

BDA-02



- **4 output plug on amplifier with loop through Radio port**
- **Input Modem Safe™ secured**
- **High port to port isolation performance**
- **Easy mounting**
- **Good return path intermodulation figures**
- **Excellent spurious suppression**
- **Exceeds EN Class A screening requirements**



Overview

The BDA-02 is a compact, high quality 4-output home amplifier with good RF figures. The amplifier is designed for use in the 5-65 MHz return path and 85-1006 MHz forward path. Mounting is very easy, the BDA-02 pushes on to a standard wall outlet and the in-home coax network is extended to 4 data/TV connections and a loop through radio port.

The high port to port isolation and the excellent spurious suppression guarantees that signals from each port cannot interfere with each other. The input port of the BDA-02 is protected by our Modem Safe technology. This means that the BDA-02 and all equipment connected to the BDA-02 is protected against surge pulses.

This amplifier is designed for flexible applications requiring levelled gain configurations and a radio output.

Ingress Safe

Our patented Ingress Safe technology uses a phase cancellation technique to considerably reduce ingress created within the home. It has no adverse effect on the CATV spectrum and is transparent to the forward and reverse path signals.

- Significantly reduces noise on CATV networks, improving network performance
- Field tests show Ingress Safe units in the distribution network can deliver improvement in the carrier to noise ratio that averages from between 3 dB and 12 dB, depending on the network topology
- Prevents or delays the need to deploy technicians to rectify faults caused by the cumulative effects of ingress on network performance and customer service

Modem Safe

Modem Safe is a highly effective surge protection solution for sensitive network and in-home CPE. Based on passive circuits, the technology does not rely on discharge tubes, extending the lifespan of the solution.

- Blocks high and low voltage pulses and unwanted DC voltages
- Prevents internal ferrites within the product from becoming magnetised (avoiding deterioration in the performance of CPE)
- Drives fewer reported faults
- Improves customer service
- Reduces truck rolls

		MHz	Min	Max	Typ
Frequency range (MHz)	Forward path	85 - 1006			
	Return path	5 - 65 87.5 - 108			
Insertion loss (dB)	R in -> R out	87.5 - 108		1.2	0.7
Return loss (min) (dB) ¹	R in -> R out	87.5 - 108	10.0		
	Input	5 - 65	18.0		
		85 - 1006	18.0		
	Data/TV	5 - 65 85 - 1006	18.0 18.0		
Isolation (min) (dB) ¹	Port to port	5 - 10	20.0		
		10 - 65	30.0		
		85 - 862	25.0		
		862 - 1006	22.0		
Rejection (dB)	R in -> R out	5 - 65	20.0		25.0
Ripple (dB)	Forward path	85 - 1006		+/-1.0	
	Return path	5 - 65		+/-1.0	
Gain (dB) ²	Forward path	85 - 1006	3.5	4.5	4.0
	Return path	5 - 65		2.0	1.0
Noise figure (dB) ³	Forward path	85 - 1006		6.0	5.0
	Return path	5 - 65		18.0	14.0
Intermodulation (dB) ⁴	Return path	IM-2 (@ 115 dB μ V input)		-61.0	-70.0
		IM-3 (@ 115 dB μ V input)		-50.0	-52.0
Channel loading (dB) ⁵	CTB	85 - 1006	-72.0		
	CSO	85 - 1006	-69.0		
Spurious (dB)		85 - 108 ⁶		-90.0	-95.0
		120 - 130		-90.0	-100.0
		130 - 1006 ⁷		-100.0	-110.0
Group delay (nS)	Δ 2 MHz	5 - 10		30.0	
	Δ 2 MHz	10 - 65		10.0	
	Δ 4.43 MHz	85 - 120		20.0	
	Δ 4.43 MHz	120 - 1006		10.0	
Temperature range (°C)	Operating	0°C to +40°C			
Screening ⁸		5 - 1006 (Class A)			
Power consumption (max) (W)		< 5.0			
Supply voltage DC (VDC)		8.0			
Galvanic Isolation 2120 V DC (mA) ⁹	Inner conductor	0.7			
Galvanic isolation 230 V AC (mA RMS) ⁹	Inner conductor	8.0			
Surge class conformance ¹⁰	In	1 kv 1.2/50 μ s			
Connectors	Data/TV In	IEC -female			
	R In	IEC-male			
	R Out	IEC- female			
	Power	DC- Jacket			
	Data/TVOut ^{1,3,10}	IEC-male			
	Data/TV Out ¹¹	F-female			
Equipment approval	CE				

Remarks

1	Where frequency is above 40 MHz, deduct 1.5 dB/ Octave
2	Average gain excluding ripple
3	From input to output
4	IM-2 standard two tone test, IM-3 standard three tone test (DIN45004)
5	Loaded with 42 channels @ 77 dB μ V on the input
6	F1+F2 w.r.t. F1 and F2 @ 118 dB μ V at input port, after 10 pulses 25Vdc (risetime1,2 μ S/500 μ S duration) at all ports at radio port
7	F1+F2 w.r.t. F1 and F2 @ 118 dB μ V at input port, after 10 pulses 25Vdc (rise time 1,2 μ S /500 μ S duration) at all ports at TV port
8	According to EN 50083-2:2012
9	IEC 60728-11 §10
10	"Modem Safe circuit. IEC-1000-4-5 level 2: 1KV pulse (rise time 1,2 μ S/ fall time 50 μ S). No degradation allowed"
11	From output to input

Ordering information

Item Name	Article number
BDA-02	19004650