

# CUSTOMER TELEPHONE-RADIO INTERFACE

## FXS-4870

### Description

At the remote customer (or 'subscriber') end, the FXS-4870 Interface (Foreign Exchange for Subscriber) allows the connection of a standard telephone, fax machine or modem. The telephone interface incorporates a 2 to 4 wire hybrid that separates the transmit and receive audio, and has other basic features of off hook detect and ringing the handset.

The Interface detects when the handset is lifted (goes off hook) and issues a PTT command (open collector to ground) to the Tx section of the duplex or half duplex radio link. The Interface can also generate ringing voltage for an incoming call when carrier operated squelch (COS) is detected from the Rx section of the full duplex radio link. When the handset is lifted, the loop detect causes the Tx module to PTT, which is detected at the Central Office end and so on.

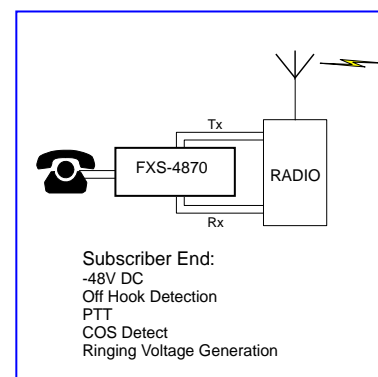
Dialing is achieved by passing DTMF from the telephone down the radio link to the Central Office.

### Specifications

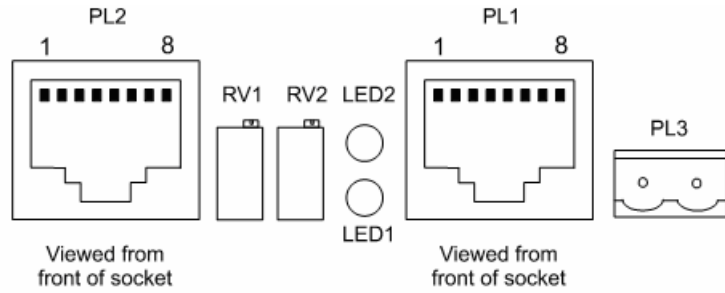
Power Requirement:	13.8Vdc nom. (12 – 48 Vdc)
Connectors:	BL-2 (power) RJ45 (radio) RJ45 (phone)
Length of cable:	30m max. (ODX Driver available for up to 4.2 km of 0.5 mm copper wire)
Hook flash detect:	Yes
Audio levels:	350mV RMS (adjustable gain in radio module pre-amp)
Tx Output Level:	1 Volt p-p approx.
Tx Output Impedance:	600 Ohm nom.
Rx Input Level:	1 Volt p-p approx.
Rx Input Impedance:	15k Ohm nom.
COS Detect:	Open collector command from Radio Rx unmute circuit (to be switched to ground during busy/Rx carrier/un-mute)
PTT:	Open collector switched to ground
Return loss:	> 6dB
Mounting:	Four holes for stand-offs
PCB size:	85mm x 227mm in area.

### Functions

-48Vdc line feed  
Telephone Off hook/On hook detect  
PTT (Open collector to ground)  
COS detect  
25 Hz ac Ringing Voltage  
(enabled on COS detect but disabled if phone off hook)



## Connector Pin-outs



DESCRIPTION	FXS-4870/PC-4872
<b>CONNECTOR PL2</b>	<b>PHONE</b>
1	NC
2	NC
3	NC
4	La
5	Lb
6	NC
7	NC
8	NC
RV1 LEVEL	PHONE TO RADIO
RV2 LEVEL	RADIO TO PHONE
LED1 RED	POWER
LED2 GREEN	OFF HOOK
<b>CONNECTOR PL1</b>	<b>RADIO</b>
1	NC
2	AUDIO TO RADIO
3	AUDIO FROM RADIO
4	ANALOG GROUND
5	PTT OUTPUT (OPEN COLLECTOR) SWITCHES TO GND WHEN PHONE OFF HOOK
6	COS INPUT TO BE SWITCHED TO GND TO ACTIVATE RING
7	SIG GND (GND)
8	NC
<b>CONNECTOR PL3</b>	<b>POWER</b>
1&2	12-48V DC POLARITY INSENSITIVE

