

## Fiber Optic GPS/GLONASS Antenna Splitter Model FOA-160

### Features

- 16 way Optical GPS/GLONASS Antenna Distributor
- Dual Redundant Power Supplies
- Alarm Output
- Run secure GNSS antenna feeds within buildings up to 2000m



The Brandywine Communications Model FOA-160 is a specialized distribution amplifier system used to distribute GPS or GLONASS signals over fiber optic cable to up to 16 receivers. The Model FOA-160 head-end unit connects to a standard GPS antenna/preamplifier which receives the GPS/GLONASS signals transmitted from the satellites. The FOA-160 converts the received signal to an optical intensity modulated signal, and routes it through a passive optical splitter to 16 outputs. These signals are available at the rear panel for distribution throughout a building or campus over single mode fiber optic cable. The low loss characteristics of fiber optic cable overcome the traditional distance limitations encountered with direct electrical distribution of low power GPS/GLONASS signals. A companion optical receiver module, installed at the other end of the optical cable, converts the optical signal back to the electrical domain and provides a RF output format for use by a standard GPS or GLONASS receiver. The 16 output ports of the head-end unit support a flexible point-to-multipoint distribution architecture.

The Model FOA-160 contains redundant power supplies which may be either AC or 24/48VDC or a combination of both. The FOA-160 includes an RS232 interface for remote control monitoring, as well as alarm contact closure. The FOA-160 Receiver Module is a small wall or shelf mounted module that requires only 15VDC for operation. Optional rack mounting packaging is available.

## FOA-160 Specifications

### Head-End Specifications

#### Inputs

|                    |                           |
|--------------------|---------------------------|
| Antenna Input:     |                           |
| Connector          | BNC                       |
| Preamplifier Power | 5V 100mA center conductor |
| Frequency Range    | 1000MHz to 3000MHz        |
| Small signal gain  | 0.0 ±dB                   |
| VSWR (max)         | 2:1                       |
| Burnout protection | 1.0W, CW in-band          |

#### Control and alarm functions

|                   |   |
|-------------------|---|
| Control Interface | RS-232C 19200, N,8,1  |
| Control Functions | Transmitter Status  |
| Alarm Interface   | Dry contact relay closure form C                                |
| Alarm Type        | Critical Alarm, Minor Alarm                                     |
| Alarm Functions   | Transmitter power (Critical)<br>Loss of Redundant Power (Minor) |
| Display           | Power LED<br>Fault LED  |

#### Optical Outputs

|                      |                      |
|----------------------|----------------------|
| No of Outputs        | 16                   |
| Operating Wavelength | 1310nm ±5nm          |
| Optical Power        | -13.0dBm (min.)      |
| Optical Reflections  | <-55dB               |
| Laser Type           | Distributed Feedback |
| Connector Type       | FC/APC               |

#### Physical

|         |   |
|---------|---|
| Size:   | 19" rack-mount 1U high (1.75")<br>9" deep |
| Weight: | 5lbs nominal                              |

### Receiver Specifications

#### Inputs

|                         |                     |
|-------------------------|---------------------|
| Optical Input:          | -15 dbm             |
| Operating Wavelength    | 1310nm ±25nm        |
| Optical Power           | +3.0dBm, max        |
| Optical Fault threshold | -18 dBm factory set |
| Connector Type          | FC/APC              |

#### Receiver Control and alarm functions

|                   |                                       |
|-------------------|---------------------------------------|
| Control Interface | RS-232C 19200, N,8,1                  |
| Control Functions | Set Attenuator<br>Set Alarm Threshold |
| Alarm Interface   | Open Collector                        |
| Alarm Functions   | Received power                        |

#### RF Outputs

|                |     |
|----------------|-----|
| No of Outputs  | 1   |
| Connector Type | SMA |

#### Physical

|         |                     |
|---------|---------------------|
| Size:   | 3.7" x 3.0" x 1.26" |
| Weight: | 8 oz nominal        |

#### Environmental Conditions

##### Temperature

|           |             |
|-----------|-------------|
| Operating | -20 to +50C |
| Storage   | -55 to +85C |

##### Humidity

Up to 95% RH (non-condensing)

##### Power:

|                      |  |
|----------------------|--|
| No of Power Supplies | 2 Hot Swappable  |
| AC Power             | 85-264VAC (50/60Hz) 10W max<br>IEC320 connector<br>Fuse 0.2A 250V<br>UL60950 compliant |

##### DC Power

18-36 or 36-72VDC

##### Altitude:

30,000 ft

##### Vibration

MIL-STD-167-1

##### Shock

20g/15ms per MIL-STD-810F

##### EMC:

FCC Part 15

### Ordering Information

|   |               |
|---|---------------|
| FOA-160 Head-End  | P/N 032000001 |
| Includes GPS Antenna, 50' lead in cable                         |               |
| Must specify up to two power supply modules at time of ordering |               |
| 85-264VAC Power Supply Module                                   | P/N 002-0224  |
| 18-36VDC Power Supply Module                                    | P/N 002-0225  |
| 36-72VDC Power Supply Module                                    | P/N 002-0226  |
| Blank Panel   | P/N 003001051 |
| FOA-160 Receiver  | P/N 032000002 |