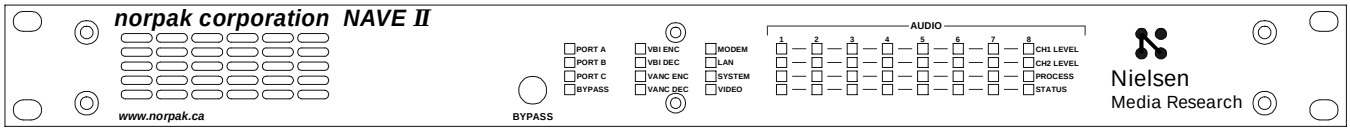
Nielsen Audio Video Encoder II

norpak corporation



Overview

This model is the successor to the NAVE unit adding the capability to handle new video formats (1080i, 720p, etc.) and additional audio channels, such as those used for discrete Dolby 5.1 and secondary languages.

This unit expands upon Nielsen's audio coding technology by increasing the watermarking capability to 12 AES channels or 16 embedded audio channels. Mixed mode embedded and non-embedded (AES) audio configurations are possible, and the unit can be configured to support up to two simultaneous Dolby 5.1 audio streams. A core part of the familiar "SID" data is carried in the audio to allow SID data to survive VBI-stripping by compression systems and new video formats.

The "SID" (Source Identifier) is a second-by-second serial number used by Nielsen and the television industry to uniquely identify program content to ensure proper crediting of viewing.

The NAVE II is specifically designed for standard and high definition digital plants, with embedded or non-embedded (AES) audio. Possible locations include broadcast television stations (digital and analog), broadcast and cable network operation centers, other program uplink facilities, and other distribution sources delivered to television households. This unit is usually installed in the output chain, after all switching and routing.

A complementary Norpak unit, the Nielsen Universal Reader, will decode and display the SID data to allow users to verify the encoded information.

Key Features

- SMPTE 259M and 292M Video Interface
- AES (12 Channel) or embedded (16 Channel) audio
- Applies Nielsen audio and AMOL codes
- Optional closed captioning encoding
- Front panel go/no-go indicators
- Hard relay bypass
- No ongoing operator required
- 1 Rack Unit
- Optional DARS input
- Code read-back to verify audio and AMOL codes

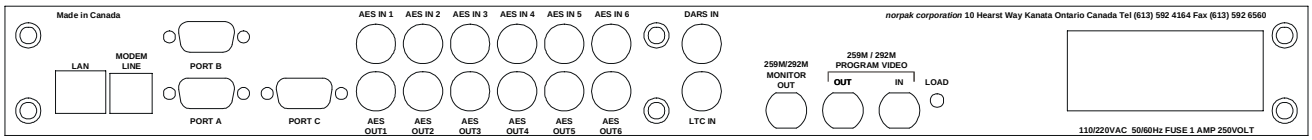
Company Profile

Norpak Corporation is the leading supplier of interactive TV and metadata solutions with over 20 years of experience and 3,500 headends in 42 countries. Norpak is the only supplier of a complete line of TV data broadcast products, with analog, serial digital, HD and MPEG2 encoders, bridges and receivers supporting all world data standards. Its data monitoring, filtering and substitution products provide broadcasters a full line of multistandard data solutions. Norpak's products and technology have been adopted worldwide for use by major TV broadcasters, cable TV system operators, content creators, system integrators, value-added service providers and OEM equipment suppliers.

About Nielsen Media Research

Nielsen Media Research is the leading provider of national and local television audience measurement and related services in the United States and Canada. Nielsen Media Research also provides competitive advertising intelligence information and Internet usage. Nielsen Media Research is a subsidiary of Netherlands-based VNU, one of the world's leading publishing and information companies. www.nielsenmedia.com.

Nielsen Audio Video Encoder II Rear Panel



Specifications

Interface Connections

- Video: Digital NTSC and PAL Compatible video per SMPTE 259M and SMPTE 292M Serial Digital Interconnect (SDl).
- Audio: Six pairs of 75-ohm BNC jacks, providing IN and OUT connections for six AES pairs. Input and output signals are unbalanced, 1V nominal into 75 ohms, and comply with SMPTE 276M. 24 bit resolution at 48K sample rate audio is maintained.
- One DARS (AES11-1997) input for optional audio synchronization.
- Audio and video terminations are 75 Ohm single ended.
- Three serial ports (control, time code, captioning input.
- RJ11 and RJ45 Ports for modem and LAN (software updates and configuration)

Physical

- 19”w x 1.72”h x 17.75”d (48.3 x 4.4 x 45 cm)
- approx. 15 lbs.

Power

- 110V / 60 Hz
- 220V / 50 Hz

Audio/Video Synchronization

- Audio and Video are delayed by one frame maintaining proper lip-sync timing.

Indicators

- Audio Level channel 1 and 2, Audio Process, and Audio Status for each audio pair.
- Video Presence
- VBI Decode and Encode
- VANC Decode and Encode
- Serial, LAN and Modem Activity
- Bypass Enabled

Audio/Video Synchronization

- Audio and Video are delayed by one frame maintaining proper lip-sync timing.

Bypass

- SDI and AES paths are protected by Bypass relays that are activated by a front-panel switch, detected fault or loss of power.

Switches

- Power On / Off
- Bypass / Active
- Manual Load

Environment

- 0-40° C operating (32-104°F)

Processor

- CPU: 486 100 MHz equivalent

More on Nielsen Encoding

Multi-Level Encoding

The AMOL technology employs patented multi-level encoding techniques that preserve data from upstream locations. For example, network identification data will be preserved through a local affiliate’s encoder. Nielsen will capture both the network and station AMOL data. This applies to the VBI data (259M only) and the audio coded data.

Role of Audio Encoding In Television Measurement

As more digital technology is deployed, more sophisticated methods of program identification are needed. Audio coding plays a key role in Nielsen’s Active/Passive measurement approach. Should content not have any VBI or audio coding, Nielsen measurement equipment will capture video and audio signatures and compare them to a central signature database for identification. Newer video formats such as 1080i and 720p have no VBI preserved in the compressed domain and therefore an audio-based identification system has been developed.

Nielsen’s Audio Encoding Technique

The NAVE embeds a very small amount of audio energy in louder portions of the audio to ensure the non-audibility of the code. This process has been refined over several years using Nielsen and outside “Golden Ears” testing to ensure audio quality is maintained.

The system has been tested through AC-3 and MPEG-2 compression and the codes survive completely intact.

Decoding

A Nielsen Universal Reader is recommended for verifying that audio and VBI data has been added to your audio and video. Each reader can monitor up to 4 analog stereo program channels simultaneously. Data is overlaid on analog video and/or sent via RS485 port to your control computer. 292M Applications require down-converted video for on-screen display.

Specifications and designs are subject to change without notice

Additional Features

- Software updates via modem or LAN
- Serial port for clock synchronization using time code (requires Longitudinal Time Code Interface adaptor)
- Serial port for remote computer control using packetized protocol
- Serial port for ASCII terminal control using menus
- Adjustable 259M data zero level

norpak corporation

10 Hearst Way, Kanata, Ontario, Canada K2L 2P4
tel: (613) 592-4164 ***Fax***: (613) 592-6560 **email**: sales@norpak.ca **Web Site**: www.norpak.ca