

### ANTENNA FEATURES

- 1.35m 12-piece AvL carbon fiber reflector
- Cable-driven azimuth and elevation positioner
- Lightweight antenna with integral base, folding tripod, and motorized positioner with auto-acquisition controller
- Deployed by one person in less than 10 minutes
- Auto-acquisition in less than five minutes
- Standard feed: Two-Port Ku-Band (fits in basic case pack-up)
- Optional feeds: Two-Port Wideband Ka-Band, Two-Port X-Band
- Optional rugged Terminal Interface Unit (TIU) ODU with ARSTRAT internal frequency reference



### MECHANICAL SPECIFICATIONS

|                               |                         |                                                                                                                                                                                                   |
|-------------------------------|-------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Reflector Construction</b> |                         | Segmented 1.35m carbon fiber / aluminum                                                                                                                                                           |
| <b>Axis Travel</b>            | <b>Azimuth</b>          | $\pm 95^\circ$                                                                                                                                                                                    |
|                               | <b>Elevation</b>        | + 5° to 95°                                                                                                                                                                                       |
|                               | <b>Polarization</b>     | $\pm 90^\circ$                                                                                                                                                                                    |
| <b>RF Interface</b>           | <b>BUC/HPA Mounting</b> | Rear of reflector (10 lbs. (4.5 kg) typical) or remote                                                                                                                                            |
|                               | <b>Coax</b>             | Two connectors at amplifiers                                                                                                                                                                      |
| <b>Electrical Interface</b>   |                         | Connectors at amplifiers; power, Ethernet, coaxial                                                                                                                                                |
| <b>Setup Time</b>             |                         | Less than 10 minutes                                                                                                                                                                              |
| <b>Acquisition Time</b>       |                         | Less than five minutes                                                                                                                                                                            |
| <b>Assembled Weight</b>       |                         | Less than 41 lbs. (19 kg) (with Ku-Band Precision Feed, minus BUC)                                                                                                                                |
| <b>Case Integration</b>       |                         | Two checkable travel cases: one for positioner, one for reflector. Less than 79 lbs. (36 kg) each. Exterior dimensions are the same for each case: 32 L x 21 W x 13 H in. (80 H x 53 W x 32 H cm) |

### ENVIRONMENTAL SPECIFICATIONS

|                                                      |              |                                                       |
|------------------------------------------------------|--------------|-------------------------------------------------------|
| <b>Wind – Survival</b>                               | Anchored     | 45 mph (72 km/h)                                      |
| <b>Wind – Operational</b>                            | Not Anchored | 15 mph (24 km/h)                                      |
|                                                      | Anchored     | 30 mph gusting to 45 mph (48 km/h gusting to 72 km/h) |
| <b>Pointing Loss in Wind (Receive – Operational)</b> | Ka-Band      | 1 dB typical, 2 dB maximum                            |
|                                                      | Ku-Band      | 0.4 dB typical, 0.8 dB maximum                        |
| <b>Temperature</b>                                   | Operational  | -22° to 125° F (-30° to 52° C)                        |
|                                                      | Survival     | -40° to 140° F (-40° to 60° C)                        |

### RF PARAMETERS: KU-BAND (TWO-PORT)

| KU-BAND (TWO-PORT)                          |       | Receive                                              | Transmit              |
|---------------------------------------------|-------|------------------------------------------------------|-----------------------|
| Frequency Range (GHz)                       |       | 10.95 – 12.75                                        | 13.75 – 14.50         |
| Polarization Configuration                  |       | Linear orthogonal standard, optional co-polarization |                       |
| Gain (dBi)                                  |       | 42.3                                                 | 43.8                  |
| Beamwidth (Degrees)                         | -3 dB | 1.4°                                                 | 1.1°                  |
| Radiation Pattern Compliance                |       | FCC 25.209, ITU-R S.580-6, IESS 208                  |                       |
| Antenna Noise Temperature (Midband, 20° EI) |       | 50° K                                                | --                    |
| EIRP SSPA 33W Linear                        |       | --                                                   | 58.6 dBW              |
| Power Handling Capability                   |       | --                                                   | 75 W                  |
| VSWR                                        |       | 1.30:1                                               | 1.30:1                |
| Feed Port Isolation (Tx to Rx, dB)          |       | 35                                                   | 80 (including filter) |
| G/T, Midband, Clear Horizon                 |       | 22.2 dB/° K with 50° LNB                             | --                    |

### RF PARAMETERS: KA-BAND (TWO-PORT)

| KA-BAND (TWO-PORT)                              |       | Receive                      | Transmit              |
|-------------------------------------------------|-------|------------------------------|-----------------------|
| Frequency Range (GHz)                           |       | 19.2 – 21.2                  | 29.0 – 31.0           |
| Polarization Configuration                      |       | Circular or linear           |                       |
| Gain (dBi)                                      |       | 46.7                         | 50.0                  |
| Beamwidth (Degrees)                             | -3 dB | 0.8°                         | 0.5°                  |
| Radiation Pattern Compliance                    |       | FCC 25.209, MIL-STD-188-164C |                       |
| Antenna Noise Temperature (Midband, 20° EI)     |       | 112° K                       | --                    |
| EIRP SSPA 15.8W Linear                          |       | --                           | 61.0 dBW              |
| Power Handling Capability                       |       | --                           | 50 W                  |
| VSWR                                            |       | 1.30:1                       | 1.30:1                |
| Axial Ratio, CP Only, Within Pointing Cone (dB) |       | 1.5                          | 1.0                   |
| Feed Port Isolation (Tx to Rx, dB)              |       | 80                           | 80 (including filter) |
| G/T, Midband, Clear Horizon                     |       | 23.2 dB/° K with 100° LNB    | --                    |

### RF PARAMETERS: X-BAND (TWO-PORT)

| X-BAND (TWO-PORT)                               |       | Receive                           | Transmit                        |
|-------------------------------------------------|-------|-----------------------------------|---------------------------------|
| Frequency Range (GHz)                           |       | 7.25 – 7.75                       | 7.90 – 8.40                     |
| Polarization Configuration                      |       | RHCP or LHCP                      |                                 |
| Gain (dBi) – Not Including Optional Filters     |       | 38.3                              | 39.0                            |
| Beamwidth (Degrees)                             | -3 dB | 2.2°                              | 2.0°                            |
| Radiation Pattern Compliance                    |       | MIL-STD-188-164C                  |                                 |
| Antenna Noise Temperature (Midband, 20° EI)     |       | 46° K (including optional filter) | --                              |
| EIRP SSPA 50W Linear                            |       | --                                | 56.1 dBW                        |
| Power Handling Capability                       |       | --                                | 100 W                           |
| VSWR                                            |       | 1.30:1                            | 1.30:1                          |
| Axial Ratio, CP Only, Within Pointing Cone (dB) |       | 1.21                              | 2.0                             |
| Feed Port Isolation (Tx to Rx, dB)              |       | 115 (including optional filter)   | 115 (including optional filter) |
| G/T, Midband, Clear Horizon                     |       | 18.0 dB/° K with 55° LNB          | --                              |

### MOTORIZED POSITIONER / CONTROLLER

|             |                                                                                                                                                                                                                                                                                   |
|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Features    | AvL one button auto-acquisition of selected satellites, including peaking and optimization of cross-polarization. AvL browser-based GUI. Ethernet-based with built-in broadband receiver. Acquires on modem SNR, beacon, and/or carrier signals without external beacon receiver. |
| Size        | AAQ1500 Controller embedded on antenna. External 24V power supply or optional 1RU chassis.                                                                                                                                                                                        |
| Input Power | 120/240 VAC 60/50 Hz, 6/3 A maximum. 250W typical, ~50W idle.                                                                                                                                                                                                                     |

### OPTIONS – UPGRADES AND SERVICES

- Rugged Terminal Interface Unit (TIU) ODU provides simplified connectivity for external power, external modem and antenna/RF; also includes ARSTRAT internal frequency reference; embedded receiver with spectrum display and simplified (color-coded) cable harness
- Customer-furnished ODU/modem integration
- Customer-furnished BUC/LNB integration
- Computer-assisted manual pointing tools
- High stability 10MHz timing reference
- Wind anchoring options, ground stakes, sandbags
- Additional feed band cases
- Add custom logo on reflector face (one- or two-color, as per AvL logo policy)
- Spare parts kit

**PACKAGING CONFIGURATION**

