# 5ESS™ SWITCHING EQUIPMENT
# LINE TRUNK PERIPHERAL CABINET (6 FT) CIRCUIT

## CHANGES

### B. Changes In Apparatus

B.1 The following changes describe changes to wiring and fuse alarm cabling when using the 2 feeder fuse/filter unit (J5D003AU-1) or the 4 feeder fuse/filter unit (J5D003BT-1).

### D. Description Of Change

D.1 Option Y: Lead FA0 changed from pin 205 to pin 210. A strap connects pins 207 and 210. Change CADS 18 and 23 to reflect these changes.

D.2 Option X: Lead FA0 changed from pin 610 to pin 210. Lead RTN00 changed from pin 710 to pin 212. A strap connects pins 207 and 210. CADS 45, 47, and 49 are affected. Remove CADS 46 and 48.

D.3 Option W: Lead FA0 changed from pin 610 to pin 210. Lead RTN00 is changed from pin 710 to pin 212. A strap connects pins 207 and 210. CADS which are affected are 69, 71, and 73. CADS 70 and 72 are removed.

### F. Changes In CD Sections

F.1 No change required to the CD.

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DEPT 55613-PS-JCB

# 5ESS™ SWITCHING EQUIPMENT
# LINE TRUNK PERIPHERAL
# CABINET (6 FT)
# CIRCUIT

## CHANGES

### *B. Changes in Apparatus*

B.1 No change in apparatus.

### *D. Description of Change*

D.1 Changed the documentation to reflect new fuse assignments for the Fan Unit (J5D003BE-1). Change appears in FS/SYM 2/1,2, Tables, and CADs 16, 17, 21, and 22.

### *F. Changes in CD Sections*

F.1 No change required to CD.

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ISSUE 2D
APPENDIX 1B
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## CHANGES

### *B. Change in Apparatus*

B.1 *Added*

Option W, X, Y, Z, FS1, 2, 3, 4, App. Fig. 1, 2, 3, 4

| B.1 | *Superseded* | *Superseded By* |
|---|---|---|
| | CR1 (0,1) - CR4(0,1) diodes<br>Option Z, FS1, App Fig. 1 | CR1(0,1) - CR4(0,1) diodes<br>Option Y, FS2, App Fig. 2 |

### *D. Description of Change*

D.1 Replaced Option Z (wired alarm board for 3 fan unit with 2 feeder fuse/filter unit with Option Y (connectorized alarm board for 3 fan unit with 2 feeder fuse/filter unit).

D.2 Added Option X (connectorized alarm board for 3 fan unit with the 4 feeder fuse/filter unit (added to satisfy the increased power demand by "ISLU)."

D.3 Added Option W for 4 feeder fuse/filter unit with the 6 fan unit (provides the additional cooling needed by "ISLU)."

D.4 Created these options for generic firmware 5E3.

D.5 Corrected errors in documentation.

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## SECTION I - GENERAL DESCRIPTION

### 1. PURPOSE OF CIRCUIT

The Line Trunk Peripheral Cabinet is used to argument an Interface Module Control Cabinet (IMC) within an Interface Module for use with Peripheral equipment such as the Line Unit, Trunk Unit, Digital Line Trunk Unit, Digital Service Unit, and Metallic Service Unit. Those units can be variably assigned within the cabinet to meet specific job requirements. Interconnection of all units is covered in the Interface Module Appoication Schematic (SD5D012-01).

### 2. GENERAL DESCRIPTION OF OPERATION

The LTP houses the Fuse/Filter Unit (FPU) and the Fan Unit functions.

2.01 Fan Unit. The Fan Unit provides air flow for maintaining correct operating temperatures.

2.02 Fuse/Filter Circuit. The Fuse/Filter circuit provides fusing for all equipment units which are located in the same LTP bay.

## SECTION II - DETAILED DESCRIPTION

### 1. FUNCTIONAL DESIGNATIONS

The LTP has two subfunctions, the Fuse/Filter Unit (FPU), and the Fan Unit.

### 2. FUNCTION

2.01 Fan Unit. The fan unit provides air flow for maintaining correct operating temperatures.

Three separate fans are used in the Fan Unit. Only two are required to provide sufficient air flow, thereby ensuring correct operating temperatures are maintained in the event of a fan failure.

Circuitry to detect and report a fan failure is located in the IMC cabinet. A fan failure alarm can be retired manually, or through software control.

2.02 Fuse/Filter Unit. The Fuse panel normal input is -48 volts, with the return (RTN) isolated from frame ground in the equipment frame. Each fuse panel has four circuits which are fed from a 20 ampere fuse in the power distributing cabinet, or from the power plant, by way of the filter panel. Each of the four circuits feeds 12 load-fuse positions for a total of 48 available load fuses. The first two circuits are fed from the A or 0 bus, and the other two circuits are fed from the B or 1 bus. Alarms which are generated when a fuse operates are sent to the plug-in circuit pack (ED5D521-30,G1) where they are combined to illuminate a light-emitting diode for the appropriate bus (0 or 1), and to send from the fuse panel an electrical signal to indicate the bus with the fuse operated.

The physical construction of the fuse panel consists of a duplicated pattern, whereby the panel 0 side and 1 side consist of three 24 D fuse blocks, an alarm collection circuit pack, a connecting terminal strip, and a bracket providing a light-emitting diode for alarm indication. Each side is fed by a pair of power feeders, with each feeder therefore powering 12 fuse positions. This arrangement provides 24 load fuses for the 0 bus and 24 for the 1 bus for a total of 48 load-fuse positions per cabinet. An auxiliary fuse panel can be added to the existing fuse panel to provide four additional fuses for each feeder. With this addition, the combined total fuse capacity is 16 load fuses per feeder or 64 load fuses per cabinet.

2.03 Alarms. Only one alarm per pair of feeders from the power distribution plant is used. Therefore, one each feeder there are 24 load positions provided on one alarm signal or when the auxiliary fuse panel is used there are 32 load positions per alarm.

## 3. EXTERNAL INTERFACES

3.01 Alarm Interface. The Alarm Interface is divided into two failure groups, side 0 and side 1. The alarm input lead monitors the 70-type indicator fuses used in the fuse block. If a fuse is blown here, -48 volts is connected to the Z scan point alarm input, located in the IMC cabinet, that causes the scan point to be activated. The Z scan point monitors a group of fuses that protect power to the peripheral units.

3.02 Power Input. The Power Input to the frame is -48 volts, with the return (RTN) isolated from frame ground in the equipment cabinet. Each fuse/filter panel has two circuits that are fed from a 20-amp fuse in the power distributing cabinet or from the power plant.

## 4. INTERNAL INTERFACES

4.01 Alarms. The alarms are divided into two failure groups: Controller side 0, and Controller side 1. The alarm consists of a signal from the fuse block for monitoring blown fuses. This Z scan point monitors the 70-type indicator fuses used in the fuse block. When a fuse is blown, the fuse connects -48 volts to the alarm input lead on the control and display pack located in the IMC cabinet.

4.02 Controller Power. All controller power converters are connected to the fuse block via a hot lead -48 volt and ground potential lead 48RTN.

4.03 Fan Alarm. A fan failure is reported to the MP located in the

IMC cabinet via a scan point from the fan unit. A fan alarm can be retired by the MP using a distribute point to the fan unit.

## SECTION III - REFERENCE DATA

### 1. WORKING LIMITS

1.01 Voltages

1.02 -48 volts +4.5 -6.25 volts

### 2. AMBIENT TEMPERATURE

2.01 0° to 70° centigrade (at circuit pack)

2.02 0° to 50° centigrade (office aisle ambient)

2.03 Functions

2.04 The function of this unit is described in Section 1 of this circuit description.

### 3. CONNECTING CIRCUITS

3.01 Interface Module Control Cabinet SD5D118-01

3.02 Message Switch Cabinet SD5D116-01

3.03 Time Multiplexed Switch Cabinet SD5D117-01

3.04 Power Distribution Panel SD82518-02

### 4. REFERENCE DOCUMENTS

Circuit Description, Fuse/Filter Panel - SD-5D053-01

Circuit Description, Fan Unit - SD-5D019-01

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