RSSLNA1:2-C

1:2 C-Band LNA Redundancy System

General Description :

The Orbital LNA redundant switch system is designed to minimize system outage using dual waveguide – waveguide switches to provide a spare LNA in the event of a failure. Various configurations of systems are available utilizing field proven, high performance L, S, C, Extended C, X & Ku band LNAs in the 1:1 & 1:2 configurations.

The outdoor unit :

Features a slim, streamline outdoor unit mounted on a 19" rail for easy installation. Mounted LNAs allow easy swap out using industry standard LNAs.

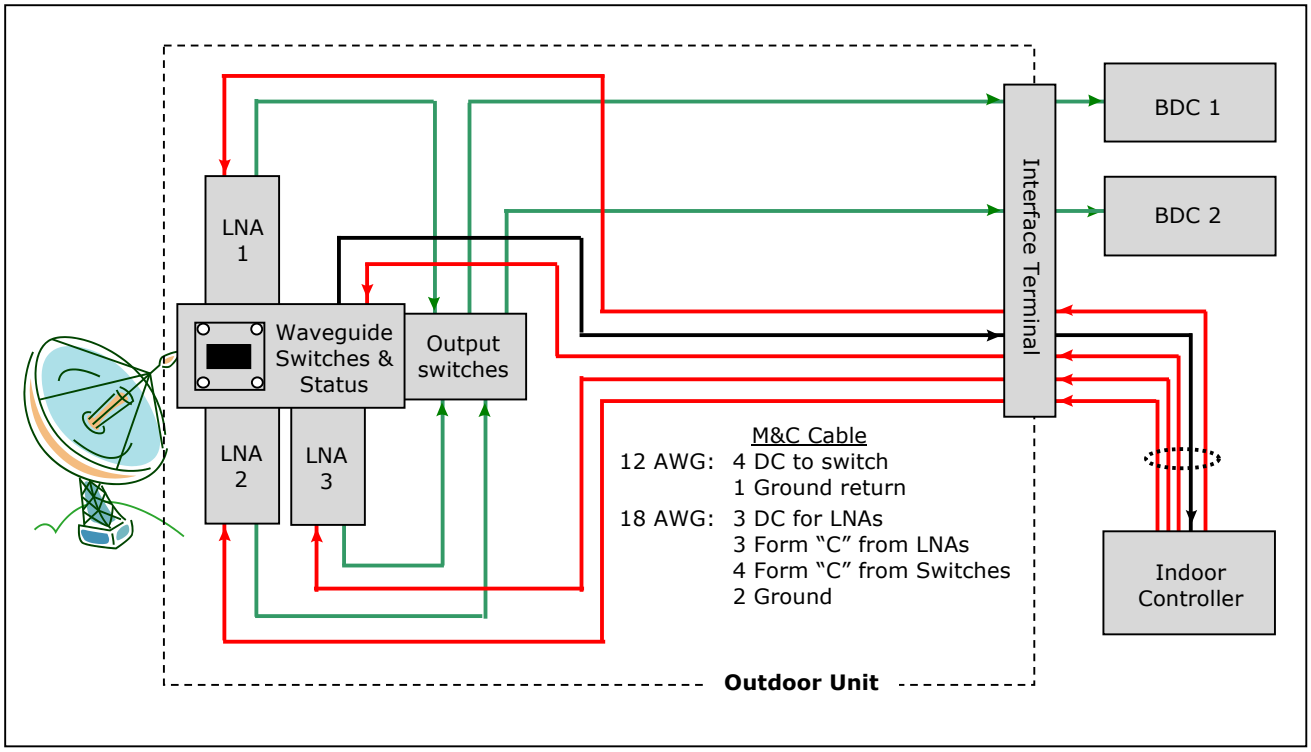
The indoor unit is a 1RU-19" with a simple LED display to quickly observe the LNA status, and control buttons to make any required changes to the system quickly and efficiently. LNA redundancy is automatic (current sensing) or can be manually selected. Power supply redundancy is built in & automatic. Remote M&C is through serial port RS232 standard & optionally through Ethernet. There is also a Parallel control interface for status output & to take external control inputs.

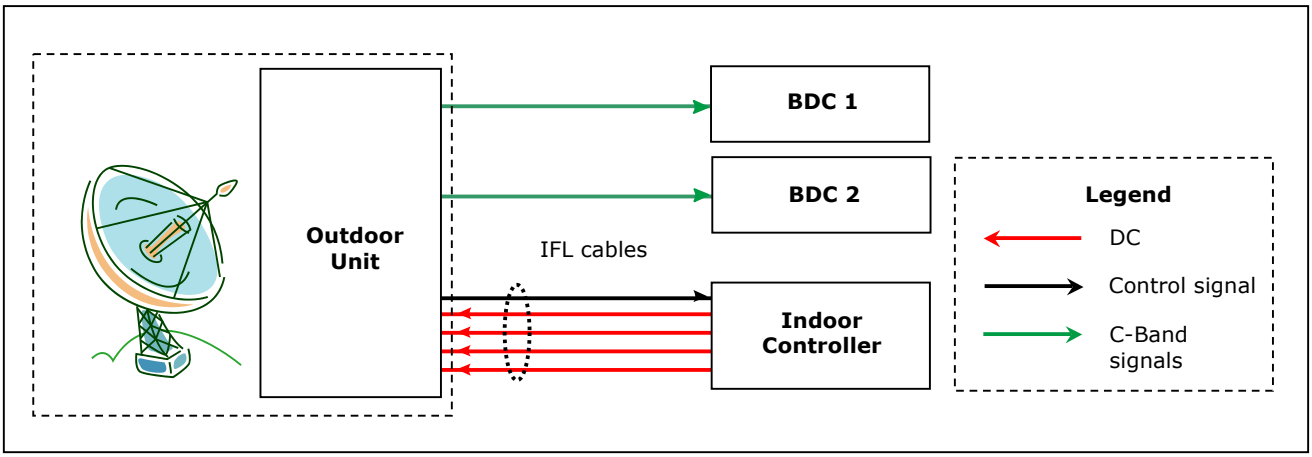
Options :

The outdoor unit can be made available with the following options

- Transmit Reject Filter
- Offline Input & Output
- Input Waveguide/Coaxial Test couplers
- Output coaxial Test couplers
- Custom configurations
- M&C via Ethernet

Redundant C-Band 1:2 LNA system - ODU

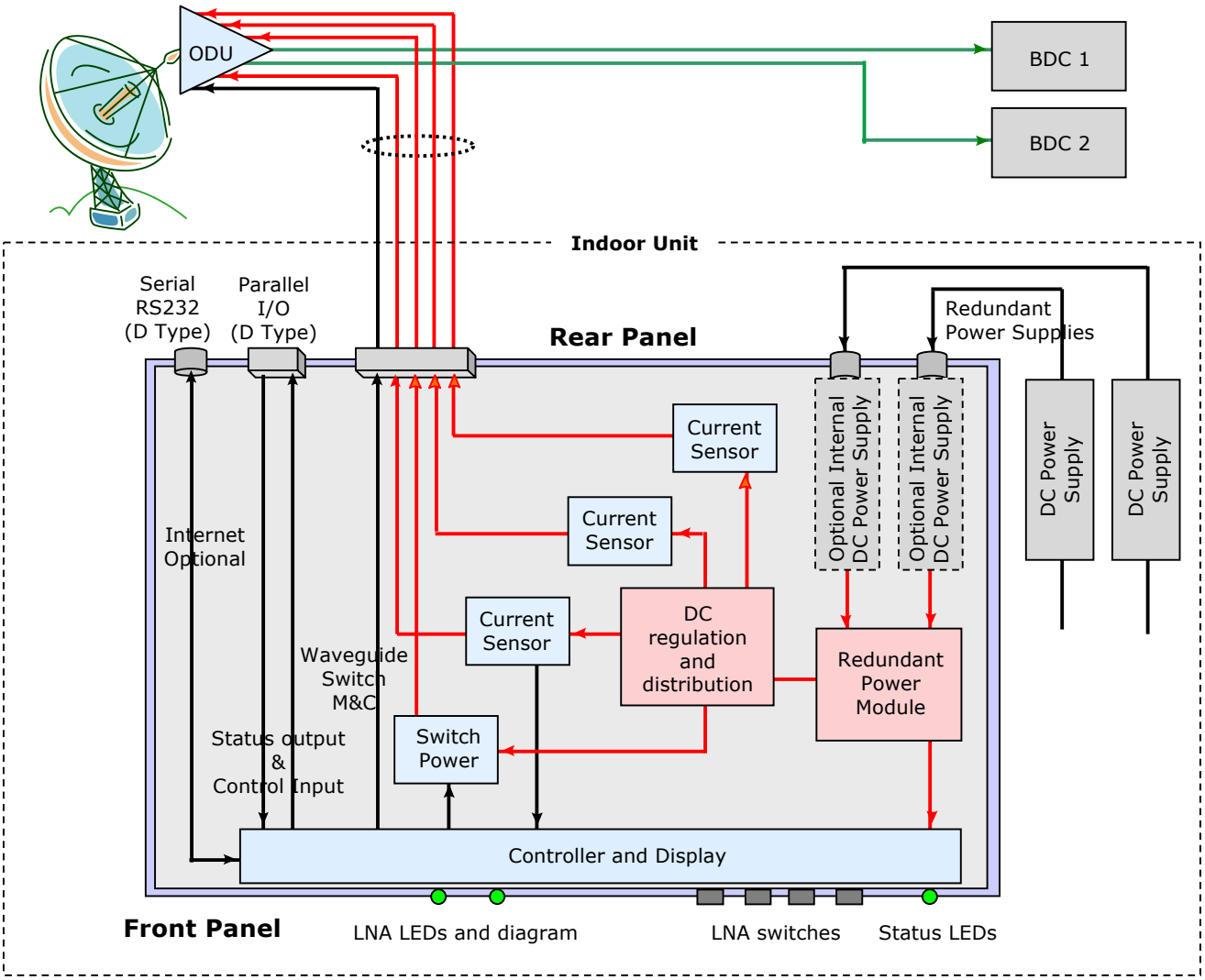




Orbital ODU Features:

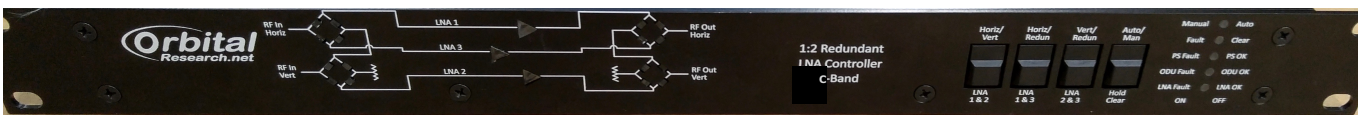
- Uses standard LNAs from any manufacturer. LNAs can be included and tested in the system
- The Outdoor Unit is mounted on one rail.
- Both IDU and ODU are pre-assembled. Just connect the cables and waveguide. Mount the ODU, and plug the redundant power supplies in.

Redundant C Band 1:2 LNA system - IDU



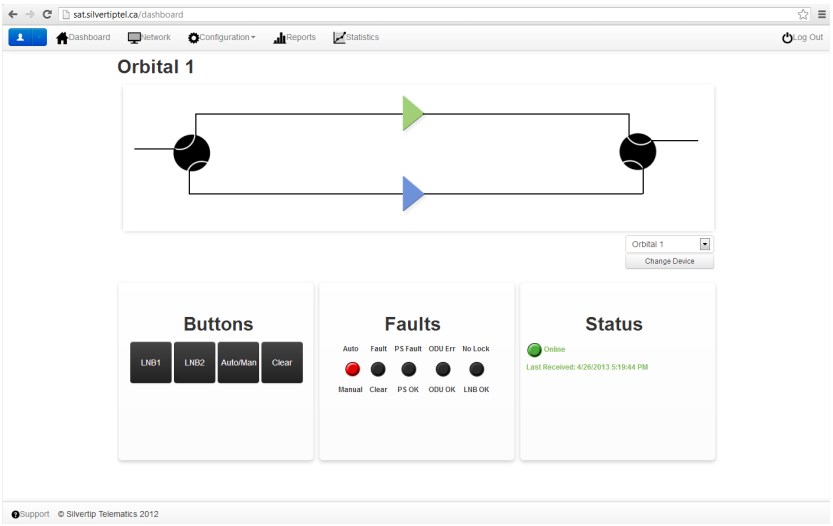
Orbital IDU Features:

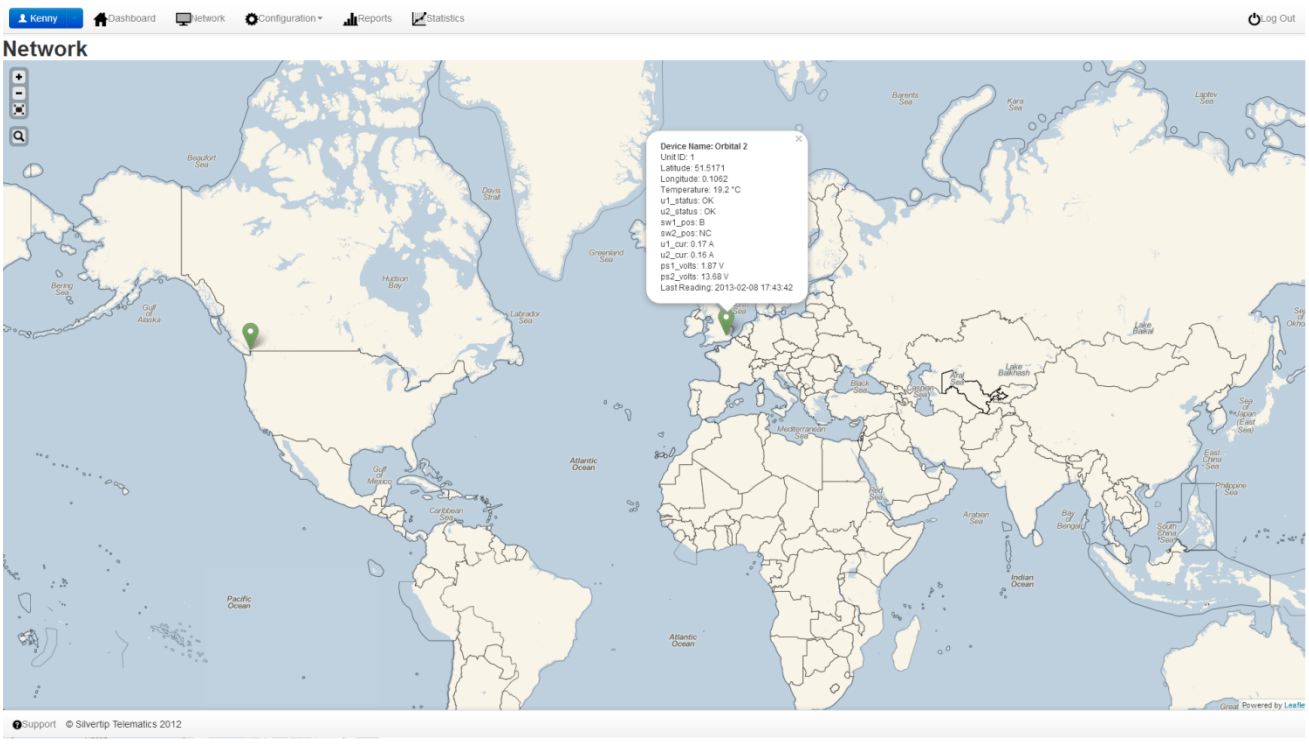
- 1 unit high chassis. Simple LED display for monitoring. No cumbersome LCD menu to work through
- Two power supplies are inside controller. Optionally, the power supplies can be placed outside the chassis.
- Unit automatically detects faults. Global power supplies to use anywhere in the world.
- Manual or automatic switching between LNAs.
- Ku and Ka-Band versions also available
- 1:1 versions available
- LNB versions also available



Cloud Based Remote User Interface Features:

- Direct mimic of physical front panel.
- Shows status in real time with near instantaneous status updates and control functionality.
- Additional statistics and diagnostics available.
- Works with standard web browsers – no need for complicated proprietary MAC systems
- Can easily be integrated into existing network monitoring infrastructure
- Top level map can show summary status of multiple systems in a network
- System automatically connects to the Cloud Server through an Ethernet connection and the Internet





RSSLNA12-C, C-Band LNA Redundant system - Specifications

ELECTRICAL

INPUT (Outdoor unit)

Interface:	CPR-229
LNA Frequency Range:	3.4 to 4.2 GHz (Option 1) 3.4 to 4.8 GHz (Option 2)
Noise Temperature:	dependent on LNA manufacturer
VSWR Input:	dependent on LNA manufacturer
Max Input Power	dependent on LNA manufacturer

OUTPUT (Outdoor unit)

Interface:	N, F, or SMA
VSWR:	dependent on LNA manufacturer
Gain:	dependent on LNA manufacturer
Gain Flatness (Full Band):	dependent on LNA manufacturer
Compression:	dependent on LNA manufacturer
Input Voltage range:	dependent on LNA manufacturer
Group Delay:	dependent on LNA manufacturer
Interface Cable:	Length 30 meters. Other lengths available

POWER (Indoor controller)

Voltage:	87 - 265 VAC
Frequency:	47 – 63 Hz
Dual A/c Redundant Inbuilt power supply	
Size	19 inch Rack
Filtering:	Transient, over & reverse voltage protected

MONITOR AND CONTROL

Controller monitors unit current. Alarm is generated if current goes outside of the allowed tolerance window.

Push Buttons	LEDs
Chain A Toggle	Automatic / Manual
Chain B Toggle	Summary Fault / Clear
Automatic/Manual	PS Fault / Clear
Alarm Reset	ODU Fault / Clear
	LNA Fault / Clear

MECHANICAL

	Outdoor Unit	Indoor Unit
Weight:	TBD	TBD
Overall Dimensions:	TBD	19” x 1.75” x 20” max (standard 19” rackmountable)
Input Connector:	CPR-229	F, N or SMA
Output Connector:	F, N or SMA	F, N or SMA

ENVIRONMENTAL

	Outdoor Unit	Indoor Unit
Operating Temp:	-40 to +60°C	0 to +55°C
Relative Humidity:	<100%	<95% non-condensing

General Description:

The Orbital LNA redundant switch features a slim, streamline outdoor unit mounted on a 19” rail for easy installation. Mounted LNAs allow easy swap out using industry standard LNAs.

The indoor unit is 1RU-19” with a simple LED display to quickly observe the LNA status, and control buttons to make any required changes to the system quickly and efficiently. LNA redundancy is automatic (current sensing) or manually selected. Power supply redundancy is automatic. Remote M&C through ethernet.

Orbital Design:

As always, Orbital products are simple, market focused designs of an open architecture type to allow for custom requirements. The redundant switch uses Orbital modules to allow for custom features required by the customer. The indoor controller’s front panel is a universal design that allows for customer feature changes.

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