

TCP/IP

Security &amp; Defense

OIL &amp; GAS

SCADA &amp; TELEMETRY

WIRELESS DATA COMMUNICATION

Remote Monitoring

INDUSTRIAL AUTOMATION

WATER &amp; WASTEWATER

ELECTRIC UTILITIES

## Integra-TR

Integrated Wireless Modems

132-174 MHZ  
380-512 MHZ

The Dataradio Integra-TR from CalAmp provides advanced features without complicated system setup. With up to 5W output in UHF & VHF, the Integra-TR offers reliable data communications over an extended range.

Virtually real-time data is transferred through this PC programmable, transparent modem with CWID for identification and CSMA to minimize retries and reduce channel interference. Get up to 19.2 kbps error-free data over-the-air.

**Data-activated transmit [DOX].** Automatically activates the transmitter in the presence of data without needing an RTS handshake from terminal equipment. The Integra-TR also supports CTS flow control when the terminal rate exceeds the network rate.

**No dribble bits.** The Integra-TR prevents transmission of any extraneous data bits to the terminal device, making Integra-TR the perfect choice when working with protocols that cannot tolerate extra data bits.

**Remote Online Diagnostics.** Monitor and maintain your communications link. Power, temperature, voltage, signal strength, antenna/feedline condition, and data decode performance are transmitted without application interruption.

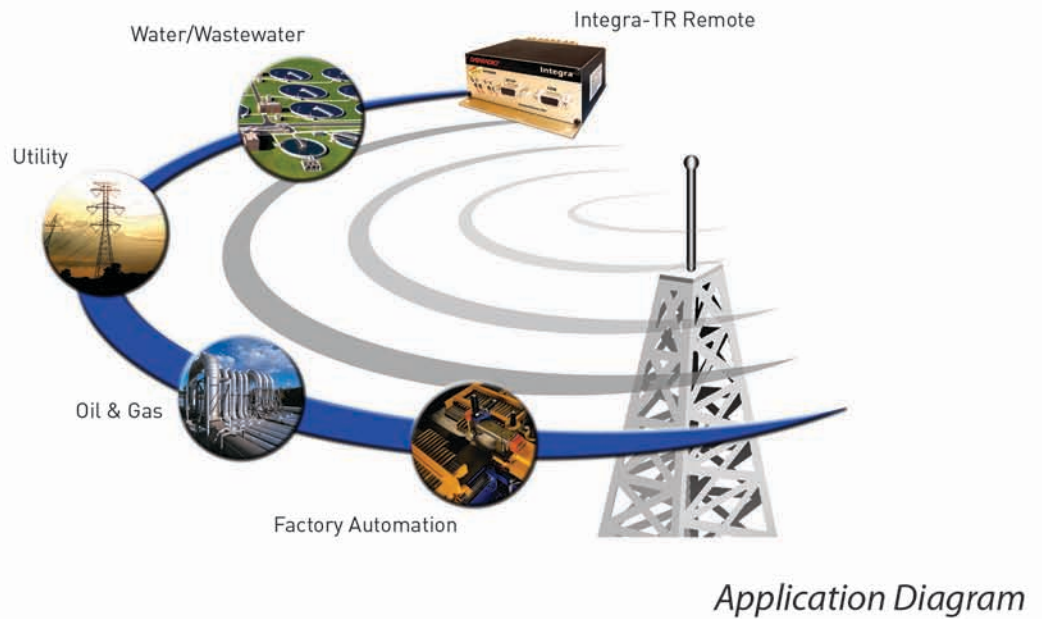
**Quality and Service Commitment.** The Integra-TR comes standard with our 1-year warranty and the quality you need for your critical RF networking needs.

## COM AND SETUP DE-9F CONNECTOR

Pin	Description
1	DCD: Data Carrier Detect
2	RXD: Receive Data
3	TXD: Transmit Data
4	DTR: Data Terminal Ready
5	Ground
6	DSR: Data Set Ready
7	RTS: Request to Send
8	CTS: Clear to Send
9	Not Used

## POWER - I/O SNAP AND LOCK 4-PIN CONNECTOR

Pin	Description
1	+13.3 VDC (Red)
2	Ground (Black)
3	Analog In / Digital Out 1 (Green)
4	Analog In / Digital Out 2 (White)



Application Diagram

## Specifications

### GENERAL

#### Frequency Range

VHF: 132-174 MHz  
UHF: 380-403, 403-512 MHz

#### Channel Bandwidth

6.25, 12.5 or 25 KHz models

#### Size

4.5 x 2.4 x 4.75 in.

#### Weight

1.60 lbs.

#### Operating Temperature

-30°C to +60°C

#### Supply Voltage

10-16 VDC

#### Current Drain @ 13.3 VDC

Less than 220 mA (Rx); Less than 2.6 A (Tx)

#### Cold Start

4 sec

#### Mounting Options

Flat surface, DIN-rail

#### Approvals and Certifications

FCC, IC, UL

#### Emission Designators

6K00F1D (6.25 KHz)  
9K30F1D, 15K3F1D (12.5, 25 KHz)

### TRANSMITTER

#### RF Power Output

1-5 W software adjustable

#### Spurious and Harmonics

Less than -36 dBm (-73 dBc)

#### Frequency Tolerance

VHF: 2.5 PPM @ 12.5 KHz; 1.0 PPM @ 6.25 KHz  
UHF: 1.5 PPM @ 12.5 KHz; 0.5 PPM @ 6.25 KHz

#### FM Hum and Noise

Less than -45 dB @ 25 KHz

#### Duty Cycle

50% max transmit; Extended option available

### RECEIVER

#### Sensitivity

0.35  $\mu$ V for 12 dB SINAD

#### Selectivity

>70 dB @ 25 KHz  
>60 dB @ 12.5 KHz  
>40 dB @ 6.25 KHz

#### Intermodulation

>70 dB

#### Spurious Rejection

>70 dB

#### Conducted Spurious

Less than -57 dBm

### MODEM

#### Operating Mode

Simplex or Half-duplex

#### Data Rates

19200, 9600, 4800 bps @ 25 KHz  
9600, 4800 bps @ 12.5 KHz  
4800, 2400 bps @ 6.25 KHz

#### Modulation

DRCMSK

#### RTS/CTS Delay

4 ms

#### Bit Error Rate (BER)

1 x 10<sup>-6</sup> at .35  $\mu$ V min. / -116 dBm  
1 x 10<sup>-6</sup> at 1.4  $\mu$ V min. / -104 dBm  
1 x 10<sup>-6</sup> at 1.0  $\mu$ V min. / -107 dBm  
1 x 10<sup>-6</sup> at 2.3  $\mu$ V min. / -100 dBm

