

3.2.1 TELELINE ISOLATOR MODEL #7501-02S

A.C. TRANSMISSION CARD EQUIPPED FOR SIMPLEX SEALING CURRENT

Positron's AC card provides high voltage isolation between a telephone line and a full duplex data transmission device (modem), SCADA, analog carrier systems, tone relay control systems and any other equipment using tone related signalling. The card is suitable for transmission at higher frequencies (-6db loss at 100KHz) and higher data rates, where telephone line conditions permit. (For higher frequency transmissions, see model #7501-06) The card does not require a power supply. See figure 3.2.

On the Central Office side, contact 3 and 5 correspond to the tip and ring conductors respectively. A gas tube is permanently installed between the center tap equivalence and the cable sheath for protection. Contact 1 of the conductor on the Central Office side corresponds to a possible connection to remote ground. Contact 6 is interconnected with contact 6 of the adjacent card slot to allow the flow of simplex sealing current from one side of a 4 wire circuit to the other. The longitudinal balance (80db) associated with the center tap equivalence of the A.C. cards is very high in order to minimize insertion loss due to DC current.

On the station side, contact 5 and 6 correspond to tip and ring conductors, while contact 3 is used for local ground.

In order to provide for DC simplex sealing current transmission, the TX and RX cards must be inserted in the following adjacent card-slot numbers:

1. For the 8 card shelf (model #7501-08): 1-2, 3-4, 5-6, 7-8
2. For the 5 card shelf (model #7501-09): 1-2, 3-4
3. For the 2 card shelf (model #7501-27): 2-3

3.2.2 TELELINE ISOLATOR MODEL #7501-02LS

A.C. TRANSMISSION CARD EQUIPPED WITH 2 WIRE LOOP SEALING CURRENT

In this configuration a D.C. bypass circuit is connected across the tip and ring by a strap option. This circuit has a low D.C. impedance but a very high impedance to voice band frequencies. Insertion loss due to the D.C. bypass circuit is less than 0.1db. (This card will be available in early 1987). See figure 3.2.

NOTE :All options on the A.C. card will pass all specified A.C. signals. Unless otherwise requested, all A.C. cards will be handwired as #7501-02S. Model #7501-02S can also be used for 2 wire circuits where no sealing current is present.

3.2.3 TELELINE ISOLATOR MODEL #7501-02 OPT 105

AC transmission card equipped with a 5 step attenuator: .5db, 1db, 2db, 4db and 8db).

This feature allows manual amplitude equalization of the card from 0 to 15db in .5db steps in addition to the nominal .2db loss of the A.C. card. Circulation of sealing current is not provided for.

A.C. CARD

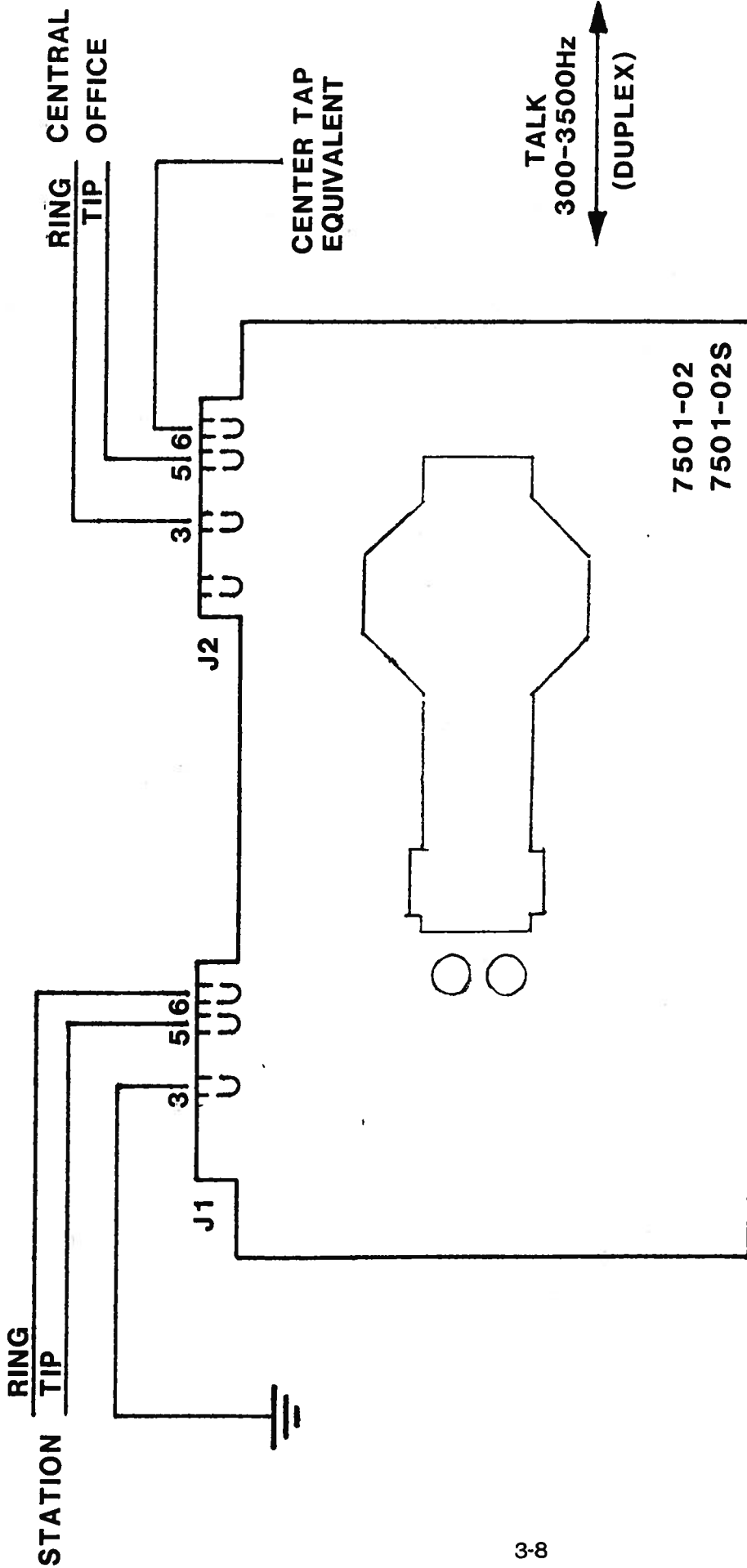


FIGURE 3.2

NOTE :

1. Card is available in four options ;

1. With simplex sealing current ; 7501-02S.
2. With loop sealing current. (Upon request only); 7501-02LS.
3. With 5 step, selectable attenuator. (Upon request only); 7501-02 OPT 105.

NOTE: 7501-02S CAN BE USED FOR CIRCUITS NOT EQUIPPED WITH SEALING CURRENT.

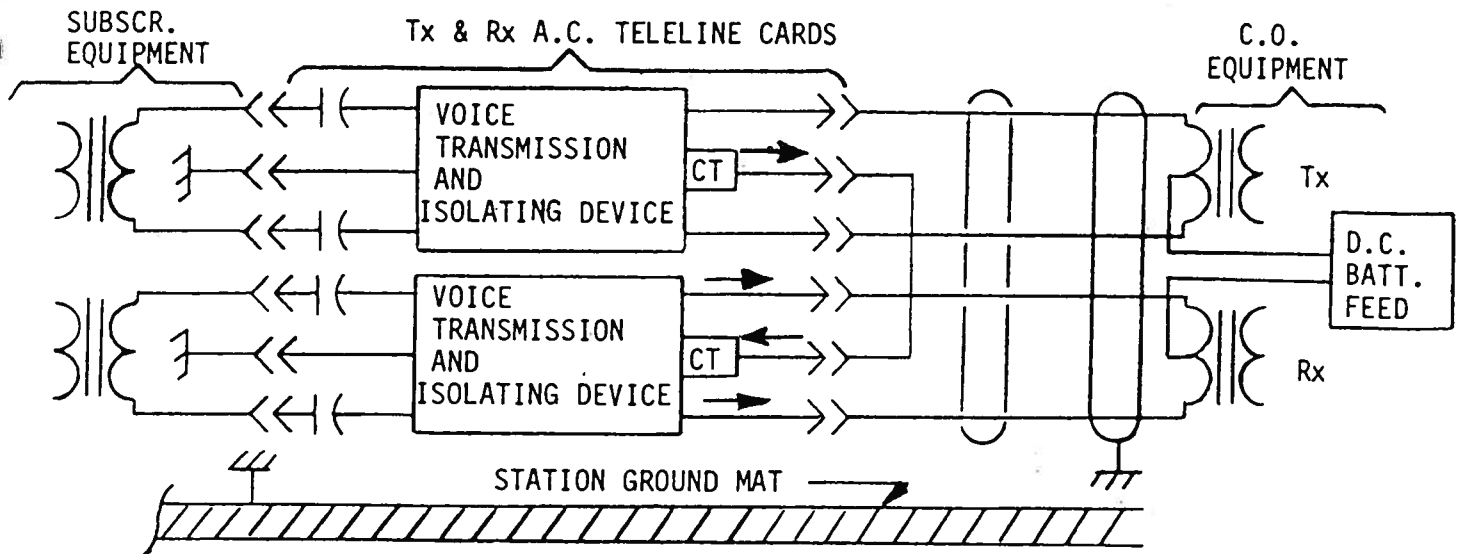
3.2.2.1 SPECIFICATIONS — MODEL #7501-02S

TRANSMISSION DATA

Longitudinal Balance	greater than 80dB @ 60Hz
(C.O. side)	greater than 80dB @ 300Hz to 4000Hz
Echo Return Loss	greater than 25dB
(either side, opposite side terminated in 600 or 900 ohms)	
Singing Return Loss	greater than 14dB
(C.O. side, either side terminated in 600 or 900 ohms)	
Noise 2Hz to 100Hz	— 60dBm
Voice Band (C message weighting)	less than 0 dBmC
Phase Jitter	less than 0.5° , 300 to 4000Hz
Impulse Noise	no more than 1 count in
(off hook)	30 minutes above 48dBmC
Insertion Loss	less than 0.2dB
(at 1000Hz) (measured at 0 dBm)	
Frequency Response	± 0.4 dB relative to 1000Hz
(300 to 3400Hz)	level
Dynamic Range	up to + 10dBm with less than 2% harmonic distortion.
Cross Talk	better than — 77dB for signals from 300 to 4000Hz measured at + 10dBm.

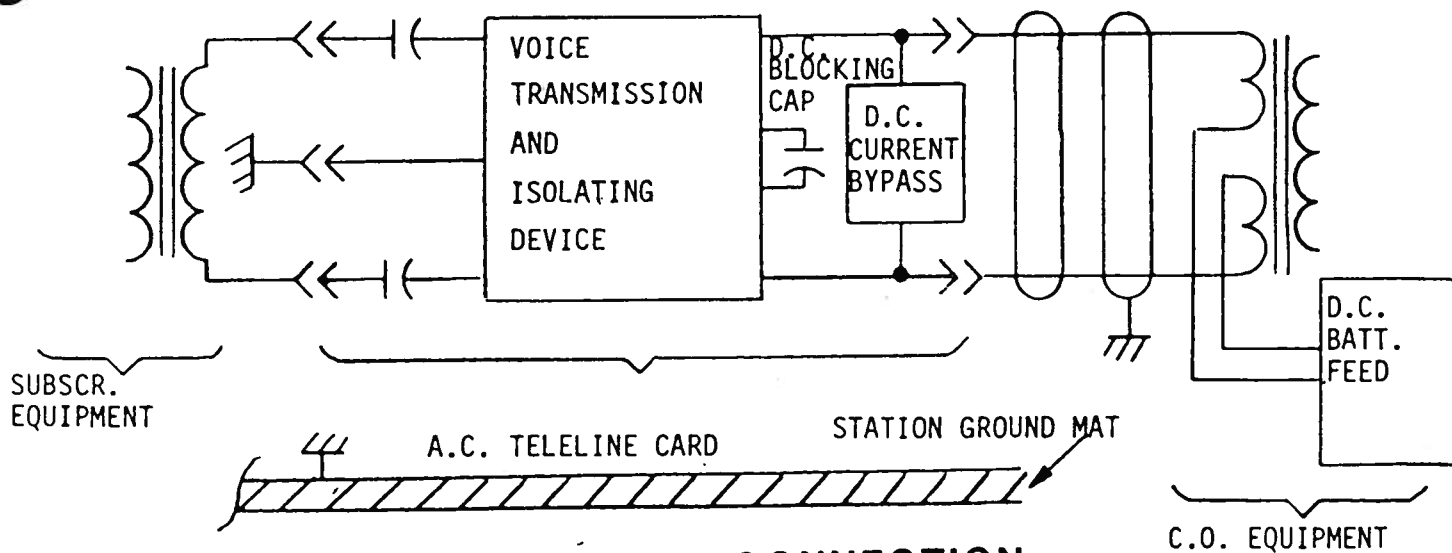
ENVIRONMENTAL DATA

MTBF	200 000 hrs.
Power Consumption	Not Applicable (N/C)



AC CARD CONNECTION .4 WIRE SIMPLEX SEALING CURRENT

MODEL #7501-02S



**AC CARD CONNECTION
2 WIRE LOOP SEALING CURRENT**

MODEL #7501-02LS

FIGURE 3.2A