



ECLIPSE-HX HYBRID NETWORK

Introduction

The Eclipse-HX hybrid IP/TDM Matrix from Clear-Com combines the best of two worlds; the reliability and simplicity of convention matrix technology with the flexibility of IP networking. This paper discusses why this hybrid arrangement is still relevant in this increasingly IP connected world.

Reasons to choose a Hybrid TDM/IP matrix

Greater Flexibility

Hybrid systems give our customer the option to choose the best connection technology for each application

- Compressed IP channels for Intercom Clients which are remote or difficult to reach.
- Simple and reliable dedicated cable runs for local Intercom Panels
- Dense High Quality AoIP for connections to Audio Routing Equipment
- MADI for non networked audio equipment.

Dedicated standard cabling to Intercom Clients

Hybrid systems support multiple connection options to Intercom Clients; multi-channel MADI, AES-3 or IP connections are all possible. Traditional installs with dedicated cable runs per Intercom Client also have advantages

- Not limited to Ethernet radius ... 1KM runs directly to operator panel
- Direct cable to each panel ...no network administrations issues.
- Proven reliability... limit points of failure
- Speed of light transmission ... ultra-low latency
- Keeps it simple!

IP for Remote, Inaccessible and “on demand” Intercom clients.

Hybrid systems provide dedicated IP interface cards with powerful DSPs allowing each IP channel to be tweaked to match the network path to the Intercom Client

- Compression, encryption and silence suppression available for each channel
- Additional IP interface cards meet the requirement for remote and mobile clients
- N+1 IP card redundancy

IP for High Quality High density connection to Audio Infrastructure

Hybrid systems can provide mature high density MADI interfaces to Audio over IP devices

- Uses 1RU multi-protocol interface as a demarcation point to Network Audio infrastructure.
- Demarcation point allows audio exchange to be independently monitored
- Demarcation devices can be updated as AoIP protocols evolve.

System scalability with deterministic performance

Hybrid systems are based on TDM backplanes and dedicated processing subsystems

- Peak loads are handled gracefully

- Performance is predictably maintained as system is expanded

Established Redundancy and Hot swap design

Hybrid systems provide redundancy of critical components. Typically, these are the main CPU, PSU with hot swap card changes.

- A faulty component can be swapped without unplugging and re-plugging cables
- No need to support complex arrangement of a Main and Backup networks.

Lower Project Risk

Hybrid systems have established architecture to meet customer demands for future proofing and lower project risk

- No bleeding edge technology
- Limited exposure to cutting edge AoIP standards with an independent AoIP demarcation unit.
- First generation IP centric systems may have short product cycles as the underlying technology evolves to meet real world demands

Lower Total Cost of Ownership.

Hybrid systems use establish pricing structure and models

- No surprise hidden fees for expensive software upgrades
- No annual maintenance costs
- Less demand for air conditioning in remote trucks to cool fast IT components and less power required
- Clear equipment ownership and limited software licensing

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