TOA

Microphones
Wireless Systems
Rack Mount Equipment, Network Audio and Others
Mixers
Amplifiers
Speakers
Conference System
Megaphones
Intercom
Security & Safety
Reference

TOA Audio Catalog

Microphones

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We Supply Sound, Not Equipment. That's Our Corporate Philosophy.

Since being founded in 1934, as a manufacturer of commercial and professional audio equipment and security equipment, we have exported our products from Kobe to more than 100 other countries throughout the world.

In every company within the TOA group, which consists of the main company and 19 subsidiaries, we utilize the technical expertise and know-how that we have accumulated throughout the years in every aspect of production, from product planning and development right through to sales and management.

We are constantly improving our technological capabilities in areas such as acoustics, graphics and networks, and developing innovative products in order to provide customers with the ultimate in good sound and peace of mind to help make their lives more comfortable.

TOA has acquired both ISO9001 quality assurance and ISO14001 environmental management certifications.

JMI-0020
ISO9001
● Head Office
● Takarazuka Headquarters
● Tokyo Branch
● Osaka Branch

JQA-EM1400
ISO14001
● Takarazuka Headquarters

Planning and Design Carried Out in Japan

Thorough Proving of Product Design and Production Processes

The basis of our quality assurance activities is the product planning and design that is carried out primarily in Japan in response to market needs and in compliance with ISO9001:14001 standards. Our dedicated professional staff inspect products at every stage of the production process using their years of experience and their high levels of technological expertise.

Quality Control by TOA HQ

TOA production plants both within Japan and overseas are part of TOA Group. Numerous technicians from Japan are sent to our overseas production plants where they use state-of-the-art equipment to produce products under the same stringent quality control system as is used in our production facilities in Japan. Furthermore, twice a year, staff from our Quality Control Division visit overseas production facilities to carry out inspections and ensure that quality standards are being maintained.

SOUND & COMMUNICATION

Basic Management Policy (Three Confidence)

• Total confidence of our customers in the use of all products.
• Total confidence of our associates in all business transactions.
• Total confidence of our employees in all their effort.

TOA's Environmental Principles

TOA recognizes preservation of the Earth's environment as an important aspect of doing business in the world today. Our staff as a whole remains actively committed to pursuing all corporate activities in ways that give strong consideration to environmental protection.

Declaration of Social Contribution

TOA voluntarily conducts activities to resolve diverse social issues and contribute to society in general as a "good corporate citizen" trusted by society. We aim to grow together with society and become viewed by society as an "indispensable company," by effectively using company resources and conducting original activities with a strong awareness of our relationship with "sound and video," a business field we specialize in.

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Microphones

Dynamic Microphones

≫Unidirectional Microphone

DM-1200

- Dynamic hand-held microphone for speech use
- Rigid diecast zinc microphone body
- Switching and handling noise suppression
- 10 m phone plug cable supplied with unit
- Microphone holder provided as standard accessory
- Balanced output for long distance connection

≫Unidirectional Microphone

DM-1300

- Dynamic hand-held microphone for vocal/speech use
- Rigid diecast zinc microphone body
- Switching and handling noise suppression
- 10 m phone plug cable supplied with unit
- Microphone holder provided as standard accessory
- Balanced output for long distance connection

Model	DM-1200	DM-1300
Type	Moving coil microphone (Dynamic microphone)	
Directivity	Unidirectional: Cardioid	
Rated Impedance	600 Ω, balanced	
Rated Sensitivity	−55 dB (1k Hz 0 dB = 1 V/Pa)	−54 dB (1k Hz 0 dB = 1 V/Pa)
Frequency Response	50 Hz – 12 kHz	70 Hz – 15 kHz
Weight	265 g (without connection cable)	245 g (without connection cable)
Dimensions (W x H x D)	39.5 x 163 mm (1.6" x 6.4")	51 x 170 mm (2" x 6.7")
Talk switch	Short-off type, slide on/off switch	
Finish	Body: Die cast zinc, painted metallic gray Head: Die cast aluminum, zinc plated steel wire, painted metallic gray	Body: Die cast zinc, painted metallic gray Head: Aluminum, zinc plated steel wire, painted metallic gray
Standard accessory	Microphone holder (W 5/16", W 5/8", W3/8")	Microphone holder (W 5/16")

Paging Microphones

PM-660U

- Dynamic paging microphone without plug
- Large talk switch with locking lever
- Extra switch contact for mute or relay control
- Fitted with 2.5m, 2-core shielded cable without plug

Model	PM-660U
Rated Impedance	600 Ω, balanced
Rated Sensitivity	−58 dB (1 kHz, 0 dB = 1 V/Pa)
Frequency Response	100 Hz to 10 kHz
Remote Switch	Leaf spring contact (interlocked with talk switch), 30 V DC, under 500 mA
Finish	Head: Zinc plated steel wire, gray, paint Body: ABS resin, gray
Dimensions	100 (w) x 215 (h) x 150 (d) mm (3.94" x 8.46" x 5.91")
Weight	440 g (0.97 lb) (cable excluded)

PM-222U

- Noise-canceling for high noise environments
- Lock-on push-to-talk switch for continuous use
- Pig-tail cord with external control contacts and conductors
- Mounting sleeve included for wall-mounting

Model	PM-222U
Rated Impedance	600 Ω, balanced
Rated Sensitivity	−47 dB (1 kHz, 0 dB = 1 V/Pa)
Frequency Response	100 Hz to 10 kHz
Remote Switch	Make contact (linked with talk switch) 30 V DC, 500 mA or less
Finish	ABS resin, gray
Dimensions	44 (w) x 160 (h) x 38 (d) mm (1.73" x 6.29" x 1.49")
Weight	200 g (0.44 lb)

Condenser Microphones

≫Flush-Mount Boundary Microphone

EM-600

- Electret condenser microphone for conference room recording and security monitoring
- Wide frequency range (30Hz-20kHz) provides well-balanced sound with clarity and a satisfying tonal response
- Unobtrusive design allows easy flush-mounting in walls, ceilings, and desktops
- Optimized to deliver best performance when used on a desk or attached to a ceiling
- A 50 Hz low-cut filter reduces intrusive noise, such as air conditioner rumble or door opening/closing
- Two rubber isolation rings provided as an accessory serving to reduce vibration

≫Boundary Microphone

EM-700

- Electret condenser microphone for speech and recording applications
- Design, optimized to deliver best performance when used on a desk
- Slim, stylish design suits interior decor
- Rejection of undesirable off-axis sound minimizes possible feedback
- Low-cut filter switch prevents interference from ambient noise from being picked up
- Wide frequency range of 35 to 20 kHz provides well-balanced sound with clarity and a satisfying tonal response

≫Gooseneck Microphone

EM-800

- Electret condenser microphone for such speech applications as meetings, lectures, and religious services
- Excellent high-frequency response of 60 to 20k Hz delivers clear output
- High sensitivity (-35dB) provides a satisfying tonal response
- Gooseneck with two adjustment points allows more flexible microphone positioning angles
- Rejection of undesirable off-axis sound minimizes possible feedback

ST-800
For EM-800

(With microphone stand: ST-800)

Model	EM-600	EM-700	EM-800
Directivity	Omnidirectional	Cardioid	
Rated Impedance	120 Ω, balanced		
Rated Sensitivity	−36 dB (1k Hz 0 dB = 1 V/Pa)	−33 dB (1k Hz 0 dB = 1 V/Pa)	−35 dB (1kHz 0 dB = 1 V/Pa)
Phantom power	9-52V DC		
Frequency Response	30 Hz – 20kHz	35 Hz – 20kHz	60 Hz – 20kHz
Output Connector	XLR-3-12 equivalent		
Finish	Body: Steel, white, semi-gloss, paint Head: Zinc-plated steel wire, white, semi-gloss, paint	Body: Die-cast aluminum, black, mat finish, paint Punched net: Surface-treated steel plate, black, mat finish, paint	Body, Shaft: Copper alloy, black,semi-gloss, paint
Dimensions	28 × 68mm (1.1" x 2.7")	83 (W) × 23 (H)× 83 (D)mm (3.2" x 0.9" x 3.2") (cord excluded)	12 × 420mm (0.5" x 16.5")
Weight	85g	290g	135g
Accessory	Rubber Isolation Ring × 2, M20 Nut × 1	—	Windscreen × 1

Array Microphone

The Real-time Steering Array Microphone System has achieved the unique function of detecting the sound source location and steering its angle automatically in real-time to capture the targeted sound more efficiently. In addition, the special, user-friendly app and firmware allow the user to monitor the status of the sound source tracking and make changes to its setting parameters with an iPad or a PC. With this technology, the presenter would no longer need to be "microphone-conscious" to get a uniform sound level while speaking and moving.

AM-1

- Detect sound source location and steer its beam angle automatically to focus on that sound source
- The dedicated user-friendly GUI is available as an Apple App for iPadT and a firmware for PC browsing. It allows monitoring and setting the following key items.
- Real time monitoring:
  - Detection of sound source location
  - Signal level of 8 individual microphone elements
- Parameter settings:
  - Tracking range (Horizontal angle and distance), sensitivity, speed
  - Gain compensation ON/OFF, Distance adjustment threshold
  - Duration (Time monitoring of sound source footprint)
  - Disabling of MUTE switch function on the microphone
  - Output gain level adjustment
- Mute ON/OFF operation

System Configuration

iOS GUI

Wireless Systems

⊙TRANTEC 12 Channel Wireless Solution

S5.3 UHF Professional Wireless Microphone System incorporates the latest technological advances, enabling it to satisfy the demands of a wide range of theater and broadcast applications. The high quality audio and RF dynamics combine with true diversity operation to provide a system with excellent multi-channel capability, enabling up to 12 channels to operate simultaneously without interference. Microphone size and running costs have been reduced, thanks to single AA cell battery operation, providing over 10 hours of continuous use.

Frequency Band Selection: E2: 668-698MHz; F2: 636-668MHz; G7: 606-636MHz; H2: 576-606MHz, UHF
[Note: for part numbers with frequency bands and ordering information see page 13/14.]

⊛ Receiver

S5.3-RX

- True diversity operation
- Up to 640 selectable frequencies (12 Simultaneous channels)
- USB based computer monitoring
- Frequency scan function
- Integral triple tone grip/noise and signal strength mute circuit for protection against external interference
- Simple programming of transmitter with built-in Infra-red data link
- Clear and intuitive LCD display
- Professional metal enclosure

Model	Receiver [S5.3-RX]
Diversity System	Space diversity (true diversity)
Audio Output	Line: -22 dB*/ Mic: 62 dB* Line/Mic selectable, 600 Ω, balanced, XLR-3-32 type connector Headphone: max. 100 mW 16 Ω, unbalanced, phone jack -28 dB*, 600 Ω, unbalanced, phone jack
Receiving Sensitivity	0 dB V or less (12 dB SINAD)
Squelch Sensitivity	6 - 36 dB V variable
Squelch System	Using together of noise SQ, carrier SQ and tone SQ
Indicator	LCD, Power lamp, Mute lamp, ANT A/B lamp
S/N Ratio	110 dB or more (A-weight)
Harmonic Distortion	1% or less (typical)
Frequency Response	50 Hz - 20 kHz, ±3 dB
Dimensions	210 (W) x 46 (H) x 210 (D) mm (8.3" x 1.8" x 8.3") (excluding antenna)
Weight	1.3kg (2.87lb)

⊛ Handheld Microphone

S5.3-HDX (Dynamic)
S5.3-HCX (Condenser)
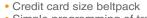
- Simple programming of transmitter with built-in Infra-red data link
- Frequency & Power lock facility
- Single AA operation of transmitters wit battery life of over 10 hours
- Integral antenna
- Clear and intuitive LCD display
- Color coded ID band
- Professional metal enclosure

⊛ Beltpack Transmitter

S5.3-BTX

- Credit card size beltpack
- Simple programming of transmitter with built-in Infra-red data link
- Frequency & Power lock facility
- Clear and intuitive LCD display
- Single AA operation of transmitters with battery life of over 10 hours
- Detachable antenna
- Professional metal enclosure
- Microphone sold separately

Model	Dynamic Microphone [S5.3-HDX]	Condener Microphone [S5.3-HCX]	Beltpack Transmitter [S5.3-BTX]
RF Carrier Power	Less than 50mW (Factory preset 10mW ERP)		
Modulation System	—		PLL synthesizer
Maximum Input Level	146 dB SPL (microphone sensitivity: Gain "0")	142 dB SPL (microphone sensitivity: Gain "0")	120 dB SPL (microphone sensitivity: Gain "0")
Audio Frequency Response	60 Hz - 20 kHz	90 Hz - 20 kHz	—
Dynamic Range	110 dB or more (with S5.5-RX)		—
Audio Input Connector	—		TA-4 (Mini-XLR 4 pins)
Battery	LR6 (AA)		
Battery Life	10 hours (Alkaline)		
Indicator	LCD display, Power lamp		LCD display, Power lamp
Dimensions	50 x 247.9 mm (2" x 9.8")	50 x 232.9 mm (2" x 9.2")	55 (W) x 80 (H) x 22 (D) mm (2.1" x 3.1" x 0.9")
Weight	380g /13.4oz (with battery)	300g / 10.6oz (with battery)	140g / 4.9oz (with battery)

TRANTEC S5.3 Series　Kits

S5.3-HD
S5.3-RX+S5.3-HDX Set
[Dynamic Handheld Mic Set]

S5.3-HC
S5.3-RX+S5.3-HCX Set
[Condenser Handheld Mic Set]

S5.3-L
S5.3-RX+S5.3-BTX+Lavaliere Mic Set
[Lavaliere Microphone Set]

TRANTEC Wireless Microphone Systems S5 and S4 Series

The Trantec S5 and S4 Series is synonymous with quality among vocalists, musicians and theatrical performers. Additionally, presenters and the like also enjoy the wide variety of accessories that Trantec has to offer, allowing them to meet their professional needs.

⊙TRANTEC 12 Channel Wireless Solution

Multichannel wireless simply does not get any easier. The S4.16 is 16 channels of tough, reliable quality that is priced to suit the tightest of budgets. This multifunction system is optimized for use with handheld, lapel mic and a range of headsets – or switch to use with a musical instrument. A single 9V battery gives approximately 10 hours of quality performance with a range of up to 100 meters.

Frequency Band Selection: E3: 668-698MHz; G4: 606-636MHz, UHF
[Note: for part numbers with frequency bands and ordering information see page 13/14.]

⊛ Receiver

S4.16-RX

- 16 selectable frequencies
- Up to 12 simultaneous channels
- Fully synthesized PLL quartz tuning technology
- Receiver LED's show AF Peak level, RF Level, and Diversity Channel A or B
- Diversity operation with detachable antenna
- Professional metal enclosure
- 19" rack mount option for one or two receivers

Model	Receiver [S4.16-RX]
Audio Output	Balanced output: +16 dB(*1)(max), 600 Ω, balanced, XLR-3-31 type connector Unbalanced output: +10 dB(*1)(max), 600 Ω, unbalanced, phone jack
Receiving Sensitivity	Over 90 dB, S/N ratio (20 dB V input, 40 kHz deviation)
Squelch Sensitivity	18 - 40 dBμV variable
Squelch System	Using together of noise SQ, carrier SQ and tone SQ
Indicator	ANT A/B, Audio (peak), RF level, Power
S/N Ratio	Over 95 dB (A-weight, unbalanced output)
Harmonic Distortion	Under 1% (typical)
Frequency Response	60 - 16,000 Hz, ±3 dB
Dimensions	214(W) x 35(H) x 100.5(D) mm (8.4"x1.4"x4") (excluding antenna)
Weight	580g / 20.5oz

*1 0dB = 0.775 V

⊛ Handheld Microphone

S4.16-HDX (Dynamic)

- 16 selectable frequencies
- Fully synthesized PLL quartz tuning technology
- Detachable antenna
- Single 9V transmitter battery life of approx. 10 hours

⊛ Beltpack Transmitter

S4.16-BTX

- 16 selectable frequencies
- Fully synthesized PLL quartz tuning technology
- Detachable antenna
- Locking 3.5mm jack
- Integral switch for selection between instrument and microphone
- Single 9V transmitter battery life of approx. 10 hours
- Microphone sold separately

Model	Dynamic Handheld Microphone [S4.16-HDX]	Beltpack Transmitter [S4.16-BTX]
RF Carrier Power	Max. 10 mW	
Modulation System	PLL Synthesizer	
Mic Input Connector	—	3.5 mini jack
Battery	6LR61 (PP3 9V)	
Battery Life	Approx. 10 Hours	
Indicator	Battery Status LED	
Dimensions	50 x 270 mm (2" x 10.6")	62 (W) x 102 (H) x 31.5 (D) mm (2.4" x 4" x 1.2") (excluding antenna)
Weight	220g (7.8oz)	90g (3.2oz)

TRANTEC S4.16 Series　Kits

S4.16-H
S4.16-RX+S4.16-HDX Set
[Dynamic Handheld Mic Set]

S4.16-L
S4.16-RX+S4.16-BTX+Lavaliere Mic Set
[Lavaliere Microphone Set]

TRANTEC S4.4 Series Wireless Starter Pack

Trantec S4.4 is a function-packed system designed to launch you into the world of wireless. Tough, reliable and compact, this multi-function system is optimized for use with handheld, lapel mic and a range of headsets – or switch to use with a musical instrument. Not only does the S4.4 come with a bargain basement price tag, it is also extremely economical to run. A single 9V battery will give you approximately 10 hours of quality performance with a range of up to 100 meters.

Frequency Band Selection: E4: 668-698MHz; G5: 606-636MHz, UHF
[Note: for part numbers with frequency bands and ordering information see page 13/14.]

⫸ Receiver
S4.4-RX

• Four switchable frequencies
• Fully synthesized PLL quartz tuning technology
• Receiver LED's show AF Peak level, RF Level, and Diversity Channel A or B
• Professional metal enclosure
• 19" rack mount option for one or two receivers

Model	Receiver [S4.4-RX]
Audio Output	Balanced output: +16 dB(*1)(max), 600 Ω, balanced, XLR-3-31 type connector Unbalanced output: +10 dB(*1)(max), 600 Ω, unbalanced, phone jack
Receiving Sensitivity	Over 90 dB, S/N ratio (20 dB V input, 40 kHz deviation)
Squelch Sensitivity	18 - 40 dBμV variable
Indicator	ANT A/B, Audio (peak), RF level, Power
S/N Ratio	Over 95 dB (A-weight, unbalanced output)
Harmonic Distortion	Under 1% (typical)
Frequency Response	100 - 15,000 Hz, ±3 dB
Dimensions	214 (W) x 35 (H) x 100.5 (D) mm (8.4" x 1.4" x 4") (excluding antenna)
Weight	580g (20.5oz)

*1 0dB = 0.775 V

⫸ Handheld Microphone
S4.4-HDX (Dynamic)

• Four switchable licence-free frequencies
• Fully synthesized PLL quartz tuning technology
• Detachable antenna
• Single 9V transmitter battery life of approx. 10 hours

⫸ Beltpack Transmitter
S4.4-BTX

• Four switchable free frequencies
• Fully synthesized PLL quartz tuning technology
• Detachable antenna
• Locking 3.5mm jack
• Integral switch for selection between instrument and microphone
• Single 9V transmitter battery life of approx. 10 hours
• Microphone sold separately

Model	Dynamic Handheld Microphone [S4.4-HDX]]	Beltpack Transmitter [S4.4-BTX]
RF Carrier Power	Max. 10 mW	
Modulation System	PLL Synthesizer	
Mic Input Connector	—	3.5 mini jack
Battery	6LR61 (PP3 9V)	
Battery Life	Approx. 10 Hours	
Indicator	Battery Status LED	
Dimensions	50 x 270 mm (2" x 10.6")	62 (W) x 102 (H) x 31.5 (D) mm (2.44" x 4" x 1.2") (excluding antenna)
Weight	220g (7.8oz)	90g (3.2oz)

TRANTEC S4.4 Series Kits

S4.4-HD
S5.5-RX+S5.5-HDX Set
[Dynamic Handheld Mic Set]

S4.4-L
S5.5-RX+S5.5-BTX+Lavaliere Mic Set
[Lavaliere Microphone Set]

For S4.4 Series optional microphone/accessories, see opposite page.

For Ordering Information see pages 13 and 14.

TRANTEC

S5.3 & S4.16/S4.4 Optional Microphones

⫸ Lavaliere Microphone
for S5 Series MIC-X2

⫸ Headworn Microphone
for S5 Series   MIC-XEM77

⫸ Glasses Frame Microphone
for S5 Series MIC-X690H

⫸ Lavaliere Microphone
for S5 Series
MIC-X212-BE (Beige)
MIC-X212-BK (Black)

S5.3 & S4.16/S4.4 Series Accessories

⫸ Antenna Distributor
S5-ADU

⫸ Antenna Booster YW-7000
YW-7000 RF

⫸ Passive Antenna Splitter
ACC-SPLIT-2W

⫸ Directional Antenna
YW-7570

⫸ Whip Antenna
AMT-54
BTX-D/BTX-G

⫸ Wall Mount Antenna
YW-4500

⫸ Receiver Antenna
for S4.16 Series
ANT-S4.16
RX-D/RX-G

⫸ Receiver Antenna
for S5 Series
ANT-S5
RX-D/RX-G

⫸ TNC Rack Mount Panel
PAN-1U19-TNC

⫸ Helical Antenna
for S4 Series
ANT-54
HDX-D/HDX-G

⫸ 19" Rack tray for two receivers
for S4.14 Series
ACC-S4.16RK

TOA UHF Wireless Microphone System

Microphone

Wireless Systems

Rack Mount Equipment, Network Audio and Others

Mixers

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TOA Wireless Microphone Systems 5000 Series

TOA's 5000 Series is the ultimate choice for the presenter, offering incredible intelligibility so your audience won't miss a single word. You can be assured that with TOA's continuous commitment to research and development, we will always provide wireless solutions that allow your voice to be heard clearly by all.

TOA 5000 Series   16 Channel Wireless Solution

The Series lineup consists of microphones operating on a single battery, as well as microphones and a transmitter powered by rechargeable batteries. Battery chargers have also been added, for use with TOA-exclusive batteries. The chargers are available in different capacities, while the transmitter is now a standalone unit, to allow users to select the type of microphone best suited to their needs. The WT-5100 receiver, a new addition to the 5000 Series, expands the range of applications, including museums, conferences and theaters, and enhances the Series' versatility and usability.

Frequency Band Selection: E01: 668-698MHz; F01: 636-668MHz; G02: 606-636MHz; H01: 576-606MHz, UHF
[Note: for part numbers with frequency bands and ordering information see page 13/14.]

≫ Receiver
WT-5800

≫ Receiver
WT-5805

≫ Receiver
WT-5810

WT-5800, WT-5805 and WT-5810
- Phase Locked Loop (PLL) synthesis operation
- 64 selectable channels
- Auto mixing input function
- Squelch function (carrier, noise, tone)
- Usable frequencies scanning and vacant channel search function
- Compact half-rack size body
- Compander circuitry for minimizing ambient noise
- Low-battery indicator (wireless microphone's battery voltage becomes low)

WT-5800 and WT-5805
- True diversity technology
- Two-line LCD display
- 6 points audio level meter for microphone sensitivity adjustment

WT-5800
- Antenna distribution output

WT-5810
- TOA space diversity technology
- Balanced output (XLR connector) and phone jack output

Model	WT-5800	WT-5805	WT-5810
Power Source	AC mains (supplied AC-DC adapter must be used)		
Channel Selectable	64 channel capability (Max. 16 Simultaneous channels)		16 CH
Diversity System	Space diversity (true diversity)	Space diversity	
Mixing Output	MIC: −60dB*¹, 600Ω, balanced, XLR-3-31 type connector LINE: −20dB*¹, 600Ω, unbalanced, phone jack		
Mixing Input	−20dB*¹, 10 kΩ, unbalanced, phone jack		
Antenna Input	75Ω, BNC (phantom powering for antenna) 9V DC, 30mA (max.)		—
Antenna Output	75Ω, BNC (Gain 0dB)	—	
Receiving Sensitivity	90dB or more, S/N ratio (20dBμV input, 40kHz deviation)		
Squelch Sensitivity	18 – 40dBμV variable		
Squelch System	Using together of noise SQ, carrier SQ and tone SQ		
Indicator	Audio (6 step), RF (6 step), ANT A/B, Audio (peak), battery alarm		ANT A/B, Audio (peak), battery alarm
S/N Ratio	110dB or more (A-weight, unbalanced output)		104dB or more (A-weight, unbalanced output)
Harmonic Distortion	1% or less (typical)		
Frequency Response	100 – 15kHz, ±3 dB		
Dimensions	210(W) × 44(H) × 205.1(D) mm (8.3" x 1.7" x 8.1")		206(W) × 40.6(H) × 152.7(D) mm (8.1" x 1.6" x 6")
Weight	700 g (24.7 oz)		590 g (20.8 oz)

*1 0dB = 1 V

≫ Receiver
WT-4820

Model	WT-4820
Power Source	12 – 18 V DC
Channel Selectable	16 CH
Mixing Input	−20 dB*¹, 10 kΩ, unbalanced, phone jack
Antenna Input	75 Ω, BNC (phantom powering for antenna) 9 V DC, 30 mA (max.)
Antenna Output	75 Ω, BNC (Gain 0dB)
Indicator	ANT A/B, Audio (peak), Power
S/N Ratio	Over 102dB (A-weight, unbalanced output)
Harmonic Distortion	Under 1%
Frequency Response	50 – 18,000 Hz, ±3 dB
Dimensions	210(W) × 44(H) × 181(D) mm (8.3" x 1.7" x 7.1")
Weight	770 g / 27.2 oz (without receiver unit)

*1 0dB = 1 V

- Modular dual channel wireless receiver
- 16 selectable channel frequencies
- Antenna cascade output function (parallel connection possible for linking two WT-4820 units)
- TOA space diversity technology
- Auto mixing input function
- Antenna distribution output
- Accept up to two WTU-4800 tuner units
- Compact half-rack size body
- External antenna input

≫ Receiver Unit
WTU-4800

For Ordering Infromation see pages 13 and 14.

TOA 5000 Series   16 Channel Wireless Solution

≫ Wireless Portable Receiver
WT-5100

≫ Earphone
YP-E5000

- Commercial earphones can also be used (ø3.5 mm, impedance: over 16Ω)
- Allows up to 16 different frequencies to be received by selection
- An optimized PLL-synthesizer minimizes the oscillation frequency drift resulting from the ambient temperature or voltage fluctuation.
- WB-2000 rechargeable battery or single AA battery operation for compact and lightweight body
- Built-in antenna

Model	WT-5100
Power Source	1.5 V DC (Battery)
Receiving Sensitivity	Better than 60 dB Signal to Noise ratio (20 dBμV input, ±40 kHz deviation)
Frequency Response	200 Hz – 5 kHz (Portable transmitter to Portable receiver)
Output Level	4 mW (16Ω load, 10% distortion)
Battery	WB-2000-2 rechargeable battery (option) or LR6/AA alkaline dry cell battery
Battery Life	16 h (when the WB-2000-2 rechargeable battery is used) 15 h (when the alkaline battery is used)
Dimensions	62 (W) × 163.6 (H) × 32.5 (D)mm (2.4" x 6.4" x 1.3")
Weight	125 g / 4.4 oz (battery included)

*When using an earphone not made by TOA, use the one with a ø3.5mm plug and impedance of over 16Ω.

≫ Handheld Microphone
WM-5270

- Dynamic microphone unit: Unidirectional
- 64 selectable channels
- Rolling stopper prevents the microphone from rolling
- Single AA battery operation for more compact and light weight body
- Built-in antenna

≫ Handheld Microphone
WM-5265

- Dynamic microphone unit: Unidirectional
- 64 selectable channels
- ON/OFF switch prevents the microphone from rolling
- WB-2000 rechargeable battery or single AA battery operation for compact and lightweight body
- Built-in antenna

≫ Handheld Microphone
WM-5225

- Electret condenser microphone unit: Unidirectional
- 64 selectable channels
- ON/OFF switch prevents the microphone from rolling.
- WB-2000 rechargeable battery or single AA battery operation for compact and lightweight body
- Built-in antenna

≫ Beltpack Transmitter
WM-5325

- 64 selectable channels
- Maximum input level: -14 dB to -29 dB
- Built-in circuitry minimizes ambient noise effects
- WB-2000 rechargeable battery or single AA battery operation for compact and lightweight body
- Connector for ø3.5 mini-plugs
- Built-in antenna
- Microphone sold separately

Model	WM-5270	WM-5265	WM-5225	WM-5325
RF Carrier Power	Less than 50mW (Factory preset 10mW ERP)			
Oscillator	PLL synthesizer			
Maximum Input Level	142 dB SPL	132 dB SPL	126 dB SPL	-14dB to -29dB*¹ (Audio level control: Min. to Max.)
Audio Input Connector	—	—	—	3.5mm (0.14") mini plug
Audio Frequency Response	80Hz – 15kHz		100Hz – 15kHz	
Dynamic Range (AF Circuit)	95dB or more (with WT-5800)			—
Battery	AA alkaline dry cell battery	WB-2000 (Ni-MH battery) or LR6(AA)		
Battery Life	Approx. 10h (when the alkaline battery is used)	Approx. 13h (when the WB-2000 rechargeable battery is used) Approx. 10h (when the alkaline battery is used))		
Indicator	Power/Battery lamps			
Dimensions	48 × 244 mm (1.9" x 9.6")	50 × 229 mm (2" x 9")	43.6 × 231.5 mm (1.7" x 9.1")	62(W)×102.5(H)×23(D)mm (2.4"x4"x0.9")
Weight	340g / 12oz (with battery)	205g / 7.2oz (with battery)	180g / 6.3oz (with battery)	90g / 3.2oz (with battery)

*1 0dB = 1 V

For Ordering Infromation see pages 13 and 14.

Microphone

Wireless Systems

Rack Mount Equipment, Network Audio and Others

Mixers

Amplifiers

Speakers

Conference System

Megaphones

Intercom

Security & Safety

Reference

Microphone
Wireless Systems
Rack Mount Equipment, Network Audio and Others
Mixers
Amplifiers
Speakers
Conference System
Megaphones
Intercom
Security & Safety
Reference

TOA 5000 Series   16 Channel Wireless Solution

TOA 5000 Series   Optional Microphones

≫ Lavaliere Microphone
YP-M5300

- Unidirectional electret condenser microphone element
- Connector for 3.5 mini-plug

≫ Single Ear Microphone
Q-EM-77

- Omnidirectional electret condenser microphone element
- Compatible with WM-5325
- 3.5mm connector

≫ Headworn Microphone
WH-4000A

- Unidirectional electret condenser microphone
- Ideal for sports applications

≫ Lavaliere Microphone
YP-M5310

- Omnidirectional electret condenser microphone element
- Connector for 3.5 mini-plug

≫ Headworn Microphone
WH-4000H

- Unidirectional electret condenser microphone

5000 Series

TOA 5000 Series   Kits

WS-5225
WM-5225+WT-5810 Set
[Handheld mic. (unidirectional) set]

WS-5265
WM-5265+WT-5810 Set
[Dynamic handheld mic. (unidirectional) set]

WS-5325U
WM-5325+YP-M5300+WT-5810 Set
[Lavaliere mic. (unidirectional) with beltpack]

WS-5325M
WM-5325+YP-M5310+WT-5810 Set
[Lavaliere mic. (omnidirectional) with beltpack]

WS-5325H
WM-5325+WH-4000H+WT-5810 Set
[Headworn mic. with beltpack set]

TOA 5000 Series   Accessories

≫ Antenna Distributor
WD-4800

≫ Wall Mount Antenna
YW-4500

≫ Rechargeable Battery
WB-2000-2

≫ Battery Charger
BC-5000-2

≫ Battery Charger
BC-5000-6

≫ Battery Charger
BC-5000-12

≫ AC Adapter
AD-5000-2

≫ AC Adapter
AD-5000-6

≫ Waist Pouch
WH-4000P

≫ Windscreen
WH-4000S

≫ Rack Mount Bracket
MB-15B

≫ Rack Mount Bracket
MB-WT3

≫ Rack Mount Bracket
MB-WT4

(Please note that the power supplies/AC Adapter (AD-5000-6, AD-5000-2) for the 5000 Series UHF Wireless Battery Chargers (BC-5000-12; BC-5000-6; BC-5000-2) are sold separately)

Wireless Meeting Amplifier

≫ Diversity Meeting Amplifier
WA-1822

≫ Diversity Meeting Amplifier with Cassette
WA-1822C
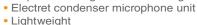
- Compact and lightweight but tough and very portable
- Maximum output power of 25W through the built-in 2 way speaker
- Accept up to two WTU-4800 tuner units
- External speaker terminal
- Continuous operation for approx. 24 hours (using alkaline batteries, non-cassette mode)
- Built-in storage for wireless/wired microphones on the back WA-1822C
- Input volume and tone control for microphones, AUX input,and cassette player
- Recording, tape speed control and auto-reverse function

Infrared Wireless Microphone System

TOA's Infrared Wireless Microphone System incorporates a range of conference and communication enhancing features that will appeal to users who want confidentiality as well as interference-free communication. Because the microphones use infrared signals, sensitive matters being discussed in a meeting room won't leave the room, and the wireless microphones can be used in several adjacent classrooms simultaneously without interference.

≫ Infrared Wireless Microphone
IR-200M

- Stable voice transmission
- Intelligent positioning of the emitter avoids drop-outs through user's handling
- Electret condenser microphone unit
- Lightweight
- Infrared light emission intensity adjustable
- Two selectable channels
- Antibacterial treatment
- Low-battery indicator

≫ Infrared Wireless Microphone
IR-300M

- Ready-to-wear design with neck strap
- Intelligent positioning of the emitter avoids drop-outs through user's handling
- Built-in electret condenser microphone
- Infrared light emission intensity adjustable
- 2 selectable channels
- Antibacterial treatment
- Low-battery indicator
- Connection of optional external microphone possible
- An external MIC input level adjustable

≫ Battery Charger
IR-200BC

Model	IR-200M	IR-300M
Battery	IR-200BT-2 Ni-MH battery or AA alkaline (2 pieces)	
Infrared Emitter Wavelength Modulation Method Carrier Frequency Transmission Distance	870 nm (AM: Brightness modulation) Frequency modulation Channel A: 3.100 MHz/Channel B: 3.350 MHz Approx. 20 m (Power selector switch: H; In an unobstructed space.)	/Approx. 15 m (Power selector switch: N; In an unobstructed space.)
Maximum Input Sound Pressure	120 dB SPL	
Input Sensitivity Adjustment	—	Adjustment range: -9dB to 0dB (factory-preset: 0dB)
Microphone Unit	Unidirectional electret condenser microphone	
Frequency Response	100Hz – 12kHz	
Input	—	External microphone input (ø3.5 monaural mini jack)
Battery Operation Time	Approx. 8 hours (IR-200BT-2, Power selector switch: N) Approx. 6 hours (alkaline battery, Power selector switch: N)	
Dimensions	37 × 241.8 mm (1.6" x 9.5")	64 (W) × 91.3 (H) × 27.3 (D) mm (2.5" x 3.6" x 1.1")
Weight	170g / 6oz (with batteries)	130g / 4.6oz (with batteries & strap)

≫ Infrared Wireless Tuner
IR-702T

- Built-in 2-channel fixed-frequency tuner
- Up to 4 infrared light receivers per unit
- Equipped with signal reception light and knob for microphone volume control
- Two line outputs, one with a MIX output switch allowing output of mixed voice from channels A and B

≫ Infrared Wireless Distributor
IR-700D

- Equipped with 4 receiver mixing outputs and 2 distributor outputs
- By using the IR-700D in conjunction with IR-702T and YW-1022/YW-1024, a system with up to 16 infrared receivers is configurable

Model	IR-702T
Power Source	AC mains 50/60Hz (supplied from the accessory AC adaptor)
Receiving Frequency	Channel A: 3.100MHz/Channel B: 3.350MHz
Receiver Sensitivity	S/N ratio over 50dB (40dBμ V input, 1 kHz modulation, ±4.8 kHz deviation)
Infrared Receiver Input	75 Ω, BNC jack × 2 (Infrared wireless receiver's power source: 24V DC, max. 220mA in total of 2 terminals)
Output	Channel A and B: −10 dB* (±4.8kHz deviation, at volume level max.), 600 Ω, electronically balanced, 3 pole phone jack Note: Channel A switchable to mixer output
Frequency Response	100Hz – 12kHz
Dimensions	210 (W) × 44 (H) × 210.9 (D) mm (8.2" x 1.7" x 8.3")
Weight	630g / 22.2oz (unit only)

≫ Wall-mount Receiver
IR-500R

- Reception area approx. 15m
- Adjustable reception angle

≫ Ceiling-mount Receiver
IR-510R

- Reception radius approx. 8m

≫ Wall-mount Receiver
IR-520R

- Reception area approx. 15m

Infrared Wireless Classroom System

TOA's educational microphone system offers uniform classroom-wide sound quality with a single wide-dispersion speaker which provides ample 100 m² coverage. Quick & easy installation requiring just one CAT-5 cable.

⟫ Infrared Wireless Microphone

IR-310M

- Usable as hands-free or hand-held microphone
- Lightweight body with unobtrusive styling
- 8-hour operation with single AA battery
- Microphone sensitivity adjustable to suit application
- Sturdy clothing clip to prevent wobbling or rotation during hands-free use

⟫ Battery Charger

IR-310BC

Model	IR-310M
Batteries	One piece of IR-200BT-2 rechargeable battery for the infrared wireless microphone (option)
Current Consumption	typ.250 mA (1.2 V)
Infrared Emitter Transmission Distance	Approx.15m (In an unobstructed space)
Input Sensitivity Adjustment	Adjustment range: 2 levels (High, Low)
Microphone Unit	Unidirectional electret condenser microphone
Frequency Response	100 Hz – 12 kHz
Preemphasis	300 µs
Input	External microphone input (ø3.5 monaural mini jack)
Battery Operation Time	Approx. 8 hours (one piece of IR-200BT-2)
Finish	Control Section: ABS resin, white/ Filter Section: Polycarbonate, optical cut filter
Dimensions	54 (W) x 109 (H) x 27 (D)mm / 2.1 (W) x 4.3 (H) x 1.1 (D)in
Weight	100g / 3.5oz (with battery and strap)
Accessories	Neck strap x 1

⟫ Infrared Speaker

IR-820SP

Version	IR-820SP
Power Source	24 V DC (supplied from IR-802T)
Rated Output	20 W
Frequency Response	100 Hz – 20 kHz (-10 dB) at installation in 1/2 free sound field (Measured by installing the unit in the center of a ceiling.)
Amplification System	Class D
Speaker Component	12 cm (4.72") cone-type
Infrared Wireless Receiver Wavelength Carrier Frequency	870 nm Teacher (Channel A) : 3.100 MHz Student (Channel B) : 3.350 MHz
Reception Angle	360° (Horizontal)
Connection Terminal	RJ-45
Connection Cable	CAT-5 UTP
Operating Temperature	-10°C to 50°C
Dimensions	320 × 205 (D) mm / 12.6 x 8.1 (D) in
Weight	3.4 kg (7.5 lbs)

*0 dB = 1V

⟫ Infrared Wireless Tuner

IR-802T

Version	IR-802T
Power Source	AC mains, 50/60 Hz (supplied AC adapter must be used)
Receiving Frequency	Teacher (Channel A): 3.100 MHz Student (Channel B): 3.350 MHz
Receiver Sensitivity	50 dB or more, Signal-to-noise ratio (40 dBµV input, 1 kHz modulation, ±4.8 kHz deviation)
S/N Ratio	Tuner: 60 dB or more (60 dBµV input, 1 kHz modulation, ±4.8 kHz deviation, A-weighted, Equalization: Centered) AUX: 75 dB or more (A-weighted, Equalization: Centered)
Input AUX PC: AUX DVD/TV: AUX MP3: Mute:	line, -10 dB*, 10 kΩ, unbalanced, stereo mini jack (internal mixing) line, -10 dB*, 10 kΩ, unbalanced, 2P RCA jack (internal mixing) line, -10 dB*, 10 kΩ, unbalanced, stereo mini jack (internal mixing) 25 V line signals of telephone paging from a school intercom system
Output	ALD (Assistive Listening Device): line, -10 dB*, 10 kΩ, unbalanced, monaural mini jack Speaker: RJ45 (dedicated terminal for IR-820SP connection)
Equalization	High: ±10 dB at 10 kHz/Mid: ±10 dB at 1.3 kHz/Low: ±10 dB at 100 Hz
Mute Function	Muted by 25 V line signals
Dimensions	210 (W) × 46 (H) x 312 (D) mm / 8.3 (W) x 1.8 (H) x 12.3 (D) in
Weight	1.8 kg (4 lbs)

*0 dB = 1V

Wireless Microphone Ordering Information

Model / Description	E Band: 668 - 698 MHz Part Number	F Band: 636 - 668 MHz Part Number	G Band: 606 - 636 MHz Part Number	H Band: 576 - 606 MHz Part Number
TRANTEC S5.3 Series 12 Channel Wireless Solution				
KITS				
S5.3HD - Handheld Dynamic Kit	S5.3-HD-E2USQ	S5.3-HD-F2USQ	S5.3-HD-G7USQ	S5.3-HD-H2USQ
S5.3HC - Handheld Condenser Kit	S5.3-HC-E2USQ	S5.3-HC-F2USQ	S5.3-HC-G7USQ	S5.3-HC-H2USQ
S5.3L - Lavaliere Kit	S5.3-L-E2US Q	S5.3-L-F2US Q	S5.3-L-G7US Q	S5.3-L-H2US Q
TOA 5000 Series 16 Channel Wireless Solution				
KITS				
WS-5225 - Handheld Condenser Kit	WS-5225 E01US	WS-5225 F01US	WS-5225 G02US	WS-5225 H01US
WS-5265 - Handheld Dynamic Kit	WS-5265 E01US	WS-5265 F01US	WS-5265 G02US	WS-5265 H01US
WS-5365U - Lavaliere (uni) Kit	WS-5365U E01US	WS-5325U F01US	WS-5325U G02US	WS-5325U H01US
WS-5365M - Lavaliere (omni) Kit	WS-5365M E01US	WS-5325M F01US	WS-5325M G02US	WS-5325M H01US
WS-5365H - Headworn (uni) Kit	WS-5365H E01US	WS-5325H F01US	WS-5325H G02US	WS-5325H H01US
INDIVIDUAL UNITS				
WT-5800 - Receiver	WT-5800 E01US	WT-5800 F01US	WT-5800 G02US	WT-5800 H01US
WT-5805 - Receiver	WT-5805 E01US	WT-5805 F01US	WT-5805 G02US	WT-5805 H01US
WT-5810 - Receiver	WT-5810 E01US	WT-5810 F01US	WT-5810 G02US	WT-5810 H01US
WT-4820 US - Receiver (add WT-4800)				
WTU-4800 - Receiver Unit	WTU-4800 E01	WTU-4800 F01	WTU-4800 G02	WTU-4800 H01
WM-5270 - Handheld Dynamic Mic	WM-5270 E01	WM-5270 F01	WM-5270 G02	WM-5270 H01
WM-5265 - Handheld Dynamic Mic	WM-5265 E01	WM-5265 F01	WM-5265 G02	WM-5265 H01
WM-5225 - Handheld Electret Mic	WM-5225 E01	WM-5225 F01	WM-5225 G02	WM-5225 H01
WM-5325 - Belt Pack	WM-5325 E01	WM-5325 F01	WM-5325 G02	WM-5325 H01
TRANTEC S4.16 Series 12 Channel Wireless Solution				
KITS				
S4.6H - Handheld Dynamic Kit	S4.16-H-E3-USQ		S4.16-H-G4-USQ	
S4.16L - Lavaliere Kit	S4.16-L-E3-USQ		S4.16-L-G4-USQ	
TRANTEC S4.4 Series Wireless Starter Pack				
KITS				
S4.4H - Handheld Dynamic Kit	S4.4-H-E4-US Q		S4.4-H-G5-US Q	
S4.4L - Lavaliere Kit	S4.4-L-E4-US Q		S4.4-L-G5-US Q	

Wireless Microphone Selection Guide

⟫ TOA 5000 Series Wireless Microphone Selection Guide

Description	Model	Replaces	Compatible With
Handheld Wireless Microphones			
Handheld microphone, condenser, unidirectional	WM-5225	WM-5220	
Handheld microphone, dynamic, unidirectional	WM-5265	--	Receiver: WT-5800; WT-5805; WT-5810; WT-4820
Handheld microphone, dynamic, unidirectional	WM-5270		
Beltpack Transmitter (microphone sold separately)			
Wireless beltpack transmitter	WM-5325	WM-5320; WM-5320A; WM-5320H	Microphones: Q-EM-22; Q-HM-22; WH-4000A; WH-4000H; YP-M5300; YP-M5310; Battery: WB-2000-2 Battery Charger: BC-5000-2; BC-5000-6; BC-5000-12
Wireless Microphones			
Lavaliere microphone, condenser, unidirectional	YP-M5300	WM-5320;	
Lavaliere microphone, condenser, omnidirectional	YP-M5310	100012769A	
Headset microphone, condenser, unidirectional	WH-4000H	WM-5320H	Transmitter: WM-5325
Aerobic headset microphone, condenser, unidirectional	WH-4000A	WM-5320A	Receiver: WT-5800; WT-5805; WT-5810; WT-4820
Single ear microphone, condenser, omnidirectional	Q-EM-77		
Optional Accessories - Microphones			
Battery charger for 2 microphones (AC adapter sold separately)	BC-5000-2	--	Microphone/Beltpack: WM-5225; WM-5265; WM-5325 AC Adapter: AD-5000-2
Battery charger for 6 microphones (AC adapter sold separately)	BC-5000-6	--	Microphone/Beltpack: WM-5225; WM-5265; WM-5325
Battery charger for 12 microphones (AC adapter sold separately)	BC-5000-12		AC Adapter: AD-5000-6
AC adapter (sold separately)	AD-5000-2	--	Battery charger: BC-5000-2
AC adapter (sold separately)	AD-5000-6	--	Battery charger: BC-5000-6; BC-5000-12
Battery	WB-2000-2	--	Microphone/Beltpack: WM-5225; WM-5265; WM-5325
Aerobics waist pack (belt)	WH-4000P	--	Microphone: WH-4000A
Replacement windscreen	WH-4000S	--	Microphone: WH-4000A; WH-4000H
Wireless Receivers			
True diversity receiver	WT-5800		
Space diversity receiver	WT-5805	--	Microphone: WM-5225; WM-5265; WM-5270;
Space diversity receiver	WT-5810		WM-5325
Wireless microphone receiver	WT-4820		
UHF wireless tuner module	WTU-4800	--	Module for WT-4820
Optional Accessories - Receivers			
Antenna distributor	WD-4800	--	Receiver: WT-5800; WT-5805; WT-4820
UHF wireless antenna	YW-4500	--	Receiver: WT-5800; WT-5805; WT-4820; WTU-4800
Rack mount for single receiver (1RU)	MB-WT3	--	Receiver: WT-5800; WT-5805; WT-4820
Rack mount for dual receiver (1RU)	MB-WT3		
Rack mount kit	MB-15B	--	Antenna distributor: WD-4800
Wireless Microphone Kits (includes Microphone and Receiver)			
Handheld condenser kit	WS-5225	WS-5200	
Handheld dynamic kit	WS-5265	--	
Lavaliere condenser (unidirectional) kit	WS-5325U	WS-5300	Microphone: Q-EM-77; WH-4000A;
Lavaliere condenser (omnidirectional) kit	WS-5325M		WH-4000H; YP-M5300; YP-M5310
Headworn condenser (unidirectional) kit	WS-5325H	WS-5300H	

⟫ TRANTEC Series Wireless Microphone Selection Guide

Description	Model	Compatible With
Optional Microphones		
Lavaliere microphone	MIC-X2; MIC-X55; MIC-X212-BE; MIC-X212-BK	Beltpack: S5.3-BTX
Lavaliere microphone	MIC-LP2; MIC-SJ55; MIC-SJ212-BE; MIC-SJ212-BK	Beltpack: S4.14-BTX; S4.4-BTX
Glasses frame microphone	MIC-X690H	Beltpack: S5.3-BTX
Glasses frame microphone	MIC-SJ690H	Beltpack: S4.14-BTX; S4.4-BTX
Headworn microphone	MIC-X33; MIC-X66-BK; MIC-X66-BL; MIC-X66-YE; MIC-MIC-X22-B-R; MIC-X22-P-R; MIC-XEM77; Q-EM-77	Beltpack: S5.3-BTX
Headworn microphone	MIC-SJ33; MIC-SJ66-BK; MIC-SJ66-BL; MIC-SJ66-YE; MIC-MIC-SJ22-B-R; MIC-SJ22-P-R; MIC-SJEM77	Beltpack: S4.14-BTX; S4.4-BTX
Optional Accessories - Receivers		
Antenna distributor	S5-ADU	
Antenna booster	YW-7000 RF	
Passive antenna splitter	ACC-SPLIT-2W	
Directional antenna	YW-7570	
Omnidirectional antenna	YS-7520	Receiver: S5.3-RX; S4.14-RX; S4.4-RX
Wall mount antenna	YW-4500	
Whip antenna	AMT-54 BTX-D/BTX-G	
Antenna extension cable	LD-BNC-TNC	
TNC rack mount panel	PAN-1U19-TNC	
Blank panel	MW-1U-BLANK	
Receiver antenna	ANT-S5 RX-D/RX-G	Receiver: S5.3-RX
Rack mount kit	ACC-S5RX-MBI; ACC-S5RX-MB3; ACC-S5RX-MB2	
Antenna distributor	WD-4800	
Receiver antenna	ANT-S4.16 RX-D/RX-G	Receiver: S4.16-RX
Helical antenna	ANT-54 HDX-D/HDX-G	Receiver: S4.16-RX; S4.4-RX
Antenna extension cable	LD-TNC ADU	
Guitar cable	LD-SJ-JAC	

Rack Mount Equipment, Network Audio and Others

Equalizers

⟫ 2-Channel 2/3 Octave Graphic Equalizer

E-232

- 14 filters on 2/3 octave center frequencies from 40 Hz to 16k Hz (+/- 6 or 12 dB)
- Noiseless center-detent slide controls with precision-calibrated linear scales
- Independent selection for boost and cut of 6 or 12 dB
- ±12 dB input gain control and high pass filter
- In/out peak level indicator
- Automatic bypass if power fails EQ in/out with "hardwire" bypass if power fails
- Security cover and rack-mount brackets included (1 RU)

Multi-Channel Monitors

⟫ Multi-Channel Monitor

MP-1216

- Sixteen transformer-isolated, bridging inputs for monitoring line level or low and high impedance speaker line signals
- Separate bar graph meter for each input
- Internal speaker with selector switch for individual channel monitoring
- Two units can be linked for 32 channel monitoring using optional cable, model YA-8
- Built-in rack-mount brackets (2 RU)

⟫ Monitor Panel

MP-032B

- Ten input channels for monitoring high impedance speaker lines
- VU meter
- Internal speaker with selector switch for individual channel monitoring
- Built-in rack-mount brackets (3 RU)

Program Timer

⟫ Program Timer

TT-104B

- For timed control of external equipment and events
- Four independent outputs with 30 programmable steps per output
- Outputs features 0.5A (24V DC) five second dry contact closures
- Weekly program with pause mode for vacations/holidays
- -/+5 second per month clock accuracy with four day backup battery if power fails

AM/FM Tuner

⟫ Synthesized AM/FM Tuner

DT-930

- Presets for any combination of 40 AM (monaural) and/or FM (capable of receiving stereo broadcast) stations
- Frequency synthesized digital tuning with multi-function digital display
- Automatic station scanning and manual tuning
- Automatic station storage to memory using auto-scan mode
- Direct station frequency tuning entry
- Stereo output is available
- FM dipole and AM loop antenna included
- Optional rack mount kit available (MB-15B)

Digital Message Repeaters

⟫ Sound Repeter

EV-20R

- For paging applications with a distributed speaker system
- Up to 4 separate message selections or announcements to a total maximum of six minutes may be recorded
- Front panel-mounted recording inputs (mic/line switchable)
- PC connection via USB. A CD-ROM with various chimes is included
- Pre-recorded message can be transferred via USB-interface
- Built-in interval timer allows messages to be repeated at various time intervals (0.5 seconds up to ∞)
- 3W / 8Ω amplifier section built-in for direct speaker connection.Volume control for level adjustment of an external source
- A line input and output for connecting various program sources including CD players or dedicated BGM inputs

Network Audio Adapters

⟫ Network Audio Adapter

NX-100

⟫ Network Audio Adapter Economy Version

NX-100S

- Converts analog audio (mic or line) to packet audio IP format for transmission over existing local or wide area networks (LAN/WAN) including the Internet
- Bi-directional audio transport plus contact closures and serial RS-232 (NX-100 only)
- Reduces installation and operational costs when distributing audio signals to remote locations
- Balanced mic/line input with adjustable volume control
- Phantom power for condenser microphones (NX-100S only)
- Balanced line output
- Built-in Ethernet port (10/100BaseT)
- Point-to-point transmission (Unicast) of audio signals to up to four locations (LAN/WAN/Internet)
- Simultaneous transmission (Multicast) of audio signals to up to 64 locations (LAN/WAN)
- Control inputs can initiate and terminate audio transmissions without the need for dedicated PC-based or other control equipment
- Eight control inputs with adjustable contact off delay time
- Eight control outputs: open collector output
- Adjustable sample rate and audio bandwidth allows efficient use of network resources
- Minimum delay: 20 ms
- Multiple error correction modes
- Intuitive Configuration, Operating and Management software
- Browser-based software allows control and monitoring from any network-based PC
- Convenient End User features including customizable Operation software, Operation logs and password protection
- Front panel indication: Link/Active, Full-Duplex/Collision, Status, Error, Run
- Signal and Peak Indicators (NX-100S only)
- Front panel reset button
- External 24 VDC input for battery backup operation (NX-100 only)
- Easy to upgrade flash memory firmware
- Compact, half-rack size unit (1 RU)
- Includes AC power supply, model AD-246 (order NX-100PS/NX-100SPS)
- Optional rack-mount kits (1 RU), model MB-15B-BK (1 NX-100/NX-100S), model MB-15B-J (2 NX-100/NX-100S)

⟫ Applications

- Airports
- Audio Distribution to Multiple Remote Locations
- Auditoriums / Theatres
- Broadcast
- Business Music
- Business Music Distribution
- Convention Centers
- Corporate Messaging
- Educational Facilities
- Hotels
- Houses of Worship
- Industrial / Warehouses
- Remote Monitoring
- Museums
- Paging Distribution
- Performing Arts Centers
- Public Address
- Railway Stations
- Retail Chain Stores
- Sports Facilities
- Stadiums
- Theaters
- Theme Parks
- Transit Stations
- Wide Area Paging

Differences between the NX-100 and NX-100S

	NX-100	NX-100S
Audio transport	Yes	Yes
Switch transport	Yes	Yes
RS-232C transport	Yes	No
Power source	AC or 24 V DC	AC only
Input signal LED	No	Yes
Input peak level LED	No	Yes
Phantom power supply	No	Yes
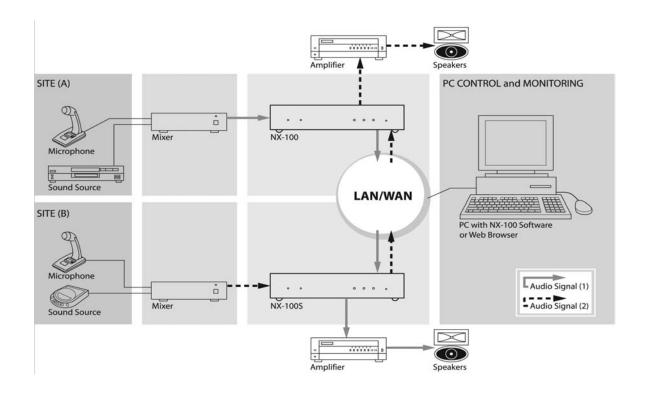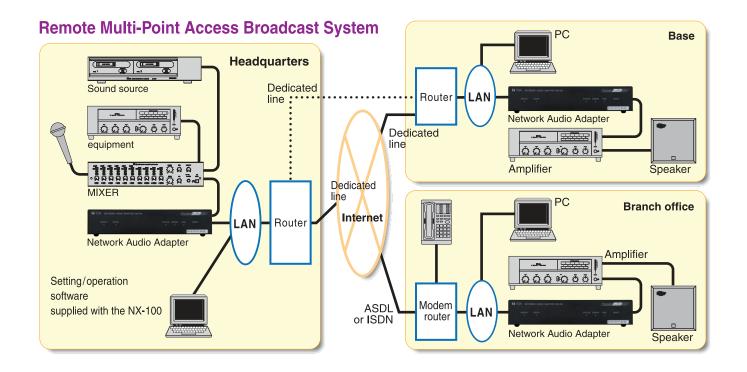
Microphones

Wireless Systems

Rack Mount Equipment, Network Audio and Others

Mixers

Amplifiers

Speakers

Conference System

Megaphones

Intercom

Security & Safety

Reference

Network Audio Adapters

SITE (A)

Microphone
Sound Source
Mixer
NX-100
Amplifier
Speakers

PC CONTROL and MONITORING

LAN/WAN

PC with NX-100 Software
or Web Browser

SITE (B)

Microphone
Sound Source
Mixer
NX-100S

Amplifier
Speakers

Audio Signal (1)
Audio Signal (2)

Remote Multi-Point Access Broadcast System

Headquarters

Sound source
equipment
MIXER
Network Audio Adapter

Setting/operation
software
supplied with the NX-100

Dedicated line
Dedicated line

LAN Router

Dedicated line

Internet

ASDL
or ISDN

Modem
router

LAN

Router LAN

Base

PC

Network Audio Adapter

Amplifier Speaker

Branch office

PC

Network Audio Adapter

Amplifier

Speaker

Mixers

Stereo Mixer

≫6-Channel Stereo Mixer

M-243

- Two mono mic/line inputs, each with compressor and high pass filter
- Four stereo inputs with RCA and 1/4" phone plug connectors
- Stereo output with separate paralleled record outputs
- Two mono outputs, switchable to stereo sum
- Inputs independently assignable to any combination of stereo and mono outputs
- Stereo and mono sub-inputs for direct access to individual mixing buses
- Auto-priority of mono over stereo inputs for paging/BGM applications
- Low and high frequency EQ for stereo output (with clipping indicators)
- Security cover and rack-mount kit included (1 RU)

Digital Stereo Mixer

≫Digital Stereo Mixer

M-633D

- Stereo mixer with 12 input channels (6 monaural inputs and 3 stereo inputs) and 6 output channels (2 monaural outputs, 1 stereo output, and 1 stereo recording output)
- 2 monaural bus lines allow each input signal to be assigned to each bus line individually
- Automatic Resonance Control function, Feedback Suppression function, and Automatic Clipguard enhance sound intelligibility
- Reduces unpleasant room resonance and feedback to deliver clear, highly articulate sound
- Ideal for houses of worship, gymnasiums, meeting rooms, and more

Model	M-243
Power Source	120 V AC, 50/60 Hz
Power Consumption	10 W
Monaural Input	Line: -10 dB*, 10 kΩ, unbalanced, phone jack Mic: -60 dB*, 1 kΩ, balanced, XLR3-pin connector Mic (Pad): -40 dB*, 1 kΩ, balanced, XLR3-pin connector
Stereo Input (L, R)	-10 dB*, 10 kΩ, unbalanced, RCA jack
Auxiliary Stereo Input	+4 dB*, 50 kΩ, unbalanced, phone jack
Stereo Output (L, R)	+4 dB*, 1 kΩ, unbalanced, phone jack
Monaural Output (1, 2)	+4 dB*, 1 kΩ, unbalanced, RCA jack
REC Output (L, R)	-10 dB*, 1 kΩ, unbalanced, RCA jack
Frequency Response	20 - 20,000 Hz (+1, -2 dB)
T.H.D.	0.01 % or less (1,000 Hz, rated input/output)
Noise Level (IHF-A)	When all volume controls are in minimum position. Stereo Output (L, R): -105 dB* or less Monaural Output (1, 2): -98 dB* or less When the stereo, monaural (1, 2) are in maximum position. Stereo Output (L, R): -94 dB* or less Monaural Output (1, 2): -95 dB* or less
Finish	Front Panel: Alumite, black Case: Steel, black
Dimensions	19.02" (W) × 1.81" (D) × 11.88" (H) 483 (W) × 46 (H) × 301.8 (D) mm
Weight	8.38lbs (3.8kg)
Accessory	Rack mounting screw x 4, Rubber foot x 4, Knob (blue, small) x 2, Knob (red, small) x 2, Knob (blue, large) x 1, Knob (red, large) x 1

*0 dB = 0.775 V

Model	M-633D
Input	6 monaural input channels, switchable LINE, MIC or PHANTOM LINE: -10dB*, 2.4k Ω MIC:-46 dB*, 2.4k Ω PHANTOM:-46 dB*, 2.4k Ω, +24V Dc, electronically balanced Removable terminal block (3 pins), phone jack 3 stereo inputs (L, R) -10 dB* / 10k Ω, RCA jack, stereo mini jack
Bus Line	Monaural channel x 2, stereo channel x 1
Frequency Response	20 Hz - 20kHz
Sampling Frequency	48 kHz / 24 bits
Dynamic Range	90 dB or more (IHF-A weighted)
Output	3 monaural outputs 0 dB*, electronically balanced, removable terminal block (3 pins) 1 stereo output (L, R) 0 dB*, electronically balanced, removable terminal block (3 pins) 1 stereo recording output (L, R) -10 dB*, RCA jack
Signal Processing	Automatic Resonance Control (ARC) Feedback Suppressor (FBS) Automatic Clipguard (ACG) Automatic Mute
Dimensions	16.54" (W) x 1.73" (D) x 13.44" (H) 420 (W) x 44 (H) x 341.1 (D) mm
Weight	8.82lbs (4kg)

*0 dB = 1V

D-2000 Series Digital Mixing System

The Q-D-2012C is a 6U rack mountable Remote Console Unit designed for exclusive use with the D-2008SP Digital Mixing Processor Unit. Assigned to any desired channels inside the D-2008SP by the dedicated software, the Q-D-2012C's 12 motorized faders and 8 rotary encoders can remotely adjust their volumes. Desired preset memories can be recalled using 8 function keys. It is equipped with 1 channel line input (stereo), which allows the audio signal to be transmitted to the D-2008SP via monitor bus. Audio signals inside the D-2008SP can be monitored via monitor bus through headphones connected to a stereo headphone output. The Q-D-2012C can be installed on a desk with the additional use of an optional Q-D-2012AS Console Case.

≫Remote Console Unit

Q-D-2012C

≫Console Case for Q-D-2012C

Q-D-2012AS

Microphones

Wireless Systems

Rack Mount Equipment, Network Audio and Others

Mixers

Amplifiers

Speakers

Conference System

Megaphones

Intercom

Security & Safety

Reference

D-2000 Series Digital Mixing System

≫ Digital Mixing Processor Unit

D-2008SP

- Ideal for applications including; hotel banquet and function rooms, indoor sports facilities, multi-purpose halls, houses of worship, and more
- NOM (Number of Open Microphones) - automatically adjusts output levels based on the total number of open microphones
- Ducker function (auto-mute function) - automatically attenuates outputs of channels with low priority
- Highly effective feedback suppression: providing feedback elimination for up to 4 channels. In addition, each channel can control 12 problem frequencies, making it convenient for feedback suppression in different areas of the same hall.
- 4 bus assignable feedback suppressions with 2 versatile suppression modes: Auto mode or realtime dynamic mode
- Delay, high-pass, low-pass and notch filters, parametric equalizers, compressor/auto leveler, gate, crossovers and crosspoint gain
- 32 preset memories for user convenience
- Intuitive GUI helps streamline settings and adjustments
- D-2000 Series units can be used in conjunction with the optional D-911 VCA Fader Unit providing analog mixer user interface
- RS-232C port allows external control when connected to external devices such as AMX and Crestron control units
- User-specific configurations
- 24-bus matrix: flexible input-to-output signal routing for zoning or room-combining
- A 128 combined input and/or output system can be constructed by connecting four D-2008SP units using the CobraNet* module. LAN-connected D-2008SP units can be remotely operated from TOA's PC software
- Works with optional Q-D-2012C fader controller using LAN connection

D-2000 Series Modules

≫ Mic/Line Input Module

D-2000AD1

- 4-channel, XLR connectors
- A/D converter: 24 bit
- Phantom power supply (48V)
- THD: 0.008% or less

≫ Line Output Module

D-2000DA1

- 4-channel, XLR connectors
- D/A converter: 24 bit
- THD: 0.008% or less

≫ CobraNet Interface Module

D-2000CB

- Allows audio transmission among D-2008SP's.

Model	D-2000AD1
Input	4 channels, Mic/Line selectable Mic: -50/-36dB*, 2.6kΩ, electronically-balanced Line: -10dB*, 2.6kΩ/+4dB*, 7kΩ, electronically-balanced Connector: XLR-3-31 equivalent Phantom power supply (48V DC can be used when set for the Mic) Ground lift switch
A/D Converter	24 bit
THD	0.008% or less (+4dB* input)

Model	D-2000DA1
Output	4 channels, +4dB*/-10dB* (changeable), adaptable load of 600Ω or more, balanced (electronically-balanced)/ unbalanced (changeable), XLR-3-32 equivalent
D/A Converter	24 bit
THD	0.008% or less

Model	D-2000CB	
Network I/F	CobraNet*: 100BASE-TX, PRIMARY/SECONDARY 2 system, RJ45 connector, enables decentralized installation. (audio transmission only) Connection Cable: shielded twisted pair (STP) CAT-5 or higher LAN cable (note network should be completely independent of other LAN.) Number of D-2008SP Connection: Max. 4 Switching Sub Stage: Max 7 Max Extend Distance: 100m (328.1ft) (connected via a switching hub)	
Input	16 channels, 20/24 bit	
Output	16 channels, 20/24 bit	

Digital Mixer

≫ Digital Modular Mixer

D-901

- Modular design allows versatile configurations of up to 12 inputs and 8 outputs
- Auto-Mixing allows "set-and-forget" operation
- Feedback Suppression automatically attenuates up to 12 problem frequencies
- Eight bus matrix with crosspoint gain control allows flexible input-to-output signal routing for zoning or room-combining
- PC software for offsite programming and archiving settings
- 16 internal memories for storage and recall of different signal routing and parameter configurations
- AMX and Crestron software modules available - connects via RS-232

Integrated DSP and Control System

The DP-K1 is a 3U rack mountable Digital Audio Processor. It features Automatic Resonance Control (ARC) that automatically generates an optimum filter curve to improve sound clarity after measuring the acoustic characteristics in architectural space. It permits flexible configuration of inputs and outputs, from 2-IN/4-OUT to 8-IN/8-OUT using the optional modules. Each function is set by a PC using the dedicated software. The settings can be stored in the unit's internal memory and the stored preset memories can be recalled from the unit without connecting the PC. This rack-mount digital mixer / processor is suitible for installed sound applications such as houses of worship, sports facilities, convention centers, airports, and others

≫ Digital Audio Processor

DP-K1

- Modular design allows up to 8 mic/line inputs and 8 line outputs (modules not included)
- Auto Resonance Control (ARC): Advanced measurement and processing algorithm improves speech intelligibility and sound quality in facilities with challenging acoustic environments
- Automatically identifies room mode frequencies and applies an inverse response curve to compensate for the measured room response
- Essential audio processing tools — compressors, gates, crossovers, multi-band filtering, parametric, high/low-pass, all-pass and notch filters, horn EQ, high/low shelving and output delay

Digital Mixing Systems Optional Accessories and Modules

Digital Mixer Systems Optional Accessories and Modules

≫ VCA Fader Unit

D-911

- Remote control of up to twelve inputs and eight outputs
- Eight programmable control switches and LED's
- Connects to D-984VC module via Cat5 cables (maximum distance 100m / 328ft using Cat5)

≫ VCA Control Module

D-984VC

- Interface to D-911 Remote Controller via Cat5 cables or configure custom interface
- Eight RJ-45 connectors
- Control up to 12 inputs, eight outputs
- Eight programmable switch closure inputs for activation of memory, volume up/down, channel on/off and stereo input selection
- Eight programmable relay outputs of memory, channel on/off, contact input status and stereo input selection

CobraNet was developed by Cirrus Logic, a US company, and is network protocol utilizing Ethernet networks to perform high-quality multi-channel digital transmission. It allows using existing Ethernet equipment such as CAT-5 switching hubs.*

CobraNet is a registered trademark of Cirrus Logic Corporation

Digital Mixing Systems Optional Modules

≫ Mic/Line Input Module (24 bit/ Monaural Type)

D-921F

- Two balanced mic or line level inputs
- 24-bit A/D converters
- Adjustable input gain
- Phantom power
- XLR-F connectors

≫ Mic/Line Input Module (24 bit/ Monaural Type)

D-921E

- Two balanced mic or line level inputs
- 24-bit A/D converters
- Adjustable input gain
- Phantom power
- Phoenix-style terminal block

≫ Mic/Line Input Module (20 bit/ Monaural Type)

D-922F

- Two balanced mic or line level inputs
- 20-bit A/D converters
- Adjustable input gain
- Phantom power
- XLR-F connectors

≫ Mic/Line Input Module (20 bit/ Monaural Type)

D-922E

- Two balanced mic or line level inputs
- 20-bit A/D converters
- Adjustable input gain
- Phantom power
- Phoenix-style terminal block connectors

≫ Stereo Select Input Module

D-936R

- Four stereo connector pairs
- Unbalanced line level
- Individual input gain
- Programmable switching between connector pairs or summing mode
- Occupies two input channels
- RCA pin jack connectors

≫ AES/EBU Digital Input Module

D-972AE

- Four digital outputs
- AES/EBU format
- XLR-M connectors
- Maximum distance: 328ft (100m)

Mic/Line Input Modules	D-921F	D-921E[*2]	D-922F	D-922E[*2]	D-936R
Input	2 channels, Mic/Line changeable Mic: −50/−36dB[*1], 4.7k Ω, electronically-balanced Line: −10/+4dB[*1], 10k Ω, electronically-balanced Phantom power supply (+15V, can be used when set for the microphone) Ground lift switch		2 channels, −50/−36/−10/+4dB[*1] (Selectable with the DIP switch), 4.7k Ω, electronically-balanced Phantom power supply (15V, can be set with the DIP switch) Ground lift switch (can be set with the DIP switch)		4 stereo inputs (selection of 1 stereo or mixing or all 4 stereo inputs) −10dB[*1], 10k Ω
Connector Type	XLR-3-31	Removable terminal block	XLR-3-31	Removable terminal block	RCA pin jack
A/D Converter	24 bits		20 bits		24 bits
Frequency Response	20 – 20,000Hz, ±1dB (+4dB[*1] input)				
Sampling Frequency	48kHz				
Dynamic range	Over 100 dB (IHF-A weighted) (+4dB[*1] input)		Over 85dB (IHF-A weighted) (+4dB[*1] input)		Over 100dB (IHF-A weighted)
Total Harmonic Distortion	Under 0.05% (+4dB[*1] input)		Under 0.2% (+4dB[*1] input)		Under 0.05%
Finish	Panel: Pre-coated steel plate, black, 30% gloss				
Dimensions	1.4" (W) x 4.7" (H) x 7" (D) [35 (W)× 119.5 (H) × 178.4 (D) mm]				
Weight	0.33lbs (150g)	0.31lbs (140g)	0.3lbs (135g)	0.28 (125g)	0.32lbs (145g)

[*1]0dB = 0.775V   [*2]Accessory: (D-921E/D-922E) Removable terminal block type connector (preinstalled on the unit)×2

Digital Mixing Systems Optional Modules

≫ AES/EBU Digital Input Module

D-923AE

- Two digital inputs
- AES/EBU format
- XLR-F connector
- Maximum distance: 328ft (100m)

≫ Line Output Module

D-971M

- Four balanced line level outputs
- XLR-M connectors

≫ Line Output Module

D-971E

- Four balanced line level outputs
- Phoenix-style terminal block connectors

≫ Line Output Module

D-971R

- Four stereo or mono sum line level outputs
- RCA pin jack connectors

[*1]0dB = 0.775V

Mic/Line Output Modules	D-971M	D-971E[*2]	D-971R
Output	4 channels, +4dB[*1], adaptable load of over 600 Ω, electronically-balanced		4 channels (2 outputs for each channel), −10dB[*1], adaptable load of over 600 Ω
Connector Type	XLR-3 -32	Removable terminal block	RCA pin jack
D/A Converter	24 bits		
Sampling Frequency	48kHz		
Frequency Response	20 – 20,000Hz, ±1dB		
Dynamic range	Over 100dB (IHF-A weighted)		
Total Harmonic Distortion	Under 0.05%		
Finish	Panel: Pre-coated steel plate, black, 30% gloss		
Dimensions	1.38" (W) x 4.7" (H) x 7" (D) [35 (W) x 119.5 (H) x 178.4 (D)mm]		
Weight	0.36lbs (165 g)	0.31lbs (140 g)	0.33lbs (150g)

≫ Remote Control Module

D-981

- Eight programmable switch closure inputs for activation of memory, volume up/down, channel on/off and stereo input selection
- Eight programmable relay outputs of memory, channel on/off, contact input status and stereo input selection

≫ Remote Control Module

D-983

- Twenty-four programmable switch closure inputs for activation of memory, volume up/down, channel on/off and stereo input selection
- Sixteen programmable relay outputs of memory, channel on/off, contact input status and stereo input selection

Remote Control Modules		D-981[*2]	D-983
Contact input		COM + terminals 1-8: Open voltage: 5V DC, short-circuit current: 5mA removable terminal block type connector	COM + terminals 1-24: Open voltage: 5V DC, short-circuit current: 5mA RJ45 connector x 4
Control	Preset memory selection	Any preset memory can be recalled. Control method: No-voltage make of over 100ms/no-voltage make single pulse of over 100ms	
	Volume control	Any input/output channel volume can be turned UP or DOWN. Control method: 1 step variation for no-voltage make single pulse of over 100ms 1 step continuous operation for every 70ms for no-voltage make of over 100ms. Can be reset when at break. Variable range; − ∞ dB to +10dB	
	Channel	Any input/output channels can be turned ON and OFF. Control method: No-voltage make of over 100ms/no-voltage make single pulse of over 100ms	
	Stereo selection	Input channel lines of the D-936R (optional) or the D-937SP (optional) (4 stereo input module) can be selected. Control method: No-voltage make of over 100ms/ no-voltage make single pulse of over 100ms	
Contact output		COM + terminals 1-8: No-voltage make contact input, contact capacity: 24V DC, 100mA removable terminal block type connector	COM + terminals 1-16: No-voltage make contact input, contact capacity: 24V DC, 100mA RJ45 connector x 4
Finish		Panel: Pre-coated steel plate, black, 30% gloss	
Dimensions		1.38" (W) x 4.7"(H) x 7" (D) [35 (W) x 119.5 (H) x 178.4 (D)mm]	
Weight		0.28lbs (125g)	0.37lbs (170g)

[*2]Accessory: (D-971E, D-981)   Removable terminal block type connector (preinstalled on the unit)×2
(D-972AE) Ferrite clamp×2
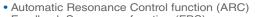
Microphones

Wireless Systems

Rack Mount Equipment,
Network Audio and Others

Mixers

Amplifiers

Speakers

Conference System

Megaphones

Intercom

Security & Safety

Reference

Digital Stereo Mixer
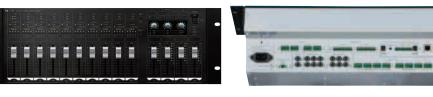
The M-864D is a 4U rack mountable Digital stereo mixer having 8 monaural Mic/Line input channels and 2 stereo input channels (7 sources), 6 output channels including 4 bus assignable monaural output channels and 1 stereo recording output channel. It is equipped with digital signal processing functions such as Automatic Resonance Control function (ARC) Feedback Suppressor function (FBS), Automatic stereo input mute function (AUTO MUTE or Ducker), and Parametric Equalizer. Advanced acoustic compensation can be automatically performed without using any acoustic measuring instruments. Furnished with various function setting buttons and 14 analog volume faders, the M-864D can be operated without the need for a PC. However, it can also be operated by connecting the PC or optional Remote control panel. It can be mounted in an EIA standard component rack (4U size).

≫ Digital Stereo Mixer

M-864D

• Automatic Resonance Control function (ARC)
• Feedback Suppressor function (FBS)
• Automatic stereo input mute function (AUTO MUTE or Ducker)
• Parametric Equalizer

M-864D Optional Remote Control Modules

≫ Assignable Remote Button Panel

ZM-9011

• Fits in a standard dual-gang electrical box
• Four assignable buttons each with LED status indicator can control Xpoint settings (on/off, select), paging activation, scene and relay activation
• Assignable ID rotary adjustment on box
• Supplied matching decor plate
• Required RC-001T

≫ Assignable Volume Controller

ZM-9012

• Fits standard single-gang electrical box
• Rotary encoder can be assigned to control any input or output volume
• Multiple input or outputs may be "ganged" for master volume control
• Multi-segment LED indicator provides visual volume level status
• Supplied matching decor plate
• Removable terminal block

≫ Assignable Remote Button Panel

ZM-9013

• Fits in a standard dual-gang electrical box
• Eight assignable buttons each with LED status indicator can control Xpoint settings (on/off, select), paging activation, scene and relay activation
• Assignable ID rotary adjustment on box
• Supplied matching decor plate
• Removable terminal block
• Required RC-001T

≫ Assignable Remote Button Panel w/Volume Control

ZM-9014

• Fits in a standard dual-gang electrical box
• Four assignable buttons each with LED status indicator can control Xpoint settings (on/off, select), paging activation, scene and relay activation
• Assignable ID rotary adjustment on box
• Supplied matching decor plate
• Removable terminal block
• Required RC-001T

M-864D GUI Software

Signal Processing Equipment

The DP-SP3 Digital Speaker Processor enables you to enhance your sound system easily and inexpensively. Designed specifically to work with speakers, the processor taps into characteristics of individual speakers and draws out their best possible performance, to help realize richer, more expressive sound in a variety of venues. The DP-SP3 has a built-in library of presets for the most popular TOA speakers, which enables you to enjoy well-balanced sound immediately, without going to the trouble of inputting complex parameter settings. In addition, a preset memory of up to 16 setting patterns allows you to instantly recall the setting you need for a particular venue. The processor is also packed with such essential audio processing functions as Equalizer, Crossover, Matrix, Compressor and Delay.

≫ Digital Speaker Processor

DP-SP3

• 24-bit, 96 kHz sampling for clear, high-quality and realistic sound, with a full sense of presence
• 10 filters on each input and 12 filters on each output
• 2 inputs & 6 outputs, and processor can work with a 3-way multi-amp system
• Setting and operation via a LAN connected PC with installation of the supplied intuitive control/ operation software
• Preset memory for up to 16 different setting patterns, for instant recall of patterns best suited to a particular venue
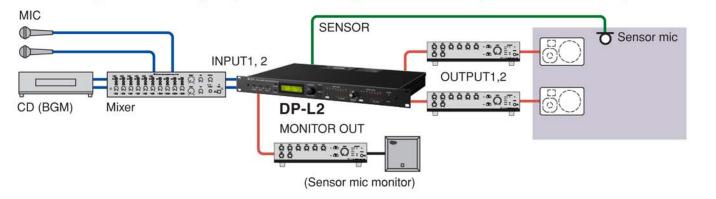
≫ Digital Ambient Noise Controller

DP-L2

• Digital ambient noise control (ANC) function with 4-LED metering automatically adjusts output gain to match changes in ambient noise levels
• Exclusive TOA algorithm distinguishes unit output sound level from ambient noise levels, for more accurate control
• Monitor output for sound picked up by the ambient noise sensor microphone
• Automatic level control feature with 4-LED metering maintains input signal at a constant level by adjusting input signals to appropriate levels when the sound level is too low

System Example (When broadcasting is done via a microphone while BGM is on)

MIC

SENSOR

Sensor mic

INPUT1, 2

OUTPUT1,2

CD (BGM)   Mixer

DP-L2

MONITOR OUT

(Sensor mic monitor)

Amplifiers

AV-20D & AV-60S Micro Amplifier

The AV-20D introduces a new standard in small amps for plenum use. With ultra-compact size, a flexible compliment of inputs & power configuration, control features and carrying both UL2043 & Energy Star 2.0 certification, the AV-20D is an ideal choice for corporate meeting rooms, POS/signage & kiosks or any place where space and placement limitations are a factor.

⟫ Micro Amplifier

AV-20D

- Micro Class D amplifier for use in meeting/board rooms & signage applications
- UL 2043-rated for plenum installation
- Energy Star certified including Auto Off/Standby
- 20W x 2 @ 4 Ohms / 40W @ 8 Ohms in Bridge Mode
- Small size (approx. 6" x 6" x 1.75") allows convenient & flexible placement.
- L/R Line inputs via: removable Transformer-Balanced Terminal Block, 1/8" TRS mini-jack and RCA connections
- Bass & Treble Controls
- Input signal present (-20dB) and Peak LED indicators
- Clip Limiter prevents distortion due to overload.
- Remote Volume Control port for use with 10kOhm pot

AV-20D & AV-60S Optional Accessories

⟫ Metal Pole Mount Bracket

MB-AV20PM

⟫ Metal Desk-mount Bracket

MB-DM820

⟫ Metal Rack Mount Kit

MB-AV20RM
(1 or 2 amplifiers are mountable in 1 unit)

⟫ Matching Transformer

MT-S0301

- The MT-S0301 allows for a 30W @ 70V output by connecting to the bridge output of the AV-20D.

A-2000 Series Mixer Power Amplifier

⟫ Mixer Power Amplifier
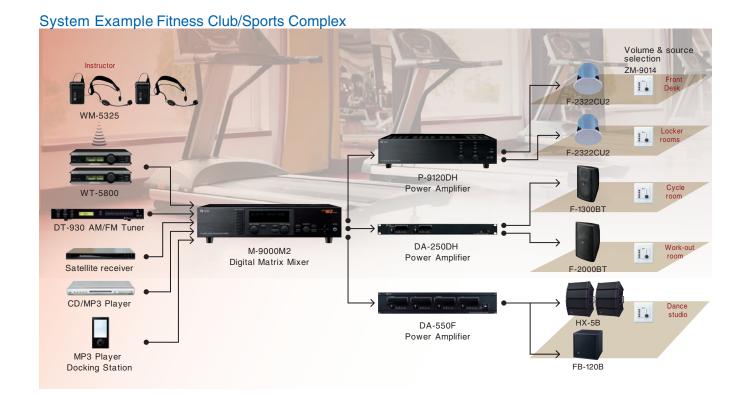
A-2240

- Cost effective and durable mixer power amplifier
- User friendly front panel allows easy operation
- 2 electronically balanced microphone inputs, 2 AUX inputs and recording output.
- Phantom power at MIC 1
- Wide tone-control adjustment range of -/+10 dB for both bass and treble
- 100V / 70V line or 4Ω speaker outputs
- Booster amplifier for additional power

9000M2 Series Modular Digital Matrix Mixer/Amplifiers

System Example Fitness Club/Sports Complex

System Example Retail

9000M2 Series Modular Digital Matrix Mixer/Amplifiers

The TOA 9000M2 Series Digital Matrix Mixer/Amplifiers redefines the conventional mixer/amplifier category by combining a modular matrix mixer, digital signal processor (DSP) and amplifiers in a compact, two rack space package. This versatile series is ideal for multi-zone paging, music distribution and room-combining applications. The 9000 Series allows for easily configured, custom systems with up to eight mic/line inputs and eight outputs. Each 9000M2 Series chassis has two output channels with built-in DSP, including ; ten band parametric EQ, compressor, delay and more. Input and output modules include additional DSP. A new integrated operating mode provides powerful functionality for both simple mixing and complex multi-zone paging applications. Features include telephone zone paging, automatic microphone mixing and ambient noise control.

≫ Modular Digital Matrix Mixer

M-9000M2

- Flexible modular design - up to 8 mic/line inputs and 8 outputs
- Detailed GUI software screens make even complex settings intuitive and easy to understand
- Any of the 30 EQ presets appropriate to the TOA speakers used may be selected for each output
- Up to 16 flush-mount remote panels connectable
- Programmed operating system - 32 scene memories and 32 paging memories
- Dual Channel Digital Signal Processor (DSP) on Input & Output channels:
  10-Band Parametric EQ/High and Low Pass Filters/Bass and Treble/Loudness/Compressor/Gate/Ducker/NOM (Automix)/ Delay (Output channel only)/TOA Speaker EQ Presets (Output channel only)/ DSP included on M-9000M2 Mainframe Outputs,D-001T, D-001R and T-001T modules

Model	A-9120SM2 MIXER/AMP	A-9240SHM2 MIXER/AMP	M-9000M2 MIXER
Power Source	120 V AC, 60 Hz		
Power Consumption	150 W	250 W	40 W
Audio Input	Max. 8 channels, modular construction (modules optional) Power amplifier input: 0 dB*¹, 10 kΩ, RCA pin jack		Max. 8 channels, modular construction (modules optional)
Audio Output	Preamplifier output 1: 0 dB*¹, 300 Ω, unbalanced, RCA pin jack Preamplifier output 2: 0 dB*¹, 600 Ω, unbalanced, removable terminal block (3 pins)		Preamplifier output 1, 2: 0 dB*¹, 600 Ω, balanced, removable terminal block (3 pins)
	Speaker output: Removable terminal block (7 pins); Direct: 120 W, 4Ω. unbalanced; Transformer: 120 W, 8Ω 25V & 70V, balanced	Speaker output: 240 W, 21 Ω, BTL output, removable terminal block (4 pins)	
Module Slot	Analog input (slot 1 - 8): -10 dB*¹, 10 kΩ, unbalanced; Digital input (slot 1 - 4): 24 bit/48 kHz; MIX output (slot 1 - 8): -14 dB*¹, 330 Ω (CH 1 prefader output), unbalanced; Digital output (slot 5 - 7): 24 bit/48 kHz; Power supply (slot 1 - 8): +24 V, -24 V, +6 V DC		
Digital Audio Signal Reference Level	-20 dBFS		
Power Bandwidth	(D): 20 - 20,000 Hz, 0.02% THD (T): 50 - 20,000 Hz, 0.5% THD	20 - 20,000 Hz, 0.008% THD	
Frequency Response	Power amplifier section: 20 - 20,000 Hz, +0, -1 dB Analog input module to speaker output: 20 - 20,000 Hz, +1, -3 dB		20 - 20,000 Hz, +1, -3 dB
Total Harmonic Distortion	Power amplifier section: 0.008% (22 kHz LPF, 1 kHz, rated power) Analog input module to speaker output: 0.008% (22 kHz LPF, 1 kHz, rated power)	Power amplifier section: 0.0008% (22 kHz LPF, 1 kHz, rated power) Analog input module to speaker output: 0.008% (22 kHz LPF, 1 kHz, rated power)	0.008% (at 22 kHz LPF, 1 kHz, +10 dB*¹ output)
S/N Ratio	At Input short, 20 - 20,000 Hz, set to ALL FLAT or OFF setting; Output volume min.: 90 dB (preamplifier output); Output volume max.: 61 dB (preamplifier output, input 1 volume: 0 dB, other inputs: OFF); Power amplifier section: 110 dB		At Input short, 20 - 20,000 Hz, set to ALL FLAT or OFF setting; Output volume min.: 90 dB; Output volume max.: 61 dB (Input 1 volume: 0 dB, Other Inputs: OFF)
Cross Talk	Over 64 dB (at 20 kHz)		
Tone Control	Bass: ±12 dB (at 100 Hz), Treble: ±12 dB (at 10 kHz)		
Parametric Equalizer	10 bands, Frequency: 20 - 20,000 Hz, 31 points, Variable range: ±12 dB, Q: 0.3 - 5		
Speaker Equalizer	10 (set up software has 30 TOA speaker presets)		
High-pass Filter	-12 dB/oct, Variable frequency range: 20 - 20 kHz, 31 points		
Low-pass Filter	-12 dB/oct, Variable frequency range: 20 - 20 kHz, 31 points		
Compressor	Depth: 1 - 5		
Delay	0 - 40 ms (1 ms steps), maximum 40 ms (CH 1 + CH 2) (mixer mode only)		
Scene/Event Memory	32		
Auxiliary Function	Key lock function		
Control Input/Output	RS-232C*², D-sub connector (9P, female); Control input: 4 inputs, no-voltage make contact input, open voltage: 3.3 V DC, short-circuit current: Under 1 mA, removable terminal block (14 pins); Control output: 4 outputs, open collector output, withstand voltage: 27 V DC, control current: 50 mA, removable terminal block (14 pins); Remote volume: 2 channels, connect a 10 kΩ/linear taper variable resistor or input DC voltage of 0 to +10 V, removable terminal block (14 pins)		
Operating Temperature	-10ºC to +40ºC (14° F to 104° F)		
Operating Humidity	35% to 80% RH (no condensation)		
Finish	Panel: Aluminum, hair-line, black; Case: Surface-treated steel plate, black, paint		
Dimensions	16.54" (W) x 4.24" (H) x 13.98" (D) 420 (W) × 107.6 (H) × 355 (D) mm	16.54" (W) x 4.24" (H) x 15.55" (D) 420 (W) × 107.6 (H) × 395 (D) mm	16.54" (W) x 4.24" (H) x 13.9" (D) 420 (W) × 107.6 (H) × 353 (D) mm
Weight	28.66lbs (13kg)	24.25lbs (11kg)	13.23lbs (6kg)
Accessory	Power cord (6.56ft [2m]) x 1, Rack mounting bracket x 2, Bracket mounting screw x 4, Blank panel x 7, Blank panel mounting screw x 14, Removable terminal plug (3 pins) x 1, Removable terminal plug (7 pins) x 1, Removable terminal plug (14 pins) x 1 , CD x 1		

9000M2 Series Modular Digital Matrix Mixer/Amplifiers

≫ Digital Matrix Mixer/Amplifier

A-9060DHM2
A-9120DHM2
A-9060SM2
A-9120SM2
A-9240SHM2

- Flexible modular design - up to 8 mic/line inputs and 8 outputs
- Detailed GUI software screens make even complex settings intuitive and easy to understand
- Any of the 30 EQ presets appropriate to the TOA speakers used may be selected for each output
- Up to 16 flush-mount remote panels connectable
- Programmed operating system - 32 scene memories and 32 paging memories
- Up to 12 filters plus compressor setting can be applied to each input-output channel

Model	A-9060DHM2 MIXER/AMP	A-9120DHM2 MIXER/AMP	A-9060SM2 MIXER/AMP
Power Source	120 V AC, 60 Hz		
Power Consumption	150 W	250 W	100 W
Audio Input	Max. 8 channels, modular construction (modules optional) Power amplifier input 1, 2: 0 dBV*¹, 10k Ω, RCA pin jack		
Audio Output	Preamplifier output 1, 2: 0dBV, 300Ω, unbalanced, RCA pin jack		Preamplifier output 1: 0dBV, 300Ω, unbalanced, RCA pin jack; Preamplifier output 2: 0 dBV, 600Ω, balanced, removable terminal block (3 pins)
	Speaker output 1, 2: 60W, 70.7V line, 83Ω x 2, BTL output, removable terminal block (4 pins)	Speaker output 1, 2: 120W, 70.7V line, 41Ω x 2, BTL output, removable terminal block (4 pins)	Removable terminal block (7 pins); Direct: 60W, 4Ω, unbalanced, Transformer: 60W, 8Ω 25V and 70V, balanced
Module Slot	Analog input (slot 1 - 8): -10 dB*¹, 10 kΩ, unbalanced; Digital input (slot 1 - 4): 24 bit/48 kHz; MIX output (slot 1 - 8): -14 dB*¹, 330Ω (CH 1 prefader output), unbalanced; Digital output (slot 5 - 7): 24 bit/48 kHz; Power supply (slot 1 - 8): +24 V, -24V, +6V DC		
Digital Audio Signal Reference Level	-20 dBFS		
Power Bandwidth	20 - 20,000 Hz, 0.008% THD		(D): 20 - 20,000 Hz, 0.02% THD (T): 50 - 20,000 Hz, 0.5% THD
Frequency Response	Power amplifier section: 20 - 20,000 Hz, +0, -1 dB; Analog input module to speaker output: 20 - 20,000 Hz, +1, -3 dB		
Total Harmonic Distortion	Power amplifier section: 0.0008% (22 kHz LPF, 1 kHz, rated power) Analog input module to speaker output: 0.008% (22 kHz LPF, 1 kHz rated power)		Power amplifier section: 0.008% (22 kHz LPF, 1 kHz, rated power) Analog input module to speaker output: 0.008% (22 kHz, 1 kHz LPF)
S/N Ratio	At Input short, 20 - 20,000 Hz, ALL FLAT or OFF setting Output volume min.: 90dB (preamplifier output) Output volume max.: 61dB (preamplifier output, input 1 volume: 0 dB, other inputs: OFF) Power amplifier section: 110dB		
Cross Talk	Over 64 dB (at 20 kHz)		
Tone Control	Bass: ±12 dB (at 100 Hz) Treble: ±12 dB (at 10 kHz)		
Parametric Equalizer	10 bands, Freq: 20 - 20,000 Hz, 31 points, various range: ± 12 dB, Q: 0.3 - 5		
Speaker Equalizer	10 (set up software has 30 TOA speaker presets)		
High-pass Filter	-12 dB/oct, variable frequency range: 20 Hz - 20 kHz, 31 points		
Low-pass Filter	-12 dB/oct, variable frequency range: 20 Hz - 20 kHz, 31 points		
Compressor	Depth: 1 - 5		
Delay	0 - 40 ms (1 ms steps), maximum 40 ms (CH1 + CH2) (Mixer mode only)		
Scene/Event Memory	32		
Auxiliary Function	Key lock function		
Control Input/Output	RS-232C*²; D-sub connector (9P, female); Control input: 4 input, no-voltage make contact input, open voltage: 3.3V DC, short-circuit current: Under 1 mA, removable terminal block (14 pins); Control output: 4 outputs, open collector output, withstand voltage: 27V DC, control current: 50 mA, removable terminal block (14 pins); Remote volume: 2 channels, connect a 10k Ω/linear taper variable register or input the DC voltage of 0 to +10 V, removable terminal block (14 pins)		
Operating Temperature	-10ºC to +40ºC (14° F to 104° F)		
Operating Humidity	35% to 80% RH (no condensation)		
Finish	Panel: Aluminum, hair-line, black; Case: Surface-treated steel plate, black paint		
Dimensions	16.54" (W) x 4.24" (H) x 15.55" (D) / 420 (W) × 107.6 (H) × 395 (D) mm		16.54" (W) x 4.24" (H) x 13.98" (D) 420(W) × 107.6(H) × 355(D) mm
Weight	19.84lbs (9kg)		24.25lbs (11kg)
Accessory	Power cord (2 m (6.56ft)) x 1, Rack mounting bracket x 2, Bracket mounting screw x 4, Blank panel x 7, Blank panel mounting screw x 14, Removable terminal plug (4 pins) x 1, CD x 1, Removable terminal plug (14 pins) x 1		Power cord (2 m (6.56ft)) x 1, Rack mounting bracket x 2, Bracket mounting screw x 4, Blank panel x 7, Blank panel mounting screw x 14, Removable terminal plug (3 pins) x 1, CD x 1, Removable terminal plug (14 pins) x 1

⟫ Power Amplifier

P-9060DH `60w`

P-9120DH `120w`

- 2-Channel Power Amplifiers with 70.7V outputs
- 2-Channel Power Amplifier models feature flexible output power allowing 50% power from one amplifier channel to be allocated to the second amplifier channel
- Channel 1 & 2 inputs balanced (H=Hot, C=Cold and E=Shield) with selectable input sensitivity: 0dB or -20dB)
- Channel 1 input to ALL selectable switch
- 2 RU Rack Mounting hardware included
- Front panel LED indicators for: Protect, Peak, Signal and Power

9000 Series Modules

⟫ Ambient Noise Control Module
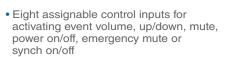
AN-001T

- Automatically adjusts output gain to compensate for changes in ambient noise level
- Each input can be assigned to control a specific output
- Two inputs with +24VDC phantom power for condenser mics
- 14 preset gain ratios
- Accessory sensing microphone available, model AN-9001
- Maximum two per chassis

⟫ Dual Mic/Line Input Module with DSP

D-001T

- Two balanced Mic / Line inputs
- Digital signal processing (10-Band Parametric EQ, Bass/ Treble, Loudness, High and Low Pass Filters, Compressor)
- Adjustable sensitivity (nine levels, -60 to -10 dBV)
- Phantom power (24 VDC)
- Removable terminal block
- Maximum four per chassis
- Required for VOX (Voice-Operated Switch) function and input level metering

⟫ Input/Output Control Module

C-001T

- Eight assignable control inputs for activating event volume, up/down, mute, power on/off, emergency mute or synch on/off
- Eight assignable control outputs for activating external relays
- Removable terminal block
- Maximum one per chassis

⟫ Line Input Module with DSP

D-001R

- Two RCA phono inputs per channel provides stereo summing
- Digital signal processing
- 10-Band parametric EQ
- Bass/Treble
- Loudness
- High and low pass filters
- Compressor

⟫ Dual Line Output Expansion Module with DSP

T-001T

- Two balanced line outputs
- Digital signal processing (10-Band Parametric EQ, Bass/ Treble, Loudness, High and Low Pass Filters, Compressor, TOA speaker EQ presets)
- Removable terminal block
- Maximum three per chassis

⟫ Remote Control Module

RC-001T

- Allows use of up to 16 RS-485 remote control panels
- Bi-directional RS-485 communication provides control and status feedback display for each remote function
- Dual ports allow independent home runs for up to 8 modules ea.
- 24 VDC power adapter (optional accessory AD-246) required for each port used
- May be used in any control option slot on 9000M2 frame and even in addition to a C-001T when spare slots are available
- Required Module: ZM-9011, ZM-9012, ZM-9013, ZM-9014
- AD-246 - AC adapter (supplied - order as RC-001TPS)

⟫ Telephone Zone Paging Module

ZP-001T

- Telephone access paging to up to eight zones
- Uses DTMF dialing to access amplifier and/or line outputs
- Dial up to eight output zones in one operation
- Analog extension or page port compatible
- Page port operation requires contact closure activation
- RJ-11 telephone jack and removable terminal blocks
- Maximum one per chassis

⟫ SIP Module

SP-11N

- Allows paging from SIP phone systems.
- Settings can be done via browser with a PC connected to the network.
- Five dry contact outputs can be activated by the dial operation on the phone while the communication is established.
- Priority function is available.
- Requires AD-1210P 12VDC Power supply, order kit referred as SP-11NPS

9000 Series Modules

⟫ Remote Panel

ZM-9001

- Six buttons to activate preset selection or volume up/down
- Wiring: only one pair to chassis remote volume terminals
- Max. loop resistance: 100 ohms (3000 ft. 22AWG)
- Fits one gang electrical box
- Maximum two ZM-9001/ZM-9002 per chassis
- Uses built in 9000M2 REMT VOL port

⟫ Remote Volume Switch Panel

ZM-9002

- Four push buttons to activate preset selection or volume up/down
- Volume control knob
- Wiring: only one pair to chassis remote volume terminals
- Max. loop resistance: 100 ohms (3000 ft. 22AWG)
- Fits one gang electrical box
- Maximum two ZM-9001/ZM-9002 per chassis
- Uses built in 9000M2 REMT VOL port

⟫ Contact Closure Remote

ZM-9003

- Fits in a standard dual-gang electrical box
- Removable screw terminal connector block
- Works with contact inputs on 9000M2 mainframe and on C-001T
- Two momentary buttons and four latching buttons
- May be assigned to control program change, volume up/down, channel on/mute, emergency mute, power and paging prohibit function
- Removable terminal block
- Used built in 9000M2 REMT VOL port

⟫ Assignable Remote Button Panel

ZM-9011

- Fits in a standard dual-gang electrical box
- Four assignable buttons each with LED status indicator can control Xpoint settings (on/off, select), paging activation, scene and relay activation
- Assignable ID rotary adjustment on box
- Supplied matching decor plate
- Required RC-001T

⟫ Assignable Volume Controller

ZM-9012

- Fits standard single-gang electrical box
- Rotary encoder can be assigned to control any input or output volume
- Multiple input or outputs may be "ganged" for master volume control
- Multi-segment LED indicator provides visual volume level status
- Supplied matching decor plate
- Removable terminal block

⟫ Assignable Remote Button Panel

ZM-9013

- Fits in a standard dual-gang electrical box
- Eight assignable buttons each with LED status indicator can control Xpoint settings (on/off, select), paging activation, scene and relay activation
- Assignable ID rotary adjustment on box
- Supplied matching decor plate
- Removable terminal block
- Required RC-001T

⟫ Assignable Remote Button Panel w/Volume Control

ZM-9014

- Fits in a standard dual-gang electrical box
- Four assignable buttons each with LED status indicator can control Xpoint settings (on/off, select), paging activation, scene and relay activation
- Assignable ID rotary adjustment on box
- Supplied matching decor plate
- Removable terminal block
- Required RC-001T

⟫ 4-Zone Speaker Selector

SS-9001

- Switch up to four speaker lines on one amplifier output
- Two speaker amplifier inputs for Paging/BGM applications
- Works with built in 9000M2 I/O control output or optional C-001T module only
- Wall-mount bracket included
- Supplied with 24VDC power supply, model AD-246 (order as SS-9001PS)

⟫ Ambient Noise Sensing Microphone

AN-9001

- Ceiling or wall-mount condenser microphone
- Fits one gang electrical box
- Use with AN-001T module or DP-L2 processor

⟫ NM-01 Noise Generator

NM-01

- Generates band-limited pink noise for use in sound masking applications
- In/Out processor loop for external EQ
- Compatible with Toa modular mixer-amps (BG-1000/2000, 700, 900MkII, 9000M2)

9000M2 Series Modular Digital Matrix Mixer/Amplifiers

9000 Series Optional Accessories

⋙ Remote Microphone

Q-RM9012

- High-sensitivity electret-condenser gooseneck mic for clear voice
- 12 zone select buttons, All Call, Clear
- 12 Contact Outs corresponding to buttons (RJ-45 connector for use with shielded Cat5 wiring)
- Connects to C-IN on 9000M2 (mainframe & equipped with C-001T)
- Supplied with AD-246 AC Adapter (order as Q-RM9012PS)

⋙ Speaker Selector
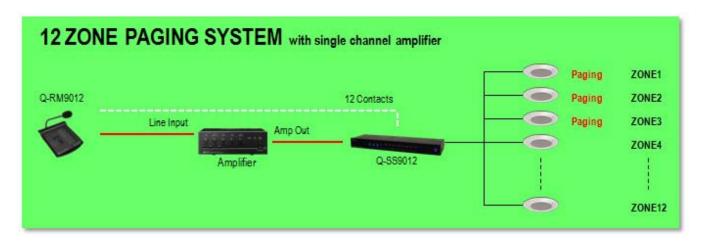
Q-SS9012
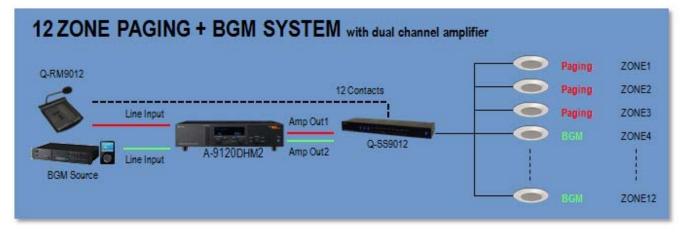
- 12 contact inputs and 12 speaker outputs. Power amp input is split into 12 zones with activation via contact closure
- Possible to expand number of 9000M2 paging zones along with conventional output zones (T-001T) up to 19 zones
- Can facilitate paging over BGM by switching between BGM output (amp input 2) and Page output (amp input 1)
- May work with internal or external amplifier
- 19" rack-mountable (using optional MB-15B)
- Supplied with AD-246 AC Adapter (order as Q-SS9012PS)

The cost-effective Multi-Zone Paging System is achieved with TOA's zone selectable remote paging microphone and speaker line selector. The Q-SS9012PS Multi-Zone Speaker Selector has 2 amplifier inputs and 12 individual relay switches to select the amplifier connected to each 12 speaker line/zone. This allows up to 12 zones for paging and BGM distribution with a dual channel amplifier or simple paging system with only a one channel amplifier. TOA's new concept offers a real cost effective multi-zone paging system. TOA's multi zone paging system allows paging up to12 zones, utilizing a single channel amplifier by activating the speaker line selector from the desktop remote microphone.

Multi-Zone Paging System Examples

12 ZONE PAGING SYSTEM with single channel amplifier

12 ZONE PAGING + BGM SYSTEM with dual channel amplifier

900 Series Amplifiers

⋙ 8-Channel Mixer Preamplifier (UL version)

M-900MK2

- Eight module slots accept any combination of TOA plug-in modules for custom system configurations
- Balanced, transformer-isolated output with selectable impedance, screw terminal connector and protective cover plate
- Dual mute bus permits multiple levels of paging priority using optional mute-type modules
- External mute terminals for activating mute function with external switch-closure
- Remote master volume terminals for control with an external 10k ohm linear-taper potentiometer
- Individual channel and master volume controls
- Auxiliary output for connecting an external mixer or recording device
- Bridging input/output for input expansion or recording device
- Normal, clip, power, protect, and signal indicators provide unit status
- Optional rack-mount kit, model MB-25B (2 RU)

⋙ 8-Channel Mixer Amplifier (UL version)

A-903MK2 (30W)
A-906MK2 (60W)
A-912MK2 (120W)

- Eight module slots accept any combination of TOA plug-in modules for custom system configurations
- Direct low-impedance output mode bypasses output transformer
- Dual mute bus permits multiple levels of paging priority using optional mute-type modules
- External mute terminals for activating mute function with external switch-closure
- Low cut switch to limit low frequency response
- Bridging input/output for input expansion or recording device
- Over-current and thermal protection circuitry prevents potential damage from overload, short-circuit and over-heating
- Optional rack-mount kit, model MB-25B (2 RU)

Model	A-903MK2	A-906MK2	A-912MK2
Type	8-channel mixer power amplifier		
Power Requirement	AC mains, 120 V, 60 Hz		
Power Consumption	60 W	100 W	180 W
Output Power	30 W RMS	60 W RMS	120 W RMS
Power Band Width	(D) 20 - 20,000 Hz, 0.5% THD, (T) 50 - 20,000 Hz, 0.5% THD		
Frequency Response	(D) 20 - 20,000 Hz, ±1 dB (T) 20 - 15,000 Hz, ±1 dB, (T) 20 - 20,000 Hz, +1 dB, -3 dB		
T.H.D	0.02% at 1 kHz, rated output		
Inputs	Eight Input Ports: Each port accepts any input modules. One Bridging Input/Output		
Input Sensitivity /Impedance	Input Port #1 to #8: 100 mV/10 kΩ Bridging Input/Output: 100 mV/3.3 kΩ		
Preamp OUT /Power Amp IN	1000 mV into 600 Ω/1000 mV, 10 kΩ		
Outputs	Main (T): 4 Ω, 25 and 70 volts, balanced, Main (D): 8 Ω, unbalanced Aux: 10 kΩ, 1 V		
Output Regulation (1kHz)	(D) Less than 0.5 dB, no load to full load, (T) Less than 1.0 dB, no load to full load		
S/N Ratio (Band Pass 20 - 20,000 Hz) Tone defeat switch on	Master volume min: 90 dB Master volume max: 77 dB Power amplifier only: 105 dB		
Tone Controls	Bass: ±10 dB at 100 Hz, Treble: ±10 dB at 10 kHz		
Controls	8 Input gain control 1 Master gain control 1 Bass control 1 Treble control 1 Power ON/OFF switch 1 Tone defeat switch 1 Low-Cut switch (60 Hz, 6 dB/octave)		
Indicators	1 Power LED, 1 Protect LED, 1 Signal LED, 1 Normal LED, 1 Peak LED		
Protection	Self-protection, with AC fuse (inside)		
Connectors	Input No.1 to No.8: Card-edge connector Bridging, Mixer preamp. output, Power amp. input, Aux output: RCA phono jack Output: Screw-terminal strip Mute, Remote VR: Screw-terminal strip AC outlet: 3-pin grounding type AC power cord/plug: SJT, 3-prong type		
Temperature Range	-10°C - +60°C (12°F - 140°F)		
Finish	Black		
Dimensions (W×H×D)	16.54" (W) x 3.90" (H) x 12.52" (D) 420 × 99.1 × 318 mm	16.54" (W) x 3.90" (H) x 14.09" (D) 420 × 99.1 × 358 mm	
Weight	17.20lbs (7.8kg)	21.16lbs (9.6kg)	25.13lbs (11.4kg)
Accessories	Volume control cover (YA-920) x 4		
Option	Rack mounting bracket (MB-25B)		

(T)=Transformer (D)=Direct

⋙ In-Wall Amplifier (UL version)

W-906A (60W)
W-912A (120W)

- Modular design allows fast and easy custom configurations
- Engineered for high performance with wide frequency response, very low noise and distortion, and excellent output regulation
- Six module slots accept TOA plug-in modules for unmatched flexibility, expandable to eight slots with optional kit, model WE-2
- Flush or surface-mount with optional back boxes - BX-9F (flush-mount) and BX-9S (surface-mount)
- One octave nine band graphic equalizer
- High and low pass filters
- Compressor prevents overload and distortion

900 Series Amplifiers

⋙ Power Amplifier (UL version)

P-906MK2 (60W)
P-912MK2 (120W)

⋙ Power Amplifier (UL version)

P-924MK2 (240W)

- Modular single channel power amplifiers for paging, background/ foreground music distribution and music/messaging-on-hold
- Input module slot accepts most TOA plug-in modules for custom system configurations
- Direct low-impedance output mode bypasses output transformer
- Direct input for connecting an external mixer or other source
- Selectable input sensitivity to accommodate high or low input levels
- Low cut switch to limit low frequency response
- Optional rack-mount kits: P-906/P-912MK2: MB-25B (2 RU) P-924MK2: MB-35B (3 RU)

Model	P-906MK2	P-912MK2	P-924MK2
Type	Power amplifier		
Power Requirement	AC mains, 120 V, 60 Hz		
Power Consumption	100 W	180 W	120 V / 3 A
Output Power	60 W RMS	120 W RMS	(D) 240 W RMS (T) 220 W RMS
Power Band Width	(D) 20 - 20,000 Hz, 0.5% THD (T) 50 - 20,000 Hz, 0.5% THD		
Frequency Response	(D) 20 - 20,000 Hz, ±1 dB (T) 20 - 15,000 Hz, ±1 dB, (T) 20 - 20,000 Hz, +1 dB, -3 dB		
T.H.D	0.01% at 1 kHz, rated output		
Inputs	One Input Port: Port accepts any input module except T-01 One Direct Input (Use of direct input prohibits use of modular input port.)		
Input Sensitivity /Impedance	Input Port: 100 mV or 1000 mV (switchable)/10 kΩ Direct Input: 100 mV or 1000 mV (switchable)/10 kΩ		
Outputs	Main (T): 8 Ω, 25 and 70 volts, balanced Main (D): 4 Ω, unbalanced		
Output Regulation (1kHz)	(D) Less than 0.5 dB, no load to full load (T) Less than 1.0 dB, no load to full load		
S/N Ratio (Band Pass 20 - 20,000 Hz)	Input level switch in 0 dBV (1000 mV) position: 108 dB Input level switch in -20 dBV (100 mV) position: 90 dB		
Controls	1 Input gain control, 1 Input level switch, 1 Power ON/OFF switch, 1 Low-Cut switch		
Indicators	1 Power LED, 1 Protect LED, 1 Signal LED, 1 Normal LED, 1 Peak LED		
Protection	Self-protection, with AC fuse (inside)		Self-protection with 2 AC fuses (inside), plus 2 DC fuses
Connectors	Input: Card-edge connector and screw-terminal strip Output: Screw-terminal strip AC outlet: 3-pin grounding type AC power cord/plug: SJT, 3-prong type		
Temperature Range	-10°C - +60°C (12°F - 140°C)		
Finish	Black		
Dimensions (W×H×D)	16.54" (W) x 3.9" (H) x 14.09" (D) 420 (W) × 99.1 (H) × 358 (D) mm		16.54" (W) x 6" (H) x 13.16" (D) 420 (W) × 151.3 (H) × 334.2 (D) mm
Weight	20.06lbs (9.1kg)	24.03lbs (10.9kg)	43lbs (19.5kg)
Accessory	Volume control cover (YA-920) x 1		
Option	Rack mounting bracket (MB-25B)		Rack mounting bracket (MB-35B)

(T)=Transformer (D)=Direct

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900 Series Amplifiers

900 Series Modules - Microphone Input Modules

⋙ Microphone Input Modules

M-01 Series
(M-01F/M/P/S)

- For balanced, low impedance microphone
- High and low cut filters for tone control
- Phantom power for condenser-type microphones
- Connectors: female XLR (M-01F), male XLR (M-01M), 1/4" phone jack (M-01P), removable terminal block (M-01S)

⋙ Microphone Preamplifier with Remote Volume Control

M-21S

- For balanced, low impedance microphone
- High and low cut filters for tone control
- Phantom power for condenser-type microphones
- Allows remote control of input signal using an external 10kohm linear-taper potentiometer
- Connector: screw terminal

⋙ Microphone Input with Voice Gate

M-51 Series
(M-51F/S)

- For balanced, low impedance microphones
- Low cut filter for tone control
- Phantom power for condenser-type microphones
- Gate function keeps module muted until input signal exceeds threshold
- Connectors: female XLR (M-51F), removable terminal block (M-51S)

⋙ High Impedance Microphone Input

M-03P

- For unbalanced, high impedance mics
- High and low cut filters for tone control
- Connector: 1/4" phone jack

⋙ Microphone Input with Mute-Receive

M-11S

- For balanced, low impedance microphone
- High and low cut filters for tone control
- Phantom power for condenser-type microphones
- Responds to mute bus activation via mute send module or switch-closure
- Two mute response modes: Normally-on (OFF during mute activation) or Normally-off (ON during mute activation)
- Connector: removable terminal block

⋙ Microphone Paging Input with Mute-Send

M-41S

- For balanced, low impedance microphones
- For voice-activated over-ride of mute-receive modules
- High and low cut filters for tone control
- Phantom power for condenser-type microphones
- Signal at input terminals activates mute bus
- Connector: removable terminal block

⋙ Microphone Input with Compressor

M-61 Series
(M-61F/S)

- For balanced, low impedance microphones
- High and low cut filters for tone control
- Phantom power for condenser-type microphones
- Compressor function prevents overload and distortion
- Connectors: female XLR (M-61F) or removable terminal block (M-61S)

⋙ Mic/Line Input w/Mute/Send Receive

ML-11

- Switchable mic/lin input
- Adjustable Mute-Send threshold (VOX sensitivity)
- High and Low Cut Filters
- Combination Mute Send and Receive function
- Assign mute send or receive to each mute bus

900 Series Modules - Line Input Modules

≫ Balanced Line Input

B-01 Series
(B-01F/S)

- For balanced or unbalanced line level sources such as mixer outputs, signal processors and wireless microphone receivers
- Transformer isolation (10kΩ)
- Connector: female XLR (B-01F), removable terminal block (B-01S)

≫ Balanced Line Input with Mute-Receive

B-11S

- For balanced or unbalanced line level sources such as mixer outputs, signal processors and wireless microphone receivers
- Transformer isolation (10kΩ)
- Responds to mute bus activation via mute send module or switch-closure
- Connector: removable terminal block

≫ Balanced Line Input with Remote Volume Control

B-21S

- For balanced or unbalanced, line level equipment such as tuners, tape decks and CD players
- Transformer isolation (10kΩ)
- Allows remote control of input signal using an external 10k ohm linear-taper potentiometer
- Connector: screw terminal

≫ Balanced Line with Input with Mute-Send

B-41S

- For balanced or unbalanced, line level equipment
- For signal-active over-ride of mute-receive modules
- Transformer isolation (10kΩ)
- Signal at input terminals activates mute bus
- Connector: removable terminal block
- Recommended for phone paging applications

≫ Line Matching Input

L-01 Series
(L-01F/S)
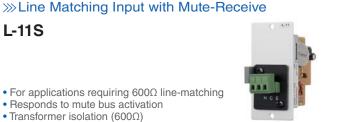
- For applications requiring 600Ω line-matching
- Transformer isolation (600Ω)
- Connector: female XLR (L-01F); removable terminal block (L-01S)

≫ Line Matching Input with Mute-Receive

L-11S

- For applications requiring 600Ω line-matching
- Responds to mute bus activation
- Transformer isolation (600Ω)
- Responds to mute bus activation via mute send module or switch-closure
- Connector: removable terminal block

≫ Line Matching Input with Mute-Send

L-41S

- For applications requiring 600 Ω line-matching
- Responds to mute bus activation
- Transformer isolation (600Ω)
- Signal at input terminals activates mute bus
- Connector: removable terminal block

≫ Unbalanced Line Input

U-01 Series
(U-01F/P/R/S)

- For unbalanced, line level sources such as tuners, cassette decks, CD players, computer sound cards, jukeboxes, mixers and satellite receivers
- Use for adjacent sources (less than 15ft from the host unit)
- Connectors: female XLR (U-01F), 1/4" phone jack (U-01P), RCA jack (U-01R), removable terminal block (U-01S)

≫ Unbalanced Line Input with High/Low Cut Filters

U-03 Series
(U-03R/S)

- For unbalanced, line level sources such as tuners, cassette decks, CD players, computer sound cards, jukeboxes, mixers and satellite receivers
- Use for adjacent sources (less than 15ft from the host unit)
- High and low cut filters for tone control
- Connectors: dual RCA jack w/ passive summing (U-03R), removable terminal block (U-03S)

≫ Unbalanced Line Input with Mute-Receive

U-11 Series
(U-11R/S)

- For unbalanced, line level sources such as tuners, cassette decks, CD players, computer sound cards, jukeboxes, mixers and satellite receivers
- Use for adjacent sources (less than 15ft from the host unit)
- Responds to mute bus activation via mute send module or switch-closure
- Connectors: RCA jack (U-11R), removable terminal block (U-11S)

900 Series Modules - Line Input Modules

≫ Unbalanced Line Input with Variable Mute-Receive Depth

U-12S

- For unbalanced, line level sources such as tuners, cassette decks, CD players, computer sound cards, jukeboxes, mixers and satellite receivers
- Use for adjacent sources (less than 15ft from the host unit)
- Responds to mute bus activation via mute send module or switch-closure
- Adjustable depth provides "ducking" rather than full muting
- Connector: removable terminal block

≫ Unbalanced Line Input with High/Low Cut Filters and Mute-Receive

U-13 Series
(U-13R/S)

- For unbalanced, line level sources such as tuners, cassette decks, CD players, computer sound cards, jukeboxes, mixers and satellite receivers
- Use for adjacent sources (less than 15ft from the host unit)
- High and low cut filters for tone control
- Responds to mute bus activation via mute send module or switch-closure
- Connectors: dual RCA jack w/passive summing (U-13R), removable terminal block (U-13S)

≫ Dual Input Priority Module w/AGC

U-14R

- Dual input module for applications with business music plus an on-premises CD jukebox or other source
- Two line inputs – Jukebox and BGM
- Auto-mute function with adjustable mute threshold (jukebox overrides BGM)
- Automatic Gain Control (AGC) on jukebox input for consistent signal levels
- Individual input level controls
- Stereo-summing dual RCA jacks

≫ Unbalanced Line Input with Remote Volume Control

U-21S

- For unbalanced, line level sources such as tuners, cassette decks, CD players, computer sound cards, jukeboxes, mixers and satellite receivers
- Use for adjacent sources (less than 15ft from the host unit)
- Allows remote control of input signal using an external 10kΩ linear-taper potentiometer
- Master Remote Volume mode
- Connector: screw terminal

≫ Unbalanced Line Input with High/Low Filters and Mute-Send

U-43 Series
(U-43R/S)

- For unbalanced, line level sources such as tuners, cassette decks, CD players, computer sound cards, jukeboxes, mixers and satellite receivers
- Use for adjacent sources (less than 15ft from the host unit)
- High and low cut filters for tone control
- Signal at input terminals activates mute bus
- Connectors: dual RCA jack w/ passive summing (U-43R), removable terminal block (U-43S)

≫ Unbalanced Line Input with Compressor

U-61S

- For unbalanced, line level sources such as tuners, cassette decks, CD players, computer sound cards, jukeboxes, mixers and satellite receivers
- For adjacent sources (less than 15ft from the host unit)
- Compressor function prevents overload and distortion
- Master compressor mode
- Connector: removable terminal block

900 Series Modules - Special Function Modules

≫ Equalization for TOA Speakers

E-03R
(F-122CU)

- Optimized preset equalization for F-122CU speakers
- Connects between pre-amp output and power amp input
- Low pass output filter for powered subwoofer
- Subwoofer output is balanced or unbalanced
- Subwoofer phase can be changed

≫ Equalization for TOA Speakers

E-04R (H-1),
E-05R (H-2/H-2WP),
E-07S (FB-120 and HB-1)

- Optimized preset equalization curve for TOA speakers
- Connects between pre-amp output and power amp input (except E-07S)
- Dual RCA cable included
- Connector: dual RCA (in/out); removable terminal block (E-07S)
- * The E-07S is a low-pass-filter output module with a mix bus output to drive a dedicated external subwoofer amplifier

900 Series Amplifiers

900 Series Modules - Special Function Modules

⟫ Equalization for TOA Speakers

E-06R
(H-3/H-3WP)

- Optimized preset equalization for H-3/H-3WP speakers
- Connects between pre-amp output and power amp input

⟫ SIP Module

SP-11N

- Settings can be done via browser with a PC connected to the network.
- Five dry contact outputs can be activated by the dial operation on the phone while the communication is established.
- Priority function is available.
- Requires AD-1210P 12VDC Power supply, order kit referred as SP-11NPS

⟫ 1 kHz Sine Wave Test Tone

S-01S

- Generates 1 kHz sine wave tone via switch-closure. Ideal as a test tone for the audio system
- Connector: removable terminal block

⟫ Buzzer/Yelp Tone Generator

S-02S

- Generates buzzer or yelp tones via switch-closure
- Connector: removable terminal block

⟫ Switch-Selectable Tone Generator

S-04S

- Generates one of eight tones via switch-closure
- Single or continuous tone activation
- Connector: removable terminal block

⟫ Balanced Line Output

T-01S

- Transformer-Isolated line output of the mixing bus signal to feed other remote mixers, amplifiers, and tape recorders
- Output level control
- Connector: removable terminal block

⟫ Unbalanced Line Input with Music-On-Hold Output and Input Mute-Receive

T-12S

- Unbalanced line input for AM/FM tuners, cassette decks, CD players, computer sound cards, jukeboxes, mixers andsatellite receivers
- Balanced transformer-isolated uninterrupted output of module's input signal
- Output level control for adjusting the MOH output signal level
- Responds to mute bus activation via mute send module or switch-closure
- Connector: screw terminal

⟫ Unbalanced Line Input with Music-On-Hold Output

T-02S

- Unbalanced line input for AM/FM tuners, cassette decks, CD players, computer sound cards, jukeboxes, mixers and satellite receivers
- Balanced transformer-isolated uninterrupted output of module's input signal
- Output level control for adjusting the MOH output signal level
- Connector: screw terminal

⟫ Remote Master Volume Control (VCA) Module

V-01S

- Voltage Controlled Amplifier (VCA) for applications requiring preset remote master volume control
- Line input and output connect to host amplifier's pre-amp output and power amp input
- 24 VDC output and control input interfaces directly to RDL RLC3 remote level control
- RCA and phoenix-style connectors
- For 10k potentiometer volume control, use U-21S

⟫ Two Input Expander Kit

WE-2

- Two input expander kit (W-906A, W-912A) (Requires 900 series modules)

⟫ Noise Generator

NM-01

- Generates band-limited pink noise for use in sound masking applications
- In/Out processor loop for external EQ
- Compatible with Toa modular mixer-amps (BG-1000/2000, 700, 900MkII, 9000M2)

A-700 Series Mixer Power Amplifiers

⟫ A-700 Series Mixer Power Amplifiers

A-706 (60W)
A-712 (120W)
A-724 (240W)

- Nine channel integrated mixer/amplifiers for paging and background/foreground music distribution
- Proven TOA quality and reliability with wide frequency response, very low noise and distortion, and excellent output regulation
- Six Mic/Line inputs, balanced, with mic trim, 23 VDC phantom power and removable terminal block connector
- Two Auxiliary inputs, unbalanced, with dual-RCA jacks for convenient connection of stereo sources
- Module slot accepts 900 Series plug-in modules with additional features
- Transformer-isolation for telephone paging applications (Input #1) (optional on additional channels)
- 25 V, 70.7 V and 4 ohm speaker outputs with removable terminal block connector
- Auto-mute priority function assignable via external switches: Channels 1-3 and Module configurable as Mute Send; Channels 1-8 and Module configurable as Mute Receive
- Auto-mute sense control for adjusting mute activation threshold
- External mute terminals for activating mute function with external switch-closure
- Remote AC turn-on for activating power with an external switch-closure
- Turn-On delay disconnects output during power-up
- Over-current and thermal protection circuitry prevents potential damage from overloads, short-circuit and overheating
- Optional rack-mount kit, model MB-25B (2 RU)
- UL/cUL Listed

Model	A-706	A-712	A-724
Power Source	120 V AC, 60 Hz		
Rated Output	60 W	120 W	240 W
Power/Current Consumption	155 W (rated output), 68 W (based on UL60065), under 250 mA (when power switch is OFF)	285 W (rated output), 110 W (based on UL60065), under 400 mA (when power switch is OFF)	565 W (rated output), 215 W (based on UL60065), under 60 mA (when power switch is OFF)
Frequency Response	50 - 20,000 Hz (±3 dB)		
Distortion	Under 2% at 1 kHz, rated power		
Input	INPUT 1 - 6: -70 to -50 dB*, 600 Ω (MIC)/ -10 dB*, 600 Ω (LINE) INPUT 1: Transformer-balanced, removable terminal block (3 pins) INPUT 2 - 6: Electronically-balanced, removable terminal block (3 pins) INPUT 7 - 8 (LINE): -20 dB*, 10 kΩ, unbalanced, RCA jack MODULE: -20 dB*, 10 kΩ PWR AMP IN: 0 dB*, 10 kΩ, unbalanced, RCA jack (An equalizer or other signal processor connectable between PRE AMP OUT and PWR AMP IN terminals)		
Output	REC OUT: 0 dB*, 600 Ω, unbalanced, RCA jack PRE AMP OUT: 0 dB*, 600 Ω, unbalanced, RCA jack SPEAKER OUT: 70 V line (83 Ω), 25 V line (10 Ω), and 4 - 16 Ω, removable terminal block (4 pins)		
Phantom Power (+23 V DC)	ON or OFF for each INPUT 1 - 6 (MIC input) with switch setting		
S/N Ratio (Band pass: 20 - 20,000 Hz)	Over 55 dB (INPUT 1 - 6, mic trim volume: max., 600 Ω terminated) Over 70 dB (INPUT 1 - 6, mic trim volume: min., 600 Ω terminated) Over 76 dB (Master volume: max.) Over 90 dB (All input volume: min.)		
Tone Control	Bass: ±10 dB at 100 Hz Treble: ±10 dB at 10 kHz		
Control Input	REMOTE VOLUME: Removable terminal block POWER REMOTE: No-voltage make contact input, open voltage: under 14 V DC, short-circuit: under 0.5 mA, removable terminal block MUTE CONTROL: No-voltage make contact input, open voltage: under 17 V DC, short-circuit: under 1.5 mA, removable terminal block		
Indicator	5-point LED output level meter, Power indicator LED		
Operating Temperature	-10°C to +40°C		
Finish	Panel: ABS resin, black, hair line Case: Steel plate, black		
Dimensions	16.53" (W) x 4.24" (H) x 13.84" (D) / 420 (W) × 107.7 (H) × 351.5 (D) mm		
Weight	21lbs (9.5kg)	26lbs (12kg)	30lbs (13.5kg)
Accessory	AC power cord (6.6ft/2m) x 1, Removable terminal plug (3 pins) x 6, Removable terminal plug (4 pins) x 1, Removable terminal plug (6 pins) x 1, Volume control cover x 4		
Option	Rack mounting bracket: MB-25B, Input transformer: IT-450, Volume control cover: YA-920		

* 0 dB = 1 V

BG-2000 Series Mixer Power Amplifiers

⫸ BG-2000 Series Mixer/Amplifiers

BG-2035 (35W)
BG-2060 (60W)
BG-2120A (120W)

- Compact five channel Mixer-Amplifier for paging, background/foreground music distribution and music/messaging-on-hold.
- All inputs/outputs with removable terminal blocks allow quick and easy installation.
- Any of five inputs assignable to MOH/ZONE 2 output.
- RCA pin jacks for Lines 2 and 3.
- Line 2 and 3 inputs equipped with summing RCA jacks.
- Phantom Power (+ 24V DC) incorporated for MIC input.
- Module slot accepts optional 900 Series plug-in modules for custom system configurations.
- Rear panel-mounted DIP switches allow easy configuring of settings.
- Provides auto/manual mute function with adjustable muting sensitivity.
- Incorporates Remote volume control connection.
- 2-channel broadcast capability together with zone 2 expansion capability in conjunction with BA-200 Series.
- Tamper-proof, front-panel bass and treble controls are recessed to protect their settings.
- Thermal protection circuitry prevents potential damage from excessive heat build-up.
- AC Mains Circuit Breaker.
- Supplied accessory security knobs for volume controls prevent unauthorized volume setting changes.
- Optional rack-mount kit (MB-1000).
- UL/cUL Listed.

Model	BG-2035	BG-2060	BG-2120
Power Source	120 V AC, 60 Hz		
Rated Output	35 W	60 W	120 W
Power Consumption	94 W (rated output), 50 W (based on UL/CSA standards)	163 W (rated output), 80 W (based on UL/CSA standards)	265 W (rated output), 120 W (based on UL/CSA standards)
Frequency Response	50 - 20,000 Hz		
Total Harmonic Distortion	0.05%, at 1 kHz, rated output		
Input	Mic: -60 dB*, 600 Ω, electronically balanced, removable terminal block Line 1: -10 dB*/ TEL: -20 dB* Line 1/TEL selectable, 10 kΩ, electronically balanced, removable terminal block Line 2, 3: -10 dB*, 10 kΩ, unbalanced, removable terminal block and RCA jacks Module		
Output	Speaker: 4 Ω, 25 V (18 Ω), 70 V (140 Ω), balanced, removable terminal block; MOH: 0 dB*, 600 Ω, balanced, removable terminal block; Line: 0 dB*, 600 Ω, unbalanced, removable terminal block	Speaker: 4 Ω, 25 V (10 Ω), 70 V (83 Ω), balanced, removable terminal block; MOH: 0 dB*, 600 Ω, balanced, removable terminal block; Line: 0 dB*, 600 Ω, unbalanced, removable terminal block	Speaker: 4 Ω, 25 V (5.2 Ω), 70 V (42 Ω), balanced, removable terminal block; MOH: 0 dB*, 600 Ω, balanced, removable terminal block; Line: 0 dB*, 600 Ω, unbalanced, removable terminal block
Output Regulation	2 dB or less, no load to full load (1 kHz)		
S/N Ratio	Mic: 60 dB or more, Line 1/TEL, Line 2, 3, Module: 75 dB or more (Band Pass: 20 Hz - 20 kHz, Tone Controls: Centered)		
Muting	Manual mute/Automatic mute		
Tone Controls	Bass: ±10 dB at 100 Hz, Treble: ±10 dB at 10 kHz		
Control	Mic gain control, Line 1/TEL gain control, Line 2 gain control, Line 3 gain control, Module gain control, Bass tone control, Treble tone control, MOH out gain control, Mute control (Manual mute), Remote volume control, Mute sense control, Line 1/TEL selector switch, Phantom power switch (Mic), Auto mute switch (Mic, Line 1/TEL, Module), Mute receive switch (Mic, Line 1/TEL, Line 2, 3, Module), MOH assign switch (Mic, Line 1/TEL, Line 2, 3, Module), Power ON/OFF switch		
Indicator	Power LED, Signal LED, Peak LED		
Other Feature	Automatic electronic drive limiter		
Operating Temperature	0° C to +40° C (32° F to 104° F)		
Operating Humidity	35% to 80% RH (no condensation)		
Finish	Panel: ABS resin, black Case: Steel plate, black, paint		
Dimensions	10.39" (W) x 3.71" (H) x 10.52" (D) / 264 (W) × 94.3 (H) × 267.3 (D) mm		
Weight	11.68lbs (5.3kg)		13.23lbs (6kg)
Accessory	Volume control cover: YA-920 x 5, Removable terminal plug (2 pins) x 4, Removable terminal plug (3 pins) x 2, Removable terminal plug (4 pins) x 1, Removable terminal plug (5 pins) x 1		
Option	Rack mounting bracket: MB-1000		

*¹ 0 dB = 1 V
*² Distance between barriers on the above screw terminal: 6 mm

BG 200 Series PA Amplifiers

⫸ Mixer Amplifier

BG-220 (20W)
BG-235 (35W)

- Ideal for background music and paging applications
- 2-channel broadcasts possible for system expansion as required through MOH/ZONE 2 output on BG Series Amplifiers
- Tamper-proof bass and treble controls preserve system settings
- Security knobs for volume control included
- Any of 3 inputs can be assigned to MOH/ZONE 2 output
- Line 2 and 3 outputs equipped with RCA pin jacks
- Line 2 and 3 inputs equipped with summing RCA jacks
- Automatic Mute sensing control to set mute activation threshold and manual mute function also provided
- Removable terminal blocks and rear-mounted DIP switches for fast and easy installation/setup
- Thermal protection circuits against overheating
- Meets UL/cUL regulations
- Optional rack and wall-mount kits: MB-25B-BK (2 RU) and MB-25B-J (two units, 2 RU)

BA 200 Series PA Amplifiers

⫸ Power Amplifier

BA-235 (35W)
BA-260 (60W)

- Ideal for background music and paging applications
- 2-channel broadcast possible for system expansion as required through MOH/ZONE 2 output on BG Series Amplifiers
- Tamper-proof bass and treble controls preserve system settings
- Security knobs for volume control included
- Remote master volume control possible by usingg an external volume control
- RCA line input jacks
- Thermal protection circuits against overheating
- Meets UL/cUL regulations
- Optional rack kits: MB-25B-BK (2 RU) and MB-25B-J (two units, 2 RU)

CA Series Mobile Mixer Amplifiers

⫸ CA Series Mobile Mixer Amplifiers

CA-115 (15W)
CA-130 (30W)
CA-160 (60W)

- Mobile mixer/amplifiers for remote applications
- 12 VDC powered
- Two microphone inputs with volume controls
- Supports 4 or 8 ohm speaker loads
- Handheld microphone included - unidirectional, dynamic-type with talk switch, 6' cord and mounting hardware
- Auxiliary input for connecting an external CD player, radio, tape deck or tone generator
- Mounting hardware included - mounts under dashboard or into standard DIN-size console cutout
- Applications: Automobiles; Boats; Buses; Construction Vehicles; Emergency Vehicles; Law Enforcement Vehicles; Parade Floats; Theme Park Rides

Model	CA-115	CA-130	CA-160
Power Source	Standard voltage: 14 V DC; Usable voltage: 10 - 16 V DC (12 V battery used)		
Power Consumption	3 A or less at rated output	5 A or less at rated output	9 A or less at rated output
Rated Output	15 W	30 W	60 W
Output Impedance	4 Ω (BRN), 8 Ω (ORG), Common (WHT) Changeable by changing lead wire connections		
Distortion	Less than 5% (at 1 kHz rated output)		
Frequency Response	100 Hz - 10 kHz		
Input	Mic 1, 2: 600 Ω, 4 mV; Aux: 10 kΩ, 500 mV, phone jack		
Finish	Front panel: ABS resin, black; Case: Zinc plated steel sheet		
Dimensions	7" (W) x 2" (H) x 5.2" (D) 178 (W) × 50 (H) × 132 (D) mm (mounting device excluded)	7" (W) x 2" (H) x 5.7" (D) 178 (W) × 50 (H) × 144 (D) mm (mounting device excluded)	7" (W) x 2" (H) x 6.7" (D) 178 (W) × 50 (H) × 170 (D) mm (mounting device excluded)
Weight	2lbs (900g)	2.4lbs (1.1kg)	2.6lbs (1.2kg)
Accessory	Microphone holder x 1, Mounting bracket x 1, Mounting screw x 1 set, Fuse (4 A) x 1, Connection cord x 1 set		
Accessory Microphone	Unidirectional dynamic type with talk switch Impedance: 600 Ω Sensitivity : -53 dB (1 kHz, 0 dB = 1 V/Pa)		

Digital Power Amplifiers

⟫Dual-Channel Power Amplifier

DA-250D
DA-250DH

⟫4-Channel Power Amplifier

DA-250F
DA-250FH

⟫4-Channel Power Amplifier

DA-550F
DA-500F-HL

- **DA-250D**
- 2x 250W (8 Ω)
- 2x 170W (8 Ω)

- **DA-250DH**
- 2x 250W (70V)
- 1x 500W bridged (140V)
- High pass filter

- **DA-250F**
- 4x 250W (4 Ω)
- 4x 170W (8 Ω)
- 2x 500W bridged (8 Ω)
- Limiter

- **DA-250FH**
- 4x 250W (70V)
- 2x 500W bridged (140V)
- Limiter and High pass filter

- **DA-500F-HL**
- 4x 500W (70V)
- 4x 550W (8 Ω)
- 4x 100W (4 Ω)
- 2x 1000W bridged (140V)
- 2x 1000W (16 Ω)

- **DA-500F**
- 4x 250W (4 Ω)
- 4x 350W (8 Ω)
- 2x 1000W (8 Ω)

• High reliability
The DA amplifier has a comprehensive protection circuitry for protection against excessive current flow due to overload, short circuit, unusual DC voltage output, and power amplifier heat sink temperature rise (over 100°C), temperature rise inside the unit (over 80°C).

• Amplifier with lightweight design
Installation has become much easier thanks to the lightweight design.

• High efficiency
Extremely high amplification efficiency of 80-90%, resulting in reduction in power consumption by more than 60% compared with Class-AB amplifiers.

• Highly durable
Stands up to extended hours of operation. The DA amplifier has undergone a large number of rigorous tests to prove its durability. In addition, TOA has been conducting a "non-stop driving test" of the DA Series.

• Compact design
The DA-250 Series is 1-unit size, and they can be efficiently mounted on a rack, so they require only a small installation space. Because the amplifiers do not generate much heat, 5 units can be stacked together in a rack.

• Independent power supply
Each of the channels has its own power supply. If the power supply of Channel 1 should fail, this won't affect the operation of Channel 2. It is also possible to use the either channel as a spare amplifier.

	DA-250D	DA-250DH	DA-250F	DA-250FH	DA-550F	DA-500F-HL
Power Source	120V AC, 50/60Hz					
Number of Channels	2		4			
Power Consumption* Rated power consumption 1kHz 8 ohms / 4 ohms / 70 Volts	420W, 5.9A 650W, 8.7A —	— — 580W, 7.8A	850W, 11.7A 1300W, 16.9A —	— — 1200W, 15.9A	1650W, 22.4A 2800W, 35.5A —	2600W, 33.2A 580W, 9.1A 2350W, 30.4A
S/N Ratio (A weighted)	100dB					
Crosstalk at 10kHz (A weighted)	70dB					
Inputs — Input impedance / Input sensitivity / Input clipping	10kΩ (unbalanced), 20kΩ (balanced) +4dB (1.23V) 14V (25.1dBu)				10kΩ (unbalanced), 20kΩ (balanced) +4dB (1.23V) 12V (23.8dBu)	
Rated Output	2 channels: 250 W x 2 (4 Ω), 170 W x 2 (8 Ω) 1 channel (BRIDGE): 500 W (8 Ω)	2 channels: 250 W x 2 (70 V line, 19.6 Ω) 1 channel (BRIDGE): 500 W (140 V line, 39.2 Ω)	4 channels: 250 W x 4 (4 Ω), 170 W x 4 (8 Ω) 2 channels (BRIDGE): 500 W x 2 (8 Ω)	4 channels: 250 W x 4 (70 V line, 19.6 Ω) 2 channels (BRIDGE): 500 W x 2 (140 V line, 39.2 Ω)	4 channels: 550 W x 4 (4 Ω), 350 W x 4 (8 Ω) 2 channels (BRIDGE): 1,100 W x 2 (8 Ω)	4 channels: 500 W x 4 (70 V line, 9.8 Ω), 550 W x 4 (8 Ω), 100 W x 4 (4 Ω) 2 channels (BRIDGE): 1,000 W x 2 (140 V line, 19.6 Ω), 1,100 W x 2 (16 Ω)
	M4 screw terminal, distance between barriers: 8.8 mm (0.35")					
Protection Circuit Amplifier section Power supply section	DC output, overheat protection, load shorting, overload current, maximum output Overheat protection, AC rush current					
Dimensions	482 (W) × 44 (H) × 401.8 (D)mm (19" x 1.7" x 15.8")				482 (W) × 88.4 (H) × 404.2 (D)mm (19"x3.5"x15.9")	
Weight	6.6kg (14.5 lbs)		5kg (11 lbs)			8.8kg (19.4 lbs)

0dB=0.775Vrms

Optional Accessories

⟫Matching Transformer

MT-251H

- For DA-250DH, DA-250FH and DA-500F-HL

Speakers

Ceiling Speakers

⟫Splashproof Ceiling Speaker

PC-3CL

- Clean room / shower room speaker
- For humid or high temperature areas
- IP64 certified weatherproof construction
- Resistant against formalin and iodine solutions
- Wide temperature range of -4°F to 140°F
- Fits in 100 mm holes

⟫Clean Room Ceiling Speaker

PC-5CL

- Sealed high-molecular speaker membrane to prevent floating dust particles from contaminating the environment
- Resistant against formalin
- Wide temperature range -4°F to 131°F
- Fits in 98mm holes

Model	PC-3CL	PC-5CL
Rated Input (100V line)	3W	5W
Rated Impedance	100V line: 3.3kΩ/3W, 10kΩ/1W 70V line: 3.3kΩ/1.5W, 10kΩ/0.5W	100V line: 2 kΩ(5W) 70V line: 2 kΩ(2.5W)
Sensitivity (1W, 1m)	87 dB	87 dB
Frequency Response	150 – 20k Hz	150 – 20k Hz
Mounting Hole Diameter	100 mm	98 mm
Speaker Component	8 cm cone-type	8 cm cone-type
Finish	Frame: Alloy-coated ABS resin/Grille: Stainless steel punching net	Panel: Alloy-coated ABS resin/Enclosure: ABS resin, off-white/ Punching net: Stainless steel/Exposed fixing screw: Stainless steel
Dimensions	139 x 104.5 (D)mm	116 x 110 (D) mm
Weight	550g	620 g
Operating Temperature	20°C to 60°C	-20°C to +55°C

⟫Ceiling Speaker

PC-648R

- Integrated with a resin panel and speaker frame
- Spring clamp mechanism for easy mounting to the ceiling
- Input impedance easily changed by adjusting the tap position of the transformer

⟫Ceiling Mount Speaker

PC-580RU
PC-580RVU

- 8" in-ceiling speaker for high quality applications
- 25V & 70V transformer taps up to 5W
- Fits standard ceiling speaker template (PC-671R & others) perfect for retrofits
- Unique "monocoque" design provides better structural integrity
- High-performance, cost effective ceiling speaker for use in mass notification systems, voice evacuation, emergency paging and everyday paging and background music
- Meets UL 2572 (UL 1480 UUMW) (Fire alarm signaling) and UL 2043 (use in air handling spaces) when using the HY-BC580U back can

Model	PC-580RU	PC-580RVU
Rated Input (100V line)	10W (speaker), 5 W (transformer, 70.7 V line and 25 V line)	
Rated Impedance	70.7V line: 20K (0.25W), 10K, (0.5W), 5K (1W), 2.5K (2W), 1K (5W) Ω 25V line: 2.5K (0.25W), 1.25K (0.5W), 625 (1W), 312.5 (2W), 125 (5W) Ω	
Sensitivity (1W, 1m)	97 dB (1W, 1m)	
Frequency Response	50 - 16.5 kHz	
Speaker Component	200mm (8") dual cone type	
Finish	Baffle: Steel plate, white Grille: Surface-treated steel plate net, white	
Dimensions	Dia. 324 x 87.3 (d) mm (12.8" x 3.4")	Dia. 324 x 87.3 (d) mm (12.8" x 3.4")
Weight	1.50 kg (3.31 lbs)	1.52 kg (3.35 lbs)
UL Standards	UL 2572 (ULC S541, UL 1480 UUMW) and UL 2043 when used with HY-BC580U	
Optional Accessories	Back can (for UL/ULC certified installation): HY-BC580U Tile rail, Q-HY-TB2; Tile bridge, LBS8-R1-AM	

Optional Accessories

⟫Back Box
HY-BC580U

⟫Tile Bridge
LBS8-R1-AM

⟫Tile Rail
Q-HY-TB2

Combination Type Reflex Horn Speakers

≫ Wide Range Horn Speaker

CS-64
CS-64U*

- Wide-range paging speaker for voice paging, background music and tone signaling distribution
- Exponential horn improves directivity characteristics and ensure uniform and clear sound dispersion
- Weatherproof polyurethane resin paint and impact-proof lightweight ABS resin enclosure
- Stainless steel hardware protects the speaker from corrosion
- *UL 1460 UEAY listed

≫ Wide Range Horn Speaker

CS-154
CS-154U*
CS-304
CS-304U*

- Wide-range paging speaker for voice paging, background music and tone signaling distribution
- Constant directivity horn improves directivity characteristics and ensure uniform and clear sound dispersion
- High sensitivity: up to 98 dB (1W/1m)
- IP65 certified weatherproof construction
- Weatherproof polyurethane resin paint and impact-proof lightweight ABS resin enclosure
- Stainless steel hardware protects the speaker from corrosion
- *UL 1480 UEAY listed

Model	CS-64	CS-154	CS-304
Rated Input (100V line)	6W	15W	30W
Rated Impedance	100V line: 1.7kΩ, 3.3kΩ, 10kΩ 70V line: 830Ω, 1.7kΩ, 3.3kΩ, 10kΩ	100V line: 670Ω, 1kΩ, 2kΩ 70V line: 330Ω, 670Ω, 1kΩ, 2kΩ	100V line: 330Ω, 500Ω, 1kΩ 70V line: 170Ω, 330Ω, 500Ω, 1kΩ
Sensitivity (1W, 1m)	96 dB	97 dB	98 dB
Frequency Response	130 – 13.000 Hz	150 – 15.000 Hz	120 – 15.000 Hz
Speaker Component	12cm cone-type (Treated for splash proof)	12cm cone-type	
Finish	Horn, cover: ABS resin, off-white, paint Bracket: Stainless steel Punched net: Surface treated steel plate, dark-gray, powder coating	Horn, cover: ABS resin, off-white, paint/Bracket: Stainless steel/Net: Aluminium, gray	
Dimensions	233 (W) x 224 (H) x 208 (D) mm 9.2 (W) x 8.8 (H) x 8.2 (D) in	366 (W) x 230 (H) x 272 (D) mm 14.4 (W) x 9.1 (H) x 10.7 (D) in	
Weight	1.5kg (3.3lbs)	2.8kg (6.2lbs)	3.1kg (6.8lbs)
Dust/Water Protection	Equivalent to IPX4	IP65	

≫ Paging Horn Speaker

SC-610
SC-610T

≫ Paging Horn Speaker

SC-615
SC-615T

≫ Paging Horn Speaker

SC-630
SC-630T

- Both high-impedance (70V/100V lines) models and low impedance (8Ω) models available
- Stainless steel brackets and hardware (screws, bolts), and powder-coated horn ensure superb weatherproofing and corrosion-resistance
- Shock-resistant aluminum oval horn
- IP65 certified weatherproof construction

Model	SC-610	SC-610T	SC-615	SC-615T	SC-630	SC-630T
Rated Input (100V line)	10W		15W		30W (8Ω)	30W
Rated Impedance	8Ω	70V line: 500Ω, 1kΩ, 2kΩ, 3.3kΩ, 10kΩ	8Ω	70V line: 330Ω, 670Ω, 1kΩ, 2kΩ, 3.3kΩ	8Ω	70V line: 170Ω, 330Ω, 670Ω, 1kΩ, 2kΩ
Sensitivity (1W, 1m)	110 dB		112 dB		113 dB	
Frequency Response	315 – 12,500 Hz		280 – 12,500 Hz		250 – 10.000 Hz	
Finish	Horn flare: Aluminum, off-white, powder coating/Reflector horn: ABS resin, off-white/Bracket holder: Aluminum, gray, powder coating/Bracket: Stainless steel					
Dimensions	172 (W) x 161 (H) x 188 (D) mm 6.8 (W) x 6.3 (H) x 7.4 (D) in		222 (W) x 179 (H) x 234 (D) mm 8.8 (W) x 7 (H) x 9.2 (D) in		285 (W) x 227 (H) x 277 (D) mm 11.2 (W) x 8.9 (H) x 10.9 (D) in	
Weight	1kg (2.2lbs)	1.2kg (2.6lbs)	1.1kg (2.4lbs)	1.3kg (2.9lbs)	1.7kg (3.7lbs)	2kg (4.4lbs)
Dust/Water Protection	IP65					
Operating Temperature	-20°C to +55°C					

≫ Paging Horn Speaker

SC-651

Model	SC-651
Rated Input (100V line)	50W
Rated Impedance	16Ω
Sensitivity (1W, 1m)	109 dB
Frequency Response	250 – 6,000 Hz
Finish	Horn flare: Aluminum, off-white, powder coating/ Reflector horn: ABS resin, off-white/ Bracket holder: Aluminum, gray, powder coating/ Bracket: Stainless steel
Dimensions	430 (W) x 297.5 (H) x 327 (D) mm 16.9 (W) x 11.7 (H) x 12.9 (D) in
Weight	3.4kg (7.5lbs)
Dust/Water Protection	IP65
Operating Temperature	-20°C to +55°C

Optional Accessories

≫ Pole Mount Bracket
SP-131

≫ Pole Band
YS-60B

≫ Wall Mount Bracket
SP-301

≫ Wall and Pole Mount Bracket
SP-201

Wall Mount Box Speakers

BS-678

BS-680FC

- Stylish, compact and unobtrusive design
- Quick and easy installation, which saves time on setting-up
- Horizontal / vertical installation
- A push-type input terminal allows easy cable connections and bridge wiring
- Ideally suited for BGM and announcements

- Innovative design based on the Golden Ratio (1:1.618)
- Quick and easy installation
- Strong all-metal body
- Horizontal / vertical installation
- Wall / in-wall mounting
- Ideally suited for voice alarm system application
- Two steatite screw terminal blocks and thermal fuse

	BS-678	BS-680FC
Rated Input (100V line)	6W	
Rated Impedance	100V line: 1.7kΩ, 3.4kΩ, 6.7kΩ, 13kΩ/70V line: 1 .7kΩ, 3.4kΩ, 6.7kΩ, 13kΩ	100V line: 1.7kΩ, 3.3kΩ, 6.7kΩ, 13kΩ/70V line: 1.7kΩ, 3.3kΩ, 6.7kΩ, 13kΩ
Sensitivity (1W, 1m)	94 dB	96 dB
Frequency Response	150 – 20.000 Hz	
Speaker Component	16cm double cone-type	
Finish	Enclosure: Wood, off-white or black/Grille: Surface-treated steel plate net, off-white or black	Enclosure: Steel plate, off-white/Grille: Stainless steel punching net, off-white
Dimensions	250(W) x 190(H) x 110(D)mm [9.8(W) x 7.5(H) x 4.3(D)in]	310(W) x 190(H) x 87.2(D) mm [12.2(W) x 7.5(H) x 3.4(D)in]
Weight	1.7kg (3.7lbs)	2.6kg (5.7lbs)

BS-1034   BS-1034S

- Low profile, beautiful design due to the Golden Ratio (1: 1.618)
- Easy and quick installation
- Creates a distinctly different impression depending on whether it is installed horizontally or vertically
- Two colors selectable: off-white, which matches any interior style, and silver, which adds a quality appearance
- Ideally suited for BGM and announcements

Model	BS-1034	BS-1034S
Rated Input (100V line)	10W	
Rated Impedance	100V line: 1kΩ, 2kΩ, 3.3kΩ, 10kΩ/70V line: 500Ω, 1kΩ, 2kΩ, 3.3kΩ, 10kΩ	
Sensitivity (1W, 1m)	90 dB	
Frequency Response	120 – 18,000 Hz	
Speaker Component	Low: 12cm cone-type, High: Balance dome-type	
Finish	Enclosure: HIPS resin, off-white Grille: Steel plate net, off-white	Enclosure: HIPS resin, silver Grille: Steel plate net, silver
Dimensions	210(W) x 330(H) x 80(D)mm [8.3(W) x 13(H) x 3.1(D)in]	
Weight	1.4kg (3.1lbs)	

≫ Universal Speaker

BS-1030B
BS-1030W

- Aesthetically pleasing design blends in modern buildings and other facilities, such as boutique, restaurant and amusement park
- Cost-effective high power PA box speaker
- 2-Way bass reflex speaker
- Low impedance (8Ω) or high impedance (100V/70V) selectable by rotary switch
- Splashproof construction in compliance with IPX4

≫ Wall Mount Bracket

SP-410

Model	BS-1030B/BS-1030W
Rated Input (100V line)	30W
Rated Impedance	8Ω/100V line: 330Ω, 500Ω, 200kΩ, 670Ω, 1kΩ, 2kΩ/ 70V line: 170Ω, 250Ω,330Ω, 500Ω, 1kΩ
Sensitivity (1W, 1m)	90 dB
Frequency Response	80 – 20.000 Hz
Speaker Component	12cm dynamic cone-type + dome-type
Finish	Enclosure: ABS resin, black or white/ Grille:Surface treated steel plate, black or white, powder coating
Dimensions	196 (W) x 290 (H) x 150 (D) mm [7.7 (W) x 11.4 (H) x 5.9 (D) in]
Weight	2.5kg (5.5lbs)

F Series   Wide-dispersion Ceiling Speakers

• Expanded listening coverage area through extra-wide dispersion characteristics
• Minimal high frequency roll off allows clear and well-balanced sound reproduction over a wide listening area
• Designed to blend into ceilings with a smooth, low-profile design
• Extra ease of use and higher cost-effectiveness with metal "back can" enclosure for speaker back. (F-122C, F-2352C, F-2852C, F-2322C models)

F-2852C, F-2852CU2

• 2-way speaker for high power (60W)
• applications e.g. for high ceilings (3 to 6 m)
• Diffuser for wide dispersion of high frequencies
• Metal back can

F-2322C, F-2322CU2

• Full range speaker for medium ceiling height (2 to 4 m)
• Metal back can

F-2352C, F-2352CU2

• 2-way speaker for medium ceiling height (2 to 4 m)
• Diffuser for wide dispersion of high frequencies
• Metal back can

F-122C, F-122CU2

• Equalizing controlled type full range speaker for medium ceiling height (2 to 4 m)
• Cost effective if many speakers are installed
• Heat-resistant back can
• Optimized for use with optional digital processors
• Diffuser for wide dispersion of high frequencies
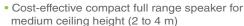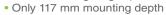
F-2352SC

• 2-way wide range speaker with diffuser for low power applications and medium ceiling height (2 to 4m)
• Easy installation
• Diffuser for wide dispersion of high frequencies
• For use in ceilings with minimal depth

F-1522SC

• Cost-effective compact full range speaker for medium ceiling height (2 to 4 m)
• Only 117 mm mounting depth
• Flat front panel

Note: CU2 version comes with 2 speakers in a box and 2 tile bridges.

Model	F-2852C	F-2322C	F-2352C	F-122C	F-2352SC	F-1522SC
Rated Input (100V line)	60W	30W				6W
Rated Impedance		70V line: 83Ω (60W), 170Ω (30W), 330Ω (15W), 670Ω (7.5W), 3.3kΩ (1.5W) 25V line: 83Ω (7.5W), 170Ω (3.7W), 330Ω (1.9W), 670Ω (0.9W), 3.3kΩ (0.2W) Low (adjustable): 16Ω, 8Ω				
Sensitivity (1W, 1m)	91dB	90dB		89dB		88dB
Frequency Response	80 – 20,000 Hz	70 – 20,000 Hz		40 – 20,000 Hz	80 – 20,000 Hz	65 – 18,000 Hz
Mounting Hole Diameter	250 mm	200mm				ø135mm
Speaker Component	Low: 16cm cone-type, High: Dome-type	12cm cone-type	Low: 12cm cone-type, High: Balanced dome-type	12cm cone-type	Low: 12cm cone-type, High: Balanced dome-type	10cm cone-type
Finish		Enclosure: Steel plate, plating/Baffle: Fire-resistant ABS resin, black/Rim: Fire-resistant ABS resin, white/Punched net: Steel plate, white, paint			Baffle: Fire-resistant ABS resin, black/Rim: Fire-resistant ABS resin, white/Punched net: Steel plate, white, paint/Dust proof bag: Artificial fiber, black	
Dimensions	280 x 236(D) mm (11" x 9.29")	230 x 209 (D) mm (9.1" x 8.23")	230 x 238(D) mm (9.06" x 9.37")		230 x 154(D) mm (9.1" x 6.1")	155 x 117(D) mm (6.1" X 4.6")
Weight	5.8kg (12.79 lbs)	4.3kg (9.48 lbs)			1.5kg (3.3 lbs)	1kg (2.2 lbs)

F Series   Optional Brackets

≫Back Can
HY-BC1 (black)
Q-HY-BC1W (white)

≫Trim Ring

≫Tile Bar Bridge
HY-TB1

≫Anchor Hanging Bracket
HY-AH1

≫Reinforcement Ring
HY-RR1

≫Reinforcement Ring
HY-RR2

≫Shallow Back Can for F-2352SC
Q-HY-BC2

≫Equalization for F-122C (900 Series module)
E-03R

507-07-239-50 - CU2 version tile bridge included with F-122CU2, F-2322CU2, F-2352CU2
507-07-240-30 - CU2 version tile bridge included with F-2852CU2
7020116720 - Ceiling reinforcement ring, fits model F-2852C

F Series   Wide-dispersion Speakers

• Compact box speaker for music and voice paging distribution
• Octagonal horn design for smooth coverage
• Adjustable high frequency dispersion (F-2000 models)
• Extruded cabinet design improves low frequency performance
• Splashproof design in compliance with IPX4, available on models "BTWP/WTWP"
• Great variety of brackets available
• Paintable enclosure and front grille

F-1000BT
F-1000BTWP
F-1000WT
F-1000WTWP

F-1300BT
F-1300BTWP
F-1300WT
F-1300WTWP

F-2000BT
F-2000BTWP
F-2000WT
F-2000WTWP

• LF Driver: 4" cone woofer
• HF Driver: balanced dome tweeter
• Dispersion: 90°H x 90°V

• LF Driver: 5" cone woofer
• HF Driver: 1" dome tweeter
• Dispersion: 110°H x 100°V

• LF Driver: 8" cone woofer
• HF Driver: 1" hard-dome dome tweeter
• Dispersion (adjustable): 110°H x 100°V; 80°H x 80°V (with supplied throat adapter)

Model	F-1000BT F-1000WT	F-1000BTWP F-1000WTWP	F-1300BT F-1300WT	F-1300BTWP F-1300WTWP	F-2000BT F-2000WT	F-2000BTWP F-2000WTWP
Rated Input (100V line)	15W		30W		60W	
Rated Impedance	8Ω/100V line: 670Ω (15W), 2kΩ (5W), 3,3kΩ (3W), 10kΩ (1W) 70V line: 330Ω (15W), 670Ω (7.5W), 2kΩ (2.5W), 3,3kΩ (1.5W), 10kΩ (0.5W)		8Ω/100V line: 330Ω (30W), 1kΩ (10W), 3,3kΩ (15W), 10kΩ (1W) 70V line: 170Ω (30W), 330Ω (15W), 1kΩ (5W), 3,3kΩ (1.5W), 10kΩ (0.5W)		8Ω/100V line: 170Ω (60W), 330Ω (30W), 670Ω (15W), 3,3kΩ (3W) 8Ω/70V line: 83Ω (60W), 170Ω (30W), 330Ω (15W), 670Ω (7.5W), 3,3kΩ (1.5W)	
Sensitivity (1W, 1m)	87 dB		90dB		92dB	
Frequency Response	85 – 20,000 Hz		80 – 20,000 Hz		65 – 20,000 Hz	
Speaker Component	Low: 10cm cone-type, High: Balanced dome tweeter		Low: 13cm cone-type, High: 2.5cm dome tweeter		Low: 20cm cone-type, High: 2.5cm dome tweeter	
Finish	Enclosure: HIPS resin, black or white/ Punched net: Surface-treated steel plate, black or white, paint		Enclosure: HIPS resin, black or white/ Punched net: Surface-treated steel plate, black or white, paint		Enclosure: HIPS resin, black or white/ Punched net: Surface-treated steel plate, black or white, paint	
Dimensions	130 (W) x 202 (H) x 131(D) mm (5.1" x 8" x 5.2")		162 (W) x 250 (H) x 161(D) mm (6.4" x 9.8" x 6.3")		244 (W) x 373 (H) x 235(D) mm (9.6" x 14.7" x 9.3")	
Weight	1.8kg (4 lbs)	2kg (4.4 lbs)	3.6kg (7.9 lbs)		7.4kg (16.3 lbs)	
Dust/Water Protection	—	IPX4	—	IPX4	—	IPX4

F Series   Optional Brackets

≫Cluster Bracket
HY-CL10B *

≫Ceiling Mounting Bracket
HY-CM10B *

≫Ceiling Mounting Bracket
HY-CM10W *

≫Board Hanger Bracket
HY-BH10B *

≫Cluster Bracket
HY-CL20B *

≫Ceiling Mounting Bracket
HY-CM20B *

≫Ceiling Mounting Bracket
HY-CM20W *

≫Pole Mounting Bracket
SP-131

≫Pole Mounting Bracket
YS-60B

*Indoor use only.

Pendant/Projection Speakers

⧽⧽ Pendant Speaker
PE-304
Q-PE-304BK

• Stylish and outstanding design
  inspired by the finest lighting fixtures
• Sturdy cable extendable up to 5 meters
• Paintable
• Input impedance easily changeable
• Ideally suited for BGM and announcements
• Q-PE-304BK Black version

⧽⧽ Projection Speaker
PJ-304

• Stylish and outstanding design inspired by the finest
  lighting fixtures
• Flexible speaker direction adjustment with accessory
  brackets
• Paintable
• Input impedance easily changeable
• Ideally suited for BGM and announcements

⧽⧽ Pendant Speaker UL1480UUMW rated)
PE-304BU
PE-304WU
PE-604BU
PE-604WU

• Directly attached 5m (16.4ft) hanging wire allows
  speaker to be suspended from high ceilings
• Driven on both high impedance (100V, 70V, and 25V)
  and low impedance (8Ω) lines
• Certified to UL 1480 UUMW standards
• Using supplied GRIPPLE® hangers will failitate the
  speaker mounting height adjustment

Model	PE-304 / Q-PE-304BK	PJ-304
Rated Input (100V line)	30W	30W
Rated Impedance	100 line: 330Ω (30W), 500Ω (20W), 670Ω (15W), 1kΩ (10W), 2kΩ (5W) 70V line: 170Ω (30W), 250Ω (20W), 330Ω (15W), 500Ω (10W), 1kΩ (5W)	100 line: 330Ω (30W), 500Ω (20W), 670Ω (15W), 1kΩ (10W), 2kΩ (5W) 70V line: 170Ω (30W), 250Ω (20W), 330Ω (15W), 500Ω (10W, 1kΩ (5W)
Sensitivity (1W, 1m)	91 dB	91 dB
Frequency Response	70 – 20,000 Hz	70 – 20,000 Hz
Speaker Component	12cm cone-type + balanced dome tweeter	12cm cone-type + balanced dome tweeter
Finish	Enclosure: HIPS resin, off-white/ Grille: Surface-treated steel plate net, off-white	
Dimensions	186 x 251(H) mm (unit only) (7.3" x 9.9")	186 x 369 (H) mm (7.3" x 14.5")
Weight	2.1kg (4.6 lbs)	2.1kg (4.6 lbs)

TOA Speaker Software (SPV)

Free download at: www.toaelectronics.com! Design distributed ceiling or wall-mount speaker systems in minutes!
The newest version of the TOA Speaker System Software is available with added features and more data files for
all of your favorite TOA ceiling and wall-mount speakers. And, best of all, it's FREE!

• Easy to Use — design and layout systems in minutes!
• Automatic or Manual Layout Modes
• Color Display of Sound Pressure Level with
  adjustable resolution
• Interactive Frequency Response Display — changes in
  real-time as you move the mouse through the coverage area
• Updated Speaker Database includes most TOA models plus
  generic 4", 5" and 8" ceiling speakers
• Rectangular or Hexagonal Layout Patterns — Maximum
  Overlap, Minimum Overlap and Edge-to-Edge
• Adjust Individual Speakers — location, power and
  placement angles
• Minimum, Maximum and Average SPL Display for both
  pink noise and music/speech
• Selectable Frequency Centers — 1/12, 1/6, 1/3, 1, 2
  and 4th octave
• Print Function includes color plots and speaker locations
  with Print Preview
• Recommended amplifier power calculation
• Energy or interference modes
• Normal or reverse polarity for individual speakers
• Metric or imperial units
• Zoom in/out and fit modes
• Distance between columns/rows

Interior Design Speakers

• Sleek, stylish appearance blends well with modern architecture for background/foreground music and paging systems
• Minimum reflection design reduces sound wave reflections typical of conventional bracket-mounted "box" type speakers
• Two-way, sealed enclosure
• Weather-resistant versions (H-2WP/H-3WP)
• Wide coverage area: (H-1) 120°H x 100°V
                       (H-2/H-2WP) 100°H x 60°V
                       (H-3/H-3WP) 140°H x 70°V
• Loudspeaker components rotate internally to allow flexible aiming (H-1/H-2/H-2WP)
• Built-in passive crossover with optimized filter slopes
• Paintable grille
• Fire-resistant ABS resin enclosure (H-1/ H-2)

⧽⧽ 2-Way Flush Mount Speaker System
H-1

⧽⧽ 2-Way Surface Mount Speaker System
H-2
H-2WP

⧽⧽ 2-Way Wall Mount Speaker System
H-3
H-3WP

Model	H-1	H-2	H-2WP	H-3	H-3WP
Power Handling Capacity	90W (continuous program)	120W (continuous program)		150W (continuous program)	
Rated Input (100V line)	12W (16Ω)	12W (16Ω)		30W (16Ω)	
Rated Impedance	4Ω or 16Ω/100V line: 830Ω (12W), 1.7kΩ (6W), 3.3kΩ (3W) 70V line: 420Ω (12W), 830Ω (6W), 1.7kΩ (3W), 3.3kΩ			4Ω or 16Ω/100V line: 330Ω (30W), 670Ω (15W), 1.3kΩ (7.5W) 70V line: 170Ω (30W), 330Ω (15W), 670Ω (7.5W), 1.3kΩ (3.75W)	
Sensitivity (1W, 1m)	85 dB	88dB		89dB	
Frequency Response	120Hz – 20kHz	100Hz – 20kHz			
Speaker Component	Low: 8 x 5cm cone-type, High: Balanced dome-type	Low: 10cm cone-type, High: Balanced dome-type		Low: 10cm cone-type x 2, High: 2.5cm dome-type (neodymium magnet)	
Finish	Adapter frame: Stainless steel/ Cover: Fire-resistant ABS resin, white/ Punched net: Steel plate, white paint	Frame: Fire-resistant ABS resin, white/ Base frame: Steel plate/ Punched net: Steel plate, white paint		Enclosure: Fire-resistant ABS resin, black/ Frame: Fire-resistant ABS resin, off-white Punched net: Stainless plate, off-white/ Base Frame: Steel plate, plating	Enclosure: Fire-resistant ABS resin, black/ Frame: Fire-resistant ABS resin, off-white/ Punched net: Steel plate (zinc plating), off-white, powder coating/ Base Frame: Stainless steel
Dimensions	312 (W) x 126 (H) x 90(D) mm (12.3" x 5" x 3.5")	268 x 111 (H) mm (10.5" x 4.4")		295 (W) x 318 (H) x 129 (D) mm (11.6" x 12.5" x 5.1")	
Weight	1.5kg (3.3 lbs)	2.1kg (4.6 lbs)		3.3kg (7.3 lbs)	
Dust/Water Protection	—	—	IPX4	—	IPX4

⧽⧽ Wall/Ceiling Mount Subwoofer System
HB-1

• High-power 8" woofer with 110mm ferrite magnet and
  aluminum bobbin
• Acoustic super-woofer with acoustical bandpass filtering construction
• Thin-wall metal frame, with large interior volume for excellent low-frequency
  audio response, plus efficient heat dispersion
• Installs Between standard studs on 16 inches centers
• TOA designed brackets allow simplified "blind" flush mounting in wall or ceiling

Model	HB-1
Power Handling Capacity	240W (continuous program)
Rated Impedance	8Ω
Sensitivity (1W, 1m)	91dB
Frequency Response	45 – 200Hz
Speaker Component	20cm cone speaker
Finish	Enclosure; Steel plat, black paint/ Front Frame; Fire-resistant ABS resin/, off-white, paint/ Punched net; Steel plate, off-white, paint
Dimensions	430 (W) x 544 (H) x 135 (D) mm (16.9" x 21.4" x 5.3")
Weight	11kg (24.3 lbs)

Optional Accessories

⧽⧽ Adapter Frame
HY-H1

⧽⧽ 900 Series Equalization Modules
E-04R (H-1)
E-05R (H-2/H-2WP)
E-06R (H-3/H-3WP)
E-07S (HB-1)

⧽⧽ Matching Transformer
MT-S0601

Plane Wave Speakers

⟫ Compact Double-Sided Radiation Type

PW-1230DB
PW-1230DW

⟫ Large Double-Sided Radiation Type

PW-1430DB
PW-1430DW

⟫ Compact Single-Sided Radiation Type

PW-1230SB
PW-1230SW

⟫ Compact Single-Sided Radiation Type

PW-1430SB
PW-1430SW

- Flat speaker system equipped with a plane wave unit consisting of a diaphragm, bugger, magnet and case
- Sound radiated in narrow horizontal and vertical directivity patterns to deliver clear audio to a limited targeted area with minimal attenuation
- Splash-proof, rust resistant construction, IPX4
- Beam tilting function directs sound radiation about five degrees downward of the horizontal axis
- Built-in high-pass filter
- This speaker is ideal for information broadcast applications and can be found in railway stations

Model	PW-1230DB	PW-1230DW	PW-1230SB	PW-1230SW
Type of Radiation	Double-sided radiation (The side with the TOA logo affixed: Positive pressure wave, Rear: Negative pressure wave)		Single-side radiation	
Rated Impedance	100V line: 330Ω (30W), 670Ω (15W), 1kΩ (10W), 2kΩ (5W); 70V line: 170Ω (30W), 330Ω (15W), 670Ω (7.5W), 1kΩ (5W), 2kΩ (2.5W)			
Sensitivity	86 dB (1W, 1m equivalent measured at 4m, 1-10 kHz) 86 dB (1W, 1m measured at 1m, 1-10 kHz) (Beam tilting: FLAT, High pass filter: OFF)		87 dB (1W, 1m equivalent measured at 4m, 1-10 kHz) 87 dB (1W, 1m measured at 1m, 1-10 kHz) (Beam tilting: FLAT, High pass filter: OFF)	
Frequency Response	300 Hz – 17.5 kHz (beam tilting: FLAT, high pass filter: OFF)		450 Hz – 17.5 kHz (beam tilting: FLAT, High pass filter: OFF)	
Speaker Unit	Plane wave unit (152 x 214 mm (5.98" x 8.43")) x 2			
Directivity Angle	Horizontal: 38° (2 kHz, 1/3 octave band), / Vertical: 75° (2 kHz, 1/3 octave band)			
Finish	Enclosure, Punched net and Mounting bracket: Stainless, black, semi-gloss, paint	Enclosure, Punched net and Mounting bracket: Stainless, light ivory, semi-gloss, paint	Enclosure, Punched net and Mounting bracket: Stainless, black, semi-gloss, paint	Enclosure, Punched net and Mounting bracket: Stainless, light ivory, semi-gloss, paint
Dimensions	524 (W) x 355 (H) x 60 (D)mm (20.63" x 13.98" x 2.36") (including mounting bracket)			
Weight	7.3 kg (16.09 lb) (including mounting bracket)		7.8 kg (17.2 lb) (including mounting bracket)	
Water Protection	IPX4			

Model	PW-1430DB	PW-1430DW	PW-1430SB	PW-1430SW
Type of Radiation	Double-sided radiation (The side with the TOA logo affixed: Positive pressure wave, Rear: Negative pressure wave)		Single-side radiation	
Rated Impedance	100V line: 330Ω (30W), 670Ω (15W), 1kΩ (7.5W), 2kΩ (5W); 70V line: 170Ω (30W), 330Ω (15W), 670Ω (7.5W), 1kΩ (5W), 2kΩ (2.5W)			
Sensitivity	88 dB (1W, 1m equivalent measured at 4m, 1-10 kHz) 85 dB (1W, 1m measured at 1m, 1-10 kHz) (Beam tilting: FLAT, High pass filter: OFF)		90 dB (1W, 1m equivalent measured at 4m, 1-10 kHz) 87 dB (1W, 1m measured at 1m, 1-10 kHz) (Beam tilting: FLAT, High pass filter: OFF)	
Frequency Response	250 Hz – 17.5 kHz (beam tilting: FLAT, high pass filter: OFF)		400 Hz – 17.5 kHz (beam tilting: FLAT, High pass filter: OFF)	
Speaker Unit	Plane wave unit (152 x 214 mm (5.98" x 8.43")) x 2			
Directivity Angle	Horizontal: 38° (2 kHz, 1/3 octave band), / Vertical: 75° (2 kHz, 1/3 octave band)			
Finish	Enclosure, Punched net and Mounting bracket: Stainless, black, semi-gloss, paint	Enclosure, Punched net and Mounting bracket: Stainless, light ivory, semi-gloss, paint	Enclosure, Punched net and Mounting bracket: Stainless, black, semi-gloss, paint	Enclosure, Punched net and Mounting bracket: Stainless, light ivory, semi-gloss, paint
Dimensions	831 (W) x 355 (H) x 60 (D)mm (32.72" x 13.98" x 2.36") (including mounting bracket)			
Weight	11.4 kg (25.13 lb) (including mounting bracket)		11.9 kg (26.23 lb) (including mounting bracket)	
Water Protection	IPX4			

Horn Array Speaker

⟫ Horn Array Speaker

HA-450H
HA-450L

- Outdoor long range speaker incorporating "line array speaker technology"
- Less sound decay and can deliver sound about twice as far as conventional outdoor speakers for wireless system (when compared with reflex horn speaker and straight horn speaker made by TOA Corporation).
- The sound is mild near-by the speaker and clear far away from the speaker.
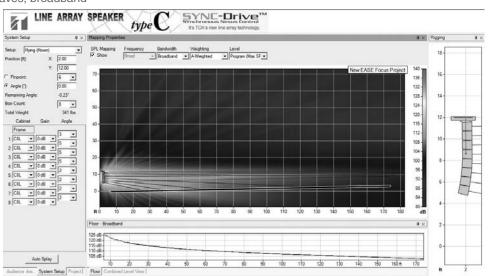
EASE Focus - Generic Aiming & Acoustic Modeling Software

EASE Focus is a software that allows the modeling of acoustic sources, in particular line arrays, in two dimensions. It considers the direct field created by the complex addition of the sound contributions of the individual loudspeakers or array elements. Based on an intuitive and consistent interface, the design of EASE Focus is targeted at the end user, but also at the R&D engineer.

- Aiming and color mapping display
  - Zoomed rigging display
  - Extended report for printing
  - Levels over audience areas
  - COM and tilt angle calculation for multiple selected pinpoint
- Presets for audience areas and array setup
- Acoustic calculation
  - SPL in 1/3rd octave, octave, 3 octaves, broadband
  - RMS, program and peak levels
  - Flat and A-weighted levels
  - Air attenuation according to ISO 9613
  - Complex modeling of cabinets with multiple sources per cabinet
  - Amplitude shading
  - Optimized SPL calculation routines for interactive aiming

Line Array Speaker Type A

TOA's Type A Full Size, Two-Way Line Array Speakers feature a linear wave front control technology that creates sound fields with uniform sound pressure and high sound clarity. The SR-A12L and SR-A12S are two-way line array speakers ideal for long (SR-A12L) or short (SR-A12S) distance sound transmission. The SR-A Series can utilize bi-amplification methods for improved frequency tuning and is complimented by using the optional D-901 or D-2008 Digital Signal Processors.

SR-A12L
SR-A12LWP

SR-A12S
SR-A12SWP

- Designed for wide bandwidth response
- Compact and powerful 2-way modular speaker units used in multiple configurations as required to deliver greater output power with a more extended frequency response
- High-performance driver units
- Each Type A Series speaker module contains a 30cm (12") low frequency unit and a high-frequency horn attached to two compression drivers for greater output
- Wavefront control throat function to obtain the best possible performance from the high frequency drivers
- Simple maintenance and servicing for permanent installations

Model	SR-A12L	SR-A12LWP	SR-A12S	SR-A12SWP
Power Handling Capacity	Continuous program, Low Frequency: 450W, High Frequency 180W			
Rated Impedance	Low Frequency: 8Ω, High Frequency: 16Ω			
Sensitivity (1W, 1m)	Low Frequency: 98dB, High Frequency: 110dB		Low Frequency: 98dB, High Frequency: 109dB	
Frequency Response	50 – 20,000 Hz (when using an optional DSP processor)			
Speaker Component	Low Frequency: 30cm cone type; High Frequency: Wave front control horn 90° (horizontal) x 5° (vertical) + compression driver x 2		Low Frequency: 30cm cone type; High Frequency: Wave front control horn 90° (horizontal) x 15° (vertical) + compression driver x 2	
Directivity Angle	Horizontal: 90°, Vertical: 5°		Horizontal: 90°, Vertical: 15°	
Finish — Enclosure:	Plywood, black, paint	Plywood, black, urethane coating	Plywood, black, paint	Plywood, black, urethane coating
Finish — Front grille:	Punched steel plate, black, acrylic paint	Punched stainless steel, black, paint	Punched steel plate, black, acrylic paint	Punched stainless steel, black, paint
Dimensions	740 (W) x 433 (H) x 469 (D)mm [29.1 (W) x 17 (H) x 18.5 (D)in]		740 (W) x 433 (H) x 467 (D)mm [29.1 (W) x 17 (H) x 18.4 (D)in]	
Weight	49 kg (108 lbs)	51 kg (112.4 lbs)	47kg (103.6 lbs)	48kg (106 lbs)
Water Protection	--	IPX4	--	IPX4

Line Array Speaker Type A - Subwoofer

SR-A18B

- Designed for use in conjunction with the SR-A Series Line Array Speakers
- Compact indoor subwoofer system
- High-power 18" woofer, 720W, 8 ohm
- Ideal for reproducing dynamic low-frequency sound for both permanent and temporary installations

Model	SR-A18B
Power Handling Capacity	Continuous program: 720W
Rated Impedance	8Ω
Sensitivity (1W, 1m)	95 dB
Frequency Response	40 – 400Hz (when using optional DSP processor)
Speaker Component	46 cm cone-type
Finish	Enclosure: Plywood, black, paint; Front Grille: Punched steel plate, black, acrylic paint
Dimensions	740 (W) x 573 (H) x 698 (D)mm [29.1 (W) x 22.6 (H) x 27.5 (D)in]
Weight	66 kg [145.5 lbs] (including accessories)

SR-A Series   Optional Accessories

≫ Mid-type - rigging frame, weather resistant
SR-RF12WP

≫ Mid-type - tilt joint plate
SR-TP12

≫ Mid-type - rigging for SR-A18B
SR-RF12

Connection Diagram

Biamp drive

HF

LF

Processor

Line Array Speaker Type C

TOA's Type C Mid-Size, Two-Way Line Array Speakers feature wave front control technology which creates a sound field with high sound clarity and uniform sound pressure level. Recommended digital processor is the D-901 or D-2008 (optional). They can be converted to operate in bi-amplifier or full-range modes with simple internal adjustment.

SR-C8L
SR-C8LWP

SR-C8S
SR-C8SWP

- Superior sound quality - Sync-Drive technology keeps the audio in phase with its sources at the speakers to create an ideal linear sound source.
- High-fidelity sound - due to the design of the speakers phase wave-front control technology, high-fidelity sound is produced without causing attenuation of high-frequency sound
- Adjustable sound coverage
- Resistant to feedback and enjoy reflection-free operation
- Single or bi-amp mode - by changing the position of an internal connector

Model	SR-C8L	SR-C8LWP	SR-C8S	SR-C8SWP
Power Handling Capacity	Continuous program: 360 W(Single-amp mode; Low 360 W, High: 180 W (Bi-amp mode)			
Rated Impedance	16Ω (single-amp mode); Low: 16Ω, High: 16Ω (bi-amp mode)			
Sensitivity (1W, 1m)	98 dB (single-amp mode) Low: 95dB, High: 110dB (bi-amp mode)			
Frequency Response	65 – 20,000 Hz (when using an optional DSP processor)			
Speaker Component	Low Frequency: 20 cm cone type; High Frequency: Wave front control horn 110° (horizontal) x 5° (vertical) + compression driver x 2		Low Frequency: 20 cm cone type; High Frequency: Wave front control horn 110° (horizontal) x 15° (vertical) + compression driver x 2	
Directivity Angle	Horizontal: 90°, Vertical: 5°		Horizontal: 90°, Vertical: 15°	
Finish — Enclosure:	Plywood, black, urethane paint	Plywood, black, urethane coating	Plywood, black, urethane paint	Plywood, black, urethane coating
Finish — Front grille:	Punched steel plate, black, paint	Punched stainless steel, black, paint	Punched steel plate, black, paint	Punched stainless steel, black, paint
Dimensions	526.6 (W) x 293 (H) x 296 (D) mm (20.73" x 11.54" x 11.65")		526.6 (W) x 293 (H) x 294 (D) mm (20.73" x 11.54" x 11.57")	
Weight	17 kg (37.48 lb)		16 kg (35.27 lb)	
Water Protection	--	IPX4	--	IPX4

Line Array Speaker Type C - Subwoofer

SR-C15B
SR-C15BWP

- Designed for use in conjunction with the SR-C Series Line Array Speakers
- Indoor and outdoor versions available, weather-resistant version has cable connection
- 15" high power woofer
- 450 W continuous power handling

Model	SR-C15B	SR-C15BWP
Power Handling Capacity	Continuous program: 450 W	
Rated Impedance	8Ω	
Sensitivity (1W, 1m)	93 dB	
Frequency Response	40 – 400 Hz (when using an optional DSP processor)	
Speaker Component	38 cm (15") cone-type	
Finish — Enclosure:	Plywood, black, urethane paint	Plywood, black, urethane coating
Finish — Front grille:	Punched steel plate, black, paint	Punched stainless steel, black, paint
Dimensions	526.6 (W) x 594.8 (H) x 550 (D) mm (20.73" x 23.42" x 21.65")	
Weight	41 kg (90.39 lb)	
Water Protection	--	IPX4

SYNC Drive™

SR-C Series   Optional Accessories

≫ Cluster bracket, black
SR-CL8

≫ Rigging frame
SR-RF8

≫ Rigging frame, weather resistant
SR-RF8WP

≫ Rigging support bracket
SR-SB8

≫ Tilt joint bracket
SR-TP8
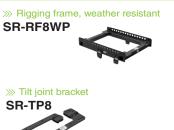
Compact Array Speakers

HX-5B
HX-5B-WP

HX-5W
HX-5W-WP

- Innovative modular speaker design includes four preassembled modules with four LF drivers and twelve HF dome tweeters
- Adjustable dispersion angle to 60, 45, 30 or 15 degrees
- Improved intelligibility through tailored coverage
- In-line driver arrangement for superior vertical coverage control
- Contoured waveguide-baffle for distortion-free coverage control
- High power handling; 600W continuous (200W pink noise)
- Splashproof versions (HX-5B-WP/HX-5W-WP)
- Parallel connectors - dual speakon and screw terminal
- A wide variety of optional mounting hardware is available

Model	HX-5B	HX-5B-WP	HX-5W	HX-5W-WP
Power Handling Capacity	Continuous program: 600W			
Rated Impedance	8Ω			
Sensitivity (1W, 1m)	96dB (60° mode), 97dB (45° mode), 98dB (30° mode), 99dB (15° mode)			
Frequency Response	70 – 20,000Hz (60° mode)	95 – 20,000Hz (60° mode)	70 – 20,000Hz (60° mode)	95 – 20,000Hz (60° mode)
Speaker Component	Low: 12cm cone-type x 4, High: Balanced dome-type x 12			
Directivity Angle	Horizontal: 100°/Vertical: 60°, 45°, 30°, 15° variable			
Finish	Enclosure: Polypropylene, black or white/Punched net: Surface-treated steel plate, black or white			
Dimensions	408 (W) x 546 (H) x 342(D)mm [16 (W) x 21.5 (H) x 13.5 (D)in]			
Weight	16kg (35.3lbs)			
Dust/Water Protection	—	IPX4	—	IPX4

HX-5B/HX-5W Optional Accessories

≫Rigging Frame
HY-PF1B

≫Ceiling Mount Bracket
HY-CW1B

≫Mount Bracket
HY-WM1B

≫Mount Bracket
HY-WM2B

≫Extension Bracket
HY-CN1B

≫Rigging Frame
HY-PF1W

≫Ceiling Mount Bracket
HY-CW1W

≫Mount Bracket
HY-WM1W

≫Mount Bracket
HY-WM2W

≫Extension Bracket
HY-CN1W

≫Speaker Stand Adapter
HY-ST1

≫Matching Transformer
MT-200

HX-5B-WP/HX-5W-WP Optional Accessories

≫Rigging Frame
HY-PF1WP

≫Ceiling Mount Bracket
HY-CW1WP

≫Mount Bracket
HY-WM1WP

≫Mount Bracket
HY-WM2WP

≫Extension Bracket
HY-CN1B-WP

≫Extension Bracket
HY-CN1W-WP

HX-5 Series Subwoofers

FB-120B   ## FB-120W

- Compact subwoofer
- Extremely wide frequency range
- For floor-, wall-, corner- or ceiling-mount
- 600W continuous program high-power subwoofer system

Model	FB-120B/FB-120W
Power Handling Capacity	Continuous program: 600W
Rated Impedance	8Ω
Sensitivity (1W, 1m)	90 dB
Frequency Response	40 – 1,200Hz
Speaker Component	30cm cone-type
Finish	Enclosure: Plywood, black or white, paint/Steel plate, black or white, paint
Dimensions	408 (W) x 408 (H) x 450(D)mm [16.1 (W) x 16.1 (H) x 17.7(D)in]
Weight	15kg (33lbs)

Variable Dispersion Loudspeakers

The HX-7 expands the HX Series with a larger, more powerful configuration. Designed to meet the needs of medium-sized venues, such as churches, auditoriums (and other performance spaces), as well as gymnasiums and sports arenas, it adds true line array performance to its already impressive range of configurations. Its improved hi-frequency driver compliment improves output, power handling and throw, providing enhanced intelligibility within the vocal range. Multiple HX-7 may be stacked together vertically for increased power and distance coverage. Like its smaller sibling (the HX-5), the HX-7 offers flexibility not available with other "single-box" speaker products.

HX-7B
HX-7B-WP

HX-7W
HX-7W-WP

- 4 cell configuration each incorporating:
  - (2) 5 ½" Low-frequency drivers
  - (1) Center-mounting, waveguide-loaded 1" compression driver
- Flexible vertical angle adjustment between 0˚ and 45˚ (60˚ w/optional adapter).
- Power handling: 750W Continuous Program @ 8 Ohms.
- Frequency response: 75Hz to 20kHz
- 100dB sensitivity (1W @ 1m).
- Optional hardware for stand, wall, ceiling & flown installations.
- Black or White & weather-proof (WP) versions available.

Optional Accessories

≫Hanging Bracket
HY-PF7B

≫Hanging Bracket
HY-PF7W

≫Angle Adjustment Bracket
HY-60DB-WP-3 (3pcs)

≫Angle Adjustment Bracket
HY-60DW-WP-3 (3pcs)

≫Speaker Joining Bracket
HY-CN7B-WP

≫Speaker Joining Bracket
HY-CN7W-WP

≫Wall Mount Bracket
HY-WM7B

≫Wall Mount Bracket
HY-WM7W

≫T Bracket
HY-TM7B-WP

≫T Bracket
HY-TM7W-WP

≫Ceiling Mounting Bracket
HY-VM7B

≫Ceiling Mounting Bracket
HY-VM7W

≫Ceiling Mounting Bracket
HY-C0801B

≫Ceiling Mounting Bracket
HY-C0801W

≫Wall Mounting Bracket
HY-MS7B-WP

≫Wall Mounting Bracket
HY-MS7W-WP

≫Speaker Stand Adapter
HY-ST7

≫Bracket for Mounting MT-200
HY-MT7

HX-7 Series Subwoofers

FB-150B   ## FB-150W

- Partner Subwoofer for HX-7 (may be used with other TOA speakers)
- High-compliance 15" low-frequency speaker. Bass-reflex enclosure.
- Screw-terminal & Speakon™ connectors.
- Power handling" 600W Continuous Program @ 8 Ohm.
- Black or White versions available.

Line Array Speaker Type D

TOA brought together it s proprietary line array technology and digital signal processing (DSP) technology in developing the SR-D8 Steerable Line Array Speaker. As well as processing both analog and digital audio input, this innovative speaker harnesses 8 built-in digital amplifiers to project sound waves to targeted areas with greater precision than is possible with conventional speakers. By digitally shaping the width and angle of acoustic beams, it can steer sound precisely to desired areas without requiring a change of installation location.

≫ Steerable Active Line Array Speaker - Master

SR-D8-M

≫ Steerable Active Line Array Speaker - Slave

SR-D8-S

- A maximum total of 16 speakers (in up to four stacks) an be controlled as a single unit via GUI-operated software.
- The intuitive control software enables instant simulations that reduce the time required for designing systems and tuning their acoustic performance.
- The speaker comes with a DSP functions, including gain, mute, compression, delay, auto -mixing, high/low pass filters, high/low shelving filters, and a notch filter.
- Equipped with two analog audio input terminals and four digital audio input terminals for CobraNet connection, the speaker supports 6 x 2 matrix mixing.

SR-D8-S   SR-D8-M

Model	SR-D8-M	SR-D8-S
Power Consumption	320 W (rated output), 72 W (based on UL/CSA standards)	315 W (rated output), 72 W (based on UL/CSA standards)
Coverage	Horizontal: 90° Vertical Beam Width: up to 45° Vertical Beam Angle: ±45° (adjustable by using the supplied SR-D8 setting software)	
Frequency Response	130 Hz – 20 kHz	
Speaker Component	Low Frequency: 10 cm cone-type x 8; High Frequency: 2.5 cm balanced dome-type x 24	
Maximum SPL	Max. 93 dB SPL (A-weighted, pink noise, 30 m)	
Finish	Enclosure: MDF, white, paint; Front Grille: Punched steel plate, white, acrylic paint	
Dimensions	160 (W) x 895 (H) x 255 (D) mm (6.3" x 35.24" x 10.04")	
Weight	21 kg (46.3 lb)	

SR-D Series   Optional Accessories

≫ Wall mounting adapter	≫ Wall mounting adapter	≫ Extension plate	≫ Fixing bar	≫ Hoisting bracket	≫ Wall mounting bracket
SR-D8CL	**SR-D8CS**	**SR-D8EP**	**SR-D8FB**	**SR-D8HB**	**SR-D8WB**

SR-D Series   System Example

Analog audio
CobraNet

Handheld mic

SR-D8-M (Main)

Local link

Digital Mixing System D-2008SP

Lavalier mic

CD Recorder

SR-D8-S (Sub)

SR-D8-S (Sub)

Remote Console Unit (with case) D-2012C

SR-D8-S (Sub)

SR-D8-S (Sub)

PC

LAN

*In this case, either analog audio or CobraNet will be used.
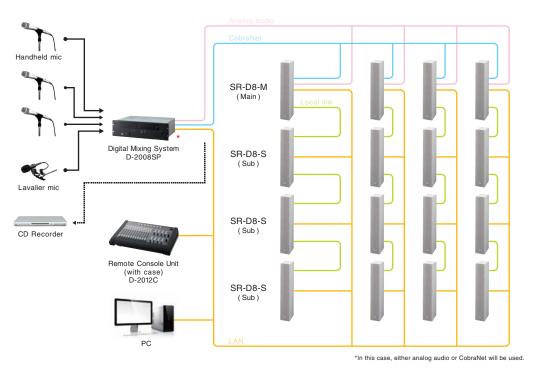
Line Array Speaker Type S

SR-S4L
SR-S4LWP

SR-S4S
SR-S4SWP

- 2-way line array speaker with 8 10-cm (4") woofers and 24 high-frequency drivers, installed vertically
- Clear sound with reduced attenuation over distance
- Speakers are reflection-free and feedback resistant
- Splashproof versions (SR-S4LWP/SR-S4SWP)
- Biamp or single amp drive possible
- A wide variety of optional mounting bracket is available
- Optional matching transformer MT-S0601 for high-impedance operation

Model		SR-S4L	SR-S4LWP	SR-S4S	SR-S4SWP
Power Handling Capacity		Continuous program: 600W			
Rated Impedance		8Ω			
Sensitivity (1W, 1m)		94dB		93dB	
Frequency Response		70 – 20,000Hz			
Speaker Component		Low: 10cm cone-type x 8, High: 2.5cm balanced dome-type x 24			
Directivity Angle		Horizontal: 90°/Vertical: 0°		Horizontal: 90°/Vertical: 10°	
Finish	Enclosure:	MDF, white, paint	Plywood, white, urethane coating	MDF, white, paint	Plywood, white, urethane coating
	Front grille:	Punched steel plate, white, acrylic paint	Punched stainless steel (SUS304),white paint	Punched steel plate, white, acrylic paint	Punched stainless steel (SUS304),white paint
Dimensions		160 (W) x 895 (H) x 255(D)mm		160 (W) x 892 (H) x 303(D)mm	
Weight		16kg			
Dust/Water Protection		—	IPX4	—	IPX4

SR-S Series   Optional Accessories

≫ Extension Plate	≫ Wall Tilt Bracket	≫ Wall Mounting Bracket	≫ Stand Adapter	≫ Protection Pad
SR-EP4	**SR-TB4**	**SR-WB4**	**SR-SA4**	**SR-PP4**

≫ Extension Plate	≫ Wall Tilt Bracket	≫ Wall Mounting Bracket	≫ Flying Bracket	≫ Floor Stand
SR-EP4WP	**SR-TB4WP**	**SR-WB4WP**	**SR-FB4**	**SR-FS4**

≫ Matching Transformer
MT-S0601

Line Array Speaker Type H

SR-H2L   SR-H2S   SR-H3L   SR-H3S

- Slim line array with excellent directivity
- Narrow 84 mm design allows speakers to fit in well with the interior decor of the venue
- Sync-Drive (Synchronous Nexus Control) technology create ideal linear sound source
- Clear sound with reduced attenuation over distance
- Speakers are reflection-free and feedback resistant
- Curved speaker models for improved vertical dispersion
- A wide variety of optional mounting bracket is available
- Optional matching transformer MT-S0301 for high-impedance operation

Model		SR-H2L	SR-H2S	SR-H3L	SR-H3S
Power Handling Capacity		Continuous program: 180W		Continuous program: 360W	
Rated Impedance		8Ω			
Sensitivity (1W, 1m)		92dB		95dB	92dB
Frequency Response		80 – 18,000Hz	90 – 17,000Hz	110 – 18,000Hz	90 – 17,000Hz
Speaker Component		7cm cone-type x 9		7cm cone-type x 16	
Directivity Angle		Horizontal: 90°/Vertical: 0°		Horizontal: 90°/Vertical: 20°	
Finish	Enclosure:	MDF, white, paint			
	Front grille:	Punched steel plate, white, acrylic paint			
Dimensions		84 (W) x 668.4 (H) x 115 (D)mm	84 (W) x 663.4 (H) x 115 (D)mm	84 (W) x 1,186 (H) x 115 (D)mm	84 (W) x 1,177.2 (H) x 157 (D)mm
Weight		4.4kg	4.2kg	7.6kg	7.9kg

SR-H Series   Optional Accessories

≫ Wall Mounting Bracket	≫ Wall Tilt Bracket	≫ Flying Bracket	≫ Extension Plate	≫ Stand Adapter	≫ Matching Transformer
SR-WB3	**SR-TB3**	**SR-FB3**	**SR-EP3**	**SR-SA3**	**MT-S0301**

Mechanically Steerable Line Array Speaker System
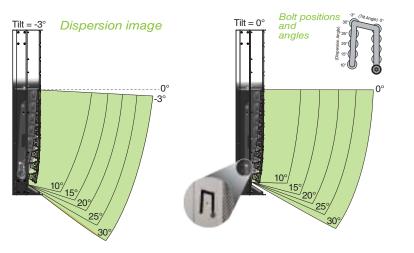
The Mechanical Steerable Array Speaker System consists of passive FR (Full-Range) Module and LF (Low-Frequency) Module to establish a simple speaker system with a single FR Module or combination system with FR and LF Modules. The key feature is that the tilt and dispersion angle of the FR Module are mechanically and manually adjustable on its hardware. Provides a low cost solution for spaces where the speakers need to aim at downward seating/audience areas while they are mounted flat on the wall.

SR-MF1B
SR-MF1W

SR-ML1B
SR-ML1W

- This slim system utilizes the line array speaker's characteristics to provide uniform sound with little attenuation over distance.
- Optimal sound coverage is assured by a built-in steering mechanism that permits manual adjustment of the tilt and dispersion angles.
- One or two low-frequency expander speakers can be combined with the full-range speaker in any of several configurations to optimize performance for specific needs.
- The system's slim-line design featuring 4.5"-wide (114mm) enclosures, and its availability in a choice of black or white, enables it for specific needs.

Model No.	SR-MF1B/SR-MF1W	SR-ML1B/SR-ML1W
Enclosure	Sealed type	Bass-reflex type
Power Handling Capacity	Continuous program: 240W	
Rated Impedance	12Ω	24Ω
Sensitivity	89 dB (1W, 1m equivalent, measured at 8m)	84 dB (1W, 1m equivalent, measured at 8m)
Frequency Response	130Hz – 18kHz (when using an optional processor)	60 – 700Hz (when using an optional processor)
Speaker Components	2.8" (7cm) cone-type 4 and 2" (5cm) cone-type × 8	3.5" (9cm) cone-type × 4
Directivity Angle	Horizontal: 100° Vertical: Tilt 0 or -3°, Dispersion: 10, 15, 20, 25 or 30°	—
Input Terminal	Removable screw terminal	
Finish	Enclosure: Aluminium Front Grille: SR-MF1B; Punched-steel plate, black paint SR-MF1W; Punched-steel plate, white paint	Enclosure: Aluminium Front Grille: SR-ML1B; Punched-steel plate, black paint SR-ML1W; Punched-steel plate, white paint
Dimensions	4.49" (W) × 34.33" (H) × 6.22" (D) (114 (W) × 872 (H)× 158 (D)mm)	
Weight	18.5 lb (8.4kg)	16.1 lb (7.3kg)

Dispersion image

Tilt = -3°

Tilt = 0°

Bolt positions and angles

Coaxial Array Speakers

HS-1200BT
HS-1200WT

HS-1500BT
HS-1500WT

- For mobile or fixed installation e.g. in clubs, banquet rooms or schools, etc
- Can be used as a floor monitor
- 2-way unit system equipped with a large diameter woofer (12"/15") and array tweeter
- Twin input terminal connectors (Speakon and screw terminals)
- Well-controlled sound coverage: 90°horizontal x 40°vertical
- Offers a built-in matching transformer, for use in high-impedance applications
- A wide variety of optional mounting bracket is available

Model	HS-1200BT/HS-1200WT	HS-1500BT/HS-1500WT
Power Handling Capacity	Continuous pink noise: 100W (Low impedance)	
Sensitivity (1W, 1m)	97 dB	98dB
Rated Impedance	8Ω/100V line; 170Ω, 330Ω, 670Ω/ 70V line; 83Ω, 170Ω, 330Ω, 670Ω	8Ω/100V line; 170Ω, 330Ω, 670Ω/ 70V line; 83Ω, 170Ω, 330Ω, 670Ω
Frequency Response	70 – 20,000 Hz	60 – 20,000 Hz
Speaker Component	Low: 30cm cone-type, High: Balanced dome tweeter x 6	Low: 38cm cone-type, High: Balanced dome tweeter x 6
Finish	Enclosure: Polypropylene, black or white/Punched net: Surface-treated steel plate, black or white	
Dimensions	361 (W) x 448 (H) x 320 (D) mm [14.2 (W) x 17.6 (H) x 12.6 (D) in]	451 (W) x 560 (H) x 400(D) mm [17.8 (W) x 22 (H) x 15.7 (D) in]
Weight	10kg (22lbs)	14kg (30.9lbs)

HS Series   Optional Brackets

≫For wall/ceiling
HY-1200HB

≫For wall/ceiling
HY-1200HW

≫For wall/ceiling
HY-1200VB

≫For wall/ceiling
HY-1200VW

≫For wall/ceiling
HY-1500HB

≫For wall/ceiling
HY-1500HW

≫For wall/ceiling
HY-1500VB

≫For wall/ceiling
HY-1500VW

≫For ceiling
HY-C0801*

≫For ceiling
HY-C0801W*

≫For wall
HY-W0801*

≫For wall
HY-W0801W*

*in combination with HY-1200/HY-1500 series brackets

70 Volt Stepped Wall Attenuators

≫Attenuator

AT-025
AT-100
AT-100EMG
AT-10K

- Flush-mounted wall attenuators
- Volume can be adjusted in thirteen steps (AT-10K continuous)
- Push-in terminals
- Accepts two conductors for easy bridging
- 2 wire connection for normal speaker line attenuation
- 3 wire connection for emergency paging attenuator override (AT-100EMG)

Impedance Meter

≫Impedance Meter

ZM-104A

- Measures impedance of speaker lines up to 100k ohms
- Batteries: 4 (AA) (not included)
- Zero adjustment for accuracy on all ranges
- Easy to read meter calibrates directly in ohms
- Includes carrying case, test leads and impedance to power reference chart

Microphones
Wireless Systems
Rack Mount Equipment, Network Audio and Others
Mixers
Amplifiers
Speakers
Conference System
Megaphones
Intercom
Security & Safety
Reference

Conference System
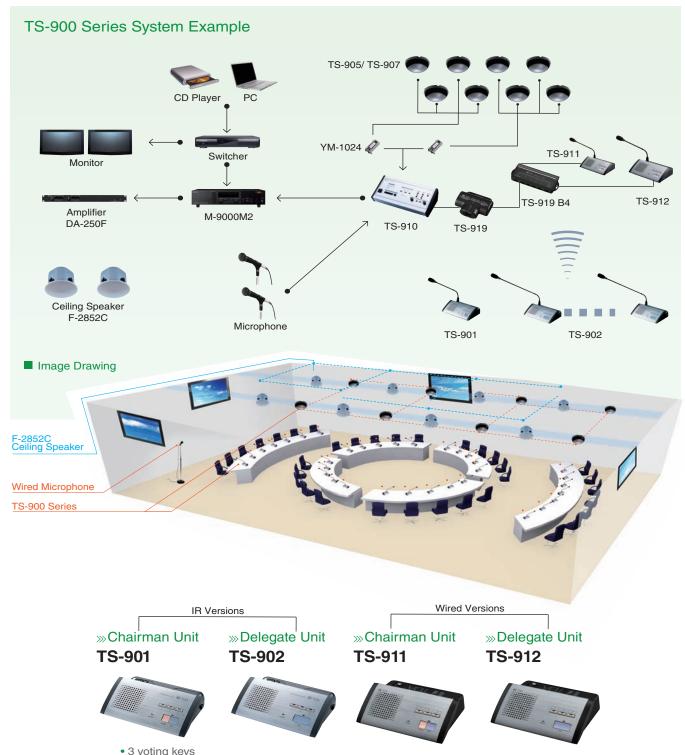
Infrared Conference System TS-800/TS-900 Series

- For efficient communications in any kind of conference
- Safe and secure infrared wireless technology
- Up to 96 active units (TS-900) or 64 active units (TS-800) per system
- Chairman unit features a priority speech key
- Auto Mic-Off function
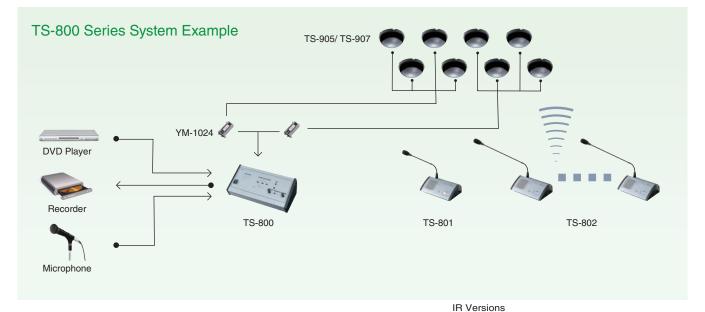
- System with voting function (TS-900) or standard system (TS-800)
- Compact and lightweight chairman and delegate units
- No cabling makes installation easy
- Speaker restriction function
- Installation status checkup function

TS-900 Series System Example

CD Player   PC

Monitor   Switcher

Amplifier
DA-250F   M-9000M2

Ceiling Speaker
F-2852C

Microphone

TS-905/ TS-907

YM-1024

TS-911

TS-919 B4   TS-912

TS-910   TS-919

TS-901   TS-902

■ Image Drawing

F-2852C
Ceiling Speaker

Wired Microphone

TS-900 Series

IR Versions

》Chairman Unit
TS-901

》Delegate Unit
TS-902

Wired Versions

》Chairman Unit
TS-911

》Delegate Unit
TS-912

- 3 voting keys
- Channel selector for conference language
- 2 different versions for chairman and delegates
- To prevent feedback, the built-in speaker is turned off while the microphone is on
- 2 headphone jacks

Infrared Conference System TS-800/TS-900 Series

TS-800 Series System Example

TS-905/ TS-907

DVD Player

YM-1024

Recorder

TS-800   TS-801   TS-802

Microphone

》Central Unit
TS-910

- Works with TS-811/812 & TS-911/912 wired stations (requires TS-918 and TS-919 B1 or B4)
- Compatible with exisiting TS-800/900 IR stations (replaces TS-900 controller)
- Adds voting & interpretation features to wired configurations
- Wired & wireless stations may be combined to create larger "hybrid" configurations
  - Total station capacity: 192 stations (combined wired & wireless)
- Includes Feedback Suppressor function
- Control & monitoring via free PC Software using USB connection. Individual station volume control via RS-232

IR Versions

》Chairman Unit
TS-801

》Delegate Unit
TS-802

Wired Versions

》Chairman Unit
TS-811

》Delegate Unit
TS-812

- 2 different versions for chairman and delegates
- To prevent feedback, the built-in speaker is turned off while the microphone is on
- 2 headphone jacks

》Central Unit
TS-800

- Up to 64 active units per system
- Audio input from a wired microphone or other sound source
- 1 line and 1 recording output

**》Rechargeable
Lithium-Ion Battery**
BP-900 UL

》Battery Charger
BC-900 UL

》Microphone
TS-903

》Microphone
TS-904

》TS-918 US
TS-918 US

》TS-919 B1
TS-919 B1

》TS-919 B4
TS-919 B4

**》Infrared Transmitter/
Receiver**
TS-905

**》Infrared Transmitter/
Receiver**
TS-907

》AC Adapter
AD-0910

》Distributor
YW-1022

》Distributor
YW-1024

**》Rack Mount
Bracket**
MB-TS900
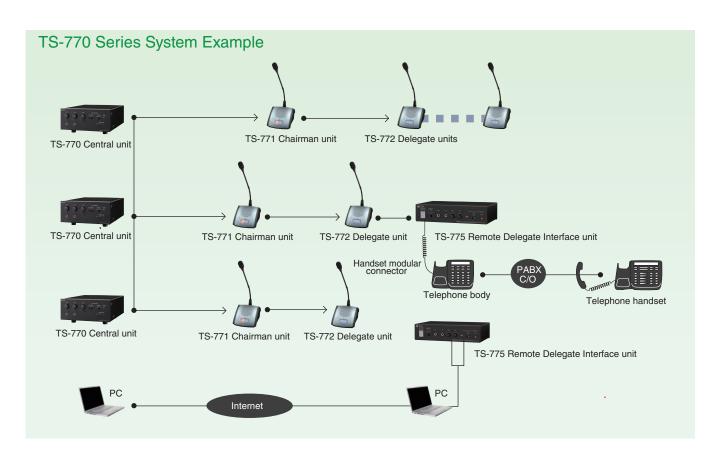
Wired Conference System TS-770 Series

- Maximum 70 Chairman and Delegate Units (up to 35 units* per line) are connectable to one Central Unit
  *If the TS-775 Remote Delegate Interface Unit is used, up to 35 TS-775 Remote Delegate Interface Units can be connected per line also
- Expandable to maximum 210 units by connecting 2 additional Central Units
- Equipped with an All-Mic-On function that simultaneously turns on all microphones for sound collecting and recording of all units
- Remote conferencing is possible, enabling people at a remote location to participate in the conference
- The Test Function feature enables easy checking of the connection status of all connected units
- Number of simultaneously usable delegate units can be selected
- Automatic Mic-Off function (TIME OUT)

TS-770 Series System Example

TS-770 Central unit
TS-771 Chairman unit
TS-772 Delegate units
TS-770 Central unit
TS-771 Chairman unit
TS-772 Delegate unit
TS-775 Remote Delegate Interface unit
Handset modular connector
Telephone body
PABX C/O
Telephone handset
TS-770 Central unit
TS-771 Chairman unit
TS-772 Delegate unit
TS-775 Remote Delegate Interface unit
PC
Internet
PC

≫ Central Unit
TS-770

- Supplies DC Power to all units, with lamp indicator
- Jack for microphone input, and AUX input
- Microphone, AUX, line (for conference unit's built-in speaker) and chime(on chairman's unit) volume controls
- Equalizer input
- Recording output

≫ Chairman Unit
TS-771
≫ Delegate Unit
TS-772

- To prevent feedback, the built-in speaker is turned off while the microphone is on
- Press-to-talk priority speech button activates chime and overrides delegate unit (TS-771 only)
- Headphone/recording output

≫ Remote Delegate Interface Unit
TS-775

- For connection of external delegates via telephone, IP telephone(up to 70 PCs per TS-770) and mobile phone
- Line input for other conference units
- Speech method selectable
  Auto: Voice-activated automatic switching
  Manual: Talk-key activated

≫ Microphone
TS-773
≫ Microphone
TS-774
≫ Extension Cord
YR-770-2M
≫ Extension Cord
YR-770-10M

Megaphones

- Anti-bacterial treatment for all models (mouth/microphone and handle)
- High durability ABS or ASA resin construction
- Wide frequency range for enhanced audio quality
- Polyimide speaker diaphragms
- Wireless Function (ER-2930W only)
- Long-lasting battery life
- Compact and lightweight
- Neodymium magnets for high audio performance
- Extended audible range

Splashproof Hand Grip Type Megaphones

ER-1203
- 4W max.
- IPX5*

ER-1206
- 10W max.
- IPX5*

ER-1206W
- 10W max.
- IPX5*
- with whistle

ER-1206S
- 10W max.
- IPX5*
- with siren

≫ Wall Mount Bracket
SP-1100
- Applicable models: ER-1203/ER-1206/ER-1206S/ER-1206W

*Protected against water jets by a nozzle against the enclosure from any direction.

Hand Grip Type Megaphones

ER-520
- 10W max.

ER-520W
- 10W max.
- with whistle

ER-520S
- 10W max.
- with siren

ER-1215
- 23W max.

ER-1215S
- 23W max.
- with siren

ER-3215
- 23W max.

Shoulder Type Megaphones

ER-2215
- 23W max.

ER-2215W
- 23W max.
- with whistle

ER-2230W
- 45W max.
- with whistle

ER-2930W
- 45W max.
- with whistle and wireless function

≫ UHF Wireless Tuner Unit
WTU-4800

Hands-Free Type Megaphones

≫ Compact Power Megaphone
ER-604W

- Compact and lightweight body
- Maximum output power of 10 W
- Supplied hand-held type microphone equipped with press-to-talk switch and volume control
- Built-in electronic whistle
- 2 mic inputs and 1 aux input
- Battery status indicator
- Approx. 10 hours of operation with 8 R6P manganese dioxide batteries (without use of whistle)

≫ Personal PA System
ER-1000

- Ideal for school teachers, sports instructors, tour guides, trade show personnel, and police officers, all of whom can benefit from the system's hands free convenience
- Ultra-light body of only about 480 g, yet with a maximum output of 10W and a maximum audible range of 80 meters
- Supplied headset microphone
- 80 cm long elastic waist belt extendable to up to 120 cm
- A 30 cm extension belt is included.
- Large rotating volume control and the independent power on/off switch for easy knob and switch operation even with a gloved hand
- AUX input terminal
- 8 hours operation with 6 alkaline AA batteries

Intercom

IP Network Intercom

The N-8000 Series IP Network Intercom Series offers flexible communications for up to 3,072 stations on existing corporate local and wide area data networks. It is a network-compatible intercom system using packet audio technology. Built on TOA's proven NX-100 network audio technology, the IP Intercom products occupy minimal network bandwidth (130 kbps maximum) for station-to-station calls and can be controlled and monitored through software or web browser. Programmable system functions include 192 paging zones, time-based call forwarding and scan monitoring. Monitoring can be real-time over the internet as the system is not server based. System frequency response extends to 7 kHz, allowing even PA-delivered announcements to be extremely clear and easily intelligible. Communications can be selected by the user as needed -- the "Master-to-Master" system optimized for full duplex conversation at such venues as factories and hospitals, or the "Master-to-Sub" (half duplex) system which is particularly suited for schools, prisons, and similar locations.

N-8000 Series IP Base Station

⋙ IP Multifunctional Master Station

N-8600MS

- System Allows Full-duplex conversation in Hands-free mode with new stations
- External mic and headset connections for hands free operation
- LCD, speed-dial, Power-over-Ethernet

⋙ IP Standard Master Station

N-8510MS
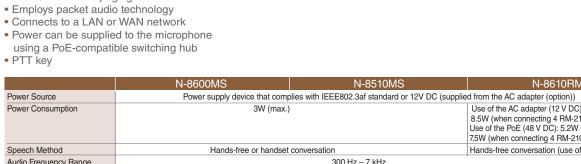
- Full Duplex communication with use of handset
- Connects directly to network (10/100Base TX)
- Occupies one network node (192 max)
- Two RJ-45 network connectors (one for network, one for PC)
- Contact input terminal
- Optional wall-mount bracket, model YC-280

⋙ IP Remote Microphone Station

N-8610RM

- Allows multi-zone paging
- Employs packet audio technology
- Connects to a LAN or WAN network
- Power can be supplied to the microphone using a PoE-compatible switching hub
- PTT key

	N-8600MS	N-8510MS	N-8610RM
Power Source	Power supply device that complies with IEEE802.3af standard or 12V DC (supplied from the AC adapter (option))		
Power Consumption	3W (max.)		Use of the AC adapter (12 V DC): 4W (microphone only), 8.5W (when connecting 4 RM-210 Extension units) Use of the PoE (48 V DC): 5.2W (microphone only), 7.5W (when connecting 4 RM-210 Extension units)
Speech Method	Hands-free or handset conversation		Hands-free conversation (use of goose-neck microphone)
Audio Frequency Range	300 Hz – 7 kHz		
External Speaker Terminal	Maximum output 0.5W, 8Ω, screwless connector (2P)	—	—
		—	—
External Control Input Terminal	—	No-voltage contact input, open voltage: 5V DC short-circuit current: 5mA or less, screwless connector (2 pins)	—
No. of Connectable Expansion	—	—	Max.4 units (maximum 2 units at PoE power supply)
Network Section			
Network I/F	10BASE-T/100BASE-TX (Automatic-Negotiation)		
Network Protocol	TCP/IP, UDP, ARP, ICMP, HTTP, RTP, IGMP		
Audio Packet Transmission System	Unicast, Multicast		
Voice Packet Loss Recovery	Silence insertion		
Audio Delay Time	80ms, 320ms (controllable on the software)		
Finish	Body, Handset: ABS resin, gray		ABS resin, blueishgray
Dimensions	148 (W) x 208 (H) x 70.5 (D)mm (excluding a curl cord section) 5.8 (W) x 8.2 (H) x 2.8 (D)in (excluding a curl cord section)		190 (W) x 76.5 (H) x 215 (D)mm (excluding microphone) 7.5 (W) x 3 (H) x 8.5 (D)in (excluding microphone)
Weight	770g (1.7lbs)	740 g (1.6 lbs)	700 g (1.5 lbs)
Option	Wall mounting bracket: YC-280, AC adapter: AD-1210P, AD-1215P		Remote microphone extension: RM-210 Wall mounting bracket: WB-RM200, AC adapter, AD-1210P, AD-1215P

*0dB = 1V

N-8000 Series IP Base Station

⋙ IP Door Station

N-8640DS

- Outdoor IP door station
- IP65 rated, for dust and water protection, chemical resistant for use in industrial/harsh environments.
- Equipped with 1 channel of control input, 5 channels of control outputs (including 1 channel of relay control output).
- External speaker connection 0.5W @ 8 Ohms.
- Full-duplex conversation with Master Stations via AEC (Automatic Echo Canceller)

⋙ IP Door Station Board Unit

N-8640SB

- Board unit for custom application
- Equipped with 1 channel of control input, 5 channels of control outputs (including 1 channel of relay control output).
- External speaker connection 0.5W @ 8 Ohms.
- Full-duplex conversation with Master Stations via AEC (Automatic Echo Canceller)

⋙ IP Indoor Station

N-8650DS
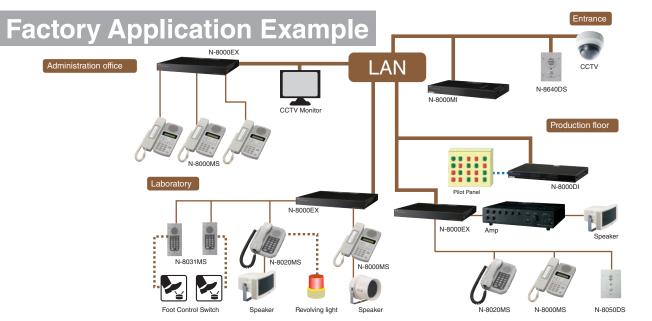
- Indoor IP door station
- Equipped with 1 channel of control input, 5 channels of control outputs (including 1 channel of relay control output).
- External speaker connection 0.5W @ 8 Ohms.
- Full-duplex conversation with Master Stations via AEC (Automatic Echo Canceller)

	N-8640DS	N-8650DS	N-8640SB
Power Source	Power supply device that complies with IEEE802.3af standard or 12V DC (supplied from the AC adapter (option))		
Power Consumption	5W (max.)		
Speech Method	Hands-free conversation		
Audio Frequency Range	300 Hz – 7 kHz		
Contact Input	1 channel, no-voltage make contact input, open circuit voltage: 5V DC, short circuit current: 10mA or less, unterminated ends		
Contact Output	Open collector output, 4 channels, withstand voltage: 30V DC, control current; Max. 50mA (4 output 1COMMON), unterminated ends Relay contact output, 1 channel, withstand voltage; 30V DC. control current: Max. 500mA, unterminated ends		
External Speaker Terminal	0.5W, 8Ω		
Network Section			
Network I/F	10BASE-T/100BASE-TX (Automatic-Negotiation)		
Network Protocol	TCP/IP, UDP, ARP, ICMP, HTTP, RTP, IGMP		
Audio Packet Transmission System	Unicast, Multicast		
Voice Packet Loss Recovery	Silence insertion		
Audio Delay Time	80ms, 320ms (controllable on the software)		
Dust/Water Protection	IP65 (Note that panel edges must be sealed at installation.)	—	—
Finish	Panel: Stainless steel, hairline/ Call button: Metal	ABS resin, dark gray	—
Dimensions	115 (W) x 162 (H) x 58.5 (D)mm 4.5 (H) x 6.4 (H) x 2.3 (D)in	117.2 (W) x 162 (H) x 60 (D)mm 4.6 (W) x 6.4 (H) x 2.3 (D)in	79 (W) x 134 (H) x 53 (D)mm 3.1 (W) x 5.3 (H) x 2.1 (D)in
Weight	780g (1.7lbs)	400g (0.8lbs)	350g (0.8lbs)
Option	For flush-mount: 3-gang electrical box or Back Box YC-150, Wall surface-mount: Wall mount Box YS-13A, AC adapter: AD-1210P, AD-1215P		AC adapter: AD-1210P, AD-1215P

*0dB = 1V

Factory Application Example

N-8000 Series 2-Wire Type Station

⋙ Multifunctional Master Station
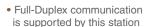
N-8000MS

- Full-Duplex communication is supported by this station
- Two-wire connection to N-8000EX or N-8010EX Exchange
- Handset or hands-free duplex communication

⋙ Standard Master Station

N-8010MS

- Full-Duplex communication is supported by this station
- Two-wire connection to N-8000EX or N-8010EX Exchange
- Handset or hands-free duplex communication

⋙ Industrial-Use Master Station

N-8020MS

- Full-Duplex communication is supported by this station
- Heavy duty dustproof and waterproof construction (IP54 rating)
- External speaker terminal (0.6 W / 8 ohms)

⋙ Standard Hands-Free Master Station
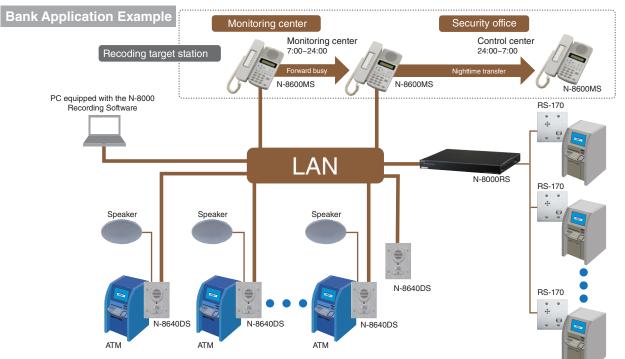
N-8011MS

- Full-Duplex communication is supported by this station (handset mode only)
- Two-wire connection to N-8000EX or N-8010EX Exchange
- Hands-free duplex communication

	N-8000MS	N-8010MS	N-8011MS	N-8020MS
Power Source	48V DC (supplied from the IP network intercom exchange)			
Power Consumption	2.4W (max.)			
Wiring Method	1 set of twisted pair cable			
Speech Method	Hands-free or handset conversation		Hands-free conversation	Hands-free or handset conversation
Audio Frequency Range	300 – 7,000Hz			
Transmission Range	Max. 1500m (0.65mm. Loop resistance 170Ω)			
Dial-in Contact Output	—	—	—	Open collector output (The contacts have polarity.)/ Withstand voltage: Max. 30V DC, Control current: Max. 50mA, screwless connector (2P)
External Speaker Terminal	0.6W, 8Ω, screwless connector (2P)	—	—	0.6W, 8Ω, screwless connector (2P)
Dust/Water Protection	—	—	—	IP54
Resistance to Environment	—	—	—	—
Finish	Body, Handset: ABS resin, gray		Body: ABS resin, gray	Body, Handset: ABS resin, gray
Dimensions	148 (W) x 208 (H) x 70.5 (D)mm(excluding a curl cord section) 5.2 (W) x 8.2 (H) x 2.8 (D)in (excluding a curl cord section)		92 (W) x 195 (H) x 56.1 (D)mm 3.6 (W) x 7.7 (H) x 2.2 (D)in	170 (W) x 220 (H) x 97.8 (D)mm (excluding a curl cord section) 6.7 (W) x 8.7 (H) x 3.9 (D)in (excluding a curl cord section)
Weight	800g (1.8lbs)	700g (1.5lbs)	400g (0.9lbs)	1kg (2.2lbs)
Options	Wall mounting bracket: YC-280		Wall mounting bracket: YC:290	Wall mounting bracket: YC-280

*0dB = 1V

Bank Application Example

Monitoring center
Monitoring center 7:00~24:00

Security office
Control center 24:00~7:00

Recoding target station

PC equipped with the N-8000 Recording Software

Forward busy

Nighttime transfer

N-8600MS

N-8600MS

N-8600MS

RS-170

LAN

N-8000RS

RS-170

RS-170

Speaker

Speaker

Speaker

N-8640DS

N-8640DS

N-8640DS

N-8640DS

ATM

ATM

ATM

N-8000 Series 2-Wire Type Station

⋙ Flush-Mount Master Station

N-8033MS

- IP-65 rated outdoor in-wall Master Station
- Chemical resistant for use in industrial/harsh environments
- One input for use with foot switch dialing
- Four contact outputs

⋙ Flush-Mount Hands-Free Master Station

N-8031MS

- Full-Duplex communication is supported by this station (handset mode only)
- Two-wire connection to N-8000EX or N-8010EX Exchange
- Hands-free duplex communication
- External dial inputs (7, 8, 9 and C keys)
- Optional Handset, model RS-191

⋙ Hands-Free Master Station Board Unit

N-8031SB

- Full-Duplex communication is supported by this station
- N-8031 PCB for custom station applications
- Speaker and microphone included
- External dial inputs (7, 8, 9 and C keys) plus switch matrix connection
- LED Status Indicator output

⋙ Door Station

N-8050DS

- Half-Duplex communication is supported by this station
- Hands-free duplex communication
- Separate mic and speaker
- Control output (open collector)
- IP-54 rated

⋙ Hands-Free Substation Board Unit

N-8050SB

- Full-Duplex communication is supported by this station
- N-8050DS PCB for custom station applications
- Speaker and microphone included
- Control output (open collector)
- Call switch input
- LED Status Indicator output

	N-8033MS	N-8031MS	N-8031SB	N-8050DS	N-8050SB
Power Source	48V DC (supplied from the IP network intercom exchange)				
Power Consumption	2.4W (max.)				
Wiring Method	1 set of twisted pair cable				
Speech Method	Hands-free or handset conversation				
Audio Frequency Range	300 – 7,000Hz				
Transmission Range	Max. 1500m (0.65mm. Loop resistance 170Ω)				
Contact Output	—			Open collector output, withstand voltage: Max. 30V DC, control current: Max. 50mA, one shot: can be set from 1 to 9 sec, screw terminal (polarized)	
External Dial Input	No-voltage make contact input, open voltage: 5V DC, short-circuit current: 1mA, screwless connector (5 pins)			—	
Housing Protection	—	—	—	BS EN62262: 2002: IK02 equivalent	—
Dust/Water Protection	IP65 (Note that panel edges must be sealed at installation.)	—	—	IP54 (Note that panel edges must be sealed at installation.)	—
Resistance to Environment	Chemical Resistant	—	—	—	—
Finish	Membrane switch (Front pasting): Polyester film	Panel: Stainless steel (SUS304), hairline	—	Panel: Stainless steel, hairline/ Call button: Metal	—
Dimensions	115 (W) x 254 (H) x 54.6 (D)mm 4.5 (W) x 10 (H) x 2.1 (D)in	70 (W) x 185 (H) x 20.6 (D)mm 2.6 (W) x 7.3 (H) x 0.8 (D)in	115 (W) x 162 (H) x 54 (D)mm 4.5 (W) x 6.4 (H) x 2.1 (D)in		67 (W) x 128.3 (H) x 26 (D)mm 2.6 (W) x 5 (H) x 1 (D)in
Weight	850g (1.9lbs)	205g (including accessories) (0.6lbs)	680g (1.5lbs)		100g (including accessories) (0.2lbs)
Options	Back Box YC-841	Flush-mount: Back Box, YC-241 Wall surface-mount: Wall mount Box YC-251 Handset: RS-191	Handset: RS-191	Flush-mount: 3-gang electrical box or Back Box YC-150 Wall surface-mount: Wall mount Box YS-13A	—

*0dB = 1V

N-8000 Series Exchanges and Interface Units

≫ IP Network Intercom Exchange

N-8000EX

- 10/100BaseTX Ethernet network connection
- Occupies one network node (192 max.)
- Sixteen (16) station capacity
- Speech links: 4 internal / 8 external
- Two (2) audio paging outputs (0 dBV)
- Two (2) relay outputs

≫ IP Network Intercom Exchange

N-8010EX

- Stations connect to exchange via two-wire twisted pair
- Provides 48 VDC to each station
- Speech links: 1 internal / 2 external
- 10/100BaseTX Ethernet network connection
- Occupies one network node (192 max.)
- Includes rack-mount and wall-mount brackets

	N-8000EX	N-8010EX
Power Source	120V AC, 50/60Hz	
Power Consumption	50W (at rated), 75W (max.)	
Interface Section or Station		
Speech Link	Internal: 4/External: 8	Internal: 1/External: 2
Line Capacity	Up to 16 stations	
Wiring Method	1 set of twisted pair cables	
Transmission Range	Max. 1500m (0.65mm. Loop resistance 170Ω)	
Paging Output	Audio: 2 channels Max. 0dB*, 600Ω, balanced, detachable terminal block Control: 2 channels, no-voltage make contact output (24V DC/0.5A), removable terminal block	Station paging only
Network Section		
Network I/F	10BASE-T/100BASE-TX (Automatic-Negotiation)	
Network Protocol	TCP/IP, UDP, ARP, ICMP, HTTP, RTP, IGMP	
Audio Packet Transmission System	Unicast, Multicast	
Audio Packet Omission	Silence insertion	
Audio Delay Time	80ms, 320ms (Controllable on the software)	
Finish	Pre-coated steel plate, black, 30% gloss	
Dimensions	420 (W) x 44.3 (H) x 356 (D)mm / 16.5 (W) x 1.7 (H) x 14 (D)in	
Weight	4.1kg (9lbs)	4.2kg (9.3lbs)

*0dB = 1V

≫ Telephone Interface Unit

N-8000AL

- 10/100BaseTX Ethernet network connection
- Occupies one network node (192 max.)
- Single telephone line allowing an analog telephone to be connected.
- Allows any analog telephone to function as a master station.

≫ C/O Interface Unit

N-8000CO

- 10/100BaseTX Ethernet network connection
- Occupies one network node (191 max - at least one node must be a master station or N-8000/8010EX exchange)
- Analog central office line circuit allowing the stations to make and receive calls to and from the telephone line.

	N-8000AL	N-8000CO
Power Source	120V AC, 50/60Hz	
Power Consumption	8W (Max.)	7W (Max.)
Line: Public Switched telephone networks		
Number of Lines	1 line	
Selective Signal Type	DTMF Signal	
Signal System	—	Compatible with loop start signaling
Monitor Function	Line Loop detection	—
Control Function	Caller ID function	—
Wiring Method	1 pair of twisted pair cable	
Network Section		
Network I/F	10BASE-T/100BASE-TX (Automatic-Negotiation)	
Network Protocol	TCP/IP, UDP, ARP, ICMP, HTTP, RTP, IGMP	
Audio Packet Transmission System	Unicast, Multicast	
Finish	Pre-coated steel plate, black, 30% gloss	
Dimensions	210 (W) x 44.3 (H) x 267 (D)mm / 8.3 (W) x 1.7 (H) x 10.5 (D)in	
Weight	1.7kg (3.7lbs)	
Options	Rack mounting bracket: MB-15B-BK, MB-15B-J Wall mounting bracket: YC-850	

* 0dB = 1V

N-8000 Series Interface Units

≫ Multi Interface Unit

N-8000MI

- 10/100BaseTX Ethernet network connection
- Occupies one network node (192 max.)
- Contact Bridge
- Sixteen contact inputs
- Sixteen relay outputs
- Telephone Interface (E&M type), two channels

≫ Direct Select Unit

N-8000DI

- 10/100BaseTX Ethernet network connection
- Occupies one network node (192 max.)
- 32 contact inputs
- 32 contact outputs
- Events may be activated by contact closures or master station dialing commands.
- Provides control interface to CCTV, door access and other external systems.

≫ Audio Interface Unit

N-8000AF

- 10/100BaseTX Ethernet network connection
- Occupies one network node (192 max.)
- One MIC/LINE audio line input
- One audio line output
- Eight contact inputs
- Time Synchronization input
- Built-in timer and chime

≫ IP Interface Module
(to interface with the SX-2000 system)

SX-200IP

- 10BASE-T/100BASE-TX (Automatic-Negotiation)
- Voice sampling frequency of 16 kHz, 8 kHz (controllable on the software); 48 kHz, sample rate is used for SX-2000 system only
- Voice encoding method - Sub-band ADPCM, Cryptosystem
- Voice Packet Loss Recovery - Silence insertion
- Audio delay time of 80ms, 320ms (controllable on the software)

	N-8000MI	N-8000DI	N-8000AF
Power Source	120V AC, 50/60Hz		
Power Consumption	21W (330mA) (max.)	16W (Max.)	7W (Max.)
Audio Input	Input: 2 inputs (2P/input), Max. 0dB*, under 600Ω, balanced, with a semi-fixed volume for adjustment (0 to −25dB); Control: 2 inputs (2P/input), no-voltage make contact input, open voltage: 12V DC, short-circuit current: 10mA; Removable terminal block (8 pins)		1 input (transformer isolated), -58dB* to 0dB*, 2kΩ, balanced (MIC/LINE input, controllable on the software) with input volume control knob, removable terminal block (3 pins)
Audio Output	Output: 2 outputs (2P/output), Max. 0dB*, under 600Ω, balanced Control: 2 outputs (2P/output), relay contact output, contact capacity: 24V DC/0.5A Removable terminal block (8 pins)	—	1 output (transformer isolated), 0dB*, 600Ω, balanced, removable terminal block (3 pins)
Contact Input	16 inputs, no-voltage make contact input, open voltage; 12V DC, short-circuit current: 10mA, removable terminal block (18 pins) (1 common terminal for 4 inputs)	32 inputs, no-voltage make contact input, open voltage: 24V DC, short-circuit current: 5mA or less, removable terminal block (20 pins),	8 inputs, no-voltage make contact input, open voltage: 24V DC, short-circuit current: 5mA or less, removable terminal block (10 pins), (1 common terminal for 4 inputs)
Contact Output	16 outputs, relay contact output, contact capacity: 24V DC/0.5A, removable terminal block (18 pins)	32 outputs, relay contact output, contact capacity: 24V DC/2 – 500mA, removable terminal block (32 pins)	8 outputs, relay contact output, output capacity: 24V DC/2 – 500mA, removable terminal block (16 pins)
Network Section			
Network I/F	10BASE-T/100BASE-TX (Automatic-Negotiation)		
Network Protocol	TCP/IP, UDP, ARP, ICMP, HTTP, RTP, IGMP		
Audio Packet Transmission System	Unicast, Multicast		
Voice Packet Loss Recovery	Silence insertion	—	Silence insertion
Audio Delay Time	80ms, 320ms (Controllable on the software)	—	80ms, 320ms (Controllable on the software)
Finish	Pre-coated steel plate, black, 30% gloss		
Dimensions	420 (W) x 44.3 (H) x 239.5 (D)mm 16.5 (W) x 1.7 (H) x 9.4 (D)in	420 (W) x 44.3 (H) x 267 (D)mm 16.5 (W) x 1.7 (H) x 10.5 (D)in	210 (W) x 44.3 (H) x 267 (D)mm 8.3 (W) x 1.7 (H) x 10.5 (D)in
Weight	2.8kg / 6.2lbs	2.8kg / 6.2lbs	1.7kg / 3.7lbs
Options	—	Wall mounting bracket: YC-850	Rack mounting bracket: MB-15B-BK, MB-15B-J Wall mounting bracket: YC-850

*0dB = 1V

N-8000 Series 2-Core Shielded Cable Type

⋙ Sub-station Interface Unit

N-8000RS

- 10/100BaseTX Ethernet network connection
- Occupies one network node (191 max - at least one node must be a master station or N-8000/8010EX exchange)
- Up to 16 substations connectable using twisted pair shielded cable
- Speech links: 2

⋙ Sub-station Interface Unit

N-8010RS

- 10/100BaseTX Ethernet network connection
- Occupies one network node (191 max - at least one node must be a master station or N-8000/8010EX exchange)
- Up to 16 substations connectable using twisted pair shielded cable
- Speech links: 1

⋙ Sub-station (Emergency Use)

RS-180

- Heavy-duty brushed stainless steel faceplate, #11 Gauge.
- Vandal resistant call button and speaker plate.
- Red Call Assurance LED for ADA-compliance.
- Weather resistant conformal printed circuit board coating.

⋙ Sub-station (Outdoor Vandal-Resistant Type)

RS-170

- Provides half-duplex communication.
- Heavy-duty brushed stainless steel faceplate, #11 Gauge.
- Vandal resistant call button and speaker plate.
- May be programmed to communicate with a single master station.
- Weather resistant conformal printed circuit board coating.

⋙ Sub-station (Indoor Vandal-Resistant Type)
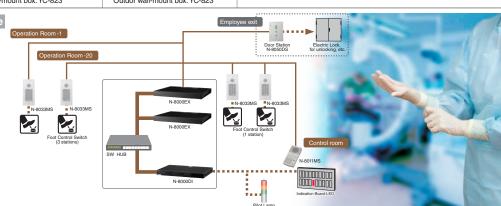
RS-160

- Provides half-duplex communication.
- Heavy-duty brushed stainless steel faceplate, #11 Gauge.
- Vandal resistant call button and speaker plate.
- May be programmed to communicate with a single master station.

⋙ Sub-station (Indoor Type)

RS-150

- Provides half-duplex communication.
- Hairline brushed stainless steel faceplate, #14 Gauge.
- Connects to N-8000RS/N-8010RS.
- May be programmed to communicate with a single master station.

⋙ Substation (ADA-Compliant Emergency Outdoor type)

Q-RS-180BZ

- ADA compliant with Braille labeling
- Large easy-access mushroom button
- Contact output for use with emergency lighting or access control systems.
- Works with N-8000RS & N-8010RS exchanges using shielded twisted pair connection.

Model	RS-180	RS-170	RS-160	RS-150
Control Output	Open collector output: 24V DC, 30mA (The open collector output is kept turned on till the conversation is finished after the call button was pressed.)	—	—	—
Finish	Panel: Stainless steel (SUS304), hairline Call Button: Metal, red Printed Circuit Board: Weather-resistant coating	Panel: Stainless steel (SUS304), hairline Call Button: Metal Call Button: Resin, black		Panel: Stainless steel (SUS304), hairline
Dimensions	4.72" (W) x 4.72" (H) x 2.30" (D) 119.9 (W) x 119.9 (H) x 58.4 (D)	4.72" (W) x 4.72" (H) x 2.26" (D) 119.9 (W) x (119.9 (H) x 57.4 (D)		4.72" (W) x 4.72" (H) x 1.91" (D) 119.9 (W) x 119.9 (H) x 48.5 (D)
Weight	1.26 lb (0.6kg)	1.19 lb (0.5kg)		0.90 lb
Options	2-gang electrical box: YC-302, Indoor wall-mount box: YC-822, Outdoor wall-mount box: YC-823	2-gang electrical box: YC-302, Indoor wall-mount box: YC-822, Outdoor wall-mount box: YC-823	2-gang electrical box: YC-302, Indoor wall-mount box: YC-822	

Hospital Application Example

Operation Room -1 · Operation Room -20 · Employee exit · Door Station N-8050DS · Electric Lock, for unlocking, etc. · N-8033MS · N-8000EX · N-8000EX · Foot Control Switch (3 stations) · SW HUB · N-8000DI · N-8033MS · Foot Control Switch (1 station) · Control room · N-8011MS · Indication Board LED · Pilot Lamp

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N-8000 Series 2-Core Shielded Cable Type

⋙ IP Intercom Switch Panel

RS-144

- May be programmed for dual-priority call or call into two different masterstations.
- Connects to N-8000RS & N-8010RS exchanges via shielded twisted pair wire and 25V speaker for half-duplex communication with assigned master station.
- Optional RS-141 handset may also be used.

⋙ IP Intercom Switch Panel

RS-143
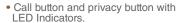
- Connects to N-8000RS & N-8010RS exchanges via shielded twisted pair wire and 25V speaker for half-duplex communication with assigned master station.
- Optional RS-141 handset may also be used.

⋙ Switch Panel

RS-140

- Call button and privacy button with LED Indicators.
- Supports two-way (half-duplex) communication.
- Prevents incoming calls, pages & scans by pushing the privacy switch.
- Private, handset conversation is available using the RS-141.
- Connects to N-8000RS/8010RS using twisted two-core, shielded cable.

⋙ IP Intercom Switch Board

RS-142

- Allows configuration with custom housing and switch.
- May be programmed for dual-priority call or call into two different master stations.
- Connects to N-8000RS & N-8010RS exchanges via shielded twisted pair wire and 25V speaker for half-duplex communication with assigned master station.
- Optional RS-141 handset may also be used

⋙ Option Handset

RS-141
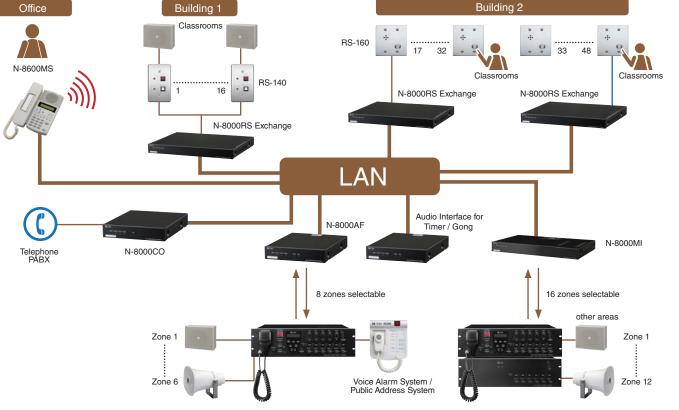
Model	RS-144	RS-143	RS-140
Call-in Switch	Momentary (EMERGENCY, NORMAL)	Momentary	
Privacy Switch	—	Latching	
Wiring	Two-core shielded cable		
Finish	Panel: Stainless steel, hairline Call-in Switch: Resin, red Privacy Switch (normal): Resin, white	Panel: Stainless steel, hairline Call-in Switch: Resin, red	Panel: Stainless steel, hairline Call-in Switch: Resin, red Privacy Switch (normal): Resin, white
Dimensions	2.76" (W) × 4.53" (H) × 1.13" (D) [70.1 (W) x 115.1 (H) x 28.7 (D)]		
Weight	0.18 lb (81.7g)		
Options	Handset: RS-141		

School Application Example

Office · Building 1 · Building 2 · Classrooms · RS-160 · 17 · 32 · 33 · 48 · Classrooms · Classrooms · N-8600MS · RS-140 · 1 · 16 · N-8000RS Exchange · N-8000RS Exchange · N-8000RS Exchange · LAN · Telephone PABX · N-8000CO · N-8000AF · Audio Interface for Timer / Gong · N-8000MI · 8 zones selectable · 16 zones selectable · other areas · Zone 1 · Zone 6 · Voice Alarm System / Public Address System · Zone 1 · Zone 12

Microphones
Wireless Systems
Rack Mount Equipment, Network Audio and Others
Mixers
Amplifiers
Speakers
Conference System
Megaphones
Intercom
Security & Safety
Technical Column

N-8000 Series 4-Wire Type

≫ Sub-station Interface Unit

N-8400RS

- 10/100BaseTX Ethernet network connection
- Occupies one network node (191 max - at least one node must be a master station or N-8000/8010EX exchange)
- Up to 16 substations connectable using 2 sets of twisted pair cables
- Speech links: 1

≫ Analog Standard Master Station

N-8410MS

- Low-cost analog Master Station operates on 4-wire connection with N-8400RS.
- Complete system can be configured on one exchange with RS-4xx substations.

≫ Sub-station (Video Intercom)

RS-480VSET

- Color video camera
- Indoor and outdoor use
- Easy connection via CAT5
- Supplied power interface

≫ Option Handset

RS-481

- Two-way, half-duplex communication using any 25V wall/ceiling speaker
- Prevents incoming calls by pushing a privacy switch

≫ Sub-station (Emergency Use)

RS-480

- Provides half-duplex communication.
- Dustproof and waterproof construction (IP54 rating).
- Heavy-duty brushed stainless steel faceplate.
- Red vandal resistant call button.
- Control output - open collector type for external relay control.
- Weather resistant conformal printed circuit board coating.
- Built-in electret condenser microphone.

≫ Sub-station (Outdoor Vandal-Resistant Type)

RS-470

- Provides half-duplex communication.
- Dustproof and waterproof construction (IP54 rating).
- Heavy-duty brushed stainless steel faceplate.
- Vandal resistant call button.
- Weather resistant conformal printed circuit board coating.
- Built-in electret condenser microphone.
- Connects to N-8400RS using two twisted pair cable.

≫ Sub-station (Indoor Vandal-Resistant Type)

RS-460

- Provides half-duplex communication.
- Heavy-duty brushed stainless steel faceplate.
- Vandal resistant call button and speaker plate.
- Built-in electret condenser microphone.
- Connects to N-8400RS using two twisted pair cable.

≫ Sub-station (Indoor Type)

RS-450

- Provides half-duplex communication.
- Hairline brushed stainless steel faceplate.
- Built-in electret condenser microphone.
- Connects to N-8400RS using two twisted pair cable.

≫ IP Intercom Switch Board

RS-442

- Switch board designed for use with the N-8400RS 4-Wire Substation Interface Unit
- Switch panels can be created to meet intended purposes by combining the RS-142 with the separately prepared operation panel having 3 switches to be used as call buttons
- Also can be used in connection with the RS-481 Ip Intercom Optional Handset

Model	RS-480	RS-470	RS-460	RS-450
Call-in Switch	Momentary (Emergency call: Press twice within 400 ms)			
Control Output	Open collector output: 30V DC, 30mA	—		
Wiring	Twisted pair cables (2-pair)			
Dust/Water Protection	IP54		—	
Finish	Panel: Stainless steel, hairline Call Switch: Metal, red Circuit board: Weather-resistant coating	Panel: Stainless steel, hairline Call Switch: Metal, silver	Panel: Stainless steel, hairline Call Switch: Resin, black	
Dimensions	4.72" (W) × 4.72" (H) × 1.99" (D) 119.9 (W) × 119.9 (H) × 50.6 (D)	4.72" (W) × 4.72" (H) × 1.95" (D) 119.9 (W) × 119.9 (H) × 49.5 (D)	4.72" (W) × 4.72" (H) × 1.63" (D) 119.9 (W) × 119.9 (H) × 41.4 (D)	
Weight	1.27 lb (0.6kg)	1.21 lb (0.5kg)	1.19 lb (0.5kg)	1.12 lb (0.5kg)
Options	2-gang electrical box: YC-302, Handset: RS-481 Indoor wall-mount box: YC-822, Outdor wall-mount box: YC-823	2-gang electrical box: YC-302, Indoor wall-mount box: YC-822, Outdor wall-mount box: YC-823	2-gang electrical box: YC-302, Indoor wall-mount box: YC-822	

N-8000 Series System Example

Large-scale communication & Paging system at an Airport
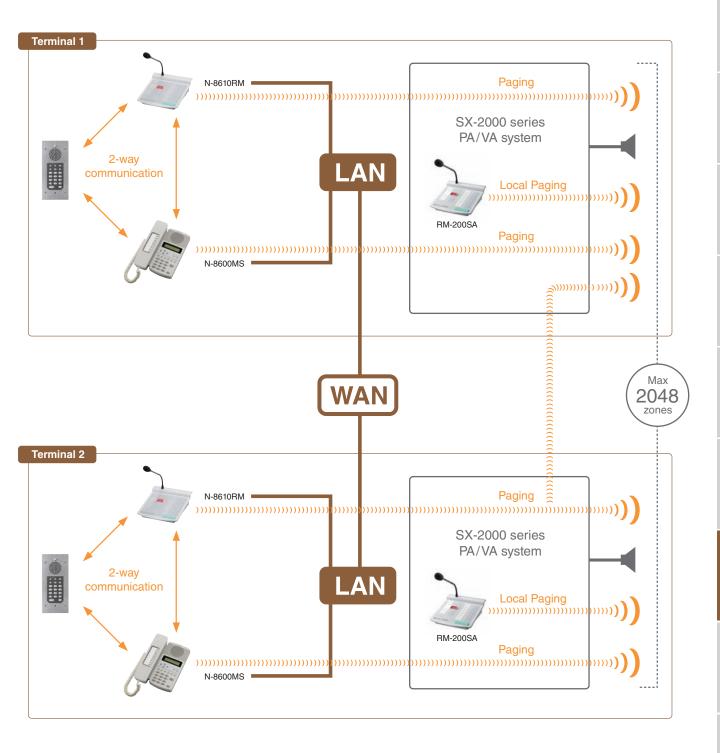
Integration of N-8000 with SX-2000 Audio Management System strengthens system capabilities.
A large system with up to 2048 zones is realized on the IP Network.
From a remote location, IP Station* can make a paging call to any selected zone(s).

*N-8610RM and N-8600MS.

Terminal 1

N-8610RM
Paging

2-way communication

SX-2000 series
PA/VA system

LAN

Local Paging

RM-200SA

N-8600MS
Paging

WAN

Max
2048
zones

Terminal 2

N-8610RM
Paging

2-way communication

SX-2000 series
PA/VA system

LAN

Local Paging

RM-200SA

N-8600MS
Paging

N-8000 Series

N-8000 Series Optional Accessories

⋙ Wall-Mount Bracket

YC-850

- Designed to mount N-8000RS, N-8010RS, N-8400RS, N-8000DI, N-8000AF, N-8000AL and N-8000CO on a wall.

⋙ Wall-Mount Bracket

YC-280

- Designed to mount N-8000MS, N-8010MS, N-8020MS, N-8410MS, N-8510MS and N-8600MS on a wall.

⋙ Wall-Mount Bracket

YC-290

- Designed to mount N-8011MS on a wall.

⋙ Surface-Mount Back Box

YC-251

- Designed to mount N-8031MS on a wall.

⋙ Flush-Mount Back Box

YC-241

- Designed to surface-mount N-8031MS on a wall.

⋙ Flush-Mount Back Box

YC-150

- Designed to flush-mount N-8050DS and N-8640DS on a wall.

⋙ Back Box

YC-841

- Designed to flush-mount N-8033MS on a wall.

⋙ Surface-Mount Back Box

YS-13A

- Designed to surface-mount N-8050DS and N-8640DS on a wall.

⋙ Indoor Wall-Mount Box

YC-822

- Designed to mount RS-150, RS-160, RS-170, RS-180, RS-450, RS-460, RS-470 and RS-480 on a wall.

⋙ 2-Gang Electrical Box

YC-302

- Designed to mount RS-150, RS-160, RS-170, RS-180, RS-450, RS-460, RS-470 and RS-480 on a wall.

⋙ Outdoor Wall-Mount Box

YC-823

- Designed to mount RS-170, RS-180, RS-470 and RS-480 on a wall.

⋙ AC Adapter

AD-1215P
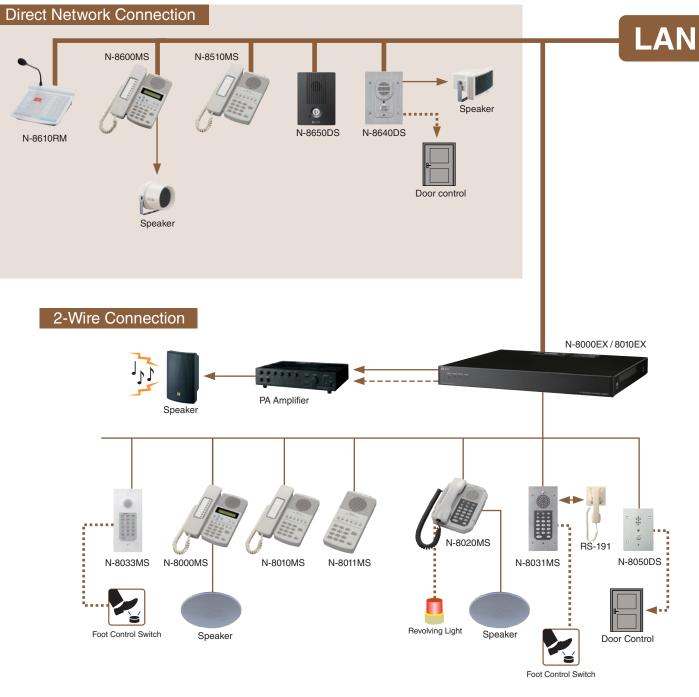
- The AD-1215P is an AC adapter to operate the IP Station on AC.

N-8000 Series Station Selection Chart

		Desk-top	Optional Bracket	Wall-mount		Applicable Exchanges/Interfaces
IP Base	**Master/ Door Stations**	N-8610RM	WB-200RM	N-8640SB		
		N-8600MS	YC-280	N-8640DS		
		N-8510MS	YC-280	N-8650DS		
2-Wire Type	**Master/Door Stations**	N-8000MS	YC-280	N-8050DS		
		N-8010MS	YC-280			N-8000EX
		N-8011MS	YC-290	N-8031MS	N-8033MS	
		N-8020MS	YC-280	N-8050SB	N-8031SB	N-8010EX
2-core Shielded Type	**RS Sub-stations**			RS-150	Vandal-resistant type	N-8000RS
				RS-140 RS-142	RS-160	Outdoor type
				RS-144 RS-143	RS-170	N-8010RS
					RS-180	
					Q-RS180BZ	
4-wire Type		N-8410MS	YC-280	RS-450	RS-460	RS-480
				RS-442		RS-470
						RS-480VSET
						N-8400RS

N-8000 Series System

Direct Network Connection

N-8600MS N-8510MS

N-8610RM

N-8650DS N-8640DS

Speaker

Speaker

Door control

2-Wire Connection

Speaker

PA Amplifier

N-8000EX / 8010EX

N-8033MS N-8000MS N-8010MS N-8011MS

N-8020MS

N-8031MS RS-191 N-8050DS

Foot Control Switch

Speaker

Revolving Light Speaker Door Control

Foot Control Switch

System Specifications

LAN Connections
Max. 192 units (total no. of Exchanges, Interface Units and IP stations)

Station Connections
Max. 3,072 stations (16 stations connected to each of 192 Exchanges)

Voice Links
Max. 768 links (4 links for each of 192 connected N-8000EX Exchanges)

Paging
Zones
Max. 192 zones

Paging Outputs
Max. 384 outputs (2 outputs for each of 192 connected N-8000 Exchanges or Multi-Interface units)

BGM
Max. 8 channels (number of channels selectable from a station)

PBX Interface
Max. 384 units (2 units for each of 192 connected Multi-Interface units)

Tie-Line Interface
Max. 384 units (2 units for each of 192 connected Multi-Interface units)

Outside-Line Interface
Max. 192 units

Telephone Interface
Max. 192 units (when 192 Telephone Interface units are connected)

External Contact Output
N-8000MI
Max. 3,072 (16 outputs for each of 192 connected Multi-Interface units)
N-8000DI
Max. 6,144 (32 outputs for each of 192 connected Direct Select units)
N-8000AF
Max. 1,536 (8 outputs for each of 192 connected Audio Interface units)

External Contact Input
N-8000MI
Max. 3,072 (16 inputs for each of 192 connected Multi-Interface units)
N-8000DI
Max. 6,144 (32 inputs for each of 192 connected Direct Select units)
N-8000AF
Max. 1,536 (8 inputs for each of 192 connected Audio Interface units)

[Network Relations]
Audio Delay Time
80 ms/320 ms; changeable

Connection Delay Time
Max. 1 second (when 191 multicast paging destinations are set)

Bandwidth Used
Max. 2.08 Mbps (one-way)/unicast paging to 16 locations

Max. 130 Kbps (two-way)/per call

N-8000 Series System

LAN WAN

4-Wire Connection

N-8400RS

N-8410MS

RS-450

RS-460

RS-470

RS-480

RS-481

Revolving Light

N-8000AF

Digital announcer

Amplifier

Recorder

N-8000DI

Contact Input Contact Output
Ex. Activate Alarm equipment.

Operation panel
(enables colorstation display & remote call from)

N-8000MI

Speaker

N-8000AL

Digital Announcer

Contact Input

Contact Output

Amplifier

Analog Telephone

Speaker

PBX

N-8000CO

EXES-7000/6000/2000

Telephone

2-Core Shielded Wire Connection

N-8000RS/8010RS

RS-150

RS-160

RS-170

RS-180

RS-141

RS-140 RS-143 RS-144

Speaker

Permits the creation of a wide variety of system configurations through the free combination of individual interface units
- PBX Connection • Office line connection
- Tie-line connection • BGM
- External equipment control
- Remote door control • Conversation recording
- External input broadcast • Paging
- Paging interlock contact output control
- Call station indicator • CCTV interlock
- Remote dialing • Direct select
- Contact bridge • System diagnosis
- Time signal • Time correction

A variety of convenient functions
- Voice calling
- Hands-free conversation
- Automatic connection
- Continuous call
- One-touch dialing
- Call hold
- Automatic call forwarding
- Busy call
- Emergency call interruption
- Paging call
- Emergency all-group paging
- Emergency message broadcasts
- Paging response
- Scan monitor
- Three-party conference
- Door remote
- Emergency paging
- Audio trigger

Security & Safety

Voice Evacuation Systems

Introducing a scalable new system for configuring versatile and highly effective PA applications. The SX-2000 Series is in compliance with the EN 54 Standard, and features new matrixing capabilities, so a single system can have its components distributed in different locations, yet under centralized control. Ideal for large-scale installations ranging over multiple buildings as well as local systems, the versatile SX-2000 Series is particularly well-suited for airports and railway stations, factories, shopping malls and large offices. Versatility is ensured by such features as a dual power source and redundant backups for fail-safe operation, making it a cost-effective solution for virtually any installation, and without long lead times or the expense of a custom system. A fireman's microphone feature is also included, for enhanced effectiveness in an emergency. SX-2000 Series components enable creation of an ideal system for all sorts of application requirements.

SX-2000 Series

⟫ System Manager

SX-2000SM

- Used in combination with an optional audio input unit audio output unit and remote microphone
- Performs audio signal routing and priority control for the entire system
- Equipped with 8 control inputs, 8 control outputs, failure status outputs, failure data inputs/switches, access indicators, mode indicators and failure indicators
- Memory storage for 32 message files

⟫ Audio Input Unit

SX-2100AI

- It features modular construction that allows it to handle from two to eight inputs per unit
- Audio signals are transmitted digitally to the audio output unit, but an analog audio output function (1 channel) enables simultaneous all-zone calls for use in emergency situations.

⟫ Audio Output Unit

SX-2100AO

- Two channels of local audio inputs with control inputs are provided as the dedicated audio inputs.
- Includes an amplifier switching function that automatically switches the power amplifier to the standby amplifier if the power amplifier fails, and a surveillance function that self-diagnoses the speaker lines.

⟫ Audio Output Unit

SX-2000AO

- One control IN/OUT interface allows the number of control inputs and outputs to be increased.
- It is equipped with an emergency audio input and a 24 V emergency cutoff input
- Has two power inputs and can support a dual-redundant power supply system.

⟫ Control Input Unit

SX-2000CI

- Equipped with 32 control input channels.
- Control input line failure can be detected by connecting resistors to its line.
- Has a function to supply a stabilized 24 V DC.

⟫ Control Output Unit

SX-2000CO

- Equipped with 32 control output channels.
- The indicators on the front panel monitor the control output line status.
- Control output status when the CPU turns off can be set.

⟫ Power Amplifier

VP-2064
VP-2122
VP-2241
VP-2421

- Requires VP-2000VX input module per channel
- DC power input
- Available in:
  - 4x60w@70v
  - 2x120w@70v
  - 1x240w@70v
  - 1x420w@70v

SX-2000 Series Modules

⟫ Remote Microphone Interface Module

SX-200RM

- Dedicated remote microphone module for the audio input unit
- Can be used to connect two remote microphones
- Input sensitivity can be adjusted using the knobs located near the RJ45 connector

⟫ Stereo Select Input Module

D-936R

- Four stereo connector pairs
- Unbalanced line level
- Individual input gain
- Programmable switching between connector pairs or summing mode
- Occupies two input channels
- RCA pin jack connectors

⟫ Mic/Line Input Modules (24 bits Monaural Type)

D-921F

- Two balanced mic or line level inputs
- 24-bit A/D converters
- Adjustable input gain
- Phantom power
- XLR-F connectors

⟫ Mic/Line Input Module (24 bits Monaural Type)

D-921E

- Two balanced mic or line level inputs
- 24-bit A/D converters
- Adjustable input gain
- Phantom power
- Phoenix-style terminal block

⟫ Mic/Line Input Module (20 bits Monaural Type)

D-922F

- Two balanced mic or line level inputs
- 20-bit A/D converters
- Adjustable input gain
- Phantom power
- XLR-F connectors

⟫ Mic/Line Input Module (20 bits Monaural Type)

D-922E

- Two balanced mic or line level inputs
- 20-bit A/D converters
- Adjustable input gain
- Phantom power
- Phoenix-style terminal block connectors

SX-2000 Series Microphones and Optional Accessories

⟫ Fireman's Microphone

RM-200SF

- Equipped with an Emergency key, permitting it to be used as a remote microphone for emergency broadcast.
- Zone selection and microphone announcement can be made at the time of emergency broadcast.
- Offers a surveillance function to detect failures including microphone element failure.

⟫ Terminal Unit

RM-200RJ

- Designed to convert the RJ45 connector into a screw terminal block
- Used to connect between a trunk cable and a feeder cable in wiring a remote microphone
- Built-in indicator shows the voltage status of DC power cable

⟫ Emergency Power Supply Unit

VX-2000DS

⟫ Remote Microphone

RM-200SA

- Equipped with 13 function switches
- Can be used to select individual zones or zone groups a covered switch and corresponding indicators
- An external microphone input terminal is provided to allow using a headset microphone, along with built-in internal compressor circuitry
- TALK button may be a PTT or lock-type
- Emergency activation button is equipped with a cover

⟫ Remote Microphone Extension Unit

RM-210

- Up to four remote microphones can be connected to a remote microphone

- Supplies DC power to equipment
- Supports 2x/2v battery units for backup supply
- Distribution for 6 DC units

SX-2000 Series Microphones and Optional Accessories

⟫ Meanwell RCP-1000-24 Power Supply and RCP-1U Frame

- Power supply module, RCP-1000-24, current range 40A.
- RCP-1UI mainframe supports up to 3 modules.

RCP-1000

RCP-1U

⟫ Power Amplifier Input Module

VP-200VX

- Designed to be used in conjunction with the VP-2241 power amplifier
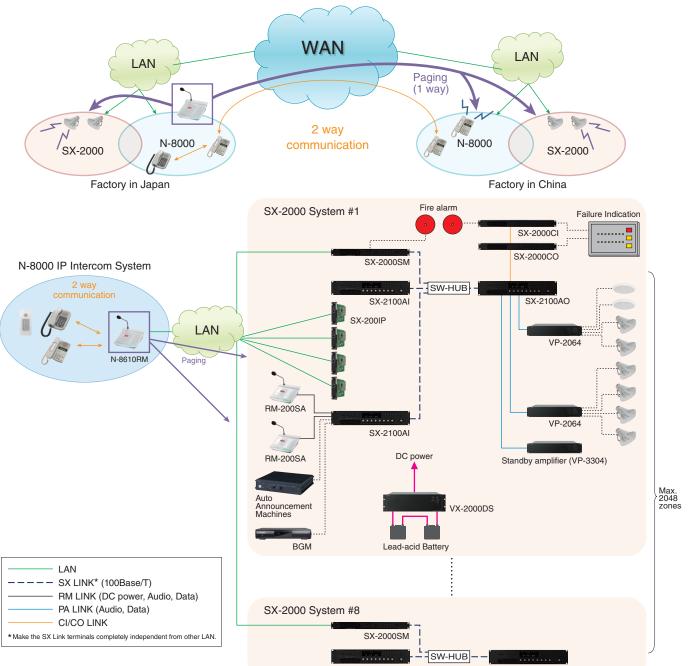
⟫ IP Interface Module
(to interface with the N-8000 System)
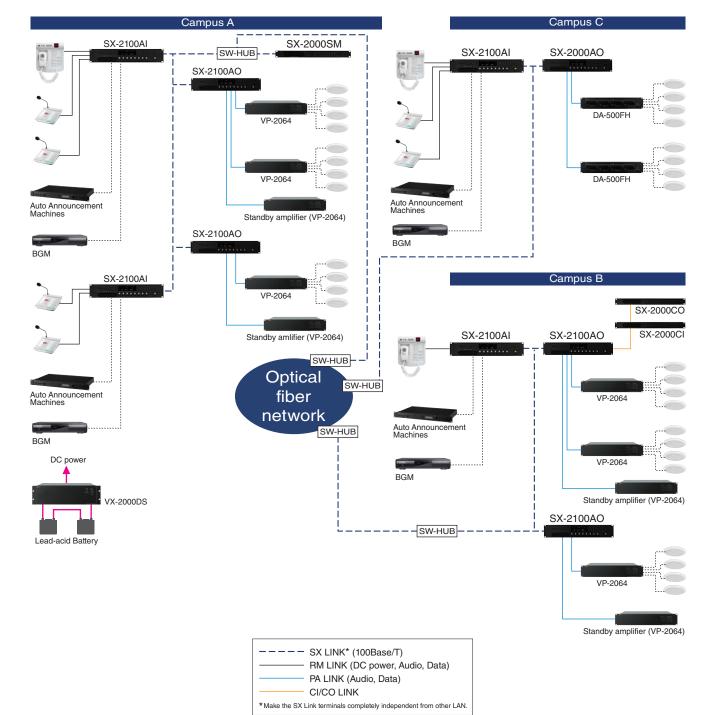
SX-200IP

- 10BASE-T/100BASE-TX (Automatic-Negotiation)
- Voice sampling frequency of 16 kHz, 8 kHz (controllable on the software); 48 kHz, sample rate is used for SX-2000 system only
- Voice encoding method - Sub-band ADPCM, Cryptosystem
- Voice Packet Loss Recovery - Silence insertion
- Audio delay time of 80ms, 320ms (controllable on the software)

SX-2000 + N-8000 System Example - Distributed Factory Application

LAN — WAN — LAN

Paging (1 way)

2 way communication

SX-2000 — N-8000 — N-8000 — SX-2000

Factory in Japan | Factory in China

N-8000 IP Intercom System

2 way communication

N-8610RM — LAN — Paging

SX-2000 System #1

Fire alarm

Failure Indication

SX-2000CI
SX-2000CO

SX-2000SM

SX-2100AI — SW-HUB

SX-200IP

SX-2100AO

VP-2064

RM-200SA

SX-2100AI

RM-200SA

DC power

VP-2064

Standby amplifier (VP-3304)

Auto Announcement Machines

VX-2000DS

Lead-acid Battery

BGM

Max. 2048 zones

SX-2000 System #8

SX-2000SM

SX-2100AI — SW-HUB — SX-2100AO

Legend:
- —— LAN
- - - - SX LINK* (100Base/T)
- —— RM LINK (DC power, Audio, Data)
- —— PA LINK (Audio, Data)
- —— CI/CO LINK

*Make the SX Link terminals completely independent from other LAN.

SX-2000 Distributed Control System Example (University)

Campus A

SX-2100AI — SW-HUB — SX-2000SM

SX-2100AO

VP-2064

VP-2064

Standby amplifier (VP-2064)

Auto Announcement Machines

BGM

SX-2100AO

VP-2064

Standby amlifier (VP-2064)

Auto Announcement Machines

BGM

SX-2100AI

Auto Announcement Machines

BGM

DC power

VX-2000DS

Lead-acid Battery

Campus C

SX-2100AI — SX-2000AO

DA-500FH

DA-500FH

Auto Announcement Machines

BGM

Campus B

SX-2100AI — SX-2100AO

SX-2000CO
SX-2000CI

VP-2064

VP-2064

Standby amplifier (VP-2064)

Auto Announcement Machines

BGM

SX-2100AO

VP-2064

Standby amplifier (VP-2064)

Optical fiber network

SW-HUB

Legend:
- - - - SX LINK* (100Base/T)
- —— RM LINK (DC power, Audio, Data)
- —— PA LINK (Audio, Data)
- —— CI/CO LINK

*Make the SX Link terminals completely independent from other LAN.

Voice Evacuation System

The VM-3000 Series (UL2572 Pending) is an Emergency Voice Paging System ideal for small and medium-sized applications. It incorporates such emergency functions as continuous speaker line monitoring and a built-in voice alarm. This easy-to-install system also offers PA broadcasting, paging and BGM functions that ensure consistently high intelligibility. The VM-3000 Series is digitally audio processed and controlled, and may be set up and operated directly by using the controls and LCD display on the front panel. A dedicated PC software configuration capability is also provided for establishing settings via LAN. The incorporation of wide-ranging functional capabilities, superb reliability and versatility make the VM-3000 a highly cost-effective emergency broadcast system.

VM-3000 Series

≫ Voice Alarm System Amplifier

VM-3240VA

- Multifunction amplifier that comes with audio inputs including a background music input, and a speaker output section which has an internal attenuator and a 6-output selector.
- Permits not only general-purpose broadcast, but also Emergency broadcast which gives pre-recorded instructions in an emergency situation
- Features a surveillance function which automatically checks the system for failures.

≫ VM Extension Amplifier

VM-3240E

- Emergency broadcasts can be made from am optional RM-300MF Fireman's Microphone as well as from the amplifier, and can be remotely controlled from external equipment
- Adds additional zones to the VA system

SYSTEM EXAMPLE

RM-200M Remote Microphone

RM-300MF Fireman's Microphone

Audio Source

AC mains

AC Adapter

VX-2000DS Emergency Power Supply

Battery 24V DC

PM-660U

VM-3240VA (240W) Voice Alarm System Amplifier

AC mains

VM-3240E (240W) VM Extension Amplifier

AC mains

VM-3240E (240W)

AC mains

VM-3240E (240W)

Zone 1
Zone 2
Zone 3
Zone 4
Zone 5
Zone 6

Zone 7-12

Zone 13-18

Zone 19-24

RM LINK
VM LINK
DS LINK
DC Power

VM-3000 Series Microphones and Optional Accessories

≫ Fireman's Microphone

RM-300MF

- Equipped with an emergency activation key, permitting pre-recorded evacuation and alert announcements to be activated, and microphone announcements to be made in emergency situations

≫ Fireman's Microphone Extension

RM-320F

- By connecting the RM-320F Fireman's Microphone Extension to the RM-300MF, the number of function keys can be expanded
- Zone selection or failure acknowledgement function can be assigned to such function keys.
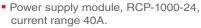
≫ Emergency Power Supply Unit

VX-2000DS

- Supplies DC power to equipment
- Supports 2 x 12 V sealed lead batteries fully charged
- DC distribution for up to 6 units

≫ Remote Microphone

RM-200M

- Up to four remote microphones can be connected but the maximum connection length for all cables is approximately 800 meters
- Emergency activation button is equipped with a cover in case of accidental selection
- An external microphone input terminal is provided to allow using a headset microphone, along with built-in internal compressor circuitry
- TALK button may be a PTT or lock-type

≫ Remote Microphone Extension Unit

RM-210

- Up to four can be connected to a remote microphone for up to 50 zone selection buttons
- Emergency activation button is equipped with a cover

≫ Meanwell RCP-1000-24 Power Supply and RCP-1U Frame

- Power supply module, RCP-1000-24, current range 40A.
- RCP-1UI mainframe supports up to 3 modules.

RCP-1000

RCP-1U

VM-3000 GUI Software

Reference

Optional Accessories - Mixers/Amplifiers

Product Series	Model	Series Picture	Optional Accessories
A-700 Series	A-706, A-712, A-724		MB-25B · IT-450 · YA-920 (included)
A-900 Series	A-903MK2, A-906MK2, A-912MK2, M-900MK2		MB-25B · YA-920 (included)
P-900 Series	P-906MK2, P-912MK2		MB-25B · YA-920 (included)
	P-924MK2		MB-35B · YA-920 (included)
In-Wall Amplifier	W-906A, W-912A		BX-9F · BX-9S · WE-2
BG-2000	BG-2035, BG-2060, BG-2120		MB-1000 · YA-920 (included)
BA-200 / BG-200 Series	BG-220, BG-235		MB-25B-BK · MB-25B-J · YA-920 (included)
	BA-235, BA-260		YA-920 (included)
DA Series	DA-250DH, DA-250FH, DA-500F-HL		MT-251H
Micro Amplifier	AV-20D AV-60S		MB-AV20RM · MB-AV20PM · MB-DM820
All Models	PF-511 Perforated Vent Panel	[All Models]	

Optional Accessories - Rack Mount Equipment, Network Audio and Others

Product Series	Model	Series Picture	Optional Accessories
Network Audio	NX-100, NX-100S		MB-15B-J · AD-246 · MB-15B-BK
Program Timer	TT-104B		MB-15B
Digital Message Repeater	EV-20R		MB-WT3 · MB-WT4 · AD-246
AM/FM Synthesized Tuner	DT-930 UL		MB-15B
Megaphone	ER-604W		WH-4000H
	ER-1203, ER-1206, ER-1206W, ER-1206S		SP-1100

Optional Accessories - Microphones and Conference Systems

Product Series	Model	Series Picture	Optional Accessories
UHF Wireless Microphone Systems	WT-5800		MB-WT3 · MB-WT4 · WD-4800
	WT-5805		
	WT-4820		YW-4500 · WTU-4800 (for WT-4820)
	WM-5325		Q-EM-77 · 7000112490 · 100012769A · WH-4000A · WH-4000H · WH-4000P · YPM-5300 · YPM-5310
	HEADSET MICS (WM-5325H, WM-5325A)		WH-4000S
	WD-4800 (for WT-4800, WT-5805, WT-4820, S5 Series)		MB-15B
Infrared Wireless Microphone System	IR-200M		YP-M101 · IR-200BT-2
	IR-300M		
	IR-310M		IR-310BC
	IR-700D		YW-1022Y for IR-700D · YW-1024Y for IR-700D
	IR-702T (MB-WT3, MB-WT4 only)		MB-WT3 · MB-WT4
Boundary Microphone	EM-800		ST-800
Conference Systems	TS-770		YR-770-2M / YR-770-10M
Infrared Conference Systems	TS-800 UL / TS-910 UL	TS-800/910 · TS-811	MB-TS900 · AD-0901UL · BP-900UL
	TS-801; TS-811		
	TS-802; TS-812	TS-812	
	TS-901; TS-911	TS-911	TS-903 · TS-904
	TS-902; TS-912	TS-912	TS-919 · TS-918 B1 · TS-918 B4
	TS-905 / TS-907	TS-905 TS-907	YW-1022Y · YW-1024Y

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Speaker Mounting Accessories Chart

Speakers	Wide-Dispersion Box Speakers			
Installation Configurations	F-1000BT F-1300BT	F-1000WT F-1300WT	F-1000BTWP F-1300BTWP	F-1000W/TWP F-1300WTWP
Cluster Bracket	HY-CL10B			
Ceiling Mounting Bracket	HY-CM10B	HY-CM10W	HY-CM10B	HY-CM10W
Board Hanger Bracket	HY-BH10B			
Pole Mounting Bracket	YS-60B			

Speakers	Wide-Dispersion Box Speakers			
Installation Configurations	F-2000BT	F-2000WT	F-2000BT-WP	F-2000WT-WP
Cluster Bracket	HY-CL20B			
Ceiling Mounting Bracket	HY-CM20B	HY-CM20W	HY-CM20B	HY-CM20W
Pole Mounting Bracket	YS-60B			

Speaker Mounting Accessories Chart

Speakers	Line Array Speakers Type A	
Installation Configurations	Indoor Use SR-A12L/SR-A12S/SR-A18B	Outdoor Use SR-A12LWP/SR-A12SWP
Rigging Frame	SR-RF12	SR-RF12WP
Tilt Joint Plate	SR-TP12	

Horn Speakers	
Installation Configurations	SC-610/SC-610T; SC-615/SC-615T; SC-630/SC-630T; SC-651
Swivel Bracket	YS-151S

Speakers	Line Array Speakers Type C	
Installation Configurations	Indoor Use SR-C8L/SR-C8S/SR-C15B	Outdoor Use SR-C8LWP / SR-C8SWP / SR-C15BWP
Rigging Frame	SR-RF8	SR-RF8WP
Cluster Bracket	SR-CL8	
Rigging Support Bracket	SR-SB8	
Tilt Joint Plate	SR-TP8	

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Speaker Mounting Accessories Chart

Speakers	Line Array Speakers Type S			
Installation Configurations	SR-S4L	SR-S4LWP	SR-S4S	SR-S4SWP
Extension Plate	SR-EP4	SR-EP4WP	SR-EP4	SR-EP4WP
Wall Tilt Bracket	SR-TB4	SR-TB4WP	SR-TB4	SR-TB4WP
Wall Mounting Bracket	SR-WB4	SR-WB4WP	SR-WB4	SR-WB4WP
Stand Adapter	SR-SA4			
Flying Bracket	SR-FB4			
Floor Stand	SR-FS4			
Protection Pad	SR-PP4			
Matching Transformer	MT-S0601			

Speaker Mounting Accessories Chart

Speakers	Line Array Speakers Type H			
Installation Configurations	SR-H2L	SR-H2S	SR-H3L	SR-H3S
Extension Plate	SR-EP3		SR-EP3	
Wall Mount Bracket	SR-WB3			
Wall Tilt Mount Bracket	SR-TB3			
Flying Bracket	SR-FB3			
Speaker Stand Adapter / Matching Transformer	SR-SA3 Speaker Stand Adapter		MT-S0301 Matching Transformer	

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Speaker Mounting Accessories Chart

Speakers	SR-D8 Active Line Array Speaker System	
Installation Configurations	**SR-D8-M**	**SR-D8-S**
Extension Plate	SR-D8EP	
Fixing Bar	SR-D8FB	
Hoisting Bracket	SR-D8HB	
Wall Mount Adaptors	SR-D8CL SR-D8CS	SR-D8WB

Speaker Mounting Accessories Chart

Speakers	Compact Array Speakers (HX-5 Series)					
	HX-5B	**HX-5W**	**HX-5B-WP**	**HX-5W-WP**	**FB-120B**	**FB-120W**
Installation Configurations						
Rigging Frame	HY-PF1B	HY-PF1W	HY-PF1WP		HY-PF1B	HY-PF1W
Ceiling Mounting Bracket	HY-CW1B	HY-CW1W	HY-CW1WP			
Mounting Bracket	HY-WM1B HY-WM2B	HY-WM1W HY-WM2W	HY-WM1WP	HY-WM2WP		
Extension Bracket	HY-CN1B	HY-CN1W	HY-CN1B-WP	HY-CN1W-WP		
Speaker Stand Adapter	HY-ST1					
Matching Transformer	MT-200					

Speakers	Interior Design Speakers			
	H-1 EX	**H-2 EX** **H-2WP EX**	**H-3 EX** **H-3WP EX**	**HB-1**
Installation Configurations				
Ceiling Mount Bracket Matching Transformer	**Ceiling Mount Bracket** HY-H1			**Matching Transformer** MT-S0601
Mounting Hardware Included (see installation manual for details)	E-04R	E-05R	E-06RB	E-07R

Speaker Mounting Accessories Chart

Speakers	Coaxial Array Speakers			
	HS-1200BT	**HS-1200WT**	**HS-1500BT**	**HS-1500WT**
Installation Configurations				
Wall/Ceiling Mount Bracket **Vertical Installation**	HY-1200VB	HY-1200VW	HY-1500VB	HY-1500VW
Wall/Ceiling Mount Bracket **Horizontal Installation**	HY-1200HB	HY-1200HW	HY-1500HB	HY-1500HW
Ceiling Mount Bracket	HY-C0801		HY-C0801W	
Wall Mount Bracket	HY-W0801		HY-W0801W	

Speakers	Surface Speakers
	BS-1030B BS-1030W
Installation Configurations	
Ceiling Mounting Bracket	SP-410
Wall Mounting Bracket	SP-420

Speakers	Subwoofer
	FB-120
Installation Configurations	
Low-Pass Filter Module	E-07S
Matching Transformer	MT-S0601

Speaker Mounting Accessories Chart

Speakers	Ceiling Speakers - F Series					
	F-122CU F-122CU2	**F-1522SC**	**F-2322C F-2322CU2**	**F-2352C F-2352CU2**	**F-2352SC**	**F-2852C F-2852CU2**
Installation Configurations						
Tile Support Rails	HY-TB1		HY-TB1			Note: F-2352SC: When using the TB-F100 the HY-RR2 is required. Supplied with CU2 versions.
Ceiling Reinforcement Ring	HY-RR2	HY-RR1	HY-RR2			
Trim Ring	HY-TR1		HY-TR1			Note: F-2352SC: When using the HY-TR1 the HY-RR2 is required. Supplied with CU2 versions.
Black (Suspension) Back Can	HY-BC1		HY-BC1			
White (Suspension) Back Can	Q-HY-BC1W		Q-HY-BC1W			
Shallow Back Can *(Allows the F-2352SC to be plenum rated)*					Q-HY-BC2	
Surface Mount Bracket	HY-AH1		HY-AH1			Note: F-2352SC: When using the HY-AH1 the HY-RR2 is required. Supplied with CU2 versions.
C2 Version Tile Bridge *(2 pcs/pkg)*	507-07-239-50		507-07-239-50			507-07-240-30
Other Configuration	E-03R					

Speakers	Ceiling Speakers - PC Series
	PC-580RU / PC-580RVU
Installation Configurations	
Flush Mount Back Box	HY-BC580U
Tile Support Rails	LBS8-R1
Mounting Channel	Q-HY-TB2

Amplifier Selection Guide

Model Number	Power	Inputs				Outputs							Rack Ears	Page
		Mic	Aux	Tel	Module	70V	25V	Record / Bridge / Line	Pre-amp	4 ohm	8 ohm	MOH		
A-2240	240W	2	2	1		Yes	Yes			Yes				
A-706	60W	6 (Mic or Line)	2	1*	1 (900 Series)	Yes	Yes	Yes	Yes	Yes		Optional	Optional	
A-712	120W													
A-724	240W													
A-903MK2	30W	8 module slots			8 (900 Series)	Yes	Yes	Yes	Yes	Yes	Yes	Optional	Optional	
A-906MK2	60W													
A-912MK2	120W													
P-906MK2	60W		1		1 (900 Series)	Yes	Yes			Yes	Yes	Optional	Optional	
P-912MK2	120w													
P-924MK2	240W													
W-906A	60W	6 module slots			6 (900 Series)	Yes	Yes	Yes		Yes	Yes	Optional	No	
W-912A	120W													
AV-20D	20W x 2		3					Yes		Yes				
AV-60S	60W x 1					Yes								
BA-235	35W		1			Yes	Yes	Yes		Yes			Optional	
BA-260	60W													
BG-220	20W	1	2 (3)**			Yes	Yes	Yes		Yes		Yes	Optional	
BG-235	35W													
BG-2035	35W	1	2 (3)**	1	1 (900 Series)	Yes	Yes	Yes		Yes		Yes	Optional	
BG-2060	60W													
BG-2120	120W													
A-9060DHM2	60W x 2	4 dual module slots	4 dual module slots	1	8 (9000 Series)	Yes		3 dual module slots	Yes			Yes	Yes	
A-9120DHM2	120W x 2													
A-9060SM2	60W						Yes			Yes	Yes			
A-9120SM2	120W						Yes			Yes	Yes			
A-9240SHM2	240W													
P-9060DH	60W x 2		2			Yes							Yes	
P-9120DH	120W x 2													
CA-115	15W	2	1							Yes	Yes		No	
CA-130	30W													
CA-160	60W													
DA-250F	See DA power output chart below		4							Yes	Yes		Yes	
DA-250FH			4			Yes								
DA-250D			2							Yes	Yes			
DA-250DH			2			Yes								
DA-500F-HL			4			Yes				Yes	Yes			
DA-550F			4							Yes	Yes			

*Transformer-Isolation for Telephone Paging Applications (Input #1); ** Selectable

DA AMPLIFIER POWER OUTPUT CHART	
MODEL	POWER OUTPUT
DA-250D	2x 250W (4 ohms) 2x 170W (8 ohms) 1x 500W bridged (8 ohms)
DA-250DH	2x 250W (70V) 1x 500W bridged (140V)
DA-250F	4x 250W (4 ohms) 4x 170W (8 ohms) 2x 500W bridged (8 ohms)
DA-250FH	4x 250W (70V) 2x 500W bridged (140V)
DA-500F-HL	4x 500W (70V) 2x 1000W bridged (140V) 4x 550W (8 ohm) 4x 100W (4 ohms) 2x 1100W (16 ohms)
DA-550F	4x 550W (4 ohms) 4x 350W (8 ohms) 2x 1100W bridged (8 ohms)

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NOTES:

Specifications are subject to change without notice.

Products may not appear exactly as shown.

This catalog is intended as reference only.
Please refer to TOA' s Corporate specification pages
for the latest data found on
www.taoelectronics.com.

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Model	Description	Page	Model	Description	Page	Model	Description	Page