

## **SMC MASTR II NARROWBAND UPGRADE**

### **UHF 19D432679G2 450-470 MHz Exciter**

The Exciter is Crystal Controlled ( $F_c = \text{Crystal Frequency} \times 36$ ). The crystal, oscillator, and temperature compensation circuits are enclosed in the 2C-FM ICOM (Integrated Circuit Oscillator Module) with Carrier Stability of  $\pm 0.0002\%$ . The 2C-FM ICOM IS modulated by the output of the Audio Processor Circuit, producing Direct FM equivalent to the output of the audio processor.

The Audio Processor Circuit (19C321542G2) provides approximately 24dB gain along with pre-emphasis, limiting, and post-limit filtering. The MOD ADJ control (R104) on the exciter board is set for a deviation of 2.0 kHz deviation. The CG MOD ADJ control (R103) is set for .375 kHz deviation. Total system deviation is set at or below 2.5 kHz.

The modulated output of the 2C-FM-ICOM is applied to the Buffer, First and Second Tripler tuned Circuits, then the First and Second Doubler tuned circuits. The Carrier Frequency output of the Second Doubler is Amplified and Impedance Matched through a tuned circuit and presented at a minimum of 185 mw at J101.