Chapter 1
Introduction

GENERAL

The Motorola FT 100 Fractional T1 CSU/DSU combines a dual channel, fractional T1 DSU with a T1 ESF CSU. The unit interfaces customer premise data and voice equipment to a T1 transmission facility. High speed workstations, local and wide area networks, Private Branch Exchanges (PBXs), facsimiles, and host computers are examples of customer equipment which may communicate over public or private T1 networks using the FT 100.

FUNCTIONAL DESCRIPTION

The FT 100 receives serial data from the customer Data Terminal Equipment (DTE) and multiplexes it onto a 1.544 Mbps DS-1 signal. The DS-1 signal interfaces to the T1 network via an integral ESF CSU. The DTE ports enable data rates from 56 kbps to 1.536 Mbps. The unit complies with DTE interface standards for V.35, RS-530, RS-232, or DS-1 and supports all Fractional T1 applications.
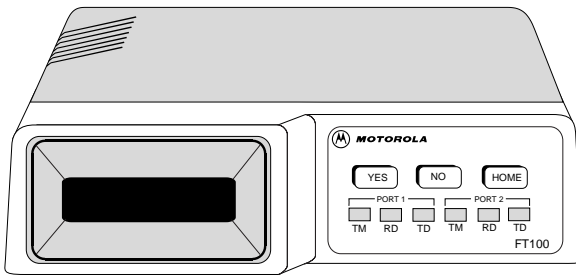
Network management and configuration for the FT 100 are provided by several methods. An LCD front panel accesses all configuration and diagnostic options. An RS-232 rear panel interface labeled CONTROL allows configuring and testing the unit via terminal, computer, or remotely via modem. When the RM16M model is installed in the Motorola LocalView shelf, configuration and diagnostics are accessible via the LocalView terminal. Operating parameters are stored in nonvolatile memory.

PHYSICAL DESCRIPTION

The FT 100 can be either a standalone desktop unit or the RM16M shelf mount model. When mounted in the shelf, the number of DTE ports is expandable using FT 100 EX expansion cards and special backplane segments.

Front Panel

Three front panel pushbuttons, YES, NO, and HOME, enable user input. A front panel 32-character LCD allows menu driven user operation and real time unit status displays. DTE signal status can be monitored by six LEDs and the LCD on the front panel (Figure 1-1).

Figure 1-1
Front Panel

Rear Panel

The rear panel (Figure 1-2) contains a power cord, fuse, an 8-pin RJ48C network interface connector, a 9-pin D-type interface connector for external control, and two 25-pin D-type DTE connectors. Since the FT 100 connects directly to the T1 network, it does not include an ON/OFF power switch.
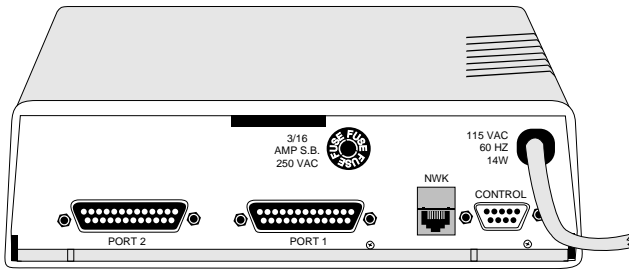

Figure 1-2
Rear Panel

FEATURES

- Motorola Data Shelf compatible

- Choice of several interfaces including:
  V.35 synchronous, RS-530/RS-449 synchronous, RS-232 synchronous, RS-232 asynchronous, RS-232 frame relay, asynchronous, or DS-1

- All standard data rates:
  n x 56 kbps, n x 64 kbps (where n = number 1 to 24 of DS0 time slots-- 1.536 Mbps max) asynchronous rates
  300-57.6 kbps

- Fractional T1 compatible

- Uniform synthesized DTE transmit and receive clocks

- Flexible timing options

- Integral CSU

- B8ZS clear channel capability

- ESF or SF framing modes

- ESF diagnostics per AT&T 54016 and ANSI T1.403

- Built-in network and per channel loopback test capability

- Front panel LED status display for DTE ports

- Configuration and diagnostic options via Front panel LCD, RS-232 control port, or Motorola LocalView