LYNX
TECHNIK AG

Reference Manual

S VD 5082

SDI 8 > 2 Input Switch with Reference

S VD 5082

REF in   REF loop   SDI 1 in   SDI 5 in

SDI 2 in   SDI 6 in

SDI 3 in   SDI 7 in

SDI 4 in   SDI 8 in

Control   SDI 1 out   SDI 2 out

SDI 8 > 2 Input Switch with Reference

Series 5000   **CardModule**

S VD 5082

SDI 8>2 Input Switch
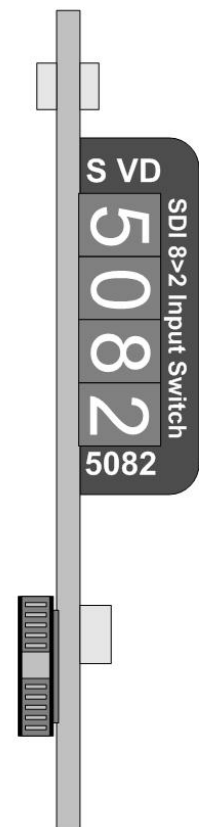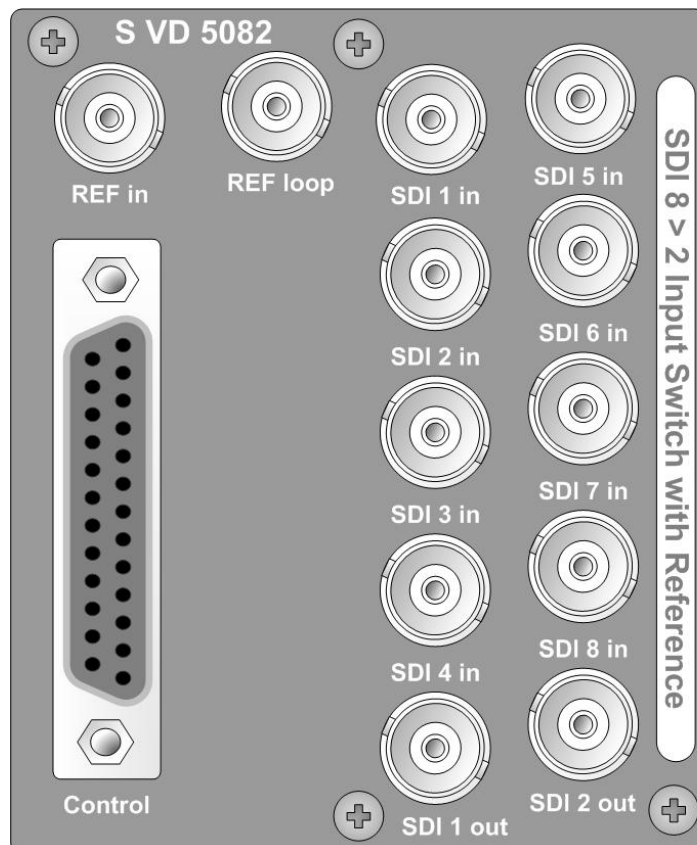
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In order to obtain service under this warranty, customer must notify LYNX Technik of the defect before expiration of the warranty period and make suitable arrangements for the performance of service. Customer shall be responsible for packaging and shipping the defective product to the service center designated by LYNX Technik, with shipping charges prepaid. LYNX Technik shall pay for the return of the product to the customer if the shipment is within the country which the LYNX Technik service center is located. Customer shall be responsible for payment of all shipping charges, duties, taxes and any other charges for products returned to any other locations.

This warranty shall not apply to any defect, failure, or damage caused by improper use or improper or inadequate maintenance and care. LYNX Technik shall not be obligated to furnish service under this warranty a) to repair damage resulting from attempts by personnel other than LYNX Technik representatives to install, repair or service the product; b) to repair damage resulting from improper use or connection to incompatible equipment; c) to repair any damage or malfunction caused by the use of non LYNX Technik supplies; or d) to service a product which has been modified or integrated with other products when the effect of such modification or integration increases the time or difficulty servicing the product.

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Regulatory information

Europe

Declaration of Conformity

We   LYNX Technik AG
              Brunneweg 3
              D-64331 Weiterstadt
              Germany
Declare under our sole responsibility that the product

          TYPE: S VD 5082

To which this declaration relates is in conformity with the following standards (environments E1-E3):
      EN 55103-1   /1996
      EN 55103-2   /1996
      EN 60950   /2001
Following the provisions of 89/336/EEC and 73/23/EEC directives.

                          Winfried Deckelmann

Weiterstadt, November 2005

  Place and date of issue   *Legal Signature*

USA

FCC 47 Part 15

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to the part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Contents

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Getting Started

Packaging

The shipping carton and packaging materials provide protection for the module during transit. Please retain the shipping cartons in case subsequent shipping of the product becomes necessary.

Product Description

The S VD 5082 is a high quality digital video 8 > 2 input switch designed primarily for broadcast and professional applications.

The S VD 5082 has 8 inputs for digital video signals, which can be switched to two independent outputs. A second input can be selected for emergency switching. Outputs can be reclocked, or non-reclocked. Auto detection of standard digital video bit rates in reclocked mode (143Mbit/s, 177Mbit/s, 270Mbit/s, 360Mbit/s) and will transparently pass data from 10Mbits/s to 620Mbits/s in non-reclocked mode.
A analog reference input allows clean switching for synchronous inputs.
Inputs can be switched either via LYNX Control System and the associated PC GUI SW (LYNX c3_local) or via an optional remote control panel R CP 5082.

The S VD 5082 is part of the 5000 series of CardModules, which offer high quality, modularity and flexibility in a small form factor ideal for applications where space is at a premium.

CardModules are installed in the series 5000 card frame that can accommodate up to 10 CardModules. All modules are hot swappable and Options include full redundant power and a range of controller options.

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Functional Diagram

Figure 1 below is the basic functional diagram for the S VD 5082 CardModule.

Figure 1- S VD 5082 Functional Diagram
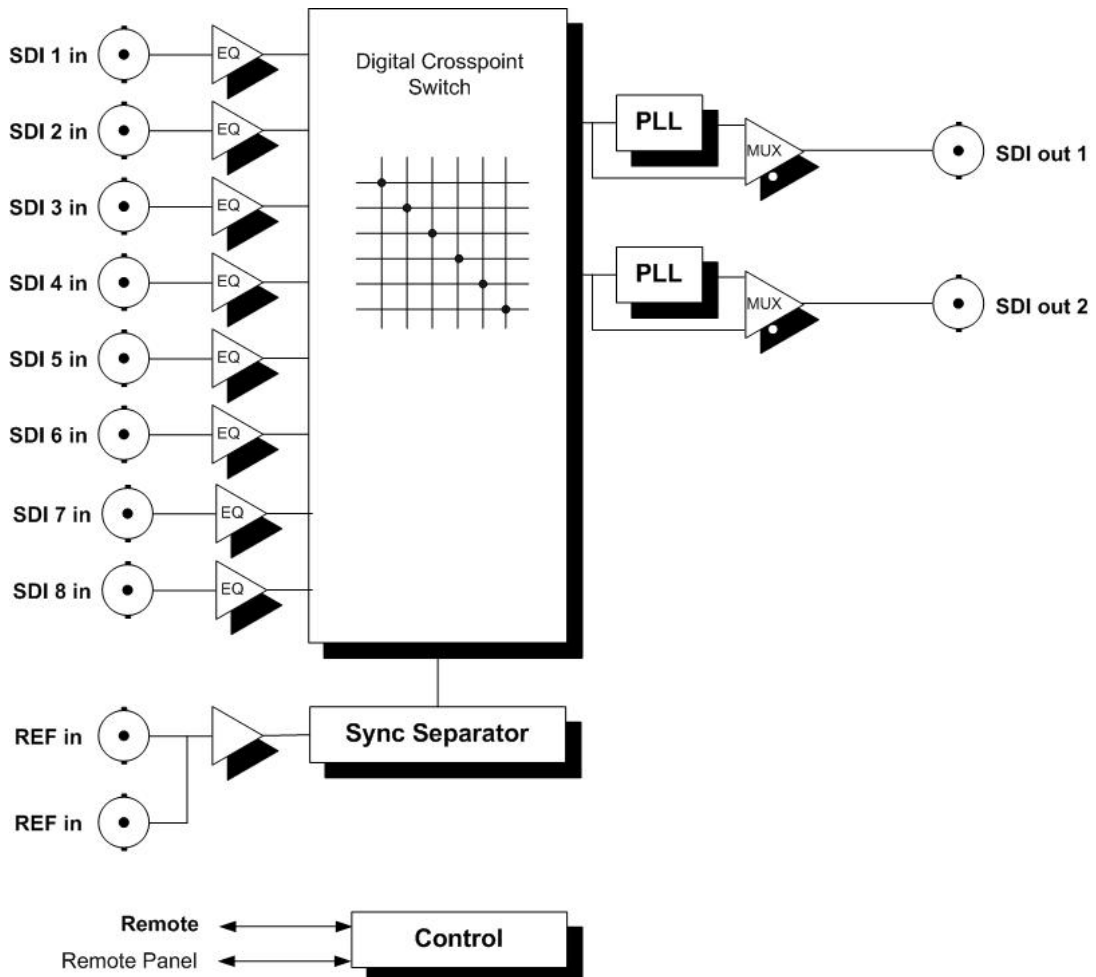
Module Layout

Figure 2 shows the layout of the S VD 5082 CardModule and the rear connection panel. Please refer the connections section of this manual for wiring details for the connectors.
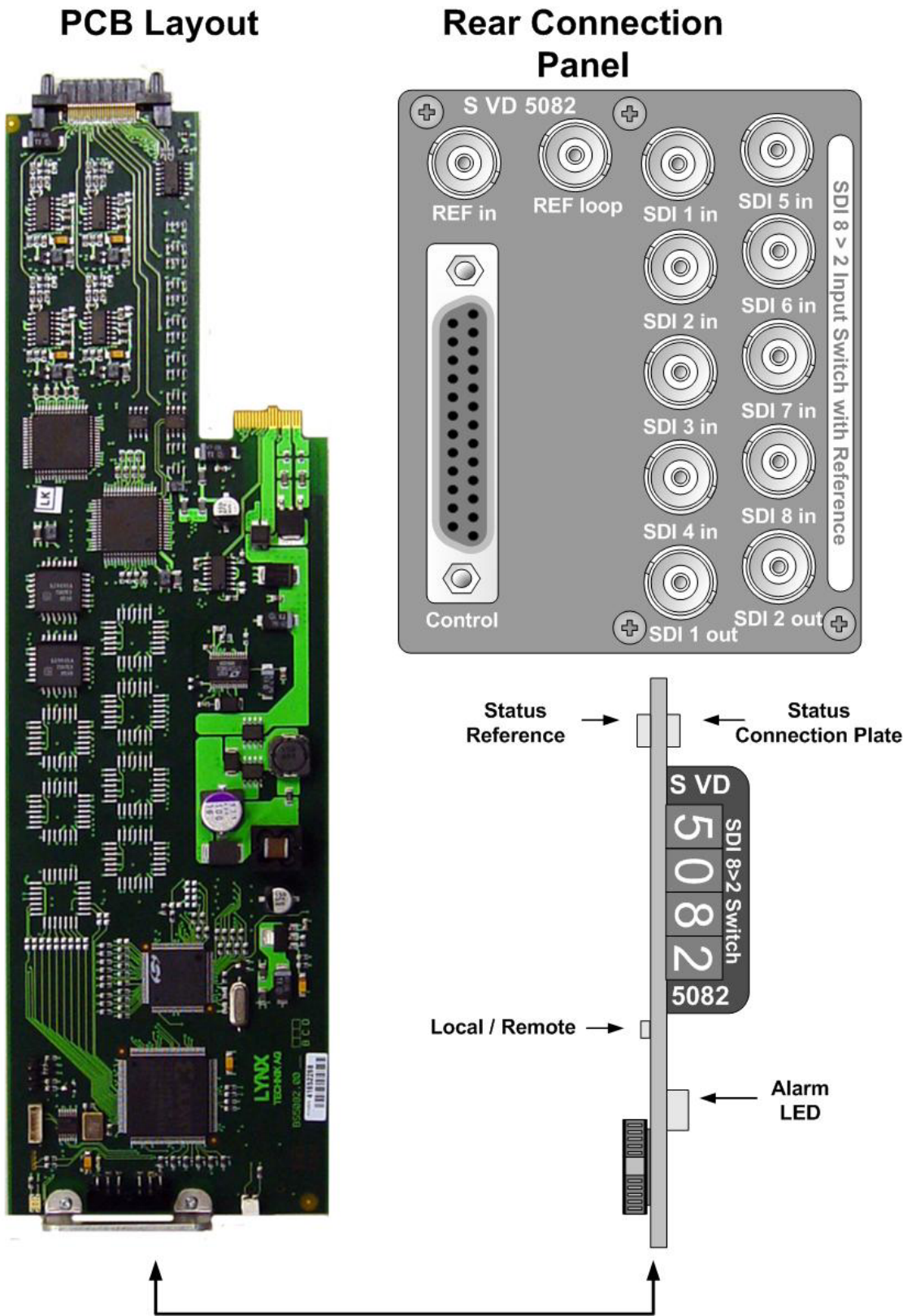
PCB Layout

Rear Connection Panel

Figure 2 – Module Layout
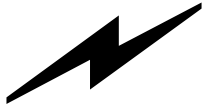
Caution
Use static precautions when handling the PCB. Static discharge could result in serious damage to the module.

Connections

Video Connections

The S VD 5082 CardModule is configured with standard 75 Ohm BNC connectors. Connection is self-explanatory. We recommend the use of high quality video cable for digital video connections to reduce the risk of interference or errors due to excessive cable attenuation.

Note. Due to the compact design of the connection plate it will be necessary to use a connection tool to secure the BNC video connectors.

Installation

Caution
The CardModule is shipped in a protective anti-static bag. Please take suitable precautions to avoid static discharge onto any part of the PCB or components when handling module or serious damage could result.

Each Card Module is supplied with a rear connection panel and two mounting screws. Please follow the following procedure for installation of the card module into the Series 5000 Card Frame.

a) Select a slot in the card frame where the CardModule will be located

b) Remove the blank connection panel from the rear of the rack (if fitted)

c) Install the rear connection panel using the screws supplied. Do not tighten the screws fully

d) Slide the card module into the card frame and carefully check the CardModule easily connects to the rear connection plate. The card should fit easily and should not require excessive force to insert, if you feel any resistance, there could be something wrong with the rear connection panel location. Do not try and force the connection. Remove the rear connection panel and check alignment with the CardModule.

e) Insert and remove the CardModule a few times to ensure correct alignment and then tighten the two screws to secure the rear connection plate

Settings and Control

The S VD 5082 has an integrated micro-controller, which enables the module to be configured and controlled locally using the multifunction switch and 4 character dot matrix display, or from remote when using one of the optional controllers and control software.

Once set, all settings are automatically saved in non-volatile internal memory. (Flash ram) The module will always recall the settings used prior to power down.
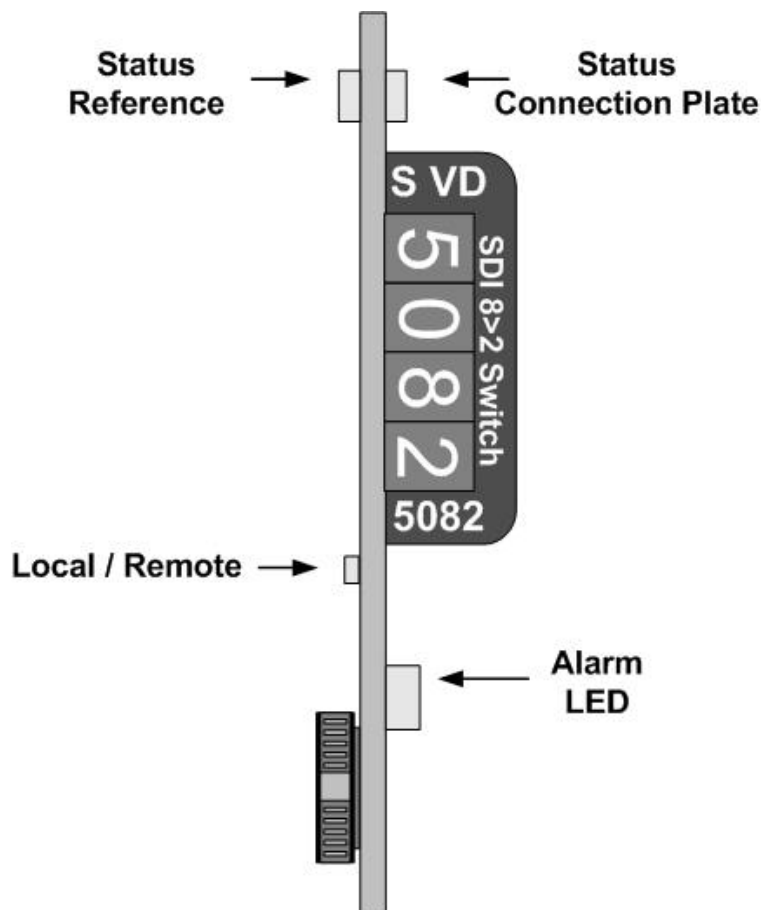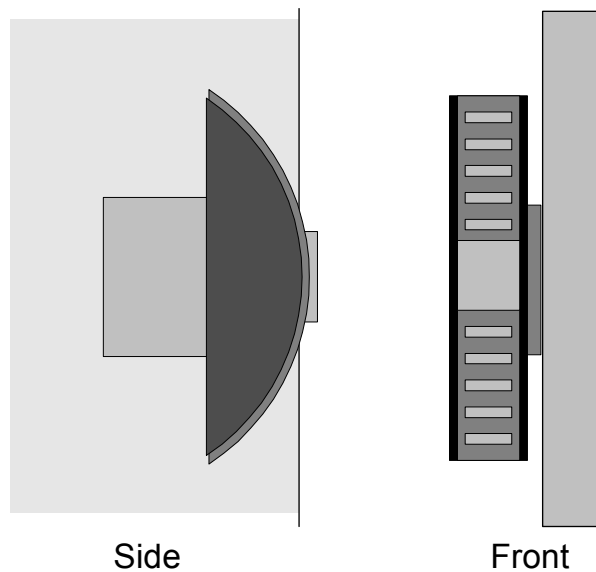

Figure 3 – Switch and Display Location

Multi Function Switch

The CardModule is equipped with a multi-function switch located on the front bottom edge of the card (refer to figure 3)

Multi-function Switch

Side   Front

Switch Operations

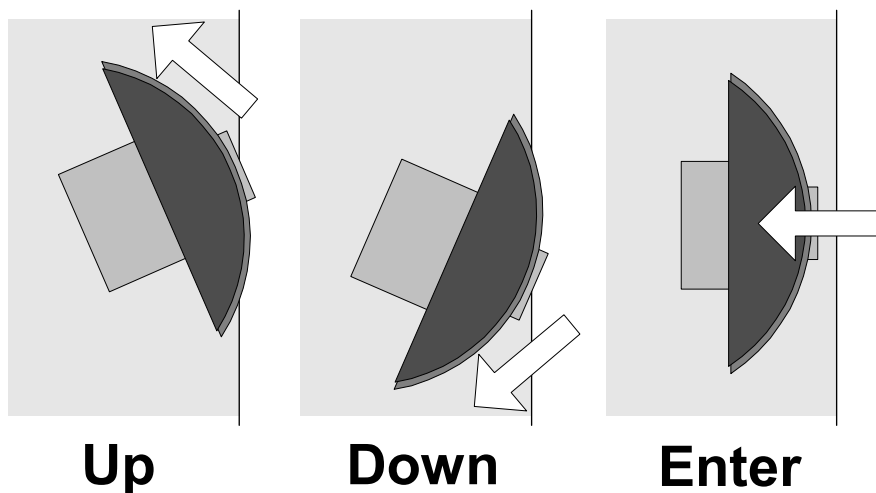**Up**   **Down**   **Enter**

Figure 4 – Switch Operation

Using the Local Display Menus

Making local adjustments to the module is done using the multifunction switch and the integrated 4-character dot matrix display (figure 3). The menu system is layered, and navigation through the system is done using the **UP** and **DOWN** functions of the switch. **ENTER** is used to move between menu levels and also enter a selection.

Navigation

Switch Function	Operation
UP	Move UP within a level
DOWN	Move down within a level
ENTER	Change levels / Make selection

Menu Structure

The Menu structure is defined in the next table, and should be used when navigating through the system.

Notes / Tips.
ENTER moves between Levels
UP/DOWN moves between items within the level
When you enter a new setting the system will jump back one level in the menu system.

- The "back" selection in the menu structure will take you back one level when selected.
- When an item is selected which has several setting possibilities the first value displayed will be the value currently stored in the system. The order of the available settings for any menu item in the table supplied does not represent the order he settings will actually be displayed.
- If left unattended, the menu will default to the root display after a preset timeout.

ROOT	LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4	COMMENTS
5082					"Normal" Root display on module = Module type
	OUT1	IN	IN 1 / IN 2 / back		Select input for respective output
		RCLK	OFF / ON / back		Switch respective output to reclocked (ON) or non-reclocked (OFF)
		ALT	NONE / IN 1 / IN 2 / back		Select alternative input in case of input loss
		CYCL	OFF / ON / back		Cycle automatically through inputs
	OUT2	back			

REF — EXT / INT / back
Select refernce input:
EXT: Board Reference
INT: Rack Reference

PANL — DRCT / 0000 / back
Panel Connection:
DRCT: Passive Panel Connection
0000: 0..15: Address for serial connection

RSET — YES / NO / back
Reset to Factory Defaults

back

Auto Store

If no parameters are changed for 10 seconds then the current settings will be written into flash memory automatically, this can be seen by the channel status LEDS flashing yellow four times.

Remote Control Panel

A remote control panel can be connected to the S VD 5082 via the SubD 25 female connector on the connection plate of the S VD 5082. Below is a description of the required connections.
There are two versions possible:
- a simple panel driven directly from the S VD 5082 (parallel interface)
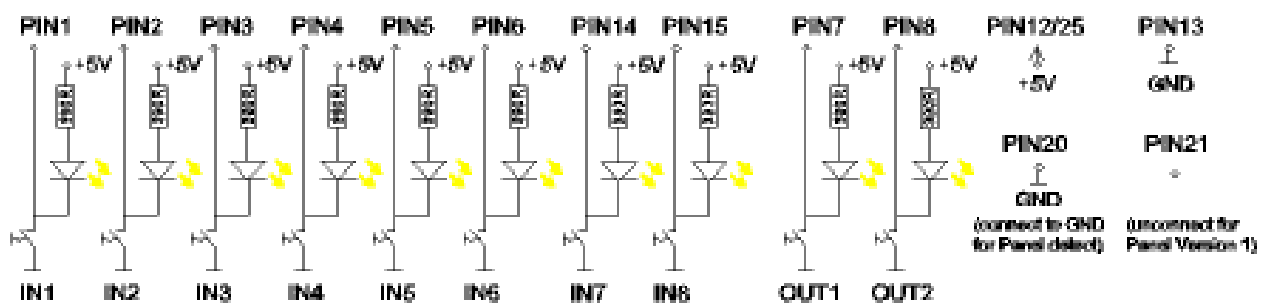- panels with serial interface

D-Sub 25-polig female

Parallel Interface

Control-Panel Version 1

Internal Hardware for a simple
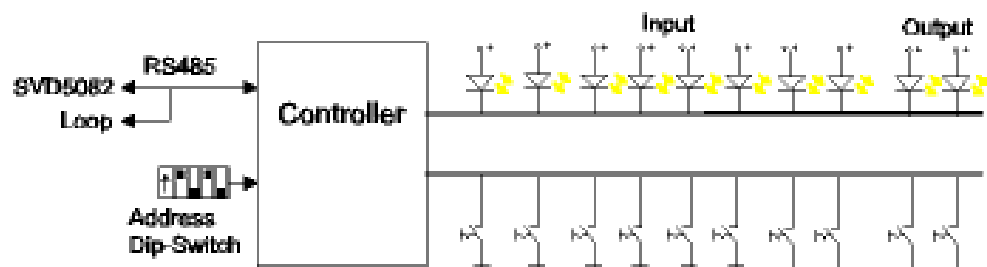Control Panel with a parallel connection (25p D-Sub)

Serial Interface

Control-Panel

Internal Hardware for a intelligent
Control Panel with a serial interface

Pin Description for SubD female connector

PIN	Function	
1	config	Input 1 select
2	config	Input 2 select
3	config	Input 3 select
4	config	Input 4 select
5	config	Input 5 select
6	config	Input 6 select
7	config	Output 1 select for parallel interface
8	config	Output 2 select for parallel interface
9		not used
10	config	RS485 TX + (used for serial interface)
11	config	RS485 RX + (used for serial interface)
12	Power	+5V / 100mA max.
13	Power	GND
14	config	Input 7 select
15	config	Input 8 select
16		not used
17		not used
18		not used
19	config	Take
20	config Bit 0	<table><tr><td></td><td>Bit 0</td><td>Bit 1</td></tr><tr><td>Panel Version 1</td><td>L</td><td>H</td></tr><tr><td>no Panel</td><td>H</td><td>H</td></tr></table>
21	config Bit 1	
22		not used
23	config	RS485 TX - (used for serial interface)
24	config	RS485 RX - (used for serial interface)
25	Power	+5V / 100mA max.

Alarm/LED Status Indicators

The S VD 5082 module has integral LED indicators, which serve as alarm and status indication for the module. Function is described below.

Channel Condition Indicators

2 status LEDs are provided on the top edge of the module (figure 3)

Status Reference (upper left LED)

LED Color	Indication
Green	525 Reference
Yellow	625 Reference
Red	No Refererence

Status Connection Plate (upper right LED)

LED Color	Indication
Green	Correct Connection Plate inserted
Yellow	Wrong Connection Plate inserted
Red	No Connection Plate inserted

Alarm Indicator

There is also a single alarm LED on the lower edge of the module (figure 3). This is visible through the card frame front cover and provides a general indication of the module status.

LED Color	Indication
Green	Both selected inputs present
Yellow	Only one input signal is present
Red	Input signals lost

LED **OFF** indicates power is lost, or there is a power supply fault.

Locate Function

For larger systems which may have multiple cards of the same type in a single rack, or multiple rack systems on a large central control system we have added a useful utility which will help to visually locate a suspect module quickly (When used in conjunction with the optional control system and software)

Once the specific module has been selected on the control system there is a locate button on the top of the GUI:
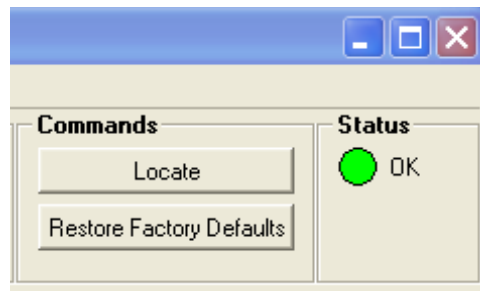
Locate Function in Control System

When Locate is selected the status indicator on the GUI and the alarm LED will flash yellow in the following continuous sequence.

3 short flashes…. Pause…. 3 short flashes …

Use of the locate function will not interfere with the normal operation of the module.

For more details on this feature please check the documentation supplied with the controller software.

Specifications *(S VD 5082)*

Inputs	
Signal	8 Serial Digital Video. SMPTE 259M-C
Input Impedance	75 Ohms
Input level	0.8V p-p
Return loss	> 15dB (270MHz)
Connection	BNC

Outputs	
Signal	2 Serial Digital Video SMPTE 259M-C
Output Impedance	75 Ohms
Output Level	0.8V p-p nom.
Return loss	> 15dB (270 Mbit/s)
Connection	BNC

Performance	
Cable Equalization	Up to 250m using Belden 8281 (270Mbit/s)
Jitter	< 0.2 UI
Control	Local settings (matrix display and multifunction switch).
Status Monitoring (LED)	Signal presence, Reference Indication

Electrical Specifications	
Operating Voltage	+ 5VDC
Power Consumption	3.5 W
Safety	IEC 60950/ EN 60950/VDE 0805

Mechanical	
Size	283mm x 78mm
Weight	Card module 120g, connection panel 50g

Ambient	
Temperature	5°C to 40°C Maintaining specifications
Humidity	Max 90% non condensing

Supplied Accessories	
Documentation	S VD 5082 Reference Manual

Available Options

Below is a list of related products for the S VD 5082 CardModule. Please refer to product brochures or our web site for more detailed information.

Model	Description
R FR 5010	**Series 5000 Rack Frame (empty) with single power supply**
R FR 5011	**Series 5000 Rack Frame (empty) with single power supply and front cover with integrated fans**
R PS 5010	**Redundant power supply for the R FR 5010 Card Frame**
R CT 5020	**Rack controller for the R FR 5010 Card Frame**
R CT 5030	**Master controller with TCP/IP interface for the R FR 5010 Card Frame**
R CT 5010	**Rack Bus Extension for the R FR 5010 Card Frame. In combination with R CT 5020/5030**
R CP 5082	**Remote Control Panel for direct connection to S VD 5082**

Parts List

Due to the very dense design and miniature surface mount technology the module is not field serviceable. The information for a replacement assembly is below.

S VD 5082 CardModule (complete)

Description   SDI 8>2 Input Switch
Model Number   S VD 5082
Part Number   5.155.007.800

Sub Assemblies:

S VD 5082 Processing Board only. (BS 5082_B)

Part Number   5.155.007.805

Rear Connection Panel for S VD 5082 (MA5082)

Part Number   5.155.007.808

Service

If you are experiencing problems, or have questions concerning your S VD 5082 CardModule please contact your local distributor for assistance.

We offer a fixed cost service exchange program for defective Series 5000 CardModules out of Warranty. Please contact your distributor or check our web site for details on this program.

More detailed information and product updates may be available on our web site:

www.lynx-technik.com

You will also find links to contact us directly for assistance.

Contact Information

Please contact your local distributor; this is your local and fastest method for obtaining support and sales information.

LYNX Technik can be contacted directly using the information below.

Address	LYNX Technik AG
	Brunnenweg 3
	D-64331 Weiterstadt
	Germany.
Website	www.lynx-technik.com
E-Mail	info@lynx-technik.com

LYNX Technik manufactures a complete range of high quality modular products for broadcast and Professional markets, please contact your local representative or visit our web site for more product information.

Notes

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