SONY

NTSC



Betacam SX™ System



Betacam SX™ System — a New Generation of ENG and EFP Format

When Sony introduced U-maticTM video cassette recording in 1972, the age of electronic news gathering was launched. In the 1980's, Sony gave the world BetacamTM and then Betacam SP TM formats — workhorse formats that introduced such radical improvements in picture quality that they were quickly adopted throughout the broadcast community. Developed to take full advantage of the Betacam and Betacam SP formats, the BVW range of Sony VTRs has, for over a decade, set the standard for reliability and performance in the demanding worlds of ENG and EFP.

Now, in the 1990's, digital technology is bringing revolutionary changes to the broadcast industry — changes that are accompanied by benefits and advantages that can be applied throughout the entire broadcast operations.



To realize these dramatic benefits, Sony introduces the Betacam SX system: the total solution for optimized digital acquisition and production.

The Betacam SX format is designed to achieve superior picture quality, faster editing, increasing system flexibility, and greater productivity in every aspect of news gathering and production. The Betacam SX system combines extraordinary advantages: an advanced compression algorithm, dramatic reductions in equipment size and operating costs, the speed and creativity of non-linear disk-based editing, and the power of a total digital network.

The Betacam SX format complies with MPEG2 4:2:2 Profile at Main Level (MPEG2 4:2:2P@ML) to maintain broadcast-quality pictures from camera through post production. Using the robust

compression algorithm that achieves higher picture quality at a reduced bitrate, the Betacam SX format is the key to superior digital acquisition, highspeed transmission from the field to the broadcast station, high-speed material upload to server, non-linear editing, cost-effective archival storage, and server-based playout.

The Sony Betacam SX System — the first system that brings news broadcasting operations the full benefit of digital technology, while maintaining the functionality and cost efficiency that will carry today's broadcasting community into tomorrow's digital world.



The Betacam SX format represents the next generation Betacam technology, drawing on the long experience of Sony in serving the ever-changing, real-world needs of the broadcast industry. It combines the proven performance of 1/2-inch analog Betacam SP format with the digital technology leadership of the D-1, D-2, and Digital BETACAM TM formats.

Broadcast Picture Quality with MPEG2 4:2:2P@ML

The Betacam SX format records 8-bit, 4:2:2 component digital signals using an advanced compression algorithm.

Betacam SX recordings maintain high-quality pictures without visible artifacts, while keeping the bit-rate low to allow high-speed transmission, cost-effective digital nonlinear editing, and archival storage.

Betacam SX picture quality exceeds that of Betacam SP. The Betacam SX format also preserves 507 active lines per frame including vertical blanking signal information. The Betacam SX recording format yields superior picture quality, with excellent luminance detail and improved color resolution. The 4:2:2 sampling structure maintains the chrominance information necessary for editing and special effects — and stands up to the post production needs of news program production.

<Betacam SX Format>

General	
Tape Width	12.65 mm (1/2 inch)
Tape material	Metal particle tape
Recording/playing time	Max. 62 min. with S-cassette
	Max.194 min. with L-cassette
Tape speed	59.515 mm/s (525 mode)
	59.575 mm/s (625 mode)
Track pitch	32 mm
Tracks per frame	10 (525/60), 12 (625/50)
Longitudinal tracks	Time code/Control/Aux
Video ancillary data	1 line/field
Extension data	20 byte/frame
Video	
Compression	MPEG2 4:2:2Profile@Main Level
Bit rate	18 Mbps
Active lines per frame	507 lines (525/60), 608 lines (625/50)
Sampling frequency	Y:13.5 MHz R-Y/B-Y:6.75 MHz
Quantization	8 bits/sample
Audio	
Compression	None
Sampling frequency	48 kHz
Quantization	16 bits/sample
Channels	4

Betacam SX Achieves Efficient Bit Rate Reduction

The robust compression algorithm of the Betacam SX format results in a reduced bit rate of 18 Mbps for the video signal, achieving greater effeciency both in transmitting the signal from the field to the station and in storage onto disk, while maintaining high-picture quality. Reducing the bit rate enables non-linear editing systems to handle real-time video and audio signals at lower cost. The reduced bit rate allows either high-speed transmission or simultaneouse 2-channel transmission of different video source signals within a limited bandwidth, which can result in reduced transmission fees and facilitate the use of contribution links.

The reduced bit rate of Betacam SX recordings also yields overall cost saving in strage requirements and transmission time, making more effective use of the hardware capacity and channel bandwidth of a disk and server-based studio network system.



Compatibility with Analog Betacam and Betacam SP Formats

The Betacam SX format is designed to maintain

compatibility with current analog systems. This analog compatibility provides a logical, cost-efficient migration path towards a totally digital environment.

Analog Playback Capability

The 1/2-inch tape size used by Betacam SX format is the same size 1/2 cassette as current Betacam and Betacam SP equipment, giving Betacam SX playback capability of analog Betacam and Betacam SP recordings made on oxide or metal particle tape. Using advanced Hybrid Recorders that combine video tape transport and hard disk drive, the Betacam SX system allows existing analog Betacam and Betacam SP archive material to be accessed and digitized for non-linear editing.

Wide Range of Recording Media

Current BCT-MA and UVWT Series Betacam SP metal particle tape cassettes can be used for Betacam SX recording, assuring wide availability of recording media. For superior digital performance at reduced cost, a new metal particle tape has also been developed for Betacam SX recording.



Analog and Digital Interfaces

Betacam SX products provide both analog and digital interfaces, allowing these new digital products to coexist with all the existing analog systems in the studio and in the field.



Betacam SX in Action:

The Robust Tape Format

The robust tape format of Betacam SX records 8-bit, 4:2:2 component digital video signals and supports four channels of 16-bit/48 kHz digital audio. Its powerful ECC (Error Correction Code) automatically corrects off-tape data errors caused by burst errors during recording and playback. This ensures virtually dropout-free recording of important news program material.

The Cost Efficiencies of Betacam SX Products

The Betacam SX format is designed to deliver all the benefits of high-quality digital performance — and also to achieve significant long-term saving in both media and hardware costs as well as reducing operational expenses.

Lower Tape Running Costs

The advanced signal compression technology of the Betacam SX format has brought the important

advantage of longer tape recording times: up to 62 minutes on a single S-cassette, and up to 194 minutes on a single L-cassette.

The "multiple head tracking" technology used in the Betacam SX format ensures reliable playback by performing powerful error correction on adjacent tracks. This technology enables the Betacam SX format to handle a high bit-rate signal within narrow tracks, allowing the development of low-cost, high-quality Betacam SX tape.

Compared to conventional Betacam SP tapes, tape consumption can actually be reduced by one-half which means that ENG acquisition and studio archival tape costs can be greatly reduced, while superior picture quality is maintained.

Reduced Maintenance Costs

Betacam SX equipment also incorporates an Automatic Alignment System that maximizes accurate tape recording and reproduction of digital data. An Automatic RF Equalizer optimizes the gain and phase of off-tape RF signals.



These automatic systems minimize the need for timeconsuming manual equalization and servo system adjustments, which can lower maintenance costs.

Innovative Hardware Designs

Another significant economy results from the reduced bit-rate of the Betacam SX format: the ability to develop new hardware designs that reduce cost by combining multiple functions. A dramatic example of this design efficiency is the unique Sony Digital Video Hybrid Recorder, which combines VTR and hard disk drive in a single integrated unit.

Betacam SX:

The Key to the Digital Newsroom

Betacam SX format is the key to the Sony approach to the digital newsroom — bringing the multiple advantages of high-quality pictures and sound, highspeed transmission, and low-cost operation. The compression has been carefully designed to maintain high picture quality during every phase of broadcast news operations. The compression algorithm of MPEG2 4:2:2P@ML is universally employed within the full Betacam SX product range, as well as by the digital, disk-based A/V Servers in the Sony system. This means that, throughout the total newsroom system, no encoding and decoding is needed, so picture quality is not compromised.

The Right Media in the Right Application

Sony expertise in every aspect of video technology has led to a careful evaluation of the running costs, recording times, mobility factors, and industry-wide compatibility of both tape and disk media. Sony employs tape media for applications requiring low running costs, longer recording time, and higher mobility — and uses disk media when high-speed random access and non-linear operations are required. Best of all, both tape and disk media utilize the same sampling structure and compression algorithm, allowing both to work together seamlessly and efficiently in a powerful hybrid storage system — that is the beauty of the Sony Betacam SX System.



The Betacam SX Product Line-up

The Sony Betacam SX product line-up answers all the needs of both field and studio newsroom operations. Its versatile interfaces and analog compatibility with Betacam and Betacam SP formats make this new digital system easy to integrate into current analog installations.

Upgrading to digital can be accomplished step by step, at a pace that suits the needs and budgets of ENG organizations and EFP producers.



With the Betacam SX approach, new equipment can be added as required without compromising overall system functionality.

And when the migration to digital is complete, Sony Betacam SX system will realize all the benefits of digital technology at its most advanced: broadcast picture and sound quality, non-linear editing productivity, increased transmission speed, and significant economy in media usage for both acquisition and storage.



Acquisition

DNW-7/9WS/90/90WS Camcorders

The Sony Betacam SX camcorder family provides the advantages of a fully digital acquisition tool with compact one-piece design. All of the advanced Betacam SX camcorders combine operating simplicity, rugged design, and compact, lightweight portability.

Smaller in size and weight than analog 1/2inch models, these new camcorders incorporate color video playback capability without an external adaptor. They also incorporates many useful new features, including an optional Slot-in Wireless Microphone Receiver and an Internal Light System. This all-in one design reduces the total package weight for shooting crews in the field.

Betacam SX camcorders provide another important shooting feature: the ability to record Good Shot Marks and REC Start Marks. Identifying these recorded segments on the GUI of the Non-linear Editors allow editors to get started faster - and save both time and valuable hard disk storage capacity by transferring only these selected scenes.

The DNW-7 is equipped with the 2/3-inch 400K Power HAD[™] IT CCDs and the DNW-90 has the 2/3-inch 520K Power HAD FIT CCDs. Camcorders switchable to widescreen aspect ratio are the DNW-90WS and DNW-9WS. The DNW-90WS is equipped with the 2/3-inch 520K Power HAD FIT widescreen CCDs and the DNW-9WS is the IT model. All models employ digital processing in the camera section and component digital recording in the VTR section. A wide range of camera adaptors can be connected: when used with the CA-755 Camera Adaptor, operation can be

remotely controlled from a CCU (Camera Control Unit).

Features

- A fully charged BP-L90A Lithium-ion Battery gives the DNW-7 approximately 180 minutes of continuous operating time.
- Up to 62 minutes recording using the S-cassette.
- Good Shot Marker Recording.
- Variable speed electronic shutter for shooting highspeed moving objects.
- TruEye™ process.
- DynaLatitude™.
- Auto Tracing White balance (ATW).
- Slot-in wireless microphone receiver.
- Internal light system.
- Viewfinder: the DNW-7 and 90 are equipped with a 1.5inch monochrome viewfinder. The DNW-9WS and 90WS comes with a wide 2-inch monochrome viewfinder.

DNV-5 Dockable VTR

The Sony Betacam SX system includes a dockable VTR for the Betacam SX digital recording. This interfaces directly to existing portable analog cameras via a conventional 50-pin connector. Setup conversion from analog to digital format can be done easily in both ENG and EFP applications. Good Shot Marks and REC Start Marks can be recorded automatically on tape and an optional Slot-in Wireless Microphone Receiver can be added.



DNW-A75 Digital Video Cassette Recorder

The DNW-A75 includes a wide range of features, including frame-accurate video/audio insert editing, Preread editing, 525/625 operation, variable playback, Good Shot Marker support, and optional SDTI* (Serial Data Transport Interface) input and output. It is ideally suited for many aspects of linear operation such as machine to machine editing, A/B roll editing controlled from the BVE series edit controllers, or installed in the Flexicart[™] or LMS multicassette systems. The Betacam SP materials used by most broadcasters can be played back on the DNW-A75; analog Betacam playback features include Dynamic Tracking[™] playback, NTSC/PAL viewing capability and 4-channel audio playback.

Features

- ±0 frame Insert/Assemble Editing
- Preread Editing Capability
- Variable Speed Control from -1 time to +2 times



- DMC (Dynamic Motion Control) function
- Good Shot Mark handling
- Versatile Interfaces such as analog composite and component video I/O, component SDI I/O and 4 channels of analog audio I/O, AES/EBU I/O, and 2 audio monitor outputs as standard.
- Long Recording and Playback time for 194 minutes using the L cassette and 62 minutes using the S cassette.
- Connection with the DVCAM[™] format via SDI Note: *SDTI is defined as SMPTE 305M.



The DNW-75 Digital Video Cassette Recorder includes a wide range of features, including frame-accurate video/audio editing, Preread editing, 525/625 operation, variable playback, Good Shot Mark support, and optional SDTI (Serial Data Transport Interface) output. It is ideally suited for many aspects of linear operation such as machine to machine editing, A/B roll editing controlled from the BVE series edit controllers, or installed in the Flexicart or LMS multicassette systems. Dynamic Tracking playback, NTSC/PAL viewing capability and 4-channel audio playback are supported.

DNW-75

Digital Video Cassette Recorder

Features

- ±0 frame Insert/Assemble Editing
- Preread Editing capability
- Variable Speed Control from -1 to +2 times with noiseless video jog and digital jog sound (Betacam SX playback only)
- DMC (Dynamic Motion Control)
- Good Shot Mark, Record Start Mark and Virtual Shot Marks
- 525/60 or 625/50 versatility
- Versatile interfaces includes composite/component/SDI and optional SDTI* outputs, analogue and AES/EBU outputs for four audio channels, outputs for twochannel audio monitoring
- High-speed Picture Search: ±50 times normal playback speed. (Betacam SX mode)
- Provides Long Playback Time. 194 minutes using an L cassette and 62 minutes using an S cassette.

*Note: SDTI is defined as SMPTE 305M.

Betacam SX Recorders



The DNW-A28 Digital Video Cassette Recorder is designed to be compact and light weight. Its small size enables it to be installed in a very limited space, such as an OB van. Features of the DNW-A28 includes, Sliding Key Panel, Recording and Playback Volume Priority Switching function, Manual Editing function, 525/625 operation, Analog Betacam/Betacam SP playback capability, Sequential Recording with two DNW-A28s, Good Shot Mark support, and Reading Shot Data function. Also, the DNW-A28 can record 4-channel audio inputs.

DNW-A28

Digital Video Cassette Recorder

Features

- Compact design for use in a limited space such as an OB van
- Sliding Key Panel
- Small Jog Dial
- Manual Editing Function
- Good Shot Mark, Record Start Mark and Virtual Shot Marks
- Reading Shot Data function
- 525/625 versatility
- Analog Betacam/Betacam SP playback capability
- SDI/analog composite video input/output
- Provides recording and playback time of 62 minutes using an S cassette.
- · Continuous recording with two DNW-A28s
- Sony 9-pin remote control interface



The DNW-A100 is a unique innovation that combines tape and disk in a single unit. Betacam SX recordings can be transferred to the hard disk of the DNW-A100 at up to four times normal play speed for non-linear editing. The DNW-A100 also maintains analog playback capability analog Betacam SP recordings can be transferred and digitized on the hard disk of the Hybrid Recorder at normal play speed. Once on disk, non-linear editing can begin with editing functionality.

Combining tape and disk in a single unit offers significant advantages of productivity and creativity — the Hybrid Recorder acts as a player/recorder as though there were two VTRs in one unit.

A Digital Video Hybrid Recorder can be added to an

DNW-A100 Digital Video Hybrid Recorder

existing system and realize the benefits of non-linear editing, fast access to material on disk drive, and highspeed playback from disk.

Features

- Equipped with SDTI outputs for high-speed transfer of audio/video material at up to four times normal play speed.
- Equipped with SDI I/O for simple connection with other SDI-equipped devices.
- · Analog Betacam/Betacam SP playback capability.
- 4-channel, 16-bit/48kHz digital audio.
- Same dimensions as those of a Betacam SP VTR allow easy integration into existing systems.
- 90-minute recording on the built-in hard disk drive.
- High-speed picture search with VTR: ±50 times normal play speed.
- High-speed picture search with HDD: ±100 times normal play speed.
- Jog speed control over a range of -1 to +1 times normal play speed.
- Two editing modes: full edit and simple edit modes.
- 525/60, 625/50 switchable.

Hybrid Recorders

DNW-A50

Digital Video Hybrid Recorder

The DNW-A50 is a cost-effective Digital Video Hybrid Recorder without SDTI interfacing and high-speed tape/disk operation, which can be utilized in the applications not requiring high-speed capability. The DNW-A50 is equipped with a hard disk drive capable of 90-minute recording.

Betacam SX Players



The DNW-A65 Digital Video Cassette Player includes a wide range of features, including DMC (Dynamic Motion Control), Freeze function, 525/625 operation, variable playback, Good Shot Mark support, and optional SDTI (Serial Data Transport Interface) output. It is ideally suited to enhance and migrate to digital while maintaining current analog linear operations. The DNW-A65 can be installed in the Flexicart or Library Management System[™] (LMS) multicassette systems. The Betacam SP materials used by many broadcasters can be played back on the DNW-A65; like the BVW-65 industry standard Betacam SP VTR, Betacam/Betacam SP playback features for the DNW-A65 include Dynamic Tracking playback, NTSC/PAL viewing capability and 4-channel audio playback.

DNW-A65

Digital Video Cassette Player

Features

- Variable Speed Control from -1 to +2 times with noiseless video jog and digital jog sound (Betacam SX playback only)
- DMC (Dynamic Motion Control)
- Good Shot Mark, Record Start Mark and Virtual Shot Marks
- 525/60 or 625/50 versatility
- Betacam/Betacam SP playback capability
- Versatile interfaces includes composite/component/SDI and optional SDTI* outputs, analog and AES/EBU outputs for four audio channels, outputs for two-channel audio monitoring
- High-speed Picture Search: ±50 times normal playback speed. (Betacam SX mode)
- Provides Long Playback Time. 194 minutes using an L cassette and 62 minutes using an S cassette.

* Note: SDTI is defined as SMPTE 305M.



Betacam SX Players



The DNW-65 Digital Video Cassette Player includes a wide range of features, including DMC (Dynamic Motion Control), Freeze function, 525/625 operation, variable playback, Good Shot Mark support, and optional SDTI (Serial Data Transport Interface) output. It is ideally suited to enhance digital environment. The DNW-65 can be installed in the Flexicart or Library Management System (LMS) multicassette systems. Dynamic Tracking playback, NTSC/PAL viewing capability and 4-channel audio playback are supported.

DNW-65 Digital Video Cassette Player

Features

- Variable Speed Control from -1 to +2 times with noiseless video jog and digital jog sound (Betacam SX playback only)
- DMC (Dynamic Motion Control)
- Good Shot Mark, Record Start Mark and Virtual Shot Marks
- 525/60 or 625/50 versatility
- Versatile interfaces includes composite/component/SDI and optional SDTI* outputs, analogue and AES/EBU outputs for four audio channels, outputs for two-channel audio monitoring
- High-speed Picture Search: ±50 times normal playback speed. (Betacam SX mode)
- Provides Long Playback Time. 194 minutes using an L cassette and 62 minutes using an S cassette.

* Note: SDTI is defined as SMPTE 305M.

DNW-A22 Digital Video Cassette Player

The DNW-A22 is a simple player for viewing recorded and edited tapes. The DNW-A22 delivers the superb picture quality and cost-efficiency of the Betacam SX format.

Features

- Analog Betacam/Betacam SP playback capability.
- Using the optional RF adaptor, pictures and audio can be monitored using a conventional television receiver.
- High-speed picture search: ±50 times normal play speed.
- LTC, VITC, CTL, and User-bit information may be superimposed on the playback picture.
- 525/60, 625/50 switchable.





These optional control panels are designed for remote control of the following Betacam SX recorders and players to improve operational convenience. These machines need to be fitted with a BKNW-121 Control Panel Case, BKNW-122 Control Panel Extension Kit and BKNW-123 Modification Kit (required for the DNW-A100/ A50/A45/A30/30/A22) for operation with the BKNW-119 and BKNW-120.

BKNW-119

For use with the DNW-A75 Betacam SX Studio VTR and DNW-A65 Player

BKNW-120

For use with DNW-A100/A50/A45 Betacam SX Hybrid Recorders and DNW-A30/30/A22 Betacam SX Players

Both control panels are supplied with a 10-meter remote control cable.

DNE-700 Digital Editing System

The DNE-700 is designed to complement the digital advantages of Digital Video Hybrid Recorders. Its simple GUI-based editing capabilities provide a simple, cost effective editing system for the station operation with DEP-100 Digital Effects Processor. It realises simple news editing as a stand alone, desktop style editing system, and can be expanded to Cut Plus (A/A Roll effects) editing. The DNE-700 also offers the familiar user interface of dedicated control panel which includes audio/video level adjustment capability, together with the well accepted GUI for news editing.

Features

- Familiar GUI specifically designed for news editing.
- Easy, simple and familiar operation from the dedicated control panel equipped with the jog/shuttle dial.



- Functions as an editing controller for Sony Hybrid Recorders during on-line use providing picture-based non-linear editing.
- Using "Good Shot Marks" to locate edit points.
- Auto and manual capturing "Good Shot Marks" during recording to the hard disk of the DNW-A100.
- Audio level control, split editing and level control.
- Voice-over recording.



The DLE-110 is an innovative GUI-based, non-linear editing system specifically designed for live program production. It provides rapid replay, slow motion playback, and quick editing of highlight scenes for live applications such as sports programs and outside broadcast events. Taking full advantage of the hard disk



Features

- External disk storage unit to extend the recording time of the Hybrid Recorder's built-in hard drive.
- Records up to 6 hours of video and audio signals.

DLE-110 Live Editing System

of the Hybrid Recorder, the DLE-110 provides simultaneous playback and recording — and quick assembly and playout of highlight scenes from the hard drive take place while the system continues to record a live source and while new edit points are marked.

Features

- Broadcast-quality video and audio, employing DNW-A100/A50/A45 Digital Video Hybrid Recorder as storage component.
- Live-oriented GUI, dedicated control panel.
- Long recording time using the hard drive of the Hybrid Recorder as well as extended storage devices.
- Endless recording function.
- Backup recording and archiving on tape simultaneously.

BKNW-116

DEP-100

Digital Effects Processor

Sony Disk Unit

- Single SCSI cable is needed to connect between Hybrid Recorder and BKNW-116.
- Warm-up function to pre-heat the disk mechanism.
- Split disk operation to realize various application.
- High speed transfer up to four times normal play speed between Hybrid Recorder's built-in hard drive and the disk unit.



The DEP-100 is a compact digital video effects unit offering a 1 mix/effects switcher/DME and a Downstream Keyer (DSK). The DEP-100 can enhance cut editing by performing A/A roll effects from a single source video and also add titles, captions, and logos with the DSK.

The DNE-700 and DLE-110 systems interface to the DEP-100.

Features

- Perform A/A roll effects by freezing the last frame of a scene to the internal frame memory and transitioning to the next scene with an effect.
- Perform split screen and picture-in-picture with two video inputs.
- Over 100 wipe patterns and more than 150 2D effects.
- 32 internal background patterns and an internal matte generator for border effects.
- SDI interface (Main/Sub/DSK Fill/DSK Key Source).
- Audio delay handling.
- Equipped with a floppy disk drive to recall graphics and/or still titles stored on a floppy disk.
- 525/60, 625/50 operation.

Digital Portable Editor

DNW-A225 Digital Portable Editor

The DNW-A225 consists of two detachable DNW-A25 units, connected into a single editing package. Both side of the DNW-A225 are capable of frame-accurate editing, as well as support of Betacam and Betacam SP playback.



The DNW-A25 is a half in weigh and width of DNW-A225 and DNW-A220, making it small enough to be hand-carried. It features frame-accurate insert editing functions, as well as Betacam and Betacam SP tape playback. The DNW-A25 can also be used as a feeder, or as a third VTR for A/B roll with DNW-A220 orDNW-A225.





DNW-A220 is a cost effective portable editor and the first Betacam SX Digital Portable Editor to offer editing in a small and compact package. The DNW-A220 offers Betacam SX record/playback and Betacam SP playback (left side) and video/audio insert and assemble editing (right side). Support of the Good Shot Marker system is included.

Common features of the Digital Portable Editors

- Compact design for field use and lightweight
- Battery Operation (attaching a Sony BP-L90A/L60A) and also AC powered operation
- Good Shot Mark and Shot Data handling
- 4 channels of 16-bit/48kHz digital audio for each deck
- Current S-size tape cassettes can be used for recording
- Uses same 1/2-inch tape as Betacam/Betacam SP and maintains playback compatibility with current analog

NOTICE: Liquid Crystal Display Panel

The liquid crystal display fitted to this unit is manufactured with high precision technology, giving a functioning pixel ratio of at least 99.99%. Thus a very small proportion of pixels (at most 0.01%) may be "stuck", constantly on or constantly off. In addition, over a long period of use,

Betacam/Betacam SP format (DNW-A225, DNW-A25 and the left side deck of DNW-A220)

- 525/60, 625/50 switchable in the digital component environment
- Speed search with VTRs: ±24 times normal play speed
- SDI input/output
- Analog composite Video Input and two outputs, Analog 2-ch audio input/output and 2-ch monitor outputs for each deck
- Sony 9-pin remote control interface

because of the physical characteristics of the liquid crystal display, such "stuck" pixels may appear spontaneously. These problems have been kept to the absolute minimum, but are an unavoidable characteristic of liquid crystal technology.

How Good Shot Mark Functions

Data on Tape to Enhance the Edit Search Process

Betacam SX camcorders allow automatic or manual recording of shooting data on tape. Data such as Date, Time, Shot ID, Cassette Number and Shot Number can all be recorded during the shooting process. Shot Data can be used to retrieve material during editing.



Good Shot Mark and REC. Start Mark

Betacam SX camcorders provide an innovative function to speed the editing process which increases the ability to identify good takes while shooting in the field. A REC.

Start Mark is automatically placed on the tape each time the VTR Start button is pressed while the VTR is in standby mode. A Good Shot Mark can be added at any time by pressing the RETURN button on the side of the lens while in recording mode.





When tapes are played back with DNW-A220/A225, these Digital Portable Editors can scan through the tape and detect all the REC. Start Marks and Good Shot Marks recorded on the tape. After detecting the

marks, a list of all the marks is displayed on the LCD screen, allowing easy cueing to any mark. During the Play, Shuttle, Jog and Still, these portable editors can memorize additional marks called Virtual Shot Marks, entered by the operators. Using this list of marks, tedious searching process will be completely eliminated from tape-to-tape news editing.



Shot Mark List

When tapes are copied onto DNW-A100/A50 Digital Video Hybrid Recorders' built-in hard drive, these marks will appear highlighted as picture stamps on the GUI of the DNE-700 Digital News Editing System. Using picture stamps also helps to eliminate tedious searching from nonlinear news editing and saves hard disk space by downloading only the scenes selected by editors. This Shot Mark Handling functions of the



Betacam SX helps to speedup the newsroom operation.



Shot Mark Log

SXnet™

BZNW-100

SXnet Operating Program

The BZNW-100, which uses widely available standard PCs, Ethernet[™] and serial digital infrastructure, makes it easy to transfer the material from the feeds room to edit bays, or from editing suite to play-out. As an example, incoming material recorded on a Hybrid Recorder's disk drive can be quickly transferred to an editing workstation for editing. The edited package can then be sent to a playout Hybrid Recorder and compiled into a playlist with other packages. SXnet executes this playlist for final

 e drag-and

 b s Xnet,

SXnet.

transmission. Changing a playlist is a simple drag-anddrop operation with a user-friendly GUI. With SXnet, 'Sneaker-Net' is a thing of the past.

Features

A. Function for File Management and Transfer

- File Handling and Management: Transfer, Delete, and Naming.
- Transfer operation: Select source device and EDL/or "one file on program line", then transfer to selected target device.
- Simultaneous copy for Hybrid Recorder(HBR) and back-up tape on the play-out Hybrid Recorder.
- Transfer-job queuing function when HBR was busy for recording.
- Specifying Title, Start of Message (SOM) and End of Message (EOM) for each material.
- HTML Page creation with file list for browsing the file description.

B. Functions for Playout Operation

- File open with SOM, and EOM or Duration.
- Drag-and-drop operation for creation/re-order of playlist.
- Play-out start by GPI pulse trigger and report of play status to GPI level.

Specifications

• Program transfer during play-out and editing playlist

SONY

- As Run Log of playout.
- Quick operation for last minutes change: Event insertion as "next event" is available by one key action.
- Up to ten clients (DNE-700 and DLE-110) can be connected to the system via TCP/IP.
- Two Hybrid Recorders can be used as playout devices.
- One Hybrid Recorder can be used as a back-up device.
- Recommended routing switchers for this system include: DVS-V1201, DVS-V1616, DVS-V3232 or DVS-V6464.
- GPIs support three actions; 'Play', 'Change' and 'Stand-by'.
- Transfer signal format: SDI.



DNW-7/9WS/90/90WS Camcorders

		DNW-7	DNW-9WS		DNW-90	DNW-9	ows	
			(16:9 MODE)	(4:3 MODE)		(16:9 MODE)	(4:3 MODE)	
General								
Mass			/	Approx. 4.0 kg (8 ll	b 13 oz)			
Operating weight			A	pprox. 6.0 kg (13 l	lb 3 oz)			
Power requirements	S		[DC 12 V +5.0 V/-1.	0 V			
Power consumption	1	29 W	31.	5 W	31 W	32	W	
Operating temperation	ture		0	°C to +40 °C (+32	2 °F to +104 °F)			
Storage temperatur	re		-20 °C to +60 °C (-4 °F to +140 °F)					
Humidity	na timo	Approx 120 min (with RD L (0.4)	Approv 110 mil	25 % 10 85 % (Fela	Approx 110 min (with PD L (04)	Approv 10E mir	(with DD L (OA)	
Continuous operatin	ng time	Approx. 120 min (with BP-L60A)	pprox.120 min (with BP-L60A) Approx.110 min (with BP-L60A) Approx.110 min (with BP-L60A) Approx.105 min (w pprox.165 min (with BP-L90A) Approx.165 min (with BP-L90A) Approx.165 min (with BP-L90A) Approx.160 min (with				n (with BP-LOOA)	
Signal inputs	Genlock video input			BNC (x1), 1.0) Vp-p, 75 Ω			
	Time code input			BNC (x1), 0.5 to	18 Vp-p, 10 kΩ			
	Audio(CH-1/2)/Mic input)	XLR-3-31 type (x2),	-60 dBu/+4 dBu s	electable, high impedance,	, balanced		
Signal outputs	Video output		B	VC (x1), 1.0 Vp-p,	75 $Ω$, sync negative			
	Test output	BNC (x1), 1.0 Vp-p, 75 Ω, sync negative						
	Time code output			BNC (x1), 1.0	0 Vp-p, /5 Ω			
	Earphone Audio output	Mini-jack						
Others	Lens			12-	nin			
Others	Remote			6-n	bin			
	Light			2-pin, DC 12	V. max. 30 W			
	DC input			XLR 4-pin (for the	e optional AC-550)			
	DC output		4-pin (for wireless microp	phone receiver), DC12 V			
VTR section								
General	Recording format			Betaca	am SX			
	Tape speed			59.515	i mm/s			
	Playback/Recording time		N	lax. 62 min with BC	CI-62SXA cassette			
	Past forward time				WILLI BUI-025XA			
	Recommended tane		Son	Betacam SX cass	sette (BCT-60SX series)			
	Recommended tape		Sony Betacam	SP cassette (BC	T-30MA series/UVWT-30MA	series)		
	Sampling frequency			Y: 13.	5 MHz	· · ·		
				R-Y/B-Y:	6.75 MHz			
	Quantization			8 bits/s	sample			
Video performence	Error correction			Reea-Solor	non code			
video performance	Y/R-Y/R-Y delay			15 ns (nr less			
Digital audio performance	e Sampling frequency	48 kHz (sunchronized with video)						
5 1	Quantization	16 bits/sample						
	Frequency response	20 Hz to 20 kHz +0.5 dB/-1.0 dB						
	Dynamic range (emphasis ON)	More than 85dB						
	Distortion (at 1kHz, emphasis	Less than 0.08 %						
	Cross talk							
	(at 1kHz, reference level)	Less than -70 dB						
	Wow & flutter	Below measurable limit						
	Head room	20 dB						
	Emphasis (ON/OFF selectable)	T1 = 50 μs, T2 =15 μs						
		* The specifications given above were measured by CA-701.						
Camera section	Dielune deulee	2 ship 2/2 ipsh	0 abin ()/2 in ch	2 shin 2/2 insh	2 abin 2	12 lin ala	
Camera	Pickup device	Power HAD 1000 IT CCD	Power H	AD 1000	Power HAD 1000 FIT CCD	Bower HA	D 1000	
			16:9/4:3 Wides	creen IT CCD		16:9/4:3 Wideso	creen FIT CCD	
	Picture elements	811(H) x 508(V)			1038 (H) x 504 (V)			
	Optical system	F1.4 prism system						
	Built-in filters		1: CLEAR 2:5600 K+1/8 ND 3:5600 K 4:5600 K+1/64 ND					
Gain			1/100, 1/125, 1/250, 1/500, 1/1000, 1/2000 (s)					
			-3, 0, +. (select	in camera set up r	o, +24, +30, +30, +42 ub menu for L/M/H/TURBO)			
	Clear scan	CLS:60.3 to 10156 Hz (260steps)	CLS:60.1 to 700	0 Hz (260 step)	CLS: 60.1 ti	o 7000 Hz (260 steps)		
		· · · · · ·			ECS: 30.4 t	o 58.3 Hz (248 steps)		
Lens mount Sensitivity (2000 lx,89.9 %reflectitiv				Special bay	yonet mount			
		F10			F9			
	winimum illumination	(F1.4 lens, +42 dB Turbo Gain)		(F	Approx. 0.35 ix F1.4 lens. +42 dB Turbo Ga	in)		
	Video S/N ratio (typical)	(**************************************	I	63 c	1B			
Vertical resolution Registration		(without EVS) 400 TV lines						
				(with EVS)45	50 TV lines			
				0.05 % (all zones	s, without lens)			
	Geometric distortion		B	elow measurable I	evel (without lens)			
	Modulation donth at 5 MHz	60 % (Typical)	70 % (Tupical)	2 S	70 % (Tupical)	70 % (Typical)	55% (Tunical)	
Viewfinder	CRT	1.5-inch monochrome	2-inch mon	ochrome	1.5-inch monochr	2-inch mor	ochrome	
. lowinger	Controls	BRIGHT contr	ol, CONTRAST con	trol, PEAKING con	trol, TALLY, ZEBRA, DISPLA	AY switches	o o nomo	
Horizontal resolution		600 TV lines	450 TV lines	600 TV lines	600 TV lines	450 TV lines	600 TV lines	
	Microphone			Ultra-directional (d	letachable)			
Suplied Accessori	es							
		Shoulder belt (1), Microph	one (1),XLR cap (4	,Maintenance Mar	nual Part 1 (1),Operation Ma	anual (1)		

DNV-5 Dockable VTR

General				
Power requiremen	ts	DC 12 V +5.0 V/-1.0 V		
Power consumptio	n	20 W		
Operating tempera	ature	0 °C to +40 °C (+32 °F to +104 °F)		
Storage temperatu	ire	-20 °C to +60 °C (-4 °F to +140 °F)		
Humidity		25 % to 85 % (relative humidity)		
Mass		Approx. 2.9 kg (6 lb 6 oz)		
Recording format		Betacam SX		
Tape speed		59.515 mm/s		
Playback/recordin	g time	Max. 62 min. with BCT-62SXA cassette		
Fast forward time		Approx. 5.5 min. with BCT-62SXA		
Rewind time		Approx. 5 min. with BCT-62SXA		
Continuous operat	ing time	Approx. 105 min. with BP-L60		
1	5	(BVP-90 and DNV-5)		
Inputs/outputs				
Signal inputs	Video (from the camera head)	50-pin		
		Luminance: 1.0 Vp-p, 1 kΩ		
		Chrominance B-Y/R-Y: 0.7 Vp-p, 1 kΩ		
	Genlock video input	BNC (x1), 1.0 Vp-p, 75 Ω		
	Time code input	BNC (x1), 0.5 to 18 Vp-p, 10 kΩ		
	Audio (CH-1/2)/ mic input	XLR-3-31 type (x2), -60 dBu/+4 dBu selectable, high impedance, balanced		
Signal outputs	Video output	BNC (x1), 1.0 Vp-p, 75 Ω , sync negative		
	Test output	BNC (x1), 1.0 Vp-p, 75 Ω , sync negative		
	Time code output	BNC (x1), 1.0 Vp-p. 75 Ω		
	Earphone	Mini-jack		
Audio output		XLR 5-pin male (stereo)		
Others	I			
Remote		6-pin		
Light		2-pin. DC 12 V. max. 30 W		
DC input		XLR 4-pin (for the optional AC-550/550CE)		
DC output		4-pin (for wireless microphone receiver), DC 12 V		
Video performano	ce			
Sampling frequence	CV	Y: 13.5 MHz. R-Y/B-Y: 6.75 MHz		
Ouantization		8 bits/sample		
K-factor (2T pulse))	Less than 2 %		
Y/R-Y/B-Y delay	,	Less than 20 ns		
Digital audio perf	ormance			
Sampling frequency		48 kHz		
Quantization		16 bits/sample		
Frequency response		20 Hz to 20 kHz ±0.5 dR/1.0 dB		
Dynamic range		More to as Alberta BS dB		
Distortion TH D				
Cross talk		Less than .70 dB		
Wow and flutter		Below measurable level		
Hoad room		20.dB		
Emphasis (ON/OEE soloctable)		T1 - 50 us T2 -15 us		
Sunlied Accessorie		- τι - σο μο, τ2 - το μο		
Supileu Accessori		50-pin connector can (1) RNC can (5) Shoulder helt (1) XI R can 1 (2) XI R can 2 (2)		
		Maintenance manual (1). Operation manual (1)		

DNW-A75/75/A28 Digital Video Cassette Recorder

	DNW-A75	DNW-75	DNW-A28		
General		•			
Power requirements	AC 100 V to 2	240 V, 50/60 Hz	DC 12 V, +5.0 V/-1.0 V		
Power consumption	205 W (215 VA)/AC 240 V	1/6 W	55 W		
Storage temperature	+3 C 10 +40 C (-20°C to +60°C (-4°E to +140°E)	0 0 0 40 0 (+32 1 10 +104 1)		
Humidity		25 % to 80 % (relative humidity)			
Mass (Approx.)	28.5 kg (62 lb. 12 oz)	27 kg (59 lb. 8 oz)	5.5 kg (12 lb.3 oz)		
Dimensions (W x H x D)	427 x 237 x 524 mm (16	7/8 x 9 3/8 x 20 3/4 inches)	210 x 132 x 455 mm (8 3/8 x 5 1/4 x 18 inches)		
Tape speed Betacam SX	59.5	15 mm/s (525 mode), 59.575 mm/s (625 m T	node)		
Digital Playback/recording time	118.6 mm/s		118.6 mm/s		
East forward/rewind time	Approx. 3 min with B	CT-194SXLA cassette	Approx. 3 min with BCT-62SXA cassette		
Search speed range	±50 times normal playback	±50 times normal playback	±24 times normal playback		
	speed (Betacam SX)	speed (Betacam SX only)	speed (Betacam SX)		
	speed (Betacam/Betacam SP)		speed (Betacam/Betacam SP)		
Servo lock time		0.5 s or less (from standby on)			
Load/unload time		6 s or less			
Input/output signal					
Analog composite input	BNC (x2), 1.0 vp-p, BNC (x3 including one character	out) 1.0 Vp-p. 750 sync negative	BNC (x1), 1.0 Vp-p, 75Ω , sync negative BNC (x2, including one character out)		
Thatog composite output	Bive (xe, including one character	out, no vp p, roaz, syne negative	1.0 Vp-p, 75 Ω , sync negative		
Analog component input	BNC (x3, for 1 set, Y/R-Y/B-Y), Y:1.0 Vp-p, 75	2, sync negative, R-Y/B-Y:0.7 Vp-p, 75 Ω			
Analog component output	BNC (x3, for 1 set, Y/R-Y/B-Y), Y:1.0 Vp-p, 75Ω	2, sync negative, R-Y/B-Y:0.7 Vp-p, 75Ω			
SDI input	BNC (x2, including one active through out), SN	/PTE 259M (ITU-R.B1.656-3), 270 Mbps	BNC (x1), SMPTE 259M (ITU-R.BI.656-3) 270 Mbps		
SDI output	BNC (x3, including one active through out), SN	APTE 259M (ITU-R.BT.656-3), 270 Mbps	BNC (x2), SMPTE 259M (ITU-R.BT.656-3)		
			270 Mbps		
SDTI input (option)	BNC (x1), S	SMPTE 305M	—		
SD11 output (option)	BNC (x2), Max. x2	Speed SMPTE 305M	— VI. P. (v2, CH1/2)		
Analog audio output	XI R (x4, 4	CH1/2/3/4)	XLR (x2, CH1/2) XLR (x2, CH1/2)		
Headphone output		Standard jack (x1), stereo			
Digital audio input (CH1/2, 3/4)	BNC (x2)	, AES/EBU	—		
Digital audio output (CH1/2, 3/4)	BNC (x2)	, AES/EBU	—		
Remote control Remote	D-sub 9-pin (x2), Sony	y 9-pin remote interface	D-sub 9-pin (x1), Sony 9-pin remote interface		
RS-232C Processor Control	D-sub 9-pin (XT),	RS-232C INTERTACE 5-pip (x1)			
Connector for	Mini D out	20 min (v1)			
Control Panel	MINI D-Sub	29-pin (x1)	_		
Parallel Remote	50-pi	_			
Aux Reference input	MINI D-SUD BNC (x1)	b-pin (x i, for maintenance)			
Time code input	XLF	BNC (x1)			
Time code output	XLR	R (x1)	BNC (x1)		
Analog monitor output (L/R)		XLR (x2)			
Processor adjustment range		+2 dP/ to +2 dP coloctable			
Chroma level		$\pm 3 \text{ dB/-}\infty \text{ to } \pm 3 \text{ dB selectable}$			
Setup/Black level		±30 IRE/±210 mV			
Chroma phase/hue		±30°			
System sync phase		±15µs			
System SC phase	100up (Datagen /Datagen CD plauhagi anh)	±200µs	100up (Detecom (Detecom CD plauback only)		
Digital video performance	± 100µs (Belacam/Belacam SP playback only)	—	$\pm 100\mu s$ (Betacam/Betacam SP playback only)		
Composite input level	±3	dB	_		
Sampling frequency		Y: 13.5 MHz, R-Y/B-Y: 6.75 MHz	1		
Quantization		8 bits/sample			
Error correction	1/ factor (OT an	Reed-Solomon code			
Apalog component recording playback	K-ractor (21 pu	IISE): 1 % OF IESS ation: 8 bits/sample			
Amalog component recording playback	K-factor (2T pu	lise): 1 % or less			
	LF non-linearit	y: 2.5 % or less			
Analog composite recording playback	Differential ga	ain: 2 % or less	Differential gain: 2 % or less		
	YC delay: 1	15 ns or less	YC delay: 15 ns or less		
	K-factor (2T pu	llse): 1 % or less	K-factor (2T pulse): 1.5 % or less		
Sampling frequency		48 kHz (synchronized with video)			
Quantization		16 bits/sample			
Frequency response (0 dB at 1 kHz)					
Dynamic range	More th	More than 88 dB			
(at 1 KHz, emphasis ON)					
reference level)	Less than 0.05 %				
Cross talk (at 1 kHz, between any	Less than -80 dB				
two channels)	Less uidil -80 GB				
Head room					
Emphasis (ON/OFF selectable in					
REC mode)		11=50µS, 12=15µS			
Supplied accessories	Downets and b				
	PSW 4 x 16 Rack	Mount Screw (x4)	Maintenance manual part 1 (x1)		
	Operation	manual (x1)			
	Maintenance	emanual (x1)			

DNW-A100/A50 Digital Video Hybrid Recorder

Owner AC 109 Ym Solv 1000-19 Developments 300 W 150 Und 200 (cl 010 min 100 m) Developments 300 W 200 (cl 010 min 100 m) Developments 200 (cl 010 min 100 m) 200 (cl 010 min 100 m) Developments 200 (cl 010 min 100 m) 200 (cl 010 min 100 m) Developments 200 (cl 010 min 100 m) 200 (cl 010 min 100 m) Developments 200 (cl 010 min 100 m) 200 (cl 010 min 100 m) Developments 200 (cl 010 min 100 m) 200 (cl 010 min 100 m) Developments 200 (cl 010 min 100 m) 200 (cl 010 min 100 m) Developments 200 (cl 010 min 100 m) 200 (cl 010 min 100 m) Developments 200 (cl 010 min 100 m) 200 (cl 010 min 100 m) Developments 200 (cl 010 min 100 m) 200 (cl 010 min 100 min				DNW-A100	DNW-A50	
Access constrained 200 200 200 Access constrained 200 200 200 200 Access constrained 200 200 200 200 200 Access constrained 200 200 200 200 200 200 Access constrained 200 200 200 200 200 200 200 200 200 200 <td< td=""><td>General Dower requirements</td><td></td><td></td><td colspan="3"></td></td<>	General Dower requirements					
Operating improvides 1.000000000000000000000000000000000000	Power requirements Power consumption			AC 100 V to 240 V, 50/60 Hz 300 W		
Statep programmer	Operating temperatu	ire		+5°C to +40°C (+4)	1°F to +104°F)	
Handby al	Storage temperature			-20°C to +60°C (-4	°F to +140°F)	
Constraints W. 11: D) 4/2 x 22 x 32 x 52 mill (2 yrs 2 g/s) 20 34 holes) YR Beaching of the second State of the s	Humidity Mass (Approx.)			25 % to 80 % (rela 35 kg (77 lb	a a az	
View Image 1 system Rescaling formal Galaxies SX Tayle Tange 0 system Rescale SX models (25 model) Tayle Tange 0 system Tayle Tange 0 system State Tayle Tange 0 system Rescale SX models (25 model) Tayle Tange 0 system Tayle Tange 0 system State Tayle Tayl	Dimensions (W x H x	(D)		427 x 237 x 524 mm (16 7/8	x 9 3/8 x 20 3/4 inches)	
VRP Inspir funged hydrol Inspir funged hydrol Inspir funged hydrol Inspir funged hydrol Inspir funged hydrol Expirations Expirations Expirations Expirations Expir funged hydrol Expirations Expirations Expirations Expirations Expir function Expirations Expir functions Expir functions Expir functions Expir function Expir functions Expir functions Expir functions Expir functions Expir function Expir functions Expir functions Expir functions Expir functions Expir function Expir functions Expir functions Expir functions Expir functions Expir function Expir functions Expir functions Expir functions Expir functions Expir function Expir functions Expir functions Expir functions Expir functions Expir function Expir functions Expir functions Expir functions Expir functions Expir function Expir functions Expir functions Expir functions Expir functions Expir function		/				
Index Hamping System Description System	VTR	De constitue forme et		Determine		
Action register Second Research Second Research Project of the second register of the seco	Tape transport system	m Recording format Tape speed Beta	cam SX	Betacam 59 515 mm/s (525 mode) 59 5	1 SX 575 mm/s (625 mode)	
Bits End Standard Street Mass 194 minuth SC194554.4 cases/fe First Standards in the standard Standa		Beta	cam/Betacam SP	118.6 mm/	/s	
Application Application Application Application Sector Speed (application model)		Digital record/playba	ck time	Max. 194 min with BCT-19	94SXLA cassette	
Serie Lands 400 minutes to speed (Decay methods) 4.0 minutes (Speed (Decay methods) Speed (Decay methods) Speed (Decay methods) Onk system 6.0 minutes (Speed (Decay methods) Speed (Decay methods) 6.0 minutes (Speed Speed (Decay methods) Speed (Decay methods) Took system Secret Speed (Decay methods) 6.0 minutes (Speed Speed (Decay methods) 6.0 minutes (Speed Speed (Decay methods)) Took system Secret Speed (Decay methods) 10 minutes (Speed (Decay methods)) 10 minutes (Speed (Decay methods)) Took system Secret Speed (Decay methods) 10 minutes (Speed (Decay methods)) 10 minutes (Speed (Decay methods)) Took system Secret Speed (Decay methods) Secret Speed (Decay methods)) 10 minutes (Speed (Decay methods)) More comparison of State Speed (Decay methods) Secret Speed (Decay methods)) Secret Speed (Decay methods)) 10 minutes (Speed Speed (Decay methods)) More comparison of State Speed (Decay methods)) Secret Speed (Decay methods)) Secret Speed (Decay methods)) 10 minutes (Speed Speed (Decay methods)) More comparison of Speed (Decay methods)) Secret Speed (Decay methods)) Secret Speed (Decay methods)) Secret Speed (Decay methods)) More comparison of Speed (Decay methods)) Secret Speed (Decay methods)) Secret Speed (Decay methods)		Fast forward/rewind t	ime ange(shuttle mode)	Approx. 3 min with BCI-19	V4SXLA cassette	
Sol Institute 1-30 km minute ingelands genet (become) Disk system Social Social Institute 90 K in Social Social Institute Disk system Social Social Institute 90 K in Social Social Institute Disk system Social Social Institute 90 K institute Provide Social Institute of Elit Reveal 11 Lin Institute of Elit Reveal 05 k Provide Social Institute of Elit Reveal 05 k 05 k Provide Social Institute of Elit Reveal 05 k 05 k Provide Social Institute of Elit Reveal 05 k 05 k Provide Social Institute of Elit Reveal 05 k 05 k Provide Social Institute of Elit Reveal 05 k (co. NW VD r, VI D r, VI D r, VD		Search speed range		±50 times normal playback s	peed (Betacam SX)	
Description Description Constrained and the second		Servo lock time		±35 times normal playback speed	tandhy on)	
Box system Monochangeback tens Image: Construction of the second system system Markun duzieren In a 1.1 mes remain Jurpack system Image: Construction of the second system system Image: Construction of the second system Mode unput during the second Image: Construction of the second system system Image: Construction of the second system system Image: Construction of the second system system Mode unput during the second Image: Construction of the second system system Image: Construction of the second system system Image: Construction of the second system system Mode unput during the second system system Image: Construction of the second system system Image: Construction of the second system system Image: Construction of the second system system Mode unput during the second system syste		Load/unload time		6 s or le	ess	
Second: Job sport 1.0	Disk system	Record/playback time	9	90 mir	n	
Maintain Discrete Discrete Implementations Maintain Maintain The month physics Spect The month physics Spect Maintain Maintain Maintain Maintain Maintain Maintain Maintain Maintai		Smooth JOG speed r	ange	-1 to +1 times normal playback spoor	layback speed	
Impute/public signal 1 Itimes normal physicals speed 1 Itimes normal physicals speed Mode input 30 000 (1) Mode the mode of the SMP 10 CR Bit 66 - 0.220 Maps Mode input 30 000 (2) SMPT 2004 000 (2) SMPT 2004 Analog compositer (updated BKW 500 regulated) BNC (2), K1 = 04 (76 V/RP V, V1 = 0 V/pp. 754, sync megalitie. 000 (2) SMPT 2004 Video aulput 501 BNC (2), K1 = 04 (76 V/RP V, V1 = 0 V/pp. 754, sync megalitie. 000 (2) SMPT 2004 Analog compositer BNC (2), K1 = 04 (76 V/RP V, V1 = 0 V/pp. 754, sync megalitie. 000 (2) SMPT 2004 000 (2) SMPT 2004 Audio nynt BNC (2), K1 = 04 (76 V/RP V, V1 = 0 V/pp. 754, sync megalitie. 000 (2) SMPT 2004 000 (2) SMPT 2004 000 (2) SMPT 2004 Audio nynt BSM (2) A (2) SMPT 2004 BNC (2) A (100 sync megalities. 000 (2) SMPT 2004		Minimum duration of	Edit event	± 100 times normal playback speed 0.5 s	(belacani/belacani Sr)	
Input Subject Status Veloc input Status Bit (A11) all redshift input out SMPT EXXM (1) UR B1666-3). 220 Mags Additio composed IRMW 103 required Bit (A11) all redshift input on Ypp. 754. Agrin regulate Additio composed IRMW 103 required Bit (A11) all redshift input on Ypp. 754. Agrin regulate Velos output Status Bit (A11) all redshift input on Ypp. 754. Agrin regulate Velos output Status Bit (A11) all redshift input on Ypp. 754. Agrin regulate Additio composite Bit (A11) all redshift input on Ypp. 754. Agrin regulate Additio input Definit (C112, 34) Status Bit (A11, 34) Status Additio output Definit (C112, 34) Status Bit (A11, 34) Status Additio output Definit (C112, 34) Status Bit (A11, 34) Status Additio output Definit (C112, 34) Status Bit (A11, 34) Status Additio output Definit (C112, 34) Status Bit (A11, 34) Status Additio output Definit (C112, 34) Status Bit (A11, 34) Status Additio output Definit (C112, 34) Status Bit (A11, 34) Status Additio output Definit (C112, 34) Status Bit (A11, 34) Status Additio output		Maximum record/feed	d speed	4 times normal playback speed	1 times normal playback speed	
Webs input Status Comparison Description Analog composite General Status Statu	Inputs/outputs sign	al				
Anatog component/potential BKOW-506 regulard DNC (23, for 1 set, VPC/957), YL 10 Vpp. 276, and reageness Moteo output SED BKC (20, with top inrough). 10 Vpp. 276, and reageness Moteo output SED BKC (20, with top inrough). 10 Vpp. 276, and reageness Anatog component BKC (20, with top inrough). 20 Vpp. 376, and reageness Anatog component BKC (20, with top inrough). 20 Vpp. 376, and reageness Audio input Degrad (CHIZ, 24) SD entrobaded BKC (21, with top inrough). 20 Vpp. 376, and reageness Audio output Degrad (CHIZ, 24) SD entrobaded BKC (21, with top inrough). 20 Vpp. 376, and reageness Audio output Degrad (CHIZ, 24) SD entrobaded BKC (21, with top inrough). 20 Vpp. 376, and reageness Audio output Degrad (CHIZ, 24) SD entrobaded BKC (21, with top inrough). 20 Vpp. 376, and reageness Audio output Degrad (CHIZ, 24) SD entrobaded BKC (21, with top inrough). 20 Vpp. 376, and reageness Audio output Degrad (CHIZ, 24) SD entrobaded BKC (21, with top inrough). 20 Vpp. 376, and reageness Audio output Degrad (CHIZ, 24) SD entrobaded BKC (21, with top inrough). 20 Vpp. 376, and reageness Audio output Degrad (CHIZ, 24) SD entrobaded BKC (21, with top inrough). 20 Vpp. 376, and reageness	video input	SDTI (optional BKNW-103	required)	BINC (x1) with active through out, SMPTE 2 BINC (x1), SMPTE 305M	224MI (110.K.B1020-3), 270 Mpps	
Availagi composite* (ginned IREXP 43B: required) BINC (62, with loop Product), 0.3 Vpp. 75B, sync negative Wide output SDI BINC (62, with loop Product), 0.3 Vpp. 75B, sync negative Availag composes BINC (62, with loop Product), 0.3 Vpp. 75B, sync negative SDI Availag composes BINC (62, with loop Product), V1 a Vpp. 75B, sync negative. SDI Availag composes BINC (62, with loop Product), V1 a Vpp. 75B, sync negative. SDI Availag composite BINC (62, with loop Product), V1 a Vpp. 75B, sync negative. SDI Availag composite BINC (62, with loop Product), V1 a Vpp. 75B, sync negative. SDI Availag (CH12, 34) SDI embedded BINC (62, With loop Product), V1 a Vpp. 75B, sync negative. SDI Availag (CH12, 34) SDI embedded BINC (62, With loop Product), V1 a Vpp. 75B, sync negative. SDI Availag (CH12, 34) SDI embedded BINC (62, With loop Product), V1 a Vpp. 75B, sync negative. SDI Availag (CH12, 34) SDI embedded BINC (62, With loop Product), V1 a Vpp. 75B, sync negative. SDI Availag (CH12, 34) SDI embedded BINC (62, With loop Product), V1 a Vpp. 75B, sync negative. SDI Time code Input. XIR-3-32 Vpp. (0, -1 d Bin a Roop. 100) SDI SDI		Analog component*(option	nal BKNW-104 required)	BNC (x3, for 1 set, Y/R-Y/B-Y), Y: 1.0 Vp-p, 75	Ω, sync negative, R-Y/B-Y: 0.7 Vp-p, 75Ω	
Interest BNC (c) 2, with long (through) SQL Video output BNC (c) 2, with long (through) BNC (c) 3, With 2, With T2, With UTU B RESOL, 3, 200 Mbps. Audio output Dialay component BNC (c) 7, With 2, With		Analog composite* (option	al BKDW-505 required)	BNC (x2, with loop through), 1.	0 Vp-p, 75Ω, sync negative	
Source BNC (CA) Sec (CA) Sec (CA) Sec (CA) Analog composite BNC (CA) is Set (NE) (YNP, Y1 O V Dp. 750, spr. crogsite BNC (CA) sec (CA) Sec (CA) Audio Input Digital (CH17, 23(SE) Embedded BNC (CA) Sec (CA) BNC (CA) Sec (CA) Sec (CA) Audio Input Digital (CH17, 23(SE) Embedded BNC (CA) Sec (CA) BNC (CA) Sec (CA) Sec (CA) Audio Output Digital (CH17, 23(SE) Embedded BNC (CA) Sec (CA) BNC (CA) Sec (CA) Sec (CA) Sec (CA) Audio Output Digital (CH17, 23(SE) Embedded BNC (CA) Sec (CA) BNC (CA) Sec (CA) Sec (CA) Sec (CA) Audio Output Digital (CH17, 23(SE) Embedded BNC (CA) Sec (CA) BNC (CA) Sec (CA) Sec (CA) Sec (CA) The code BNC (CA) Sec (CA) BNC (CA) Sec (CA) Sec (CA) Sec (CA) Sec (CA) Sec (CA) The code Bender (CA) AUA SA SEC (CA) Sec (CA) Sec (CA) Sec (CA) Sec (CA) Sec (CA) The code Bender (CA) AUA SA SEC (CA) Sec (CA) Sec (CA) Sec (CA) The code Bender (CA) AUA SA SEC (CA) Sec (CA) Sec (CA) Sec (CA)	Video output	Reference		BNC (x2, with loop through), 0.	3 Vp-p, 75Ω, sync negative	
Analog component BNC (26, 10 1 set, Vik, Vik, Vik, Vik, Vik, Vik, Vik, Vik	video output	SDTI		BNC (x2) SIMPLE 259101 (TC BNC (x2)		
Analog composite BBC (22, including one character out), 10 Vpp, 750, sync negative Audio input Digital (CH12, 34) SDI embedded BBC (21, vices a unic) SAPIT 256M, (11 R BIGS 32, 21 M Mps, SAPIT 256M, (11 R BIGS 32, 21 M Mps, SAPIT 256M, (11 R BIGS 32, 21 M Mps, SAPIT 256M, (11 R BIGS 32, 21 M Mps, SAPIT 256M, (11 R BIGS 32, 21 M Mps, SAPIT 256M, (11 R BIGS 32, 21 M Mps, SAPIT 256M, (11 R BIGS 32, 32 M Mps, SAPIT 256M		Analog component		BNC (x3, for 1 set, Y/R-Y/B-Y), Y: 1.0 Vp-p, 75	Ω , sync negative, R-Y/B-Y: 0.7 Vp-p, 75 Ω	
Audio Input End and CHTL/2 Adj 350 Mitted Deal Bitle, EX, Madio at Data Shares Analog (CHT/234)*** KLR 331 byte (M) Audio culput Digital (CHT/234)** KLR 331 byte (M) Audio culput Digital (CHT/234)** KLR 331 byte (M) Audio culput KLR 331 byte (M) Steep (M) Audio culput KLR 332 byte (M) Steep (M) Time code Input KLR 332 byte (M) Steep (M) Steep (M) KLR 332 byte (M) Steep (M) Steep (M) Remote 1 (InCA) KLR 332 byte (M) Steep (M) Steep (M) Steep (M) Deals 54p, R 5202 CHT/2540 Steep (M) Steep (M) Viteo is an advectorial with a steep (M) Steep (M) Steep (M) Steep (M) Control Deals 54p, R 5202 CHT/2540 Steep (M) Steep (M) Control Deals 54p, R 5202 CHT/2540 With Steep (M) Steep (M) St	A contraction of	Analog composite	de e del e d	BNC (x2, including one charact	ter out), 1.0 Vp-p, 75Ω, sync negative	
Analog (CH1/22/4)** KL 8-31, type (4) Audio output Digital (CH1/2.3/4) SD-embedded BBC (14, 1466, audio) SMPT E.5948, information balanced Audio output Digital (CH1/2.3/4) SD-embedded BBC (14, 1466, audio) SMPT E.5948, 2008, termination balanced Marking CH1/22/4)** KL 8-3.31, type (4), audio, towing-balance, balanced BBC (24, 1468, audio, towing-balance, balanced The code Start 12/43/4)** KL 8-3.32, type (4), audio, towing-balance, balanced The code Start 13/42, audio, towing-balance, balanced Start 13/42, audio, towing-balance, balanced The code Start 13/42, audio, towing-balance, balanced Start 13/42, audio, towing-balance, balanced The code Bernole 11/10/00 D-sub 3-21, type, 100, tob balanced Remote Remote 11/10/00 D-sub 3-2, type, 100, impediance, balanced Start 13/4, type (10, 16, type) D-sub 3-2, type, 100, impediance, balanced Video control D-sub 3-2, type, 100, impediance, balanced Processor adjustment range 3 dB/m to 3 dB/m	Audio input	AFS/FBU**(Optional BKN)	N-105 required)	BINC (X1, VIDEO & BUDD) SIVIPTE 2591V BINC (X2) stereo) mode	
Burly Up: A solution in the definition of the solution		Analog (CH1/2/3/4)**		XLR-3-31 type (x4)		
Audio output Diputal (EH1/2:34) SDL-embedded Hit41 (DX: 44b, 2400 Jermination, balanced Audio output Diputal (EH1/2:34) SDL-embedded BINC (X), Value & Audio Jermination, balanced Audio output XLR:33: Type (X), 44 (bit, 2400 Lord), Usice Sunderd pick, (X), serve Medio formation NLR:33: Type (X), 44 (bit, 2400 Lord), Usice Sunderd pick, (X), serve Medio formation NLR:33: Type (X), 44 (bit, 2400 Lord), Usice, Dialanced Sunderd pick, (X), serve Time code Input XLR:33: Type (X), 44 (bit, 2400 Lord), Usice, Dialanced Remote Remote 1 (In/Cut) D-sub 9-pin, Sorry 9-pin remote interface SS:3 0 D-sub 15-pin (C) (D) (D) (D) (D) (D) (D) (D) (D) (D) (D				HIGH OFF: -60 dBu, nign in HIGH OFF: +4 dBu, high in	npedance, balanced npedance, balanced	
Analog CH102/Clopition BKW-105 required) Clop Streng mode Analog CH102/Clopition BKW-105 required) XLR-321 ppt (A), 44 Bia it double add, bwimpedance, balanced Mendor LR XLR-321 ppt (A), 44 Bia it double add, bwimpedance, balanced Time code Input XLR-321 ppt (A), 51 to 18 Vp., 10 KD, balanced Output XLR-321 ppt (A), 51 to 18 Vp., 10 KD, balanced Remote 1 (In/Du1) XLR-332 Vpe (A), 44 Bia it double add, bwimpedance, balanced Remote 2 (In/Du1) XLR-332 Vpe (A), 53 Vp., 50 to 18 Vp., 10 KD, balanced Percessor adjustment range Viteo is 20 Pp. In remote interface SCSI 0 Apub 15 pin. for optional WK-80 remote controller Processor adjustment range 2 ad W= to 3 dB v= to 3 dB v= bot 3 dB valanced Viteo is and pustment range 2 ad W= to 3 dB v= bot 3 dB valanced Viteo is and pustment range 2 ad W= to 3 dB valanced Viteo is and pustment range 2 ad W= to 3 dB valance and to the stress of the s	Audio output	Digital (CH1/2 3/4) SDLer	nbedded	HIGH ON: +4 dBu, 600Ω te BNC (x1, video & audio) SMPTE 259M	ermination, balanced 1 (ITLLR BT656-3) 270 Mbps	
Analog (CH1/2/34)** XLR-3-32 (pe (k), 4 will be at dODL load, low impedance, balanced Headphones Standard jack, (k)), stere Monifor UR XLR-3-32 (pe (k)), 4 will be at dODL load, low impedance, balanced Time code Input XLR-3-32 (pe (k), 4 will be at dODL load, low impedance, balanced Denote Remote Input ALR-3-32 (pe (k)), 4 will be at dODL load, be benced Remote Remote Input D-sub 9 (p. 1, k), bit here, p. 10 (k), balanced Victo control D-sub 9 (p. 1, k), bit here, p. 10 (k), bi	/ lucio output	AES/EBU**(Optional BKNW-105 required)		BNC (x1, video d dddo) Sini 12 25 /v BNC (x2) stereo	mode	
Headphones Standard jack (k1), stero Time code Input XLR-3.32 type (x2), -4 GBu at 60, box impedance, balanced Time code Input XLR-3.32 type (x2), -4 GBu at 60, box impedance, balanced Renote REXX32 Do-box potential type (x2), -6 to in gredunce, balanced Renote REXX32 Do-box potential type (x2), -6 to in gredunce, balanced Video cantrol Do-box potential type (x2), -6 to in gredunce, balanced Video cantrol Do-box potential type (x2), -6 to in gredunce, balanced Video cantrol Do-box potential type (x2), -6 to in gredunce, balanced Video cantrol Do-box potential type (x2), -6 to in gredunce, balanced Video cantrol Do-box potential type (x2), -6 to in gredunce, balanced Video cantrol Do-box potential type (x2), -6 to in gredunce, balanced Video cantrol		Analog (CH1/2/3/4)**		XLR-3-32 type (x4), +4 dBu at 600Ω lo	ad, low impedance, balanced	
The code Inclusion Inclusion Number of the second seco		Headphones Monitor L/R		Standard jack (x1 XLR-3-32 type (x2) +4 dBu at 6000 lo), stereo ad low impedance, balanced	
Output XIR-32 (2 Vpp. (xt), 22 Vpt, 22 V	Time code	Input		XLR-3-31 type (x1), 0.5 to	$ ho$ 18 Vp-p, 10 k Ω , balanced	
Remote 1 (In/Out) RS-32C D-sub 5-pin. Sry 2-pin remote interface SCSI Video text 0-bsub 5-pin. Rs-322C 0-bsub 5-pin. Rs-322C Video text 0-bsub 5-pin. Rs-322C 0-bsub 5-pin. Rs-322C Video text 0-bsub 5-pin. Rs-322C 0-bsub 5-pin. Rs-322C Video text		Output		XLR-3-32 type (x1), 2.2 Vp-p, low	v impedance, balanced	
Desk Desk <thdesk< th=""> Desk Desk <thd< td=""><td>Remote</td><td>Remote 1 (In/Out)</td><td></td><td>D-sub 9-pin, Sony 9-pin r</td><td>remote interface</td></thd<></thdesk<>	Remote	Remote 1 (In/Out)		D-sub 9-pin, Sony 9-pin r	remote interface	
Video control D-sub 15-pin, for optional BVR-50 remote controller Processor adjustment range ± 3 GR/-s to 3 dB selectable Chroma plava ± 3 GR/-s to 3 dB selectable Setup/Black level ± 3 GR/-s to 3 dB selectable Chroma plavaschue ± 3 GR/-s to 3 dB selectable System Sinc phase ± 15 is System Sinc phase ± 20 ns V/C delay ± 100 ns (Betacan/Betacam SP playback only) Composite input ± 3 dB Objital video performance ± 3 dB Outanitzation 8 bitSkample Error correction Reed-Solomon code Digital video performance 8 bitSkample Component input (option) to analog Input A/D quantization K-factor (2T pulse) 1% or less Orgonent input (option) to analog Differential gain component input (option) to analog Differential gain composite output 1% de less Digital audio performance 2' or less Composite output K-factor (2T pulse) Differential phase 2' or less Composite output Differenential phase		SCSI		68-pin, fema	ale	
Processor adjustment range ±3 dB/-∞ to 3 dB selectable Chroma level ±3 dB/-∞ to 3 dB selectable Setup/Black level ±30 (B/-≥ to 3 dB selectable Status Plack level ±30 (B/-≥ to 3 dB selectable System Sync, phase ±30 (B/-≥ to 3 dB selectable System Sync, phase ±30 (B/-≥ to 3 dB selectable System Sync, phase ±30 (B/-≥ to 3 dB selectable System Sync, phase ±30 (B/-≥ to 3 dB selectable System Sync, phase ±30 (B/-≥ to 3 dB selectable System Sync, phase ±10 ns (Betacam/Betacam SP flayback only) Composite input ±200 ns Digital video prformance ±3 dB Sampling frequency Y 13 S MHz, RY(B-Y, 6 75 MHz Quanitzation Read-Solomon code Digital input to analog component output K-factor (2T pulse): 1 % or less Analog component input (option) to analog component output K-factor (2T pulse) 1 % or less Composite output Ufferential gain 2 % or less Offerential gain 2 % or less 1 % or less Digital audio performance 2 % or less 1 % or less Sampling frequency </td <td></td> <td>Video control</td> <td></td> <td>D-sub 15-pin, for optional BVR</td> <td>R-50 remote controller</td>		Video control		D-sub 15-pin, for optional BVR	R-50 remote controller	
The set of th	Processor adjustme	ent range		2 dP/ to 2 dP	2 soloctable	
Setup/Black level ±30 (RE/±210 mV Chroma phase/hue ±30' System sync phase ±15 µs System SC phase ±200 ns ViC delay ±100 ns (Betacam/Betacam SP playback only) Composite input ±3 dB Digital video performance 13 Sites/ample Sampling frequency Y:13 5 MHz, R-V/B-Y: 6.75 MHz Quanitzation Reed-Soltmon code Digital video analog component output Reed-Soltmon code Analog component input (option) to analog Input A/D quanitzation Analog component input (option) to analog Input A/D quanitzation Composite output K-factor (21 pulse): 1 % or less LF non-linearity 3 % or less Composite output Ufferential gain Composite output 0 fifterential phase ViC delay 1 % or less ViC delay 1 % or less Digital audio performance 2 or less Sampling frequency 48 kHz (synchronized with video) Quanitzation 16 bits/sample Analog port 20 Hz to 20 kHz, +0.5 dB/10 dB Dynamic range (a	Chroma level			±3 dB/-∞ to 3 dE ±3 dB/-∞ to 3 dE	3 selectable	
Chroma phase/hue 1-30° System sync phase +15 µs System sync phase +200 ns YC delay +100 ns (Betacam SP playback only) Composite input +3 dB Digital video performance	Setup/Black level			±30 IRE/±2	10 mV	
System Syle prises 110 ps Sylem SS (phase ±200 ns VTC delay ±100 ns (Betacam/Betacam SP playback only) Composite input ±3 dB Digital video performance 8 bits/sample Contraction Reed-Solomon code Digital input to analog component output K-factor (2T pulse): 1 % or less Analog component input (option) to analog Input A/D quantization 8 bits/sample Composite output K-factor (2T pulse): 1 % or less 1 % or less Analog component input (option) to analog Input A/D quantization 8 bits/sample Composite output K-factor (2T pulse) 1 % or less Differential gain 2 % or less 2 % or less Composite output K-factor (2T pulse) 1 % or less Differential phase 2 % or less 2 % or less Composite output Er non-linearity 3 % or less Differential phase 2 % or less 2 % or less Differential phase 2 % or less 2 % or less Differential phase 2 % or less 2 % or less Differential phase 2 % or less 2 % or less Differential p	Chroma phase/hue			±30°		
YC delay ±100 ns (Betacam/Betacam SP playback only) Composite input ±3 dB Digital video performance 33 MHZ, R-Y/B-Y. 6.75 MHz Sampling frequency Y: 13.5 MHZ, R-Y/B-Y. 6.75 MHz Quantization B bit/ssample Error correction Reed-Solomon code Digital input to analog component output K-factor (2T pulse): 1% or less Analog component input (option) to analog Input A/D quantization Analog component input (option) to analog Ufferential gain Composite output K-factor (2T pulse) Differential gain 2% or less Madig component input (option) to analog Differential gain Offerential gain 2% or less Matage component Differential gain Output K-factor (2T pulse) V/C delay 15 ns or less YC delay 16 sits/sample Analog input to output A/D and D/A quantization 16 bits/sample Frequency response 20 Hz to 20 KHz, +0.5 dB/-10 dB Dynamic range (a1 14Hz, emphasis ON) Differential gain Distortion (a1 1 Hz, temphasis ON) Less than 0.05 % Coros talk (a1 1 Hz, temphasis ON, reference level)	System Sync phase			± 15 µS +200 ns		
Composite input ±3 dB Digital video performance Y: 135 MHz, R-Y(B-Y; 6.75 MHz Sampling frequency 8 bits/sample Quantization 8 bits/sample Error correction Reed-Solomon code Digital video performance Reed-Solomon code Analog component input (option) to analog component input (option) to analog Input A/D quantization K-factor (2T pulse): 1% or less Analog component input (option) to analog Differential gain 2 % or less Composite output Differential gain 2 % or less Differential phase 2' or less Cold clara K-factor (2T pulse) 1 % or less Differential gain 2 % or less 2 % or less Differential gain 2 % or less 2 % or less Differential gain 2 % or less 2 % or less Differential phase 2 * or less 2 % or less Digital audio performance 3 % or less 3 % or less Sampling frequency 48 kHz (synchronized with video) 48 kHz (synchronized with video) Quantization 16 bits/sample 16 bits/sample Analog input to output A/D and D/A quantization 16 bits/sample <td>Y/C delay</td> <td></td> <td></td> <td>±100 ns (Betacam/Betaca</td> <td>am SP playback only)</td>	Y/C delay			±100 ns (Betacam/Betaca	am SP playback only)	
Digital video performance Y: 13.5 MHz, R-Y/B-Y: 6.75 MHz Quantization 8 bits/sample Error correction Reed-Solomon code Digital input to analog component output K-factor (2T pulse): 1 % or less Analog component input (option) to analog Input A/D quantization Analog component input (option) to analog UF non-linearity Analog component input (option) to analog Differential gain Composite output 2% or less Miferential gain 2 % or less Composite output Differential gain Output to output A/D and D/A quantization 1 % or less Sampling frequency 48 kHz (synchronized with video) Quantization 1 % or less Sampling frequency 48 kHz (synchronized with video) Quantization 1 to bits/sample Analog input to output A/D and D/A quantization 1 to bits/sample Cress talk (at 1 KHz, emphasis ON) More than 90 dB Distortion (at 1 kHz, emphasis ON, reference level) Less than 0.05 % Cross talk (at 1 kHz, between any two channels) Less than 0.05 % Cross talk (at 1 kHz, emphasis ON, reference level) 2 Od B (10 d B selectable) Emphasis (ON/OFF selecta	Composite input			±3 dE	3	
Quantization 8 bits/sample Error correction Reed-Solomon code Digital input to analog component output K-factor (2T pulse) Analog component input (option) to analog Input A/D quantization Analog component input (option) to analog Input A/D quantization Analog component input (option) to analog Ifferential gain Composite output 3 % or less Analog component input (option) to analog Differential phase Composite output 0 Differential phase YC delay 15 ns or less YC delay 15 ns or less VC delay 16 bits/sample Countization 16 bits/sample Analog input to output A/D and D/A quantization 16 bits/sample Analog input to output A/D and D/A quantization 16 bits/sample Frequency response 20 Hz to 5 dB/10 dB Quantization 16 bits/sample Analog input to output A/D and D/A quantization 16 bits/sample Dynamic range (at 1 kHz, emphasis ON) More than 90 dB Dynamic range (at 1 kHz, emphasis ON) Less than -80 dB Www & flutter Below measurable level Head room 20 dB (18 dB selectab	Sampling frequency	mance		Y: 13.5 MHz R-Y/F	3-Y: 6 75 MHz	
Error correction Reed-Solomon code Digital input to analog component input (option) to analog component input (option) to analog Input A/D quantization & bit/ssample Analog component input (option) to analog composite output Ifferential gain 2 % or less Analog component input (option) to analog composite output Differential gain 2 % or less Micro provide output ViC delay 1 % or less Differential phase 2 ° or less V/C delay 1 % or less Sampling frequency 48 kHz (synchronized with video) Quantization 1 % bit/sample Analog plut to output A/D and D/A quantization 1 % bit/sample Frequency response 20 Hz to 20 kHz, +0.5 dB/-10 dB Dynamic range (at 1 kHz, emphasis ON) More than 90 dB Distortion (at 1 kHz, emphasis ON) Less than -80 dB Waw & flutter Below measurable level Head room 20 dB (18 dB selectable) Errophasis (ON/OFF selectable in REC mode) T1=50µs, T2=15µs Supplied accessories AC power code (x1) PSW 4 x 16 Rack Mount Screw (x4) Operation manual (x1) PSW 4 x 16 Rack Mount Screw (x4) Operation manual (x1)	Quantization			8 bits/sar	mple	
Digital input to analog component output Input A/D quantization 8 btts/sample Analog component input (option) to analog component input (option) to analog composite output Input A/D quantization 8 btts/sample Analog component input (option) to analog composite output Ifferential gain 2 % or less Differential gain 2 % or less Differential gain 2 % or less ViC delay 15 ns or less ViC delay 1 % or less Sampling frequency 48 kHz (synchronized with video) Quantization 1 6 bits/sample Analog input to output A/D and D/A quantization 1 6 bits/sample Istortion (a1 1 kHz, emphasis ON, reference level) Less than 90 dB Distortion (a1 1 kHz, emphasis ON, referen	Error correction			Reed-Solomo	on code	
Analog component input (option) to analog Iter non-linearity 1 % or less Analog component input (option) to analog Differential gain 2 % or less composite output Differential gain 2 % or less Differential gain 2 % or less VIC delay 15 ns or less VIC delay 1 % or less Differential phase 2° or less VIC delay 1 % or less Sampling frequency 48 kHz (synchronized with video) Quantization 1 6 bits/sample Analog input to output A/D and D/A quantization 1 % bits/sample Frequency response 20 Hz to 20 KHz, +0.5 dB/1.0 dB Dynamic range (at 1 KHz, emphasis ON) Wor & filter	Analog component in	g component output	Input A/D quantization	K-factor (21 pulse) 8 bits/sar): 1 % OF IESS	
Image: Component input (option) to analog composite output <u>Differential gain</u>	component output	nput (option) to unulog	K-factor (2T pulse)	1 % or le	ess	
Analog component input (option) to analog Differential gain 2 % or less composite output Differential phase 2° or less Digital audio performance 15 ns or less Sampling frequency 48 kHz (synchronized with video) Quantization 16 bits/sample Analog input to output A/D and D/A quantization 16 bits/sample Frequency response 20 Hz to 20 kHz, +0.5 dB/-1.0 dB Dynamic range (at 1 kHz, emphasis ON) More than 90 dB Distortion (at 1 kHz, emphasis ON, reference level) Less than -80 dB Wow & flutter Below measurable level Head room 20 dB (18 dB selectable) Emphasis (ON/OFF selectable in REC mode) T1=50µs, T2=15µs Supplied accessories AC power code (x1) PRemote cable (RCC-5G x1) PSW 4 x 16 Rack Mount Screw (x4) Operation manual (x1) Maintenance manual part 1 (x1)			LF non-linearity	3 % or le	ess	
Dimension Dimension YIC defay 15 ns or less YIC defay 1% or less Sampling frequency 48 kHz (synchronized with video) Quantization 16 bits/sample Analog input to output A/D and D/A quantization 16 bits/sample Frequency response 20 Hz to 20 kHz, +0.5 dB/-1.0 dB Dynamic range (at 1 kHz, emphasis ON) More than 90 dB Distortion (at 1 kHz, emphasis ON, reference level) Less than 0.05 % Cross talk (at 1 kHz, between any two channels) Less than -80 dB Wow & flutter Below measurable level Head room 20 dB (18 dB selectable) Emphasis (ON/OFF selectable in REC mode) T1=50µs, T2=15µs Supplied accessories AC power code (x1) Remote cable (RCC-5G x1) PSW 4 x 16 Rack Mount Screw (x4) Operation manual (x1) Maintenance manual part 1 (x1)	Analog component ir	nput (option) to analog	Differential gain	2 % of le 2° or le	ess	
K-factor (2T pulse) 1 % or less Digital audio performance 48 kHz (synchronized with video) Sampling frequency 48 kHz (synchronized with video) Quantization 16 bits/sample Analog input to output A/D and D/A quantization 16 bits/sample Frequency response 20 Hz to 20 kHz, +0.5 dB/-1.0 dB Dynamic range (at 1 kHz, emphasis ON) More than 90 dB Distortion (at 1 kHz, emphasis ON, reference level) Less than 0.05 % Cross talk (at 1 kHz, between any two channels) Less than -80 dB Wow & flutter Below measurable level Head room 20 dB (18 dB selectable) Emphasis (ON/OFF selectable in REC mode) T1=50µs, T2=15µs Supplied accessories AC power code (x1) Remote cable (RCC-5G x1) PSW 4 x 16 Rack Mount Screw (x4) Operation manual (x1) Maintenance manual part 1 (x1)	composite output		Y/C delay	15 ns or	less	
Digital audio performance Sampling frequency 48 kHz (synchronized with video) Quantization 16 bits/sample Analog input to output A/D and D/A quantization 16 bits/sample Frequency response 20 Hz to 20 kHz, +0.5 dB/-1.0 dB Dynamic range (at 1 kHz, emphasis ON) More than 90 dB Distortion (at 1 kHz, emphasis ON, reference level) Less than 0.05 % Cross talk (at 1 kHz, between any two channels) Less than -80 dB Wow & flutter Below measurable level Head room 20 dB (18 dB selectable) Emphasis (ON/OFF selectable in REC mode) T1=50µs, T2=15µs Supplied accessories AC power code (x1) Remote cable (RCC-5G x1) PSW 4 x 16 Rack Mount Screw (x4) Operation manual (x1) Maintenance manual part 1 (x1)			K-factor (2T pulse)	1 % or le	ess	
Standardy regently With Video/ Quantization 16 bits/sample Analog input to output A/D and D/A quantization 16 bits/sample Frequency response 20 Hz to 20 kHz, +0.5 dB/-1.0 dB Dynamic range (at 1 kHz, emphasis ON) More than 90 dB Distortion (at 1 kHz, emphasis ON, reference level) Less than 0.05 % Cross talk (at 1 kHz, between any two channels) Less than -80 dB Wow & flutter Below measurable level Head room 20 dB (18 dB selectable) Emphasis (ON/OFF selectable in REC mode) T1=50µs, T2=15µs Supplied accessories AC power code (x1) PSW 4 x 16 Rack Mount Screw (x4) Operation manual (x1) Maintenance manual part 1 (x1)	Digital audio perfor	mance		18 kHz (cynchroniz	red with video)	
Analog input to output A/D and D/A quantization 16 bits/sample Frequency response 20 Hz to 20 kHz, +0.5 dB/-1.0 dB Dynamic range (at 1 kHz, emphasis ON) More than 90 dB Distortion (at 1 kHz, emphasis ON, reference level) Less than 0.05 % Cross talk (at 1 kHz, between any two channels) Less than -80 dB Wow & flutter Below measurable level Head room 20 dB (18 dB selectable) Emphasis (ON/OFF selectable in REC mode) T1=50µs, T2=15µs Supplied accessories AC power code (x1) Remote cable (RCC-5G x1) PSW 4 x 16 Rack Mount Screw (x4) Operation manual (x1) Maintenance manual part 1 (x1)	Quantization			16 bits/sa	mple	
Frequency response 20 Hz to 20 kHz, +0.5 dB/-1.0 dB Dynamic range (at 1 kHz, emphasis ON) More than 90 dB Distortion (at 1 kHz, emphasis ON, reference level) Less than 0.05 % Cross talk (at 1 kHz, between any two channels) Less than -80 dB Wow & flutter Below measurable level Head room 20 dB (18 dB selectable) Emphasis (ON/OFF selectable in REC mode) T1=50µs, T2=15µs Supplied accessories AC power code (x1) Remote cable (RCC-5G x1) Operation manual (x1) Maintenance manual part 1 (x1)	Analog input to output	ut A/D and D/A quantization	ı	16 bits/sa	mple	
Distortion (al 1 kHz, between any two channels) INDExtraction (al 1 kHz, between any two channels) Cross talk (at 1 kHz, between any two channels) Less than 0.05 % Wow & flutter Below measurable level Head room 20 dB (18 dB selectable) Emphasis (ON/OFF selectable in REC mode) T1=50µs, T2=15µs Supplied accessories AC power code (x1) PSW 4 x 16 Rack Mount Screw (x4) Operation manual (x1) Maintenance manual part 1 (x1)	Frequency response Dynamic range (at 1 kHz, emphasis ON)		20 Hz to 20 kHz, +0.5 dB/-1.0 dB			
Cross talk (at 1 kHz, between any two channels) Less than -80 dB Wow & flutter Below measurable level Head room 20 dB (18 dB selectable) Emphasis (ON/OFF selectable in REC mode) T1=50µs, T2=15µs Supplied accessories AC power code (x1) PSW 4 x 16 Rack Mount Screw (x4) Operation manual (x1) Maintenance manual part 1 (x1)	Distortion (at 1 kHz, emphasis ON, reference level)		Less than 0.05 %			
Wow & tlutter Below measurable level Head room 20 dB (18 dB selectable) Emphasis (ON/OFF selectable in REC mode) T1=50µs, T2=15µs Supplied accessories AC power code (x1) PEW4 x 16 Rack Mount Screw (x4) Operation manual (x1) Maintenance manual part 1 (x1)	Cross talk (at 1 kHz, between any two channels)		Less than -80 dB			
Emphasis (DN/DFF selectable in REC mode) Z/U dB (18 dB Selectable) Supplied accessories T=50µs, T2=15µs Maintenance AC power code (x1) PSW 4 x 16 Rack Mount Screw (x4) Operation manual (x1) Maintenance manual part 1 (x1)	Wow & flutter			Below measur	able level	
Supplied accessories AC power code (x1) Remote cable (RCC-5G x1) PSW 4 x 16 Rack Mount Screw (x4) Operation manual (x1) Maintenance manual part 1 (x1)	Emphasis (ON/OFF s	selectable in REC mode)			2=15µs	
AC power code (x1) Remote cable (RCC-5G x1) PSW 4 x 16 Rack Mount Screw (x4) Operation manual (x1) Maintenance manual part 1 (x1)	Supplied accessorie	es				
PSW 4 x 16 Rack Mount Screw (x4) Operation manual (x1) Maintenance manual part 1 (x1)				AC power co Remote cable (F	ode (x1) RCC-5G x1)	
Maintehance manual pàrt 1 (x1)				PSW 4 x 16 Rack M Operation ma	nual (x1)	
	t Title on on of		has a closed as a 19	Maintenance manu	uai part 1 (X1)	

**AES/EBU audio input can be selected as an option.

DNW-A65/65/A22 Digital Video Cassette Player

		DNW-A65 DNW-65		DNW-A22
General				
Power requirements			AC 100 V to 240 V, 50/60 Hz	
Power consumption		190 W	161 W	190 W
Operating temperature	9		+ 5°C to +40°C (+41°F to +104°F)	
Storage temperature			-20 C to $+60 C$ (-4 F to $+140 F$)	
Mass (Approx.)		28 kg (61 lb 10 oz)	25 % to 80 % (relative humidity)	32 kg (70 lb 8 oz)
Dimensions (W x H x [ור	20 kg (01 lb. 10 02)	20 kg (37 lb. 5 02) 7 x 237 x 524 mm (16 7/8 x 9 3/8 x 20 3/4 incl	32 kg (70 lb. 8 02)
Tape speed P	P) Setacam SX	59	515 mm/s (525 mode) 59 575 mm/s (625 mc	ide)
B	Betacam/Betacam SP	118.6 mm/s		118.6 mm/s
Digital playback time			Max. 194 min with BCT-194SXLA cassette	
Fast forward/rewind tin	ne		Approx. 3 min with BCT-194SXLA cassette	
Servo lock time				
Load/unload time			6 s or less	1
Search speed range		±50 times normal playback speed (Betacam SX) ±35 times normal playback speed (Betacam/Betacam SP)	±50 times normal playback speed (Betacam SX) ±35 times normal playback speed (Betacam/Betacam SP)	
Outputs signal		1		1
SDI output		BNC (x3, including one character out), SI	MPTE 259M (ITU-R.BT.656-3), 270 Mbps	
Analog component ou	tput	BNC (x3, for 1 set, Y/R-Y/B-Y), Y: 1.0 Vp-p,	75Ω, sync negative, R-Y/B-Y: 0.7 Vp-p, 75Ω	—
Analog composite out	put	BNC (x3, including 1.0 Vp-p, 75Ω,	one character out), , sync negative	BNC (x2, including one character out), 1.0 Vp-p, 75Ω, sync negative
SDTI output (option)		BNC (x2), Max. x2 s	speed, SMPTE 305M	
Analog audio output		XLR (x4, 0	CH1/2/3/4)	
Digital audio output		BNC (x2, CH1/2	2, 3/4), AES/EBU	—
Audio monitor output	(L/R)		Standard Jack (XT), Stereo XI R (v2)	
Time code output		XIR	? (x1)	_
Remote	Remote control	D-sub 9-pin (x2), Sony	/ 9-pin remote interface	_
	RS-232C	D-sub 9-pin (x1),	RS-232C interface	D-sub 25-pin (x1), RS-232C interface
	Processor control	D-sub 15	5-pin (x1)	_
	Connrctor for Control Panel	Mini D-sub	915-pin (x1)	_
	Parallel remote	50-pi	in (x1)	
	Aux	Mini D-sub	—	
Others	RFU video output RFU audio output			Pin jack (x1), 1.0 Vp-p, 75Ω, sync negative Pin jack (x1), -10 dBu at 47 kΩ, unbalanced
RFU DC output			_	Ø2.5 mm jack, +5 V DC/GND
Processor adjustmen	nt range	·		
Video level		±3 dB/-∞ to +3	3 dB selectable	_
Chroma level		±3 dB/-∞ to +3	3 dB selectable	
Setup/Black level		±30 IRE/	/±210 mV	—
Chroma phase/hue		±3	30°	
System sync phase		±30) µ s	
System SC phase		±200		—
		(Betacam/Betacam SP playback only)	-	-
Digital video perform	ance			
Sampling frequency			Y: 13.5 MHz, R-Y/B-Y: 6.75 MHz	
			8 bits/sample	
Analog component rec	cording playback		Input A/D quantization: 8 bits/sample K-factor (2T pulse): 1 % or less	
Analog component rec	cording playback			
Digital audio porferm	2000		K-ractor (21 pulse): 1 % or less	
Sampling frequency	lance	49 kHz (synchronized with video)		
Quatization		16 bits/sample		
Frequency response (20 Hz to 20 kHz +5.0 dB/-1.0 dB			
Dynamic range (at 1 k	Hz, emphasis ON)	More than 90 dB		
Distortion (at 1 kHz, emphasis O	N, reference level)			
Cross talk (at 1 kHz, between an	y two channels)			
Wow & flutter				
Head room		20 dB (18 dB selectable)		
Emphasis (UN/OFF selectable in REC mode) T1=50 µ s, T2=15 µ s				
	<u> </u>	Remote cable (RCC-5G x1) PSW 4 x 16 Rack Mount Screw (x4) PSW 4 x 16 Rack Mount Screw (x4) Operation manual (x1) Operation manual (x1) Maintenance manual (x1)		PSW 4 x 16 Rack Mount Screw (x4) Operation manual (x1) Maintenance manual (x1)

DNE-700 Digital Editing System

1.4 kg (3 lb. 1 oz)
237 x 84 x 202 mm (9 3/8 x 3 3/8 x 8 inches)
Supplied from PC
+ 5°C to +40°C (+41°F to +104°F)
60 g (2 oz)
40 x 101 mm (1 5/8 x 4 inches)
Supplied from PC
+ 5°C to +40°C (+41°F to +104°F)
280 g (10 oz)
120 x 305 mm (4 3/4 x 12 1/8 inches)
Supplied from PC
+ 5°C to +40°C (+41°F to +104°F)
Adaptec™ AHA-2904AU

DLE-110 Live Editing System

General			
Power Requirements	AC 100 V to 120 V ±10 % AC 220 V to 240 V ±10 %		
Power Consumption	BKLE-101PCI: BKLE-102:	10 VA 10 VA	
Weight	BKLE-101PCI: BKLE-102:	4.5 kg (9 lb 15 oz) 2.8 kg (6 lb 3 oz)	
Dimensions	BKLE-101PCI: BKLE-102:	482(w) x 44(h) x 350(d) mm (19 x 1 3/4 x 13 7/8 inches) 265(w) x 85(h) x 222(d) mm (10 1/2 x 3 3/8 x 8 3/4 inches)	
Connectors	BKLE-101PCI: BKLE-102	REF. IN (BNC, loop-through) CONTROLLER (15-pin D-sub) REMOTE (9-pin D-sub x 5) PARALLEL (36-pin) Ext. TIME CODE (XLR) REMOTE (15-pin D-Sub, 2 m)	

DEP-100 Digital Effects Processor

General				
Power requirements	S	AC 85 V to 132 V, 170 V to 265 V		
Power consumption		60 W		
Operating tempera	ture	+5 °C to +40 °C (+41 °F to +104 °F)		
Storage temperatur	re	-20 °C to +55 °C (-4 °F to +131 °F)		
Humidity		25 % to 80 % (relative humidity)		
Mass		11 kg (24 lb 4 oz)		
Dimensions (W x H	x D) (including feet)	424 x 132 x 450 mm (16 3/4 x 5 1/4 x 17 3/4 inches)		
Video inputs/outp	uts			
Digital input	MAIN IN	SDI, BNC (x1), 75 Ω		
	SUB IN	SDI, BNC (x1), 75 Ω		
	DSK FILL IN	SDI, BNC (x1), 75 Ω		
	DSK KEY IN	SDI, BNC (x1), 75 Ω		
Digital output	PGM OUT	SDI, BNC (x4), 75 Ω		
Analog input REF VIDEO		Composite video, BNC (x2, loop through), high-impedance		
Analog output MONITOR		Composite video, BNC (x1), 75 Ω		
Video effects				
Effect	1-Mix/Effect + 1 DSK	Cut, Mix, Wipe/DME		
Effect pattern	Wipe	108 patterns		
	2D DME	150+ patterns		
DSK	Key type	Linear		
	Key adjust	Clip, Gain		
Internal video		Matte Generators for Color Background, Border, DSK Fill, etc. and Pattern Generators for brick, block, etc.		
Remote inputs/out	tputs			
REMOTE-1 (IN/OUT)		D-sub 9-pin (female x2), Sony 9-pin interface		
REMOTE-2		D-sub 25-pin (female), RS-232C interface		
MOUSE		D-sub 9-pin (female), RS-232C interface		
GPI IN		BNC (x3, EFFECT/DISK ON/DISK OFF), TTL Level, 10 k Ω		
Supplied accesso	ries			
		Rack mount, Installation/maintenance manual		

DNW-A225/A220/A25 Digital Portable Editor

Beneric Section 100 PUT		DNW-A225 <vtr1 vtr2=""></vtr1>	DNW-A220 <vtr1 vtr2=""></vtr1>	DNW-A25			
Numer registerers LDC 12V DC 12V Dear on surging and the second	General		·	·			
Device consurption 10.0V (25 W.23) 10.0V (00 W.23) 0.5 W Device consurption 20.5 W 25 W 15 W 20.5 W 25 W 15 W Hareby 20.5 W 25 W 15 W 15 W 15 W 15 W 15 W 15 W 1	Power requirements		DC 12 V				
Inpending Inspection Internal Process of the ADP (ColD Print (Power consumption	130 W (65 W x 2)	120 W (60 W x 2)	65 W			
adapting Add Section 2000 (1100) Abis 130 (2000) 45 (2000) 45 (2000) (Add Section 2000) 42 (2000) 42 (2000) 21 (2000) 21 (2000) (Add Section 2000) 130 (2000) 45 (2000) 21 (2000)	Operating temperature		+0 °C to +40 °C (+32 °F to +104 °F)				
Advance Table (56 Lips 2.2 about 10.2) A sign (4.8 count) Operations (V1 to D) (4.21 21 21 21 2) (4.21 21 21 21 2) (4.21 21 21 21 2) Operations (V1 to D) (4.21 21 21 21 2) (4.21 21 21 21 2) (4.21 21 21 21 2) Operations (V1 to D) (4.21 21 21 21 2) (4.21 21 21 21 2) (4.21 21 21 21 2) Operations (V1 to D) (4.21 21 21 21 2) (4.21 21 21 21 2) (4.21 21 21 21 2) Operations (V1 to D) (4.21 21 21 2) (4.21 21 2) (4.21 21 2) Operations (V1 to D) (4.21 21 2) (4.21 21 2) (4.21 21 2) Operations (V1 to D) (4.21 2) (4.21 2) (4.21 2) Operations (V1 to D) (4.21 2) (4.21 2) (4.21 2) Operations (V1 to D) (4.21 2) (4.21 2) (4.21 2) Operations (V1 to D) (4.21 2) (4.21 2) (4.21 2) Operations (V1 to D) (4.21 2) (4.21 2) (4.21 2) Operations (V1 to D) (4.21 2) (4.21 2) (4.21 2) Operations (V1 to D) (4.21 2) (4.21 2) (4.21 2) Operations	Storage temperature		-20 °C 10 +60 °C (-4 °F 10 +140 °F)				
Common We ker ID Control (2012) 2012 and (1000) Control (2012) 2012 and (2012) Control (2012) 2012 and (2012) Data product Decision Street Distance Street	Mass	12 kg (6 5 kg)	23 % 10 60 %	6.5 kg (14 lb 5 oz)			
The speed Decision St	Dimensions (W x H x D)	422 (211 x 2) x 149 x	$(467 \text{ mm})(16.5/8 \times 5.7/8 \times 18.1/2 \text{ inches})$	211 x 149 x 467 mm (8 3/8 x 5 7/8 x 18 1/2 inches)			
Billscandbetran SP International processing in the international processing in the international processing in the international processing internatinteretetail processing international procesing internatio	Tape speed Betacam SX	59	9.515 mm/s (525 mode), 59.575 mm/s (625 mc	de)			
Dipse plaque descending Uses the aim will BETE 25556 accedes Each forward and mige Beacam 55, 22 (mise some plaques), genes, listing and beacam 54: 10 (mise some plaques), genes, listing and beacam 54: 10 (mise some plaques), genes, listing and beacam 54: 10 (mise some plaques), genes, listing and beacam 54: 10 (mise some plaques), genes, listing and beacam 54: 10 (mise some plaques), genes, listing and beacam 54: 10 (mise some plaques), genes, listing and beacam 54: 10 (mise some plaques), genes, listing and beacam 54: 20 (mise some plaques), genes, listing and beacam 54: 20 (mise some plaques), genes, listing and beacam 54: 20 (mise some plaques), genes, listing and beacam 54: 20 (mise some plaques), genes, listing and beacam 54: 20 (mise some plaques), genes, listing and beacam 54: 20 (mise some plaques), genes, listing and beacam 54: 20 (mise some plaques), genes, listing and beacam 54: 20 (mise some plaques), genes, listing and beacam 54: 20 (mise some plaques), genes, listing and beacam 54: 20 (mise some plaques), genes, listing and beacam 54: 20 (mise some plaques), genes, listing and beacam 54: 20 (mise some plaques), genes, listing and beacam 54: 20 (mise some plaques), genes, listing and beacam 54: 20 (mise some plaques), genes, listing and genes, listing an	Betacam/Betacam SP		118.6 mm/s				
Fast Constructional time on ECADDA cancels Construction of the set o	Digital playback/recording		Max. 62 minutes with BCT-62SXA cassette				
Search speed range Bedican 55: -24 lines normal pippings (speed. Bedican Rescurs 59: -10 lines normal pippings (speed 55: 000) Importunction 0.50 mode	Fast forward/rewind time		Less than 3 min with BCT-62SXA cassette				
Seve has line Seve has line Seve has line Constrained in the sevent sequence Avage composite input Avage composite input Sevent constrained Sevent constrained	Search speed range	Betacam SX: ±24 times norma	al playback speed, Betacam/Betacam SP: ±1	0 times normal playback speed			
Construint of the first intervent of the second s	Servo lock time		0.5 s or less (from standby on)				
Average of the second	Load/unload time		6 S OF IESS				
Antig compatible could BBC (22, Including one character cut), 12 Vip. 1-58 approximative SN reput BBC (21, SMPT 2349) (ITU, B T 665, 370 Matus) SN reput BBC (21, SMPT 2349) (ITU, B T 665, 370 Matus) Anting audio najadi (241.2) X.R. (63 Anting audio najadi (241.2) X.R. (64) Bartomic input BBC (21, SMPT 2349) (ITU, B T 665, 370 Matus) Bartomic input BBC (21, SMPT 2349) (ITU, B T 665, 370 Matus) Bartomic input BBC (21, SMPT 2349) (ITU, BBT 666, 370 Matus) Bartomic input BBC (21, SMPT 2349) (ITU, BBT 666, 370 Matus) Bartomic input BBC (21, SMPT 2349) (ITU, BBT 666, 370 Matus) Bartomic input BBC (21, SMPT 2349) (ITU, BBT 666, 370 Matus) Strippits Khort 1.30 BBT, 120 Matus) Chroni Irbai Sync (12, BBT 560, Matus) Strippits Khort 3.01 BBF, 210 Matus) Chroni Irbai Sync (12, BBT 660, Matus) Strippits Khort 1.30 BBT, 120 Matus) Chroni Irbai Sync (12, BBT 660, Matus) <	Analog composite input		BNC (v1) 1.0 Vp-p. 75.0 sync pegative				
Shi near BNC [1], SAPIE 2989 (11): B. If 643, 270 Males Sto adput BNC [2], SAPIE 2989 (11): B. If 643, 270 Males Amage and/or applic [21:2] XIR (20) Better cancer Sample cancer Better cancer BMC (01) Thm code applic BMC (01) Processor alguisment range	Analog composite output	BNC (x2. ir	ncluding one character out), 1.0 Vp-p, 75 Ω , sync hegative	vnc negative			
Sh napu BNC (p) SMPE 3904 (11): B at 663, 270 Mates Analog audo copid (CH 2) XIR (q) Analog audo copid (CH 2) XIR (q) Analog audo copid (CH 2) XIR (q) Bernde audo copid (CH 2) Sign (GH 2) Bernde audo copid (CH 2) Bernde (GH 2) Bernde audo copid (CH 2) Bernde (GH 2) Thre code input Bernde (GH 2) Thre code input Bernde (GH 2) Chrona Plase 200 Her 50 30 Stelectable Chrona Plase 30 Bernde (GH 2) Strat plase, Chrona Strat 20 MY V10 deb y 100 Stelectable (Ch 2) Strat plase, Chrona Strat 20 MY Strat plase, Chrona Strat 20 MY Strat plase, Chr	SDI input	Bito (A2, 1	BNC (x1), SMPTE 259M (ITU. R. BT. 656-3), 2	70 Mbit/s			
Avelag auto input (CH1-2) NR (c) Barbon (CH1-2) NR (c) Thre code regul BRC (c) Thre code regul BRC (c) Precessor adjustment range	SDI output		BNC (x2), SMPTE 259M (ITU. R. BT. 656-3), 2	70 Mbit/s			
Anteg audio audio algui (EP) N.R. (2) Anteg media radio (E) Status (C) Headphores, augui (E) Status (C) Brance centa DAta 6 pin (D), Stary (S) pin enclos interfaces Brance centa DAta 6 pin (D), Stary (S) pin enclos interfaces Brance centa DAta 6 pin (D), Stary (S) pin enclos interfaces Brance centa DAta 6 pin (D), Stary (S) pin enclos interfaces Brance centa DAta 6 pin (D), Stary (S) pin enclos interfaces Processor allocations interge 1.3 GP = to 3 GB selectable Other and Status (S) pin (S) pi	Analog audio input (CH1,2)		XLR (x2)				
Ansio provider august [LP,2] XIR (c2) Render control Dauge Spin (KN) stores of the control of	Analog audio output (CH1,2)		XLR (x2)				
Headpoints output Started glock (h) started Memotic control DBW David Style (h) started Networks control DBW David Style (h) Started Networks control DBW David Style (h) Started Three code suppl DBW David Style (h) Started Processor of diperson trange DBW David Style (h) Started Veto level 13 BW + to 3 Bit sylectable Chrona level 31 BW + to 3 Bit sylectable Chrona level 31 BW + to 3 Bit sylectable Start pBlack level 31 BW + to 3 Bit sylectable Chrona level 31 BW + to 3 Bit sylectable Start pBlack level 31 BW + to 3 Bit sylectable Chrona level 30 The Started Starte	Analog monitor output (L,R)		XLR (x2)				
Identifie Catho ID Stat V pr. (1), Soly V pr. (Interdiget International (V) DN (C. V), Soly V pr. (Interdiget, Chin Cognitional (V), Soly V pr. (Interdiget, Ch	Headphones output		Standard jack (x1), stereo				
New Carl, US App. 70 AL, With Register, Walk, Carl, State Spir (No. 51) New Carl, US App. 70 AL, With Register, Walk, Carl, State Spir (No. 51) The code spir/ BRC (A1) BRC (A1) The code spir/ BRC (A1) BRC (A1) The code spir/ BRC (A1) BRC (A1) Processor adjustment range	Remote control	PNC (v1	D-sub 9-pin (x1), Sony 9-pin remote interface	euch aut)			
Time code sput Time code sput Time code sput BKC (st) Processor adjustment range BKC (st) ServerBlack level 3.3 Bit sectorable Structure Signet range Digital Video signal system Signet range System phase System range Digital Video signal system Signet range Sampting frequency Us to 5 Mitz-05 dist/3.0 dist/3.	Tost	BINC (XI	$(1), 0.3$ Vp-p, 75 Ω , sync negative (with loop the Aux 6-pin (x1) (for maintenance)	ough out)			
Time code expert BNC (k1) Processor adjustment range 3.0 BV -= No 3.0B selectable Vede lovel - 3.0 BV -= No 3.0B selectable Set upBlack level - 3.0 BV -= No 3.0B selectable Ved delay - 3.0 BV -= No 3.0B selectable Set upBlack level - 3.0 BV -= No 3.0B selectable Ved delay - 3.0 BV -= No 3.0B selectable Chroma Phase - 3.0 ** System phase - 3.0 ** System phase - 5.0 ×* Diglar Vede signal system - 8.0 ×* Sampling frequency - Y 13.5 MHz, R-V/B. Y. 6. /5 MHz Compression - 8.0 ×* Analog composite recording playback - 8.0 ×* Barchuidtin (Y) - 0 × 4.5 MHz+0.5 dH/-3.0 dB (.20 dB (.20 BV -0.5 dH/-3.0 dB (.20 HV -0.5 dH/-3.0 dB (.20 HV -0.5 dH/-3.0 dB (.20 HV -0.5 dH	Time code input		BNC (x1)				
Processor adjustment range - 3 dRV Ito 3 dR selectable Chroma level - 3 dRV Ito 3 dR selectable Ser upBlack. Iteel - 3 dRV Ito 3 dR selectable Ser upBlack. Iteel - 3 dRV Ito 3 dR selectable Ser upBlack. Iteel - 3 dRV Ito 3 dR selectable Chroma Phase - 3 dRV Ito 3 dRV selectable System phase - 3 dRV Ito 3 dRV selectable Sampting frequency - 3 dRV Ito 3 dRV selectable Outstaction - 3 dRV Ito 3 dRV selectable Sampting frequency - 1 dRV selectable Outstaction - 3 dRV selectable Sampting frequency - 0 to 45 MRV selectable 2 dRV selectable Other sental phase - 2 moless Other sental grant - 2 moless Other sental grant - 2 moless Other sental grant - 2 moles Output SCH phase - 2 moles Output SCH phase - 3 dRV selectable Differential grant - 1 for 5 moles A factor 2T phase - 1 for 5 moles A factor 2T phase - 2 moles Differential grant - 2 moles	Time code output		BNC (x1)				
Vide level 1.3 dBV +w to 3 dB solectable Chroma level 3.3 dBV +w to 3 dB solectable StrugBlack.tevel 3.0 DIREA_210 rW ViC delay 4.30 TR (FL delametHisteam) SP Layback) Chroma Phase 5.00 TR System phase 5.00 TR System phase 5.00 TR Digital video signal system 5.00 TR System phase 5.00 TR Digital video signal system 1.00 TR System phase 0.00 TR Connerssion WE (S2 Leve), S2 - 200 rs Bigital video signal system 1.00 TR System phase 0.00 45 MHz+0.5 dB/-3.0 dB (25 mode) Sind width (T) 0.00 45 MHz+0.5 dB/-3.0 (52 mode) Outprist Sind reson 2.80 mode) Sind video signal system 2.80 mode) Video signal system 2.80 mode) Digital video signal system 2.80 mode) Sind video signal system 2.80 mode) Digital video signal system 2.80 mode) Sind video signal system 2.80 mode) Sind video reson 2.00 K reson Outprice	Processor adjustment range						
Chrone level	Video level		±3 dB/ -∞ to 3 dB selectable				
Set upBlack level 1.30 (IRE.210 mV VC delay -100 % (IR Bencam/Betacam SP playtack) Chroma Phase 3.00" System phase System phase Digital video signal system Y 13.5 MHz, R-YB-Y, 6.75 MHz Sampling Requency Y 13.5 MHz, R-YB-Y, 6.75 MHz Compression MECG 24.22 Profile/Man Level Anago composite recording playback 0.04.5 MHz/HS 0.5 dB / -3.0 dB (825 mode) Obstructure 0.04.5 MHz/HS 0.5 dB / -3.0 dB (825 mode) Singling Requency 0.04.5 MHz/HS 0.5 dB / -3.0 dB (825 mode) Obstructure 3.04 B or more Singling Inspector 2 % or kess Differential print 2 % or kess Differential printse 2 % or kess Outplict Audio signal system 3.04 B Hz (synchronick with video) Ouganitzation 1.5 % or less Vic delay 1.5 % or less Vic delay 1.5 % or less Vic delay 1.5 % or less Ouganitzation 1.0 bit/sample Sampling Requency 4.8 Hz (synchronick with video) Ouganitzation 2.0 dB (or 18.0 B or 18.142) Displas audio signal system 3.04 B (or 18.0 B or 18.142) Sampling Requency 2.0 dB (or 18.0 B or 18.142) Ouganitzation 1.0 bit/sample <td< td=""><td>Chroma level</td><td></td><td>±3 dB/ -∞ to 3 dB selectable</td><td></td></td<>	Chroma level		±3 dB/ -∞ to 3 dB selectable				
110 delay +100 fs [in Belacambelacian SP pagback] Choma Phase 3.30° System phase System 11 js (S.S. 1930 fs. Digital video signal system Y. 13.5 MHz, R.YIB.YE 6.75 MHz Composite recording playback B.BhSkample Composite recording playback MPEG2 42.2 Profiles/Main Level Randgo composite recording playback 0 to 4.5 MHz 0.5 dB/J.30 (255 mode), 0 to 5.5 MHz 0.5 dB/J.30 dB (625 mode) Shit 0 to 4.5 MHz 0.5 dB/J.30 (255 mode), 0 to 5.5 MHz 0.5 dB/J.30 dB (625 mode) Shit 2.3 de lass Difficiently phase 2.3 de lass Officiently phase 2.3 de lass Officiently phase 1.9 sec.3 Old control signal system 1.9 sec.3 Object signal system 1.9 sec.3 Object signal system 1.9 sec.3 Object signal system 2.0 de lass estectable) Object signal system 2.0 dB (71 8 dB selectable) Object signal system 2.0 dB (71 8 dB selectable) Object signal system 2.0 dB (71 8 dB selectable) Emphasis 11-50 js. 12-15 js. (0 rdf selectable) in recording mode) AnD, OA quantization 1.9 bits system signal Optamic range 2.0 dB (0 rd sets) fd Hz LP FON) Destortion 0.00 sets of lass in reference law (4 cd Hz). 3.0 Hz LP FON) <t< td=""><td>Set up/Black level</td><td></td><td>±30 IRE/±210 mV</td><td></td></t<>	Set up/Black level		±30 IRE/±210 mV				
Childha Prilose System phase System phase Synt:: = 15 µs (SC step), SC - ±200 ns Digital video signal system 8 bitShample Compression MEED 24.22 ProfileeMain Level Analog composite recording playback 0.04.5 MHz: RVIB-Y 6.75 MHz Bendwähr (Y) 0.04.5 MHz: RVIB-Y 6.75 MHz Compression MEED 2.22 ProfileeMain Level Analog composite recording playback 0.04.5 MHz: RVIB-Y 6.75 MHz Bendwähr (Y) 0.04.5 MHz: RVIB-Y 6.75 MHz Differential ghan 2.% or liss Sampling frequency 48 Hz2 (synchronized with video) Output SCH phase Based upon Rs-170AVILL RE 16.24-3 Differential ghan 2.0 Js 12.5 Js (soft BitSample Frequency response 2.0 Hz to 20 KHz + 0.5 dHz + 0	Y/C delay		±100 ns (in Betacam/Betacam SP playback)				
Dynamic plane Synt. Prop Let. Series Singling Integrating Singling Singling	System phase		±30 Super 15 us (SC stop), SC + 200 ps				
Simpling frequency Y. 13.5 Metz. MP: Ye 35 Metz. Ouaritization B MS/Sample Composite recording playback MPEG2 4.2.2 Profiles/Main Level Analog composite recording playback 0 to 4.5 MHz: 0.5 dBK / 30 (325 mode). 0.0 5 MHz: 0.5 dBK / 30 (32 mode). 0.0 5 MHz: 0.5 SMHz: 0.5 dBK / 30 (32 mode). 0.0 5 MHz: 0.5 SMHz: 0.5 dBK / 30 (32 mode). 0.0 5 MHz: 0.5 SMHz: 0.5 dBK / 30 (32 mode). 0.0 5 MHz: 0.5 SMHz: 0.5 dBK / 30 (32 mode). 0.0 5 MHz: 0.5 SMHz: 0.5 dBK / 30 (32 mode). 0.0 5 MHz: 0.5 SMHz: 0.5 dBK / 30 (32 mode). 0.0 5 MHz: 0.5 SMHz: 0.5 dBK / 30 (32 mode). 0.0 5 MHz: 0.5 SMHz: 0.5 dBK / 30 (32 mode). 0.0 5 MHz: 0.5 SMHz: 0.5 dBK / 30 (32 mode). 0.0 5 MHz: 0.5 SMHz: 0.5 dBK / 30 (32 mode). 0.0 5 MHz: 0.5 SMHz: 0.5 dBK / 30 (32 mode). 0.0 5 MHz: 0.5 SMHz: 0.5 dBK / 30 (32 mode). 0.0 5 MHz: 0.5 SMHz: 0.5 dBK / 30 (32 mode). 0.0 5 MHz: 0.5 SMHz: 0.5 dBK / 30 (32 mode). 0.0 5 MHz: 0.5 SMHz: 0.5 dBK / 30 (32 mode). 0.0 5 MHz: 0.5 SMHz: 0.5 dBK / 30 (32 mode). 0.0 5 MHz: 0.5 MHz: 0.5 dBK / 30 (32 mode). 0.0 5 MHz: 0.5 MHz	Digital video signal system		Sync. ±15 µs (SC step), SC. ±200 hs				
Outritization B B10154sample Compression MMEC2 4.2.2 Profile=Main Level Analog composite recording playback 0 to 4.5 MHz+0.5 dB/3.0 (\$25 mode), 0 to 5 5 MHz+0.5 dB /-3.0 dB (\$25 mode) Bandwidth (?) 0 to 4.5 MHz+0.5 dB/3.0 (\$25 mode), 0 to 5 5 MHz+0.5 dB /-3.0 dB (\$25 mode) Differential gain 2 % or less Differential gain 2 % or less VC delay 1.5 % or less Kactor (27 puse) 1.5 % or less Outputs SCH prase Based upon RS-170xHTU-R B1624-3 Digital audio signal system 48 Hz (synchronized with video) Sampling frequency 48 Hz (synchronized with video) Quantization 1 b bts/sample Head coord 20 dB (or 18 dB selectable) Emphasis T1=50 js; (7a-15 dB/1.0 dB (0 dB at 18 Hz) Dynamic range 20 dB (or 18 dB selectable) Prequency response 20 Hz to 20 Hz to 20 Hz to 30, 30 Hz LFP CN) Others 0.05 % or less (at 1 Hz, emphasis on, 30 Hz LFP CN) Channel coding S-1 MBZ PE NV Error correction Read - 50 mon code LCD Monitor 80 dB or moze (at 14 Hz, emphasis on .30 Hz LFP CN) S	Sampling frequency		Y: 13.5 MHz, R-Y/B-Y: 6.75 MHz				
Composite recording playback MPEG2 4.2.2 Profile=Mkain Level Banalog composite recording playback 0 to 4.5 MHz+0.5 dBX-30 (582 mode) 0 to 5.5 MHz+0.5 dBX-30 dB (625 mode) SN 0 to 4.5 MHz+0.5 dBX-30 (582 mode) 0 to 5.5 MHz+0.5 dBX-30 dB (625 mode) SN 2 % or less 0 to 4.5 MHz+0.5 dBX-30 dB (625 mode) Differential phase 2 % or less 0 to 4.5 more Differential phase 2 % or less 0 to 4.5 more Differential phase 3 % or less 0 to 4.5 more Output SCH phase Based upon R5-170/MTU-R B1624-3 0 to 4.5 more Digital audio signal system 3 Sor less 0 to 1.5 Sor less 0 to 1.5 Sor less Sampling Trequency 48 kHz (synchronized with video) 0 contrastion 0 to 2.0 dB (or 1.3 dB selectable) Headroom 2 to 2 dB zor 2 Hz zo	Quantization	8 bits/sample					
Analog composite recording playback 0 to 4.5 MHz+0.5 dB/-3.0 G25 mode), 0 to 5.5 MHz+0.5 dB/-3.0 dB (625 mode) SN 0 to 4.5 MHz+0.5 dB/-3.0 G25 mode), 0 to 5.5 MHz+0.5 dB/-3.0 dB (625 mode) SN 2 % or less Differential gain 2 % or less Differential gain 2 % or less Market C2 plake) 1.5 % or less Vic delay 1.5 % or less Vic delay 1.5 % or less Output SCH phase Based upon R5-170AUTU-R BF.024-3 Digital audio Signal system 3 Based upon R5-170AUTU-R BF.024-3 Ought SCH phase 0 antization Sampling frequency 48 Hz (synchronized with video) Ouantization 10 bl/sample Headroom 20 dB (or 18 dB selectable) Emphasis T1=50 µs, T2=15 µs (on/df selectable in recoording mode) Anio Quity response 20 Hz to 20 kHz to 30 kH 10 dB (0 dB at 1 kHz) Dynamic range 80 dB or more (at 1 kHz, emphasis on, reference level (< 4 dBM-, 30 kHz LPF ON)	Compression	MPEG2 4:2:2 Profile@Main Level					
Bandwidth (Y) 0 to 4.5 MHz+0.5 dBk-30 (25 more) 53 dB or more Differential gain 2 % or less 2 % or less Differential phase 2 % or less 2 % or less VIC delay 15 % or less 4 % or less Vic delay 15 % or less 4 % or less Output SCH phase Based upon R5-170A/ITU-R BT 624-3 5 % or less Digital audio signal system 2 or less 4 % kHz (synchronized with video) Quantization 16 bits/sample 4 % kHz (synchronized with video) Analog output 20 dB (or 18 dB selectable) 6 % bits/sample Analog output 15 % or nee call kHz, emphasis on reference twei (r 4 dB min, 30 kHz LPF ON) 5 for size (r 14 Hz, emphasis on reference twei (r 4 dB min, 30 kHz LPF ON) Distrotion 0.05 % or less (at 1 kHz, emphasis on reference twei (r 4 dB min, 30 kHz LPF ON) 5 for size (r 14 Hz, emphasis on reference twei (r 4 dB min, 30 kHz LPF ON) Channel coding 5 l-liktz: emphasis on reference twei (r 4 dB min, 30 kHz LPF ON) 5 for size (r 14 Hz, emphasis on reference twei (r 4 dB min, 30 kHz LPF ON) Channel coding 6 likts size (at 1 kHz, between any two channels, 1 kHz BPF ON) 6 d inches x 1 Charenel coding 6 likts size (at 1 kHz	Analog composite recording playback						
SN 5.4 dB or more Differential gain 2.% or less Differential gain 2.% or less Microphysics 15 ns or less K factor (2T pulse) 1.5 % or less Output SCH phase Based upon RS-170A/ITU-R BT.624-3 Digital audio signal system 48 kHz (synchronized with video) Cuantization 16 bits/sample Headroom 2.0 dB (or 18 dB selectable) Emphasis T1=50 µS. T2=15 µS (on/16 selectable) Analog output 16 bits/sample Analog output 16 bits/sample Analog output 16 bits/sample Analog output 16 bits/sample Prequency response 20 Hz 10.2 MHz, on Selectable in recording mode) Analog output 0.05 % or less (at 1 kHz, emphasis on, reference level (+4 dBm), 30 kHz LPF ON) Dynamic range 8 dB or more (at 1 kHz, emphasis on, reference level (+4 dBm), 30 kHz LPF ON) Distortion 0.05 % or less (at 1 kHz, tetween any two channels, 1 kHz BFF ON) Othera - Channel coding - Error correction Read-Solomon code LUD Monitor - Display method - Size 6.4 inches x 2 Picture elements Adjustable by knob Size - <	Bandwidth (Y)	0 to 4.5 MHz+0.5	5 dB/-3.0 (525 mode), 0 to 5.5 MHz+0.5 dB / -3	3.0 dB (625 mode)			
Differential gain 2 % of less Differential phase 2 ° or less YC delay 15 ns or less K factor (27 pulse) 15 ns or less Output SCH phase Based upon RS-170A/TU-R BT624-3 Digital audio signal system 48 kHz (synchronized with video) Caunitzation 16 Bits Sample Headroom 20 dB (or 18 BS selectable) Emphasis T1=50 µs, T2=15 µs (on/off selectable in recording mode) Analog output 16 bits/sample // DD // quantization 10 bits/sample // Prequency response 20 Hz to 20 kHz + 05 dB/-10 dB (or dB at 1 kHz) // DD // quantization 10 bits/sample // Prequency response 20 Hz to 20 kHz + 05 dB/-10 dB (or dB at 1 kHz) // Dynamic range 0.05 % or less (at 1 kHz, emphasis on, not efference level (+4 dBm, 30 kHz LPF ON) Crosstak -80 dB or less (at 1 kHz, between any two channels, 1 kHz BPF ON) Others Channel coding Size 6.4 inches x 2 // DR or correction Ad0 x 48 0 x 3 pixels Luminance/brightness Ad0 x 48 0 x 3 pixels Luminance/brightness X 2, monaural // Size Ad1 inches x 2 // Deparation manual x 1 Operation manual x 1 // Signal with MC pups 1 (in SS 0 correction) Carrying betl x 1<	S/N		53 dB or more				
Differing prace 2 of less ViC delay 15 ns or less K factor (2T pulse) 1.5 % or less Output SCH phase Based upon RS-T00A/TU-R BT 624-3 Digital audio signal system 3 Sampling frequency 48 kHz (synchronized with video) Quantization 16 bits/sample Headroom 20 dB (or 18 dB selectable) Emphasis T1=50 µs, T2=15 µs (on/off selectable) in recording mode) Analog output 16 bits/sample Ang DA quantization 16 bits/sample Prequency response 20 Hz n 20 dB / n 20 dB / n 20 dB / n 20 Hz n	Differential phase		2 % of less				
A Factor (2T pulse) 1.5 % or liess K Factor (2T pulse) 1.5 % or liess Output SCH phase Based upon RS-170A/TU-R BT.6424-3 Digital audio signal system 48 kHz (synchronized with video) Sampling frequency 48 kHz (synchronized with video) Quantization 16 bit/skample Headroom 20 dB (or 18 dB selectable) Emphasis T1=50 µs, T2=15 µs (on/off selectable in recording mode) Analog output 16 bit/skample AvD, D/A quantization 16 bit/skample Frequency response 20 Hz to 20 kHz to 50 GHz 10 dB (or 18 Hz) Dynamic range 88 dB or more (at 1 kHz, emphasis on, 30 kHz LPF ON) Crosstalk -0 bits (at 1 kHz, tetween any two channels, 1 kHz BPF ON) Crosstalk -30 dB or less (at 1 kHz, between any two channels, 1 kHz BPF ON) Channel coding S-I-NRZI PR-IV Error correction Read-Solomon code LCD Monitor 6.4 inches x 1 Display method 6.4 inches x 2 Size 6.4 inches x 2 Picture elements 6.4 inches x 2 Lominance/brightness X 2, monaural Speaker X 2, monaural X 1, monaural	Y/C delay		15 ns or less				
Output SCH phase Based upon RS-170A/ITU-R BT.624-3 Digital audio signal system 3ampling frequency 48 kHz (synchronized with video) Quantization 16 bits/sample 16 bits/sample Headroom 20 dB (or 18 dB selectable) 5 Emphasis T1=50 µs, T2=15 µs (on loff selectable in recording mode) Analog output Analog output 16 bits/sample 19 AD, DA quanitzation 16 bits/sample 19 Prequency response 20 Hz to 20 kHz + 05 dB/1-0 dB (0 dB at 1 kHz) 19 Dynamic range 88 dB or more (at 1 kHz, emphasis on, reference level (+4 dBm), 30 kHz LPF ON) 005 % or less (at 1 kHz, emphasis on, reference level (+4 dBm), 30 kHz LPF ON) Others	K factor (2T pulse)		1.5 % or less				
Digital audio signal system Sampling frequency 48 kHz (synchronized with video) Ouanitzation 16 bits/sample Headroom 20 dB (or 18 dB selectable) Emphasis T1=50 µs, T2=15 µs (onloff selectable in recording mode) Analog output 16 bits/sample Avid point 16 bits/sample Frequency response 20 Hz to 20 kHz +0.5 dB/-1.0 dB (ol dB at 1 kHz) Dynamic range 88 dB or more (at 1 kHz, emphasis on, reference level (+4 dBM), 30 kHz LPF ON) Distortion 0.05 % or 16 sej (at 1 kHz, emphasis on, reference level (+4 dBM), 30 kHz LPF ON) Crosstalk -80 dB or less (at 1 kHz, emphasis on, reference level (+4 dBM), 30 kHz LPF ON) Crosstalk -80 dB or less (at 1 kHz, emphasis on, reference level (+4 dBM), 30 kHz LPF ON) Crosstalk -80 dB or less (at 1 kHz, emphasis on, reference level (+4 dBM), 30 kHz LPF ON) Crosstalk -80 dB or less (at 1 kHz, emphasis on, reference level (+4 dBM), 30 kHz LPF ON) Others - Channel coding S1-NRZ1 PR-IV Error correction Active matrix transmission Display method - LOD Monitor - Bible relements -	Output SCH phase		Based upon RS-170A/ITU-R BT.624-3				
Sampling frequency. 48 kH2 (synchronized with video) Ouantization 16 bits/sample Headroom 20 dB (or 18 dB selectable) Emphasis T1=50 µs, T2=15 µs (or/off selectable in recording mode) Analog output 16 bits/sample A/D, D/A quantization 10 bits/sample Frequency response 20 Hz to 20 kHz +0.5 dB/-1.0 dB (0 dB at 1 kHz) Dynamic range 88 dB or more (at 1 kHz, emphasis on, 30 kHz LPF ON) Distorion 0.05 % or less (at 1 kHz, between any two channels, 1 kHz BPF ON) Others	Digital audio signal system						
Quantization 16 bits/sample Headroom 20 dB (or 18 dB selectable) Emphasis T1=50 µs, T2=15 µs (on/off selectable in reording mode) Analog output	Sampling frequency		48 kHz (synchronized with video)				
Headroom 20 dB (or 18 dB selectable) Emphasis T1=50 µs, T2=15 µs (on/off selectable in recording mode) Analog output 16 bits/sample AD, D/A quantization 16 bits/sample Frequency response 20 Hz to 20 kHz + 0.5 dB/-1.0 dB (or dB at 1 kHz) Dynamic range 88 dB or more (a1 1 kHz, emphasis on, 30 kHz LPF ON) Crosstalk 0.05 % or less (at 1 kHz, between any two channels, 1 kHz BPF ON) Crosstalk .80 dB or less (at 1 kHz, between any two channels, 1 kHz BPF ON) Channel coding S-I-NRZI PR-/V Error correction Read-Solomon code LCD Monitor 0.05 % or less (at 1 kHz, entymeen any two channels, 1 kHz BPF ON) Size 6.4 inches x 2 Size 6.4 inches x 2 Picture elements 640 x 480 x 3 pixels Luminance/brightness x 2, monaural Spaker x 2, monaural Built-in speakers x 2, monaural Ch 1,Ch 2 (indication of Ch 3,4 is also available by switch) Supplied accessories Supplied accessories 9-pin remote control cable x 1 9-pin remote control cable k x 1 Operation manual x 1 Operation manual x 1 Carrying belt x 1 Operation ma	Quantization		16 bits/sample				
Emphasis 11=50 µS, 12=15 µS (0n/01 selectable in recording mode) Analog output 16 bits/sample AND, D/A quantization 16 bits/sample Frequency response 20 Hz to 20 kHz +0.5 dB/-1.0 dB (0 dB at 1 kHz) Dynamic range 88 dB or more (at 1 kHz, emphasis on, reference level (+4 dBm), 30 kHz LPF ON) Distortion 0.05 % or less (at 1 kHz, emphasis on, reference level (+4 dBm), 30 kHz LPF ON) Cosstalk -80 dB or less (at 1 kHz, between any two channels, 1 kHz BPF ON) Others -80 dB or less (at 1 kHz, between any two channels, 1 kHz BPF ON) Others -80 dB or less (at 1 kHz, between any two channels, 1 kHz BPF ON) Others -80 dB or less (at 1 kHz, between any two channels, 1 kHz BPF ON) Others	Headroom	TA 5	20 dB (or 18 dB selectable)				
AND. D/A quantization 16 bits/sample Frequency response 20 Hz to 20 Hz to 20 Hz to 20 B (0 dB at 1 kHz) Dynamic range 88 dB or more (at 1 kHz, emphasis on, 30 kHz LPF ON) Distortion 0.05 % or less (at 1 kHz, emphasis on, reference level (4+ dBm, 30 kHz LPF ON) Crosstalk -80 dB or less (at 1 kHz, emphasis on, reference level (4+ dBm, 30 kHz LPF ON) Chronel coding S-I-NRZI PR-IV Error correction Read-Solomon code LCD Monitor	Emphasis	11=5	υ μs, 12=15 μs (on/off selectable in recording	mode)			
Trequency ensponse 20 Hz to 20 kHz + 0.5 dB/-1.0 dB (0 dB at 1 kHz) Dynamic range 88 dB or more (at 1 kHz, emphasis on, 30 kHz LPF ON) Distortion 0.05 % or less (at 1 kHz, emphasis on, reference level (+4 dBm), 30 kHz LPF ON) Crosstalk -80 dB or less (at 1 kHz, between any two channels, 1 kHz BPF ON) Others -80 dB or less (at 1 kHz, between any two channels, 1 kHz BPF ON) Channel coding S-I-NRZI PR-IV Error correction Read-Solomon code LCD Monitor - Display method Active matrix transmission Size 6.4 inches x 2 Picture elements 640 x 480 x 3 pixels Luminance/brightness Adjustable by knob Speaker - Built-In speakers x 2, monaural Chanler, Servo Lock, Tape Remain, Battery Remain, etc. - Audio level meter - Ch 1, Ch 2 (indication of Ch 3,4 is also available by switch) - Supplied accessories 9-pin remote control cable x 1 Operation manual x 1 Operation manual x 1 Operation manual x 1 Maintenance manual (part 1) x 1			16 hits/sample				
Dynamic range 88 dB or more (at 1 kHz, emphasis on, 30 kHz LPF ON) Distortion 0.05 % or less (at 1 kHz, emphasis on, reference level (+4 dBm), 30 kHz LPF ON) Crosstalk -80 dB or less (at 1 kHz, emphasis on, reference level (+4 dBm), 30 kHz LPF ON) Others -80 dB or less (at 1 kHz, between any two channels, 1 kHz BPF ON) Channel coding S-I-NRZI PR-IV Error correction Read-Solomon code LCD Monitor Display method Display method Active matrix transmission Size 6.4 inches x 2 Picture elements 640 x 480 x 3 pixels Luminance/brightness Adjustable by knob Speaker x 1, monaural Built-in speakers x 2, monaural Chanle level meter Counter, Servo Lock, Tape Remain, Battery Remain, etc. Audio level meter Ch 1,Ch 2 (indication of Ch 3,4 is also available by switch) Supplied accessories 9-pin remote control cable x 1 Operation manual x 1 Operation manual x 1	Frequency response		20 Hz to 20 kHz +0.5 dB/-1.0 dB (0 dB at 1 kH	Z)			
Distortion 0.05 % or less (at 1 kHz, emphasis on, reference level (+4 dBm), 30 kHz LPF ON) Crosstalk -80 dB or less (at 1 kHz, between any two channels, 1 kHz BPF ON) Others -80 dB or less (at 1 kHz, between any two channels, 1 kHz BPF ON) Channel coding S-I-NRZI PR-IV Error correction Read-Solomon code LCD Monitor	Dynamic range	88 c	B or more (at 1 kHz, emphasis on, 30 kHz LPI	F ON)			
Crosstalk -80 dB or less (at 1 kHz, between any two channels, 1 kHz BPF ON) Others S-I-NRZI PR-IV Channel coding S-I-NRZI PR-IV Error correction Read-Solomon code LCD Monitor Read-Solomon code Display method Active matrix transmission Size 6.4 inches x 2 Picture elements 640 x 480 x 3 pixels Luminance/brightness Adjustable by knob Speaker Adjustable by knob Speaker X 1, monaural Display x 1, monaural Display X 2, monaural x 1, monaural Display Counter, Servo Lock, Tape Remain, Battery Remain, etc. Audio level meter Supplied accessories 9-pin remote control cable x 1 Operation manual x 1 T5 Ω coaxial cable with BNC plug x 1 (fo SD connection) Shoulder belt x 1 Operation manual x 1 Maintenance manual (part 1) x 1	Distortion	0.05 % or less (a	t 1 kHz, emphasis on, reference level (+4 dBm	i), 30 kHz LPF ON)			
Others Channel coding S-I-NRZI PR-IV Error correction Read-Solomon code LCD Monitor Intervention Display method Active matrix transmission Size 6.4 inches x 2 Picture elements 640 x 480 x 3 pixels Luminance/brightness Adjustable by knob Speaker Adjustable by knob Built-in speakers x 1, monaural Display x 1, monaural Display Counter, Servo Lock, Tape Remain, Battery Remain, etc. Audio level meter Ch 1, Ch 2 (indication of Ch 3, 4 is also available by switch) Supplied accessories Operation manual x 1 Operation manual x 1 Operation manual x 1 Operation manual x 1 Maintenance manual (part 1) x 1	Crosstalk	-80 dB or	less (at 1 kHz, between any two channels, 1 kl	Hz BPF ON)			
Channel coding S-I-NR2/I PR-IV Error correction Read-Solomon code LCD Monitor Display method Display method Active matrix transmission Size 6.4 inches x 2 Picture elements 640 x 480 x 3 pixels Luminance/brightness 640 x 480 x 3 pixels Built-in speakers Adjustable by knob Speaker Adjustable by knob Built-in speakers x 1, monaural Display Counter, Servo Lock, Tape Remain, Battery Remain, etc. Audio level meter Ch 1, Ch 2 (Indication of Ch 3, 4 is also available by switch) Supplied accessories 9-pin remote control cable x 1 Operation manual x 1 Operation manual x 1 Operation manual x 1 Operation manual x 1 Maintenance manual (part 1) x 1	Others						
Error correction Read-Solomon code LCD Monitor Active matrix transmission Display method Active matrix transmission Size 6.4 inches x 2 Picture elements 640 x 480 x 3 pixels Luminance/brightness Adjustable by knob Speaker Adjustable by knob Speakers x 1, monaural Display x 1, monaural Display Counter, Servo Lock, Tape Remain, Battery Remain, etc. Audio level meter Counter, Servo Lock, Tape Remain, Battery Remain, etc. Supplied accessories 9-pin remote control cable x 1 75 Ω coaxial cable with BNC plug x1 (for SDI connection) Shoulder belt x 1 Operation manual x 1 Maintenance manual (part 1) x 1	Channel coding	S-I-NRZI PR-IV					
Display method Active matrix transmission Size 6.4 inches x 2 Picture elements 640 x 480 x 3 pixels Luminance/brightness Adjustable by knob Speaker State of the		Read-Solomon code					
Size 6.4 inches x 2 6.4 inches x 1 Picture elements 640 x 480 x 3 pixels Luminance/brightness Adjustable by knob Speaker X 1, monaural Built-In speakers x 2, monaural Display X 1, monaural Counter, Servo Lock, Tape Remain, Battery Remain, etc. Audio level meter Supplied accessories 9-pin remote control cable x 1 75 Ω coaxial cable with BNC plug x1 (for SDI connection) Shoulder bett x 1 Operation manual x 1 Coin screws x 12	Display method	Active matrix transmission					
Picture elements 640 x 480 x 3 pixels Luminance/brightness Adjustable by knob Speaker X 2, monaural x 1, monaural Built-in speakers x 2, monaural x 1, monaural Display Counter, Servo Lock, Tape Remain, Battery Remain, etc. Audio level meter Ch 1, Ch 2 (indication of Ch 3,4 is also available by switch) Supplied accessories 9-pin remote control cable x 1 75 Ω coaxial cable with BNC plug x1 (for SDI connection Shoulder bett x 1 Operation manual x 1 Coin screws x 12 Carrying belt x 1 Operation manual x 1 Maintenance manual (part 1) x 1	Size						
Luminance/brightness Adjustable by knob Speaker x 2, monaural x 1, monaural Built-in speakers x 2, monaural x 1, monaural Display Counter, Servo Lock, Tape Remain, Battery Remain, etc. Audio level meter Ch 1, Ch 2 (Indication of Ch 3,4 is also available by switch) Supplied accessories 9-pin remote control cable x 1 75 Ω coaxial cable with BNC plug x1 (for SDI connection) Shoulder belt x 1 Operation manual x 1 Coin screws x 12 Carrying belt x 1 Operation manual x 1 Maintenance manual (part 1) x 1	Picture elements	640 x 480 x 3 pixels					
Speaker x 2, monaural x 1, monaural Display Counter, Servo Lock, Tape Remain, Battery Remain, etc. Audio level meter Ch 1, Ch 2 (Indication of Ch 3,4 is also available by switch) Supplied accessories 9-pin remote control cable x 1 75 Ω coaxial cable with BNC plug x1 (for SDI connection) Shoulder bett x 1 Operation manual x 1 Coin screws x 12 Carrying belt x 1 Operation manual x 1 Maintenance manual (part 1) x 1	Luminance/brightness	Adjustable by knob					
Built-in speakers x 1, monaural Display Display Counter, Servo Lock, Tape Remain, Battery Remain, etc. Audio level meter Ch 1, Ch 2 (Indication of Ch 3,4 is also available by switch) Supplied accessories 9-pin remote control cable x 1 75 \Omega coaxial cable with BNC plug x1 (for SDI connection) Shoulder bett x 1 Operation manual x 1 Maintenance manual (part 1) x 1	Speaker	•					
Display Counter, Servo Lock, Tape Remain, Battery Remain, etc. Audio level meter Ch 1, Ch 2 (Indication of Ch 3,4 is also available by switch) Supplied accessories 9-pin remote control cable x 1 75 Ω coaxial cable with BNC plug x 1 (for SDI connection) Shoulder belt x 1 Operation manual x 1 Coin screws x 12 Carrying belt x 1 Operation manual x 1 Maintenance manual (part 1) x 1	Built-in speakers	x 2, m	ionaural	x 1, monaural			
Audio level meter Counter, Servo Lock, Tape Remain, Battery Remain, etc. Audio level meter Ch 1, Ch 2 (indication of Ch 3,4 is also available by switch) Supplied accessories 9-pin remote control cable x 1 75 Ω coaxial cable with BNC plug x 1 (for SDI connection) Shoulder belt x 1 Operation manual x 1 Colin screws x 12 Carrying belt x 1 Operation manual x 1 Maintenance manual (part 1) x 1	Display						
Addition level integer Ch 1, Ch 2 (indication of Ch 3,4 is also available by switch) Supplied accessories 9-pin remote control cable x 1 75 Ω coaxial cable with BNC plug x 1 (for SDI connection) Shoulder belt x 1 Operation manual x 1 Colin screws x 12 Carrying belt x 1 Operation manual x 1 Maintenance manual (part 1) x 1	Audio lovol motor	Counter, Servo Lock, Tape Remain, Battery Remain, etc.					
Supplied accessories 9-pin remote control cable x 1 75 Ω coaxial cable with BNC plug x 1 (for SDI connection) Shoulder belt x 1 Operation manual x 1 Colin screws x 12 Carrying belt x 1 Operation manual x 1 Maintenance manual (part 1) x 1		Ch 1 Ch 2 (indication of Ch 3.4 is also available by switch)					
9-pin remote control cable x 1 Carrying belt x 1 75 Ω coaxial cable with BNC plug x 1 (for SDI connection) Operation manual x 1 Operation manual x 1 Maintenance manual (part 1) x 1	Supplied accessories	Ch 1, Ch 2 (indication of Ch 3,4 is also available by Switch)					
			9-pin remote control cable x 1 75 Ω coaxial cable with BNC plug x 1 (for SDI connection) Shoulder belt x 1 Operation manual x 1 Coin screws x 12	Carrying belt x 1 Operation manual x 1 Maintenance manual (part 1) x 1			



© 1999 Sony Corporation. All rights reserved. Reproduction in whole or in part without the written permission of Sony is prohibited. Features and specifications subject to change without notice. All non-metric weights and measures are approximate. Ethernet is a trademark of Xerox Corporation. Sony, Betacam, Betacam SP, Betacam SX, Digital BETACAM, DVCAM, U-matic, Flexicart, TruEye, Dynalatitude and Dynamic Tracking are trademarks of Sony Corporation. All other trademarks are the property of their respective owners.

Distributed by