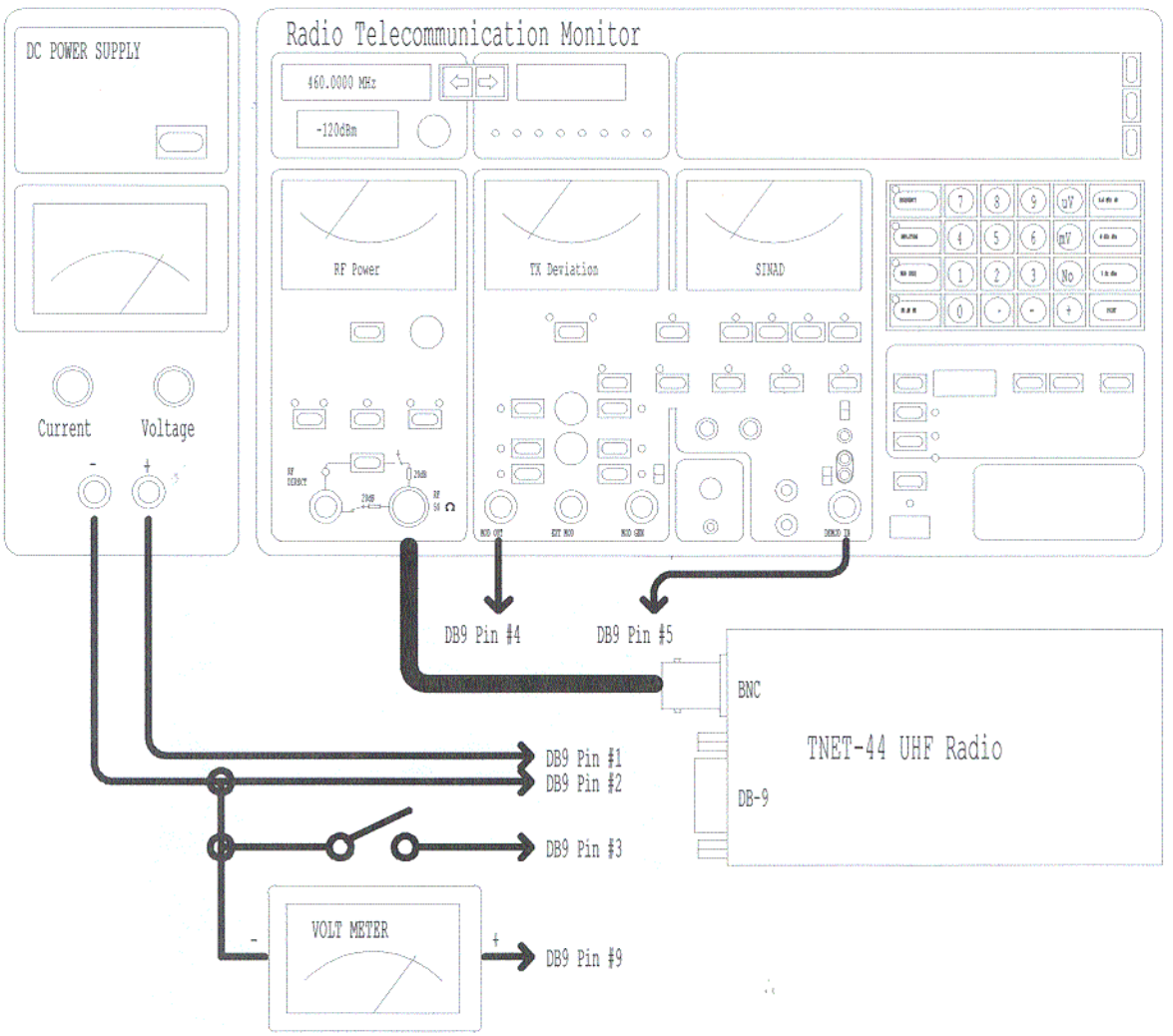
4. Alignment procedure and programming.

4.1 Equipment setup for Alignment and test.

Connect TNET-44 UHF radio and power supply, test equipment as follows.



Terminals	Type A(DB9 Female)
Pin #1	VCC
Pin #2	GND
Pin #3	PTT(active low)
Pin #4	Audio(Data) In
Pin #5	Audio(Data) Out
Pin #6	PIO for program
Pin #7	CH A/B(default A, Low=CH B)
Pin #8	CLK for program
Pin #9	CD(active low)

4.2 Alignment.

Follow step 1 through step 3, refer to figure 4.1

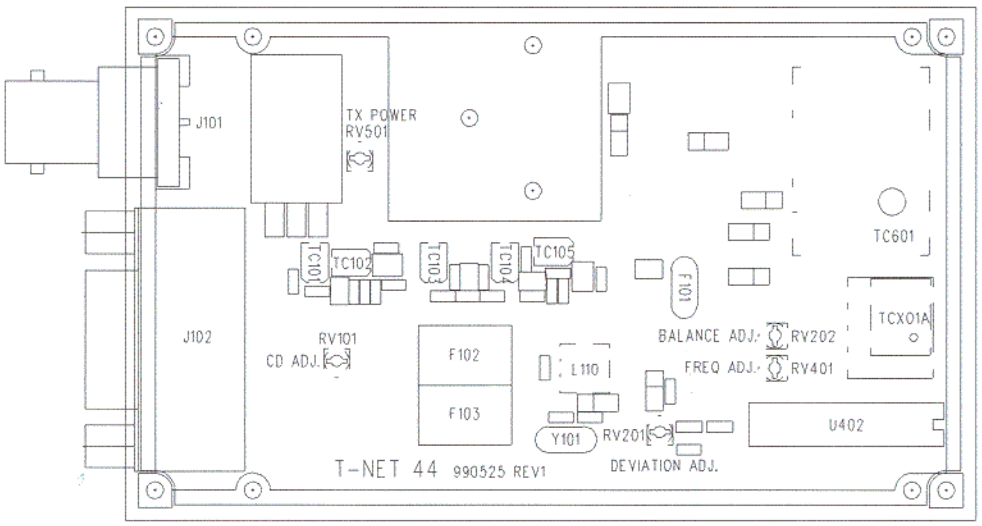


Figure 4.1

Step 1(VCO Alignment)

a. Turn TC601 to read 2.0Volts +-0.05Volts at junction of R406 and C408 on bottom of the PCB.

Step 2(Transmitter Alignment)

a. Press PTT switch and turn RV401(FREQ. ADJ) to set precise transmit frequency such as 460.0000Mhz +-50Hz.

b. Press PTT switch and turn RV501(TX POWER) to set 2W +-0.05Watts.

c. Set RV202 and RV201 to center position and press PTT switch while supply 100Hz 25mVrms sine wave signal to J102 pin#4-Audio(Data) In-.

d. Read FM deviation on test equipment with 100Hz 25mVrms sine wave and supply 1000Hz 25mVrms sine wave signal to J102 pin#4-Audio(Data) In-

e. Turn RV202(Balance Adj.) to set FM deviation on test equipment with 1000Hz is same deviation with that of 100Hz.

f. Repeat "c" through "e" to get same FM deviation for 100Hz 25mVrms sine wave and 1000Hz 25mVrms sine wave.

g. Once the Balance Adjustment(RV202 with 100Hz and 1000Hz sine wave) is done, set test equipment to output 1000Hz 500mVrms sine wave.

h. Turn RV201(Deviation Adj.) to set +-4.4Khz FM deviation for 16Khz occupied bandwidth(Also known as "Wide" or 25Khz) or +-2.2Khz FM deviation for 8.5Khz occupied bandwidth(Also known as "Narrow" or 12.5Khz).

i. Release PTT switch

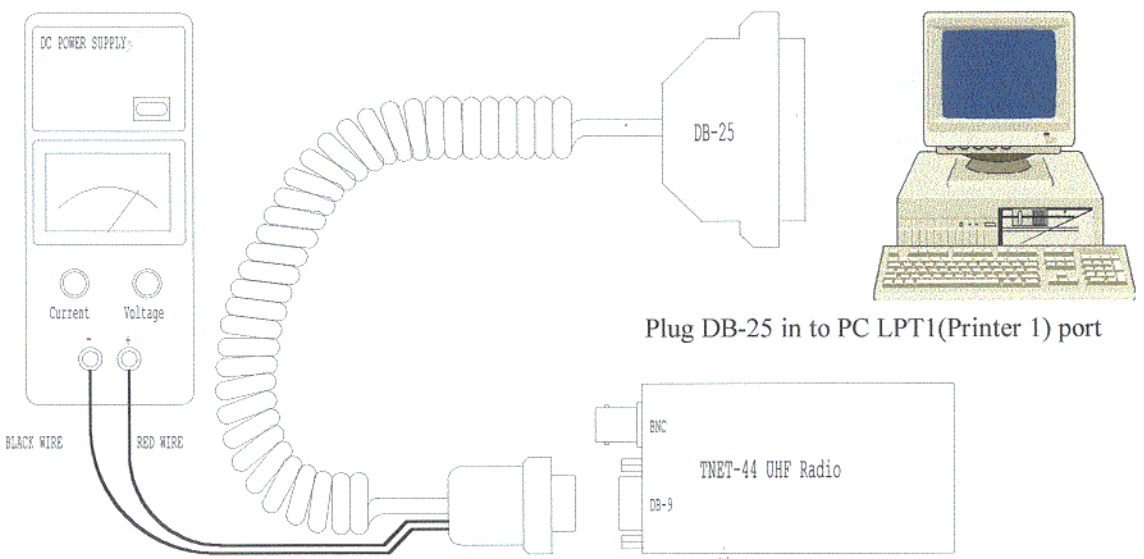
Step 3(Receiver Alignment)

a. Set test equipment for RX mode.

b. Set the test equipment SSG frequency at 460.0000Mhz with +-3Khz deviation(1Khz MOD. Freq.) and –47dBm RF output level.(+-1.5Khz deviation for 8.5Khz occupied bandwidth)
c. Turn L110 for maximum received audio level at pin#5
d. Turn TC101, TC102, TC103, TC104 and TC105 for best sensitivity(SINAD) while decrease the SSG level as needed.
e. Set SSG at –116dBm and turn RV101(CD-Carrier Detector Adj.-) from all the way clockwise to counter clockwise to set RV101 at a point that voltage at DB-9 Pin#9(CD) changes from "H"(4.5Volts) to "L"(0.2Volts).

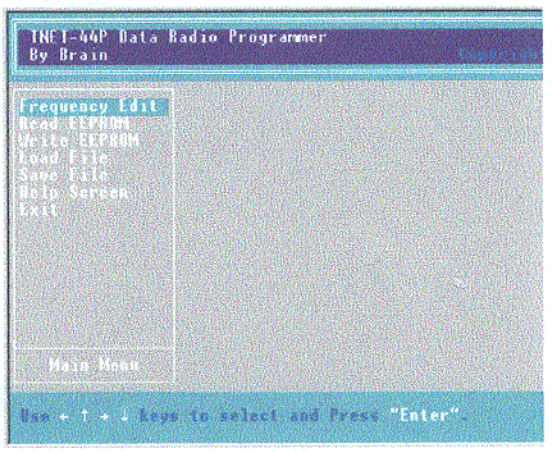
4.3 Programming.

Setup TNET-44 UHF Radio with TNET-44P programming cable and IBM compatible Personal computer(loaded with Windows98/95/3.1) as follows and follow Step 1 through Step 10.



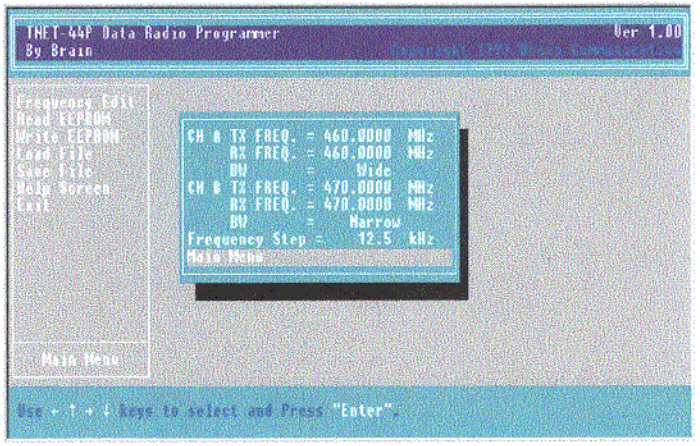
Plug DB-25 in to PC LPT1(Printer 1) port

Step 1 : Apply DC 10 Volts to Black and Red wire from programming cable.
Step 2 : Insert 3.5 inch TNET-44 programming diskette to PC diskette driver.
Step 3 : Execute A:\TNET-44P.EXE from Windows98 Dos window.
Step 4 : Insert DB-9 male connector on the programming cable on to DB-9 connector on TNET-44 UHF Radio.
Step 5 : Select "Frequency Edit" using arrow keys.
Step 6 : Press "ENTER" key on PC keyboard to open "Frequency Edit" window.
Step 7 : Enter desired frequency and bandwidth, channel step.
Step 8 : Select "Main Menu" and press "ENTER" Key on PC keyboard.

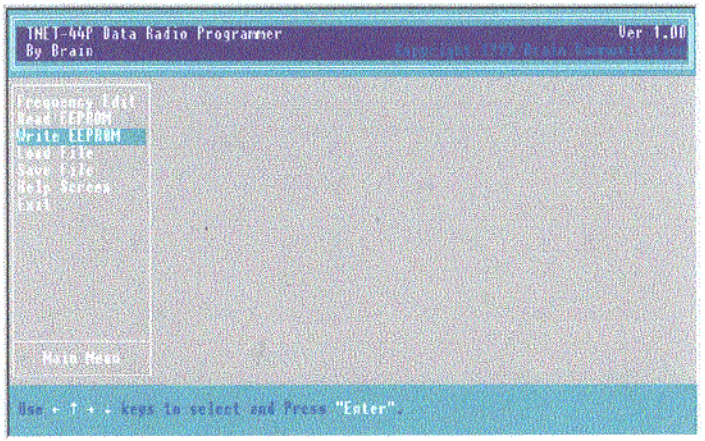


Step 9: On the "Main Menu", select Write EEPROM to write edited data to TNET-44 UHF Radio.

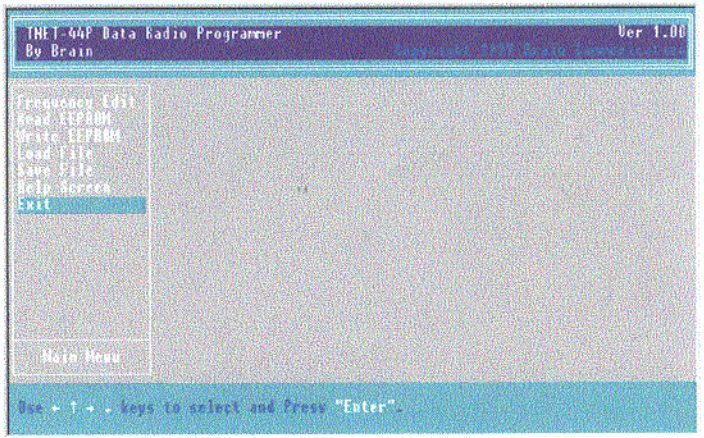
Step 10 : Select "Exit" and press "ENTER" key to exit from the programming software.



Frequency editing screen



Write new frequency data to TNET-44 UHF Radio



After program new frequency, exit from the programmer.