

MA-6G

SYSTEM SPECIFICATIONS

GENERAL

Frequency Range	5.925 to 7.125 GHz
Power Output*	+32 dBm nominal +30 dBm minimum
Frequency Stability	0.005% (-30 to +55°C)
Receiver Noise Figure	8.5 dB, maximum, including preselect filter
Channel Capability	
Television	525 or 625 line video plus 4 subcarriers
Frequency Division Multiplex	1200 channels
Pulse Code Modulation	288 channels
Environmental	
Temperature Range	
Operating	-30 to +55°C
To Specification	+10 to +40°C
Relative Humidity	95% in temperature range +10 to +40°C
Elevation (storage)	50,000 feet
Elevation (operating)	15,000 feet
Options	
Hot Standby (video)	supervisory channels
Diversity	fault alarm
Dual Polarization	continuity pilots

TRANSMITTER

Type	remodulating
RF Power Output (to branching network)	+30 dBm minimum
RF Generator	solid-state 2 GHz oscillator
Automatic Frequency Control (AFC)	crystal referenced to: 0.005% (-30 to +55°C)
Power Amplifier	5 watts at 2 GHz

*Does not include branching losses.

RF Multipliers

varactor multiplier

5.925 to 6.425 GHz: X3

6.425 to 7.125 GHz: X4

RF Return Loss (± 10 MHz)

26 dB

Output Connector

WR-137 waveguide flange

Power Input

from external power supply (MA24V)

Sensing (option)

transmitter power output, continuity pilot and AFC

Physical

19" (w) x 8-3/4" (h) x 9-1/2" (d)

RECEIVER

Type

super heterodyne

Normal Receive Carrier Level

-29 dBm

Noise Figure

8.5 dB, maximum, including preselect filter

Local Oscillator

solid-state, locked oscillator

RF Bandwidth*

40 MHz

Intermediate Frequency

70 MHz center

Modulation

FM

IF Bandwidth*

30 MHz

Input Connector

WR-137 waveguide flange

Power Input

from external power supply (MA24V)

Sensing (option)

continuity pilot and AGC

Physical

19" (w) x 8-3/4" (h) x 9-1/2" (d)

POWER SUPPLY (MA24V)

Type

external panel mounted; one power supply required per transmitter and receiver (repeater) pair

Input Voltage

-21 Vdc to -56 Vdc

Input Power

less than 100 watts for duplex terminal

115 Vac and 220 Vac available as options

Physical

19" (w) x 5-3/4" (h) x 9-1/2" (d)

*Other bandwidths available as options.

SYSTEM PERFORMANCE

Frequency Response (single hop)	
300 Hz to 10 kHz	±0.5 dB
10 kHz to 6 MHz (relative to 300 kHz)	±0.25 dB
6 MHz to 8.0 MHz (relative to 300 kHz)	±0.5 dB
Gain Stability (30-day interval)	±0.25 dB

VIDEO SYSTEM PERFORMANCE

Capacity	525 or 625 line video plus 4 program subcarriers
Levels, Input and Output	1.0 volt peak-to-peak
Impedance	75 ohms, unbalanced
Return Loss	26 dB
Pre- and De-Emphasis	per EIA/CCIR Rec. 405
Performance (NTSC Color TV, Emphasis, CCIR Weighting, -35 dBm Receive Carrier, without RFI and Echo Distortion)	

		<u>Single Hop</u>	<u>Multihop (6 hops)</u>
Differential Gain (at 3.58 or 4.43 MHz)	50% APL	±0.3 dB	±0.6 dB
	10% APL	±0.5 dB	±1.0 dB
	90% APL	±0.5 dB	±1.0 dB
Differential Phase (at 3.58 or 4.43 MHz)	50% APL	±0.5°	±1.5°
	10% APL	±0.5°	±2.0°
	90% APL	±0.5°	±2.0°
Signal-to-Noise (4 kHz to 4.5 MHz) peak-to-peak/rms (weighted per CCIR)		70 dB	62 dB
Signal-to-Hum (10 Hz to 4 kHz) peak-to-peak/peak-to-peak		60 dB	46 dB
Signal-to-Discrete Tones		60 dB	46 dB
Square Wave Tilt (60 Hz)		less than 1%	
33 dB Signal-to-Noise (weighted) Threshold			-81 dBm