

SKU: 0110-0236
Category:

2/4-Wire Special Services (SS 2/4) Plug-in Card

The Tellabs 1000 MSAP 2/4-Wire Special Services plug-in card (SS 2/4) offers a multitude of 2-wire and 4-wire nonlocally switched and nonswitched intra-LATA voice and data services. These include Foreign Exchange (FXS) and long-distance lines, WATS, 800, Centrex, secretarial and off-premises extension lines as well as two-point and multipoint private line services. The SS 2/4 card supports two circuits. Each circuit on the SS 2/4 card can be used as a 2-wire or 4-wire circuit. The card supports FXS, Foreign Exchange Office (FXO), Direct Inward Dialing (DID), Equalized Transmission Only (ETO) Private Branch eXchange (PBX) and Private Line, Automatic Ringdown (PLAR) functionality.

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Features

- •Two circuits per card, each able to support 2- or 4-wire operation
- •2- or 4-wire FXO
- •2- and 4-wire FXS
- •2- and 4-wire ETO
- •2- and 4-wire PLAR
- •2- and 4-wire DID
- •Equalization
- •Gain transfer
- •Normal or reverse simplex
- •Loop start or ground start

Highlights

FXO and FXS services

FXO or FXS service can be ordered from telcom service providers outside the subscriberâ„¢s exchange area. With this service, a user can pick up a phone in one city and receive a dial tone and a local number from a foreign city. FX trunks provide the connection. Analog or T-1 links transport the signal.

POTS services

Connecting POTS telephones to a computer telephony system via T-1 links requires a channel bank configured with FX-type connections. Generating a call from the POTS set to the computer telephony system requires a configured FXO connection. Generating a call from the computer telephony system to the POTS set requires a configured FXS connection.

Signaling Modes

For all signaling modes, the Tellabs 1000 MSAP SS 2/4 plug-in card supports full equalization for 2-wire interfaces and built-in precision balancing with each equalization setting for echo cancellation over any loop. For 4-wire interfaces, post-equalization (transmit direction only) is provided. These equalization settings are available via provisionable selections for different cable configurations. Passive mismatch equalization is also available in the 4-wire mode, via selectable 150 ohm/600 ohm settings, for both transmit and receive directions.

More Choices

Also available in the 4-wire mode is selectable normal or reversed simplex signaling. In both 2-wire and 4-wire interfaces, provisionable wide-range gain/attenuation settings are provided. For ETO mode, both sourcing or sinking sealing current options are available when sealing current is required. The SS 2/4 card is not software upgradeable.

Specifications

Physical

- •Height: 5.125 in (13.018 cm)
- •Width: 0.563 in (1.429 cm)
- •Depth: 10.5 in (26.67 cm)

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- Weight: 0.5 lb (0.23 kg)

Interfaces

- External interface inputs/outputs are available via backplane wire-wrap posts of the slot where the ETI card is located.

Power Consumption

Environmentals

- Operating temperature: -40 F to +149 F (-40 C to +65 C)
- Relative humidity: 5%-95% noncondensing

Compliance

- Meets GR-1244-CORE filter requirements

General

- Signaling Types (2-wire and 4-wire) – D4 FXS, FXO, loop start and ground start – D4 DP0, D4 DPT, TR-8 DPT, TR-8 FXS – D4 PLAR, D4 FXS/PLAR, D4 PLAR D4, ETO
- Current Sink Interface – End-to-end signaling delay (normal and reverse battery): 50 ms: Â315 ms – On-hook interval distortion for intervals > 50 ms: Â325 ms – Maximum DC supervisory range: <= 1600 ohms – Ring Detection: 2.3 k ohms but < 4.0 k ohms – Nominal DC input resistance: Selectable: 500 ohms, 250 ohms – Ring Ground resistance: 600 ohms

LED Indicators

- Red, Fail – A hardware failure is detected on the card, or the card is unable to communicate with the CPU
- Green, BUSY – Either channel is in any state other than Idle or Invalid Signaling, and no hardware failure is detected on the card

Management

- Tellabs Panorama Element Management System (EMS)
- Craft User Interface (CUI)

Software Support

- Minimum base software FP15 and higher

Installations

- Supported in Tellabs 1000 CBA

Current Feed Interface

- End-to-end signaling delay (normal and reverse battery): < 50 ms
- Wink distortion for any off wink > 50 ms: Â315 ms
- Maximum DC supervisory range – Includes 1600 ohms maximum cable resistance plus 430 ohms for station: </= 2030 ohms
- Off-hook detection threshold: < 2 k ohms
- On-hook detection threshold: > 10 k ohms
- Loop current: Typically 25 to 30 mA
- Ring trip delay: < 150 ms
- Open circuit voltage: < -43V

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Audio

- Transmit gain adjustment (toward DLC), 2-wire Terminal mode: -5.0 dB to +4.5 dB, 2-wire Cable mode: 0.0 dB to +9.0 dB, 4-wire Terminal mode: -7.0 dB to +17.5 dB, âœ 4-wire Cable mode: -6.0 dB to +9.0 dB
- Receive gain adjustment (from DLC), 2-wire Terminal mode: -10.0 dB to 0.0 dB, 2-wire Cable mode: +6.0 dB to âœ9.0 dB, 4-wire Terminal mode: -16.0 dB to +8.5 dB, 4-wire Cable mode: -9.0 dB to +6.0 dB
- Line impedance, 2-wire Terminal mode (COT and RST): selectable 600 ohms + 2.16 F or 900 ohms + 2.16 F, 2-wire Cable mode (RST and COT): 900 ohms + 2.16 F, 4-wire Terminal mode: 600 ohms, 4-wire Cable mode: Selectable 150 ohms or 600 ohms for unloaded cable; fixed 1200 ohms for loaded cable

Return Loss

- At RT with COT in Terminal mode – ERL: 19 dB min and SRL: 11 dB min
- At COT with RT in Terminal mode – ERL: 22 dB min and SRL: 14 dB min
- At RT with COT in Cable mode – ERL: 15 dB min and SRL: 9 dB min
- At COT with RT in Cable mode – ERL: 10 dB min and SRL: 5 dB min
- Longitudinal balance – 200 Hz to 2 kHz, > 58 dB and 3 kHz, > 53 dB
- Idle channel noise – < 20 dBrnC

Equalization

- Meets GR-57-CORE requirements for attenuation distortion for supported cable configurations âœ 2-wire cable mode: active equalization provided in both directions of transmission âœ 4-wire cable mode: active postequalization in transmit direction. Passive equalization using 150 ohm mismatch also provided.
- Supported cable configurations – 2-wire and 4-wire Terminal interface: up to 3,000 feet of intraoffice cable, but = 1.5 dB 1 kHz loss âœ 2-wire and 4-wire cable interface: maximum cable length is limited to 10 dB 1 kHz loss or 1600 ohms DC cable resistance.
- Supported cable facilities – Nonloaded cable: 19, 22, 24 and 26 gauges are supported up to 18,000 ft, including bridge taps. Maximum bridge tap length is limited to 6000 ft for 2-wire and 12,000 ft for 4-wire.
- Mixed gauges are allowed with any combination. All loops longer than 18,000 ft must use H-88 loading. Loaded cable: Only H-88 loading is supported. Gauges of 19, 22, 24, and 26 are supported, including any gauge combinations. Maximum customer end section length including bridge taps is 9000 ft for 2-wire and 15,000 ft for 4-wire (from last load coil). No bridge taps are allowed in (or between) the loaded sections.

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