



SLC[®] Series 5 Carrier System **SLC[®] LineReach[™] Access System**

AUA112() (RT) Transmit/Receive Unit— **5SCS3G0 (AUA112)** **5SC5ZUJ (AUA112B)**

Features/Functions

- Compatible with 5ESS[®], GTD-5, and DMS^{*}-100 local digital switches for GR-303[†] service
- UL[‡] Recognized

* DMS is a trademark of Northern Telecom, LTD.

† Tecordia Technical Reference GR-303-CORE Issue 2, December 1998, and all Revisions and Supplements, "Integrated Digital Loop Carrier System Generic Requirements, Objectives, and Interface," Tecordia Technologies Inc.

‡ Registered trademark of Underwriters Laboratories Inc.

Description

This data sheet describes the AUA112() (RT) transmit/receive unit (TRU) (COMCODE 106016546, AUA112; 108367392, AUA112B) and is intended for the end-user of the unit.

The AUA112() transmit/receive unit is used in the Feature Package 303 (FP303) remote terminal (RT). SLC Series 5 FP303 requires two AUA112() TRUs and the 993A TRU faceplate connector and can concentrate up to 96 voice-frequency (VF) and integrated services digital network (ISDN) customers onto 2, 3, or 4 DS1 facilities. SLC LineReach FP2.0 requires two AUA112B TRUs and the 994A TRU faceplate connector and can assign up to 48 voice-frequency (VF) and integrated services digital network (ISDN) customers onto 2 DS1 facilities. The 994A TRU Link is a faceplate connector that is used to connect two AUA112B TRUs in SLC LineReach FP2.0. Because of the full-access time-slot assignment capability with FP303 for GR-303 service, any VF channel or ISDN B-channel in the system can map to any available DS0 time slot on any DS1 facility.

The AUA112() TRU supports the multiplexing of up to two 16 kb/s D-channels for *SLC Series 5* and four 16 kb/s D-channels for *SLC LineReach* into a single DS0 for ISDN applications.

In GR303, the active and standby embedded operations channel (EOC) and the time slot management channel (TMC) are sent in DS0 time slots 12 and 24 on both the A and C (for *SLC Series 5*, FP303) and 1 and 2 (for *SLC LineReach*, FP2.0) line interface units (LIU) DS1 facilities. The EOC carries operations messages between the switch and RT; the TMC carries call processing messages (for example, time slot assignments) from the switch to the RT. The TMC processing occurs on the TRU; the TRU carrying the active TMC handles all time slot interchanger (TSI) functions. The EOC processor is on the bank control unit (BCU); however, the TRU extracts and inserts EOC messages into the bit stream for the BCU.

In the transmit direction, each AUA112() TRU sequentially polls all the channel units in its dual-digroup shelf (AB or CD, *SLC Series 5*) or (1 or 2, *SLC LineReach*) for their 16-bit PCM words. Each TRU time division multiplexes the 16-bit words from each channel unit in a digroup together with the null time slots (every fourth time slot) to produce a 4.096-Mb/s PCM stream. The two 4.096-Mb/s PCM streams from the TRU carrying the standby TSI are fed to the TRU carrying the active TSI through the TRU faceplate connector.

For non-ISDN calls, the TRU with the active time slot management channel (TMC) examines the ABCD signaling bits from the channel unit to detect the on-hook state. If a state change occurs, the active TMC processor sends the appropriate Q.931 message over the TMC to the local switch (LDS). For ISDN calls Q.931 messages originating from the ISDN customer premises equipment are sent to the LDS over the D-channel. With dynamic time slot assignment of VF channels and ISDN B-channels, the LDS makes time slot assignments and deassignments over the TMC. With "fixed" time slot assignments of ISDN D-channels and nailed-up B-channels, the LDS makes the time slot assignments over the embedded operations channel (EOC). On the basis of these time slot assignments, the TSI on the TRU with the active TSI makes the necessary interchanges in the 4.096-Mb/s PCM stream it feeds to each LIU. The LIU converts the bit stream into a 1.544-Mb/s DS1 signal using the extended super frame/new data link (ESF/ndl) format.

In the receive direction, an LIU frames on the DS1 input from the transmission facility and converts it into a 4.096-Mb/s PCM stream that it sends to the TRU with the active TSI. The TRU with the active TSI demultiplexes the stream and distributes the 16-bit PCM words to the channel units.

The AUA112 TRU supports FP303 connectivity to the 5ESS[®] switch, and Generic 5E9.2. The AUA112B TRU supports *SLC Series 5* FP303 connectivity to the 5ESS switch, Generic 5E10 and later; to the AGCS GTD-5 switch, Release SVR-1731; and the Nortel DMS-100 switch, Release NA004. The AUA112B TRU supports *SLC LineReach* FP2.0 connectivity to the 5ESS switch, Generic 5E10 and later. For details, see the *SLC Series 5 Carrier Application and Planning Guide*, 363-205-010, Issue 4 and later and *SLC LineReach Applications, Planning , and ordering Guide*, 363-208-400, Issue 2 and later.

Figure 1 shows the faceplate diagram for the AUA112() RT transmit/receive unit. Table 1 shows the AUA112() RT TRU common unit compatibility and Table 2 lists the environmental specifications.

Compatibility

Table 1 lists the common unit compatibility for the AUA112() RT transmit/receive unit.

Table 1. AUA112() RT TRU Common Unit Compatibility

AUA112() RT TRU Common Unit Compatibility							
TRU	System	Faceplate Connector	BCU	ADU	LIU	CTU	LSU
AUA112	SLC Series 5	993A	MC97777A1	AUB27()	AUA61, AUA62, AUA64; C-Series or later	AUB22 AUB25	AUA74*
AUA112B	SLC Series 5	993A	MC97777A1* MC97796A1	AUB27()	AUA61, AUA62, AUA64; C-Series or later	AUB22 AUB25	AUA74†
AUA112B	SLC LineReach	994A	MC97798A1	AUB27C	AUA61E, AUA62G, and AUA66;	AUB22	†

* For system with DS1 protection switching.

† Protection switching not supported in SLC LineReach.

Specifications

This unit is intended for use in *SLC* Series 5 Carrier System and *SLC* LineReach Access System located in controlled environments that conform to the specifications of Telcordia Technologies GR-63*. It may also be used in applicable Lucent Technologies cabinets designed for *SLC* LineReach and intended for applications in non-controlled (outside plant) environments that conform to Telcordia Technologies GR-487†. These cabinets, when properly equipped, are designed to maintain internal environmental conditions within appropriate operational limits for *SLC* LineReach equipment such that system performance meets TR-NWT-000057‡.

The applicable outside plant environment criteria for cabinet enclosures (per GR-487) are summarized in Table 2 Environmental Specifications.

Table 2. Environmental Specifications

<p>A. Temperature Range (Ambient)</p> <ol style="list-style-type: none"> 1. Operating, per TR-NWT-000057: in Lucent Technologies cabinets exposed to ambient temperatures of -40° F (-40° C) with no solar load to +115° F (46° C) with maximum solar load and maximum power dissipation. Lucent Technologies cabinets are designed to ensure that the components within do not exceed their rated temperatures for the above conditions. 2. Storage, per TR-NWT-000057: ambient temperatures of -40° to 140° F (-40° to 60° C).
<p>B. Relative Humidity</p> <ol style="list-style-type: none"> 1. Operating, per TR-NWT-000057. For outside ambient temperature 84° F (29° C) or less, relative humidity of 5% to 95%. For ambient temperatures above 84° F (29° C), the relative humidity is limited to that corresponding to a specific humidity of 0.024 pound of water per pound of dry air. 2. Storage, per TR-NWT-000057: ambient temperatures 84° F (29° C) or less, 10% to 95%. For ambient temperatures above 84° F (29° C), the relative humidity is limited to that corresponding to a specific humidity of 0.024 pound of water per pound of dry air.

* Telcordia Technologies Generic Reference GR-63, Issue 1, October 1994, and all Revisions and Supplements,
 "Network Equipment-Building System Requirements: Physical Protection (a module of LSSGR, GR-64; TSGR, FR-440, and NEBS FR, FR-2063)," Telcordia Technologies, Inc.

† Telcordia Technologies General Requirements GR-487, Issue 1, June 1996, and all Revisions and Supplements. "General Requirements for Electronic Equipment Cabinets," Telcordia Technologies, Inc.

‡ Telcordia Technologies Technical Reference TR-NWT-000057, Issue 2, January 1993, and all Revisions and Supplements, "Functional Criteria For Digital Loop Carrier Systems," Telcordia Technologies, Inc.

Faceplate Features

The AUA112() transmit/receive unit faceplate is shown in Figure 1. The following LED indicators are located on the faceplate:

FAIL (Red LED): When lit indicates that a failure is detected on the TRU. It is normal for this LED to light momentarily during TRU installation or system resets.

SPL (Yellow LED): Not used.

PROT (Two Yellow LEDs): The bottom PROT LED (arrow to the left) lights on AB shelf TRU to indicate the LIU A DS1 facility is on protection, or lights on CD shelf TRU to indicate the LIU C DS1 facility is on protection. The top PROT LED (arrow to the right) lights on AB shelf TRU to indicate the LIU B DS1 facility is on protection, or lights on CD shelf TRU to indicate the LIU D DS1 facility is on protection. Does not apply to SLC LineReach.

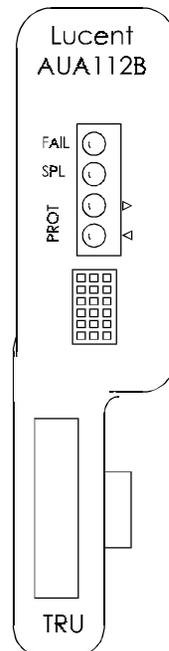


Figure 1. AUA112B TRU Faceplate Diagram

References

The following document provides additional information about the use of this TRU in the *SLC Series 5 Carrier System and SLC LineReach Access System*:

363-205-010	<i>SLC Series 5 Carrier System Applications and Planning Guide</i>
363-208-400	<i>SLC LineReach Access System Applications, Planning, and Ordering Guide</i>
363-208-401	<i>SLC LineReach Access System User/Service Manual</i>

Technical Assistance

Follow local procedures for obtaining technical assistance. Lucent Technologies also provides in-hours or emergency out-of-hours help for the *SLC Series 5 Carrier System* and the *SLC LineReach Access System*. Call the Lucent Technologies Regional Technical Assistance Center at 1-800-225-RTAC.

Ordering Information

Additional copies of this document (363-005-158) are available from the Customer Information Center — call 1-888-582-3688.

Comments

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