TK-8102H(K3)Tuning Procedure

1-1 Tuning Procedure

Before attempting to tune the transceiver, connect the unit to a suitable power supply.

Whenever the transmitter tuned, must be connected to a suitable dummy load, unless the instructions specify otherwise. The speaker output connector must be terminated with a 4ohms dummy load at any time during the tuning and connected to an AC voltmeter and an audio distortion meter or a SINAD measurement meter at all the time during the tuning.

Adjusting Mode

Connect with the Radio and Personal Computer to COMPUTER PROGRAMMING INTERFACE (KPG-46)

1-2 Tuning Items

        Frequency Tune

        RF High Power

        RF Low Power

        DQT Balance (Wide/Narrow)

        Max Deviation (Wide/Narrow)

        QT Fine Deviation (Wide/Narrow)

        DQT Fine Deviation (Wide/Narrow)

        DTMF Fine Deviation (Wide/Narrow)

        Sensitivity (Wide)

        Squelch(Tight) (Wide/Narrow)

        Squelch(Open) (Wide/Narrow)

1-3 Test Mode

        Starting Test Mode, select the Tuning Frequency and Signaling.

1-3-1 Click the Program or press [Alt]+[P] to open the Program Menu of Window.

1-3-2 Click Test Mode or press [T] to Test Mode.

1-3-3 Open the Test Mode window after Tuning Data Read.

 : Combo Box

1-3-4 Click Combo box or use [Tab] keys to select channel combo box.

    Then click or use [↓][↑] keys to select channel number.

1-3-5 Click Combo box or use [Tab] keys to select Signaling combo box.

Then click or use [↓][↑] keys to select Signaling number.

1-3-6 Press the [Space] key or Click the [PTT] button on the Test Mode Window

then Transmitter on.

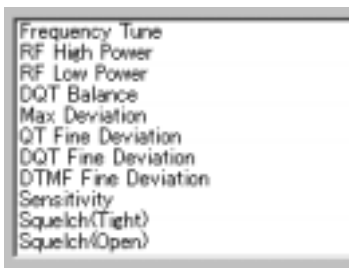**1-3-7** Back to Reception during transmitter use [Space] keys or Click the [PTT] button.

2-1 Tuning Mode

Starting Tuning Mode from Test Mode.

2-1-1 Click [Wide] button or use [Alt]+[w] keys to select Wide.

2-1-2 Click [Narrow] button or use Press [Alt]+[n] keys to select Narrow.

2-1-3 Click list box or use [Tab] key to select List box. Then Click or use [↓][↑] keys to select tuning item.

Then Click the [Tuning Mode] button or use [Enter] key to go to Tuning Mode.

: List Box

2-1-4 Open Tuning Mode window.

: Slider

2-1-5 Press the [Space] key or Click the [PTT] button on the Test Mode Window

then Transmitter on.

2-1-6 Back to Reception during transmitter use [Space] keys or Click the [PTT] button.

2-1-7 Click the Slider and use [←][→] keys to adjust the level then press [OK] button

or press use [Alt]+[o] keys.

2-1-8 Click [Cancel] button or press use [Alt]+[c] keys to cancel the adjustment level.

2-1-9 Return to Test Mode Window.

2-1-10 Repeat from 2-1-1 to 2-1-9 to adjust each tuning item.

3-1 Ending Test Mode

3-1-1 Click the Exit button or press [Alt] +[x] on the test mode window to end test mode.

4-1 Tuning Frequencies

Low	RX : 400.05000,	TX : 400.10000
Low'	RX : 405.55000,	TX : 405.60000
Center	RX : 415.05000,	TX : 415.10000
High'	RX : 422.55000,	TX : 422.60000
High	RX : 429.95000,	TX : 429.90000

Adjustment points

1point : Use Center frequency

3points : Use Low, Center and High frequencies

5points : Use Low, Low', Center, High' and High frequencies

5-1 VCO Alignment

5-1-1 Connect a voltmeter to CV

5-1-2 Set the frequency High

5-1-3 Adjust the voltage 5.5±0.2V (TX:TC2, RX:TC1)

5-2 Transmitter tuning

5-2-1 Select the tuning item "Frequency Tune", set the frequency Center and transmit the radio, then adjust the frequency to 415.10000MHz ± 50Hz

5-2-2 Select the tuning item "RF High Power", and transmit the radio. Then adjust the RF Power to 45 ± 1.0W.   Adjustment point is 5.

5-2-3 Select the tuning item "RF Low Power", and transmit the radio. Then adjust the RF Power to 25 ± 1.0 W.   Adjustment point is 5.

5-2-4 Select the tuning item "DQT Balance(Wide)", and transmit the radio. Then adjust the DQT waveform flat.   Adjustment point is 3.

5-2-5 Select the tuning item "DQT Balance(Narrow)", and transmit the radio.

Then adjust the DQT waveform flat.　　Adjustment point is 1.

5-2-6 Select the tuning item "Max Deviation(Wide)" and transmit the radio.

Then adjust the Deviation 4.0 ± 0.1kHz.　　Adjustment point is 3.

5-2-7 Select the tuning item "Max Deviation(Narrow)" and transmit the radio.

Then adjust the Deviation 2.0 ± 0.05kHz.　　Adjustment point is 1.

5-2-8 Select the tuning item "QT Fine Deviation(Wide)" and transmit the radio.

Then adjust the Deviation 0.75 ± 0.05kHz.　　Adjustment point is 1.

5-2-9 Select the tuning item "QT Fine Deviation(Narrow)" and transmit the radio.

Then adjust the Deviation 0.35 ± 0.05kHz.　　Adjustment point is 1.

5-2-10 Select the tuning item "DQT Fine Deviation(Wide)" and transmit the radio.

Then adjust the Deviation 0.75 ± 0.05kHz.　　Adjustment point is 1.

5-2-11 Select the tuning item "DQT Fine Deviation(Narrow)" and transmit the radio.

Then adjust the Deviation 0.35 ± 0.05kHz.　　Adjustment point is 1.

5-2-12 Select the tuning item "DTMF Fine Deviation(Wide)" and transmit the radio.

Then adjust the Deviation 3.0 ± 0.2kHz.　　Adjustment point is 1.

5-2-13 Select the tuning item "DTMF Fine Deviation(Narrow)" and transmit the radio.

Then adjust the Deviation 1.5 ± 0.1kHz.　　Adjustment point is 1.

5-3 Receiver tuning

5-3-1 Select the tuning item "Sensitivity".

Then adjust the receiver sensitivity maximum.　　Adjustment point is 3.

5-3-2 Select the tuning item "Squelch(Tight) (Wide)".

Then adjust the squelch(Tight) opening level –113dBm.　　Adjustment point is 1.

5-3-3 Select the tuning item "Squelch(Tight) (Narrow)".

Then adjust the squelch(Tight) opening level –112dBm.　　Adjustment point is 1.

5-3-4 Select the tuning item "Squelch(Open) (Wide)".

Then adjust the squelch(Open) opening level –120dBm.   Adjustment point is 3.

5-3-5 Select the tuning item "Squelch(Open) (Narrow)".

Then adjust the squelch(Open) opening level –119dBm.   Adjustment point is 1.