

## StarRail™ – SatCom Broadband for High Speed Rail

For the rapidly-growing number of high-speed rail passengers, **StarRail** delivers always-on SatCom broadband connectivity in an aerodynamic, low-profile package uniquely suited to the demands of high-speed rail.

### Railway Grade Connectivity

As high-speed rail transportation grows in popularity, operators worldwide are turning to value-added services like broadband Internet, satellite TV, and cellular voice services to entice new, and retain existing, passengers. Additionally, operators are migrating train operational communications to more reliable and cost-effective satellite platforms.

Uniquely suited to the challenges of high-speed rail transport, **StarRail** enables high-capacity, uninterrupted real-time streaming video, voice, and high-speed data connectivity for multiple users – in an easily-deployed, lightweight and aerodynamic package.

### Uncompromising Communications at Any Speed

Leveraging the Ku band, and featuring a unique flat-panel design, **StarRail** sets new standards in compact size and weight – without compromising communications performance.

Offering reliable, seamless tracking even at high speeds, and ultra-fast satellite re-acquisition after tunnel or station exit – **StarRail** enables true infrastructure-independent multi-megabyte, multi-user data connectivity.

### Easy Installation, Low Maintenance

Lightweight and versatile, low profile StarRail systems are easily and quickly installed – with only a single connection between external antenna and in-train systems. Leveraging Starling's patented Coherent Multi-Panel Antenna (CoMPA™) technology, **StarRail** systems are easily-maintained and self-contained - with all electronics housed inside the rugged antenna itself.

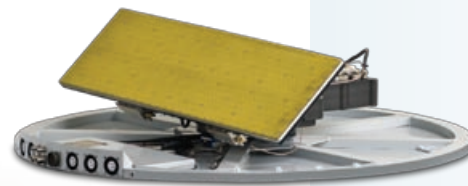
### StarRail Advantages

Uncompromising, uninterrupted On-The-Move SatCom broadband for multi-user environments

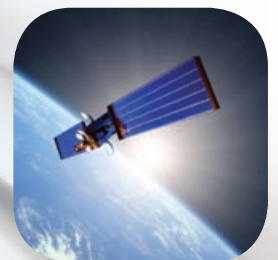
Compact, easily-deployed, low-profile, all-in-one design

Ideal for real-time streaming video, voice, and high-speed data connectivity

Ultra-fast acquisition and re-acquisition, exceptional tracking and transponder efficiency



StarRail™





## StarRail™

### Antenna

Tx gain	36 dBi @ 14 GHz
Rx gain	35 dBi @ 11.7 GHz
EIRP [dBW]	47 dBW
G/T [db/k]	14 dB/K @ 11.7 GHz
Tx frequency [GHz]	14 - 14.5 GHz
Rx frequency [GHz]	10.7 - 12.75 GHz

### Travel

Elevation coverage	0° to 90°
Azimuth	Continuous 360°
Polarization	+/- 90°

### Tracking

Azimuth velocity	100°/sec
Azimuth acceleration	200°/sec <sup>2</sup>
Elevation velocity	50°/sec
Elevation acceleration	100°/sec <sup>2</sup>

### Position accuracy

Azimuth	0.2°
Elevation	0.4°

### Size & weight

Antenna dimensions	25cm (10") x 100cm (39")
Antenna weight (incl. ACU, HPA & all RF units)	36 Kg (80 lbs)

### Environmental

Operational temperature	-30°C - 50°C
Operational altitude	Up to 15,000 feet
Humidity	100% RH, condensing @ 35°C
Vibration	Per MIL-STD 810F method 514.4
Shock	30g pulses, 11 mSec, saw tooth

### Interfaces

RF (L-band)	Rx output, Tx input, N-Type connectors
Ethernet	10/100Base-Tx Ethernet Per IEEE-802.3
Power	28 VDC, power terminals up to 10 Amps maximum
Compatible with all available modems	
Compliant with FCC & ITU requirements	

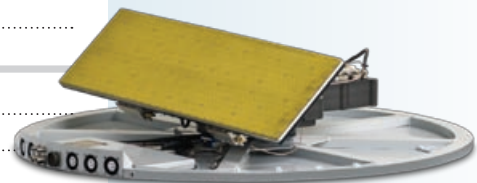
\*All product specifications are subject to change without notice

## About Starling Advanced Communications

Starling Advanced Communications enables faster, more reliable and more efficient On-The-Move SatCom broadband connectivity - in the air, on land and at sea.

Founded in 2003, Starling develops and manufactures small, low-profile satellite-based communications antennas that enable full-featured broadband connectivity on any mobile platform. The company's CoMPA™ (Coherent Multi-Panel Antenna) technology enables data transmission and reception at high bit rates.

For more information, please visit [www.starling-com.com](http://www.starling-com.com).



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