

General

The SD405A is a member of the Serialboxx® family of cards. The SD405A is a muxer designed to embed one group (two stereo channels) of analog or AES audio into a SMPTE 259 serial digital video signal.

The SD405A is designed to receive a serial digital video signal transmitted over 75 Ohm coaxial cable. An adaptive cable equalizer in the input circuitry provides equalization for long transmission lines to ensure that the high-bit-rate digital data transmitted over it, is received properly. The SD405A has one serial digital video input and four serial digital video output splits.

Analog audio signals are connected to the SD405A via a TB102 termination. The analog signals are converted to AES and are inserted into the serial digital video bit stream at a 48 kHz sampling frequency. If the SD405A is used to embed AES signals (30 kHz to 96 kHz) they are first sample rate converted to 48 kHz prior to embedding. The audio signals may be selectively embedded (via hard programming) into any of the four groups of the serial digital bit stream. (Please refer to the dip switch settings section of the manual)

The SD405A may be used to embed audio into an unfilled group without disturbing audio that already exists in another group. To ensure that existing audio is not lost while embedding additional material in another group the cascade switch on the card must be in the ON position. If the cascade switch is in the OFF position all pre-existing audio will be stripped out and discarded. Attempting to over-write existing audio in a particular group is not recommended.

The SD405A card generates and embeds its' own EDH packets in accordance with the SMPTE RP165 specifications. EDH data that is present in the input video signal will be stripped out and discarded.

Both the SD405A can be installed in any position in an MF100 Serialboxx® main frame. The TB102 termination assembly, which is supplied with the SD405A mount on the rear of the MF100 frame directly behind the slot where the SD405A is installed. The balanced analog audio input signals are connected to Phoenix® pluggable screw terminals on the TB102. The 75 Ohm SDI input and output signals are made via the BNC connectors.

Product Specifications

SDI Input and Output

Input Impedance	75 Ohm
Input Level	0.8 Vp-p
Output Impedance	75 Ohm
Output Level	0.8 Vp-p
Return Loss	18dB
Data Rate	270 Mbps

General

O.C. Output	10 ohms, 25 mA MAX, 28 V MAX
Power Requirements	+/- 22 VDC, 80 mA
Dimensions	270mm x70mm x25.4mm (10.60"x2.75"x1.0")
Weight	310g (.682 lbs)

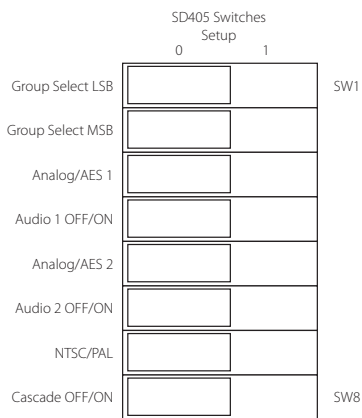
Setup and Installation

Tally Signal Definitions

Six status tallies are mounted along the front edge of the SD405 type card. From the top down:

CD (Carrier Detect)	indicates a viable digital video signal is present at the input.
AUDIO 1 (AES1 lock)	indicates the presence of a viable AES signal at input 1
AUDIO 2 (AES2 lock)	indicates the presence of a viable AES signal at input 2
ERROR	if CD is illuminated it may indicate the following errors: <ul style="list-style-type: none"> - wrong SDI standard selected - internal board error

Programing



AES 1&2 Group Assign

SW2	SW1	Group
0	0	1
0	1	2
1	0	3
1	1	4

Analog/AES Audio 1

SW3	
0	Analog
1	AES

Audio Muxer Enabled

SW4	
0	Disabled
1	Enabled

Analog/AES Audio 2

SW5	
0	Analog
1	AES

Audio Muxer 2

SW6	
0	Disabled
1	Enabled SDI Standard Select

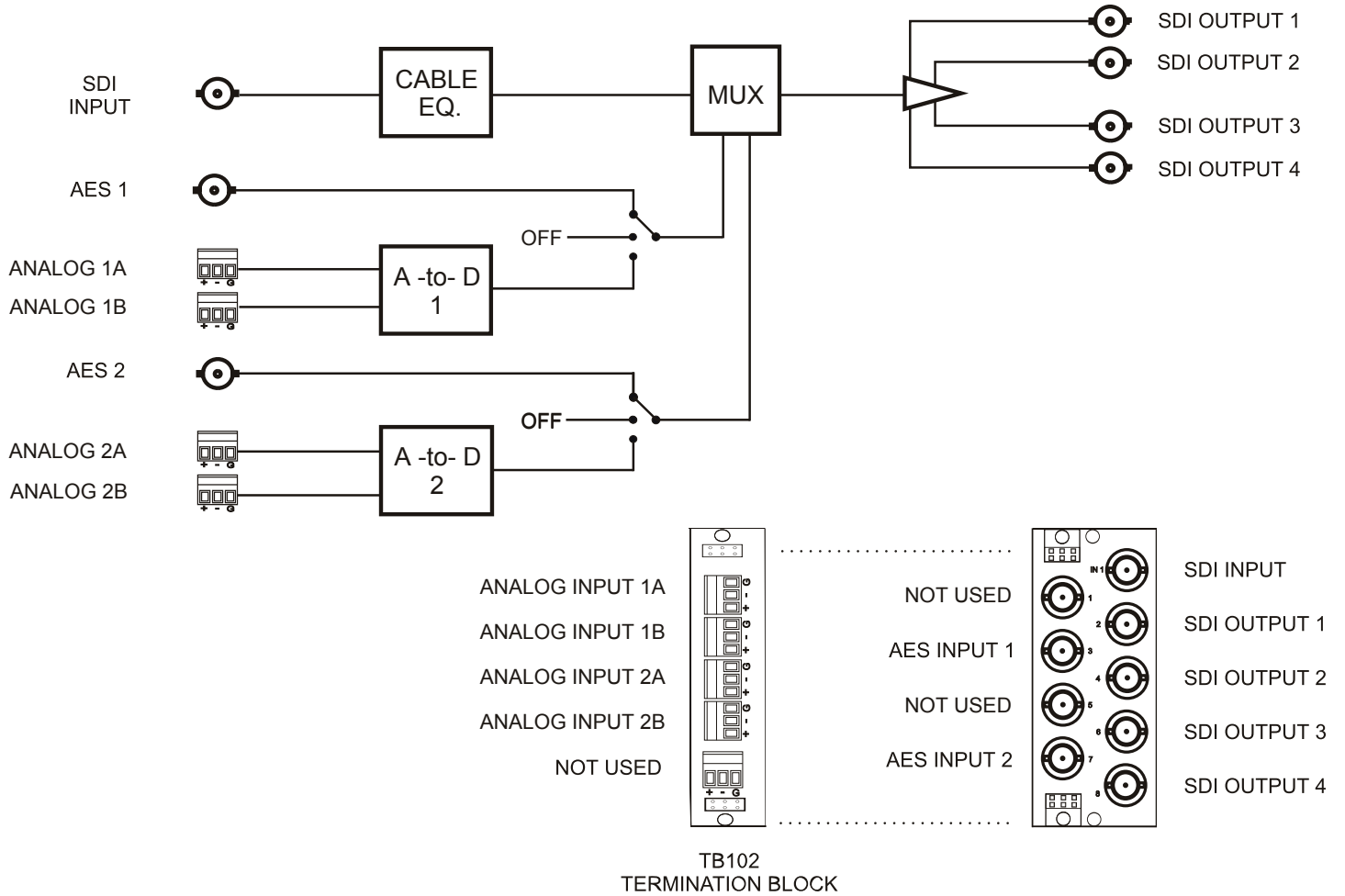
SW7	Standard
0	NTSC 525/270, D1
1	PAL 625/270, D1

Cascade ON/OFF

SW8	
0	Cascade OFF
1	Cascade ON

Caution

The cascade mode allows the SD405 to embed AES audio into a SDI signal already containing audio. Care must be exercised when using the cascade mode. The SD405 does not check which group has existing audio. The user must be certain that the AES audio connected to the SD405 is not assigned to a group that already has audio. With cascade turned OFF, the SD405 will strip existing embedded audio in the bit stream.



Warranty

All Ward-Beck Systems Ltd. Products are warranted against defective materials and workmanship for a period of one year from the date of shipment

Ward-Beck Systems Ltd. Will repair or replace, as its opinion and without charge, all said products or parts thereof which upon factory inspection prove to be defective during the warranty period. Provided that:

1. The original serial numbers are intact and have not been tampered with
2. The purchaser shall return any equipment or parts thereof to Ward-Beck Systems Ltd. Only after obtaining prior authorization and shipping instructions from the factory. (Ward-Beck Systems Ltd. Reserves the right to inspect or repair the equipment on the purchaser's premises)
3. The purchaser assumes the obligations for all expenses in connection with the shipping and return of such goods, once authorization has been obtained

This warranty does not cover items normally considered expendable, such as fuses and lamps.

This warrant does not cover damages caused by misuse, accident, neglect, unauthorized alteration, repair by unauthorized personnel, or damages caused by act of God, war, or civil insurrection.

In no event shall Ward-Beck Systems Ltd. Be liable for consequential damages. Ward-Beck Systems Ltd shall have the rights to final determination as to the application of this warranty.

Ward-Beck Systems Ltd. Reserves the right, at any time and without notice, to make changes in its equipment, components, specifications or design, as may be warranted by progress in state-of-the-art technology.

Ward-Beck Systems Ltd. Reserves the right to make design changes, additions to, and improvements in its products, without obligation to install such revisions in products previously manufactured.

The warranty set forth herein is in lieu of all other warranties expressed or implied, including the warranties of merchantability and fitness.

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