Trainer's Warehouse Transmitter Description

The TH7107 transmitter IC, IC1, contains an internal oscillator phase locked loop which locks the oscillator to 32 times the external crystal frequency. Therefore a crystal frequency of 9.844Mhz produces an output frequency of 315.0MHz. The PLL loop filter components are C6, R1, C5.
The frequency is FSK modulated by switching C2 in parallel with C1 with an internal transistor which is driven by the input to pin3. The frequency shift results in approximately a 50KHz output frequency shift.
The output of IC1 is a balanced open collector so L1 and L2 provide the collector voltage, and C7, C8 form a tuned loop. CT1 is not used because C7 is selected for correct loop tuning. The output power can be adjusted by changing R3 sets current in the output stage.

Q1,Q2,C10,R5,R9,R6,R11,C14 form a triggered monostable multivibrator which turns the transmitter on for approximately 180mS when one or more of the switches, SW1 through SW4, are pressed.

In oder to reduce the effect of spurious signals, a tone of approximately 4.8KHz is transmitted. This is obtained by dividing the crystal frequency by 2048. IC1 contains an internal divider which produces ¼the crystal frequency at pin 8. U1 is a CMOS divider which is used to divide the signal on pin 8 of IC1 by 512. The 4.8KHz signal on pin 13 of U1 is applied to the FSK input, pin 3 of IC1.

TRAINERS WAREHOUSE
FCC ID : PKXWT2000
JOB # : 155ZU1
EXHIBIT # : 10