OCEAN MATRIX®

Instruction Manual

Thank you for purchasing an Ocean Matrix component. This unit is designed to give you years of trouble free professional operation for your most demanding applications. It is our goal to develop long term partnerships with our customers through our commitment to exceed their expectations.

OMX-5009A

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1 Introduction

Congratulations on purchasing your **OMX-5009A** *3x1 VGA/Audio Switcher*. This product is ideal for:

- Display and presentation systems that require three way switching to two displays
- Many multimedia applications
- Computer graphics and balanced stereo audio distribution

The package includes the **OMX-5009A** *3x1 VGA/Audio Switcher*, a power adapter (12V DC Input) and this user manual.

2 Getting Started

We recommend that you:

- Unpack the equipment carefully and save the original box and packaging materials for possible future shipment
- Review the contents of this user manual

3 Overview

The **OMX-5009A** is a 3x1:2 switcher for VGA/SVGA/XGA/UXGA and balanced stereo audio signals. It routes one of three sets of VGA/SVGA/XGA/UXGA and balanced stereo audio sources, outputting two identical signals to two acceptors (functioning as a distribution amplifier) with no discernible signal degradation. In particular, the high performance **OMX-5009A**:

- Is effectively a switcher and DA in a convenient desktop-sized unit
- Switches the balanced stereo audio signal with the video signal (audio-follow-video)
- With its video bandwidth of 450MHz, ensures transparent operation at the highest resolutions
- Comes with contact closure remote control for forced operation

To achieve the best performance:

- Connect only good quality connection cables, thus avoiding interference, deterioration in signal quality due to poor matching, and elevated noise-levels (often associated with low quality cables)
- Avoid interference from neighboring electrical appliances and position your **OMX-5009A** away from moisture, excessive sunlight and dust

4 Your OMX-5009A 3x1 VGA/Audio Switcher

Figure 1 and Table 1 define the **OMX-5009A**:

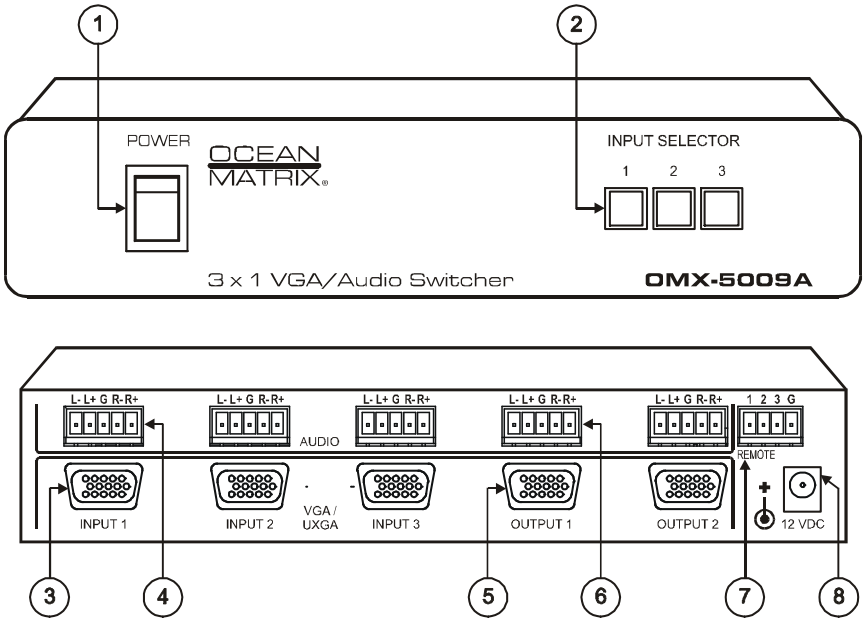

Figure 1: OMX-5009A 3x1 VGA/Audio Switcher

Table 1: Front Panel OMX-5009A 3x1 VGA/Audio Switcher Features

#	Feature	Function
1	*POWER* Switch	Illuminated switch for turning the unit ON or OFF
2	*INPUT SELECTOR* Buttons	Press to select the source
3	*VGA / UXGA INPUT* HD15F Connector	Connects to the *VGA / UXGA* source (from 1 to 3)
4	*AUDIO* Input Terminal Block Connector	Connects to the balanced stereo audio source (from 1 to 3)
5	*VGA / UXGA OUTPUT* HD15F Connector	Connects to the *VGA / UXGA* acceptor (from 1 to 2)
6	*AUDIO* Output Terminal Block Connector	Connects to the balanced stereo audio acceptor (from 1 to 2)
7	*REMOTE* Terminal Block Connector	Connects to dry contact switches
8	*12V DC*	+12V DC connector for powering the unit

5 Using the OMX-5009A 3x1 VGA/Audio Switcher

This section describes how to connect the rear panel of the **OMX-5009A** (see section 5.1), the REMOTE connector (see section 5.2) and the Balanced/Unbalanced Stereo Audio Input/Output (see section 5.3)

5.1 Connecting the OMX-5009A 3x1 VGA/Audio Switcher

To connect your **OMX-5009A**, as the example in Figure 2 illustrates, do the following[1]:

1. Connect up to 3 VGA/UXGA sources to the 3 HD15F input connectors, and connect up to 3 balanced[2] stereo audio sources to the 3 AUDIO input terminal block connectors, as follows:
   - Connect the source 1 (for example, a PC with a balanced stereo audio card) to the INPUT 1 HD15F connector, and to the INPUT 1 terminal block connector
   - Connect the source 2 (for example, a PC) to the INPUT 2 HD15F connector, and connect a balanced stereo audio source to the INPUT 2 terminal block connector
   - Connect the source 3 (for example, a PC) to the INPUT 3 HD15F connector and connect a balanced stereo audio source to the INPUT 3 terminal block connector
2. Connect the 2 HD15F output connectors to up to[3] 2 VGA/UXGA acceptors and connect the corresponding AUDIO output terminal block connectors to the balanced[2] stereo audio acceptors, as follows:
   - Connect the OUTPUT 1 HD15F connector to the VGA/UXGA acceptor 1 (for example, a monitor), and connect the OUTPUT 1 terminal block connector to the balanced stereo audio acceptor 1 (for example, a power amplifier and speakers)
   - Connect the OUTPUT 2 HD15F connector to the VGA/UXGA acceptor 2 (for example, a projector), and connect the OUTPUT 2 terminal block connector to the balanced stereo audio acceptor 2 (for example, a power amplifier and speakers)
3. Connect[4] the REMOTE Connector (optional), see section 5.2.
4. Connect[4] the 12V DC power adapter (wall transformer) to the 12V DC socket and connect the transformer to the mains electricity.

1 Switch OFF the power on each device before connecting it to your OMX-5009A. After powering up your OMX-5009A, switch on the power on each device

2 See section 5.3 for details of how to wire a balanced/unbalanced stereo audio input/output

3 When only one output is required, connect only that output of the OMX-5009A and leave the other output unconnected

4 Not illustrated in Figure 2

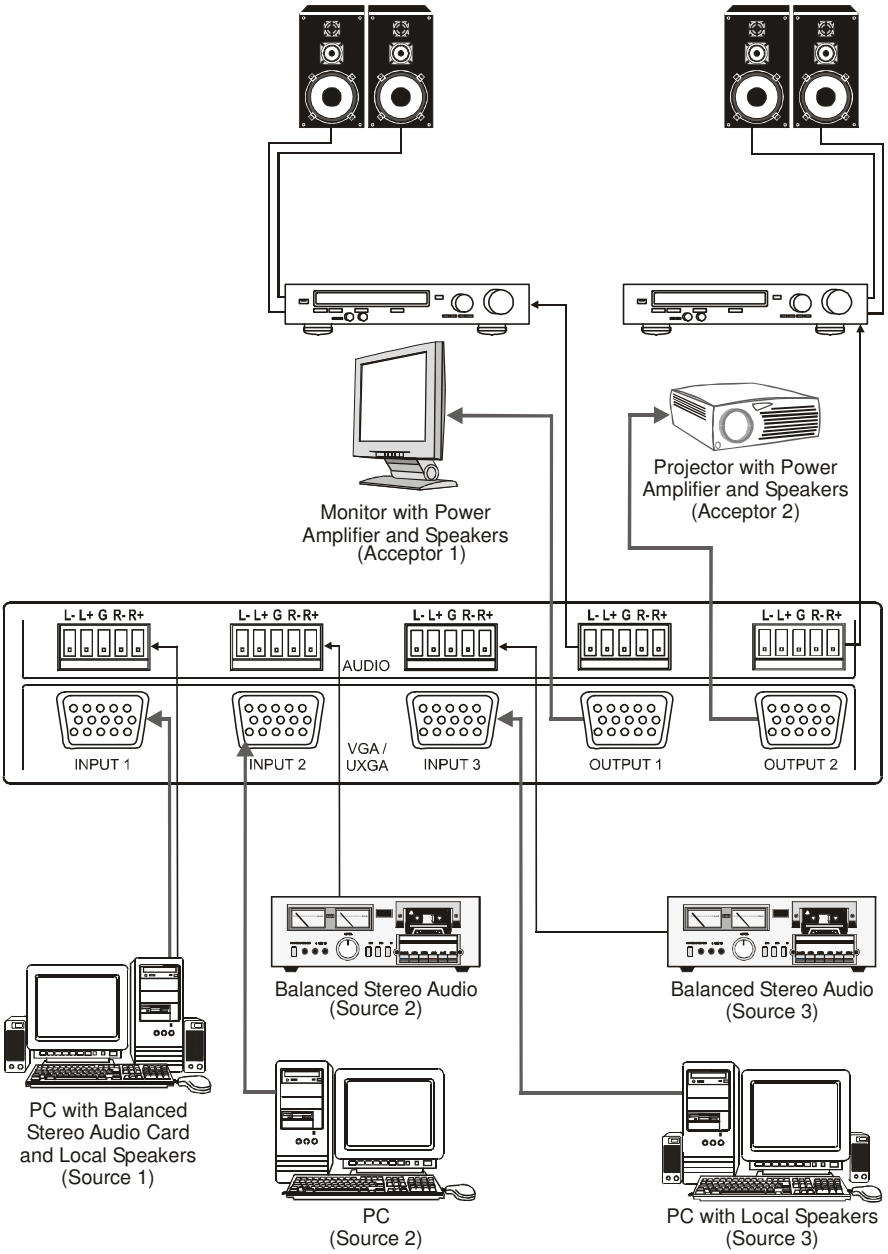

Figure 2: Connecting the OMX-5009A 3x1 VGA/Audio Switcher

5.2 Connecting the REMOTE Connector

You can force the routing of one of the 3 inputs to the VGA/UXGA and balanced stereo audio outputs by remote control.

To do so, momentarily connect the appropriate[1] REMOTE terminal block connector PIN to the REMOTE terminal block connector Ground PIN (see the illustration in Figure 3). The appropriate front panel push button illuminates as the selected input routes to both outputs.

DO NOT:

- Interconnect PIN 1, PIN 2 or PIN 3
- Connect more than one PIN to the Ground PIN at the same time

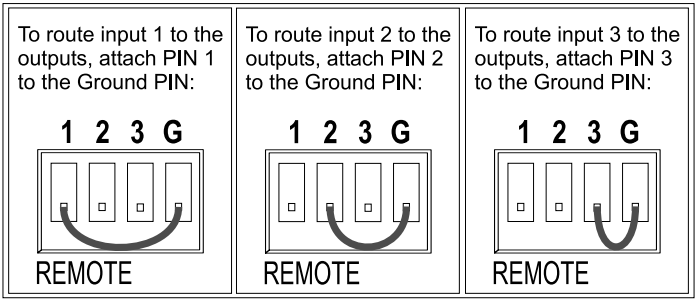

Figure 3: Connecting the REMOTE Connector

1 To route Input 1, connect PIN 1 to the Ground PIN. To route Input 2, connect PIN 2 to the Ground PIN. To route Input 3, connect PIN 3 to the Ground PIN

5.3 Connecting the Balanced/Unbalanced Stereo Audio Input/Output

Figure 4, Figure 5, and Figure 6 illustrate how to wire a balanced/unbalanced input and/or output connection:

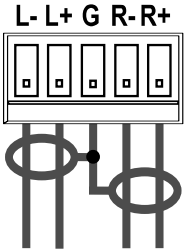

Figure 4: Connecting the Balanced Stereo Audio Input/Output

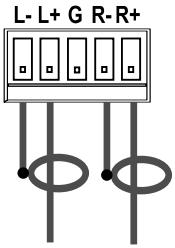

Figure 5: Connecting the Unbalanced Stereo Audio Input

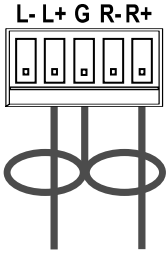

Figure 6: Connecting the Unbalanced Stereo Audio Output

6 Technical Specifications

Table 2 includes the technical specifications:

Table 2: Technical Specifications[1] of the OMX-5009A 3x1 VGA/Audio Switcher

INPUTS:	3 VGA/UXGA on HD15F connectors 3 balanced stereo audio 10kΩ on 5 PIN terminal block connectors 1 detachable 4 PIN terminal block connector for remote control	
OUTPUTS:	2 VGA/UXGA on HD15F connectors 2 balanced stereo audio 50Ω on 5 PIN terminal block connectors	
MAX. OUTPUT LEVEL:	VIDEO: 2Vpp	AUDIO: 7Vpp
BANDWIDTH (-3dB):	VIDEO: 450MHz, Fully Loaded	AUDIO: >100kHz
DIFF. GAIN:	0.03%	
DIFF. PHASE:	0.03 deg	
K-FACTOR:	<0.05%	
S/N RATIO:	VIDEO: 73.5dB	AUDIO: 83 1dB unweighted
CROSSTALK (all hostile):	VIDEO: –56.9dB @ 5 MHz	AUDIO: –87.6dB @ 1kHz
CONTROLS:	Front panel electronic push buttons, contact closure remote control	
COUPLING:	VIDEO: DC	AUDIO: Input: AC; Output: DC
AUDIO THD + NOISE:	0.022%	
AUDIO 2nd HARMONIC:	0.004%	
POWER SOURCE:	12 VDC 146mA	
DIMENSIONS:	22cm x 18cm x 4.5cm (8.7" x 7" x 1.8") W, D, H.	
WEIGHT:	1.1 kg (2.4lbs.) approx.	
ACCESSORIES:	Power supply	

1 Specifications are subject to change without notice