NO. 3 ESS
UNITIZED SYSTEM
POWER VERIFICATION TESTS

CONTENTS

1. GENERAL INFORMATION

1.1 Description

1.11 This section provides a method for verifying that power, with the proper voltages and polarities, appears at each No. 3 ESS frame (excluding 151A Power and Miscellaneous Power Frames). It also provides a method for verifying the operation of the power sequencing, power alarm and fuse alarm circuits on these frames.

1.12 Power Converters are referred to by "TYPE" in this section and are stamped with the associated J-code as follows:

Type	J-
A8	87389F-
S3	87389J-
S7	87421A-
S9	87422B-
A19	87389P- ←

1.2 Sequence

1.21 Refer to Handbook 269, Section 1A for test sequence information.

1.3 References

1.31 The following documents will be useful as references during the performance of this test:

Document	Title
SD-1C900-01	3A Central Control Circuit
SD-1C901-01	3ACC Control Panel Circuit
SD-1C902-03	Main Store Controller and Memory Circuit ← ←
SD-1C904-01	Tape Data Controller Circuit
SD-1C905-01	Teletypewriter Controller Circuit
SD-1C906-01	System Status Panel Circuit
SD-1C907-01	System Status Controller Circuit
SD-1C908-01	System Status Panel Relay Unit Circuit
SD-1C909-01	Maintenance Frame Power Unit Circuit
SD-1C910-02	Processor Frame Circuit
SD-1C911-02	Processor Frame Power Unit Circuit ←
SD-1C912-01	Maintenance Frame Circuit
SD-3H110-01	Peripheral Control Circuit
SD-3H200-01	Junctor and Junctor Control Circuit
SD-3H205-01	Dial-Tone-First Coin Line Circuit
SD-3H411-01	Coin Control, Tone & Recorded Announcement, and Remote Recording Announcement Circuit
SD-3H520-01	Peripheral Test Unit Circuit
SD-3H901-01	Network Frame Circuit
SD-3H902-01	Control Frame Circuit
SD-3H903-01	Miscellaneous Frame Circuit
SD-3H904-01	Test Frame Circuit
SD-3H905-01	Miscellaneous Power Circuit
SD-3H907-01	DC Power Distribution Circuit

1.32 -48V fuse assignments for the No. 3 ESS Frames are shown on SD-3H907.

1.33 +24V, +48V and +130V fuse assignments for No. 3 ESS Frames and units are shown on SD-3H905.

1.4 Records

1.41 The results of these tests should be recorded on Forms SD-97-1313 and SD-97-1315. Information regarding the completion of these forms appears in Handbook 3, Section 6B.

2. TEST EQUIPMENT

2.1 Test Set

2.11 The following test set will be required for the performance of these tests:

Amt.	ITE	Description
1	5632	Digital Multimeter
1	4659	Volt-Ohm-Milliammeter

2.2 Accessories

2.21 The following accessories are required for the performance of these tests:

Amt.	ITE	Description	With ITE
1	4715	Capacitor Forming Tool	*5543
1	5478	Adapter, SAF-T-LEED	*5543
1	5590	70 Type Fuse Alarm Verification Test Set	*5543
1	9169D	6-in. Test Cord with E-Z Mini-Hook on each end	*5543

* 3ACC/Auxiliary Processor Test Accessory Set

3. MAINTENANCE (MTCE) FRAME

3.1 General

3.11 The MTCE Frame is a single bay frame which requires one +24V and one -48V power feeder from each power bus. -48V power is supplied directly from the -48V Power Frame while +24V power is supplied from the +24V converters on the Miscellaneous Power Frame.

3.12 Additional DC voltage potentials required for the MTCE frame units are provided by DC to DC Converter Power Modules (PWR MODS) within the frame.

3.13 The MTCE teletypewriter (TTY) requires 120V AC which is supplied through the Inverter Unit on the Test Frame.

3.14 Fuse assignments and power distribution for MTCE Frame Units is shown on SD-1C909.

3.2 Test Preparation

3.21 At the Power Frame, verify all -48V fuses supplying the MTCE Frame are removed.

3.22 At the Miscellaneous Power Frame, verify +24V fuses MF(0) and MF(1) and associated LED assemblies are removed from the +24V Converter Unit.

PRECAUTION: Since the MTCE and Test Frames are both powered from the MF(0) +24V fuse, it is required that the distributing fuses at the bottom of the TEST Frame be removed at this time.

3.23 Remove all distributing fuses from the MTCE Frame Power Unit.

3.24 At the MTCE Frame unseat all circuit packs (including the packs in the KS-21447,L2 Mini Recorder on each TDC Unit) in all units except the following:

NOTE: Discard the packing material found in front of the KS-21447,L2 Mini Recorders.

a) Power modules in TTYC, TDC and MTCE Power Units.

b) FC209 circuit pack in SSPC Unit.

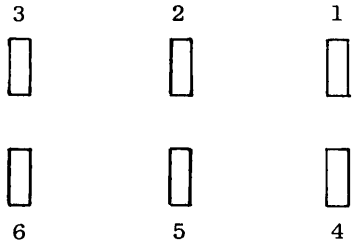
c) FB152 and FC21 circuit packs in TTYC and SSPC Units.

d) FB494 circuit pack in TTY Controller Units.

e) FC210 circuit packs in MTCE Frame power unit.

3.25 On the System Status Panel (SSP) operate the CIRCUIT POWER switch to the "OFF" position.

NOTE: Since there is no physical indication of the position of this switch, determine the switch position using an ohmmeter connected between terminals 1 and 2 of the CIRCUIT POWER (S1) switch on the rear of the SSP (ED-4C007-30). Refer to Fig. 1 for terminal numbering and position the switch such that the ohmmeter reads zero ohms.



CIRCUIT POWER AND LAMP POWER SWITCH TERMINAL NUMBERING

FIG. 1

3.26 Operate the LAMP POWER (S2) switch on the SSP to the "ON" position. Use the method described in the note after paragraph 3.25, only connect the ohmmeter between terminals 2 and 3.

3.27 At Control Frame 0, unseat the FC181 circuit packs in locations 144-09 and 144-39. This will prevent a possible inadvertent Peripheral Decoder (PD) ground signal to the associated PAT relay in the MTCE Frame. This signal would cause the PAT relay to always be in an operated state thereby altering the required test results.

3.3 Test Procedure

3.31 False Ground Check

3.311 Set up ITE-4659 Volt-Ohm-Milliammeter for resistance measurement on the X1K scale.

3.312 At rear of the Miscellaneous Power (MP) Frame, measure the resistance between T.S.(G) terminals 9 and 10 on the +24V Converter Unit by connecting the negative meter lead to terminal 10 and the positive lead to terminal 9. Allow sufficient time for the filter capacitor to charge before taking the reading.

3.313 This resistance should read approximately 3300 ohms.

NOTE: At the instant the Volt-Ohm-Milliammeter is connected, the pointer reads a very low resistance because the plates of the electrolytic capacitor are not formed at that instant. As the filter capacitor begins to charge, the pointer gradually shifts toward a higher resistance value and finally reads approximately 3300 ohms after a lapse of a few minutes.

3.314 Repeat paragraphs 3.312 and 3.313 for T.S.(H).

3.315 At the Power Frame, measure the resistance between the ground bus at the rear of the Power Frame and the load terminal of the -48V Bus A fuse supplying the MTCE Frame by connecting the positive meter lead to the ground bus and the negative lead to the load terminal.

3.316 This resistance should read infinite ohms.

3.317 Repeat paragraphs 3.315 and 3.316 for the -48V Bus B fuse supplying the MTCE Frame.

3.32 +24V, -48V and 120V AC Distribution

3.321 At the MP Frame, insert ITE-4715 Capacitor Forming Tool in the fuse socket of the +24V MF(0) fuse supplying the MTCE Frame. Leave the tool in the socket until the lamp extinguishes indicating the filter capacitor is fully charged.

NOTE: The lamp normally glows very dimly and rapidly extinguishes.

3.322 Replace the +24V MF(0) fuse at the MP Frame and the -48V A Bus fuse supplying the MTCE at the Power Frame.

3.323 Repeat paragraph 3.321 for the MF(1) fuse.

3.324 Replace the +24V MF(1) fuse at the MP Frame and the -48V B Bus fuse supplying the MTCE at the Power Frame.

3.325 Test the KS-20816,L2 Inverter Unit on the Test Frame in accordance with HB 21, Section 822.

3.326 Operate the ILC (CB2) circuit breaker on the Inverter Unit to apply power to the TTY through the Idle Line Control Unit.

3.33 Fuse Alarm Circuit Check

NOTE: Verify FC181 circuit packs in positions 144-09 and 144-39 on Control Frame 0 are unseated per instructions in paragraph 3.27.

3.331 Replace fuse AA1A in the MTCE Power Unit fuse block and verify that all relays on the MTCE Power Unit except PAT and PAB24 are operated. Verify the PWR RESET key lamp is extinguished.

3.332 Insert ITE-5590 70 Type Fuse Alarm Verification Test Set in fuse position A0A and verify the MJ1 relay releases and the PWR RESET key lamp is lit.

3.333 Remove ITE-5590 and momentarily operate the PWR RESET key. Verify that all relays in the MTCE Power Unit except PAT and PAB24 are operated and the PWR RESET key lamp is extinguished.

3.334 Repeat 3.332 and 3.333 for fuse position AA0AP.

3.335 Repeat 3.332 and 3.333 for fuse positions B0A and AB0BP observing the MJ2 relay.

3.336 Repeat 3.332 and 3.333 for fuse positions C0A and AC0B observing the MJ3 relay.

3.34 Fusing and Power Control Check

3.3401 Replace all fuses in their appropriate locations in the MTCE Power Unit. Momentarily operate the PWR RESET key on the MTCE Power Unit and the CIRCUIT POWER switch on the SSP. Operate and hold the ALT BUS key on the System Status Panel (SSP). Verify only relays A and B on the System Status Panel Relay (SSPR) Unit are operated. Release the ALT BUS key and verify relays A, B, AB24 and AB48 on the SSPR Unit are operated. (A and B relays will release momentarily.)

3.3402 Operate CIRCUIT POWER switch "OFF" and reseat all SSPC Unit circuit packs only.

3.3403 Operate CIRCUIT POWER switch "ON" and verify that no fuses blow and no power unit alarms occur.

NOTE: The non-alarmed state for power unit alarms is for all relays except PAT in the MTCE Power Unit to be operated and the PWR RESET key lamp to be extinguished.

3.3404 Operate the SSP CIRCUIT POWER switch "OFF" and verify that all lamps and LEDs on SSP light except for LAMP & POWER TEST and CIRCUIT POWER lamps.

3.3405 Operate the CIRCUIT POWER switch "ON" and verify the following:

a) After approximately a three (3) second delay, the PANEL TIMEOUT lamp lights and the CRT ALM relay in the SSPR Unit operates.

b) LOCK, ALT BUS and SYSTEM NORMAL lamps are extinguished.

c) The "CRITICAL" and "SERVICE LOSS" LEDs under the heading of ALARMS are extinguished.

d) The CIRCUIT POWER lamp is lit.

e) All lamps under the headings of SYSTEM EMERGENCY MANUAL CONTROL, ALARM CONTROL and TEST CONTROL are extinguished.

f) No power unit alarms occur.

3.3406 Verify TTYC PWR & RESET key lamp on TTY Controller Units 0 and 1 is lit. (It may be necessary to momentarily operate the TTYC PWR & RESET switch to place it in the active mode.)

3.3407 Operate TTYC PWR & RESET key on each TTYC Unit "OFF" and verify lamp within key is extinguished.

3.3408 Reseat all TTYC circuit packs on each TTYC Unit, operate TTYC PWR & RESET key "ON" and verify lamp within key is lit and no power unit alarms occur.

3.3409 Momentarily operate PWR RESET key on the MTCE Power Unit. Verify all frame power alarms remain extinguished.

NOTE: Only the MN or MJ2 alarms could normally occur with this step. Any other alarm indicates a problem.

3.3410 Verify TDC POWER key lamp on TD Controller Units 0 and 1 is lit. (It may be necessary to momentarily operate the TDC POWER key to place it in the active mode.)

3.3411 Operate TDC POWER key on each TDC Unit "OFF" and verify lamp within key is extinguished.

3.3412 Reseat all TDC Unit circuit packs on each TDC unit including the packs in the KS-21447,L2 Mini Recorder, operate TDC POWER key and verify lamp within key is lit and no power unit alarms occur.

3.3413 Momentarily operate PWR RESET key on the MTCE Power Unit. Verify all frame power alarms remain extinguished.

NOTE: Only the MN or MJ3 alarms could normally occur during this step. Any other alarm indicates a problem.

3.35 Power Alarm Test

3.351 Depress and hold the LAMP & POWER TEST key on the SSP and verify the following:

a) All lamps and LEDs on SSP are lit.

b) In the MTCE Power Unit, the PAT relay is operated. The MN and NPA relays are released and the PWR RESET lamp is lit.

c) The LED indicators on all MTCE frame power modules and on the FB152 cirucit packs in the SSPC and each TTYC unit are lit.

3.352 Release the LAMP & POWER TEST key and verify that all alarm indicators return to the non-alarmed state. (It may be necessary to momentarily operate the PWR RESET key to clear alarm indicators.)

4. PROCESSOR (PROC) FRAME

4.1 General

4.11 The PROC Frame is a double bay frame with Control Unit 0 (CU-0) contained in Bay 0 and CU-1 contained in Bay 1. Bay 0 of the PROC frame requires one +24V and one -48V power feeder from Bus A. Similarly, Bay 1 requires one +24V and one -48V power feeder from Bus B.

4.12 Additional DC voltage potentials required for the PROC frame units are provided by DC to DC Converter Power Modules (PWR MODS) within the frame.

4.13 Fuse assignments are shown in Information Notes 302 and 304 on SD-1C911.

4.14 Each A8 and A19 Power Module (PM) is associated with an FC21 +3V Reference and Filter Circuit Pack. The following shows the association of PMs and FC21 circuit packs in each PROC frame Bay.

POWER MODULE TYPE	DESIG	FRAME EQL	ASSOC FC21 PACK FRAME EQL
A19	PM054A.B	16-24	54-01
A19	PM054C.D	16-09	54-14
A8	PM054E	12-24	54-44
A19	PM058A.B	08-12	58-01
A8	PM058D	16-34	58-02
A8	PM058E	12-09	58-02
A8	PM058F	12-38	58-44
A19	PM062A.B	16-42	62-29
A8	PM062C	12-19	62-01

4.2 Test Preparation

4.21 At the POWER Frame, verify all -48V fuses supplying the PROC Frame are removed.

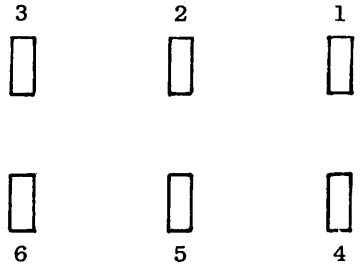
4.22 At the Miscellaneous Power Frame, verify +24V fuses PRF(0) and PRF(1) and associated LED assemblies are removed from the +24V Converter Unit.

4.23 Remove all distributing fuses from each PROC Frame Power Unit (Bays 0 and 1).

4.24 On each 3ACC Control Panel, operate all toggle switches to the non-operated (down) position.

4.25 On each 3ACC Control Panel, operate the POWER switch to the "OFF" position.

NOTE: Determine the position of the POWER switch using the ohmmeter at the rear of the 3ACC Control Panel (ED-4C006-30). Connect the ohmmeter between terminals 1 and 2 (see Fig. 2) and position the switch such that the ohmmeter reads zero ohms.



3ACC POWER SWITCH TERMINAL NUMBERING

FIG. 2

4.26 On the rear of each 3ACC Control Panel, operate the TMR switch to the TEST MODE position.

4.27 Unseat all circuit packs in all Processor Frame units (Bays 0 and 1) except the following:

a) Power modules in all units.

b) FC21 circuit packs in all units.

c) FB152 circuit pack in 3ACC units.

d) FA1034 (06-06) and FA1010 (06-11) circuit packs in 3ACC units.

e) FC262 and FC203 circuit packs in MASCM units. ←

f) FC210 circuit pack in power units.

4.28 Unseat all memory planes in each Main Store Controller and ← Memory (MASCM) Unit provided on the PROC ← frame.

4.29 At Control Frame 0, unseat the FC181 circuit packs in locations 144-09 and 144-39. This will prevent a possible inadvertent Peripheral Decoder (PD) ground signal to the associated PAT relay in the PROC Power Units. This signal would cause the PAT relay to always be in an operated state thereby altering the required test results.

4.3 Test Procedure

NOTE: HB 269, Section 150 contains more detailed tests and trouble-shooting aids which may be helpful in locating troubles.

4.31 False Ground Check

4.311 Set up ITE-4659 Volt-Ohm-Milliammeter for resistance measurement.

4.312 At rear of the Miscellaneous Power (MP) Frame, measure the resistance between T.S.(G) terminals 11 and 12 on the +24V Converter Unit by connecting the negative meter lead to terminal 12 and the positive lead to terminal 11. Allow sufficient time for the filter capacitor to charge before taking the reading.

4.313 This resistance should read approximately 3300 ohms.

NOTE: At the instant the Volt-Ohm-Milliammeter is connected, the pointer reads a very low resistance because the plates of the electrolytic capacitor are not formed at that instant. As the filter capacitor begins to charge, the pointer gradually shifts toward a higher resistance value and finally reads approximately 3300 ohms after a lapse of a few minutes.

4.314 Repeat paragraphs 4.312 and 4.313 for T.S.(H).

4.315 At the Power Frame, measure the resistance between the ground bus at the rear of the Power Frame and the load terminal of the -48V Bus A fuse supplying the PROC Frame by connecting the positive meter lead to the ground bus and the negative lead to the load terminal.

4.316 This resistance should read infinite ohms.

4.317 Repeat paragraphs 4.315 and 4.316 for the -48V Bus B fuse supplying the PROC Frame.

4.32 +24V and -48V Distribution

4.321 At the MP Frame, insert ITE-4715 Capacitor Forming Tool in the fuse socket of the +24V PRF(0) fuse supplying the PROC Frame. Leave the tool in the socket until the lamp extinguishes indicating the filter capacitor is fully charged.

NOTE: The lamp normally glows very dimly and rapidly extinguishes.

4.322 Replace the +24V PRF(0) fuse at the MP Frame and the -48V A Bus fuse supplying the PROC at the Power Frame.

4.323 Repeat paragraph 4.321 for the PRF(1) fuse.

4.324 Replace the +24V PRF(1) fuse at the MP Frame and the -48V B Bus fuse supplying the PROC at the Power Frame.

4.33 Fuse Alarm Circuit Check (CU-0, Bay 0)

4.331 Replace +24V fuses AA8 and AA9 in the PROC Frame Power Unit (Bay 0). Verify the POWER RESET (Power Unit) and the TEST MODE (3ACC Unit) lamps are lit.

4.332 Momentarily operate the POWER RESET key in the Power Unit and verify relays MN, MJ0 and NPA are operated; relays PAT, STA0, STB0, STB1, and STB2 are released and the POWER RESET lamp is extinguished. (See SD-1C911, FS 2)

4.333 Insert ITE-5590 70 Type Fuse Alarm Verification Test Set into fuse position AA0 (+24V) and verify that relay MJ0 releases and the POWER RESET lamp in the Power Unit lights.

4.334 Remove ITE-5590 and momentarily operate the POWER RESET key. Verify relay MJ0 operates and the POWER RESET lamp extinguishes.

4.335 Repeat paragraphs 4.333 and 4.334 for fuse position A0P (-48V).

4.336 Replace all +24V and -48V fuses in the power unit fuse blocks and momentarily operate the POWER RESET key. Verify that no fuse alarms occur.

4.34 Power Sequencing Circuit Check (CU-0, Bay 0)

4.341 Momentarily operate the POWER switch on the 3ACC Control Panel and verify the following:

a) Relays STB0, STB1, and STB2 operate approximately one (1) second after relay STA0 operates.

b) The POWER lamp on the 3ACC Unit is lit.

c) No converter LEDs are lit.

d) The POWER RESET lamp on the Power Unit is extinguished.

e) If manual lamp not lit, operate MANUAL key and verify manual lamp lights.

4.342 Momentarily operate the POWER switch on the 3ACC Control Panel and verify the POWER lamp on 3ACC Control Panel is extinguished.

4.35 Status Lamp Check (CU-0, Bay 0)

4.351 Operate and hold the LAMP & POWER TEST key on the 3ACC **Control Panel and verify the POWER, ACTIVE, NOT ACTIVE, MANUAL, ERROR STOPPED and TEST MODE lamps on the 3ACC Control Panel are lit.** ←

NOTE: This test may cause the LEDs on FB152 and FC262 circuit packs in 3ACC and MASCM Units, respectively, and the POWER RESET lamp on the Power Unit to light.

4.352 Release the LAMP & POWER TEST key and verify all of the above lamps that lit are now extinguished. (TEST MODE lamp remains lit.) Momentarily operate POWER RESET key to clear LED indicators.

4.36 Power Alarm Test (CU-0, Bay 0)

4.361 Operate the POWER switch on the 3ACC Control Panel and verify the following:

a) The POWER lamp on the 3ACC Control Panel is lit.

b) Relays MJ0, MN, STA0, STB0, STB1, and NPA in the Power Unit are operated.

c) No converter LEDs are lit.

d) The LED on circuit pack FB152 in location 10-28 on the 3ACC Unit is not lit.

e) The LED on circuit pack FC262 in location 08-25 of the MASCM Unit is not lit. ←

f) The POWER RESET lamp on the Power Unit is not lit.

4.362 Operate and hold the LAMP & POWER TEST key on the 3ACC Control Panel and verify the following:

a) The LED lights on the FB152 and FC262 circuit packs and on all power modules in the bay.

b) The POWER RESET lamp in the Power Unit is lit.

c) The MN and NPA relays are released.

4.363 Release the LAMP & POWER TEST key and verify the following:

a) The LEDs on all power modules and the FB152 and FC262 circuit packs are extinguished.

b) The POWER RESET lamp is extinguished.

c) The MN and NPA relays are operated.

4.37 Main Store Controller and Memory (MASCM) Power Checks (Cu-0, Bay 0)

4.371 Operate the 3ACC POWER key "OFF" and block relay STB0 in the released position.

4.372 Operate the 3ACC POWER key "ON" and verify the potentials shown below for the MASCM unit. No power alarms should occur.

TEST POINT	POTENTIAL
03-38-001	+4.5 to +5.5V DC
03-44-001	Less than 0.5V DC
03-44-005	Less than 0.5V DC
08-23-004	More than +1.0V DC

4.373 Remove the block from the STB0 relay and verify the potentials shown below for the MASCM unit. No power alarms should occur.

TEST POINT	POTENTIAL
03-38-001	+4.5 to +5.5V DC
03-44-001	-4.75 - -5.25V DC
03-44-005	+11.65 - +12.35V DC
08-23-004	Less than 0.4V DC

4.374 With Control Unit power OFF, reseat all Bay 0 circuit packs and memory planes.

4.375 Operate 3ACC Unit POWER key to the "ON" position and verify the POWER lamp lights and no power alarms occur.

4.376 Repeat paragraphs 4.33 through 4.375 for CU-1 in Bay 1 of PROC frame.

5. TEST (TST) FRAME

5.1 General

5.11 The TEST Frame is a single bay frame which requires two -48V power feeders (one from each bus) and one +24V A Bus power feeder. The +24V and -48V A Bus power feeders supply all the TST Frame units except the KS-20816 Inverter Unit which is powered by the remaining -48V B Bus power feeder.

5.12 The Peripheral Test Unit (PTU) on the TST Frame requires +130V A Bus and +130V B Bus power from the 130V Converter Units on the Miscellaneous Power Frame. The +130V and -130V power is not fused at the TST Frame as it connects directly to the PTU.

5.13 -48V power is supplied directly from the -48V POWER Frame while +24V is supplied from converters on the Miscellaneous Power Frame.

5.14 Fuse assignments and power distribution for the Test Frame Units is shown on SD-3H904.

5.15 These procedures should not be applied until after the MTCE Frame (paragraph 3) has been powered up.

NOTE: This requirement is very important because the TST and MTCE Frames share the +24V A Bus fuse (MF-0) on Miscellaneous Power Frame.

5.2 Test Preparation

5.21 At the POWER Frame, verify the -48V fuses supplying the TST Frame are removed.

5.22 At Miscellaneous Power (MP) Frame, verify 130V fuses +T1(0), -T1(0), +T1(1) and -T1(1) are removed from the 130V fuse block.

5.23 Remove all distributing fuses from the TST Frame fuse panel.

NOTE: The +24V fuses should have been previously removed as a precautionary requirement per paragraph 3.22, necessitated by the fact that the MTCE and TST Frames share the +24V A Bus Distribution fuse at MP-0.

5.24 Unseat or remove the FC181 circuit packs from Peripheral Test Unit (PTU) locations 56-24, 56-25, 56-27 and 56-29.

5.3 Test Procedure

5.31 False Ground Check

5.311 Set up ITE-5632 Digital Multimeter for resistance measurement.

5.312 At the Power Frame, measure the resistance between the ground bus at the rear of the Power Frame and the load terminal of the -48V Bus A

fuse supplying the TST Frame circuits by connecting the positive meter lead to the ground bus and the negative lead to the load terminal.

5.313 This resistance should read infinite ohms after the plates of the electrolytic capacitors have formed.

5.314 Repeat paragraph 5.312 for the -48V Bus B fuse supplying the TST Frame Inverter Unit.

5.315 This resistance should read infinite ohms.

5.32 +24V, -48V and +130V Distribution

5.3201 At the Power Frame, insert ITE-4715 Capacitor Forming Tool in the alarm fuse socket of the -48V Bus A fuse supplying the TST Frame. Leave the tool in the socket until the lamp extinguishes indicating the filter capacitor is fully charged.

5.3202 Replace the -48V Bus A fuse supplying the TST Frame.

5.3203 At the Power Frame, replace the -48V B Bus fuse supplying the TST Frame Inverter Unit.

5.3204 At the TST Frame, measure the voltage between terminals 1 (GRD) and 2 (-48V) of TB 1 on the Inverter Unit. This voltage should read between -42.75 and -52.5 volts DC.

5.3205 At the MP Frame, replace 130V B Bus fuses -T1(1) and +T1(1) supplying the TST Frame.

5.3206 At the rear of the TST Frame, measure the voltage between frame ground and terminal R (right side viewed from rear) of resistance lamp CC (065-13). This voltage should read approximately +130 volts DC.

5.3207 Measure the voltage between frame ground and terminal R of resistance lamp CR (065-15). This voltage should read approximately -130 volts DC.

5.3208 At MP Frame, replace the 130V A Bus fuses -T1(0) and +T1(0) supplying the TST Frame.

5.3209 At the rear of TST Frame, measure the voltage between frame ground and 048-10-010. This voltage should read approximately +130 volts DC.

5.3210 Measure the voltage between frame ground and 048-10-207. This voltage should read approximately -130 volts DC.

5.33 Fuse Alarm Circuit Check

5.331 Insert ITE-5590, 70 Type Fuse Alarm Verification Test Set, into fuse position TT (-48V) and verify that the FA relay is operated and the -48FA lamp is lit. Remove ITE-5590 and verify that the -48FA lamp is extinguished and the FA relay is released.

5.332 Repeat paragraph 5.331 for fuse position ST (+24V) observing the +24FA lamp.

5.334 Replace all fuses in the TST Frame fuse panel and verify no fuse alarms occur.

5.335 Position keys on Voltmeter and Trunk and Line Test Panel (TLTP) such that NO lamps are lit.

5.34 Test Voltage Supply Check

5.341 Apply AC power to the KS-19412,L1 Rectifier Unit.

5.342 Verify the +200, +116, -116, +100 and +20 potentials at the test jacks on the front of the KS-19412,L1 Rectifier Unit.

5.35 Trunk and Line Test Test Panel (TLTP) and Voltmeter Key/Lamp Verification

5.351 Lamp Test

5.3511 Depress and Hold LAMP TEST key and verify all lamps and LEDs on TLTP and Voltmeter are lit.

NOTE: RELEASE 1, RELEASE 2, RELEASE COMM LINE, COIN RETURN, COIN COLLECT and ROH are switches only (no lamp).

5.3512 Release LAMP TEST key and verify all lamps and LEDs are extinguished.

5.352 Access Trunk Control and Test Select Keys

5.3521 Using an ITE-9169D, activate the TLTP by grounding 056-29-218. Verify ON lamp is lit.

5.3522 Momentarily operate ACCESS TRUNK 1 key and verify ACCESS TRUNK 1 lamp is lit.

5.3523 Momentarily operate HOLD key and verify HOLD lamp is lit and ACCESS TRUNK 1 lamp remains lit or flashes at 30 IPM.

5.3524 Momentarily operate RELEASE 1 key and verify ACCESS TRUNK 1 and HOLD lamps are extinguished.

5.3525 Repeat 5.3522 through 5.3524 for ACCESS TRUNK 2 and RELEASE 2 keys and lamps and then COMM LINE and RELEASE COMM LINE keys and lamps.

5.3526 Operate BALANCE 1, VM1, TRMT 1 and MONITOR 1 keys and verify the lamp within each key is lit.

5.3527 Operate (to release) BALANCE 1, VM1, TRMT 1 and MONITOR 1 keys and verify each lamp is extinguished.

5.3528 Repeat 5.3526 and 5.3527 for BALANCE 2, VM2, TRMT 2 and MONITOR 2 keys and lamps.

5.353 Transmission Test and Line Test Keys

5.3531 Operate 0 DBM key and verify 0 DBM lamp is lit. Operate (to release) 0 DBM key and verify 0 DBM lamp is extinguished.

5.3532 Repeat 5.3531 for the following keys and lamps:

TRMT OPEN
CAL
-10 DBM
TRMT SHORT
REVERSE ACCESS TRUNKS
LINE TRMSN TEST
TALK LINE
CDF IN
CDF OUT

5.3533 Replace the FC181 circuit packs in the PTU and remove the ITE-9169D Test Cord from the rear of the PTU.

6. CONTROL (CONT) FRAME

6.1 General

6.11 The Control Frame is a double bay frame which requires four -48V power feeders (two from each bus) and two +24V power feeders (one from each bus). The +24V and two of the -48V feeders power all of the Control Frame units except the Network Pulser Unit which is powered from the remaining -48V A and B Bus feeders.

6.12 The Test Vertical and Power Control Unit on the Control Frame requires -130V A and B Bus power from the 130V Converter Unit on the Miscellaneous Power Frame. The -130V power is not fused at the Control Frame as it connects directly to the Test Vertical and Power Control (TV & PC) Unit. +130V A and B Bus Power for the Coin Control Circuit(s) on Control Frame 0 is provided in a similar manner.

6.13 -48V power is supplied directly from the -48V Power Frame while +24V and -130V power is supplied from converters on the Miscellaneous Power Frame.

6.14 +3V power for the Peripheral Control Units is provided by DC to DC converter power modules within each unit.

6.15 Fuse assignments for the Control Frame Units are shown in Information Note 302 on SD-3H902.

6.16 Battery Boost voltage for the Customer Dial Pulse Receiver (CDPR) and Regular Ringing Circuits equipped on Control Frame (0) is provided from the Junctor and Junctor Control Unit on Network Frame 1. The battery boost voltage is fed to the CDPR & Reg Ring Circuits through fuses on the Control Frame fuse panel unit.

NOTE: For Control Frame 0 only, the Battery Boost Converters on Network Frame (1) must be operational prior to the performance of this test. Paragraph 7 provides test procedures for applying power to the Network Frame.

6.2 Test Preparation

6.21 At the Power Frame, verify all -48V fuses supplying the Control Frame and the associated Pulser Units are removed.

6.22 At the Miscellaneous Power (MP) Frame +24V Converter Unit, +24V fuses CF0 or 1(0) and CF0 or 1(1) and associated LED assemblies supplying the Control Frame (0 or 1) under test are removed.

PRECAUTION: Since the Control and Miscellaneous Frame(s) are powered from the CF0 or 1(0) and CF0 or 1(1) +24V fuses, it is required that the +24V distributing fuses at the bottom of the associated Miscellaneous Frame(s) be removed at this time.

6.23 At the MP Frame +48V and +130V Converter Unit, verify -130V fuses -F1 or 2(0) and -F1 or 2(1) supplying

the Control Frame (0 or 1) and for Control Frame 0 only, +130V fuses C1 (0 & 1) and C2 (0 & 1) supplying the Coin Control Circuit(s) are removed.

6.24 Remove all distributing fuses from each Control Frame fuse panel unit (Bays 0 and 1).

6.25 Unseat all FC181 circuit packs on the Peripheral Decoder Unit (Bay 1) and in locations 144-09 and 144-39 of the Control Frame. For Control Frame (0) only, unseat the FB425 pack in location 144-44.

6.3 Test Procedure

6.31 False Ground Check

6.311 Set up ITE-4659 Volt-Ohm-Milliammeter for resistance measurement on the X1K scale.

6.312 At the Miscellaneous Power (MP) Frame, measure the resistance between T.S.(G) terminals 5 and 6 or 7 and 8 (5 and 6 for Control Frame 0, 7 and 8 for Control Frame 1) on the +24V Converter Unit by connecting the negative meter lead to terminal 6 or 8 and the positive lead to terminal 5 or 7. Allow sufficient time for the filter capacitor to charge before taking the reading.

6.313 This resistance should read approximately 3300 ohms.

NOTE: At the instant the Volt-Ohm-Milliammeter is connected, the pointer reads a very low resistance because the plates of the electrolytic capacitor are not formed at that instant. As the filter capacitor begins to charge, the pointer gradually shifts toward a higher resistance value and finally reads approximately 3300 ohms after a lapse of a few minutes.

6.314 Repeat paragraphs 6.312 and 6.313 for T.S.(H).

6.315 At the Power Frame, measure the resistance between the ground bus at the rear of the Power Frame and the load terminal of the -48V Bus A fuse supplying the Control Frame circuits by connecting the positive meter lead to the ground bus and the negative lead to the load terminal.

6.316 This resistance should read infinite ohms after the plates of the electrolytic capacitor have formed.

6.317 Repeat paragraphs 6.315 and 6.316 for the -48V Bus B fuse supplying the Control Frame and the -48V Bus A and B fuses supplying the Pulser Units.

6.32 +24V, -48V and -130V Distribution

6.3201 At the MP Frame, insert ITE-4715 Capacitor Forming Tool in the fuse socket of the +24V CF0 or 1(0) fuse supplying the Control Frame. Leave the tool in the socket until the lamp extinguishes indicating the filter capacitor is fully charged.

NOTE: The lamp normally glows very dimly and rapidly extinguishes.

6.3202 At the Power Frame, insert ITE-4715 Capacitor Forming Tool in the alarm fuse socket of the -48V Bus A fuse supplying the Control Frame. Leave the tool in the socket until the lamp extinguishes indicating the filter capacitor is fully charged.

6.3203 Replace the -48V Bus A fuse supplying the Control Frame and the +24V CF0 or 1(0) fuse at the MP Frame.

6.3204 At the Power Frame, replace the -48V Bus A fuse supplying Pulser Unit 0 on the Control Frame under test.

6.3205 Measure the voltage between terminal 1 (-48A, 003-12R) and terminal 1 (GRD A, 003-05R) on the CONN BLOCK at the bottom rear of the Control Frame (Bay 0). This voltage should read between -42.75 and -52.5 volts DC.

6.3206 At the MP Frame, insert ITE-4715 Capacitor Forming Tool in the fuse socket of the +24V CF0 or 1(1) fuse supplying the Control Frame. Leave the tool in the socket until the lamp extinguishes indicating the filter capacitor is fully charged.

NOTE: The lamp normally glows very dimly and rapidly extinguishes.

6.3207 At the Power Frame, insert ITE-4715 Capacitor Forming Tool in the alarm fuse socket of the -48V Bus B fuse supplying the Control Frame. Leave the tool in the socket until the lamp extinguishes indicating the filter capacitor is fully charged.

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6.3208 Replace the -48V Bus B fuse supplying the Control Frame and the +24V CF0 or 1(1) fuse at the MP Frame.

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6.3209 At the Power Frame, replace the -48V Bus B fuse supplying Pulser Unit 1 on the Control Frame under test.

6.3210 Measure the voltage between terminal 1 (-48B, 003-39R) and terminal 1 (GRD B, 003-32R) on the CONN BLOCK at the bottom rear of the Control Frame (Bay 0). This voltage should read between -42.75 and -52.5 volts DC.

6.3211 At the MP Frame, replace the -130V -F1 or 2(0) fuse (-F1 for Control Frame 0 and -F2 for Control Frame 1).

6.3212 At the Control Frame, measure the voltage at 140-14-214. This voltage should read between -125 and -135 volts DC.

6.3213 At the MP Frame, replace the -130V -F1 or 2(1) fuse.

6.3214 At the Control Frame, measure the voltage at 140-33-214. This voltage should read between -125 and -135 volts DC.

NOTE: Paragraphs 6.3215 through 6.3216 apply to Control Frame 0 only.

6.3215 At MP-0, replace the 130V +C1(0) and -C1(0) fuses.

6.3216 At Control Frame 0, measure the voltage between frame ground and 114-03-010. This voltage should read between +125 and +135 volts DC. Measure the voltage between frame ground and 114-03-004. This voltage should read between -125 and -135 volts DC.

6.3217 Repeat 6.3215 and 6.3216 for each Coin Control Circuit (FB 423 circuit pack) provided on Control Frame 0 according to the appropriate 130V fuses and test points given in Table A.

TABLE B

FB 423 CP LOCATION	130V FUSES	MEASURE VOLTAGE AT
114-07	+C1(1) -C1(1)	114-07-010 -004
114-10	+C2(0) -C2(0)	114-10-010 -004
114-14	+C2(1) -C2(1)	114-14-010 -004

6.33 Fuse Alarm Circuit Check

6.331 Replace fuse MISB (-48 TALKB) in the Control Frame fuse block (Bay 1) and verify the PERIPH CONT 1 PWR OFF lamp is lit.

6.332 Insert ITE-5590, 70 Type Fuse Alarm Verification Test Set, into Bay 1 fuse position TVPD0 (-48 TALKA) and verify that the FA lamp on the fuse block in Bay 1 is lit.

6.333 Remove ITE-5590 and verify that the FA lamp is extinguished.

6.334 Paragraphs 6.332 and 6.333 for fuse position SCB (+24B).

6.335 Replace fuse MISA (-48 TALKA) in the Control Frame fuse block (Bay 1) and verify the PERIPH CONT 0 PWR OFF lamp is lit.

6.336 Repeat paragraphs 6.332 and 6.333 for Bay 0 fuse positions MSDA (-48 TALKA) and SCA (+24A) observing the Bay 0 FA lamp.

6.336 Replace all fuses in the Control Frame fuse blocks (Bays 0 and 1) and verify no fuse alarms occur.

6.34 Lamp Test

6.341 Depress and hold the LP & PWR TEST key on the Control Frame and verify that both OOS and both PWR OFF lamps on the control panel and the FA lamps on the fuse blocks (Bays 0 and 1) are lit.

6.342 Release the LP & PWR TEST key and verify only the PWR OFF lamps remain lit.

6.35 Power Sequencing Circuit Check

6.3501 Momentarily operate the PERIPH CONT 0 ON key and verify PWR0 relay on Bay 0 fuse panel unit is operated and the associated PWR OFF lamp is extinguished. No fuse alarms should occur.

6.3502 Remove SCA (+24A) fuse from Bay 0 fuse panel and insert ITE-5590, 70 Type Fuse Alarm Verification Test Set, into this vacated fuse position. Verify that the FA lamp on the fuse panel (Bay 0) is lit and the PERIPH CONT 0 PWR OFF lamp on the control panel is lit.

6.3503 Remove ITE-5590 and replace the SCA fuse. Momentarily operate the PERIPH CONT 0 ON key and verify that the FA and PWR OFF lamps are extinguished.

6.3504 Remove PWCA (+24 A) fuse from Bay 0 fuse block and insert ITE-5590 into this fuse position. Verify FA lamp on Bay 0 fuse block is lit and PERIPH CONT 0 PWR OFF lamp is NOT lit.

6.3505 Remove ITE-5590, verify FA lamp is extinguished and replace PWCA fuse.

6.3506 Depress and hold the PERIPH CONT 0 REQ and OFF keys simultaneously and verify the associated PWR OFF lamp is lit.

6.3507 Release the REQ and OFF keys and verify the PWR OFF lamp remains lit. Momentarily operate the PERIPH CONT 0 ON key and verify the PWR OFF lamp is extinguished.

6.3508 Momentarily operate the PERIPH CONT 0 OFF key and verify the PWR OFF lamp is not lit.

6.3509 Momentarily operate the PERIPH CONT 1 ON key and verify PWR1 relay on Bay 1 fuse panel unit is operated and the associated PWR OFF lamp is extinguished. No fuse alarms should occur.

6.3510 Remove SCB (+24B) fuse from Bay 1 and insert ITE-5590 into this vacated fuse position. Verify that the FA lamp on the fuse panel (Bay 1) is lit and the PERIPH CONT 1 PWR OFF lamp on the control panel is lit.

6.3511 Remove ITE-5590 and replace the SCB fuse. Momentarily operate the PERIPH CONT 1 ON key and verify the FA and PWR OFF lamps are extinguished.

6.3512 Remove PWCB (+24 B) fuse from Bay 1 fuse block and insert ITE-5590 into this fuse position. Verify FA lamp on Bay 1 fuse block is lit and PERIPH CONT 1 PWR OFF lamp is NOT lit.

6.3513 Remove ITE-5590, verify FA lamp is extinguished and replace PWCB fuse.

6.3514 Depress and hold the PERIPH CONT 1 REQ and OFF keys simultaneously and verify the associated PWR OFF lamp is lit.

6.3515 Release the REQ and OFF keys and verify the PWR OFF lamp remains lit. Momentarily operate the PERIPH CONT 1 ON key and verify PWR OFF lamp is extinguished.

6.3516 Momentarily operate the PERIPH CONT 1 OFF key and verify the PWR OFF lamp is not lit.

6.36 Power Alarm Test

6.361 Depress and hold the LP & PWR TEST key on the control panel and verify the following:

a) The OOS and PWR OFF lamps on the control panel are lit.

b) The FA lamps on the fuse panel units (Bays 0 & 1) are lit.

c) The LED indicators on the A8 Converters in locations 62-38 and 62-43 and on the FB152 circuit pack in location 62-34 of each Peripheral Controller Unit (Bays 0 & 1) are lit.

6.362 Release the LP & PWR TEST key and verify all lamps and LEDs are extinguished.

6.362 Remove -48V fuse supplying all FC181 circuit packs. Reseat the FC181 packs and replace the fuses.

NOTE: Do not reseat the FB425 pack on Control Frame (0) until instructed to do so in HB 269, Section 551.

7. NETWORK (NET) FRAME

7.1 General

7.11 The Network Frame is a single bay frame which requires two -48V power feeders (one from each power bus). Each feeder has a dedicated filter at the Network Frame.

7.12 -48V power is supplied directly from the Power Frame distribution fuse board.

7.13 Fuse assignments for Network Frame units are shown in Information Note 302 on SD-3H901.

7.14 Battery Boost voltage for the Junctor and Customer Dial Pulse Receiver (CDPR) and Regular Ringing Circuits equipped on the Network Frame is provided from converters in the Junctor and Junctor Control Unit. The battery boost voltage is fed to the Junctor and CDPR and Reg Ring Circuits through fuses on the Network Frame fuse panel.

NOTE: Network Frame 1 also supplies battery boost voltage to the CDPR and Reg Ring Circuits on Control Frame 0.

7.15 These tests should be applied to Network Frame 1 prior to performing Control Frame Power Verification Tests on Control Frame 0 per paragraph 6. This will ensure the presence of the battery boost voltage at the Control Frame.

7.2 Test Preparation

7.21 At the Power Frame, verify all -48V fuses supplying the Network Frame are removed.

7.22 Operate the CONV A OFF and CONV B OFF keys to the "IN" operated position.

7.23 At the Network Frame, remove all distributing fuses from the fuse panel.

NOTE: Paragraph 7.24 applies only when testing Network Frame 1.

7.24 At Control Frame 0, remove all BAT BOOST A and B fuses from Bay 0 fuse panel.

7.3 Test Procedure

7.31 False Ground Check

7.311 Set up ITE-4659 Volt-Ohm-Milliammeter for resistance measurement on the X1 scale.

7.312 At the Power Frame, measure the resistance between the ground bus at the rear of the Power Frame and the load terminal of the -48V Bus A fuse supplying the Network Frame by connecting the positive meter lead to the ground bus and the negative lead to the load terminal.

7.313 This resistance should read infinite ohms after the plates of the electrolytic capacitor have formed.

7.314 Repeat paragraphs 7.312 and 7.313 for the -48V Bus B fuse supplying the Network Frame.

7.32 -48V Distribution

7.321 At the Power Frame, insert ITE-4715 Capacitor Forming Tool in the alarm fuse socket of the -48V Bus A fuse supplying the Network Frame. Leave the tool in the socket until the lamp extinguishes indicating the filter capacitor is fully charged.

7.322 Replace the -48V Bus A fuse supplying the Network Frame.

7.323 At the Power Frame, insert ITE-4715 Capacitor Forming Tool in the alarm fuse socket of the -48V Bus B fuse supplying the Network Frame. Leave the tool in the socket until the lamp extinguishes indicating the filter capacitor is fully charged.

7.324 Replace the -48V Bus A fuse supplying the Network Frame.

7.33 Fuse Alarm Circuit Check

7.331 Replace the MC (P48VA) fuse in the Network Frame fuse panel and verify the CONV A and CONV B lamps are lit.

7.332 Insert ITE-5590, 70 Type Fuse Alarm Verification Test Set into fuse position 0A2 (P48VB) and verify relay FAA on the Control Panel is operated and the FA lamp on the fuse panel is lit.

7.333 Remove ITE-5590 and verify the FAA relay is released and the FA lamp is extinguished.

7.334 Repeat 7.332 and 7.333 for fuse position 0A0 (P48VA).

7.335 Repeat 7.332 and 7.333 for fuse position SPD5 (P48VB) and SPD4 (P48VA) observing the FAB relay.

7.336 Replace all P48VA, P48VB, P48FA, and P48FB fuses in the Network Frame fuse panel. DO NOT replace any PBB0 or PBB1 fuses at this time.

7.337 Insert ITE-5590 into fuse position BCD0 (PBB0) and verify FA lamp is lit.

7.34 Battery Boost Converters Check

7.341 Replace all PBB0 and PBB1 fuses in the Network Frame fuse panel.

7.342 Release the CONV A OFF key and verify the lamp within the key is extinguished.

7.343 Using ITE-5632 Digital Multimeter, measure the voltage at fuse post of fuse BCD0 (PBB0). This voltage should read between -53.85 and -55.35 volts DC.

7.344 Leave the voltmeter connected at the fuse post and operate the CONV A OFF key. Verify the reading drops to the normal -48V office potential.

7.345 Release the CONV B OFF key and verify the lamp within

7.346 Measure the voltage at fuse post of fuse BCD1 (PBB1). This voltage should read between -53.85 and -55.35 volts DC.

7.347 Leave the voltmeter connected at the fuse post and operate the CONV B OFF key. Verify the reading drops to the normal -48V office potential.

7.348 Release the CONV A OFF and CONV B OFF keys and verify the lamp within each key is extinguished.

8. MISCELLANEOUS (M) FRAME

8.1 General

8.11 The Miscellaneous Frame is a single bay frame which requires two -48V (one from each bus) and two +24V (one from each bus) power feeders. Only the -48V feeders have filters at the Miscellaneous Frame.

8.12 -48V power is supplied directly from the -48V Power Frame while +24V power is supplied from converters on the Miscellaneous Power Frame.

8.13 Since Miscellaneous Frames are required to share +24V Bus Power with a Control Frame, it is required that power verification tests be performed on the associated Control Frame per paragraph 6 prior to applying power to any Miscellaneous Frame.

8.14 Fuse assignments and power distribution for Miscellaneous Frame Units are shown on SD-3H903.

8.2 Test Preparation

8.21 At the Power Frame, verify the -48V A and B Bus fuses supplying the Miscellaneous Frame are removed.

8.22 At the Miscellaneous Frame, remove all distributing fuses from the fuse panel at the bottom of the frame.

8.23 If the Miscellaneous Frame is equipped with one or more Dial Tone First Coin Line (J3H001EE) Units, remove the +48V and -48V fuses from the fuse blocks on these units.

8.3 Test Procedure

8.31 False Ground Check

8.311 Set up ITE-5632 Digital Multimeter for resistance measurement.

8.312 At the Power Frame, measure the resistance between the ground bus at the rear of the Power Frame and the load terminal of the -48V Bus A (15 Amp) fuse supplying the Miscellaneous Frame by connecting the positive meter lead to the ground bus and the negative lead to the load terminal.

8.313 This resistance should read infinite ohms after the plates of the electrolytic capacitor have formed.

8.314 Repeat 8.312 and 8.313 for the -48V Bus B fuse supplying the Miscellaneous Frame.

8.32 -48V Distribution

8.321 At the Power Frame, insert ITE-4715 Capacitor Forming Tool in the alarm fuse socket of the -48V Bus A fuse supplying the Miscellaneous Frame. Leave the tool in the socket until the lamp extinguishes indicating the filter capacitor is fully charged.

8.322 Replace the -48V Bus A fuse supplying the Miscellaneous Frame.

8.323 At the Power Frame, insert ITE-4715 Capacitor Forming Tool in the alarm fuse socket of the -48V Bus B fuse supplying the Miscellaneous Frame. Leave the tool in the socket until the lamp extinguishes indicating the filter capacitor is fully charged.

8.324 Replace the -48V Bus B fuse supplying the Miscellaneous Frame.

8.33 Fuse Alarm Circuit Check

8.331 Replace the LP fuse in the Miscellaneous Frame fuse panel.

8.332 Insert ITE-5590, 70 Type Fuse Alarm Verification Test Set, in fuse position A0 (-48VA SIG SM) and verify the FA lamp on the fuse panel is lit.

8.333 Remove ITE-5590 and verify the FA lamp is extinguished.

8.334 Repeat 8.332 and 8.333 for each of the following fuse positions:

B0 (-48VB SIG SM)

A0 (+24A SIG)

B0 (+24B SIG)

8.335 Replace all fuses in the Miscellaneous Frame fuse panel and verify no fuse alarms occur.

8.336 Repeat paragraphs 8.21 through 8.334 for each remaining Miscellaneous Frame in the office before proceeding to 8.34.

8.34 +48V Distribution

NOTE: The following procedures are to be performed only for Miscellaneous Frames equipped with Dial Tone First Coin Line Units (J3H001EE).

8.3401 At the Miscellaneous Power Frame, verify +48V DF0(0), DF0(1), DF1(0), and DF1(1) fuses are removed from the +48V and ±130V Converter Unit.

8.3402 Set up ITE-5632 Digital Multimeter for resistance measurement.

8.3403 At the MP Frame, measure the resistance between the ground bus bar and the load terminal of the +48V DF0 (0) fuse by connecting the negative meter lead to the ground bar and the positive meter lead to the load terminal.

8.3404 This resistance reading will vary depending on the number of J3H001EE units multipled on this fuse. To determine the correct resistance divide 10,000 by the number of J3H001EE units multipled to this fuse.

8.3405 Repeat 8.3403 and 8.3404 for the +48V DF1(0), DF0(1), and DF2(1) fuses.

8.3406 At the MP Frame, insert ITE-4715 Capacitor Forming Tool into the socket of the +48V DF0(0) fuse. Leave the tool in the socket until the lamp extinguishes indicating the filter capacitor is fully charged.

NOTE: The lamp normally glows very dimly and rapidly extinguishes.

8.3407 Repeat 8.3406 for the +48V DF1(0), DF0(1), and DF1(1) fuses.

8.3408 At the MP Frame, replace the +48V DF0(0) and (1) and +48V DF1(0) and (1) fuses.

8.3409 At the Miscellaneous Frame insert ITE-5590 in fuse position A0 (-48DCA) on Dial Tone First Coin Line Unit and verify the FA lamp on the fuse panel at the bottom of the Miscellaneous Frame is lit.

8.3410 Remove ITE-5590 and verify the FA lamp is extinguished.

8.3411 Repeat 8.3409 and 8.3410 for each of the following fuse positions.

B0 (-48DCB)

A0 +48(0)

B0 +48(1)

8.3412 Replace all +48V and -48V fuses in the fuse blocks on the J3H001EE unit and verify no fuse alarms occur.

8.3413 Repeat 8.3409 through 8.3412 for each J3H001EE unit provided in the office.

→ Arrows indicate new or changed information.

Manager, ESS Installation & Field Engineering

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Reason for Reissue:
To reflect new Main Store and Power Units.