



# TOA SX-1000 Series Matrix PA Management System

VERSATILE AUDIO SIGNAL ROUTING AND  
EXACT SIGNAL DISTRIBUTION  
WHERE YOU WANT IT, WHEN YOU WANT IT!



# Flexible System, that can adjust your changing needs!

## *Expandability and Flexibility*

In the past, customers had to make special orders to own PA systems that met their unique demands. That often meant high cost and long wait until satisfactory product was delivered to customers. Adding new rooms or changing floor plans may have meant that a building also needed a new PA system.

The TOA SX-1000 Series Matrix PA Management System solves all these problems with built-in expandability and flexibility. From the smallest configuration of 4 inputs and 4 outputs to the maximum of 64 simultaneous inputs and 64 outputs, the SX-1000 Series will meet just about any customer needs. Increments can be made for every 4 inputs or outputs. Control inputs and outputs can be expanded to the maximum total of 128. Expansion is simple. The SX-1000 Series has adopted the motherboard/plug-in cards structure. The main frame holds up to 10 plug-in cards. If that is insufficient up to 4 additional expansion frames each holding 10 cards can be added. Except for the power cable and a few control lines, the expansion boards, power source unit and connections are inserted from front of the system. Complex rewiring is a thing of the past with the SX-1000 Series.

## *Easy Operation and Maintenance*

Operation and maintenance are simple. The system is controlled by a software. Its operation can be performed by using only the large LCD (320x240 dot) and function keys. Graphically designed screen images and pop-up menus on every page frame make the operation of the system easy. The standard remote microphone (SX-1200) also comes with an LCD and many LED indicator lights, in order to make operator's or announcer's job easier and more accurate. Priorities can be assigned to each audio signal. There are also special functions available for controlling the sequence of multiple audio signals of the same priority. Surveillance software for monitoring the operation of the matrix system and self-diagnosis is installed. The self-diagnosis function also detects audio signal line problems, in addition to those that may arise within the system itself. It also saves up to 1,000 operational events as historical data.

Further, the TOA SX-1000 Series can be connected to a PC. The menu-driven software allows many parameters to guide the operation of the system on a PC screen for an easy setup, even while the system is in operation.

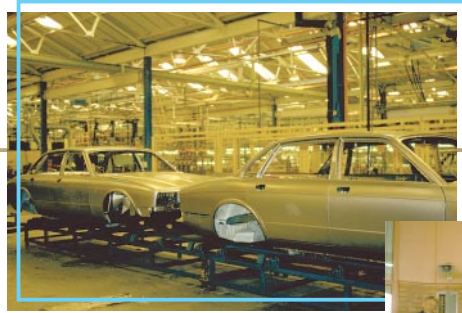


### **SX-1000 Matrix Controller System**

SX-1000-4	Main Frame (4-In/4-Out)
SX-1000-8	Main Frame (8-In/8-Out)
SX-1010	Audio Input Board (4 inputs)
SX-1050	Remote Mic Input Board (4 inputs)
SX-1020	Audio Output Board (4 outputs)
SX-1030	Control Input Board (16 inputs)
SX-1040	Control Output Board (16 outputs)
SX-1001	Expansion Frame
SX-1060	Expansion Board
M-F2048	Expansion Memory Card

The TOA SX-1000 Series Matrix PA Management System is ideal for office buildings, department stores/shopping centers, large hospitals, factories, large schools, airports, convention centers and sports arenas. The SX-1000 Series makes design and operation of PA systems easier. The TOA SX-1000 Series also realizes comprehensive PA management system with link to the Building Management System (BMS) and fire alarm system. Paging, emergency announcements and playing different BGM in multiple target areas, the SX-1000 Series can handle all these and much more.

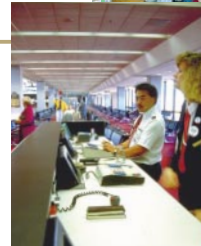
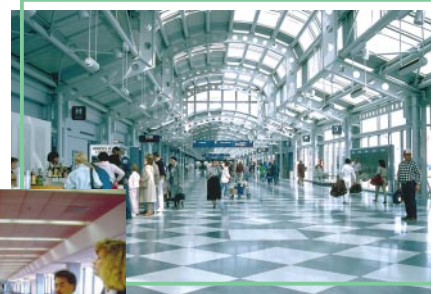
**Factory**



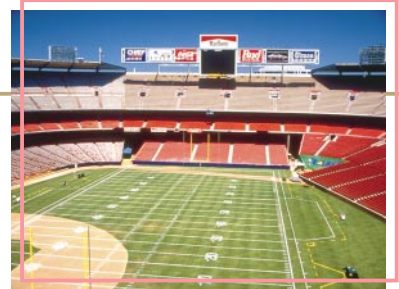
**Convention Center**



**Large Hospital**



**Department Store**

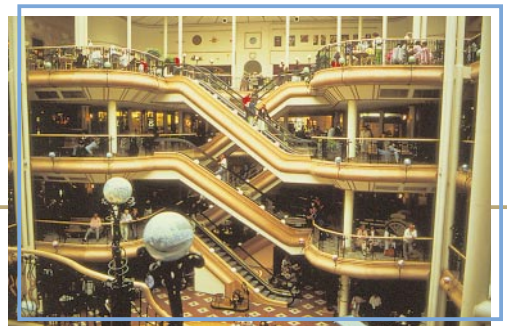


**SX-1200 Intelligent Remote Microphone**

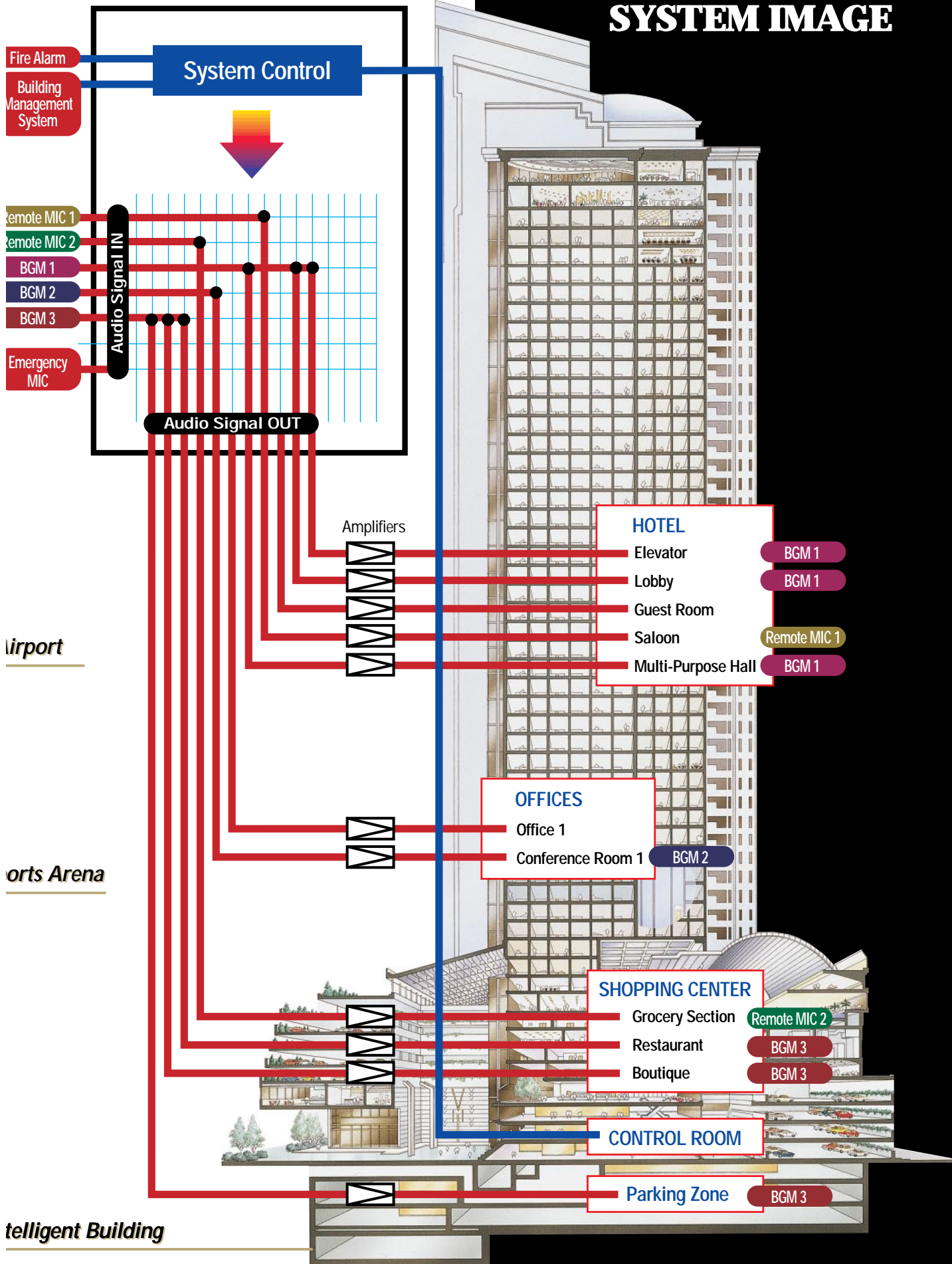


SX-1200 is an intelligent microphone loaded with its own CPU and an LCD. Up to 20 combinations of broadcast zones can be registered into the remote microphone and these zones can be recalled by simply pressing the corresponding group selector key. Each group selector key is equipped with a busy indicator, thus preventing unnecessary interruption of other broadcasts. Individual zones not pre-registered in groups can also be selected for broadcasting. An internal PCM sound source can generate different chimes before and after an announcement. The internal speaker ensures accurate announcement timing. All key operations are displayed on the LCD for simpler and more accurate key strokes.

**Shopping Center**



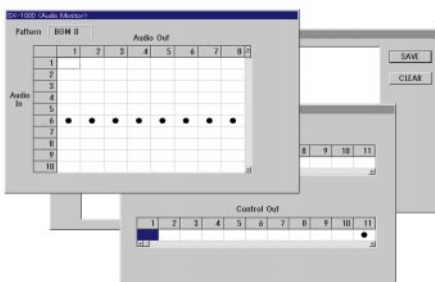
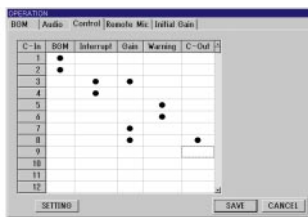
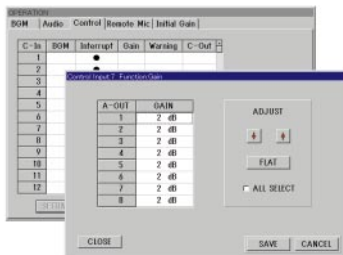
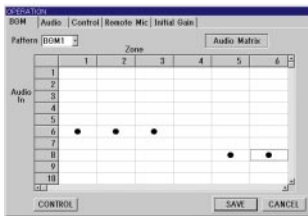
# SYSTEM IMAGE



# An Intelligent System that meets modern demands

## System Setup using a Desk-Top Computer

A desk-top computer can be connected to the system by using the serial port. A standard control software that runs on Windows95 is prepared. This software assists user in setting up the system and monitoring its operation through user-friendly GUI (Graphical User Interface). Various parameters, such as audio signal routing, priority control of audio inputs and output signal level, can be assigned with simple movement of a mouse. These parameters can be uploaded and downloaded, which makes the running and maintenance of the system simple.



## Self-Diagnosis

The system runs self-diagnosis of the 16 digital buses, system structure, power source, memory, communication, software induced errors and communication with the host computer. It also checks power source, memory and communication status of remote microphones. Any abnormality will be displayed on the main-frame's LCD and reported to the host PC and peripherals.

## Operational History

The system records up to 1000 events, the time when specific events took place, their contents and the results of self-diagnosis. The data can be uploaded to the host computer for later analysis.

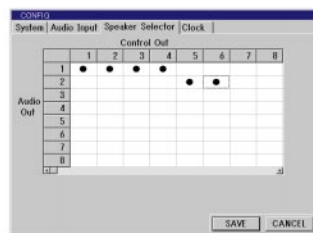


## Failure-Proof

The SX-1000 Series also comes with an analog circuit for an emergency override. It is connected directly to the audio output units, bypassing the usual digital circuitry.

## Speaker Selector Control

The system's control output signal can be used to control a speaker selector. This feature increases efficiency of broadcasting control in a small area where simultaneous broadcasting is not necessary.



# Specifications



## SX-1000 Matrix Controller System (General Specifications)

Power Source	100 - 120V AC or 220 - 240V AC, 50/60Hz
Power Consumption	Max. 100W
Operating Temperature	0° - 40°C
Display	320 x 240 dot LCD
Operation	Function keys/Cursor movement keys/Circle entry key
Audio Input Level:	0dBV Input Impedance: 10kOhm, electronically-balanced Number of Inputs: Max. 64
Audio Output	Output Level: 0dBV Output Impedance: 600Ohm, transformer-isolated balance Number of Outputs: Max. 64
Audio I/O Characteristics (Line Level)	Frequency Characteristics: 20 - 20,000Hz (0dB, -3dB) Sampling Frequency: 48kHz Dynamic Range: Over 85dB AD Converter: 18 bits DA Converter: 20 bits
Buses	16 digital buses
Remote Microphone Interface	Number of Connectable Microphones: Max. 18
Host PC Interface	1 x RS-232C
Control Input	No-Voltage Make-Contact Input: Photo-coupler (Release Voltage: 24V DC/Short Circuit Current: 5mA) Number of Control Inputs: Max. 128
Control Output	No-Voltage Make-Contact Output: Relay contact output (Withstand Voltage: 30V DC/Control Current: 250mA) Number of Control Outputs: Max. 128
Self-Diagnostic Output	No-Voltage Make-Contact Output: Relay contact output (Withstand Voltage: 30V DC/Control Current: 250mA) Make contact/Break contact (Selectable by jumper setting change)
Finish	Front Panel: Colored steel plate, Black
Dimensions (W x H x D)	482 x 221.4 x 366.3 (mm) (Screws and projections excluded)

## SX-1200 Remote Microphone

Power Source	24V DC (Operating Range: 16 ~ 33V DC)
Current Consumption	140mA
Audio Output	0dBV, 600Ohm, balanced
Microphone	Uni-directional electret condenser type
Chime	4 kinds of built-in chime with PCM sound source, monitored by built-in speaker
Controls	Microphone sensitivity control Monitor speaker volume control Chime volume control
Optional Connection Cable	YR-2010 (in coils of 200m)
Maximum Connection Distance	1,000m
Operating Temperature	0 - 40°C
Finish	ABS resin, Bright gray
Dimensions (W x H x D)	241 x 51 x 151 (mm)
Weight	0.6kg
Standard Accessory	Mounting bracket



## SX-1100 Remote Input Panel

Power Source	100 - 240V AC, 50/60Hz
Current Consumption	6W
Data Line	2-wire system, non-polarized
Control Input	16 inputs, Photo-coupler input (Open Voltage: 24V DC, Short-Circuit Current: 5mA)
Operating Temperature	0 - 50°C
Finish	Panel: Colored steel plate, Black Case: Electrolytic zinc steel plate, Black
Dimensions (W x H x D)	482 x 44 x 201.3 (mm)



## SX-1110 Remote Output Panel

Power Source	100 - 240V AC, 50/60Hz
Current Consumption	6W
Data Line	2-wire system, non-polarized
Control Output	16 outputs, Relay contact output (Withstand Voltage: 30V DC, Withstand Current: 250mA)
Operating Temperature	0° - 50°C
Finish	Panel: Colored steel plate, Black Case: Electrolytic zinc steel plate, Black
Dimensions (W x H x D)	482 x 44 x 201.3 (mm)

