



SLC[®] Series 5 Carrier System

AUA75() 2WPLAR Channel Unit - AUA75 5SC1FF2AXX or AUA75B 5SC6MNGGAA

Features/Functions

- Furnishes a current feed interface to the customer loop
- Provides interface for automatic ringing between off-hook near-end and far-end station that was called

Description

The AUA75() channel unit (CU) (AUA75 COMCODE 103840963 or AUA75B COMCODE 109149914) is designed for 2WPLAR (2-wire private line point-to-point automatic ringdown) services. The AUA75() furnishes a current feed interface to the customer loop. Each CU occupies one physical slot in the channel bank, and provides two channels of service—each channel operates independently.

Figure 1 is a functional block diagram of the unit and Figure 2 shows the components and faceplate.

⇒ NOTE:

The provisioning and installation procedures for the AUA75() CU are included in this data sheet (see *Provisioning and Installation Procedures* on page 5).

The AUA75() CU provides an interface such that when a near-end calling station goes off-hook it automatically causes ringing at the far-end called station. The far-end called station rings at 2 seconds *on* and 4 seconds *off* until it is taken off-hook (answered). During the ringing, an audible ringback tone (generated by the far-end CU) is transmitted toward the calling station to alert the caller that the called station is being rung. When the called party answers (goes off-hook), ringing is tripped and a talk path is established between the two stations. At the conclusion of the call and after both stations are on-hook, the calling sequence can be repeated.

Reason for reissue

This data sheet is being reissued to include the AUA75B. The AUA75B was designed to replace the AUA75 because of discontinued components.

Compatibility

The AUA75() is compatible with feature packages B, C, D, the INA-RT (Integrated Network Access - Remote Terminal), and beyond. This unit is also compatible with POTS current sink and 2FXO CUs at the tip-ring interface. It may be configured to be end-to-end compatible with a D3 2WPLAR CU, a D4 2RD/PLAR CU optioned in the PLAR mode, or a D5 2WPLAR CU.

The same CU is used in the COT (central office terminal) and the RT (remote terminal), and is used in pairs (one COT unit communicates with one RT unit). Each CU has one four-position DIP switch:

- One position is set to correspond to the CU location, COT or RT,
- Another position selects D3 or D4 digital signaling compatibility (for both channels), and
- Two remaining positions, (one for each channel) set the channel loss to 0 dB (TRMT and RCV) or 3 dB (TRMT and RCV).

⇒ NOTE:

D4 signaling compatibility should always be selected unless this is an INA system and both channels from this CU terminate in D3 PLAR CUs in a remote D3 bank.

The option switches for the AUA75() are physically located on the printed wiring board of the CU. These switches cannot be set electronically by the CIU (craft interface unit).

Specifications

The AUA75() CU provides a voice-frequency interface with a structural impedance of 900 ohms in series with 2.16 microfarads. The balance network is also 900 ohms in series with 2.16 microfarads. On-hook transmission is provided in this unit, with on-hook transmission loss of 3 dB in both receive and transmit directions.

The AUA75() CU provides a loop-start interface to a customer station. The loop current ranges from 30 to 18 milliamperes for loops ranging from 0 to 1,750 ohms (including station set).

Circuit design guidelines are included in the AT&T 363-099-107 Information Release.

When the AUA75() is used in a COT bank, that bank must be wired to a negative superimposed ringing source.

The on-hook transmission capability has been included in the AUA75(). When station sets at both ends of the PLAR circuit are on-hook, end-to-end voiceband transmission is enabled with 3 dB of loss in both the transmit and receive directions in the AUA75(), regardless of the settings of the 0DB and -3DB switches.

Testing

Since test relays are contained in the AUA75() CU, MLT (mechanized loop test) will be able to access the PLAR circuit at the RT drop via the XTC (eXtended Test Controller). In addition to the traditional SMAS (Switched Maintenance Access System) access in the CO, SARTS (Switched Access Remote Test System) will also be able to access the PLAR circuit at the bitstream and RT drop via the XTC. The AUA75() is not channel testable (for example, diagnostics) by either the PGTC (Pair Gain Test Controller) or XTC. The AUA75() appears *POTS like* when its slot is read by the CIU or COP.

The guidelines for selecting option settings for the AUA75() CU are provided in the procedures beginning on *Testing Procedure* on page 6 of this data sheet.

Functional Block Diagram

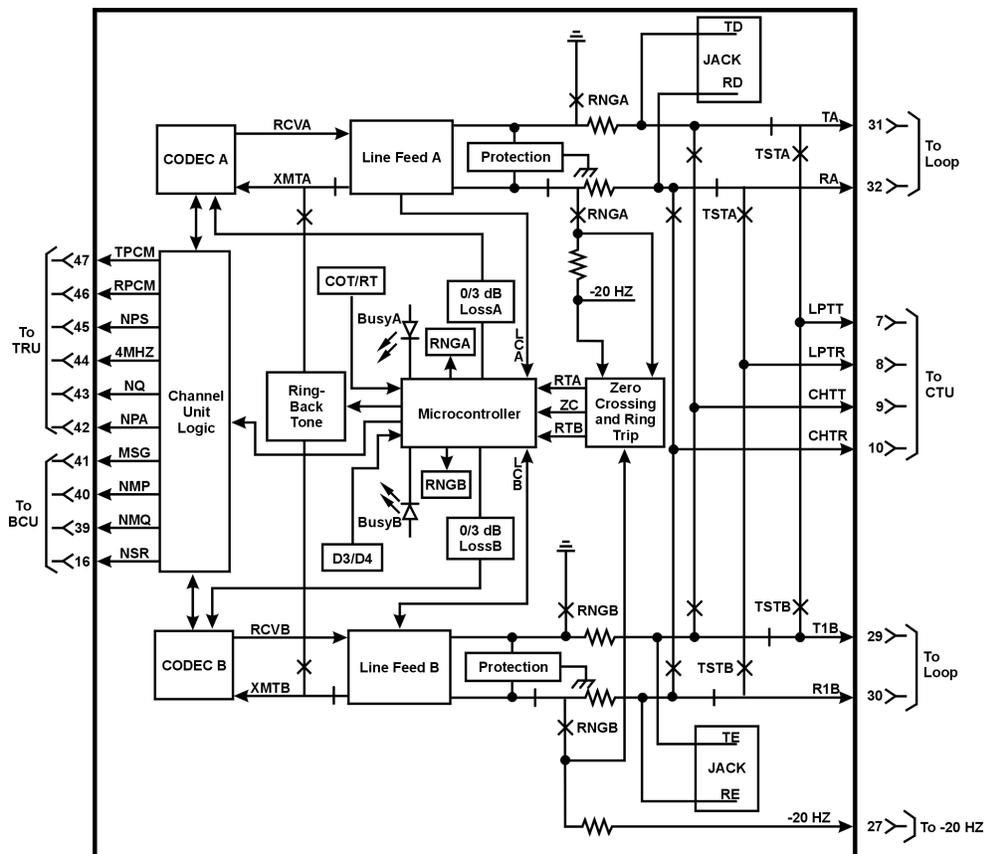


Figure 1. AUA75() Block Diagram

Components and Faceplate

Faceplate LEDs indicate specific conditions:

ODD BUSY (Red LED): When lighted, this LED indicates that the odd channel is busy.

EVEN BUSY (Red LED): When lighted, this LED indicates that the even channel is busy.

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

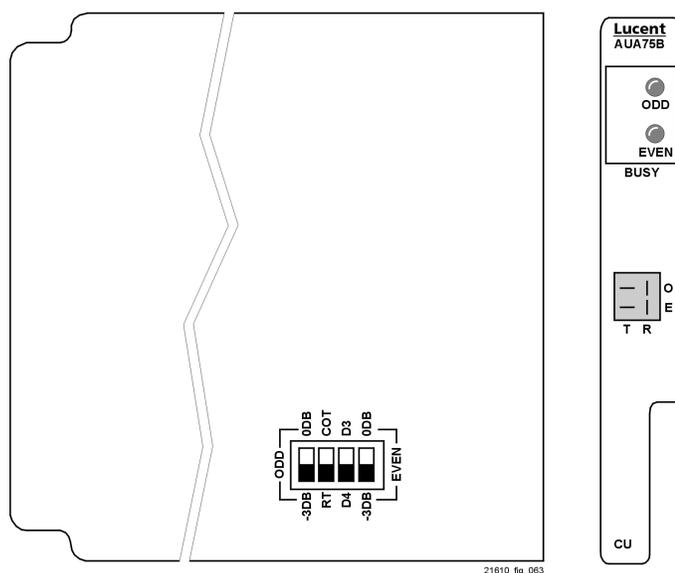


Figure 2. AUA75() Components and Faceplate

Provisioning and Installation Procedures

Dual Private Line Automatic Ringdown CU Option Switch Settings

- Step 1. Obtain one dual PLAR (private line automatic ringdown) AUA75() CU and inspect for possible damage.
- Step 2. On dual PLAR CU at COT, set option switch **COT/RT** (Figure 2) to the **COT** position.
- Step 3. On dual PLAR CU at COT, set option switch **D3/D4** (Figure 2) to the **D4** position.
- Step 4. On dual PLAR CU at RT, set option switch **COT/RT** (Figure 2) to the **RT** position.
- Step 5. On dual PLAR CU at RT, set option switch **D3/D4** (Figure 2) to the **D4** position unless this is an INA (Integrated Network Access) system and both channels from this CU terminate in D3 PLAR CUs in a remote D3 bank.
- Step 6. On dual PLAR CU, set option switch **ODD** (Figure 2) to **0DB** or **-3DB** to agree with WORD document or facility record for the odd channel. Set option switch **EVEN** (Figure 2) to **0DB** or **-3DB** to agree with WORD document or facility record for the even channel.

Stop! End of Procedure.

Testing Procedure

Test AUA75() Private Line Automatic Ringdown Channel On Universal System

Summary

This procedure tests the AUA75() automatic ringdown channel for transmission performance and proper ringing operation between COT and RT.

⇒ NOTE:

The 52A CU test extender can be used to get access to the T/R leads of the CUs under test but it is not required. If it is used, the **BATTERY FEED /HOLD FUNCTION** switch should be set to the **OFF** position.

- Step 1. Establish communication between central office and remote terminal.
- Step 2. Verify that the COT and RT CUs are provisioned properly. If necessary, provision the AUA75() COT and RT CUs (see *Provisioning and Installation Procedures* on page 5).
- Step 3. At the COT temporarily connect a telephone set to the T/R of the selected channel (Figure 3). This can be done using the special test cord (COMCODE 405525809) inserted in the face plate jack of the CU.

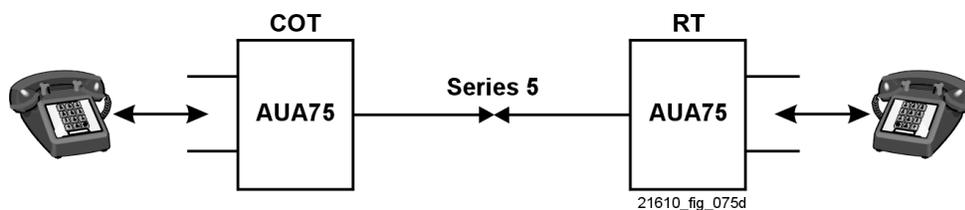


Figure 3. Test Arrangement For Ringing/Talking Tests

- Step 4. At the RT temporarily connect another telephone set to the T/R of the selected channel. This can be done either at the faceplate jack using the special test cord or at the protector block.
- Step 5. The following steps are used to test the automatic ringdown and talking capabilities of the AUA75() CU. All steps are to be completed in the sequence given before proceeding.

IF..	THEN..
all Steps are completed in sequence with YES	proceed to Step 7
any Step is completed with NO	go to Step 6

- a. Pick up the COT phone. Does the RT telephone ring normally (2 sec. *on*, 4 sec. *off*)?
 - b. Is audible ringback tone heard in COT phone?
 - c. Answer RT phone. Is talking between RT and COT phones acceptable?
 - d. Hang up just the COT phone (do *not* hang up RT phone). Does COT phone *not* ring?
 - e. Lift up COT phone after about 30 seconds. Is talking re-established between COT and RT, and is it acceptable?
 - f. Hang up just the RT phone (do *not* hang up COT phone). Does RT phone *not* ring?
 - g. Lift up RT phone after about 30 seconds. Is talking re-established between COT and RT, and is it acceptable?
 - h. Hang up both phones.
 - i. Pick up the RT phone. Does the COT phone ring normally (2 sec. *on*, 4 sec. *off*)?
 - j. Is audible ringback tone heard in RT phone?
 - k. Answer COT phone. Is talking between RT and COT phones acceptable?
 - l. Hang up both phones.
- Step 6. The following items may be used to clear trouble. If the first item does not clear the trouble, try the remaining items in sequence until trouble is cleared and all substeps of Step 5 are completed in sequence from start to finish, then proceed to Step 7.
- a. Check to make sure the test telephone is properly connected to the COT channel under test. Correct wiring problems and repeat all substeps in Step 5.
 - b. Check to make sure the test telephone is properly connected to the RT channel under test. Correct wiring problems and repeat all substeps in Step 5.
 - c. Check provisioning of both COT and RT CUs.
 - d. Check that the ringing supply is properly connected and operating at the COT bank. Then repeat all substeps in Step 5.
 - e. Check that the ringing supply is operating properly at the RT. Then repeat all substeps in Step 5.
 - f. Replace COT CU (provision the new CU, Step 2, to match the unit being replaced), reconnect the telephone set to the channel under test and repeat all substeps in Step 5.
 - g. Replace RT CU (provision the new CU, Step 2, to match the unit being replaced), reconnect the telephone set to the channel under test and repeat all substeps in Step 5.
- Step 7. Remove all previous connections.
- Step 8. At the COT and RT, connect a TMS (Transmission Measuring Set) to the T/R faceplate jack on the AUA75() for the circuit being turned up (Figure 4).

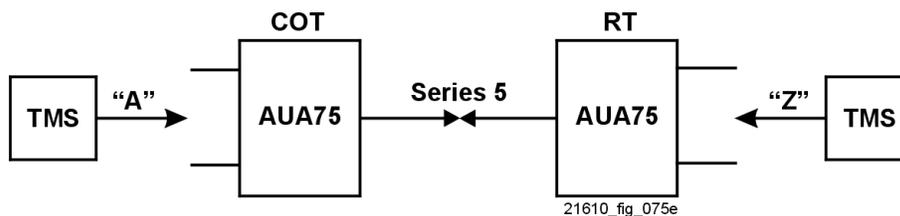


Figure 4. Test Arrangement For Transmission Measurements

Step 9. The following steps are based on A-Z direction being from the COT toward the RT. If the WORD defines this as Z-A, read A-Z as Z-A in steps that follow.

Step 10. Condition TMS at COT to send TRMT (GN) dBm level (at 1 kHz):

- a. Set impedance to 900 ohms
- b. Set **TRMT LEVEL** to TRMT (GN) value from WORD.

Step 11. Condition TMS at RT to measure gain from COT to RT:

- a. Set impedance to 900 ohms
- b. Set to read **RCV LEVEL** from TMS.

Step 12. Send tone through COT and RT CUs and measure level at the RT. Does TMS indicate RT level specified on the WORD ± 1.0 dB?

IF..	THEN..
YES	proceed to Step 14
NO	go to Step 13

Step 13. The following items may be used to clear trouble. If the first item does not clear the trouble, try remaining items in sequence until the correct level is obtained, then continue with Step 14.

- a. Verify CU provisioning at the COT and RT and adjust if required.
- b. Replace COT CU (provision the new CU, Step 2, to match the unit being replaced), reconnect TMS and repeat from Step 12
- c. Replace RT CU (provision the new CU, Step 2, to match the unit being replaced), reconnect TMS and repeat from Step 12.

Step 14. Condition TMS at RT to send TRMT (GN) dBm level (at 1 kHz):

- a. Set impedance to 900 ohms
- b. Set **TRMT LEVEL** to TRMT (GN) value from WORD.

Step 15. Condition TMS at COT to measure gain from RT to COT:

- a. Set impedance to 900 ohms
 - b. Set to read **RCV LEVEL** from TMS.
- Step 16. Send tone through RT and COT CUs and measure level at the COT. Does TMS indicate COT level specified on the WORD ± 1.0 dB?

IF..	THEN..
YES	proceed to Step 18
NO	go to Step 17

Step 17. The following items may be used to clear trouble. If the first item does not clear the trouble, try remaining items in sequence until the correct level is obtained, then continue with Step 18.

- a. Verify CU provisioning at the RT and COT and adjust if required.
- b. Replace RT CU (provision the new CU, Step 2, to match the unit being replaced), reconnect TMS and repeat from Step 17.
- c. Replace COT CU (provision the new CU, Step 2, to match the unit being replaced), reconnect TMS and repeat from Step 17.

Step 18. From customer location to customer location verify TLPs specified on WORD. If the correct levels are not obtained, check the cable pair from RT to the customer location, then check the cable pair from COT to the customer location. The TMS should be set to 900 ohms impedance for these measurements.

Stop! End of Procedure.

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 Regional Technical Assistance Center at 1-800-225-RTAC.

Ordering Information

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