DN9696 High Resolution Audio Recorder
96 Tracks, 96kHz, 24-bit, 9+ Hours. Simple, yet powerful.
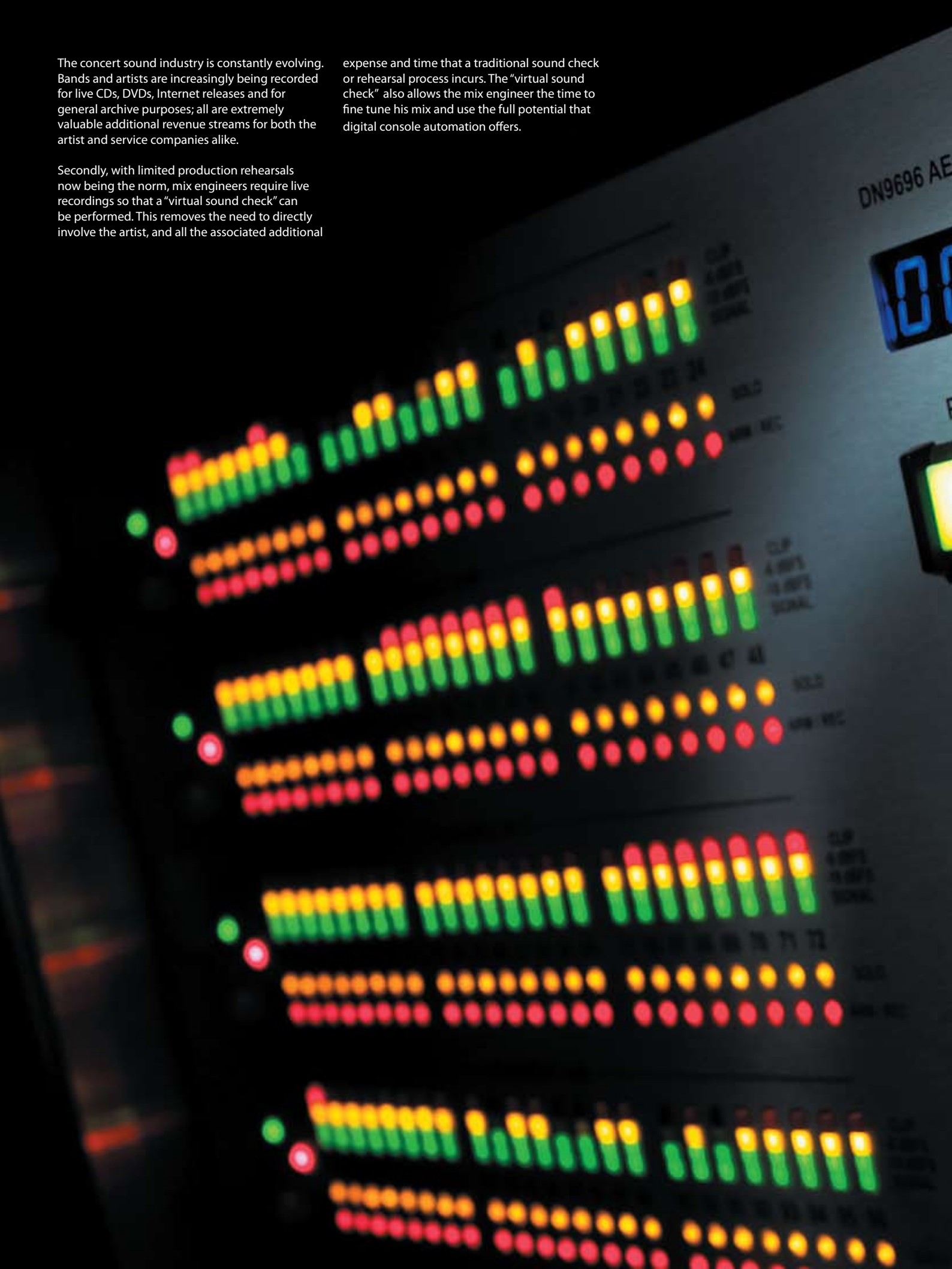
The concert sound industry is constantly evolving. Bands and artists are increasingly being recorded for live CDs, DVDs, Internet releases and for general archive purposes; all are extremely valuable additional revenue streams for both the artist and service companies alike.

Secondly, with limited production rehearsals now being the norm, mix engineers require live recordings so that a "virtual sound check" can be performed. This removes the need to directly involve the artist, and all the associated additional expense and time that a traditional sound check or rehearsal process incurs. The "virtual sound check" also allows the mix engineer the time to fine tune his mix and use the full potential that digital console automation offers.

To help meet the concert sound industry's requirements, Klark Teknik has engineered an extremely easy to use, simple to setup, standalone hard disk recorder - the DN9696. This High Resolution Audio Recorder offers 96 tracks of 96kHz audio at 24-bit, with a massive nine hours of internal storage. There is now no need for external computers linked to multiple non-roadworthy systems with complicated interconnections, just a simple plug and play unit with dedicated Play, Stop and Record front panel transport controls.

As well as the simple front panel transport controls, there is a Solo/PFL system with track selection and headphone output for monitoring. Plus dedicated controls for entering marker, or locate points, during a recording with the option to use a footswitch, as well as forward and backward skip buttons for moving between marker points during playback. All this has been developed with the live environment in mind.

The DN9696 offers an elegant, yet powerful, set of tools for the user. The screen based software

interface offers in-depth control of both recording and playback functions. There are echoes of the unique features of Midas' digital audio systems within the DN9696, for example the use of POPulation groups to view, colour and edit tracks, an 'Input Sheet' for quickly naming all tracks as well as 'dual operator' control of the system.

All audio data is stored as industry standard Broadcast Wave files (BWAV) which can be easily imported into any professional DAW system. Uniquely, the DN9696 has a mirrored drive capability, allowing simultaneous internal and external HD recording for real time backup and redundancy. This eliminates the need for time-consuming copying at the end of a performance.

The DN9696 can be used to provide a 'Virtual Sound Check' when used in conjunction with a Midas digital mixing system. This allows the FOH mix engineer to sound check without the artist present. Essentially a recording of the previous show is used to allow the engineer to fine tune aspects of the mix and update automation scenes if necessary. On monitors the DN9696 can

again be used as the audio source to enable the engineer to mix basic levels and create a starting point for the band.

The DN9696 can also be used as a standalone hard disk recorder using Midas digital system building blocks, for example DL431 microphone splitters or DL351 modular I/O units. They offer flexible I/O options, both analogue and digital, are easily configured, providing analogue line I/O as well as AES/EBU connectivity with sample rate conversion. The DL rackmount components offer outstanding analogue to digital conversion with the superb audio quality of a Midas 'front end', including the legendary Midas microphone preamplifiers. Of course any other AES50 equipped device can be used as an alternative input source.

The DN9696 occupies only 5U of rack space with very simple cable requirements and does not demand the expense of a dedicated recording technician. After all, all you really need is Record, Stop and Play.

Architect's & Engineer's Specification

The AES50 High Resolution Audio Recorder shall provide recording and playback of up to ninety-six (96) simultaneous channels of 24-bit resolution digital audio, via a dual-redundant four (4) port AES50 digital audio interface in a standard 5U high 19" rack mount chassis.

The AES50 High Resolution Audio Recorder shall include GUI software for use with a conventional VGA-equipped monitor and USB-equipped keyboard and mouse. There shall be provision for two (2) VGA ports and two (2) Type A USB ports on the on the rear panel and two (2) Type A USB ports on the on the front panel for this purpose. The available USB ports may be used for such functions as software updates and data archiving.

The AES50 High Resolution Audio Recorder shall have two (2) internal hard drives capable of a minimum of nine hours recording time. Additionally The AES50 High Resolution Audio Recorder shall provide two FireWire 800 and two eSATA ports to allow up to two external hard drives to be connected to allow simultaneous identical mirrored recordings to be made. Each internal hard drive and external hard drive interface shall have associated green and red status LEDs.

Each of the ninety-six channels shall have a corresponding four (4) segment LED bargraph meter located on the front panel of the high resolution audio recorder, with indication for 'CLIP', '- 6 dBFS', '-18 dBFS' and 'SIGNAL'. Additionally, each channel shall also have a yellow 'SOLO' LED and a red 'ARM/REC' LED also on the front panel, to indicate when the channel is being soloed and/or armed for recording or is currently recording.

The front panel shall be arranged to divide the bargraphs and solo and record status LEDs into four rows of 24 channels, each row corresponding to one of the dual-redundant AES50 ports. Each row shall have an illuminated Select button to allow a zoom function in the associated GUI software. Each row shall also have a green and a red LED to show the status for each of the connected AES50 ports.

The AES50 High Resolution Audio Recorder shall have a console-style solo bus to allow the monitoring of audio recording and playback, with an associated 'Solo' enable switch and a rotary control to enable the selection of individual channels. The output of the solo bus shall be connected to a headphone amplifier with a rotary level control (adjustable from -∞ to +10dB) and a ¼" headphone socket located on the front panel.

The AES50 High Resolution Audio Recorder shall have an eight (8) digit LED seven-segment display showing Elapsed or Remaining Time or LTC time code. An illuminated pushbutton switch associated with the time display shall be used to select between the three options, which shall each have an associated status LED which will illuminate when that mode is selected. A three-pin XLR socket shall be provided on the rear panel for an LTC input, for use when the LTC mode is selected.

The AES50 High Resolution Audio Recorder shall have three illuminated transport switches on the front panel for 'PLAY', 'STOP' and 'RECORD'. These transport switches shall duplicate the respective functions in the GUI software.

The AES50 High Resolution Audio Recorder shall also have the ability to set markers whilst recording, an illuminated 'SET' switch and ¼" Tip-Sleeve jack socket (for an external footswitch) shall be provided to set a marker on the recording timeline when the 'SET' switch or the external footswitch is pressed.

The unit shall be capable of operating from a 100 to 240V ±10%, 50 to 60Hz AC power source.

The AES50 High Resolution Audio Recorder shall be the Klark Teknik DN9696 and no alternative option is available.

Front panel description
- 96 x 4 LED input meters
- 96 x Yellow 'SOLO' LED indicators
- 96 x Red 'ARM / REC' LED indicators
- 4 x 'SELECT' switches
- 8 x Pairs of AES50 status LED indicators
- 1 x Time display (8 x Blue 7 segment displays)
- 1 x 'TIME' display mode select switch
- 3 x Blue LED time display mode indicators
- 3 x Transport switches, 'PLAY', 'STOP' and 'RECORD'
- 3 x Marker switches 'SET', 'BACK' and 'FORWARD'
- 1 x 'SOLO' switch
- 1 x 'SOLO' encoder
- 1 x Headphone rotary level control
- 1 x Headphone output (1/4" jack)
- 1 x Footswitch input (1/4" jack)
- 4 x Pairs of Hard Drive status LED indicators (2 x internal, 2 x external)
- 2 x USB 2.0 (type 'A') connectors
- 1 x Klark Teknik Tufflex roundel with Blue LED illumination
- 1 x Recessed 'POWER' switch

Rear panel description
- 8 x AES50 Connectors - Neutrik Ethercons with status indication
- 1 x Linear Time Code Input - Neutrik B Series Female XLR
- 1 x DVI-I Output (or VGA Output with optional adapter)
- 1 x VGA Output
- 2 x Firewire 800 Connectors (Minimum)
- 2 x eSATA Connectors (Minimum)
- All other ATX Motherboard connectors will vary depending on the Motherboard used, but will include 2 x PS2 or 2 x USB 2.0 connections for a keyboard and mouse (KVM)
- 2 x USB 2.0 For archiving
- 1 x Mains Switch (part of the ATX Power Supply)
- 1 x IEC Power inlet (part of the ATX Power Supply)

Power Requirements
Voltage	100V a.c. to 240V a.c. ±10%
Frequency	50Hz to 60Hz
Consumption	<500W

Dimensions
Height	222 mm (8.7"), 5U high
Width	482 mm (19")
Depth	505 mm (19.9")

Weight
Net	20kg
Shipping	22kg