Network Converter Series

NCS System

MAJORCOM

We have developed a network converter system according to the demand of market to control in integrated way independent broadcasting systems distributed to wide regions by linking each other.
There are many difficulties in costs, efficiency, and time aspects to change all of established existing equipment and to introduce a new system.
The new network system can link or extend other total products as well as Inter-M equipment including already installed 6000 system, NPX system, and ARM-911A, and can control each region in integrated way.
In addition, it provides easy wiring and installation with the operation of system based not on line method of wiring but on TCP/IP network, and can control the whole system in convenient and integrated way through a control program based on web control method.

Introduction of Network Converter

A network converter system is a system expandable over 512 zones based on 48 sources (24 tone generating devices / 24 remote microphones) input and 24 buses output. This system enables to link each other in independent space and many places and to control in wide and integrated method.
In addition, when it is needed to extend to additional equipment, it can extend simply even in any place where the network is connected.
The network converter system enables the output to various zones with only one amplifier and can diversify by zone using one amplifier to one zone. It can be installed with a simple hardware installation and its detailed setting is completed with the software.

User can build network-based integrated systems by adding network converters to existing analog devices.

User can configure optimized system for various environment of requirement when expanding and integrating a broadcasting system.

Product Line-up

Model name	Description	Remark
NCS-1000	Network Control Server	Main Network Management Server
NC-900	6000 Analog Network Converter	6000 Analog Converter
NC-600	6000 1BUS/8BUS Network Converter	6000 1/8 BUS Converter
NC-S01	Source Network Converter	Source Converter (CD Player, Tuner, etc.)
NC-M01	Remote MIC Network Converter	Remote MIC Converter
MS-N300	Network Control Software	Main Network Management Program

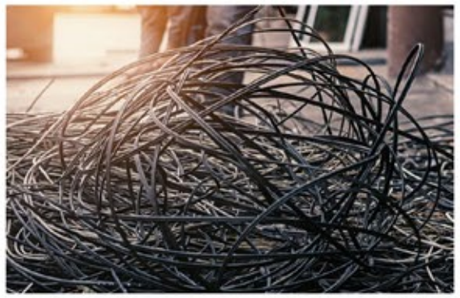
Network Audio Converters

Saving Line Construction Time and Costs

By connecting with networks not using line installation method needed to the integration but it saves labor costs and time for routing line by using the converter.

Response to Market Demands

Currently, most markets demand to using independent broadcasting systems in many places by linking and integrating, and in order to control this, we respond to the market demands with NCS System to control decentralized various regions in integrated method.



Convenient Mobility of Equipment

If needing to move a remote MIC at school or public office, previously much time and additional costs were needed due to the rerouting of line but now only connecting with the networks using the converter enables time and costs saving.

Compatible Among Products

It is compatible with any other product and what you only have to do is adding the converter to your used product.

Security and Safety to Hacking

It secures the safety from hacking with the software based product.

Convenient Broadcasting System Through Network

Analog line method

Existing analogue method of broadcasting system required a complicated and expensive hardware configuration as it is directly wired with line in order to install to wider regions.
However, the complicated wiring method becomes simpler with one wire and the costs to establish integrated broadcasting system based on the new network are largely saved due to digitalization of broadcasting system.

Digital network method

All-In-One Remote Integrated Control

Configuration with independent managing point

Conventional broadcasting system had an independent managing point by each building but now you can control and configure independent managing points using the network converter in integrated method.

Remote integrated control configuration

Intuitive Interface

It provides familiar and accustomed user environment through similar GUI with MS-6800, a software of existing 6000 system.

You can monitor all equipment connected to the network and can control a variety of broadcasting regions equipments via intuitive interface.

Menu - Equipment Monitoring

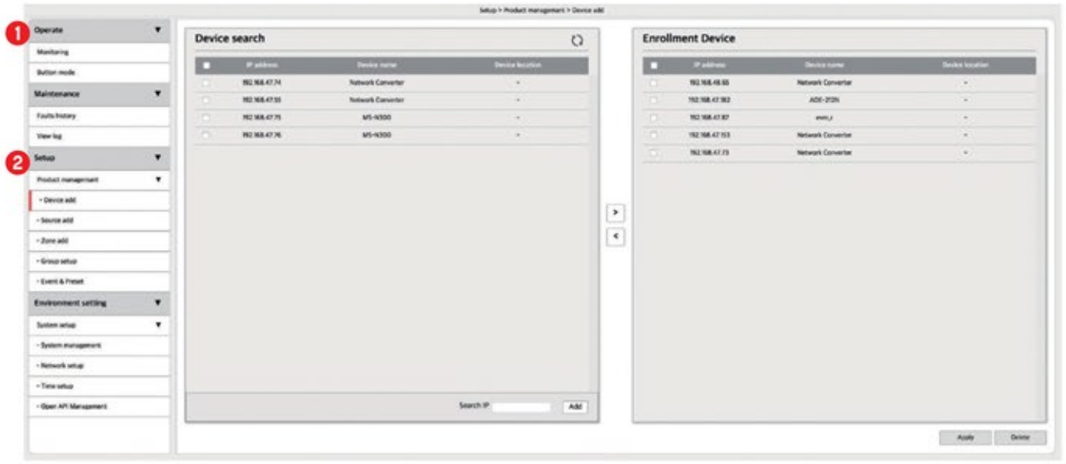
You can check and control the status of equipment via equipment monitoring menu.

Menu - Button Mode

Under button mode, you can select the tone generator via registered source equipment to send by each group and region. You can adjust the tone generator and control the contact.

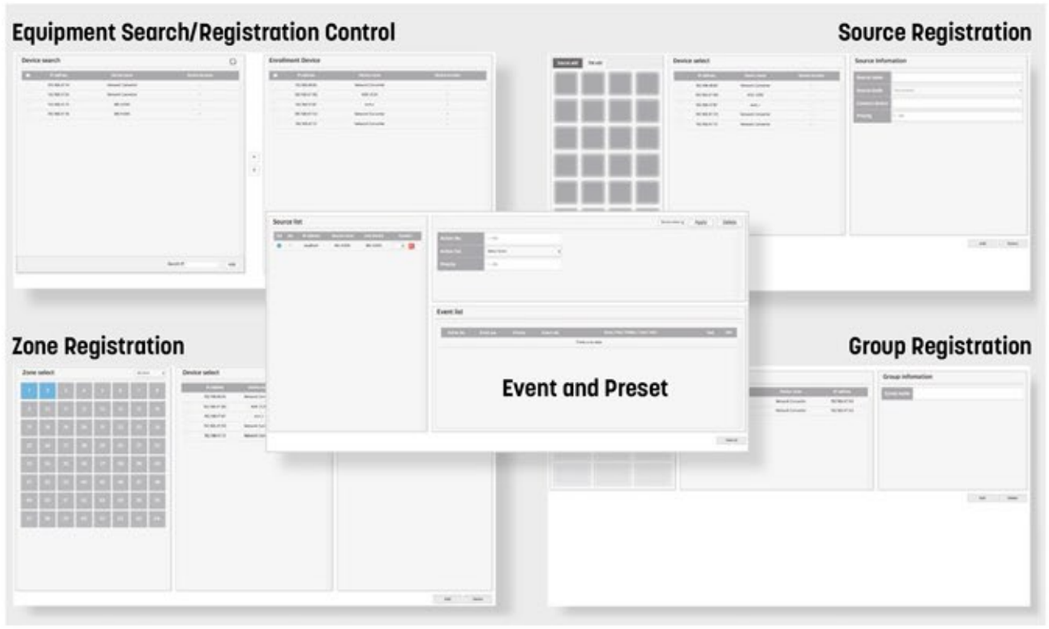
GUI Optimal to Environment

It provides [Setting Menu] for providing GUI optimized to environment and provides [Operating Menu] for operating the actual broadcasting when installing the broadcasting system.



1 You can select the source of zone and can control the broadcasting from operating menu.

2 You can search the equipment via network to register or can configure & group the zone in the broadcasting region from setting menu.



NCS-1000

Main Network Management Server

- NCS-1000 is a server to control all equipment connected with the network as a hardware equipment for integrated network control.
- Controls all sound & video equipment connected to network in integrated method.
- Equipment DB control connected to the network.
- Applies a standard network protocol.
- Supports DHCP, STATIC IP (Default setting: STATIC IP, 192.168.1.99).
- Supports network redundancy.
- Provides web-based integrated control software (MS-N300).

Model	NCS-1000
Network Communication	10/100/1000 Base-T (RJ-45)
Operating Temperature	0°C ~ +40°C
Power Source	120-240V, 50/60Hz, 10W, DC 24V, 350mA
Dimensions (WxHxD)	482 x 44 x 280mm
Weight	3kg

Front panel

1. Network (primary,secondary) LED
2. OLED display
3. Display mode switch
4. Power LED

Rear panel

1. AC inlet
2. AC power switch
3. DC power connection terminal
4. Network (secondary) connection terminal
5. Network (primary) connection terminal
6. Factory reset switch

NC-900

6000 Analog System Converter

- NC-900 is an equipment to send & receive contact signal to from network for integrated network control of 6000 Analog System.
- Controls ES-6116, PS-6116, RG-6116, EP-6216 via network.
- Sends/receives Audio (MP3, PCM, RTSP) via network.
- Supports DHCP, STATIC IP (Default setting: STATIC IP, 192.168.1.99).
- Supports network redundancy.

Model		NCS-900
AUDIO	Audio Input	1 Channel
	Audio Output	1 Channel
	Input Sensitivity	0dBV
	Frequency Response	20Hz ~ 20kHz
	THD+N ratio (20kHz LPF, 0 dBV, 1kHz)	< 0,1%
	S/N (20kHz LPF, 0 dBV, 1kHz)	> 80dB
	Sampling Frequency	44.1, 48kHz
Contact Closure	Contact Closure Iutput	16 Channel
	Contact Closure Output	16 Channel
Communication	Network Communication	10/100/1000 Base-T (RJ-45)
Operating Temperature		0°C ~ +40°C
Power Source		24V DC, 350mA
Dimensions (WxHxD)		482 x 44 x 280mm
Weight		3kg

Front panel

1. Network (primary,secondary) LED
2. OLED display
3. Display mode switch
4. Power LED

Rear panel

1. DC adapter connection terminal
2. Contact closure input terminal
3. Contact closure output terminal
4. EP-6216 connection terminal
5. Audio input terminal
6. Audio output terminal
7. Network (secondary) connection terminal
8. Network (primary) connection terminal
9. Factory reset switch

NC-600

6000 1/8 BUS System Converter

- NC-600 is an equipment to send audio, contact, and data signal to network for integrated network control of 6000 1/8 Bus system.
- PX-6216/ECS-6216P RM Interface via network.
- Contact terminal interface of ECS-6216MS via network.
- Sends/receives Audio (MP3, PCM, RTSP) via network.
- Supports DHCP, STATIC IP (Default setting: STATIC IP, 192.168.1.99).
- Supports network redundancy.

Model		NCS-600
AUDIO	Audio Input	1 Channel
	Audio Output	1 Channel
	Input Sensitivity	0dBV
	Frequency Response	20Hz ~ 20kHz
	THD+N ratio (20kHz LPF, 0 dBV, 1kHz)	< 0,1%
	S/N (20kHz LPF, 0 dBV, 1kHz)	> 80dB
	Sampling Frequency	44.1, 48kHz
Contact Closure	Contact Closure Output	16 Channel
Communication	Serial Communication	RS-422
	Network Communication	10/100/1000 Base-T (RJ-45)
Operating Temperature		0°C ~ +40°C
Power Source		DC 24V, 550mA
Dimensions (WxHxD)		482 x 44 x 280mm
Weight		2,9kg

Front panel

1 Network (primary,secondary) LED 2 OLED display
3 Display mode switch 4 Power LED

Rear panel

1 DC adapter connection terminal 2 Contact closure output terminal
3 PX-6216 / ECS-6216P connection terminal 4 Audio input terminal 5 Audio output terminal
6 Network (secondary) connection terminal 7 Network (primary) connection terminal
8 Factory reset switch

NC-S01

Source Device Converter

- NC-S01 is an equipment to control source equipment like CD player and Tuner with network in integrated way.
- RS-232C control via network (remote control of source equipment , CD-6208).
- Audio (MP3, PCM, RTSP) sending via network.
- Supports DHCP, STATIC IP (Default setting: STATIC IP, 192.168.1.99).
- Supports network redundancy.
- 1U Half Rack Size.

Model			NC-S01
AUDIO	Audio Input		1 Channel
	Input Sensitivity	CD INPUT	6 ±3dBV
		RM-6024	0 ±3dBV
	Frequency Response		20Hz ~ 20kHz
	THD+N ratio (20kHz LPF, 0 dBV, 1kHz)		< 0,1%
	S/N (20kHz LPF, 0 dBV, 1kHz)		> 80dB
	Sampling Frequency		44.1, 48kHz
Communication	Serial Communication		RS-232, RS-422
	Network Communication		10/100/1000 Base-T (RJ-45)
Operating Temperature			0°C ~ +40°C
Power Source			Input : DC 24V, 800mA // Output : DC 24V, 500mA
Dimensions (WxHxD)			210 x 44 x 180mm
Weight			1kg

Front panel

1 Network (primary, secondary) LED 2 Power LED

Rear panel

1 DC adapter connection terminal 2 DC input power connection terminal
3 DC output power connection terminal 4 Audio input terminal 5 RM-6024 connection terminal
6 RS-232 connection terminal 7 Network (secondary) connection Terminal
8 Network (primary) connection Terminal 9 Factory reset switch

NC-M01

Remote MIC Converter

- NC-M01 is an equipment to send audio, contact, and data signal to network for integrated network control of remote MIC such as RM-6016.
- Contact interface of RM-6016 via network.
- Audio (MP3, PCM, RTSP) sending via network.
- Supports DHCP, STATIC IP (Default setting: STATIC IP, 192.168.1.99).
- Supports network redundancy.
- 1U Half Rack Size.

Model		NC-M01
AUDIO	Audio Input	1 Channel
	Input Sensitivity	0dBV
	Frequency Response	20Hz ~ 20kHz
	THD+N ratio (20kHz LPF, 0 dBV, 1kHz)	< 0,1%
	S/N (20kHz LPF, 0 dBV, 1kHz)	> 80dB
	Sampling Frequency	44.1, 48kHz
Contact Closure	Contact Closure Output (NC-M01)	16 Channel
Communication	Network Communication	10/100/1000 Base-T (RJ-45)
Operating Temperature		0°C ~ +40°C
Power Source		Input : DC 24V, 800mA // Output : DC 24V, 500mA
Dimensions (WxHxD)		210 x 44 x 180mm
Weight		1kg

Front panel

1 Network (primary, secondary) LED 2 Power LED

Rear panel

1 DC adapter connection terminal 2 DC input power connection terminal
3 DC output power connection terminal 4 Contact closure input terminal
5 Audio input terminal 6 Network (secondary) connection Terminal
7 Network (primary) connection terminal 8 Factory reset switch

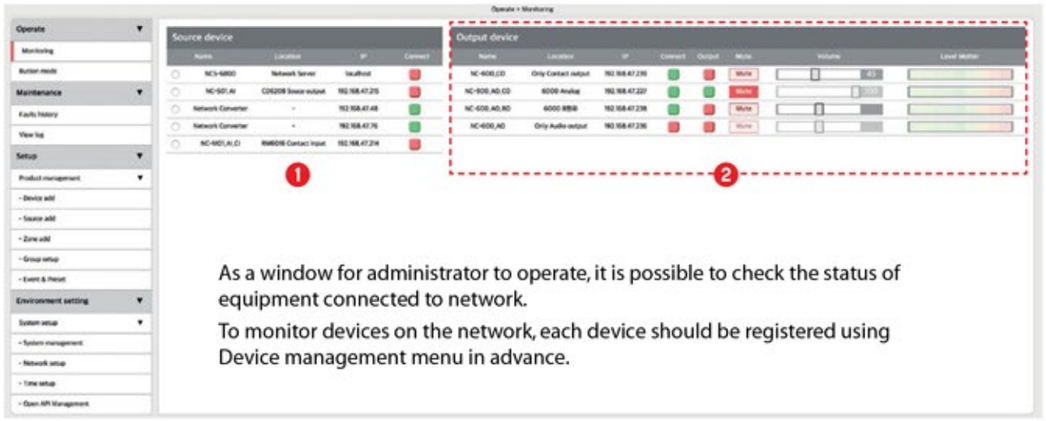
MS-N300

Integrated Control Software

MS-N300 is a control program of NCS-1000, a main server and it can control & monitors the whole system easily via web page.

- UI style & button type broadcasting operation of 6000 system
- Extending the broadcasting zone with 24 source MICs & 512 remote MICs
- Sending of remote equipment and monitoring of tone generator
- Editing of source and zone information
- Editing of events and broadcasting preset motions
- Synchronizing of internet time
- Equipment updating via web
- Load & Save function of equipment setting DB
- Applying 256 bit security access key

Equipment Monitoring



As a window for administrator to operate, it is possible to check the status of equipment connected to network.

To monitor devices on the network, each device should be registered using Device management menu in advance.

❶ Source equipment

It indicates a source equipment list connected to network and thus, user can check easily.

Source device

A Name	B Location	C IP	D Connect
NCS-6800	Network Server	localhost	
NC-S01_AI	CD6208 Souce output	192.168.47.215	
Network Converter	-	192.168.47.48	
Network Converter	-	192.168.47.76	
NC-M01_AI_CI	RM6016 Contact Input	192.168.47.214	

A/ Equipment Name: It indicates the equipment name of registered source equipment.

B/ Position: It indicates the position of registered source equipment.

C/ IP: It indicates IP of registered source equipment.

D/ Connection Status: It indicates the connection status of registered source equipment as green & red LEDs.

❷ Output equipment

It indicates status & manipulation of output equipment connected to network and makes the user manage easily.

Output device

A Name	B Location	C IP	D Connect	E Output	F Mute	G Volume	H Level Metter
NC-600_CO	Only Contact output	192.168.47.239			Mute	45	
NC-900_AO_CO	6000 Analog	192.168.47.227			Mute	100	
NC-600_AO_RO	6000 8원화	192.168.47.238			Mute		
NC-600_AO	Only Audio output	192.168.47.236			Mute		

A/ Equipment Name: It indicates the equipment name of registered output equipment

B/ Equipment: It indicates the position of registered output equipment

C/ IP: It indicates IP of registered output equipment

D/ Connection Status: It indicates the connection status of registered output equipment as green & red LEDs

E/ Output: It indicates the output status of registered output equipment. Display green LED if it is on output, otherwise display red LED.

F/ Mute: When pressing Mute button, the background of button is changed as red together with mute function

G/ Volume: You can adjust the volume from 0 to 100 using volume control bar

H/ Level Meter: It displays broadcasting output level meter

How to Use Software MS-N300

Button Operating Mode

❶ Source control

The image of selected source device (CD or TUNER) is displayed.

CD control window

TUNER control window

❷ Source selection

It is a window to select the source meeting the requirements of user.

Source type

Lecteur CD | BGM (autre source) | Tuner (RS232C) | RM (pupitre micro)

Source status

Network connected: Source device can be controlled remotely

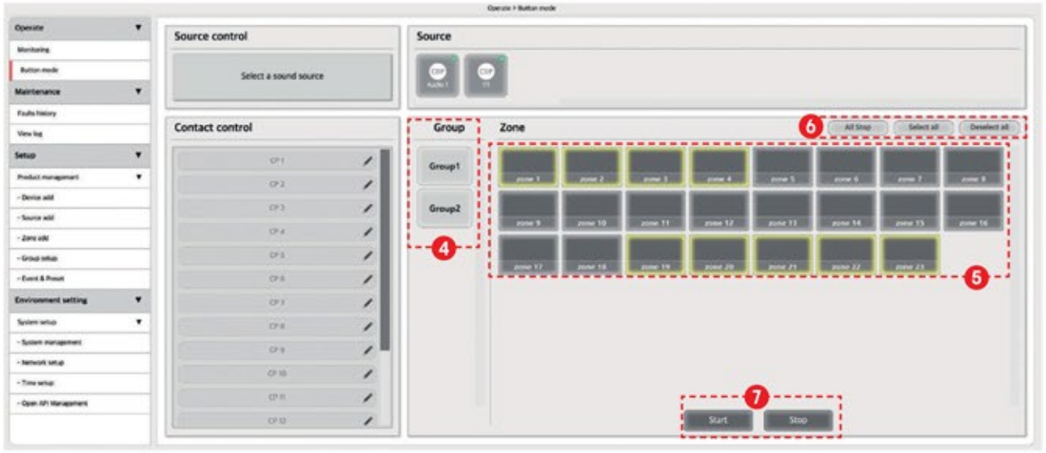
Network disconnected: Unable to control source device remotely

❸ Contact control

- Contacts selected in Event&Preset are activated and displayed on the list.
- Up to 16 virtual contacts can be set up
- Contact can be selected in Event & Preset to be applied to a certain OUTPUT zone.
- When clicking on an activated contact, broadcasting Is outputted to selected OUTPUT zones without clicking START BROADCASTING button.
- Clicking on an activated contact(1~16), the name of contact can be changed.

How to Use Software MS-N300

Button Operating Mode (following)



4 Group selection

- The image of selected source device (CD or TUNER) is displayed.
- Group selection is possible in the range of Group 1 ~ 12 and you can view the group number list by scrolling the right BAR up/down.
- When selecting the group with the preset group information, the region is selected.
- Multiple selection is possible.

5 Region selection

- When selecting directly group selection or region, the selected region indicates the border to divide the selection.
- When re-selecting the selected region, the selection is canceled.

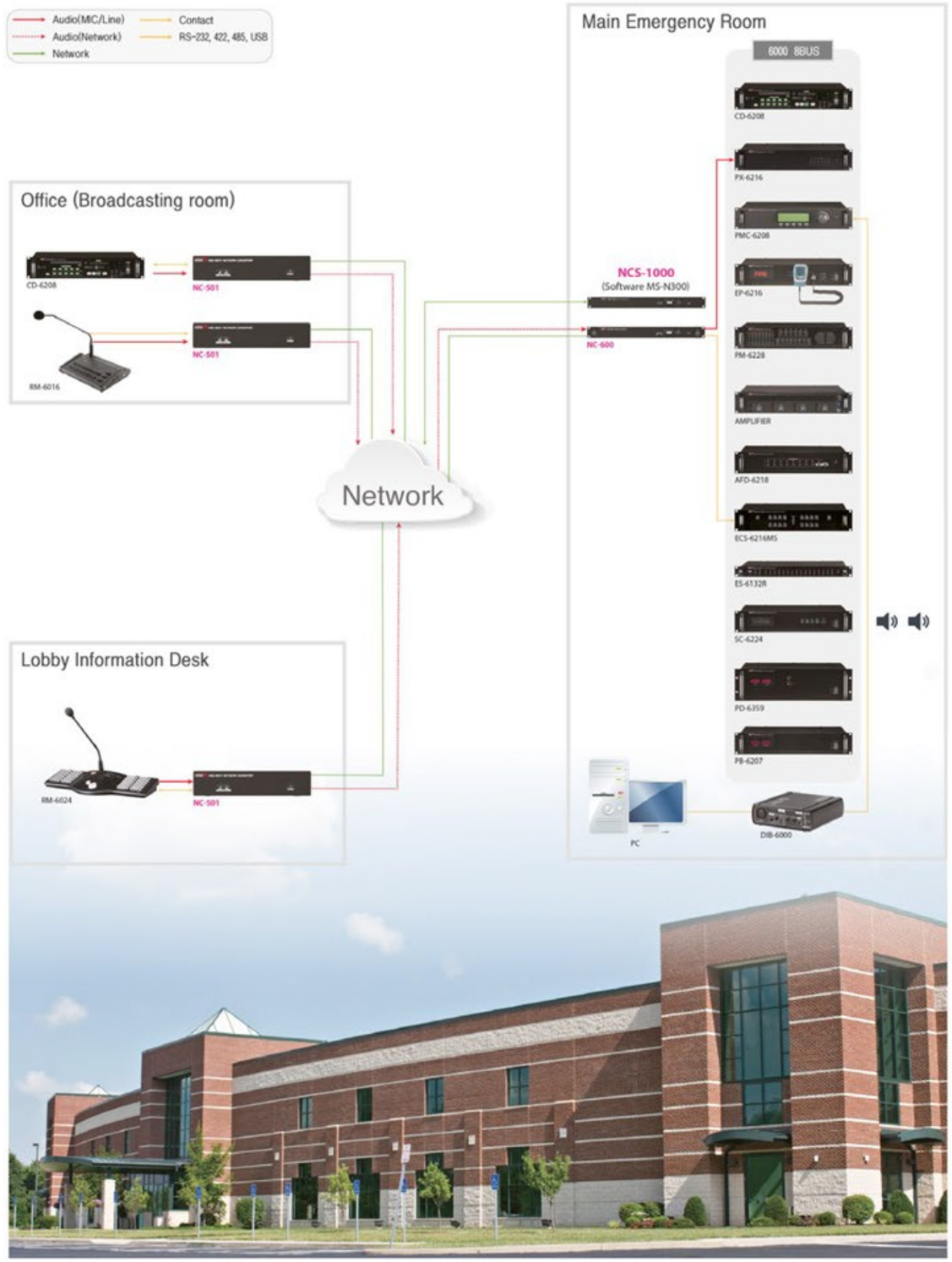
6 End all broadcastings - Select all - Deselect all

- End all broadcastings: All priority broadcastings are reset and terminated. Please note that priorities set in Event & Preset are preserved.
- All selection: All regions are selected.
- Canceling all selection: The selection of all regions is canceled..

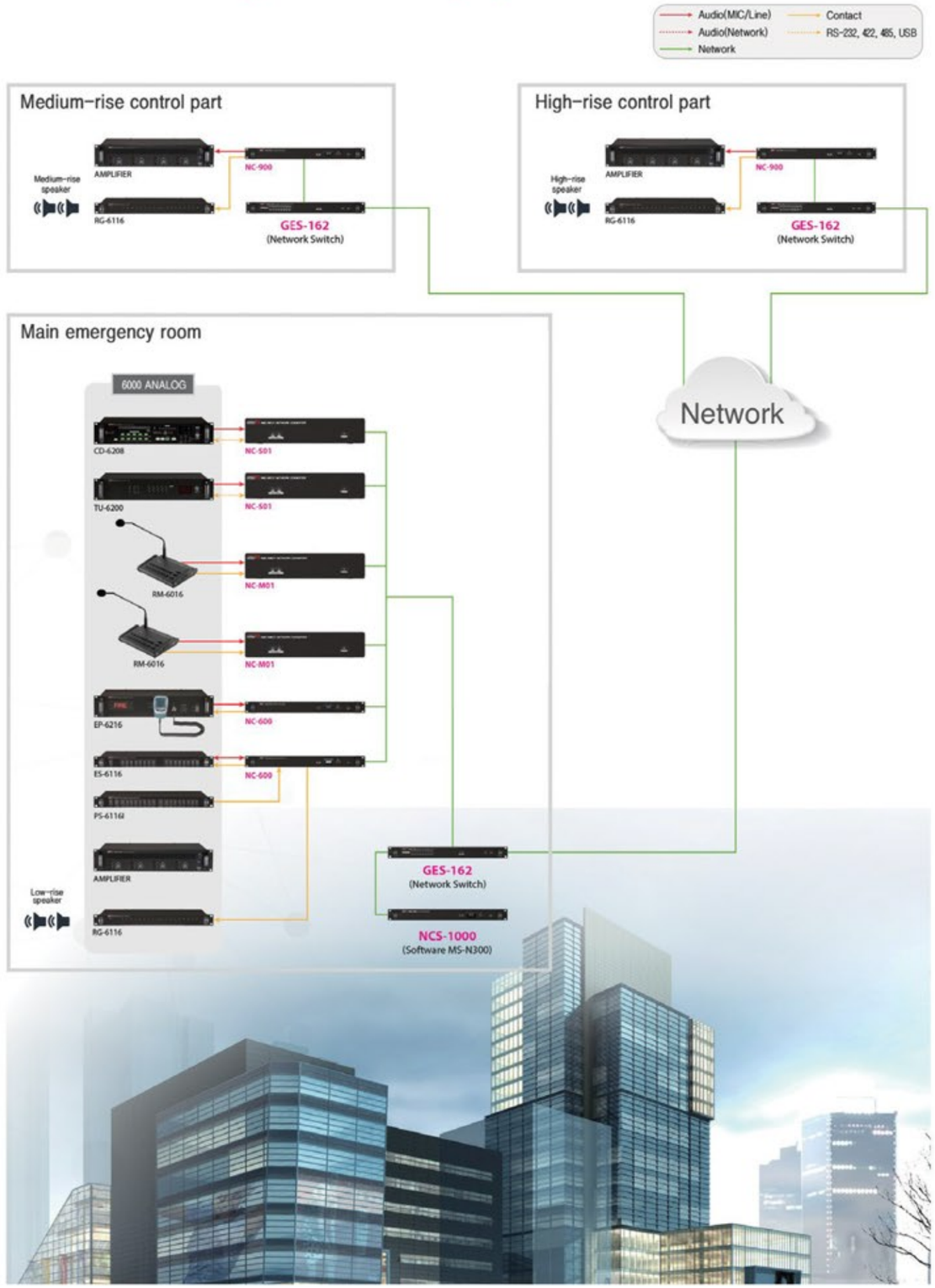
7 Broadcasting start and broadcasting end

- Broadcasting start: The selected tone generator is sent to the selected region.
- Broadcasting end: The sending broadcasting is ended.

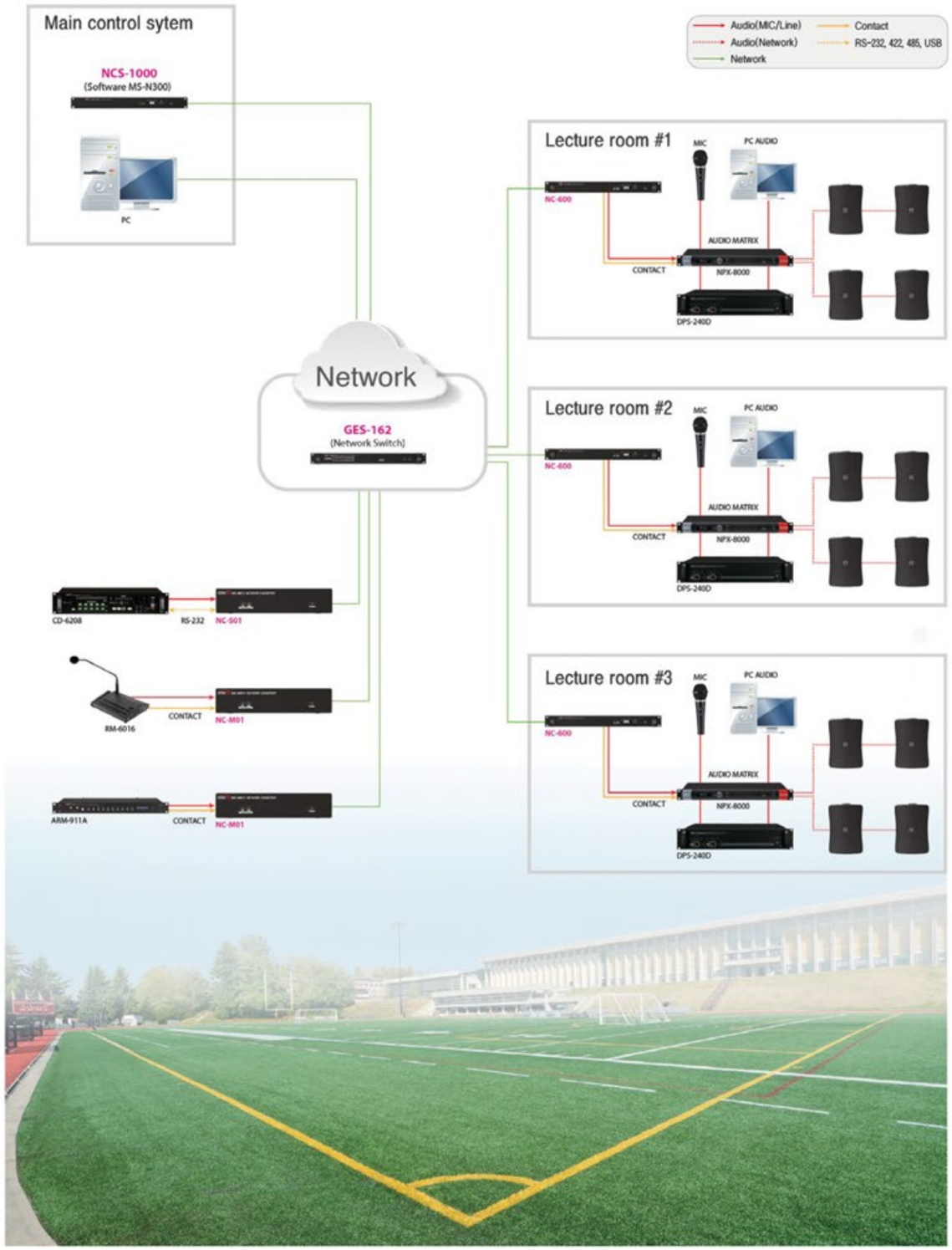
Government Office Application Cases



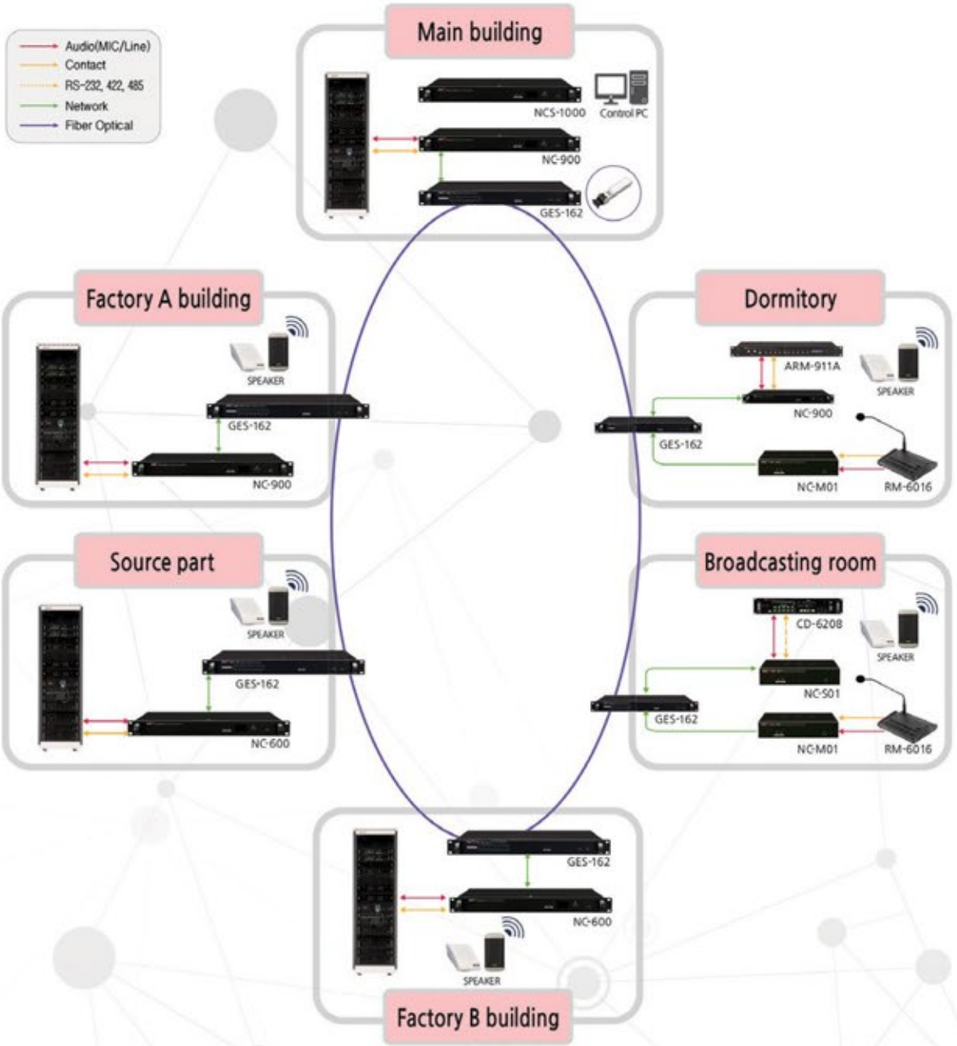
High-Rise Building Application Cases



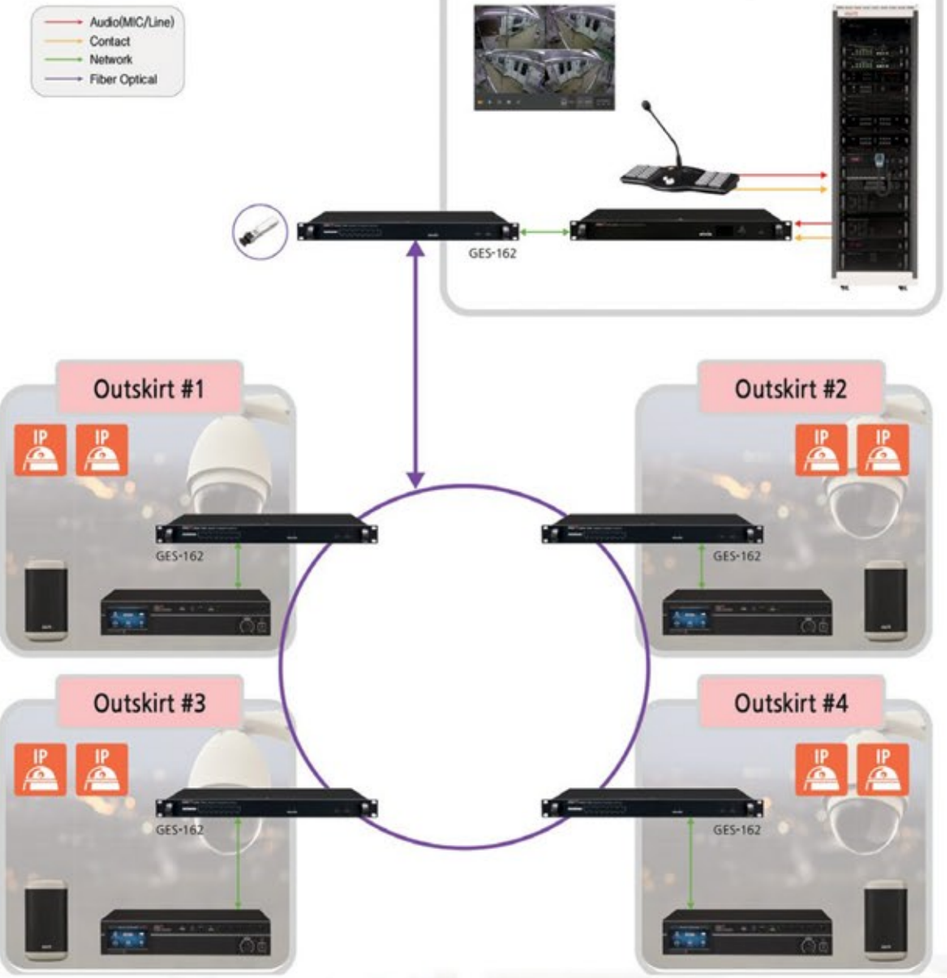
University Application Cases

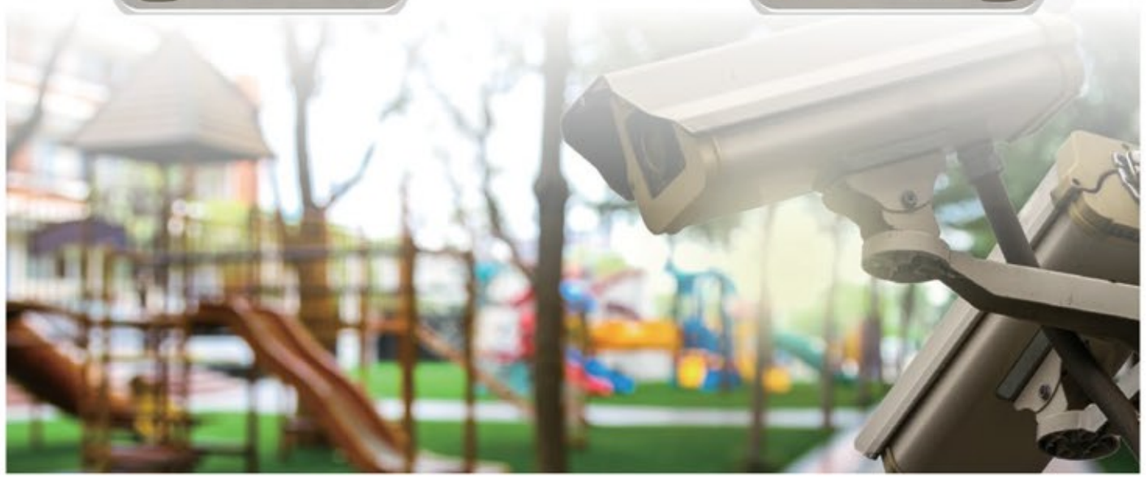


Industrial Complex
(Network Converter + GES-162)



CCTV Broadcasting Facility System





Notes

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