

Traditional Repeater



Traditional Repeater - Challenges

Increased distance and terrain can become challenging for lower power radios with lower gain antennas.





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3db gain Antenna

5 Watts

40 Watts

Crossband Repeater - Advantage



If a handheld cannot access the repeater, it can usually access a nearby mobile radio.

This is when a <u>crossband</u> mobile radio can help "relay" to the repeater.

3db gain Antenna





**DUPLEXER (Filter)



- Positioned at strategic and/or mobile locations.
- Can use various gain antennas (Mobile/Base).
- Combines <u>TWO</u> radios (tx/rx) in One radio.
- No Controller needed.
- Can be portable/mobile/fixed with any available power.
- Frequency Flexible (Simplex/Duplex combinations)
- **NO Duplexer (Filter) needed.

**Because the frequencies are in different bands, far apart, no filtering is required to prevent transmitter from interfering with receiver reception. (Uhf 440.. and Vhf 140..)

Crossband Repeater - Uses



Crossbands are commonly used to give a low powered handheld access to a repeater via a higher power crossband mobile.

<u>Crossband Repeater – Link</u>



They can also be used as your primary link to and from the command post when traditional repeaters are unavailable.

Crossband Repeater – Double Xband



ADVANCED OPERATIONS: <u>Two</u> crossband capable radios can also simulate and replace the function of a traditional repeater, after a catastrophic failure, within minutes upon arrival.

Specialized Crossband Systems



Crossband Repeaters - Available

A radio that will allow operation on <u>BOTH bands at the same time</u> is likely capable of crossband "repeat" operation.

This is a partial list of crossband repeat capable radios.....

Yaesu ft-8000, 8100, 8800, 8900, FTM-350, FTM-400, FT-530. Icom IC-2340, 2350, 2700, 2710, 2720, 2730, 2820. Kenwood TM-732, 733, 7A, 71A.

Look at the specs to confirm <u>crossband</u> "**repeat**" capable before purchase.

(This is different than just normal crossband capable) NOTE: Some dual band radios only allow for <u>1 band at a time</u>. These would at least include: Icom 207 and 208, Yaesu 7800, 7900 and FTM-100, Kenwood G707. There are many others but these <u>DO NOT allow for cross band repeat</u>.

A WORD OF CAUTION: With heavy crossband usage during an event the radio can get very warm due to it constant transmitting.

It is highly recommended the radio be run on the lowest power setting needed and that it be monitored.

Cheap radios will not hold up to these demands during busy incidents.

Questions?

AMATEUR RADIO COMMUNICATIONS

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