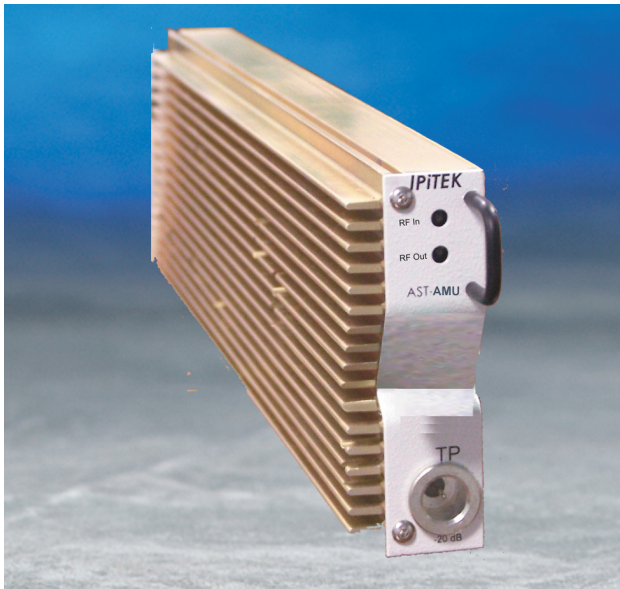


**ADVANCED SERVICES TRANSPORT  
FORWARD PATH RF AMPLIFIER  
AST-RFA-1**



AST-RFA-1 is a new, high performance forward path RF amplifier module, designed and engineered to meet current and future requirements for Broadband systems that require RF forward amplification. The compact, half height module is available in two models, providing amplification for either forward or return bandwidth. When used in conjunction with an RF splitter. The units provide a single RF signal to drive multiple transmitters.

The forward amplifier unit provides full RF bandwidth amplification from 45 MHz to 1003 MHz. The unit is designed in the common AST module package, insuring effective operation in the AST system, providing high quality and cost effective amplification without sacrificing rack space for separate units.

Nominal output level is +37dBmV/channel. Composite Second Order (CSO) and Composite Triple Beat (CTB) distortions are less than -70 dBc. At this nominal output level. The ultra-low distortion amplifier

**Features and Benefits**

- **Low Power Consumption**
- **45 TO 1003 Forward Bandwidth**
- **Up to 20 dB of RF Gain**
- **Adjustable Output Level**
- **Adjustable Equalizer**
- **Output RF Test Point**
- **Full HMS-SNMP Monitoring System**
- **Easily integrated with any mix of modules in the AST Chassis**

provides an adjustable gain of up to 20 dB with excellent frequency response. The unit also includes an RF equalizer.

Engineered with the latest low power components, AST-RFA-1 units are both energy efficient and fully hot swappable.

The internal system provides gain adjustments with the integrated software, using the remote or local network management control. The controller system also provides alarm processing and status monitoring functions. These signals are routed to the AST chassis Control and Management module that provides unit management through a Local Craft Interface as well as remote management. The management system provides an HMS-SNMP compliant interface to a higher level element manager, such as the IPITEK Node Wizard system or to HP OpenView or Castle Rock SNMPc. Front panel indicators also provide immediate visual indication for Signal Present and a summed Fault Alarm.

**CONTROL FUNCTIONS**

- RF Level Adjust
- RF Equalizer

## SPECIFICATIONS

### RF:

|                                     |                                |
|-------------------------------------|--------------------------------|
| Bandwidth:                          | 45 to 1003 MHz                 |
| Gain:                               | 17 dB nominal, 20 dB max       |
| Adjustment Range:                   | 20 dB, 1dB steps               |
| Response Flatness:                  | ±0.75 dB max                   |
| Input/Output Impedance:             | 75 ohms                        |
| Return Loss                         | 18 dB                          |
| Noise Figure:                       | 3.5 dB typical                 |
| * 3 <sup>rd</sup> Order Distortion: | -70 dB at nominal output level |
| * 2 <sup>nd</sup> Order Distortion: | -70 dB at nominal output level |

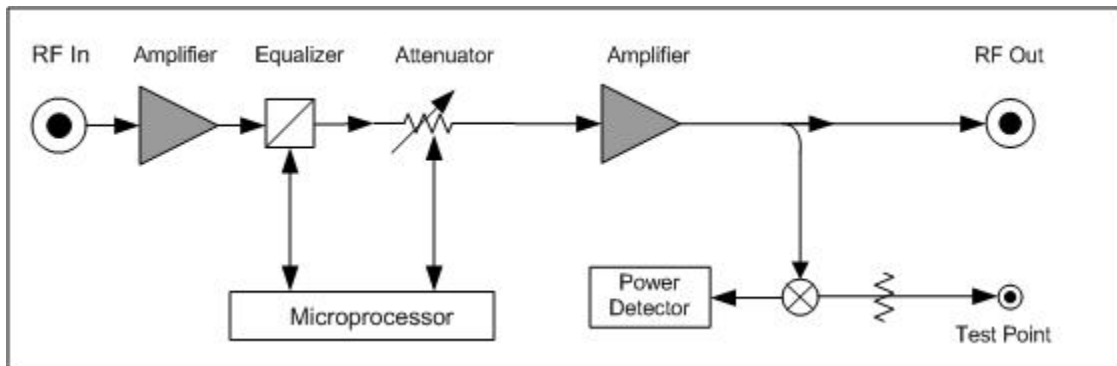
\* Distortion Measurements  
@ 17 dB gain

### Mechanical/Electrical:

|                       |                    |
|-----------------------|--------------------|
| RF Connector:         | Female to Type "G" |
| RF Output Test Point: | -20 ± 0,75 dB max  |
| Power Consumption:    | 8 W, nominal       |
| Supply Voltages:      | ± 5V, +24V         |

### Environmental:

|                        |                             |
|------------------------|-----------------------------|
| Operating Temperature: | 0°C to 50°C                 |
| Humidity:              | 5 to 85%, non-condensing.   |
| Storage Temperature:   | -40°C to +70°C,<br>24 hours |



**Unit Block Diagram**

## ORDERING INFORMATION

### AST-RFA-1

Forward Path RF Amplifier Module

