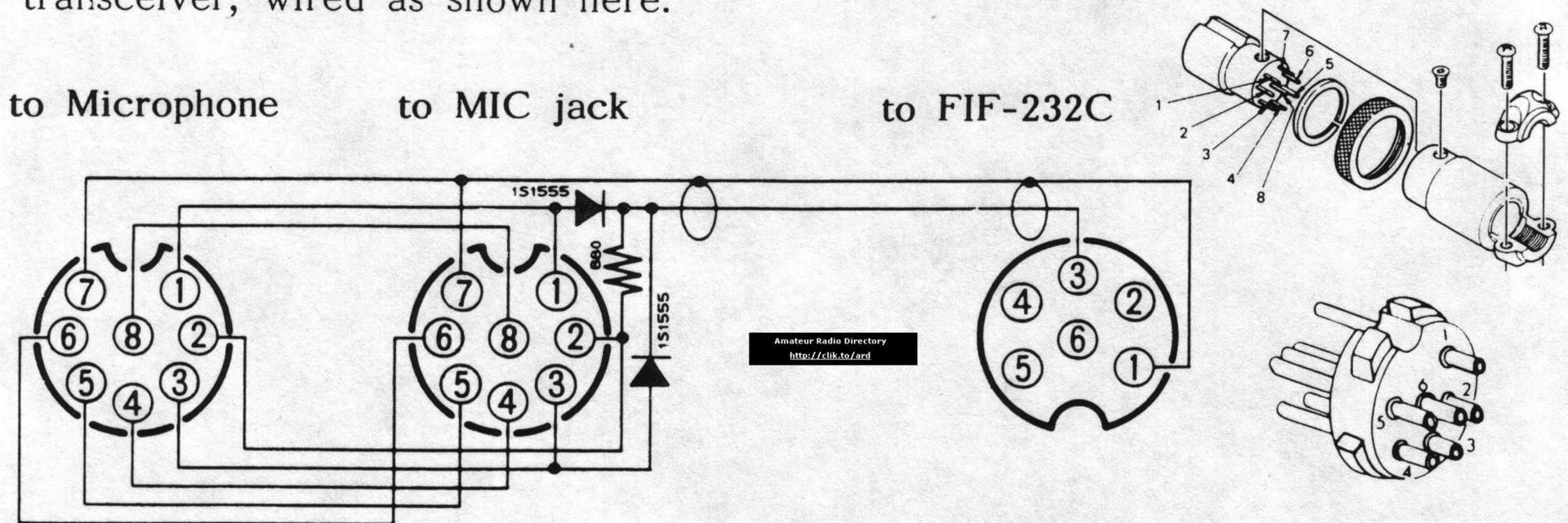


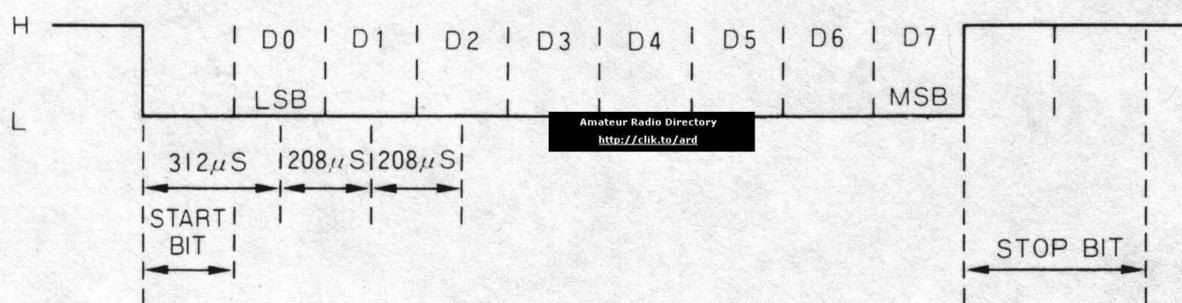
CAT System External Computer Control

The CAT (Computer Aided Transceiver) System in the FT-712RH allows external control of the operating frequency, transmit/receive switching and high/low transmit power selection from an external personal computer. Also, if the optional FTS-12 CTCSS Unit is installed, the CTCSS tone frequency and encode/decode status of the tone squelch system can be selected.

Serial data is passed from pin 2 or pin 3 (TxD) of the computer RS-232C serial port to pins 1 and 3 of the MIC jack on the front panel of the transceiver, wired as shown here:

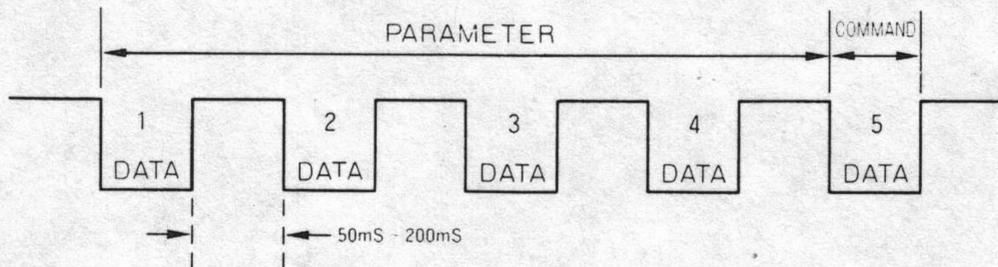


Data is sent at 4800 bits/sec., and each data byte sent consists of one start bit, 8 data bits, two stop bits and no parity bit:



Data Format for 1 Character

All CAT System data transfers consist of blocks of five bytes as just described, sent with 50 to 200ms between each byte. The last byte to be sent in each block is the instruction opcode, while the first four bytes of each block are arguments: either parameters for that instruction, or dummy values (required to pad the block out to five bytes when fewer are needed by the instruction):



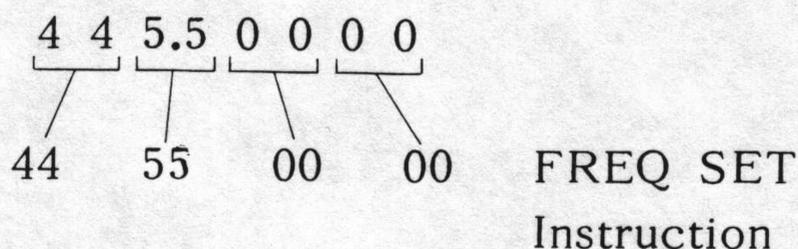
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Data Format for 1 Block (5 Characters)

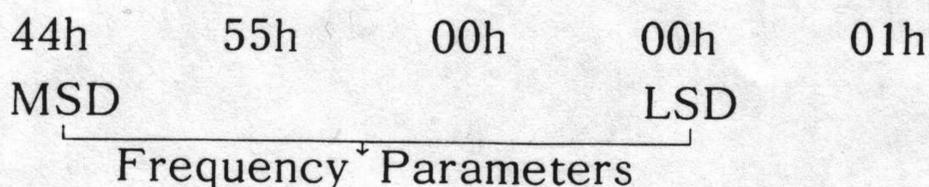
There are five types of instruction opcodes for the FT-712RH listed in the Instruction Code Chart on the next page. Notice that three of the instructions require no arguments. However, every Command Block sent to the transceiver must always consist of five bytes. The unused parameter bytes will be ignored when such Instructions are executed, so their value is irrelevant (they need not be zeroed).

EXAMPLE: To set 445.5000 MHz as the current operating frequency;

- (1) Build the four argument byte values from the desired parameter (frequency, in this case):



- (2) Convert the decimal frequency argument values into packed BCD (Binary-Coded-Decimal, with two decimal digits encoded into each byte), and add the appropriate instruction byte on the end. The small "h"s below indicate hexadecimal (base 16) values, which in packed BCD use the same digits as their decimal equivalents.



- (3) Send the five bytes to the transceiver, MSD first.