High value of Japanese technology in both Hardware and Software

Quality control on the Factory Floor

TOA uses its very own factories both within Japan and overseas. Numerous engineers from Japan are sent to our overseas production plants to ensure that the state-of-the-art equipment adheres to the same stringent quality control system used in our Japanese production facilities. Furthermore, twice a year members from our Quality Control Division visit overseas production facilities to carry out inspections and make sure that quality standards are being maintained.

Compliance with Laws and Regulations

TOA is constantly carrying out tests to ensure that products comply with various regulations and standards around the world: safety regulations including UL, CE, CCC, RoHS, WEEE, EN 54, SASO, and REACH; the standards for each country; and ISO 9001. We do this so that consumers have complete peace of mind when using our quality products.
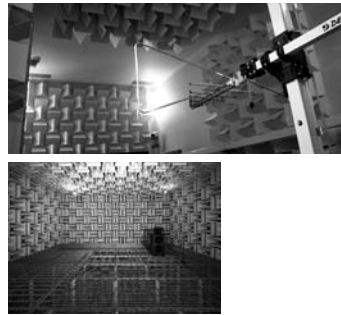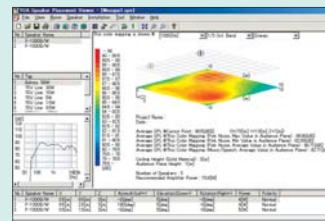
State-of-the-Art Equipment

In order to satisfy the legal requirements and conditions of each country, products must pass a large number of stringent tests. By installing various kinds of testing facilities, such as anechoic/echoic chambers and EMC test chambers, and by carrying out in-house testing, TOA has been able to improve its development efficiency.

TOA Speaker Placement Viewer: Software for Acoustic Simulation

At TOA, we are constantly trying to improve our services and share information with our customers. TOA Speaker Placement Viewer provides an easy way to calculate how many speakers are needed in a room. The software allows virtual placement of TOA Line Array, as well as all TOA Public Address and ProSound speakers.

Human Society with Sound & Communication

TOA

Solutions for
Airport Environments

Simple and Smart Paging

security Information

Passenger Paging

Emergency Evacuation Instructions

Background Music

General Announcements

Flight Information

TOA Sound Systems
for safe, reliable, and punctual airport operation

Clear announcement is achieved with TOA high quality and intelligent products. Boasting compact size and easy setup.

What Makes a Good Airport Sound Systems?

Airport announcements are an indispensable service to help airline passengers and anyone who meets or sees off passengers to accomplish their objectives. Airports are divided into areas for each process in the flow of arriving and departing passengers, and announcements should be distributed to the appropriate areas according to each purpose. In a well-designed system, paging zones are setup for each area. Microphones with zone selection are properly placed and programmed of priority function to precede others in case of emergency or superiority. Backup power sources, drives emergency announcements during power failures, and pre-recorded evacuation instructions can be automatically broadcasted in coordination with fire alarm systems.

The main purpose of sound system at airport is to broadcast proper messages clearly to the people who need information. The sound system design needs acoustical approach as well as functional configuration. For the optimum intelligibility of announcement, the sound level of broadcasting needs to be 6 to 10dB higher than ambient noise and the direct sound should be much louder than the reflection. However, actual airports are filled with ambient noise, echo and long reverberation, consequently announcements are prone to be unclear. In those areas the speakers must be appropriately selected and located according to the architecture and ambient noise. Line array speaker helps reducing echo and reverberation. Ambient noise controller is a convenient tool to automatically adjust the suitable announce level according to fluctuating ambient noise. In addition, TOA's sound simulation software, available free of charge, makes speaker selection and configuration super-easy.

Airport Announcements

General Announcement

Includes paging and general instructions for airport users, and is broadcasted to specific areas or to all areas from a microphone at the information desk or operation center. Background music (BGM) is often distributed to create a comfortable atmosphere.

Departure Announcement

Is made for departing passengers to give flight information such as carrier name, flight number, destination, departure time and boarding gate. This announcement gets passengers moving smoothly from check-in to boarding. The main announcement areas are the Departure Hall, Concession and Final Boarding Area.

Final Boarding Announcement

Is broadcasted to passengers who have checked in and on standby. Boarding time, gate number, boarding order, and other instructions are announced only for the Boarding Area through a local microphone at the gate.
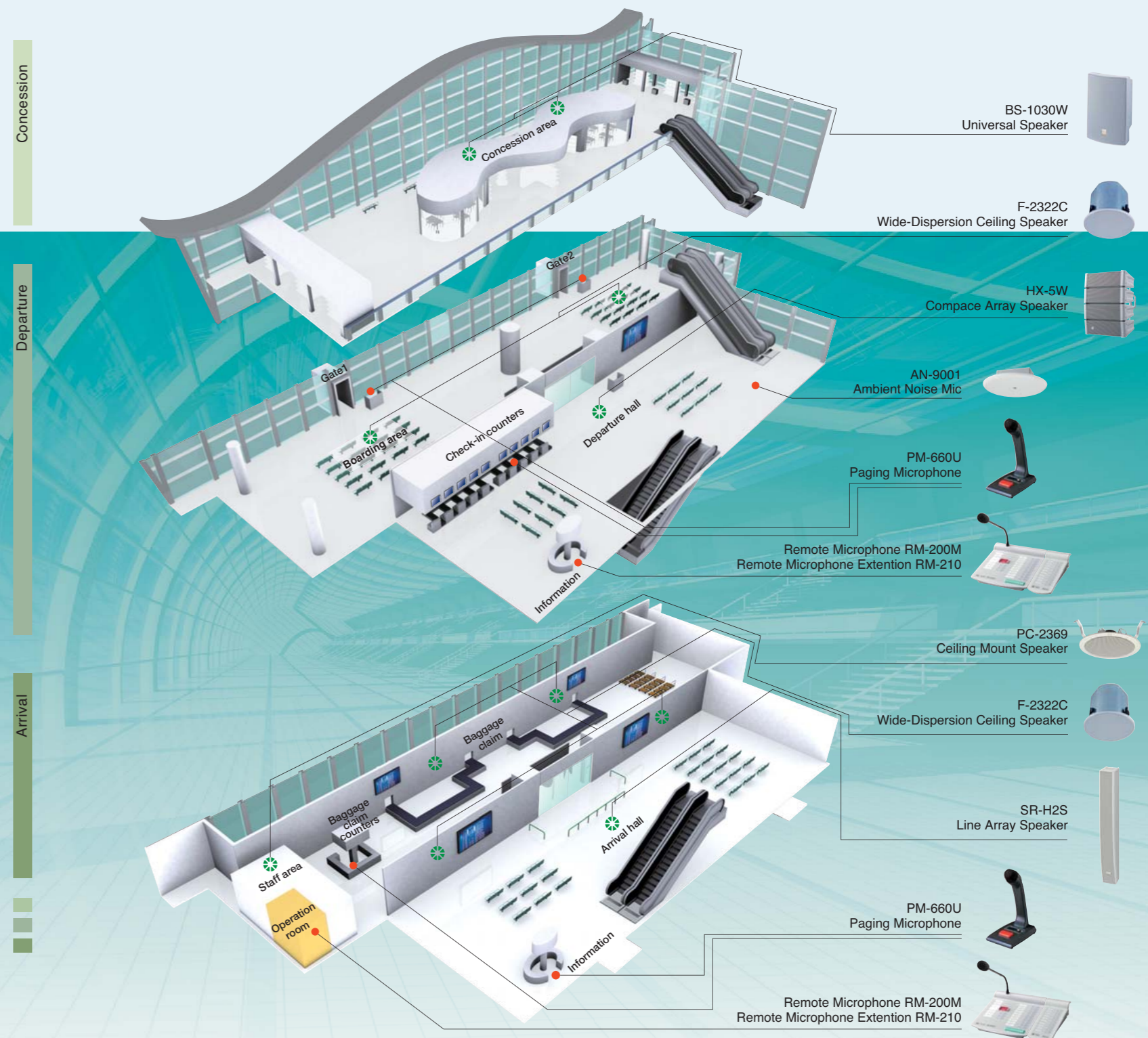
Arrival Announcement

Is made for the airport visitors coming to meet arriving passengers. It is mainly placed in the Arrival Hall and it informs of the estimated arrival time and gate. Local announcement in the Baggage Claim tells arriving passengers where to pick up their baggage.

Emergency Announcement

Is made in case of fire or other emergencies. The announcement overrides other announcements and is broadcasted at maximum volume. If necessary, automated evacuation announcement is activated in coordination with fire alarm or other warning systems.

Concession

Departure

Arrival

Installation Image

BS-1030W
Universal Speaker

F-2322C
Wide-Dispersion Ceiling Speaker

HX-5W
Compace Array Speaker

AN-9001
Ambient Noise Mic

PM-660U
Paging Microphone

Remote Microphone RM-200M
Remote Microphone Extention RM-210

PC-2369
Ceiling Mount Speaker

F-2322C
Wide-Dispersion Ceiling Speaker

SR-H2S
Line Array Speaker

PM-660U
Paging Microphone

Remote Microphone RM-200M
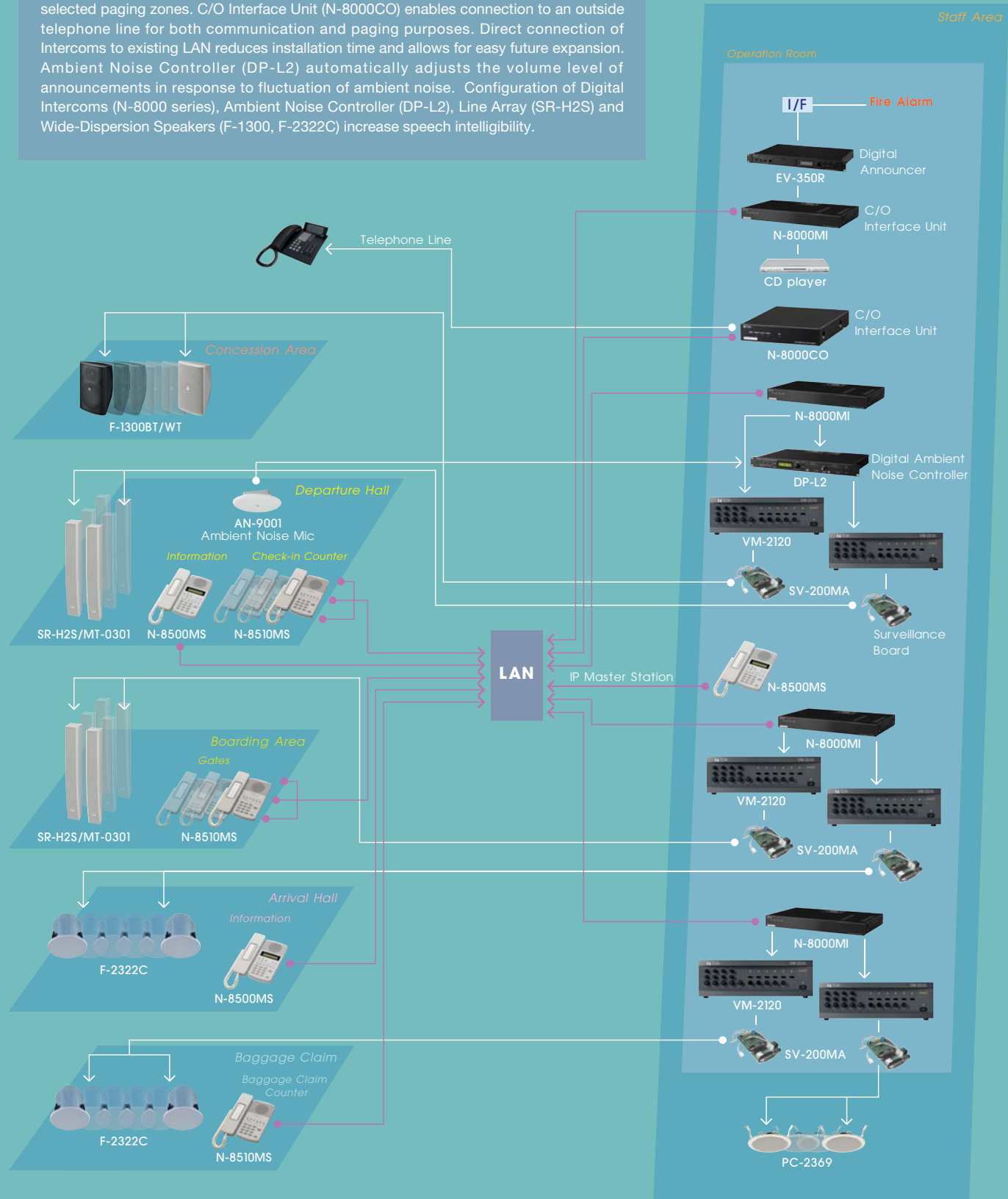Remote Microphone Extention RM-210

Application Examples

Advanced System

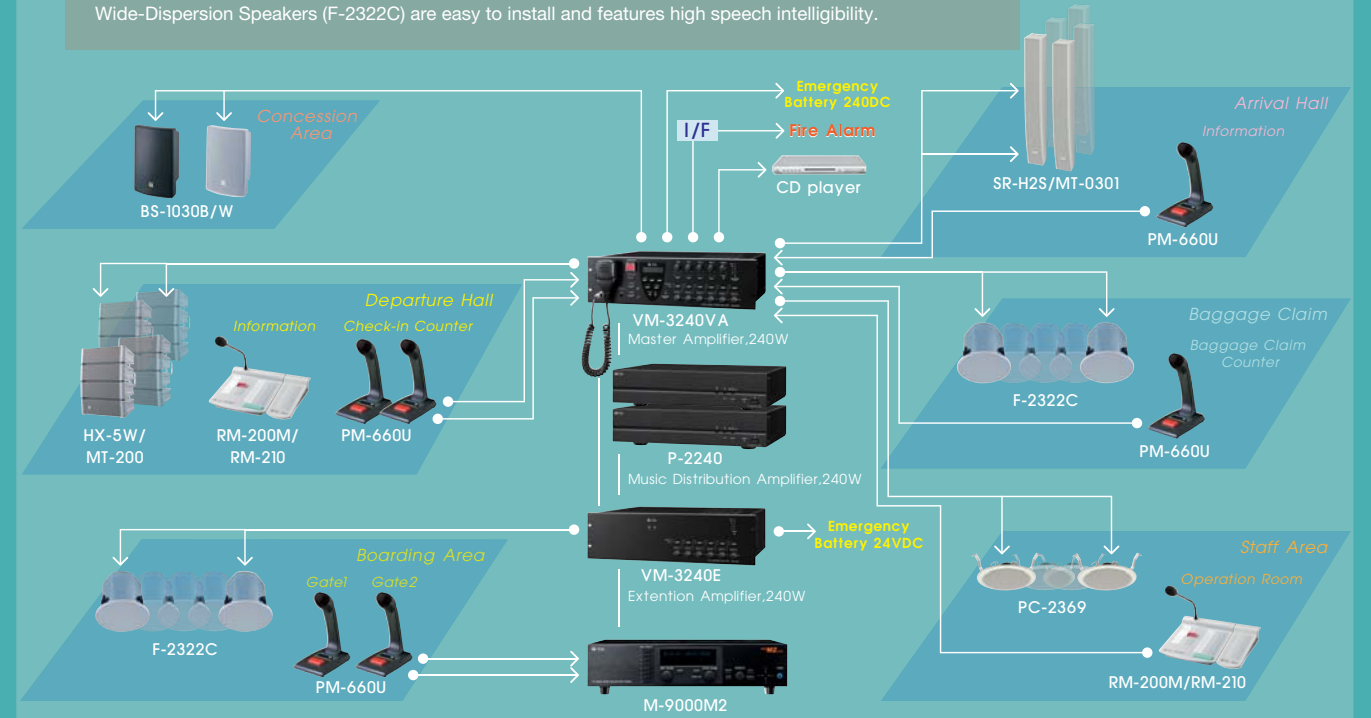**Highly flexible system enables paging over IP network (LAN)**

Announcements are paged from IP Intercom Stations (N-8500MS, N-8510MS) to selected paging zones. C/O Interface Unit (N-8000CO) enables connection to an outside telephone line for both communication and paging purposes. Direct connection of Intercoms to existing LAN reduces installation time and allows for easy future expansion. Ambient Noise Controller (DP-L2) automatically adjusts the volume level of announcements in response to fluctuation of ambient noise. Configuration of Digital Intercoms (N-8000 series), Ambient Noise Controller (DP-L2), Line Array (SR-H2S) and Wide-Dispersion Speakers (F-1300, F-2322C) increase speech intelligibility.

Staff Area

Operation Room

I/F — Fire Alarm

EV-350R — Digital Announcer

N-8000MI — C/O Interface Unit

CD player

Telephone Line

N-8000CO — C/O Interface Unit

Concession Area

F-1300BT/WT

N-8000MI

DP-L2 — Digital Ambient Noise Controller

AN-9001 Ambient Noise Mic

Departure Hall

VM-2120

SV-200MA

Information *Check-in Counter*

SR-H2S/MT-0301 N-8500MS N-8510MS

Surveillance Board

LAN

IP Master Station

N-8500MS

Boarding Area
Gates

SR-H2S/MT-0301 N-8510MS

N-8000MI

VM-2120

SV-200MA

Arrival Hall
Information

F-2322C

N-8500MS

N-8000MI

VM-2120

SV-200MA

Baggage Claim
Baggage Claim Counter

F-2322C

N-8510MS

PC-2369

Standard System

Equipment package provides full set of functions needed for airport paging
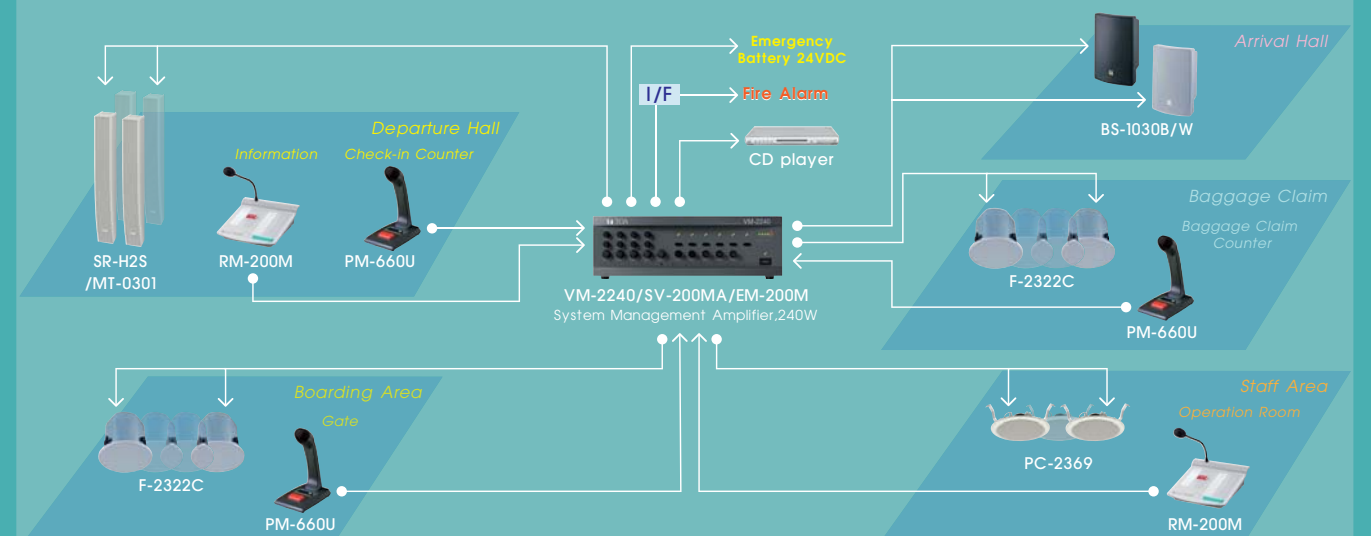
Remote Microphone (RM-200M) features selection of paging zones and activation of pre-recorded messages. Voice Alarm System Amplifier (VM-3000 series) automatically detects system failures with surveillance function. Amplifier also has built-in message storage and is able to page emergency announcements with battery backup even during power failures. Line Array (HX-5B/W, SR-H2S) and Wide-Dispersion Speakers (F-2322C) are easy to install and features high speech intelligibility.

Concession Area

BS-1030B/W

Emergency Battery 240DC

I/F — Fire Alarm

CD player

Arrival Hall
Information

SR-H2S/MT-0301

PM-660U

Departure Hall
Information *Check-in Counter*

HX-5W/MT-200 RM-200M/RM-210 PM-660U

VM-3240VA
Master Amplifier,240W

Baggage Claim
Baggage Claim Counter

F-2322C

PM-660U

P-2240
Music Distribution Amplifier,240W

Boarding Area
Gate1 *Gate2*

F-2322C

PM-660U

VM-3240E
Extention Amplifier,240W

Emergency Battery 24VDC

Staff Area
Operation Room

PC-2369

RM-200M/RM-210

M-9000M2

Compact System

Basic system configuration with the minimum functions needed for airport paging

System Management Amplifier (VM-2240) runs automatic surveillance and message storage with options. Emergency announcements can be paged with battery backup during power failures.

Emergency Battery 24VDC

I/F — Fire Alarm

CD player

Arrival Hall

BS-1030B/W

Departure Hall
Information *Check-in Counter*

SR-H2S/MT-0301 RM-200M PM-660U

VM-2240/SV-200MA/EM-200M
System Management Amplifier,240W

Baggage Claim
Baggage Claim Counter

F-2322C

PM-660U

Boarding Area
Gate

F-2322C

PM-660U

Staff Area
Operation Room

PC-2369

RM-200M

Products

What is required for the Airport Sound Products?

1. Simple operation
2. Durable construction
3. Quick and Accurate maintenance
4. Self-diagnosis and Automatic Surveillance
5. Easy wiring connection
6. Speedy installation
7. Flexibility and Expandability
8. Full range of products and options

TOA brings high-quality products with above features and experienced engineering to the airport sound systems in the world.

Amplifers

**VM-2000 Series
System Management Amplifiers**

3 mic/line, 2 remote mic, 2 BGM & 1 telephone line inputs with priority controls, built-in chime and siren. 5-speaker zone selectors with individual attenuators (expandable up to 50 with additional amplifiers), and control inputs/outputs. Optional pre-recorded message broadcasting and self-diagnosis functions. Power source: AC Mains/24VDC

RM-200M

VM-2240

VM-2120 (120W), VM-2240 (240W)

RM-200M   RM-300MF

**VM-3000 series
Voice Alarm System Amplifiers**

EN 54-16

Emergency Voice Alarm System incorporating Digital Audio, PA, Paging and BGM. 4 mic/line, 4 remote mic, and 2 BGM inputs. Max. 60 assignable speaker zone outputs with extension amplifiers. Built-in voice alarm message broadcasting, complete fault detection, speaker line monitoring and indication. Power Source: 230VAC/24VDC

Master Amplifier: VM-3240VA(240W), VM-3360VA(360W)
Extension Amplifier: VM-3240E(240W), VM-3360E (360W)

VM-3240VA/ VM-3240E

**P-2240
240W Power Amplifier**

Compact and durable construction.
Power source: AC Mains/24VDC

IP Network Intercoms

**N-8000 series
IP Intercom Systems**

No boundary limit, thanks to IP network-compatibility on connection. Server-less construction for preventing total system failure and reducing system cost. Easy integration with voice evacuation, access control, telephone, fire alarm and CCTV systems. Simple setup and connection to existing network wiring. High intelligible communication and broadcasting thanks to wide frequency range and digital transmission.

N-8500MS, N-8510MS (IP Master Station)
N-8000MI (Multi Interface Unit), N-8000CO (C/O Interface Unit)
N-8000AF (Audio Interface Unit), N-8000AL (Telephone Interface Unit)
N-8000EX (Network Intercom Exchange)

N-8000CO/ N-8000AF/ N-8000AL   N-8000MI/ N-8000EX   N-8500MS   N-8510MS

Speakers

F-1000WT
F-1300BT
F-2000WT

**F-1000/1300/2000
Wide-Dispersion
Box Speakers**

2-way bass-reflex speakers. Black (B)/White(W) colors, and High/Low impedance types are available.

**BS-1030B/W
Universal Speakers**

Type B/W

2-way bass-reflex speaker with transformer for Hi/Lo (100V/8-ohm) impedance with 30W of rated output. Easy to install with equipped bracket. Choice of black (B) or white (W) .

**Type-H
Line Array Speakers**

Reflection and feedback resistance design suitable for reverberative space to ensure the precise sound coverage and intelligible speech.

SR-H2L(180W, long-range)
SR-H2S(180W, short-range)
SR-H3L(360W, long-range)
SR-H3S(360W, long-range)   SR-H2/H3

**HX-5B/W
Compact Array Speakers**

2-way compact speaker system with adjustable sound dispersion. Easy installation with either bundled or optional brackets.Continuous program: 600W. Choice of black (B) or white (W) .

**PC-2869/2852/2369
Flush Mount Type
Ceiling Speakers**

Integrated with a speaker unit and panel, Ceiling Mount Speaker is of all metallic construction and ideal for use in a voice alarm system.

PC-2869 (6W, 20cm)
PC-2852 (15W, 20cm)
PC-2369 (6W, 16cm)

**F-series
Wide-Dispersion
Ceiling Speakers**

Minimal high frequency roll-off for intelligible and well-balanced sound reproduction over a wide listening area. Quick and easy mounting of speakers on ceiling.

F-122C (30W, Full-range/12cm)
F-1522SC (6W, Full-range/10cm)
F-2322C (30W, Full-range/12cm)
F-2352C (30W, 2-way/12cm)
F-2352SC (6W, 2-way/12cm)
F-2852C (60W, 2-way/16cm)

Microphone

**PM-660U
Paging Microphone**

Equipped with remote control switch (interlocked with talk switch) for amplifier power on/off operation or chime. Combination of PM-660D (with DIN plug) and RU-2002 (preamplifier) recommended when microphone and amplifier more than 100 m apart.

Mixer & Audio Signal Processor

**M-9000M2
Digital Matrix Mixer**

Expandable to 8-in by 8-out construction with optional modules. Includes EQ, delay, VOX switch, and compressor functions.Setup parameters and event memories can be stored up to 32 patterns. A variety of remote control panels make the smooth and easy worship operation.

**DP-L2
Digital Ambient Noise Controller**

Automatic adjustment of volume level of announcements in response to changing ambient noise levels. Option: AN-9001 Ambient Noise microphone.