

Instruction Manual

LNR FX-2

QRP FX-2 30/40 Meter CW Transceiver

Thank you for purchasing the LNR FX-2 30/40 Meter CW Transceiver. This unit is designed as a small and lightweight transceiver perfect for portable use.

Specifications

Frequency:	7.000-7.300MHZ 9.999-10.150MHZ
Power:	9-13.8 Volts DC
Power Output:	13.8VDC 40 Meters ~ Approx. 4W 13.8VDC 30 Meters ~ Approx. 2.5W
Receiver Sensitivity:	0.7UV
Weight:	290g/10.22oz.
Dimensions:	4.75" x 2.375" x 1.5"
Intermediate Frequency:	4MHZ



Appearance

On the front of the unit, you will see the VFO (LCD) display along with 4 horizontal buttons below the VFO display



Available functions

- Two bands, 40 and 30 meters, tuning limited to be within these bands (7.000,000 to 7.300,000 and 9.999.990 to 10.150.000).
- RIT tuning.
- Variable bandwidth IF.
- "Tune" mode with SWR indicator.
- Iambic (B mode) keyer, 5 to 40 wpm.
- Two (2) programmable Morse message memories of up to 120 characters each.
- 20 user programmable frequency memories, 10 for each band.
- As a battery saving method, the LCD back light will turn off after 2.5 minutes of inactivity. The display can still be viewed under strong light with the back light off and any activity such as pushing a button, tuning the frequency or tapping the paddle will turn the light back on.

Important Instructions

The FX-2 unit is installed with VSWR protection but is not intended to protect your FX-2 if your antenna exceeds 3:1 SWR. Be sure to use an analyzer if at all possible.

Quick Setup

1. Hook your antenna to the BNC connector on the left side of the FX-2. We have been very pleased using RG-174 for a feed line up to 25 feet in length.
2. Install your favorite key (Straight or Paddle) into the key port. Paddle key requires 1/8" stereo plug. Straight key requires 1/8" stereo plug.
3. Install your ear buds or headset into the phones port. The unit has very good volume so it is acceptable to use low cost phones.
4. Included with the unit is a power plug for the FX-2. You will note that the cable has a line marked on the cord indicating "+ Positive". **Make sure this is wired to your Power supply correctly or damage will occur to FX-2!**



Basic Operation

- 1) Turn unit on by rotating the volume control knob away from you. You should see the Frequency display at this time.
- 2) Adjust volume control to best suit your needs.

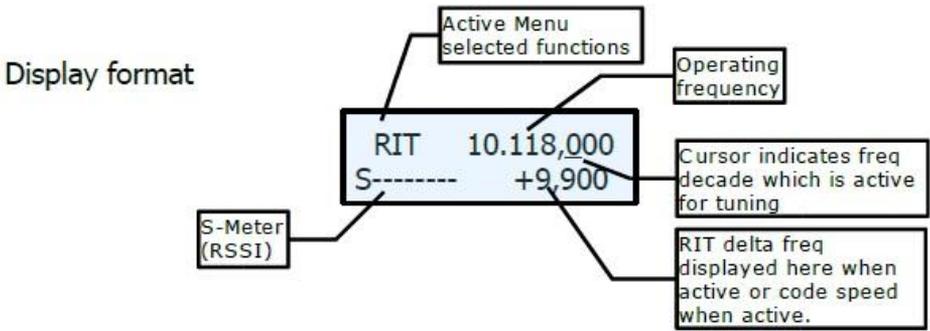
SETTINGS/FUNCTIONS

- VFO Setting is done by rotating the TUNED knob on the right side of unit. You will notice that as the VFO knob is turned the frequency will change base on the curser position on the display. Use the left/right arrow key to move curser for faster frequency change.
- Volume control is controlled by the volume control knob. Note: that there might be some sound distortion if volume control is turned to maximum, if this is the case reduce until distortion is reduced in most cases less than a quarter of a turn back.
- Independent side tone is controlled by a small pot located on the front side of the unit (see fig 2). Use a small Phillips or flat blade screw driver to adjust pot. Counter rotation increases volume /clock wise decrease. Side tone volume.

FIG 2



Note: Fully clockwise position of sidetone adjustment will mute receive sensitivity. To adjust, turn fully clockwise and adjust counter-clockwise (approx. 1/2 turn).



Initial Power ON Configuration

- 40 M band is loaded.
- 100 Hz tuning rate selected.
- Keyer speed is set to 20 wpm.
- IF bandwidth is set to narrow.
- RSSI (received Signal Strength Indicator) or "S" meter is active on the bottom, left side of the display.
- Transmit power output is indicated on the display when transmitting. The "S" will change to "T". The scale starts at 1 watt out and then increases in about 0.5 watt increments. Full scale is 4.5 watts or greater.

Band Selection

The [CAL/IF] button is used to toggle between the 40 and 30 meter bands.

NOTE: this is a timed, multi-function button.

- Push and hold closed the [CAL/IF] button for about two (2) second. Release the switch when you hear the "beep" tone. 30 or 40 Meter indicator will display.
- If a frequency has been programmed into the MEMO location, this will be used as the default power on frequency. Otherwise, either 7.030.000 MHz or 10.118.000 MHz will be loaded.
- After the initial power on frequency has been loaded, subsequent toggling between bands will restore the frequency the rig was tuned to when the band was switched.

Tuning

Tuning is done by turning the tuning knob on the upper, right hand side of the rig. Tuning rate is indicated by the decade underlined by the cursor. The frequency changes every other detent.

Changing Tuning Rate

Tuning rates (frequency steps) of 10 Hz, 100 Hz, 1 kHz and 10 kHz can be selected.

- The **[left arrow]** button advances the tuning rate to the next higher decade. The rate will roll over to the 10 Hz step after the 10 kHz decade has been selected.
- The **[right arrow]** button decreases the tuning rate to the next lower decade. The rate will roll over to the 10 kHz step after the 10 Hz step was selected.

Frequency Memories

- There are ten frequency memories for each band, 0 to 9.
- Enter the frequency memory mode by pushing and holding closed the **[CALL/IF]** button for about 1 second until the display shows the memory mode.
- When active, the display will read [MEM0 ??,???,???] on the bottom line. X is 0 to 9 and the “?” is replaced by a number if the location isn't empty.
- Select memory locations 0 to 9 with the **[right]** and **[left]** arrow buttons.
- To store the currently displayed operating frequency shown on the top line of the display, tap the **[M/V]** button. Once stored, the display will clear back to normal operation.
- A frequency stored into memory location 0 will now become the default power on frequency for that band.
- To recall a frequency from memory, press and hold **[CALL/IF]** button for about 1 second. If a valid frequency is in the memory location, it will be loaded as the new operating frequency and the display clear to normal operation. If the memory location is bank, the mode will simply exit.



RIT

- Activate **RIT** by tapping the [**CALL/IF**] button.
- [**RIT**] will be displayed in the upper left side of the display and the letter "R" enunciated.
- Exit **RIT** mode by tapping the [**CALL/IF**] button again.
- [**-0,000**] will be displayed on the second line under and in line with the proper frequency decades.
- This display shows the delta frequency between the transmit frequency and the new receive frequency.
- As the receive frequency is changed, the delta between the transmit frequency and the current receive frequency is shown on the bottom line. The delta can be up to +/- 9.900 kHz.
- Tuning rate can be changed with the arrow buttons as usual.
- Tap [**CALL/IF**] again to switch back to normal RIT mode.
- Change code speed, keyer message functions and the tuning step buttons can be used in RIT mode, but all other functions are locked out until RIT mode is exited.

NOTE: The RIT offset is saved until you either change bands or use the tuning knob to change the current operating frequency. Therefore it is possible to toggle back and forth between the RIT frequency and the normal Tx = Rx operating frequency. This can be handy if you are working a net and one station is off frequency, or when working split and you want to check to see if your transmit frequency is still clear or if someone is calling you there.

MENU Functions

The [**M/V**] button serves to select various functions from the menu. These are selected in the following order by pushing and holding down the button until the desired function label is displayed.

Note: with the exception of Code Speed, a "beep" will sound for audio feedback when each function changes and comes up on the display.

1. Change code speed
2. TUNE mode
3. Bandwidth (adjust)
4. Keyer Memory (enter messages)
5. Keyer Paddle/Straight Key select

Change Code Speed

- A quick "push and release" (tap) of the button activates the code speed adjustment. [**CSxx**] will be displayed in the lower left hand side of the display, where xx is the current code speed.
- This function will automatically terminate after 1 second of inactivity (speed isn't being changed)
- Increase speed : use the **DASH** paddle. Tap or hold closed to auto increment. A beep sounds at each step.
- Decrease speed : Use the **DOT** paddle as above.
- Speed can be changed while in straight key mode by using the **RIGHT** and **LEFT arrow** buttons. This allows changing the sending speed of a stored message.

Tune Mode

[**TUNE**] will be displayed in the upper left side of the display.

- Tune mode is normally used when an antenna tuner is being adjusted to give you a steady carrier. It also displays Forward and Reverse power levels.
- Forward and reverse SWR readings are displayed on the bottom line of the display while in tune mode. Reverse power is shown first as indicated by the "R" and then forward power as indicated by the "F".
- Forward power scale: The first "dot" appears at about 1 watt out. Additional "dots" indicate about 0.5 watt increments. Full scale shows 4.5 or more watts out.
- Reverse power scale is made to be most responsive when the SWR is below 2:1, so you can more precisely adjust a tuner for 1:1 SWR Full scale of 6 dots indicates a SWR of above 3:1.
- Use the **DOT** paddle to key the rig. - this allows for straight key compatibility.
- Exit by pushing the [**M/V**] button.

Bandwidth Adjust

[**BW-X**] is displayed when active. X indicated current bandwidth setting, 1 = narrowest, 5 = widest.

- Use the **LEFT ARROW** or **RIGHT ARROW** buttons to increment or decrement the IF bandwidth.
- Exit by pushing the [**M/V**] button.

Keyer Memory

[**KMEM**] will be displayed in the menu window until the button is released to activate the function. When the keyer memory function becomes active, the top line will clear and the bottom line will now read [**ESC BS IS RM**] These messages appear above the four buttons to remind you of their function.
M/V button = ESC = Escape, exit keyer memory mode without storing a message.

Left arrow = BS = Back space

Right arrow = IS = Insert Space

CALL/IF = RM = Review message

- To exit at any time without entering a message, push the [**M/V**].
- Two messages with up to 120 characters can be stored. Word spaces count as characters.
- Use the paddle to key in your message.
- "Ideal" letter and word space timing, 3 dot time for letter and 7 dot time for word. As an aid to proper timing, the characters you enter are decoded and displayed on the lower line of the display. If a character is not recognized, a "!" will be displayed. All numbers, letters and common punctuation characters are decoded.
- If more than 15 characters are entered, the display will start to scroll.
- If a mistake is made, you can back space to erase the mistake by pushing the [**BS**] (**LEFT ARROW**) button.
- Generally, you will push the button twice, as a space will be inserted after the character by the time you go to push the back space button.
- You can only back space up to the first character entered. The cursor will indicate where the location of the next character is to be entered.
- Characters already written to the display will not be erased if there are less than 15 characters currently displayed – that is the display has not yet started to scroll.
- Additional word **spaces** can be inserted using the [**IS**] (**right arrow**) button.
- If you exceed the letter limit of the memory, the side tone will enunciate "MF". You now have to choice to store the message as is, or to delete some characters with the back space button, or to exit.
- Once you have entered the message, review the message by tapping the [**RM**] (**CALL/IF**) button.

Storing the Message

- If the message sounds good, store it into location 1 by tapping the **DOT** paddle or into location 2 by tapping the **DASH** paddle. The side tone will enunciate "MS" and the display will clear when the message has finished storing into EEPROM memory and the display returned to normal operational mode.
- If you want to start again from scratch, push the [**M/V**] button [**RM**]. The top line will clear and "EM" enunciated from the side tone.

Sending Messages

- Tap the [M/V] button, then within 1 second tap either the **DASH** paddle (to send message 1) or the **DOT** paddle (to send message 2).
- *Terminate message:* Close the **DOT** paddle. Message will terminate when a letter being sent at the time completes sending.

Straight Key Mode

- Straight key mode is accessed by toggling [M/V] button and changed by pressing [CALL/IF] button.



We hope you enjoy your new
LNR QRP FX-2 30/40 Meter CW Trans-
ceiver. For technical assistance,
please contact us via the
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