SONY®

Digital News Editing System
DNE-2000

Digital News

The DNE-2000 Digital News Editing System is a powerful non-linear editing system designed for the specific needs of news production, from short hard news stories to feature documentaries.

The DNE-2000 is equally suitable as a stand-alone system with dedicated local storage or as one of several workstations connected to the Sony News Server System, the NewsBase System™.

The Sony DNE-2000 combines the speed and flexibility of disk-based non-linear editing with the precision of Sony real-time device control and 'hands-on' VTR feel. These important features are integrated with the generation of real-time effects without time-consuming rendering, and the ability to import graphics and logos.

Editing System

The DNE-2000 allows you the key benefit of quick and easy re-editing of material to produce different versions that can vary in length, content, or presentation style.

Overall, the Sony DNE-2000 is a powerful, cost-efficient working tool that lets you move into the world of digital non-linear editing today, without compromising the total system functionality that you will need tomorrow.

KEY BENEFITS OF THE DNE-2000

The DNE-2000 combines an easy-to-operate, sophisticated Non-linear News Editor with the market-acclaimed MAV-555 Disk Recorder for its local storage. The DNE-2000 can be used standalone or integrated into the Sony NewsBase server system.

Familiar User Interface

The DNE-2000 User Interface retains the familiar operational style of current VTR editing but has a new, enhanced Graphical User Interface (GUI) designed specifically for News Editing.

The dedicated control panel features a jog/shuttle dial with hard keys for source control, such as Go To In Point, Go To Out Point, and keys for marking and trimming.

For audio and video level adjustments, a separate fader panel interacts with the menu on the GUI to provide level adjustment of the video, and level and equalization adjustments of the audio.

Server based and local storage based editing

The DNE-2000 can directly access source material stored on the NewsBase server system and create an EDL (Edit Decision List) from this material. The EDL created on the DNE-2000 can then be sent to the server system for direct preview of the material. To achieve a higher level of sophistication in video

and audio editing, the server material can be downloaded to the local storage of the DNE-2000, provided by the MAV-555. This brings the full editing convenience and power of the DNE-2000 to the operator - including creative effects generation and advanced audio manipulation.

Simultaneous Recording / Playback / Timeline Operation

The DNE-2000 allows preview and other timeline operations to be executed even while downloading from the server or digitizing from an external VTR to local storage.

High Reliability

The disk array used in the DNE-2000 provides extremely reliable playback of the edited stories.

Real-time Effects

With the DNE-2000, all effects are in real time. The DNE-2000 incorporates a high-quality, full-bandwidth 4:2:2 switcher/DME. This offers a broad array of real-time effects from the very basic dissolve and wipe patterns to very sophisticated 2-D/3-D DME effects. High quality keys, including Chroma key, Title key and a DSK function, are also provided and executed in real time.

A variety of embossed color mattes are also available for use as backgrounds of titles and DME transitions.

DNE Processor

DNE Processor Rear

Linear-like Editing Operation

The DNE-2000 allows the VTR or server material to be placed directly on the timeline. When a clip from either source is placed on the timeline, the DNE-2000 automatically digitizes/downloads and previews the clip simultaneously. This allows operators to edit the VTR or server material to the DNE-2000's local storage in a manner similar to VTR-to-VTR editing.

RPR (Recorder-Player-Recorder) monitoring

The DNE-2000 is equipped with RPR monitoring capability, emulating VTR-to-VTR insert editing operations. This feature allows the operator to preview the results of inserting a tape-based clip into the timeline prior to digitization. During preview, the DNE-2000 monitors the timeline to the insert point, switches the monitoring to the tape and then returns to the timeline at the out point. RPR makes it easy for operators with VTR editing skills to become familiar with the DNE-2000.

MAV-555

MAV-555 Rear

Advanced Timeline Jog

Special care has been given to the Timeline Jog function of the DNE-2000. Audio timeline jog is provided with excellent sound clarity and with a responsiveness similar to tape devices. Since jog operations are available from the dedicated jog/shuttle dial, the operator is provided with a 'hands-on' VTR feel. Audio channels can be jogged independently or together.
Video effects can also be jogged instantly for verification and parameter modification - a feature only available with real-time effects.

Flexible Audio Operations

With the DNE-2000, complete and flexible editing of any audio channel is realized, allowing operators to paste audio events on the timeline and then manipulate them in any manner desired.
These include fully independent audio cross fades and trimming, audio track swaps, and audio and video splits.
Audio material not originally recorded with the video material can also be cut and pasted into any audio channel area.

Voice Over Capability

Whether the pictures are cut to the soundtrack or the commentary is added later, the DNE-2000 handles both methods flexibly and effectively.

Identity/Voice Disguise

The DNE-2000 allows the identity of interviewees or other material information to be hidden with special video and audio effects. Video mosaic patterns and audio pitch shifting can be programmed to make any feature or landmark indistinguishable.

Audio Effects

For audio, a wide-range of equalizer and filtering tools are included to help in recovering the quality of sounds recorded in the field under difficult conditions.

System Flexibility

To accommodate the growing needs for international program exchange, the DNE-2000 is built with the flexibility for switchable operation in 525/625 environments.

High-Quality Image Compression

The MPEG-2 4:2:2 Profile at Main Level adopted by this editing system yields excellent component digital picture quality with a bit-rate of 50 Mb/s.

4-Channel Non-compressed Audio

The system operates on 4-channel non-compressed AES/EBU 16 bit, 48 kHz Audio.

ClipEdit™ Integration

The DNE-2000 can import the EDL data of timelines created on the standard Journalist terminals in a Sony ClipEdit system. The DNE-2000 will create a timeline based on this EDL and download the required material from the server for manipulation. The finished timeline is then recorded back to the server for on-air use.

DNE-2000 GRAPHICAL USER INTERFACE

Graphical User Interface specifically designed for news editing

The DNE-2000 provides a Graphical User Interface (GUI) that has been specifically designed for News Editing. Analysis of the workflow in news editing results in a GUI that uses easily recognizable icons to represent functions, showing essential information clearly and unambiguously. Complicated menus and multiple keystrokes have been reduced to offer simple, quick and straightforward operation.

The GUI of the DNE-2000 comprise four main sections (from top left to bottom)

■ **Source Control section:**	Used for creating clips. Provides source selection, device control, mark-in/out function and displays the clip in/out-point thumbnails with their associated time code
■ **Viewer section:**	Displays the selected source material or selected event on the timeline. Audio input routing, audio level adjustment, add to timeline buttons, track selection buttons, etc are also available
■ **Timeline Control section:**	Used for controlling the timeline or recorder VTR. Provides timeline or recorder VTR motion control, mark-in/out and cue-point mark functions, and displays the associated time codes
■ **Timeline section:**	Used to create and preview the timeline sequence. Visual representations of each event are provided on each track — in/out-point thumbnails of video events, audio levels of audio events, effect transitions, clip names, source origins, etc. A comprehensive set of editing tools are provided in the timeline's tool bar

News Editing Flow on the DNE-2000 Interface

Source Control section
Clips are created referring to the main video window in the Viewer section. Loop playback is available to confirm the in/out-points.

Viewer section
Clip audio input routing and levels are set using the cross-point buttons and faders. Modifier windows are accessed to adjust picture and sound parameters.

Add buttons
Clips are added to the timeline using either the Insert or Overwrite 'Add' buttons.

Track selection buttons
The target tracks for clip addition are made active by clicking their associated buttons. (DSK, OV, V, A1-A4)

Timeline Tool bar
The sequence built on the timeline can be fine-tuned with the comprehensive set of tools provided.

Timeline tracks
Clips are moved, copied, replaced, swapped and trimmed on the timeline. The timeline events, effects and audio can be jogged to designate edit points or make parameter setting changes.
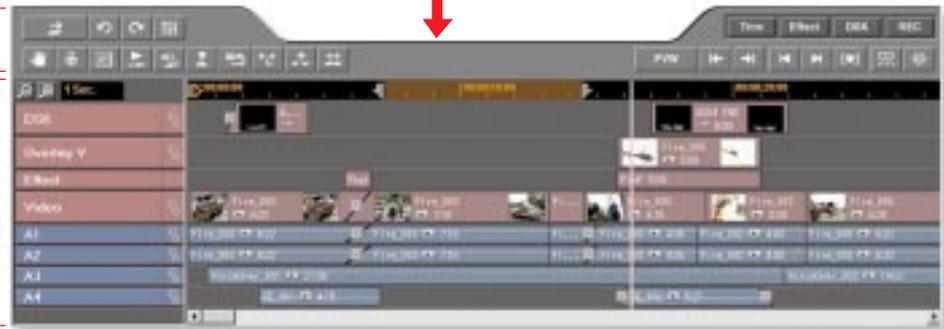
Video/Audio/Parameter Adjustments

A variety of modifiers can be accessed from the Viewer section's modifier button

Video Adjust Window
Allows basic color corrections such as luminance gain and offset, chroma gain and hue.

VD and Tone Window
This window is used to control the sound pitch for voice disguise and adjust the frequency of the built-in tone generator.

EQ Window
A three-band Equalizer is available for reducing unnecessary ambient noise or improving the intelligibility of sounds recorded in difficult environments.

Other Key GUI Windows

In addition to the main operating window, several other key views are available to make each step of the operation flow straightforward and quick. When switched between these views, only the upper window is changed.

Trim Window

The trim window is specifically designed for quick and precise trim operations. Trim operations on the timeline can be performed using the jog/shuttle dial on the dedicated controller. Trim can also be performed using the step-forward/step-backward buttons under the main video window. Trim modes include slide in/out, trim in/out, slip source and slip recorder.

Effect Setup Window

As standard, the DNE-2000 offers over 100 Wipes and 190 2D effects, including mosaic patterns for hiding identities. 3D effects with Lighting and Trail are available as an option. The Effect Setup window allows these effects to be easily and quickly setup for sophisticated A/B-roll editing. Since all effects are provided in real time, the transition lever provides an immediate preview of the effect

DSK Setup Window

The DSK Setup window allows titles and captions to be easily added to the story. It features a Luminance key and Color Vector key to adjust color difference levels for improved keying. In addition to the video supplied from the primary inputs, BMP files can also be imported and used for titling.

Record Window

The Record window is used to record the timeline sequence back to local storage, the server or external VTR. Segments of the timeline can be recorded back to local storage for re-use as source material.
As with the Main operating window, the Timeline Control section is displayed on the right to search for and mark in/out-points on the timeline and tape.

DNE-2000 STAND ALONE EDITING SYSTEM

Speaker Systems

Video Monitor

PC

PC Monitor
Keyboard

BKNE-1010
Editing Control Panel

BKNE-1011
Editing Fader Panel

Ethernet

Overlay Video

HUB

Ethernet

SDI Source 1
SDI Source 2
SDI Source 3
AES/EBU (4-ch)

Edit Preview

Audio

SDI

DNE Processor

SDI

RS-422A

RS-422A

RS-422A

Digital VTR

MAV-555
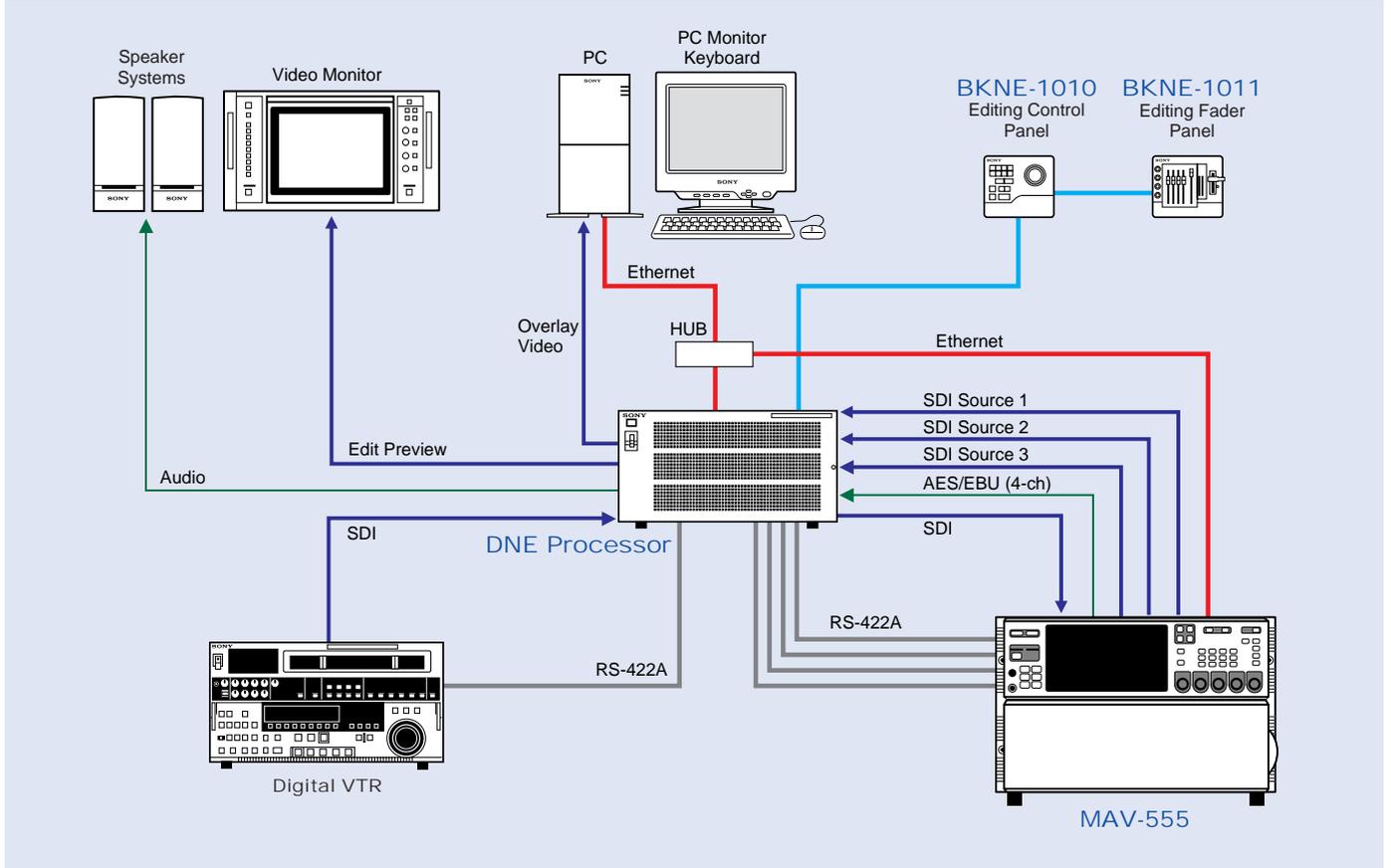
DNE-2000 SYSTEM SCALABILITY

NewsBase

—— : Ethernet™
—— : SDI

Filing

On Air Control

Input

MAV-2000

Output

Networked Editing

MAV-555   **DNE-Processor**

DNE-2000 Cut & A/B Roll Editing
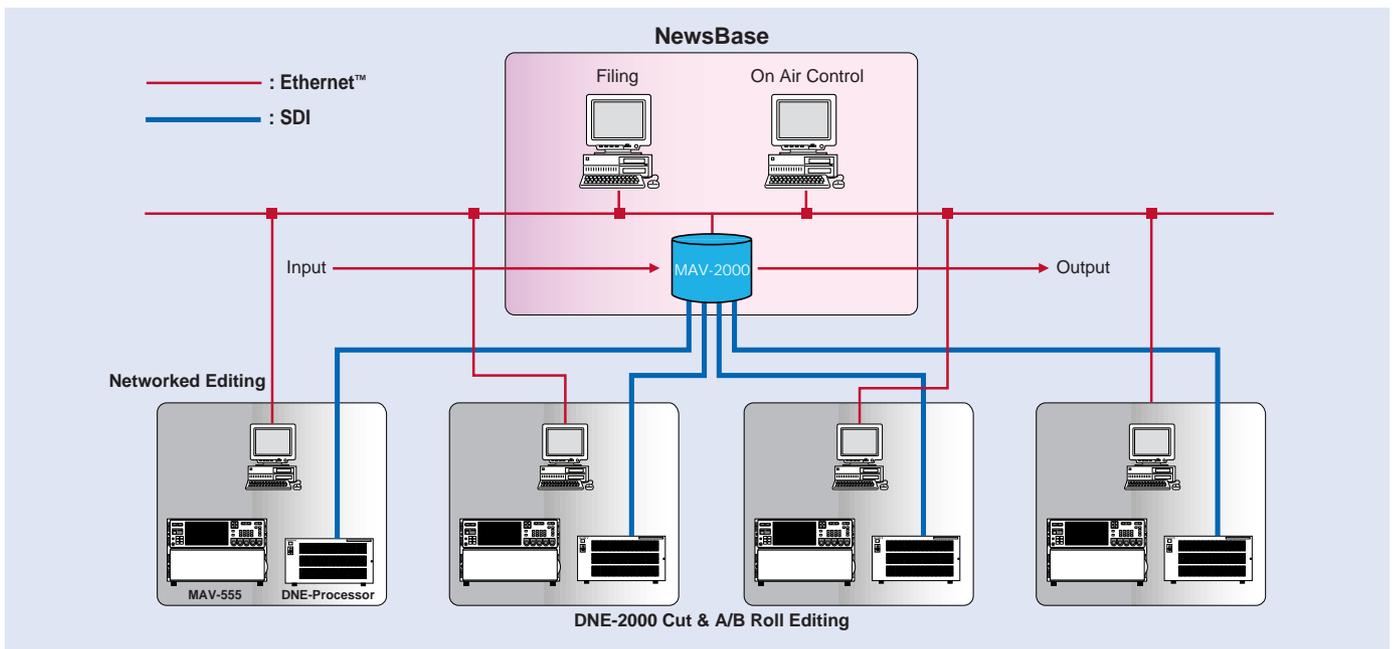
Specifications

DNE-Processor

General

Power requirements	AC 100 V to 240 V, 50/60 Hz
Power consumption	Approx. 350 W
Operating voltage	AC 90 V to 264 V
Operating temperature	5 °C to 40 °C (41 °F to 104 °F)
Weight	Approx. 40 kg (including optional boards)
Dimensions (Approx.)	424(W) × 221(H) × 450(D) mm 16 $3/4$ × 8 $3/4$ × 17 $3/4$ inches

Input/Output Connectors

Primary input	SDI (BNC)...................................... 8
Reference input	B.B. or Sync (BNC) .... 1 with loop-through
Audio AUX input	AES/EBU (XLR-3) 4
Time code input	Analog TC...................................... 1
Program output	SDI (BNC)...................................... 3
Preview output	SDI (BNC)...................................... 2
Capture output	SDI (BNC)...................................... 1
Audio program output	AES/EBU (XLR-3) 2
Audio monitor output	Analog (XLR-3) 2

Remote Connectors

Control panel	RS-422A (D-sub 15-pin)................. 1
Device control	RS-422A (D-sub 9-pin).................. 10
Ethernet port	10 Base 5 (D-sub 15-pin).............. 1
GPI IN	TTL.. 4 ports
GPI OUT	TTL.. 8 ports (TTL and Relay: 4 ports)
Terminal	RS-232C (D-sub 9-pin).................. 1

Video Effect

Key process	Key type .... Luminance Key adjust...................................... Clip, Gain, no border
Effect	1-M/E+1 DSK................................ CUT, MIX , WIPE/DME, External Key
Effect pattern	WIPE .... 108 patterns 2D DME .... 196 patterns 3D DME .... 130 patterns (with BKNE-1041)
External key	Key type .... Luminance/Chroma Key adjust:..................................... Clip, Gain/Hue (Chroma-key)
DSK	Key type .... Luminance Key adjust...................................... Clip, Gain
Snap shot memory system	100 effect status storage respectively for Effect Layer and DSK Layer in each program
Internal video	Matte Generators for Color BKGD, Border, DSK Fill etc. and Pattern Generators for brick, block etc.

Audio Effect

Filter	Low-cut filter.................................. 20 Hz to 330 Hz, 12 dB/oct Notch filter .... 50, 60, 100, 120, 150 and 180 Hz	
Built-in OSC	Frequency .... 400/1 k/8 k/12 kHz variable Output level .... -10 dB to -24 dB (1 dB step)	
3-band equalizer	Frequency .... • LOW: 20 Hz to 330 Hz .... • MID: 200 Hz to 3.3 kHz .... • HIGH: 1 kHz to 16 kHz Gain .... ±15 dB (1 dB step) Q adjustment................................. 0.7 fixed	

Audio Mixing

Input	Up to 16 channels .... 8 from embedded SDI input .... 8 from AES/EBU AUX input
Output	Mix to 4 program outputs

PC

	IBM® Compatible with Windows NT™ workstation 4.0 installed

Supplied Items

DNE-1000	Processor
BKV-100	Live Video Overlay Board
BKNE-1010	Editing Control Panel
BKNE-1011	Editing Fader Panel
BKNE-1020	Audio Processor Board
BKNE-1030	Extended Input and Keyer Board
BKNE-1040	Video Effects Board
BZNE-2020	Operating Program
MAV-555	Multi-access Video Disk Recorder
BKMA-530	Output Processor Board
Operation manual	

Optional Items

BKNE-1031	Frame Memory Board
BKNE-1041	3D/Lighting/Trial Effects Board

MAV-555

Power requirements	AC 100 V to 240 V, 50/60 Hz
Power consumption	Max. 600 W (including BKMA-530)
Humidity	20% to 90% (relative humidity)
Operating temperature	+ 5°C to +40°C (+41°F to +104°F)
Storage temperature	-20°C to +60°C (-4°F to +140°F)
Weight	50 kg (110 lb)
Dimensions	424 (W) x 266 (H) x 631 (D) mm (16 $3/4$ x 10 $1/2$ x 24 $7/8$ inches)

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