

Programmable Step Attenuators Models 4430A, 4430BHA  
For outline drawing see page 15.

The programmable models incorporate a miniature inline step attenuator with an electromechanical switching device to provide a wide band, low loss, R.F. attenuator that may be remotely controlled. It operates from a 115 volt 60 Hz source for switching and control requirements. Switching power is consumed only during the 20 millisecond per step switching period. Control is through 9 input lines,

1 for each attenuation step , with attenuation inserted when voltage is applied to the line.

The 4430 may be wired into a system through a ten conductor cable and mating connector ( supplied) . The pins and the attenuator steps are in sequence pins 1 through 9, so that pin 1 is 1 dB, pin 2 is

2 dB, pin 9 is 30 dB. Pin 10 is the return and is connected to the common (neutral) side of the AC input. Never connect two steps directly together.

#### R.F. Section

The R.F. attenuator is a self-contained field replaceable unit that is very similar to Kay miniature inline attenuator models. The attenuation steps are 1, 2, 4, 8 , 10, 20, 30, 30, and 30. For checkout and maintenance information, consult the inline attenuator section of this manual.

#### Electro-Mechanical Section

The basic electro-mechanical section uses solenoids connected to bars that pull the R.F. attenuator toggle switches into position. This bar also positions a switch which sets the triggering condition of the SCRs. The individual solenoids are energized when the control voltage triggers the SCR solenoid driver into conduction. The triggering circuit is designed so that two or more attenuator sections will not trigger simultaneously to avoid excessive switching currents.

For logic level voltage control of the 4430, the model 4490 logic adapter option is available. With this option, the control voltage requirements are as follows: input impedance - 1000 ohms, attenuation inserted - +2 +0 +5V DC , attenuation removed - 0 to +1V DC. The 4490 receives its operating power from the 4430, and thus requires only the

control circuit connections. These are wired in sequence with pin 1 controlling the J dB step, pin 2 the 2 dB step, etc. , pin 10 is the common

return.

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30 DB 30 DB 30DB 20 DB 10 DB 8 DB 4 DB 2 DB 1 DB