

MFJ-624D Telepatch II Hybrid Phone Patch

Thank you for purchasing the MFJ-624D Telepatch II. We believe this phone patch with its unique hybrid design is one of the finest phone patches on the market today. This patch is designed to provide undistorted audio and good receiver to transmitter isolation. The adjustable NULL control allows over 30 dB null in most telephones to provide smooth VOX operation.

Please take the time to completely read the instruction manual to get familiar with the 624D before operating, particularly if you have never operated a phone patch before.

INSTALLATION

The 624D Telepatch II is designed to remain permanently installed between your transceiver (or transmitter/receiver), your modular telephone, and your receiver's speaker. The telephone and the radio will operate as if the phone patch were not in the circuit when the PATCH IN/BYPASS switch is in the BYPASS (out) position.

I. **Connection** to Telephone.

- A. Disconnect the modular phone from its line cord.
- B. Connect the line cord from the wall jack to the modular jack on the Telepatch II labeled LINE.
- C. Connect a second line cord from the modular jack on the Telepatch II labeled PHONE to your telephone.

See Figure 1 for pictorial.

II. Connection to Radio.

A. Radios With Patch IN/OUT Connectors

1. Connect a shielded audio cable from AUDIO IN on the Telepatch II to PATCH OUT on the radio.
2. Connect a shielded audio cable from AUDIO OUT on the Telepatch II to PATCH IN on the radio.
3. Connect a microphone to the 8-pin microphone jack on the front panel.
4. Connect a speaker to the speaker out jack of the Telepatch II.

B. Radios Without PATCH IN/PATCH OUT Connectors.

1. Connect a shielded audio cable from the headphones, speaker out, or monitor out jack of the radio to the AUDIO IN jack on the Telepatch II.
2. Connect the 8-pin microphone cable to the mic input on your radio.
3. Connect your microphone to the jack of the Telepatch II.
4. Connect a speaker to the SPEAKER jack on 624D Telepatch II.

mic input

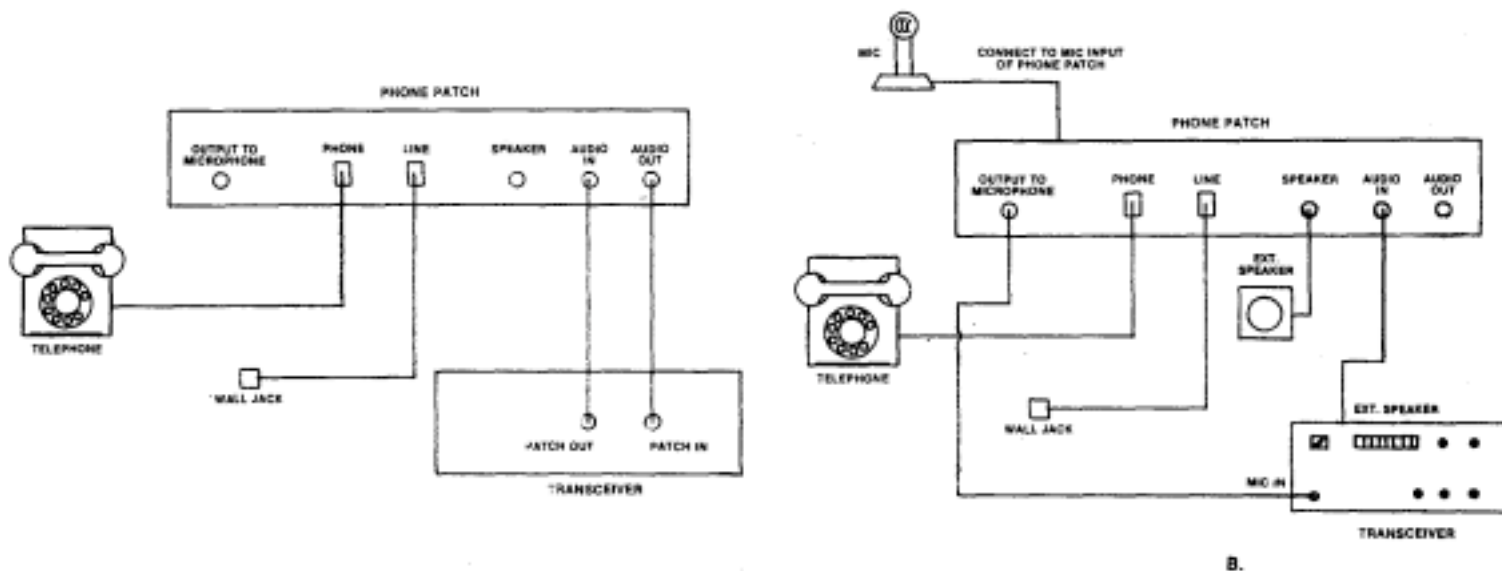


FIGURE 1 - INSTALLATION DIAGRAM

C. JUMPER FUNCTIONS.

1. The Telepatch II was shipped from the factory with Headers HD2 and HD3 set for Kenwood, Icom and Alinco radios. If you have a Yaesu or Ranger 3500 radio, change the shorting clips on HD2 and HD3 according to Figure 3.
2. Examine the three jumpers on Headers HD2 and HD3. Confirm that the jumpers are on the headers according to the radio with which you are operating the Telepatch II.

NOTE: If your radio is not listed in TABLE 1, use the header assignment for Icom if your radio uses Pin I for transmit audio. Use the Yaesu assignment if your radio uses Pin 8 for transmit audio.

Radio	HD3	HD2
Icom	2-3, 4-5	1-2
Kenwood	2-3, 4-5	1-2
Alinco	2-3, 4-5	1-2
Ranger 3500	1-2, 3-4	2-3
Yaesu	1-2, 3-4	2-3

TABLE 1 - Summary of shorting pin assignment.

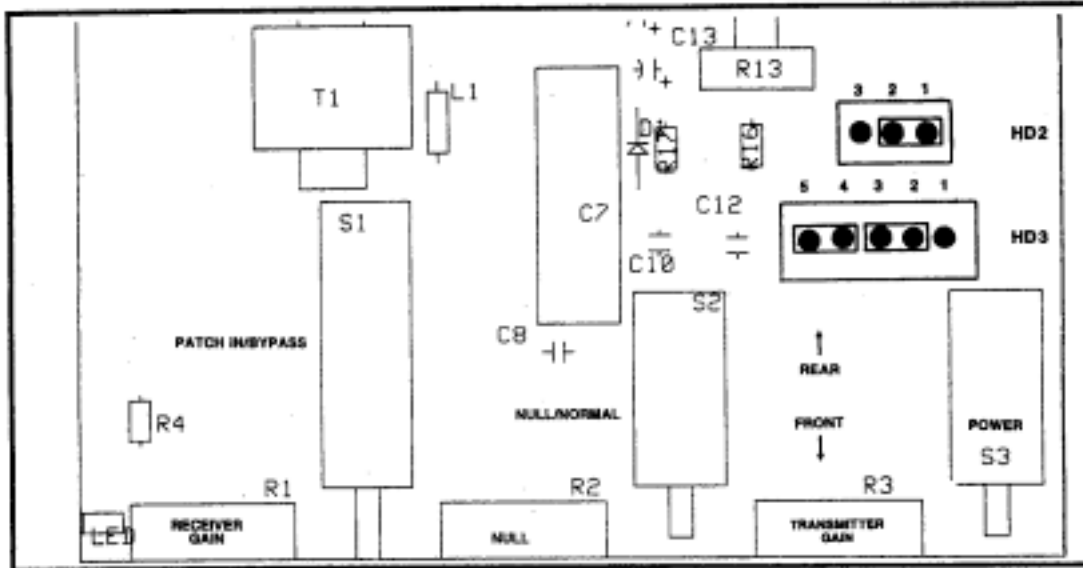


FIGURE 2 - JUMPERS INSTALLED FOR KENWOOD, ICOM, AND ALINCO RADIOS.

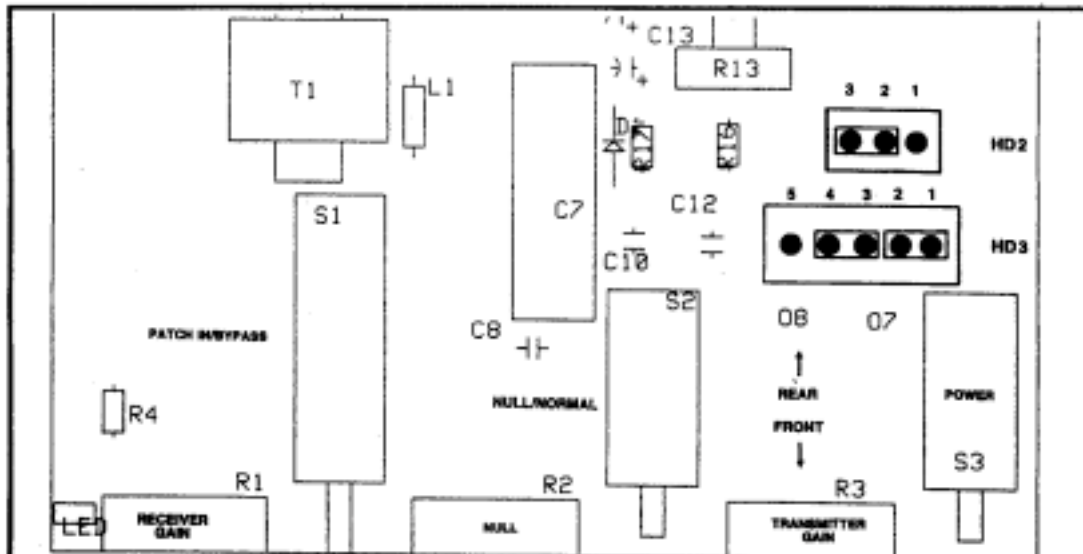


FIGURE 3 - JUMPERS INSTALLED FOR YAESU AND RANGER AR 3500 RADIOS.

PHONE PATCH ADJUSTMENTS

I. Null Adjustment.

- A. Connect a 12 volt DC power supply or adapter such as the MFJ-1312 to the 2.5 mm (3/32") power input jack on the rear panel.
- B. Turn on the receiver and monitor a QSO in progress. Adjust the receiver volume on the radio for a comfortable listening level.
- C. Turn the Power switch on the Telepatch II to ON. D.

Push the NULL switch to NULL (IN). F. Push the PATCH

IN/BYPASS to IN.

- F. Turn the RECEIVER GAIN control on the Telepatch II until the VU meter reads about 100 % .

G. Place a call on the telephone to a third party.

- H. Adjust the NULL control on the Telepatch II for a null reading (lowest reading on the VU meter).

- I. Set the NULL switch to the NORMAL position.

II. Receiver Gain.

- A. Adjust the RECEIVER GAIN control on the Telepatch II until the audio level into the telephone sounds about normal according to the third party to whom you placed the call. This should occur ON VOICE PEAKS at a level around -10 dBm. The meter is calibrated to read 100 % (zero VU) when the actual signal level is -10 dBm.

II. Transmitter Gain.

- A. Set the PATCH IN/BYPASS switch to IN.

- B. While the person on the phone speaks, adjust the TRANSMITTER GAIN control on the Telepatch II for full modulation of the transmitter's mic audio circuit. Adjust the VOX gain on your radio so the VOX keys the PTT when the person speaks and unkeys your radio when he does not speak. This adjustment is critical (translated difficult to make) sometimes.

VU METER

The VU meter is used to calibrate the amplitude of the signal you are putting into the phone line. The MFJ-624D meter is calibrated to -10 dBm. This means that if the meter reads 100% (zero VU), it is actually -10 dBm. The VU meter reads the level of the telephone line. Factory adjustment was done according to a 600 ohm standard signal (0 dBm). Telephone impedances vary in the U.S. anywhere from 300 ohms to 900 ohms. Therefore, the meter readings will vary slightly from one phone system to another.

Adjust the RECEIVER GAIN control until the meter reads somewhere around 0 VU (100%) on voice peaks.

NOTE: Telephone company regulations prohibit you from putting any signal into the phone line with a higher level than -9 dBm. Normally, no more than -15 to -10 dBm is necessary for good volume.

