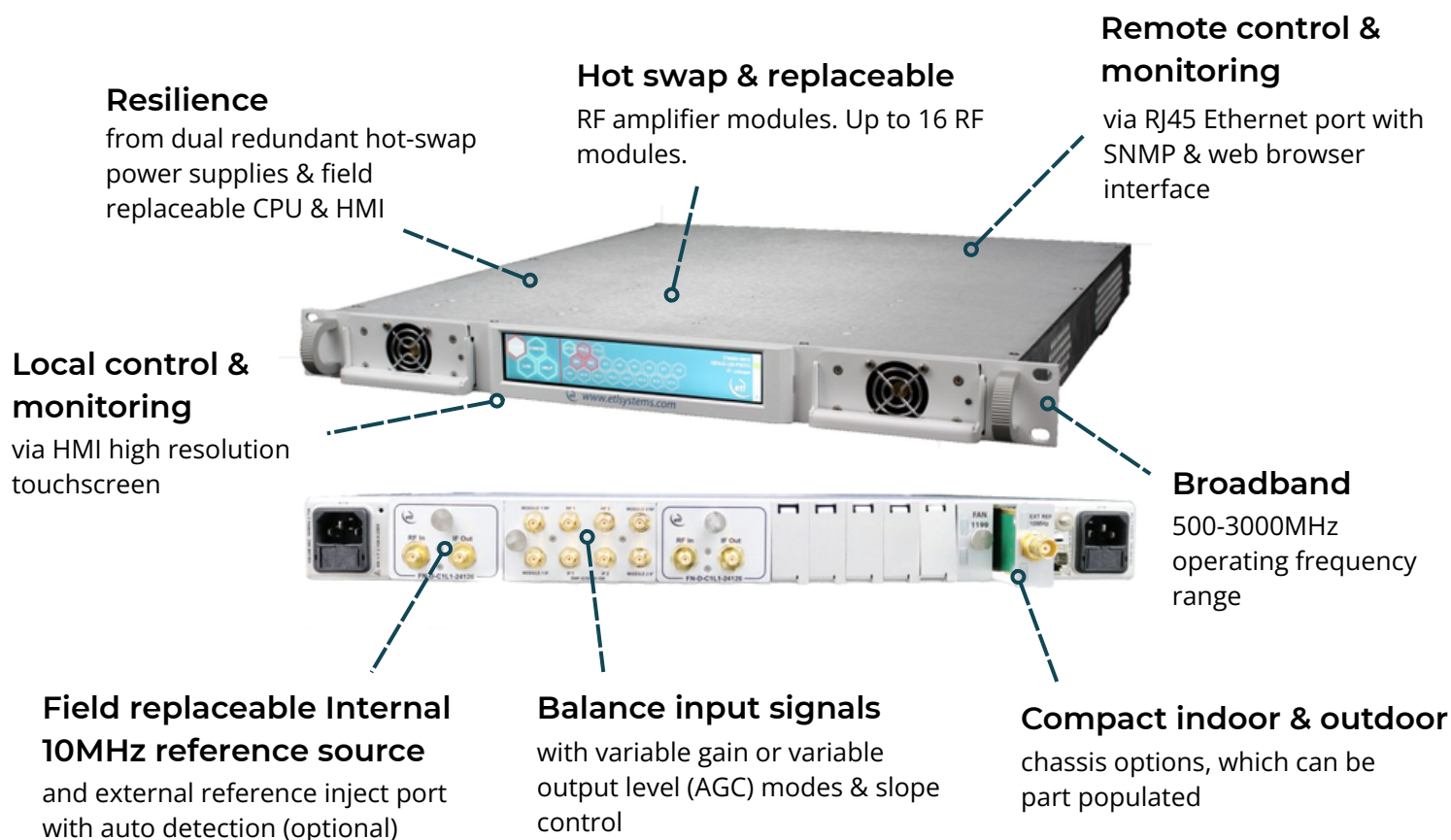


# Alto Broadband Attenuator Module

with variable gain

The broadband hot swap variable attenuation module is designed to work in the Genus 1U chassis series, operating over 500 to 3000MHz. The module has - 5 to -55dB variable gain range, and the chassis has the capacity to house up to 16 amplifier modules.

Other modules types are also available, these can be mixed and housed in the Genus chassis.



| Chassis Specification      |                                                                                                                                                                                          |
|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Dimensions/Weight/Colour   | 1U high x 550mm deep x 19" wide / <10kg / RAL9003 - white (semi-matte)                                                                                                                   |
| Capacity                   | 17 module slots.<br><b>Note:</b> Actual modules may require >1 slot. Refer to required module spec table.                                                                                |
| Temperature                | Operating: 0°C to +45°C<br>Storage: -20°C to +75°C                                                                                                                                       |
| Location/Humidity/Altitude | Indoor use only / 20 to 90% non-condensing / 2,000m AMSL (Operational) 8,000m AMSL (Storage)<br>Above Mean Sea Level                                                                     |
| Control & Monitoring       | <b>Local:</b> HMI, capacitive touch screen<br><b>Remote:</b> Ethernet via RJ45, 10BaseT/100 BaseTx. ETL TCP/IP, SNMPv2/3, HTTPS & built-in web server.<br>HMI and CPU field replaceable. |
| MTTR                       | 20 minutes (15 minutes to retrieve spare part and 5 mins to replace). Applies to LRUs only and assumed in-house stock.                                                                   |
| AC Input/Consumption       | 85-264Vac 50/60Hz / 275W max. consumption at steady state                                                                                                                                |
| PSU Redundancy             | Dual redundant and alarmed. Diode OR. Hot swappable.                                                                                                                                     |
| Input & Output Ports       | Dependant upon module fitted                                                                                                                                                             |



## Attenuator Module

Compact form factor allows multiple modules to be housed in the 1U GENUS chassis. Each module occupies 1 slot in the chassis.

Variable gain for signal optimisation.

| Smart Attenuator Module - RF Parameters |               |                                                           |                                                                                                         |
|-----------------------------------------|---------------|-----------------------------------------------------------|---------------------------------------------------------------------------------------------------------|
| Model Numbers                           |               | ALT-G1S-S3-174                                            |                                                                                                         |
| Frequency Range                         |               | 500 - 3000 MHz                                            |                                                                                                         |
| Size                                    |               | 1 slot wide                                               |                                                                                                         |
| MTBF                                    |               | >150,000 hrs. MTBF of each amp module. These are hot-swap |                                                                                                         |
| RF Connectors                           |               | 50Ω SMA / BNC                                             |                                                                                                         |
| Gain                                    |               | -5 ± 2.0 dB max.<br>-55 ± 2.0 dB min.                     |                                                                                                         |
| Gain Flatness                           | 500 - 3000MHz | ±1.5 dB                                                   | When set to 0dB slope. In manual gain control mode, <b>not</b> AGC.                                     |
|                                         | Any 36MHz     | ±0.25 dB                                                  |                                                                                                         |
| Gain Steps                              |               | 0.25 ± 0.15 dB in manual gain mode                        |                                                                                                         |
| Slope Control Range                     |               | N/A                                                       |                                                                                                         |
| Slope Control Steps                     |               | N/A                                                       |                                                                                                         |
| Input Return Loss                       |               | 18 dB typ. 14 dB min.                                     |                                                                                                         |
| Output Return Loss                      |               | 18 dB typ. 14 dB min.                                     |                                                                                                         |
| Input 1dB GCP                           |               | 30 dBm min.                                               |                                                                                                         |
| IIP3                                    |               | 50 dBm min.                                               |                                                                                                         |
| In band, signal independent spurii      |               | <-85 dBm max.                                             | Very low level spurii from CPU clock, switch mode PSU and other control electronics inside the chassis. |
| Maximum Input Level                     |               | +20 dBm                                                   | For no damage. Non-operational.                                                                         |

| Interface, Monitoring & Alarms   |                                                  |                                |
|----------------------------------|--------------------------------------------------|--------------------------------|
| Control Method                   | Local and remote as provided by selected chassis |                                |
| LNB Power                        | None                                             |                                |
| Environmental                    |                                                  |                                |
| Operating Temperature            | -0°C to +50°C                                    | Up to 8 modules in a chassis.  |
|                                  | -0°C to +45°C                                    | Up to 16 modules in a chassis. |
| Storage Temperature              | -20°C to +75°C                                   |                                |
| Location                         | Indoor use only, within parent GENUS chassis     |                                |
| Humidity                         | 20 to 90% non-condensing, relative humidity      |                                |
| Altitude                         | 10,000ft / 3,000m above mean sea level           |                                |
| Physical Dimensions & Parameters |                                                  |                                |
| Weight                           | <0.35kg typ.                                     |                                |

**The performance quoted above is for a standalone amplifier. For in-chassis performance, see relevant spec. tables.**

Note 1: The specification is subject to regular reviews and will be updated from time to time as part of our continuing product development and improved spec accuracy.

Note 2: Operation beyond the quoted limits stated above may cause instantaneous and permanent damage.