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The radio

Introducing the C4FM/FM and Repeater System

System Fusion

Leading Amateur Communications Into the Future

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Digital Clear Voice
Clear and Crisp Voice Technology

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System Fusion – Better Solutions for the Future

System Fusion joins Digital and Analog FM Communication into a single multiple function system.

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Why did we choose 12.5 kHz C4FM For System Fusion?

Superior Performance

- C4FM has excellent communication integrity due to good BER characteristics. (BER: Bit Error Rate)
- Proven Performance in the Public Safety / LMR market. C4FM is expected to be the main stream for digital communication in the future.
- Additional error check/correction technology provides Crisp and Clear voice quality over a wide coverage area.
- One of the best modulation methods for reliably transporting a digital signal with a higher rate of recoverability.

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Why Should I chose System Fusion?

Digital Designed for Amateur Radio

- Integrates both Analog and Digital Seamlessly (Automatic Mode Select)
- No complex registration required
- User friendly with nearly no learning curve
- Digital transmissions meet FCC ID Requirements
- Integrated Telemetry and tracking
- Digital transmissions meet FCC ID Requirements

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We listened to the market and carefully studied digital technology for enhancing Amateur Radio communications.

Better coverage when in Digital mode

Provide superior voice quality

New useful communication benefits

Continue to communicate with others using Conventional FM

Our Answer

⬇

12.5 kHz C4FM + Conventional FM

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Fusion of Analog FM and Digital

The new YAESU System Fusion is the future of Ham Radio Digital Systems; it provides total integration and compatibility of both Digital & Conventional Analog FM communications.

By using the revolutionary System Fusion, the user no longer needs to choose between Digital or Analog FM; instead we can:

- ***Use whichever system is best suited for the situation***
- ***Communicate freely between Digital and Conventional FM stations***

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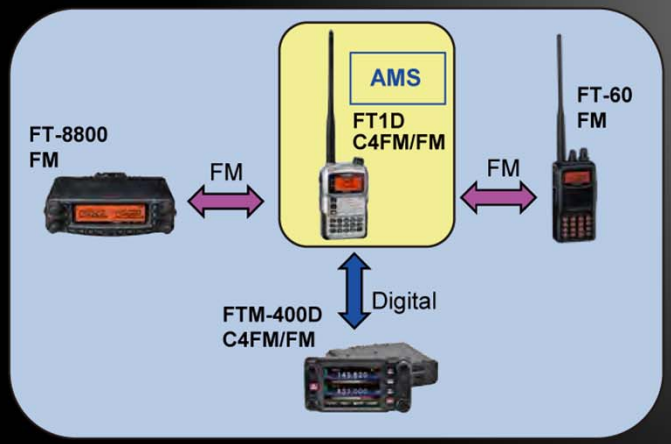
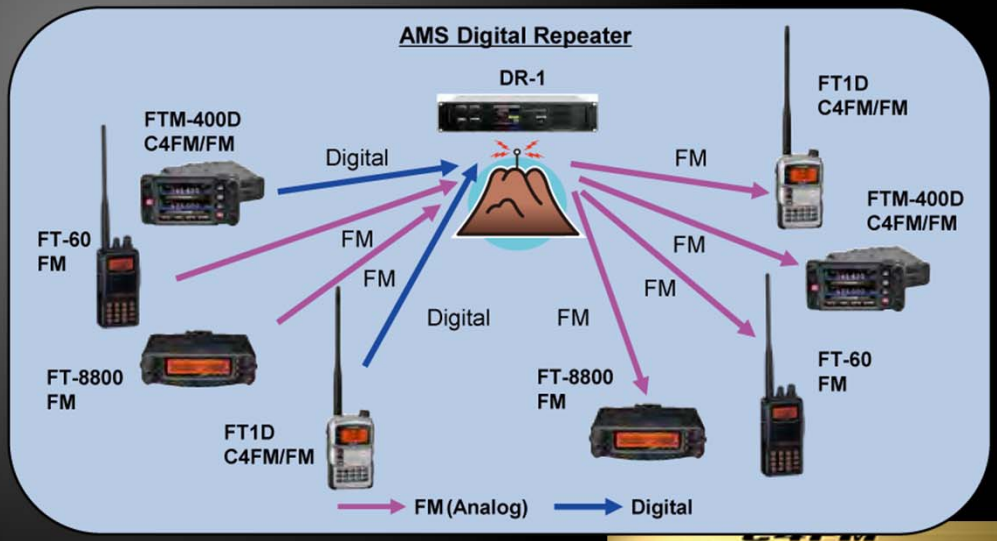
AMS (Automatic Mode Select)

FM Friendly Digital

Easy Migration

Co-existence





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Why C4FM Digital?

Compared to other Digital modulations within FDMA, C4FM has excellent communication quality (BER: Bit Error Rate characteristics).

Presently, C4FM is the most reliable standard method for professional communication devices in the commercial sector, and is expected to continue to be the main stream Digital Communication method in the future.

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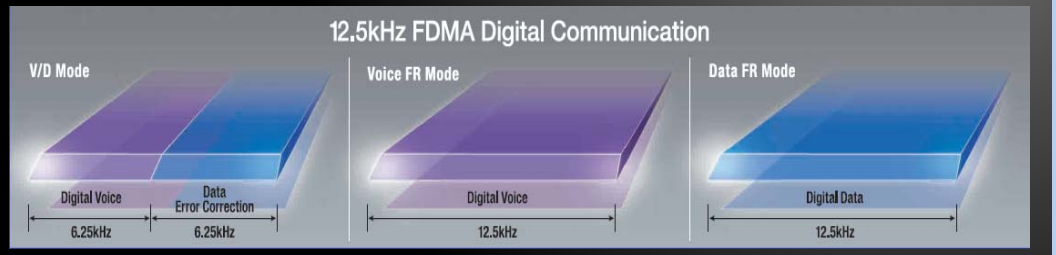
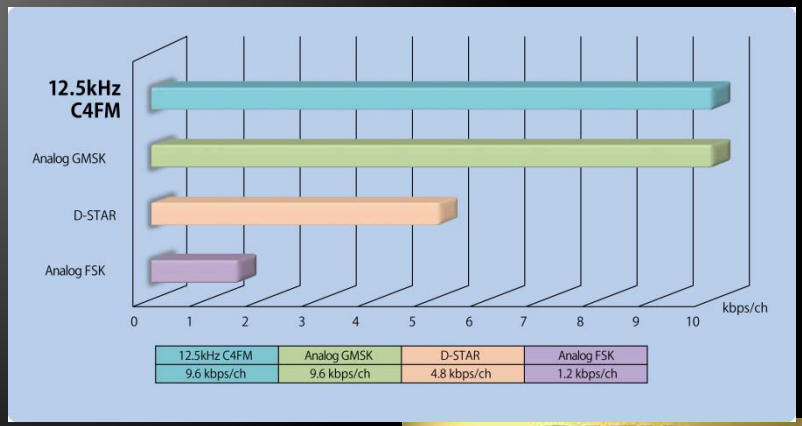
Multiple Modes of Communication

V/D mode - Voice/Data simultaneous communication mode
Voice FR Mode - Voice Full Rate Mode
Data FR mode - High Speed 9600 bits per second data transfer
Analog FM mode – For Conventional Communication





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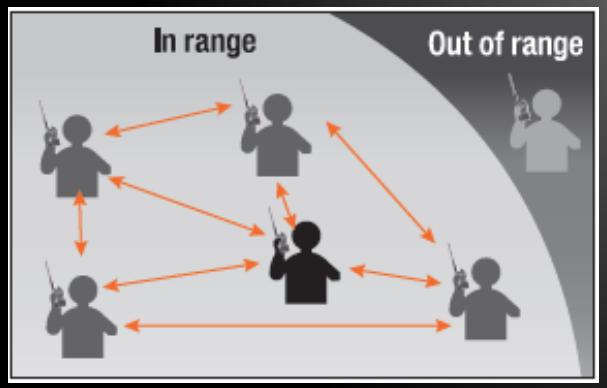
Digital Group Monitor (GM)

Automatically checks whether members registered to a group are within communications range of your transceiver. The group mode screen then displays information such as the Distance and Heading for each station registered to the group.



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Digital Image Transmission (Data Mode)

The MH-85A11U Camera microphone allows digital image transmission using the "Data" mode.

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Smart Navigation Function

Telemetry in Real-Time

In digital V/D mode, information such as position and call sign data are transmitted together with voice signals so the distance and direction to the other stations can be displayed in real-time while communicating with them.

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Backtrack Function – Find your way home

Backtrack Enables navigation to a stored location at the touch of a button. Whether you are hiking, camping, or running emergency operations simply register your starting point or campsite before departure. The distance and orientation from the current location is displayed on the screen.

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DR-1X Repeater – C4FM/Analog FM AMS Repeater

The YAESU DR-1X is a Digital/Conventional Analog FM dual mode Repeater that covers the VHF & UHF Amateur Radio bands.

The DR-1X was designed to co-exist in current analog environments providing the control operator with the ability to offer an exceptional Digital experience while co-existing with Conventional Analog services.

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DR-1 Repeater – Features

- *Modulation Characteristics:*
  25 kHz FM, 12.5 kHz C4FM Digital (V/D Mode, VFR Mode, DFR Mode)

- *System Fusion is not compatible with D-STAR GMSK digital format*

- *Output Power: 50 W / 20 W / 5 W*

- *Large-size Heat-Sink & Cooling Fan to ensure stable Power Output and increased operating time*

- *Emergency Power Operation: Supports Emergency Battery up to 55 Amp Hour / Trickle Charger Included*

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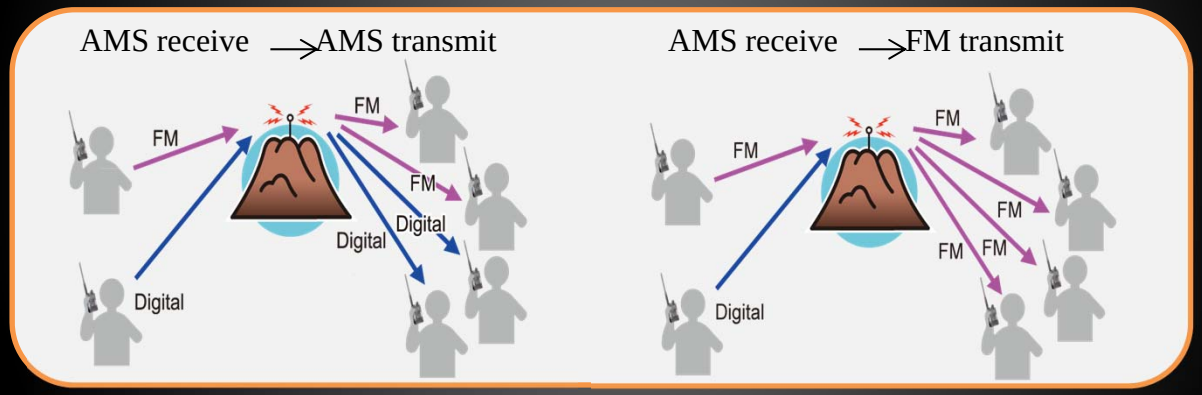
DR-1X Repeater – Additional Features

- *15 Pin Rear accessory connector for Standard Analog connectivity. (COR/COS, Audio IN/OUT, PTT, Inhibit)*



- *Built-in large-size monitor speaker with volume control for checking the reception state during setup. The speaker can also be used to constantly monitor the reception state*

- *A microphone terminal is provided on the front panel for use in repeater transmitter tests and to enable use as a base station*

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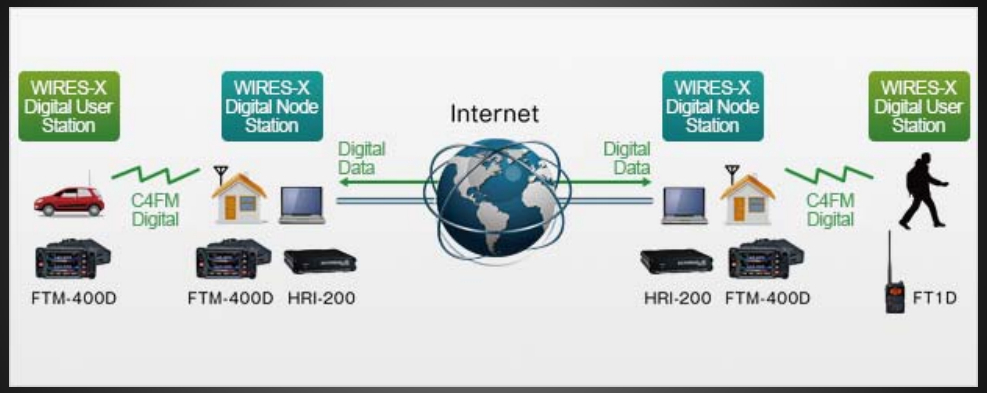
WiRES-X – Digital/Analog Internet Linking

• *Digital and Analog Linking technology allows conventional FM stations to enjoy QSO's with Digital stations.*



• *The Preset Search function enables a remote station to connect the WiRES-X Node to other nodes or rooms with a simple touch of a button.*

• *News bulletins, images, location information and messages can be uploaded to the local node using the News Station Function. Information can be stored and retrieved on demand.*

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HRI-200 Interface

- 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!
  * Does require a PC connected via USB to function.

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FT1DR Handheld & FTM 400DR – Available Now

DR-1 Repeater – Available Now

FT-991 HF/All mode/C4FM Transceiver – Available Now

FT-2DR – Available Mid April 2015

C4FM Day – HRO San Diego Sat. April 4th

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Thank you for your participation!

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