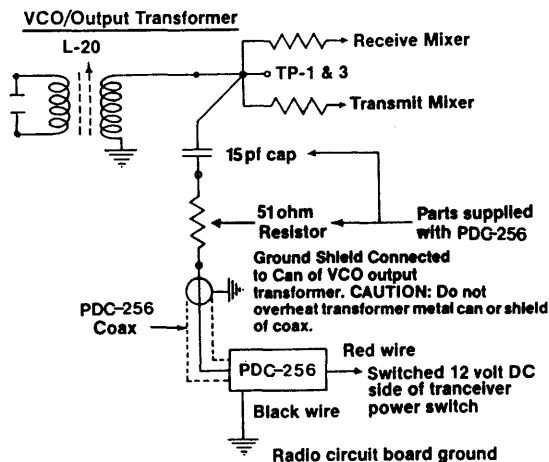


### OWNERS MANUAL



The Model PDC-256 is a six-digit continuous readout frequency counter that allows the user to read an operating frequency without transmitting. It is designed to interface with most frequency synthesized SSB/CB radios, and is field programmable; one model fits all, thus easing installation problems.

When using the PDC-256 counter with an SSB/CB transceiver, the operator should be aware of different modes of operation. While operating the PDC-256 in AM or FM mode, the frequency readout will reflect the carrier frequency only. For example, 27.4050 carrier frequency is displayed as 27.4050 on the counter's LED display. In order to broadcast SSB signals, however, the carrier is nulled, then the frequency is shifted or off-set by a finite amount in the transceiver. This off-set will be the carrier frequency PLUS a given number in the upper sideband (USB), or the carrier frequency MINUS a given number in the lower sideband mode (LSB). That given amount varies according to make and model of the radio, but the two most common are 1.5 KHz and 2.5 KHz. An example of 1.5 KHz off-set would be as follows: at AM = 27.4050, the USB would = 27.4065 and the LSB would = 27.4035. A 2.5 KHz off-set would look like this: at AM = 27.4050, the USB would be 27.4075, and the LSB would be 27.4025. The PDC-256 will accurately display this normal off-set function of your transceiver.



TYPICAL PDC-256 INSTALLATION  
148 GTL CHASSIS

Figure 1

### INSTALLATION

Installation of the PDC-256 is relatively simple. It does, however, require basic test equipment such as an accurate frequency counter, dummy load and corresponding cables, tools, power supply, etc.

Start by punching a 1/4" hole in the rear panel of the transceiver. Insert wire harness through the hole connecting the black ground wire to a solid low impedance ground located near the modulation section of the circuit board. Next, connect the red power lead to the switched side of the 12 volt power switch. Locate the 51 ohm 1/4 Watt resistor and 15pf disc ceramic cap. supplied with the PDC-256. Solder the PDC-256 input coax center conductor to one end of the 51 ohm resistor. Next, solder the 15pf disc ceramic cap. to the other end of the 51 ohm resistor, then connect the unsoldered end of the 15pf disc ceramic cap. to the VCO output transformer. (See Figure 1 on sample radio layout.) The shield of the coax should be carefully soldered to a ground point adjacent to the VCO output transformer.

The key to a successful installation to other chassis is to locate a point where the interconnection of the PDC-256 coax will not load or change the transmitter or receiver mixer injection levels. Suggestion TP-1 on 148 sample radio installation. (See Figure 2.)

CIRCUIT DIAGRAM FOR COBRA 148GTL

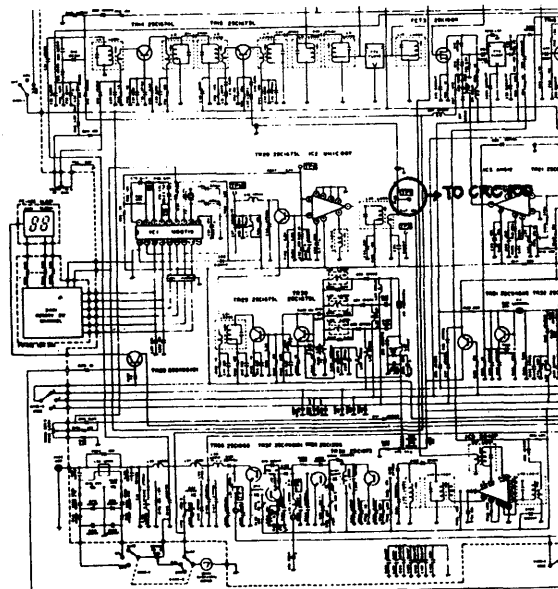


Figure 2

## 6 DIGIT FREQUENCY COUNTER

### PRESETTING PROGRAM COUNTER

After installation has been double checked, connect transceiver to a frequency counter of known accuracy. Key the transmitter into a dummy load. Starting with the 2nd least significant display (LSD). (See Figures 3 & 4.) Rotate the binary coded decimal (BCD) dip switches so that the PDC-256 LED display corresponds with the test frequency counter display.

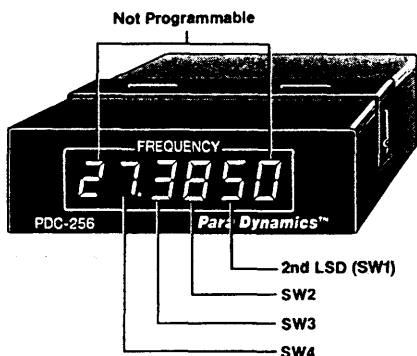


Figure 3

### PDC-256

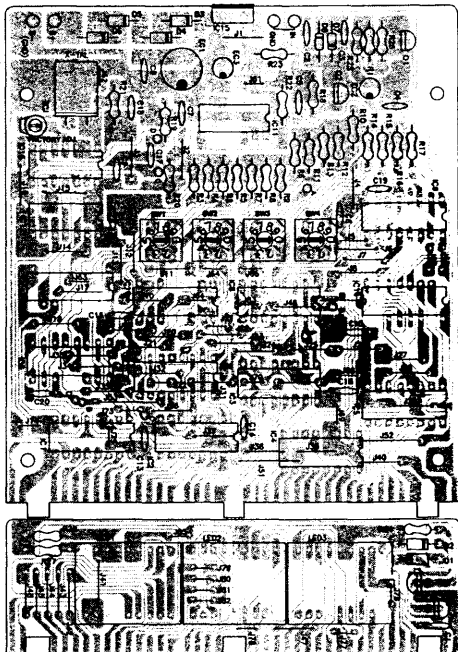


Figure 4

### Specifications:

Readout: .5" high 6-digit green LED display.  
Frequency Readout Range: 20,000 Mhz to 29.9999 Mhz  
Frequency Bandwidth: counter front-end: 500 KHz — 40 Mhz  
Input Sensitivity: less than 100 M.V. R.M.S.  
Frequency stability: plus/minus 15 P.P.M. 10 — 40 degrees C  
Accuracy: plus/minus 15 P.P.M. plus/minus 1 count (L.S.D.)\*  
Frequency Resolution: 100 hz in six digits  
Gating Speed: .085 sec.  
Current Consumption: 400 MA @ 12 V.D.C. [ 4.80 Watts]  
Input Voltage Range: 11V — 16 V.D.C.  
Size: 1.5" H x 5.1" W x 5.3" D

\*(L.S.D.) Least Significant Digit

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