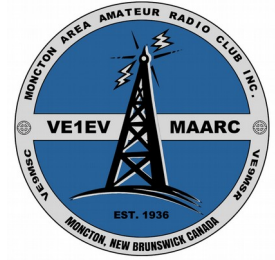




Adding digital voice to MAARC VHF or UHF Repeater

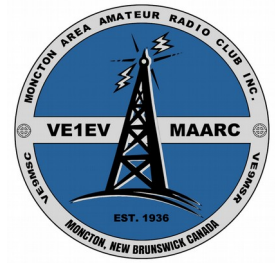
Report prepared by:
Yvon VE1VON & Michel VE9JFL

BrandMeister

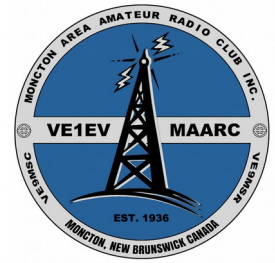


- Is an operating software for Master servers participating in a worldwide infrastructure network of amateur radio digital voice systems
- The first layer provides drivers for front-end/radio interfaces like Hytera Repeaters, Motorola repeaters, UP4DAR, homebrew repeaters
- Allows you to connect to MOTOROLA DMR-MARC and Hytera DMRplus networks, this means you can operate with other DMR amateur radio operators on both infrastructures the same time

BrandMeister

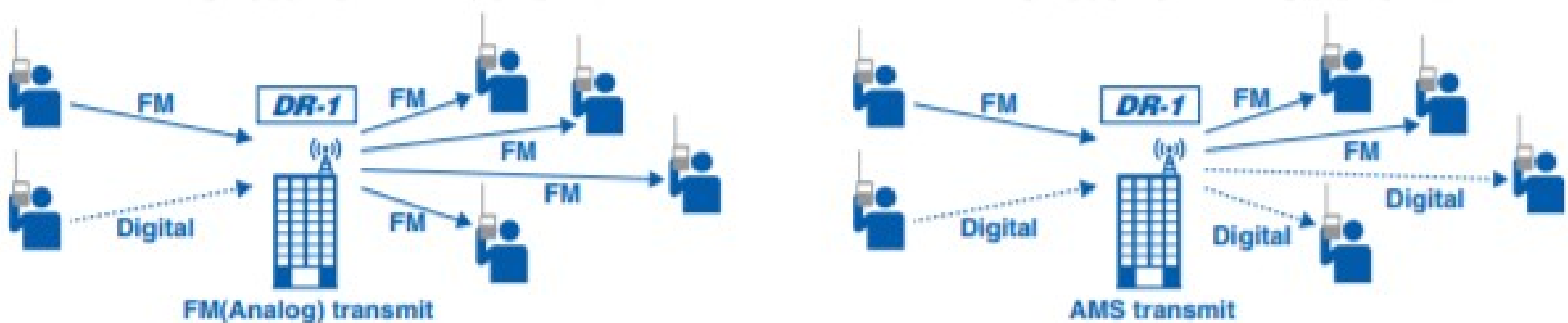


- Gateway to D-STAR talking group & G2 private call
- WIRES-X Link allows to bridge DMR talking groups with WIRES-X rooms
- Gateway for EchoLink or any other IP-based PTT applications

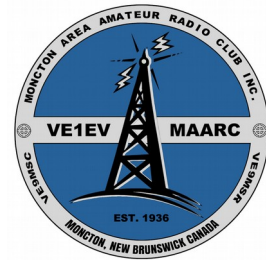


Fusion C4FM – Yeasu DR-X

- AMS (Automatic Mode Select) function automatically recognizes the signal as C4FM digital or conventional FM, and then the DR-X repeater retransmits the signal using the preset communications mode
- Uses existing peripheral devices such as duplexer, amplifier, etc. Full Integrability with existing repeater controllers using a 15 Pin connection
- VHF or UHF operation (cross-band capable)



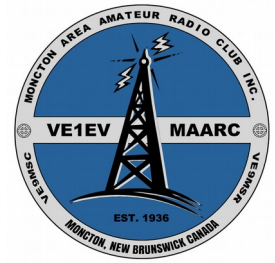
DR-X Internet Connectivity thru WiRES-X



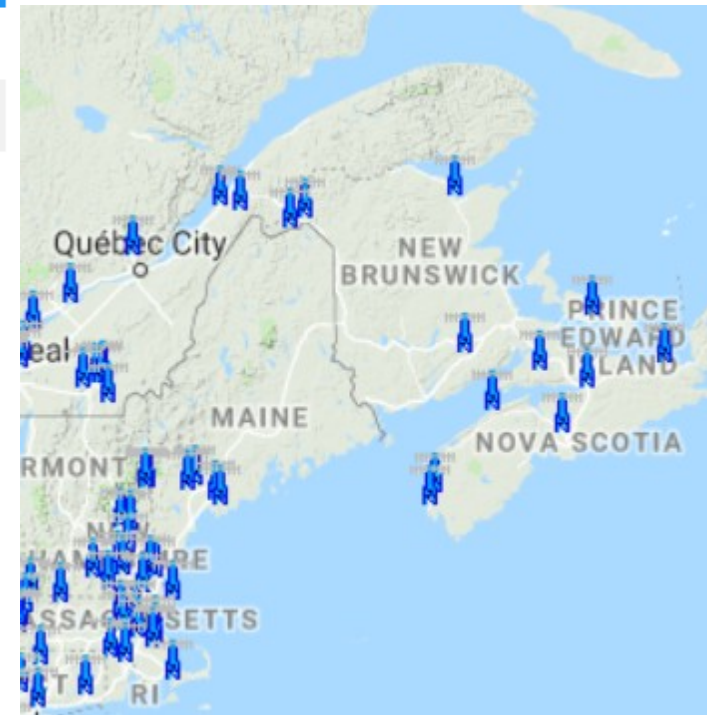
- Connecting the DR-X to the Internet can be done using radios such as the FTM-400XD/D and FTM-100D and the HRI-200. The radio and an HRI-200 are used to setup a WiRES-X node.
- Analogue radio, using tones, can connect to the WIREs-X network.



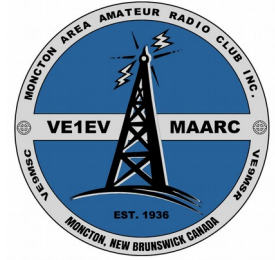
Fusion C4FM – In the Maritimes



Frequency	Offset	Tone	Location	Call	Use	
146.9850	-0.6 MHz		Sussex, Poley Mountain	VE9SUX	OPEN	+
147.2400	+0.6 MHz	100.0	Bathurst	VE9BAT	OPEN	+
443.3000	+5 MHz		Charlottetown, Cornwall	VE1UHF	OPEN	+
145.2100	-0.6 MHz	71.9	Stronach Mountain	VE1VAL	OPEN	+
145.4900	-0.6 MHz	82.5	Halifax, Hammonds Plains	VE1HPR	OPEN	+
146.7750	-0.6 MHz	88.5	Southampton	VE1BFB	OPEN	+
146.7900	-0.6 MHz		Truro, Irwin Lake Road Hiden,NS	VE1XK	OPEN	+
146.8650	-0.6 MHz		Yarmouth, EOC	VE1LN	OPEN	+
441.8000	+5 MHz		Antigonish	VE1JSR	OPEN	+
444.0500	+5 MHz		Kingston, Stronach Mountain	VE1VLY	OPEN	+
444.7000	+5 MHz		Yarmouth	VE1YAR	OPEN	+



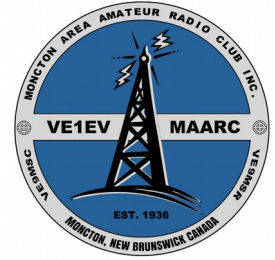
Requirements



Participant Requirements

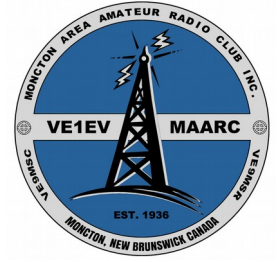
- Agree to not resell any hardware for at least 1 year
- Place Repeater on the air operating in the area listed on your application
- Repeater must be on the air for no less than 1 year
- Repeater must be operated in Automatic Mode Select (AMS mode), or Digital mode

Cost of Fusion Devices



- Fusion Repeaters (special prices valid Feb. 1 to June 30, 2019)
 - DR-1XFR \$400US (Factory Refurbished model - limited quantities)
 - DR-2X \$2500 @ RadioWorld. Special \$700US
 - DR-2X IMRS LAN \$2999 @ RadioWorld. Special \$900US
- FTM-400XD/D Digital Mobile Radio
 - C4FM/FDMA 144/430MHz + GPS + APRS
 - \$800 @ RadioWorld (-\$170 Yaesu Instant Coupon good to April 30, 2019)
- FTM-100DR Radio
 - C4FM, 50 W/ 20 W/ 5 W on 144/430 MHz
 - \$500 @ RadioWorld
- HRI-200 Internet Linking System
 - Uses WiRES-X which supports both Analog and C4FM
 - \$160 @ RadioWorld

References



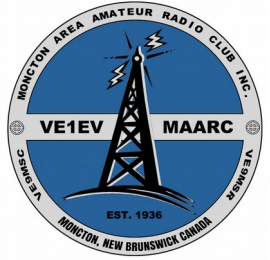
BrandMeister:

- https://wiki.brandmeister.network/index.php/Main_Page

Yaesu:

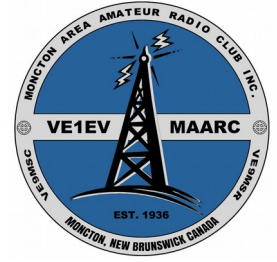
- <https://www.yaesu.com>
- Yaesu USA Official YouTube channel

Yaesu Fusion



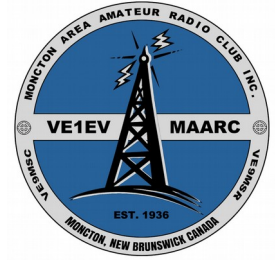
Questions?
Comments?

Yaesu Fusion



Backup Slides

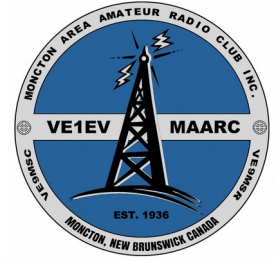
Fusion C4FM – Yeasu DR-X



- Emergency Operation: Supports auto-switched backup battery power operation
- Front panel microphone connector and Built-in large-size monitor speaker with front panel volume control enables use as a base station

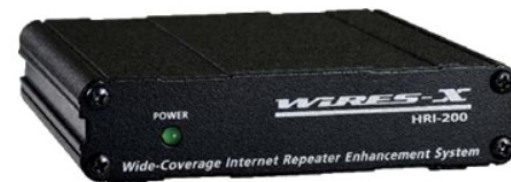


Yaesu WIRES-X

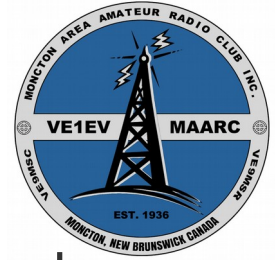


The Yaesu WIRES-X HRI-200 (Wide-coverage Internet Repeater Enhancement System) enables Internet to RF communications that expands the range of amateur radio using internet enabled Voice-over-IP technology. With WIRES-X, an amateur node station connected to the Internet and Interfaced to the WIRES-X HRI-200 unit can communicate using VoIP over long distances reliably with ease.

Unlike any other internet linking technology, Yaesu's HRI-200 is a simple to use plug and play internet linking solution. Included with the unit are pre-made cables that allow the end user to simply plug-in to any number of Yaesu radios and go; No soldering, cable building, or Router configuration required!



Fusion C4FM – Yaesu DR-X



- Receiver and transmitter are packaged into a 19" standard cabinet rack mount panel unit
- Modulation Modes: Conventional FM, 12.5 kHz C4FM Digital (V/D Mode, VFR Mode, DFR Mode)
- High Stability ± 2.5 ppm TCXO included
- DSQ (Digital Squelch Code) Signaling Feature
- CTCSS and DCS Signaling Feature
- ID Announcement Feature
- Remote/External Controller Interface
- Time Out Timer
- Firmware Upgradeable