TK-785
Tuning procedure

Before attempting to tune the transceiver, connect the unit to a suitable power supply. Whenever the transmitter tuned, unit must be connected to a suitable dummy load, unless the instruction specify otherwise. The speaker output connector must be terminated with a 4 Ohms dummy load at any time during the tuning and connected to an AC voltmeter and an audio distortion meter or a SINAD measurement at all the time during the tuning.

1.1 Enter into tuning mode

Press "B" key while turn on the transceiver. After about 1 second, the test mode starts.
Next, press "A" key, now in tuning mode.

1.2 Tuning mode

Use "C" button to write tuning data through tuning modes, and right side ▲ key
▼ key to adjust tuning requirements (1 to 256 appears on LCD)
Use "D" button to select the adjustment items through tuning modes.
Use "B" button to adjust 3 to 5 points tuning.
The following operation frequency band can be chosen for the set under tuning.

LCD Display(Tuning mode)	
Frequency	256
Adjustment item	Adjustment(1 to 256)

1.3 Transmitter tuning

1.3.1 Connect a voltmeter to TP1
1.3.2 Adjust the voltage 1.4 to 1.5V(TX:TC102,RX:TC101) at the test channel 3-1 and check Less than 7.5V at the test channe2-1 in the Transmission and Reception mode.
1.3.3 Select the test channel 1-1 and select the item "FREQ" then adjust the transmission frequency to 229.100MHz ±100Hz.
1.3.4 Select Tuning item "HPOW", RF power adjustment(5points). Adjust RF output power to 10W ±1W.
1.3.5 Select Tuning item "LPOW", RF power adjustments(5points). Adjust RF output power to 5W±1W.
1.3.6 Select Tuning item "BAL", DQT balance adjustment(3points). Adjust the DQT pulse shape to obtain neat demodulation wave-form.
1.3.7 Select Tuning item "Max", deviation adjustment(3points). Apply a 1000Hz tone with a 50mV RMS level to the Microphone input. Adjust the maximum deviation to 1.75KHz±0.05KHz.
1.3.8 Select Tuning item "QT", QT deviation adjustment(3points). Adjust the QT deviation to 0.35kHz ±50Hz.
1.3.9 Select Tuning item "DQT", DQT deviation adjustment(3points). Adjust the DQT deviation to 0.35kHz ±50Hz.
1.3.10 Select Tuning item "DTMF", DTMF deviation adjustment. Adjust the DTMF deviation to 1.5kHz ±50Hz.
1.3.11 Select Tuning item "FFSK", FFSK deviation adjustment. Adjust the FFSK deviation to 1.5kHz ±50Hz.
1.3.12 Select Tuning item "TONE", TONE deviation adjustment. Adjust the TONE deviation to 1.5kHz ±50Hz.

1.4 Receiver tuning

1.4.1 Select Tuning item "SENS", QT sensitivity adjustment(3points).
Apply a 217.050MHz to the transceiver antenna terminal.
1.4.2 Tune L202,L203,and L204 to obtain the maximum receiver SINAD.
(at L SENS adjustment value 90)
1.4.3 Tune on the frequencies of 226.050MHz(C SENS) and 234.950MHz(H SENS).
Adjust to obtain the maximum receiver SINAD.
1.4.4 Select Tuning item "SQL", squelch adjustment(3points).
Apply a 217.050,226.050 and 234.95MHz with 12dB SINAD to the transceiver.
1.4.5 Be sure to make the squelch closed once then opened.
1.4.6 Set the RF signal level to 8dB SINAD. Confirm the squelch should be opened.
1.4.7 Turn off the RF signal. Then confirm the squelch should be closed.
1.4.8 Select Tuning item "L RSI", RSS1(L) adjustment(3points).
Apply a 217.050,226.050 and 234.95MHz with 12dB SINAD to the transceiver.
1.4.9 Select Tuning item "H RSI", RSS1(H) adjustment(3points).
Apply a 217.050,226.050 and 234.95MHz with -70dBm.