

ASA15
ANTENNA SPLITTER AMPLIFIER



Use.

The ASA15 Splitter Amplifier has been designed to split the signal received from an antenna to up to five different receivers at the same time. Thanks to the inside divider, ultra wideband low noise amplifiers the antenna signal can be shared with the receivers connected with the five outputs. On the five outputs a 0 dB (no amplification) or 12 dB amplification is available to eventually compensate for long distribution cable losses, or to increase weak signals. Thanks to the insertion of a 15 dB attenuator near high power sources radiomonitoring is allowed.

Connections and operation

Power supply.

To power on the device simply connect a + 12 V DC - 300 mA power supply with the power connector on the rear panel of the ASA15. The power on status will be confirmed by the ON Led located on the Front Panel.

Input connection.

Connect the receiving antenna cable with the Input 50 Ohm SO239 Coax connector located on the rear panel.

Output connections.

Connect each one of the receivers under test with one of the five Output 50 Ohm SO239 Coax connectors labeled 1 to 5 located on the rear panel.

Input attenuator.

A 15 dB attenuator can be inserted on the input line of the splitter by operating the switch under the input label on the front panel. A Led will light on to display the insertion of the attenuator.

Output gain.

A 12 dB power gain stage can be inserted in each one of the five splitted outputs by switching on the relevant switch located under the five (1 to 5) outputs. A led will light on to display the insertion of gain stage on the relevant output.

Specifications

General specs and features.

On the front panel:

- A Power ON LED
- An ON/OFF switch (with relevant LED) for the insertion of a 15dB attenuator on the incoming signal.
- N° 5 ON/OFF switches (with relevant LEDs) for the insertion of a 12dB amplification on each one of the outputs .

On the rear panel:

- A +12 V DC connector for the power supply. (11 to 16 V DC)
- A SO239 coax connector for the antenna signal input
- N° 5 SO239 coax connectors for the 5 splitted output signals.

Dimensions and weight:

- Alu box with front and rear soft plastic cover: 200mm X 50mm X 200mm ; 800 gr.

Electrical specs and performances.

Intermodulation level test (*RF in -16 dBm; Gain High; Δf 100 kHz*)

Frequency (MHz)	OIP3 (dBm)
9 KHz to 30 MHz	> +24
30 MHz to 70 MHz	> +20

Compression Level Test (*RF in +6 dBm*)

Frequency (MHz)	P _{-1dB} (dBm)
9 KHz to 10MHz	+15
10MHz to 30MHz	+14
30MHz to 70MHz	+11

Input SWR

Frequency (MHz)	With 0 dB attenuation	With 15 dB attenuation
9 KHz to 10MHz	< 1.10 : 1	< 1.10 : 1
10MHz to 30MHz	< 1.20 : 1	< 1.20 : 1
30MHz to 70MHz	< 1.50 : 1	< 1.20 : 1

Output SWR

Frequency (MHz)	
9 KHz to 10MHz	< 1.20 : 1
10MHz to 30MHz	< 1.50 : 1
30MHz to 70MHz	< 2.00 : 1

Gain Flatness

Frequency (MHz)	Low gain (0 dB) typ.	High Gain (11 dB) typ
9 KHz to 50MHz	+/- 0.5 dB	+/- 1 dB
50MHz to 70MHz	+/- 1.5 dB	+/- 1 dB

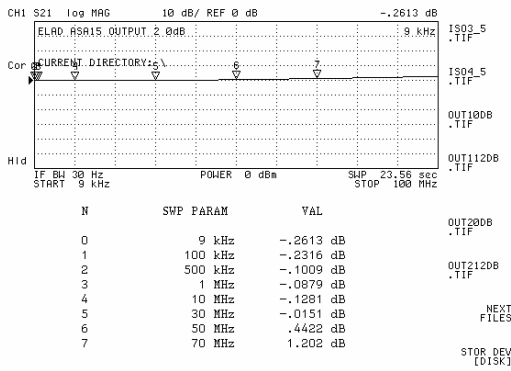
Isolation

Frequency (MHz)	Adjacent channels (1-2) dB	Non adjacent channels (1-3-5) dB
9 KHz to 10MHz	> 70	> 75
10MHz to 30MHz	> 48	> 50
30MHz to 70MHz	> 40	> 45

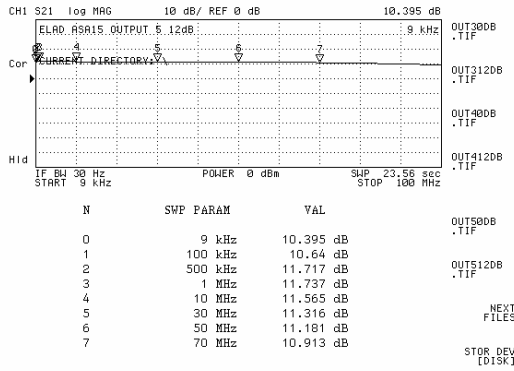
Attenuator precision : (15 db) typ. +/- 0.25 dB from 9KHz to 70 MHz.

Typical Performances

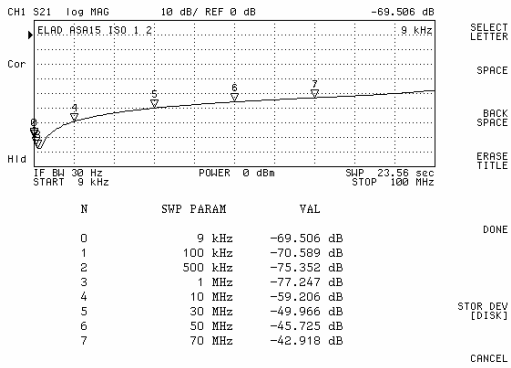
Gain 0dB



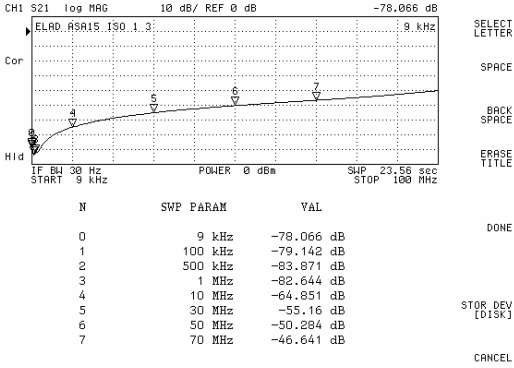
Gain 12dB



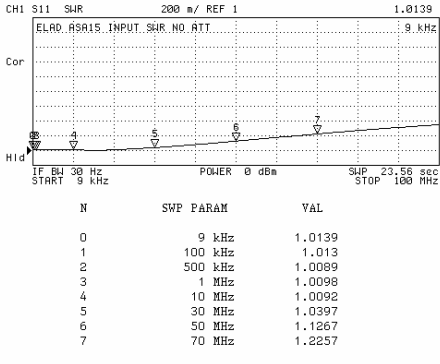
Isolation Ch 1-2



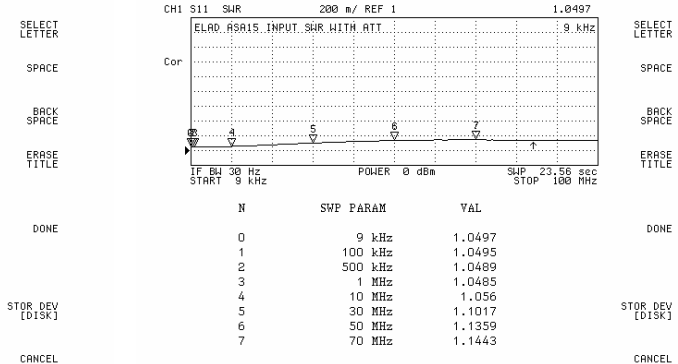
Isolation Ch 2-3



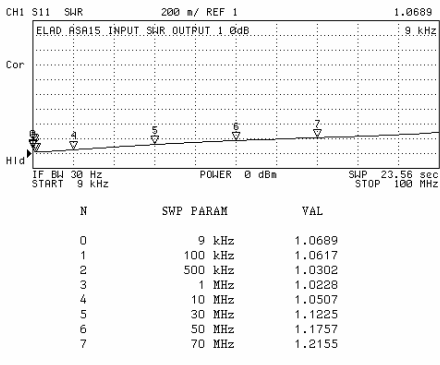
SWR IN without attenuator



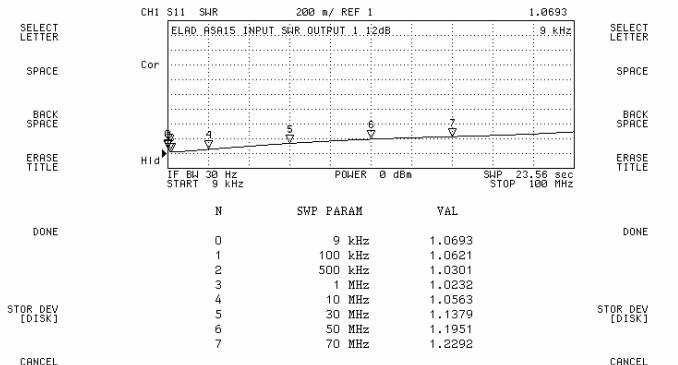
SWR IN with attenuator



SWR OUT 1 (with 0dB gain)



SWR OUT 1 (with 12dB gain)



Schematics.

