SLC® Series 5 Carrier System

AUB28 Alarm Display Unit — 5SPQ10U

This data sheet describes the AUB28 alarm display unit (ADU) (COMCODE 103841243) and is intended for the end-user of the unit. The AUB28 ADU is used in the *SLC*® Series 5 remote terminal (RT).

NOTE:
Choose the AUB28 ADU when the Operations Interface (OI) is used or when it is necessary to suppress channel unit alarms for the FPI system. Otherwise, use the AUB27 ADU rather than the AUB28.

Table 1 lists conditions of unit LED indicators during the RT LED test, and Table 2 lists applicable AUB28 option switch settings for the different modes of system operation. Figure 1 is a functional block diagram of the AUB28 ADU, and Figure 2 shows the components and faceplate.

Together, the MC97775A1 bank control unit (BCU) and the AUB28 ADU perform the following bank controller (BC) functions for the RT.

- Internal performance monitoring and fault diagnosis
- Craft inputs for option settings and bank identification
- Electrically erasable programmable read-only memory (EEPROM) for channel unit provisioning coefficients
- Near-end and far-end channel unit provisioning using the craft interface unit (CIU)
- Remote inventory and channel unit provisioning using the OI

The AUB28 ADU provides a serial interface to the other plug-in units in the bank. The bank controller uses this serial link to control the plug-in units and their LEDs. The AUB28 ADU also has inputs to detect failures in the RT common

equipment — the ringing generators, rectifiers, battery chargers, and the AC power plant.

The AUB28 ADU contains an electrically erasable programmable read-only memory (EEPROM) for the semipermanent storage of the provisioning coefficients of the channel units as a backup for the BCU EEPROM. Also, the EEPROM is used to store inventory data unique to each AUB28 ADU. The AUB28 ADU uses a universal asynchronous receiver-transmitter (UART) for the communications interface to the CIU. The AUB28 ADU also supports a local area network (LAN) function. The LAN interfaces the bank controller to the Operations Interface (OI) processor through the AUA77 site interface unit (SIU). The LAN interface allows remote provisioning of channel unit coefficients and querying of such items as system performance monitoring data, alarms, and inventory information.

The LED indicators located on the faceplate of the ADU provide the following functions.

FAIL (Red LED) — When lighted, this LED indicates a failure has been sectionalized to the AUB28 ADU.

MJ (Red LED) — When lighted, this LED indicates that the bank has an active *major* alarm. This alarm indicates at least one 24-channel digroup may be out of service.

MN (Yellow LED) — When lighted, this LED indicates that the bank has an active *minor* alarm. No digroups are out of service, although a subsequent failure may cause an outage if the *minor* alarm condition is not fixed.

LAN (Yellow LED) — When *lighted*, this LED indicates a failure of the LAN interface. When *flashing*, this LED indicates the AUB28 ADU has received a broadcast message over the LAN interface. The flashing LED is used to determine which AUB28 ADUs have LAN interface connections to a particular AUA77 SIU. This LED can be disabled by placing position 8 of the S1 switch in the NLAN position. The LAN LED should only be disabled in applications where the associated LAN circuits have not been installed.

008 (Green LED) — When flashing, this LED indicates the system is configured for FPI operation.

303 (Green LED) — Not used for FPI operation.

FE (Yellow LED) — When lighted, this LED indicates a failure has been sectionalized to the far-end office.

NE (Yellow LED) — When lighted, this LED indicates a failure has been sectionalized to the near-end RT.

CMP (Yellow LED) — When lighted, this LED indicates the option switches are set incorrectly, a common equipment incompatibility exists, or a channel unit slot incompatibility exists.

If the CMP LED is lighted and LED TEST faceplate-mounted pushbutton is pressed, those indicators under the control of the test switch will light *except for the circuit pack which caused the incompatibility.*

NOTE:
The CMP LED may not light when an incompatible transmit/receive unit (TRU) or a system display unit (SDU) is installed in a line interface unit (LIU) slot. In addition, the CMP LED does not light when ADU switch S2 position 6 (AT/NAT) is set to AT while a CTU (instead of an ACTU) is installed in the system.

PRV (Yellow LED) — When lighted, this LED indicates the memory for semipermanent storage of channel unit provisioning coefficients is being updated. Also, with the FAIL LEDs of the ADU and BCU indicates a 3-way mismatch.

CAUTION:
While the PRV LED is lighted, do not remove the AUB28 ADU, the BCU, or power as this may cause service interruption and loss of memory data.

LED TEST (Faceplate-mounted pushbutton) — While pressed, this faceplate pushbutton switch causes all bank common circuit pack LED indicators listed in Table 1 to light.

NOTE:
Channel units, rectifiers, ringing generators, and battery chargers are not affected by the LED TEST pushbutton.

Table 1. *SLC*® Series 5 RT LED Test

Unit	Status of LED(s)
AUB27 ADU	All LEDs lighted, while PRV flashes
AUB28 ADU	All LEDs lighted, while 008 flashes; CMP flashes if S2-3 is set for CUT. Otherwise steady.
BCU	All LEDs lighted
TRU	All LEDs lighted
LIU	All LEDs lighted
LSU	FAIL LED lighted
CTU	FAIL LED lighted;BLUE/WHITE LED lighted for system doing LED Test.
ACTU	FAIL LED lighted;BLUE/WHITE LED lighted for system doing LED Test.
DTU-R	FAIL LED lighted
SDU	FAIL LED and all display segments lighted

The board-mounted option switches (Table 2) of the AUB28 ADU provide the following functions.

S1 (8-position board-mounted option switch).

- Position 1 no protection line/protection line (NPL/PL) — The PL selection enables operation of the protection line switching. The NPL selection disables operation of the protection line switching.
- Position 2 two DS1 lines/four DS1 lines (2/4) — The 2 selection enables the operation of two DS1 lines for FPI Modes 2 and 4. The 4 selection enables the operation of four DS1 lines for FPI Mode 1 operation.
- Position 3 AB in-service/preservice (ABI/ABP) — The ABI selection puts the AB shelf in the in-service state. The ABP selection puts the AB shelf in the preservice state.
- Position 4 CD in-service/preservice (CDI/CDP) — The CDI selection puts the CD shelf in the in-service state. The CDP selection puts the CD shelf in the preservice state.
- Position 5 AB equipped/unequipped (ABE/ABU) — The ABE selection marks the AB shelf as equipped with common plug-ins. The ABU selection marks the AB shelf as not equipped.
- Position 6 CD equipped/unequipped (CDE/CDU) — The CDE selection marks the CD shelf as equipped with common plug-ins. The CDU selection marks the CD shelf as not equipped.

- Position 7 RTMISC1 major/minor (1MJ/1MN) — The 1MJ selection associates the RTMISC1 closure with a *major* alarm. The 1MN selection associates the RTMISC1 closure with a *minor* alarm.
- Position 8 no local area network alarm/local area network alarm (NLAN/LAN) — The NLAN selection indicates the site is not equipped with the AUA77 SIU and the cable interconnecting the SIU with the AUB28 ADU for operation with the Operations Interface. The LAN selection indicates the site *is* equipped with the AUA77 SIU and the cable interconnecting the SIU with the AUB28 ADU for operation with the Operations Interface.

S2 (10-position board-mounted option switch) —

- Position 1 physical/time slot interchange grooming (PHY/TSI) — Not used for FPI systems.
- Position 2 FS/ESF framing (FS/FE) — The FS selection chooses the super frame (FS) pattern for FPI systems.
- Position 3 no cutover hunting/cutover enabled (NC/CUT) — Select NC for FPI systems.
- Position 4 no D digroup grooming/D digroup grooming (NDG/DG) — This switch setting is optional for FPI Mode 1 operation.
- Position 5 supplemental data link enabled/no supplemental data link DC/NDC) — Not used for FPI systems. Set to NDC.
- Position 6 automatic testing/no automatic testing (AT/NAT) — Switch position 6 of switch S2 does not control automatic routine testing when the optional OI is used. The OI controls the automatic routine testing. The AT selection enables routine automatic testing for systems equipped with the AUB30 automated channel test unit (ACTU). The NAT selection disables routine automatic testing.
- Position 7 B DS1 equipped/unequipped (BE/BU) — Not used for FPI systems.
- Position 8 D DS1 equipped/unequipped (DE/DU) — Not used for FPI systems.
- Position 9 channel unit alarm/no channel unit alarm (CA/NCA) — Used for FPI RT configurations. The CA selection enables channel unit alarms. The NCA selection inhibits channel unit alarms.
- Position 10 (C/O) — Not used for FPI systems.

S3 — S6 (Rotary board-mounted option switches) — The four rotary switches permit the craft personnel to input system identification numbers in the range of 0000 through 9999, with the following place values:

- S3 is for the *thousands* digit,
- S4 is for the *hundreds* digit,

- S5 is for the *tens* digit, and
- S6 is for the *ones* digit.

The board-mounted plug of the AUB28 ADU provides the following functions.

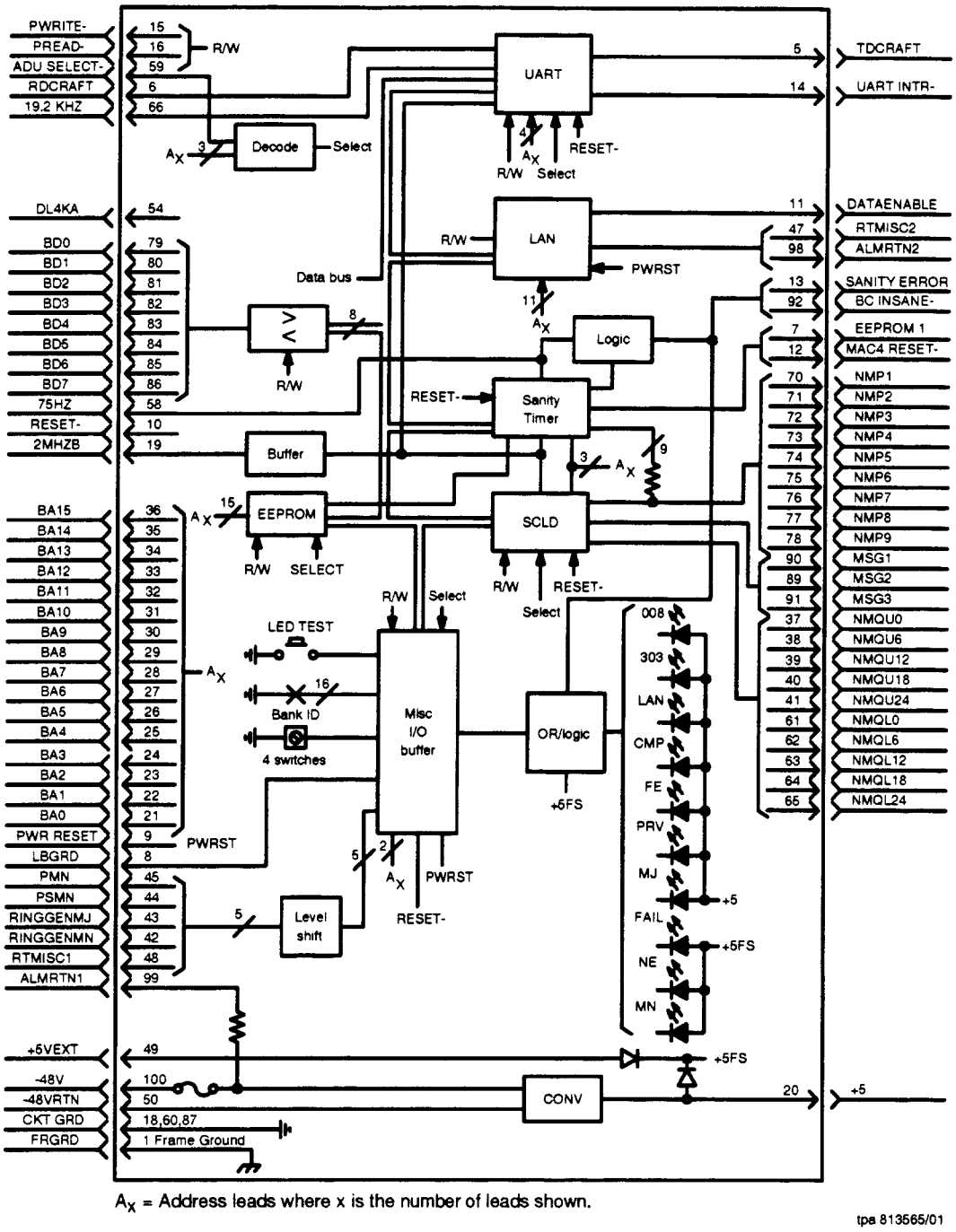
NORM/CLR (Board-mounted plug) — The CLR selection enables the bank provisioning memory to clear following BCU insertion if a provisioning data 3-way mismatch exists and no provisionable channel units are in the bank. Otherwise, provisioning memory can only be cleared by the CIU.

Table 2. AUB28 ADU Option Switch Settings

Switch	Position	Switch Option	Switch Setting (Note) Mode 1	Mode 2/4
S1	1	No protection line/protection line (NPL/PL)	Opt	Opt
	2	2 DS1 lines/4 DS1 lines (2/4)	4	2
	3	AB in-service/AB preservice (ABI/ABP)	Opt	Opt
	4	CD in-service/CD preservice (CDI/CDP)	Opt	Opt
	5	AB equipped/AB unequipped (ABE/ABU)	Opt	Opt
	6	CD equipped/CD unequipped (CDE/CDU)	Opt	Opt
	7	RTMISC1 major alarm/minor alarm (1MJ/1MN)	Opt	Opt
	8	No LAN alarm/LAN alarm (NLAN/LAN)	Opt	Opt
S2	1	Physical grooming/TSI grooming (PHY/TSI)	NU	NU
	2	FS framing - TR-08/FE framing - ESFndl (FS/FE)	FS	FS
	3	No cutover hunting/cutover enabled (NC/CUT)	NC	NC
	4	No D DS1 grooming/D DS1 grooming (NDG/DG)	Opt	NU
	5	Supplemental data link enabled/disabled (DC/NDC)	NDC	NDC
	6 *	Automatic testing/no automatic testing (AT/NAT)	Opt	Opt
	7	B DS1 equipped/unequipped (BE/BU)	NU	NU
	8	D DS1 equipped/unequipped (DE/DU)	NU	NU
	9	Channel unit alarm/no channel unit alarm (CA/NCA)	Opt	Opt
	10	Not used (C/O)	NU	NU
S3		*Thousands* system ID number	0-9	0-9
S4		*Hundreds* system ID number	0-9	0-9
S5		*Tens* system ID number	0-9	0-9
S6		*Ones* system ID number	0-9	0-9

Note: Opt denotes an optional setting. NU denotes a setting not used (for example, the bank controller ignores the setting).

* Used to inhibit automatic routine channel unit testing by the AUB30 automated channel test unit (ACTU) when such testing may interfere with certain services (for example, those requiring on-hook transmission). The channel unit alarms that may be generated by the ACTU channel unit testing can be suppressed in FPI systems by setting position 9 of switch S2 to NCA.



A_X = Address leads where x is the number of leads shown.

Figure 1. AUB28 ADU Block Diagram

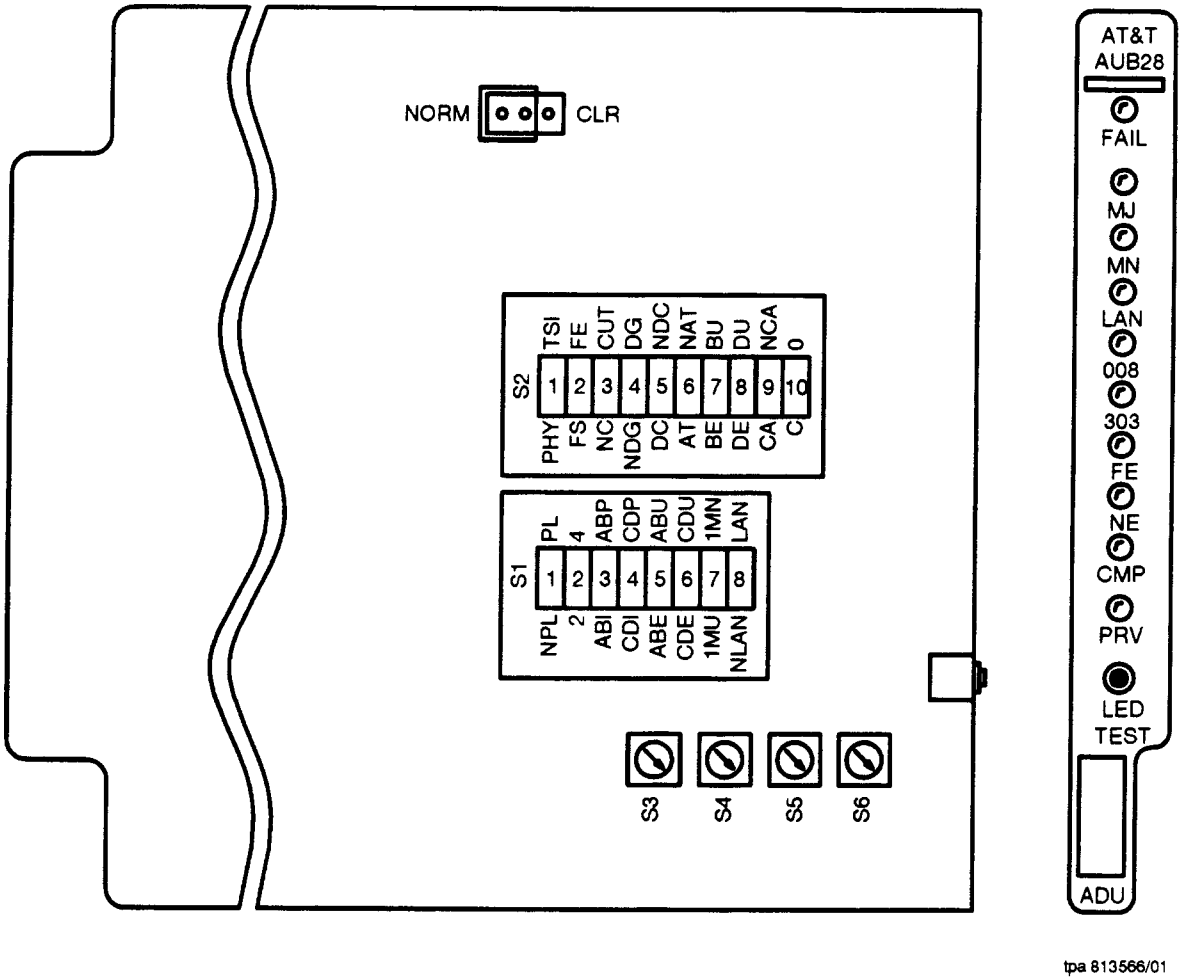


Figure 2. AUB28 ADU Components and Faceplate

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