

BMS manufactures three different types of antennas that can be mounted either on the belly of the aerial vehicle or on the skid of a helicopter. These antennas vary in size, weight, and application.

Before deciding on a transmit antenna make sure you know how far you need the video transmitted and what system will be at the receiving end of the transmission. These downlink systems are used for aerial surveillance and pursuits, to survey disasters, observe motorcades, and live television broadcast reporting.

### TAA-101 Omni Actuator System



This dependable low cost antenna is skid mounted (or can be fixed to the belly of the aircraft) and employs an omnidirectional antenna that provides 360° of azimuth coverage. The unit comes standard with break-away release mechanisms to assure safety in case the helicopter lands with the antenna still down in the deployed mode. This system can be analog or digital.

### GCA-11 Directional Antenna System

This lightweight pod is fully automatic, requires no operator intervention during normal operation, has no moving parts for low maintenance costs, and incorporates a solid state switchable array antenna. The pod is self-contained with integral electronics employing a high performance embedded processor which handles all control, supervision, and high speed streaming communication protocols, together with a solid state compass and modular I/O system. Eight antenna elements are arranged to overlap to provide 360° of azimuth coverage. At least one element is always selected, ensuring continuous signal transmission.



### GCA-4 Steerable Antenna System



This system is primarily used to point an antenna for microwave communications from either a fixed or rotary wing aircraft. It operates independent of aircraft instrumentation which makes it easier to install and transfer between aircraft during maintenance. The control panel, which controls power to the antenna and selects the mode of operation, indicates magnetic north and antenna bearing through a dual circle of LEDs and indicates good GPS data or fault conditions. An RF rotary joint allows the antenna to continuously rotate 360°. Although the system is typically used for transmit applications, options are available for receive or duplex operation through the steerable antenna.

### TAA-101

### GCA-11

### GCA-4

<b>Antenna</b>			
Polarization	Vertical or RHC	RHC, LHC, or Vertical Linear	Vertical & RHC or LHC & RHC
Gain	5-6 dB (Various Antenna Options Available)	11 dBi Nominal	14 dBi @ 2.5 GHz
AZ Beamwidth	360°	Horizontal 45°, Vertical 35°	3 dB 15° @ 2.5 GHz
EL Beamwidth	Dependant on Antenna Selected		3 dB 25° @ 2.5 GHz
Frequency	Dependant on Antenna Selected	1.7-5.5 GHz (500 MHz Bandwidth)	1.99-2.5 GHz (Others Available Between 1.3 & 15 GHz)
Return Loss	≥ 14 dB	14 dB	14 dB

<b>Environmental</b>			
Operating Temperature	-20°C to +55°C	-20°C to +55°C	-20°C to +55°C
Humidity	Up to 95% RH Non-Condensing	Up to 95% RH Non-Condensing	Up to 95% RH Non-Condensing

<b>Power</b>			
Voltage Input	28 ± 4 VDC	+8 to +32 VDC	+24 to +32 VDC
Consumption	1 A (When Deploying or Stowing)	30 VA	2.0 A

<b>Mechanical</b>			
Dimensions	Actuator: 9" x 4" x 2" (22.86 x 10.16 x 7.62 cm) Skid Mount: 9" x 3.5" x 4" (22.86 x 8.89 x 10.16 cm) BMA-6-O: 2.5" Diameter x 20" (6.35 x 50.8 cm)	12" Diameter x 9" High (30.48 x 22.86 cm)	17" Diameter x 8" High (Not including Mounting Posts and Connector Blocks) (43.18 x 20.32 cm)
Weight	Actuator: 5 lbs Skid Mount: 2 lbs BMA-6-O: 1 lb	9 lbs	A Complete System < 50 lbs (<22 kg) or <60 lbs with Optional Receive Capability (< 27.21 cm)

**TAA-101**

Mounting Pins are left or right side, depending on helicopter type.

Control Panel		
Options	HCP-100	HCP-50
Size	5.75" x 3" x 2.5" (14.06 x 7.62 x 6.35 cm)	5.75" x 1.5" x 3.06" (14.06 x 3.81 x 7.78 cm)
Weight	1 lb (.45 kg)	1 lb (.45 kg)

Options:

- Up/Down Control Box for Stand Alone Actuator Control
- Highlift Kit for Rough Terrain
- BMT75/85 with Heatsink for Analog Transmission or Heli-Coder I or II System for Digital COFDM Transmission
- TAA-CTM Cross-Tube Mount
- Additional Receive Antenna For Relay Operation

**GCA-**

Misc.

A Complete System Incorporates and External Analog or Digital Transmitter

**GCA-4**      **GCP-4/HCP-4**

Misc.

A Complete System:

- Total Power of 2.0A @ 24-32 VDC, 5.5 A Including Analog Transmitter
- Includes:
  - Interconnect Cable Harness (6 lbs)
  - Gyro-4 (2.25 lbs)
  - Gyro Power Supply (3 lbs)

Options:

- 12" High Antenna Pod (17" diameter x 12" High - doesn't include mounting posts)
- Internal 2 dBi Omni Antenna (With 12" Pod)
- Internal Downlook Antenna (With 12" Pod)
- BMT75/85 Analog Transmitter or Heli-Coder I or II System for Digital COFDM Transmission
- Video Encryption/Decryption
- BMR120 Receiver with BRC-12-A Remote Controller, and BPF-100 Filters