3.6 TELELINE ISOLATOR MODEL #7501-06, 06A

T-1 CARRIER CARD

Positron's T-1 Carrier card provides high voltage isolation for balanced telephone cable pairs carrying digital transmissions such as the standard 1.544 Mbit/sec T-1 Carrier systems. See figure 3.6.

For complete system protection two cards are required: one for the RX pair and one for the TX pair. Both RX and TX cards are fully interchangeable which greatly simplifies the stocking of spares. One fully equipped 8 card shelf, Model #7501-08 can accommodate up to four (4) independent four-wire circuits. In order to provide continuity to DC simplex power for line repeater operation, 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

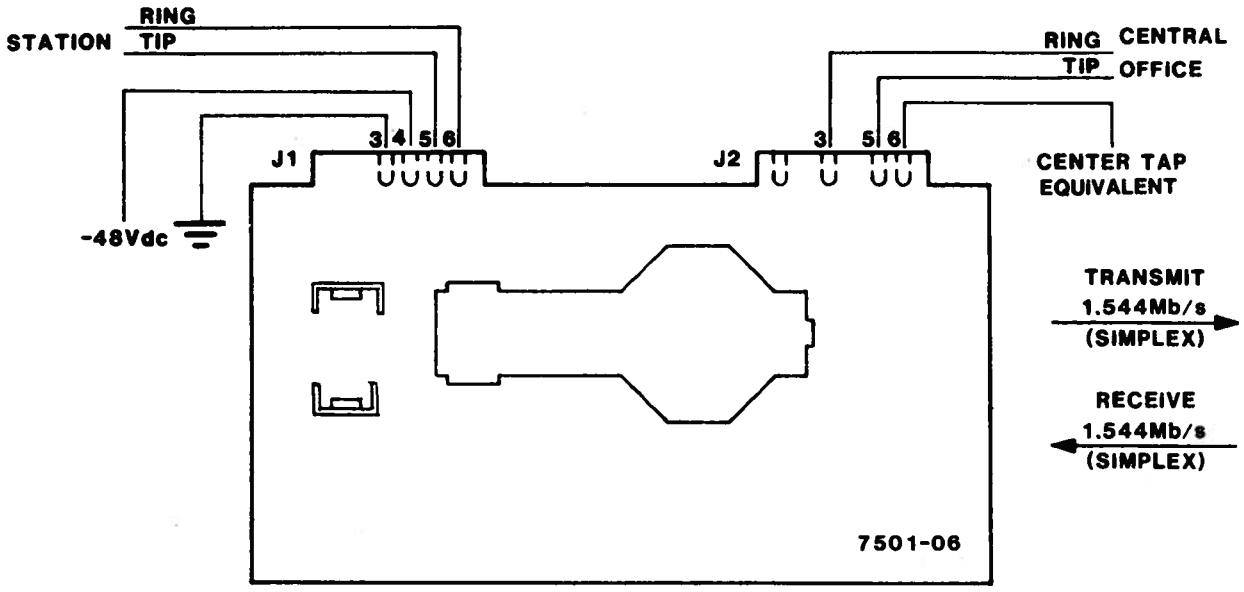
MODEL #7501-06 (This card will soon be discontinued)

The card can be powered directly from the same -48 VDC power source which powers the demultiplexing carrier equipment in the substation, thus eliminating the need for an external power supply.

MODEL #7501-06A

This card is the passive version of the T-1 carrier card. It does not require a power supply.

T1-CARRIER CARD

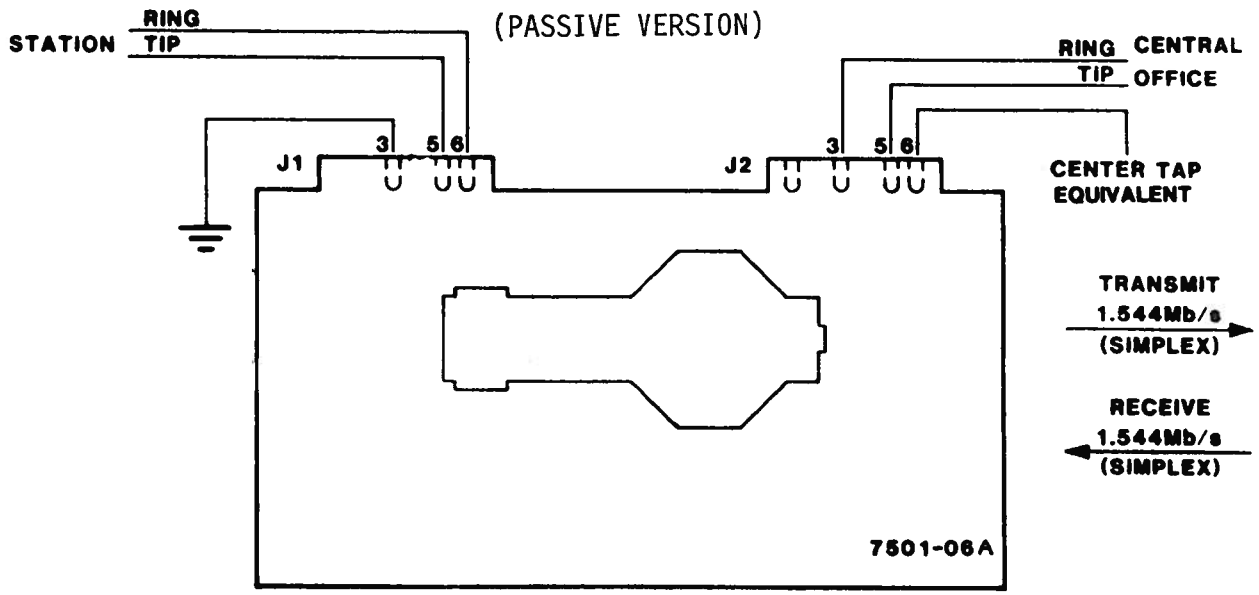


NOTES:

1. One card for transmit , one card for receive.
2. Cards are fully interchangeable. Can be used for other carriers using 2KHZ-5MHZ BW.
3. In order to provide continuity for d.c. simplex power for line repeater , center tap equivalences are interconnected in the teleline shelf between slots 1&2 , 3&4 , 5&6 ,7&8 for eight card shelf , 1&2 , 3&4 , for the five card shelf and 2&3 for the two card shelf.

T1-CARRIER CARD

(PASSIVE VERSION)



NOTES:

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3. In order to provide continuity for d.c. simplex power for line repeater , center tap equivalences are interconnected in the teleline shelf between slots 1&2 , 3&4 , 5&6 ,7&8 for eight card shelf , 1&2 , 3&4 , for the five card shelf and 2&3 for the two card shelf.

FIGURE 3.6

POSITRON

3.6.1 SPECIFICATIONS — MODEL #7501-06

Supply Voltage ..... − 42 to − 56VDC
with respect to station GND
− 48VDC nominal

Supply Current Max ..... 85mA DC

Frequency response (− 3dB)..... 1.5kHz - 5MHz
(− 0.5dB) ..... 2.1kHz - 2MHz

Maximum Operating Input Voltage:

Across Tip and Ring

Peak ..... ± 11.2 volts

RMS ..... 7.9V RMS

Tip to GND or
Ring to GND

Peak ..... 5.6 volts

RMS ..... 3.9 VRMS

Dielectric Insulation

DC (pulsed) ..... Min. 65kVDC
AC continuous ..... Min. 20kV RMS

Max. Crosstalk

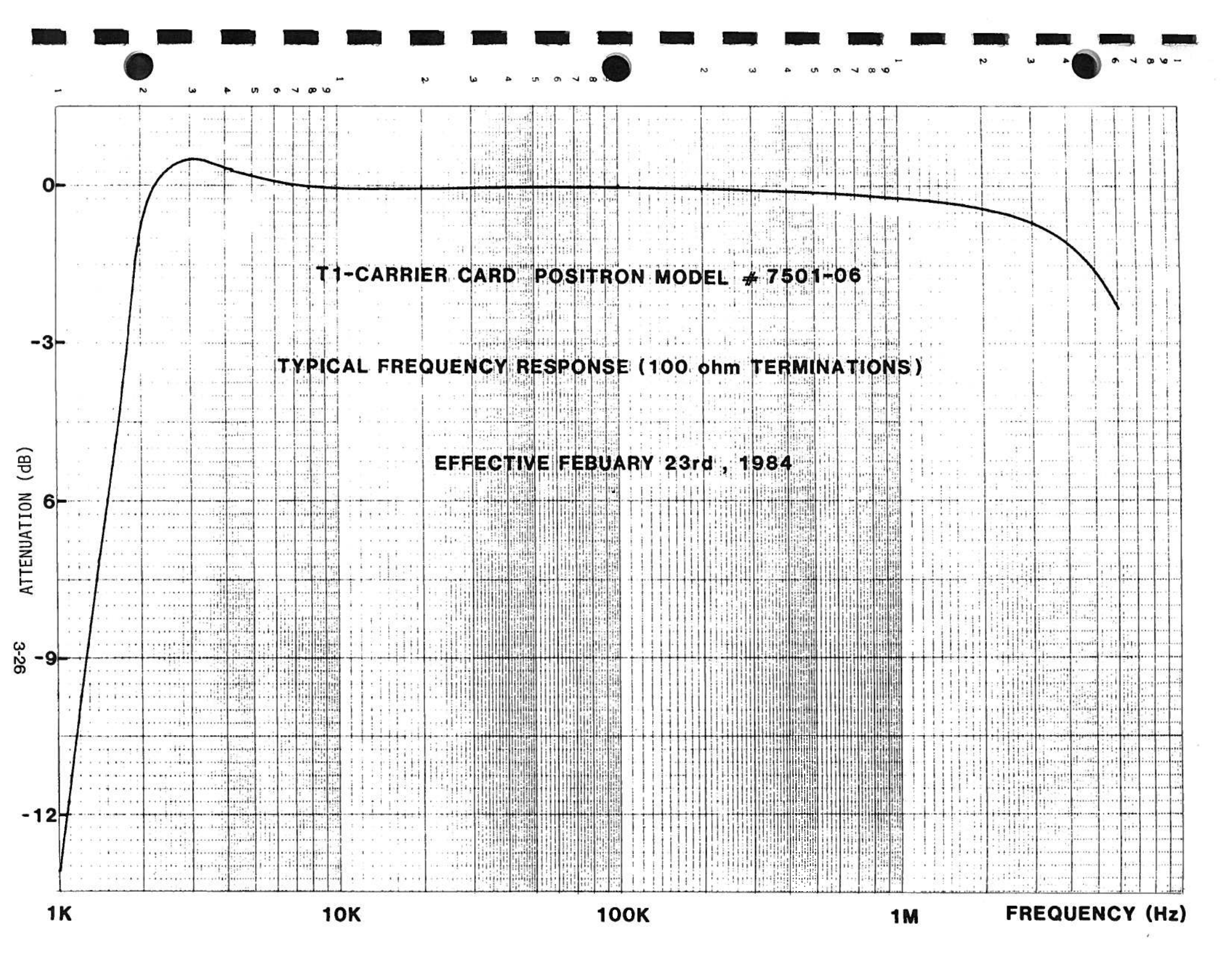
Between TX and RX cards
@ 750kHz ..... − 35dB

Input Protection (complies with FCC Part 68 and CS03)

Station side ..... Silicon Varistors
Central Office Side ..... Gaz Tube

Maximum Phase Shift

Introduced ..... 60nsec @ 750kHz
70nsec @ 5MHz


T1-CARRIER CARD POSITRON MODEL # 7501-06
TYPICAL FREQUENCY RESPONSE (100 ohm TERMINATIONS)
EFFECTIVE FEBUARY 23rd , 1984
0
-3
-6
-9
-12
ATTENUATION (dB)
1K
10K
100K
1M
FREQUENCY (Hz)

3.6.2 SPECIFICATIONS — MODEL #7501-06A

No supply required

Supply Current Max 0

Frequency response (– 3dB) ..... 1.5kHz - 5MHz
(– 0.5dB) ..... 2.1kHz - 2MHz

Maximum Operating Input Voltage:

Across Tip and Ring

Peak ..... ± 11.2 volts

RMS ..... 7.9V RMS

Tip to GND or
Ring to GND

Peak ..... 5.6 volts

RMS ..... 3.9 VRMS

Dielectric Insulation

DC (pulsed) ..... Min. 65kVDC
AC continuous ..... Min. 20kV RMS

Max. Crosstalk

Between TX and RX cards
@ 750kHz ..... – 35dB

Input Protection (complies with FCC part 68 and CS03)

Station side ..... Silicon Varistors
Central Office Side ..... Gaz Tube

POSITRON

T1-CARRIER CARD POSITRON MODEL #7501-06A
TYPICAL FREQUENCY RESPONSE (100 ohm TERMINATIONS)
ATTENUATION (dB)
0
-3
FREQUENCY (Hz)
1M
100K
10K