

ORBITAL SYSTEMS' FS-DR-02 IS A DUAL POLARITY S BAND FEED AND DOWNCONVERTER IN A HEAVY-DUTY METAL ENCLOSURE FOR RECEPTION OF S BAND TELEMETRY AND DATA. THE FEED/DOWNCONVERTER PROVIDES MAXIMUM FLEXIBILITY WITH BOTH CONVERTED AND BROADBAND S BAND OUTPUTS.

Features

- S Band prime focus scalar feed with selectable LHCP or RHCP polarization.
- Feed housing encloses S Band cavity filters, LNA, and tunable downconverter.
- Dual multi-pole cavity filters allow operation with adjacent S Band uplink antennas.
- Heavy-duty aluminum enclosure, powder coated and assembled with stainless steel fasteners to eliminate external corrosion.
- Feed is controlled over RS-422 serial data link.
- Pressurized feed with temperature and humidity sensors as well as a built in purge valve to ventilate the entire antenna when excess humidity is detected in the electrical cabinet or feed.

Performance Specifications

S Band Feed/Downconverter

S Band Operating Frequency	2200 MHz to 2300 MHz
LNA Noise Temperature	30 K max at 23°C
Downconverter Noise Temperature	75 K typ at 23°C (includes input filter)
Image Rejection	> 60 dB
Local Oscillator Frequency	2130-2230 MHz, 100 KHz steps (no spectrum inversion)
Local Oscillator Stability	OCXO < 1ppm
Oscillator Phase Noise	-90 dBc/Hz at 10 KHz typical
Output Frequency	70 MHz (-3dB BW 40MHz typ)
Conversion Gain	65 dB typ
Output 1 dB Compression Point	> +10 dBm

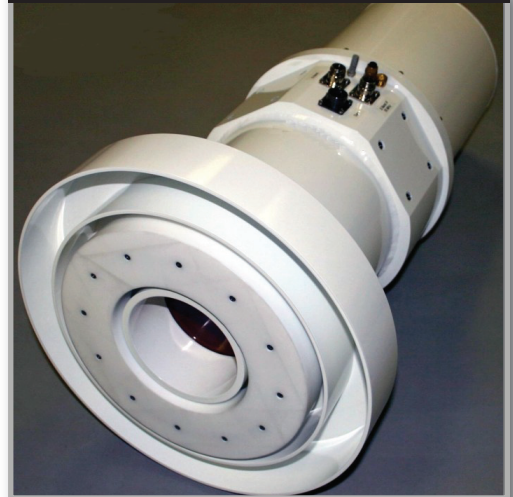
S Band Output

S Band Output Frequency	2200 MHz to 2300 MHz
S Band Output Gain	34 dB typ

Electrical, Mechanical, and Environmental

Input Voltage Frequency	24V DC at 500mA
Input Power/Data Connector	8 pin MS style connector
Operating Temperature	-40°C to +55°C
S Band IF Output	Female Type N
S Band RF Output	Female Type N
Pressurization Tube Connector	1/4" compression fitting (supplied)
Size	26cm(10.25")dia, 58.4cm(23")long
Weight	13.2 kg (29 lbs)

S Band Telemetry Feed (FS-DR-02)



Applications

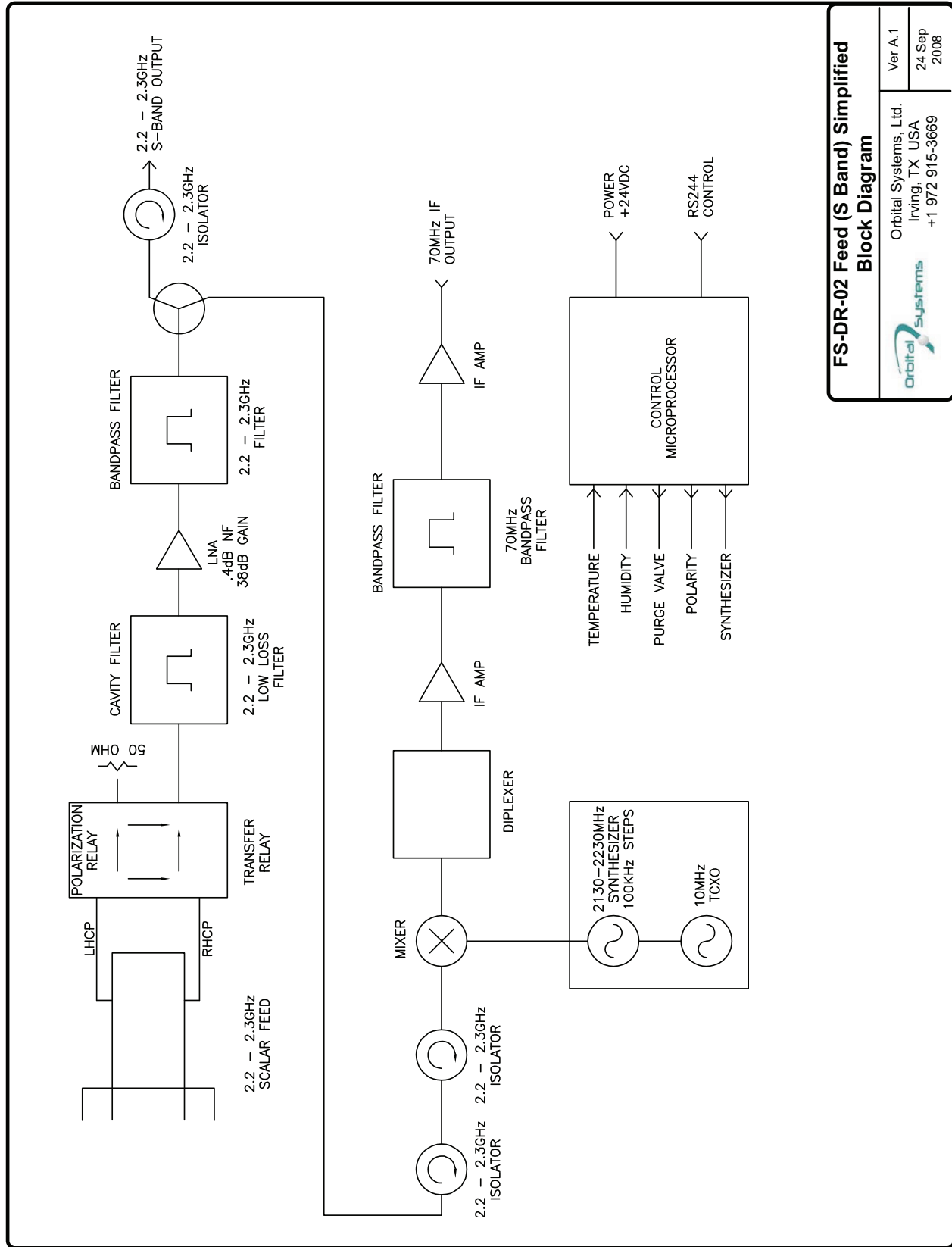
- Reception of S band satellite telemetry and data downlinks.
- Reception of S band UAV telemetry.
- Reception of military M-22 AMB broadcasts.
- Reception of military DMSP satellites.

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S Band Telemetry Feed (FS-DR-02)



FS-DR-02 Feed (S Band) Simplified Block Diagram

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