AUA64 DS1 LINE INTERFACE UNIT - POWER LOOPING 5SLI140AXX

DATA SHEET

SLC® SERIES 5 CARRIER SYSTEM

The AUA64 DS1 LIU (line interface unit) is used to interface the SLC Series 5 system directly to a T1 line. It is typically used in the SLC Series 5 system RT (remote terminal) to loop the received line powering current back toward the COT (central office terminal). It can also be used in the COT if needed in a particular installation.

This practice has been reissued to make minor editorial changes.

Figure 1 is a functional block diagram of the unit, and Figure 2 shows the board outline and the positioning of the switches and indicators.

In the transmit direction, the LIU converts the internal 4.096 Mb/s PCM (pulse code modulation) format to a 1.544 Mb/s DS1 rate. The AUA64 also inserts the ESF (extended super frame) or Fs framing sequence, the signaling bits, and the X.25 or SLC 96 system (for Mode 96 RT applications) data link. When operating in its ESF mode, the LIU sends a yellow alarm to the far end terminal in response to near end failures. This LIU also has switch-selectable 0 dB, 7.5 dB, 15.0 dB, and 22.5 dB pads to meet route junction level coordination and end-section design requirements.

In the receive direction, the AUA64 loops the received T1 line-powering current back to the transmitter output. This looped current powers the other direction of the T1 line. An ALBO (automatic line build-out) and switch-selectable 0 dB and 7.5 dB pads to provide compatibility with short end sections and allow from 0 dB to 33.5 dB of loss in the end section.

The LIU converts the incoming DS1 signal to the internal 4.096 Mb/s format. Also, the AUA64 extracts the received ABCD (in ESF) and ABAB (in D4/SLC 96) signaling bits. The received signal is sent to the TRU (transmit-receive unit). It also monitors the received signal for excessive CRC-6 errors (ESF) or bipolar violations (Fs), loss of frame, and loss of signal. Failures are reported to the BC (bank controller). Failures also cause the E-bit to be set (this freezes the signaling state in the channel units and the LIU) and, after 2.5 seconds, cause the G-bit to be set (this initiates trunk processing). When used in an RT, AUA64 can loop its DS1 input back to its DS1 output under command of the bank controller. The line loopback is intended for use while single-ended T1-line fault locating is being done from the CO end of the system.

The LIU does bank loopbacks (if ordered by the bank controller) to sectionalize failures so that the bank controller can provide detailed information about failures to the craft.

TRANSMIT PAD Option: These four switches (TRANS- 1, 2, 3, 4) select the amount of loss inserted in the transmit path to meet route-junction and end section requirements:

TRANSMIT PAD SETTING vs. INSERTED LOSS				
TRANS				INSERTED LOSS
1	2	3	4	
OFF	OFF	OFF	ON	22.5 dB
OFF	OFF	ON	OFF	15.0 dB
OFF	ON	OFF	OFF	7.5 dB
ON	OFF	OFF	OFF	0.0 dB

RECEIVE PAD Option: These two switches (RCV- 1,2) insert 0 dB or 7.5 dB of loss in the receive path as needed to meet route-junction and end section design requirements:

RECEIVE PAD SETTING vs. INSERTED LOSS (NOTE)		
1	2	INSERTED LOSS
ON	OFF	0.0 dB
OFF	ON	7.5 dB

Note: ON — depress toward the number.

B8ZS/ZCS Option: This switch (B/Z) selects between per-channel zero code suppression (position Z) and the bipolar with 8 zero substitution (position B) line code. This switch should be set per applicable office records.

ESF/Fs Option: This switch (D/F) selects between the ESF frame format (position F) for SLC Series 5 systems, and the Fs frame format (position D) for SLC Series 5 Mode 96 systems.

CLF (Yellow LED): When lighted, this LED indicates that a carrier line failure has been sectionalized to the digital facility connecting the COT and RT.

FAIL (Red LED): When lighted, this LED indicates that a failure has been sectionalized to this LIU.

+V, –I Jacks: The looped-side line current is measured from +V to –I.

Technical assistance for the SLC Series 5 system can be obtained by calling the Regional Technical Assistance Center at **1-800-225-RTAC**. This telephone number is staffed 24 hours per day.

Published by
The AT&T Documentation Management Organization.

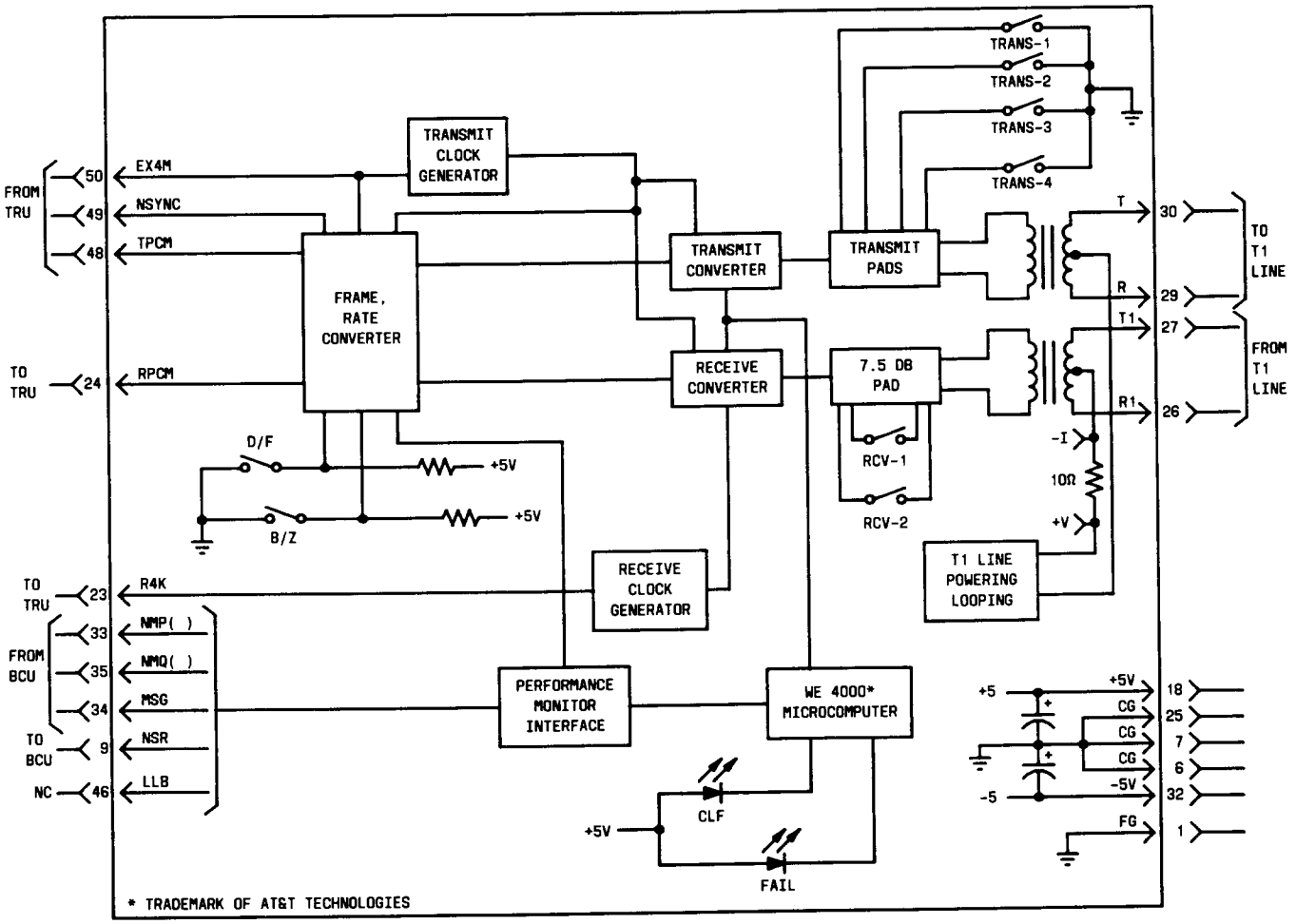

Figure 1—AUA64 Block Diagram

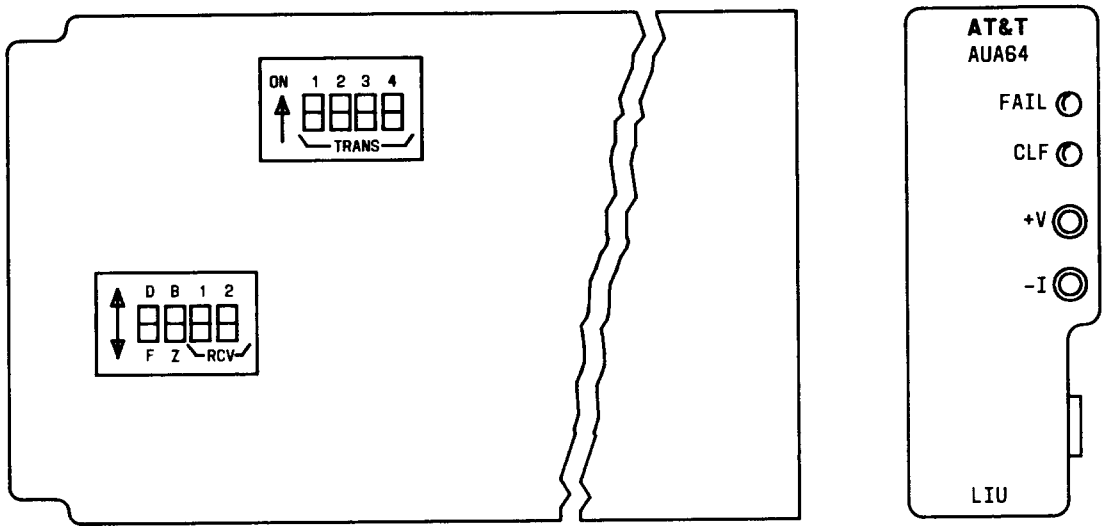

Figure 2—AUA64 Switch Layout and Faceplate