## AVRed-ES Overview

AVRed-ES is an EtherSound redundant links management device in a 19" 1U rack box for safety audio distribution over Ethernet with ultimate low propagation delay.

AVRed-ES secures an EtherSound connection with 2 redundant links A/B and automatic real time measurement of communication quality and 4 samples latency switch on the better link. AVRed-ES is running in pair with another AVDRed-ES for very low propagation delay or after a standard Ethernet switch for cost sensitive installation.
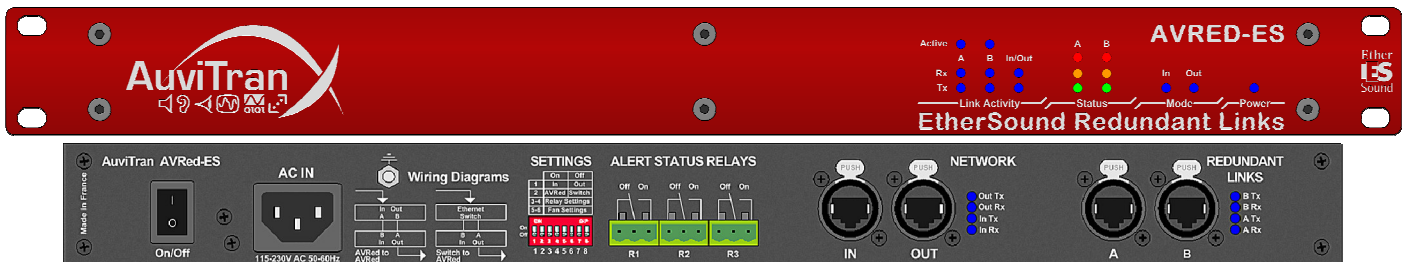
AVRed-ES enables network remote installation survey thanks to its native integrated network status report capability and its general purpose I/O read/write function.
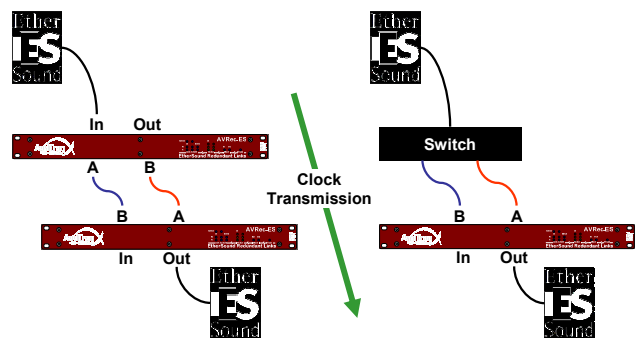
## Mechanical Specifications

19 inches 1U rack box

## Key Features

- 2 EtherSound network IN/OUT port enabling the device to be used as a duplicate link A/B box or as a merging box

- 2 active redundant links A/B with automatic selection of best link depending on link quality and integrity

- Full display on Front Panel of active link A or B and of both link quality and status

- User selectable local GPIO for internal parameter status or remote controlled status

- AuviTran's ES-Monitor, a Windows XP application running on a remote PC connected to the EtherSound™ network, allows automatic discovery and management of AVRed-ES products; monitors connection & disconnection of products and link quality status; controls the individual products' parameters and allows remote assignment of the GPIO



## Applications

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

- Product for Transportation public address
  - Train and bus stations terminals
  - Airport facilities and audio distribution
  - Cruise Ships paging including onboard entertainment and leisure centre audio facilities

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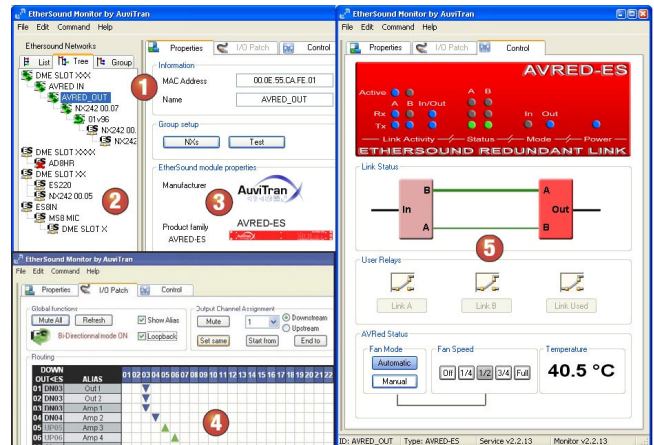  - Office blocks, corporate boardrooms and buildings PA



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 1.6µs 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

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## ESMonitor Software overview

Supplied with AVRed-ES or downloaded on www.auviTran.com web site, AuviTran's ES-Monitor is a Windows XP application which runs on a remote PC connected to the Primary Master of an EtherSound™ network segment, through standard Ethernet connections. ESMonitor offers:

1. Automatic discovery of AVRed-ES devices and/or any EtherSound™ compatible device on the segment, as well as automatic hierarchical interconnection between them. It enables the use of aliases to identify the modules, network name and group management.
2. Monitoring of connection, disconnection and error status for all devices and EtherSound™ links.
3. Automatic identification of the manufacturer ID, the product ID and the Channel I/O.
4. Local Patch assignment of any EtherSound device input or output to the required EtherSound™ channel.
5. Controlling the individual parameters of the AVRed-ES; the EtherSound IN or OUT port and link A/B activities; the Link A or B in use; the errors detected; The Temperature and Fan Control speed.

## Technical Specifications

| General | |
|---|---|
| Size | 483 x 253 x 44mm (19' rack / 1U Height) |
| Power Consumption | <25 Watts |
| Power Supply | 100-240VAC 50/60Hz 47W Max |
| Storage: Temp/Humidity) | - 5°C to 70°C / 0% to 95% (non-condensing) |
| Operating: Temp/Humidity | 0°C to 50°C / 5% to 90% (non-condensing) |
| Front Panel | Network and links  Rx and Tx Activities; Active link running ; Quality Status of both Links A and B ; In or Out Mode selected for device ; Power On Display |
| Rear Panel | 1 IEC Power inlet; 4 Neutrik Ethercon RJ45 ; 3x3 poles Euroblock Connector<br>Dip switches for Modes setting; Network activity LEDs |

| AVRed-ES Features | |
|---|---|
| 3 Operating modes<br>set by external dip switch | ● Mode IN: EtherSound Input to 2 resilient links<br>● Mode OUT on AVRed-ES: 2 resilient links coming from an AVRed-ES module to one EtherSound Output Port<br>● Mode OUT on Switch: 2 resilient links coming from an Ethernet Switch to one EtherSound Output Port |
| EtherSound I/O | IN or OUT port depending of operating mode selected |
| Resilient Link | A and B with automatic selection of best link |
| Pass-through Latency | 2.8µs in AVRed-ES – AVRed-ES Mode<br>Approx 22µs in Switch – AVRed-ES Mode |
| Link Switching latency | 4 samples (83µs at 48 kHz) |
| Clock | Provides 48 kHz clock when Primary Master |

| Output Relays Specifications | |
|---|---|
| Type | 3x2 Poles Relays on 3x3 poles Euroblock connectors |
| Operating range | 24V / 1A |
| 4  status modes<br>set by external dip switch | ● Link A Status / Link B Status / PSU Status<br>● Link A Status / Link B Status / Link Used<br>● Link A Status / Link B Status / User Set Relay<br>● 3 User Set Relays Drive By Remote Application Via EtherSound |

| Temp / Fan monitoring | |
|---|---|
| Temp Monitoring | Network Monitoring of Temperature inside the Box |
| 4  Fan Control modes<br>set by external dip switch | ● Automatically Controlled by internal Temperature<br>● Software set (via ES Monitor)<br>● Full speed<br>● 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 AVRed-ES specific parameters. |
| Remote Network Management | Links status, Relays status and Temperature monitoring<br>Fan remote control and Relays remote control (if remote mode selected on dip switch) |

## Part numbers

AVRed-ES - EtherSound Redundant Links A/B management

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*Specifications and appearance are subject to change without notice*