NETWORK AUDIO ADAPTER

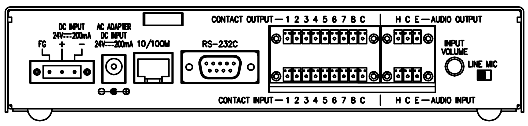
NX-100

DESCRIPTION

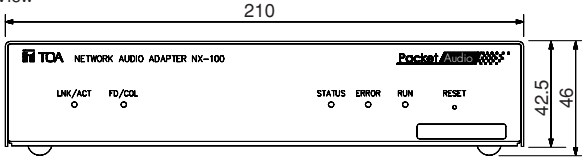
The NX-100 Network Audio Adapter can transmit high-quality audio signals and such control data as serial data over IP networks, such as LAN or Internet, in real time.
It is especially useful when transmitting audio signals to remote locations, as Internet use keeps running costs lower than the use of dedicated lines.
With the use of an optional rack-mounting bracket, it can be mounted in an EIA Standard rack (1 unit size).

APPEARANCE AND DIMENSIONAL DIAGRAM

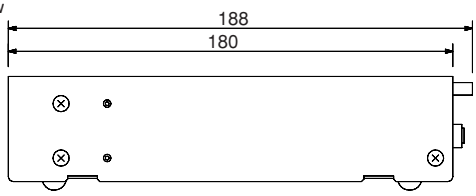
Rear View



Front View



Side View



Unit: mm

FEATURES

- If there is no network delay, audio signals have only a minimal millisecond delay.
- Control data including contact and serial data can also be transmitted along with the audio signals.
- Two-way audio signal transmission is possible with a single NX-100 unit as every unit is equipped with an audio input and output.
- The multicast-capable NX-100 allows simultaneous transmission of audio signals to be made to multiple locations depending on transmission method:
  Unicast — up to 4 locations,
  Multicast — up to 64 locations.
- No audio signal degradation or loss, even when transmitting over crowded networks such as the internet.
- Greater data reliability using IP networks with the protocol's ability to prevent data problems during transmission.
- The NX-100's contact input can initiate and terminate audio transmissions without having to use dedicated control equipment such as a PC.
- Hardware use ensures operational reliability over only software-driven applications.
- Using IP to transmit audio signals over the internet allows low cost operation rather than dedicated lines.
- The NX-100 is equipped with a DC input to allow operation on AC as well as DC.
- Software-driven operational menus enhance ease of use.

TOA

SPECIFICATIONS

Power Source	24V DC (plug-in screw connector) or AC adapter AD-246 (optional) or the equivalent
Current Consumption	200mA (DC operation)
Audio Input	1 channel (transformer-isolated), –58dB* to 0dB*, balanced (MIC/LINE changeable, volume adjustable with volume control), 2kΩ, plug-in screw connector
Audio Output	1 channel (transformer-isolated), balanced, 600Ω, plug-in screw connector
Frequency Response	50 – 14,000Hz (when sampling frequency is 32kHz)
Distortion	Under 0.3% (1kHz, when sampling frequency is 32kHz)
Control Input	8 channels, no-voltage make contact input, open voltage: 12V DC, short-circuit current: 10mA, plug-in screw connector
Control Output	8 channels, open collector output, withstand voltage: 30V DC, control current: 50mA max., plug-in screw connector
Network I/F	10BASE-T/100BASE-TX, Auto-Negotiation
Network Protocol	TCP/IP, UDP, HTTP, RTP
Audio packet Transmission System	Unicast (up to 4 simultaneous transmissions), Multicast (up to 64 simultaneous transmissions)
Operating Temperature	0°C to +50°C (0°C to +40°C when AC adapter is in use)
Operating Humidity	Under 90% RH (no dew condensation should be produced)
Finish	Steel plate, black, 30% gloss
Dimensions	210 (W) × 46 (H) × 188 (D)mm
Weight	1.2kg
Accessory	Bracket mounting screw × 8, CD (PC setting/operation software programe) × 1, Power supply screw connector plug × 1, Audio I/O screw connector plug × 2, Control I/O screw connector plug × 2, RS-232C connector cover × 1
Optional Components	Rack mounting bracket: MB-15B-BK (for rack mounting one NX-100 unit) MB-15B-J (for rack mounting two NX-100 units) AC adapter: AD-246

* 0dB = 1V

Note: When you need the AC adapter, be sure to consult your TOA dealer.

GUIDELINES ON LINE BAND, SOUND QUALITY AND DELAY TIME

(1) For LAN and dedicated lines

Line Band	Voice Compression	Audio Band	Sampling	Voice Packet Loss Recovery	Delay Time (sec)	Band Used (kbps)
Over 1.5 Mbps	No	50 - 14kHz	32 kHz	Silence	0.02	776
				Redundancy	0.93	820
	Yes	50-14kHz	32 kHz	Silence	0.02	392
				Redundancy	0.93	245
128 kbps (Dedicated line, etc.)	Yes	50 - 7kHz	16 kHz	Silence	1.3	68
				Redundancy	7.4	102
64 kbps (ISDN, etc.)	Yes	50-3.4kHz	8 kHz	Silence	2.6	34
				Redundancy	15	51

(2) For the Internet

Line Band	Voice Compression	Audio Band	Sampling	Voice Packet Loss Recovery	Delay Time (sec)	Band Used (kbps)
Over 512 kbps (ADSL,etc.)	Yes	50-14kHz	32kHz	Silence	0.6	136
				Retransmission	30	369
128 kbps (Dedicated line, etc.)	Yes	50-7kHz	16kHz	Silence	1.3	68
		50-3.4kHz	8kHz	Retransmission	30	92
64 kbps (ISDN, etc.)	Yes	50-3.4kHz	8kHz	Silence	2.6	34
				Redundancy	15	51

NOTES:

1. The following conditions apply to the side delay time values and required band:

(1) Line band: 1.5 Mbps ; Voice compression not used— Voice packet size: 128 bytes

(2) Line band: 1.5 Mbps; Voice compression used— Voice packet size : 32 bytes

(3) A voice packet size of 1,024 bytes assumed for all but the 1.5 Mbps Line band.

2. "Voice Packet Loss Recovery" is a processing function when the voice packet cannot be received owing to communications interference.

(1) Silence: Sections without voice packets are processed as silence.

(2) Redundancy: Enables the voice to be normally output for continuous losses of up to 8 packets.

(3) Retransmission: Enables the voice to be normally output for continuous losses of up to 15 seconds.

3. "Required band" represents the bands required for voice transmission.

When sending other data (such as serial data), the transmission band is separately required.

TOA Corporation

URL : http://www.toa.jp/

Specifications are subject to change without notice.
Printed in Japan (0305) 833-52-294-4A U