

SYNTHESIZED

I-BASE/R

Full- or Half-Duplex Repeater



The I-Base/R Digital Repeater is designed to regenerate digital data in real time to bridge gaps in long hauls and overcome terrain obstacles enhancing your system to get your critical data to those remote or distant locations and back to your system's SCADA center. It is configurable with or without an optional duplexer to provide additional filtering and eliminate the need for two separate antennae.

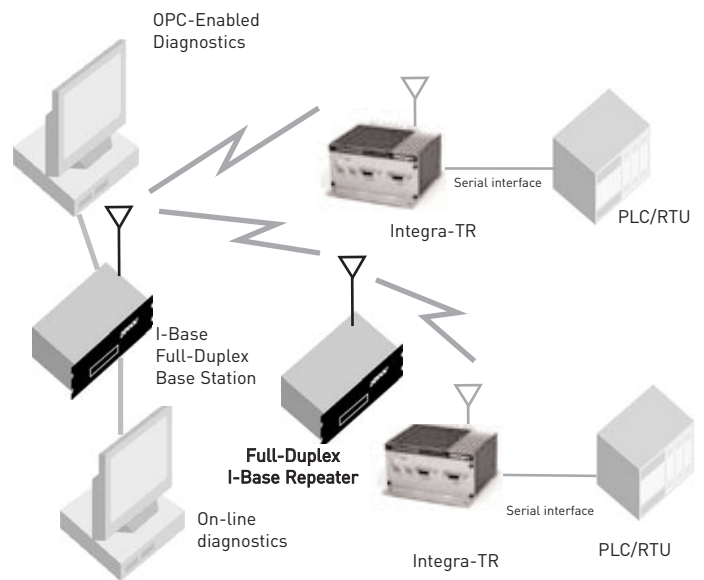
The I-Base/R passes Integra-TR diagnostics from Master to Remote or Remote to Master for non-intrusive system updates. Dataradio infrastructure allows users to keep critical SCADA systems on-line while monitoring system statistics.

The I-Base/R is a transparent digital link (up to 19200 bps in a 25 kHz channel or 9600 bps in a 12.5 kHz channel) compatible with popular protocols like Modbus™, Modbus-RTU™, DNP 3.0™, and AB DF1™. The I-Base/R baud rate is PC programmable from 4800 to 19,200 bps to meet your application requirements.

SCADA system options The I-Base/R is available at VHF, UHF, and 900 MHz and supports Integra brand wireless modems.

Rugged Design The I-Base/R mounts in a standard 19-inch rack. Dataradio units are covered by our standard two-year warranty with one-year warranty on labor. Third-party components are covered by their respective manufacturer's warranty.

System Diagram



MODEM

Interface	EIA synchronous RS-232
Operation	Simplex/half-duplex, full-duplex, repeater
Data Rate	4800, 9600, or 19200 bps
Modulation	DRCMSK
Protocol	Transparent to user
Bit Error Rate	19200* bps - 25 kHz channel: better than 2×10^{-5} @ 1.7 μ V 9600 and 4800 bps - 25 kHz channel: better than 3×10^{-6} @ 1.0 μ V 9600 bps - 12.5 kHz channel: better than 2×10^{-5} @ 1.0 μ V

GENERAL

	VHF	UHF	900 MHz
Frequency Ranges (without duplexer)	132-174 MHz	380-403 MHz	928-960 MHz
(with duplexer)	148-174 MHz	403-512 MHz	928-960 MHz
Channel Bandwidth	12.5 or 25 kHz	12.5 or 25 kHz	12.5 or 25 kHz
Current Drain Transmit @ 12 VDC (5 W fan off. Add 60 mA when fan is running)	1.6 A	1.8 A	2.3A
Receive @ 12 VDC	300 mA (200 mA half-duplex)		
Frequency Control	Synthesized		
Channels (repeaters with duplexers are 1 channel)	1		
RF Connectors	N female		
Dimensions (HxWxD)	5.25" x 19" x 9.25" (131.25mm x 475mm x 231.25mm)		
FCC Type Acceptance	NP42424016-001	NP42424046-001	NP42424096-001
FCC Emission Designators	15K3F1D, 9K30F1D		
IC Type Acceptance	2984195430A	2984195432A	2984195431A
Bandwidth without tuning	132-150: 18 MHz 150-174: 24 MHz	450-470: 20 MHz All other bands: 16 MHz	928-960: 32 MHz
Diagnostics (On/Offline**) Remote Units	RSSI (receive signal strength indicator), receive quality index, internal supply voltages, forward and reverse power (5 W remotes only), unit temperature		

RECEIVER

Receive Operation	Continuous (no tuning required)
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TRANSMITTER

Transmit Operation	Continuous (no tuning required)
RF Output Power (PC programmable)	1-5 watts without duplexer, 0.7 - 3.5 watts with duplexer
Transmit Attack Time	1.5 ms (repeater TX)

*19200 bps requires 25 kHz channel.

**Radio configuration and local/remote diagnostics require Dataradio Field Programming Software and programming cable.