SLC® Series 5 Carrier System

AUB6( ) (COT) Alarm Display Unit — 5SCS900 (AUB6) 5SCS90K (AUB6B)

Features/Functions

- Local alarm display
- BC option switches
- Bank identification
- Serial interface to XTC, and to CIU through CTU connector
- Protection switching
- LED test push button
- OTC alarm inputs
- Alarm telemetry closure outputs.
- Provisioning coefficient storage for special service channel units
- Internal auditing and fault diagnosis

Description

This data sheet describes the AUB6( ) alarm display unit (ADU) (COMCODE 103841300, AUB6; and 108669318, AUB6B) and is intended for end-users of the units.

The AUB6( ) ADU is used in the *SLC*® Series 5 Carrier System central office terminal (COT). In *SLC* Series 5 Carrier System, the AUB6( ) ADU supports FPC and FPD applications in all COT dual channel banks (DCBs). See Table 2 for *SLC* Series 5 applications of the AUB6( ) ADU.

The AUB6( ) 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 LED indicators. The AUB6( ) ADU also provides outputs to the AUB3 alarm interface unit (AIU) for the office and remote alarms, and controls the alarm cutoff

(ACO) function for its system. The AUB6( ) ADU contains an electronically 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 AUB6( ) ADU. The AUB6( ) ADU uses a dual universal asynchronous receiver-transmitter (DUART) for the communications interface to the extended test controller (XTC) and craft interface unit (CIU).

This data sheet is being reissued to introduce the AUB6B alarm display unit, which has been redesigned to incorporate state of the art surface mount technology components and to replace “Legacy” components. The AUB6B ADU is backward compatible with the AUB6 ADU in all applications. See the Compatibility section for further details.

The AUB6( ) ADU is further illustrated in the following tables and figures.

- Table 1 lists applicable option switch settings for Feature Package C (FPC) and Feature Package D (FPD) systems for the *SLC* Series 5 Carrier System.
- Table 2 lists COT applications for the *SLC* Series 5 Carrier System.
- Table 3 lists the environmental specifications.
- Table 4 lists conditions of unit LED indicators during the COT LED test.
- Table 5 lists the edge connections.
- Figure 1 shows the printed wiring board (PWB) switches and faceplate.

Functions

The bank control unit (BCU) and the AUB6( ) ADU perform the following bank controller functions for the COT:

- Internal performance monitoring and fault diagnosis
- Alarm inputs and outputs
- Craft inputs for option settings and bank identification
- Channel unit provisioning using the craft interface unit (CIU) or SCAT[1]
- EOC path protection switching *SLC* Series 5
- T1 line protection switching.

The AUB6( ) ADU provides a serial interface to the other plug-ins in the bank. The bank controller uses the serial link to control the plug-ins and their LED indicators, and monitors plug-in status. The AUB6( ) ADU also has inputs to detect failures in the COT office timing unit (OTU). The AUB6( ) ADU also provides alarm closures and an alarm cut-off (ACO) function, using the ADU ACO push buttons.

Like the BCU, the AUB6( ) ADU contains an electrically erasable, programmable read-only memory (EEPROM) for the semipermanent storage of the provisioning coefficients of the channel unit as a backup for the BCU EEPROM. The AUB6( ) ADU also has a universal asynchronous receiver transmitter (UART) as the communication interface for the XTC and CIU or SCAT.

1 Special Channel Administration Tool (SCAT) is a software product of Lucent Technologies to allow CIU-equivalent provisioning operations. Upgrades from SCAT to SCAT-III software can be obtained via the Internet at http://www.lucent-ade.com/scat.

SLC Series 5 Option Switch Settings

The board-mounted switches of the AUB6( ) ADU provide the options for *SLC* Series 5 Carrier System Feature Packages FPC, FPD and INA-COT systems (See Table 1).

Options for *SLC* Series 5 Carrier System Feature Packages FPC, FPD, INA-COT

Table 1 summarizes the board-mounted option setting of the AUB6( ) ADU. The setting provides the following functions:

S1 (FPC, FPD, INA-COT) (10-position, board-mounted option switch).

- Position 1: No protection line/protection line (NPL/PL). Applicable for all modes except INA-COT. The PL selection enables operation of the protection line switching. The NPL selection disables operation of the protection line switching.
- Position 2: 32 kb/s / 64 kb/s. The 32 selection options the bank for 32 kb/s low-bit-rate (LBRV) operation used in FPD. The 64 selection options the bank for FPC/AC operation at 64 kb/s.
- 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: Not used.
- Position 8: Not used.
- Position 9: Not used.
- Position 10: Not used.

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

- S3 is for the *thousands* digit.
- S4 is for the *hundreds* digit.
- S5 is for the *tens* digit.

Table 1. AUB6( ) ADU Option Switch Settings for S*LC* Series 5 Carrier System

			Switch Setting (Note 1)	
Switch	**Position**	**Switch Option**	**FPC**	**FPD**
S1	1	No protection line/protection line (NPL/PL)	**Opt**	**Opt**
	2	32 kb/s / 64kb/s (32/64)	**64**	**32**
	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	Not Used	**NU**	**NU**
	8	Not Used	**NU**	**NU**
	9	Not Used	**NU**	**NU**
	10	Not Used	**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**

Notes:
1. Opt denotes optional setting. NU denotes a setting not used (the bank controller ignores the switch setting).

Compatibility

The AUB6( ) alarm display unit is compatible with *SLC* Series 5 Carrier System Feature Package C (FPC) and Feature Package D (FPD) systems.

Table 2. AUB6( ) ADU *SLC* Series 5 Carrier Systems Applications

Service Configurations	BCUs	TRUs	LIUs
FPC/AC	MC97755A1( )*	AUA1	AUA61C or D or E Series
FPD/LBRV	MC97755A1( )	AUA1	AUA61C or D or E Series
INA-COT	MC97769A1	AUA1	AUA61C or D or E Series

Notes:

* For ISDN service use MC97755A1B BCU

Specifications

This unit is intended for use in *SLC* Series 5 Carrier Systems located in controlled environments that conform to the specifications of Telcordia Technologies GR-63[1]. It may also be used in applicable Lucent Technologies cabinets designed for *SLC* Series 5 and intended for applications in non-controlled (outside plant) environments that conform to Telcordia Technologies GR-487[2]. These cabinets, when properly equipped, are designed to maintain internal environmental conditions within appropriate operational limits for *SLC* Series 5 Carrier equipment such that system performance meets TR-NWT-000057[3].

The applicable outside plant environment criteria for cabinet enclosures (per GR-487) are summarized in Table 5 Environmental Specifications.

Table 3. Environmental Specifications

A. Temperature Range (Ambient) 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).
B. Relative Humidity 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.

1 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.

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

3 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 AUB6B alarm display unit faceplate and circuit board switch locations are shown in Figure 1. Refer to Table 5 for edge connections for the AUB6B alarm display unit.

The LED indicators and push button switch located on the faceplate of the ADU provide the following functions.

FAIL (Red LED): When lighted, this LED indicates that the failure has been identified in the AUB6( ) ADU. It is normal for the LED to light momentarily during system reset and during power up procedures.

MJ (Red LED): When lighted, this LED indicates that the bank has an active *major* alarm. This alarm indicates that at least one 24-channel digroup is 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.

ACO (Yellow LED): When lighted, this LED indicates that the alarm outputs to the remote reporting system from the bank are cut off. Bank indicators are not affected by the ACO.

FE (Yellow LED): When lighted, this LED indicates that a failure has been identified at the far-end RT.

NE (Yellow LED): When lighted, this LED indicates that a failure has been identified at the near-end COT.

LED TEST (Faceplate-mounted push button): While pressed, this faceplate-mounted push button causes newer vintage channel units and most bank common circuit pack LED indicators to light (see Table 4).

NOTE:
Rectifiers, ringing generators, PCU, LFU, CFU and battery chargers are not affected by the LED TEST push button.

Table 4. *SLC*® Series 5 COT LED Test

Unit	Status of LED(s)
Channel Units	All LEDs are lighted
AUB6( ) ADU	All LEDs are lighted
BCU	All LEDs are lighted
TRU	All LEDs are lighted
LIU	All LEDs are lighted
LSU	FAIL LED is lighted
CTU	FAIL LED is lighted

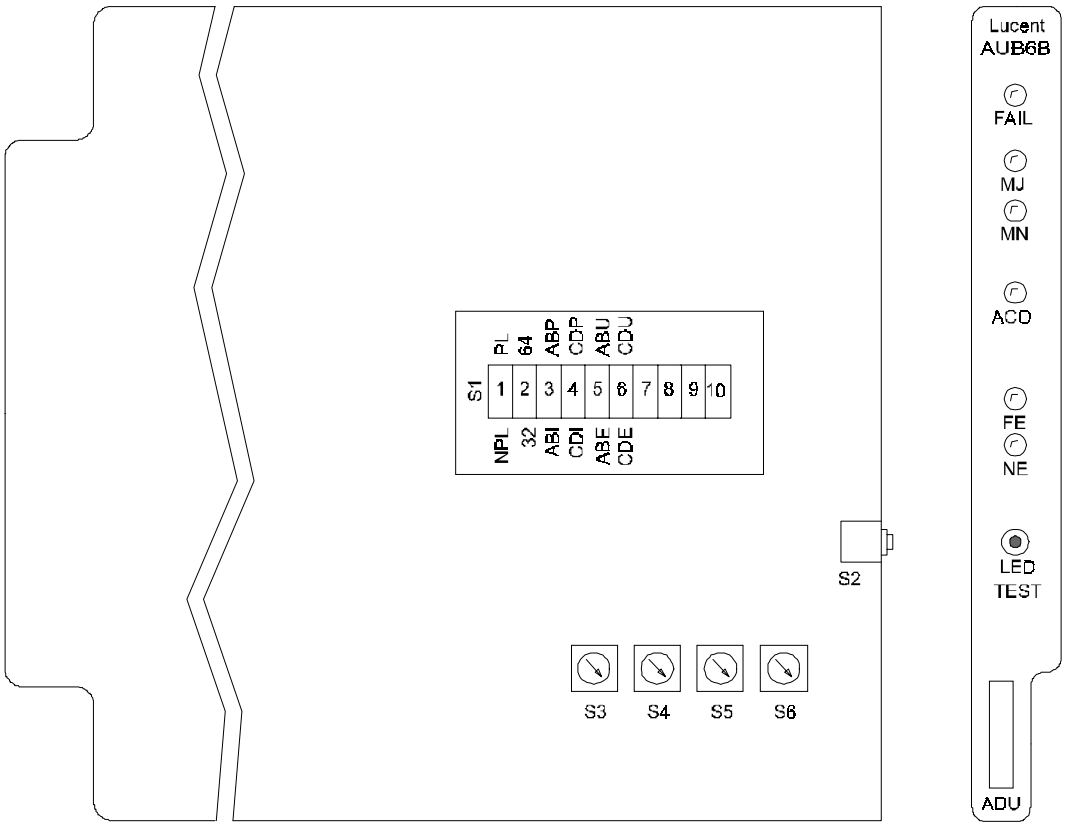

Figure 1. AUB6B ADU Circuit Board Switch Locations and Faceplate

Table 5. Edge Connections For AUB6( ) Alarm Display Unit

Finger	Function
1	FRGRD (Frame Ground)
18, 60, 87	CKT GRD (Circuit Ground)
20	+5VOUT (+5 Volts Output to Bank Controller)
49	+5VEXT (Backup +5 Volts From Facility Shelf)
50	-48VRTN (-48 Volts Return)
100	-48V (-48 Volts)

References

The following documents provide additional information about the use of this unit in the *SLC Series 5 Carrier System*:

363-099-105TD	*SLC Series 5 Carrier System* *Integrated Network Access - Remote Terminal*
363-205-010	*SLC Series 5 Carrier System* *Application and Planning Guide*
363-205-401	*SLC Series 5 Carrier System* *Remote Terminal - Acceptance and Turnup*
363-205-402	*SLC Series 5 Carrier System* *Channel Unit Installation and Testing*
363-205-500	*SLC Series 5 Carrier System* *Maintenance and Trouble Clearing*
915-710-115	*SLC Series 5 Carrier System* *Application Engineering*

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. Call the Lucent Technologies Regional Technical Assistance Center at 1-800-225-RTAC.

Ordering Information

Additional copies of this document (363-005-186) are available from the Customer Information Center — call 1-888-582-3688.

Comments

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