KN-850 HF radio Instructions

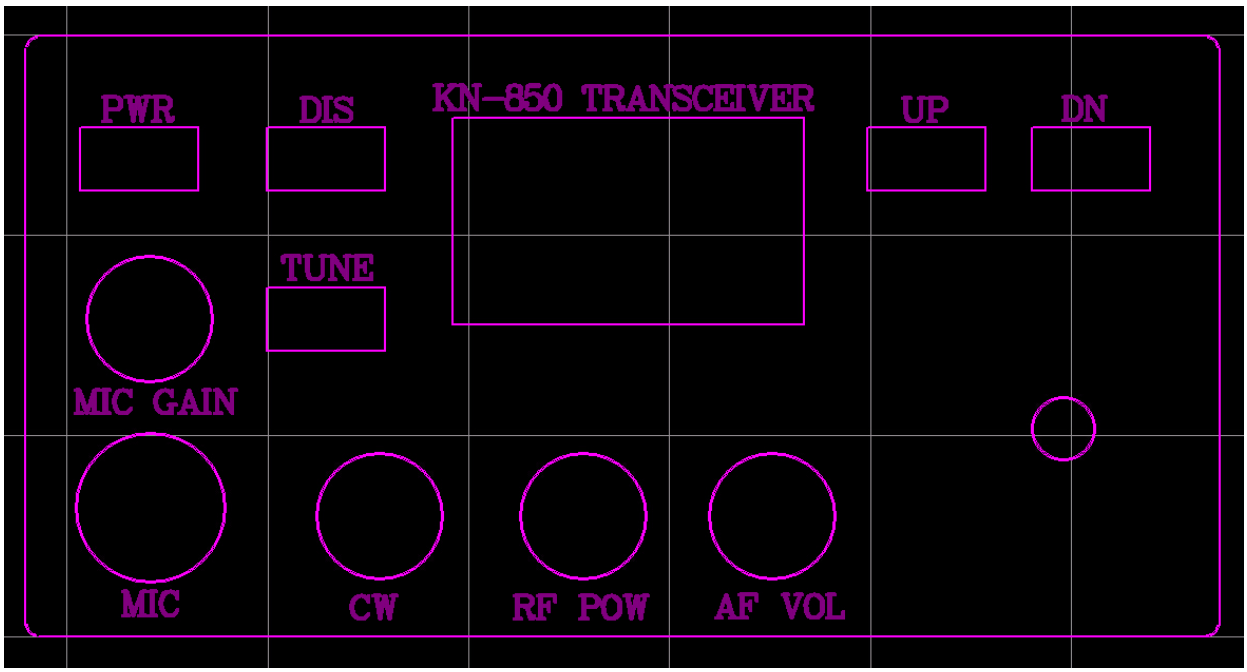
（V3.0）

Brief introduction

KN-850 due to the volume size limitation, the panel can not arrange a lot of buttons and knobs, so the machine a lot of functions are by the operating mode menu combination to achieve, please use the KN-850 users previously familiar with this manual, pay special attention to the back of the menu instructions.

Button Function Definition

Panel:



Panel total of five buttons, knobs 5, an 8-core socket and a liquid crystal display.

1、Key:

PWR：Power switch and backlight control, in some hidden menu also doubles as the Enter key.

DIS：Extension keys and menu page, menus and engineering work order menu page menu options () done by it.

UP DN：Role of these two key is to set the amount of plus or minus, additional work in the boot menu, and is also responsible for direct switching band.

TUNE：Automatic Antenna Tuner Start button, if the connection KT1 automatic antenna tuner Click to start KT1 automatic tuning.

2、Knob:

RF POWER：RF power output control, adjust it so that the output power of the machine can be changed.

AF VOL：Low-frequency gain control, commonly known as the volume knob.

CW：Automatic CW key speed adjustment button, radio work in CW mode, if you choose to use automatic key, adjust the automatic key keying speed can be

accomplished by this knob.

Frequency tuning knob：Or more commonly known as dial vulgar point called the shuttle, its main job is used to adjust the machine's operating frequency. KN-850 software to take reasonable algorithm design, so that it can produce 80 revolution step, it is difficult to reach a resolution in a general DIY kit.

MIC GAIN：Microphone amplifier gain adjustment, select the appropriate station can gain access to good modulation, too small or too cosmopolitan cause varying degrees of distortion.

3、8 core socket:

Generally referred to as microphone jack, radio work in SSB mode, if necessary launch, be sure to connect the microphone.

4、LCD Monitor:

KN-850 uses the LCD0802 LCD monitor as the main man-machine interface dialogue. All functional status, meter and adjust the machine are dependent on its display. LCD display interface is as follows:

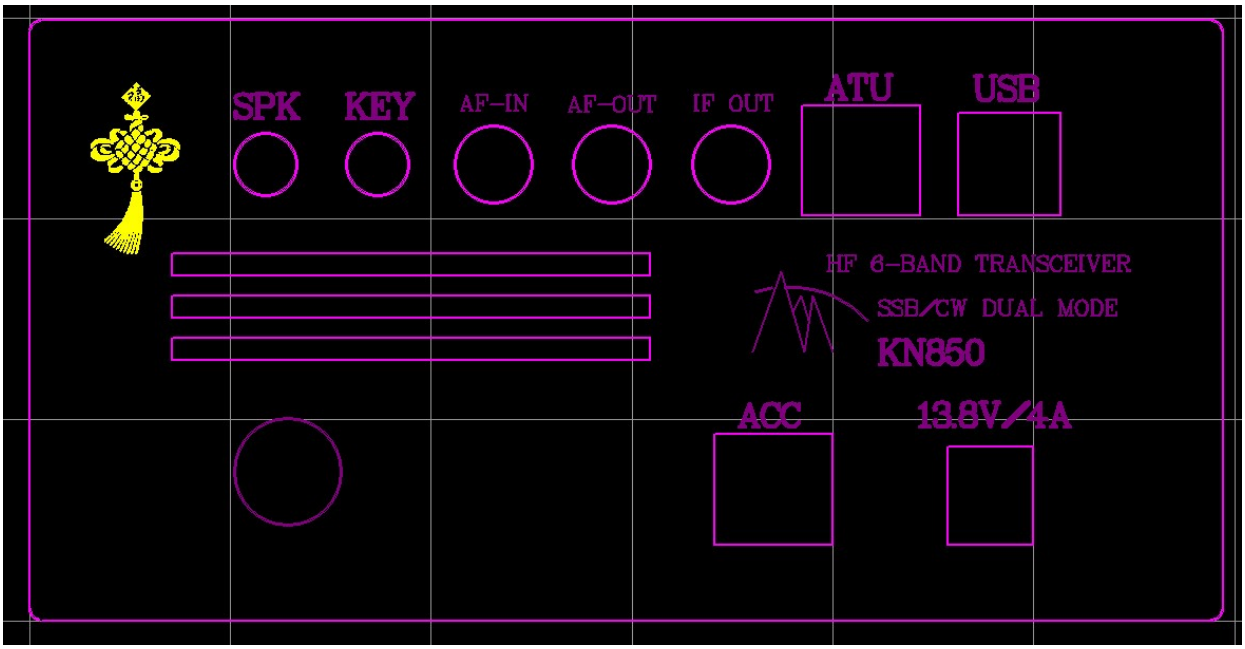
Interface definition: The LCD display shows the current operating frequency of the machine, the figure is 14.27000MHz.

VFO letter left indicates the lower row machine is currently operating at VFO mode, if the machine is in TV mode, the letter displayed here MEM

Lower row on the right side of the letter S, that the machine is currently in SSB mode, if the letter C, then indicate the CW mode. Letter R Description Radio currently receiving state after launching into radio, where the letter will be displayed T.

Most of the time, alphanumeric LCD display is such a structure that the upper display the operating frequency, lower display features tips, with the DIS key to flip, and then use the UP and DN keys to adjust certain functions.

Back of the machine:



SPK: External speaker jack, built a small radio speakers, but smaller diameter so in order to obtain better sound, we recommend using an external diameter larger speakers. KN-850 speaker impedance requirements of 8 ohms mono output.

KEY: Key outlet. When the radio using CW mode, this socket need to connect a hand key or automatic key body. KN-850 built-in automatic key module, only need to connect the automatic key body on it.

AF-IN: Audio line input, the input level should generally not exceed 300mV, it can be used for data communication.

AF-OUT: Audio line output.

IF-OUT: IF signal output, KN850 use 5MHz frequency, but also individual machines use 4.195MHz and 4.5MHz. Specific projects in the IF filter menu settings page to view.

ATU: 4-pin MINI-DIN socket, if KT1 automatic antenna tuner can be connected to this socket. The KN-850 can use the panel TUNE button control Automatic Antenna Tuner work.

USB: Automated control system interface, which can be used with computer software remotely operate the radio, you can also use this interface for radio control software upgrade.

ACC：8-pin MINI-DIN socket, band and transceiver control port.

□源插座：Coaxial power input port. Radio use 13.8V voltage, and when the station with the largest power transmission, power requirements have at least 4A current capacity.

Antenna Interface: L16 outlet. Input and output impedance of 50 ohms station and asked the antenna SWR is less than 1: 2.0. SWR too high can lead to radio emission protection, and may damage the radio.

Menu Structure

1. the normal operating mode

2. Press the DIS key sequence to cycle between each menu item, with the UP or DN key to select the function status.

Number	Name	Function Description
1	Normal operation	It can be operating frequency band, the mode adjustment, the specific method, see chapter II
2	IF filter selection	
3	Change the frequency steps	Stepping can be switched at any position
4		
5	Front high discharge switch	Press the UP or DN key to select high open or shut.
6	Channel operation	Can select a channel or VFO mode, and can be UP or DN key channel storage and recall operations
7	RIT	In this menu item you can directly use the frequency knob, the reception frequency tuning, emit frequency does not change.
8	Instrument switch	You can choose to display or not display meter
9	SWR and power meter conversion table	Use UP or DN button to select
10		
11	BACK Return	When 5 seconds without operation, automatically return to the first screen.
12	PRAC(CW exercise function)	Select with UP or DN on or off, in the ON state, pressing key code will be issued CW side tone, but the machine does not transmit motion.

1.Project menu mode

2.Press the DIS key to boot, you can enter the Project menu mode.

Number	Name	Function Description
1	Normal operation	It can be operating frequency band, the mode adjustment, the specific method, see chapter II
2	IF filter selection	
3	Change the frequency steps	Stepping can be switched at any position

5	Front high discharge switch	Press the UP or DN key to select high open or shut.
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13	XTAL	Machine reference clock settings
14	S-BAJ S1	S1 scale calibration S table
15	S-BAJ S9	S9 scale calibration S table
16	FILT1SET	Filter 1 Set
17	FILT2SET	Filter2 Set
18	FILT3SET	Filter 3 Set
19	FILT4SET	Filter 4 Set
20	FILT5SET	Filter 5Set
21	FILT6SET	Filter 6 Set
22	CW TONE	CW tone selection
23	FILT MOD	Automatic selection filter or Universal
24	KEY MOD`	Select CW mode, automatic or manual key button
25	CW DELAY	Delay Select CW mode transceiver conversion
26	HIGH SWR SET	High SWR protection threshold settings
27	SQL SET	Conversion transceiver squelch time setting
28	CAT BAND	USB port baud rate selection
29	Machine serial number inquiry	

3、Menu switching method

Press the DIS key menu can be switched through.

（1）Normal operating mode

1 status in the menu, press DIS mode keys for SSB and CW mode switch, press DIS button in order to switch between 12 and 1 in the menu to the menu.

In menu 2 to 12 Status menu, press DIS key to save settings and return to the menu one state.

（2）Project menu mode

1 status in the menu, press DIS mode keys for SSB and CW mode switching, in order to switch between 1 to 29 short press DIS menu button in the menu.

In the menu 13 to menu 21 mode, press DIS key to enter adjustment. Long press the DIS to save the settings and return to the current menu.

Note: 1 to No. 6 filter settings menu multilayer menu, after press DIS enter adjustments, press the POWER button to cycle between adjustments. Press UP or DN button to adjust parameters.

Radio Operation

1、Basic Operations

1、Normally open power

Release the POWER button turned off the machine, press the POWER button, wait until the word "KN-850" and so on when to open the machine, can be normal operation after power stations, that is, into the normal operation mode.

2、Enter the menu mode power engineering

When you press the POWER button before the first press DIS key, then press the POWER button, wait until the word "KN-850" and other release POWER and DIS button, you can hide the menu and adjust the machine to normal operation after power stations all features operation, which includes hidden mode menu operations.

Restarted after shutdown, the machine will enter the normal working interface. Adjust menu will disappear unless re-enter in accordance with the adjusted start menu approach.

3、Backlight

Press the POWER button can be the backlight on / off switch;

4、Shutdown off power

Any state long boot and press the POWER button to turn off the machine power.

2、The normal operation mode

functional operation of radio stations one by one to be explained based on the use of frequently used functions setting method.

1、Menu 1 status (machine operating frequency / band / mode adjustment)

When turned on power the display screen as shown below.

This state:

Rotational frequency knob to change the operating frequency;

UP key and the DN key can cycle through the band;

Press DIS button, the machine can be in SSB and CW modes Cycle. SSB and CW radio has two modes of operation, which is divided into LSB and USB SSB radio automatically selects LSB and USB mode according to the operating frequency.

2、

This state:

Rotational frequency knob to change the operating frequency.

UP key and the DN key can change the frequency steps; Q10 minimum step of 10Hz, the maximum step of 1MHz. Generally SSB mode 100Hz stepping down more smoothly. CW mode due to the very narrow bandwidth, usually 10Hz steps.

3、IF filter selection

KN-850 IF filter has a bandwidth of 6 groups can be arbitrarily selected. And can be put in the Project menu to set bandwidth into six groups SSB and CW mode is automatically selected by the machine.

This state:

Rotational frequency knob to change the operating frequency;

Press UP or DN button to cycle through each filter.

In the middle there FILT2, FILT3, FILT4, FILT5, FILT6, a total of six filter bandwidth.

5、Front high discharge switch

A noisy time or frequency in the signal is very strong, close frequency amplifier to improve the reception helpful. High-level switch is also software menu, it is easy to open or close it.

This state:

Rotational frequency knob to change the operating frequency;

Press UP or DN key to key, you can make high discharge switch between stations to cycle on and off.

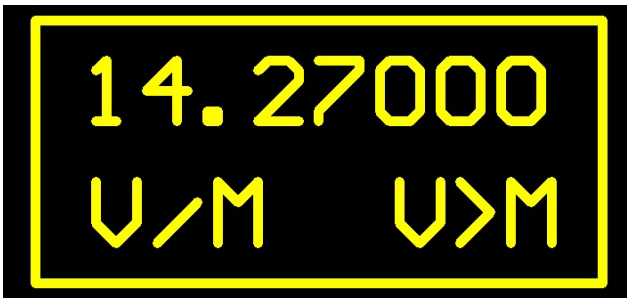
6、Channel operation

A total of 10 radio channels can be stored in memory at any frequency and mode of work stations within the band, etc., and can be transferred at any time to information VFO, and can be used in the channel encoder can adjust the frequency of the radio frequency.

This state:

Rotational frequency knob to change the operating frequency;

6.1 If the machine is currently in VFO mode, this page is this.



Interface downward in words mean something like this:

V / M operating keys for the UP button, when press UP key, the radio switches between VFO and MEM (channel mode). The first letter V, indicating the current operating status of VFO mode.

V> M, the operation key for the DN key, press the DN key when the short time, the radio will current VFO frequency, operating mode, bandwidth selection information is

stored into the current channel. The first letter V, indicating the current operating mode is the VFO mode.

6.2 If the machine is currently in MEM mode, the page is this.

M / V operating key is UP button, when press UP key, the radio will switch between MEM and VFO. The first letter M, representing the current operating state of the MEM mode.

M> V, the operation key for the DN key, press the DN key when the short time, the radio will MEM's current frequency, operating mode, bandwidth options and other information transmitted into the VFO. The first letter M, indicating the current operating mode is MEM mode.

7、RIT operation

RIT is receiving frequency tuning abbreviations. In RIT menu knob rotation frequency, the reception frequency is changed, and there will be no change in the transmission frequency. Usually in the game or deal with a lot of useful when the radio call.

At this point if the knob clockwise rotational frequency, the receiving frequency will rise, and the display is changed to the following figure.

+ 1.000 figure representing the received frequency 14.270.00MHz + 1.000KHz, namely 14.271.00MHz

If the knob counterclockwise rotation frequency, the receiving frequency is decreased, as shown below.

Figure - 1.000 representing the received frequency 14.270.00MHz-1.000KHz, namely 14.269.00MHz Carried out in the RIT frequency adjustment menu, simply changing the receiving frequency, transmitting frequency will not change.

8. Instrument switch

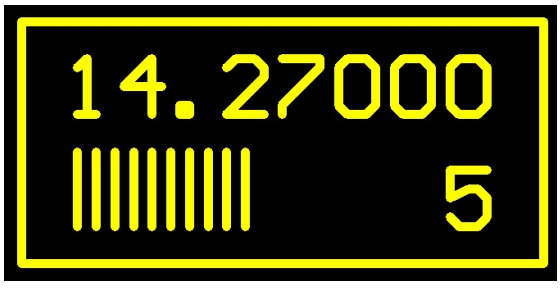
Radio instruments, including the S-meter (signal strength indication), P meter (power meter), SWR (standing wave ratio table)

This state:

Rotational frequency knob to change the operating frequency.

Press UP or DN key to select the instrument on or off.

When the meter switch in the ON position, the instrument function will be activated. Upon receiving the state for the S table work. At the time of launch, P table will be started. In the absence of any key operation six seconds later, LCD will turn down the ribbon meter display area.



Upon receiving the S table: Display grid lines, a total of 18, each cell represents an intensity of two S's. Number on the right is the specific value of S, the figure for the S5. If the signal strength exceeds S9, the figure will become "+" symbol, indicating that the current signal strength is S9 +.

When emitted into table P (power meter) display, this display is an analog display,

does not show the specific power value, approximately in the middle position, the output power of 10 watts. The letters to the right of "P" indicates that the current in emission, the instrument for the power meter.

9、SWR power meter and conversion tables

This state:

Rotational frequency knob to change the operating frequency;

Press UP or DN button to enable key radio meter area shows S / P meter or SWR meter.

11.Automatic return.

Automatic return means no keyboard within a certain time. Display interface automatically returns to the first screen that the operating mode interface.

Press UP or DN can choose to turn off or turn on BACK function

12.CW Trainer

From this menu, you can press UP or DN key states.

If set to ON, the station will serve as a CW transmitter exercise is used in CW mode, which will be issued by pressing key radio telegraph side tone, but the radio will not transmit action.

If set to OFF, the training function is turned off. Then press the key, the radio will be transferred to the launch.