

# Airborne Telemetry

## Data Links for Unmanned Vehicles

- Transmitters and Receivers for Digital or Analog Systems
- Aircraft and Ground/Robotic Vehicles
- UHF, L, S, or C-Band Operation
- UHF Available for Command Uplinks
- TX Power from 100 mW to 100 Watts
- RS232 or RS422 Interfaces Optional
- Fixed or Frequency Agile (Multi-Channel)
- Local or Remote Control
- Video (NTSC or PAL)/Data Downlink
- Subcarriers Available for Data

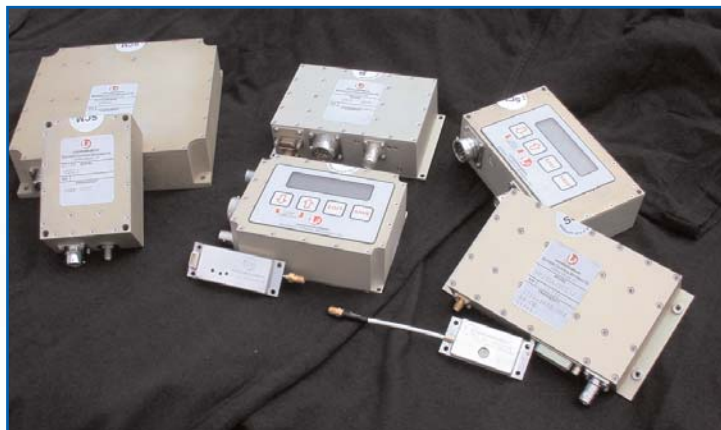
*A Southern California Microwave  
Product*



**communications**

Telemetry-West

*Excellence You Can Measure*



Southern California Microwave's unique capability to supply COTS off-the-shelf datalinks for the unmanned vehicle industry is tied to the 30 years experience gained in the Military/Aerospace and Law Enforcement business. Having designed and manufactured hundreds of links for UAV, MAV, OAV, TUAV, and UGV state-of-the-art vehicles, the company has developed an extensive line of low to high power Transmitters, Receivers, and Power Amplifiers with output powers up to 100 watts.

Data rates up to 20 Mbps can be transmitted and Pre-mod filters are available for most transmitters.

The latest hardware includes miniature, low power, low current consumption packages for transmitters and receivers. Transmitters are available with output power ratings of 100 mW, 250 mW, 1 Watt, and 2 Watts. Housed in packages as small as 0.41 cubic inches, these units occupy only a fraction of the normal space required by older designs and operate on 12 Volts DC battery power. All consume minimal current and provide the user with a wide variety of options.

Units are available with optional remote frequency control with up to 256 frequencies via simple BCD or serial code. Also, output power options include selecting from "carrier off", "standby", "full power", and up to two additional levels.

Receivers are available to provide either high quality NTSC or PAL Video or Data or Video with Data. Video units are available with one or two data subcarriers to provide a return path for instrumentation from the engine or other onboard sensors. Uplink Data Receivers in the UHF frequency range provide command communications to the autopilot and are designed to occupy a minimum of vehicle space and require only a small amount of current. Matching UHF Transmitters are available for the Ground Station which uplink commands to the vehicle and feature an RS232 interface with data rates up to 19.2 kbps. All receivers provide an RSSI output for Relative Signal Strength indications.

A Receiver with 5.7 inch TFT Color Monitor is available for remote ground monitoring. Capable of AC or DC power, or as an option, battery operation for standalone portable use. The unit includes a signal strength meter for antenna alignment to maintain maximum signal strength with the vehicle being tracked.

# Data Links Specifications

## GENERAL

Operating Frequency  
Range . . . . . UHF, L, S, C-Band

Frequency Selection . . . . . Rotary Switch or Remote BCD Control

Transmit RF Output  
Power . . . . . 100 mW, 250 mW  
1, 2, up to 100 Watts

General Power  
Requirements . . . . . 11.5 to 16 Vdc or 28 ±4 Vdc

Operating Temperature Range  
Airborne . . . . . -20°C to +71°C  
Ground0 . . . . . 0°C to +50°C  
(Other temperature ranges available)



Transmitter Physical Sizes

100 & 250 mW  
(One Subcarrier) . . . . . 0.88" x 1.26" x 0.73" (0.41 cu in)  
(22.4 x 32 x 9.4 mm)

1 & 2 Watt  
(One Subcarrier) . . . . . 0.945" x 2.6" x 0.44" (1.08 cu in)  
(24 x 66 x 11.18 mm)

5 Watt  
(No Subcarriers) . . . . . 2" x 3" x 1" (6 cu in)  
(50.8 x 76.2 x 25.4 mm)

5 & 10 Watt  
(with Subcarriers) . . . . . 2.5" x 3.5" x 1.5" (13 cu in)  
(63.5 x 88.9 x 38.1 mm)

For Higher Power Levels, Consult Factory

Receiver Physical Sizes

Video Downlink  
(One Subcarrier) . . . . . 3.15" x 5.8" x 1" (15 cu in)  
(80 x 147.3 x 24.5 mm)

Video Downlink  
(Two Subcarriers) . . . . . 3" x 5" x 1.5" (20 cu in)  
(76.2 x 127 x 38.1 mm)

Data Uplink  
(UHF No Subcarriers) . . . . . 1" x 2.2" x 0.37" (0.81 cu in)  
(24.5 x 55.88 x 9.4 mm)

Data Uplink  
(UHF, L, S, C-Band) . . . . . Consult Factory for Options

Video Ground Receiver . . . . . 6.98" x 7.82" x 3"  
(171 x 191.6 x 73.5 mm)

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