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-DA10XL

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www.oceanmatrix.com

Contents

Figures

Tables

1 Introduction

Congratulations on purchasing your OCEAN MATRIX® **OMX-DA10XL** *Video Audio Distribution Amplifier*. This product comes with a power cord, and this instruction manual. It is ideal for:

- Audio video duplication studios
- Rental/staging, CCTV, and home theater use

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 instruction manual

3 Overview

The **OMX-DA10XL** is a state-of-the-art 1:10 video audio distribution amplifier using BNC connectors for composite video, and RCA connectors for unbalanced stereo audio signals. The **OMX-DA10XL** accepts a composite video input and distributes the signal to 10 identical outputs.

In particular, the **OMX-DA10XL**:

- Includes looping connectors for connecting to a local monitor, other acceptor, or for forming larger systems[1]
- Has a video bandwidth of 360 MHZ, ensuring transparent performance with typical video and audio sources
- Can function as unbalanced stereo audio or balanced[2] mono audio (selected via an audio control button)
- Can output video signals that are DC or AC coupled for maximum flexibility (selected via a coupling button)
- Has front panel video trimmer controls[3] for output level and cable

1 For example, you can connect 3 OMX-DA10XL units to make a 1:30 video audio distribution amplifier. See section 4.2 for details

2 Recommended for low signal transmission over long distances or in audio broadcasting studios for high quality signal recreation

3 The video outputs are arranged in two blocks of 5 outputs (outputs 1 to 5, and outputs 6 to 10). Each block can be separately trimmed for output level and cable equalization (EQ.) thus achieving different compensations for different cable lengths

equalization (EQ.), as well as audio trimmer controls for left and right gain, with an enable / disable control button

Achieving the best performance means:

- Connecting 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)
- Avoiding interference from neighboring electrical appliances and positioning your **OMX-DA10XL** away from moisture, excessive sunlight and dust

Figure 1 and Table 1 define the **OMX-DA10XL** *Video Audio Distribution Amplifier*:

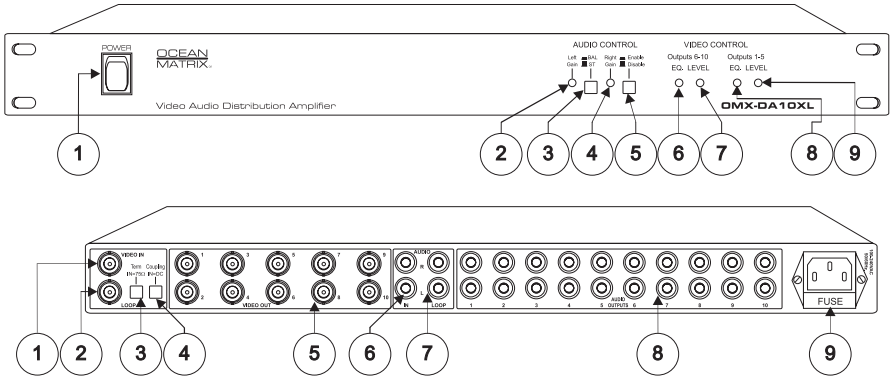

Figure 1: OMX-DA10XL Video Audio Distribution Amplifier

Table 1: Front Panel OMX-DA10XL Video Audio Distribution Amplifier Features

#	Feature		Function
1	*Power* Switch		Illuminated switch supplying power to the unit
2	AUDIO CONTROL	*Left Gain* Trimmer	Adjusts[1] the audio signal level for the left channel
3		*BAL/ST* Button	Pushing in selects balanced mono audio operation, releasing selects unbalanced stereo audio operation
4		*Right Gain* Trimmer	Adjusts[1] the audio signal level for the right channel
5		Enable/Disable Button	Pushing in enables audio gain trimmer control, releasing bypasses it disabling audio gain trimmer control
6	VIDEO CONTROL	*EQ.* Trimmer	Adjusts[1] the video EQ. (equalization) compensation of outputs 6 to 10
7		*LEVEL* Trimmer	Adjusts[1] the video signal level of outputs 6 to 10
8		*EQ.* Trimmer	Adjusts[1] the video EQ. (equalization) compensation of outputs 1 to 5
9		*LEVEL* Trimmer	Adjusts[1] the video signal level of outputs 1 to 5

1 Insert a screwdriver into the hole and carefully rotate it, to trim the level

Table 2: Rear Panel OMX-DA10XL Video Audio Distribution Amplifier Features

#	Feature	Function
1	*VIDEO IN* BNC Connector	Connects to the video source
2	*VIDEO LOOP* BNC Connector	For looping to increase output availability
3	*Term* Button	Pushing in selects 75Ω, releasing selects Hi-Z[1]
4	*Coupling* Button	Pushing in selects DC coupling[2], releasing selects AC coupling (removing the DC offset of the input signal)
5	*VIDEO OUT* BNC Connectors	Connect to the video acceptors
6	*AUDIO IN* RCA Connectors	Connects to the stereo audio source
7	*AUDIO LOOP* RCA Connectors	For looping to increase audio output availability
8	*AUDIO OUTPUTS* RCA Connectors	Connect to the stereo audio acceptors
9	Power Connector with Fuse	AC connector enabling power supply to the unit

4 Using the OMX-DA10XL Video Audio Distribution Amplifier

You can connect:

- A single **OMX-DA10XL** unit (see section 4.1)
- Several **OMX-DA10XL** units to increase the number of outputs (see section 4.2)

4.1 Connecting a OMX-DA10XL Video Audio Distribution Amplifier

You can connect a single **OMX-DA10XL** *Video Audio Distribution Amplifier* unit as a 1:10 video audio DA, in which audio is unbalanced stereo audio (left and right) or balanced mono audio (+ and -).

To connect the **OMX-DA10XL** as a 1:10 video unbalanced stereo audio DA, do the following[3]:

1. Connect a video audio source (for example, a composite VCR) to the VIDEO IN BNC connector and to the left and right AUDIO IN RCA connectors.
2. Connect the 10[4] VIDEO OUT BNC connectors and the 10 left and right AUDIO OUTPUT RCA connectors to the video audio acceptors[5] 1 to 10.
3. Connect the power cord to the mains electricity.
4. Push in the Term button to terminate the line to 75Ω.

1 For looping select Hi-Z

2 Achieving the best linearity and signal fidelity

3 Switch OFF the power on each device before connecting it to your OMX-DA10XL. After connecting your OMX-DA10XL, switch on its power and then switch on the power on each device

4 As required. Up to 10 outputs can be connected on the OMX-DA10XL. Not all outputs need to be connected

5 For example, VCR units

5. Release the BAL/ST button to select unbalanced stereo audio operation.
6. Adjust[1] the video trimmer controls[2] for output signal level and/or cable compensation equalization level, if required.
7. If audio control adjustment is required for left and/or right gain, push in Enable/Disable button, and then adjust[1] the trimmer controls.

4.2 Increasing the Outputs

You can increase the number of outputs by interconnecting **OMX-DA10XL** units. The example in Figure 2 illustrates how to connect 3 units to increase the number of outputs from 10 to 30.

To form a 1:30 video and unbalanced stereo audio DA, do the following[3]:

1. Connect a video audio source (for example, a composite VCR) to the VIDEO IN BNC connector and to the left and right AUDIO IN RCA connectors of the first **OMX-DA10XL** unit.
2. Connect the video LOOP BNC connector of the:
   - First **OMX-DA10XL** unit to the VIDEO IN BNC connector of the second **VM-10xl** unit
   - Second **OMX-DA10XL** unit to the VIDEO IN BNC connector of the third **OMX-DA10XL** unit
3. Connect the left and right AUDIO LOOP RCA connectors of the:
   - First **OMX-DA10XL** unit to the left and right AUDIO IN RCA connectors of the second **OMX-DA10XL** unit
   - Second **OMX-DA10XL** unit to the left and right AUDIO IN RCA connectors of the third **OMX-DA10XL** unit
4. Connect the 10 VIDEO OUT BNC connectors and the 10 left and right AUDIO OUTPUT RCA connectors of the:
   - First **OMX-DA10XL** unit to the video audio acceptors[4] 1 to 10
   - Second **OMX-DA10XL** unit to the video audio acceptors[4] 11 to 20
   - Third **OMX-DA10XL** unit to the video audio acceptors[4] 21 to 30

1 Insert a screwdriver into the hole and carefully rotate it, to trim the level

2 The video outputs are arranged in two blocks of 5 outputs (outputs 1 to 5, and outputs 6 to 10). Each block can be separately trimmed for output level and cable equalization (EQ.) thus achieving different compensations for different cable lengths

3 Switch OFF the power on each device before connecting it to your OMX-DA10XL units. After connecting the OMX-DA10XL units, switch on their power and then switch on the power on each device

4 For example, VCR units

5. On the first and second **OMX-DA10XL** units, release the Term button. On the third **OMX-DA10XL** unit, push in the Term button to terminate the line to 75Ω.

6. On each **OMX-DA10XL** unit:

- Connect the power cord to the mains electricity
- Release the BAL/ST buttons to select unbalanced stereo audio operation
- Adjust[1] the video trimmer controls[2] for output signal level and/or cable compensation equalization level, if required
- If audio control adjustment is required for left and/or right gain, push in the Enable/Disable buttons, and then adjust[1] the trimmer controls

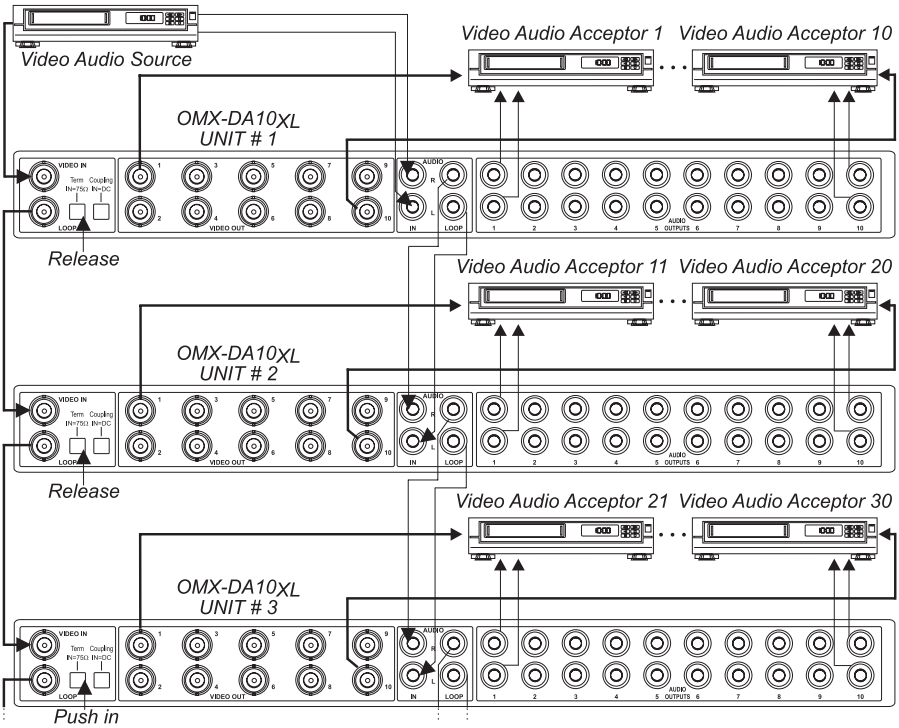

Figure 2: Increasing the Outputs: Arranging a 1:30 Video Audio DA

1 Insert a screwdriver into the hole and carefully rotate it, to trim the level

2 The video outputs are arranged in two blocks of 5 outputs (outputs 1 to 5, and outputs 6 to 10). Each block can be separately trimmed for output level and cable equalization (EQ.) thus achieving different compensations for different cable lengths

5 Technical Specifications

Table 3 includes the technical specifications:

Table 3: Technical Specifications[1] *of the OMX-DA10XL*

INPUTS:	1 composite video, 1 looping, 1Vpp/75Ω with termination switch on BNC connectors 2 audio, stereo or balanced mono, 2 looping, on RCA connectors	
OUTPUTS:	10 composite video, 1Vpp/75Ω on BNC connectors 10 audio, stereo or balanced mono, on RCA connectors	
MAX. OUTPUT LEVEL:	VIDEO: 1.6Vpp	AUDIO: 26.5 Vpp
BANDWIDTH (-3dB):	VIDEO: 360 MHz	AUDIO: >100 kHz
DIFF. GAIN:	0.07%	
DIFF. PHASE:	0.05 Deg.	
K-FACTOR:	<0.05%	
S/N RATIO:	VIDEO: 77dB	AUDIO: 87dB
CONTROLS:	Front panel accessible trimmers for video level (-1.2dB to +6dB) and EQ. (0dB to +8.1dB), audio left and right control trimmers (0dB to +6dB), balanced/stereo selector switch and audio controls enable switch	
COUPLING:	VIDEO: DC/AC	AUDIO: AC
AUDIO THD + NOISE:	0.023%	
AUDIO 2nd HARMONIC:	0.001%	
POWER SOURCE:	230 VAC 50 / 60Hz (115V U.S.A.), 4.7VA	
DIMENSIONS:	19-inch (W), 7-inch (D), 1U (H)	
WEIGHT:	2.1kg (4.7 lbs.) approx.	
ACCESSORIES:	Power cord	

1 Specifications are subject to change without notice