

DA500 Wide Band Distribution Amplifiers

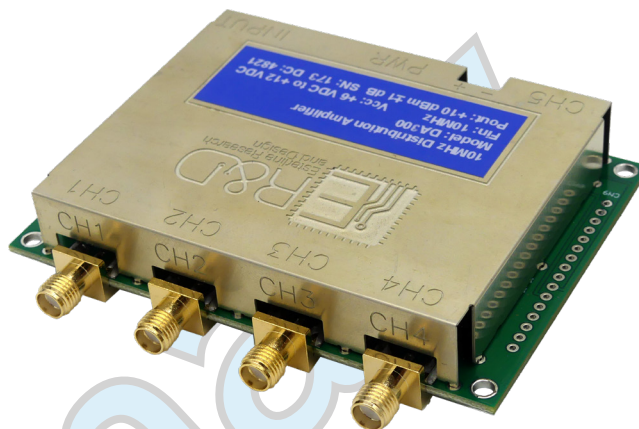
Accepts input frequencies from 500KHz to 500 MHz

Key Features

- Low Phase Noise
- Exceptional Isolation
- Conveniently Daisy-Chained
- Miniature/Embeddable
- Broad Input Power Range
- Supports 50/75Ω Load

Applications

- AM/FM Antenna Distribution
- VHF Signal Distribution
- NATO band A/B Signal Distribution
- Marine Band Signal Distribution



Functional Description

The primary function of our DA500 distribution amplifier is to distribute an existing signal to multiple points while preserving its integrity. The DA500 is ideal for situations requiring a low noise RF signal to be supplied to multiple usage points.

The DA500 has one input channel and five output channels. It may be configured with either SMA or BNC connectors (details provided in the connector table on page 4). The amplifier can be manufactured to support either 50Ω or 75Ω environments. This design provides multiple outputs of a modulated RF signal without the typical attenuation often associated with splitting of these types of signals. At most input frequencies, this results in amplification of the input, with the exception of the 450-500MHz range. At these highest frequencies, the attenuation is no worse than -2dB, as seen in Fig. 4.

The single input is amplified to compensate for the fanout to the five output stages. Each output stage has isolation transformers for impedance matching and channel-to-channel isolation. This configuration achieves high fidelity transmission of the input signal up to five usage points.

For larger systems requiring more outputs, multiple amplifiers may be daisy-chained together by connecting the output of channel five to the input of another distribution amplifier.

Standard Specifications:

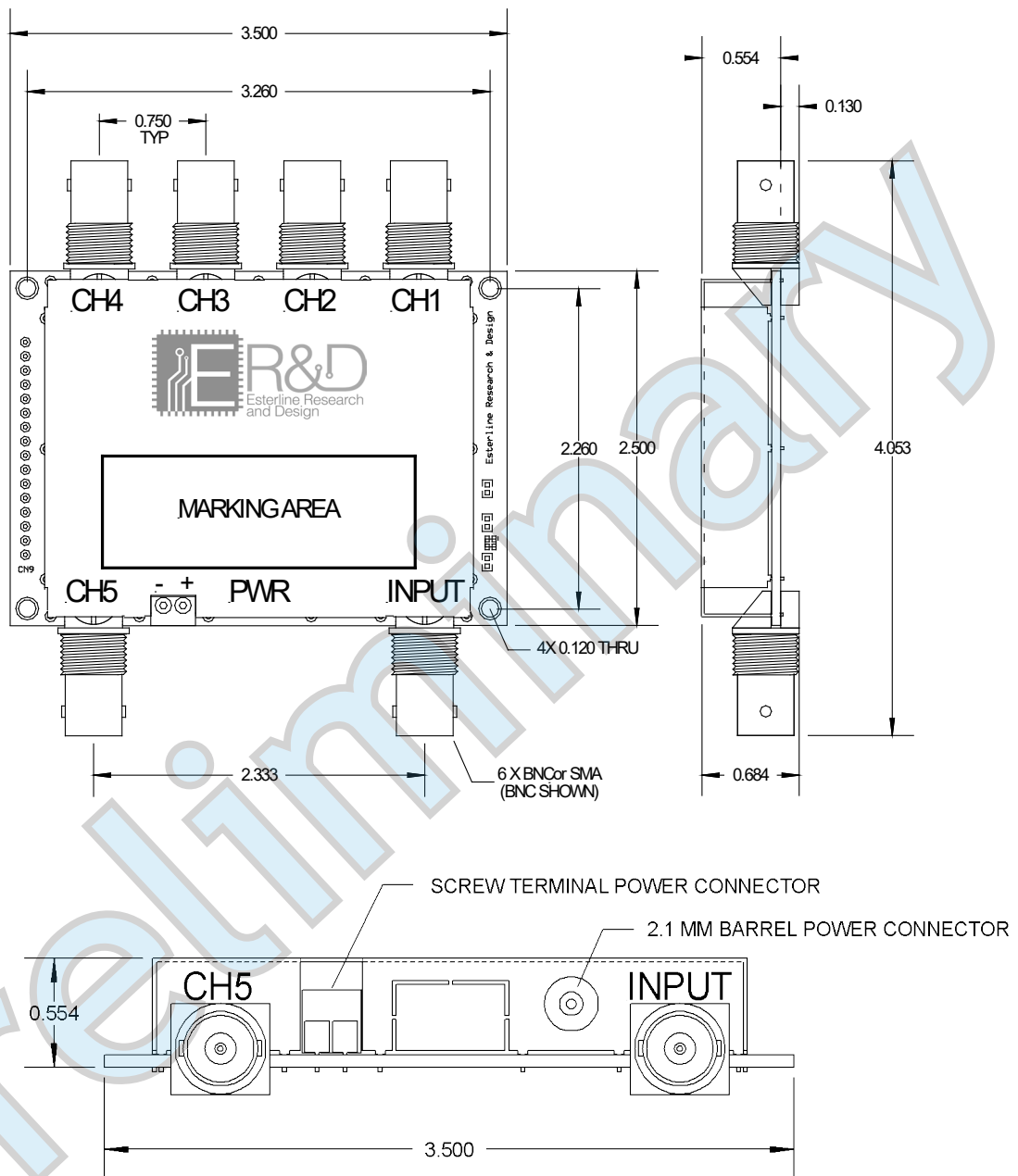
Parameter	Minimum	Maximum	Units
Input			
Frequency Range	0.5	500	MHz
Amplitude	-10	+16	dBm
	0.2	4.0	V _{pp}
Impedance	See ordering options.		
Output			
See Figures 1-4 below.			
Power Requirements¹			
Voltage	6	12	VDC
Current ²	N/A	250	mA

Notes:

1. The device may be powered with a user-supplied voltage via the screw terminal connections or a 2.1 mm plug on a 6 V, 500 mA power module (a suitable module can be supplied upon request). When the power module is utilized, the module voltage is made available on the screw terminals, allowing the user to access 6 V, 250 mA to power external circuitry.
2. Max current specified is using a 500 MHz input.

Caution: Do not connect an external supply voltage to the screw terminals when using the power module.

Mechanical Specifications:



All dimensions are in inches with a tolerance of $\pm 0.020''$

Output Characteristics:

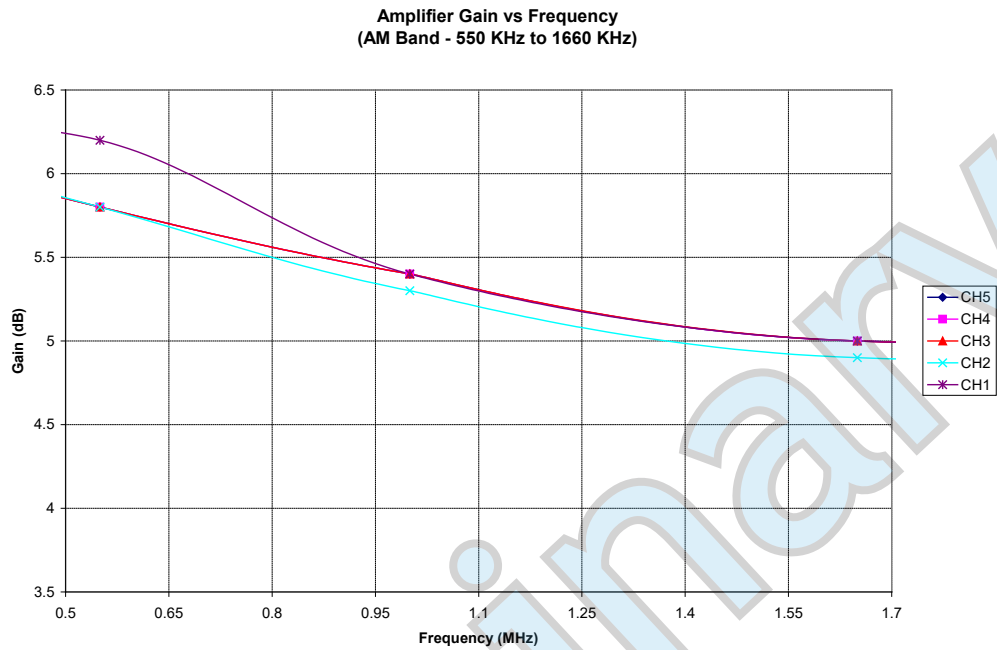


Figure 1: Amplifier Gain Over AM Band

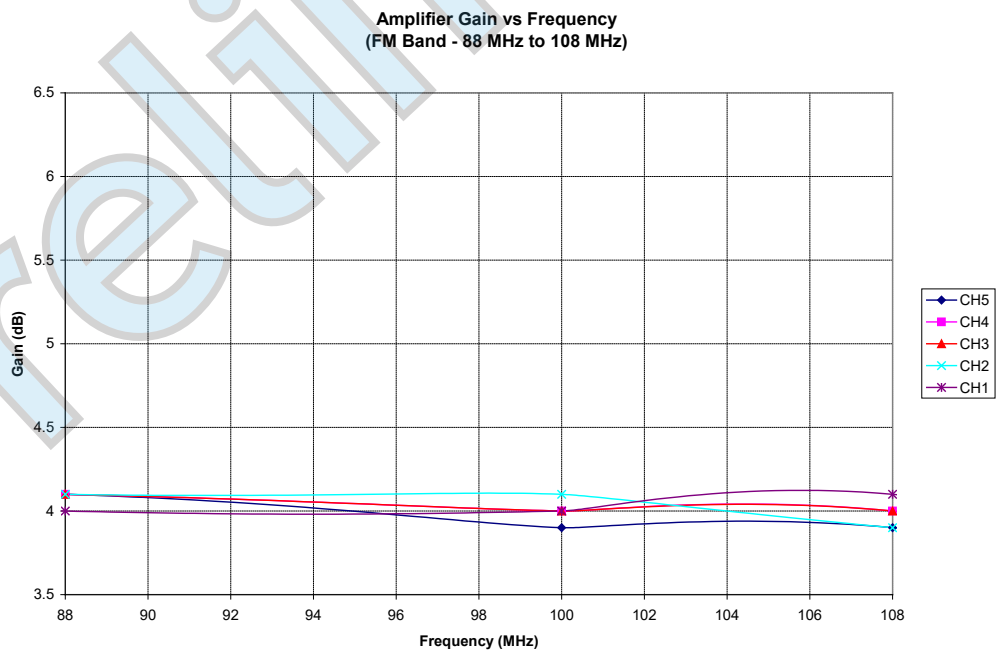


Figure 2: Amplifier Gain Over FM Band

Output Characteristics Continued:

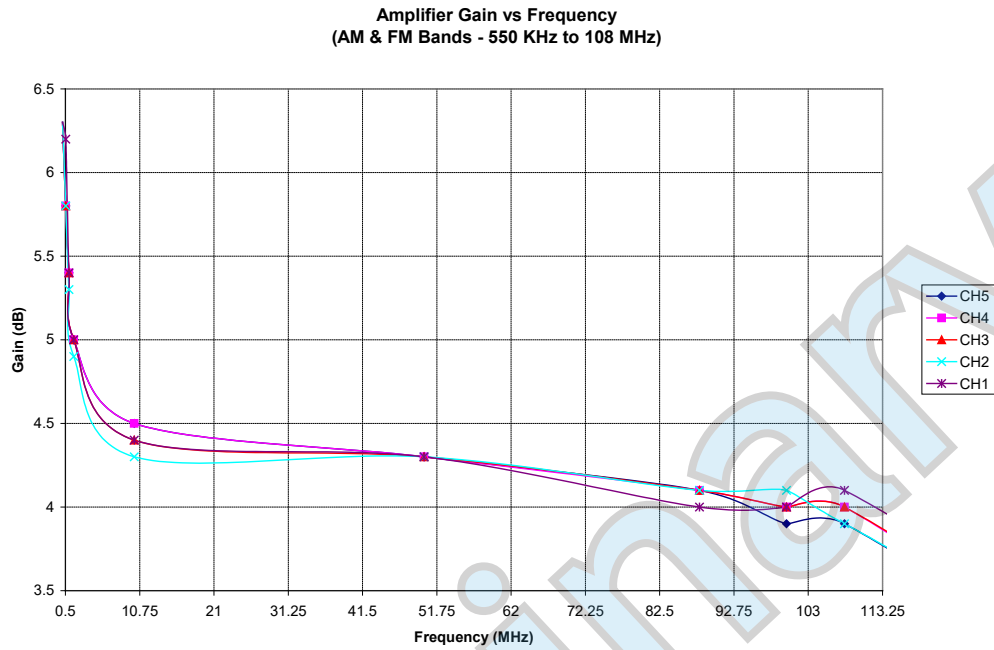


Figure 3: Amplifier Gain Over Combined AM/FM Bands

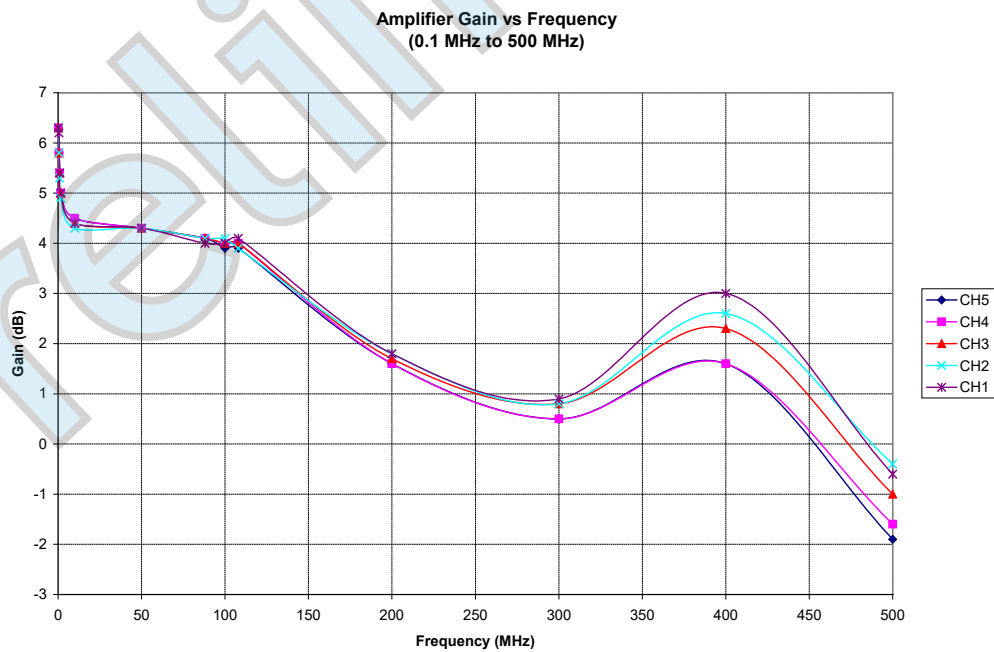


Figure 4: Amplifier Gain Over Functional Range

Ordering Information:

DA500-A

Connector Configuration

DASH #	Configuration
A	50Ω BNC
B	75Ω BNC
C	SMA1
D	SMA2
E	SMA3
F	SMA4

Connector Configurations

Part Number Code	Configuration
50Ω BNC	50Ω BNC on both sides
75Ω BNC	75Ω BNC on both sides
SMA1	Short SMAs on both sides
SMA2	Panel-mount SMAs on front, short SMAs on rear
SMA3	Panel-mount SMAs on rear, short SMAs on front
SMA4	Panel mount SMAs on both sides