

Adit

FXS 8-Channel Voice Card

Part Number: 740-0036

Provision business or residential telephone lines from TDM, ATM, or IP transport

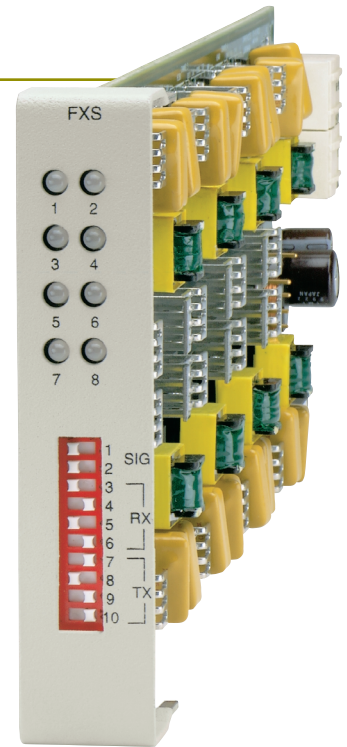
The Adit™ FXS 8-Channel Voice Service Card provides high-density provisioning of reliable telephone services from T1 or DSL access. Eight Foreign Exchange Station (FXS) telephone line channels are equipped in each card slot of the Adit platform of multi-service Customer Service Terminals (CST). FXS loop-start or ground-start interfaces may be used to deploy either outside phone lines or on-premise customer business line services from T1 or DSL access lines using voice over TDM, ATM, or IP transport.

A unique range of software-controlled signaling capabilities designed into the FXS 8-Channel Voice Service Card provides versatility to connect virtually any type of 2-wire battery-feed telephone line service. Supported features include caller ID, calling party disconnect, distinctive ringing, ground start, and E&M signaling conversion. Automatic impedance balancing provides echo-free service connections for a wide range of line or customer equipment conditions. V.90 transmission is supported for optimal dial-up modem performance.

On-site installation and maintenance is supported with multi-color channel status LEDs for monitoring call progress and channel status. Element management software offers remote installation, testing, and monitoring from SNMP, graphical user interface (Adit Pilot), or command line interface control. The FXS 8-Channel Voice Service Card also offers front panel manual over-ride DIP switches for quick on-site selection of signaling and gain setting options.

Features At-A-Glance:

- Loop range, ringing, protection for end-office (NEBS qualified) or customer premise
- Fuseless over-voltage and over-current electronic protection maximize the FXS 8-Channel service lifetime, while minimizing service calls due to line conditions such as lightning and accidental power cross
- Automated battery voltage switching optimizes power consumption for high-density service delivery and low-cost battery back up with the Adit family of Customer Service Terminals (CST)
- Up to 48 FXS voice lines may be equipped in a single Adit 600 wall-mounted chassis
- 96 lines require only two rack units of equipment space in a 19" rack
- High-capacity, high-quality, voice over ATM or IP service creation is provided with appropriate common equipment in the Adit chassis



Technical Specifications

■ FXS Transmission Performance:

- Return Loss: ERL > 28 dB, SRL > 20 dB with respect to $900\Omega + 2.16\mu\text{F}$
- Transhybrid Loss: ERL > 28 dB, SRL > 20 dB with respect to $900\Omega + 2.16\mu\text{F}$
- Idle Noise: A/D < 15 dB_{BrnC0}, D/A, 10 dB_{BrnC0}
- Crosstalk Coupling: < 80 dB_{m0} at 0 dB_{BrnC0}
- Signal/Distortion: > 45 dB with 1004 Hz, 0 dB_{m0} input
- Terminating Impedance: $900\Omega + 2.16\mu\text{F}$
- Transhybrid Impedance: automatic
- Transmit Gain/Loss: +7 to -9 dB, switch selectable per card or management selectable per channel
- Receive Gain/Loss: +7 to -9 dB, switch selectable per card or management selectable per channel
- Overload: +3.0 dB_{m/90}
- Frequency Response: +0 dB -1.0 dB from 300 to 3400 Hz
- Longitudinal Balance: > 63 dB per IEEE 455 and FCC Part 68
- Modem Support: Full compatibility with V.90 modems

■ FXS Signaling Performance:

- DC Loop Range: 1000Ω standard, 1600Ω extended
- Loop Feed: Nominal -48 VDC with 31mA current limit for long loops, -36 VDC @ 27mA for short loops with automatic battery switching
- Off-Hook Detection: Detects tip or ring currents > 6mA
- Ring Ground: Detects ring ground currents >8mA
- Ringing Voltage: All-channel simultaneous ringing power, 85 V rms, 20 Hz
- Maximum Ringers: 5 REN, FCC Class B ringers
- Internal Ringing Cadence: Ringing cadence is 2 seconds on, 4 seconds off for E&M wink start conversion modes
- Control Technique: Solid-state with no mechanical relays
- Overvoltage: UL 1950, FCC Part 68 lightning protection
- Overcurrent: 600 V rms, 60 A
- Supports CLASS features such as calling party ID, three-way calling, and distinctive ringing

- Calling Party Disconnect: Calling party (forward) disconnect provides 2 second current interruption to disconnect answering devices and modems – requires E&M signaling service on the T1
- FXS Signaling: FXS loop-start or FXS ground-start with LS/GS selection per channel
- FXSDN Signaling: E&M immediate or wink start to either loop-start or ground-start conversion with ringback tone for carrier services such as Megacom®, Flexpath®, DSS®, VPN®, VNET®, etc. Wink delay for advanced ANI/DNIS 800 number services and Direct Inward-Dial (DID) conversion
- Ringer Equivalency Number (REN): 0.0 by definition

■ Regulatory Approvals:

- FCC Part 68, CS-03 listed for connection to PSTN
- FCC Part 15, Class A Radiated Emissions Control
- NRTL safety listed: UL 1950, CSA
- National Electrical Code 1996 safety requirements
- NEBS Level 3 certified
- Telcordia TR-NWT-000063, TR-NWT-001089

■ Physical:

- Connections made on rear panel RJ-21X telco connector
- Dimensions: $3\frac{1}{2}$ " H x $\frac{3}{4}$ " W x $11\frac{7}{8}$ " D
- Weight: 1 lb.

■ Environment:

- Operating temperature range: 32° to 104°F (0°C to 40°C)
- Storage temperature range: -40° to +158°F (-40°C to 70°C)
- Cooling method is by free air convection and requires long axis of unit to be mounted horizontally
- Maximum operating altitude: 10,000 feet
- Maximum non-operating altitude: 40,000 feet
- Relative humidity (non-condensing) range: 0 to 95%



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