

# Mount Baker Amateur Radio Club Digital Group

Tuesday April 18, 2023

## Zero Retries Segment

Steve Stroh N8GNJ - Editor

*Zero Retries is an independent newsletter promoting technological innovation in Amateur Radio, and Amateur Radio as (literally) a license to experiment with radio technology.*

### This Month:

- Tigertronics Microphone Adapters
- Masters Communications Multiple Modem to Single Radio Multiplexers
- New 222-225 MHz Mobile Radio from Alinco
- USB Over Ethernet With a Raspberry Pi and VirtualHere Software

# Tigertronics Microphone Adapters



Image courtesy of Tigertronics

- For radios used for data that don't have a dedicated data connector.
- A simple switch for radios with microphones that have RJ-11 (6 pin) or RJ-45 (8 pin) connectors (two different products).
- Switches the radio's microphone input between microphone and "modem" such as Nexus DR-X.
- Also switches the radio's external speaker connection.

Discussed in Zero Retries 0092 Beacon Edition

<https://zeroretires.substack.com/p/zero-retries-0092-beacon-edition#%C2%A7tigertronics-microphone-adapters>

# Masters Communications Multiple Modem to Single Radio Adapters DRA-3M Metal Mix Mux



Image courtesy of Masters Communications

- For using multiple modems with a single radio.
- Example, Nexus DR-X and a PACTOR-4 modem.
- No switching - isolated inputs (unused modem doesn't load down modem in use).
- Obviously cannot use both modems simultaneously.

Discussed in Zero Retries 0091 Beacon Edition

<https://zeroretries.substack.com/i/109876867/masters-communications-multiple-modem-to-single-radio-multiplexers>

# Masters Communications

## Multiple Modem to Single Radio Adapters

### MUX-25

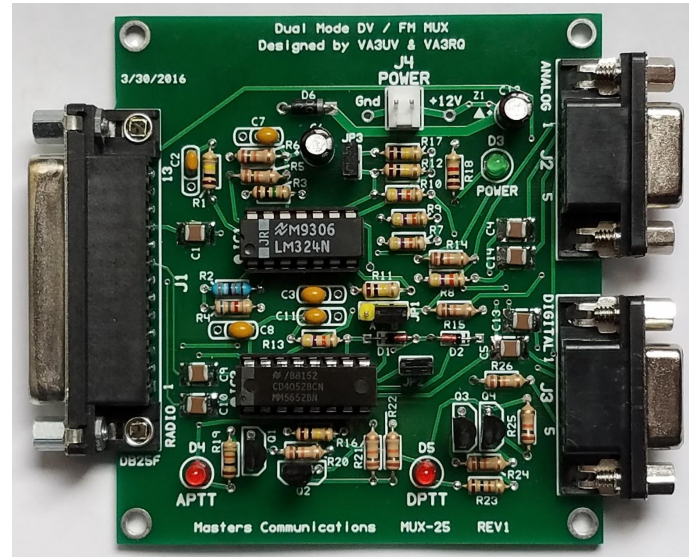


Image courtesy of Masters Communications

- Intended for FM repeaters.
- Can connect one analog and one digital input to an FM repeater, making repeater multi-mode.
- Intended for digital voice (D-Star, DMR, etc.) using MMDVM.
- My take is it could also be used for sharing a repeater between FM voice and data.

Discussed in Zero Retries 0091 Beacon Edition

<https://zeroretries.substack.com/i/109876867/masters-communications-multiple-modem-to-single-radio-multiplexers>

# New 222 - 225 MHz Mobile Radio

## Alinco DR-CS25T



Image courtesy of Ham Radio Outlet

- New, 222 - 225 MHz FM mobile radio - 50 watts
- No dedicated data connector
- Reasonable price - \$260 from Ham Radio Outlet
- 222 - 225 MHz is useful because it can be used simultaneously with 144 - 148 MHz and 440 - 450 MHz, and on the same (144 / 222 / 440) antenna.
- 222 - 225 MHz is good for data linking between sites (won't interfere with voice comms).

Discussed in Zero Retries 0085

<https://zeroretires.substack.com/i/101275645/new-mhz-mobile-radio-from-alinco>

# USB Over Ethernet

## With a Raspberry Pi and VirtualHere Software

- Follow-on to a discussion about mounting Software Defined Microwave Transceivers on a pole / tower near antenna
- SDMTs have very low transmit power
- Microwave frequencies have very high feedline loss (both transmit and receive)
- Idea is to install them remotely near antenna, power them via Power Over Ethernet (POE)
- Expensive, not many of them available
- Using a Raspberry Pi on the pole, with VirtualHere software allows a much less expensive Software Defined Receiver / Transceiver (that only has USB interface) to be remotely mounted and connected with Ethernet
- Optionally powered by POE (Raspberry Pi has a POE HAT available, which will power the SDR / SDT.
- Example units include popular ADALM-PLUTO Software Defined Transceiver and RTL-SDR Software Defined Receivers (dongles).
- Data would work just as well over Wi-Fi.

Discussed in Zero Retries 0094

<https://zeroretries.substack.com/i/113374369/usb-over-ethernet-with-a-raspberry-pi-and-virtualhere-software>

# Zero Retries Newsletter

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**Published every Friday - 15:30 Pacific**

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