

SMC MASTR II NARROWBAND UPGRADE PLL TRANSMITTER ALIGNMENT (VHF)

REQUIRED TEST EQUIPMENT:

- *Communications service monitor
- *RF Wattmeter and 50 ohm load (preferably Bird model 6154 or equivalent)
- *Audio tone generator

PRELIMINARY SET-UP AND TUNING:

1. Turn down R8 (fully counter-clockwise) and R6 (fully clockwise) on the Transmit Power Amplifier.
2. Turn down R103 and R104 (fully counter-clockwise) on the Exciter.

TX TUNING PROCEDURE: (EXCITER 190423249G2)

1. Connect the 50 ohm load to J101 of exciter. Key transmitter and verify that the “lock” LED illuminates. If not, using a DC voltmeter across TP101 and A-, adjust L101 for a voltage of 5VDC with the transmitter keyed. Remove voltmeter and keeping the transmitter keyed, adjust XY101 (transmit ICOM) with the communications service monitor to transmit operating frequency.
2. Turn modulation adjust R104 and CG modulation adjust R103 pots all the way down (counter-clockwise). Using the audio tone generator, inject a 1000 Hz tone with a level of 1VAC RMS between P902 pin 6 and P902 pin 4 on exciter. Key transmitter and adjust R104 (mod) to indicate 2.0 kHz of deviation on the communications monitor. Unkey transmitter, remove audio tone generator.
3. For units with CG encode, connect CTCSS encoder, key transmitter, and adjust R103 (CG) to indicate a deviation of 375 kHz on the communications service monitor. Unkey transmitter.
4. Disconnect 50 ohm load.

(POWER AMPLIFIER 110W)

1. Connect RF wattmeter and 50 ohm load to TX antenna port of the power amplifier.
2. Key transmitter and adjust R6 for a wattmeter reading of no more than 125 watts and adjust C2 and C4 repeatedly to obtain maximum RF output power.
3. Reset R6 to a power level of 125 watts.
4. Set R8 for rated power of 110 watts.
5. Unkey transmitter, disconnect RF wattmeter and load.

