Tekron Communication Systems

RSS-2R RF-Broadband Automatic Switch

The RSS-2R is a Broadband Automatic Switch, designed for the redundancy of CATV feeds in Headend and Hub sites. It monitors the RF Broadband feeds of the main and backup input feeds for automatic switchover to the backup input when the RF level of the main feed drops below its threshold setting, with automatic return on signal restoration.

The RSS-2R automatic switch covers a wide input RF level range and thus can be used to monitor feeds before or after Broadband amplifiers after Fiber receiver, or monitor a single TV channel in the 5 MHz to 1GHz CATV Band. It is designed for continuous and independent monitoring of both main and backup Broadband level inputs and will only switch to the backup input feed when the RF level of that input is above its threshold setting.

The RSS-2R incorporates front-panel switch override capability as well as indication of switch position & level status. An Ethernet/IP port is available for remote monitoring, alarm and control of the RSS station via SNMP protocol & Web-page. A serial port is also available for connection to modem for dial-up DTMF-tone (phone) switch control in emergency situations. The remote control of the switch overrides in this case, the RSS switch automatic operation as well as the front panel toggle switch. Optional special back-chassis terminal connections can be added for local monitoring and switch control via contact closure.

For applications where a number of Broadband feeds need to be monitored/switched at the same site, for the redundancy for example of (Driver or Launch) broadband amplifiers in the Headend, other multi-switch models are available that incorporate (2, 3 & 6) independent automatic broadband Switches in a single chassis, for saving frame-rack space at the site, with a single TCP/IP connection to the Network.

Other versions of the RSS automatic switch are also offered for the redundancy of:

- **Split-Band RF-Broadband feeds**
- **L-Band (LNB) Broadband feeds**
- **Analog & Digital video/audio channels**
- **DVB-ASI & SDI Digital TV Channel feeds**

Tekron Communication is specialized and offers solutions to Remote Site Switching Monitoring & Remote Control (SMC) applications in CATV Headend/Hub sites and Broadcast transmission sites.

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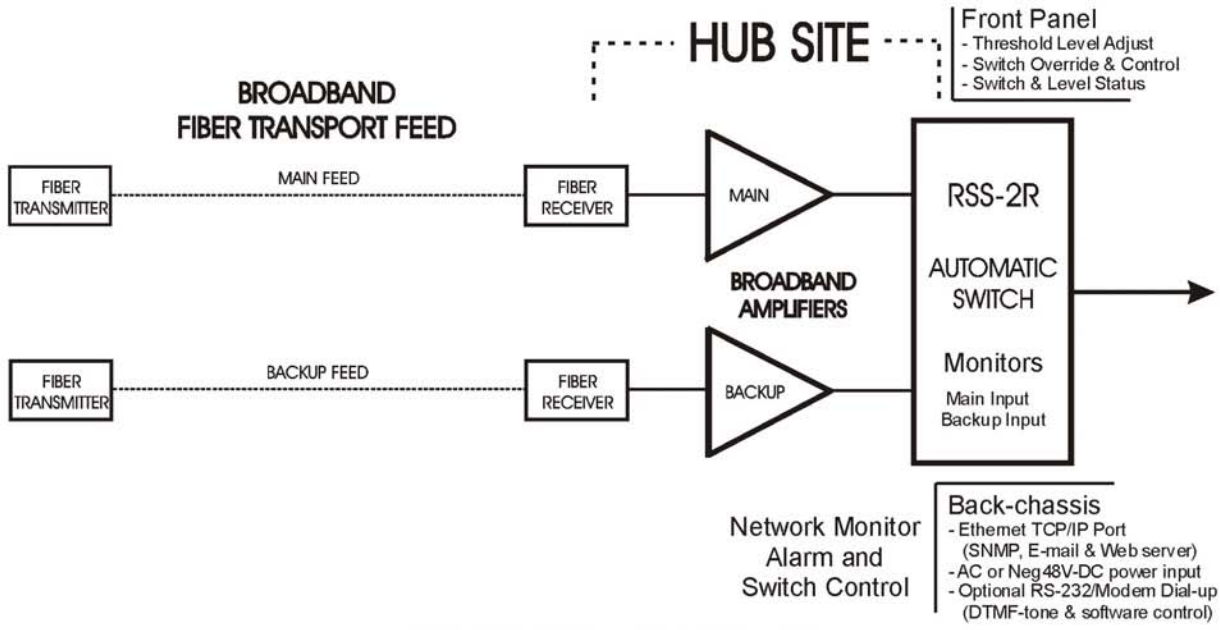
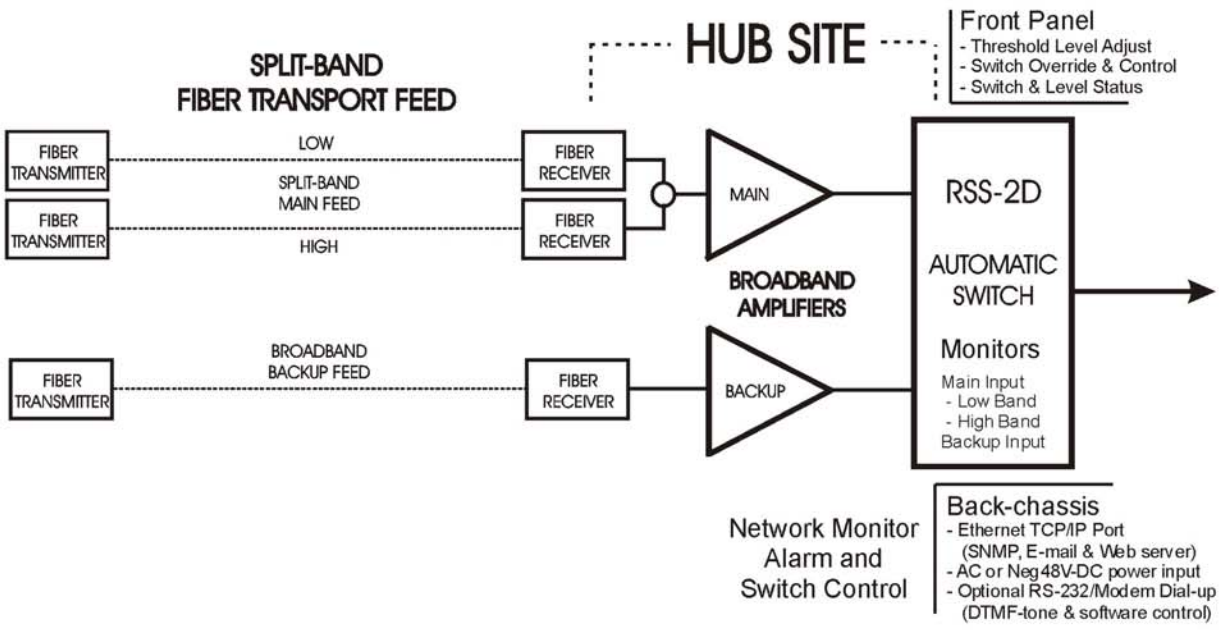
REDUNDANCY SWITCHING OF RF BROADBAND FEEDS FOR HUB SITE APPLICATIONS





MEGA HERTZ

GENERAL FEATURES & OPTIONS:

Fail-safe during power loss: On power loss to the unit, the RSS-2R will pass the main input Broadband feed.

Internal RF Termination: Unselected input is internally 75-ohm terminated.

Automatic Switching: Backup input is monitored to prevent blind switching to that input and to send alarms when its level drops below the Threshold setting.

Local status & control: Front panel toggle switch to override and manually control the switch. Separate LED indicate each of the main & backup input status, switch position and switching (automatic or manual) mode.

Remote Status & Control: Remote status monitoring, alarm and switch manual control over TCP/IP Networks with SNMP protocol and from the (embedded Web-server) Web-page. Optional back-chassis relay & contact closure are can be installed to provide status (1-formC relay) and switch control via contact closure and interface with existing Telemetry system at the site, and DB-9 for dial-in DTMF phone switch control with external modem.

NEGATIVE 48Volt Supply: Optional NEG 48V-DC internal supply available.

INPUT SWITCHING & FEATURES:

RF sensing & Threshold switch adjustment: The main and backup input Threshold levels, at which the RSS-2R automatically switches to the backup input and return to the main input are front panel and separately adjustable.

Hysteresis level adjustment: The Hysteresis approximate value in dB can be changed remotely over IP from the Web-page. This the value that separates the Threshold level below at which the RSS automatically switches to the backup input and the level at which it switches back to the main input.

Prevent switching to backup input: Automatic switching to the backup input is prevented while it is below its Threshold level setting, unless this feature is remotely disabled from the Web-page or via SNMP.

Disabling switch back to main input: The automatic return of the switch can be disabled remotely (via Web-page, SNMP or dial-up DTMF). This feature is intended to protect against excessive switching in the event of an intermittent problem of the input feed. It maintains the switch in the backup position while the technical staff investigates and resolves the problem.
By default, the RSS-2R automatically switches to the back-up input when the main input level drops below to its pre-set (threshold) level, and automatically returns to the main input when its level to that of Threshold + Hysteresis.

Manual switch: A front panel 3-way toggle switch is available to override the switch automatic operation and select the main or backup inputs. Front panel LED indicates input selection. The switch remote control (from Web-page, via SNMP or by DTMF) is designed to also override the front panel toggle switch.

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RSS-2R
RF BROADBAND AUTOMATIC SWITCH

SPECIFICATIONS

Automatic Switch:	Two independent (2X1) RF-Broadband switch
Switch Freq. Band:	5-1000 MHz
Nominal Level Input:	+25dBmv to +60dBmv
Insertion Loss:	1.0 ±0.25 dB throughout CATV Band 5-1000 MHz
Slope:	Maximum 0.5dB from 5-1000MHz
Return Loss:	20dB minimum for inputs and output 5-1000MHz
Isolation:	70dB minimum 5-800 MHz - 65dB min. 800-1000MHz
Sensing Circuitry:	Monitor RF-Broadband level of main & backup inputs **Optional:** Monitor main input level increase
Switch Threshold:	35dB front panel Threshold adjustable range, Separate for main and backup inputs
Hysteresis:	Adjustable remotely from the Web-page in 0.1dB steps from 0.0 to 99.9 dB to protect against RF level fluctuation
Switch Delays:	Remotely adjustable delays before switching to backup input and return to main input, with setting 0–999 seconds
Fail-safe:	Switch back and/or passes the main input on power loss
Switch Control:	Overrides automatic switch operation and manual control: - Front toggle switch (optional back-chassis connections) - Remote control via Ethernet/IP (Web-page & SNMP) port - Remote (option) DTMF-phone control RS232/modem port
Monitor & Alarm:	Status indication of switch position and input levels - Front panel status LED indication - Ethernet/IP Network SNMP alarm & status monitoring. from Web-page and with SNMP protocol. - **Optional:** Back-chassis Terminal plug-in connections
Network settings:	Remote Setting capability from Web-page over IP-Network - Prevent automatic return to primary input after failure - Ignore backup input status for automatic switching - Set switch delays and Hysteresis
Chassis:	19" Rack-mount, with 85-235 Volts AC input **Optional:** NEG 48V-DC internal power supply

MEGA HERTZ

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AUTOMATIC SWITCHING PRODUCTS

TCP/IP Network remote monitor Alarm and Control capabilities

RMS-RSS monitoring & automatic switching products incorporate TCP-IP & RS-232 port for remote monitor/alarm & controls over IP-Networks and dial-up line.

ASI-SDI-SMPTE310M Digital Automatic Redundancy Switch

RSS1-ASI DVB-ASI Dual-Output (1-RU) 2X1 Automatic Switch
RSS-2ASI ASI/SDI/SMPTE Channel Dual-switch Automatic Switching (1-RU) Station
RSS-6ASI ASI/SDI/SMPTE Channel Six-switch Automatic Switching (2-RU) Station

CATV BROADBAND & Channel Redundancy Switching

RMS-2RC Freq-Agile Dual RF-Pilot Channel Automatic Redundancy Broadband Switch
RSS-2R CATV 1GHz Broadband & QAM channel Automatic Redundancy Switch
RSS-2D CATV 1GHz Split-Band Automatic Redundancy Switch
RSS-3T CATV 1GHz Broadband Triple-switch Automatic Switching (1-RU) Station
RSS2-T CATV 1GHz Broadband two-switch Automatic Switching (1-RU) Station
RSS6-T CATV 1GHz Broadband six-switch Automatic Switching (2-RU) Station
RMS-2V Frequency agile TV channel Signal Monitor/alarm and Control station

Satellite LNB/L-Band Automatic Redundancy Switch

RSS-2L L-Band/LNB Dual-switch Automatic Redundancy Switching (1-RU) Station
RSS-6L L-Band/LNB Six-switch Automatic Redundancy Switching (2-RU) Station

Digital & Analog Video/Audio Channel Automatic Switch

RSS-2B Video/Stereo-audio +SAP (3X1) Digital/analog Channel Automatic Switch
RSS-2VAS Video/Stereo-audio (3X1) Digital Channel Automatic Redundancy Switch
RSS-2VD Video/Stereo-audio (3X1) Digital Channel Automatic Redundancy Switch
RSS-4Eng Video/Stereo-audio (5X1) Digital/analog Channel Automatic Switch
RSS-2AS Stereo-audio (3X1) Automatic Redundancy Switch

Digital & Analog Video/Audio Channel Automatic Switching Stations

RSS-2AV Video/Stereo-audio +SAP Dual-switch Automatic Switching (1-RU) Station
RSS-6AV Video/Stereo-audio +SAP Six-switch Automatic Switching (2-RU) Station
RSS-2B4.5 Video/4.5MHz-audio Dual-switch Automatic Switching (1-RU) Station
RSS-3RV Hybrid Video-Monitor & RF-Channel three-switch Automatic Switch Station