

# AUA61C DS1 LINE INTERFACE UNIT - DSX 5SLI1A3AXX

## DATA SHEET

### SLC<sup>®</sup> SERIES 5 CARRIER SYSTEM

The AUA61C DS1 LIU (line interface unit) is used in the RT (remote terminal) and the COT (central office terminal) to provide the interface between the SLC Series 5 system and the DSX-1 cross-connect.

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

The received signal is sent via the RATE switch to either the TRU (transmit-receive unit) for 64 kb/s  $\mu$ -law PCM (pulse code modulation) operation or to the LBRV (low bit rate voice) TCU (transcoder unit) for 32 kb/s operation.

In the transmit direction, this LIU converts the internal 4.096 Mb/s PCM or ADPCM (adaptive differential pulse code modulation) (LBRV) format to a 1.544 Mb/s DS1 rate. It 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. The LIU pre-equalizes its output so that the signal meets the cross-connect compatibility specification at the connecting DSX-1. When operating in its ESF mode, the LIU sends a yellow alarm to the far end terminal in response to near end failures.

In the receive direction, this LIU converts the incoming DS1 signal to the internal 4.096 Mb/s format. It also extracts the received ABCD (in ESF only) and ABAB (in Fs) signaling bits. The LIU 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 bank controller. Failures also cause the E-bit to be set (this freezes the signaling state in the channel unit) and, after 2.5 seconds, cause the G-bit to be set (this initiates trunk processing). The LIU can detect a tip-ground or a ring-ground at its DS1 input. When the AUA61C is used in a COT, this grounded input is interpreted as a request, made at the DSX-1, for an RT remote line loopback; this is intended for use during single-ended T1-line fault locating. When

not required, or for compatibility with some lightwave multiplexer systems, this ground-sensing capability is switch-defeatable. When the AUA61C is used in the RT, it can do a line loopback in response to a command from the RT BC (bank controller).

The LIU does bank loopbacks (if ordered by the BC) so the BC can provide sectionalized failure information.

**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.

**EQUALIZATION** Option: These three switches (TRANS- 0, 1, 2) select the amount of pre-equalization based on the distance between the bank and the DSX-1 cross-connect:

EQUALIZER SETTING			DISTANCE TO DSX-1  (FEET)
TRANS			
2	1	0	
OFF	OFF	ON	0 TO 132
OFF	ON	OFF	133 TO 265
OFF	ON	ON	266 TO 398
ON	OFF	OFF	399 TO 532
ON	OFF	ON	533 TO 655

**Note:** These distances are for ABAM cable used in the central office. Refer to AT&T Practice 915-710-115 for calculations for other types of cable used for collocated RT and T1 extension applications.

**ENABLE/DISABLE Option:** This switch (RLB-ENB/DIS) allows the enabling (position ENB) or the disabling (position DIS) of the line loopback feature of the AUA61C. With the DDM-1000 fiber facility, this switch may be set to enable (ENB) to provide the loopback request capability. With other fiber multiplexers this switch should be set to disable (DIS) or the LFU (line fuse unit) should be removed.

**VF CHANNEL RATE Option:** This switch (RATE-64/32) allows the selection of 64 kb/s  $\mu$ -law PCM (position 64) or 32 kb/s LBRV (position 32). The standard rate is 64 kb/s.

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

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

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.

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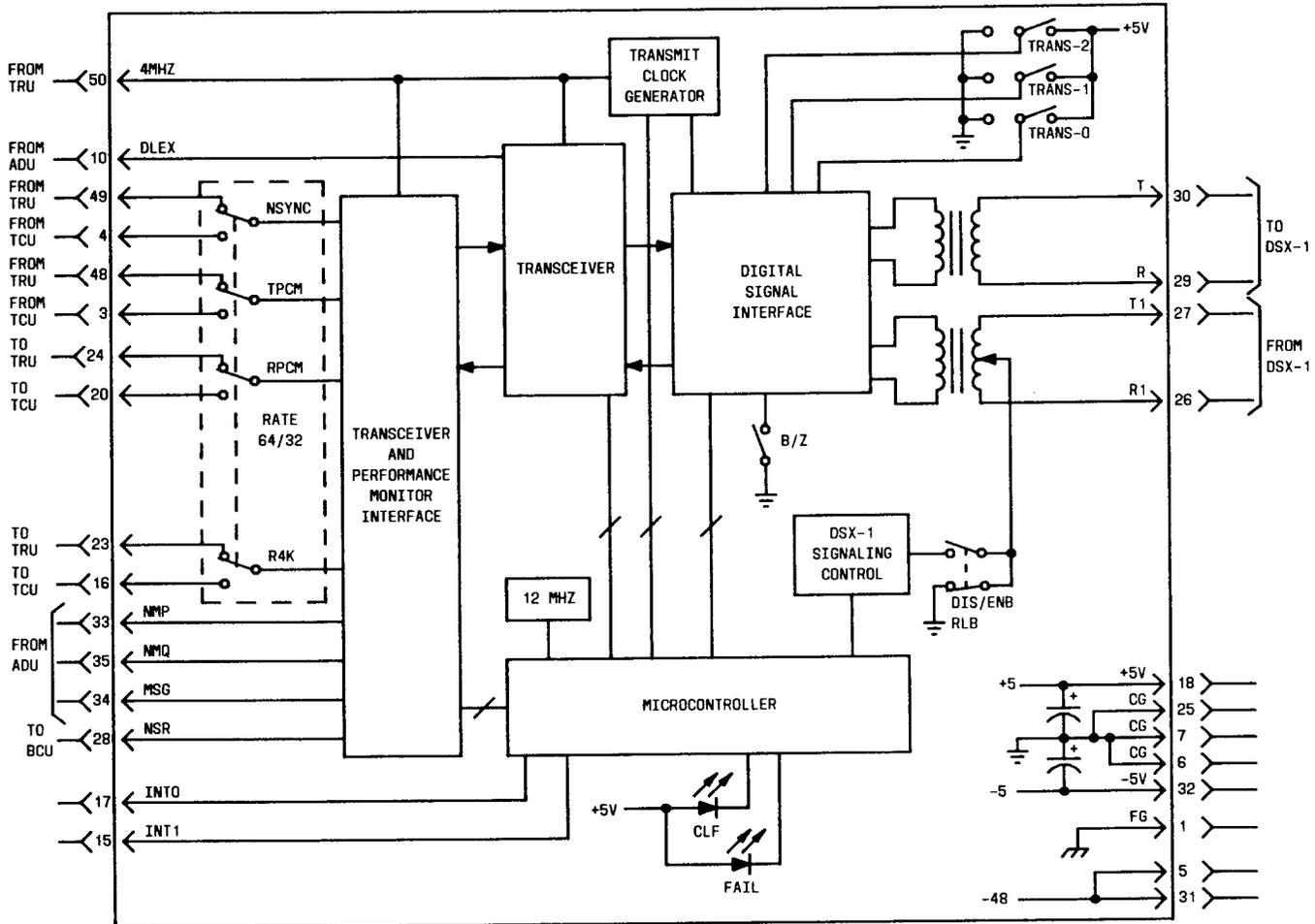


Figure 1—AUA61C Block Diagram

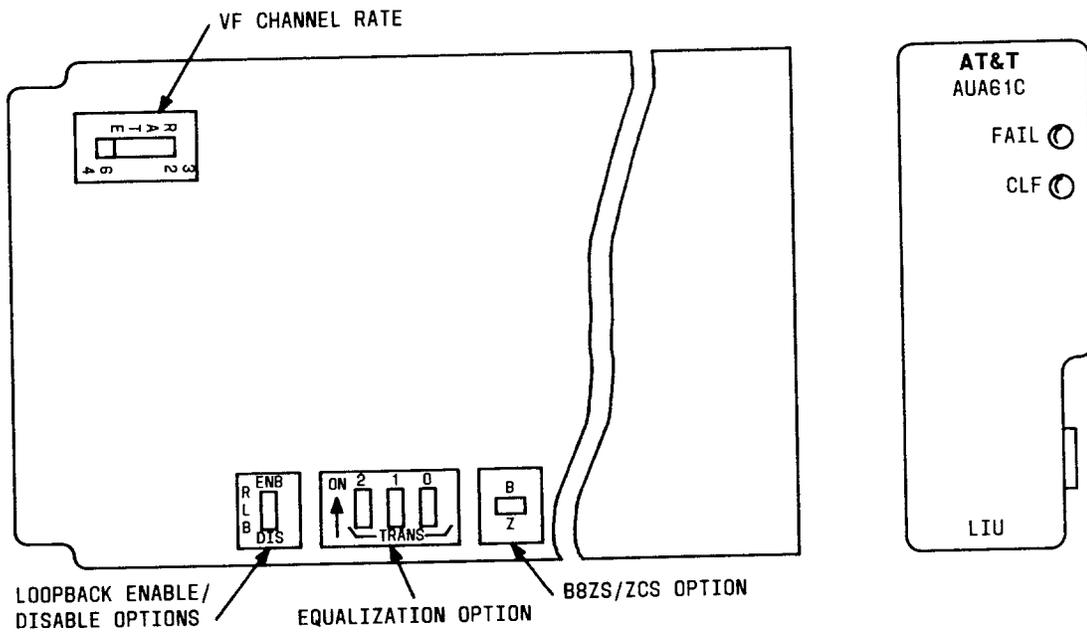


Figure 2—AUA61C Switch Layout and Faceplate