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## **SLC<sup>®</sup> Series 5 Carrier System**

**AUA38( ) (COT) POTS Channel Unit—  
5SCU1G0 (AUA38)  
5SC1Y20 (AUA38B)  
5SC1Y2X (AUA38C)  
5SC4W3V (AUA38D)**

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### **Features/Functions**

- Conforms to appropriate industry standards
- Improved performance with calling number delivery (CND) and calling name delivery (CNAM) services (AUA38B, C, D)
- Supports *CLASS*<sup>\*</sup> services
- Faceplate test access to tip and ring for both channels
- Faceplate BUSY LEDs
- On-hook transmission (OHT)
- No option switches
- UL<sup>†</sup> recognized

\* Service mark of Telcordia Technologies, Inc.

† Registered trademark of Underwriters Laboratories Inc.

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### **Description**

This data sheet describes the AUA38( ) (COT) POTS channel unit (CU) (COMCODE 103840559, AUA38; 106222664, AUA38B; 107187429, AUA38C, and 108041583, AUA38D) and is intended for the end-user of the unit. This data sheet is being revised to include the AUA38D CU.

The AUA38( ) channel unit is designed for 2-wire, loop-start POTS service. The unit provides two channels of service and is normally installed at the central office terminal (COT). The AUA38( ) CU has a fixed loss and furnishes a current sink interface to the central office line circuit. Forward disconnect and on-hook transmission features are provided when the AUA38( ) CU is connected to any

remote terminal (RT) POTS or SPOTS<sup>®</sup> channel unit that also supports these features.

The AUA38 and AUA38B channel units were designed prior to the January, 1993 publication of Bellcore Technical Reference TR-NWT-00057, Issue 2, "*Functional Criteria For Digital Loop Carrier Systems*". The AUA38/AUA58 pair was designed to comply with Bellcore TR-57 Issue 1. The AUA38B provides improved on-hook transhybrid loss (relative to the AUA38 CU) against the central office line circuit to better support calling number delivery (CND) and calling name delivery (CNAM) services. The AUA38B/AUA58B and AUA38B/AUA158B pairs were designed to comply with TR-57 Issue 1, and key on-hook requirements of TA-57, Issue 5. The AUA38C/AUA158C and AUA38C/AUA159C pairs were designed to comply with TR-57 Issue 2.

The AUA38D CU is a redesign of the AUA38C CU that uses surface mounted components. Functionality is unchanged, and transmission performance is essentially unchanged.

Figure 1 shows the faceplate diagram for the AUA38( ) POTS CU. Table 1 lists key transmission parameters of the AUA38, AUA38B and AUA38C channel units. Table 2 lists performance specifications of an AUA38D channel unit, with end-to-end performance based on use of an AUA158D CU at the RT end. Table 3 lists the edge connections for the AUA38( ) (COT) POTS CU.

## **Compatibility**

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The AUA38( ) channel unit is compatible with all *SLC* Series Carrier System COTs. The far-end termination can be any of the RT POTS or *SPOTS*<sup>®</sup> channel units.

## Specifications

Table 1 gives the salient electrical and transmission specifications for AUA38, AUA38B and AUA38C channel units. The parameters are off-hook unless specified otherwise. For additional transmission specifications consult Chapter 6 of 363-205-010, *SLC Series 5 Carrier System Applications and Planning Guide*.

**Table 1. AUA38, AUA38B and AUA38C CU Electrical and Transmission Specifications**

Parameter	Value
Nominal 1 kHz VF loss, CPE on-hook: AUA38 AUA38B AUA38C	1.25 dB $\pm$ 1.0 dB 1.25 dB $\pm$ 0.5 dB 1.25 dB $\pm$ 0.5 dB
Balance impedance, on-hook: AUA38 AUA38B AUA38C	High Impedance (>50K ohms) 900 ohms + 2.16 $\mu$ F 900 ohms + 2.16 $\mu$ F
DC resistance, off-hook:	1000 ohms
DC resistance, on-hook:	> 2M ohms
Structural impedance (hybrid impedance, output impedance)	900 ohms + 2.16 $\mu$ F

Table 2 gives the salient electrical and transmission specifications for the AUA38D channel unit, with end-to-end performance based on use of an AUA158D channel unit at the RT end. The parameters are off-hook unless specified otherwise.

**Table 2. Salient AUA38D Electrical and Transmission Specifications <sup>1</sup>**

Parameter	Value
1 kHz VF loss between CO and network interface (NIF) at customer location, customer premises equipment (CPE) off-hook: AUA38D	4 dB to 8 dB
1 kHz VF loss, off-hook: AUA38D	0 dB
Nominal 1 kHz VF loss, CPE on-hook: AUA38D	1.25 dB $\pm$ 0.5 dB
Return loss at COT, Reference Z = 900 ohms + 2.16 $\mu$ F. AUA158D terminated with 900 ohms + 2.16 $\mu$ F impedance and DC resistance of > 1200 ohms.	ERL > 18 dB, SRL > 10 dB
Balance impedance, on-hook and off-hook.	900 ohms + 2.16 $\mu$ F
Frequency response (loss relative to 1004 Hz, end to end)	<u>Frequency range</u> 300-3000 Hz; -0.5 dB to +1.0 dB 3200 Hz: -0.5 dB to +1.5 dB
Frequency response (loss relative to 1004 Hz, AUA38D only)	<u>Frequency range</u> 300-3000 Hz; -0.25 dB to +0.5 dB 3200 Hz: -0.25 dB to +0.75 dB
Structural impedance (hybrid impedance, output impedance)	900 ohms + 2.16 $\mu$ F
Signal-to-distortion with input of: 0 dBm0 to -30 dBm0 -30 dBm0 to -40 dBm0 -40 dBm0 to -45 dBm0	> 33 dB > 27 dB > 22 dB
Idle channel noise, end-to-end	$\leq$ 20 dBnC
60 Hz Rejection (loss relative to loss at 1004 Hz)	> 20 dB

Parameter	Value
Cross talk (0 dBm0 input, 200 Hz to 3400 Hz)	-65 dBm0
Data pulse distortion, peak-to-average ratio (P/AR), end to end AUA38D only	> 90 ≥ 94
Gain Tracking* (relative to gain at 0 dBm0) -37 dBm0 to +3 dBm0 -50 dBm0 to -37 dBm0 -55 dBm0 to -50 dBm0	± 0.5 dB max. (± 0.25 dB avg.) ± 1.5 dB max. (± 0.5 dB avg.) ± 3.0 dB max. (± 1.5 dB avg.)

\* At 1004 Hz, off-hook.

## **Installation and Testing**

There are no switches to set on this unit. Procedures for testing the unit are given in 363-205-402, *SLC Series 5 Carrier System Channel Unit Installation and Testing*.

The AUA38( ) CU is compatible with mechanized loop testing (MLT) and the pair gain test controller (PGTC) and the extended test controller (XTC) test systems.

The AUA38( ) CU is compatible with automatic line insulation (ALIT) testing.

The faceplate jack provides convenient test access to the tip (T) and ring (R) of both odd (O) and even (E) channels.

## Faceplate Features

The AUA38D (COT) POTS current sink channel unit faceplate is shown in Figure 1. Except for apparatus code labels, the faceplates of all the AUA38( ) channel units are identical. The faceplate jack provides convenient test access to the tip and ring through a channel unit faceplate test cord adapter part number 400395M, available from Telecom Assistance Group, Inc., West Berlin, New Jersey; (1-800-824-7005). The following LED indicators are located on the faceplate:

**ODD BUSY** (Red LED): The ODD channel is busy when lit.

**EVEN BUSY** (Red LED): The EVEN channel is busy when lit.

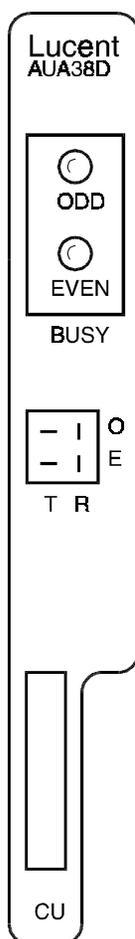


Figure 1. AUA38D Faceplate Diagram

**Table 3. Edge Connections For AUA38() (COT) POTS Channel Unit**

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<b>Finger</b>	<b>Function</b>
1	Frame Ground
13, 17, 19, 20, 21	Circuit Ground
22, 23, 25, 50	+5 Volts dc
29	Tip Even
30	Ring Even
31	Tip Odd
32	Ring Odd
49	-5 Volts DC

## References

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The following documents provide additional information about the use of this channel unit in the *SLC Series 5 Carrier System* and the *SLC-2000 Access System*:

- |             |  |
|-------------|--|
| 363-205-010 | <i>SLC Series 5 Carrier System Applications and Planning Guide</i>       |
| 363-205-402 | <i>SLC Series 5 Carrier System Channel Unit Installation and Testing</i> |

## Technical Assistance

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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-2000 Access System*. Call the Lucent Technologies Regional Technical Assistance Center at 1-800-225-RTAC.

## **Ordering Information**

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Additional copies of this document (363-005-118) are available from the Customer Information Center — call 1-888-582-3688.

## **Comments**

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Comments about this document can be directed to:

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