

# IR Dual Sensor Kit

## General:

This kit has been developed to key the Yaesu FT-817 transceiver remotely by using Palm Radio's "Infrared Link Technology". The Mini Paddle is being used either with the "Code Cube Infrared" or the "IR Dual Transmitter". Operating range is approx. 5 feet but might be reduced under direct sunlight.

**CAUTION:** Before installing this unit the radio **MUST BE DISCONNECTED FROM ANY POWER SUPPLY** - internal **BATTERIES MUST BE REMOVED!**

**Palm Radio assumes NO responsibility for any damage to equipment resulting from installation!**



For Yaesu FT-817



## Operational limits:

In addition to the usual limitations of an IR link (see manual of IR Dual Transmitter and Code Cube Infrared), the position of the optical lens causes further limitations: a) FT-817 and Morse key must be in-plane, e.g. both on the desk surface. This is because the transmitting IR LED radiates in a relatively small angle - the optical lens must be located within this angle. Therefore the FT-817 may not be positioned above the operating table at eye height. b) The front side of the FT-817 should be raised above the desk surface (e.g. by the "Peg Leg") so the IR beam can be picked up by the lens. c) When the FT-817 is positioned upon a light-colored table, sunlight from the front and from above can reduce the operating range of the IR link.

## Installation instruction:

1. Remove the upper cabinet cover (7 screws). Be sure not to damage the speaker wires or connector. Then remove the lower cabinet cover (7 screws plus the little screw on the latch of the the battery compartment).
2. Remove the plastic strip (see **picture 1**) and glue it somewhere on one of the relays in the back of the radio.
3. Position the FT-817 so the bottom side faces you. Carefully lift the 4 plastic tabs holding the front panel to the chassis (**picture 2 "A"**) and slightly hinge the front panel forward. Please be VERY careful not to damage the front panel ribbon cable or its connectors!
4. Thread in the cables like in **picture 3**: The orange, brown and black wires go through the FT-817 to the other side, the red wire is firstly be routed towards the VFO button.
5. Using the double sided foam tape, glue the plug with the IR Dual Sensor to the chassis of the FT-817 in the position shown in **picture 4**. Important: The lens of the IR module must be exactly aligned with the tapped hole. This can be easily controlled by the reflexion on the lens.
6. Turn the radio over and scew the black wire with the solder lug to the circuit board using the screw - see **picture 5**. Route the brown and orange wires to the back of the radio.
7. Connect the red wire (+) of the IR Dual Sensor to plus. Picture 6 shows the jack of the incremental encoder (Jack J4003). The blank nickel wire of the red cable is pierced into the right hand side of the jack next to the red cable so that it contacts the cable. Hinging and locking the front panel back into position secures the red cable, see **picture 7**.
8. The inputs "DOT" ("a") and "DASH" ("b") are available at the "Key" jack shown in **picture 8** (J1013). Use a needle to widen the space for the steel wire on the jack and carefully pierce the brown wire into the gap at position "a" and the orange wire at "b" (**picture 9**) and bend both wires with your finger. Pass both wires along the side of the cabinet.
9. Install the lens according to picture 10 - gently turn it into the tapped hole by hand, not using any force. The little plastic washer replaces the plastic strip you removed before. Double-check the position of the IR module and make sure it is still properly glued on.
10. Now a functional check should be done. Therefore a) turn the FT-817 on, b) select mode »CW« with the V/M key, c) change to the function menu with a short press of key »F« and d) (using SEL) go to »VOX BK KYR« and push softkey »B« to make the little triangle next to »BK« disappear. This activates the "practice mode" and turns the output power off.
11. Turn the FT-817 off after a successful functional check and put the cabinet covers back on. Don't forget to plug the speaker cable on again. This completes the installation of the IR Dual Sensor.

