

12FXSA/FXOA Voice Card for HX9800

Features

- 12 telephone connections for FXS
- 12 central office or PBX line connections for FXO
- PLAR supported
- Loop start or Loop start/ground start option
- Battery reverse supported
- DID supported
- 12 kHz and 16 kHz metering pulse option
- A, B, C, D signaling bit software programmable
- A law or μ -law coding
- Most signaling conventions supported
- Multi-color LED indicators for each port
- Intended for use with ± 48 Vdc powered main units



Description

The 12FXSA-02/12FXOA plug-in cards are designed for the single slots of HX9800. It digitizes analog voice signals so as to be multiplexed as 64 kbps DS0 timeslots onto a digital network. 12FXSA-02 provides 12 voice Interfaces connect to telephones. 12FXOA provides connections from telephone lines, either from a central office or from a PBX in 12 x RJ11 or 1 x Telco64 connectors. Coding is either A-law or μ -law selectable by user. Most popular signaling conventions are supported, including PLAR.

Ordering Information

Note 1: RoHS compliant units are identified by the letter **G** appearing at the end of ordering code.

Note 2: Before purchasing, please check the HX9800 main brochure to see if the following models are supported by the controller to be used with.

For 12FXSA-02:

HX9800-12FXSA-02- sn-pt-typ-G	12-channel FXSA plug-in card with 600/900 Impedance, Battery Reverse, Loop Start and PLAR. Without Ground Start and Metering Pulse. Used with 12 RJ11 or 1 x Telco64	12FXSA-02-GMP includes all FXSA card functions.
HX9800-12FXSA-02-P- sn-pt-typ-G	12-channel FXSA plug-in card with 600/900 Impedance, Battery Reverse, Loop Start, PLAR and [PLAR bit programmable]. Without Ground Start and Metering Pulse.	For sn option, please refer to the table below for detail information. pt = power type.

	Used with 12 RJ11 or 1 x Telco64	For pt option, please refer to the table below for detail information. For typ option, please refer to the table below for detail information.
HX9800-12FXSA-02-M- sn-pt-typ-G	12-channel FXSA plug-in card with 600/900 Impedance, Battery Reverse, Loop Start, PLAR and [Metering Pulse]. Used with 12 RJ11 or 1 x Telco64	
HX9800-12FXSA-02-MPP- sn-pt-typ-G	12-channel FXSA plug-in card with 600/900 Impedance, Battery Reverse, Loop Start, PLAR, [PLAR bit programmable] and [Metering Pulse]. Used with 12 RJ11 or 1 x Telco64	
HX9800-12FXSA-02-GS- sn-pt-typ-G	12-channel FXSA plug-in card with 600/900 Impedance, Battery Reverse, Loop Start, PLAR and [Ground Start]. Used with 12 RJ11 or 1 x Telco64	
HX9800-12FXSA-02-GM- sn-pt-typ-G	12-channel FXSA plug-in card with 600/900 Impedance, Battery Reverse, Loop Start, PLAR, [Ground Start] and [Metering Pulse]. Used with 12 RJ11 or 1 x Telco64	
HX9800-12FXSA-02-GMP- sn-pt-typ-G	12-channel FXS plug-in card with 600/900 Impedance, Battery Reverse, Loop Start, PLAR, [PLAR bit programmable], [Ground Start] and [Metering Pulse]. Used with 12 RJ11 or 1 x Telco64	

For 12FXOA:

HX9800-12FXOA- typ-G	12-channel FXO plug-in card with 600/ 900 Impedance, Battery Reverse, without Ground Start and Metering Pulse. Used with 12 RJ11 or 1 x Telco64	pt= power type. For pt option, please refer to the table below for detail information.
HX9800-12FXOA-GS- pt-typ-G	12-channel FXO plug-in card with 600/ 900 Impedance, Battery Reverse, [Ground Start] Used with 12 RJ11 or 1 x Telco64	For typ option, please refer to the table below for detail information.

■ Where **sn** is used to select special function. If this option is not required, omit the **sn** field in the ordering code.

sn =	Description	Note
sn = omit	FXS Loop Feed = -48 Vdc with 25 mA current limit; alarm tone enable; normal ring	
S1	FXS Loop Feed = -48 Vdc with 35 mA current limit	
S4	Remove alarm tone	
S5	Double ring tone transmit	

Note: For **sn** (special function), please contact your nearest Loop sales representative.

■ Where **pt** is used to select the following functions.

pt=	Description	Note
PWR	with ± 48 Vdc power modules	

■ Where **typ** is used to select the connector type:

typ=	Description	Note
RJ	12 x RJ11	
TELCO	1 x Telco64	

12FXSA/12FXOA Product Specifications

12 FXS/FXO Connector	Twelve RJ11 or One Telco64
Alarm Conditioning	CGA busy after 2.5 seconds of LOS, LOF
Encoding	A-law or μ -law, user selectable together for all
AC Impedance	Balanced 600 or 900 ohms (selectable together for all)
Longitudinal Conversion Loss	> 46dB
Cross talk measure	Max -70dBm0
Gain Adjustment	FXS: -21 to +3 dB / 0.1dB step transmit & receive FXO: -21 to +10 dB / 0.1dB step transmit & receive
Signal/ Distortion	> 25dB with 1004 Hz, 0dBm input
Frequency Response	± 0.5 dB from 300 to 3400 Hz, coincide with ITU-T G.712
Idle Channel Noise	Max. -65 dBm0p
Variation of Gain	± 0.5 dB
FXO	Ringing REN 0.5B (AC) Detectable Ringing 25 Vrms Loop Resistance $\leq 1800 \Omega$ DC Impedance (ON-HOOK) > 1M Ω DC Impedance (OFF-HOOK) 235 Ω @ 25mA feed 90 Ω @ 100mA feed
FXS Loop Feed	-48Vdc with 25mA current limit per port Jumper Selectable: 25mA(default=25mA), 30mA, or 35mA(sn=S1)
FXS Signalling	Normal / PLAR: Private Line Auto Ring down
FXS Ringing	1 REN at 5K meters per port 16.7Hz, 20Hz, 25Hz, 50Hz, user selectable for all ports Jumper selectable: 64, 76, and 85 Vrms (triangle wave), (default= 76 Vrms for Ring Voltage) 2 sec on 4 sec off, or 1 sec on 2 sec off optional for PLAR ON
FXS Tone	Alarm Tone: 480Hz/620Hz/-24dBm Ring Back Tone: 440Hz/480Hz/-19dBm
FXS functions	Basic functions: Battery Reverse, Loop Star, PLAR Optional functions: PLAR ON/PLAR bit programmable, Ground Start, and/or Meter Pulse.
Signaling Bit A,B,C,D	Programable bit

- All in-band signaling tones are carried transparently by the digitizing process.
- Customer is responsible for in-band signaling compatibility between a telephone and a switch, or between a PBX and a switch.
- FXS specification shown above support FXS hardware version Q and up.

Application Illustrations

