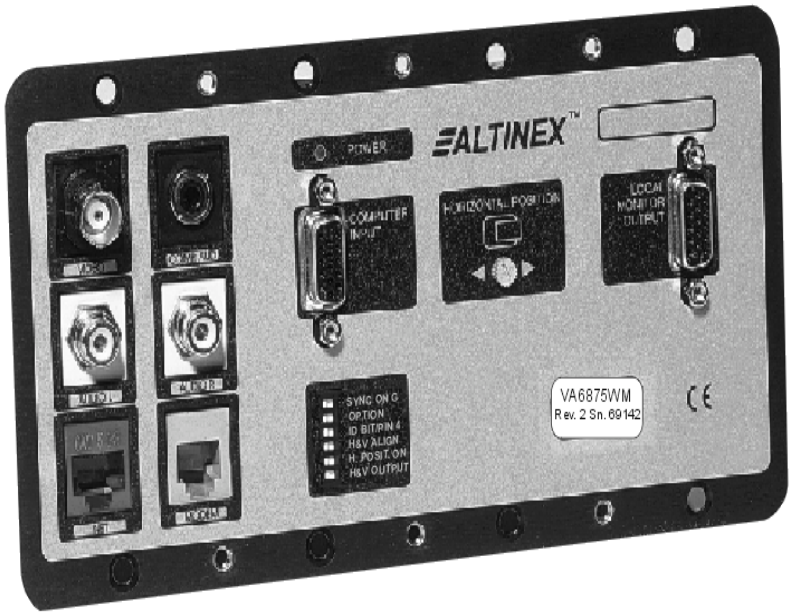

MANUAL PART NUMBER: 400-0074-004
PRODUCT REVISION: 2

VA6875WM [REV 2]

WALL / FURNITURE MOUNT INTERFACE

USER'S GUIDE

ALTINEX
SIGNAL MANAGEMENT SOLUTIONS
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INTRODUCTION

Altinex appreciates your purchase of the **VA6875WM** Analog Computer Video Interface. We are sure you will find it reliable and simple to use.

Superior performance for the right price, backed by solid technical and customer support is what Altinex has 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 signal management 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:

VA6875WM - Wall/Furniture Mount Interface

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PRECAUTIONS / SAFETY WARNINGS 1

Please read this manual carefully before using your **VA6875WM** Interface. Keep this manual handy for future reference. These safety instructions are to ensure the long life of your **VA6875WM** 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 INSTALLATION

- For best results, place the **VA6875WM** Interface 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 **VA6875WM** Interface 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 **VA6875WM** Interface carefully. Dropping or jarring can damage internal components.
- Do not place heavy objects on top of the **VA6875WM**.
- Please use a proper power supply capable of supplying at least 100 mA at +12 V DC.

1.3 CLEANING

- Clean the surfaces of the front plate 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.

1.4 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 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.

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ABOUT YOUR INTERFACE 2

The **VA6875WM** is an analog video interface, which allows the connection of computers, workstations, and other high-resolution sources to a scan rate compatible data monitor or projector. Designed for mounting to a wall or into furniture, the **VA6875WM** fits directly into a standard 4-gang electrical enclosure and would typically become a permanent part of an audio/visual system in a fixed installation. Once installed, the **VA6875WM** appears like a wall plate, but it offers a simple connection of a computer to a distant projector and local monitor.

The **VA6875WM** is easy to install and operate. By connecting the proper cabling available from Altinex, the unit can be used to interface VGA/SVGA/XGA/UXGA, MAC, MACII, Quadra, Power PC computers, and SUN/SGI workstations. The **VA6875WM** can also interface other sources, which output RGsB, RGBS, or RGBHV analog video signals with horizontal scan rates up to 130 kHz. The **VA6875WM** uses a 15-pin HD Input compatible connector with standard VGA pin-outs. There are two buffered outputs available–-the local monitor and the main output. The local monitor output located on the face of the **VA6875WM** passes through a 15-pin HD connector in order to transmit signals to a local monitor. The main output, which is located on the back of the unit, offers RGBSHV on six BNC connectors to transmit signals to a large screen monitor or projector. This output provides RGsB, RGBS, or RGBHV signal formats. The **VA6875WM** is not designed to separate sync from Green. If the input signal is RGsB, only RGsB will be available on the output.

A Horizontal Position Control is accessible on the face of the **VA6875WM** as well as six dip-switches, which may occasionally be used for compatibility purposes.

A pass-through connector kit, part # **CT8241WM**, can be ordered for use with the **VA6875WM**. The kit includes snap-in connectors for Composite Video (1 BNC), Stereo Audio (2-RCAs & 3.5 mm Stereo), Network (1 RJ45), and Modem (1 RJ11) inputs. Optionally, connectors for S-Video (4-pin mini DIN), and Mouse (6, 7, & 8-pin mini DIN) are also available. The **VA6875WM** requires a 9-12 V DC 100 mA power supply (not included), which must be connected to two bare leads on the back of the unit.

TECHNICAL SPECIFICATIONS 3

FEATURES/DESCRIPTION	VA6875WM
GENERAL	
No. of Inputs	1
Input Connector	15-pin HD Female
No. of Outputs	1 Main + 1 Local Monitor
Main Output Connector	6 BNC Female
Local Monitor Output Connector	15-pin HD Female
Compatibility	VGA/SVGA/XGA/UXGA MAC/Sun/SGI and other analog computer video sources

Table 1. **VA6875WM** General

MECHANICAL	VA6875WM
Width (inches)	7.25, 5.00, 4.50in (184, 127, 114mm)
Height (inches)	3.75, 2.75, 0.88in (95, 70, 22mm)
Depth (inches)	2.00 in (51mm)
Weight (pounds)	1.0 lb. (0.5kg)
Ship Weight (pounds)	1.6 lb.(0.75kg)
Material	Steel
Finish	Black
Top Panel	Lexan
T° Operating	10°C-35°C
T° Maximum	50°C
Humidity	90% non-condensing
MTBF (calculations)	40,000 hrs

Table 2. **VA6875WM** Mechanical

ELECTRICAL	VA6875WM
Input Video Signals	
Analog Signal	0.3 to 1.2V p-p
Impedance	75 Ohms
Rise/Fall Time (ns)	0.9
Input Sync Signals	
Horizontal, Vertical, & C-Sync	TTL(+/-)
Sync on Green	-0.3V
Impedance	10 k Ohms

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Output Video Signals	
Analog Signal	0.77V p-p
Impedance	75 Ohms
Rise/Fall Time (ns)	1.2
Output Sync Signals	
Composite Sync	TTL(+/-)
Sync on Green	-0.3V
Impedance	22 Ohms
Frequency Compatibility	
Horizontal	15-130 kHz
Vertical	25-180 kHz
Typical Video Bandwidth	425 MHz
Minimum Video Bandwidth	350 MHz
Horizontal Position Range	20 %
Cross-talk	39dB @ 100 MHz
Power	9V DC-100 mA (unregulated) or 9-12V DC-100 mA (regulated)
Power Consumption	1.0 watts max

Table 3. **VA6875WM** Electrical

PRODUCT DESCRIPTION 4

4.1 COMPUTER VIDEO INPUT (VGA-COMPATIBLE 15-PIN HD CONNECTOR)

The 15-pin HD input connector on the face of the **VA6875WM** allows the connection of a computer source to the interface using the appropriate Altinex input cables. High quality VGA cables with standard VGA pin-outs may be used for greater flexibility and versatility from the **VA6875WM.**

PIN No.	INPUT SIGNALS ON 15-PIN HD FEMALE CONNECTOR
1	Red Video
2	Green Video
3	Blue Video
4	ID Bit 2
5	SCL/SDA ID Bit Reference
6	Ground
7	Ground
8	Ground
9	No Connection
10	Ground
11	ID Bit 0
12	SDA - ID Bit
13	Horizontal Sync
14	Vertical Sync
15	SCL – ID Bit

Table 4. Computer Video Input

4.2 LOCAL MONITOR OUTPUT (15-PIN HD CONNECTOR)

The Local Monitor output on the face of the **VA6875WM** is very helpful when connecting a local monitor to the interface through a 15-pin HD connector. Altinex Local Monitor cables are available for connection purposes. Please refer to Accessories, Section 8 for further details. Since the Local Monitor Output port is fully buffered, a local monitor may be placed up to 12 feet away from the interface without loss of the signal.

ID Bit pins are passed through the 15-pin HD Input to the 15-pin HD Output. This passing occurs in order to allow the proper boot up of certain computers that require ID bits to connect to a local monitor.

PIN No.	LOCAL MONITOR OUTPUT SIGNALS ON 15-PIN HD FEMALE CONNECTOR
1	Red Video
2	Green Video
3	Blue Video
4	ID Bit 2
5	SCL/SDA ID Bit Reference
6	Ground
7	Ground
8	Ground
9	Raw Composite SYNC
10	Ground
11	ID Bit 0
12	SDA - ID Bit
13	Horizontal Sync
14	Vertical Sync
15	SCL – ID Bit

Table 5. Local Monitor Output

4.3 MAIN OUTPUT THROUGH 6-BNC CONNECTORS

The main output is offered on the rear of the **VA6875WM** Interface through six BNC connectors

for Red, Green, Blue, Composite Sync, Horizontal Sync, and Vertical Sync signals. BNC-type connectors are used on the main output because they offer a reliable, high quality connection and are easily terminated/maintained in the field. Through the main output, the **VA6875WM** can be connected to a presentation monitor/projector or to a switcher or a distribution amplifier through the proper 4 or 5 coax cables with BNC connectors. This output offers RGBHV, RGBS, and RGsB output signals.

CONNECTOR	OUTPUT (6-BNC FEMALE)
RED VIDEO	Red Video
GREEN VIDEO	Green Video
BLUE VIDEO	Blue Video
HORIZONTAL SYNC	Horizontal Sync
VERTICAL SYNC	Vertical Sync
COMPOSITE SYNC	Composite Sync

Table 6. RGBCHV Main Output (6-BNC)

4.4 HORIZONTAL POSITION CONTROL DIAL

Although most monitors and projectors have the capability to adjust the horizontal position of the image, in some instances, it is easier to adjust the horizontal position at the interface. It is recommended that with the interface's horizontal position control in the center, the image should first be adjusted using the monitor or projector control. If needed, rotate the **VA6875WM** Interface's horizontal position control in the appropriate direction to adjust the image further. Since the horizontal position control is available on the face of the unit, the user can easily make slight adjustments.

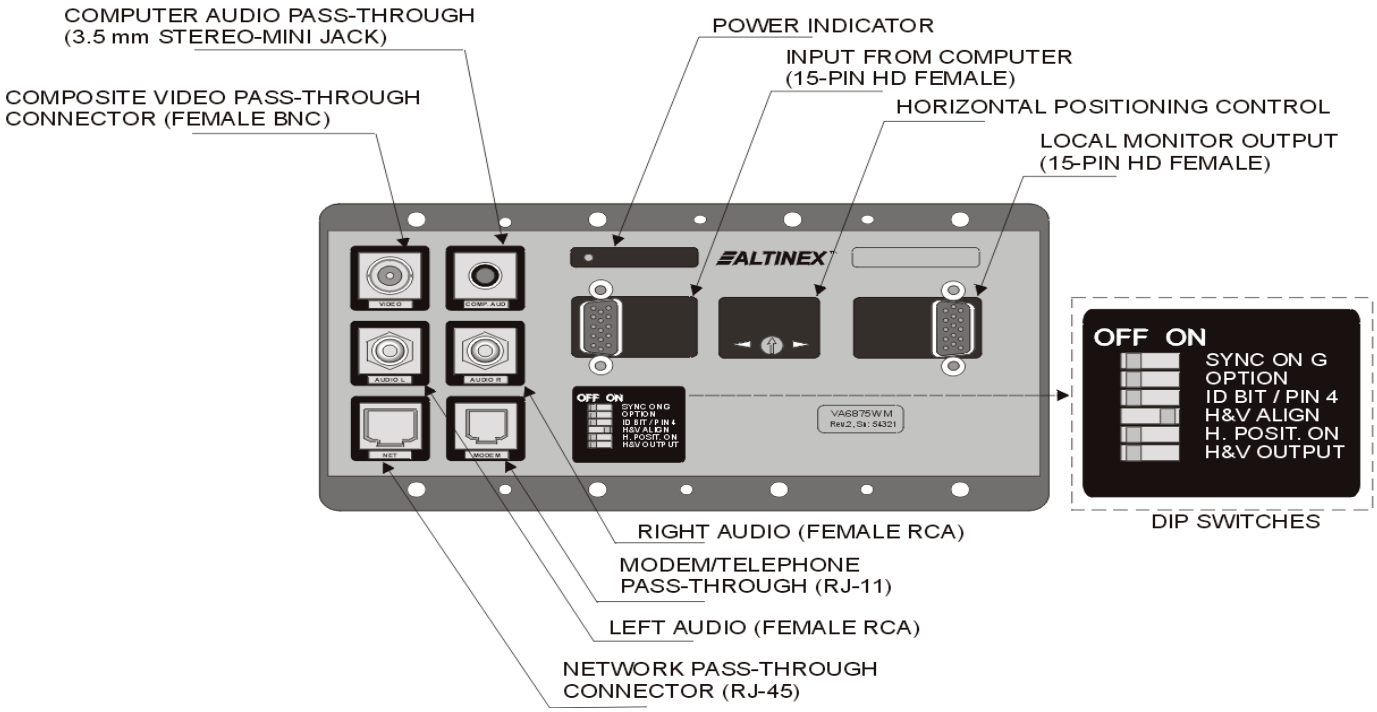
4.5 POWER REQUIREMENTS

The **VA6875WM** operates on 9-12V DC, 100 mA power. Two bare leads are provided on the rear of the unit for easy connection through two screw caps. Altinex offers an optional rack-mountable power supply - **PS5581SM**, which is capable of supplying power to up to 25 **VA6875WM** units. Altinex also offers **PS5503US**, an external power adapter, which can provide power to two **VA6875WM** units.

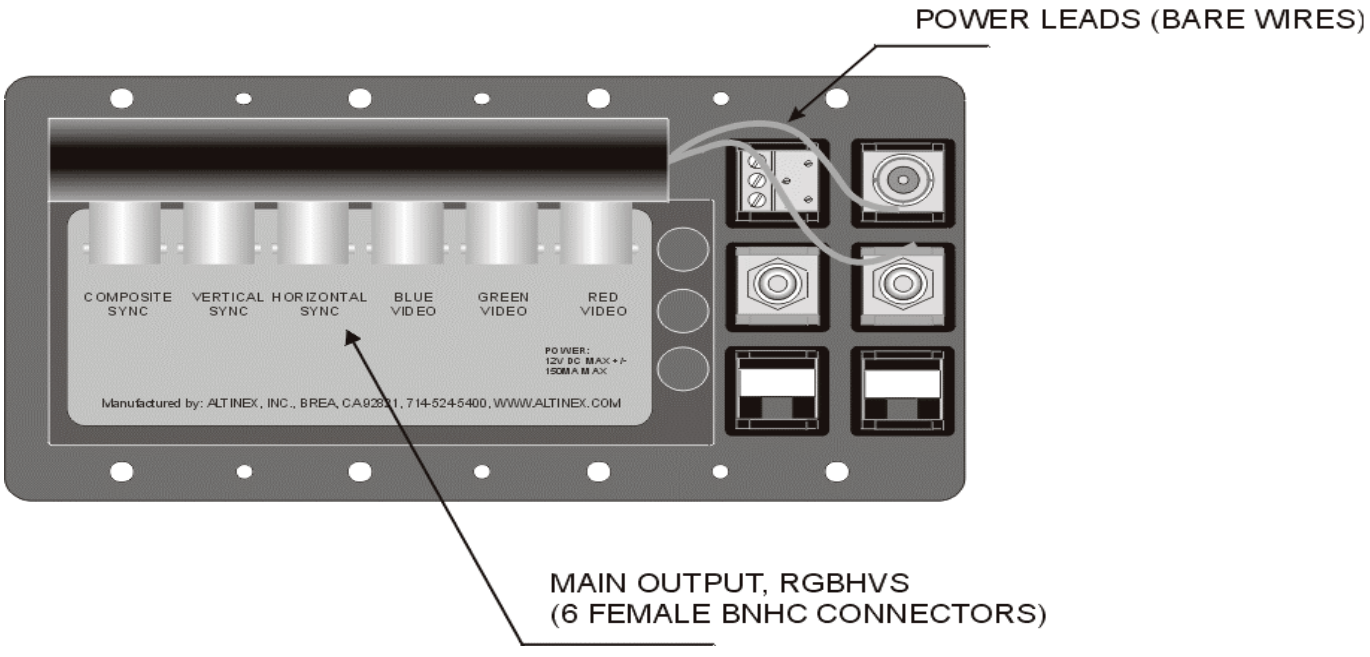
4.6 BANDWIDTH

The typical bandwidth of the **VA6875WM** is 425 MHz. The minimum bandwidth is 350 MHz. This exceptionally high bandwidth allows the passing of the third harmonic of the video signal, thus maintaining the highest quality of the input signal.

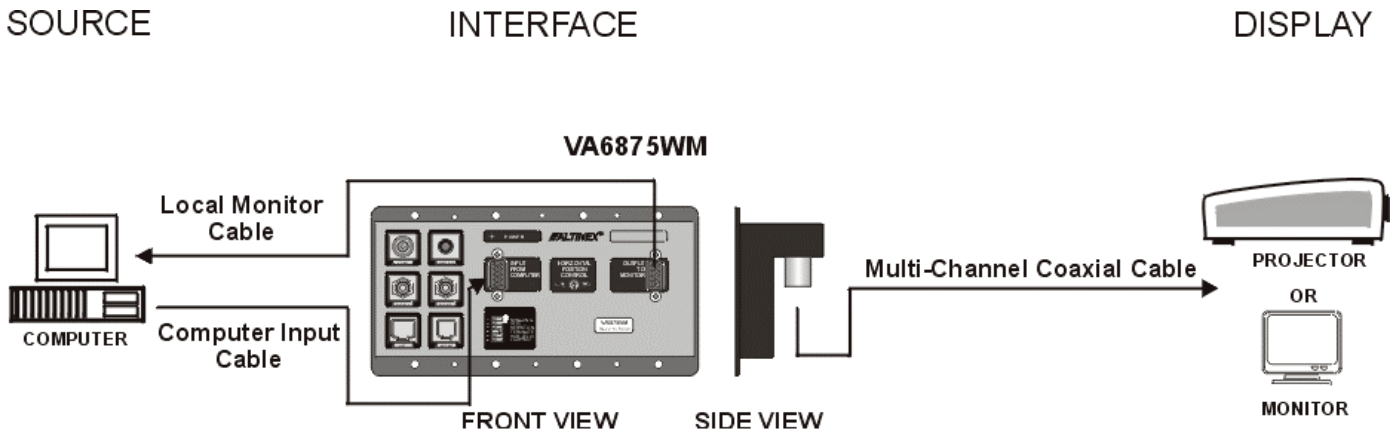
FRONT PANEL OF VA6875WM



BACK PANEL OF VA6875WM



APPLICATION DIAGRAM 5



INSTALLING YOUR INTERFACE 6

Step 1. The **VA6875WM** is designed for installation horizontally, directly into a standard 4-gang electrical enclosure with a device plate. The appropriate main output cables, which are connected to the rear of the **VA6875WM,** should be routed to the electrical enclosure/conduit before attaching it to the **VA6875WM**. Please leave enough slack to allow the interface to be taken out for maintenance, if necessary.

Step 2. Attach the bare power leads to a 9 -12V DC power supply (capable of supplying 150mA) by using the two provided screw caps. The polarity of the signal is not important. Use an optional **PS5581SM** or **PS5503US** power supply, which is available through Altinex. Test the power connection. A red LED on the front panel of the **VA6875WM** will light indicating that the unit is turned ON.

Step 3. Test the interface capabilities. Connect three, four, or five coaxial cables of the output cable to the appropriate BNC connectors. If RGBS format is being used as the output of the **VA6875WM**, connect four coaxial cables to the RED, GREEN, BLUE, and Composite Sync BNC connectors. Leave the H-Sync and V-Sync channels unconnected. If RGBHV format is used in the system, connect five coaxial cables to RED, GREEN, BLUE, Horizontal Sync & Vertical Sync BNC connectors and leave the COMPOSITE-SYNC BNC connectors open. If output is desired in RGsB format, connect through coaxial cables to RED, GREEN, and BLUE BNC connectors.

Step 4. Connect the computer source into the connector of the **VA6875WM** labeled Computer Input connector using the provided Altinex input cables. Verify that the image quality on the main presentation display is good. Test the Local Monitor output port of the **VA6875WM** by attaching a computer monitor to the 15-pin HD connector labeled Local Monitor Output located on the front plate of the **VA6875WM**. Test all cables to be used with the **VA6875WM**. The **VA6875WM** is designed to be used with Altinex Computer Input and Local Monitor Cables. Note: The use of

standard VGA cables from other manufacturers on the Input of the **VA6875WM** may cause picture loss or sync instability.

Step 5. With the Horizontal Position Control Dial centered (arrow pointing straight up), adjust the horizontal position of the image through the control provided on the main monitor or projector. If necessary, slight adjustments to the horizontal position of the image may be made with the Horizontal Position Control Dial on the **VA6875WM**. If possible, test the image with all possible computer resolutions.

Step 6. If a pass-through connection of video or audio is necessary through the front plate of the **VA6875WM**, order the Connector Kit **CT8241WM**. Remove the black plastic blank plugs, which are shipped with the **VA6875WM**. Push the two tabs located on the back of the plug, in and out by pressing firmly. Remove the blank plugs only for the connectors that are to be installed from the optional **CT8241WM** kit. Install the appropriate BNC/RCA/3.5mm Audio connectors from the back of the unit by pushing outwards. The side-tabs will lock the connector, but make sure that they are set firmly into the plate. The video and audio cables may be connected or plugged into the back connectors. Test all connections before continuing.

Step 7. If all the signals are good and images on both the projector and local monitor are perfect, attach the interface to the wall-box using the appropriate screws on the faceplate.

Step 8. Once the interface has been firmly mounted, install your selected decorative accessories (**WP1231WM**, **WP1232WM**, **WP1233WM**, or **WP1234WM**) using the six painted screws that come with the plate. As an alternative, you may install your custom plate designed for the **VA6875WM**. If the interface has been installed properly, the edges of the plate should be flush with the wall or furniture.

Step 9. If the dip-switches are set as described in Section 7, a perfect image from the projector and local monitor should appear.

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 **VA6875WM** Interface can be adjusted using the dip-switches as follows. There are no other adjustments necessary to operate the unit. The **VA6875WM** will operate successfully as long as the cables are attached properly and technical specifications are followed.

DIP SWITCH	OFF	ON
SYNC ON G	X	
OPTION	X	
ID BIT/PIN 4	X	
H&V ALIGN	X	
H. POSITION. ON		X
H&V OUTPUT	X	

Table 7. Default settings of dip-switches

7.1 SYNC ON GREEN OUTPUT SWITCH

Often systems that use large matrix switchers are designed to switch signals in RGsB format. This is done to reduce the cost of the switcher and cable. In these types of systems, the ability of the **VA6875WM** to output Sync on Green can be very helpful. It is important to note that the **VA6875WM** will not separate Sync from the Green signal, if the input signal is RGsB. It will simply amplify video and pass it through. It will, however combine Sync with Green Video when the switch is in the ON position; regardless of whether the input signal is RGBS or RGBHV.

7.2 OPTION

By default, this dip-switch is in the OFF position. By putting it in the ON position, the duration of Vertical SYNC of the signal is reduced to 10ms. This allows stability of the signal on a long run cable.

7.3 I.D. BIT SWITCH

Some computers on the market, especially laptop computers, require a local monitor to be present to correctly output video. The ID Bit switch, when turned ON, will connect Pin 4 to ground. This enables the interface to imitate a local monitor if one is not being used in the system. When the ID Bit switch is in the OFF position, the ID Bit of pin 4 is passed through to the HD Local Monitor output.

7.4 H & V ALIGN

By default the H & V ALIGN dip-switch is in the OFF position, so Horizontal and Vertical SYNC signals are independent. By turning this dip-switch to the ON position, the pulse of both HSYNC & VSYNC signals start at the same point so that the picture is aligned.

7.5 H. POSITION

When in the OFF position, the switch will disable the adjustment of the Horizontal position of the image through the dial located on the front plate. If the H. Position switch is in the ON position, the horizontal position control of image is possible through the dial on the face plate of the **VA6875WM**.

With the **VA6875WM**'s H. Position switch in the OFF position (Horizontal position control disabled), it is recommended to first adjust the Horizontal position of the image using the monitor or projector's H. Position control. If the Horizontal position of the image needs further adjustments, adjust it with the dial located on the **VA6875WM** Interface. The Horizontal position dip-switch is in the ON position at this time.

7.6 H & V OUTPUT

This dip-switch controls the SYNC signal that will be present on Composite SYNC and Horizontal SYNC connectors. These connectors are found on the output.

H & V Output dip-switch	INPUT	Signal on Composite SYNC connector	Signal on Horizontal SYNC connector
OFF	RGBS	Comp SYNC	Comp SYNC
	RGBHV	HSYNC	HSYNC
ON	RGBS	Comp SYNC	HSYNC
	RGBHV	HSYNC	HSYNC

Table 8. H & V Output

ACCESSORIES 8

Model No.	Description
	COVER PLATES
WP1231WM	4-Gang, All Inputs (Computer + Video) Cover Plate
WP1232WM	4-Gang, All Inputs Cover Plate with Dip-Switch Access
WP1233WP	4- Gang, Computer Input Cover Plate
WP1234WP	4- Gang, Computer Input Cover Plate with Dip-Switch Access
	ELECTRICAL ENCLOSURES
WB1251WM	4-Gang Wide Standard Electrical Enclosure
	RACK MOUNT PLATE
RM1281WP	19" Wide, 3U High Rack Mount, All Inputs Access
RM1282WP	19" Wide, 3U High Rack Mount, Computer Input Access
	CONNECTOR KIT
CT8241WM	SNAP-IN Connectors Kit [Includes standard 1 BNC, 1 3.5mm Stereo Audio, 2 RCA, 1 RJ-11, 1 RJ-45]
SN1308-4MD	SNAP-IN 4 PIN MINI DIN Connector
SN1308-6MD	SNAP-IN 6 PIN MINI DIN Connector
SN1308-8MD	SNAP-IN 8 PIN MINI DIN Connector
SN1306-BT	SNAP-IN ON/OFF Momentary Switch
SN1307-HP	SNAP-IN Analog Variable Adjustment
	POWER SUPPLIES
PS5503US	9V 500mA Power Supply for U.S. w/50ft wire for up to two units
PS5581SM	45 Watt Rack Mountable Power Supply (12V, 4.0 Amp) for up to 40 units
	INTERFACE CABLES
MS8121CA	MAC Local Monitor Cable
MS8122CA	MAC Input Cable
MS8123CA	SUN/SGI Local Monitor Cable
MS8124CA	SUN/SGI Input Cable
MS8125CA	VGA/SVGA/XGA Local Monitor Cable
MS8126CA	VGA/SVGA/XGA Input Cable
MS8129CA	5-BNC Workstation Input/Monitor Cable

All cables listed in Section 8 are 3 ft long. These cables are available in 6 ft and 12 ft lengths, please call 1-714-990-2300 for a wider selection of cables.

FAQ (FREQUENTLY ASKED QUESTIONS) 9

No:	Question	Answer
1	When and why would I use the Sync on Green dip-switch, although the unit does not separate Sync from Green?	The **VA6875WM** does not separate the Sync signal from Green, but if the desired output is RGsB format regardless of the input signal, turn the Sync on Green dip switch to the ON position.
2	When and why do I need to use the Horizontal Position dip-switch?	The Horizontal Position dip-switch enables or disables the control of the Horizontal Position of the image using the control dial on the **VA6875WM**. First adjust the Horizontal position using the monitor or projector's control, and then use the Horizontal position control of the **VA6875WM** for further adjustments.
3	What does it mean when the output is buffered and why it is so important?	A fully buffered output means that a display can actually be placed at a distance of 75 feet from the interface without loss to the signal.
4	When do I need an Option switch?	Use the option switch if your display requires a small Vertical SYNC signal.
5	When do I use the H& V output selection switch?	When the signal input is RGBS or RGBHV the type of SYNC of the outgoing signal is determined through the H&V Output dip-switch.

TROUBLESHOOTING GUIDE 10

1. Please use only a power supply that is capable of supplying at least 100 mA at +12V DC.
2. If problems arise on the display after continuous usage at higher voltage, higher temperature, higher humidity, or other extreme environmental conditions, please correct those extreme conditions.
3. Make sure that the cables have the correct pin-outs and the connection and quality of cables are good.
4. If the output is in RGsB format (Sync on Green), make sure that dip-switch # 1 on the front panel is in the ON position.
5. Please adjust the monitor or projector's Horizontal Position control with the control of the **VA6875WM** in the OFF position. After adjustments are made, if the picture is not clear, then please use the Horizontal Position control of the **VA6875WM**.
6. If the picture is not stable on the projector, please turn the H & V Align dip-switch in the ON position.

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 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 must 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