SLC ®-2000 MSDT

SPQ ® 809 (HDT) MSDT Server 12 or 24 DS0 — 5SCF40JCAA

Introduction

This data sheet describes the *SPQ* ®809 Multi-Services Distant Terminal (MSDT) Server (COMCODE 107534984) and is intended for the end-user of the unit. The *SPQ*809 MSDT is designed to support the *SLC* ®-2000 MSDT used in *SLC*-2000 Access Systems featuring Fiber in the Loop (FITL).

The *SPQ*809 MSDT Server transports customer time slots and control information between the *SLC*-2000 host digital terminal (HDT) system's metallic distribution shelf (MDS) assembly backplane and the transport equipment connected to a *SLC*-2000 MSDT.

The *SPQ*809 MSDT Server supercedes the *SPQ*808 MSDT Server with an enhanced feature set. It is also backward compatible with the *SPQ*808 MSDT Server. The feature set includes the following:

- TR-303 basic service

- Software downloading for future upgradable features

- TR-303 ISDN BRI 2B+D service

- Enhanced MSDT system alarms

- TR-303 metallic circuit testing

- TR-303 ISDN metallic circuit testing

- MSDT inventory retrieval

- Server/MSDT link performance monitoring.

To use any of these features, the MSDT must contain the MC97793A1 downloadable backplane interface unit (BIU). If the MSDT contains any other version of BIU, then the *SPQ*809 functions as an *SPQ*808 server. Also, to use the circuit testing features listed above, the MSDT must contain an AUA411B channel and drop test unit (CDTU).

Physical and Functional Description

The *SPQ*809 MSDT Server is a double-width unit comprised of two circuit boards joined together with one common faceplate. It occupies two adjacent channel unit slots in the MDS assembly at the host digital terminal (HDT). Figure 1 shows the faceplate and the location of the option strap and switches.

The *SPQ*809 MSDT Server is always located in an MDS assembly at the HDT. It provides 12 or 24 channels of service at the 1.544 Mb/s rate to a single MSDT. On the loop side, the *SPQ*809 MSDT Server interfaces to either an optical unit (OU) using a balanced EIA-422 interface or a T1 line using a DSX format.

An option switch on the circuit pack selects either the EIA-422 interface to support fiber optics transport to the MSDT or a DSX-1 interface. The DSX-1 option is used when the MSDT is connected to the HDT over a T1 carrier facility, or a higher rate multiplexer. In T1 carrier applications, the DSX-1 interface is wired to an external (Telco provided) T1 office repeater unit that provides the interface to the T1 facility.
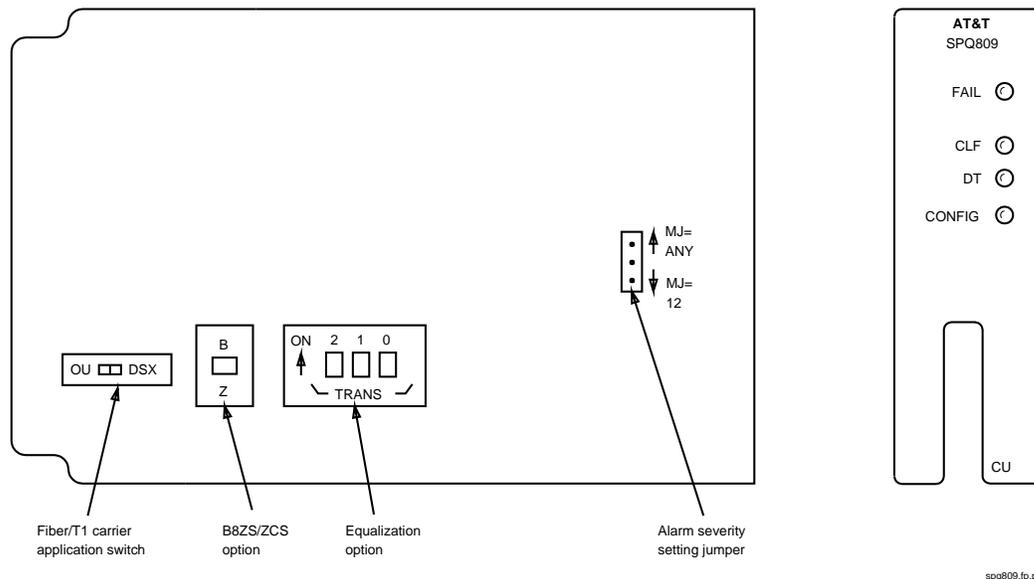
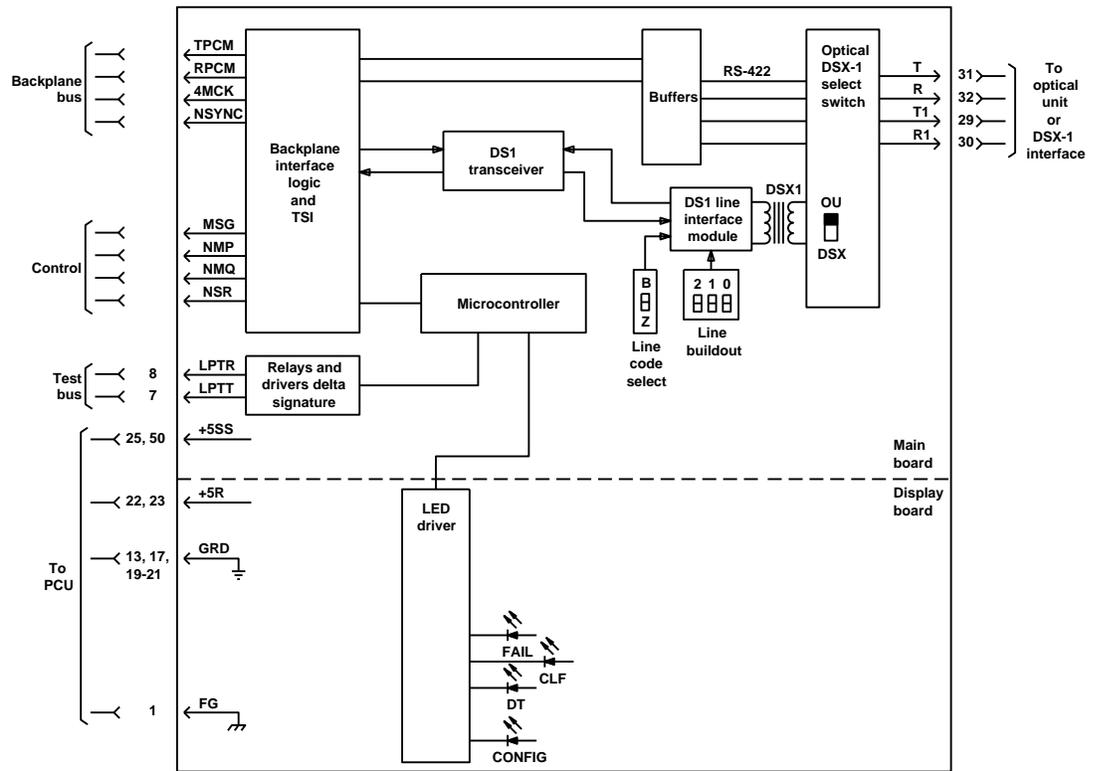**Figure 1.** *SPQ***809 MSDT Server**

Figure 2 shows a functional block diagram of the unit.

In the transmit direction (toward the MSDT), the *SPQ*809 MSDT Server accepts either twelve or twenty-four time slots from the *SLC*-2000 system backplane. The time slots are scrambled and rate-converted to a 1.544 Mb/s bit stream. The 1.544 Mb/s bit stream is fed to the OU using a balanced line driver.

The signal received from the OU is converted from a balanced input to a logic level signal and passed to the framer circuit where clock is recovered and rate-converted from the 1.544 Mb/s bit stream. The signal is descrambled and demultiplexed and passed to the BPIL circuit for buffering and rearrangement in the time slot interchange (TSI) and output to the backplane bus.

Per-channel trunk processing is performed in the upstream (toward the switch or central office terminal) direction.

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Figure 2. *SPQ*809 MSDT Server Block Diagram

Faceplate Indicators

The faceplate of the *SPQ*809 MSDT Server contains the following LED indicators:

- **FAIL** (Red LED): When lighted, indicates that a failure has been sectionalized to the *SPQ*809 MSDT Server.

- **CLF** (Yellow LED): When lighted, indicates that a carrier line failure has been sectionalized to the link connecting the HDT and MSDT.

- **DT** (Yellow LED): When lighted, indicates an event at the MSDT.

- **CONFIG** (Yellow LED): When lighted, indicates a problem with an MSDT CU and/or *SPQ*809 MSDT Server configuration.

Option Strap and Switches

The *SPQ*809 MSDT Server contains the following option strap and switches:

- **MJ** (Option strap): This strap changes the alarm severity for a subset of failures. When the strap is in the MJ=12 position with 12 slots assigned to the *SPQ*809 CU, or in the MJ=ANY position, a failure causes a major alarm to be transmitted. When the strap is in the MJ=12 position with less than 12 slots assigned to the *SPQ*809 MSDT Server, a failure causes a minor alarm to be transmitted.

- **OU/DSX** (Board-mounted switch): Place the switch in the OU position for fiber optic based applications requiring a balanced EIA-422 interface to the external OU. Place the switch in the DSX position for T1 carrier applications.

- **B8ZS/ZCS** (Board-mounted switch): This switch (B/Z) selects between per-channel zero-code suppression (position Z) and the bipolar with 8 zero substitution (position B) line code. Set this switch per applicable office records. This switch is functional only when the OU/DSX switch is in the DSX position.

- **Equalization** (Board-mounted switch): These three switches (TRANS 0, 1, 2) select the amount of pre-equalization based on the distance between the bank and the DSX-1 cross-connection (see Table 1). These switches are functional only when the OU/DSX switch is in the DSX position.

Table 1. Equalization Option Settings

Trans 2	1	0	Distance to DSX-1 (Note) (Feet)
OFF	OFF	ON	0 to 132
OFF	ON	OFF	133 to 265
OFF	ON	ON	266 to 398
ON	OFF	OFF	399 to 532
ON	OFF	ON	533 to 655

Note: These distances are for ABAM cable used in the central office. Refer to AT&T 915-710-115 for calculations for other types of cable used for collocated RT and T1 extension applications.

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 363-005-387).

Comments

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