

BMS manufactures tracking antenna systems that are rugged and versatile. They all provide continuous 360° azimuth coverage for tracking an aircraft transmitting live video and data via a microwave downlinks. The BMA-9001 and TAS-5000 are easily transported and tracks from a fixed location, while the GTA-24 can be mobile while tracking.

BMA-9001 & TAS-5000 Ground Tracking Antenna



These rugged azimuth only pedestals come with different antenna options, and can transmit command and receive aircraft data. Power is provided by a controller which can be either a 19" rack mounted BPC-500 controller or a GCU-500 weather proof receiver/controller enclosure assembly. Each controller provides front panel control and monitoring of the system and can manually point the antenna with a joystick or can automatically follow the RF signal using monopulse tracking. (Remote Control serial port and 400 meter fiber optic link are optional).



Both the BMA-9001 and TAS-5000 were developed to be transported in a HMMWV shelter. The BMA-9001 pedestal can be tripod mounted or mounted on a vehicle mast. The TAS-5000 pedestal is removable from the folding tripod. The main section of the antenna remains attached to the pedestal while the two ears are removable for easy transport.

GTA-24 Mobile GPS Tracking Antenna

This self-contained, compact and rugged antenna pod and remote control is intended for use wherever mobility and ease of use are required. The antenna is easily deployed on a tripod or permanently mounted on top of a vehicle or telescoping air mast with minimum operator intervention. Upon arrival to any location simply turn on the remote control and the GTA-24 takes over and automatically detects GPS signals and magnetic north. It then electrically calibrates its position, selects the correct antenna, and enters a search mode to detect the microwave signal from the surveillance aircraft. This system is perfect for law enforcement, fire, or other public safety mobile command posts.



BMA-9001

TAS-5000

GTA-24

| Specifications | | | |
|----------------|--------------------|--|--|
| Antenna | Dual, Quad Helical | Truncated Parabolic (1 Piece or Portable 3 Piece) | GTA-24 POD |
| Frequency | 1.4-8.5 GHz | 1.4-8.5 GHz (Multi-Band) | 1.9-2.5 GHz or 6.425-6.525 (Consult Factory for Other Frequencies) |
| Gain | 20.5 dBi @ 4.5 GHz | 30 dBi @ 4.8 GHz | 14 dBi Typical |
| AZ Beamwidth | 8° @ 4.5 GHz | 3.6° @ 4.8 GHz | 17° |
| EL Beamwidth | 17° @ 4.5 GHz | 7.2° @ 4.8 GHz | 25° |
| RX RF Input | | | ≤ -40 dBm |

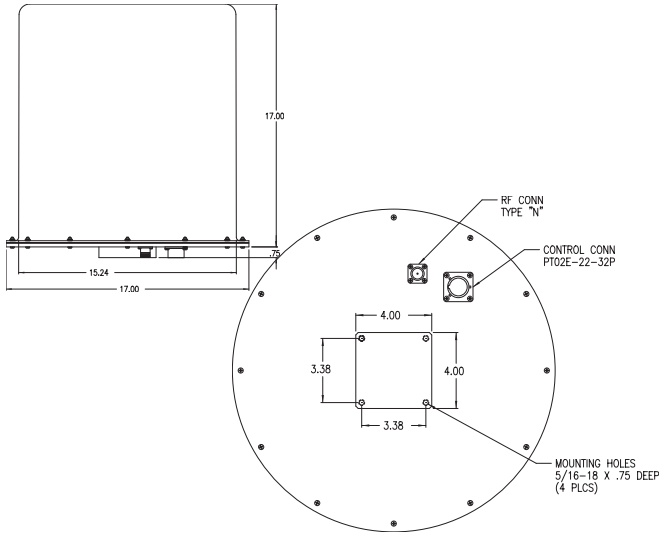
| Pedestal | | | |
|------------------|--------------------------|--------------------------|--------------------------|
| Azimuth Travel | 360° Continuous Rotation | 360° Continuous Rotation | 360° Continuous Rotation |
| Elevation Travel | | -5° to +85° | |
| Tracking Rate | Up to 20°/sec. | Up to 20°/sec. AZ & EL | Up to 20°/sec. |

| Physical | | | |
|-----------------------|--|--|--|
| Operating Temperature | -20° to +60 °C | -30° to +60 °C | -20° to +60 °C |
| Operating Wind Load | Up to 50 MPH | Up to 40 MPH | 65 MPH (90 MPH Survive) |
| Power | Provided Through Controller (Typical 100W Peak) | Provided Through Controller (28VDC 300W Peak) | 85-250 VAC, 50/60 Hz (100W Peak Typical) 12 VDC, & DC Optional |
| Size | 17" Diameter x 17" High (43.18 x 43.18 cm) | Tripod Extends from 40-60" (See Outline Drawing) | Pod: 18" Diameter x 12" High (45.72 x 30.48 cm) Rack Mount Remote: 19" w x 5.25"h x 7.5" deep (48.26 x 13.34 x 19.05 cm) |
| Weight | 25 lbs (11.34 kg) Includes Uplink Transmitter | Pedestal: 165 lbs (74.8 kg) Includes Uplink Transmitter, Dish , Feed, and Counterweights Tripod: 35 lbs (15.9 kg) | Pod: 23 lbs Typical (10.43 kg) Console Remote: < 5 lbs (2.27 kg) Rack Mount Remote: < 6 lbs (2.72 kg) |

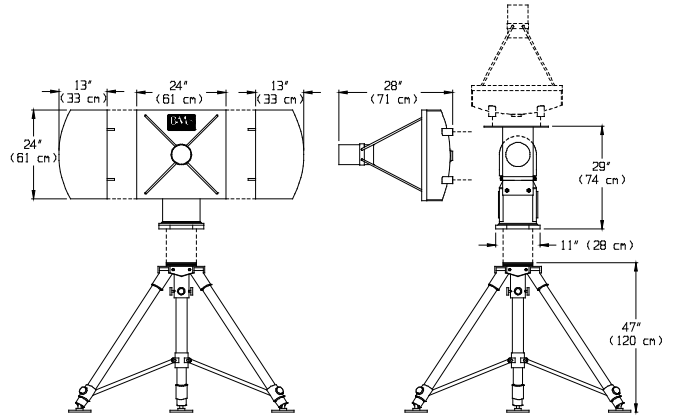
| Options | | | |
|---------|---|---|--|
| | <ul style="list-style-type: none"> • Uplink Transmitter • Rack Mounted BPC-5000 or Weatherproof GCU-500 Controller • Paint Color • BMA-9001 Transportation Case • BTA-100 Tripod and Mounting Adapter • Tripod Transportation Case • Up Looking Antenna to Allow Overhead Operation • Upper/Lower Sub Band Switch for Airborne Relay Operation • Built-in Electronic Compass | <ul style="list-style-type: none"> • Uplink Transmitter • Rack Mounted BPC-500 or Weatherproof GCU-500 Controller • Dual-Axis Tracking • Standard Paint O.D.; Desert Sand & White are Optional • Re-usable Transit Cases • CIU-100 FO Interface w/ Tactical Fiber Reel • Dual Band Operation | <ul style="list-style-type: none"> • GTA-24 Transportation Case • BTA-200 Medium Duty Tripod • BTA-200 Transportation Case • Nycoil™ Spiral Conduit with Cable For Use With Telescoping Masts • DC Power • Secondary Remote Control Panel Via RS-232 |

| | BPC-500L / BPC-750A | GCU-500 | | | | | | | | | | | | | | | | | | | | |
|-----------------------|--|--|--|------|---|-------|---|--------|--|-----------|--|-----------|--|--|--------|---|------|--|-----------|--|--------|---|
| Controller Options | <p>BPC-500L (Local Controller): Provides the user with a keyboard, joystick (for manual control of clockwise, counter clockwise, and up down slewing), and front panel control (of azimuth and elevation position, mode of operation, and signal strength) on an LCD display for easy interface to steer a pedestal or to store/recall system setups. The BPC-500M (Master Controller) can remotely control and monitor all the functions of the BPC-500L from an identical front panel</p> <p>BPC-750A (Airborne Controller): Designed for aircraft use, this compact, rugged controller operates on standard aircraft power of 28 VDC and typically directs an on-board "look back" directional antenna.</p> | <p>Encased in a weatherproof enclosure, the GCU-500 consists of a pedestal controller and a BMS BMR120 receiver which slides into an opening in the control panel. A backlit LCD display shows antenna position and mode of operation. Power is supplied by the controller and the BMR120 receiver can be controlled through its own front panel controls or receive commands from the controller via the remote serial port. If the system is routed with a command uplink transmitter at the antenna, transmitter uplink commands are routed through the second serial port. A joystick allows manual control.</p> | | | | | | | | | | | | | | | | | | | | |
| Modes of Operation | <table border="1"> <tr> <td>Manual</td> <td>The azimuth and elevation position of the pedestal are controlled by the joystick.</td> </tr> <tr> <td>Goto</td> <td>Commands the pedestal to a specific azimuth and elevation position.</td> </tr> <tr> <td>Store</td> <td>Can store up to 16 preset memory locations for specific users defined</td> </tr> <tr> <td>Recall</td> <td>Recalls a previously stored configuration from memory. "Goto" must also be used to implement change.</td> </tr> <tr> <td>Aerotrac™</td> <td>Uses external GPS or other data from aircraft position to calculate pointing of angles for pedestal.</td> </tr> <tr> <td>Autotrac™</td> <td>Allows the pedestal to follow an RF signal using monopulse tracking.</td> </tr> </table> | Manual | The azimuth and elevation position of the pedestal are controlled by the joystick. | Goto | Commands the pedestal to a specific azimuth and elevation position. | Store | Can store up to 16 preset memory locations for specific users defined | Recall | Recalls a previously stored configuration from memory. "Goto" must also be used to implement change. | Aerotrac™ | Uses external GPS or other data from aircraft position to calculate pointing of angles for pedestal. | Autotrac™ | Allows the pedestal to follow an RF signal using monopulse tracking. | <table border="1"> <tr> <td>Manual</td> <td>Front panel controls enable manual slewing using a joystick</td> </tr> <tr> <td>Goto</td> <td>Commands the pedestal to a specific azimuth and/or elevation position commanded through the remote control serial port</td> </tr> <tr> <td>Autotrac™</td> <td>Allows the pedestal to follow an RF signal using monopulse tracking.</td> </tr> <tr> <td>Remote</td> <td>Complete control of the system is switched to a serial port, which can have a fiber optic interface for control over long distances</td> </tr> </table> | Manual | Front panel controls enable manual slewing using a joystick | Goto | Commands the pedestal to a specific azimuth and/or elevation position commanded through the remote control serial port | Autotrac™ | Allows the pedestal to follow an RF signal using monopulse tracking. | Remote | Complete control of the system is switched to a serial port, which can have a fiber optic interface for control over long distances |
| Manual | The azimuth and elevation position of the pedestal are controlled by the joystick. | | | | | | | | | | | | | | | | | | | | | |
| Goto | Commands the pedestal to a specific azimuth and elevation position. | | | | | | | | | | | | | | | | | | | | | |
| Store | Can store up to 16 preset memory locations for specific users defined | | | | | | | | | | | | | | | | | | | | | |
| Recall | Recalls a previously stored configuration from memory. "Goto" must also be used to implement change. | | | | | | | | | | | | | | | | | | | | | |
| Aerotrac™ | Uses external GPS or other data from aircraft position to calculate pointing of angles for pedestal. | | | | | | | | | | | | | | | | | | | | | |
| Autotrac™ | Allows the pedestal to follow an RF signal using monopulse tracking. | | | | | | | | | | | | | | | | | | | | | |
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| Autotrac™ | Allows the pedestal to follow an RF signal using monopulse tracking. | | | | | | | | | | | | | | | | | | | | | |
| Remote | Complete control of the system is switched to a serial port, which can have a fiber optic interface for control over long distances | | | | | | | | | | | | | | | | | | | | | |
| Pedestal Resolution | Typically 1.4° for Potentiometer Sensor 0.1° for Synchro Resolver. | 1° Shown on LCD Display 0.1° Reported on Serial Link | | | | | | | | | | | | | | | | | | | | |
| Power | Standard 85-250 VAC, 50-60 Hz <30W Typical Not Including Pedestal Power. Optional DC Available | 85-260 VAC, 50-60 Hz, 300W Peak, Including Pedestal | | | | | | | | | | | | | | | | | | | | |
| Size | 5.25" x 19" x 17.5" (back plate to front plate 3 RU high 19" mount) | 20.6"x 14.5" x 16.25" (52.3 x 36.8 x 41.3 cm) | | | | | | | | | | | | | | | | | | | | |
| Weight | ~15 lbs (~6.8kg) | 46 lbs (21 kg) | | | | | | | | | | | | | | | | | | | | |
| Operating Temperature | -10° to +50°C Operating Range (Extended Range Available) | -20° to +50°C (-30° with Optional Display Heater) | | | | | | | | | | | | | | | | | | | | |
| Humidity | Up to 95 % Non-Condensing | Up to 95 % Non-Condensing | | | | | | | | | | | | | | | | | | | | |
| Options | <ul style="list-style-type: none"> • DC Power • 400m Tactical Fiber Optic Cable on Cable Reels (40 lbs) • Command Uplink Transmitter (Installed in Pedestal) • Range Tone Board (Requires Uplink Transmitter) • Multiple Frequency Band Operation within 1.4-8.5 GHz • Aerotrac™ GPS Track | <ul style="list-style-type: none"> • 400m Tactical Fiber Optic Cable on Cable Reels (40 lbs) • Command Uplink Transmitter (Installed in Pedestal) • Range Tone Board (Requires Uplink Transmitter) • Multiple Frequency Band Operation within 1.4-8.5 GHz | | | | | | | | | | | | | | | | | | | | |

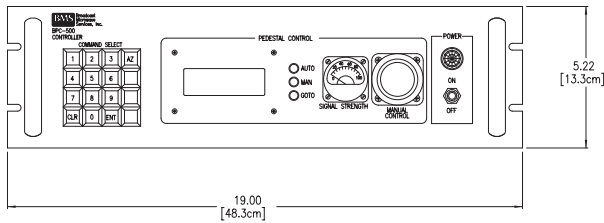
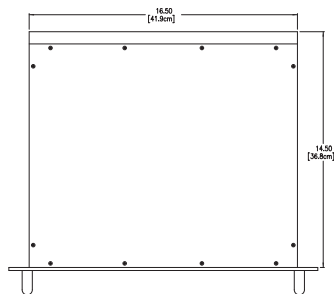
BMA-9001



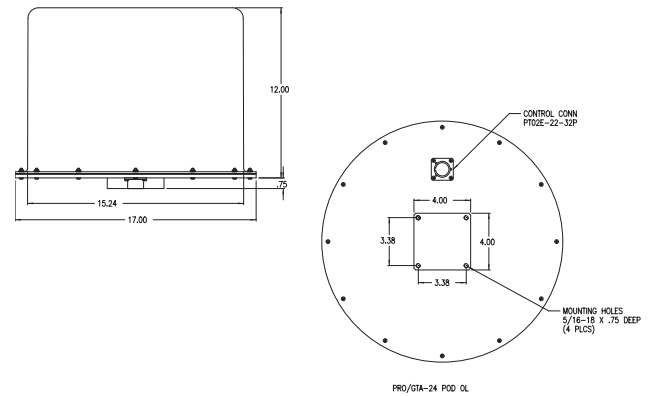
TAS-5000



BPC-500



GTA-24



GCU-500

