

Model R-176 Vertical Interval Switch



Installation

Connect the **COM** outputs on the R176 to the video and audio inputs on your modulator.

Connect your primary audio/video signal sources to the **PRI** Inputs on the R176.

Connect your secondary audio/video signal sources to the **SEC** inputs on the R176.

Screw the wires from the supplied power pack to the two connector power input on the rear of the unit.

A TTL level control signal or a dry contact across **GND** and **Set** on the **EXT CTRL** connector will change the output from the primary to the secondary, if a baseband video signal of at least 0 dB is present.

The unit will also switch if the ON command DTMF (Cue Tone) code is input to the **DTMF** and **GND** inputs, and the baseband signal is present. It will switch back to the primary on receiving the DTMF (Cue Tone) OFF command.

Programming

To program the Cue Tone decoder, connect a Touch Tone telephone to **DTMF** and **GND** inputs. With the power off, remove the cover from the unit. On the pc board install the jumper across **JP101**. Re-apply power.

Press and hold the # button on the telephone until the relays pulse on and off (click) once.

Press and hold down the * button until the relays pulse on and off (click) 3 times.

Enter the number of digits to be used for the On/Off code. You may use from 1 to 4 digits.

The unit will click once if the entry is valid.

If the entry is not valid the unit will click 5 times and exit programming mode. Start over.

If the entry was valid, enter the On Code. The unit will click three times once the selected number of digits has been entered.

Enter the digits for the Off Code. The unit will click three times once the selected number of digits has been entered.

Please Note:

The On and Off codes must be different. If programmed the same the relay will always be turned on when the code is entered.

Codes must be entered within 3 seconds, or the unit will click 5 times and exit programming mode.

If, at any time during programming the relays click 5 times, an error has occurred. Return to the start of the programming procedure and reprogram the unit.

Programming is complete.

Program Test

Test the system by entering the cue tones for the ON command on the telephone keypad. Verify that the red light on the front panel goes on. Next enter the cue tones for the OFF command, and verify the led turns off.

If the switches work correctly, remove power from the unit. Next remove the jumper from the two pins on JP101, re-install it on only 1 pin. Replace the cover and re-apply power. Disconnect the telephone, and connect the audio outputs from your source of cue tones to the **DTMF** and **GND** terminals.

Remember, that the audio relays work in the absence of audio or video signals, but **the video switch WILL NOT WORK if there is no input of video to the **primary** (or normally closed) video input.**

Relay Control Connection

Connect the normally open (NO) contact to **Set**.

Connect the relay common (COM) contact to **GND**.

Open Collector Control

Connect your transistor's collector to **Set** and the transistor's emitter to **GND**.

Operation

The R176's primary **PRI** inputs are normally connected to the common **COM** outputs. It remains in this state until the **Set** input is connected to **GND**, or the DTMF (Cue Tone) ON command is received, and a baseband video signal of **at least** 0 dB is present.

The unit will switch during the vertical blanking interval of the video signal. This connects the secondary input to common until **Set** is not connected to **GND**, or until the DTMF (Cue Tone) OFF command is received.

Specifications

(firmware 80177-3.00)

DTMF Input Levels

-20 to +3 dB

Video

75 ohms ; 'BNC' connectors

Audio

Balanced stereo; screw terminals;
>90 dB isolation

Isolation

@ 5 MHz > 80 dB

Control Input

1 mA maximum to GND.

Power Requirement

117VAC \pm 10%, 60 Hz.
Power pack output; 13.6 VAC

Physical

1.75"H x 19"W x 4"D
Weight 2 lbs.

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