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## SLC® Series 5 Carrier System

### AUA34( ) COT DS0 Dataport CU — 5SCU380 (AUA34), 5SC1330 (AUA34B)

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This data sheet describes the AUA34( ) digital signal zero (DS0) dataport (DP) channel unit (CU) [COMCODE 103840518 (AUA34), 106244171 (AUA34B)] and is intended for the end-user of the unit. The AUA34( ) DS0 DP CU is used in an end-link of a digital data system (DDS) private line data service. An *end-link* is the part of the service between a customer and the local central office. The customer primary data rate can be 2.4, 4.8, 9.6 (subrates), or 56 kb/s (full rate) for the AUA34. In addition to the above rates, the AUA34B also supports 19.2- (subrate) and 64-kb/s (clear channel) data rates. The AUA34( ) is always located in the central office terminal (COT). The AUA34( ) can be used in SLC® Series 5 Carrier Systems that support special services. The AUA34B supports all the features of the AUA34 DS0 DP CU (5SCU380) with the following added features:

- 19.2-kb/s data rate capability
- 64-kb/s clear channel capability
- faceplate loopback status indicator
- *4-wire bridging* access faceplate jack, which also supplies the clock sources necessary to drive DDS-type test sets

⇒ **NOTE:**

Use the *CLEI* \* code 5SCU380 (for the AUA34) when using the craft interface unit (CIU) to provision the AUA34B.

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\* COMMON LANGUAGE is a registered trademark and CLEI, CLLI, CLCI, and CLFI are trademarks of Bell Communications Research, Inc.

This data sheet is reissued to include information about the guidelines for option setting selection, unit compatibility, and applications.

Figure 1 is a functional block diagram of an AUA34B DS0 DP CU, and Figure 2 shows the faceplate and switch location.

The AUA34( ) provides one channel of service and serves as the interface between a synchronous DS0 64-kb/s bit stream (bipolar non-return-to-zero format) on the 4-wire tip/ring side of the unit and the digital line pulse code modulation (PCM) bit stream. The customer data, at a data rate less than or equal to 64 kb/s (AUA34B), is embedded in the 64-kb/s bit stream. For most applications, the 4-wire tip/ring side of the CU will face another DS0 dataport CU in an interoffice carrier system, which connects the *SLC* Series 5 DDS end-link to a DDS hub office. The DS0 signal at the tip and ring interface has a range limitation of 1,500 feet. The line drivers and receivers present a balanced 135-ohm impedance across the signal frequency range.

The AUA34( ) provides latching loopback capability for fault isolation and DDS-type testing. Splitting test access to the metallic leads is available through the *SLC* Series 5 CIU or the extended test controller (XTC).

Three error correction options are provided to avoid the need to qualify the T-carrier facility for DDS services. All methods ensure a  $10^{-8}$  error-rate performance for a  $10^{-3}$  error-rate facility. The appropriate error correction method depends on the customer data rate. The unit also provides a zero-code option to guarantee a sufficient ones density on the T-facility.

For all applications of the AUA34( ), the *SLC* Series 5 Carrier System must be synchronized to a DDS-type composite clock. The interface to the clock is the AUA3 office timing unit (OTU) (5SCS604), which is used only in the COT. An OTU is not required in the remote terminal (RT) since the RT is loop-timed to the COT.

The AUA34( ) has options that must be set before service can be provided. All options for the CU are set by entering commands into the *SLC* Series 5 CIU J99404TA, which then transmits the option information to the bank control unit (BCU) where the option information is stored in nonvolatile system memory.

**⇒ NOTE:**

If error correction is desired when the customer data rate is 19.2 kb/s (AUA34B), a board-mounted switch must also be set. This switch is used in conjunction with error correction options set by the CIU.

The BCU then writes the options into memory registers on the CU when the CU is installed. If the CU is already installed, the BCU writes the option information into the CU registers immediately after it receives the information from the CIU. Unplugging the CU does not erase the option information stored in system memory — reinserting the CU causes the options to be rewritten immediately into the CU registers by the BCU.

The CIU is also used during manual testing of the transmission performance of the AUA34( ). The procedures for setting options and performing tests with the CIU are described in AT&T 363-205-402. The CIU also is described in Select Code 500-206, *CIU User's Guide* and AT&T 363-205-101. Additional preservice testing capabilities are provided using the (AUA34B) bridging access faceplate jack (Figures 1 and 2).

Table 1 lists the options set by the CIU for the AUA34( ) DS0 DP CU and the range of the options. The guidelines for selecting option settings for the AUA34( ) channel unit are provided in AT&T 915-710-116 that also describes the various applications for the unit.

**Table 1. Options Set by the CIU for the AUA34( ) DS0 DP CU**

<u>Option</u>	<u>Range</u>
Function code	(DS0-A or DS0-B)
Error correction	(SCEC, NONE, or MVEC)
All-zero-code allowed	(YES or NO)

**⇒ NOTE:**

Use the *CLEI* code 5SCU380 (for the AUA34) when using the CIU to provision the AUA34B.

**⇒ NOTE:**

With Feature Package B/mode 1 (FPB/M1) system second channel error correction (SCEC) operates with 56-kb/s service only, not with subrates.

The following options are set by the CIU for the AUA34( ) DS0 DP CU.

- **Function Code (DS0 signal format)** — Choose DS0-A for customer data service at a subrate (2.4, 4.8, 9.6, or 19.2 kb/s). Choose DS0-B for 56- or 64-kb/s service (AUA34B).
- **Error Correction** — For a DS0-B signal format (full-rate service), the error correction options are second channel error correction (SCEC) or NONE. For a DS0-A signal format, any of the error correction options may be chosen, although majority vote error correction (MVEC) is the normal selection. When (AUA34B) 19.2-kb/s error correction is desired, the on-board 19.2-switch should be set to the ENABLE position (Figure 2) prior to installing the unit — this arms the 19.2-kb/s error correction feature. The 19.2-faceplate LED will illuminate indicating the arming of the 19.2 function. Selecting the MVEC option in conjunction with the 19.2-switch option invokes the 19.2-kb/s error correction feature per the format described in *Contribution to the ANSI \* T1 Standards Project*,

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document #T1ZX1.4/89-023. When SCEC is used, both PCM time slots associated with a plug-in slot are used. The odd-numbered time slot is used for data and the even-numbered time slot is used for error correction. For MVEC, the odd-numbered time slot is used for both.

- **All-Zero-Code** — When the All-Zero-Code option is set to YES, the AUA34( ) will allow eight consecutive zeros to be transmitted toward the digital line. If the option is set to NO, two of the zeros, in a string of eight zeros, will be set to ones. This option should be set to NO if the line interface unit (LIU) is set for zero code suppression. If the LIU is set for B8ZS line coding, either DS0 All-Zero-Code option may be chosen. For 64-kb/s clear channel capability, this option is set to YES and the LIUs must be optioned for B8ZS.

The AUA34( ) can be used in any channel unit slot and can be used in combination with any mix of the other SLC Series 5 CUs. If required, all 48-channel unit slots in a bank can be equipped with AUA34( )s. When the AUA34( ) is used in a Feature Package D system and is optioned for 56 kb/s with SCEC, the next higher numbered (adjacent) channel unit slot *must* be left vacant.

The AUA34( ) is end-to-end compatible with the AUA52 (5SCU480) or AUA52B (5SC1430) office channel unit (OCU) dataport (AT&T Data Sheet 363-005-111). Further compatibility and application information can be found in AT&T 915-710-116.

The LED indicators and RJ48S jack located on the faceplate of the AUA34B provide the following functions.

**19.2** (Green LED) — When lighted, this LED indicates that the AUA34B is armed for 19.2-kb/s data rate error correction.

**LB** (Yellow LED) — When lighted, this LED indicates that the AUA34B is exhibiting a loopback invoked locally or using the network.

**RJ48S Access Jack** (Faceplate-mounted jack) — The RJ48S jack provides bridging access to T, R, T1, and R1 — also provides the 8- and 64-kHz clocks required to drive DDS test equipment. The test jack is compatible with Telepath Industries TPI108/109 RTII data test unit with mod option 08.

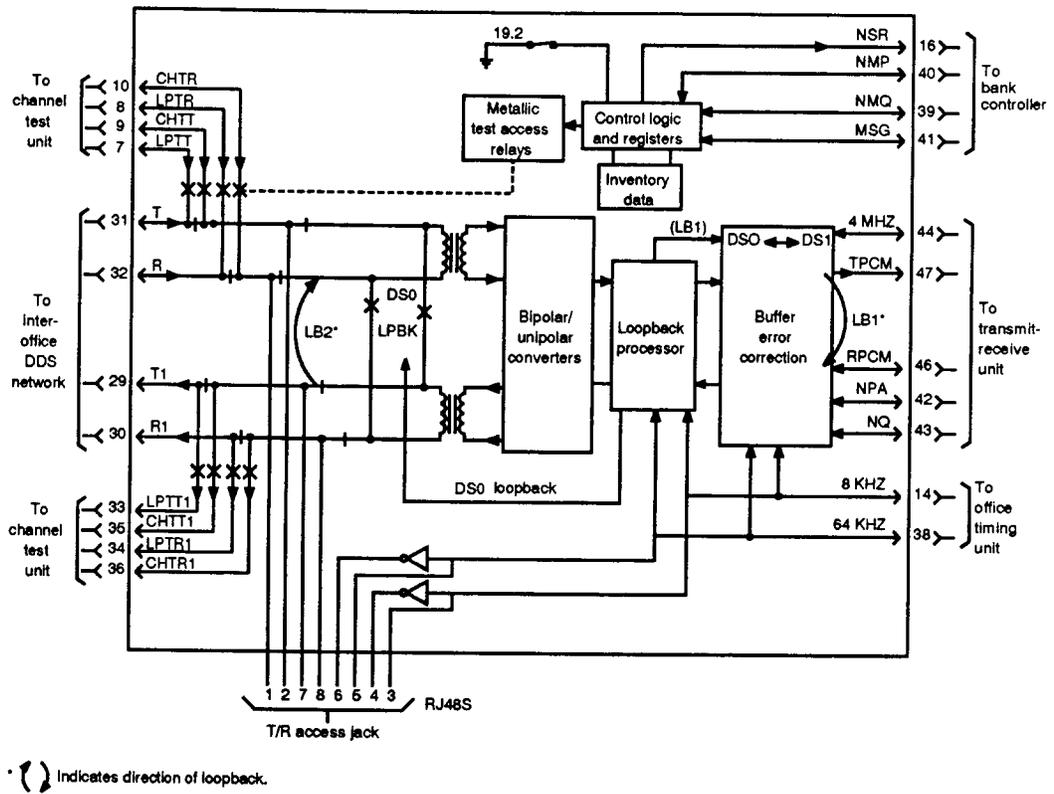
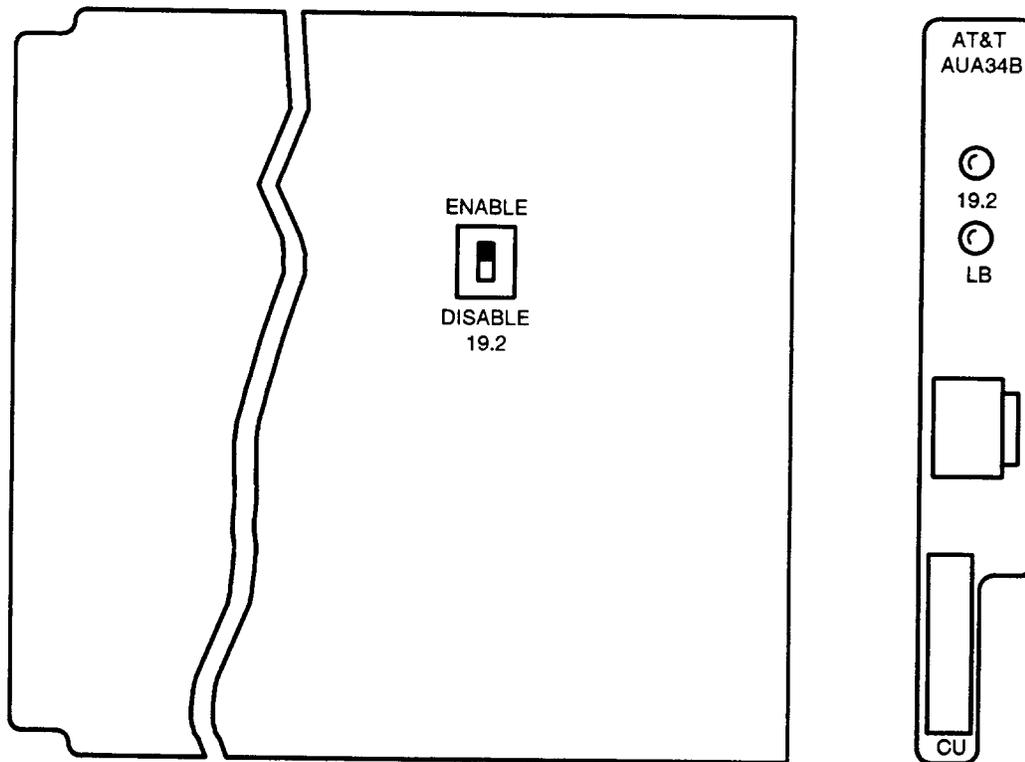


Figure 1. AUA34B Block Diagram



**Figure 2. AUA34B Faceplate and Switch Location**

Follow local procedures for obtaining technical assistance. AT&T also provides in-hours or emergency out-of-hours help for the SLC Series 5 Carrier System. Call the AT&T Regional Technical Assistance Center at 1-800-225-RTAC.

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