

# Functions and Features: Sony NSP-100 and BZNP-100

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## Scope

This document describes functions and features of Sony Network Player NSP-100 and system software BZNP-100 based on version 3.00. Latest revision of this document is available at [www.sony.com/nsp100](http://www.sony.com/nsp100). Please contact "The Product Operations Support Center (POSC)" at (800) 883-6817 about product related questions.

### 1. What is NSP-100?

- NSP-100 is a video, graphics and text content player
- NSP-100 receives content via Ethernet network and stores it in an internal hard disk drive
- NSP-100 is a reliable and compact network appliance

### 2. What is BZNP-100?

- BZNP-100 is a system software for NSP-100 that runs on a PC
- BZNP-100 does all the process from ingesting to distributing content
- One copy of BZNP-100 can manage up to 100 units of NSP-100

### 3. Products and Options

- Product and description

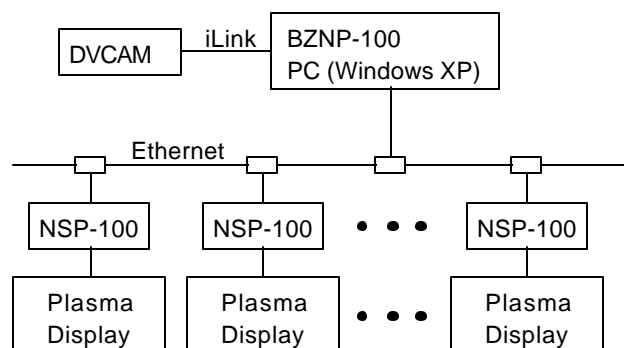
Product	Description
NSP-100	Sony Network Player
BZNP-100	Sony system software
BZNP-100LE	Sony system software light edition that comes with NSP-100
BZNP-100PLUS	Package product of Sony BZNP-100 and Canopus ProCoder software* <sup>1</sup>
RKNSP-100	Rack mount kit for one or two units of NSP-100

- Differences between BZNP-100 and BZNP-100LE

Main differences	BZNP-100LE	BZNP-100
Number of units of NSP-100 that can be managed	1	100
Scheduled play back	No	Yes
Video signal capture from iLink interface	No	Yes

### 4. System configuration

- System configuration varies depending on a scale of the system. Here is a typical configuration of small scale of deployment.



<sup>1</sup> ProCoder is software that can encode almost any type of video file into MPEG file that is compatible with NSP-100

## 5. Functions and features of NSP-100

### 5.1 NSP-100 plays video, graphics and text content

- Type of content
  - Video and Audio: DVD quality MPEG2 video and audio
    - Closed caption on line 21 is supported
  - Graphics: full color and 720 x 480 resolutions still graphics
  - Text information: One line of text information with effect such as blink, scroll-through or scroll-in
    - It is good to show news, stock or traffic information
- Playlist
  - Video and graphics can be played seamlessly in the order described in a playlist
  - There is no glitch between video clips because of two MPEG decoders
  - You can specify the duration of a graphic
- Scheduled playback
  - NSP-100 can play back a playlist automatically at the scheduled date and time
  - An external automation controller is NOT required for scheduled play back
- Loop playback
  - NSP-100 can do loop playback seamlessly
  - Combination of "scheduled playback" and "loop playback" makes typical scheduling easy
    - 9AM - 12AM: Repeat playing back 10 minutes of "Program-Morning"
    - 12AM - 3PM: Repeat playing back 15 minutes of "Program-Noon"
    - 3PM - 6PM: Repeat playing back 12 minutes of "Program-Afternoon"
- Three layers of content
  - Video, background graphic and text content (or foreground graphic) can be overlaid
    - A) Scrolling text over video
    - B) Blinking text over graphic
    - C) Company logo on video
    - D) Shrunk video and scrolling text on a background graphic
- Default playlist and graphic
  - One playlist can be assigned to be played back automatically after turning on the unit
  - One graphic can be assigned to be displayed while the unit is idle
- As-run log
  - NSP-100 stores results of playback as "As-run log"

### 5.2 NSP-100 receives content via Ethernet network and stores it in an internal hard disk drive

- Receive content via Ethernet network
  - ftp protocol to receive content
  - BZNP-100 software can push data to NSP-100
    - BZNP-100 has full control of NSP-100
  - NSP-100 can pull data from ftp server
    - Efficient content distribution with multiple ftp servers
    - Solution to go over a firewall
  - Throughput
    - 20 Mbps when NSP-100 is idle
      - 10 minutes of video program encoded at 4Mbps can be received in 2 minutes
    - 10 Mbps while playing back content

- HDD
  - 40GB hard disk drive can store data of 18 hours of video and 500 frames of graphic
- NSP-100 is "store and forward" device, Not a streaming device
  - Because
    - "store and forward" does not occupy bandwidth always, and can utilize bandwidth at off peak time
    - "store and forward" enables better picture quality than streaming
    - "store and forward" is independent from network once content is received
  - NSP-100 can receive a new content while playing back content
  - NSP-100 can play back content that is being received

### 5.3 NSP-100 is a reliable and compact network appliance

- Not a PC
  - NSP-100 boots up in 10 seconds, and can be turned off anytime.
  - Virus free
  - No fragmentation of a hard disk drive
- Network functions
  - Supported protocol: ftp, telnet, NTP, SNMP, httpd and DHCP
  - NSP-100 firmware can be upgraded through network
  - Internal clock of NSP-100 can be synchronized with a master clock in a network with NTP
  - NSP-100 can be an NTP server in case there is no master clock in a network
  - httpd is supported to set up NSP-100 with a web browser
  - SNMP for maintenance

### 5.4 Flexible external device control

- 9 pin connector can be utilized as RS232C to control an external device
  - Example of an external device control: Turn on/off plasma display, Play/Record VTR
  - Controls can be described in a playlist
  - Controls can be scheduled independent from a playlist
  - NSP-100 can tunnel a command from telnet to RS232C
    - An application on a PC can send a command to NSP-100 via TCP/IP network, and then NSP-100 issue the command to an external device via RS232C
- 9 pin connector can be utilized as GPI to control external devices
  - Four GPI output pins
  - Controls can be described in a playlist

### 5.5 Flexible NSP-100 controls

- Infrared remote controller that comes with NSP-100
- 9 pin connector can be utilized as RS232C to control NSP-100
  - Crestron controller is available for NSP-100
- 9 pin connector can be utilized as GPI to control NSP-100
  - Four GPI input pins : up to 15 functions by multiplexing inputs
  - It is possible to synchronize play back of multiple units of NSP-100 for video wall
- Telnet via Ethernet
  - Same commands for RS232C to control NSP-100 can be utilized for telnet
  - IR remote controller emulator is available

## 6. Functions and features of BZNP-100

### 6.1 BZNP-100 is system software for NSP-100 that runs on a PC

- Producing content is out of scope of BZNP-100
- Required configuration and integration are described in a separate document

### 6.2 BZNP-100 does all the process from ingesting to distributing content

- Capturing video
  - BZNP-100 can capture DVCAM or DV signal as AVI file via iLink (IEEE1394) interface
  - BZNP-100 can control DVCAM VCR to ingest a specific segment with IN/OUT point
- Ingesting content
  - Specific video file (AVI\*<sup>2</sup> or MPEG) and graphic file (BMP or JPEG) can be ingested
  - The AVI file is encoded to MPEG file upon ingesting
  - Utilizing 3rd vendors' software\*<sup>3</sup>, almost all types of video file including Flash can be ingested
  - MPEG file encoded by specific hardware encoder\*<sup>4</sup> can be ingested
- Managing content
  - BZNP-100 can manage content both in the PC and in NSP-100s
  - You can set "auto delete date" to each content
- Creating a playlist
  - Simple "drag and drop" user interface allows you to create a playlist easily
  - A playlist can be set either one time playback or loop playback
- Scheduling playback
  - You can set date and time to be played automatically to each playlist
- Managing NSP-100s
  - You can register up to 100 units of NSP-100, and create groups consists of several NSP-100s
- Distributing content
  - Content is distributed based on a group
  - Content can be distributed to each NSP-100 by schedule or by manual operation.
- Urgent play function
  - "Urgent Play" function plays back specified content right away overriding current play back
  - Especially text content is effective to show up-to-date information such as weather forecast or traffic information because it can be updated almost at real time
- Monitoring NSP-100s
  - BZNP-100 can monitor each NSP-100 status and content distribution
  - BZNP-100 can retrieve both as-run log and error log from each NSP-100

### 6.3 One copy of BZNP-100 can manage up to 100 units of NSP-100

- In case of a system that consists of over 100 units of NSP-100
  - A) Multiple BZNP-100s and PCs
  - B) ftp pull function with ftp servers
  - C) Digital Content Distribution System (DCDS) developed by Sony Electronics Inc.

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<sup>2</sup> DV compression, 1 frame audio interleave

<sup>3</sup> Canopus ProCoder or Discrete CleanerXL

<sup>4</sup> Canopus MPEG-PRO MVR, Optibase