



---

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

### **SPQ<sup>®</sup> 340 (COT) Quad SPOTS<sup>®</sup> Channel Unit — SAC1ADF**

---

#### **Features/Functions**

---

- compatible with universal voice grade (UVG) requirements in TR-NWT-000057
- automatic ground- or loop-start service
- unique keying to prevent erroneous insertion in shelf
- can be bridged to metallic facilities
- compatible with *CLASS*<sup>\*</sup> services
- compatible with line side answer supervision (LSAS)
- compatible with calling number delivery (CND) and calling name delivery (CNAM) services
- faceplate test access to tip and ring for four channels
- faceplate BUSY LED indicators
- no option switches
- inventory information (for example, *CLEI*<sup>†</sup> code, date of manufacture, etc.)
- conforms to appropriate industry standards

---

\* Service mark of Bell Communications Research, Inc.

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

## Description

---

The *SPQ*<sup>®</sup>340 *SPOTS* channel unit (CU) (COMCODE 107049694) is designed for 2-wire, locally-switched loop- and ground-start service with on-hook transmission and line-side answer supervision (LSAS). This unit provides four channels of service and is usually located at the central office terminal (COT).

The *SPQ*340 CU furnishes a current sink interface to the switch and supports a fast-forward disconnect feature (the RT disconnects when the CO open battery interval is longer than 50 ms). The *SPQ*340 has hardened interfaces which may be bridged to metallic facilities. In addition, the *SPQ*340 is fully compatible with floating batteries and does not require the ground-reference option of the *5ESS*<sup>®</sup> electronic switch. When overall circuit transmission conditions permit, the *SPQ*340 can be used in a *SLC*-2000 Access System RT for off-premises applications. Generally accepted choices for off-premises station (OPS) applications are the *ESLOTS* CU pairs [dual channel *AUA*42( ) and *AUA*43( )] or the impending quad channel CUs (*SPQ*442 and *SPQ*443).

The *SPQ*340 CU stores in nonvolatile memory an inventory record (including the 10-character *CLEI* code) available for reading by a compatible operations support system (OSS).

## Compatibility

---

The *SPQ*340 CU is compatible with all current and planned releases of the *SLC*<sup>®</sup>-2000 Access System. The far-end termination can be an *SPQ*400 (loop-start service only) or *SPQ*440( ) CU. When the far-end unit is a *SPQ*440( ), that Cu adopts a low loss auto level compensation profile that is compatible with universal voice grade (UVG) requirements in TR-NWT-000057.

## Specifications

Table 1 lists the applicable electrical and transmission specifications and Table 2 lists the environmental specifications for the *SPQ340* CU.

**Table 1. *SPQ*<sup>®</sup> 340 CU Applicable Electrical and Transmission Specifications (Note)**

Parameter	Value	
	POTS ( <i>SPQ400</i> at RT)	Special Services [ <i>SPQ440</i> ( ) at RT]
VF loss, off-hook, between CO and network interface (NIF) at customer location	4 to 8 dB	2 to 5 dB
Nominal 1000 Hz loss ( <i>SPQ340</i> only)	0 dB	0 dB
VF loss, on-hook, between CO and NIF at customer location		
<i>SPQ440</i> at RT	9 to 13 dB	7 to 12 dB
<i>SPQ440B</i> at RT	9.5 to 13 dB	9.5 to 12 dB
Nominal loss, on-hook ( <i>SPQ340</i> only)	1.5 dB	1.5 dB
Return loss at RT [reference Z of 900 $\Omega$ +2.16 $\mu$ F, terminated with 900 $\Omega$ +2.16 $\mu$ F for <i>SPQ400</i> or TR-57 CSA test loops for <i>SPQ440</i> ( )]	ERL > 18 dB SRL > 10 dB	ERL > 10 dB SRL > 5 dB
Return loss at RT (reference Z of 900 $\Omega$ +2.16 $\mu$ F, CO terminated with 900 $\Omega$ +2.16 $\mu$ F)	ERL > 22 dB SRL > 14 dB	ERL > 22 dB SRL > 14 dB

*Continued on next page*

**Table 1. SPQ® 340 CU Applicable Electrical and Transmission Specifications (Note) — Continued**

Parameter	Value POTS and Special Services [SPQ 400 or SPQ 440( ) at RT]
Output impedance (structural impedance, hybrid impedance)	900 Ω +2.15 μF
Minimum longitudinal balance (measured by IEEE Method 455-1976)	200 to 1000 Hz: ≥58 dB 3000 Hz: ≥53 dB
Idle channel noise, end-to-end	≤20 dBmC
Frequency response (loss relative to 1004 Hz) End to end	300 to 3000 Hz: -0.5 to +1 dB 3200 Hz: -0.5 to +1.5 dB
SPQ® 340 only	300 to 3000 Hz: -0.25 to +0.5 dB 3200 Hz: -0.25 to +0.75 dB
60-Hz reflection	> 20 dB
Crosstalk (0 dBm0 input, 200 to 3400 Hz)	≤ -65 dBm0
Impulse noise at a threshold of 47 dBmC0 for 15 minutes	≤15 counts
Data pulse distortion (PAR) End to end	> 90
SPQ340 only	≥94
Single frequency distortion with input of: 0 Hz to 12 kHz, 0dBm0 1004 Hz to 1020 kHz, 0dBm0	< -28 dBm0 at 0 Hz to 12 kHz < -40 dBm0 at 0 Hz to 4 kHz
Signal to distortion with input of: 0 to -30 dBm0 -30 to -40 dBm0 -40 to -45 dBm0	> 33 dB > 27 dB > 22 dB
System generated tones 0 Hz < f < 16 kHz	< -50 dBm0
Gain tracking at 1004 Hz, relative to 0 dBm0 -37 to +3 dBm0 -50 to -37 dBm0	±0.5 dB max (±0.25 dB average) ±1.5 dB max (±0.5 dB average)

**Note:** Off hook unless specified. End-to-end performance with a SPQ400 or SPQ440( ) in the RT.

**Table 2. SPQ® 340 CU Environmental Specifications****Temperature Range (Ambient)**

Operating	-40° to 85°C (-40° to 185°F)
Storage	-40° to 85°C (-40° to 185°F)

**Relative Humidity, Noncondensing**

5 to 95 %

**Installation and Testing**

There are no switches to set on this unit. Procedures for testing the unit are given in AT&T 363-208-001, *SLC-2000 Access System, User/Service Manual*.

The SPQ340 CU is compatible with mechanized loop testing (MLT), 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 channels (A, B, C, and D) through the ITT RTG16L2H15A channel unit faceplate test cord (COMCODE 405755208).

**Faceplate Features**

Figure 1 shows the SPQ340 CU faceplate. The edge connections are listed in Table 3. Faceplate features include the following busy LED indicators.

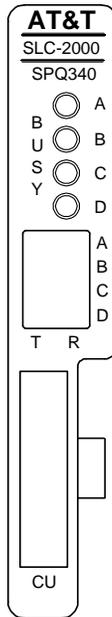
BUSY A (Red LED indicator). When lighted, the A channel (channel 1) is busy.

BUSY B (Red LED indicator). When lighted, the B channel (channel 2) is busy.

BUSY C (Red LED indicator). When lighted, the C channel (channel 3) is busy.

BUSY D (Red LED indicator). When lighted, the D channel (channel 4) is busy.

Also, the faceplate features test jack access to tip and ring through the ITT RTG16L2H15A channel unit faceplate test cord (COMCODE 405755208).



tpaSPQ340-01

**Figure 1. SPQ 340 CU Faceplate**

**Table 3. SPQ 340 CU Edge Connections**

<u>Finger #</u>	<u>Function</u>
1	Frame ground
2	Ringling ground
3	T (channel 3)
4	R (channel 3)
5	T (channel 4)
6	R (channel 4)
17, 20, 21	Circuit ground
22, 23, 25, 50	+5 volts DC
26	Office battery
27	Ringling
29	T (channel 2)
30	R (channel 2)
31	T (channel 1)
32	R (channel 1)
49	-5 volts DC

---

## References

---

Use the following documents to obtain additional information about the SLC-2000 Access System.

AT&T 363-208-000 *SLC-2000 Access System, Applications, 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

---

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

---

Call the Customer Information Center at 1-800-432-6600 to get additional copies of this document (AT&T 363-005-381).

---

## Comments

---

Send comments about this document to:

AT&T Network Systems Customer Education and Training  
Documentation Services  
2400 Reynolda Road  
Winston-Salem, NC 27106-4606

---

## Copyright Information

---

Copyright © 1994 AT&T. All Rights Reserved.

This material is protected by the copyright laws of the United States and other countries. It may not be reproduced, distributed, or altered in any fashion by any entity including other AT&T business units or divisions without the expressed written consent of the Customer Education and Training Organization.

For permission to reproduce or distribute, please call 908-949-3702.