

The CHO-3360 is an automatic/manual changeover module compatible with SRM frames. It accepts three $3 \mathrm{G} / \mathrm{HD} /$ SD-SDI inputs and provides two independent groups of outputs. The clean and quiet switching can be triggered manually through GPIs and UI, or automatically based on the defined rules and priorities.
The CHO-3360 performs the frame synchronization and the switching operation with respect to the input reference signal or a free-run clock. It also supports embedded audio channels and ancillary metadata.
The module offers a relay-protected output for maintaining reliability in the signal chain. It provides multiple identical outputs per path to cut out the chain's need for additional distribution amplifiers. Monitoring and configuration are possible through a user-friendly web interface. GPOs show the chosen source of the first path.

## Key Features

- Automatic 3G/HD/SD-SDI detection
- Bypass relay protection on first output
- Independent two output paths
- Four identical outputs for first path and Two identical outputs for second path
- Automatic or manual clean and quiet (v-fade) switching
- User-definable priority for the inputs in automatic mode
- GPIO control \& monitoring in manual mode
- Frame synchronizer and audio SRC with Tri-level / Bi-level reference input
- Embedded audio and ancillary data support
- Web interface remote control
- Remote Firmware Upgrade


## Back Panel



## Block Diagram



Specifications

| Digital Video Input |  | Digital Video Output |  |
| :---: | :---: | :---: | :---: |
| Signal type | 3G/HD/SD-SDI | Signal type | 3G/HD/SD-SDI |
| Standards | SMPTE 292M, SMPTE 259M, SMPTE 424M | Standards | SMPTE 292M, SMPTE 259M, SMPTE 424M |
| Number of inputs | 3 | Number of outputs | $4+2$ |
| Impedance | $75 \Omega$ | Connector | BNC |
| Connector | BNC | Impedance | $75 \Omega$ |
| Voltage level | $800 \mathrm{mV} \pm 10 \%$ | Jitter | $\begin{aligned} & \text { <0.2 UI (HD, SD) } \\ & \text { <0.3 UI (3G) } \end{aligned}$ |
| Cable length | Automatic Compensation 3G/HD/SD: <br> 70/110/250 m (Belden 1694A) | Rise and fall time | $\begin{aligned} & <0.3 \mathrm{Ul}(3 \mathrm{G}) \\ & 0.4 \text { to } 1.5 \mathrm{~ns}(\mathrm{SD}) \\ & <270 \mathrm{ps}(\mathrm{HD}) \\ & <135 \mathrm{ps}(3 \mathrm{G}) \end{aligned}$ |
| Reference Signal Input |  | Voltage level | $800 \mathrm{mv} \pm 10 \%$ |
| Signal Type | HD: Tri-level, SD: Black Burst (PAL) | Overshoot | <10\% Amplitude |
|  |  | DC-Offset | $0 \mathrm{~V} \pm 0.5 \mathrm{~V}$ |
| Number of inputs | 1 | Electrical |  |
| Impedance | $75 \Omega$ | Voltage | +12 VDC (from frame) |
| Connector | BNC | Power | <15W |
| GPI/O |  | Environmental |  |
| Connector | 15 Position D-Sub (3-Row, Receptacle) | Temperature | $5^{\circ} \mathrm{C}$ to $40^{\circ} \mathrm{C}$ |
|  |  | Humidity | 0\% to 90\% |
| GPIO voltage | 12V |  |  |
| GPI Type | Active level and trigger type are user selectable |  |  |
| Number of GPIs | 6 |  |  |
| Number of GPOs | 3 |  |  |
| Max. GPO current | 1.2 mA |  |  |
| Other pins | 6x GND |  |  |

System Requirements

| Type | Product | Description |
| :--- | :--- | :--- |
| Frame | SRM-0645 | 1RU Frame with Controller |
|  | SRM-0655 | 3RU Frame with Controller |

## Ordering Information

| Order Code | Description | Type |
| :--- | :--- | :--- |
| CHO-3360 | 3G/HD/SD-SDI 3x2 Changeover Main Board | Main Board |
| CHO-3360-3DRP-R | Back-panel for CHO-3360 with relay protection (compati- <br> ble with SRM-0655) | Back Panel |
| CHO-3360-1DRP-R | Back-panel for CHO-3360 with relay protection (compati- <br> ble with SRM-0645) | Back Panel |

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