



Digital Multimedia Adapter DS-1000

DS-1000 is a digital multimedia adapter and it allows linking your TV, LCD panel and projector and you can access movies, images and music from the living room or show room. Connect DS-1000 to your network or computer and it could download media content such as video, audio, graphics, and text via an IP network or a computer. All the media content are stored on internal hard drive of DS-1000. DS-1000 also streams your digital content to your home TV or office LCD monitor from your media center PC on the IP network. It outputs both digital and analog video signals from standard definition or high definition display devices like TV, LCD panel and projector.

Features

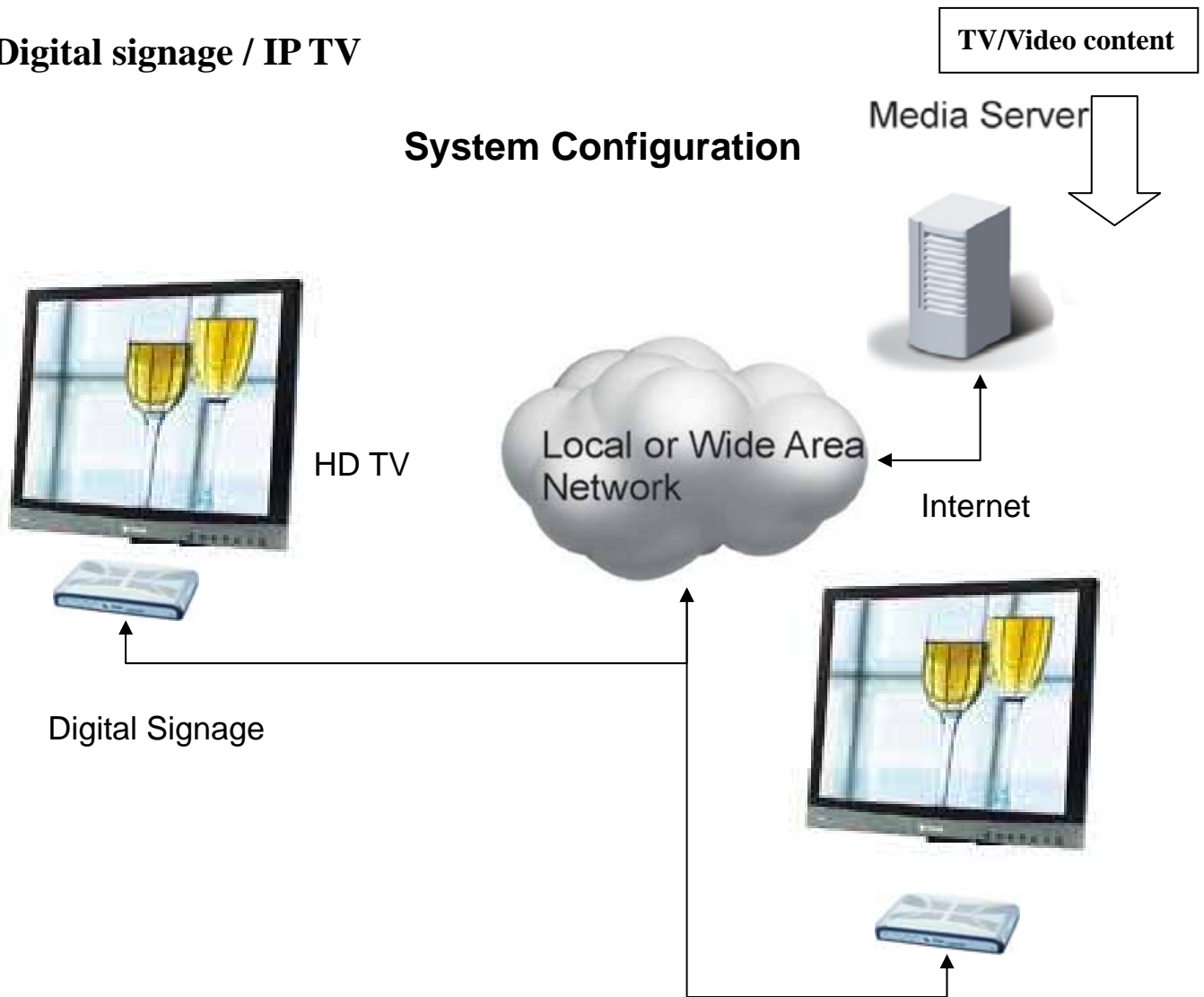
- ✓ **Linking up your PC, TV, stereo, digital camera and much more...**
- ✓ **The digital and analog video outputs can each support output formats up to 1920*1080 resolution.**
 - MPEG-2 decoding up to 1920*1080p25, 1920*1080i30 or 1280*720p60 resolution**
 - MPEG-4.2 decoding up to 1280*720p30 resolution**
 - H.264 decoding up to 1920*1080p25, 1920*1080i30 or 1280*720p60 resolution**
- ✓ **HDMI, D-sub(15 pin VGA) and Composite video outputs, component is optional.**
- ✓ **Multi zones display with video and text.**
- ✓ **Data is accessed via USB or Ethernet.**
- ✓ **Update content and schedule over network without interrupting playback.**
- ✓ **Mass storage class devices using USB hard drives, USB memory sticks and card readers.**
- ✓ **A Wifi card is optional to add 802.11 wireless networking capability.**
- ✓ **Fanless design with built-in heat dispersion.**

Specification

Processor	CPU	SMP8635 MIPS 300MHz
Memory	NOR flash	16MB
	SDRAM	128MB DDR-1 400 (32MB*4)
Ethernet	Interface	10/100 Base-T
	Controller	SOC built-in
USB Ethernet	Interface	10/100 Base-T
	Controller	RTL8150
USB Host	Interface	USB 2.0 compliant ,480Mbps
	Controller	SOC built-in
USB Peripheral	Interface	USB 2.0 high-speed 480Mbps
	Controller	ISP1582
Mini-PCI slot	Controller	SOC built-in
Storage	Interface	Compact flash/SD
	Controller	Realtek
I/O Connector	VGA	1 (D-sub 15 pin)
	Composite Video	1
	Audio	1 stereo audio(RCA/3.5mm)
	HDMI	1
	USB Host	1 USB type A female
	USB Peripheral	1 USB type B female
	USB Ethernet	1 Mini-USB type B female
	Ethernet	1 (RJ-45)
	Storage	1 Compact Flash/SD
	RS232	1
	Power Jack	1 (5mm 2.1)
	DIP switch	1
	I/O header	Mini-PCI(internal)
IR (optional)		1 (For remote controller)
Video Decoding		AVI,WMV HD,MPEG-1, MPEG-2, MPEG-4 SD/HD,H.264 SD/HD,DivX/Xvid/VOB
Audio Decoding		MPEG-1 Layer 2 (*.mp2), MPEG-1 Layer 3 (*.mp3), AAC, WMA, Ogg Vorbis (*.ogg), 16 bit 2 channel 44.1/48KHz PCM WAV (*.wav)
Graphics Support		GIF(87), animated GIF(89a), JPEG, TIF, Bitmap, PNG
Power requirement	Input Voltage	DC 5V / 2A (AC/DC Adaptor 90-250V, 50-60Hz)
Environment	Temperature	0 C~ 55 C, Operating
	Relative Humidity	95% @55C (non-condensing) ,Operating

Application:

Digital signage / IP TV



MPN DS-1000 is an ideal digital content player for advertising, presentations, training and other media applications. MPN DS-1000 Digital Signage Player receives media content and stores the content in its internal flash memory. The content is displayed according to either a pre-defined playlist or station commands. MPN DS-1000 features the most advanced decoder and graphic SMP8635 processor available. It outputs both digital and analog video signals for high definition display device: Standard TVs, LCD screen and projectors.

1. When the system has been set up ready, the server can stream the content that will be displayed on the TV or LCD panel.
2. The server should schedule and manipulate the played content.
3. The DS-1000 will buffer the streaming data and play them on the display.
4. The server can change any content which will display on the individual machine at running time.
5. And it can also pop instant message on the screen.

Client and server architecture:

1. Server site:

Streaming server is a universal content streaming server designed for implementation in IP TV, video-on-demand and movie-on-demand. The server receives H.264 or MPEG-4 stream from head end encoders, content storage servers or online sources and distributes them to subscribers. And they could have some key features:

Content management

Authentication , Authorization and Accounting

Streaming server enables providers to authenticate the subscribers in real-time. Before granting access to content, the server utilizes a content billing server to authenticate and authorize subscribers.

Multicast streaming support

For implementations in LAN environment, the server offers multicast content distribution to allow one stream to be delivered to number of LAN subscribers with very low bandwidth utilization.

Stream encryption

The server can encrypt all content streams utilizing MD5 algorithm which allows only authorized subscribers to access the streaming content.

2. Digital signage device (DS-1000):

To play the programs that users subscribe to or request.

Software protocol:

1. Linux platform.

DS-1000 uses the LINUX to be the operating system. It is ideal to use the LINUX platform for the compatibility.

2. SSH protocol for the communication.

SSH protocol is working for the communication between server and clients.

3. Streaming protocol: HTTP, MMS or RTSP.

Streaming protocol enables service provider to deliver video content to consumer via secure IP-based channels.

4. Command set for the remote control.

We implement the a set of commands to control the DS-1000 remotely.

5. Smart card protocol

Use to authenticate the login user.

6. Security protocol

Encrypt and decrypt the delivering data to protect the connection.

7. User Interface.

Provide a interface to operate the DS-1000.