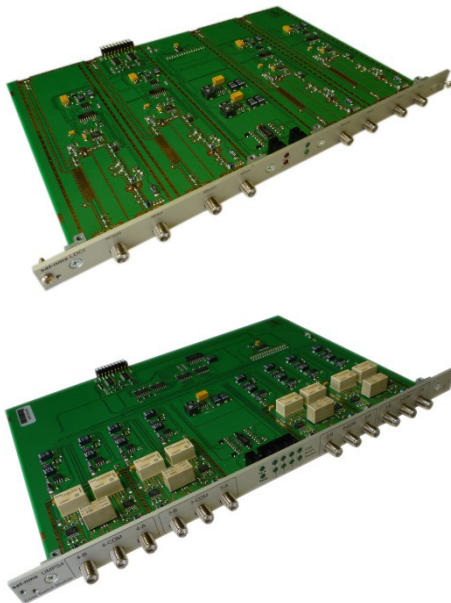


sat-nms SMU – Signal Management Unit

The *sat-nms* SMU is the unit you were always looking for in your satellite ground station or satellite head-end environment. It enables you to perform all kind of signal management in a simple to use and very flexible unit. Due to the choice of different card modules you are able to build your own *sat-nms* SMU best matching the requirements of your application. Each card module is designed to fulfil a specific function and the combination of different card modules gives you the possibility to solve your signal handling problems.

- LNB DC Insertion
- LNB Current Monitoring
- L-Band Signal Strength / Level Monitoring
- Adjustable Gain / Output Level
- Automatic Signal Backup Switching
- Redundancy Switching
- Transfer Switching Capacity
- External Alarm Handling



sat-nms
MPC Multi Purpose Chassis

State -- MPC Multi Purpose Chassis

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MPC Multi Purpose Chassis									
Summary									
Power Supply Unit 1									OK
Power Supply Unit 2									OK
Slot 1: UMPS4 4-Channel Switch									
Name	In-Level (A/B)	Selected input	Switch-Mode	RF-State (A/B)	DC (A/B)	Current (A/B)	DC-State (A/B)		
1	1-CH1	-90/-90 dBm	<input checked="" type="checkbox"/> A	SW-MANUAL	OK/OK	OFF/OFF	0/0 mA	OK/OK	
2	1-CH2	-90/-90 dBm	<input checked="" type="checkbox"/> A	SW-MANUAL	OK/OK	OFF/OFF	0/0 mA	OK/OK	
3	1-CH3	-90/-90 dBm	<input checked="" type="checkbox"/> A	SW-MANUAL	OK/OK	OFF/OFF	0/0 mA	OK/OK	
4	1-CH4	-90/-90 dBm	<input checked="" type="checkbox"/> A	SW-MANUAL	OK/OK	OFF/OFF	0/0 mA	OK/OK	
Slot 2: LDG4 4-Channel DC inserter									
Name	In-Level	Atten	Out-Level	RF-State	DC	Current	DC-State		
1	2-CH1	-90 dBm	↔ +15 dB	-90 dBm	OK	OFF	0 mA	OK	
2	2-CH2	-90 dBm	↔ +15 dB	-90 dBm	OK	OFF	0 mA	OK	
3	2-CH3	-90 dBm	↔ +15 dB	-90 dBm	OK	OFF	0 mA	OK	
4	2-CH4	-90 dBm	↔ +15 dB	-90 dBm	OK	OFF	0 mA	OK	
Slot 3: UMPS4 4-Channel Switch									
Name	In-Level (A/B)	Selected input	Switch-Mode	RF-State (A/B)	DC (A/B)	Current (A/B)	DC-State (A/B)		
1	3-CH1	-90/-90 dBm	<input checked="" type="checkbox"/> A	SW-MANUAL	OK/OK	OFF/OFF	0/0 mA	OK/OK	
2	3-CH2	-90/-90 dBm	<input checked="" type="checkbox"/> A	SW-MANUAL	OK/OK	OFF/OFF	0/0 mA	OK/OK	
3	3-CH3	-90/-90 dBm	<input checked="" type="checkbox"/> A	SW-MANUAL	OK/OK	OFF/OFF	0/0 mA	OK/OK	
4	3-CH4	-90/-90 dBm	<input checked="" type="checkbox"/> A	SW-MANUAL	OK/OK	OFF/OFF	0/0 mA	OK/OK	
Slot 4: LDG4 4-Channel DC inserter									
Name	In-Level	Atten	Out-Level	RF-State	DC	Current	DC-State		
1	4-CH1	-90 dBm	↔ +15 dB	-90 dBm	OK	OFF	0 mA	OK	
2	4-CH2	-90 dBm	↔ +15 dB	-90 dBm	OK	OFF	0 mA	OK	
3	4-CH3	-90 dBm	↔ +15 dB	-90 dBm	OK	OFF	0 mA	OK	
4	4-CH4	-90 dBm	↔ +15 dB	-90 dBm	OK	OFF	0 mA	OK	
Slot 5: LDG4 4-Channel DC inserter									
Name	In-Level	Atten	Out-Level	RF-State	DC	Current	DC-State		
1	5-CH1	-90 dBm	↔ +15 dB	-90 dBm	OK	OFF	0 mA	OK	
2	5-CH2	-90 dBm	↔ +15 dB	-90 dBm	OK	OFF	0 mA	OK	
3	5-CH3	-90 dBm	↔ +15 dB	-90 dBm	OK	OFF	0 mA	OK	
4	5-CH4	-90 dBm	↔ +15 dB	-90 dBm	OK	OFF	0 mA	OK	

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Key Features

- RF and IF Switching Capability
- LNB DC Power Insertion and Monitoring
- Adjustable Line Amplifier
- IF Input Power Monitoring
- 19" 2RU Unit Compact Design
- Redundant Power Supplies
- Scalable Design with hot-swap Modules
- TCP/IP, SNMP, *sat-nms* M&C available

Applications

- Satellite Ground Stations and Teleports
- Cable Head-end Stations

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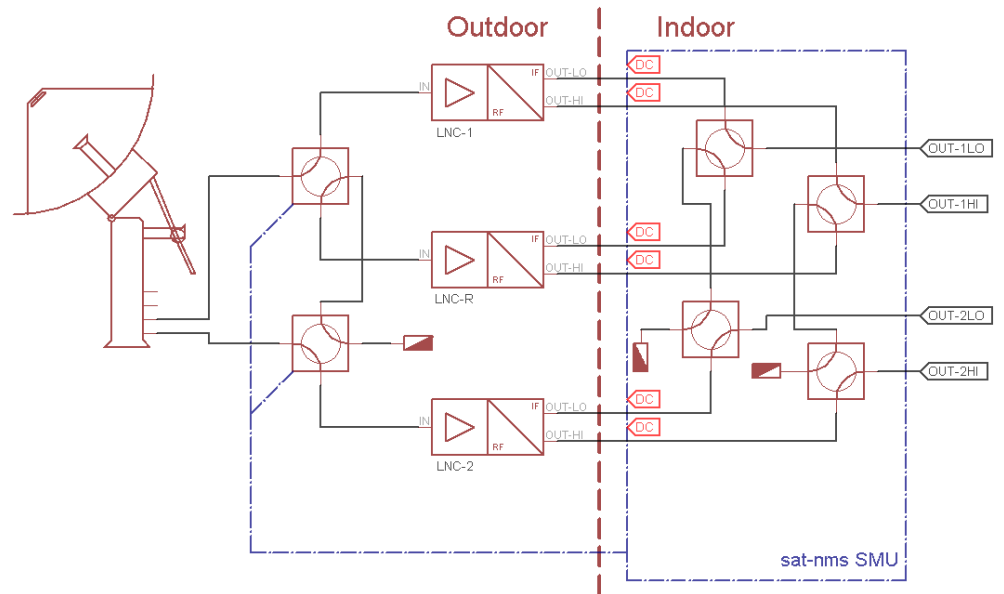
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Some examples that you can implement with our *sat-nms* SMU Signal Management Unit and the different slide-in card modules

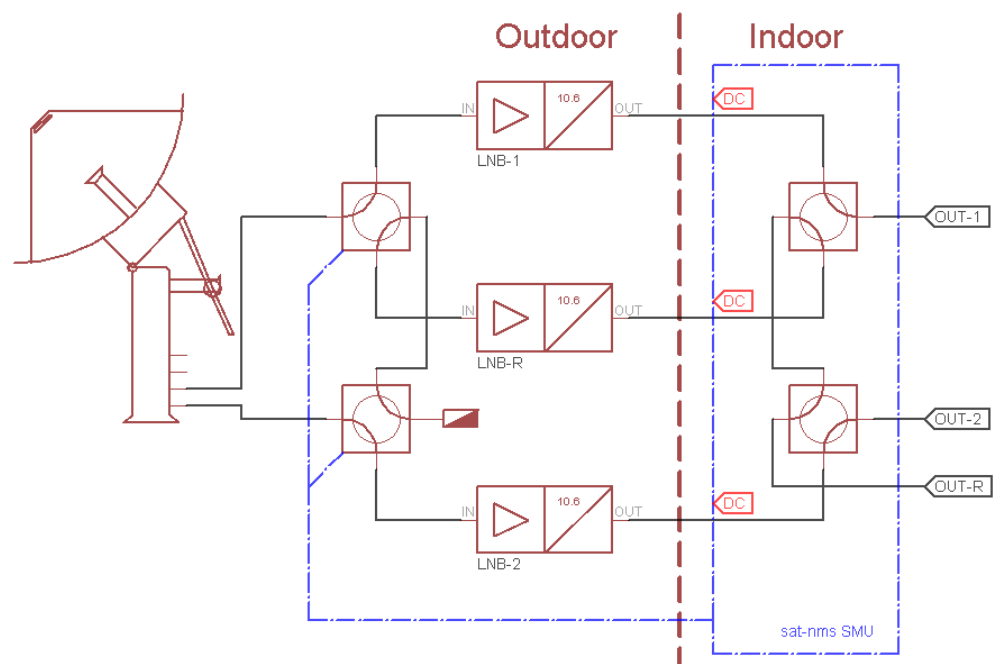
2:1 LNB Redundancy System with Dual Output LNBS

- DC Insertion
- Backup Switching
- Current Monitoring
- Signal Strength
- Level Monitoring



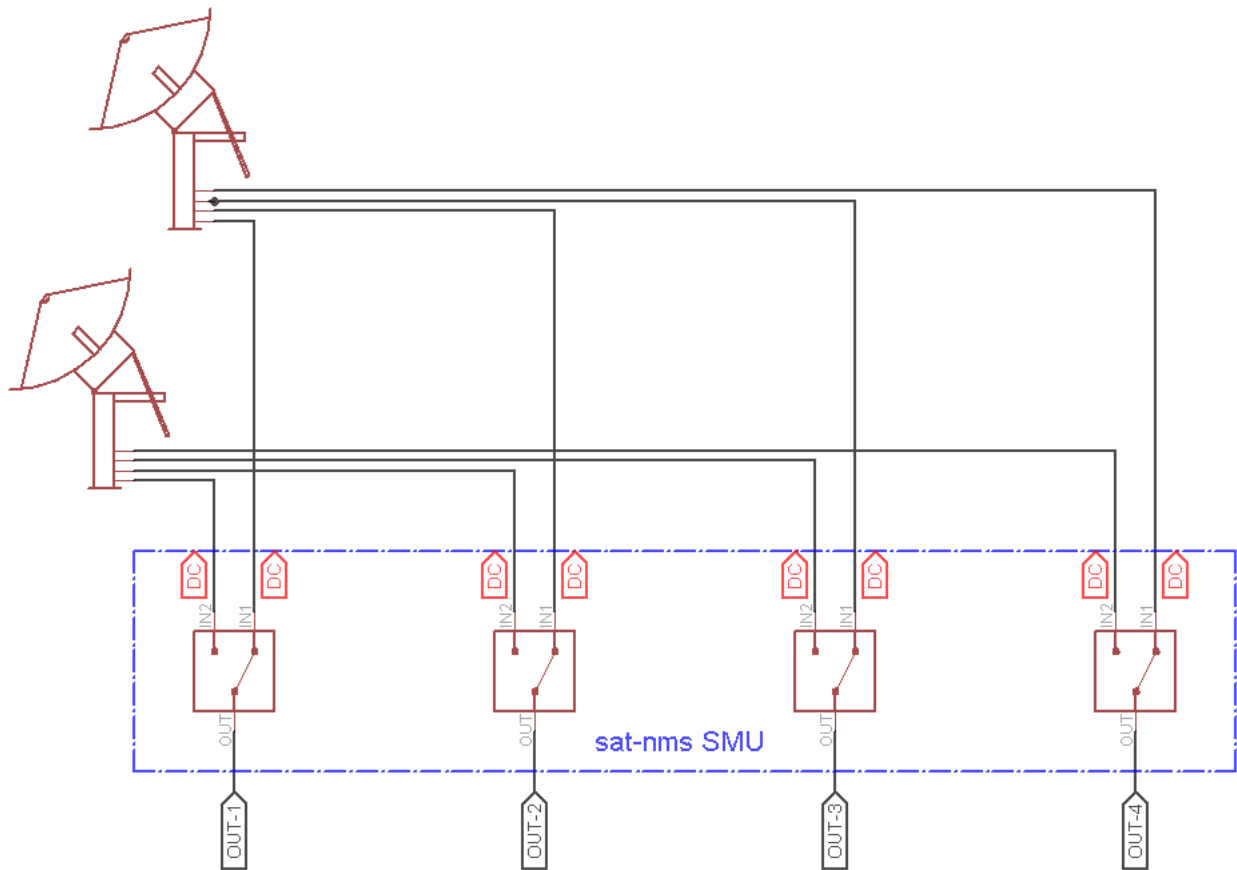
2:1 LNB Redundancy System with Standard Single Output LNBS

- DC Insertion
- Backup Switching
- Current Monitoring
- Signal Strength
- Level Monitoring



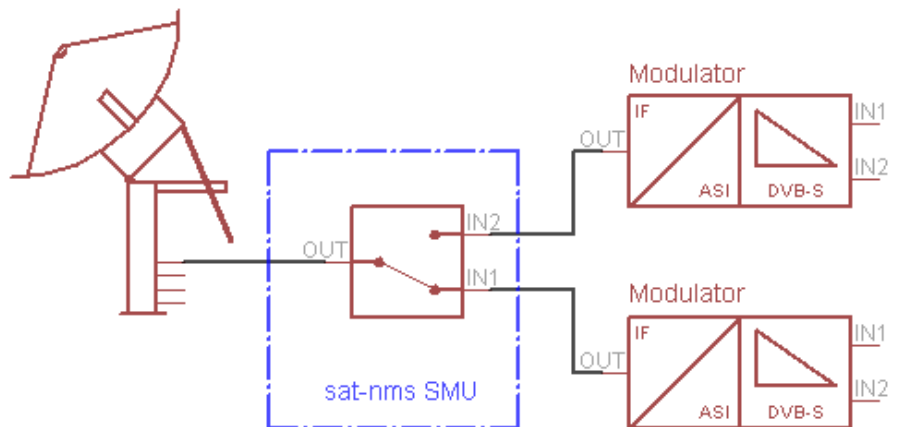
1:1 Backup Signal Switching System with DC Supply

- DC Insertion
- Backup Switching
- Current Monitoring
- Signal Strength
- Level Monitoring



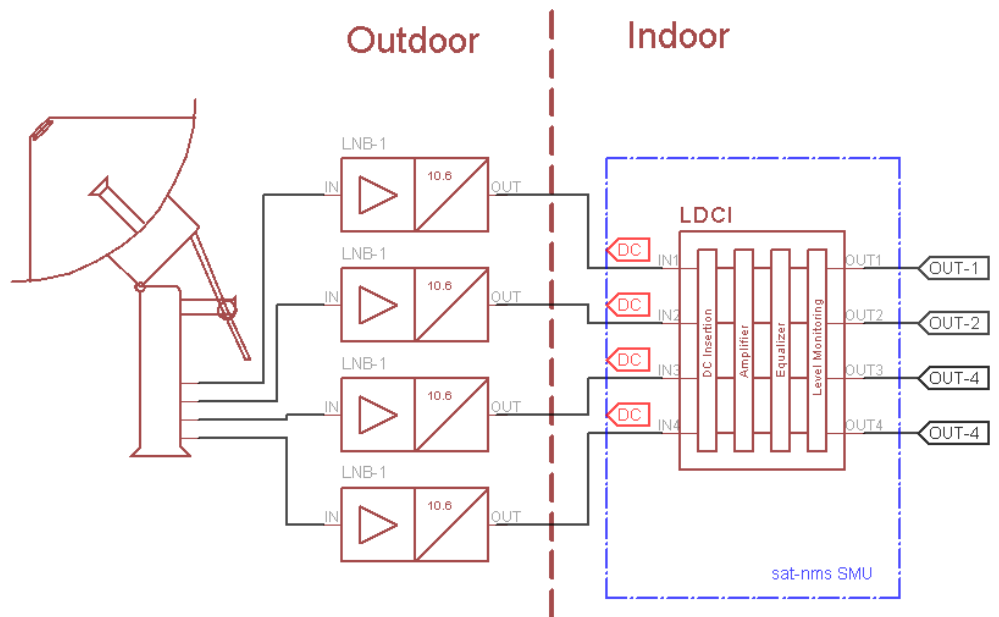
1:1 Backup Signal Switching System without DC Supply

- Backup Switching
- Signal Strength
- Level Monitoring



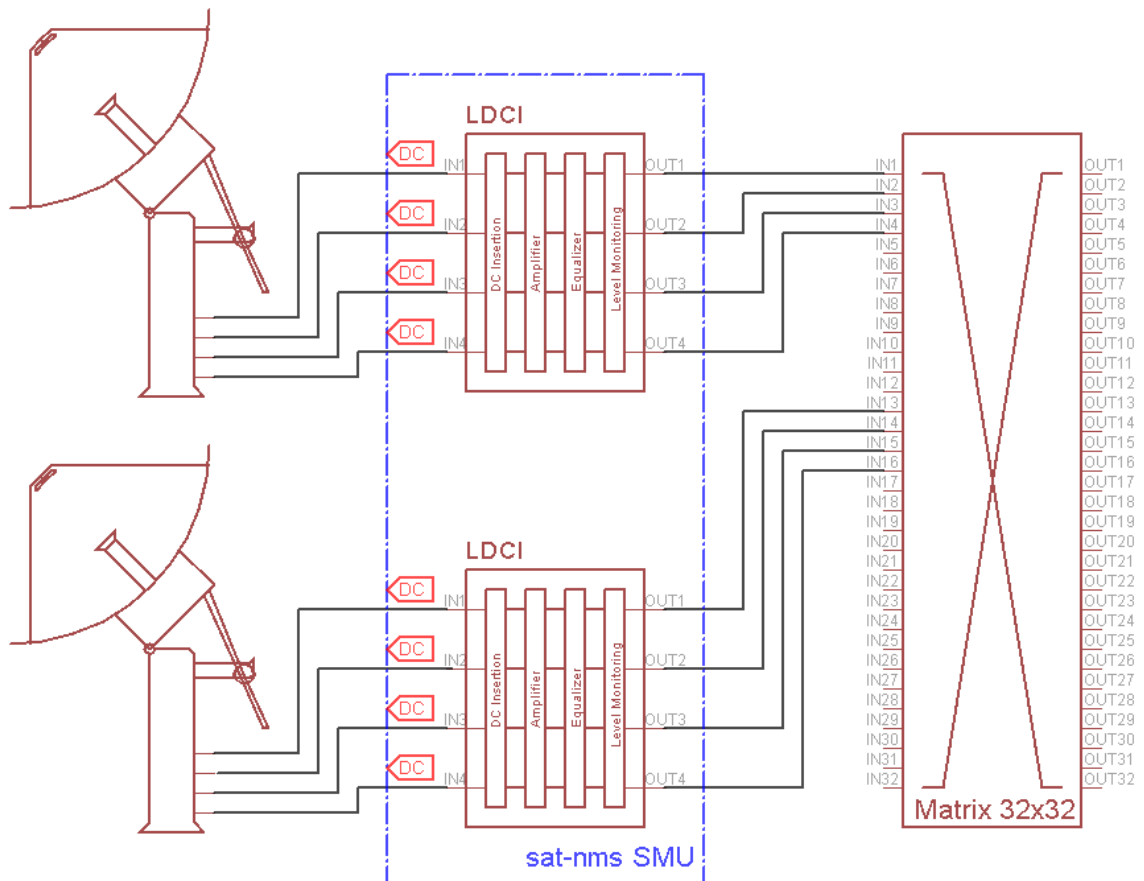
DC Inserter for LNB/LNC

- DC Insertion
- Current Monitoring
- Adjustable Gain
- Adjustable Level
- Signal Strength
- Level Monitoring



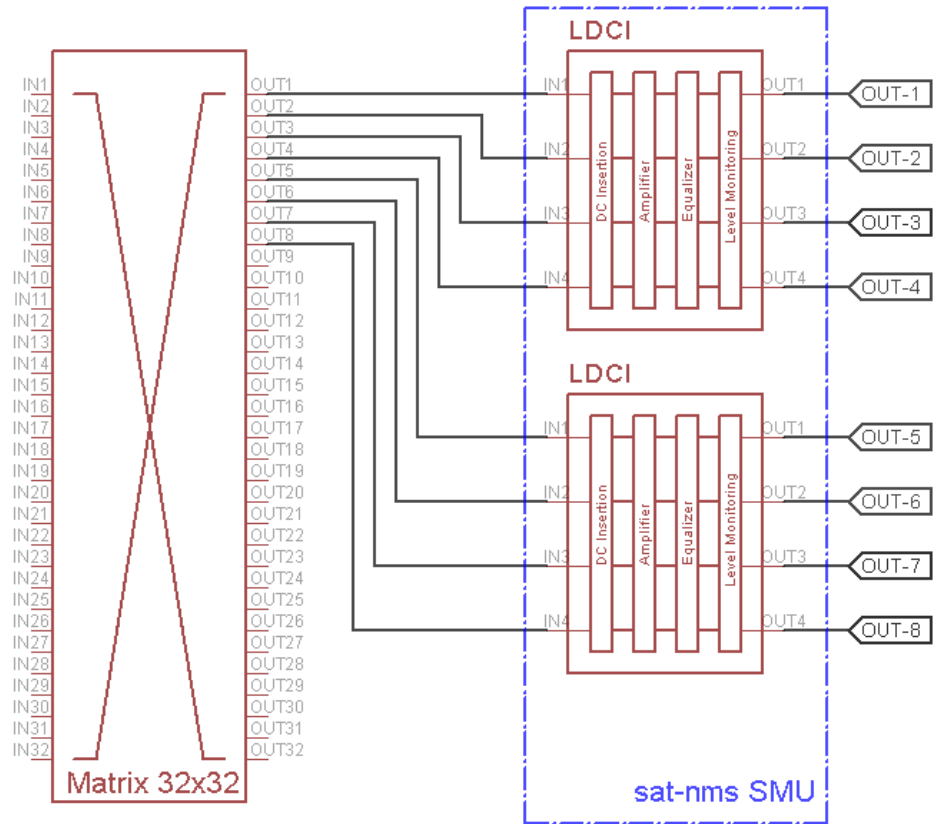
DC Inserter in Front of L-Band Matrix

- DC Insertion
- Adjustable Gain
- Adjustable Output Level
- Current Monitoring
- Signal Strength
- Level Monitoring



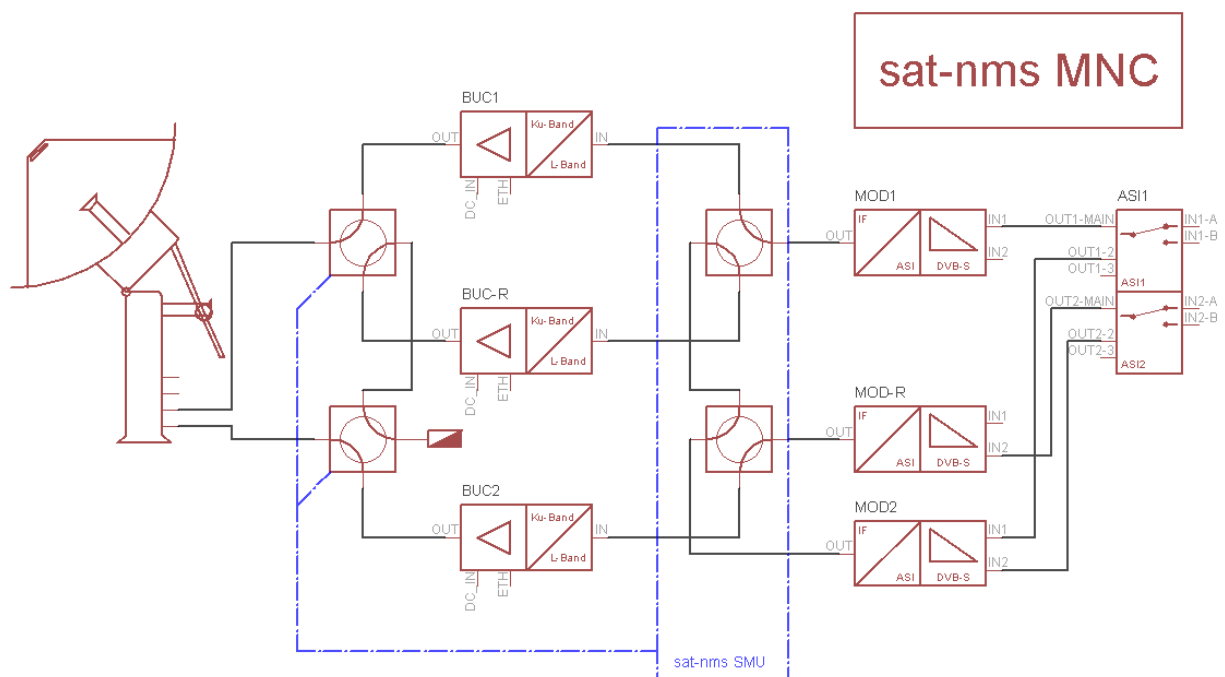
L-Band Line Amplifier for Output Signal Level Adjustment without DC Insertion

- Adjustable Gain
- Adjustable Output Level
- Signal Strength
- Level Monitoring



TX n:1 Redundancy Switching together with *sat-nms* MNC Monitoring & Control

- Modulators Parameter Mirroring
- via *sat-nms* MNC System Logical Device



sat-nms MPC (Multipurpose Chassis)

The **sat-nms** MPC (Multipurpose Chassis) can be fitted with variations of different card modules. The chassis provides the remote M&C interface via web-browser, SNMP, HTTP GET functions and RS232 interface.

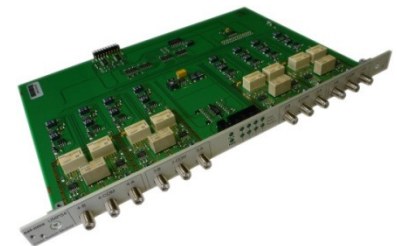
It is equipped with two hot-pluggable power supplies. As an option the 2RU 19" rack-mount chassis also provides an LCD display and keyboard for local control. One **sat-nms** MPC can handle up to 5 hot-pluggable modules. This flexible system chassis is able to be fitted with a combination of different modules to meet your system requirements.



sat-nms UMPS (Universal Multipurpose Switch)

The module **sat-nms** UMPS (Universal Multipurpose Switch) with integrated DC inserter, IF input level monitoring and automatic switch functionality is a highly sophisticated module designed for professional satellite receive applications or signal backup switching.

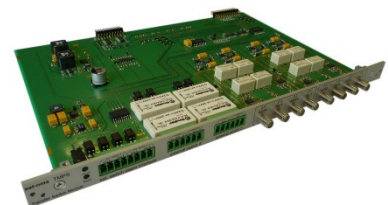
Each **sat-nms** UMPS module contains four coaxial latching IF 2-way switches (SPDT). The input ports are able to supply DC voltage to an LNB and performs monitoring of the input signal power. This enables the **sat-nms** UMPS to switch automatically to the second source if the input level falls below the adjustable thresholds. In cases where the DC insertion is not required, there is a module available with an extended frequency range of 5MHz to 3000MHz.



sat-nms TMPS (Transfer Multipurpose Switch)

The module **sat-nms** TMPS (Transfer Multipurpose Switch) with integrated DC inserter, IF input level monitoring, WG switch drivers and automatic switch functionality is a module designed for professional satellite receive applications like LNB Redundancy Switching Systems.

Each **sat-nms** TMPS module contains two coaxial IF transfer switches (DPDT) and two waveguide switch driver outputs that are virtually connected to the transfer switches on the board. The coaxial input is able to supply DC voltage to an LNB and performs monitoring of the input signal power. This enables the **sat-nms** TMPS to switch automatically if the input level falls below the adjustable thresholds (DC Current and/or IF Signal Level). Integrated on the same card are 4 auxiliary inputs as external alarm inputs.



sat-nms LDCI (Line Amplifier DC Inserter)

The module **sat-nms** LDCI (Line Amplifier DC Inserter) with integrated adjustable line amplifier, DC inserter and L-Band input level monitoring functionality is designed for professional satellite receive applications like LNB DC Insertion.

Each **sat-nms** LDCI module is designed to support 4 LNBs with DC power and monitor their L-Band output signal power. All modules include RF gain adjustment and extensive monitoring functionality like LNB supply current with min/max current threshold.



Please refer to the dedicated module datasheet for additional info!