Overview

The 5600ACO2 Automatic Changeover is used with two 5600MSC Master Clock / Sync Generators. The 5600ACO2 system uses latching relays to ensure maximum reliability and minimal disruption in the event of any failure. The complete system provides the highest level of security for television station video and time synchronization systems. Two power supplies alleviate single point of failure concerns.

Fifty-Six LEDs provide status information as to the health of the two 5600MSCs. Two GPO outputs indicate which master is active, and when the inputs from both masters are not the same.

Manual Switching

Three switches are recessed into the front panel for added security: an AUTO / MANUAL switch, a GPI / FRONT PANEL switch, and an A / B select switch. In manual mode the changeover can be operated from a GPI or from a front panel switch.

Automatic Switching

In automatic mode, all signals from both 5600MSCs are scrutinized to detect any abnormalities.

When an error in level, pulse width, phase, time code, or other abnormality is detected, the 5600ACO2 circuitry triggers, and signals are switched to the backup 5600MSC.

For detailed instructions on switching please see the 5600ACO2 manual

Terminating Issues

In automatic mode, one of the two input paths is designated as the backup path, and automatically terminated internally by the 5600ACO2.

A problem arises when the “primary” or “active” path is NOT terminated.

If a reflection from the un-terminated end causes a null or near null at the sampling point, the 5600ACO2 automatically “thinks” there is a problem and switches to the backup input channel. That causes it to rapidly switch between the two channels, playing havoc with a broadcast signal.

Don’t Use Patch Panels

This problem often occurs when inputs from the 5600ACO2 are routed to a patch panel. A patch panel is for making fast and easy connections, but when a cable is unplugged that path is suddenly un-terminated, resulting in a rapid changeover condition as the 5600ACO2 does its best to determine which input feed is superior.

Terminate ALL Outputs

When an output path is terminated, the 5600ACO2 "sees" that the circuit is closed, and is forced to "choose" the correct signal.

- Terminate all "in-use" outputs, preferably by sending them to a Distribution Amplifier (DA).
- Apply a terminator to open or unused output connections on the 5600ACO2.
- As an added precaution, terminate unused inputs also.

Figure 1: BNC Terminator

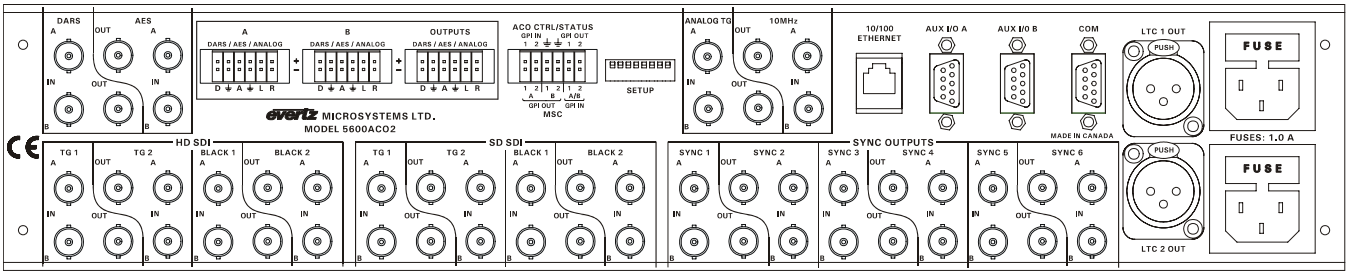

Figure 2: 5600ACO2 Rear Panel

Use Short Cables

Outputs from the 5600MSC to the 5600ACO should be short loops.

Long cable runs between the 5600MSC and the 5600ACO2 can contribute to signal deterioration. Short cables work better.