = Member Number (0-7) Response: The screen returns an output message with `ATP`.	Telco/Inst	—
63	At the 1B MTC terminal, restore SCS Controller 1 by entering: **RST:SCS *x*,CONTR 1!** where *x* = Member Number (0-7) Response: The screen returns an output message with `CATP`, then `RESTORE COMPLETE`. Bit **21** will be **set** in the CATP **reason word** (unless the SCS is equipped with one or more SCUs in the SCU8 to SCU15 range), indicating that the `unused EBI link test skipped`. This is the only allowable exception (no other bits in the CATP reason word should be set).	Telco/Inst	—
64	This is a **Safe Stop Point**. If stopping, perform Steps 65 and 66. Otherwise, go to Step 68.	Telco/Inst	—
65	At the 1B MTC terminal, allow REX by entering: **ALW:MACLI,CLASS MTCE!** Response: `AUTOMATIC JOB SCHEDULING RESUMED`	Telco	—

DO THE ITEMS BELOW IN THE ORDER LISTED		FOR DETAILS, GO TO	
66	Stop procedure for now. Resume at Step 67 when continuing.	Telco/Inst	—
67	Perform Steps 1 through 8 of this procedure. Then continue to the next step.	Telco/Inst	—
68	Have Steps 47 through 63 been completed for all growth SCUs? If **YES**, continue to Step 69. If **NO**, repeat Steps 47 through 64 for the next growth SCU.	Inst	—

DO THE ITEMS BELOW IN THE ORDER LISTED			FOR DETAILS, GO TO
	DOWNLOADING OF SCS SYSTEM FILES FROM THE ATTACHED PROCESSOR SYSTEM (APS) ***Note:*** The downloading of the SCS system files is accomplished via the COPY command. This command is used once for each of the SCS System File Types: TONES, SCCSFT, SCUOPR, SCUDGN, MSPROV, MSPFIX, MSP1, MIP0FIL, and MIP1FIL. These files reside in the /scs directory of the 3B20D computer and may have up to two vintages of files labeled 0 or 1. Both a Source Version Number (SVN) (the correct and up-to-date file location on the 3B20D computer disk) and a Destination Version Number (DVN) (the next location on each Disk Pair 0) are needed for each COPY command. These numbers ensure that a particular SCS file type is read from and written to the proper disk location of each disk pair 0.		
69	Determine the latest SCS system file version numbers from an in-service disk pair.	Telco/Inst	DLP-545
70	Copy the correct and up-to-date SCS system files from the APS to all growth disk pair 0.	Telco/Inst	DLP-524
71	Update SCU/MSP version numbers in the SCS Unit Type Translator for **each growth SCU** using RC Form 703.	Telco/Inst	DLP-544
72	At the 1B MTC terminal, diagnose **each** growth SCU and the associated disk pair(s) by entering: **DGN:SCS** *a*,**SCU** *b*:**PH (1-10,***c***)!** where *a* = Member Number (0-7) *b* = SCU Number (0-15) *c* = Phase Number(s) for SCU MSP test: **12** for SCUs with MSP 0 **12-13** for SCUs with MSPs 0 and 1 **12-14** for SCUs with MSPs 0 through 2 **12-15** for SCUs with MSPs 0 through 3 Response: The screen returns output messages with ATP for each valid phase.	Telco/Inst	—

DO THE ITEMS BELOW IN THE ORDER LISTED			FOR DETAILS, GO TO
	TN4000 SECOND DISK PACK INITIALIZATION		
	Note: Steps 73 through 75 should be completed only if TN4000 (4 Gb) circuit packs are being grown. Steps 73 through 75 must be completed for each growth SCU equipped with TN4000 circuit packs, beginning with the lowest-numbered growth SCU. These steps must be completed in their entirety for each applicable growth SCU before continuing with the next growth SCU. ***Caution: TN4000 circuit packs can only be installed in disk pair location 0. See Table A at the end of this procedure for allowable disk pair locations.***		
73	Are TN4000 circuit packs being grown in location 0? If **YES**, continue to Step 74. If **NO**, continue to Step 75.	Telco/Inst	—
74	At the 1B MTC terminal, perform a soft initialization of Disk Pair 1, by entering the commands given below. ***Note:*** When populating a Type 2 (TN4000 - 4 Gb) disk pair at an SCU Disk Pair 0 location in the SCS Unit Type Translator, the adjacent location Disk Pair 1 will also be populated. In order to ensure proper operation, a Soft Initialization (TYP 1) on both Bus 0 and Bus 1 is necessary for Disk Pair 1. 1. **INIT:SCS *x*,SCU *y*,DSK 1,BUS 0,TYP 1!** where *x* = Member Number (0-7) *y* = Submember Number (0-15) Response: `INIT:SCS x, SCU y COMPLETE` 2. **INIT:SCS *x*,SCU *y*,DSK 1,BUS 1,TYP 1!** where *x* = Member Number (0-7) *y* = Submember Number (0-15) Response: `INIT:SCS x, SCU y COMPLETE`	Telco/Inst	—

DO THE ITEMS BELOW IN THE ORDER LISTED			FOR DETAILS, GO TO
75	Have Steps 71 through 74 been completed for all applicable growth SCUs? If **YES**, continue to Step 76. If **NO**, repeat Steps 71 through 74 for the next applicable growth SCU.	Telco/Inst	—
76	This is a **Safe Stop Point**. If stopping, perform Steps 77 and 78. Otherwise, go to Step 80.	Telco/Inst	—
77	At the 1B MTC terminal, allow REX by entering: **ALW:MACLI,CLASS MTCE!** Response: `AUTOMATIC JOB SCHEDULING RESUMED`	Telco	—
78	Stop procedure for now. Resume at Step 79 when continuing.	Telco/Inst	—
79	Perform Steps 1 through 8 of this procedure. Then continue to the next step.	Telco/Inst	—

DO THE ITEMS BELOW IN THE ORDER LISTED			**FOR DETAILS, GO TO**
	ACTIVATE GROWTH SCU(S) AND ASSOCIATED DISK PAIR(S)		
	Note: Steps 80 through 99 should be completed for each growth SCU, beginning with the lowest-numbered growth SCU. These steps should be completed in their entirety for each growth SCU before continuing with the next growth SCU.		
80	At the 1B MTC terminal, apply port pest to the associated TSI Port by entering: **INH:TSI** *x*,**SPC** *y*,**PORT** *z*! where *x* = TSI Member Number (0-63) *y* = SPC within TSI (0-1) *z* = Port within SPC (0-6) Response: The input message is echoed when the pesting is done.	Telco	—
81	Remove the output looping cable/plug from the associated TSI Port. Then connect the DS-120 signal cables between the associated TSI Port and the growth SCU.	Inst	—
82	At the 1B MTC terminal, diagnose the SCU and the associated disk pair(s) using Phase 11 by entering: **DGN:SCS** *x*,**SCU** *z*:**PH 11!** where *x* = Member Number (0-7) *z* = Submember Number (0-15) Response: The screen returns an output message with ATP for Phase 11.	Telco/Inst	—
83	At the 1B MTC terminal, diagnose the TSI Frame Controller 0 by entering: **DGN:TSI** *x*,**CONTR 0:PH** *y*,**GROWTH!** where *x* = Member Number (0-63) *y* = 13 (for J4A001A) or 20 (for J4A001B) Response: The screen returns an output message with REMOVE COMPLETE, then ATP for all tests run.	Telco/Inst	—

DO THE ITEMS BELOW IN THE ORDER LISTED			FOR DETAILS, GO TO
84	At the 1B MTC terminal, restore TSI x, Controller 0 by entering: **RST:TSI** *x***,CONTR 0!** where *x* = Member Number (0-63) Response: The screen returns an output message with ATP for all tests run, then RESTORE COMPLETED.	Telco/Inst	—
85	At the 1B MTC terminal, diagnose the TSI Frame Controller 1 by entering: **DGN:TSI** *x***,CONTR 1:PH** *y***,GROWTH!** where *x* = Member Number (0-63) *y* = 13 (for J4A001A) or 20 (for J4A001B) Response: The screen returns an output message with REMOVE COMPLETE, then ATP for tests run.	Telco/Inst	—
86	At the 1B MTC terminal, restore TSI x, Controller 1 by entering: **RST:TSI** *x***,CONTR 1!** where *x* = Member Number (0-63) Response: The screen returns an output message with ATP for all tests run, then RESTORE COMPLETED.	Telco/Inst	—
87	Recent change and verify TSI submember equipage from SGRO to OPER using RC Form 700.	Telco	DLP-511
88	At the 1B MTC terminal, diagnose the growth SCU and the associated disk pair using Phase 11 by entering: **DGN:SCS** *x***,SCU** *z***:PH 11!** where *x* = Member Number (0-7) *z* = Submember Number (0-15) Response: The screen returns an output message with ATP for Phase 11.	Telco/Inst	—
89	Recent change and verify the disk pair and MSP equipage of the growth SCU from SGRO to OPER using RC Form 703.	Telco	DLP-509
90	Recent change and verify the growth SCU equipage from SGRO to OPER using RC Form 700.	Telco	DLP-510
91	Verify alarms for the appropriate SCU(s) 0-15 and associated Disk Power Controllers.	Inst	—

DO THE ITEMS BELOW IN THE ORDER LISTED			FOR DETAILS, GO TO
92	At the 1B MTC terminal, run a Peripheral Unit Status audit by entering: **AUD:PUSTAT!** Response: `MSG COMPL`	Telco/Inst	—
93	At the 1B MTC terminal, diagnose the growth SCU and the associated disk pair(s) using demand phases of equipped disk pairs by entering the following input message: **DGN:SCS** *a*,**SCU** *b*:**PH** *c*-*d*! where *a* = Member Number (0-7) *b* = SCU Number (0-15) *c* = Beginning Phase Number (see Caution) *d* = Ending Phase Number (see Caution) ***Caution: For any SCU 0-15, If Type 3 (9 Gb) disk pair is being diagnosed, demand phases 90-91 must be run. For any SCU 0-15, if a Type 2 (4 Gb) disk pair is being diagnosed, demand Phases 90, 91, 92, and 93 must be run sequentially within the same message. For Type 0 (422 Mb) and Type 1 (2 Gb) disk pairs, use the demand phases listed below:*** **90** and **91** for Disk Pair 0 **92** and **93** for Disk Pair 1 (SCU 0 only) Response: The screen returns output messages with `ATP` for all equipped disk pairs. ***Note:*** The number of phases in the input message depends on the number of disk pairs equipped. This DGN message takes approximately 10 minutes per phase. Type 3 DGN messages take approximately 1 hour and 40 minutes per phase.	Telco/Inst	—
94	If an **AAP is present and active**, go to Step 95. If an **AAP is not present**, go to Step 96.	Telco/Inst	—
95	Add the growth SCU to the AAP's SCU equipment (SCUEQP) database, if applicable.	Telco/Inst	DLP-521

DO THE ITEMS BELOW IN THE ORDER LISTED			FOR DETAILS, GO TO
	Note: If disk pair has no announcements, continue with Step 96. If disk pair has announcements, go to Step 97.		
96	At the 1B MTC terminal, perform a Soft Initialization of SCU **y**, Disk Pair 0, by entering the commands given below. ***Note:*** When populating a TN9000 - 9 GB disk pair at the SCU **y**, Disk Pair 0 location in the SCS Unit Type Translator, enter the following input messages: A. **INIT:SCS** *x***, SCU** *y***, DSK 0, BUS 0,TYP 1!** where *x* = Member Number (0-7) *y* = Submember Number (0-15) Response: `INIT:SCS` *x*`,SCU` *y* `COMPLETE` B. **INIT:SCS** *x***,SCU** *y***,DSK 0,BUS 1, TYP 1!** where *x* = Member Number (0-7) *y* = Submember Number (0-15) Response: `INIT:SCS` *x*`,SCU` *y* `COMPLETE`	Telco	—
97	With the **ROS** switch on the TN1984 circuit pack in the NORMAL position at the SCU, restore and initialize the SCU and the associated disk pair by entering the following input message at the 1B MTC terminal: **RST:SCS** *x***,SCU** *z***!** where *x* = Member Number (0-7) *z* = Submember Number (0-15) Response: `ATP` `ANN UPD STARTED` (if AAP is present and active) `RESTORE COMPLETE`	Telco/Inst	—

DO THE ITEMS BELOW IN THE ORDER LISTED			FOR DETAILS, GO TO
98	At the growth Service Circuit Unit Cabinet (SCUC), toggle the SUU's **ROS** switch on the TN1984 circuit pack from NORMAL to ROS, then back to NORMAL. ***Note:*** This will remove the SCU from SERVICE. When switched back to NORMAL, the SCU will be diagonised and successfully returned to SERVICE.	Inst	—
99	Contact NCC to inform that: A. Growth/Conversion of this SCU is complete. B. There are currently no announcements contained on this SCU. C. Trunks to this SCU are in CAD.DSA state (if any exist). D. CAUCS is probably inhibited from updating announcements to this 4ESS switch office for the specific Announcement Set(s).	Telco	—
100	This is a **Safe Stop Point**. If stopping, perform Steps 101 and 102. Otherwise, go to Step 104.	Telco/Inst	—
101	At the 1B MTC terminal, allow REX by entering: **ALW:MACLI,CLASS MTCE!** Response: `AUTOMATIC JOB SCHEDULING RESUMED`	Telco	—
102	Stop procedure for now. Resume at Step 103 when continuing.	Telco/Inst	—
103	Perform Steps 1 through 8 of this procedure. Then continue to the next step.	Telco/Inst	—
104	Have Steps 80 through 99 been completed for all growth SCUs? If **YES**, **STOP! THIS PROCEDURE IS COMPLETE**. If **NO**, repeat Steps 80 through 99 for the next growth SCU.	Telco/Inst	—

TABLE A Allowable Disk Pair Configurations for Circuit Packs With SCU 0

Allowable Disk Pair Types	
Disk Pair Location 0	**Disk Pair Location 1**
2	X
0	0
0	1
1	0
3	X
Where "X" indicates disk pair locations that **must be unpopulated**.	

Verify Service Circuit System (SCS) Unit Type Translator for Growth Service Circuit Units (SCUs) 0-15 (4E21R1 and Later)

Note: If, during this procedure, the value of any of the words in the Unit Type Translator are not what they should be, **DLP-515 can be used to perform a functional word change**. However, remember that, depending on local procedures, supervisory or Telco engineering approval must be obtained prior to performing any data change.

1. At the 1B Maintenance (MTC) terminal, enter **VER:UTYPE:SCS x!**

   where *x* = Member Number (0-7)

   Response: The information shown in Figure 1 is displayed.

   Note: The words shown in Figure 1 are in **octal** format.

VER:UTMN;OPT(),CUR: **FLN** *a* **UTYN** *b*

MEMN *c* **ME** *d*
ENTRY ADDRESS *e* **ENTRY SIZE** *f*

CUR				
WORD 0	____	____	____	____
	____	____	____	____
WORD 10	____	____	____	____
	____	____	____	____
WORD 20	____	____	____	____
	____	____	____	____
WORD 30	____	____	____	____
	____	____	____	____
WORD 40	____	____	____	____
	____	____	____	____
WORD 50	____	____	____	____
	____	____	____	____
WORD 60	____	____	____	____
	____	____	____	____
WORD 70	____	____	____	____
	____	____	____	____
WORD 100	____	____	____	____
	____	____	____	____
WORD 110	____	____	____	____
	____	____	____	____
WORD 120	____	____	____	____
	____	____	____	____
WORD 130	____	____	____	____
	____	____	____	____
WORD 140	____	____	____	____

a **= Floor location number**
b **= Unit type name**
c **= Member number of growth associated complex**
d **= Member equipage**
e **= 8-digit entry address**
f **= 2-digit entry size**

Figure 1. SCS Unit Type Translator

2. Is the message format and member identification correct as shown in Figure 1?

   If **YES**, continue to Step 3.

   If **NO**, determine and resolve the cause and repeat from Step 1.

3. Using TTY output and Figure 2 (beginning on page 9), check that the growth SCU(s) Submember Equipage bits per word 0 and/or 12 are set to **0**.

   If these bits are **set to 0**, continue to Step 4.

   If these bits are **not set to 0**, do one of the following:

   Use RC Form 701 to degrow submember equipage to unequipped (See DLP-513 [OPER to SGRO], DLP-535 [SGRO to GROW], and/or DLP-536 [GROW to UNEQ], depending on current equipage.)

   or

   Use RC Form 801 to perform a functional word change to change the desired bits to 0 (DLP-515).

   Caution: Depending on local procedures, supervisory or Telco engineering approval must be obtained prior to performing any data change.

4. Using the TTY output and Figure 2 (beginning on page 9), verify the Signal Distributor (SD) assignments for the growth SCU(s) per words 17, 20, 21, and/or 22 as follows.

   1. Convert octal digits of entry output data words to decimal Signal Processor (SP) member, row, and column numbers and record results. If the fourth rightmost octal digit of a word is **2** or **3**, add decimal 64 to the SP row number determined for that word.
   2. Search the **ROW** and **COLUMN** listings in the appropriate office record drawings (TAGS) and locate the row and column previously recorded for each of the indicated words. If the associated **UNIT TYPE** and **FRM NO** does not agree with the growth frame, record the discrepancy for later use.

5. Using the TTY output and Figure 2 (beginning on page 9), verify the scan point assignments for the growth SCUs per words 13, 14, 15, and/or 16 as follows.

   1. Convert octal digits of entry output data words to decimal SP member, row, and column numbers and record results. If the fourth rightmost octal digit of a word is **2** or **3**, add decimal 64 to the SP row number determined for that word.
   2. Search the **ROW** and **COLUMN** listings in the appropriate office record drawings and locate the row and column previously recorded for each of the indicated words. If the associated **UNIT TYPE** and **FRM NO** does not agree with the growth frame, record the discrepancy for later use.

6. Using the TTY output and Figure 2 (beginning on page 9), verify the Service Circuit Type per the words shown in Table A. (The correct Service Circuit Type was recorded in Step 9 of NTP-011.)

   Note: Prior to this verification, you must know which announcement set is assigned to each growth SCU.

TABLE A Octal Words and Associated SCUs for Service Circuit Type and TSI Port Assignment Determination

SCU	Word	SCU	Word	SCU	Word	SCU	Word
0	24	4	50	8	74	12	120
1	31	5	55	9	101	13	125
2	36	6	62	10	106	14	132
3	43	7	67	11	113	15	137

7. Using the TTY output and Figure 2 (beginning on page 9), verify growth SCU(s) to Time Slot Interchange (TSI) port assignment per the words in Table A.

   1. Convert the octal digits representing TSI information to decimal.
   2. Compare the calculated data for the TSI member number, SPC, and TSI Port number to the appropriate office records containing SCU to TSI Port assignments, and record any discrepancies.

8. Using the TTY output and Figure 2 (beginning on page 9), verify that growth MSP and MIP equipage bits are set to **0** per the words in Table B, and note any discrepancies.

TABLE B Octal Words and Associated SCUs for MSP and MIP Equipage Verification

SCU	Word	SCU	Word	SCU	Word	SCU	Word
0	25	4	51	8	75	12	121
1	32	5	56	9	102	13	126
2	37	6	63	10	107	14	133
3	44	7	70	11	114	15	140

9. Using the TTY output and Figure 2 (beginning on page 9), verify that the Disk Pair Equipage bits per the words in Table C are set to **00** for each growth SCU, and note any discrepancies.

TABLE C Octal Words and Associated SCUs for Disk Capacity, Disk Pair Equipage, and LAN Address Verification

SCU	Word	SCU	Word	SCU	Word	SCU	Word
0	26	4	52	8	76	12	122
1	33	5	57	9	103	13	127
2	40	6	64	10	110	14	134
3	45	7	71	11	115	15	141

10. Using the TTY output and Figure 2 (beginning on page 9), verify the LAN address per the words in Table C, and note any discrepancies. The LAN address should be the SCS member number multiplied by 16, plus the SCU number.

11. Using the TTY output and Figure 2 (beginning on page 9), verify that the Disk Capacity bits per the words in Table C match office hardware. The bits for each disk pair should be set to **00** for 422 MB disk pairs (TN1672 circuit packs), **01** for 2 GB disk pairs (TN1972 circuit packs), **10** for 4 GB disk pairs (TN4000 circuit packs), or **11** for 9 GB disk pairs (TN9000 circuit packs),

Caution: SCU 0 can physically support two disk pairs (0 and 1). When populating disk capacity bits for SCU 0, adhere to the following rules:

- ***Type 0 (TN1672 circuit packs) can be populated in all 4 disk pair locations.***
- ***Type 1 (TN1972 circuit packs) can only be populated in 3 of 4 disk pair locations.***
- ***Type 2 (TN4000 circuit packs) can only be populated as shown in Table D.***
- ***Type 3 (TN9000 circuit packs) can only be populated as shown in Table D.***

TABLE D Allowable Disk Pair Configurations for Circuit Packs With SCU 0

Allowable Disk Pair Types	
Disk Pair Location 0	**Disk Pair Location 1**
2	X
0	0
0	1
1	0
3	X
Where "X" indicates disk pair locations that **must be unpopulated**.	

12. Is the growth SCU being used for the AT&T Trigger Platform (ATP) feature? (See Step 9 of NTP-011.)

    If **YES**, continue to Step 13.

    If **NO**, continue to Step 14.

13. Using the TTY output and Figure 2 (beginning on page 9), verify that the Monitor bit (bit 18) per the words in Table E has been set to **1** for the growth SCU.

TABLE E Octal Words and Associated SCUs for Monitor Bit Verification

SCU	Word	SCU	Word	SCU	Word	SCU	Word
0	24	4	50	8	74	12	120
1	31	5	55	9	101	13	125
2	36	6	62	10	106	14	132
3	43	7	67	11	113	15	137

14. Using the TTY output and Figure 2 (beginning on page 9), verify the **ASR Application** (bits 15-17) (Table F) per the words shown in Table G. (See Step 9 of NTP-011 for ASR Application.)

TABLE F ASR Application

Bits 17,16, and 15	ASR Application
000	0 (ASR not equipped)
001	1 (NSCX Replacement and ATP)
010	2 (For future use)
011	3 (For future use)
100	4 (For future use)
101	5 (For future use)
110	6 (For future use)
111	7 (For future use)

TABLE G Octal Words and Associated SCUs for Determination of ASR Application and Number of CDSUs

SCU	Word	SCU	Word	SCU	Word	SCU	Word
0	24	4	50	8	74	12	120
1	31	5	55	9	101	13	125
2	36	6	62	10	106	14	132
3	43	7	67	11	113	15	137

15. Using the TTY output and Figure 2 (beginning on page 9), verify the **Number of Custom Data Services Units (CDSUs)** (bits 12-14) (Table H) per the words shown in Table G. (See Step 9 of NTP-011 for number of CDSUs.)

TABLE H Number of CDSUs

Bits 14,13, and 12	Number of CDSUs
000	None
001	1
010	2
011	3
100	4
101	5
110	Not Applicable
111	Not Applicable

16. Using the TTY output and Figure 2 (beginning on page 9), verify the **ASR Custom Data Services Cabinet (CDSC) Number** (bits 0-5) per the words shown in Table I. The correct CDSC number is supplied in the "332 Job Specification."

TABLE I Octal Words and Associated SCUs for Determination of CDSC Number

SCU	Word	SCU	Word	SCU	Word	SCU	Word
0	30	4	54	8	100	12	124
1	35	5	61	9	105	13	131
2	42	6	66	10	112	14	136
3	47	7	73	11	117	15	143

17. Using the TTY output and Figure 2 (beginning on page 9), verify the **ASR Custom Data Services Unit (CDSU) Hardware Version** (bits 6-8) per the words shown in Table I. These bits should be **001**.

18. Using the TTY output and Figure 2 (beginning on page 9), verify the **TN9001 and TN9002 Hardware Equippage** (bits 9-10) per the words shown in Table I.

19. Were any discrepancies found in Steps 4 through 18?

    If **YES**, continue to Step 20.

    If **NO**, continue to Step 24.

20. Was the error found to be in the Unit Type entry data or the office records?

    If **Unit Type entry data**, continue to Step 21.

    If **office records**, continue to Step 24.

21. If not already done, use DLP-515 to perform functional word changes as needed.

22. Have all Unit Type data errors now been corrected?

    If **NO**, continue to Step 23.

    If **YES**, continue to Step 24.

23. Assist the installer in taking appropriate corrective action as determined by regional engineering and as approved by office supervisor.

24. **STOP! YOU HAVE COMPLETED THIS PROCEDURE.**

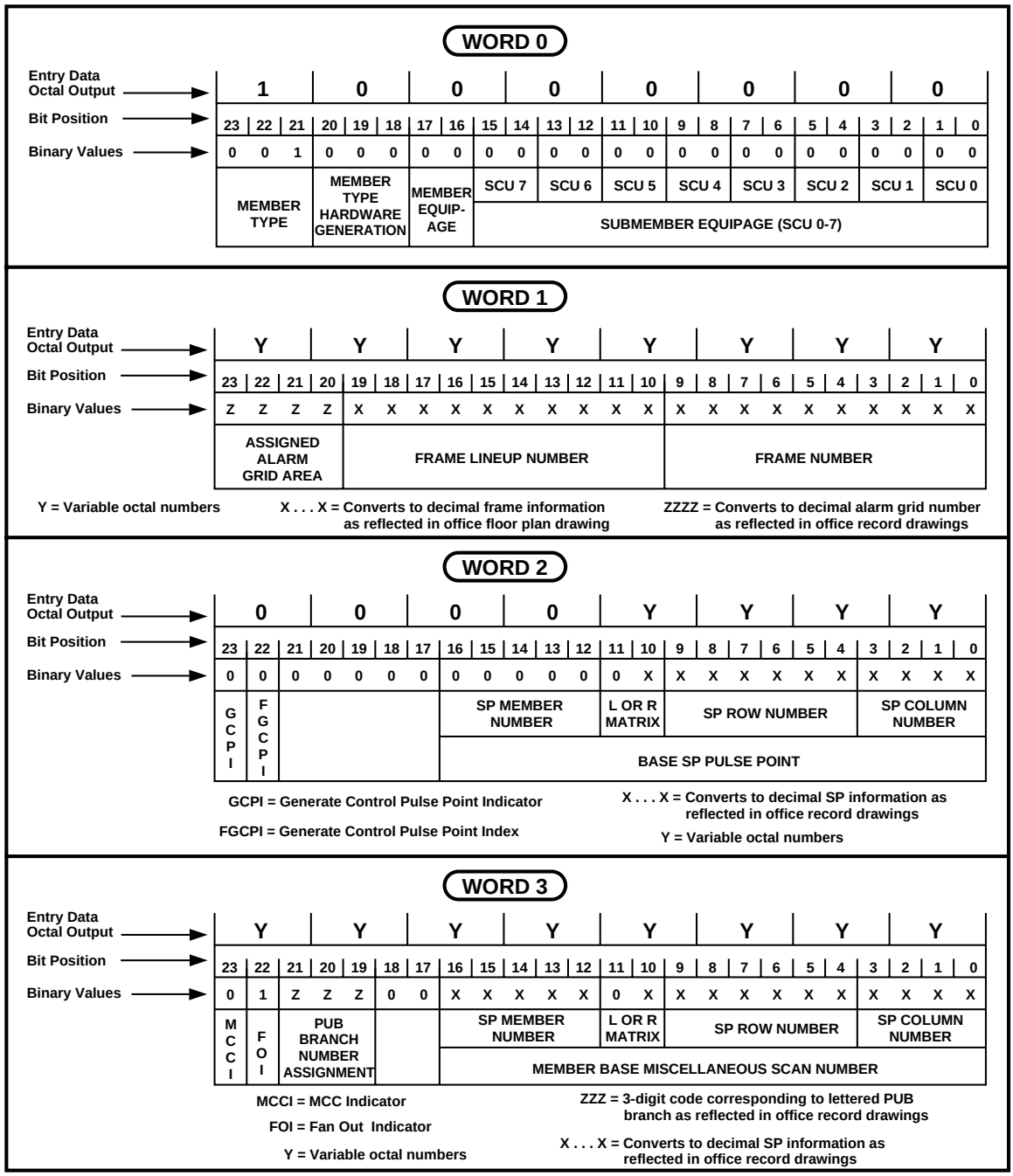

Figure 2. Unit Type Entry Data and Word Configuration (Word Numbers are in Octal) (Sheet 1 of 7)

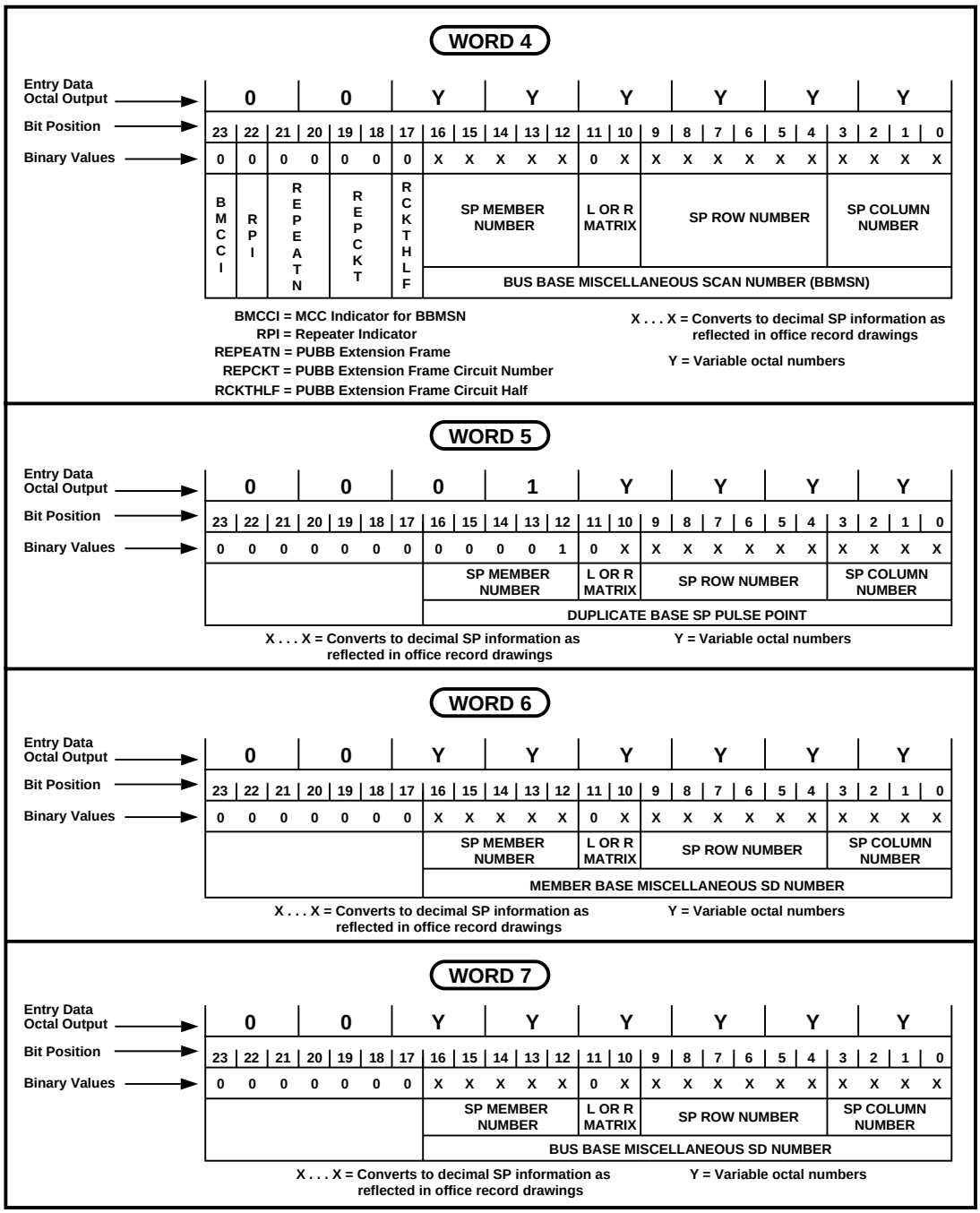

Figure 2. Unit Type Entry Data and Word Configuration (Word Numbers are in Octal) (Sheet 2 of 7)

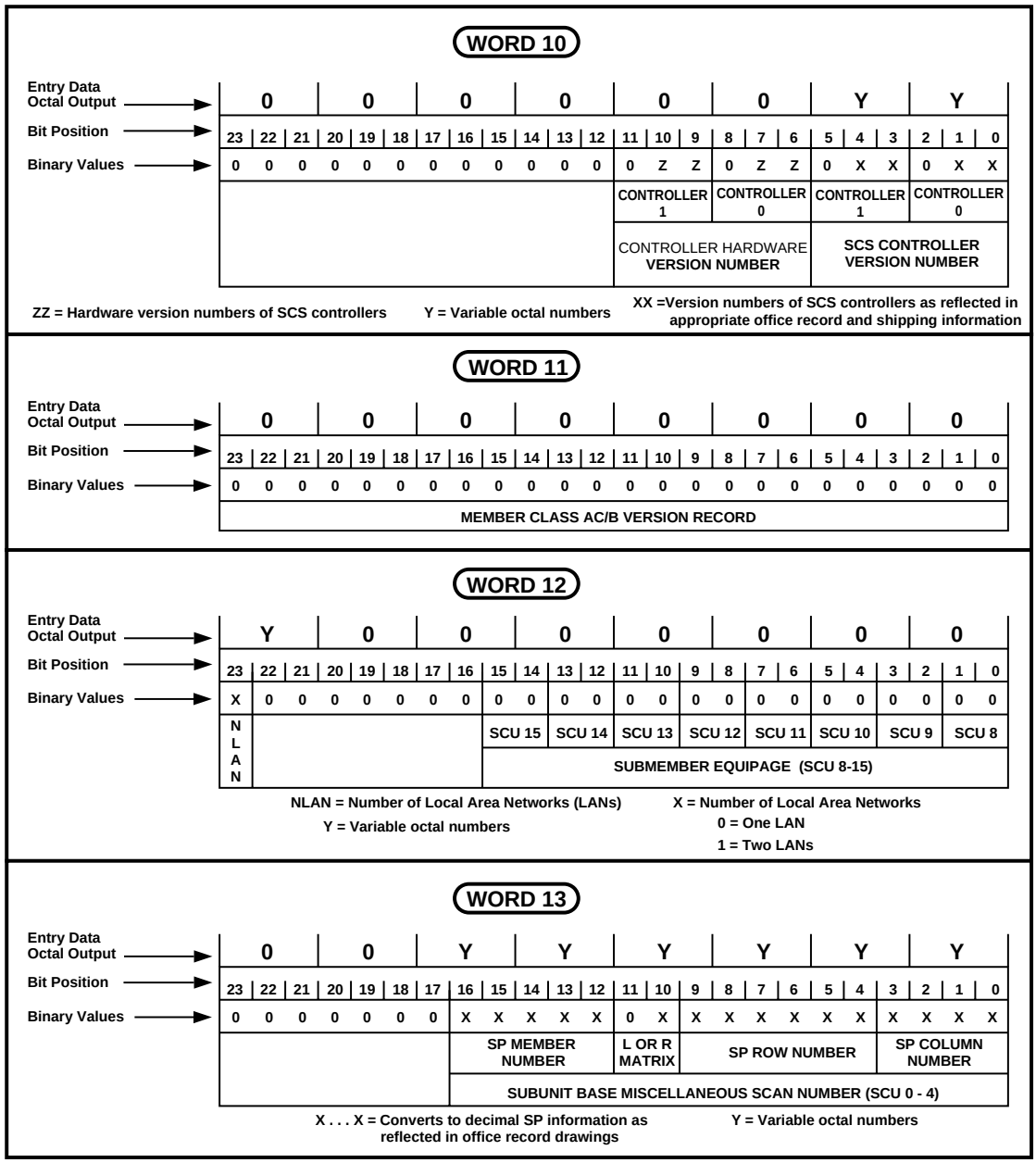

Figure 2. Unit Type Entry Data and Word Configuration (Word Numbers are in Octal) (Sheet 3 of 7)

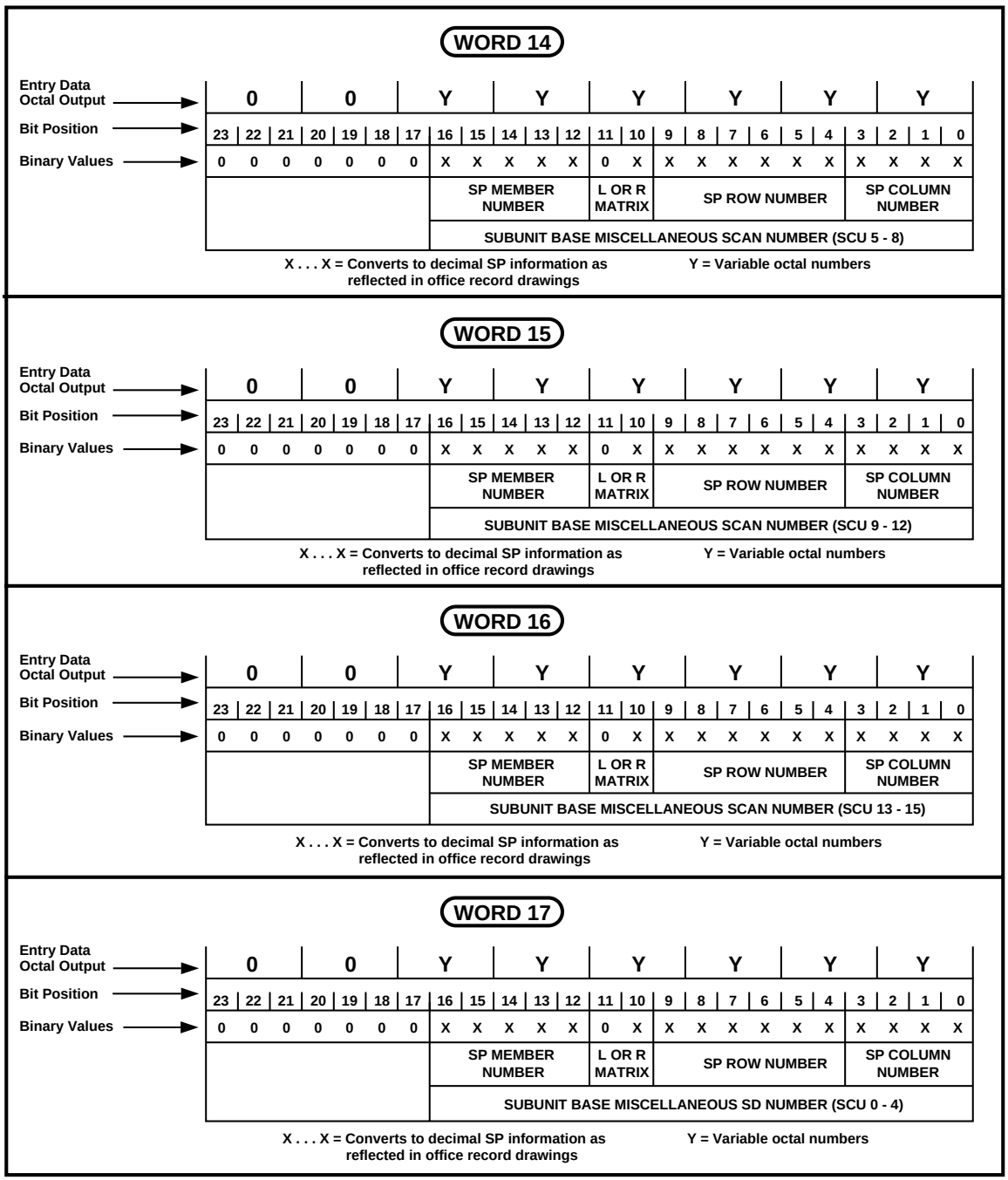

Figure 2. Unit Type Entry Data and Word Configuration (Word Numbers are in Octal) (Sheet 4 of 7)

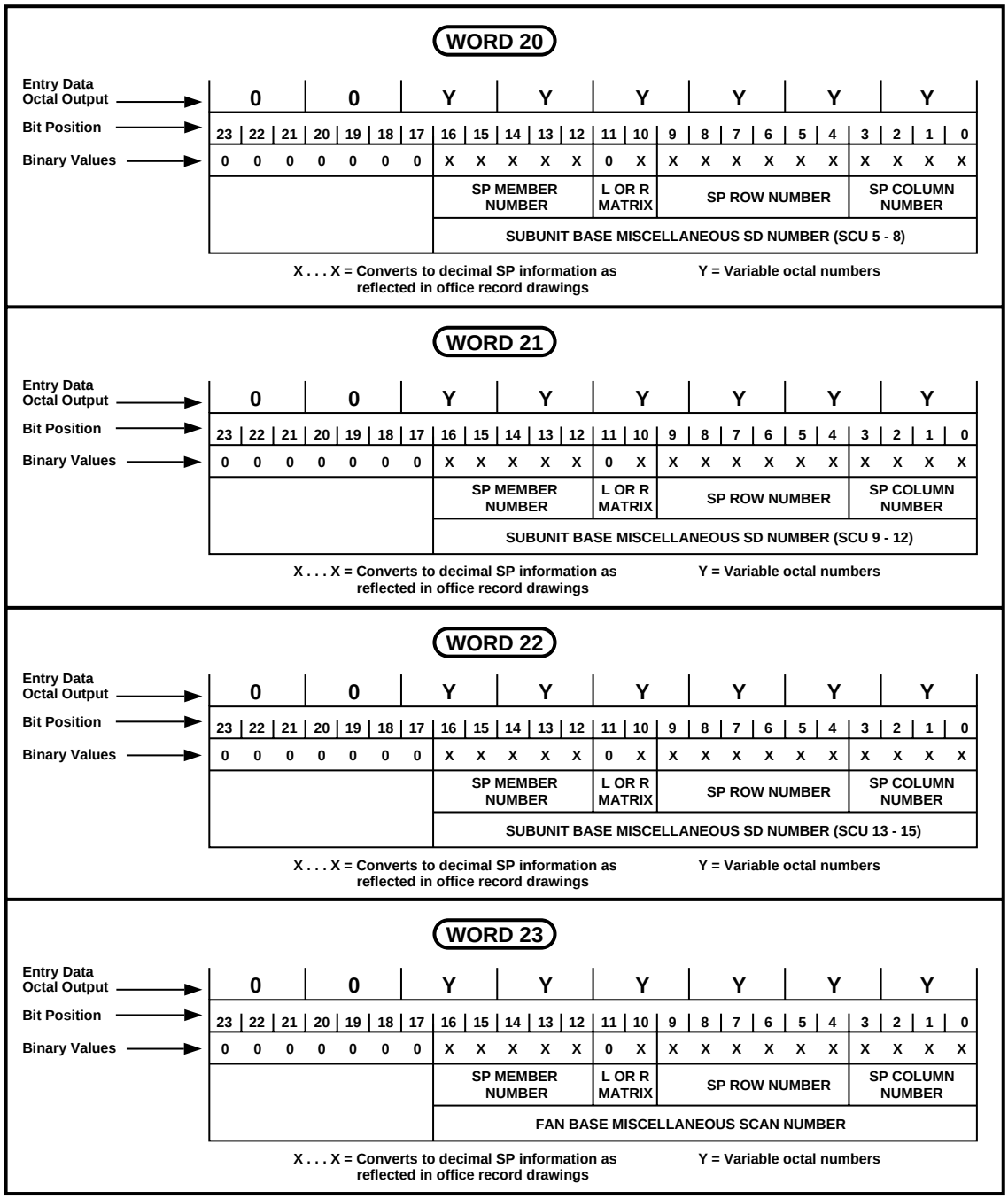

Figure 2. Unit Type Entry Data and Word Configuration (Word Numbers are in Octal) (Sheet 5 of 7)

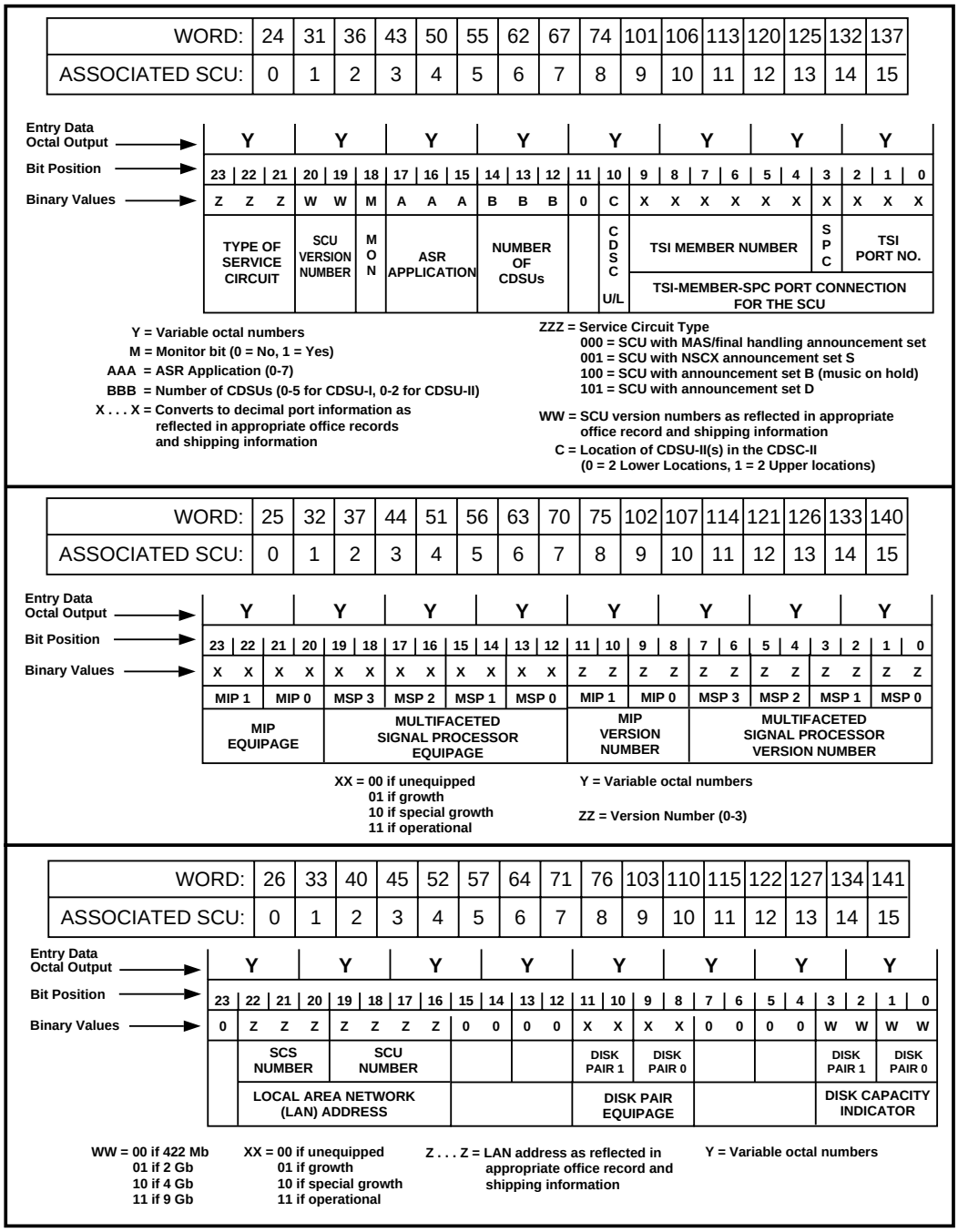

Figure 2. Unit Type Entry Data and Word Configuration (Word Numbers are in Octal) (Sheet 6 of 7)

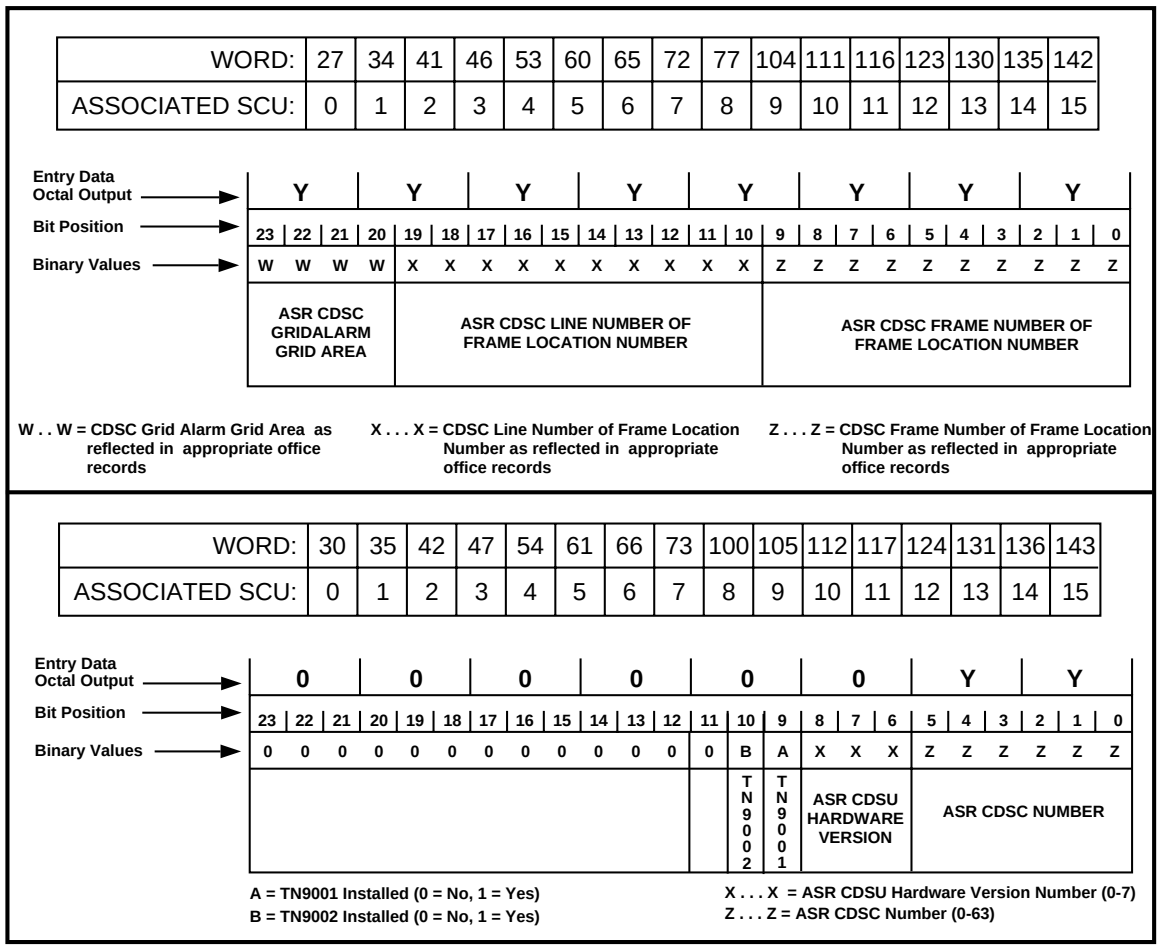

Figure 2. Unit Type Entry Data and Word Configuration (Word Numbers are in Octal) (Sheet 7 of 7)

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