

M021000 Functional Description:

The M02100 family of transmitters are used in conjunction with various different Innotek collar receiver units to provide a means for containing an animal within a specific area.

The primary function of the circuit is to send out an 8-bit PWM coded word on one of two alternating frequencies (8.2kHz and 13.2kHz). This is accomplished via the microcontroller (U1) modulating the FET (Q2) with the appropriate frequency for the proper pulse duration (a "0" is approximately 2ms wide and a "1" is approximately 4ms wide). The circuit puts out a word on the 8.2kHz frequency then puts out the same word on the 13.2kHz frequency 131ms later. This pattern repeats continuously while the unit is powered up. A buried wire is connected to the + and – terminals of J2 and serves as the radiating element for this transmitter. This wire is routed and buried in the area for which containment is desired.

The field strength of the signal is controlled via adjusting the voltage using the potentiometer within S2. Also, J4 may be jumpered to include the 680uH inductor which further attenuates the signal. Jumper J3 is used to program the modulated bit pattern emitted from the unit.

As an ancillary function, the unit also serves as an inductive charging station to recharge NiCd batteries within several versions of collar receivers.

Power and ground for the transmitter are provided by an external AC/DC transformer.