



MCS

Microwave Communication System

The Microwave Communication System (MCS) consists of two segments:

- Communication, providing a data and audio uplink from a Ground Control Station (GCS) to an Unmanned Aerial Vehicle (UAV) and a data, audio and video downlink from the UAV to the ground.
- Bore-sight error signal generation, allowing the GCS to precisely track the UAV azimuth position.

The MCS is field-proven with the Kentron Seeker II UAV and consists of the following main elements:

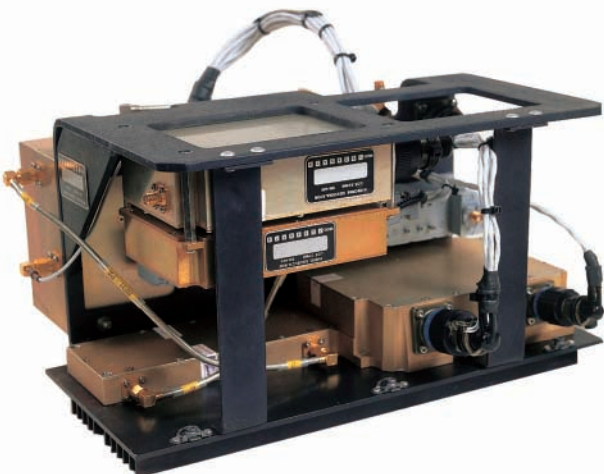
- Lightweight airborne transceiver unit
- High-gain cosec² monopulse ground antenna
- Integral ground antenna yoke and ground transceiver (outdoor)
- Separate ground demodulator (indoor)

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GROUND SUB-SYSTEM



AIRBORNE SUB-SYSTEM



KEY FEATURES

- Operation in the microwave C-Band (approximately 5 GHz)
- 6 frequency channels
- Analogue modulation for uplink and downlink
- Narrow-beam ground antenna with monopulse feed
- Management of transmit power
- Azimuth bore sight error detection with azimuth error output
- Up to 250 km line-of-sight range depending on antenna configuration
- Comprehensive Built-In Test (BIT) functions

POWER SUPPLY

Airborne Transceiver:	Nominal +28 V, 160 W
Ground Transceiver & Demodulator:	Nominal +28 V, 230 W

ENVIRONMENTAL

Temperature: (all items)	-20°C to +55°C
Vibration:	
Airborne Transceiver	0.25 g (RMS) @ 0.1 to 500 Hz
Shock:	
Airborne Transceiver	20 g @ 11 ms

PHYSICAL CHARACTERISTICS

Airborne Transceiver	
Mass	< 3 kg
Dimensions	285 mm x 265 mm x 155mm
Ground Transceiver	
Mass	< 21 kg
Dimensions	480mm x 280mm x 210mm
Ground Demodulator	
Mass	< 5 kg
Dimensions	420mm x 420mm x 105mm (rack mountable)

TRANSMITTER CHARACTERISTICS

Airborne Transceiver	
High Power	≥ +38 dBm
Low Power	≥ +30 dBm
Ground Transceiver	
High Power	≥ +38 dBm
Low Power	≥ +30 dBm

SENSITIVITY

Airborne Receiver	< -88 dBm
Ground Receiver	< -82 dBm

GENERAL

Video Signal Format	PAL -I, 625 line
Ground Based Σ Antenna Gain	33 dBi
Ground Based Δ Antenna Gain	30 dBi
BSE, Signal Strength, BIT and Command Interface Protocols	RS 442

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