



## FXL-DD-01 X and L-Band EOS Feed

Suitable for EOS DB applications requiring simultaneous X and L band reception

Orbital Systems FXL-DD-01 feed is a concentric X and L-Band feed with downconverters in a heavy-duty metal enclosure for reception of X and L-Band EOS satellites. The feed provides maximum flexibility and efficiency because of its ability to receive simultaneous downlinks in X and L-Bands.



### Features

- X-Band scalar feed and L-Band helix feed operating in right-hand circular system polarization
- Feed housing encloses X-Band LNA, tunable downconverter and L-Band block downconverter
- 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

### Performance Specifications

#### X-Band Feed/Downconverter

X-Band Operating Frequency .....	7700 - 8500 MHz
LNA Noise Temperature.....	45 K max at 23°C
Local Oscillator Frequency.....	6980-7780 MHz, 1 KHz steps (no spectrum inversion)
Local Oscillator Stability.....	± 5ppm
Oscillator Phase Noise.....	-100 dBc/Hz at 10 KHz typical
Output Frequency.....	720 MHz (3 dB BW - 120 MHz)
IF Filter .....	4 pole tubular, 120MHz BW
Conversion Gain.....	65 dB typical
Output 1 dB Compression Point.....	> +10 dBm

#### L-Band Feed/Downconverter

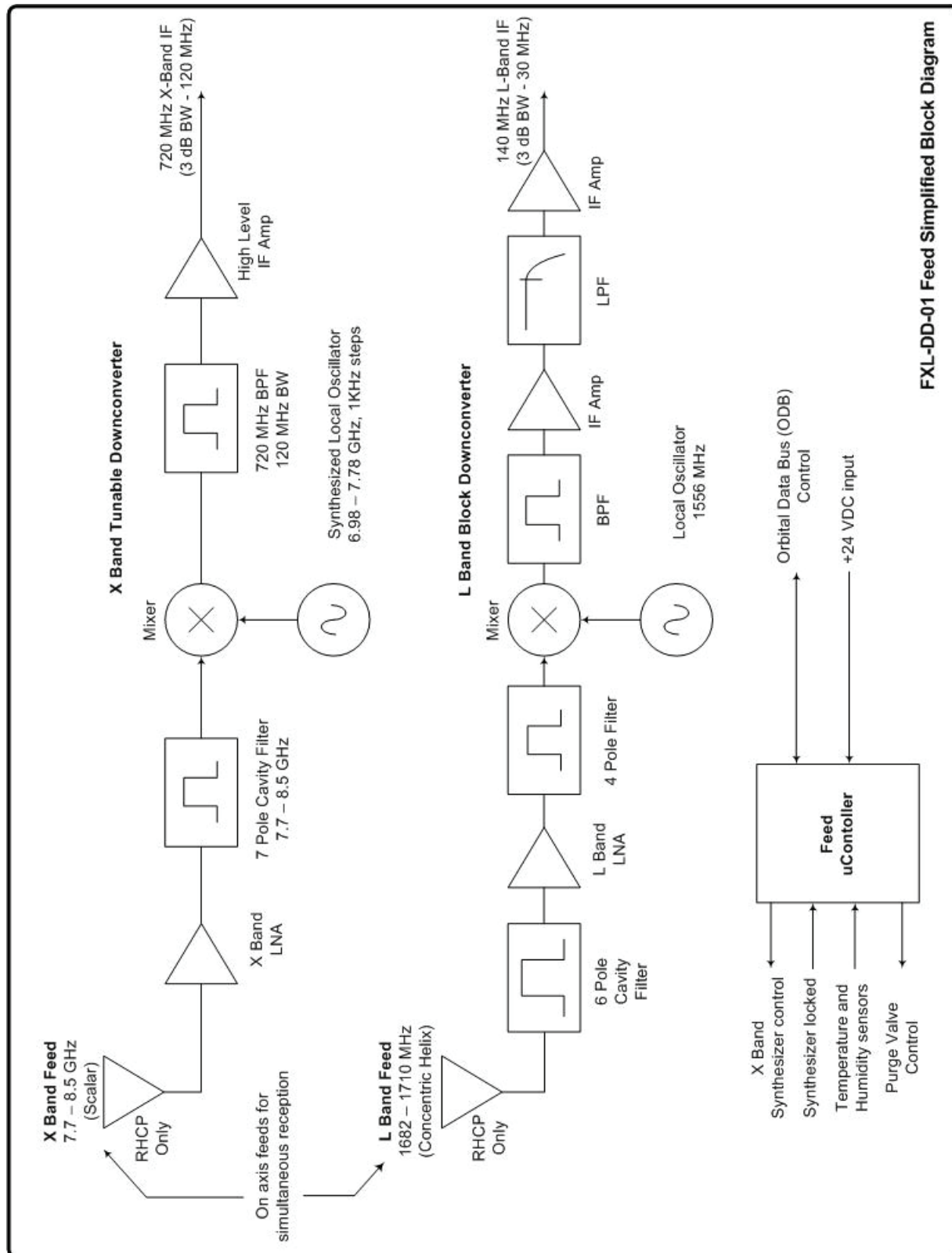
L Band Operating Frequency.....	1682 - 1710 MHz
L-Band converter noise temperature .....	100 K typical
Local Oscillator Frequency.....	1562.5 MHz
Local Oscillator Stability.....	± 2.5 ppm
Oscillator Phase Noise.....	-95 dBc/Hz at 10 KHz typical
Output Frequency.....	119.5 - 147.5 MHz, (3 dB BW – 30 MHz)
Filter.....	6 pole cavity pre-LNB filter, 4 pole dielectric post filter
Conversion Gain .....	55 dB typical
Output 1 dB Compression Point.....	> +10 dBm

#### Electrical, Mechanical, and Environmental

Input Voltage Frequency.....	24V DC at 1A
Input Power/Data Connector.....	6 pin MS style connector
Operating Temperature .....	-40°C to +55°C
X-Band and L-Band IF Outputs .....	Female Type N
Pressurization Tube Connector.....	1/4" compression fitting (supplied)
Size .....	.25cm (10") dia x 38cm (15") long
Weight.....	7 kg (15 lbs)

### Applications

Reception of X-Band and L-Band EOS satellites, including satellites that downlink simultaneously in X and L-Bands.



FXL-DD-01 Feed Simplified Block Diagram