TK-3140 (K2) 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 16 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.
491.100MHz±50Hz.

1.2 TX High power adjustment

Set test mode CH1,Push "S" to enter tuning mode, Select Hpow, Push "A" to 5 points.
a) Select [L Hpow***] then PTT on 4.0W±0.1W.
b) Push "C" to select [L2 Hpow***] then PTT on, push "B" after tuned.
c) Push "C" to select [C Hpow ***] then PTT on, push "B" after tuned.
d) Push "C" to select [H2Hpow***] then PTT on, push "B" after tuned.
e) 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.
a) Select [L Lpow***] then PTT on 1.0W±0.1W.
b) Push "C" to select [L2 Lpow***] then PTT on, push "B" after tuned.
c) Push "C" to select [C Lpow***] then PTT on, push "B" after tuned.
d) Push "C" to select [H2 Lpow***] then PTT on, push "B" after tuned.
e) 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,
a) Select [LBAL***] adjustments mode then PTT on Push "B" after tuned .
b) Push "C" to select [C BAL***] then PTT on push "B" after tuned.
c) Push "C" to select [H BAL***] then PTT on push "B" after tuned.
Push "A" to return to tuning mode.
d) 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.
a) Select [L MAX***] then PTT on push "B" after tuned.
b) push "C" to select [C MAX***] then PTT on push "B" after tuned.

c) push "C" to select [H MAX***] then PTT on push "B" after tuned
Push "A" to return tuning mode.
Deviation ±3.80KHz(Wide),±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 ±0.75KHz.(±0.05KHz) (Wide) ±0.35KHz (±0.05KHz)(Narrow)
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 ±0.75KHz(±0.05KHz) (Wide) ±0.35KHz (±0.05KHz)(Narrow)

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 ±1.0KHz(±0.05KHz)(Wide) ±0.75KHz(±0.05KHz)(Narrow)

1.9 DTMF Deviation adjustment

a) Select [DTMF***] Deviation ±3KHz(±0.05KHz)(Wide)
b) Select [n DTMF***] Deviation ±1.5KHz(±0.05KHz)(Narrow)

1.10 MSK Deviation adjustment

a) Select [FMSK***] Deviation±3KHz(±0.05KHz)(Wide)
b) Select [n MSK***] Deviation±1.5KHz(±0.05KHz)(Narrow)

2 Receiver section

2.1 Sensitivity

a) Select [SENS***] , Push "A" to 5 points.
b) Push "C" to select [L SENS***] to get best Sensitivity , then push "B" after tuned
c) Push "C" to select [L2 SENS***] to get best Sensitivity , then push "B" after tuned
d) Push "C" to select [C SENS ***] to get best Sensitivity , then push "B" after tuned
e) Push "C" to select [H2 SENS***] to get best Sensitivity , then push "B" after tuned
f) Push "C" to select [H SENS***] to get best Sensitivity , then push "B" after tuned
g) push "A" to return test mode.

2.2 Open squelch adjustment

a) Push “A” to 3 point (SSG level : 12dB SINAD)
b) Select [OSQL***] Adjust to point of opening squelch.(Wide)
c) Select [OSQL***] Adjust to point of opening squelch
d) Select [OSQL***] Adjust to point of opening squelch
e) Select [n OSQL***] Adjust to point of opening squelch.(Narrow)

2.3 Tight squelch adjustment

a)Push “A” to 3 point (SSG level : 12dB SINAD + 5 dB)
b) Select [TSQL***] Adjust to point of opening squelch.(Wide)
c) Select [TSQL***] Adjust to point of opening squelch
d) Select [TSQL***] Adjust to point of opening squelch
f) Select [n TSQL***] Adjust to point of opening squelch.(Narrow)