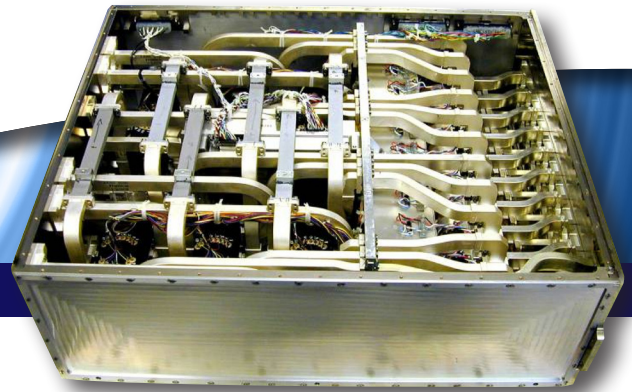


K-Band RF Switching Unit (RSU)

Space Flight Heritage: Qualification Completed
for Geosynchronous Earth Orbit

Always Making Waves™



The K-Band RF Switching Unit incorporates Ferrite Switch Triads with Mechanical R-Switches in a 16x22 configuration at 19.7 to 20.2 GHz and 135W input power per port @ up to 14 ports simultaneously

Typical Performance / Specifications

- Frequency Range: 19.7 – 20.2 GHz
- Beam Hopping Switching time: < 350 ns
- Beam Hopping Switching rate: 14 kHz
- Inputs: 16 (11 primary / 5 spare)
- Outputs: 22
- Latched Switching
- Input Power Overdrive Handling: Up to 270 W w/o damage
 - RF inputs: 11 at 135 W each
- Spurious Power Output: ≤ -50 dB per port
- Insertion Loss: $\leq .8$ dB primary input to output; ≤ 1.2 dB spare input to output
- Port to Port Isolation: > 40 dB outside of intended path
- Input VSWR: 1.30:1
- Output VSWR: 1.15:1
- Temperature Range: -34° to $+71^{\circ}$ C
- DC Power: +70V
- DC Power Consumption: < 36 W
- Outline Dimensions: 20 x 15 x 9.9 in
- Mass: 25 lbs
- Radiation hardened

Description

16-input-22-output high power, high speed switching unit for commercial space applications. Electro-mechanical (EM) waveguide switches, low pass filters, and high speed beam-hop ferrite waveguide switches configured to connect TWTA's to antenna feeds.

Key Features

- Low loss ferrite switches for TDMA beam hopping
- High power filters for TWTA harmonic suppression
- Mechanical switches for TWTA redundancy management
- Redundant electronics (switch drivers and EPCs) for high reliability

