

## **RSS-2B Video & Stereo-Audio +SAP Automatic Redundancy Switch**

The RSS-2B station is a 3X1 automatic switch designed to switch automatically between three (3) Video and Stereo (Left/Right) +SAP Audio input channels, based on video and audio status of the main and backup input channels. It is designed to work with ATSC digital channels and MPEG decoders as well as NTSC & PAL analog channels.



The RSS-2B monitors independently video Sync level, Black and freeze-frame picture failure conditions, as well as the left & Right audio levels of the main and the backup input channels.

It monitors independently both the main & backup TV channels for its automatic switching operation and alarm monitoring. For that purpose, it incorporates level adjustable Thresholds and delays with built-in Hysteresis, for each signal being monitored.

The RSS-2B automatic switch is designed for Fail-safe operation, to pass the main video/audio inputs on power loss. During its operation, unselected video inputs are 75-ohm internally terminated.

When both main and backup inputs being monitored are in alarm condition, the RSS-2B switches automatically to the third external video/audio (emergency) input. It will automatically switch back upon signal restoration with a built-in adjustable return delay that are remotely set from the Web-page.

The RSS-2B addresses the need for the redundancy of TV channels received over digital transport links such as DSR (Digital Satellite Receiver), Fiber transport feeds or off-air ATSC channel and MPEG decoders, in which case the video-sync is regenerated by the receiver and always present even in the absence of the channel. The RSS-2B thus offers a complete solution as it monitors L&R audios, video-sync level and video frame-freeze failure condition.



The RSS-2B switch can be manually controlled from the front panel, or remotely over TCP/IP Networks to override the switch automatic operation.

The TCP/IP-port incorporates SNMP protocol for alarm, monitoring & control by “Network Operation Center”, an embedded Web-Server that allows regional & local technical personal remote access for status monitoring, switch override/control and remote settings from a Web-page using any standard Web browser, and automatic E-mail text-message Alarms.

The RSS-2B is designed for the redundancy of TV channels received at remote CATV Headend/Hub and Broadcast transmission sites, for local access channel program automation, as well as ENG and channel sharing automatic switching applications.

## **FEATURES**

Tekron Communication incorporates in all RSS automatic switching products a bypass switching design to maintain channel at the switch output during power loss to the RSS chassis and the RSS-2B is no exception. In addition, a DRP-3 option is available to provide internal redundant power supply and failure alarm to all RSS switching products.

The RSS-2B switches to the backup input when the video or the audio parameters being monitored are in alarm condition after a set (remotely adjustable) delay. When both main and backup channel inputs are in alarm, the unit switches to the third (emergency) input. It automatically switches back to the backup or the main input upon signal restoration of either or both inputs, after an (remotely adjustable) delay. For the audio to be considered in alarm condition, both left & right audios must be below their respective Threshold settings.

The built-in delays (before alarming & switching) on channel loss & restoration are remotely set from the Web-page over IP-Network or via SNMP. For added protection, the Threshold circuit is designed with built-in Hysteresis between input drop and restore conditions.

Front panel status LED are available to indicate video and audio presence and switch position for each switch module in the chassis, with a toggle switch for local switch override and control in addition to the Ethernet remote monitoring/alarm and switch control capabilities.

The front-panel toggle switch allows the operator to override the RSS switch automatic operation to force the switch to either the main or backup inputs. The remote override on the other hand, allows the operator to select/switch to any of the three inputs, and override the front panel toggle switch.

## **APPLICATIONS**

The RSS-2B Video/Audio Automatic Switch is used primarily to provide Redundancy to studio video/audio feeds received at remote Broadcast transmission sites or a CATV Headend, for which an internal color-bar video & audio-tone generators can be installed as third (emergency) input.

The RSS-2B can also be used for automatic switchover to alternate feeds for channel sharing in CATV & uplink applications, for CATV community & PEG channel program automation, and EAS channel switchover protection.

# **RSS-2B Specifications**

## **Video and Stereo Audio +SAP**

### **Automatic Redundancy Switch**

#### **DETECTOR SPECIFICATIONS:**

- Status indication when video sync pulse drops below preset threshold level.  
(Default setting is 20 IRE, with  $\pm 2$ IRE of Hysteresis)  
An internal adjustment is available with 15 to 35 IRE range.
- Status indication when video is at Black level or in freeze-frame condition.
- Status indication when Left or Right audio level drops below threshold level.  
(Default setting -30dB, with internal adjustment range -20 to -40dB)
- Built-in delay before switching that can be remotely set for each video & audio feed being monitored. Typical setting is 20-30 seconds for video and 1 minute for audio.
- Built-in delay before switching back to main or backup inputs.  
(Typical setting 10 seconds with remote adjustment capability)

#### **INPUT/OUTPUT SIGNALS:**

Three (3) video and separate Left/Right and SAP audio inputs are available to switch to one output. Tekron Communication RSS-2B switches automatically between inputs based on their priority and video/audio signal condition, with automatic switch back after each signal restoration. It is designed to pass the primary input during a power loss.

- Video 1 volt p/p input level  
Audio +8 dBm input level (Left & Right)
- Video 75-ohm with BNC connectors  
Audio 600-ohm balanced on terminal strip (Left & Right)

**REMOTE CAPABILITY:** - TCP-IP port for remote monitoring, alarm and switch control via SNMP protocol & Web-page over the Network, with remote Network & switch setting change.

**FRONT PANEL:**

- Video/audio input selection switch & status LED.
- Video and (L&R) audio presence detect & status LED.

**BACK PANEL:**

- BNC connectors for Video inputs and output.
- Plug-in terminal connections:
  - Balanced L&R audio inputs and output,
  - Monitor contact closure outputs, and control inputs.

**CHASSIS:**

- 1.75" high - 19" rack-mount.
- 90 to 240 Volt AC Supply.
- Optional NEG 48V DC internal power supply, And DRP dual-Redundant power & alarm.



## **AUTOMATIC SWITCHING PRODUCTS**

### **RSS Remote monitor Alarm and Control**

All RSS automatic switching products incorporate standard TCP-IP port for remote monitor/alarm & automatic override/control over IP-Networks.

### **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 Automatic Redundancy Switch**

**RSS-2R** CATV 1GHz Broadband Automatic Redundancy Switch

**RSS-2D** CATV 1GHz Split-Band Automatic Redundancy Switch

**RSS-3T** CATV 1GHz Broadband Triple-switch Automatic Switching (1-RU) Station

**RMS-2RC** Frequency-Agile Dual AGC-Pilot Channel Automatic Redundancy Switch

### **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-2VD** Video/Stereo-audio (2X1) 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** Dual-switch Video/Stereo-audio +SAP Automatic Switching (1-RU) Station

**RSS-6AV** Six-switch Video/Stereo-audio +SAP Automatic Switching (2-RU) Station

**RSS-2B4.5** Dual-switch Video/4.5MHz-audio Automatic Switching (1-RU) Station

**RSS-3RV** Hybrid Video-Monitor & RF-Channel three-switch Automatic Switch Station