AVM500-ES Overview

AVM500-ES is an EtherSound Network Matrix in a 19" 1U rack box for linking and routing up to 5 EtherSound Networks together. AVM500-ES Integrates a full matrix router of 320 x 320 audio channels.

AVM500-ES enhances EtherSound standard daisy chain connection and enables to build star architectures of mixed bidirectional EtherSound or ES100 devices or sub-network. Multi AVM500-ES can be ringed together using their twin IN and OUT A Ports to create a redundant ring of EtherSound Networks. AVM500-ES has an auxiliary power supply input to build safety systems.

AVM500-ES enables network remote installation monitor and control thanks to its native integrated network status report capability. Any AVM500-ES can be fully monitored and controlled from a PC using ESMonitor software available for free download on AuviTran web site. AuviTran’s ES-Monitor, a Windows XP application running on a remote PC connected to the EtherSound™ network, which allows automatic discovery and management of AVM500-ES products.

Mechanical Specifications

19 inches 1U rack box

Key Features

- Enhances existing EtherSound™ devices and systems to Bidirectional Star Architectures
- Build in matrix of 5 x ES-100 EtherSound Networks in a 19" 1U rack
- 5 Bidirectional ES-100 EtherSound Ports: 1 IN, 4 OUT
- Full matrix router of 320 x 320 digital 48kHz 24 bits audio channels
- Twin Ports available for Safety Ring AVM500-ES interconnections
- Multi AVM500-ES can be combined together to map star cabling architecture
- Build In Redundant auxiliary power supply input for secure systems
- Dedicated Ethernet Link for PC remote control and monitoring
- Build in serial port for remotely controlled distributed devices
- Selectable Word Clock source from local 48kHz clock, BNC Word Clock In or EtherSound network

Applications

- Product for distribution, routing and control of Audio for live and touring installations
  - Live broadcast PA/announcement
  - Live entertainment and concerts
  - TV and Radio Outside Broadcast
  - Electro acoustic music productions
  - Itinerant Museums and Theatres

- Product for fixed installation with high quality Audio distribution, paging and zone management:
  - Stadium, Opera, theatre, museum and arts centres
  - Theme parks and resorts
  - Public Address: touring and fixed sound reinforcement
  - Broadcasting
  - Office blocks, corporate boardrooms and buildings PA

- Any System requesting bidirectional star architectures
  - Broadcast and Studio:
    - Radio and TV Studio recording
    - AES/EBU routing network matrix for broadcast
    - Recording and monitoring studio
    - Multi channels Broadcasting

Audio Distribution over Standard Ethernet: EtherSound™ enhances established technologies to provide easy-to-implement, high-quality audio networks. The patented EtherSound™ protocol provides fully deterministic, very low-latency (125µs plus 1.4µs per additional network node) transmission of synchronized audio channels over standard Ethernet. EtherSound™ provides a cost effective fully digital path between a virtually infinite number of networked audio devices with up to 128 channels of 24-bit digital audio at 48 KHz, with bi-directional status and control data. Off-the-shelf Ethernet components such as 100baseTX switch can be used to extend the number of audio devices, as well as the distance between the devices on the network.
**Architecture Overview**

Architecture Based on an AVM500-ES

**Technical Specifications**

<table>
<thead>
<tr>
<th><strong>General</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Size</td>
<td>483 x 253 x 44mm (19’ rack / 1U Height)</td>
</tr>
<tr>
<td>Power Consumption</td>
<td>&lt;50 Watts</td>
</tr>
<tr>
<td>Power Supply</td>
<td>100-240VAC 50/60Hz 47W Max</td>
</tr>
<tr>
<td>Storage: Temp/Humidity</td>
<td>-5°C to 70°C / 0% to 95% (non-condensing)</td>
</tr>
<tr>
<td>Operating: Temp/Humidity</td>
<td>0°C to 50°C / 5% to 90% (non-condensing)</td>
</tr>
<tr>
<td>Front Panel</td>
<td>Networks and links Rx and Tx Activities; Active synch running; Power Main, Aux and On Display</td>
</tr>
<tr>
<td>Rear Panel</td>
<td>1 IEC Power inlet; 7 Neutrik EtherCon RJ45; 1x6 poles Euroblock Connector for Aux power supply; 1 BNC for word clock sync in 1 DB9 connector for Serial Port</td>
</tr>
</tbody>
</table>

**AVM500-ES Features**

| **EtherSound Network Segment** | 5 EtherSound Network Segments interconnections: A (In, Out), B, C, D, E |
| **EtherSound IN Port** | 1 EtherSound IN Port: AIN |
| **EtherSound OUT Port** | 5 EtherSound OUT Ports: AOUT, B, C, D and E |
| **ES-100 to ES-100 Latency** | 6 samples (125µs at 48 kHz) |
| **Digital Audio Channels** | 320 (5 x 64) Input Audio channels and 320 (5 x 64) Output Audio channels |
| **Matrix / Patch size** | 320x320 full cross matrix with remote control patch via EtherSound |

- Any individual output audio channel can be muted or patched to any of the 320 available Input audio channels

**Remote control**

- Via EtherSound of from Ethernet PC remote link
- Other I/O: RS232 serial port

**Clock Synchronisation mode**

- 48 kHz local clock (when Primary Master) or EtherSound Network (When not PM)
- Word clock in used for synchronisation

**Temp / Fan monitoring**

| **Temp Monitoring** | Network Monitoring of Temperature inside the Box |
| **PSU Monitoring** | Network Monitoring of PSU Failure for Main and Aux power supply |
| **4 Fan Control modes** | Automatically Controlled by internal Temperature, Software set (via ES Monitor), Full speed, Off |

**Development and Integration Environment**

| **OS Supported** | Windows XP |
| **ES-Monitor** | ES-Monitor enables to remotely set, control and monitor an EtherSound network and provides enhanced property pages to manage the AVM500-ES specific parameters. |

**Remote Network Management**

- Links status, Power supply status (Main, Aux), Temperature monitoring, Fan remote control and PSU Aux/Main remote control

**Part numbers**

AVM500-ES – Matrix router of 5 ES-100 EtherSound Networks