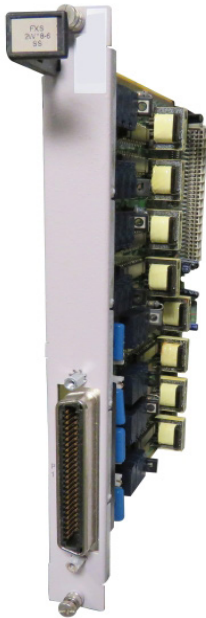


## DATA SHEET

## IMACS FXS Cards



## Overview

IMACS FXS cards can be installed in any user slot in any of the IMACS chassis. These cards encode the incoming analog voice signals into 64 Kbps PCM format before transmission onto the network. The FXS cards can use the voice-compression features of the ADPCM card. Each FXS card provides a single 50-pin female Amphenol connector (RJ21).

All port parameters are software selectable on a port by port basis. The mode setting specifies whether the port is to be used for standard Foreign Exchange Station ("FXS"), Foreign Exchange Software Defined Network ("FXSDN"), Private Line Automatic Ringdown ("PLAR"), or Dial Pulse Origination ("DPO") applications. The type setting specifies Loop Start ("LOOP"), Loop Forward ("LP-FD"), Ground Start ("GS"), Ground Start Immediate ("GS-I") and Ground Start Automatic ("GS-A") operation. The PCM coding options supported include "U-law", "A-law" and "A-inv" (inverted A-law), and the user may also select the trunk conditioning mode ("busy" or "idle") that should be applied towards the attached equipment should the WAN facility that the port is connected to fail.

## Features

- Terminating impedance options of 600ohms.
- Supports full range of CAS signaling states to ensure compatibility with most public networks.
- Encodes analog signals into 64 Kbps PCM format for connection to digital networks.
- Ability to specify, on a port-by-port basis, North American ANSI standard AB signaling or ITU
- (CCITT) ABCD signaling.
- Robust diagnostic evaluation and fault isolation through extensive loopbacks and test tone selection.
- Compatible with all IMACS voice compression server cards.
- Provides ring tone through additional ringing generators

The user may also specify, on a port-by-port basis, whether to use North American ANSI standard AB signaling or ITU (CCITT) ABCD signaling by turning the signaling conversion setting "on" or "off". Software-initiated testing and diagnostics supported on the FXS card includes the setting of both analog ("anlg") and digital ("dgtl") loopbacks towards the network and the generation of a digital milliwatt signal on a port-by-port basis. A robust set of test functions allow the user to monitor and set the state of the analog tip and ring leads of any FXS port and to set and monitor the state of the ABCD signaling bits of the digitized voice signal.

## Specifications

### WEIGHT & DIMENSIONS

- 8" x 7.5" (20cm x 18.75cm)
- .75 lbs (.34 kg)

### POWER

- 9.7 Watts, 33.12 BTU/hr

### INTERFACES

- One RJ21 female craft port supporting eight circuits

### STANDARDS SUPPORT

- AT&T TR43801
- TR-NWT-000057
- ITU-T G.711 1988
- ITU-T G.712
- ITU-T G.713
- ITU-T G.714
- ITU-T Q.552
- ITU-T

### ENVIRONMENTAL

- Operating Temperature: 0 to 50 degrees Celsius
- Storage Temperature: -20 to 80 degrees Celsius
- Humidity: 0 to 95% (non-condensing)

### GEEK SPECS

- Transmission Performance Exceeds requirements of ITU-T Sec. G.713
- Signaling Modes Software selectable on a per port basis.
  - Foreign Exchange Station (FXS) 2 way connection to PRX or key system trunk.
  - Foreign Exchange Station – Defined Network (FXSDN) – provides access to major carrier services. Wink option.
  - Private Line Automatic Ringdown (PLAR) – point-to-point unswitched connections.
  - Dial Pulse Originating (DPO) – similar to FXS but out-going only

- slc96 – slc96 compatibility (requires additional software on CPU).
- Signaling Types Loop Start Loop Start – Forward Disconnect
- Ground Start Ground Start – Immediate
- Ground Start – Automatic
- Termination Impedance Model 812960 600 ohms with 2.16 uF
- VF Transmission Characteristics
- Nominal transmit TLP: -10.0 dB to +5.0 dB in steps of 0.1 dB
- Nominal receive TLP: -10.0dB to +2.0dB in steps of 0.1 dB
- PCM encoding: Software selectable on a per port basis
- mu-law, A-law or a-inv (inverted A-law)
- Frequency response 300-3khz <-0.15+0.15dB, Typical 0.05dB
  - 3200 hz <-0.75dB, Typical 0.07dB
  - 3400hz <-1.568, Typical 0.4dB
- Return loss (at 1 KHz): >28 dB
- Relative transhybrid Against 600ohm, in series with 2.16 pF termination.
- Loss ERL 34.5dB SRL LO 20.5dB SRL HI 20.5dB
- Idle channel noise (rcv and xmt): <-65 dBmop
- Typ < - 70 dBmop or <20 dBrcncp
- Interchannel crosstalk Typ <-75 dBm0 using 7 adjacent channels being disturbed with a signal of 0.0 dBm0
- Total distortion including quantization (Signal to Distortion Ratio) input frequencies 1004-1020 Hz:
- Input Level Rcv or Xmt Overall
  - -30 to 0 dBm0 >35dB >33dB
  - -40 dBm0 >29dB >27dB
  - -45 dEm0 >25dB >22dB
- Absolute group delay <750 microseconds
- Group delay distortion vs. frequency: Within boundaries of ITU-T Rec. G.713 Figure 2
- Longitudinal balance Nom > 46 dB Typ> 50 dB
- Variation of gain with Within boundaries of ITU-T Sec. G.713
- Input level Typical gain variation is within +0.25 dB from +3 to -50 dBm0
- Diagnostic capabilities Analog loopback and digital loopback
- Extensive support for test tone insertion, termination, signaling lead set and monitor.
- Trunk Conditioning Idle or Busy

## Ordering Information

MODEL	DESCRIPTION
PRM-812960	IMACS, FXS, 2WX8P, 600 OHM
8000-FXS-8P	IMACS 8000, FXS, 2WX8P, 600 OHM