

# 900 MHz

## Alligator Communications

### Model 2888

## 900 MHz Licensed MAS Radio



### Features:

- Zero Frequency Offset
- Automatic Deviation Control
- Automatic Level Control
- Self-Diagnostics / Alarm Alert
- Self-Arbitrating / Collision Free

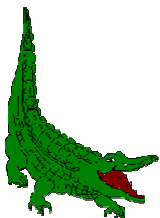
### Applications

- SCADA Systems
- Utility Data Communications
- Oil & Gas Pipeline Monitoring
- Water Systems
- Distribution Automation

### General Description

Alligator is the first to offer frequency agile systems with over-the-air adjustment and control of all operating parameters. Even frequency change and calibration can be performed without technician travel to the remote site. Alligator has advanced the MAS operation and maintenance technology to new limits with fully Automatic Global Frequency Calibration, Automatic Deviation Control and Automatic Level Control. The Model 2888 remote radio has an on board microprocessor which is constantly performing diagnostics to compare the operating limits preprogrammed in the radio. When maintenance is necessary, the Model 2888 will signal the control center via the

connecting Intelligence Electronic Device. Patented GatorTrac (No.5,893,903) provides constant re-calibration of the remote radio's time base to track the frequency drift due to aging in the master radio's time base. Developed for the DA/DSM demonstration project sponsored by EPRI and NRECA, the Model 2888 has the self arbitrating capability to detect RF traffic and allows remote IEDs to send relevant real-time information without the use of traditional polling. This ability, coupled with the UCA™ open protocols, allows SCADA and Distribution Automation systems to operate in an unsolicited data delivery mode which results in maximum data throughput and most efficient spectrum utilization.



**Alligator**  
Communications, Inc.

# Model 2888 MAS Remote Radio

## Technical Specifications

### TRANSMITTER

RF Power: 5 Watts, adjustable 0.5 to 5 W  
Impedance: 50 Ohms  
Duty Cycle: Continuous  
Tx Attack Time: < 1 ms  
Frequency Stability: .00015%(1.5 ppm) -30°C to +60°C  
Bandwidth: 12.5 or 25 kHz  
Modulation Deviation:  
12.5 kHz Band: ± 3.0 kHz Max.  
25.0 kHz Band: ± 5.0 kHz Max.  
Spurious and Harmonic Emissions: -65 dB  
Tx Time-out Timer: 1-255 seconds  
Audio input level: -20 to +10 dBm  
Frequency Response: +1/-3 dB: 300 to 3000 Hz

### RECEIVER

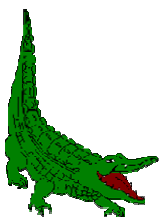
Type: Double Conversion Super-heterodyne  
Frequency Stability: .00015%, (1.5 ppm) -30°C to +60°C  
Bandwidth: 12.5 or 25 kHz  
Sensitivity: -117 dBm (0.3 uV) 12 dB SINAD  
Selectivity: -100 dB min / Adjacent Channel  
Desensitization: -60 dB (EIA) at 12.5 kHz spacing  
-70 dB (EIA) at 25.0 kHz spacing  
Inter-modulation: -75 dB (EIA)  
Spurious/Image Rejection: -80 dB  
Audio Output levels: -20/+6 dBm, Adjustable  
Frequency Response:  
Filtered: +1/-3 dB 300 - 3000 Hz  
Unfiltered: +1/-3 dB 300 - 6000 Hz  
Bit Error Rate:  
1200 bps: BER  $1 \times 10^{-6}$  at -110 dBm  
4800 bps: BER  $1 \times 10^{-6}$  at -110 dBm  
9600 bps: BER  $1 \times 10^{-6}$  at -103 dBm

### GENERAL

Frequency: 860-960 MHz  
Input Voltage: 13.8 Vdc  
Current Consumption:  
Receive Mode: No options < 120 mA  
With options < 150 mA  
Transmit (5W) < 1.7 A  
Data Rate: 300 to 9600 bps  
Connectors:  
Antenna: Type N female  
Power: 2 Pin Captive Rectangular  
Data: DB-9 pin  
Diagnostics: RJ45  
Environment:  
Temperature: -30°C to +60°C  
Humidity: 95% at 40°C  
Dimensions: 6.75" x 1.5" x 5.75"  
Weight: 2 pounds

### OPTIONS and ACCESSORIES

Diagnostics Provides the ability to over-the-air monitor and change of all radio operating parameters & limits  
Limits & Counters Provides programmable power output, event counters, and diagnostic limits, each adjustable over the RF path  
AGFC To compensate for long term crystal aging, the internal TCXO is always calibrated to the associated master  
ADC To compensate for long term variations in modulation deviation to avoid risk of violation  
ALC To accommodate an audio input level anywhere from -20dBm to +10dBm without requiring any adjustment  
Internal Modems:  
1200 bps Bell 202 Compatible;  
Digital Interface - RS-232  
300-9600 bps Asynchronous operation;  
Digital Interfaces - RS-232  
Data Interface:  
RS232  
4 Wire VF



**Alligator**

Communications, Inc.

317 Brokaw Road  
Santa Clara, CA 95050  
www.alligatorcom.com

Tel: (408) 327-0800  
Fax: (408) 327-0808  
info@alligatorcom.com