DA1916SX

2–IN, 1–OUT VGA AUTO-SWITCHER

WITH LOOP OUTPUT

USER'S GUIDE

ALTINEX

SIGNAL
MANAGEMENT
SOLUTIONS

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INTRODUCTION

Altinex appreciates your purchase of the **DA1916SX** Switcher. We are certain that you will find it a reliable and useful product.

Superior performance for the right price backed by solid technical and customer support is what we have to offer.

The product you are holding in your hands is designed using state-of-the-art technology and is superior to anything available on the market. You will find this and our other products reliable, long lasting, and simple to operate.

We are committed to providing our customers with solutions to the most demanding audio-visual installations at very competitive pricing.

We appreciate your selection of our products and are confident that you will join the ranks of our many satisfied customers throughout the world.

This manual covers:

DA1916SX – 2-in, 1-out VGA Auto Switcher with Loop Output

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SWITCHERS

PRECAUTIONS / SAFETY WARNINGS 1

Please read this manual carefully before using your **DA1916SX** Switcher. Keep this manual handy for future reference. These safety instructions are to ensure the long life of your **DA1916SX** and to prevent fire and shock hazard. Please read them carefully and heed all warnings.

1.1 GENERAL

- Unauthorized personnel shall not open the unit since there are high-voltage components inside.
- Qualified Altinex service personnel, or their authorized representatives must perform all service.

1.2 SAFETY GUIDELINES FOR THE RACK-MOUNTING OF THE DA1916SX

- Maximum operating ambient temperature is 35 (degrees C).
- Never restrict the airflow through the device's fan or vents.
- When installing equipment into a rack, distribute the units evenly. Otherwise, hazardous conditions may be created by an uneven weight distribution.
- Connect the unit to a properly rated supply circuit.
- Reliable Earthing (Grounding) of Rack-Mounted Equipment should be maintained.

1.3 INSTALLATION

- For best results, place the **DA1916SX** Switcher on a flat, level surface in a dry area away from dust and moisture.
- To prevent fire or shock, do not expose this unit to rain or moisture. Do not place the **DA1916SX** Switcher in direct sunlight, near heaters or heat radiating appliances, or near any liquid. Exposure to direct sunlight, smoke, or steam can harm internal components.
- Handle the **DA1916SX** Switcher carefully. Dropping or jarring can damage internal components.

- Do not place heavy objects on top of the **DA1916SX**. If the **DA1916SX** is to be mounted to a table or wall, use only Altinex made mounting accessories, such as the mount mini-brackets **DA1295SX** (or **RC5203CC** Contact Closure Switch with 6 foot cable) and cables for optimum setup.
- To turn off the main power, be sure to remove the cord from the power outlet. The power outlet socket should be installed as close to the equipment as possible, and should be easily accessible.
- Do not pull the power cord or any cable that is attached to the **DA1916SX** Switcher.
- If the **DA1916SX** Switcher is not used for an extended period, disconnect the power cord from the power outlet.

1.4 CLEANING

- Unplug the **DA1916SX** power cord before cleaning. Clean surfaces with a dry cloth. Never use strong detergents or solvents, such as alcohol or thinner. Do not use a wet cloth or water to clean the unit.

1.5 FCC / CE NOTICE

- 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.
- This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to 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

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cause harmful interference in which case the user will be required to correct the interference at his own expense.

- Any changes or modifications to the unit not expressly approved by Altinex, Inc. could void the user's authority to operate the equipment.

ABOUT YOUR SWITCHER   2

The **DA1916SX** is a 2-in, 1-out VGA (VGA/SVGA/XGA) Auto Switcher with manual remote capability through the use of a contact closure.

The **DA1916SX** automatically switches to the active input source by sensing an incoming signal. If two input signals are active simultaneously, the **DA1916SX** will default to Input 2. Please note that the **DA1916SX** may be custom modified at the factory upon request so that it will default to Input 1 instead of Input 2.

The **DA1916SX** offers both a main output for the selected source and a loop output that always passes through Input 1, regardless of which input is selected. The main output is fully buffered and, if it is not used, it must be terminated with a 75 Ohms VGA termination plug (part # **MS8000TP**), which is supplied with the unit.

The **DA1916SX** can be controlled manually by connecting the contact closure control to its 2.5mm mini-coaxial remote control jack. The **DA1916SX** is packaged with a small switch and a six foot cable (part # **RC5203CC**), which controls the **DA1916SX** or the contact closure may be made from a control system. When the contact closure control is connected to the **DA1916SX**, an open position will select Input 1 and a closed position will select Input 2.

Although the **DA1916SX** is designed primarily to handle VGA-type (RGBHV) signals, it can also be used to pass RGBS and RGsB. It may also be used to pass composite video, s-video, and component video signals through red, green, and blue channels. This may require the use of adapter cables to convert a 15-pin HD connector to BNC connectors.

The **DA1916SX** is perfect for applications that use wall or floor plates for auto switching. It also works very well as a building block for classroom training systems in which the instructor's signal is placed alongside a bus (via the loop output) to each of the student's stations. The students own computer is connected to Input 2.

The **DA1916SX** may be mounted to furniture or other suitable surfaces using optional hardware.

TECHNICAL SPECIFICATIONS   3

FEATURES/DESCRIPTION	DA1916SX
GENERAL	
Inputs	Two
Input Connector	15-pin HD Female
Outputs	
Main Output Connectors	15-pin HD Female (buffered)
Loop Output Connectors	15-pin HD Female (loop)
Compatibility	VGA via UXGA, RBHV, RGBS, RGsB, Component Video (Y, R-Y, B-Y), S-Video (Y/C), and Composite Video

Table 1. **DA1916X** General

MECHANICAL	DA1916SX
Material	0.1" Al
Finish	Gray
Top Panel	Lexan
Height (inches)	3.00in (76mm)
Width (inches)	4.38in (111mm)
Depth (inches)	1.00in (25mm)
Weight (pounds)	0.4lbs (0.18kg)
Ship Weight (pounds)	2.0lbs (0.91kg)
T° Operating	10°C-35°C
T° Maximum	50°C
Humidity	90% non-condensing
MTBF (calculations)	40,000 hrs (min.)

Table 2. **DA1916SX** Mechanical

ELECTRICAL	DA1916SX
Input Video Signal	
Analog Signal	1.5V p-p max
Impedance	75 Ohms

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Input Sync Signal	
Composite Sync	TTL(+/-), analog 0.3V-1.0V
Sync on Green	-0.3V
Impedance	10 k Ohms
Output Video Signals	
Analog Signal	1.5V p-p max
Fall/Rise Time (ns)	1.8
Impedance	75 Ohms
Output Sync Signal	
Composite Sync	TTL(+/-), analog 0.3V-1.0V
Sync on Green	-0.3V
Impedance	22 Ohms
Frequency Compatibility	
Horizontal	15-200 kHz
Vertical	20-190 Hz
Typical Video Bandwidth	350 MHz @ -3dB
Cross-talk	-40dB @10 MHz
Coupling	DC
Power	
External Power Adapter	9V 500mA (included)
Power Consumption	3 watts max.

Table 3. **DA1916SX** Electrical

DESCRIPTION OF DA1916SX   4

INPUT 1 INDICATOR
LOOP VGA OUTPUT (LOOP FOR INPUT 1)
MAIN VGA OUTPUT
INPUT 2 INDICATOR
POWER INDICATOR
POWER INPUT CONNECTOR (2.5 mm DC POWER JACK)
VGA INPUT 1
VGA INPUT 2
Model No. Rev. No. Serial No.
REMOTE CONTROL JACK (2.5 mm JACK)

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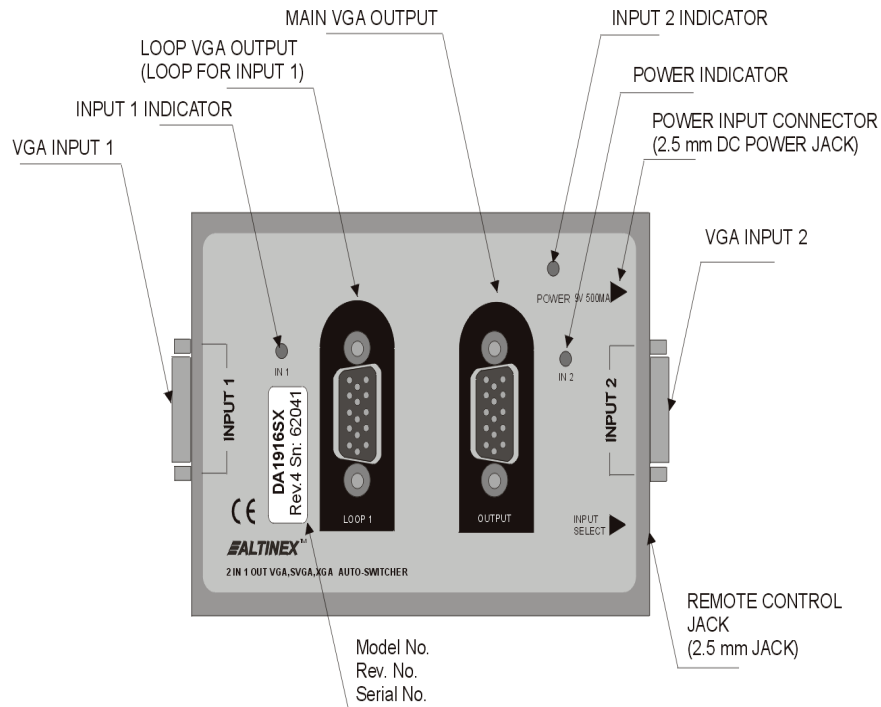
4.1 AUTO-SWITCH MODE

The **DA1916SX** automatically selects the active source by sensing the incoming sync or video signals. When switching a RGsB signal, the **DA1916SX** will automatically sense the sync from the green channel. When two active sources are present, the **DA1916SX** selects Input 2 as the default.

4.2 MANUAL SWITCH MODE

The **DA1916SX** can be controlled manually by connecting a contact closure control switch to the channel select port of the **DA1916SX**. This port uses a 2.5mm mini-coaxial remote control jack and is located next to Input 2. (Note: the connector used for the channel select port is the same as the power connector used for the unit. Damage will not occur if the power is accidentally connected to the channel select port.

Altinex offers a remote control switch with a 12 foot cable (Part # **RC5203CC**) which will control the **DA1916SX**. The **DA1916SX** can also be controlled using AV control systems.
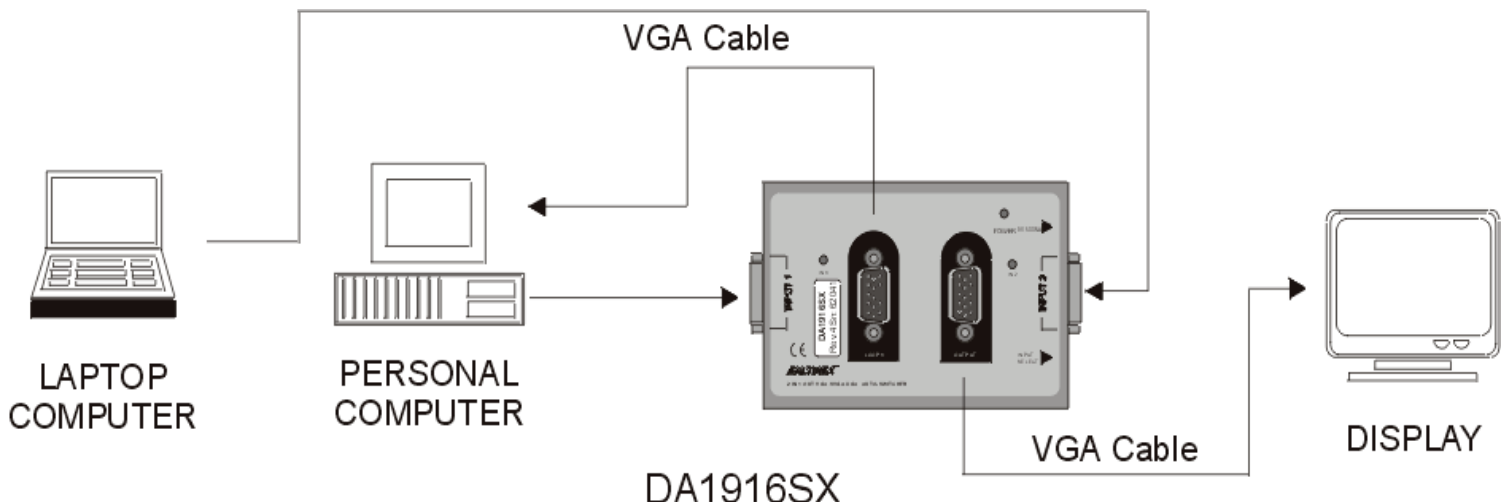
When a remote control switch is connected to the channel select port, Input 1 will be selected if the channel select contact is open. Input 2 will be selected if the channel select contact is closed.

The switching will be identical whether there is one or two active signals. The LED lights located next to the inputs will indicate which input is selected.

The **DA1916SX**'s main output is fully buffered and capable of driving a signal over 200 feet of high, quality coaxial cable. Loop 1 output is not buffered and must be terminated with a VGA termination plug (Part # **MS8000TP**) if a local display is not used.

APPLICATION DIAGRAM   5

DA1916SX

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INSTALLING YOUR SWITCHER   6

Step 1. Make sure that the proper power adapter is used. The Altinex power adapter is supplied with the unit.

Step 2. Connect the power adapter to the power port. The power indicator light and the input lights should turn red.

Step 3. Remove the anti-static connector covers and connect the cables from the computer video card or from the video output of other sources, to Input 1 or Input 2 of the **DA1916SX**.

Step 4. Connect the cables from the output port of the **DA1916SX** to the large screen monitor or data projector.

Step 5. If the remote control switch is used, connect the **RC5203CC** to the channel select port.

Step 6. If a control system is used to control the **DA1916SX**, connect the channel select port of the **DA1916SX** to the relays port of the control system.

Step 7. Verify that the picture quality on the display is good. If a signal is not being received, make sure that the display is compatible with the resolution of the computer graphics card.

CONGRATULATIONS! YOU ARE DONE.

If you experience any problems, please call 1-800-258-4623 or 1-714-990-2300 for international calls.

OPERATION   7

The settings of the **DA1916SX** Switcher can be adjusted using the auto-switch mode and the manual switch mode as described in Section 4. There are no other adjustments necessary to operate the unit. The **DA1916SX** will operate successfully as long as cables are attached properly and other technical specifications are followed.

ACCESSORIES   8

Model No.	Description
	RACK MOUNTING ACCESSORIES
DA1295RM	Mount mini-brackets (2 – "L" shape)
	CONTACT CLOSURE SWITCH
RC5203CC	Contact Closure with 6 ft. cable
	TERMINATION PLUG
MS8000TP	VGA (15-pin HD) Termination Plug
	ADAPTOR CABLE
MS8102CA	6 feet, 15-pin HD Male to 5 BNC Male
MS8104CA	15 feet, 15-pin HD Male to 5 BNC Male
MS8105CA	50 feet, 15-pin HD Male to 5 BNC Male
MS8106CA	6 feet, 15-pin HD Male to 5 BNC Female
	VGA CABLE MALE TO MALE
CB3703MR	3 feet, high resolution type cable
CB3706MR	6 feet, high resolution type cable
CB3715MR	15 feet, high resolution type cable
CB3725MR	25 feet, high resolution type cable
CB3750MR	50 feet, super high resolution type cable
CB3775MR	75 feet, super high resolution cable
CB37100MR	100 feet, super high resolution cable
CB37150MR	150 feet, super high resolution cable
	VGA CABLE MALE TO FEMALE
CB3903MR	3 feet, high resolution type cable
CB3906MR	6 feet, high resolution type cable
CB3915MR	15 feet, high resolution type cable
CB3925MR	25 feet, high resolution type cable
CB3950MR	50 feet, super high resolution type cable
CB3975MR	75 feet, super high resolution type cable
CB39100MR	100 feet, super high resolution type cable
CB39150MR	150 feet, super high resolution type cable
	POWER ADAPTERS
PC5502US	9V 500mA Power Supply for US
PS5503US	9V 500mA Power Supply for US w/50 ft wire
PS5512UK	9V 500mA Power Supply for UK
PS5522AU	9V 500mA Power Supply for Australia
PS5532GR	9V 500mA Power Supply for Germany
PS5542JP	9V 500mA Power Supply for Japan

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No:	Question	Answer
1	What is a switcher?	A switcher is a device that allows you to connect multiple video sources to a single display and to select between the sources.
2	When do I use the **DA1916SX**?	If you have two computers and you want to display them on a single monitor, you would use the **DA1916SX** 2-in, 1-out VGA Auto Switcher between the computers and the monitor, using cables to interconnect the pieces. The switcher would then allow you to select which computer would be displayed on the monitor at any given time.
3	What kind of signal formats may I pass through the **DA1916SX**?	The **DA1916SX** can pass VGA/SVGA/XGA/UXGA, RGBS, RGsB, Component Video (Y, R-Y, & B-Y), S-Video (Y/C), and Composite Video signals (with adapter cables).
4	Is the output of the **DA1916SX** buffered?	Yes, the **DA1916SX** offers a fully buffered main output.
5	How far can I run a signal through the **DA1916SX**?	The output of the **DA1916SX** allows signals to be driven through 100 feet of cable depending on cable quality and the source signal resolution without degradation of the image quality.

We have carefully tested and have found no problems in the supplied **DA1916SX** unit; however, we would like to offer the following suggestions:

- Please make sure that you have the correct setting Sync Source Switch. If RGBS signal formats are passed, the switch must be in the SYNC position. If you pass RGsB or composite video signal formats, the switch must be in the GREEN position.

- Make sure that the correct power adapter is connected to the unit.

- Please make sure that the input amplitude of analog signal is less than 1.5V.

- Please use the Altinex supplied external adaptor (9V, 500mA).

- Please make sure that the proper quality of cables is used. We recommend Altinex made cables for the best results.

- If a problem arises after continuous usage at higher voltage, higher temperature, higher humidity, or at other extreme environmental conditions, please correct the problem.

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ALTINEX POLICY   11

11.1 LIMITED WARRANTY

Altinex warrants that its products and cables are free from defects in materials under normal use and service. This warranty is limited to repairing at company's factory any part or parts of the product that which upon company's examination shall disclose to be thus, defective. Products considered defective should be returned to company with transportation charges pre-paid, within 2 years (90 days for cables) from date of shipment to the purchaser. The warranty is expressly instead of all other warranties expressed or implied. Altinex neither assumes nor authorizes any other person to assume for it any other liability in connection with the sale of the products. This warranty shall not apply to any product that shall have been repaired or altered outside of company's factory in any way so as, in its judgment, to affect its stability or reliability, or that has been subject to misuse, negligence or accident.

11.2 RETURN POLICY

It is very important to Altinex that you receive the products that you have ordered and that this product fulfills your need. In the unlikely event, that an Altinex product needs to be returned please follow the policies below:

Altinex will accept product returns for a period of 30 days from authorized Altinex dealers. Products should be returned in an unopened package.

If a product has been opened, the restocking fees will apply. For the restocking fee amount, please contact an Altinex Sales Representative.

If the product is in your possession for more than 30 days, the restocking fees will apply.

Altinex will not accept any returns on cables or custom products.

If your product is in warranty and needs service, contact the Altinex Sales Department for an RMA (Return Material Authorization). Products returned without an RMA number may experience a delay in service.

If your product is out of warranty and needs service, contact the Altinex Sales Department for an RMA (Return Material Authorization). Products returned without an RMA number may experience a delay in service. The service charges will be quoted to you before the actual repairs are done.

11.3 CONTACT INFORMATION

Sales Department
Phone: 714-990-2300
Fax: 714-990-3303

Accounting Department
Phone: 714-990-6088
Fax: 714-990-5778

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