MANUAL PART NUMBER: 400-0130-001
PRODUCT REVISION: 0

SW1000DV

2-IN, 1-OUT DVI + AUDIO SWITCHER

USER'S GUIDE

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PRECAUTIONS / SAFETY WARNINGS 1

Please read this manual carefully before using your **SW1000DV** Switcher. Keep this manual handy for future reference. These safety instructions are to ensure the long life of your **SW1000DV** 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 SW1000DV

- Maximum operating ambient temperature is 35 (degrees C).
- Never restrict the airflow through the devices' 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 **SW1000DV** 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 **SW1000DV** 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 **SW1000DV** Switcher carefully. Dropping or jarring can damage internal components.
- Do not place heavy objects on top of the **SW1000DV**. If the **SW1000DV** is to be mounted to a table or wall, use only ALTINEX made mounting accessories, such as brackets (**DA1293FC** or **DA1294FC**) 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 **SW1000DV** Switcher.
- If the **SW1000DV** Switcher is not used for an extended period, disconnect the power cord from the power outlet.

1.4 CLEANING

- Unplug the **SW1000DV** 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 cause harmful interference in which case the user will be

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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 **SW1000DV** is a dual input-switchable computer video interface. It is designed to interface up to two DVI-D computer video sources to one DVI-D monitor or projector. The **SW1000DV** will amplify video signals and convert the sync portion of the signal to the desired format.

The **SW1000DV** is a state-of-the-art piece of equipment with an exceptional combination of advanced features and very competitive pricing.

TECHNICAL SPECIFICATIONS 3

FEATURES/DESCRIPTION	SW1000DV
GENERAL	
Inputs	
Computer Video Input Connector	2 DVI-D Female
Stereo Audio Input Connector	2 3.5mm connectors
Outputs	
DVI-D Loop Out for Input 1	1 DVI-D Female
DVI-D Main Output	1 DVI-D Female
Stereo Audio Loop Out for Input 1	1 3.5mm connector
Stereo Audio Main Output	1 5 position Terminal Block
Compatibility	VGA/ SVGA/XGA all scan rates; UXGA 60 Hz 5% blanking

Table 1. **SW1000DV** General

MECHANICAL	SW1000DV
Width (inches)	8.50in (216mm)
Height (inches)	1.75in (44mm)
Depth (inches)	4.40in (114mm)
Weight (pounds)	2.0lbs (0.91kg)
Ship Weight (pounds)	2.8lbs (1.27kg)
Material	0.1" Aluminum
Finish	Gray
Faceplate	Lexan
T° Operating	10°C-35°C
T° Maximum	50°C
Humidity	90% non-condensing
MTBF (calculations)	40,000hrs

Table 2. **SW1000DV** Mechanical

ELECTRICAL	SW1000DV
Input DVI-D Signals	
Digital Signal	1.2 V p-p Max
Impedance	100 ohms
Input Audio Signals	
Type	Unbalanced, < 1Vpp
CMRR	>80dB @ 10 Hz to 20 kHz
Impedance	10 k Ohms
Output DVI-D Signals	
Digital Signal	0.6 V p-p Nominal
Impedance	100 ohms
Output Audio Signals	
Type	Unbalanced, Loop out Balanced, Main
Impedance	600 ohms
Cross-talk	<80dB @ 1 kHz
Signal-to-Noise Ratio	>95dB
Bandwidth	10 Hz – 40 kHz
Stereo Channel Separation	>75dB @ 1 kHz, >60dB @ 20 kHz
Power	
External Power Supply	9V, 1A

Table 3. **SW1000DV** Electrical

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SW1000DV DESCRIPTION 4

4.1 COMPUTER VIDEO INPUT (DVI-D COMPATIBLE CONNECTOR)

Two DVI-D video sources and their stereo audio outputs may be switched via the SW1000DV. There is a Loop Output for input 1, allowing the use of a local monitor on one input without requiring a distribution amplifier. Also, the stereo audio Loop Output allows local sound system availability for the primary source. A front panel switch allows for direct control or automatic switching between inputs, and a contact closure is also available for remote switch control. The main output consists of a standard DVI-D output, plus a five-pin terminal block that allows either balanced or unbalanced stereo audio signals to match the needs of the installation.

PIN No.	INPUT DVI-D SIGNALS
1	Blue Video +
2	Blue Video -
3	Ground
4	No Connection
5	No Connection
6	SCL
7	SDA
8	No Connection
9	Green Video +
10	Green Video -
11	Ground
12	No Connection
13	No Connection
14	DDC +5V
15	Ground
16	No Connection
17	Red Video +
18	Red Video -
19	Ground
20	No Connection
21	No Connection
22	Ground
23	Clock +
24	Clock -

Table 4. Input pin-outs

PIN No.	OUTPUT DVI-D SIGNALS
1	Blue Video +
2	Blue Video -
3	Ground
4	No Connection
5	No Connection
6	No Connection
7	No Connection
8	No Connection
9	Green Video +
10	Green Video -
11	Ground
12	No Connection
13	No Connection
14	No Connection
15	Ground
16	No Connection
17	Red Video +
18	Red Video -
19	Ground
20	No Connection
21	No Connection
22	Ground
23	Clock +
24	Clock -

Table 5. Output pin-outs

PIN No.	INPUT DVI-D SIGNALS
1	+ Left
2	- Left
3	Ground
4	+ Right
5	- Right

Table 6. Main Audio Output pin-outs

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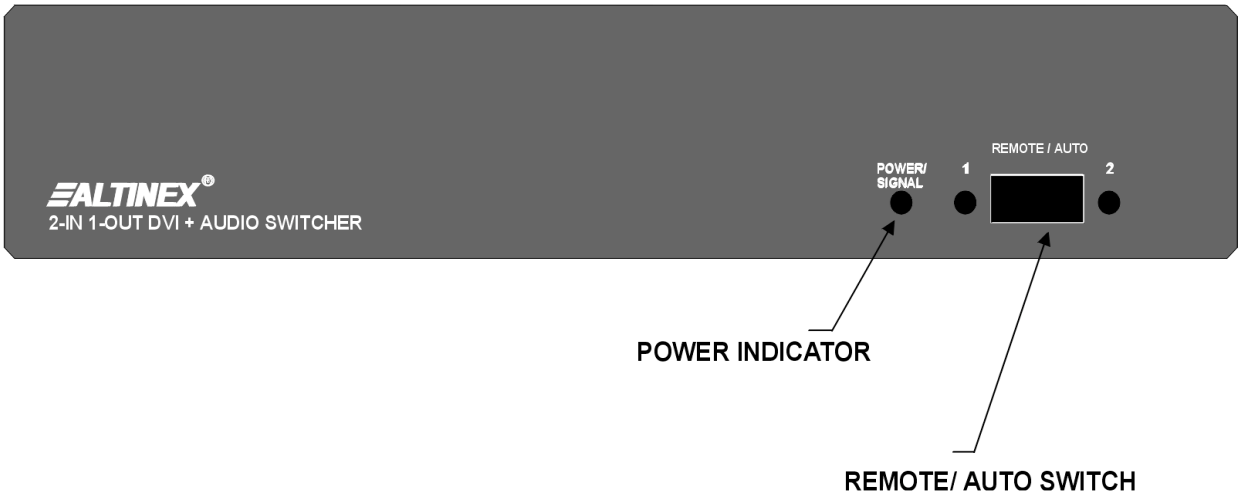
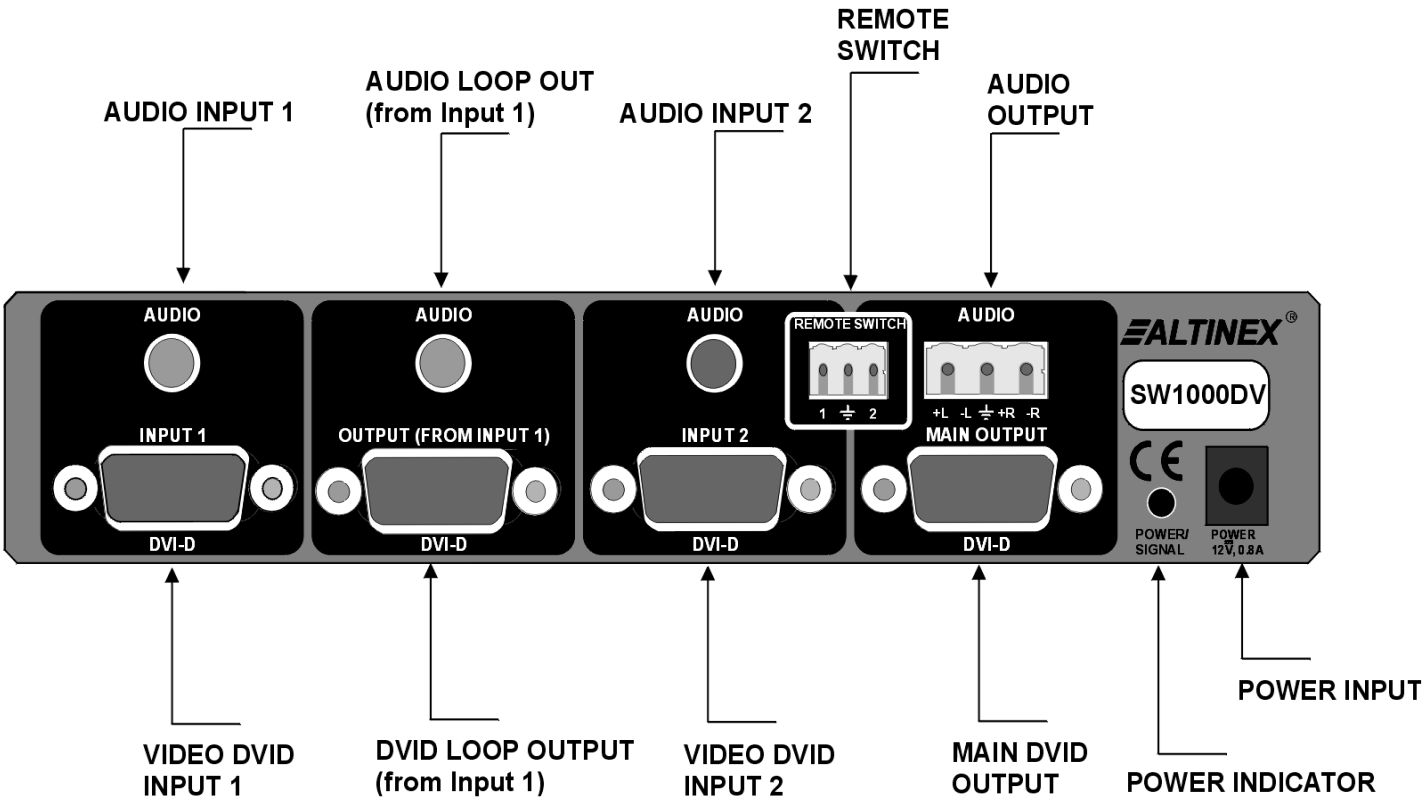
FRONT PANEL



BACK PANEL



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4.2 OUTPUT THROUGH A DVID CONNECTOR

DVI-D connectors offer a reliable connection for high-resolution video signals, and they facilitate easy cable maintenance in the field.

4.3 INPUT SELECTION SWITCH

The selection of inputs one and two is accomplished by using the Input Select Switch on the front panel. This switch has three positions: left, center, and right.

By switching to the left, the unit will select INPUT 1. By switching to the right, the unit will select INPUT 2. The center position is a REMOTE/AUTO mode, allowing the unit to detect and select the input automatically. If both input signals are present the unit will default to input #1.

The LED's on each side of the Input Select Switch will indicate which input is selected.

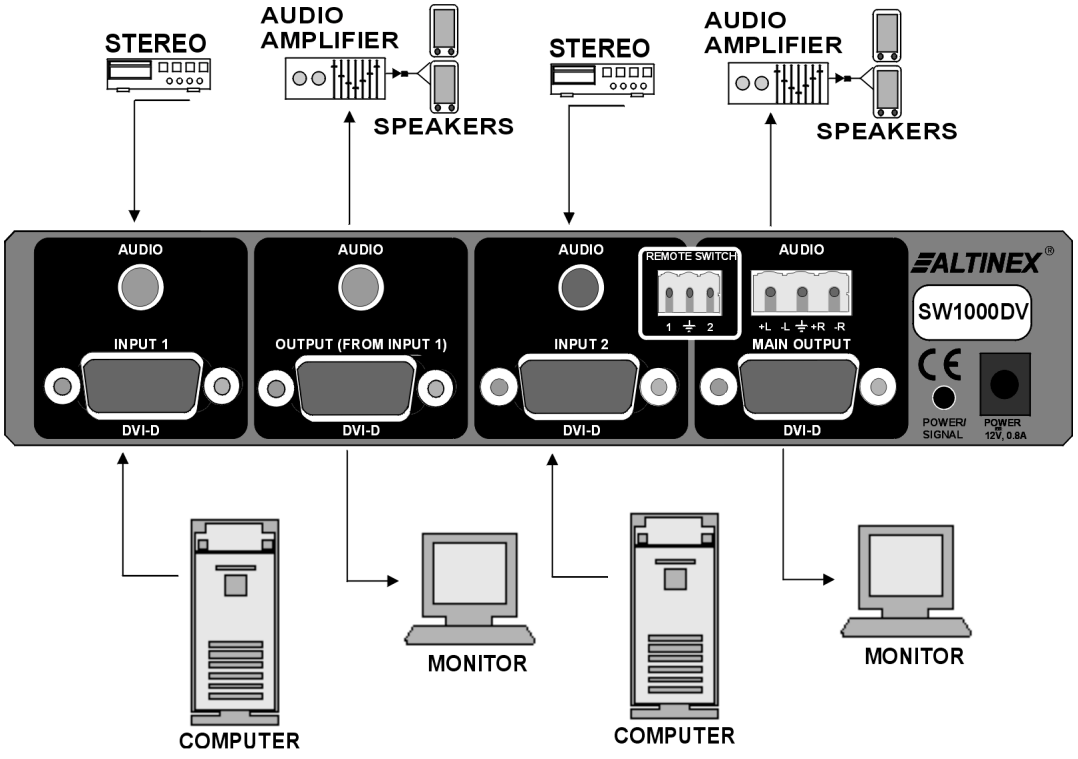
4.4 AUDIO

The **SW1000DV** accepts two unbalanced stereo audio inputs and offers one balanced or unbalanced stereo audio output. Please note that the audio signal will follow the video signal during switching, which means that in either manual selection or auto-switch mode, if Input 1 is active then both video and audio signals will be selected for this input.

4.5 MOUNTING CAPABILITY

The **SW1000DV** can be easily mounted into an equipment rack. Four mounting holes are provided on each side of the unit. To mount a single unit, use ALTINEX 19”-1U Rack Mount Ears (part # **DA1294FC**). To mount two units in tandem, use an ALTINEX 19”-1U Rack Mount Shelf (part # **DA1293FC**). For under the table mounts, optional brackets such as the **TM1271** can be used.

APPLICATION DIAGRAM 5



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INSTALLING YOUR SWITCHER 6

Step 1. Please attach the switcher on the rack using ALTINEX rack mount hardware or use the TM1271 mounting bracket for installing the switcher under a table.

Step 2. Connect DVI-D and stereo audio for both Inputs 1 and 2 to DVI-D compatible computer sources.

Step 3. Connect a DVI-D cable from the LOOP OUT connector for input 1 to a DVI-D local monitor, if desired. Also, it is possible to connect a local sound system's amplifier to the audio output from the LOOP OUT audio connector. No termination of unused DVI-D connectors is required.

Step 4. Connect the main DVI-D output of the switcher to a DVI-D display or projector. Note that DVI-D cables longer that 12 feet are not recommended with DVI-D. Audio may be connected as unbalanced (Left+, Right+, and Ground) or balanced (Left + and -, Right + and -). Power the unit. Now it is ready to switch from the front panel.

Step 5. Connect the three-pin terminal block from the center pin to the appropriate input pin (1 or 2) to enable remote switching, if desired.

OPERATION 7

There are no other adjustments necessary to operate the unit. The **SW1000DV** will operate successfully as long as the cables are attached properly and technical specifications are followed.

ACCESSORIES 8

Model No.	Description
	RACK MOUNT ACCESSORIES
DA1293SX	Rack/Wall Shelf fits two **SW1000DV** units side by side
DA1294SX	Rack/Wall mount ears for single **SW1000DV**
	TABLE MOUNT BRACKETS
TM1271	1U High, ½ Rack-Wide

Cables must be ordered separately from following list.

Model No.	Description
	DVI-D CABLES
CB401-A3	3 foot DVI cable
CB401-A6	6 foot DVI cable
CB401-A12	12 foot DVI cable
CB102-SMM0006SMM	6 foot unbalanced stereo audio cable

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FAQ (FREQUENTLY ASKED QUESTIONS) 9

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 **SW1000DV**?	If you have two computers and you want to display them on a single monitor, you would use the **SW1000DV** 2-in, 1-out DVID 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 **SW1000DV**?	DVI-D signals up to UXGA 60 Hz, 5% blanking.
4	Is the output of the **SW1000DV** buffered?	Yes, the **SW1000DV** offers a fully buffered output.
5	How far can I run a signal through the **SW1000DV**?	DVI signals may be transmitted approximately 12 feet without signal loss.

TROUBLESHOOTING GUIDE 10

We have carefully tested and have found no problems in the supplied **SW1000DV** unit; however, we would like to offer the following suggestions:

- Make sure that the correct power adapter is connected to the unit (9V, 1A recommended).
- Please make sure that high quality DVI-D cables are used, and that DVI-D distance requirements are met (12 feet of cable or less on the input, and 12 feet of cable or less on the output). 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, 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 concerning 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 the 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 actual repairs are done.

11.3 CONTACT INFORMATION

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