

MPEG-2 NETWORK ENCODER

## **DM-NE300**

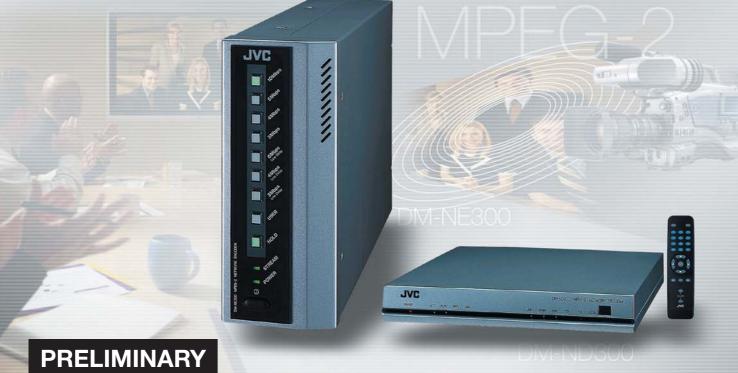
MPEG-2 NETWORK DECODER

## **DM-ND300**

MPEG-4 NETWORK CODEC

DM-NC40





# DM-NE300U (NTSC) MPEG-2 Network Encoder DM-NE300E (PAL) MPEG-2 Network Encoder DM-ND300U MPEG-2 Network Decoder

# Now you can deliver high-quality MPEG-2 moving pictures and sound over your network in real time.

Taking advantage of the high-compression picture technology developed for digital broadcasting, JVC has created a network-ready video encoding/decoding system that allows you to easily deliver high-quality, real-time MPEG-2 pictures and sound over a network. Ideal for conferencing, live concert transmission, and remote surveillance systems, these high-performance encoders and decoders offer a reliable, efficient solution for multimedia content delivery.



#### **FEATURES**

#### **Real-time transmission**

Pictures are compressed in real time as high-quality MPEG-2 stream and output to the network (100BASE-TX), ensuring smooth, interactive conversation.

A low-delay mode is incorporated to minimize the delay time used for encoding and decoding.

\*In the low-delay mode, the total delay time for encoding and decoding is approx. 0.3 sec.. In the high-quality picture mode, the delay time is approx. 0.7 sec.. (Not including network delay.) \*For two-way conversations, an echo canceller is separately required.

#### **Broadcast-quality pictures**

The MPEG-2 format is currently used for digital broadcasting and DVD, so you can easily set up a broadcast-quality picture transmission system. Optimum bit rate and picture quality can be selected to suit the network transmission rate. (1.0 Mbps – 15 Mbps)

\*The upper limit for the encoding rate is 10 Mbps when the DM-ND300 is used.

#### Remote control capability

RS-232C/RS-422 serial interfaces are provided, enabling remote operation of a surveillance camera, switcher or VTR. Proprietary user data can also be transmitted over the network.

- \*Various control applications must be developed separately
- \*Remote control is possible only with the DM-NE300U/E.

#### Multicas

In addition to unicasting (in which audio and video data is transmitted

from one sender to one receiver), these units support multicasting in which a single transmitter sends data to more than one receiver (1 to N and M to N). The audience (people who receiving pictures and sound decoded with the DM-ND300) can select one of the DM-NE300s with a remote control unit.

\*Routers that support IGMPv2 are required for an internet maulticasting.

The number of encoders and decoders is limited in LAN.

#### Easy operation

You can specify encoder settings such as IP address using a Web browser. Once the encoder has been set up, you can start or stop the streaming or change the bit rate or delay mode without using a PC.

- \*The IP address must be set via a PC when the system is established.
- \*Use Microsoft® Internet Explorer Ver. 5.5 or higher. (other browsers are not supported.)

#### **Built-in Web server function**

Various DM-NE300 settings can be done with via a Web browser.

### DV connector provided (DM-NE300U/E)

Allows to connect directly to the DV equipment such as a digital video camera.

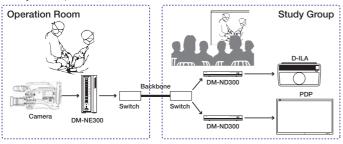




#### **APPLICATIONS**

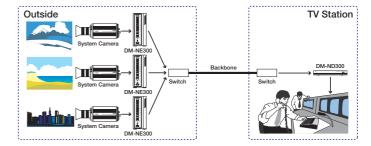
#### ■ Distance Learning System

Conferences, hospital training, experiments, external court broadcasts, remote surveillance, external public assembly broadcasts, etc.



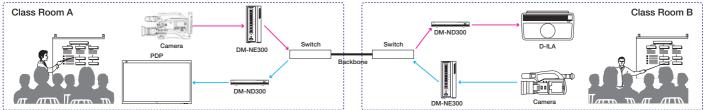
#### **■ ENG System**

ENG content transmission system, weather report cameras, sports, events, news gathering for public assembly, etc



#### ■ Bi-Directional Remote Class Session

Remote class sessions, etc.



### DM-NC40U MPEG-4 Network Codec

# Real-time MPEG-4 network moving picture and sound transmission and reception.

JVC's MPEG-4 network codec allows you to transmit or receive MPEG-4 moving pictures and sound in real time over a network. For example, lessons can be sent to the students who are in different classrooms. It's also possible to set up a remote surveillance system that can be operated and monitored via a network.



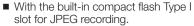
#### **FEATURES**

#### **High-quality MPEG-4 codec**

- The DM-NC40 is a high-quality codec that can encode signals at up to 2 Mbps in the MPEG-4 format. Moving pictures can be displayed at the standard video frame rate of up to 30fps with resolution of 352 x 240.
- An echo canceller is built into the main unit. This makes setting up a high-quality TV conferencing system on an IP network easy and affordable.

#### Remote surveillance system

- CCTV equipment can be controlled via the control connectors
   CCTV equipment can be controlled via the control
  - (RS-232C/RS-485).
- Picture-in-picture (PinP) enables signals from 2 cameras to be displayed on a PC or monitor. When the DM-NC40 is used as a decoder, sound can be sent bi-directionally.



\*To display video on a PC, use the standard viewer or multi-camera browser. To display video on a monitor, use the DM-NC40 as a decoder.

## d can be

#### ISMA (Internet Streaming Media Alliance) streaming

- The DM-NC40 can send streams conforming to the ISMA standard.
- As a result, various popular players including MediaPlayer, RealPlayer and QuickTime Player can play back pictures and sound.
- When the DM-NC40 is combined with a streaming server conforming to ISMA, a large-scale content providing system can be established.

#### Easy operation

To ensure stable encoding/decoding, the DM-NC40 can only be started by turning the power ON. By setting the system when the DM-NC40 is introduced, a streaming system can be established that doesn't require a PC.

#### Maintenance

Upgrading the version for the DM-NC40 can be performed with a compact flash memory.

#### JPEG support

In addition to the MPEG-4 transmission, JPEG picture transmission is possible. The DM-NC40 has no JPEG decoding function. JPEG data can be displayed with a web browser.

#### Unicast and multicast transmission supported

In addition to unicast transmission, multicast transmission is supported, allowing incorporation of the DM-NC40 in a large-scale system.

\*Multicast transmission requires a multicast-ready network (IGMPv2).

### **Built-in Web server** function

Various DM-NC40 settings can be done with via a Web browser. Preset values suitable for various applications are available, making setup easier.



#### Pass-through function

When a DM-NC40 is used to control external devices, the DM-NC40's serial port can be used as a pass-through connector, allowing remote control of external equipment.

\*Various control applications must be developed separately.

#### Alarm input/Pin output

■ Remote surveillance system

4 input terminals able to detect high or low level of TTL signals are provided. These input terminals can be linked with JPEG recordings. 8 output terminals are provided to output high or low TTL signals.

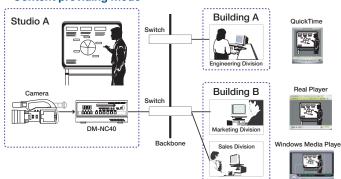
 $^{\star}\mathrm{An}$  external application software is separately required for the output.

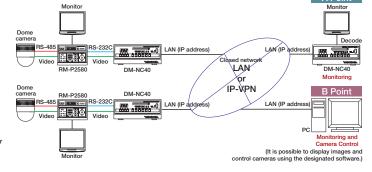
#### Decode and capture software for DM-NC40

Live display function: Decodes streams from the DM-NC40 on PC and displays them live.

#### **APPLICATIONS**

#### ■ Content providing mode





#### Network requirements for DM series

Megabyte-class bandwidth (more than 3Mb) required.
 Physical and logical lease line recommended.
 Connect to the 100M SW-HUB (not repeater HUB).
 VLAN or QoS (Quality of Service) recommended.
 When signals are sent via router, check for influence of jitter, multicast routing, etc.

#### **SPECIFICATIONS**

	DM-NE300U (NTSC) DM-NE300E (PAL)	DM-ND300U (NTSC/PAL)	DM-NC40U
Interface			
Video	Analog composite input; BNC x 1 S-video input; 4-pin Mini DIN x 1	Analog composite output; RCA x 1 S-video output; 4-pin Mini DIN x 1	Input: NTSC/PAL analog composite; BNC x 2 Video-through output: analog composite; BNC x 2 Output: NTSC/PAL analog composite; BNC x 1
Audio	Input: analog, unbalanced (full scale: 2 Vrms); RCA x 2 (L/R)	Output: analog, unbalanced (full scale: 2 Vrms); RCA x 2 (L/R)	Input: Analog, unbalanced; RCA x 2 (L/R) Output: Analog, unbalanced; RCA x 1
Network interface	100BaseTX; RJ-45 x 1		10BaseT/100BaseTX; RJ-45 x 1
Alarm input/output	<del>-</del>		4-input/8-output; D-sub 15P x 1
Local picture recording	<del>-</del>		Compact flash memory (Type I); CF slot x 1
Key	Bit rate change; Front panel key	Remote control unit	Power, cursor, input switching, PinP switching, recording (CF), start, stop, hold; Front panel keys
Video Compression format	MPEG-2 (ISO/IEC13818-2); MP@ML	MPEG-2 (ISO/IEC13818-2)	MPEG-4 ASP/SP (ISO), JPEG (ISO)
Format		480i	
Frame resolution	720 x 480 – 352 x 480 (depending on the bit rate)	720 x 480 – 352 x 480	MPEG-4: 352 x 240, 176 x 120, JPEG: 704 x 480
Frame rate	Interlace; 29.97 Hz (NTSC), 25 Hz (PAL)		MPEG-4: 30 f/s (maximum value varies depending on the frame resolution and bit rate)
Bit rate	1.0 Mbps – 15 Mbps	_	MPEG-4: 64 kbps – 2 Mbps
Delay amount	In the low delay mode; Approx. 300 ms (between encoder and decoder: network delay excluded) In the high picture quality mode; Approx. 700 ms (between encoder and decoder: network delay excluded)	_	Within approx. 300 ms (between DM-NC40Us: Network delay excluded)
Audio	· · · · · · · · · · · · · · · · · · ·		
Compression format	MPEG-1 Layer II (	(ISO/IEC 11172-3)	G.726 (monaural)/MPEG-4-AACLC (stereo)
Bit rate	Stereo; 192 kbps		G.726: 16 - 32 kbps/AAC-LC: 96 - 128 kbps
Sampling rate	48 kHz		G.726: 8 kHz/AAC-LC: 32 kHz
Stream			
Data protocol	RTP/UDP/IP (compatible with unicast/multicast)		RTP (compatible with unicast/multicast)
Control protocol	RTSP/TCP/IP		RTSP, HTTP, IGMPv2
AV mux	MPEG-2 Transport Stream (ISO/IEC 13818-1), 1 Mbps - 15 Mbps	MPEG-2 Transport Stream (ISO/IEC 13818-1), 1 Mbps – 10 Mbps	=
External equipment control Serial port	Control via RS-232C/RS-422 (data pass-through)	Remote control	Control via RS-232C/RS-422 (data pass-through)
Setting HTTP server	Set with PC browser software (*Microsoft® IE V5.5 or higher) (In addition to the HTTP server, setting with Telnet or terminal is possible)	-	Set with PC browser software ("Microsoft® IE V5.5 or higher) (In addition to the HTTP server, setting with Telnet or terminal is possible)
General			
Power requirements	120 V AC, 50/60 Hz (NTSC) 220-240 V AC, 50/60 Hz (PAL)		120 V AC, 50/60 Hz 220-240 V AC, 50/60 Hz
Power consumption	0.5 A	DC 9 V, 0.6 A	0.4 A
Operating temperature	0°C to 40°C/32°F to 104°F	5°C to 35°C/41°F to 95°F	0°C to 40°C/32°F to 104°F
Weight	2.8 kg/6.2 lbs.	320 g/0.71 lbs.	Approx. 3.0 kg/6.7 lbs.
Dimensions unit: mm (inches)	86(3-7/16) 301(11-7/8) (91/L-9/Fiz	164(6-1/2) 2.0.6(13/16)	2108-5/16)

#### **SOFTWARE FOR DM-NE300U**

#### DM-ND301U viewer software

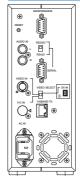
- Live display function
- Decodes streams from the DM-NE300 on PC and displays them live.
- Live recording function

Records streams from the DM-NE300 on a hard disk in the PC.



Live display on screen

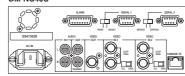
#### **REAR PANEL**



#### DM-NE300E/DM-NE300U

## DM-ND300U | Company | Com

#### DM-NC40U



#### **RELATED EQUIPMENT**

















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■ The Hachioji Plant of Victor Company of Japan, Ltd., has received ISO14001 and ISO9001 Certifications under the global standard for environmental management.