

OMX-7019/7021/7020

Video/s-Video/Audio Distribution Amplifiers

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 OMX-7019, OMX-7020, OMX-7021

These distribution amplifiers are high quality, state-of-the-art DAs, designed for use in studios, shops, showrooms and other demanding applications. Each unit of the series splits one signal input to 5 acceptors, and provides a looping facility for cascading and chaining additional units to form a bigger distribution center.

The **OMX-7019** distributes either a composite or a single video "component" signal, the **OMX-7021** machine distributes Super-Video (YC), and the **OMX-7020** distributes two stereo-audio channels.

All units in this series are compact units, and are fed externally from any 12V DC supply, they are perfect for field operation. The **OMX-7020** machine has a built-in voltage multiplier allowing for broadcast high-level signal distribution.

Operation:

- ◆ Connect the input to the source to be distributed, taking care to use the right high quality cables. If looping of the video units is needed (the **OMX-7019** and **OMX-7021**) release the rear switch from the "75 Ohm" position into the "Hi-Z" position. If looping is not needed, push the switch into the "75 Ohms" position. If more than 2 machines are looped together, release the termination switch on all machines (to the "Hi-z" position) but the last chained machine, where it's switch is pressed into the "75 Ohms" position. The **OMX-7020** unit does not have a

termination switch as the unit has high impedance inputs, and just connecting the second unit inputs in parallel does looping.

- ◆ Connect all outputs to the acceptors, again using high quality cables, turn on all units - sources, acceptors and the **OMX** units and you are ready to go!

Technical Specifications:

INPUTS:

OMX-7019: 1 Composite Video looping, 1Vpp / 75 Ω.
OMX-7021: 1 YC looping, Y=0.7Vpp/75 Ω, C=0.3Vpp/75 Ω.
OMX-7020: 1 Stereo-Audio, looping, 1V / 50KΩ nom.

OUTPUTS:

OMX-7019: 5 Composite Video, 1Vpp / 75 Ω.
OMX-7021: 5 YC, Y=0.7Vpp / 75 Ω. C=0.3Vpp / 75 Ω.
VM-50A: 5 Stereo-Audio, 1V / 1000 Ω.

CONTROLS: Power On/Off switch (front), Termination switch (rear, OMX-7019, OMX-7021 units).

BANDWIDTH: 480 MHz -3dB (OMX-7019), 280 MHz -3dB, (OMX-7021.) 20-20000 -1dB (OMX-7020).

DIFF. GAIN: Less than 0.05%. (OMX-7019, OMX-7021)

THD: Less than 0.018% (OMX-7020).

MAX SIGNAL OUT: 2 Vpp / 75 Ω (OMX-7019, OMX-7021).
25 Vpp (OMX-7020).

"Y" S/N RATIO: Better than 73 dB (OMX-7019), 80dB (OMX-7021).

AUDIO S/N: Better than 84 dB (OMX-7020).

POWER SOURCE: 12 VDC 200 mA, current limited supply.

DIMENSIONS: 16.5 cm X 12 cm X 4.5 cm (W,D,H).

WEIGHT: 0.6 Kg (1.3 Lbs.) Approx.

Please note that if the output signal is disturbed or interrupted by very strong external electromagnetic interference, it should return and stabilize when such interference ends. If not, turn the power switch off and on again to reset the machine. The socket-outlet shall be installed near the equipment and shall be easily accessible. To fully disconnect equipment, remove power cord from its socket.

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