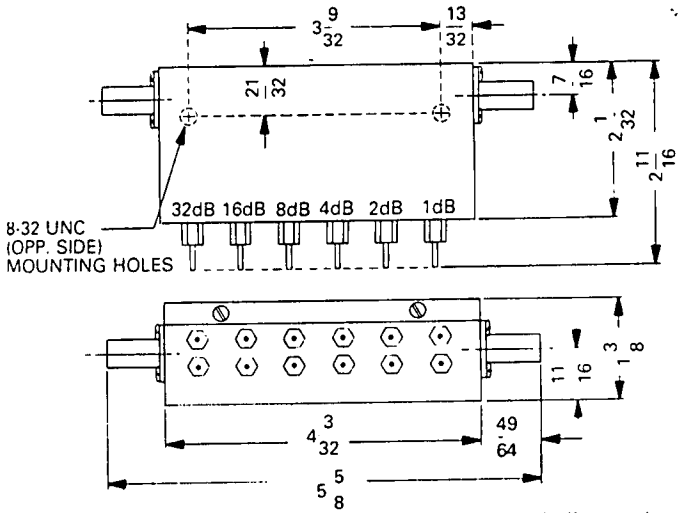
1.5-127dB
Programmable Attenuators

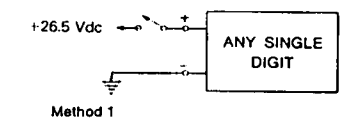


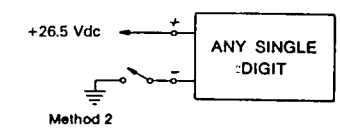
PA PROGRAMMABLE ATTENUATORS

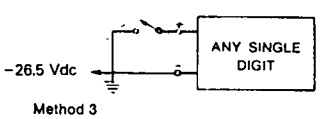
Texscan's PA digitally programmable attenuator line is designed to fulfill a large variety of applications with a minimum of interfacing problems. Most configurations provide attenuation steps representing a simple binary digit for easy mating to computer circuitry. Decimal and binary coded decimal steps are also available. The PA Series includes eleven basic models which cover 1.5, 12.7, 15, 63, 125 and 127 dB ranges. These models are variable in 0.1 dB and 1 dB increments. Complete specifications on the basic models are shown below. In addition to their flexibility, the PA's also feature a low package density, very rapid switching time and a high degree of reliability. These factors are always of major consideration when considering a programmable attenuator. Switching time and reliability are determined by the individual switching elements. Life expectancy of the switches used in the PA Series is in excess of 10 million operations. These units have extremely linear phase characteristics and the group delay is approximately 2 nanoseconds. This group delay on a typical pad varies less than 0.2 nanosecond from 100 MHz to 1000 MHz, and less than 0.4 nanosecond from pad to pad. Control voltages available from 5 to 26.5 volts. Other options include TTL compatible control, sensitive relays for low power consumption, magnetic latching and high shock relays.

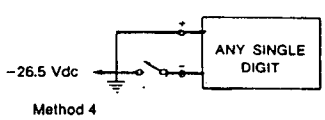
50 OHM

SPECIFICATIONS	PA-51
Attenuation	0 to 63
Attenuation Bits (cells)	1, 2, 4, 8, 16, 32
Impedance	50 ohms
Frequency Range	DC to 1.3 GHz
Accuracy (Per Cell)	±0.2 dB or ½% at 500 Mhz ±0.2 dB or 1% at 1000 MHz ±0.3 dB or 2% at 1300 MHz
Accuracy (overall)*	
500 MHz	±0.5 dB, 0 to 31 dB ±0.7 dB, 32 to 63 dB
1000 MHz	±0.7 dB, 0 to 31 dB ±1.3 dB, 32 to 63 dB
1300 MHz	±1.5 dB, 0 to 31 dB ±2.0 dB, 32 to 63 dB
Insertion Loss	1.5 dB at 500 MHz 2.3 dB at 1000 MHz 3.0 dB at 1300 MHz
Maximum VSWR	1.2 at 500 MHz 1.3 at 1000 MHz 1.4 at 1300 MHz
Control Input	Binary (6 bit)
Input(1)	
Voltage (VDC)	26.5
Current (mA/bit)	17
Avr. Power Handling Capability	0.5 watts
Peak Power Handling Capability	750 watts, 3μ sec. pulse
Connectors	BNC, TNC, N, SMA
Switching Speed	6 milliseconds
Life Expectancy	10^7 selections
Size	See Fig. 2









Programming can be accomplished by any one of the four switching methods diagrammed

Any one of the switching methods will insert the desired attenuation at the digit the voltage or ground is applied to. During switching, the attenuation is always greater than the initial and the final programmed value.

*Maximum error at any setting. (1) Lower Power Switching and other volt/current combinations available on special order. (2) 64 dB bit requires 34 mA.