The A.R.F.C. - Laboratory SP 380 Accessory for the KWM 380 transceiver.

As always, we at A.R.F.C. - Laboratory design our accessories to match as closely as possible to the equipment with which it is to be used. Our desire is to keep things as simple and straight forward as is technically possible.

The SP 380 front view shows the controls that provide the most used functions for the KWM 380:

Behind the bezel is the read out for the 24 hour digital clock...no it is not Heathkit! There too, are two blue LED's that indicate when the speaker mute button is depressed and when the microphone mute button is depressed. Power for the LED's is supplied by the KWM 380 to which the SP 380 is attached.

The two push buttons, on the left, are for muting the speaker and the microphone. As stated above, the two blue LED's provide visual indication when either the speaker or microphone is muted. We felt that visual indication is important because our age has made our memory of past actions...forgotten! Associated with the speaker mute button is a 4 ohm, 5 watt load that allows the radio audio to be silenced without the necessity of turning the volume control down or off.

Immediately to the right of the mute switches are the three push buttons used to select the frequency of audio that is cut out of the speaker audio band pass. These are associated with a passive audio filter system that draws no power from the radio. Passive audio filters were chosen so that no power is required from the clock power circuit nor from the KWM 380 should the house AC supply fail and the transceiver must be operated on DC. The "HI" button circuit is designed to place a very deep notch around 2500 to 3000 Hz. The purpose is of course to notch out the "white noise" just out side the roofing filter pass band. The "MED" button circuit is designed to place a very deep notch between 1000 and 1300 Hz. The purpose is to notch out the proverbial adjacent channel audio that tends to distort the voice audio of the desired frequency. The "LO" button circuit is designed only to roll off the low frequency, 120 Hz and lower, hum that seems to accompany some signals. Obviously, utilizing the passive audio filter system reduces the audio level from the speaker, however a slight increase in the audio level from the transceiver usually will bring the speaker output to a comfortable listening level.

Just below the push buttons is the "Key Pad" designed to program and operate the memory function of the KWM 380. A complete description of the functions of the "Key Pad" are given in the HF accessories "Collins AC-3803 Control Interface Kit" bulletin supplied by "*ROCKWELL INTERNATIONAL*". There is no need to restate them here.

To the right of the "Key Pad" is the microphone input jack. The circuit is shielded for use with a "High Impedance" microphone. But the SP 380 is designed such that a "Low Impedance" microphone may be used if desired.

The three inch speaker is a high quality four ohm speaker. With a larger and heavier magnet than is used in the KWM 380, the speaker will withstand higher volume levels than the factory original.

The rear of the SP 380 is straight forward. The function of each switch, jack and plug is clearly identified:

The purpose for the heat sink is to provide heat radiation for the power section of the clock assembly.

The column on the left side are the controls and power for the clock.

Located in the center is the cabinet/chassis ground. While not necessary, it was included to provide common bonding between the transceiver, linear amplifier and the control system.

The column on the right provides interface to the KWM 380 transceiver. The clearly identified RCA jacks allow the use of the Collins four foot interconnect cables. The exception is of course the Speaker output on the transceiver.

The cassis plug labeled "Remote Control" provides interface between the SP 380 "Key Pad" and the "Control Interface A14", J3 located on the rear panel of the KWM 380 (part of AC-3803).

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