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## ***SLC*<sup>®</sup> -2000 Access System**

### ***SPQ*<sup>®</sup> 450 (RT) ALIC5 Channel Unit - SAC1AAD**

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#### **Features/Functions**

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- Compatible with universal voice grade (UVG) requirements
- Automatic loss compensation (ALC)
- Automatically provides ground- or loop-start service
- Automatically provides POTS or special service loss profile
- Enables pre-cutover testing with *5ESS*<sup>®</sup> switch and *SLC*<sup>®</sup>-2000 remote terminal (RT) bridged to working circuit
- Conforms to appropriate industry standards
- Supports calling number delivery (CND) and calling name delivery (CNAM) services
- On-hook transmission (OHT)
- Supports *CLASS*\* services
- Fast forward disconnect
- No option switches
- Faceplate test access to tip and ring for each channel
- Faceplate BUSY LED for each channel.

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\* Service mark of Bell Communications Research, Inc.

## Description

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The *SPQ450* ALIC5 channel unit (COMCODE 107001596) is designed for 2-wire POTS and locally-switched special services. The *SPQ450* allows for a benign bridging of the *SLC-2000* RT to in-service circuits on the 1A *ESS*<sup>™</sup> analog switch in preparation for the transfer of the circuits to a *SLC-2000* RT integrated into a *5ESS* switch. The *SPQ450* provides four channels of service and is located at the remote terminal (RT). It is equipped with ALC which adds loss when connected to shorter loops. This feature optimizes the loss level for ranges of metallic extensions up to 900 ohms for POTS, or across the carrier serving area (CSA) for locally-switched special services. If a digital loop carrier (DLC) system is replacing long metallic loops, the ALC feature minimizes the loss contrast experienced on cutover. The *SPQ450* furnishes a current feed interface to the customer loop and provides a fast forward disconnect feature [the RT disconnects when the central office (CO) open battery interval is longer than 50 ms]. The selection of the POTS or special services loss profile is determined by the far-end channel unit or provisioning of the digital line unit. If the special services loss characteristics shown in Table 1 are desired for a loop-start circuit (for example, CO Centrex), the CO termination must generate signaling equivalent to a *SPOTS*<sup>®</sup> channel unit.

The *SPQ450* facilitates the cutover of metallic circuits served by a 1A *ESS* analog switch to a DLC system integrated into a *5ESS* switch. Prior to the cut, a relay on the *SPQ450* CU is kept open by *5ESS* signaling to prevent loading of the in-service circuit. During the pre-cutover period, the *5ESS* switch can momentarily close the relay to conduct automated office-to-office tests. At switch cutover, the *5ESS* switch signals the *SPQ450* to permanently close the relay.

The *SPQ450* stores in nonvolatile memory an inventory record (including its 10-character *CLEI*<sup>\*</sup> code) available for reading by a compatible operations support system (OSS).

## Compatibility

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The *SPQ450* is compatible with all current and planned releases of the *SLC-2000* Access System. Its intended use is in a cutover from an analog switch to a Mode 1 *SLC-2000* RT integrated into a *5ESS* switch digital carrier line unit (DCLU) or integrated digital carrier unit (IDCU). The *SPQ450* is compatible with on-hook transmission services such as CND, CNAM, and meter reading.

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\* COMMON LANGUAGE is a registered trademark and CLEI, CLLI, CLCI, and CLFI are trademarks of Bell Communications Research, Inc.

## Specifications

Table 1 lists specifications that supplement or highlight the information found in Chapter 4 of AT&T 363-208-000, Issue 2 or later.

**Table 1.** *SPQ450* Electrical and Transmission Specifications

<b>Parameter</b>	<b>POTS</b>	<b>Special Services</b>
Loop resistance (excluding telset)	0 to 900 $\Omega$	CSA
1 kHz VF loss between CO and network interface (NIF) at customer location, customer premises equipment (CPE) off-hook	4 to 8 dB	2 to 5 dB
1 kHz VF loss, <i>SPQ450</i> only, CPE off-hook:		
0 $\Omega$ tip-to-ring	6.0 dB	3.4 dB
Maximum loop resistance	1.4 dB	0 dB
1 kHz VF loss, <i>SPQ450</i> only, CPE on-hook:		
0 $\Omega$ tip-to-ring	9.5 dB	9.5 dB
Maximum loop resistance	5 dB	6 dB
Return loss at COT (reference Z of 900 $\Omega$ + 2.16 $\mu$ F, <i>SPQ450</i> terminated at voice frequencies with 900 $\Omega$ + 2.16 $\mu$ F for POTS or TR-57 CSA test loops for special services, DC resistance of loop terminations < 430 $\Omega$ , CPE on-hook or off-hook)	ERL > 18 dB SRL > 10 dB	ERL > 10 dB SRL > 5 dB
Return loss at RT (reference Z of 600 $\Omega$ + 2.16 $\mu$ F, CO terminated with 900 $\Omega$ + 2.16 $\mu$ F, DC resistance of 0 $\Omega$ , CPE on-hook or off-hook)	ERL > 18 dB SRL > 10 dB	ERL > 19 dB SRL > 11 dB

## Installation and Testing

There are no switches to set on this unit. Table 2 shows the edge connector input/output (I/O). Procedures for testing the unit are given in AT&T 363-208-001.

The *SPQ450*, in all its applications, is compatible with mechanized loop testing (MLT) and the pair gain test controller (PGTC) and extended test controller (XTC) test systems.

The faceplate jack provides easy test access to the tip (T) and ring (R) of all four channels through the ITT RTG16L2H15A channel unit faceplate test cord (COMCODE 405755208).

**Table 2.** *SPQ450* Edge Connector Input/Output (I/O)

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<b>Function</b>	<b>Finger(s)</b>
4 MHz Clock	44
+5 Volt	22,23,25, and 50
-5 Volt	49
GND	1, 13, 17, 20, and 21
Receive PCM	46
Transmit PCM	47
Ring A	32
Ring B	30
Tip A	31
Tip B	29

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## **Faceplate Features**

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Figure 1 shows the *SPQ450* faceplate. Faceplate features include a test access jack to the tip and ring and two faceplate LEDs.

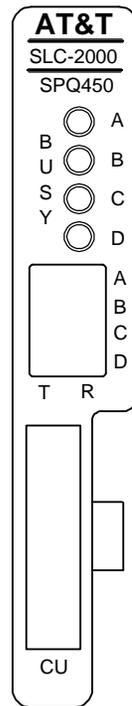
**A BUSY** (Red LED): The A channel (channel 1) is busy when lit.

**B BUSY** (Red LED): The B channel (channel 2) is busy when lit.

**C BUSY** (Red LED): The C channel (channel 3) is busy when lit.

**D BUSY** (Red LED): The D channel (channel 4) is busy when lit.

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spq450face.ps

Figure 1. SPQ450 Faceplate

## References

The following documents provide additional information about the SLC<sup>®</sup>-2000 Access System:

- AT&T 363-208-000 *SLC-2000 Access System Application, Planning, and Ordering Guide*
- AT&T 363-208-001 *SLC-2000 Access System User/Service Manual*
- AT&T 363-208-003 *SLC-2000 Access System Command and Message Manual*

## **Technical Assistance**

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Follow local procedures for obtaining technical assistance. AT&T also provides in-hours or emergency out-of-hours help for the SLC-2000 Access System. Call the AT&T Regional Technical Assistance Center at **1-800-225-RTAC**.

## **Ordering Information**

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Additional copies of this document (AT&T 363-005-384) are available from the Customer Information Center — call 1-800-432-6600.

## **Comments**

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Comments about this document can be directed to:

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