RANE

front panel

rear panel

RAD1
2 Mic Inputs

RAD2
1 Mic & 1 Line Inputs

RAD3
2 Line Inputs

RAD4
2 Line Outputs
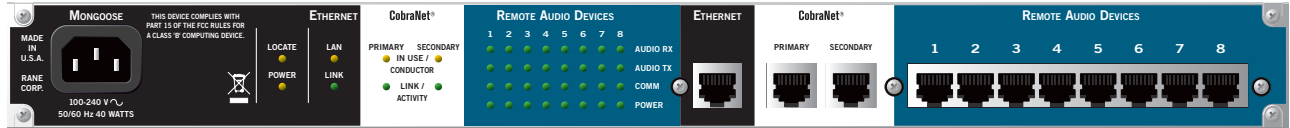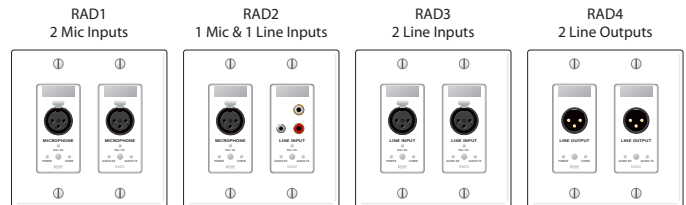

General Description

The Mongoose and it's Tracker software work with Rane's Remotes Audio Devices (RADs) and your CobraNet network to deliver digital audio to the "last mile" of installations – between the equipment room/rack and ancillary spaces. OK, it's not a mile, we lied, it's actually 100 meters (327 feet to those in Liberia, Myanmar and the USA).

The Mongoose's 32 by 32 digital audio matrix router receives its first 16 audio channels from up to 8 RADs via the eight rear panel RJ-45 Remote Audio Device ports. The second 16 matrix input channels come from two CobraNet receive (Rx) Bundles via standard CobraNet Primary and Secondary/backup ports. The 32 matrix router outputs transmit 16 channels to 8 RADs and 16 more channels to two CobraNet transmit (Tx) Bundles.

A family of RAD models each convert analog audio to or from 24-bit, 48 kHz digital audio. Each RAD mounts in a standard US electrical gang box, typically scattered throughout a facility. Standard CAT 5 cable and termination transport four digital audio channels – two channels in each direction – as well as power, ground and a communications channel via Rane's proprietary RAD Network.

CAT 5 CABLE

Data communications (COMM)
2 digital audio channels (Rx)
2 digital audio channels(Tx)
Power: 24 VDC & ground
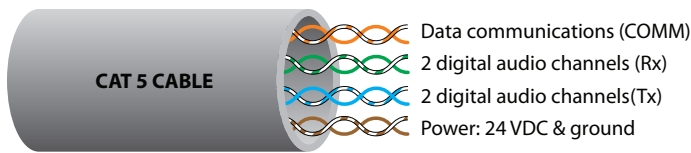
Mongoose's rear panel Ethernet port provides for direct or network connection to a computer running Rane's Mongoose Tracker setup software. Inexpert users are assured easy network communications with Zeroconf (Link-local/mDNS) and DHCP support. Gone are the days of installers requiring intricate IP knowledge. Yet, facility network managers can configure Mongoose like any other IP network device. The Ethernet port also supports Auto MDI/MDIX which automatically detects and permits either an Ethernet crossover cable (included) or a standard Ethernet cable when directly connecting to a computer for setup.

Features

- 32 by 32 digital audio matrix router.
- Receive 2 and transmit 2 CobraNet Bundles.
- Supports up to 32 digital audio channels from up to 8 RADs.
- Ethernet port supports DHCP, Zeroconf (Link-local & mDNS) & Auto MDI/MDIX.
- Mongoose Tracker setup software for PC included.
  - Zeroconf-based Discovery automatically finds devices without IP setup or special IP knowledge.
 - Name each Mongoose, RAD and audio channel.

Data Sheet-1
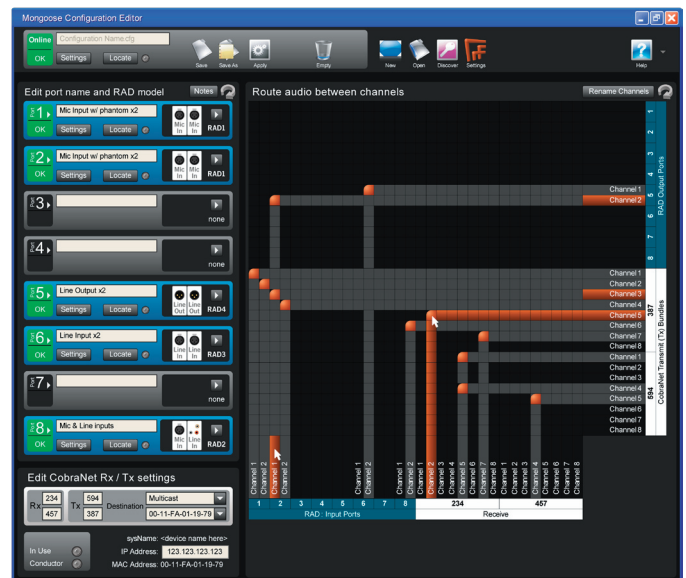
Catching Mongoose

Problem - The audio industry lacks a cost effective way to distribute low channel count digital audio throughout an installation. Many source and output audio devices produce or consume only one or two audio channels (e.g., mics, MP3/CD players, loudspeakers, portable mixers, laptop computers, etc.). Audio to or from such devices is historically transmitted as an analog signal making the audio very susceptible to interference and ground loops. Furthermore, the shielded twisted-pair audio cable is expensive and signals of different voltage levels (e.g., mic-level, line-level, loudspeaker-level) must be run in separate conduits which are very expensive. Consultants and contractors would prefer to use digital audio which allows using inexpensive CAT 5 cabling, and permits running all signals in the same conduit (eliminating significant bid expenses). However, there are no cost effective solutions available for low channel-count digital audio. CobraNet, Aviom's A-Net and Digigram's EtherSound are only a good value when carrying eight or more audio channels for these low channel-count applications. CobraNet, A-Net and EtherSound hardware is typically too large to fit in places contractors want to digitize their audio (i.e., in a switchbox mounted in a wall).
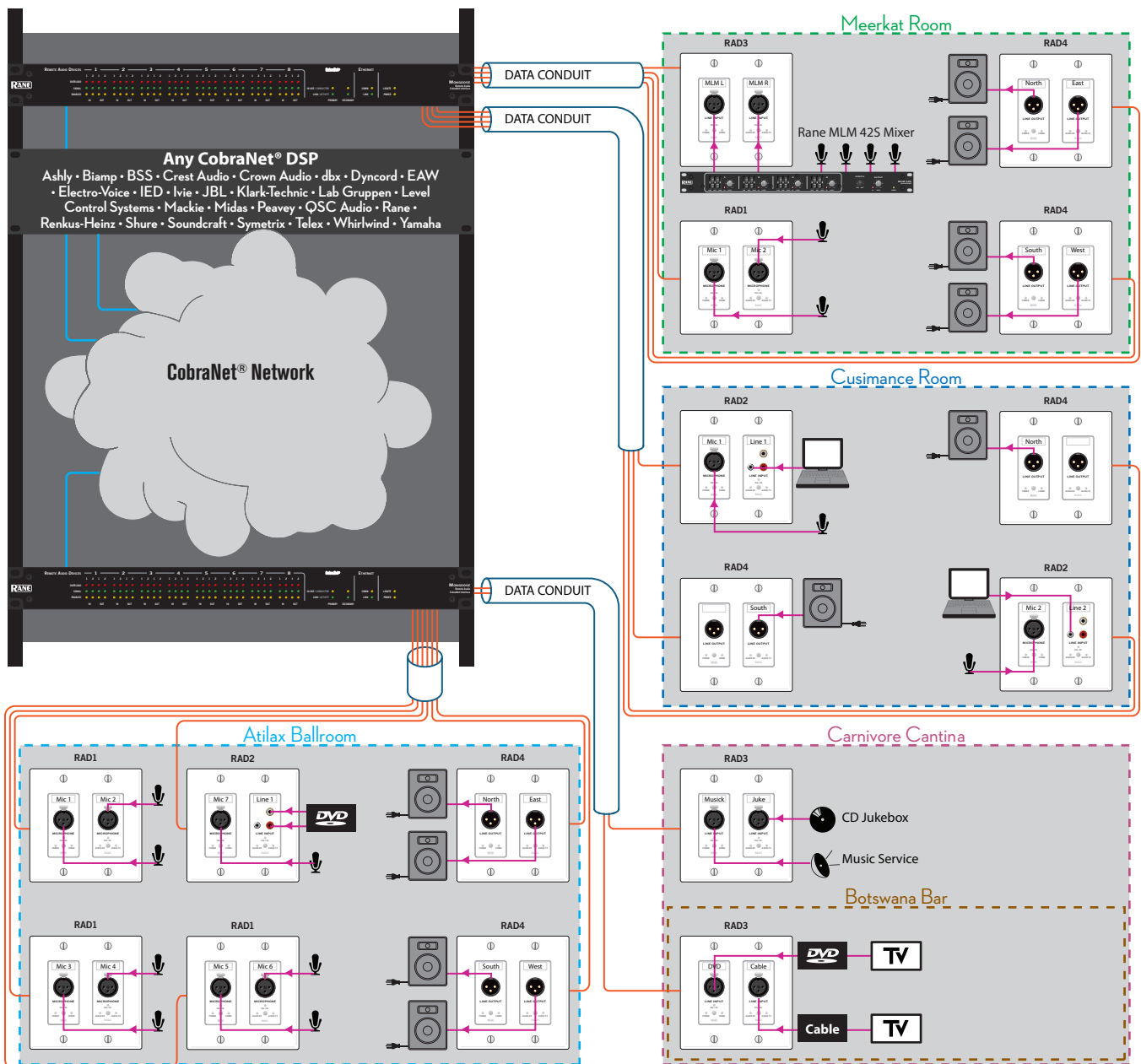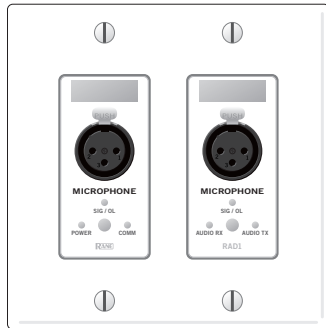

Cafetorium System Example

Data Sheet-2
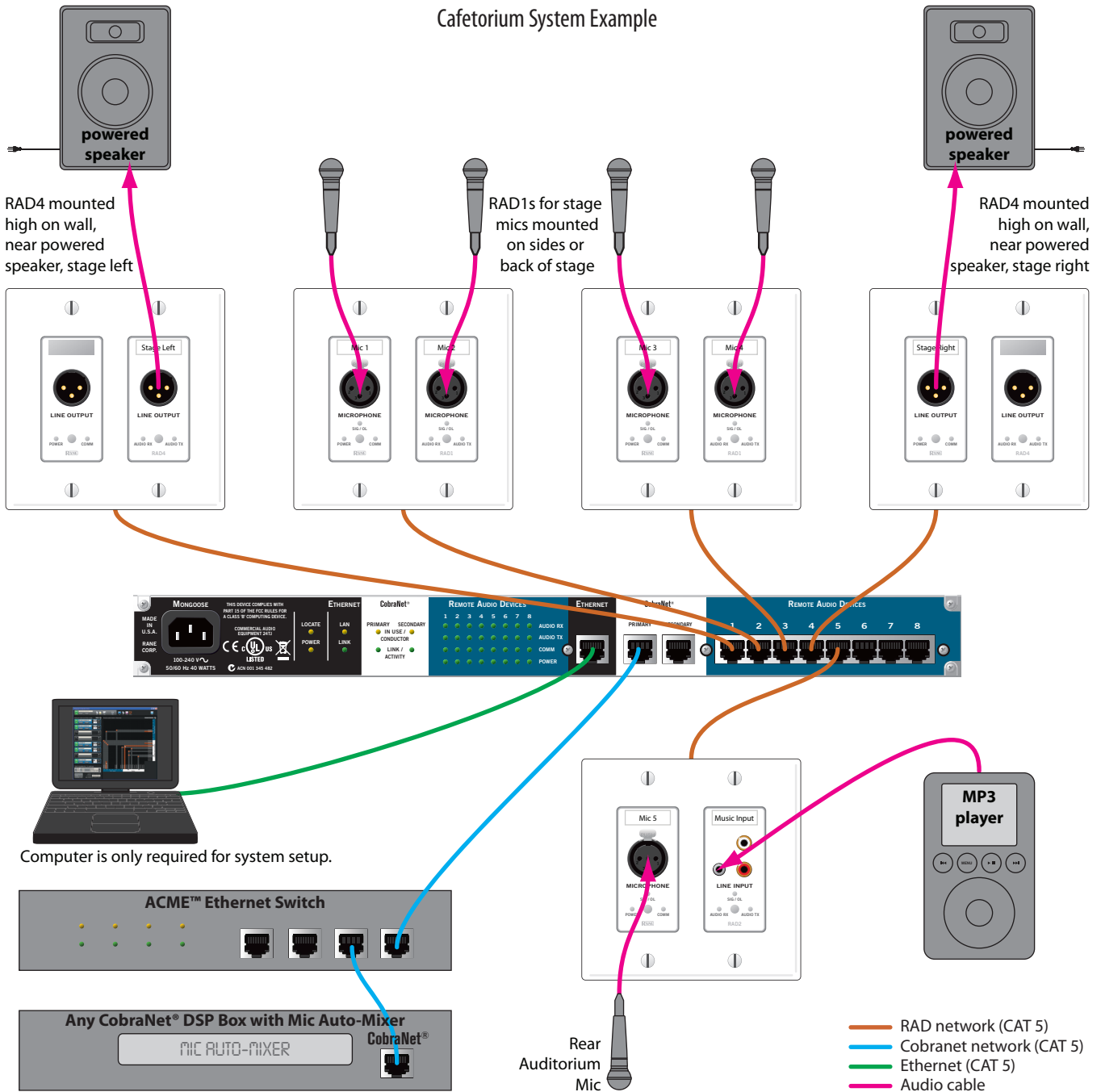
Solution – Rane's Mongoose and RADs (Remote Audio Devices) solve these problems by offering a high value answer when connecting low channel-count audio devices throughout an installation. RADs are connected to the rest of the audio system digitally, using low-cost CAT 5 cabling that may be run in the same conduit. RADs use low-cost, professional quality technology to transmit and receive four channels of digital audio (two in each direction). Different RADs offer a variety of input and output options (e.g., mic in, line in, line out, etc). Initial RAD models mount within a two gang switchbox. Along with four channels of digital audio, the CAT 5 connecting the RADs to the audio system provide power for the RAD and a path for a control data to adjust parameters (e.g., mic gain, phantom power).

So What's A Mongoose other than mean (and furry)? Rane's Mongoose is a 1U 19-inch unit that allows the contractor to connect eight RADs to a CobraNet network. The Mongoose provides power to the RADs, and a central connection for configuring the connected RADs via Ethernet. The Mongoose facilitates better use of the CobraNet network by letting the contractor route any input RAD or CobraNet audio channel to any output RAD or CobraNet audio channel. Connecting RADs to a CobraNet network enables contractors to include RADs in installations that use a wide range of products for digital signal processing (e.g., Peavey Media Matrix, BSS London, Symetrix CobraLink or Express, Biamp Audia – to name just a few).
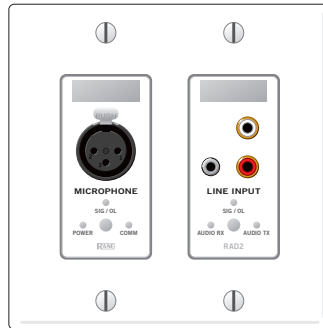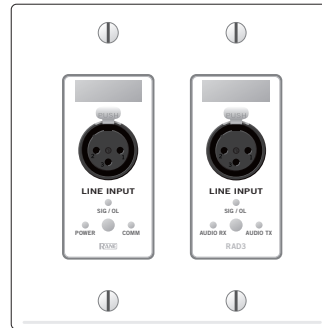
Hotel System Example

Any CobraNet® DSP

Ashly • Biamp • BSS • Crest Audio • Crown Audio • dbx • Dyncord • EAW • Electro-Voice • IED • Ivie • JBL • Klark-Technic • Lab Gruppen • Level Control Systems • Mackie • Midas • Peavey • QSC Audio • Rane • Renkus-Heinz • Shure • Soundcraft • Symetrix • Telex • Whirlwind • Yamaha

CobraNet® Network

DATA CONDUIT

Meerkat Room
RAD3 — MLM L, MLM R — Rane MLM 42S Mixer
RAD4 — North, East
RAD1 — Mic 1, Mic 2
RAD4 — South, West

Cusimance Room
RAD2 — Mic 1, Line 1
RAD4 — North
RAD4 — South
RAD2 — Mic 2, Line 2

Atilax Ballroom
RAD1 — Mic 1, Mic 2
RAD2 — Mic 7, Line 1 — DVD
RAD4 — North, East
RAD1 — Mic 3, Mic 4
RAD1 — Mic 5, Mic 6
RAD4 — South, West

Carnivore Cantina
RAD3 — Musick, Juke — CD Jukebox, Music Service

Botswana Bar
RAD3 — DVD, Cable — TV, TV

MONGOOSE
Extend digital audio beyond your CobraNet network

RANE

RAD1
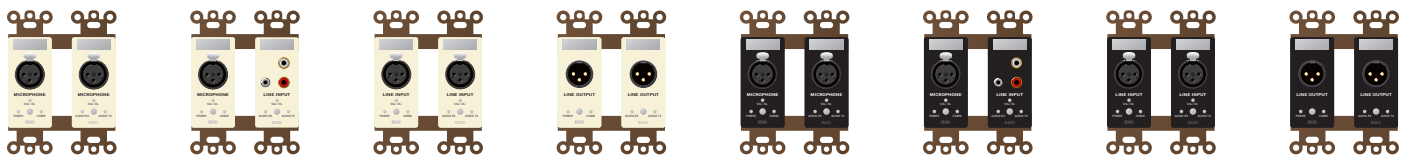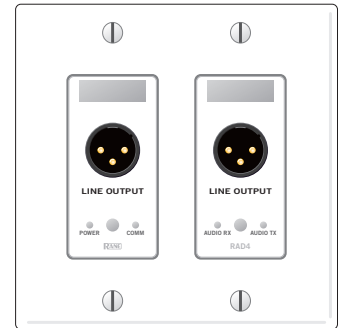#### 2 Mic Inputs

RAD2
1 Mic & 1 Line Inputs

RAD3
2 Line Inputs

RAD4
2 Line Outputs

Each available in white, ivory or black finish (standard Decora™ plate not included).

Top 11 Mongoose Solutions

Think about your last: auditorium, church, hotel, theater, stadium, convention center, campus, bar, restaurant, club.
Rane's new Mongoose and RADs solve problems you likely encountered if you ran analog audio between remote rooms and equipment racks.

Problem 1: Transmit & receive a small number of audio channels (2-6) to multiple, scattered locations.

Solution 1: Mongoose & Remote Audio Devices (RADs).

Problem 2: Conduit is expensive & multiple independent runs are needed for: mic, line, speaker, computer data, AC power...

Solution 2: Mongoose & RADs' digital CAT 5 solution eliminates or greatly reduces mic & line conduit costs, labor, troubleshooting... Some jobs may permit using the computer/data conduit, cable, labor and terminations!

Problem 3: Analog termination requires either stripping & screwing down each wire (for Euroblocks) or soldering each wire and assembling the connector (XLR, TRS or RCA).

Solution 3: RAD Network CAT 5 cables are quick and easy to terminate using standard 8P8C (RJ-45) connectors.

Problem 4: Analog twisted-pair (mic/line) cable is costly & requires 1 cable per channel.

Solution 4: RADs digitizes audio at each wall location, transporting 4 channels (2 in each direction) on a single, less expensive CAT 5 cable.

Problem 5: Analog cable & devices (MP3/CD players, satellite receivers, laptops) are prone to ground loops, electromagnetic interference (EMI), hum, buzz, noise...

Solution 5: RAD Network audio is uncompressed, 24-bit, 48 kHz digital, run over differentially balanced CAT 5.

Problem 6: Long analog cables beyond 12 feet (3.6 meters) require isolation transformers. And if you require low frequencies, large transformers are required.

Solution 6: RADs support a 327 foot (100 meter) long digital RAD Network that provides ±25 volt common mode rejection without isolation transformers.

Problem 7: Testing analog audio wall connections is lots of work for installers.

Solution 7: RADs' indicators immediately self-test CAT 5 connectivity.

Problem 8: Analog wiring mistakes & broken cables in distant rooms are difficult to troubleshoot.

Solution 8: Both ends of RAD Network cables & the Mongoose Tracker software indicate and inform installers about any and all wiring mishaps.

Problem 9: Fork lifts that meet XLR wall plates at high velocities equals a service call.

Solution 9: Maintenance staff can order and replace RADs without a contractor or a PC.

Problem 10: There are no signal or overload indicators, or "the cable's good" indicators on analog XLR plates.

Solution 10: RADs have all these – and they dim with the light level in the room.

Problem 11: Re-routing analog audio via patch bays is troublesome & problematic.

Solution 11: Mongoose adds matrix routing where it was previously unaffordable (e.g., tie line applications), plus cost-effectively route disparately scattered audio sources/destinations to and from CobraNet.