RAVE

RAVE is a revolutionary signal transport system that allows you to route multiple channels of audio over standard Fast Ethernet hardware and cabling. A single or more RAVE network can now replace up to 64 analog cables, dramatically reducing installation time, effort and cabling costs while improving routing flexibility and audio performance. RAVE is the ideal audio transport system for arenas, theatres, broadcast facilities and other applications that need multiple channels routed over long distances free of noise and hum.

Easy Routing of Multiple Audio Channels

Large sound systems often require routing dozens of audio channels over long distances to multiple locations. Analog technology requires a separate line for each channel, leading to large cables and conduits, and time-intensive installations.

Analog cabling can be a nightmare-prone to errors and subject to interference and noise. It's also time consuming to design and install as well as difficult to reroute and reconfigure. Cable, conduit, termination and labor costs can be the single largest expense of a system.

RAVE is a digital audio transport system that dramatically simplifies installation, reduces costs, increases routing flexibility and improves audio performance. RAVE enables you to transmit audio via standard Fast Ethernet hardware and cabling using Peak Audio's revolutionary CobraNet™ technology. Up to 64 channels of uncompressed 20-bit, 48 kHz digital audio can be transmitted over a single RAVE "repeater" network with no bit-rate reduction processing or other quality compromises. Additionally, RAVE now supports "switched" network topologies allowing for larger channel capacity and greater versatility. With a "switched" network, it's possible to run hundreds of channels of audio in coexistence with asynchronous PC or control traffic.

RAVE can provide great economies over conventional wiring methods, yielding significant time and cost savings in the reduction of cabling, termination, conduit and installation labor. With both analog and digital I/O models available, it is also easy to interconnect a wide variety of analog and digital equipment without additional converters. Finally, because it is Fast Ethernet based, RAVE easily supports system re-configuration and expansion with off-the-shelf network media and hardware.

What are the Benefits of RAVE?

• **Reduced installation time and labor costs by terminating one cable for every 64 channels**

• **Reduce installation costs–replace up to 64 analog lines, conduit, isolation transformers, and distribution amplifiers with a single CAT-5 cable or fiber**

• **Superior audio quality–20-bit/48 kHz digital audio quality system-wide, immune to ground loops or EMI**

• **Greater flexibility–expand the system or re-route signals in any direction without rewiring**
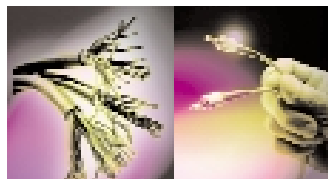
Replace audio cable with a single CAT-5 network cable, or for longer distances (328 feet), with fiber optic cables.

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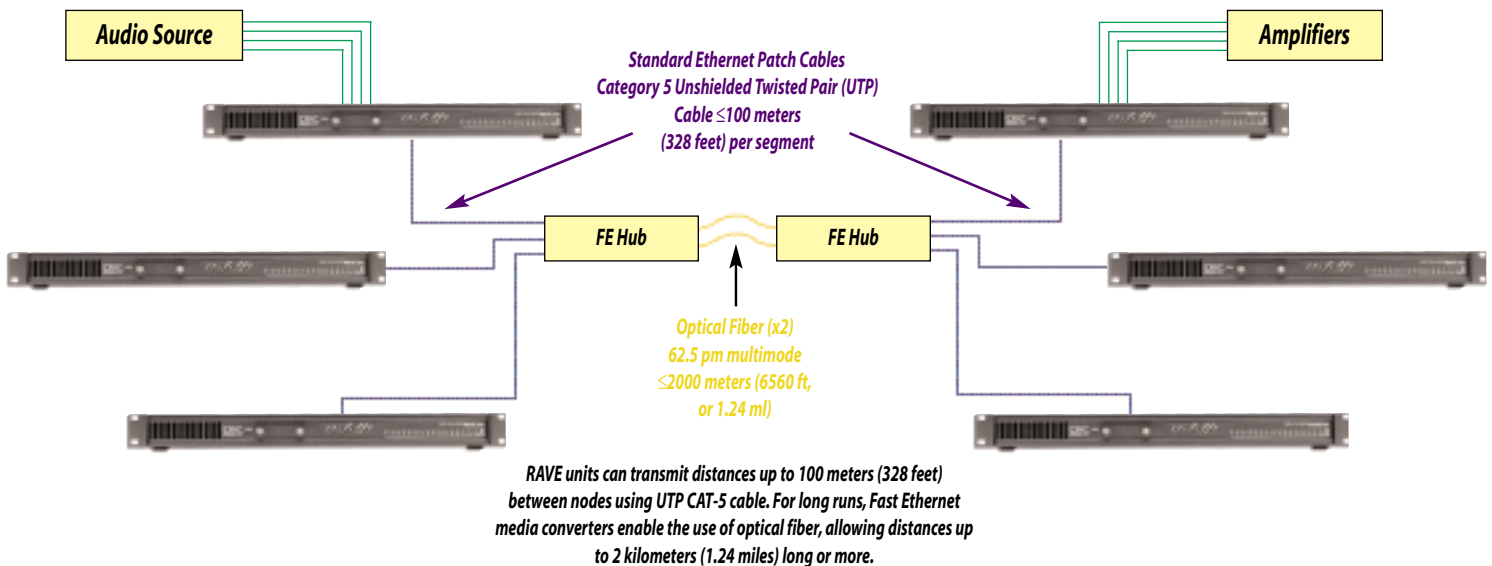
Each RAVE unit handles 16 audio channels–in either analog or digital AES/EBU format, depending on the model. More audio channels can be added to a network using additional RAVE units and inexpensive Fast Ethernet hardware such as hubs, CAT-5 twisted-pair wire, and fiber optic cable.

Channel Routing

Using a front panel switch on each RAVE unit, blocks of 8 audio channels can be sent or accessed at any point on the network. All channels are available anywhere on the network–just plug in a RAVE unit and select the input or output signal blocks you want to send or receive. No computers are needed to set-up or operate the system. Want to change a routing? Just change the front panel switch settings. Need more drops? Just plug more RAVE units into a hub. It couldn't be easier.

Example of Edison Field (Anaheim, California)

Audio Source

Amplifiers

Standard Ethernet Patch Cables
Category 5 Unshielded Twisted Pair (UTP)
Cable ≤100 meters
(328 feet) per segment

FE Hub   **FE Hub**

Optical Fiber (x2)
62.5 pm multimode
≤2000 meters (6560 ft,
or 1.24 ml)

RAVE units can transmit distances up to 100 meters (328 feet) between nodes using UTP CAT-5 cable. For long runs, Fast Ethernet media converters enable the use of optical fiber, allowing distances up to 2 kilometers (1.24 miles) long or more.

Note: Although any one fiber segment can be up to 2000 meters long, and any single UTP segment can be up to 100 meters long, it may be necessary to impose shorter limits, in consideration of cumulative delays caused by devices and cabling. See Rave Application Guide for more information.

MODEL	Input Audio Channels	Output Audio Channels
RAVE 160s		**16 analog**
RAVE 161s	**16 analog**	
RAVE 188s	**8 analog**	**8 analog**
RAVE 80s		**16 digital***
RAVE 81s	**16 digital***	
RAVE 88s	**8 digital***	**8 digital***

*AES/EBU

Specifications

Digital:	20 bit AES/EBU audio (sample rate converting)
Analog:	20 bit/48kHz audio conversion
Distortion:	<.007% <.004 @1kHz S/N is -100dB
Delay:	6.3 milliseconds, fixed, input to output
Audio Input Connections:	3 pin Eurostyle pluggable terminal block connectors
Serial Data Connections:	RS232 and RS422/485
Ethernet Output Connections:	100baseTX, single RJ45 connector
Input Level Sensitivity:	+24dBu, +18 dBu, +12dBu jumper selectable
Output Level Sensitivity:	+24dBu, +18 dBu, +12dBu, +6dBu jumper selectable
Dimensions:	Width: 19" Depth: 13.375" Height: 1.75" (1RU)
Weight:	15 lbs. (shipping)