



The advanced JR240 frequency hopping data radio sets the standard for industrial Ethernet data communications in the license free 2.4GHz band.

With maximum range and virtually unlimited system coverage due to its unique LinkXtend™ network bridging and KwikStream™ high speed repeater capabilities, the industrial strength JR240 is ideally suited for the most demanding Point-to-Multipoint and Point-to-Point wireless SCADA and Telemetry applications.

The highly versatile JR240 also offers dual Ethernet ports and remote diagnostics compatibility.



.: Features

The JR240 combines class leading performance with unprecedented flexibility to allow cost effective implementation of even the most complex wireless SCADA and Telemetry solutions that may not have otherwise been achievable, and with unlimited expansion capability. Some of the many outstanding features which make the JR240 so unique.

.: Outstanding & highly versatile operational capability

- Point to point and point to multi-point operation
- Configurable personality – access point-remote-bridge-repeater
- KwikStream™ high speed single radio repeater mode*
- Unlimited coverage networks
- No restriction on the number of radios in any system
- Unique dual antenna LinkXtend™ technology increases usable range
- Repeater and Bridge units support locally connected user devices
- ChannelShare™ collision avoidance for unsolicited remote transmissions allowing simultaneous polling and spontaneous reporting.

** Up to 70km (44 miles) single repeater system range with 13dB antennas*

.: A radio modem that extend performance boundaries

- License free operation in 2.4GHz ISM frequency bands
- 512k high speed over-air data rate (can be reduced to 256k for longer range)
- Robust, frequency hopping spread spectrum technology for superior interference immunity
- Ultra Long Range high performance receiver*
- 0.5 Watt (+27dBm) maximum allowable transmitter power



- Advanced error free data delivery with CRC plus selectable FEC and ARQ
- Multi-Access point synchronization mode for interference reduction with co-located access point radios
- * *Up to 35km (22 miles) maximum single hop line-of-sight range with 13dB antennas*

.: Comprehensive and adaptable Ethernet interfacing, control and transmission

- 2 x Independent Ethernet ports (Auto MDI/MIDX)
- 10/100Mbps Interface (auto-detecting)
- Suitable for most Ethernet/IP protocols (including UDP, TCP, DHCP, ARP, ICMP, STP, IGMP, SNMP & TFPT)
- IEEE 802.3 including dual port Ethernet Bridging functionality
- Flexible Ethernet routing providing optimum radio channel efficiency
- Auto or Manual DHCP configuration
- NTP Client/Server Time Synchronization Support
- Legacy RS-232 serial support via embedded terminal servers (UDP/TCP)

.: Total command of the radio system with embedded HTML web server

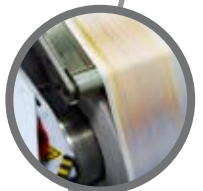
- Network Management and Remote Diagnostics with no software installation required!
- All configuration via secure embedded HTML interface (HTTP & HTTPS)
- Network wide access from any radio modem
- Over-the-air reconfiguration
- Powerful system commissioning and troubleshooting tools
- Compatible with Trio TVIEW+ Diagnostics for stand alone network management.
- Local and Remote field upgradeable firmware

.: Securing your network through Trusted Access Control

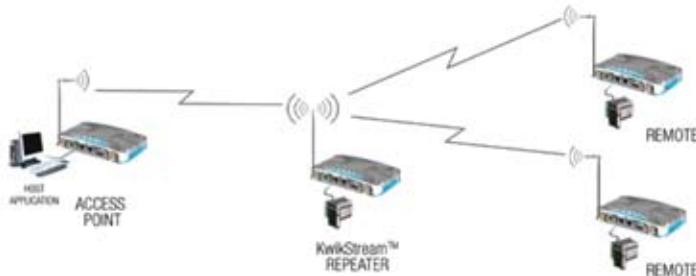
- 256-bit AES data encryption (export restrictions may apply)
- Proprietary multi-level scrambled over-the-air protocol
- Optional Trusted Access Point/Remote checklist

.: A Data Radio for the harshest environments and places

- Reliable operation in environmental extremes (-40oC to +65oC)
- Hazardous Environment Certification – ATEX (Pending)
- FCC & ETSI certification – accepted in multiple regions
- Compact, rugged alloy housing
- Low power consumption with smart sleep mode operation
- 10-30Vdc power supply
- Dual industry standard TNC antenna connectors



Point to Multipoint via KwikStream™ Repeater



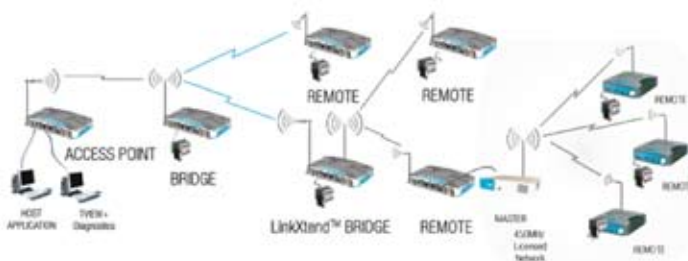
The **KwikStream™** repeater is used in Point-to-Multipoint (PTMP) systems where one repeater with a single omni antenna is sufficient to provide coverage to all remote sites, but where the sheer number of remote sites, or the user data necessitate high data throughput with the lowest possible latency.

Point to Point with LinkXtend™ Bridge



In situations where a repeater is needed to extend the range of a Point-to-Point (PTP) link, but where a single omni antenna at the repeater cannot provide the desired transmission range, TRIO's **LinkXtend™** dual antenna bridge will allow the use of dual directional antennas with much higher gain.

Point to Multipoint with LinkXtend™ Bridge



If more than one repeater is required for wide area PTMP coverage, then these radios are configured as bridges to optimize data throughput by ensuring that all radios in the system remain synchronized. They can be equipped with a single omni antenna or, where this does not achieve adequate coverage, configured as dual antenna **LinkXtend™** bridges equipped with one much higher gain directional antenna for uplink access, as well as an omni antenna for downlink communications with the remote sites. Due to restrictions on maximum allowable signal levels in license free bands, the transmitter power for each of the two antenna ports can be individually adjusted in line with the two different antenna gains, to maximize the transmitted signal levels from both antennas.

With a combination of bridges and **MultiStream™** data routing, the JR240, allows networks carrying multiple simultaneous user applications with totally separate protocols to be extended literally without limit.

Any TRIO JR240 may be configured as a **KwikStream™** high speed low latency Ethernet repeater or as a **LinkXtend™** network bridge.

.: Modem

RF Channel Data Rate: 256kbps or 512kbps

Bit Error Rate: < 1x10⁻⁶ @ -102 dBm

Collision Avoidance: Trio DataCom's unique ChannelShare™ collision avoidance system

.: Radio

Frequency Range: 2.4-2.483 GHz
Region Specific Versions Available

Tx Power: User configurable 0.01 to 0.5W (+27 dBm) in 0.5 dB steps.

Protection: TX over-temperature

Modulation: 4 Level GFSK

.: Network Management

Configuration: All configuration via embedded HTML interface (HTTP, HTTPS & console)

Diagnostics: Compatible with Trio TVIEW+ Diagnostics for stand alone network management

Firmware: Local and Remote Field upgradeable Flash memory

.: Interface

Ethernet: 2 x RJ-45 Bridging IEEE 802.3 Ports with MDI/MIDX (auto-detecting) interface

Serial: DB-9 Female - 2 x 3-wire Tx/D/RxD RS-232 Serial Ports plus CTS/RTS

Configuration Port: Either Ethernet Port can be used for diagnostics, configuration and re-programming

Antenna: 2 x TNC female bulkhead. Separate connectors for LinkXtend™ or separate TX/RX antennas.

Power: 2 pin locking, mating connector supplied

LED Display: Multimode Indicators for Pwr, Tx, Rx, Sync, LAN 1 & LAN 2 (Link and Act)

.: Ethernet

Ethernet Ports: 2 x 10/100 Mbps (auto-sensing) compliant with IEEE 802.3

Protocols: Ethernet/IP (including UDP, TCP, DHCP, ARP, ICMP, STP, IGMP, SNTP & TFPT)

Terminal Server: Legacy RS-232 serial support via embedded terminal servers (UDP/TCP).

DHCP Modes: Auto and Manual

NTP: SNTP Client/Server Time Synchronization Support

.: Security

Encryption: 256-bit AES encryption*

HTML Interface: HTTPS Password Protected

Trusted Unit: Optional Trusted Access point-Trusted Remote operation.

.: General

Temp Range: -40 to + 65oC

Humidity: 95% @ 40oC (104oF) non-condensing

Power Supply: 10-30 Vdc (13.8 Vdc nom)

Transmit Current: 800 mA nom @ 0.5W

Receive Current: <150mA nom

Sleep Mode: Multi-level smart sleep modes

Dimensions: Rugged Diecast Enclosure 100 x 34 x 165mm (4.0 x 1.4 x 6.5 inches)

Mounting: Integrated Mounting Holes

Weight: 0.5kg (1.1lbs.)

.: Compliances

FCC PART 15

IC RSS210

ACA AZ/NZS 4268

ATEX ATEX II 3G,
Ex nA IIC T4
(pending)

