

General:

The Maxtron HD-5700/5701 are dual channel critical path routers for high definition 1.5Gb/s or standard definition 270Mb/s serial digital video signals and the AES3 audio stream. The two designs offer users the flexibility of field upgrades of performance and features.

The HD-5701 is the low-cost manual control 2 x 2 switcher. The user decides when to switch to the backup inputs. The switch can be initiated via GPI contact closure or RS-232 commands.

The HD-5700 offers unattended operation. It monitors the SDI and AES paths and automatically switches when the input signal is lost or becomes invalid based on a programmable set of input signal parameters. The main program (PGM) or the back-up input (PRV) signals can be automatically be routed to the primary program outputs (Protected) to ensure the delivery of a valid program output in the case of an input signal fault. The HD-5700 also provides two re-clocked primary outputs, and one re-clocked backup output. The program output is bypass relay protected and provides protection on the program path if power to the is lost. Optionally, the HD-5700 offers wired or wireless network control and monitoring.

Each model is housed in a half-rack wide, 1RU high enclosure. Rack mounting or desk top operation is available. Power is supplied from external power supplies. Redundant power supplies available.

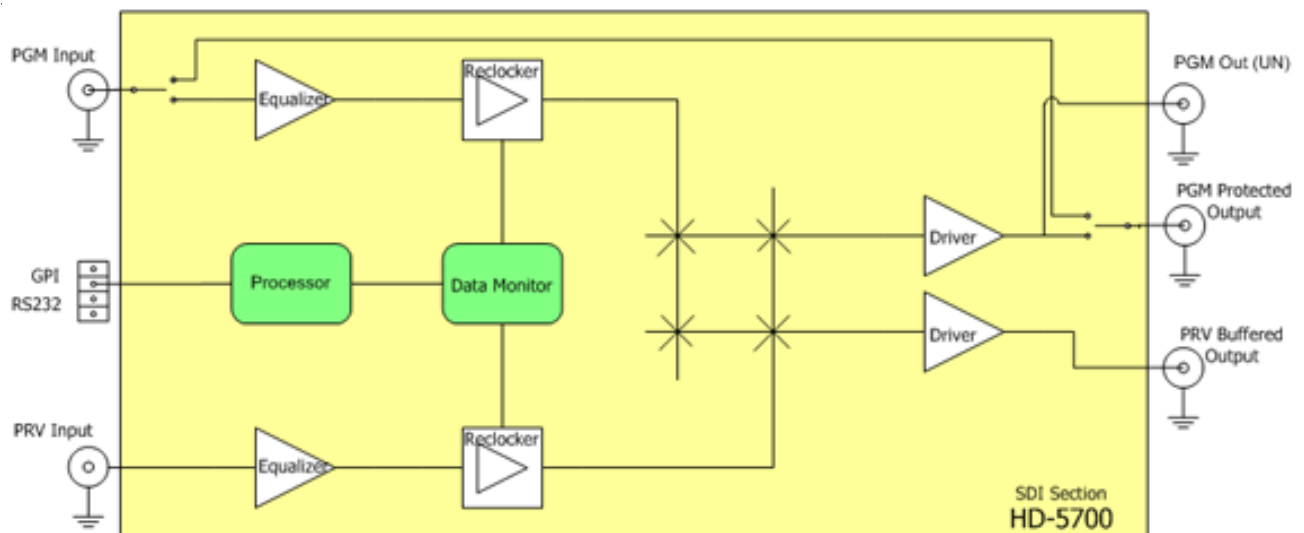
Features:

The following features are common to both models:

- Automatic bypass of the main channel to the protected output upon power failure
- Switching can be controlled and monitored through the RS-232 serial port
- When there are redundant inputs, the cross over time to the backup signal is nearly instantaneous
- Switching can be controlled through the use of module GPIs
- Support for HD and SD SDI inputs per SMPTE 292M and SMPTE 259M-C

The HD-5700 offers the following expanded features:

- Auto sensing of HD, SD and AES3 input formats
- Automatic change-over based on input signal monitoring
- Generation of two re-clocked program outputs and one preview output (HD if HD inputs are applied, SD if SD inputs are applied)
- Front panel LEDs for reporting signal presence, router state, module status
- Remote monitoring and control using TCP/IP protocols
- Optional Wi-Fi interface



HD-5701 HD/AES Protect Quick Start Guide

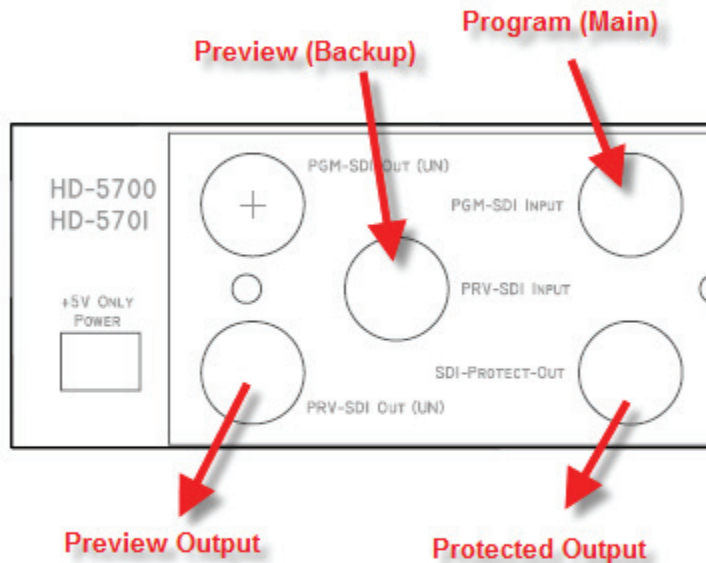


General

The HD-5701 is a dual 2x2 ultra-high frequency relay switcher designed for critical path applications. The two sections of the HD-5700/1 series are labeled SDI and AES. They are electrically exactly the same in the HD-5701 product. The HD-5700 version adds auto detection of signal path failure and can be programmed to automatically switch to the backup source. The HD-5701 does not monitor the signal paths and is only controlled manually.

Rear Panel Connections

There are two sets of identical BNC inputs/outputs on the rear panel. The left-most is shown below. The power-off / normal mode has the Program (Main) input connected to the Protected Output, and the Preview (Backup) input connected to the Preview Output. If the Preview Output is not used – please terminate it with 75 ohms.



The HD-5701 can be controlled via an RS-232 port or GPI inputs. The RS-232 port also allows monitoring the status of the switcher.

The serial commands are simple ASCII text strings of only four characters, the fourth character being a carriage return. The serial protocol is 9600 baud 8N1. The commands are case sensitive and listed below.

b 0 0 cr = bypass off

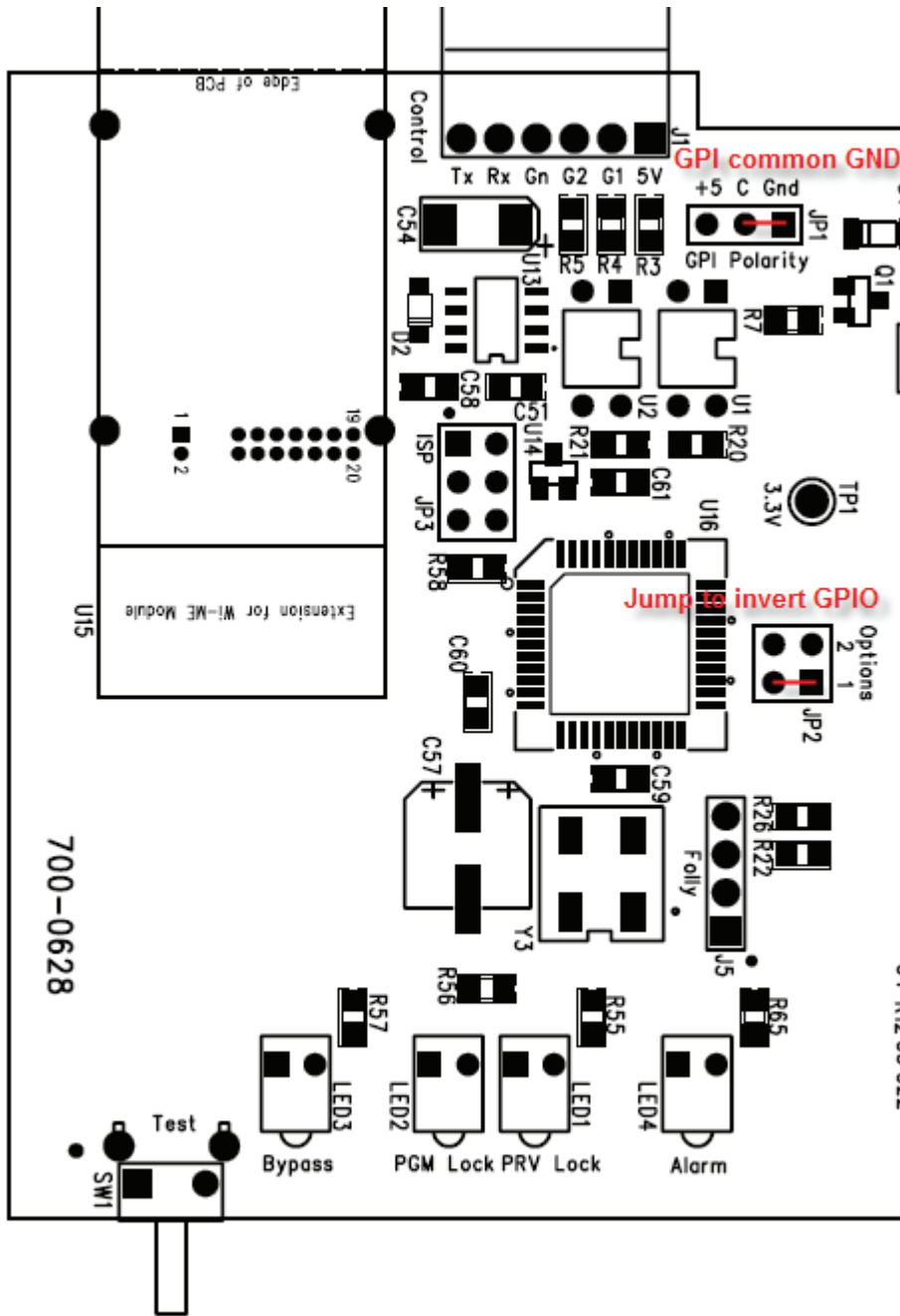
b 0 1 cr = bypass on

s 1 0 cr = query status

x 1 0 cr = query software version

The GPI inputs can be set to initiate bypass with a ground closure, a positive level input, or toggle on a transition. The GPI2 input is factory set to respond to a positive level input, such that

when a positive voltage is applied the HD-5701 goes into bypass. On GPI1, a positive level input will cause the unit to toggle states. The picture below shows the programmable jumpers which will change the factory settings. JP1 sets one end of the GPI optical couplers, as shown it is set to ground, moving the JP1 jumper to connect +5 & C – connects the couplers to +5V and the inputs then respond to a ground closure. A jumper (not supplied) on position 1 of JP2 inverts the logic. For example, with the factory settings, GPI2 goes into bypass with a positive input, if the user requires a positive input to be non-bypass, then placing a jumper at position 1 of JP2 will accomplish this inversion of logic.



There is a combination serial and GPI port two-piece connector at the rear panel. This is a spring-cage connector and requires no soldering. Simply strip the wire, twist if stranded to

confine the stands, push-in on the orange tab, insert the wire, and release the tab. This connector block unplugs from the HD-5701 for easy of maintenance.



The connector pin-outs are defined as:

- 5V Out – this is a 5V source isolated from internal power by a 100 ohm resistor. This is to be used if the GPI feeding the HD-5701 requires an external voltage source.
- GP1, GP2 – these are the general purpose inputs which are activated by a ground closure (factory default). The actions of these inputs are defined earlier in this document.
- Gnd – is system ground.
- Rx – is the RS232 receiver input.
- Tx – is the RS232 transmitter output.

Power Supply

The HD-5700 series operates from an external 5V source and draws approximately 100ma. The input connector conforms to the EIAJ RC-5320A standard as an EIAJ-02 connector with an OD 4.0mm, ID 1.7mm. The center pin is **positive**. A direct plug-in AC-DC adaptor is supplied with each unit.

Warranty

Maxtron warrants this product against defects in materials and workmanship for a period of three years from the date of purchase. In the event of malfunction during the warranty period attributable directly to faulty workmanship and/or materials, Maxtron will, at its option, repair or replace said products or components, to whatever extent it shall deem necessary to restore said product to proper operating condition, provided that it is returned within the warranty period, with proof of purchase and description of malfunction to:

Maxtron Products, Inc
9010 33rd Street, West
Rock Island, IL 61201

This Limited Warranty does not apply if the fault has been caused by misuse, improper handling, electrical or mechanical abuse, abnormal operating conditions or unauthorized modification to the product.

Units must be returned insured, with shipping charges prepaid. If not insured, you assume the risk of loss or damage during shipment. Returned units must include a description of the problem, as well as the name of the person to contact in case there are any questions.

Maxtron makes no further warranties either expressed or implied with respect to the product and its quality, performance, merchantability, or fitness for any particular use. In no event will Maxtron be liable for direct, indirect, or consequential damages resulting from any defect in this product even if Maxtron has been advised of such damage.

Regulations & Compliance

Maxtron designs follow industry standard methods for minimizing the effects of EMI and RFI interferences as either the source or a victim of such interferences. However, there were no measurements made or required to indicate the degree of compliance to any standard or recommendation. Also, no warranties are made as to the public safety of the design as this product uses a commercially supplied or specified power supplies and PCB materials. No Underwriters Laboratory approvals are suggested or inferred.