Quick Start Guide

NetVanta 950 IAD Octal FXS Access Module

P/N 1200791L1

SPECIFICATIONS

Signaling:	FXS (Foreign Exchange Station) Loop Start (LS), Ground Start (GS)
Transmission Level:	Transmit Gain: -12dB to +6 dB, 0.1 dB steps Receive Gain: -12dB to +6 dB, 0.1 dB steps
Loop Statistics:	Current: 24mA nominal Range: 2400ft intra-building
Ringing:	5 REN per port (35 REN maximum for system), 70 VRMS with 20V DC offset - open circuit, no load. Balanced, internal, sinusoidal ring generation
Impedance:	600Ω, 600Ω +2.16 μF, 900Ω, 900Ω +2.16 μF
On-hook battery:	48V nominal
Port Tests:	1 kHz test tone (near-end, far-end selectable), Ringing, Reverse battery, Battery, Loopbacks (analog, digital), Tip open, Transmit signaling bits (0000, 0101, 1010, 1111)
Front Panel LED's:	Off: port is on-hook or disabled Green: port is off-hook Blinking green: port is ringing Amber: port is in test Blinking red: fault condition, port is disabled for 30 seconds
Environmental:	Operating Temperature: 0 ºC to 50 ºC Storage Temperature: -20 ºC to 70 ºC Relative Humidity: Up to 95% non-condensing
Compliance:	60950/UL 60950, Third Edition/CSA C22.2, No. 60950 FCC Part 15 Class A

INSTALLATION INSTRUCTIONS

1. Remove the locking bar.
2. Remove blank panel if installed.
3. Slide the FXS Module into the access slot until the module is firmly positioned in the chassis.

   Note: Press firmly on the top and bottom of the faceplate to insure a proper fit.
4. Replace the locking bar and secure with a screwdriver. The locking bar must be attached at all times.
5. Connect the cables to the associated device(s). Note that the connections for the voice ports are located on the side of the chassis.

FXS PINOUT

50-pin female amphenol connectors provide the interconnect wiring for the analog station circuits (FXS ports). Refer to the NetVanta 950 IAD Hardware Installation Guide for a detailed description of the pinout.

COMMANDS

answer-supervision {enable| disable*}

Configures answer supervision for the appropriate voice port(s). Answer supervision (when the far end answers the call) is indicated by using reverse battery polarity. The NetVanta responds to LSAS (Line Side Answer Supervision) signaling on the T1 for FXS answer supervision. LSAS signaling is defined as 0100 (for ESF) or 01/00 (for D4). The FXS Module reverses battery polarity on tip and ring. The carrier must configure the network T1 for LSAS (if this is not a point to point T1).

dialtone {enable| disable*}

Configures the FXS Module to provide dialtone to the local FXS interface when dialtone is not provided by the central office switch. Dialtone is only necessary for E&M applications and **em-conversion** must be configured.

*** Indicates default values**

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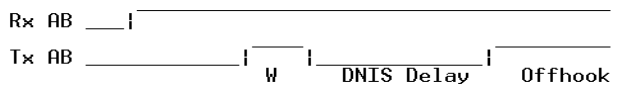
COMMANDS (CONTINUED)

dnis-delay {500 | 1000 | 1500 | 2000 | 2500 | 3000 | 5000}

Defines the time delay after transmitting a wink in response to the 2W going off-hook (after ringing) before transmitting off-hook towards the T1 interface. The **dnis-delay** is only valid when **em-conversion** is configured for **wink**. By default, **dnis-delay** is disabled. The **no** version of this command disables **dnis-delay**.



dnis-wink-timeout {enable*| disable}

When **dnis-delay** is specified and **dnis-wink-timeout** is enabled, a wink is returned to the originating switch after five seconds if the port does not detect an off-hook condition. Disabling this option allows the FXS port to ring without winking until the call is answered. By default this option is enabled when **dnis-delay** is activated.

Note: Trunks can be taken out of service by the central office switch if no wink is received. Use caution when disabling this option.

em-conversion {immediate | wink}

Specifies the E&M Tandem conversion for the interface. Selecting **immediate** configures the FXS Module to transmit digits immediately following an off-hook condition (seizing the line) on an outbound call. Also, no wink is provided for inbound calls. Selecting **wink** configures the FXS module to implement a wink process for inbound calls. When the network seizes the line the FXS module will wink towards the network before activating the call. For outbound calls the FXS module waits for a wink from the receiving equipment before activating the call. By default, **em-conversio**n is disabled.

forward-disconnect delay {250 | 500 | 750 | 1000* | 2000}

Specifies the number of milliseconds the FXS Module waits, after initiating a disconnect sequence on the FXS interface as a result of the remote end terminating the call, before returning to an idle condition. By default, **forward-disconnect delay** is 1000 ms. A **forward-disconnect delay** is only applicable when the interface is configured for loop start and **em-conversion** is enabled. The default setting is recommended initially.

forward-disconnect battery {remove* | reverse}

Specifies the battery behavior during a forward-disconnect situation (where the remote equipment ends the call). Selecting **remove** configures the FXS Module to remove battery from the circuit when the remote equipment ends the call (on-hook condition). Selecting **reverse** configures the FXS Module to reverse the battery polarity on the circuit when the remote equipment ends the call. By default, **forward-disconnect battery** is set to **remove**. Setting **forward-disconnect battery** is only necessary when **em-conversion** is configured and a **forward-disconnect delay** is specified. If configured, the recommended initial setting is the default.

impedance {600c | 600r* | 900c | 900r}

Sets the AC impedance of the FXS interface.

Option	600c	600r*	900c	900r
Impedance	600Ω + 2.16 µF	600Ω	900Ω + 2.16 µF	900Ω

loopback {analog | digital}

Activates a loopback on the FXS Module. Selecting an **analog** loopback initiates a loop back toward the T1 network side of the connection after passing through analog filters in the voice codec. Selecting a **digital** loopback performs the same loopback before passing through analog filters in the voice codec.

ringback {enable | disable*}

Configures the FXS Module to provide ringback to outside callers when not provided by the central office switch. Ringback is only necessary for E&M applications and **em-conversion** must be configured.

rx-gain {-12.0 to 6.0} (configure in 0.1 dB increments)

Defines the receive gain characteristics on the FXS interface. Receive gain determines the amplification of the received signal before transmitting out the FXS interface, By default, the **rx-gain** is -3.0 dB.

signal {loop-start* | ground-start}

Configures the signaling mode for the FXS interface. **Loop-start** signaling bridges the tip and ring to indicate an off-hook (seizing the line) condition. **Ground-start** signaling applies resistance to the tip conductor of the circuit to indicate an off-hook condition. This signaling mode must match the configuration of the network.

test tone {near | far}

Activates a 1 kHz test tone sent towards the FXS interface (**near**) or out the T1 network interface to the remote end (**far**).

test battery

Provides battery on the 2-wire FXS interface. This is helpful when troubleshooting wiring problems with the FXS equipment.

test reverse-battery

Provides battery with reverse polarity on the 2-wire interface. This is helpful when troubleshooting wiring problems with the FXS equipment.

test ringing

Activates ringing voltage on the 2-wire interface using a 2 seconds on and 4 seconds off cadence. The **no** version of this command removes ringing voltage from the interface.

test signaling-bits {0000 | 0101 | 1010 | 1111}

Sends the specified signaling bits towards the T1. This is helpful when troubleshooting from the far end. Set the signal bits using this command, then view the status of the line from the remote equipment to verify that the proper signaling bits are received.

test tip-open

Provides battery on Ring and a high impedance on Tip. This is helpful when troubleshooting problems with ground start interfaces.

tx-gain {-12.0 to 6.0}

Defines the transmit gain characteristics on the FXS interface. Transmit gain determines the amplification of the received signal before transmitting from the FXS interface towards the network. By default, the **tx-gain** is -6.0 dB.

*** Indicates default values**

