



TRACK RECEIVE RECORD PROCESS

# Tri-Band Feed L/S/C



## C-BAND WITHOUT COMPROMISE FIELD-UPGRADEABLE

Zodiac Data Systems offers the **best match for performance, flexibility and price** with its patented miniaturized tri-band feed.

**Common L/S/C radiating front** end fitted with a modular set of active RF modules allow simultaneous reception and tracking in any frequency band, whereas a small and light-weight enclosure makes the **feed mountable on any dishes from 6 feet (1.8 m)**.

Proposed in **any single, dual or tri-band configuration**, the feed offers the best value for money and flexibility to customers willing to meet current requirements while keeping future in mind. Field upgradeable to any missing band with simple RF modules addition ensures your **capacities are scalable and your costs under control.**



Launch Vehicle Telemetry

**LTE/4G MITIGATION**  
LTE/4G, WCS & Customized Rejection Filters

**SEAMLESS PRIME FOCUS INTEGRATION**  
Tri-Band even with Dishes as Small as 6'/1.8m



Missile Testing

**SCM 1000 HZ SCAN RATE**  
Highest Accuracy of Tracking

**NO RF-BAND COMPROMISE**  
Concentric 3-Band Feed, Without Need of Dichroic Filter



Fixed & Rotary Wing

**C-BAND IN-THE-FIELD UPGRADE**  
Simple Add-On without any Structural Change

# TRI-BAND FEED L/S/C

8 radiating elements used for the tracking provide a perfect axial symmetry for the Delta channel (equivalent to TE<sub>21</sub>) leading to the **utmost tracking performance**.

## > SYSTEM SPECIFICATIONS

### Frequency Bandwidth

Lower L-Band	1429 - 1545 MHz
Upper L- Band	1780 - 1850 MHz
S-Band	2200 - 2400 MHz
C-Band (Full)	4400 - 5250 MHz

### Design

Polarizations	RHCP & LHCP
Scanning Frequency	Internal Frequency 50Hz / 500Hz External Frequency up to 2 kHz
$\Sigma$ (for Each Band)	1 Printed Radiating Element
$\Delta$ (for Each Band)	8 Printed Radiating Elements
Independent Filters for Each Band (e.g. S-Band Filter rejects UMTS & LTE Frequencies)	

### Signal Amplification (for each band)

Design	2 Cascaded LNAs per Channel
High Gain Mode	35 dB (All LNAs On)
Low Gain Mode (Very Short Range)	15 dB (1 LNA Bypassed)
Long Range Tracking	Tracking LNAs Off

### Reflector Pairing

Prime Focus Mounting	0.38 - 0.42			
F/D Range	$\emptyset$	1.8m	2.4m	3.0m
L-Band 1/2 Power Beamwidth		8°	5.8°	4.6°
S-Band 1/2 Power Beamwidth		5°	3.8°	2.9°
C-Band 1/2 Power Beamwidth		2.1°	1.6°	1.3°
Tracking Beamwidth		1,5 x HPBW		

### Miscellaneous

Length	18.9" (480 mm)
Diameter	11.8" (300 mm)
Weight	< 40 lb (18 kg)
Environment	-13°F to +122°F (-25°C to +50°C)

On top of that, the feed embeds additional capabilities such as LNA bypass for very short range tracking as well as tracking LNA muting for long range reception.

## > MAIN FIGURES OF MERITS (10° EI, 20°C Clear Sky)

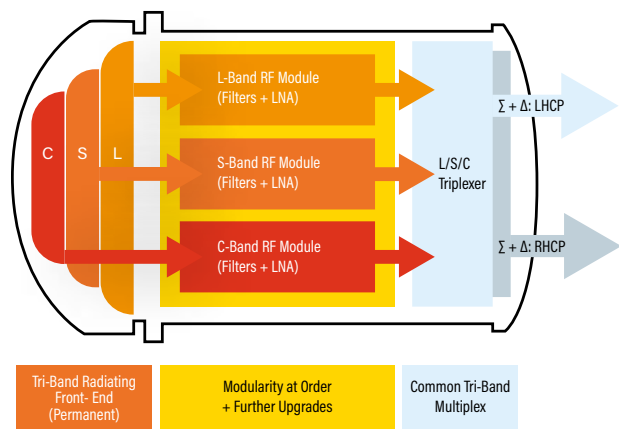
### Performance for $\Sigma + \Delta$ Channels without Filters<sup>(1)</sup>

	L-Band @ 1500 MHz	S-Band @ 2300 MHz	C-Band @ 5150 MHz
6 ft (1.8 m)	4.3 dB	6.3 dB	12.4 dB
8 ft (2.4 m)	6.8 dB	8.8 dB	14.9 dB
10 ft (3.0 m)	8.7 dB	10.7 dB	16.8 dB
18 ft (5.5 m)	14.0 dB	16.0 dB	22.1 dB
24 ft (7.3 m)	16.4 dB	18.5 dB	24.6 dB

(1) Up to +0.7 dB in all performances when tracking LNAs are muted for very long range

## > ASSOCIATED PRODUCTS

- ▶ Zodiac Data Systems' Antennas 6 - 36 ft (1.8 - 11 m)
- ▶ Cortex RTR and RX-1 with Multi-Band Inputs
- ▶ S/L/C Acquisition Aid Antenna in a Single Enclosure



### GLOBAL SALES

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## ZODIAC DATA SYSTEMS

ZODIAC AEROSYSTEMS  
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