NO. 3 ESS SYSTEM VERIFICATION TESTING PLANNING INFORMATION

CONTENTS

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1. GENERAL INFORMATION

1.1 Description

1.11 This section presents guidelines for the sequencing and scheduling of the No. 3 ESS system verification testing (Handbook 269, 500 series sections).

1.12 System verification testing checks the hardware/software interface and is intended to insure that the system circuitry, generic program and office translations all function together to properly support office requirements.

1.2 No. 3 ESS Packaged and Pretested Conditions

1.21 This section assumes that the No. 3 ESS system arrives at the installation location in one of several "Packaged and Pretested Conditions": A, B, C, D, or E as follows:

A) All frames are completely unitized as one package. The No. 3 ESS office has been completely factory system tested as an entity prior to unitization.

B) All frames are completely unitized as two or more packages. The No. 3 ESS office has been completely factory system tested as an entity prior to unitization. Cabling has been disconnected between the various unitized packages to permit separate handling.

C) No utilized package exists. The No. 3 ESS office may or may not have been completely factory system tested as an entity prior to shipment. Most of the major cabling either has been disconnected or never was connected between the various shipment packages.

1.3 System Verification and Operational Testing

1.31 This section assumes that either a unitized No. 3 ESS system arrives at the installation location in essentially the same condition that it was in as it left the factory. Extensive system verification testing should have already been conducted on such No. 3 ESS offices in the factory. Site testing therefore is generally directed toward verification that the system is in the same condition as it was in when it left the factory. For this reason, not all 500 and 600 series tests are expected to be accomplished on these systems at the field location.

1.32 The objective in running the 500 and 600 series tests on unitized No. 3 ESS systems is to conduct those tests which have a high probability of detecting and indicating general system malfunctions. The tester then has the option of selecting other tests, available in Handbook 269, for fault isolation.

1.33 Those 500 series tests which should be accomplished to verify unitized No. 3 ESS integrity are designated in Table 1. (All titles listed

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in Table 1 are preceded by "No. 3 ESS" unless otherwise indicated by some system or systems designation.) All "other Handbook 269 sections" are made available to the tester to use as he may require for trouble isolation.

1.34 Those 500 series tests which should be accomplished to verify loose frame shipped No. 3 ESS offices are also designated in Table 1. Note that some of the test sections designated as for trouble isolation on unitized or modular systems are required procedures for loose frame officed (Packaged and Pretested Condition "E").

1.4 Sequence of Operations

1.41 Successful completion of all Handbook 269 pre-system verification series sections (lesser number than 500) designated for the associated "Packaged and Pretested Condition" (refer to Handbook 269, Section 1 and pre-system verification testing requirements and sequence) should be accomplished prior to commencing system verification testing.

1.42 All designated series 500 test requirements (Table 1) should have been successfully completed before commencing any designated series 600 testing (refer to Handbook 269, Section 600).

1.5 References

1.51 The following material may be useful when doing system verification tetsting:

Code	Title
HB 250, Sec. 2.26	Test Set Planning and Scheduling Information for No. 3 ESS
HB 269, Sec. 1	No. 3 ESS Unitized System Test Planning

2. RECORDS AND REQUIREMENTS

2.1 Records - This information will appear, if required, in each individual 500 series section.

2.2 Requirements - The overall system verification requirement is the successful completion of all associated "Packaging and Pretested Condition" testing requirements designated in Table 1 of this section. No. 3 ESS Operational Testing is intended to satisfy BSP 820-650-180, Performance Requirements, No. 3 ESS, General Equipment, Electric Switching Systems.

3. TEST FACILITIES

3.1 Test Equipment

3.11 The following installation test equipment should be available during system verification testing for troubleshooting purposes:

Amt.	ITE Code	Title
1	5237B	Tektronix 465
1	5653	No. 3 ESS Test Accessory Set

3.12 Additional test equipment which may be necessary to run associated system verification tests is listed in Table 2. (All titles listed in Table 2 are preceded by "No. 3 ESS" unless already indicated by some system or systems designation.) Each section also lists associated test equipment if needed.

3.2 Software

3.21 The following software items are required for system verification testing:

Generic	Amt.	Code	
S02	6	J3H001S-1	No. 3 ESS Generic Program & Office Data Translations Office Cartridge

Two office cartridges are required for system verification testing, one mounted on each minirecorder, and four office cartridges provided as spares.

3.3 Documentation

3.31 In addition to the hardware and office documentation (SDs, CDs, EDs, T-drawings, etc.) already required for previous testing, the following documentation should be available for system verification testing:

Code	Title
TG-3H	Administrative Operational Manual
PA-3H300-01	No. 3 ESS Generic and Program Store Layout
PRs	Generic Program Listings
BSP 232-105-101	General Maintenance Procedures
→ IM/OM-3H300	No. 3 ESS Input/Output Message Manual

Code (Cont.)	Title
TLM-1C900	Trouble Locating Manual
TLM-3H101	Master/Universal Scanner
TLM-3H102	Peripheral Pulse Distributor Controller
TLM-3H103	Network Controller
PG-3H902	Program Document Index
	Office Data Translation Input Forms
SD-3H912-01	CDF Assignment Rules
SD-3H912-01	Scanner Assignment Rules
SD-3H912-01	PD Assignment Rules

3.4 Office Equipment

3.41 Verify that the remote and maintenance TTYs are conveniently located for installer use, if these TTYs are equipped.

3.42 Verify that all office test clip leads have been removed. Those clip leads required for system verification testing should be specified in the associated test sections.

3.5 CDF Cross-Connects

3.51 It is expected that those CDF Cross-Connects required for all testing will be made only once.

4. TEST PLAN

4.1 The suggested sequence of conducting the system verification testing is indicated in Section of this handbook.

4.2 Any troubles encountered during a test should normally be cleared before continuing with the test or before starting subsequently listed tests.

4.3 The system verification tests may be grouped into the following general categories:

a) Initialization and Control Complex Verification

b) Major Peripheral (Controller) Verification

c) Translation Sensitive, Major Peripheral Controlled, Multiple End Circuits

4.31 Initialization and Control Complex Verification condition the system to the point where it can support subsequent system verification and operational testing, and provides the tester with a known base upon which to conduct subsequent troubleshooting and analysis decisions. As such, these tests are always conducted, no matter (1) how the system was packaged and shipped and (2) what testing was previously conducted at the factory.

4.32 Major Peripheral Verification checks those critical portions of the system requiring duplication to maintain overall system design reliability. Faults in this equipment should normally always cause adverse system reaction. This equipment is not tested directly but in support of more inclusive operational system testing procedures (if previously factory tested).

4.4 System Verification Testing consists of either Test Type-1 or Test Type-2. Test Type-1 tests are manually initiated in combination with either subsequent tester control or some combination of tester and program control. Test Type-2 tests are either manually or automatically initiated in combination with subsequenc complete program control. Table 3 lists individual circuits and the Test-Type, (1 or 2), conducted on each.

5. GENERAL OFFICE MAINTENANCE

5.1 The office should be closely monitored for any problems which may arise.

5.2 All system hardware and software problems should be investigated and cleared as they arise.

TABLE 1

NO. 3 ESS SYSTEM VERIFICATION CONDUCTION REQUIREMENTS FOR THE DEFINED PACKAGED AND PRETESTED CONDITIONS: A, B, and C
(Refer to paragraph 1.2 of this section)

HANDBOOK 269 SECTION		PACKAGING AND PRETESTED CONDITION			
NO.	TITLE	A	B	C	NOTE
500	System Verification Testing, Planning Information	I	I	I	I
503	System Verification and Operational Testing, General Information	I	I	I	
503.11	15A, 15B, 15C Grid Changing Procedure	I	I	I	
503.21	General Information, On Overwrite Procedures and Hashsums	I	I	I	
503.34	General Information, Preferential Assignment List and Associated Translation Test Assignments	I	I	I	
503.41	General Information, Common Operator Procedures 3ACC Control Panel	I	I	I	
508	No. 2B and 3 ESS, System Verification, Initialization (Load Generic)	C	C	C	2
508.2	System Verification, Control Complex	C	C	C	
520	System Verification, General Information, Major Peripheral (Controller) Tests	I	I	I	
520.04	System Verification, Scanner Controllers	C	C	C	
520.08	System Verification, Peripheral Pulse Distributor Controllers	C	C	C	
520.12	System Verification, Network Controllers	C	C	C	
521	System Verification, Network Fabric	C	C	C	
525	System Verification, Ringing and Tone Plant	C	C	C	
528	System Verification, General Information and Operating Procedures, Trunk and Line Test Panel (TLTP)	I	I	I	
528.01	System Verification, Trunk and Line Test Panel (TLTP), Using Trunk Circuits	C	C	C	
528.02	System Verification, Trunk and Line Test Panel (TLTP), Using Line Circuits	C	C	C	
530	System Verification, General Information, Trunks and Service Circuits, Test and Troubleshooting Procedures Using the Trunk and Line Test Panel (TLTP)	I	I	I	
533T	System Verification, Junctor Circuits	T	T	T	

TABLE 1 (Cont.)

HANDBOOK 269 SECTION NO.	TITLE	PACKAGING AND PRETESTED CONDITION A	B	C	NOTE
534	System Verification, Service Circuits	C	C	C	
535	System Verification, Trunk Circuits	C	C	C	
536	Direct Interface to D4 Channel Banks	C	C	C	
544	System Verification, Automatic Line Insulation Test (ALIT)	T	T	T	
545	System Verification, AMARC Function	C	C	C	
551	System Verification, TTY Output of Alarms	T	T	T	
555	System Verification, Error Recovery and Emergency Action Facilities				

NOTES: 1. I - For informational purposes.
2. C - Conduct associated test procedures.
3. T - Available for troubleshooting procedures or informational purposes.

TABLE 2

SYSTEM VERIFICATION TEST EQUIPMENT

HANDBOOK 269 SECTION NO.	TITLE	TEST EQUIPMENT QTY	CODE	DESCRIPTION	NOTE
500	System Verification Testing, Planning Information				
503	System Verification and Operational Testing, General Information				
503.11	No. 3 ESS 15A, 15B, 15C Grid Changing Procedure				
→ 503.21	No. 3 ESS System Verification, Common Operator Procedures, 3ACC Front Panel Control				
→ 503.34	General Information Preferential Assignment List (PNAL) and Associated Translation Test Assignments				
508	No. 3 ESS System Verification, Initialization (Load Generic)	1 1 1	ITE-5237B ITE-5511 ITE-5653	Scope Tex #465 3ACC Microcontrol Test Accessory Set	
508.2	System Verification, Control Complex	1 1 6	ITE-5237B ITE-5511 ITE-9140,L1	Scope Tex #465 3ACC Microcontrol Clip Leads 12"	 2
520	System Verification, General Information, Major Peripheral (Controller) Tests				
520.04	System Verification, Scanner Controllers	1	ITE-5653	Test Accessory Set	
520.08	System Verification, Peripheral Pulse Distributor Controllers	1	ITE-5653	Test Accessory Set	
520.12	System Verification, Network Controllers	1	ITE-5653	Test Accessory Set	
521	System Verification, Network Fabric	1 1 1	ITE-4659 ITE-4669 ITE-5237B	Volt-Ohm-Milliammeter Amp & Current Probe Scope Tex #465	
525	System Verification, Ringing and Tone Plant				
528	System Verification, General Information and Operating Procedures, Trunk and Line Test Panel (TLTP)				
528.01	System Verification, Trunk and Line Test Panel (TLTP), Using Trunk Circuits	1 2	ITE-4631 ITE-9140,L1	Test Headset Clip Lead 12"	
528.02	System Verification, Trunk and Line Test Panel (TLTP), Using Line Circuits	1 1 1 1 1 1 1	ITE-4631 IC1 or IC2 1500D or 500C/D W4CJ or W4CT	Test Rcvr DP Coin Phone TT Coin Phone TT Phone DP Phone Test Cord Test Cord	

TABLE 2 (Cont.)

HANDBOOK 269 SECTION NO.	TITLE	TEST EQUIPMENT QTY	CODE	DESCRIPTION	NOTE
533T	System Verification, Junctor Circuits				
534	System Verification, Service Circuits				
535	System Verification, Trunk Circuits				
536	System Verification Direct Interface to D4 Channel Unit				
544	System Verification, Automatic Line Insulation Test (ALIT)	1	ITE-5001 ITE-9140,L1 ITE-9116	ALIT Resistors Clip Lead 12" Cord 6'	
545	System Verification, AMARC Function				
551	System Verification, TTY Output of Alarms	1 1	ITE-5237B ITE-5632	Scope Tex #465 Digital Multimeter	

NOTES: 1. With ITE-5653.

2. Test cord with standard plugs (KS-21386 adapter, dual plug 464A).

3. Test cord with miniature plugs.

TABLE 3

NO. 3 ESS
CIRCUIT/SYSTEM VERIFICATION TEST/
TEST PROGRAM/SUMMARY

DRAWING CODE	TITLE	HANDBOOK 269 SECTION	ASSOCIATED TEST PROGRAM	TEST TYPE 1	TEST TYPE 2	NOTE
SD-3H909-01	Grounding Circuit					
SD-3H907-01	DC Power Distribution					
SD-3H908-01	AC Power Distribution					
FRAME						
SD-1C910-01	Processor Frame Circuit	551	PWSC PURC	X X		
UNIT						
SD-1C911-01	Processor Frame Power Circuit	551	PUSC PURC	X X		
CPS-FC210	Power Alarm and Control					
UNIT						
SD-1C900-01	3A Central Control	508 508.2	GSP CSP		X X	
CPS-FA1010	Bit Slice Board 1					
CPS-FA1011	Four-out-of-eight Decoder					
CPS-FA1012	Data Manipulation 1					
CPS-FA1013	Data Manipulation 2B					
CPS-FA1014	Data Manipulation 3					
CPS-FA1015	Data Manipulation 4					
CPS-FA1016	Microcontrol Board 1					
CPS-FA1017	Microcontrol Board 2					
CPS-FA1018	Microcontrol Board 3					
CPS-FA1019	Microcontrol Board 4					
CPS-FA1020	Microcontrol Board 5					
CPS-FA1021	Microcontrol Board 6					
CPS-FA1022	Microcontrol Board 7					
CPS-FA1023	Microcontrol Board 8					
CPS-FA1024	Bit Slice Board 2					

TABLE 3 (Cont.)

DRAWING CODE	TITLE	HANDBOOK 269 SECTION	ASSOCIATED TEST PROGRAM	TEST TYPE 1	TEST TYPE 2	NOTE
CPS-FA1025	Clock (3A CC)					
CPS-FA1026	Bus Parity Checker					
CPS-FA1027	Error Register & Display 1					
CPS-FA1028	Error Register & Display 2					
CPS-FA1029	Main Memory Control					
CPS-FA1030	Miscellaneous Decoder and Slice Control					
CPS-FA1031	Four-out-of-eight Checker					
CPS-FA1032	Miscellaneous Circuits					
CPS-FA1033	Program & Timer Counters					
CPS-FA1034	Console and 3A CC Interface					
CPS-FA1035	Maintenance Channel Board 1					
CPS-FA1036	Maintenance Channel Board 2					
CPS-FA1037	Maintenance Channel Board 3					
CPS-FA1038	I/O Status Board					
CPS-FA1039	I/O Channel 2					
CPS-FA1040	Extended Main Memory Interfaces					
CPS-FA1045	Four-out-of-eight Decoder (To)					
CPS-1A1046	Double Store Read					
CPS-FB6	Protection Circuit					
CPS-FB152	12V Reference					
CPS-FB486	Crystal Oscillator					
CPS-FC21	+3V Reference & Filter Circuit					
CPS-FC201	10 I/O Subchannels					
CPS-FC202	Maintenance Interface					
PANEL						
SD-1C901-01	3A CC Control Panel	508.2	CSP		X	
UNIT						
SD-1C902-01	Main Store Controller	508 508.2	CSP CSP		X X	

TABLE 3 (Cont.)

DRAWING CODE	TITLE	HANDBOOK 269 SECTION	ASSOCIATED TEST PROGRAM	TEST TYPE 1	TEST TYPE 2	NOTE
CPS-FA1060	Bit Slice Circuit					
CPS-FA1061	Timing Circuit					
CPS-FA1062	Check A Circuit					
CPS-FA1063	Maintenance A Circuit					
CPS-FA1064	Maintenance B Circuit					
CPS-FA1065	Command Circuit					
CPS-FA1066	Check B Circuit					
CPS-FA1067	Parity Circuit					
CPS-FC21	+3V Reference & Filter Circuit					
CPS-FC203	Clock Circuit					
CPS-FC262	Power Control Circuit					
UNIT						
SD-1C903-01	Main Store Memory	508 508.2	CSP CSP		X X	
CPS-JK3	Fanout Circuit					
CPS-JL2	Memory Circuit					
Option A						
JK-25 JL-16						2
FRAME						
SD-1C912-01	Maintenance Frame Circuit	508	CSP		X	
UNIT						
SD-1C909-01	Maintenance Frame	551		X		
CPS-FC210	Power Alarm and Control					
UNIT						
SD-1C904-01	Tape Data Controller	508 508.2	CSP CSP		X X	
CPS-JK5	SErial Peripheral Interface A					
CPS-JK6	Serial Peripheral Interface B					
CPS-JK7	Serial Peripheral Interface C					

TABLE 3 (Cont.)

DRAWING CODE	TITLE	HANDBOOK 269 SECTION	ASSOCIATED TEST PROGRAM	TEST TYPE 1	TEST TYPE 2	NOTE
CPS-JK8	Bus Terminator A					
CPS-JK9	Bus Terminator B					
CPS-JK10	Buffer A					
CPS-JK11	Buffer B					
CPS-JK12	Buffer C					
CPS-JK13	Buffer D					
CPS-JK16	Tape Unit Controller A					
CPS-JK17	Tape Unit Controller B					
CPS-JK18	Tape Unit Controller C					
UNIT						
SD-1C905-01	TTY Controller	508	CSP		X	
CPS-FA1058	Tip/Ring Unit Channel Ckt					
CPS-FA1059	Tip/Ring Unit Line Ckt					
CPS-FB152	+12V Reference Circuit					
CPS-FB494	-48V to +24V Converter and Power Alarm Circuit					
CPS-FC21	+3V Reference and Filter Circuit					
CPS-FC200	Teletypewriter Controller Interface & Timing Ckts					
CPS-FC261	Interface & Timing Ckts for TTYC Arranged for Mate Operation Ckt					
AR17	EIA Interface					
108D	Data Set					
UNIT						
SD-2P021-01	E2A Telemetry					
PANEL						
SD-1C906-01	System Status Panel Ckt	508.2	INSC	X		
UNIT						
SD-1C907-01	System Status Panel Controller	508.2	INSC	X		
CPS-FA1100	Display Register and Key Memory Logic					

TABLE 3 (Cont.)

DRAWING CODE	TITLE	HANDBOOK 269 SECTION	ASSOCIATED TEST PROGRAM	TEST TYPE 1	TEST TYPE 2	NOTE
CPS-FA1102	Miscellaneous Circuits					
CPS-FA1103	Maintenance Telemetry Interface					
CPS-FB152	+12V Reference					
CPS-FC21	+3V Reference and Filter Circuit					
CPS-FC208	Maintenance Transformers					
CPS-FC209	Driver					
UNIT						
SD-1C908-01	System Status Panel Relay Circuit	508.2	INSC	X		
FRAME						
SD-3H904-01	Test Frame					
UNITS						
SD-3H520-01	Peripheral Test Circuit	528.01 528.02	TLTPC ITTC	X X		
CPS-FB500	Continuity and Polarity Test Circuit		CHPLT			
CPS-FB501	DPR Test - Tip and Ring		DPRTC			
CPS-FB502	DPR Test - Pulse Control		DPRTC			
CPS-FB504	Transmission Test Termination Circuit		XTERC			
CPS-FB505	MW and Transmission Environment Test Ckt, Port 0		MWTET			
CPS-FB506	MW and Transmission Environment Test Circuit, Port 1		MWTET			
CPS-FB507	MW and XMISSION ENV Test - Pads A		MWTET			
CPS-FB508	MW and XMISSION ENV Test - Pads B		MWTET			
CPS-FB509	MW and XMISSION ENV Test - Oscillator		MWTET			
CPS-FB510	Loop Environment Test Circuit		LENT			
CPS-FB511	Trunk & Line Test Panel (TLTP) Transmission Control Circuit					
CPS-FB512	Distribute Points (TLTP)					

TABLE 3 (Cont.)

DRAWING CODE	TITLE	HANDBOOK 269 SECTION	ASSOCIATED TEST PROGRAM	TEST TYPE 1	TEST TYPE 2	NOTE
CPS-FB513	Voltmeter Control Circuit (TLTP)					
CPS-FB514	Ringing and Flash CNT (TLTP)					
CPS-FB515	Electrical Lock (TLTP)					
CPS-FB516	TPD - Amplifier		TDDT			
CPS-FB517	TPD - Timer		TDDT			
CPS-FB519	Incoming Local Test Desk Trunk Circuit					
CPS-FB521	STA Ringer Test - Tip and Ring		SRTT			
CPS-FB522	STA Ringer Test - Dial Pulse Detector and Scanner Driver		SRTT			
CPS-FB523	LIT - Power Supply		LINT			
CPS-FB524	LIT - Comparator		LINT			
CPS-FB525	LIT - Line Switching		LINT			
CPS - FB526	TTR Test - D Sine Converter		TTRTC			
CPS-FB527	TTR Test - Output Stage		TTRTC			
CPS-FB528	TTR Test - Power Supply		TTRTC			
CPS-FB529	TTR Test - Divide Counter		TTRTC			
FRAME						
SD-3H902-01	Control Frame	520.04	PUIN FIOC SCNT		X	
		520.08	PUIN FIOC PPDT		X	
		520.12	PUIN FIOC NTCT		X	
		521	NFEY		X	
CPS-FB414	+3 Volt Signal Battery					
CPS-FB415	Alarm 0	551	PWSC PURC	X X		
CPS-FB416	Alarm 1	551	PWSC PURC	X X		
CPS-FB417	Test Vertical Network Connector					
CPS-FB419	Test Vertical Test Circuit Connector					

TABLE 3 (Cont.)

DRAWING CODE	TITLE	HANDBOOK 269 SECTION	ASSOCIATED TEST PROGRAM	TEST TYPE 1	TEST TYPE 2	NOTE
CPS-FB420	Test Vertical False Cross and Ground Test Circuit					
CPS-FB422	Test Vertical Power Cross Test Circuit					
UNIT						
SD-3H110-01	Peripheral Controller	520.04	PUIN FIOC SCNT		X	
		520.08	PUIN FIOC PPDT		X	
		520.12	PUIN FIOC NTCT		X	
		521	NFEX		X	
CPS-FA993	FIOC Sequence Controller					
CPS-FA994	FIOC Register Board					
CPS-FA995	PPD Sequencer					
CPS-FA996	PPD Vertical Translator					
CPS-FA997	Scanner Sequencer					
CPS-FB998	NC Input Level and Misc. Decoder					
CPS-FA999	NC Switch or Level Decoder					
CPS-FA1000	NC Concentrator Group Decoder					
CPS-FA1001	NC Control Logic					
CPS-FB152	12V Reference					
CPS-FB288	Interrogate Current Driver					
CPS-FB351	FIOC Receiver Transmitter					
CPS-FB404	NC Input Group Select					
CPS-FB405	NC High and Dry Select					
CPS-FB406	NC Stage Three Group Select					
CPS-FB409	Power Control					
CPS-FB412	Scanner Test Board					
CPS-FB13	Scanner Timer					
CPS-FB421	NC Timing & Guard Control					

TABLE 3 (Cont.)

DRAWING CODE	TITLE	HANDBOOK 269 SECTION	ASSOCIATED TEST PROGRAM	TEST TYPE 1	TEST TYPE 2	NOTE
CPS-FC21	3V Reference and Filter Board					
CPS-FC135	Scanner Column Detector					
CPS-FC188	NC Output Group Select					
CPS-FC193	NC Node Select					
CPS-FC204	PPD Horizontal					
CPS-FC205	PPD Vertical Driver					
CPS-FC206	PPD Matrix Board					
CPS-FC207	PPD Level Control					
CPS-FC219	NC Group Checks					
CPS-FC229	NC 16V Supply					
CPS-FC307	NC Gate Select					
CPS-FC330	Scan Interrogate Matrix					
UNIT						
SD-3H140-01	Master Scan Matrix	520.05	PUIN FIOC SCNT		X	
CPS-FC183	Trunk and Master Scanner Ferrods					
CPS-FC184	Master Scanner Ferrods					
UNIT						
SD-1C913-01	Electronic Remreed Pulser Circuit	520.12	PUIN FIOC NTCT		X	
		521	NFEX		X	
FRAME						
SD-3H901-01	Network Frame	551	PWSC PURC	X X		
UNIT						
SD-3H120-01	15A Grid Circuit	521	NFEX		X	
UNIT						
SD-3H121-01	15B Grid Circuit	521	NFEX		X	
UNIT						
SD-3H122-01	First and Second State Access Circuit	521	NFEX		X	
CPS-FC191	NC Output Level Select					
CPS-FC192	NC Input Level Select					

TABLE 3 (Cont.)

DRAWING CODE	TITLE	HANDBOOK 269 SECTION	ASSOCIATED TEST PROGRAM	TEST TYPE 1	TEST TYPE 2	NOTE
UNIT						
SD-3H130-01	15C Grid Circuit	521	NFEX		X	
UNIT						
SD-3H131-01	Third Stage Access Ckt	521	NFEX		X	
CPS-FC190	NC Stage Three Level Select					
UNIT						
SD-3H200-01	Junctor & Junctor Control Circuit	533	JCTT		X	
CPS-FC181	Peripheral Decoder Circuit					
CPS-FC182	Junctor Circuit Ferrods					
CPS-FC183	Trunk & Service Ckt Ferrods					
CPS-FC185	Splitting Resistors					
CPS-FB372	Junctor Circuit					
CPS-FB401	Battery Boost Auxiliary Ckt					
SD-82250-01	Battery Boost Converter					
UNIT						
SD-3H150-01	Distribute Point Circuit	520.08	PPDT		X	
CPS-FC181	Peripheral Decoder Board					
UNIT						
SD-3H220-01	Universal Trunk Circuit					
CPS-FB360	Outgoing Reverse Battery Trunk Circuit	535	ORBT		X	
CPS-FB361	Two-Way E&M Lead Trunk Ckt	535	EMTWT		X	
CPS-FB370	Incoming Reverse Battery Trunk Circuit (Delay Dial)	535	IRBDT		X	
CPS-FB371	Incoming Reverse Battery Trunk Circuit (Wink or Immediate)	535	IRBWT		X	
CPS-FB397	Two-Way E&M Lead Tandem Trunk Circuit	535	EMTAT			
CPS-FB399	Outgoing Reverse Battery High-Low Trunk Circuit	535			X	
CPS-FB400	Outgoing Reverse Battery Tandem Trunk Circuit	535	ORBTT		X	
SD-3H404-01	Multifrequency Transmitter Circuit	534	MFTT		X	

TABLE 3 (Cont.)

DRAWING CODE	TITLE	HANDBOOK 269 SECTION	ASSOCIATED TEST PROGRAM	TEST TYPE 1	TEST TYPE 2	NOTE
CPS-FB362	MFT - Frequency Select Relays					
CPS-FB363	MFT - Tip and Ring					
CPS-FB364	MFT - Oscillators					
SD-3H406-01	Superimposed Ringing Ckt	534	FFCRT		X	
CPS-FB375	SR - Ringing Control					
CPS-FB376	SR - Trip & Safety Trip Detectors					
SD-3H410-01	Customer Dial Pulse Receiver and Regular Ringing Circuit	534	CDDRT		X	
CPS-FB358	Regular Ringing Circuit	534	RRCT		X	
CPS-FB367	Customer Dial Pulse Receiver Circuit	534			X	
SD-3H411-01	Coin Control, Tone and Announcement Circuit	534	RACT		X	
CPS-FB383	Tone & Announcement Ckt					
CPS-FB423	Coin Control Circuit					
CPS-FB426	Remote Recording of Announcement Circuit					
SD-3H230-01	Conference Circuit	534	CNCT		X	
CPS-FB427	Conference Circuit					
SD-3H401-01	TOUCH-TONE Calling Detector	534	TTAT		X	
CPS-A118	TTR - Input Amplifier					
CPS-A120	TTR - TT Limiter and Resistor					
CPS-A121	TTR - 697 & 770 Hz Detectors					
CPS-A122	TTR - 852 & 941 Hz Detectors					
CPS-A123	TTR - 1209 & 1336 Hz Detectors					
CPS-A124	TTR - 1447 & 1633 Hz Detectors					
CPS-A946	TTR - Signal Present Timer					
CPS-A1025	TTR - Scanner Driver					
SD-3H402-01	Multifrequency Receiver Ckt	534	MFTT		X	
CPS-A152	MFT - MF Channel Detectors					

TABLE 3 (Cont.)

DRAWING CODE	TITLE	HANDBOOK 269 SECTION	ASSOCIATED TEST PROGRAM	TEST TYPE 1	TEST TYPE 2	NOTE
CPS-A260	MFR - Vario Losser and Guard Filters					
CPS-A263	MFT - Guard Filters					
CPS-A264	MFR - 700, 900, 1100 Hz Channel Filters					
CPS-A265	MFR - 1300, 1500, 1700 Hz Channel Filters					
CPS-A266	MFR - Signal Present Timer					
CPS-A1024	MFR - Scanner Driver					
SD-3H403-01	Dial Pulse Transmitter Ckt	534	TDPTT		X	
CPS-FB403	Dial Pulse Transmitter Ckt					
SD-3H412-01	Remote Recording Circuit	534		X		
CPS-FB426	Remote Recording Circuit					
SD-3H205-01	Dial Tone First Coin Ckt		DTFCT			
CPS-FB428	Dial Tone First Coin Line Ckt					
SD-3H208-01	Noise Immunity Line Ckt		MILT		X	
CPS-FB407	Loop Start Line					
CPS-FB408	Ground Start Line					
SD-1A199-01	TOUCH-TONE Station Test Ckt		TTRTC		X	
CPS-A163	TOUCH-TONE Station Test - Input Amplifier					
CPS-A164	TOUCH-TONE Station Test - TOUCH-TONE Limiter					
CPS-A165	TOUCH-TONE Station Test - 697 & 770 Hz Detectors					
CPS-A166	TOUCH-TONE Station Test - 852 & 941 Hz Detectors					
CPS-A167	TOUCH-TONE Station Test - 1209 & 1336 Hz Detectors					
CPS-A168	TOUCH-TONE Station Test - 1447 & 1633 Hz Detectors					
CPS-A175	TOUCH-TONE Station Test - Signal Present Timer					
SD-3H905-01	Miscellaneous Power Frame	525	PUIN RTPR		X	
		551	PWSC	X		

TABLE 3 (Cont.)

DRAWING CODE	TITLE	HANDBOOK 269 SECTION	ASSOCIATED TEST PROGRAM	TEST TYPE 1	TEST TYPE 2	NOTE
SD-82255-01	Ringing & Tone Plant	525	PUIN RTPR		X	
184A	+48 Volt Converter Power Unit					
184B	+130 Volt Converter Power Unit					
188A	+24 Volt Converter Power Unit					
189A	+24 Volt Converter Power Unit					
SD-3H906-01	Office Alarm & Sounder Ckt	551	PWSC		X	
CPS-FB425	Office Alarm & Sounder Ckt					
SD-1A210-01	Scanner Applique Ckt					
SD-3H911-01	Distribute Point Applique Circuit					

NOTE: 1 CSP - Part of "Common Systems Program" Package.

→ 2 Used with 64K memory.

→ Arrows indicate new or changed information.

Manager, ESS Installation & Field Engineering

2-2-79

Reason for Reissue:
To update Tables 1 and 2.