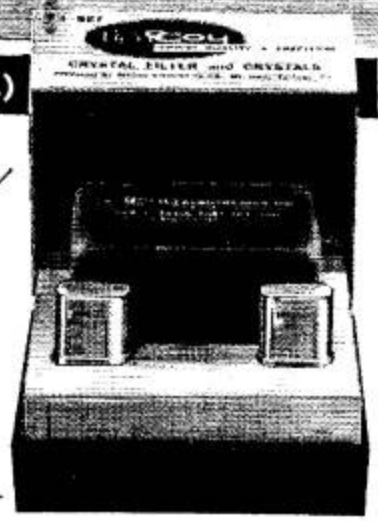
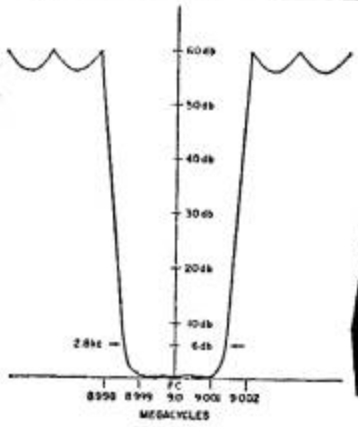
Now! for discriminating amateurs who are satisfied with nothing less than *THE VERY BEST*

McCoy SINGLE SIDE BAND FILTERS

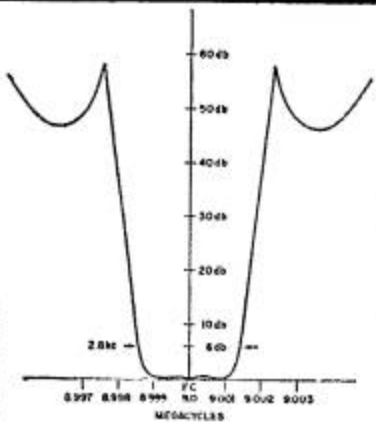
The GOLDEN GUARDIAN (48B1)



TECHNICAL DATA
Impedance: 640 Ohms in and out (unbalanced to ground)
Unwanted Side Band Rejection: Greater than 55db
Passband Ripple: ± .5db
Shape factor: 6 to 20db 1.15 to 1
Shape factor: 6 to 50db 1.44 to 1
Package Size: 2 7/16" x 1 19/32" x 1"
Price: $42.95 Each



The SILVER SENTINEL (32B1)



TECHNICAL DATA
Impedance: 560 Ohms in and out
Unwanted Side Band Rejection: Greater than 40db
Passband Ripple: ± .5db
Shape factor: 6 to 20db 1.21 to 1
Shape factor: 6 to 50db 1.56 to 1
Package Size: 1¾" x 1¼" x 1"
Price: $32.95 Each

Both the Golden Guardian and the Silver Sentinel contain a precision McCoy filter and two of the famous M-1 McCoy Oscillator crystals. By switching crystals either upper or lower side band operation may be selected. Balanced modulator circuit will be supplied upon request.

Both sets are available through leading distributors. To obtain the name of the distributor nearest you or for additional specific information, write:

McCoy ELECTRONICS CO.
Dept. Q-1
MT. HOLLY SPRINGS, PA.
Phone: HUnter 6-3411

SUBSIDIARY OF OAK MANUFACTURING CO.

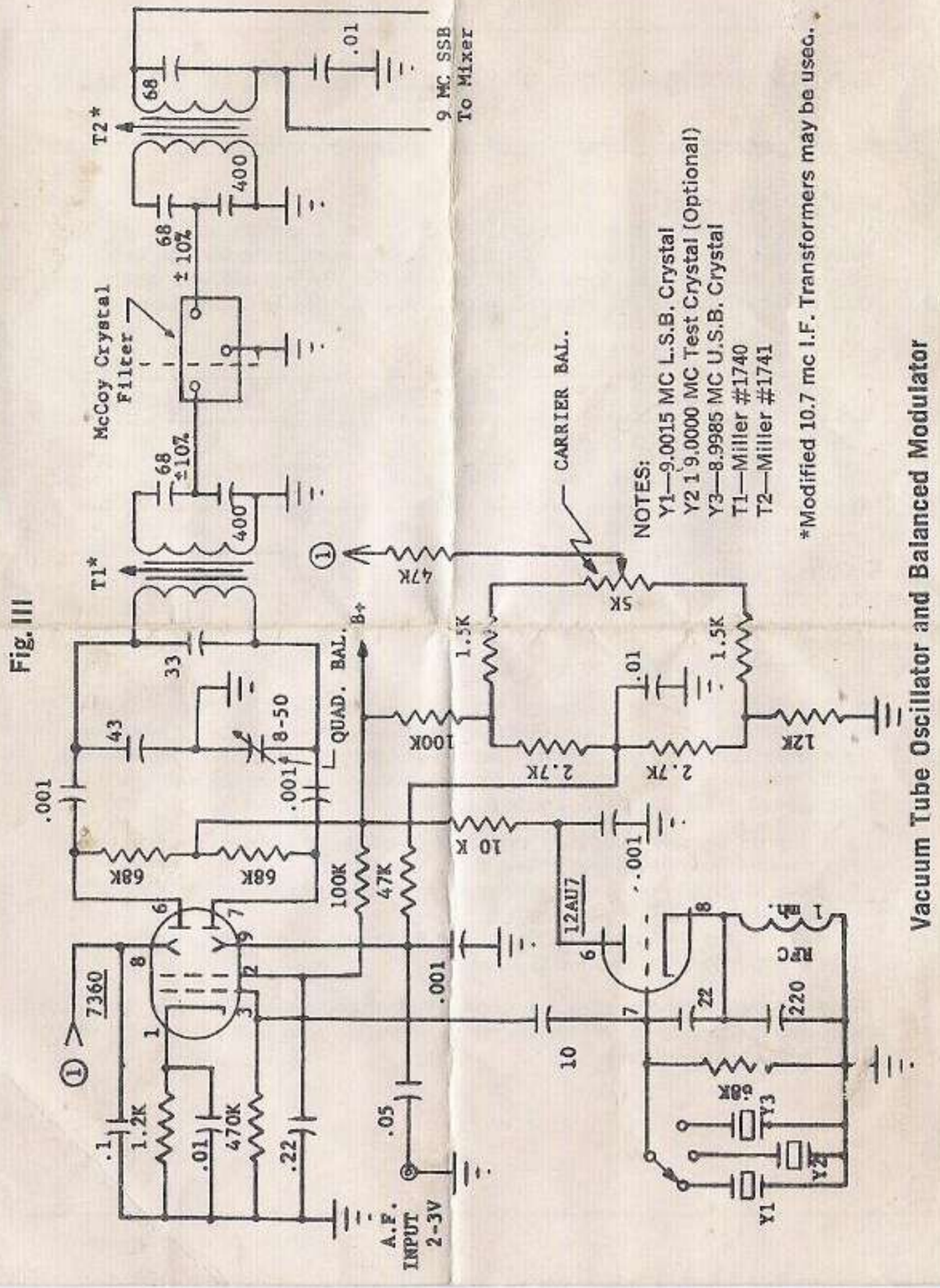


Fig. III Vacuum Tube Oscillator and Balanced Modulator

McCOY ELECTRONICS COMPANY
a subsidiary of OAK ELECTRO/NETICS CORP
MT. HOLLY SPRINGS, PENNSYLVANIA 17065

GENERAL DATA: McCOY ELECTRONICS 32B1 and 48B1 FILTERS

The 32B1 and 48B1 Amateur Filters are designed to be used in a 9.0 mc single sideband exciter. The filters have inherent nominal impedances of 560 and 640 ohms respectively and must be matched into these impedances if optimum filtering characteristics are to be obtained.

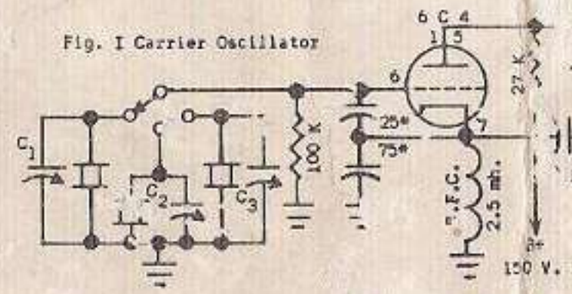
The two oscillator crystals included in the filter package are stamped 9.001500 mc and 8.998500 mc. These crystals are designed to work into a 32 mmfd. capacitive load with a maximum 10 milliwatt drive level. A typical oscillator circuit is shown in Figure 1. The two small ceramic variable trimmer capacitors C1 and C2 shown in Figure II are for the purpose of trimming the crystal frequency to compensate for stray wiring capacitance. Once the oscillator crystals are adjusted to their nominal frequencies, upper and lower sideband operation may be selected by switching the appropriate crystal into the oscillator circuit.

The oscillator crystals provide carrier frequency injection on the upper or lower filter skirt. For example, if LSB transmission is desired, the 9.001500 mc carrier crystal is selected. The carrier, which is suppressed by the system preceding the filter, is positioned at +1500 cps on the filter slope. When modulation is applied to the system, the lower sideband will pass through the filter, while the upper sideband (above 9.001500 mc) will be rejected. Conversely, if USB transmission is desired, the 8.998500 mc carrier crystal is used and only the upper sideband will be passed.

Figure II is a typical solid state balanced modulation circuit.

Figure III is a typical vacuum tube balanced modulation circuit.

Fig. I Carrier Oscillator



Notes:

C_1, C_2, C_3 = 3.0 to 12.0 Pfd. VPR. Trimmers

* = 5% MICA CAPS.

Fig. I

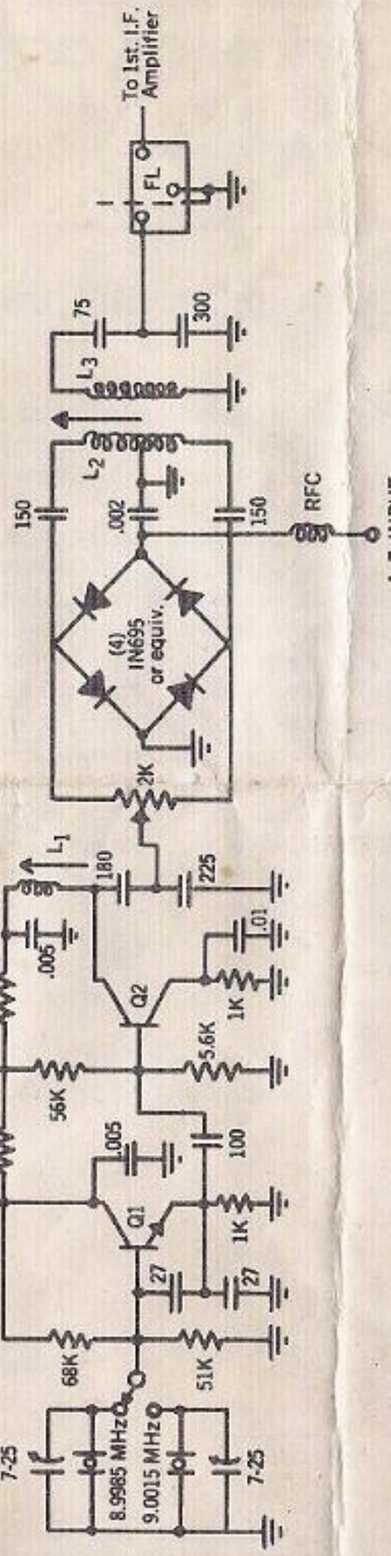


Fig. II

Solid State Oscillator & Balanced Modulator

NOTES:

1. All capacitors expressed in decimals mfd, others pfd.
2. All resistors in ohms, K indicates 1000
3. L_1 = 3 ~~mh~~ slug tuned
4. L_2 = 18 turns. #36 wire bifiler wound over L_3
5. L_3 = 5.5 ~~mh~~
6. Oscillator crystals can be adjustable ± 800 cps of nominal frequencies with values shown.
7. Carrier suppression is measured in excess of 50 db with bifiler wound transformer as shown.
8. Q & Q_2 = 2N706 (R.C.A.)

L_1 & L_3 same h.

GOLDEN GUARDIAN AND SILVER SENTINEL SINGLE SIDEBAND FILTER DATA

SPECIFICATIONS

Listed below are the specifications for the Golden Guardian and Silver Sentinel Single Sideband Filters. Both filters are quite suitable for use in single sideband transmitters, receivers or transceivers. We suggest you select the unit that best fulfills the requirements of your particular application.

	Golden Guardian	Silver Sentinel
Rise Time 6 db to 20 db	250 cps	450 cps
Rise Time 20 db to 50 db	500 cps	800 cps
Ultimate Attenuation	55 db	40 db
Termination	600Ω + 25 pf	500Ω + 30 pf

TERMINATION INFORMATION

In terminating these filters, there are two very important factors to keep in mind. First, the filter must be resistively terminated and, second, it must have the proper reactive termination. The capacitance required to produce the proper reactance is shown above. Problems which may occur and methods of correcting these problems are listed below.

1. A dip on the low frequency side of the pass band indicates that the termination is too high (resistive).
2. A dip in excess of one db on the high frequency side indicates that the termination is too low (resistive).
3. A dip in the middle of the pass band in excess of one db indicates that the capacitive termination is incorrect.

Under most misterminated conditions, the attenuation skirts will remain steep but the passband will be degraded. Insertion loss will increase if the mistermination is extreme.