

# Broadband Distribution Amplifiers

BIDA 5400 Series



The BIDA 5400 Series are professional quality, broadband, two-way capable, indoor hybrid distribution amplifiers. These amplifiers are ideal for multi-channel RF distribution systems for which the input source is a “cable drop” or the output of a MATV/SMATV/CATV headend.

The BIDA-5400 Series is available in either 550 or 750 MHz bandwidths with push-pull hybrid technology. For 2-way operation, optional field installable diplexers and return amplifiers are used to provide either an active or passive 5-30 MHz return. Passive return configurations require only the diplexers, whereas active return requires installation of both the diplexers and the amplifier.

## ○ Features & Benefits

- 5-30 MHz Return Capability With Optional Plug-ins
- Dual Push Pull Hybrid Modules
- Interstage Variable Gain and Slope Controls
- Optional Plug-in Fixed Equalizer and Attenuator Capability For Input Signal Conditioning
- Input and Output Test Ports
- Large Heat Sinks for Exceptional Heat Dissipation

## ○ Specifications

### General

Power Requirements  
 Frequency: 60 Hz  
 Voltage: 117, ±10% VAC  
 Power: 21 W  
 Fuse: 3/8 A  
 Temperature Range (°C):  
 -20 to +60

### Indicators (Side Panel)

Power On: LED, red

### Controls (Top Panel)

Gain: Control  
 Slope: Control

### Mechanical

Dimensions (WxHxD):  
 7.13 x 11.50 x 2.68 in  
 181 x 292 x 68 mm  
 Weight:  
 5.75 lb  
 2.61kg

### Connectors (Side Panel)

RF Input: Type "F", female  
 RF Output: Type "F", female

### Connectors (Side Panel)

Input Test Port: Type "F", female  
 Output Test Port: Type "F", female

## ○ Specifications

| RF  | BIDA-RF |        | BIDA-RA | BIDA<br>550-30 | BIDA<br>550-50 | BIDA<br>750-30 |
|---|---------|--------|---------|----------------|----------------|----------------|
|   | Low     | High   |         |                |                |                |
| Frequency Range (MHz):                    | 5-30    | 47-800 | 5-30    | 47-550         | 47-550         | 47-750         |
| Channel Loading                           | -       | -      | 3       | 77             | 77             | 110            |
| Flatness (dB):                            | ±0.25   | ±0.25  | ±0.50   | ±0.75          | ±0.75          | ±1.00          |
| Hybrid Technology (dB):                   |         |        |         | Push-Pull      | Push-Pull      | Push-Pull      |
| Gain (dB):                                | -0.50   | -0.50  | 24      | 33             | 50             | 31             |
| Noise Figure (dB) (a):                    | -       | -      | 6.0     | 7.0            | 7.0            | 9.0            |
| Output Level - Max (dBmV):                | -       | -      | +42     | 36/44          | 36/44          | 36/44          |
| Test Port Level (dB):                     | -       | -      | -       | -30, ±2        | -30, ±2        | -30, ±2        |
| Gain Control Range (dB):                  | -       | -      | ≥12     | 15             | 15             | 15             |
| Slope Control Range (dB):                 | -       | -      | ≥12     | 10             | 10             | 10             |
| Composite Triple Beat - CTB (dB) (b):     | -       | -      | -60     | -64            | -64            | -60            |
| Cross Modulation -XMOD (dB) (b):          | -       | -      | -60     | -64            | -64            | -61            |
| Composite Second Order -<br>CSO (dB) (b): | -       | -      | -72     | -64            | -64            | -61            |
| Hum Modulation (dB):                      | -       | -      | -65     | -70            | -70            | -70            |
| Impedence -All Ports (Ohm):               | -       | -      | -       | 75             | 75             | 75             |
| Return Loss                               |         |        |         |                |                |                |
| Input (dB):                               | 21      | 16     | 16      | 14             | 14             | 13             |
| Output (dB):                              | 21      | 16     | 16      | 14             | 14             | 13             |

Notes

(a) Measured at full gain with 0 dB slope

(b) At rated output capability and channel loading

# Two-way Broadband Distribution Amplifiers

BIDA 5800 & 5900 Series



## ○ Features & Benefits

- Interstage Variable Gain and Slope Controls
- Optional Plug-in Fixed Equalizer and Attenuator Capability For Input Signal Conditioning
- Integrated Return Path Configurable for either Passive or Active Operation
- Push-Pull and Powering Doubling Hybrid Models Available
- Input and Output Test Ports
- Large Heat Sinks for Exceptional Heat Dissipation

The BIDA 5800 and 5900 Series are professional quality, two-way broadband indoor distribution amplifiers. These amplifiers are ideal for multi-channel RF distribution systems for which the input source is a “cable drop” or the output of a MATV/SMATV/CATV headend.

The BIDA 5800 Series features models having RF bandwidths of 550,750, 860 and 1000 MHz. The BIDA 5900 Series is available in 860 MHz bandwidth. Push-pull and power-doubling hybrid amplifier technologies are available on the two series. Both the BIDA 5800 and 5900 series are factory equipped for 2-way operation. The 5800 series has a 36/49 MHz split where the 5900 series has a 42/54 MHz (reverse/forward) split. Both series leave the factory set for passive return path operation. Active return path operation can easily be accomplished by reconfiguring a few internal jumpers.

The BIDA 5800/5900 Series utilizes an external power transformer providing 26 VAC to the amplifier. This enables the amplifiers to be remotely powered via low voltage AC wiring should a 120 VAC electrical outlet not be in close proximity to the desired amplifier location.

## ○ Common Specifications

|                                |                          |
|--------------------------------|--------------------------|
| Gain Control Range: 10 dB      | Weight: 6 lbs.<br>2.7 kg |
| Slope Control Range: 8 dB      | Power Requirements:      |
| Hum Modulation: 70 dB          | 117VAC, 60Hz<br>Power    |
| Impedance - All Ports : 75 Ohm |                          |
| Return Loss                    |                          |
| Input: 16 dB                   |                          |
| Output: 16 dB                  |                          |
| Size (LxWxH):                  |                          |
| 7.25 x 3.25 x 10.25 in.        |                          |
| 18.42 x 8.26 x 26.04 cm        |                          |

### Notes

- (a) Measured at full gain with 0 dB slope  
(b) At rated output capability and channel loading

Distribution

## ○ Specifications

| RF                                     | Integrated Active Return Path<br>5800 / 5900 | BIDA<br>55A-30 | BIDA<br>55A-30P | BIDA<br>55A-43 | BIDA<br>55A-43P | BIDA<br>55A-50 |
|--|--|----------------|-----------------|----------------|-----------------|----------------|
| Frequency Range (MHz):                 | 5-36 / 5-42                                  | 49 - 550       | 49 - 550        | 49 - 550       | 49 - 550        | 49 - 550       |
| Channel Loading:                       | 3  | 77             | 77              | 77             | 77              | 77             |
| Flatness (dB):                         | ±0.5 ref. to + 1dB tilt                      | ±0.5           | ±0.5            | ±0.5           | ±0.5            | ±0.75          |
| Hybrid Technology (dB):                | -  | Push-Pull      | Power Doubling  | Push-Pull      | Power Doubling  | Push-Pull      |
| Gain (dB):                             | 20 (Passive -1.5)                            | 30             | 30              | 43             | 43              | 50             |
| Noise Figure (dB) (a):                 | 6  | 7.0            | 7.0             | 7.0            | 7.0             | 7.5            |
| Output Level (dBmV):+                  | +42  | +36/44         | +36/44          | +36/44         | +36/44          | +36/44         |
| Test Port Level: Input/Output (dB):    | -  | -30, ±2        | -30, ±2         | -30, ±2        | -30, ±2         | -30, ±2        |
| Composite Triple Beat - CTB (dB) (b):  | -60  | -64            | -71             | -63            | -68             | -63            |
| Cross Modulation - XMOD (dB) (b):      | -60  | -67            | -74             | -66            | -69             | -60            |
| Composite Second Order - CSO (dB) (b): | -60  | -61            | -65             | -60            | -58             | -65            |

# Two-way Broadband Distribution Amplifiers

BIDA 5800 & 5900 Series

## ○ Specifications - Continued

| RF  | BIDA<br>75A-30 | BIDA<br>75A-30P   | BIDA<br>75A-43 | BIDA<br>75A-43P   | BIDA<br>86A/B-30 | BIDA<br>86A/B-30P<br>5800/5900 | BIDA<br>86A/B-43<br>5800/5900 | BIDA<br>86A/B-43P<br>5800/5900 | BIDA<br>100A-30 |
|---|----------------|-------------------|----------------|-------------------|------------------|--------------------------------|-------------------------------|--------------------------------|-----------------|
| Frequency Range (MHz):                    |                |                   |                |                   |                  |                                |                               |                                |                 |
| 5800 Series                               | 49-750         | 49-750            | 49-750         | 49-750            | 49-1000          | 49-860                         | 49-860                        | 49-860                         | 49-860          |
| 5900 Series                               |                |                   |                |                   | 54-860           | 54-860                         | 54-860                        | 54-860                         |                 |
| Channel Loading:                          | 110            | 110               | 110            | 110               | 129              | 129                            | 129                           | 129                            | 150             |
| Flatness (dB):                            | ±0.7           | ±0.7              | ±0.7           | ±0.7              | ±0.75            | ±0.75                          | ±0.7                          | ±0.7                           | ±0.75           |
| Hybrid Technology (dB):                   | Push-Pull      | Power<br>Doubling | Push-Pull      | Power<br>Doubling | Push-Pull        | Power<br>Doubling              | Push-Pull                     | Power<br>Doubling              | Push-Pull       |
| Gain (dB):                                | 30             | 30                | 43             | 43                | 30               | 30                             | 43                            | 43                             | 30              |
| Noise Figure (dB) (a):                    | 8.5            | 8.5               | 8.5            | 8.5               | 8.5              | 8.5                            | 8.5                           | 8.5                            | 8.5             |
| Output Level (dBmV):                      | 36/44          | 36/44             | 36/44          | 36/44             | 36/44            | 36/44                          | 34/42                         | 36/44                          | 32/40           |
| Test Port Level: Input/Output (dB):       | -30, ±2        | -30, ±2           | -30, ±2        | -30, ±2           | -30, ±2          | -30, ±2                        | -30, ±2                       | -30, ±2                        | -30, ±2         |
| Composite Triple Beat - CTB (dB) (b):     | -60            | -64               | -56            | -64               | -54              | -62                            | -56                           | -60                            | -59             |
| Cross Modulation - XMOD (dB) (b):         | -62            | -68               | -60            | -68               | -54              | -62                            | -60                           | -65                            | -60             |
| Composite Second Order -<br>CSO (dB) (b): | -56            | -61               | -59            | -61               | -57              | -61                            | -59                           | -59                            | -59             |

### Notes

(a) Measured at full gain with 0 dB slope

(b) At rated output capability and channel loading

(c) Power Consumption varies by model. Range for all models provided.

## ○ Ordering Information

| Model        | Stock No. | Description  |
|--------------|-----------|--|
| BIDA 550-30  | 5400 53   | Broadband Indoor Distribution Amplifier 30 dB, 47-550 MHz                                      |
| BIDA 550-50  | 5400 55   | Broadband Indoor Distribution Amplifier 50 dB, 47-550 MHz                                      |
| BIDA 750-30  | 5400 73   | Broadband Indoor Distribution Amplifier 30 dB, 47-750 MHz                                      |
| BIDA 55A-30  | 5800 53   | Broadband Indoor Distribution Amplifier 30 dB, 49-550 MHz, Integrated Active Return (5-36 MHz) |
| BIDA 55A-30P | 5800P53   | Broadband Indoor Distribution Amplifier 30 dB, 49-550 MHz, Integrated Active Return (5-36 MHz) |
| BIDA 55A-43  | 5800 54   | Broadband Indoor Distribution Amplifier 43 dB, 49-550 MHz, Integrated Active Return (5-36 MHz) |
| BIDA 55A-43P | 5800P54   | Broadband Indoor Distribution Amplifier 43 dB, 49-550 MHz, Integrated Active Return (5-36 MHz) |
| BIDA 55A-50  | 5800 55   | Broadband Indoor Distribution Amplifier 50 dB, 49-550 MHz, Integrated Active Return (5-36 MHz) |
| BIDA 75A-30  | 5800 73   | Broadband Indoor Distribution Amplifier 30 dB, 49-750 MHz, Integrated Active Return (5-36MHz)  |
| BIDA 75A-30P | 5800P73   | Broadband Indoor Distribution Amplifier 30 dB, 49-750 MHz, Integrated Active Return (5-36MHz)  |
| BIDA 75A-43  | 5800 74   | Broadband Indoor Distribution Amplifier 44 dB, 49-750 MHz, Integrated Active Return (5-36MHz)  |
| BIDA 75A-43P | 5800P74   | Broadband Indoor Distribution Amplifier 43 dB, 49-750 MHz, Integrated Active Return (5-36MHz)  |
| BIDA 86A-30  | 5800 83   | Broadband Indoor Distribution Amplifier 30 dB, 49-860 MHz, Integrated Active Return (5-36MHz)  |
| BIDA 86A-30P | 5800P83   | Broadband Indoor Distribution Amplifier 30 dB, 49-860 MHz, Integrated Active Return (5-36MHz)  |
| BIDA 86A-43  | 5800 84   | Broadband Indoor Distribution Amplifier 44 dB, 49-860 MHz, Integrated Active Return (5-36MHz)  |
| BIDA 86A-43P | 5800P84   | Broadband Indoor Distribution Amplifier 44 dB, 49-860 MHz, Integrated Active Return (5-36MHz)  |
| BIDA 86B-30  | 5900 83   | Broadband Indoor Distribution Amplifier 30 dB, 54-860 MHz, Integrated Active Return (5-42MHz)  |
| BIDA 86B-30P | 5900P83   | Broadband Indoor Distribution Amplifier 30 dB, 54-860 MHz, Integrated Active Return (5-42MHz)  |
| BIDA 86B-43  | 5900 84   | Broadband Indoor Distribution Amplifier 44 dB, 54-860 MHz, Integrated Active Return (5-42MHz)  |
| BIDA 86B-43P | 5900P84   | Broadband Indoor Distribution Amplifier 44 dB, 54-860 MHz, Integrated Active Return (5-42MHz)  |
| BIDA 100A-30 | 5800 13   | Broadband Indoor Distribution Amplifier 30 dB, 49-1000 MHz, Integrated Active Return (5-36MHz) |

### Accessories

|           |       |   |
|-----------|-------|---|
| BIDA-CE-5 | 5475  | BIDA Series Plug-In Cable Equalizer 550 MHz, Values: 3 ,6, 9 ,12, 15, 18 dB   |
| BIDA-CE-7 | 5477  | BIDA Series Plug-In Cable Equalizer 750 MHz, Values: 3, 6, 9, 12, 15, 18 dB   |
| BIDA-CE-8 | 5478  | BIDA Series Plug-In Cable Equalizer 860 MHz, Values: 3, 6, 9, 12, 15, 18 dB   |
| BIDA-CE-9 | 5479  | BIDA Series Plug-In Cable Equalizer 1000 MHz, Values: 3, 6, 9, 12, 15, 18 dB  |
| BIDA-FA   | 5411A | BIDA Series Plug-In Fixed Attenuator, 1000 MH, Values: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20 dB |
| BIDA-RA   | 5402  | BIDA Series Plug-In Return Amplifier 5-30 MHz   |
| BIDA-RF   | 54071 | BIDA Series Plug-In Return Filter, 5-30 MHz NOTE: For 5400 Series Amplifiers Only   |