ARCHITECTS & ENGINEERS SPECIFICATION for the OPTOCORE◦ OPTICAL DIGITAL NETWORK SYSTEM

The network shall be based on a ring topology. The connections of the different devices shall occur via optical fiber cables. Optical fiber cables shall reduce the cable weight and shall increase the quality of the transmitted signals. Electromagnetic interference and cable capacity shall be no issue. Optical fibers shall be thin, light weighted and flexible. For example, a 150m rugged environment cable rolled up on a special rubber cable drum shall weigh 5.3 kg. The cables shall require very little space; installation shall become easy and comfortable.

The network and its optical fiber connections shall offer the highest standards in regard to control and complexity. Control signals such as the network control remote data, third party control and Ethernet data, word clock signals or video shall be included and send using the same fiber cable as used for the audio signals. No additional RS422, RS485 or Ethernet cables shall be necessary for controlling. Troubleshooting shall become easy.

A ring network topology shall be suitable to build in redundancy. The dual redundant ring structure of the network shall provide maximum safety in a comprehensible network with an extreme low system latency below 42µs. The transmission delay shall be constant from any point to any point. Galvanic isolation between the devices shall be provided, therefore, ground loops shall not exist.

The network system shall offer a large number of cost-effective devices to facilitate the use and the advantages of fiber optical digital data transmission in all sorts of temporary and permanent applications, especially when long distance connections and high-quality audio shall be required. The network system shall provide devices capable to digitally transport signals such as Fast Ethernet, MADI, RS422, RS485, DMX and MIDI. In addition audio, video and data signals shall be transmitted via optical fiber. The devices shall include bidirectional composite video and word clock interfaces. The module shall offer word clock input and output. The module should provide extension for a main fiber ring with a Synchronous Network over Cat5. Redundant power supply and safeguards against malfunctions shall be provided through dual power supply units with automatic switchovers. The digital I/O devices shall include two optical 1/2 Gbps SFP LINK interfaces with duplex LC-connectors.

The module shall be compliant with the CE/FCC conformity and shall be used in E1, E2, E3, E4, or E5 environments according to the harmonized European standards EN55103-1 and EN55103-2. The device shall be compliant with EN60065 - Safety requirements.

The digital, optical network system shall be the OPTOCORE◦ OPTICAL DIGITAL NETWORK SYSTEM.