

2. CRYSTAL

- a. Select the crystal to provide the required marker frequency and plug into the "Crystal" holder on the front panel. Note: The fundamental of the crystal must be between 3 MC and 20 MC for satisfactory operation.
- b. Turn the MARKER selector switch to "Crystal" position.
- c. Adjust the MARKER OUTPUT Control to the desired marker pip height. It should be noted that the output of the Crystal Marker Oscillator will be lower than the Variable Marker, because harmonic operation is necessary, and the oscillator circuit has been designed for utmost stability.
- d. If audio modulation is desired, throw the AUDIO MOD. switch to "On" position.

D. USING THE EXTERNAL MARKER SIGNAL

If it is desirable to use 2 marker pips on a given response curve, this is simply accomplished by connecting an accurate RF signal generator to the EXTERNAL MARKER connector and setting it to produce the desired marker frequency. The output control of the auxiliary oscillator should be adjusted to give approximately the same size "pip" as the one produced by the TVG-2 Variable Marker.

E. CHECKING VARIABLE MARKER CALIBRATION

Calibration of Marker Generator using a 5 MC crystal plugged into crystal jack and using a pair of high impedance headphones connected to the Beat Det. Jack for listening to the beat null point, or connecting a scope to the Beat Det. Jack to make a visual analysis of the detected beat null point.

- (1) Plug 5 MC crystal into Jack.
- (2) Set Range SW to Band "A".
- (3) Set Marker Selector SW to Cal. Pos.
- (4) Connect headphones to Beat Det. Jack for detecting the beat or connect scope for visual detection of beat.
- (5) Using the following chart, various frequencies may be checked against the 5 MC crystal and by noting the position of the pointer against the reference scale closer resetability may be obtained.
 - (a) Using a pair of headphones the null point will be found between two peaks (i.e. tuning the dial pointer to 5 MC a beat note can be heard which will have a higher pitched sound either side of the null point, and the exact null point will be zero cycles per second where nothing can be heard.)
 - (b) Using a scope the null point will also be found between two peaks (i.e. tuning the dial pointer to 5 MC a beat note will appear on the scope screen and the exact null point will be zero amplitude between the peaks).
- (6) The chart frequencies which are marked with an asterisk will be found to give the loudest beats when using headphones, and the greatest amplitude when using a scope.