

TK-280 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 Ohm 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.

Power sw on during "A" push to test mode [1-1] then push "S" to tuning mode.
This *** mean using 3 numbers from CHANNEL NOB.

1 Transmitter section

1.1 Frequency adjustment

Set test mode CH1, Push "S" to enter tuning mode, Select [FREQ***], then PTT on.
160.100MHz \pm 50Hz.

1.2 TX High power adjustment

Set test mode CH1, Push "S" to enter tuning mode, Select Hpow, Push "A" to 5 points.

- Select [L Hpow***] then PTT on 4.8W \pm 0.1W.
 - Push "C" to select [L2 Hpow***] then PTT on, push "B" after tuned.
 - Push "C" to select [C Hpow ***] then PTT on, push "B" after tuned.
 - Push "C" to select [H2Hpow***] then PTT on, push "B" after tuned.
 - Push "C" to select [H Hpow***] then PTT on, push "S" to return test mode.
- The TX current is 2.2A or less.

1.3 TX Low power adjustment

Set test mode CH1, Push "S" to enter tuning mode, Select L pow, Push "A" to 5 points.

- Select [L Lpow***] then PTT on 1.0W \pm 0.1W.
 - Push "C" to select [L2 Lpow***] then PTT on, push "B" after tuned.
 - Push "C" to select [C Lpow***] then PTT on, push "B" after tuned.
 - Push "C" to select [H2 Lpow***] then PTT on, push "B" after tuned.
 - Push "C" to select [H Lpow***] then PTT on, push "S" to return test mode.
- The TX current is 1.0A or less.

1.4 DQT BAL adjustment

Set test mode CH1, Push "S" to enter tuning mode, Select [BAL***], Push "A" to enter 3 Points,

- Select [LBAL***] adjustments mode then PTT on Push "B" after tuned .
- Push "C" to select [C BAL***] then PTT on push "B" after tuned.
- Push "C" to select [H BAL***] then PTT on push "B" after tuned.
Push "A" to return to tuning mode.
- Push "Lamp" to narrow adjustment mode [n BAL***], then PTT on push "B" after tuned.
Push "Lamp" to return tuning mode.
Make the de-modulation waves into square waves.

1.5 Max deviation adjustment

Set test mode CH1, push "S" to enter tuning mode, Push "A" to 3 points adjustment mode.

- Select [L MAX***] then PTT on push "B" after tuned.
- push "C" to select [C MAX***] then PTT on push "B" after tuned.
- push "C" to select [H MAX***] then PTT on push "B" after tuned
Push "A" to return tuning mode.
Deviation \pm 3.80KHz(Wide), \pm 1.75KHz(Narrow)
Push " Lamp" to narrow adjustment mode [n MAX***] then PTT on push "Lamp" to return

tuning mode.

1.6 QT Deviation adjustment

- a) Push "S" to enter tuning mode select [FQT***] push "A" to adjustment mode.
Select [L FQT***] then PTT on push "B" after tuned.
Deviation $\pm 0.75\text{KHz}(\pm 0.05\text{KHz})$
- b) same [C FQT***]
- c) same [H FQT***]
- d) same [n FQT***]

1.7 DQT Deviation adjustment

- a) Same as QT. Select [FDQT***]
- b) same as [L FDQT***]
- c) same as [C FDQT***]
- d) same as [H FDQT***]
- e) same as [n FDQT***]
Deviation $\pm 0.75\text{KHz}(\pm 0.05\text{KHz})$

1.8 LTR Deviation adjustment

- a) Select [FLTR***]
- b) Select [L FLTR***]
- c) Select [C FLTR***]
- d) Select [H FLTR***]
- e) Select [n FLTR***]
Deviation $\pm 1.0\text{KHz}(\pm 0.05\text{KHz})$ (Wide) $\pm 0.75\text{KHz}(\pm 0.05\text{KHz})$ (Narrow)

1.9 DTMF Deviation adjustment

- a) Select [DTMF***] Deviation $\pm 2.5\text{KHz}(\pm 0.05\text{KHz})$ (Wide)
- b) Select [n DTMF***] Deviation $\pm 1.25\text{KHz}(\pm 0.05\text{KHz})$ (Narrow)

1.10 MSK Deviation adjustment

- a) Select [FMSK***] Deviation $\pm 2.5\text{KHz}(\pm 0.05\text{KHz})$ (Wide)
- b) Select [n MSK***] Deviation $\pm 1.25\text{KHz}(\pm 0.05\text{KHz})$ (Narrow)

2 Receiver section

2.1 Sensitivity

- a) Select [SENS***] 12dB SINAD or more.

2.2 Tight squelch adjustment

- a) Select [SQL***] Adjust to point of opening squelch.(Wide)
- b) Select [n SQL***] Adjust to point of opening squelch.(Narrow)

3 Reference shift low(Use KPG-36,KPG-49D)

- a) connect to PC and FPU cable with Radio.
- b) Push to "Alt" to test mode from program.[CH:No1, Signaling No:1]
- c) Push to PF10 to tuning mode.
- d) Select Reference shift Low.
- e) Push SPARE BAR(PTT ON)

4 Reference shift low(Use KPG-36,KPG-49D)

- a) Push to "Alt" to test mode from program.[CH:No1, Signaling No:1]
- b) Push to PF10 to tuning mode.
- c) Select Reference shift High.
- e) Push SPARE BAR(PTT ON)