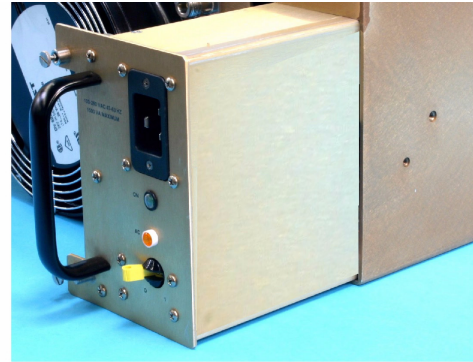




XTRS-60K Ku-Band Rack Mount Solid State Power Amplifier



Front Panel



Rear Panel showing Power
Supply Partially Removed

- **60 Watts**
- **Built-in Redundancy Control**
 - 1:1**
 - 1:1 with load switching**
 - 1+1 Soft Fail**

- **Complete Digital M&C Interface**
 - Ethernet**
 - RS-232**
 - RS-485**
- **Removable Power Supply**

The XTRS-60K is a highly efficient rack-mountable solid state power amplifier (SSPA) designed for fixed and mobile uplink applications.

RF filters, isolators, cooling, and monitor and control (M&C) systems are all self-contained within the package.

Rack spaced is conserved because the amplifiers occupy only 4 rack units (7 inches) of a standard 19 inch rack cabinet. Nominal weight is 80 pounds.

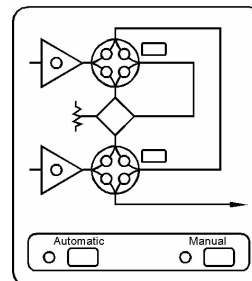
The units feature a menu driven front panel display, RS-232/422/485 serial port and Ethernet interfaces for complete computer control. Forward power, reverse power and temperature, and default parameters are easily monitored on the four line front panel display.

Gain control is provided via the front panel or through the remote interfaces.

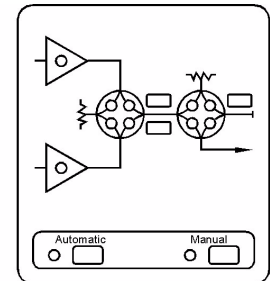
A high frequency resonant conversion power supply is used that accepts a wide range of prime power (90 to 264 VAC). Power factor correction circuitry is

also included which minimizes line current distortion and reduces the required Volt-Amps input.

Depending upon user requirements, these high power amplifiers can be configured for single thread, redundant, or phase combined configurations.



1+1 Soft Fail



1:1 Configuration
with Load Switching

Front Panel Redundancy Options

PERFORMANCE SPECIFICATIONS

| Parameter | XTRS-60K |
|---|---|
| FREQUENCY RANGE standard extended frequency coverage available | 14 - 14.5 GHz |
| OUTPUT POWER | |
| Saturated Power (Typical) | 47.8 dBm |
| Rated Power(P1dB) @ Amplifier Flange | 46.8 dBm |
| GAIN | |
| Small Signal, minimum | 60 dB, gain control set for maximum gain |
| Small Signal, maximum | 70 dB, gain control set for maximum gain |
| Gain Flatness, maximum | 2.0 dB |
| Maximum SSG Variation Over 40 MHz | 0.6 dB per 80 MHz |
| Slope, maximum | ± 0.04 dB/MHz |
| Stability, 24 Hr maximum | ± 0.25 dB |
| Stability, Temperature | ± 2.0 dB maximum over temperature range at any frequency |
| GAIN CONTROL | 20 dB |
| INTERMODULATION with two signals | - 25 dBc maximum with two equal carriers at 3 dB total power backoff from rated output |
| HARMONIC OUTPUT, maximum | - 60 dBc |
| AM/PM CONVERSION, maximum | 2.5 deg/dB at 3 dB below rated output power |
| NOISE POWER, maximum | |
| Transmit Band | - 80 dBW/4 kHz |
| Receive Band | - 150 dBW/4 kHz 10.95 to 12.75 GHz |
| GROUP DELAY, maximum | |
| Bandwidth | Any 80 MHz |
| Linear | ± 0.03 nS/MHz |
| Parabolic | ± 0.003 nS/MHz ² |
| Ripple | 1 nS/Pk-Pk |
| RESIDUAL AM | - 50 dBc to 10 kHz - 20 (1.5 + logf) dBc 10 to 500 kHz - 85 dBc above 500 kHz |
| PHASE NOISE, maximum | 10 dB below IESS phase noise profile |
| VSWR | |
| Input, maximum | 1.2:1 |
| Output, maximum | 1.3:1 |

PRIME POWER

Working Range 90 MIN. - 264 MAX., VAC
 47 to 63 Hz, Single Phase
 700 VA Typical
 0.95 Minimum Prime Power Factor



OPTIONS

- Redundancy Control
 - 1:1 Option 29
 - 1:1 w/load Switching Option 30
 - 1+1 Soft Fail Option 31
- Built-in L-Band Block Upconverter Option B1
 - Frequencies Available:
 - 14 - 14.5 GHz

ENVIRONMENT

| | |
|--------------------------------|---|
| NONOPERATING TEMPERATURE RANGE | -50° C to +70° C |
| OPERATING TEMPERATURE RANGE | 0° C to +50° C 2° C/1000 feet derating |
| HUMIDITY | Up to 95% Noncondensing |
| ALTITUDE | 12,000 feet MSL maximum |
| SHOCK AND VIBRATION | Normal Transportation |
| COOLING | Forced Air (110 CFM Typical) |

INTERFACE

| TYPE | | FUNCTION | | | |
|---------------------------------|-----------------------------|-----------------------------|-------------------------|----------------|--|
| CONTROLS | Local | Local/Remote | AC Power ON/OFF | | |
| | Local and Remote | Gain | Transmit ON/OFF | Fault Reset | |
| | | Min/Max Power Alarm/Fault | Audio Alarm ON/OFF | Lamp Test | |
| | | Reflected Power Alarm/Fault | Units (Watts, dBm, dBW) | Constant Power | |
| STATUS | Front Panel LEDs | Standby | Transmit | | |
| | | Local | Remote | | |
| | | Summary Fault | | | |
| | Front Panel Digital Display | Power Out | Attenuator Setting | Faults: | |
| | | Reflected Power | Units Selection | High VSWR | |
| Temperature | | Standby Hours | Temperature | | |
| Transmit Hours | | | Power Supply | | |
| Dry Form-C Relay Contacts (Two) | | Summary Fault | | | |
| COMPUTER | Hardware Interface | 2 ports: | RS-232 & RS-422/RS-485 | | |
| | | 1 port: | Ethernet | | |
| SERIAL PORT | Xicom Command Set | ASCII Commands | | | |
| RF SAMPLE PORT COUPLING | -40 dB Nominal | | | | |

XTRS-60K High Power Solid State Amplifier



