

Diversity Switch

Receive Diversity & Hot Standby Switch



Applications

- Receive diversity switching providing “errorless” data protection for digital data streams
- Hot Standby Switching for analog or digital paths

Features

- Independant switching for analog and digital sections
- Upgradable from hot standby digital to receive diversity “errorless” switching
- Dual power supply backup protection

Digital Features

- ATSC (19.39 Mbps) Receive Diversity “errorless” switching using internal MRC QM2 Demodulators and Diversity Control Module
- Hot standby switching of dual ATSC streams using alarm based detection

Analog Hot Standby Features

- Hot Standby protection for MRC FLR, DAR, TwinStream, or DAR Plus transmitters and receivers
- Switching for 2 analog channels with NTSC or PAL video and audio

Overview

The MRC Diversity Switch is a versatile solution for providing both hot standby backup protection and diversity switching in a single shelf. The Diversity Shelf is divided into two distinct analog and digital sections which operate independantly of each other: an analog hot standby section for two audio/video paths, and a digital section providing “errorless” switching for two ATSC (19.39 Mbps) data streams.

The analog hot standby side of the shelf provides outputs for two NTSC or PAL audio and video channels. The hot standby section operates independantly of the digital section which switches using alarm signals from the logic board.

For errorless diversity switching, two internal QM2 demodulators and a Diversity Control Module are installed in the digital side of the shelf. The control module monitors, buffers, and clocks both data streams from the demodulators and outputs the errorless stream.

The MRC Diversity Shelf provides for expansion. Use the shelf as an analog audio/video hot standby. Upgrade to diversity switching with the addition of the Diversity Control Module and QM2 Demodulators. Note that “errorless” diversity switching is only available with the internal plug-in QM2 Demodulators.

SPECIFICATIONS

ELECTRICAL

Power Consumption
 Shelf (front panel & logic): 25watts
 Receiver, unprotected terminal: 55 Watts typical
 Power Supply Voltages: 110/240 Vac or 24/48 Vdc
 Switching Power Requirements: 5 watts

ENVIRONMENTAL

Operating Temperature Range: 0° to +50°C
 Relative Humidity: 0 to 95%, non condensing

PHYSICAL

Height: 3 rack units: 5.25" (13.34 cm)
 Depth: 15.0" (38.1 cm)
 Weight: 22 lbs (10 kg)

SWITCH ACTIVATION:

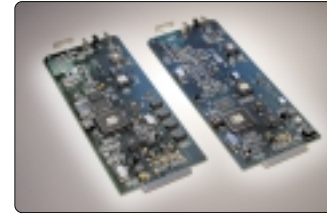
Rx: Summary Alarm Insertion Loss

ISOLATION

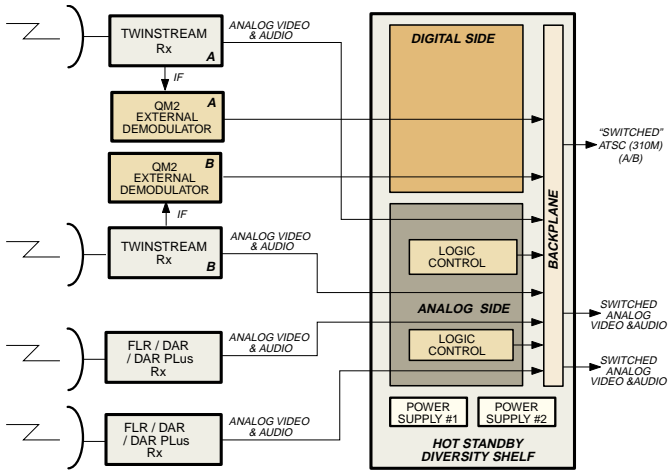
Rx Video Switch: >70 dB
 Switching Time
 Rx: <10 msec Pilot (radio)
 Standard: 9.923 MHz
 Optional: 8.5 MHz

LOGIC CONTROL CARD

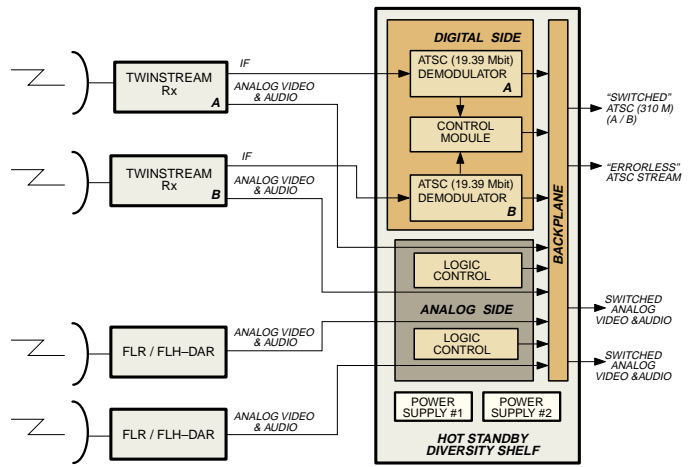
901012-1 (Rx)



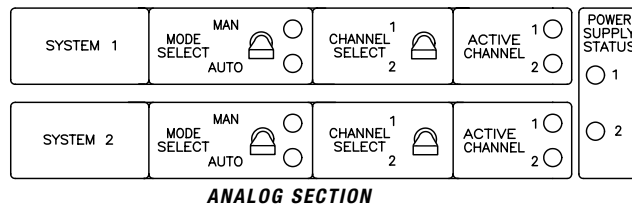
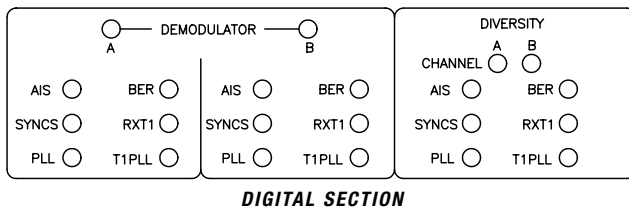
QM2 Plug-in Module



Hot Standby Configuration used to switch the TwinStream Analog and Digital Channel using Rack Mounted QM2 Demodulator. The analog side of the shelf can additionally be used to switch an additional audio/video channel.



Diversity Configuration used for errorless switching of the TwinStream Digital Channel using internal QM2 Demodulator. The analog side of the shelf shows hot standby protection of the TwinStream analog channel. The analog side of the shelf can additionally be used to switch an additional audio/video channel.



Diversity Shelf Front Panel Controls and Display



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