

FS-DR-02 S-Band Telemetry Feed

Suitable for telemetry applications requiring S-Band switchable polarity reception

Orbital Systems FS-DR-02 feed is suitable for general commercial and defense telemetry applications requiring S-Band Receive (RX) with selectable LHCP or RHCP polarization. A prime focus scalar feed used in operations using satellite telemetry and data downlinks, UAV telemetry, military M-22 AMB broadcasts, and military DMSP satellites. Provides maximum flexibility with both converted and broadband S-Band outputs.

Features

- S-Band prime focus scalar feed with switchable LHCP or RHCP polarization
- Feed housing encloses S-Band cavity filters, Low Noise Amplifier (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 the Orbital Data Bus (ODB)
- Pressurized feed with temperature and humidity sensors
- Built in purge valve to ventilate the entire antenna when excess humidity is detected in the electrical cabinet or feed

S-Band Feed / Downconverter

S-Band Operating Frequency.....	2200-2300 MHz
LNA Noise Temperature.....	30 K max at 23°C
Downconverter Noise Temperature.....	75 K typical 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 40 MHz typ)
Conversion Gain.....	65 dB typical
Output 1 dB Compression Point.....	> + 10 dBm

S-Band Output

S-Band Output Frequency.....	2200-2300 MHz
S-Band Output Gain.....	34 dB typical

Electrical, Mechanical and Environmental

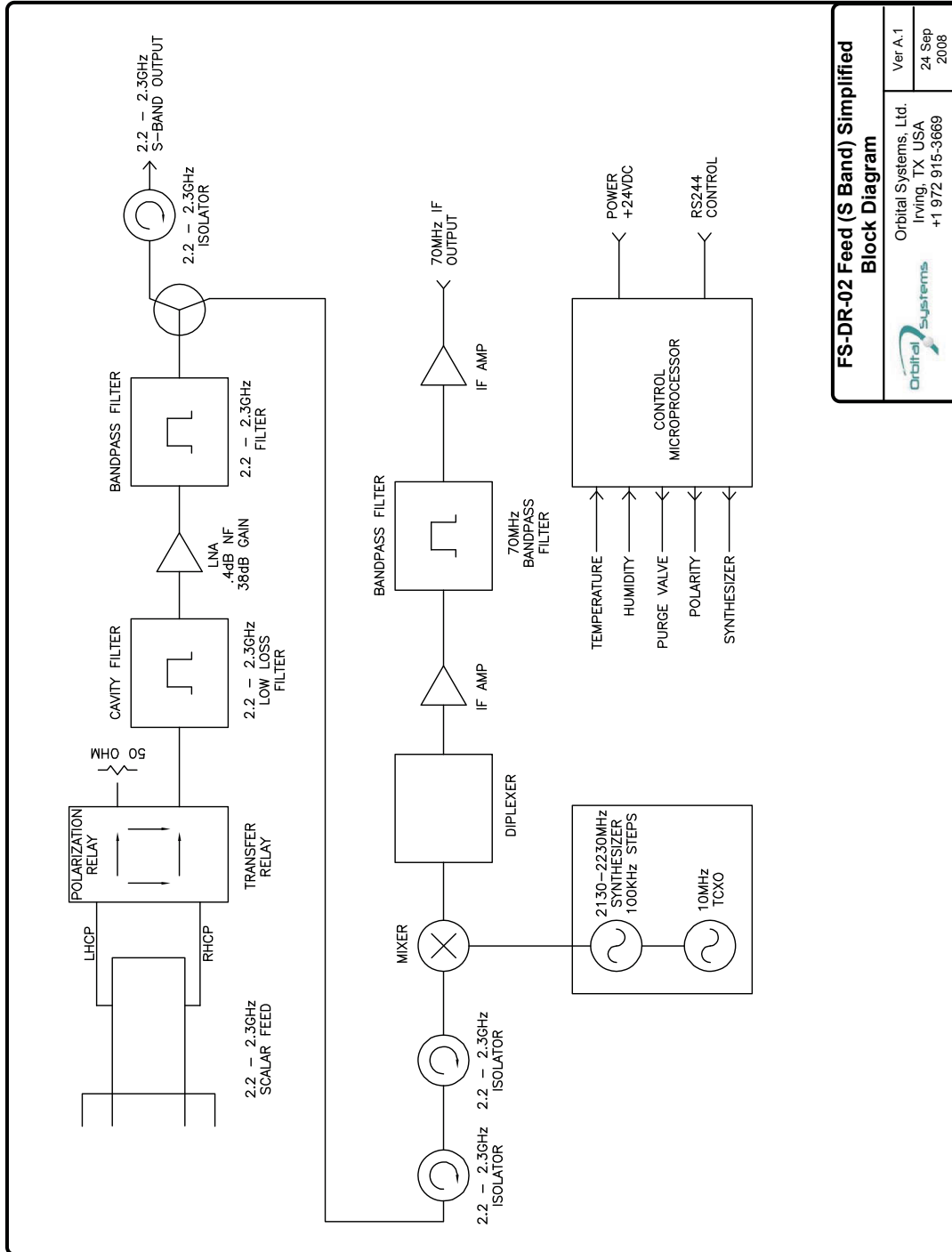
Input Voltage Frequency.....	24V DC at 500mA
Input Power / Data Connector.....	8 pin MS style connector
Operating Temperature.....	-40°C to +55°C
S-Band IF Output.....	Female Type N
S-Band RF Output.....	Female Type N
Pressurization Tube Connector.....	1/4" compression fitting (supplied)
Size.....	26cm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



Applications

Satellite operations where the downlink is S-Band and selectable polarity is required.

- 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



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

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