OMX-7003

1:10 s-Video / Composite /Audio Distributor

Several words on Distribution Amplifiers:

Distribution amplifiers distribute one signal to several users. They vary in the number of inputs, looping capability, number of outputs, operating format, bandwidth and input/output coupling. Distribution amplifiers are used to distribute one video and/or audio source to several video/audio acceptors for simultaneous recording or monitoring one source.

A good quality distribution amplifier amplifies the incoming signal (video and audio), pre-compensates the signal for potential losses (resulting from the use of long cables, for example) and generates several identical buffered and amplified outputs. Often, a signal processor is inserted between the source and the distribution amplifier for correction and fine-tuning of the source signal before multiplication, thus all copies are corrected in the same way. There are many factors effecting signal quality when transmitted from a source, to an acceptor:

- Source and acceptor signal handling capability - as different brands offer different qualities and the final result is limited by the lowest quality part performance. Using a low quality source will always result in low quality duplicates.
- The connection cables should be of the best quality you can afford. Low quality cables are susceptible to interference, deteriorate signal quality due to poor matching and cause elevated noise levels.
- Sockets and connectors of the sources and acceptors - so often ignored, should be of best quality, as "Zero Ohm" connection resistance should be assured. Sockets and connectors should match the required impedance (75 ohms in video). Cheap connectors tend to rust, causing breaks in the signal path.
- Amplifying circuitry quality is extremely important and is needed for high linearity, low distortion and low noise operation.
- The distance between source and acceptors plays a major role in the final result. If long distances (over 15 meters) exist between sources and acceptors - special means should be taken in order to avoid cable loss, such as using higher quality cables or if necessary - line amplifiers.
- Interference from neighboring appliances may have an adverse effect on signal quality. Balanced audio lines are less prone to interference, but unbalanced audio and video lines, even though the cables are shielded, should be installed far away from mains carrying cables, electric motors, transmitters etc.

The OCEAN MATRIX OMX-7003

The OCEAN MATRIX **OMX-7003** 1:10 Super-Video / Composite / Audio Distribution Amplifier is a full bandwidth industrial machine, intended for studio applications.

The **OMX-7003** splits a single S-Video/Composite /Audio Stereo input source into 10 identical outputs. The machine allows the user to select AC or DC input video coupling as well as allowing transformation of one S-Video source to 10 Composite video outputs, thus operating as a Composite-to-YC Transcoder as well.

Operation:

- Connect a composite/Y/C video and Audio Stereo source to the appropriate inputs.
- Select with the rear-mounted switch whether AC or DC coupling is needed.
- If an Y/C input is connected, select with the MODE rear switch whether you want to distribute plain Y/C signals (switched to "YC" side) or convert the Y/C input to 10 Composite outputs (switched to "YC to CV" side).
- Connect up to ten Video/Audio Stereo acceptors to the output sockets.

- If looping is needed, connect a second unit to the LOOP sockets, toggle the termination switch on the first unit into the Hi-Z position and the next unit into75 Ohms position.
- Operate source, acceptors and the **OMX-7003** unit.
- Output levels can be adjusted via holes in the back panel of the machine using an insulated screwdriver. The machine is factory calibrated and unnecessary adjustments will upset signal transparency.

Uses

- Studio, shops and showrooms use for distributing Y/C, Video and Audio signals.
- Use the looping capability of the **OMX-7003** unit to increase the number of outputs.
- Use the Y/C to Composite built-in Transcoder for other applications.

Technical Specifications:

INPUTS: 1 Composite Video looping, 1Vpp/75 Ω on BNCs, 1(Y), 1Vpp/75 Ω , (C) 0.3Vpp / 75Ω on 4P connectors looping with termination switch. 1 Audio Stereo looping 1Vpp/ 22kΩon RCAs.

OUTPUTS: 10 CV, 1 Vpp/75 Ω, on BNCs. 10 (Y) 1 Vpp/75 Ω, 10 (C) 0.3Vpp / 75Ω on 4P connectors. 10 Audio Stereo 1Vpp/100Ω on RCAs.

VIDEO BANDWIDTH:	50 MHz -3dB.
AUDIO THD:	Less than 0.03%.
VIDEO S/N RATIO:	Better than 74 dB.
AUDIO S/N RATIO:	Better than 78 dB.
COUPLING:	DC/AC (Y), AC audio.
DIFF. GAIN:	1.1 %.
DIFF. PHASE:	0.2 Deg.
K-FACTOR:	<0.05%.
MAX. VIDEO OUTPUT:	2.5 Vpp
AUDIO BANDWIDTH:	20 kHz -1dB.
POWER SOURCE:	115VAC 50/60 Hz
DIMENSIONS:	19 inch, 2U rack mountable.

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