9611B

Switch and Distribution Unit

Summary

The 9611B switch and distribution unit is an intelligent switching, monitoring, and distribution system, packaged in a 1U rack-mount chassis.

The 9611B can be set up to distribute a wide range of signal formats: low noise sine waves, IRIG timecodes, or pulse formats from either one of two inputs to all twelve outputs. The 9611B allows the user to deploy one model type to support multiple signaling formats, which lowers support and logistics costs.

The 9611B provides for both manual and automatic switching. When in autoswitching mode, the 9611B will detect any input or output failure based on the signal type being propagated. In auto mode, any primary source input failure causes the unit to switch from primary to secondary source. Alarms will be indicated by all user interfaces including the front panel and command line interface.

User Interfaces

The 9611B is controlled through two user interfaces: front panel controls and indicators, and a command line interface (CLI) over a RS-232 serial port connection.

Front Panel Controls and Indicators

The 9611B processes two signal inputs (A and B). Either input may be designated primary and the other as secondary. In auto mode, the unit will automatically switch from primary to secondary in the event that the primary input fails. There are three push buttons (input A, auto, and input B) that allow the input mode to be selected. Pressing input A or input B will force the selected input to be sent to all channels to use the selected input. Pressing auto will activate the automatic switchover mode. The twelve LEDs, numbered one through twelve, are either green to indicate that the channel signal is present and active or red to indicate that the channel signal has failed.

When any alarm (A, B, or 1–12) is set, the alarm indicator turns from green (normal) to red (alarm). Once the failure is remedied, the alarm can be deactivated by pressing the alarm pushbutton, or issuing a command over the CLI. If the alarm is cleared, all alarm indicators return to the normal green color.

Command Line Interface

The 9611B instrument has a serial port interface. Communication between the instrument is achieved by running a communications program on a PC and connecting the RS-232 serial ports of the PC and 9611B through a serial cable.

Key Features

- Automatic selection of redundant inputs
- 12 outputs
- Flexible signal configuration
- RS-232 control port
- High channel isolation

Key Benefits

- Distributes multiple signal types:
  - RF 100 Hz–10 MHz
  - AM and DC IRIG timecode
- Comprehensive alarm reporting
- CE/UL-compliant

Certifications

- CE (compliant with RoHS 3 with Exemptions
- Emissions tests: EN 55032:201/AC:2013; KN 55032:2012; CISPR 32:2012; FCC Part 15 Subpart B (per ANSI C63.4:2014); Industry Canada ICES-003 Issue 6, January 2016; VCCI V-3/2015.04 and V-4/2012.04, A-0125, for a Class A Device; AUS/NZ.
- Immunity tests: EN 55024:2010; KN 55035:2012; CISPR 24:2010

Safety

- UL: 62368-1
- CSA C22.2 NO. 62368-1
- IEC/EN 62368-1

Specifications

Inputs (2)

- RF
  - Frequency: 100 Hz–10 MHz
  - Level: 1 VRMS (15 dB max)
  - Impedance: 50Ω or 1 kΩ
  - Isolation A to B: >85 dB nominal
- Pulse/DC IRIG time code
  - Frequency: 1 PPS to 10 MPPS
  - Level: 0–6 VPP
  - Duty cycle: 0% to 100%
  - Impedance: 50Ω or 1 kΩ
- AM IRIG timecode
  - Modulation frequency: Up to 1 MHz
  - Level: 0–6 VPP
  - Code format: Any IRIG format, IEEE 1344, NASA 36, 2137, XR3 Impedance: 50Ω or 1 kΩ

RF Isolation

- Input A to B at 100 KHz: 104 dB (at 10 MHz: 66 dB)

Status

- Senses signal presence on all inputs and outputs
- Green/red LEDs on front panel
- Relay contact close on rear panel
- RS-232 interface for monitor and control

Environmental and Physical Specifications

- Operating temperature: 0˚C to 50˚C
- Storage temperature: –40˚C to +70˚C
- Humidity: 10% to 90% non-condensing (operating), 5% to 95% (non-operating)
- Altitude (operating): 0 to 5,000 feet
- Power requirements: 100 VAC–240 VAC, 20W, 50 Hz–60 Hz
- Dimensions: 1.725" (height) × 16.98" (width) × 15.00" (depth)
- Weight: 7 lbs.

Ordering Information

Part number 9611B-02 Switch and Distribution Unit contact Microchip for pricing and availability.

Outputs (12)

- RF
  - Frequency: 100 Hz–10 MHz
  - Level: 1 VRMS (15 dB max)
  - Gain: 0 dB, jumper selectable at 1 dB, 2 dB
  - Harmonic: <–40 dBc
  - Non-harmonic: <–80 dBc
  - Load impedance: 50Ω
  - Isolation: 80 dB nominal
  - Additive phase noise (measured at 10 MHz, 10 dBm input level)
  - 1 Hz: –125 dBc/Hz
  - 10 Hz: –135 dBc/Hz
  - 100 Hz: –135 dBc/Hz
  - 1 kHz: –145 dBc/Hz
  - 10 kHz: –155 dBc/Hz
- Pulse/DC IRIG
  - Frequency: 1 PPS to 10 MPPS
  - Level: 5V, peak
  - Rise time: <20 ns
  - Fall time: <20 ns
  - Jitter: <200 psRMS
  - Skew: <±2 ns output-to-output
  - Load impedance: 50Ω
- AM IRIG timecode
  - Modulation frequency: Up to 1 MHz
  - Level: 0–6 VPP
  - Code format: Any IRIG format, IEEE 1344, NASA 36, 2137, XR3 Load impedance: 50Ω
- Alarm input
  - Normal state: 2.2V to 5.0V (TTL high). Configured through CLI. Can be high or low.
  - Alarm state: <0.8V (TTL low)
  - Connectors: BNC
  - Quantity: 2 (1 for A input and 1 for B input)
  - Enable/disable: Configured through CLI. Default is disabled.

9611 Back View