

# NETWORK AUDIO ADAPTER

## NX-100S

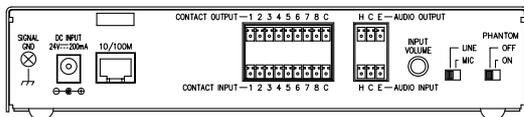


## DESCRIPTION

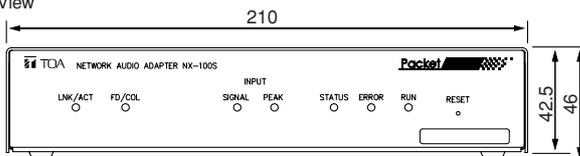
The NX-100S Network Audio Adapter will perform real time transmission of high quality audio signals as well as control data over IP networks such as LANs and the internet. Particularly effective for transmitting audio to remote locations as the ability to use the internet instead of dedicated lines reduces operational costs. The NX-100S can also be fitted with an optional rack-mounting bracket to allow it to be mounted in an industry standard (1 unit size) EIA rack.

## APPEARANCE AND DIMENSIONAL DIAGRAM

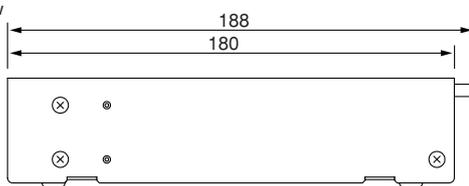
Rear View



Front View



Side View



Unit: mm

## FEATURES

- Wide-ranging audio bandwidth from 50 Hz up to 14 kHz with high fidelity sound and perfect clarity.
- Without network delay, audio signals only have a minimal delay of milliseconds.
- Efficient sub-band ADPCM audio compression technology retains delicate musical instrument nuances as well as the emotional content of a person's speech.
- Higher audio performance achieved when using uncompress (PCM) audio transmission. Selectable sampling frequency transmission rates of 8kHz, 16kHz, or 32kHz to best match the transmission frequency range.
- NAT and IP Masquerade (IPMASQ or MASQ) networking is supported with cost savings for installation and operation compared to using dedicated lines.
- The NX-100S employs three modes to recover lost packets.
- Supplied setup software or web browser can be used for setup, adjusting settings and maintenance for a network. Firmware updates can also be performed.
- The NX-100S also adjusts sampling frequencies both at the sending and receiving ends so that uninterrupted continuous broadcasting may be possible for long hours even if communication interference should occur on networks.
- Two-way audio signal transmission is possible even with two NX-100S units as every unit is equipped with an audio input and output.
- The multicast-capable NX-100S 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.
- The NX-100S's contact input can initiate and terminate audio transmissions without dedicated control equipment such as a PC.
- Hardware use ensures operational reliability over just software-driven applications.
- The NX-100S is equipped with an indicator for audio signal in as well as a peak overload indicator, allowing at-a-glance visual confirmation of status when making settings.
- The NX-100S provides phantom power on audio inputs.



## SPECIFICATIONS

<b>Power Source</b>	AC adapter AD-246 (optional) or the equivalent
<b>Current Consumption</b>	7W (when AD-246 (optional) is used)
<b>Audio Input</b>	1 channel (transformer-isolated), -58dB* to 0dB*, balanced (MIC/LINE changeable, volume adjustable with volume control), 2kΩ, removable terminal block (3 pins), phantom power supply (24V, can be set with the switch)
<b>Audio Output</b>	1 channel (transformer-isolated), balanced, 600Ω, removable terminal block (3 pins)
<b>Frequency Response</b>	50 – 14,000Hz (when sampling frequency is 32kHz)
<b>Distortion</b>	Under 0.3% (1kHz, when sampling frequency is 32kHz)
<b>Control Input</b>	8 channels, no-voltage make contact input, open voltage: 12V DC, short-circuit current: 10mA, removable terminal block (9 pins)
<b>Control Output</b>	8 channels, open collector output (polarised), withstand voltage: 30V DC, control current: 50mA max., removable terminal block (9 pins)
<b>Network I/F</b>	10BASE-T/100BASE-TX, Auto-Negotiation
<b>Network Protocol</b>	TCP, UDP, ARP, ICMP, HTTP, RTP, IGMP
<b>Audio packet Transmission System</b>	Unicast (up to 4 simultaneous transmissions), Multicast (up to 64 simultaneous transmissions)
<b>Operating Temperature</b>	0°C to +40°C
<b>Operating Humidity</b>	Under 90% RH (no dew condensation should be produced)
<b>Finish</b>	Steel plate, black, 30% gloss
<b>Dimensions</b>	210 (W) × 46 (H) × 188 (D)mm
<b>Weight</b>	1.2kg
<b>Accessory</b>	Bracket mounting screw × 8, CD (PC Installation & Operation software programmes, Instruction manuals) × 1, Audio I/O removable terminal plug (3 pins) × 2, Control I/O removable terminal plug (9 pins) × 2, Ferrite clamp × 1
<b>Optional Components</b>	Rack mounting bracket: MB-15B-BK (for rack mounting one NX-100S unit) MB-15B-J (for rack mounting two NX-100S 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	PCM	50-14kHz	32 kHz	Silence	0.02	776
				Redundancy	0.93	820
	Sub-Band ADPCM	50-14kHz	32 kHz	Silence	0.02	392
				Redundancy	0.93	245
128 kbps (Dedicated line, etc.)	Sub-Band ADPCM	50-7kHz	16 kHz	Silence	1.3	68
				Redundancy	7.4	102
64 kbps (ISDN, etc.)	Sub-Band ADPCM	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.)	Sub-Band ADPCM	50-14kHz	32 kHz	Silence	0.6	136
				Retransmission	30	369
128 kbps (Dedicated line, etc.)	Sub-Band ADPCM	50-7kHz	16kHz	Silence	1.3	68
		50-3.4kHz	8kHz	Retransmission	30	92
64 kbps (ISDN, etc.)	Sub-Band ADPCM	50-3.4kHz	8kHz	Silence	2.6	34
				Redundancy	15	51

### NOTES:

#### Note 1: Voice packet size

Voice packet size other than for "Line band of 1.5 Mbps or higher" is for data of 1024 bytes.  
Voice packet size for "Line band of 1.5 Mbps or higher" is for data of 256 bytes (PCM)/32 bytes (Sub-Band ADPCM) data.

#### Note 2: Voice Packet Loss Recovery

Voice Packet Loss Recovery is a processing method when a voice packet cannot be received due to communication interference.

Silence: Method of processing lost sectors as silence.

Redundancy: Method of accurately outputting continuous losses of up to 8 packets.

Resend: Method of accurately outputting continuous losses of up to 15 seconds.

#### Note 3: Required band

Required band represents the frequency band required for voice transmission. When it is necessary to transmit serial data, a transmission band is separately required.



TOA Corporation

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

Specifications are subject to change without notice.  
Printed in Japan (0407) U