NX-300 W

NETWORK AUDIO ADAPTER

The TOA NX-300 is a network audio adapter that utilizes packet audio technology which makes it possible to transmit high-quality audio signals in real time.
Connecting the NX-300 to a network (LAN or WAN) permits high-quality audio or contact control signals to be transmitted in real time. As existing networks can be used, systems can be constructed with no need for the installation of new wiring. Broadcasts using audio files and up to 8 different levels of priority control can also be made, and provided by stations, factories or other central facilities to individual bases.
It can be mounted in an EIA equipment rack (1U size) with the use of an optional rack mounting bracket or installed on a wall using an optional wall mounting bracket.

Key features

- Audio network adapter for transmitting audio and control signals via LAN
- Dual-channel capable of bi-directional (full-duplex) dual mono signals
- Up to 500 NX-300s can be connected to each other via LAN
- Up to 1,000 links can be established
- 1 input audio signal can be streamed to max. 16 NX-300W (unicast) or max. 64 NX-300W
- (multicast) simultaneously

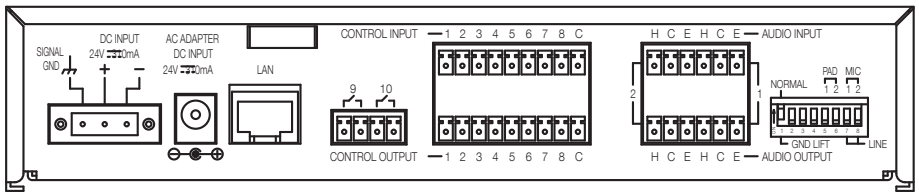
Specifications

Power Source	Supplied from an external 24 V DC (21.6 - 26.4 V) power supply or AC adapter AD-246 (option) or the equivalent
Current Consumption	10 W (AC operation), 310 mA (DC operation)
Audio Input	2 channels, balanced (transformer isolated)/unbalanced changeable, 2 kΩ, LINE/MIC changeable, volume adjustable Rated input: -20 dB (*2) (LINE)/-60 dB (*2) (MIC) PAD function (-16 dB (*2), removable terminal block (6 pins)
Audio Output	2 channels, balanced (transformer isolated), 600 Ω or less Rated output: 0 dB (*2) (unbalanced input)/-2 dB (*2) (balanced input), removable terminal block (6 pins)
Frequency Response	50 Hz - 18 kHz (48 kHz sampling frequency, PCM, 0 to -6 dB deviation referred to 1 kHz)
Distortion	0.2 % or less (1 kHz, LINE signal level, 48 kHz sampling frequency, PCM, BPF)
Signal to Noise Ratio	73 dB or more (LINE signal level, at rated output)
Separation	70 dB or more (1 kHz, LINE signal level, BPF)
Audio Format	WAV file
Number of Storable Audio Files	Max. 8
Storable Time of Audio File	Max. 2 min. per audio file (16 kHz sampling frequency, sub-band-ADPCM, monaural operation)
Control Input	8 channels, no-voltage make contact input, open voltage: 24 V DC, short-circuit current: 2 mA or less, removable terminal block (9 pins) (Only Channel 8 equipped with failure detection.)
Control Input Failure Detection Section	Connection resistance to make the function inactive: 20 kΩ ±5 % Connection resistance to make the function active: 10 kΩ ±5 % Connector cable: Twisted pair cable (shielded type is recommended) Maximum cable distance: 10 m
Control Output	8 channels, open collector output (polarized), withstand voltage: 30 V DC, control current: 50 mA max., removable terminal block (9 pins) 2 channels, relay output (non-polar), withstand voltage: 30 V DC, control current: 500 mA max., removable terminal block (4 pins)
Network Section	Network I/F: 10BASE-T/100BASE-TX, Full-duplex/Half-duplex Auto-negotiation Network protocol: TCP, UDP, ARP, HTTP, RTP, IGMP, FTP, NTP Audio packet transmission system: Unicast (Up to 16 simultaneous transmissions), Multicast (Up to 64 simultaneous transmissions) Connector: RJ45 connector Voice sampling frequency: 8 kHz, 16 kHz, 32 kHz, 48 kHz (controllable on the software) Quantifying bit number: 16 bits Voice encoding method: PCM, Sub-band ADPCM (controllable on the software) Voice packet loss recovery: Silence insertion Audio delay time: Min. 20 ms
User Control	2 channels, Audio input level control (Convertible to Audio output level control)
Indicator	2 channels, audio input, SIGNAL (green)/PEAK (red), 2 channels, audio output, SIGNAL (green) LNK/ACT (green), BUSY (green), STATUS (green), ERROR (yellow), RUN (green)
Setting Switch	Reset, grand lift changeable, audio input 2 channels PAD changeable, audio input 2 channels LINE/MIC changeable

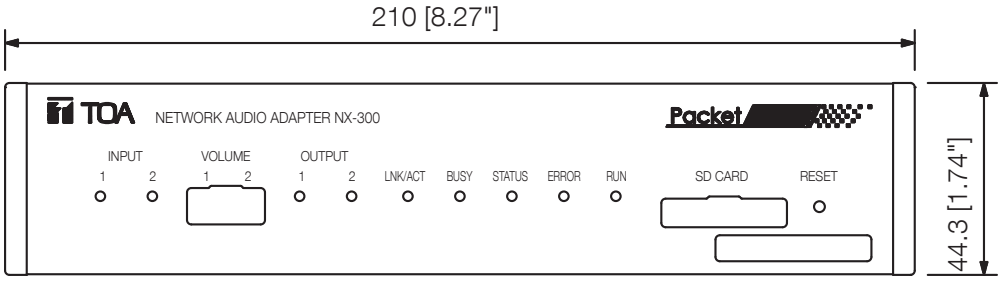
SD Section	For log storage (Max. 10000) Media: SD/SDHC card (Max. 32 GB) (*3) File system: FAT16, FAT32 ×Use only SD memory cards rated at 100mA current consumption or less. ×No SD card provided.
Installation Method	Rack, Desk, Surface mount
Operating Temperature	-10 °C to +50 °C (14 °F to 122 °F) (0 °C to +40 °C (32 °F to 104 °F) when AC adapter is in use)
Operating Humidity	90 %RH or less (no condensation)
Finish	Pre-coated steel plate, black, 30 % gloss
Dimensions	210 (W) x 44.3 (H) x 258 (D) mm (8.27" x 1.74" x 10.16")
Weight	1.7 kg (3.75 lb)
Included Accessories	Removable terminal plug (3 pins) x 1, Removable terminal plug (6 pins) x 2, Removable terminal plug (9 pins) x 2, Removable terminal plug (4 pins) x 1, Plastic foot x 4, Screw for fitting plastic foot x 4
Optional Accessories	Rack mounting bracket: MB-15B-BK (for rack mounting one NX-300 unit) MB-15B-J (for rack mounting two NX-300 units) Wall mounting bracket: YC-850 AC adapter: AD-246

Notes: The NX-300 cannot be connected to other equipment using the MB-15B-J bracket for rack mounting.
When you need the AC adapter, be sure to consult your TOA dealer.
(*1) TOA's unique technology which makes it possible to transmit high-quality audio signals in real time over on IP network.
(*2) 0 dB = 1 V
(*3) Not compatible with SDXC memory cards.

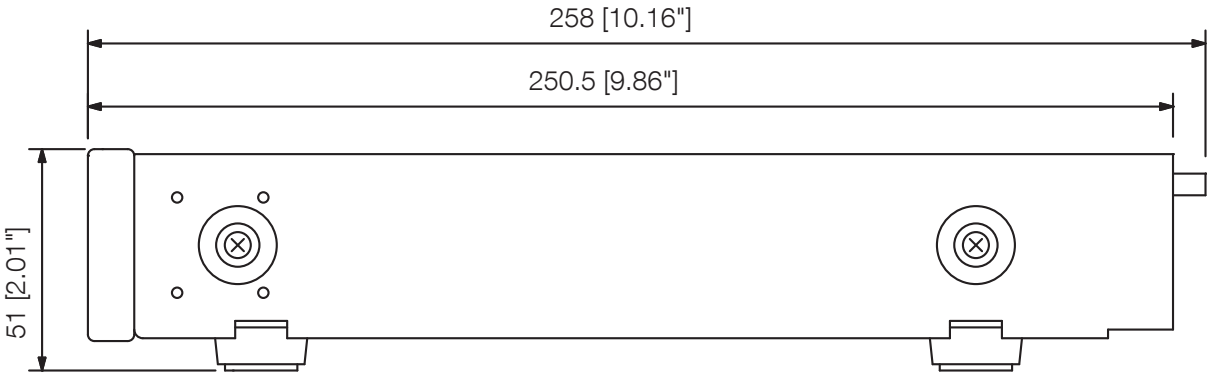
Dimensions



Rear View



Front View



Side View

UNIT:mm SCALE:1/2

A&E specifications

The network audio adapter shall be able to convert analog audio signals to high quality digital signals for the purpose of non interrupted broadcast of audio over IP based networks such as LAN, WAN or Internet with full-duplex of mono signals being possible with 24-bit analog to digital and digital to analog converters operating at a sample rate of 48kHz. The device shall have a frequency response of 50 Hz - 18 kHz. The network interface shall be 10BASE-T/100BASE-TX, full-duplex/half-duplex Auto-negotiation Network Protocol: TCP, UDF, ARP, HTTP, RTP, IGMP, FTP, NTP The unit shall be able to connect up to 500 additional units via LAN and WAN and being able to establish up to 1,000 links.
The network audio adapter shall be capable of both Unicast and Multicast transmissions and a single audio input can be streamed to a maximum of 16 outputs (Unicast) or 64 outputs (multicast).
There shall be 2 audio input channels, balanced (transformer isolated/unbalanced changeable) offering LINE/MIC, changeable with volume adjustment. Rated input: -20 dB* (LINE)/-60 dB* (MIC) PAD function (-16 dB*) via removable 6 pin terminal block.
There shall be 2 audio outputs channels, balanced (transformer isolated), 600 ohms or less Rated output: 0 dB* (unbalanced input) /-2 dB* (balanced input), also with 6 pin removable terminal block.
The control inputs shall include 8 channels, no-voltage contact input, open voltage:24V DC, short-circuit current: 2 mA or less with 9 pin removable terminal block.
The control inputs shall be individually programmable to initiate and terminate stored transmissions without the need for dedicated PC-based or other control equipment.
Broadcast priority can be set with 8 levels of priority allowing paging to override alert tones or announcements.
The network audio adapter shall be cable of storing internally up to 8 WAV-files with up to 2 minutes duration for broadcasting. It shall be possible to update the files remotely using the supplied software or web browser. Adjustable output volume of a broadcast can be set based on a programmed scheduler. The time of the device is automatically adjusted by NTP (Network Time Protocol) via the network.
Failure of one unit shall not affect other units within the system even if there is accidental power-down.
The network audio adapter shall include surveillance for monitoring any malfunction and failures. Any accidental power-down will not affect the activity log recordings. Activity logs shall be archived by means of inserting an SD/SDHC card (Max. 32 GB) from the front panel and up to 10,000 logs can be stored.
The supplied software shall be simple with intuitive GUI (Graphic User Interface) allowing full control, with system configuration and settings. Maintenance shall be made possible among distributed devices. The front panel shall include, audio input, signal (green)/peak (red), 2 channels, audio output, signal (green) link active (green), busy (green), status (green), error (yellow), run (green).
Power requirements shall be 24 VDC (plug-in screw connector) or an optional AC adapter. The finish shall be 30% black gloss pre-coated steel plate, and the dimensions shall be 210 x 44.3 x 258 mm (8.27” x 1.74” x 10.16”) weighing 1.7 kg (3.75 lb.)
*0 dB = 1V
Optional extras: AC power supply AD-246, rack mount bracket for 1 unit MB-15-BK,
rack mount bracket for 2 units MB-15-J manufactured by TOA Corporation