

CIRCUIT DESCRIPTION

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**5ESS® SWITCHING EQUIPMENT  
DIGITAL LINE AND TRUNK UNIT  
MODEL 2**

*Description of Changes*

1. Add apparatus figure 13 to introduce TN4011 circuit pack.
2. Add wiring option L to provide wiring for TN4011 circuit pack.
3. Add note 310.

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DEPT NAC120200-MLG-PK

APPX 1B-1

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**5ESS® SWITCHING EQUIPMENT  
DIGITAL LINE TRUNK UNIT 2  
(DLTU2)  
CIRCUIT****1. SECTION I - GENERAL DESCRIPTION****1.1 PURPOSE OF CIRCUIT**

The digital line and trunk unit-2 (DLTU2) provides for the termination of 24 channel and 30 channel digital lines and trunks on a switching module (SM) of the 5ESS® switch. The DLTU2 is a cost reduction from the existing DLTU.

**1.2 GENERAL DESCRIPTION OF OPERATION**

The DLTU2 is a single shelf unit mounted in the switching module controller cabinet of the SM. A fully equipped unit contains a power start card (SN346B) or an auto-power recovery start card (SN730) and ten digital facility interface-2 (DFI-2) circuit packs.

There are five versions of the DFI-2 circuit packs, and each can terminate up to two facilities:

- DFI-2T (TN1611B) terminates 24 channel interoffice trunks.
- DFI-2R (TN1612B) terminates 24 channel trunks between host switching modules (HSM) and remote switching modules (RSM) or between RSMs.
- DFI2-XT (TN1414) terminates 30 channel interoffice trunks.
- DFI2-X (TN1415) terminates 30 channel trunks between HSMs and RSMs or between RSMs.
- DFI2-C30 (TN1421) terminates 30 channel CMI interoffice trunks or RSM trunks.

The DLTU2 can be equipped with any mixture of DFI-2s (DFI-2Ts, DFI-2Rs, DFI2-Xs, DFI2-XTs or DFI2-C30s).

While each DFI-2 circuit can terminate two facilities, both facilities need not be equipped. If only one facility is needed, it is required that facility A be equipped (B can be left unequipped).

**2. SECTION II - DETAILED DESCRIPTION****2.1 GENERAL**

All interconnections to other equipment are made through connectors on the backplane. Each DFI-2 circuit pack must have a minimum of three signal cables terminating on it.

The three signal cables are:

- Digital facility for data path A.
- Duplex peripheral interface data bus (PIDB) for data path A.
- Duplex peripheral interface control bus (PICB).

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With these three sets of cables connected, the facility A of the DFI-2 will be equipped. For facility B to be equipped, additional digital facility and PIDB cables must be added. This configuration is valid for DFI-2 for interoffice trunks or DFI-2 in an HSM.

For DFI-2s in RSM applications, the PIDBs must be replaced with facility interface data bus (FIDB) cables and another cable must be added between the DLTU2 and the facility interface unit (FIU).

The DLTU2 requires four -48V power feeds and four -48V returns from the fuse panel. The feeds terminate to eight lugs on the backplane.

### 3. SECTION III - REFERENCE DATA

#### 3.1 WORKING LIMITS

None.

#### 3.2 FUNCTIONS

None.

#### 3.3 FUNCTIONAL DESIGNATIONS

None.

#### 3.4 CONNECTING CIRCUITS

Information about the circuit packs used to equip the DLTU2 are found in CPSM TN1611B for the DFI-2T, CPS TN1414 for the DFI2-XT, TN1415 for DFI2-X, CPS TN1612B for the DFI-2R, and TN1421 for DFI2-C30.

#### 3.5 ACRONYMS

|       |  |
|-------|--|
| CMI   | Coded Mark Inversion                   |
| CPS   | Circuit Pack Schematic for Manufacture |
| DFI-2 | Digital Facility Interface-2           |
| DLTU2 | Digital Line and Trunk Unit 2          |
| FIDB  | Facility Interface Data Bus            |
| FIU   | Facility Interface Unit                |
| HSM   | Host Switching Modules                 |
| PICB  | Peripheral Interface Control Bus       |
| PIDB  | Peripheral Interface Data Bus          |
| RSM   | Remote Switching Modules               |
| SM    | Switching Module                       |

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