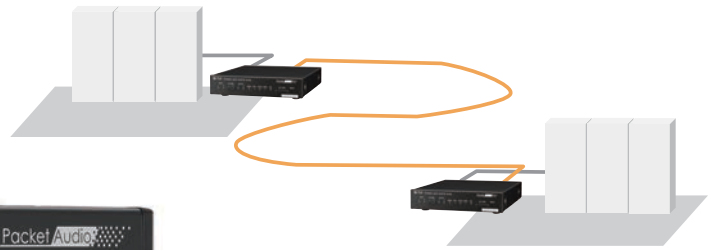# Network Audio Adapter
NX-300

Network Control

NX-300

Network Audio Adapter

NX-300 Network Audio Adapter converts audio signals to high quality digital signals. Regardless of the geographical distance, the digital signals are transmitted simultaneously over great distances via IP networks, such as LAN or Internet. The contact closures operate remote units via the (LAN) network.

Key features

- Dual-channels create Bi-directional (full-duplex) transmission of mono signals
- Up to 500 NX-300s can be connected to each other via LAN and WAN
- Up to 1,000 links can be established
- 1 input audio signal can be streamed to max. 16 outputs (unicast) or max. 64 outputs (multicast).
- Balanced inputs & outputs with isolated transformer
- The rear panel features 8 contact inputs and 10 contact outputs

Duplex and Mono
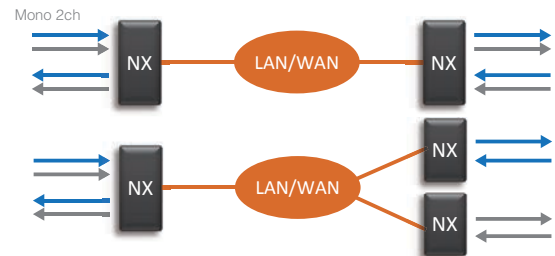
Railway Station Example

Using existing network infrastructure, the remote- multi-point broadcast system is easily applied amongst different station. Even at a great distance, the audio signal can be delivered between the remote sites. Automated announcements can be broadcasted at unattended stations as well.
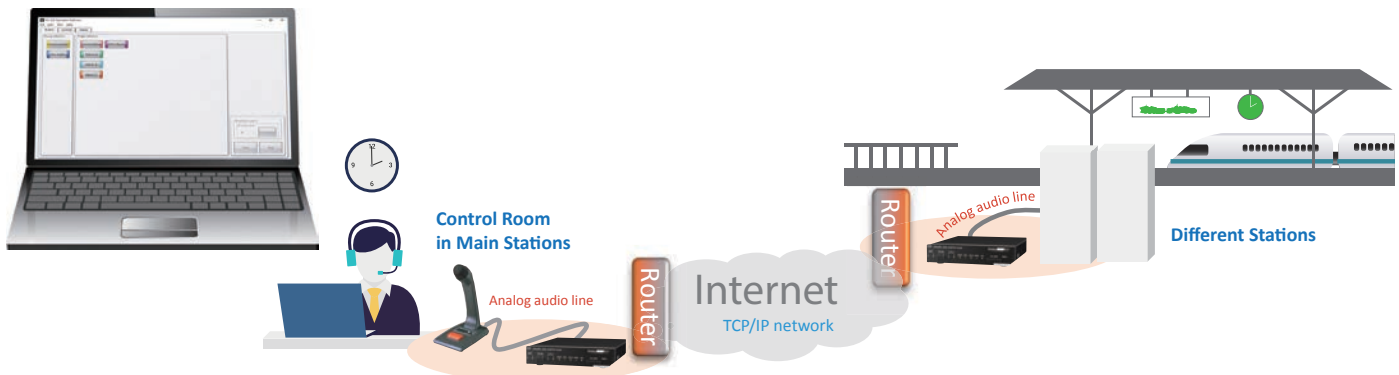
» Simultaneous and cost effective transmission of high quality audio

Using an IP network allows the NX-300 to deliver high quality audio signals without latency. Networks also cut costs and reduces installation time.

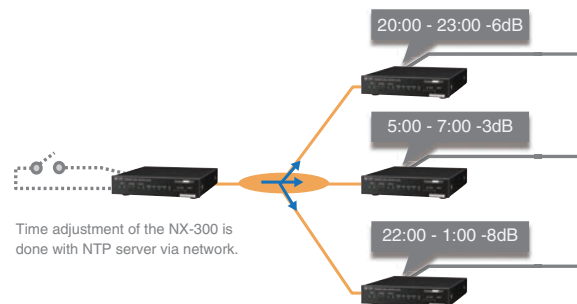24bit A/D   16bit, **48kHz** sampling   24bit D/A

» Uninterrupted continuous broadcasting

Audio signal can be transmitted without interruption even with a bad network connection. Any audio interruption can be prevented by adjusting the sound quality and the delay time (i.e. the transmission packet size). The NX-300 is durable and provides continuous, uninterrupted, 24-hours-per-day broadcasting.

» Storable audio files for message playback

Up to 8 WAV-files 2-minutes in length can be stored in the built-in memory and used for broadcasting, such as announcement and chime playback. The files can also be remotely updated via the NX-300 setting software or web browser. Adjustable output volume of a broadcast can be set based on a programmed scheduler, where the device time is automatically adjusted by the NTP server via the network.

20:00 - 23:00 -6dB

5:00 - 7:00 -3dB

22:00 - 1:00 -8dB

Time adjustment of the NX-300 is done with NTP server via network.

» Assignable broadcast priorities

Broadcast patterns can be programmed by using the provided NX-300 setting software and can be activated by the NX-300 operation software or the regular contact closures. Broadcast priority can be set with 8 levels and allow paging which overrides the alert tones or announcements.
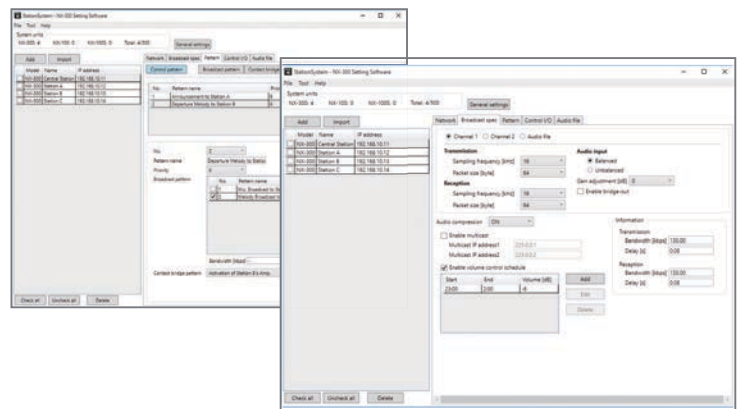
» Simplified setup, operation and maintenance

System configuration and control can be done easily via the provided GUI setting software or web browser. Maintenance can be done easily among the remote and distributed devices. Operation software is also supplied.
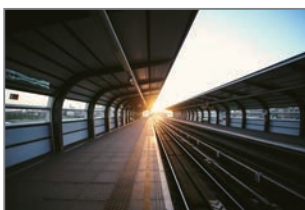
» Network with other TOA network control inputs

The control output has the ability to network with other NX Control Inputs, including NX-100 and the NX-100S.

» Surveillance and activity logs

The surveillance function is present for any failure or malfunction. Device failure is isolated to the specific unit, not the entire system. Any accidental power-off will not affect the activity logs recording. Activity logs can be easily archived by inserting an SD card from the front panel.
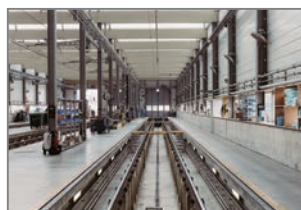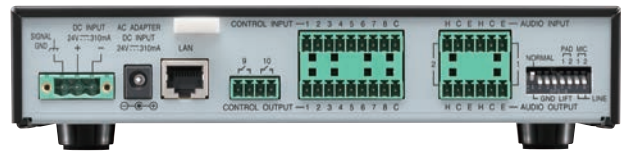
Application Example

Railway Station   **Airport**   **Factory**   **Parking Garge**

Appearance

Specifications

	NX-300
Power Source	Supplied from an external 24V DC (21.6 - 26.4 V) power supply or AC adapter AD-246 (option) or the equivalent
Power/Current Consumption	10 W (AC operation), 310 mA (DC operation)
Audio Input	2 channels, balanced (transformer isolated)/unbalanced changeable, 2 k ohms, LINE/MIC changeable, volume adjustable Rated input: -20 dB(*1) (LINE)/-60 dB(*1) (MIC) PAD function (-16 dB(*1)), removable terminal block (6 pins)
Audio Output	2 channels, balanced (transformer isolated), 600 ohms or less Rated output: 0 dB(*1) (unbalanced input) /-2 dB(*1) (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, at rated output)
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: 24V 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 kohms -/+ 5 % Connection resistance to make the function active: 10 kohms -/+ 5 % Connector cable: Twisted pair cable (shielded type is recommended)
Control Output	8 channels, open collector output (polarized), withstand voltage: 30V DC, control current: 50 mA max., removable terminal block(9 pins) 2 channels, relay output (non-polar), withstand voltage: 30V 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, UDF, 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) Qualifying 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
Operation	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) (*2) File system: FAT16. FAT32 *Use only SD memory cards rated at 100 mA 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 (W x H x D)	210 x 44.3 x 258 mm (8.27" x 1.74" x 10.16")
Weight	1.7 kg (3.75 lbs.)
Accessory	Removable terminal block (3 pins) x 1, Removable terminal block (6 pins) x 2, Removable terminal block (9 pins) x 2, Removable terminal block (4 pins) x 1, Plastic foot x 4, Screw for fitting plastic foot x 4
Option	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

(*1) 0dB = 1V

(*2) Not compatible with SDXC memory cards

TOA

Smiles for the Public