
SLC[®] Series 5 Carrier System

AUB30 Automated Channel Test Unit — 5SCD21H

This data sheet describes the AUB30 automated channel test unit (ACTU) (COMCODE 103841276) and is intended for the end-user of the unit. The AUB30 ACTU is used in the SLC[®] Series 5 remote terminal (RT). When used with the proper bank controller (BC) firmware, the AUB30 ACTU provides varied capabilities within the dual bank to test POTS, SPOTS[®], E SPOTS, and 4-wire channel units (CUs).

⇒ NOTE:

Although functionally equivalent to the AUB25 channel test unit (CTU), the AUB30 ACTU is not a direct replacement of the AUB25 CTU.

Table 1 lists the backplane pin number identifications for the AUB30 ACTU, and Table 2 lists connector pin number identifications. Figure 1 is a functional block diagram of the AUB30 ACTU, and Figure 2 shows the faceplate.

When commanded by the BC firmware, the AUB30 ACTU can autonomously or in conjunction with a pair gain test controller (PGTC) perform the following tests.

- a. *Power-up tests* — initiated on CU powerup. Upon sensing powerup, the BC will request a power-up test of all of the channels serviced by that CU. The AUB30 ACTU will verify the functionality of that CU and return the results to the BC. The test results can be displayed on the AUA8 system display unit (SDU) or sent to the Operations Interface (OI) on request. The OI can request a power-up test on demand.

b.  **NOTE:**

Channel unit inventory data can be corrupted if channel units are installed or removed when the ACTU is *not* present.

Type tests — performed to distinguish among POTS-type CUs. When POTS-type CUs are installed and the BC reads their common identification (ID) code, the BC commands the ACTU to do a type test to complete the identification. The test result allows the ACTU to later conduct the proper verification test of CU performance, and the BC to return the correct apparatus code upon inventory polling by the OI. The category of CU that results in type testing includes POTS, POTS/*SPOTS*, ringing repeater, and private line auto ring (PLAR) CUs used in the RT.

- c. *Demand tests* — performed by an outside test controller (other than the AUB30), using the termination and signaling networks of the AUB30 ACTU. This includes testing by the PGTC, mechanized loop testing (MLT), craft interface unit (CIU), or loop test translator (LTT). In this mode, the AUB30 ACTU provides the external interface for the CIU or LTT to obtain metallic or digital test access on a channel unit. However, the actual digital test access is provided by the digital test unit (DTU).
- d. *Routine tests* — a means of verifying the functionality of up to an entire bank. With one request from the BC, the AUB30 ACTU can verify the functionality of every channel in the bank. When testing of the entire bank is complete, the set of results is returned to the BC for display on the AUA8 SDU or for forwarding to the operations center. To prevent customer service interruption, the AUB30 ACTU periodically checks the channel for activity — testing is continued if idle. If the channel is in use, testing on that channel is stopped and continued later.

In a dual bank environment, testing is offered on a first-come/first-served basis. Either bank can request any of the testing activities, which will be performed unless a test of equal or higher priority is already under way. The high priority tests are *power-up testing*, *type testing*, and *demand testing* — *routine testing* has a low priority. While performing routine tests, a power-up type or demand test request will cause the routine test to pause; the new test will be performed; and the routine test will continue from where it paused. During demand test, the CIU or LTT may gain access to the test bus of the bank that is not already testing.

The AUB30 ACTU verifies the channel unit's functionality during *power-up* and *routine testing* by exercising the channel unit's signaling circuits and by measuring hybrid balance, idle noise in the transmit direction, and the sum of the transmit and receive gains (losses). Test access to the metallic side of the channel unit is obtained by operating the unit's test relay — access to the line side is obtained using the digital test unit (DTU). To perform *type testing*, the ACTU exercises the POTS-type channel units in various ways that evoke distinct responses, in some cases using a process of elimination to complete the identification.

Table 1 lists the backplane pin number identifications. The pinouts correspond to the lower-right position of an RT dual bank [to the right of the blue bank alarm display unit (ADU)].

The LED indicators located on the faceplate of the AUB30 ACTU provide the following functions.

FAIL (Red LED) — When lighted, this LED indicates a failure has been identified at the AUB30 ACTU. This failure could have been detected by the BC or by the AUB30 ACTU.

BUSY (Green LED) — When lighted, this LED indicates that a circuit test is being performed using this AUB30 ACTU.

WHITE (Yellow LED) — When lighted, this LED indicates that due to a stuck relay the white (upper) bank has a polluted test bus.

BLUE (Yellow LED) — When lighted, this LED indicates that due to a stuck relay the blue (lower) bank has a polluted test bus.

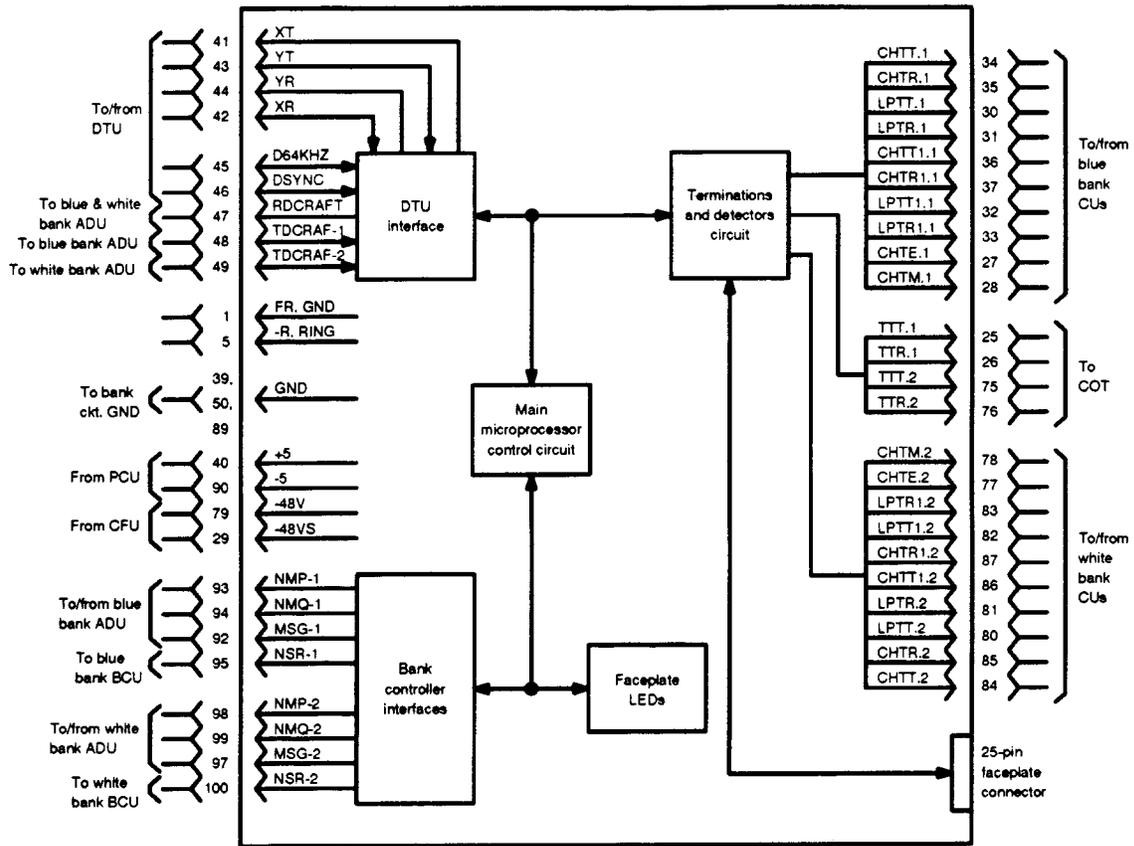
TEST ACCESS (Faceplate-mounted connector) — This faceplate-mounted 25-pin connector (see Table 2) is used by the CIU to gain access to both metallic test buses and digital test buses on the CTU. Also, this connector provides the data link interface between the CIU and either BC in the dual bank.

Table 1. AUB30 ACTU Backplane Pin Number Identification

| Pin # | Pin Name | Function | Pin # | Pin Name | Function |
|-------|----------|-----------------|-------|----------|-----------------|
| 1 | FR | Frame ground | 49 | TDCRAF-2 | Data to CIU |
| 5 | -R.Ring | Ringing voltage | 50 | GND | Ground |
| 25 | TTT.1 | Test bus | 75 | TTT.2 | Test bus |
| 26 | TTR.1 | Test bus | 76 | TTR.2 | Test bus |
| 27 | CHTE.1 | Metallic access | 77 | CHTE.2 | Metallic access |
| 28 | CHTM.1 | Metallic access | 78 | CHTM.2 | Metallic access |
| 29 | -48VS | Power | 79 | -48V | Power |
| 30 | LPTT.1 | Metallic access | 80 | LPTT.2 | Metallic access |
| 31 | LPTR.1 | Metallic access | 81 | LPTR.2 | Metallic access |
| 32 | LPTT1.1 | Metallic access | 82 | LPTT1.2 | Metallic access |
| 33 | LPTR1.1 | Metallic access | 83 | LPTR1.2 | Metallic access |
| 34 | CHTT.1 | Metallic access | 84 | CHTT.2 | Metallic access |
| 35 | CHTR.1 | Metallic access | 85 | CHTR.2 | Metallic access |
| 36 | CHTT1.1 | Metallic access | 86 | CHTT1.2 | Metallic access |
| 37 | CHTR1.1 | Metallic access | 87 | CHTR1.2 | Metallic access |
| 39 | GND | Ground | 89 | GND | Ground |
| 40 | +5 | Power | 90 | -5 | Power |
| 41 | XT | PCM access | 92 | MSG-1 | BC link |
| 42 | XR | PCM access | 93 | NMP-1 | BC link |
| 43 | YT | PCM access | 94 | NMQ-1 | BC link |
| 44 | YR | PCM access | 95 | NSR-1 | BC link |
| 45 | D64KHZ | Data link clock | 97 | MSG-2 | BC link |
| 46 | DSYNC | 333 Hz or 8 kHz | 98 | NMP-2 | BC link |
| 47 | RDCRAFT | Data from CIU | 99 | NMQ-2 | BC link |
| 48 | TDCRAF-1 | Data to CIU | 100 | NSR-2 | BC link |

Table 2. AUB30 ACTU Connector Pin Number Identification

| <u>Pin #</u> | <u>Pin Name</u> | <u>Function</u> | <u>Pin #</u> | <u>Pin Name</u> | <u>Function</u> |
|--------------|-----------------|-----------------|--------------|-----------------|-----------------|
| 1 | LPTT1 | Metallic access | 13 | CKT.GND | Ground |
| 2 | LPTR | Metallic access | 14 | LPTR1 | Metallic access |
| 3 | LPTT | Metallic access | 15 | CHTT | Metallic access |
| 4 | CHTM | Metallic access | 16 | CHTR | Metallic access |
| 5 | CHTE | Metallic access | 17 | CHTT1 | Metallic access |
| 6 | NC | | 18 | CHTR1 | Metallic access |
| 7 | CKT.GND | Ground | 19 | FR.GND | Frame ground |
| 8 | RD | Data from CIU | 20 | TD | Data to CIU |
| 9 | SYNC | 333 Hz or 8 kHz | 21 | CKT.GND | Ground |
| 10 | CKT.GND | Ground | 22 | 64 kHz | Data link clock |
| 11 | YT | PCM access | 23 | YR | PCM access |
| 12 | XR | PCM access | 24 | CKT.GND | Ground |
| | | | 25 | XT | PCM access |



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Figure 1. AUB30 ACTU Block Diagram



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Figure 2. AUB30 ACTU Faceplate

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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