

UDS-120

LIF30x

Unit Data Sheet

| PART NUMBER/ MNEMONIC | NAME | STATUS |
|---------------------------|---|--------|
| 625623-000-001/ LIF301 | Single DS3 Input/Output Low Speed Interface Plug-in Unit | Active |
| 3AL 00190 AB LIF302 | Single DS3 Input/Output Low Speed Interface Plug-in Unit | Active |

FEATURES AND APPLICATION NOTES

- LIF30x provides single DS3 low speed interface between the VT/STS1 cross-connect (VSCC) plug-in unit and the Line Driver/Receiver (LDR) plug-in unit.
- Works with either the programmable VSCC101 cross-connect plug-in unit or the fixed path VSCC20x cross-connect plug-in unit series.
- The LIF302 is identical in features to the LIF301. Certain manufacturing improvements have been made in the hardware design to provide additional flexibility in manufacture and improved availability.

NOTE: The LIF302 unit can interoperate with an LIF301 unit in different shelves or in the same shelf, and the LIF302 unit can be used as a replacement for the LIF301 unit (i.e., an LIF301 in the A-side and an LIF302 in the B-side). However, for this to work, both the LIF301 and LIF302 units must have R04.02 or later 1603 SM system software and must be provisioned appropriately (linear or ring, OC3 or OC12) per the configuration.

- Performs STS1 pointer processing for STS1 payloads.
- Performs STS1/VT pointer processing for VT payloads.
- Extracts and inserts the Section and Line Data Communications Channel (DCC).
- Performs performance monitoring for DS3 low speed interface.
- Front panel mounted Light Emitting Diodes (LEDs) indicate plug-in unit status (fail or active).

DESCRIPTION

The LIF30x provides the digital portion of the DS3 interface. The LIF30x works in conjunction with the Line Driver/Receiver (LDR101/301) plug-in unit. The Coaxial Input/Output Panel (CIOP101) provides the external connections and mounts on the rear of the shelf.

Figure 1 shows the traffic path from the high speed (OC3) HIF interface through the VSCC cross-connect unit and the LIF unit to the LDR unit, which is connected to the shelf CIOP101.

NOTE: External connections to the CIOP101 should be made using 728A, 734A, or 735A coaxial cable. The length of the cable should be per the distances in Table A.

Figure 1. Traffic Flow to/from LIF30x

Table A. CIOP External Connections

| CABLE TYPE | CROSS-CONNECT POINT | LINE BUILDOUT (LBO) SETTINGS |
|--------------------|----------------------------|-------------------------------------|
| 728A or equivalent | 450 feet | 0-225 feet (IN)226-450 feet (OUT) |
| 734A or equivalent | 400 feet | 0-200 feet (IN)201-400 feet (OUT) |
| 735A or equivalent | 220 feet | 0-110 feet (IN)111-220 feet (OUT) |

Figure 2 is the block diagram of the LIF30x. In the receive direction, data and clock signals from the LDR301 are received and processed by the Line Driver/ Receiver Interface. The incoming Bipolar 3 Zero Substitution (B3ZS) encoded signal is monitored to determine any Loss-of-Signal. The signal is decoded, mapped into a Synchronous Payload Envelope (SPE), and the resulting STS1 signal is sent to the Serial Bus Interface (SBI) cross-connect interface circuitry. This circuitry receives the STS1 formatted data, performs STS1 pointer processing, and outputs the signal to the VT/STS1 cross-connect (VSCC) and line group (HIF) plug-in units. In the transmit direction, the SBI cross-connect interface circuitry receives the STS1 SPE signal from the VT/STS1 cross-connect (VSCC) and line group (HIF) plug-in units. The signal is reformatted into STS1 data, performs pointer adjustment, extracts the DS3 signal, synchronizes it to a dejittered DS3 clock reference, and outputs data and clock information to both LDR30x plug-in units (side A and side B).

The Control and Memory Circuitry (GIC101) works in conjunction with the Equipment Selection Logic and Address/Data Interface circuitry to control the transmit/receive operation by communicating with the rest of the 1603 SM system and executing commands.

Figure 3 shows face and side views of the LIF301 unit. The physical dimensions and layout are the same for the LIF302 (different stenciling).

Figure 2. LIF30x Block Diagram

Figure 3. LIF301, 625623-000-001