Are you experiencing the following problems with DVD authoring?

Do your MPEG specialists spend so much time optimizing picture quality that they can’t handle your customer growth?

Are you concerned about staffing an authoring suite with specialists who already have expert knowledge of the DVD format?

Have you authored titles that have come back from the pressing plant unable to be replicated due to errors which were created in the pre-mastering process?

If you are just getting into DVD authoring, are you concerned about learning the DVD video specification and navigation functions?

Sony has designed the DVA-1100 System to solve these problems for you.
The DVA-1100 system is flexible and scaleable so that it can be configured as a basic system using one WindowsNT®PC (Single PC system) and can be expanded to a networked, server-based multi-station system (Multi PC system). In the Multi PC system, simultaneous operation is available between several PCs with no need to wait for data transmission. It is easy to configure a system just the way you want.

**System Configuration**

**Single PC system**

**Multi PC system**
It all starts with the SUPERVISOR

The DVA-1100 SUPERVISOR application manages the entire authoring process. It allows you to provide all of the parameters for video encoding, audio encoding, subtitle encoding and menu authoring. The application guides the operator through each step of data input. Entries are verified throughout the process to minimize potential errors in title creation. The applications used in the DVA-1100 system are designed to run on the WindowsNT operating system. The intuitive GUI utilizes familiar, drag-and-drop, radio buttons and drop down menu to simplify data input. These user friendly tools make the system easy and quick to learn.

Project Index Window

In the Main Title Project window you can select the basic information about the project that you are making.

Common Information Area

Information relating to Video (TV system, aspect ratio and display mode), Audio (number/type of streams and language), Sub Picture, Closed Caption, Angle and Menu for the completed DVD disc are determined.
Title Registration Window

Data about video sources, audio sources, sub picture sources, chapter start points and angle is entered. Most information are made from drop down list. Based on the selections made in the project index window, only relevant data entry fields are displayed.

Menu Background Window

Menu Type Area

Menus can be designed having "Picture Only", "Picture+Audio" and "No Page." (available through option software)

Video Area

Information about the video for menu background.

Audio Area

Menu pages Area
High quality video encoding in a snap using our video encoder

One of the features that characterize the DVA-1100 system is the superb picture quality achieved with Sony-developed MPEG chip sets using our own sophisticated encoding algorithms. Enhanced controls enable customization and fine tuning to provide the highest quality MPEG-2 video. The DVA-1100 system also has a file export function that allows video elements to be exported to other authoring systems.

Information Window

**Information Area**
The data is displayed to confirm that the data entered into the SUPERVISOR is correct.

**Setting Area**
User can select the encoding method from 2-pass variable bit rate encoding or 1-pass constant bit rate encoding.

Main Window

**Global Area**
Monitors the encoding operation flow through Pre-encode, Bit assignment, Encode, Customization and Encoding. The bars under the flow shows the progress of the encoding by color.

**Encode Unit Information Area**
This area displays the information about the encode unit, which is being processed.
Customize Window

In this window, it is possible to further fine-tune the encoding while checking the image quality. Manipulation of bit assignment, filtering, GOP structure, etc. are facilitated by this graphic user interface.

This highlights how the re-assignment of bits has taken place as a result of customization. Please note that the re-assignment of bits has taken place by selecting an area to improve and taking bits from other parts of the program automatically.

Scene Change

The encoding process detects some changes automatically. This window indicates where all of the scene changes take place.

Pull Down

The encoding process automatically detects the 3:2 pull down sequence and remove redundant fields. This window shows specialized GOP structures required by the 3:2 pull down sequence.
Creation of menus made easy by just following window instruction

"Menu Authoring" navigation commands and button pixel images through simple drag-and-drop operation.

Menu Editor Window

Menu Page Encoder Window

There are many functions in the Menu Page Encoder including providing the basic button layout, assigning the button pictures, changing the colors of the buttons, and assigning links to the buttons.
In this menu, the user is able to select the source data from the "TIFF file" list and create button pixel image. Created pixel images can be registered into the library.

**Encode Source Area**
For selecting the TIFF file to use for the button pixel image.

**Button Coordination Area**
For adjusting the location of the button pixel image.

**Library Area**
For providing all the information related to the color, location, link, highlight and auto action based on previously designed menus.

**Color Editor Window**

**Button Color Editor Area**
Button color and contrast can be set in this area.

**Highlight Color Editor Area**
Selection highlight color and action highlight color can be set in this area.

**Color Area**
Allows fine tuning of colors used for button pixel images.

**Button AJBTN Menu Window**
For adjusting the button selection caused by cursor movement from button to button.
The DVA-1100 System is designed to control a DOLBY ® AC-3® encoder or a PHILIPS® MPEG Audio encoder. The DVA-A1100 audio interface also provides on board LPCM encoding and decoding.

Subtitles and menus can be encoded and monitored on the PC display and on the video monitor in real time to view how the subtitles and menus will look on the final disc. Positioning of menu and subtitle elements can be done on the fly using Sony's unique board set.

Multiplexer

Multiplexer is one of the most important steps in the DVD process. The Sony program multiplexes the video, audio, sub-picture elements, and generates all of the binary data that result in a DVD stream. Just start the multiplexer and all required operation are handled automatically by the system. The syntax of the DVD data stream is verified throughout each step of the operation. Multiplexing, syntax verification, file structure creation and sectorization all occur in one pass. Depending on the power of the work station all of this processing takes place in real-time or less.
**Emulator**

The Emulator is an enhanced DVD player, designed to read formatted DVD data from a SCSI HDD through a dedicated interface, allowing for complete emulation of disc playability and navigation using a standard remote control, without requiring a disc to be pressed.

**Streamer**

The final data stream created by the DVA-1100 System can be output to either AIT or DLT tape for use as the cutting master by a disc mastering/replication facility.
### Specification

#### Functional Specification

**Video Encoding**
- MPEG2 MP@ML
- Variable bit rate (default: 2 PASS)
- Constant bit rate (default: 1 PASS)
- Up to 99 titles with 99 chapters
- 525/625 standards supported
- 720 x 480 (525), 720 x 576 (625)
- 4:3, 16:9, Letter box picture formats
- Encode customization
- Automatic scene change detection
- Monitor out
- Closed caption support (Line 21 data)
- Multi-reel encoding (allows re-encoding on a per-reel basis)
- Specify any video frame as chapter start/stop point
- Reverse 3:2 pull down encoding
- Preview and review function
- SDI/analog (composite/component) inputs
- Built-in filter (low pass)
- Multi-angle encoding (up to 9 angles)
- Encoding for menu backgrounds
- ACC UOP control

**Subtitle Encoding**
- 32 subtitle streams supported
- Input Sources: TIFF files, character generator, “Super” Reel
- Video input for character generator, “Super” Reel
- Background video input (Real-Time Superimpose, Monitoring are available)
- Color editor
- Automatic formatting of subtitles for Letter Box display

**Audio Encoding**
- AC-3 Audio (2 ch/5.1 ch)
- MPEG Audio (2 ch/5.1 ch/7.1 ch)
- LPCM 16 bits at 48 kHz
- DTS audio
- Multi-Source Encoding
- AES/EBU Inputs
- 8 Audio Streams supported

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**Other Specifications**

**DVA-V1100 / DVD Video Encoder Unit**

**General**
- Power requirement: AC 100V to 240V, 50/60 Hz
- Current consumption: 2 to 1 A
- Dimensions (Approx.): 475 (W) x 475 (D) x 147 (H) mm
  - (19 x 18 3/4 x 5 7/8 inches)
- Mass (Approx.): 14.5 kg (33 lb 1 oz)

**<Encoder Board>**

**Inputs/outputs**
- Video in
- Time Code in/out
- SMPTE/EBU

**<Decoder Board>**

**Inputs/outputs**
- Video in/out
- SDI

**DVA-M1100 / DVD Audio Encoder Unit**

**Inputs/outputs**
- Audio: Analog/Digital Output
- Video Output: Composite/Component/S-Video

**General**
- Power requirement: AC 100/120/220-240 V, 50/60 Hz
- Power consumption: Less than 28 W
- Dimensions (Approx.): 142 (W) x 352 (D) x 23 (H) mm
  - (5 5/8 x 13 7/8 x 13/16 inches)
- Mass (Approx.): 0.3 kg (10.6 oz)

**DVA-MC1100 / DVD Emulator Control Unit**

**Inputs/outputs**
- SCSI: 50-pin high-density

**General**
- Power requirement: AC 100 V to 240 V, 50/60 Hz
- Power consumption: Less than 5 W
- Dimensions (Approx.): 225 (W) x 308 (D) x 52 (H) mm
  - (8 7/8 x 12 1/3 x 2 1/8 inches)
- Mass (Approx.): 3.5 kg (7 lb 11 oz)

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**DVA-A1100 / DVD Audio Encoder Interface Board**

**LPCM Audio**
- Sampling frequency: 48 kHz
- Bit length: 16, 20, 24 bit

**Digital Audio**
- Bit rate: AES/EBU (XLR x 2)
- Bit rate: Out AES/EBU (XLR x 2)
- Timecode: In/Out (XLR)
- Board Connector: 25-pin

**General**

**PCI Specification**
- Power consumption: 5 W
- Dimensions (approx.): 142 (W) x 352 (D) x 23 (H) mm
  - (5 5/8 x 13 7/8 x 13/32 inches)
- Mass (approx.): 0.25 kg (8.8 oz)

**DVA-R1100 / DVD Authoring 9Pin Interface Board**

**Inputs/outputs**
- Remote: RS-422 (9-pin remote cable attached)

**General**

**PCI Specification**
- Power consumption: 3.5 W
- Dimensions (approx.): 142 (W) x 352 (D) x 23 (H) mm
  - (5 5/8 x 13 7/8 x 13/32 inches)
- Mass (approx.): 0.3 kg (10.6 oz)

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**Minimum Requirements for PC**

**CPU**
- Pentium II 350MHz or greater

**Memory**
- 64~128 MB

**HDD**
- 4~8 GB

**OS**
- Windows NT Workstation Ver. 4.0 (Service Pack 3)
  - ISA Bus Slot (Vacant): 1~3
  - PCI Bus Slot (Vacant): 1~3

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**Software**

**DZA-1100**
- DVD Authoring Basic Software

**DZA-1110**
- DVD Authoring Software Add-On (1)

**DZA-1120**
- DVD Authoring Software Add-On (2)

**DVA-V1100N**
- DVD Video Encoding S/W for Network

**DVA-P1100N**
- DVD SubPicture Encoding S/W for Network

**DVA-U1100N**
- DVD Menu Authoring S/W for Network

**DZA-S1100N**
- DVD Supervisor/MUX S/W for Network

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