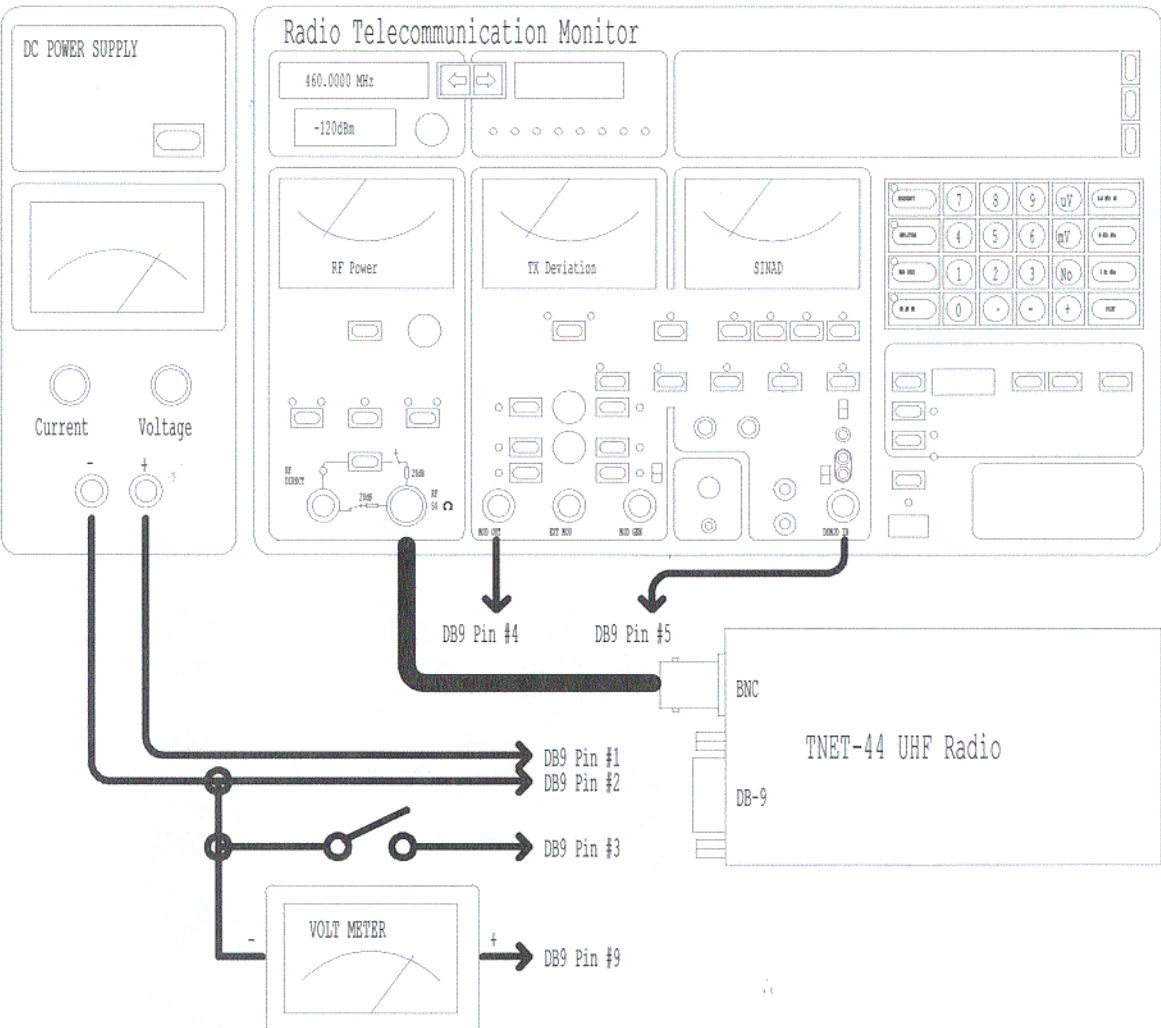


4. Alignment procedure and programming.

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)

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 JOB # : 665ZAU1
 EXHIBIT # : 5

4.2 Alignment.

Follow step 1 through step 3, refer to figure 4.1

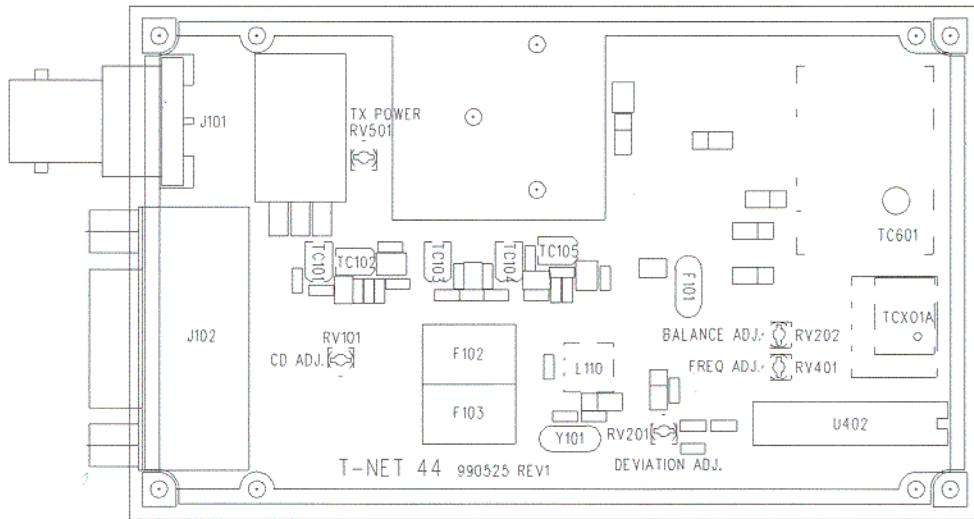


Figure 4.1

Step 1(VCO Alignment)

- a. Turn TC601 to read 2.0Volts ± 0.05 Volts 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 ± 50 Hz.
- b. Press PTT switch and turn RV501(TX POWER) to set 2W ± 0.05 Watts.
- 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 ± 4.4 Khz FM deviation for 16Khz occupied bandwidth(Also known as "Wide" or 25Khz) or ± 2.2 Khz FM deviation for 8.5Khz occupied bandwidth(Also known as "Narrow" or 12.5Khz).
- i. Release PTT switch

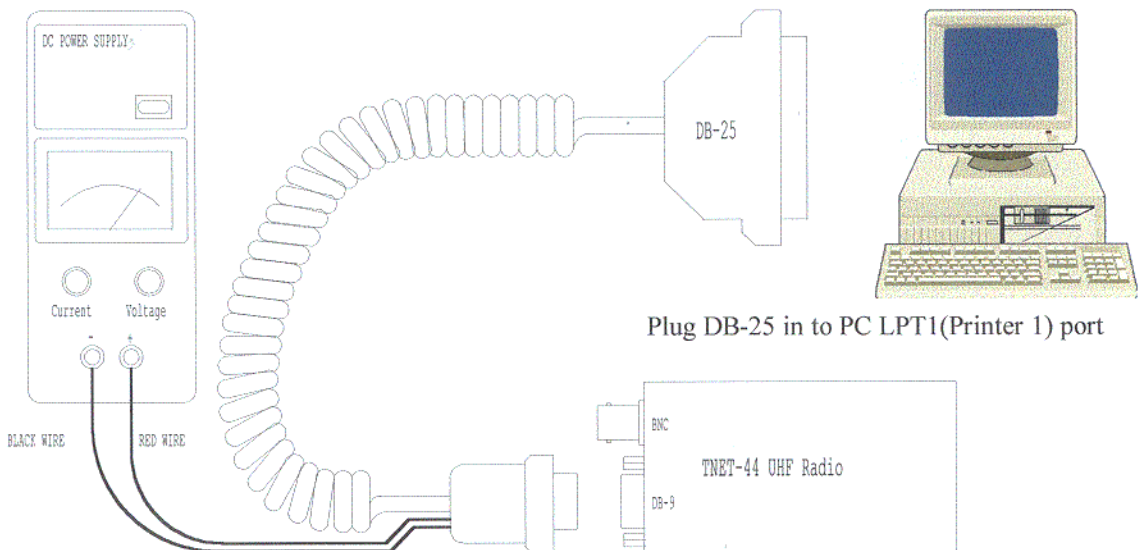
Step 3(Receiver Alignment)

- a. Set test equipment for RX mode.

- b. Set the test equipment SSG frequency at 460.0000Mhz with ± 3 Khz deviation(1Khz MOD. Freq.) and -47 dBm RF output level.(± 1.5 Khz 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 -116 dBm 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).

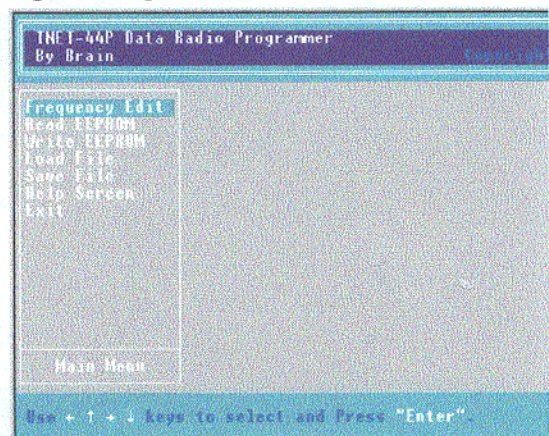
4.3 Programming.

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.



- 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.

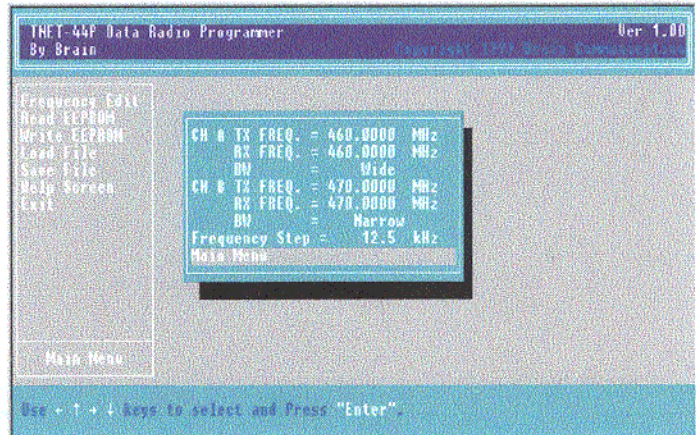
- Step 5 : Select "Frequency Edit" using arrow keys.
- Step 6 : Press "ENTER" key on PC keyboard to open "Frequency Edit" window.
- Step 7 : Enter desired frequency and bandwidth, channel step.
- Step 8 : Select "Main Menu" and press "ENTER" Key on PC keyboard.



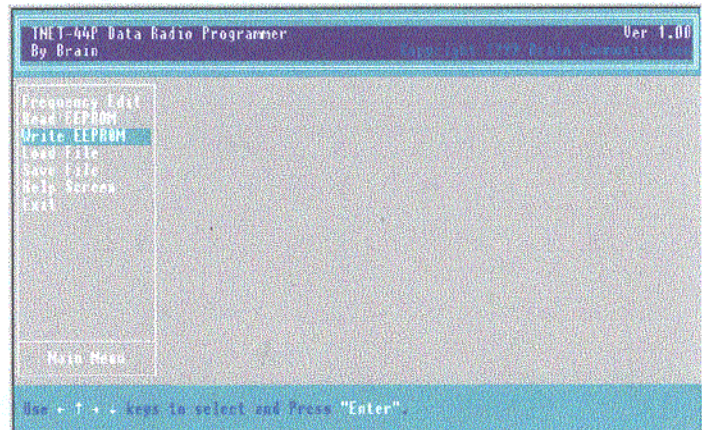
Step 9: On the “Main Menu”,
select Write EEPROM
to write edited data to
TNET-44 UHF Radio.

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.

