General Description

The system's primary function shall be to facilitate Audio and Video Distribution over a standard 1 Gigabit network. System includes support for Real-Time 1080P and 4K60 4:4:4 content transmission.

The system end-to-end latency shall be capable of 1 frame of latency (including encoding and decoding).

The system shall be capable of being supplied as factory configured to consultant/architect's specification for video, audio, and IP settings.

The system shall be capable of Mass Configuration, allowing Auto Discover and configuration of all Visionary encoders & decoders on the network without the need for any external hardware.

The system shall be capable of supporting an unlimited number of endpoints.

The System shall be the Visionary PacketAV 5000 series.

Encoding

The encoder shall be capable of transmitting 1080p and 4K60 4:4:4 resolutions at less than 1GB total throughput.

The encoder shall support Dynamically Optimization (Adaptive) bit-rate compression CODEC w/built-in AI for computer-generated content as well as support for fast-motion, cinema-grade content.

The encoder shall be capable of transmitting full motion MJPEG substream.

Audio

The encoder shall support the following digital audio formats: Dolby Digital®, Dolby Digital EX, Dolby Digital Plus, Dolby TrueHD, Dolby Atmos, DTS®, DTS-ES, DTS 96/24, DTS-HD High Res, DTS-HD Master Audio, DTS:X, LPCM up to 8 channels.

The encoder shall support de-embedding of LPCM audio up to 8 channels from the HDMI input.

The encoder shall be capable of LPCM audio format compatible with QSC Q-SYS DSP, Media Stream Receiver (MSR) object.

The encoder shall be capable of de-embedding up to 2 channels of LPCM audio from the HDMI input and 2 channels of Bluetooth audio and making it available as a Dante®/AES67 source.

The encoder shall be capable of receiving up to 4 channels of network audio (Dante®/AES67) and embedding it into the AV stream audio.

The encoder Bluetooth® interface shall support bidirectional call-bridging capabilities for conferencing purposes.

The encoder stream audio transmission shall be selectable between Dante®. Bluetooth, and HDMI audio.

The encoder shall support Audio Return Channel (ARC) over IP.

Control

The encoder Bluetooth® receiver shall be activated for pairing and connection by a single button on the wall plate.

The encoder Bluetooth® receiver shall also feature remote customization via a software control interface.

The encoder Bluetooth® interface shall be configurable with customizable Bluetooth® friendly name.

The encoder graphical user interface shall not require custom or project specific programming or API development.

The encoder services (Audio, Video,) shall be capable of independent routing.

The encoders shall provide control without the need for any additional components. Any system requiring the need of a control system interface or system discovery device shall not be accepted.

The encoder shall provide control from a web browser without any additional hardware or 3rd-party control device.

The encoder shall be able to be controlled using ASCII-readable HTTP(S) GET/POST, UDP Unicast or UDP Multicast API.

The encoder shall be capable of control from a variety of 3rd-party manufacturers, supported systems include (among others) Crestron, Extron, AMX, RTI, QSC and Symetrix.

The encoder shall be capable of presenting live thumbnail previews to 3rd party control UI, for all content on encoders and decoders, in JPEG snapshot format, updated once per second.

The encoder shall be capable of presenting live thumbnail previews to a web browser in JPEG snapshot format without a 3rd party control device.

The encoder shall support integration with enterprise grade software management platforms to provide complete system monitoring, management and control.

Communication & Control of External Devices

The encoder Bluetooth® receiver shall be compatible with most smartphones, Apple iPads and Android tablets.

The encoder shall support HDMI 2.0, EDID, CEC.

The encoder shall support HDCP (High-bandwidth digital copy protection) for versions 1.x, 2.0, 2.2 and 2.3.

The encoder shall enable control of 3rd party equipment via built-in control ports: IP and CEC.
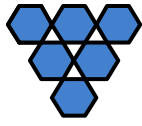
Connectors

The encoder shall include one HDMI input.

The encoder shall include one Main Ethernet PoE port for audio, video and control.

The encoder RJ-45 Ethernet port exit angle shall be 45 degree to allow cable bend radius relief for rear, side, top, or bottom cable exit.

The encoder shall include balanced audio input via 5 pin Euroblock 3.81mm pitch connector (rear panel).

The encoder shall provide a stereo Bluetooth® 5.0 compatible audio receiver with LED indication of connection status.

Network

The encoder shall be capable of LLDP, allowing for dynamic control of endpoints based on automatic discovery of physical location.

The encoder shall not require proprietary network management software or hardware.

The encoder hardware shall not require proprietary or manufacturer specific Ethernet switches.

The encoder shall include a single Ethernet port for Video over IP and Dante®/AES67 functionality with VLAN tagging capability to separate Video & Audio network traffic as needed.

The encoder control/video/audio (Dante®/AES67) network connection shall support 10/100/1000 Mbps, auto-switching, auto negotiating, auto-discovery, full/half duplex, DHCP.

The maximum bandwidth requirement per encoder stream shall be 1 Gigabit.

Power

The encoder shall be capable of being powered by standard PoE (Power over Ethernet), in accordance with 802.3af, with a maximum power consumption less than 15.4 watts.

Enterprise Security

The encoder shall provide SSH security capability.

The encoder shall provide 802.1X security capability.

The encoder shall provide AES256 stream encryption capability.

Form Factor

The encoder shall be available in a 2-gang Decora® or 2-gang UK electrical box configuration.

The encoder shall be able to be installed in a 4" square US electrical box, with 2-gang mud-ring with no modification required to the box or mud ring.

Encoder shall have no moving parts, including but not limited to cooling fan.
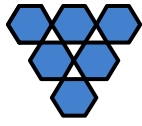
Compliance

The encoder shall be TAA compliant.

The encoder shall be CE compliant.

The encoder shall be FCC compliant.

The encoder shall be C-tick compliant.

The encoder shall be RoHS compliant.

The encoder shall be WEEE compliant.

The encoder shall be the Visionary DuetE5-WP-BT Encoder.