Wireless Microphone Systems

Mixers

AUDIO PRODUCTS CATALOG

Digital Signal Processors

Amplifiers & Mixer/Amplifiers

Speakers

Conference Systems

Megaphones

Security Intercom Systems

TOA

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AUDIO PRODUCTS CATALOG

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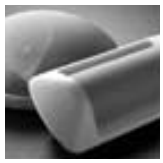

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TOA

NX-100

NETWORK AUDIO ADAPTER

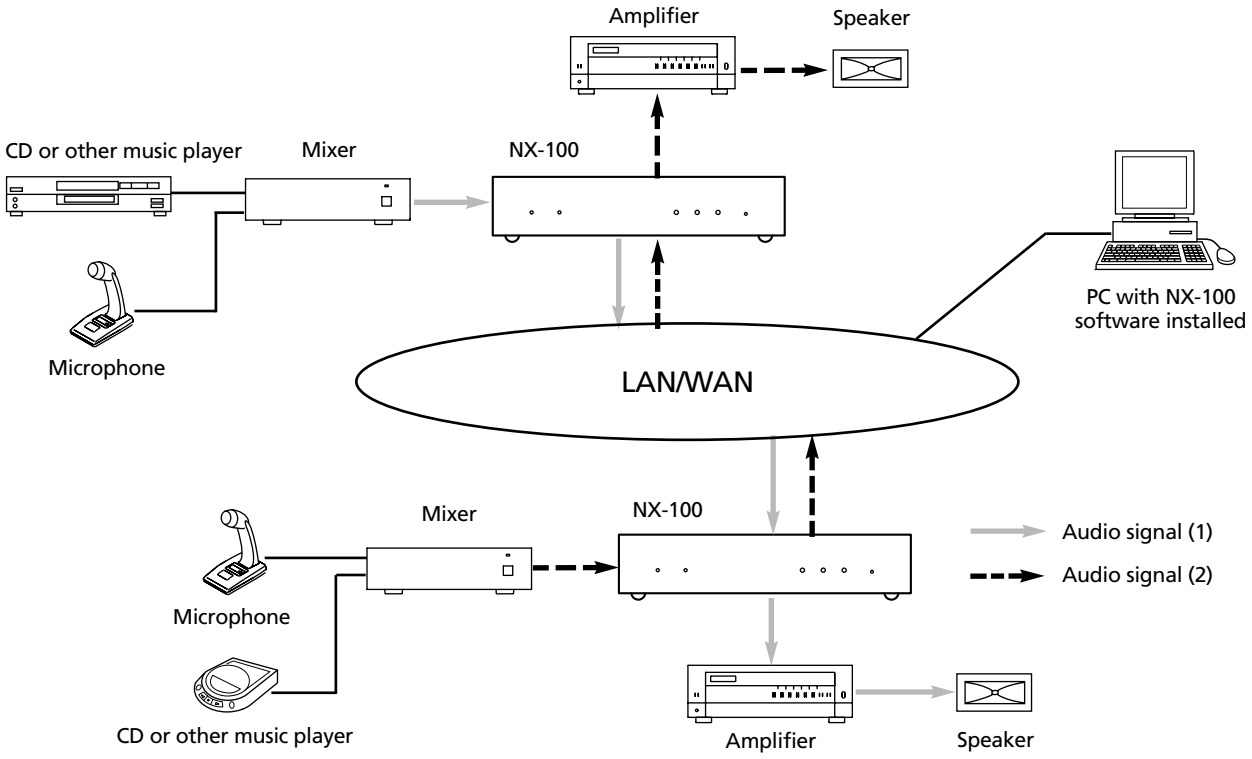
- IP-addressable Audio Codec
- Converts analog audio (mic or line) to standard TCP/IP-based format for transmission over local or wide area networks including the Internet
- Real-time transmission of high quality audio over existing data networks
- Reduces installation and operational costs when distributing audio signals to remote locations
- Balanced mic/line input with adjustable volume control
- Balanced line output
- Built-in Ethernet port (10/100BaseT)
- Simultaneous transmission of bi-directional audio plus control data (serial RS-232 and contact closure)
- Point-to-point transmission (Unicast) of audio signals to up to four channels
- Simultaneous transmission (Multicast) of audio signals to up to 64 locations
- 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 milliseconds
- 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
- Front panel Reset button
- External 24 VDC input for battery backup operation
- Easy to upgrade Flash Memory firmware
- Compact, half-rack size unit (1 RU)
- Optional rack-mount kits, model MB-15B-BK (1 NX-100), MB-15B-J (2 NX-100)
- Five year warranty

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
- Monitoring of Remote Locations
- Museums
- Paging Distribution
- Performing Arts Centers
- Public Address
- Railway Stations
- Retail Chain Stores
- Sports Facilities
- Stadiums
- Theatres
- Theme Parks
- Transit Stations
- Zone Paging

FIVE YEAR WARRANTY

FREE TECHNICAL SUPPORT



Guidelines for Line Band, Sound Quality and Delay Time

(1) For LAN and dedicated lines

Line Band	Voice Compression	Audio Band	Sampling	Voice Packet Loss Recovery	Delay Time (sec)	Band Used (kbps)
Over 1.5 Mbps	No	50-14k Hz	32k Hz	Silence	0.02	776
				Redundancy	0.93	820
	Yes	50-14k Hz	32k Hz	Silence	0.02	392
				Redundancy	0.93	245
128 kbps (Dedicated line, etc)	Yes	50-7k Hz	16k Hz	Silence	1.3	68
				Redundancy	7.4	120
64 kbps (ISDN, etc.)	Yes	50-3.4k Hz	8k Hz	Silence	2.6	34
				Redundancy	15	51

(2) For the Internet

Line Band	Voice Compression	Audio Band	Sampling	Voice Packet Loss Recovery	Delay Time (sec)	Band Used (kbps)
Over 512 kbps (ADSL, etc.)	Yes	50-14k Hz	32k Hz	Silence	0.6	136
				Retransmission	30	369
128 kbps (Dedicated line, etc.)	Yes	50-7k Hz	16k Hz	Silence	1.3	68
		50-3.4k Hz	8k Hz	Retransmission	30	92
64 kbps (ISDN, etc.)	Yes	50-3.4k Hz	8k Hz	Silence	2.6	34
				Redundancy	15	51

Notes:

1. The following conditions apply to delay time values and required band:
(1) Line band: 1.5 Mbps; Voice compression not used—Voice packet size: 128 bytes.
(2) Line band: 1.5 Mbps; Voice compression used—Voice packet size: 32 bytes.
(3) A voice packet size of 1,024 bytes assumed for all but the 1.5 Mbps Line band.

2. "Voice Packet Loss Recovery" is a processing function when the voice packet cannot be received owing to communications interference.
(1) Silence: Sections without voice packets are processed as silence.
(2) Redundancy: Enables the voice to be normally output for continuous losses of up to 8 packets.
(3) Retransmission: Enables the voice to be normally output for continuous losses of up to 15 seconds.

3. "Required Band" represents the bands required for voice transmission. When sending other data (such as serial data), additional transmission bandwidth is required.

WIRELESS MICROPHONE SYSTEMS

TOA Password® Series Wireless Microphone Systems combine cutting edge wireless technology with user benefits such as fast setup, simple operation, and reliable performance. The systems are frequency-agile with 64 user-selectable channels in the uncrowded UHF band (692 - 722 MHz) with simultaneous operation of up to 16 systems. The WT-4800 True Diversity Receiver has an on-board scanner and three squelch types, carrier, noise and tone-key, to ensure quiet, interference-free operation. Other receiver features include Antenna Loop outputs for antenna distribution for up to two additional receivers and a convenient Mix-In jack for connecting the audio output of a second WT-4800 or other source. Receiver options include the MB-WT1 and MB-WT2 Rack-Mount Kits for single or dual WT-4800 mounting in only one 19" rack space, the WD-4800 Antenna Distributor and the YW-4500 Remote Antenna. Password® transmitter options include the WM-4200 Handheld Microphone and the WM-4300 Lapel Microphone with Bodypack. Both offer 10 hours of operation from one nine volt battery, low battery indication and adjustable sensitivity. The WM-4300 bodypack also has a recessed on/off switch to prevent accidental shut-off, a mini-XLR jack for alternative mic elements and rotatable lapel and bodypack clips for versatile mounting. Password® Series wireless systems are FCC and UL listed and are backed by a five year warranty.

PASSWORD® SERIES

PROFESSIONAL WIRELESS MICROPHONE SYSTEMS

- Frequency-agile – 64 channels
- Uncrowded UHF band (692 - 722 MHz)
- Up to 16 simultaneous systems
- Built-in RF scanner
- True diversity reception
- Handheld and lapel microphone systems
- 10 hours continuous transmitter operation
- FCC and UL listed
- Five year warranty

WM-4200

HANDHELD MICROPHONE

- 64 channel frequency-agile
- Optimized for speech and vocals/singing
- Dynamic mic element with unidirectional, cardioid pattern
- Low battery indication
- Mic clip and carrying pouch included

WM-4300

LAPEL MICROPHONE WITH BODYPACK

- 64 channel frequency-agile
- Electret condensor mic element with unidirectional, cardioid pattern
- Adjustable input sensitivity
- Low battery indication
- Recessed on/off switch
- Mini-XLR (TA-4F compatible) connector
- Rotating bodypack and lapel clips
- Mic clip and carrying pouch included

WM-4300-OMNI

SAME AS WM-4300 WITH OMNI-DIRECTIONAL LAPEL MICROPHONE

WM-4300B

BODYPACK ONLY (mic assy not included)

PASSWORD® SYSTEMS

PASSWORD-H Handheld Mic (WM-4200), Receiver (WT-4800) and Rack-Mount Kit (MB-WT1)

PASSWORD-L Lapel Mic and Bodypack (WM-4300), Receiver (WT-4800) and Rack-Mount Kit (MB-WT1)

PASSWORD-LO Omni Lapel Mic and Bodypack (WM-4300- OMNI), Receiver (WT-4800) and Rack-Mount Kit (MB-WT1)

PASSWORD-HL Handheld/Lapel Combo (WM-4200/WM-4300), Receiver (WT-4800) and Rack-Mount Kit (MB-WT1)*

PASSWORD-B Bodypack Transmitter (WM-4300B), Receiver (WT-4800) and Rack-Mount Kit (MB-WT1)

* Each receiver supports one transmitter at a time.

WT-4800

TRUE DIVERSITY RECEIVER

- 64 channel frequency-agile
- Built-in scanner
- Two detachable antennas included
- Antenna loop outputs
- Outputs: balanced XLR-M and unbalanced 1/4" phone jack with mic/line switch
- Mix-in jack
- Optional rack-mount kits (1 RU): MB-WT1 (one or two WT-4800) / MB-WT2 (two WT-4800)

WD-4800

ANTENNA DISTRIBUTOR

- Antenna and DC power distribution for up to (4) WT-4800
- Two paralleled front and rear panel antenna inputs, eight antenna outputs, BNC-Type
- Use with whip antennas (included with WT-4800) or two YW-4500 Remote Antennas
- Optional rack-mount kit, Model MB-15B (1 RU)

YW-4500

REMOTE DIPOLE ANTENNA FOR WT-4800 OR WD-4800

- Fixed-mount for permanent installation, 8 dB gain
- Maximum connection distance:
  RG-6/U - 115 ft. (35 m)
  RG-11/U - 165 ft. (50 m)

TOA Scout® Series Wireless Microphone Systems combine cutting edge wireless technology with user benefits such as fast setup, simple operation, and reliable performance. The systems are frequency-agile with 16 user-selectable channels in the uncrowded UHF band (692 - 722 MHz) with simultaneous operation of up to 16 systems. The WT-4810 True Diversity Receiver has two built-in antennas and two squelch types, noise and carrier, to ensure quiet, interference-free operation. A convenient Mix-In jack allows the connection of the audio output of a second WT-4810 or other source. Handheld transmitters include the WM-4210 Dynamic for vocals and the WM-4220 Condensor for speech. Bodypack transmitters include the WM-4310 Lapel, WM-4310A Aerobics/Fitness Headset and the WM-4310H Speech Headset. All transmitters offer 10 hours of operation from one nine volt battery with low battery indication. The bodypack transmitters also have a recessed on/off switch to prevent accidental shut-off and a rotatable bodypack clip for versatile mounting. Scout® Series wireless systems are FCC and UL listed and are backed by a five year warranty.

SCOUT® SERIES

PORTABLE WIRELESS MICROPHONE SYSTEMS

- Frequency-agile – 16 channels
- UHF band (692 - 722 MHz)
- Up to 16 simultaneous systems
- True diversity reception
- Handheld, lapel and headset microphone systems
- 10 hours continuous transmitter operation
- FCC & UL listed
- Five year warranty

SCOUT® SYSTEMS

SCOUT-HV Handheld Mic (WM-4210 Vocal) and Receiver (WT-4810)

SCOUT-HS Handheld Mic (WM-4220 Speech) and Receiver (WT-4810)

SCOUT-L Lapel Mic and Bodypack (WM-4310) and Receiver (WT-4810)

SCOUT-LO Omni Lapel Mic and Bodypack (WM-4310-OMNI) and Receiver (WT-4810)

SCOUT-AH Aerobics Headset Mic and Bodypack (WM-4310A) and Receiver (WT-4810)

SCOUT-SH Speech Headset Mic and Bodypack (WM-4310H) and Receiver (WT-4810)

SCOUT-HVL Handheld (Vocal)/Lapel Combo (WM-4210/WM-4310) and One Receiver (WT-4810)*

SCOUT-HSL Handheld (Speech)/Lapel Combo (WM-4220/WM-4310), and One Receiver (WT-4810)*

SCOUT-B Bodypack Transmitter (WM-4310B) and Receiver (WT-4810)

* Each receiver supports one transmitter at a time.

WT-4810

TRUE DIVERSITY RECEIVER

- 16 channel frequency-agile
- Two built-in antennas
- Adjustable squelch control
- Outputs: balanced XLR-M and unbalanced 1/4" phone jack with mic/line switch
- Mix-in jack

WM-4210

VOCAL HANDHELD MICROPHONE

- 16 channel frequency-agile
- Optimized for vocals/singing
- Dynamic mic element
- Unidirectional, cardioid pattern
- Low handling noise
- Low battery indication
- Mic clip and carrying pouch included

WM-4220

SPEECH HANDHELD MICROPHONE

- 16 Channel frequency-agile
- Optimized for speech
- Electret condenser mic element
- Unidirectional, cardioid pattern
- Low handling noise
- Low battery indication
- Mic clip and carrying pouch included

WM-4310

LAPEL MICROPHONE WITH BODYPACK

- 16 channel frequency-agile
- Hands-free operation
- Electret condensor mic element
- Unidirectional, cardioid pattern
- Adjustable input sensitivity
- Low battery indication
- Recessed on/off switch
- Screw-on locking connector
- Rotating lapel and bodypack clips
- Mic clip and carrying pouch included

WM-4310-OMNI

SAME AS WM-4310 WITH OMNI-DIRECTIONAL LAPEL MICROPHONE

WM-4310B

BODYPACK ONLY (mic assy not included)

WM-4310A

HEADSET MICROPHONE WITH BODYPACK FOR AEROBICS/FITNESS

- Comfortable and lightweight hands-free operation
- Moisture-resistant electret condensor mic element
- Unidirectional, cardioid pattern
- Detachable foam windscreen
- Detachable sweatband and moisture-resistant waist pouch included
- WM-4300 Bodypack

WM-4310H

HEADSET MICROPHONE WITH BODYPACK FOR SPEECH

- Comfortable and lightweight hands-free operation
- Electret condensor mic element
- Unidirectional, cardioid pattern
- Detachable foam windscreen
- Carrying pouch included
- WM-4300 Bodypack

WA-1822
WA-1822C
PORTABLE WIRELESS MEETING AMPLIFIERS

- Portable, self-contained PA system
- Wired or wireless microphone options
- Easy setup and operation
- Handheld, lapel or headset wireless transmitters (optional)
- Up to two WTU-4800 wireless receiver modules - UHF diversity, 16 ch. frequency-agile (optional)
- Auto-reverse cassette player/recorder (WA-1822C)
- Lightweight two-way enclosure - 8" woofer and CD horn
- High sound output (20 W)
- AC or battery-powered (8 "D" cells)
- Wired microphone input
- Aux input for external music source
- Line output for external PA system
- External speaker output
- Protective cover included
- Five year warranty

SYSTEMS*

WA-1822-H Meeting Amplifier (WA-1822), Handheld Mic (WM-4220) and Receiver Module (WTU-4800)

WA-1822-L Meeting Amplifier (WA-1822), Lapel Mic/Bodypack (WM-4310) and Receiver Module (WTU-4800)

WA-1822-HM Meeting Amplifier (WA-1822), Headset Mic/Bodypack (WM-4310H) and Receiver Module (WTU-4800)

WA-1822C-H Meeting Amplifier w/ Cassette (WA-1822C), Handheld Mic (WM-4220) and Receiver Module (WTU-4800)

WA-1822C-L Meeting Amplifier w/ Cassette (WA-1822C), Lapel Mic/Bodypack (WM-4310) and Receiver Module (WTU-4800)

WA-1822C-HM Meeting Amplifier w/ Cassette (WA-1822C), Headset Mic/Bodypack (WM-4310H) and Receiver Module (WTU-4800)

* You can create your own custom system with any wireless transmitter from pages 6-7.

WIRELESS OPTIONS

WTU-4800
WIRELESS RECEIVER MODULE
(1 per transmitter,
2 max. per WA-1822/C)

WM-4220
WIRELESS HANDHELD MICROPHONE

WM-4310
WIRELESS LAPEL MICROPHONE
WITH BODYPACK

WM-4310H
WIRELESS HEADSET MICROPHONE
WITH BODYPACK

PM-660U

DESKTOP PAGING MICROPHONE

- Cardioid dynamic element
- Elegant, space-saving integral stand design
- Push-to-talk bar with locking lever
- Extra switch contact for mute or relay control
- Five year warranty

DM-1300US

UNIDIRECTIONAL DYNAMIC MICROPHONE

- Cardioid dynamic element
- Diecast zinc body
- On/Off slide switch
- XLR male connector
- Mic clip stand adapter included
- Five year warranty

PM-222U

NOISE-CANCELING PAGING MICROPHONE

- Noise-canceling, dynamic element
- Lock-on push-to-talk switch for continuous use
- Pig-tail cord with external control contacts and conductors
- Mounting sleeve included for wall-mounting
- Five year warranty

DM-1200

UNIDIRECTIONAL DYNAMIC MICROPHONE

- Cardioid dynamic element
- Diecast zinc body
- On/Off slide switch
- XLR male connector
- Includes shielded cable - XLR-F to 1/4" Phone Plug (10 m)
- Mic clip stand adapter included (Universal-type)
- Five year warranty

VISIT www.toaelectronics.com

to download specification sheets, manuals, CAD data and more!

D-901

MODULAR DIGITAL MIXER

- Rack-mount digital mixer for installed sound applications
- Ideal for applications such as audio/visual, corporate boardrooms and houses of worship
- Modular design allows versatile configurations — up to 12 inputs and 8 outputs
- Intuitive operation via front panel display and controls
- Auto-Mixing allows "set-and-forget" operation
- Feedback Suppression automatically attenuates up to 12 problem frequencies
- 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
- Eight bus matrix allows flexible input-to-output signal routing for zoning or room-combining
- Echo effect for vocal enhancement
- PC software for offsite programming and archiving settings
- Input and output channel metering
- 16 internal memories for storage and recall of different signal routing and parameter configurations
- Eight front panel memory select buttons
- Flexible remote control module:
  - Eight programmable switch inputs for activation of memory, volume up/down, channel on/off and stereo input selection
  - Eight programmable relay outputs for activate during memory, channel on/off, input status and stereo input selection
- Easily controlled with external devices such as AMX or Crestron
- Front panel lock protects settings
- Cooling fan ensures continuous reliable operation
- Built-in rack-mount brackets (3 RU)
- Five year warranty

D-921F

MIC/LINE INPUT MODULE (2)

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

D-921E

MIC/LINE INPUT MODULE (2)

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

D-922F

MIC/LINE INPUT MODULE (2)

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

D-922E

MIC/LINE INPUT MODULE (2)

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

D-936R

STEREO INPUT MODULE (4)

- Four stereo inputs
- Unbalanced line level
- Individual input gain
- Programmable switching between channels
- Mix mode
- RCA pin jack connectors

D-971M

LINE OUTPUT MODULE (4)

- Four balanced line level outputs
- XLR-M connectors

D-971E

LINE OUTPUT MODULE (4)

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

D-971R

LINE OUTPUT MODULE (4)

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

D-981

REMOTE CONTROL MODULE

- 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

AX-1000A

8-CHANNEL MODULAR AUTOMATIC MIXER

- Patented automatic mixing method maximizes gain before feedback by turning input channels on and off quietly, quickly and automatically
- Eight module slots accept TOA plug-in modules for unmatched flexibility (see page 19)
- Link up to ten mixers (80 inputs) with optional YX-1000 link cables
- Adjustable NOM (number of open mics) function automatically reduces gain from 0 to 6 dB for each additional active input
- Input volume, gate threshold and off-attenuation controls on each channel
- Balanced, transformer-isolated output with screw terminal connector
- Individual direct output and logic output (open collector) on each channel
- Remote master volume controlled with an external 10k ohm linear-taper potentiometer (supplied by others)
- Switchable muting on each channel, activated by switch-closure
- Security cover and rack-mount kit included (3 RU)
- Five year warranty

M-900MK2

8-CHANNEL MODULAR MIXER

- Eight module slots accept any combination of TOA plug-in modules for custom system configurations (see page 19)
- 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 (supplied by others)
- Individual channel and master volume controls
- Bass/treble tone controls with tone defeat switch
- 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
- Rear panel AC convenience outlet for powering external equipment
- Turn-on delay disconnects output during power-up
- Over-current and thermal protection circuitry prevents potential damage from overload, short-circuit or over-heating
- Volume control security knobs included (4)
- Optional rack-mount kit, model MB-25B (2 RU)
- UL / cUL listed
- Five year warranty

RUGGED & RELIABLE

EASY TO INSTALL

M-1264

10 IN X 6 OUT RACK-MOUNT STEREO MIXER

- Six balanced XLR mic/line inputs, 4 stereo RCA inputs
- Compressor, phantom power and high-pass filters on mic/line inputs
- Each channel assignable to Stereo, Group, Aux and Cue buses
- Front panel output assignment switches
- L+R mono-summed output
- Headphone output
- Two remotely controllable motorized stereo output controls
- Expansion unit, model M-1212E also available
- Security cover and rack-mount kit included (2 RU)
- Five year warranty

M-1212E

12 IN X 6 OUT RACK-MOUNT MIXER/EXPANSION MIXER

- Twelve balanced XLR mic/line inputs
- Compressor, phantom power and high-pass filters on each input
- Use as standalone mixer or expansion unit for M-1264
- Each channel assignable to Stereo, Group, Aux and Cue buses
- Expansion link cable included
- Security cover and rack-mount kit included (2 RU)
- Five year warranty

M-243

6-CHANNEL STEREO MIXER

- 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)
- Five year warranty

FIVE YEAR WARRANTY

FREE TECHNICAL SUPPORT

DP-0206 Modular DSP

THE DP-0206 MODULAR DIGITAL SIGNAL PROCESSOR is TOA's third generation of industrial-grade, high-quality digital signal processors. Beginning in 1988 with the groundbreaking introduction of **SAORI**, followed by the popular **DACsys II** Series in 1994, TOA was the first manufacturer to introduce the benefits of DSP to the professional audio community. Already recognized for superior sound quality and unmatched reliability, TOA continues to improve and refine the application of DSP for sound systems with the DP-0206's *CLEAR Conversion* analog-to-digital technology. The DP-0206 is an ideal, cost-effective solution for small and large-scale permanent installation applications including auditoriums, convention centers, educational facilities, houses of worship, performing arts centers, sports facilities and theaters.

The unique, modular design of the DP-0206 allows system designers to specify the most cost-effective configuration for each project. The standard 2-input and 6-output (2x6) configuration is easily expandable to five additional configurations-2x8, 2x10, 4x6, 4x8 and 6x6-via optional analog or digital I/O modules. The DP-0206 combines all the essential audio signal processing functions typically found between mixers and power amplifiers–dynamics control, equalization, crossovers, delays and signal routing–into a single compact and powerful unit. The DP-0206 can be used for loudspeaker management, post-mix processing, room-combining, stereo two, three and four-way crossover with mono sum for subwoofers, driver and cluster alignment, full-range zoning, signal routing, surround sound or any other application requiring precise audio processing tools. Advanced users will especially appreciate the wide variety and quantity of multi-band filtering including parametric, all-pass, notch, high/low pass/shelving, CD horn EQ–any combination of twelve filters on each input and each output.

All processing configurations and parameters for up to 30 DP-0206 units are set with a PC and the intuitive DACsys 2000 Control Software. You can configure systems off-line at the office, upload to the unit(s) at the job-site, then disconnect the PC and recall different signal flow and parameter settings from 16 on-board memories. An innovative and time-saving measurement data import function allows audio professionals to tune crossovers and equalize measured speaker system response files exported from SIA Smaart and Goldline TEF software. Comprehensive hardware and software security features such as front panel lock and multi-level password access protect system settings. An optional remote control module allows simple contact-closure activation of memory recall, output volume control and output muting. The DP-0206 is backed with a five-year warranty.

- Digital signal processor for permanent installations
- Essential audio processing tools – compressors, limiters, noise gates, crossovers, multi-band filtering, parametric and graphic eq, high/low-pass, all-pass and notch filters, horn EQ, high/low shelving, driver alignment and output delays
- Modular design – 2-input/6-output (2x6), easily expandable to 2x8, 2x10, 4x6, 4x8, or 6x6 using optional analog or digital I/O modules
- Built-in matrix/router allows any combination of input-to-output signal routing for zoning or room-combining applications
- 12 filters on each input and each output - any combination of parametric, all-pass, notch, high/low pass/shelving and CD horn EQ
- Smaart and TEF data import function allows crossover and equalization tuning of measured speaker system response files exported from SIA Smaart and Goldline TEF software
- Unmatched TOA quality and reliability, successor to the popular DACsys II series
- Superior sound quality - 110 dB dynamic range
- TOA Clear Conversion technology with precise 24-bit analog-to-digital conversion
- 16 on-board memories for storage and recall of different signal routing and parameter configurations
- Intuitive control software for simultaneous programming and control of up to 30 DP-0206 units via RS-232 or RS-485 serial communication
- Flexible remote control with simple dry contact-closure activation of memory recall, output volume control and output muting via programmable control module (optional)
- Control protocol available for interfacing with remote control devices such as AMX or Crestron
- Effortless connection from computer to unit with automatic com port, baud rate and unit ID detection
- Comprehensive security features (hardware and software) for front panel lock and password-protecting system settings
- Five year warranty

PRODUCTS

DP-0206 Digital Signal Processor (2-Input / 6-Output)

DQ-A01 Dual Analog Input Module*

DQ-A02 Dual Analog Output Module*

DQ-D01 Dual Digital (AES/EBU) Input/Output Module (switch-selectable)

Inputs	Outputs	DQ-A01 Dual (2) Analog Input Module*	DQ-A02 Dual (2) Analog Output Module*
2	6	—	—
2	8	—	1
2	10	—	2
4	6	1	—
4	8	1	1
6	6	2	—

DQ-C01 Remote Control Module (Memory/Volume/Mute)

*Two I/O expansion slots allow any combination of analog or digital I/O modules

EXPANDABLE I/O

Using optional modules, the 2-input/6-output DP-0206 can be easily expanded allowing you to specify the correct number of inputs and outputs for each application. Substitute the DQ-D01 Dual Digital Input/Output Module (AES/EBU) for the DQ-A01 or the DQ-A02 to provide two digital input channels or two digital output channels (switch-selectable).

E-1231

28-BAND GRAPHIC EQUALIZER

- 28 filters on 1/3 octave center frequencies from 31.5 Hz to 16k Hz (+/- 12 dB)
- Noiseless center-detent slide controls with precision-calibrated linear scales
- High and low pass filters
- ±12 dB input gain control
- In/out peak level indicator
- Hardwire bypass if power fails
- Security cover and rack-mount brackets included (2 RU)
- Five year warranty

D-1103

DIGITAL SIGNAL DELAY

- One input and three individually delayed outputs
- Each output individually adjustable from 0 to 655 milliseconds in 10 microsecond intervals
- Electronically-balanced input and outputs with screw-terminal connectors and optional transformers
- Individual input and output volume controls
- Four remote controllable memory presets
- Input bar-graph meter
- Protect switch disables front panel operation
- Automatic bypass if power fails
- Security cover and rack-mount brackets included (1 RU)
- Five year warranty

E-232

14-BAND DUAL CHANNEL GRAPHIC EQUALIZER

- 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
- Security cover and rack-mount brackets included (1 RU)
- Five year warranty

L-1102

DUAL CHANNEL LEVELER/LIMITER

- Two channels of independent processing
- Leveling function for "constant" outputs
- Limiter mode "Sense" input actively monitors low or high impedance power amplifier outputs
- Signal dependent attack and release for smooth and transparent operation
- Noise gate on each channel eliminates noise when there is no input signal present
- 20 dB makeup gain in Leveler mode
- Electronically-balanced inputs and outputs with screw-terminal connectors and optional transformers
- Gain reduction meter
- Security cover and rack-mount brackets included (1 RU)
- Five year warranty

MP-1216

16-CHANNEL ACTIVE MONITOR PANEL

- 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)
- Five year warranty

MP-032B

10-CHANNEL PASSIVE MONITOR PANEL

- 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)
- Five year warranty

SAME DAY SHIPPING

on most orders received by 11am PST

BG-M Series

The TOA BG-M Series Mixer/Amplifiers are ideal for a wide variety of installed sound applications such as paging, music distribution and messaging-on-hold. Engineered with unmatched TOA quality and reliability, the versatile BG-M Series is loaded with useful features and an essential tool for any sound system designer or contractor.

The BG-M Series Mixer/Amplifiers are comprised of four models, BG-1015 (15 W), BG-1030 (30 W), BG-1060 (60 W) and BG-1120 (120 W), all built with a compact, space saving chassis design. Input channels include: microphone and telephone paging inputs, program and auxiliary music inputs plus a flexible module slot compatible with industry standard TOA 900 Series modules which have an extensive array of features and connector types. Outputs include transformer-isolated 25 V, 70 V and 4 ohm, balanced, line-level Music-On-Hold plus a 1 watt output for driving an additional 8 ohm speaker zone.

Muting modes include an Auto-Mute function for voice-activated paging override of the BGM channels without interrupting the MOH output. External mute terminals allow you to activate the mute function with an external switch closure. Other features include bass/treble controls, insert jacks and Signal, Clip, and Power indicators. Built-in protection circuitry and an AC mains circuit breaker ensure long life and outstanding reliability. Accessories include optional rack-mount kits and volume control security knobs to protect settings. The BG-M Series is UL and cUL listed with competitive pricing and a five-year warranty.

BG-1015
BG-1030
BG-1060
BG-1120

15/30/60/120 WATT 5-CHANNEL MIXER/AMPLIFIERS

- Compact five channel mixer/amplifiers for paging, background/foreground music distribution and music/messaging-on-hold
- Proven TOA quality and reliability
- Engineered for high performance with wide frequency response, very low noise and distortion, and excellent output regulation
- Four models: BG-1015 (15 W), BG-1030 (30 W) BG-1060 (60 W), BG-1120 (120 W)
- 900 series module slot with Page/BGM switch accepts most TOA plug-in modules for custom system configurations (see page 19)
- 25 V, 70.7 V and 4 ohm speaker outputs with screw terminal connector and protective cover plate
- Microphone page input, balanced, with screw terminal connector and 24 VDC phantom power
- Telephone page input, balanced, transformer-isolated with screw terminal connector and switchable 600/10k ohm input impedance
- Program (PGM) input, balanced, with screw terminal connector
- Auxiliary (AUX) input, unbalanced, with dual-RCA jacks for convenient connection of stereo sources
- Music-on-hold (MOH) output, balanced, with screw terminal connector
- Internal signal routing jumpers for assigning AUX/PGM and module to main and/or MOH outputs
- 1 watt zone output, 8 ohm, with screw terminal connector
- Auto-mute function allows voice-activated paging override of AUX/PGM and/or module without interrupting the MOH output
- Auto-mute sense control for adjusting mute activation threshold
- Selectable muting modes for versatile priority paging configurations
- External mute terminals for activating mute function with external switch-closure
- Bass/treble tone controls affect only the AUX/PGM channels to the main speaker output
- Insert jacks for connecting external signal processor
- Signal, clip, and power indicators provide unit status
- Rear panel AC convenience outlet with circuit breaker for powering external equipment
- Turn-on delay disconnects output during power-up
- Over-current and thermal protection circuitry prevents potential damage from overloads, short-circuit and overheating
- AC mains circuit breaker
- Volume control security knobs included (5)
- Optional rack-mount kit, model MB-1000 (2 RU)
- UL / cUL listed
- Five year warranty

900 Series

A-903MK2
A-906MK2
A-912MK2

30/60/120 WATT 8-CHANNEL MIXER/AMPLIFIERS

- Modular eight channel mixer/amplifiers for paging, background/foreground music distribution and music/messaging-on-hold
- Proven TOA quality and reliability
- Engineered for high performance with wide frequency response, very low noise and distortion, and excellent output regulation
- Three models: A-903MK2 (30 W), A-906MK2 (60 W), A-912MK2 (120 W)
- Eight module slots accept any combination of TOA plug-in modules for custom system configurations (see page 19)
- 25 V, 70.7 V and 8 ohm transformer-isolated speaker outputs with screw terminal connector and protective cover plate (A-903MK2: 4 ohm)
- 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
- Remote master volume terminals for control with an external 10k ohm linear-taper potentiometer
- Individual channel and master volume controls
- Bass/treble tone controls with tone defeat switch
- Low cut switch to limit low frequency response
- Auxiliary output for connecting an external mixer or recording device
- Insert jacks for connecting external signal processing
- Bridging input/output for input expansion or recording device
- Normal, clip, power, protect, and signal indicators provide unit status
- Rear panel AC convenience outlet for powering external equipment
- Turn-on delay disconnects output during power-up
- Over-current and thermal protection circuitry prevents potential damage from overload, short-circuit and over-heating
- Volume control security knobs included (4)
- Optional rack-mount kit, model MB-25B (2 RU)
- UL / cUL listed
- Five year warranty

P-906MK2
P-912MK2
P-924MK2

60/120/240 WATT POWER AMPLIFIERS

- Modular single channel power amplifiers for paging, background/ foreground music distribution and music/messaging-on-hold
- Proven TOA quality and reliability
- Engineered for high performance with wide frequency response, very low noise and distortion, and excellent output regulation
- Three models: P-906MK2 (60 W), P-912MK2 (120 W), P-924MK2 (240 W)
- Input module slot accepts most TOA plug-in modules for custom system configurations (see page 19)
- 25 V, 70.7 V and 8 ohm transformer-isolated speaker outputs with screw terminal connector and protective cover plate
- 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
- Master volume control
- Low cut switch to limit low frequency response
- Normal, clip, power, protect, and signal indicators provide unit status
- Rear panel AC convenience outlet for powering external equipment
- Turn-on delay disconnects output during power-up
- Over-current and thermal protection circuitry prevents potential damage from overload, short-circuit, or over-heating
- Volume control security knob included
- Optional rack-mount kits: P-906/P-912MK2: MB-25B (2 RU) P-924MK2: MB-35B (3 RU)
- UL / cUL listed
- Five year warranty

A-901A

10 WATT 3-CHANNEL MIXER/AMPLIFIER

- 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
- Two module slots accept TOA plug-in modules for unmatched flexibility (see page 19)
- Program input for unbalanced line-level source
- 25 V, 70.7 V and 4 ohm transformer-isolated speaker outputs
- Muting function for priority paging over background music
- Bass and treble controls for program input
- Peak and power indicators
- Transformer-isolated output
- Optional rack-mount kit, model MB-920 (2 RU)
- Five year warranty

W-906A
W-912A

60/120 WATT 6-CHANNEL IN-WALL MIXER/AMPLIFIERS

- 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 (see page 19)
- 25 V, 70.7 V and 4 ohm transformer-isolated speaker outputs
- Flush or surface-mount with optional back boxes - BX-9F (flush-mount) and BX-9S (surface-mount)
- One octave nine band equalizer
- High and low pass filters
- Compressor prevents overload and distortion
- Thermal, DC and overload protection with muting during power up
- Peak and power indicators
- Muting function for input priority override
- Five year warranty

M-900MK2

8-CHANNEL MODULAR MIXER

- Eight module slots accept any combination of TOA plug-in modules for custom system configurations (see page 19)
- 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
- Bass/treble tone controls with tone defeat switch
- 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
- Rear panel AC convenience outlet for powering external equipment
- Turn-on delay disconnects output during power-up
- Over-current and thermal protection circuitry prevents potential damage from overload, short-circuit or over-heating
- Volume control security knobs included (4)
- Optional rack-mount kit, model MB-25B (2 RU)
- UL / cUL listed
- Five year warranty

900 Series Modules – MICROPHONE INPUT MODULES

M-01 Series
MICROPHONE INPUT
- 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), screw terminal (M-01S)

M-11S
MICROPHONE INPUT WITH MUTE-RECEIVE
- 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 (turns OFF during mute activation) or Normally-off (turns ON during mute activation)
- Connector: screw terminal

M-21S
MICROPHONE PREAMPLIFIER WITH REMOTE VOLUME CONTROL
- 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 10k ohm linear-taper potentiometer
- Connector: screw terminal

M-41S
MICROPHONE INPUT WITH MUTE-SEND
- For balanced, low impedance microphones
- 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

M-51 Series
MICROPHONE INPUT WITH VOICE GATE
- 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), screw terminal (M-51S)

M-61 Series
MICROPHONE INPUT WITH COMPRESSOR
- 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 screw terminal (M-61S)

M-03P
HIGH IMPEDANCE MICROPHONE INPUT
- For unbalanced, high impedance mics
- High and low cut filters for tone control
- Connector: 1/4" phone jack

Visit www.toaelectronics.com to download the TOA 900 Series Module Guide!

900 Series Modules – LINE INPUT MODULES

B-01 Series
BALANCED LINE INPUT
- For balanced or unbalanced line level sources such as mixer outputs, signal processors and wireless microphone receivers
- Transformer isolation (10k ohms)
- Connector: female XLR (B-01F), screw terminal (B-01S)

B-11S
BALANCED LINE INPUT WITH MUTE-RECEIVE
- For balanced or unbalanced line level sources such as mixer outputs, signal processors and wireless microphone receivers
- Transformer isolation (10k ohms)
- Responds to mute bus activation via mute send module or switch-closure
- Connector: screw terminal

B-21S
BALANCED LINE INPUT WITH REMOTE VOLUME CONTROL
- For balanced or unbalanced, line level equipment such as tuners, tape decks and CD players
- Transformer isolation (10k ohms)
- Allows remote control of input signal using an external 10k ohm linear-taper potentiometer
- Connector: screw terminal

B-41S
BALANCED LINE WITH INPUT WITH MUTE-SEND
- For balanced or unbalanced, line level equipment such as tuners, tape decks and CD players
- Transformer isolation (10k ohms)
- Signal at input terminals activates mute bus
- Connector: removable terminal block

L-01S
LINE MATCHING INPUT
- For applications requiring 600 ohm line-matching
- Transformer isolation (600 ohms)
- Connector: screw terminal

L-11S
LINE MATCHING INPUT WITH MUTE-RECEIVE
- For applications requiring 600 ohm line-matching
- Responds to mute bus activation
- Transformer isolation (600 ohms)
- Responds to mute bus activation via mute send module or switch-closure
- Connector: screw terminal

L-41S
LINE MATCHING INPUT WITH MUTE-SEND
- For applications requiring 600 ohm line-matching
- Responds to mute bus activation
- Transformer isolation (600 ohms)
- Signal at input terminals activates mute bus
- Connector: screw terminal

900 Series Modules – LINE INPUT MODULES

U-01 Series
UNBALANCED LINE INPUT

- 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 15 feet from the host unit)
- Connectors: female XLR (U-01F), 1/4" phone jack (U-01P), RCA jack (U-01R), screw terminal (U-01S)

U-03 Series
UNBALANCED LINE INPUT WITH HIGH/LOW CUT FILTERS

- 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 15 feet 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)

U-11 Series
UNBALANCED LINE INPUT WITH MUTE-RECEIVE

- 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 15 feet from the host unit)
- Responds to mute bus activation via mute send module or switch-closure
- Connectors: RCA jack (U-11R), screw terminal (U-11S)

U-12S
UNBALANCED LINE INPUT WITH VARIABLE MUTE-RECEIVE DEPTH

- 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 15 feet 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: screw terminal

U-13 Series
UNBALANCED LINE INPUT WITH HIGH/LOW CUT FILTERS AND MUTE-RECEIVE

- 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 15 feet 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)

U-21S
UNBALANCED LINE INPUT WITH REMOTE VOLUME CONTROL

- 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 15 feet from the host unit)
- Allows remote control of input signal using an external 10k ohm linear-taper potentiometer
- Master Remote Volume mode
- Connector: screw terminal

U-43 Series
UNBALANCED LINE INPUT WITH HIGH/LOW FILTERS AND MUTE-SEND

- 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 15 feet 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)

U-61S
UNBALANCED LINE INPUT WITH COMPRESSOR

- 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 15 feet from the host unit)
- Compressor function prevents overload and distortion
- Master compressor mode
- Connector: screw terminal

900 Series Modules – SPECIAL FUNCTION MODULES

T-01S
BALANCED LINE OUTPUT

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

T-02S
UNBALANCED LINE INPUT WITH MUSIC-ON-HOLD OUTPUT

- 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

T-12S
UNBALANCED LINE INPUT WITH MUSIC-ON-HOLD OUTPUT AND INPUT MUTE-RECEIVE

- 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
- Responds to mute bus activation via mute send module or switch-closure
- Connector: screw terminal

S-01S
1 kHz SINE WAVE TEST TONE

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

S-02S
BUZZER/YELP TONE GENERATOR

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

S-04S
SWITCH-SELECTABLE TONE GENERATOR

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

E-03R (F-121C), E-04R (H-1), E-05R (H-2/H-2WP), E-06R (H-3/H-3WP), E-07S (FB-100 and HB-1)*
EQUALIZATION FOR TOA SPEAKERS

- 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

BG Series

BG-115
BG-130

15/30 WATT 3-CHANNEL MIXER/AMPLIFIERS

- Compact three channel mixer/amplifiers for paging, music distribution and messaging-on-hold
- Proven TOA quality and reliability
- Engineered for high performance with wide frequency response, very low noise and distortion, and excellent output regulation
- Two models: BG-115 (15 W), BG-130 (30 W)
- 25 V, 70.7 V and 4 ohm speaker outputs with screw terminal connector and protective cover plate
- Microphone/telephone paging input (switchable), balanced, transformer-isolated, with screw-terminal connector and switchable 600/10k ohm input impedance
- Program (PGM) input, balanced, screw-terminal connector
- Auxiliary (AUX) input, stereo-summing dual-RCA jacks
- Music-on-hold (MOH) output adjustable from line-level to 1 W at 8 ohms
- Internal signal routing jumpers for assigning AUX/PGM to main and/or MOH outputs
- Auto-mute function allows voice-activated paging override of AUX/PGM without interrupting the MOH output
- External mute terminals for activating mute function with external switch-closure
- Bass/treble tone controls affect only the AUX/PGM channels to the main speaker output
- Signal, clip, and power indicators provide unit status
- Rear panel AC convenience outlet with circuit breaker for powering external equipment
- Turn-on delay disconnects output during power-up
- Over-current and thermal protection circuitry prevents potential damage from overloads, short-circuit and over-heating
- Optional volume control security knobs, model YA-920
- Optional rack and wall-mount kits:
  MB-25B-BK (2 RU)
  MB-25B-J (two units, 2 RU)
  WB-900B (wall-mount)
- UL / cUL listed
- Five year warranty

500 Series

A-503A
A-506A
A-512A

30/60/120 WATT 6-CHANNEL MIXER/AMPLIFIERS

- Integrated six channel mixer/amplifiers for paging, music distribution and messaging-on-hold
- Proven TOA quality and reliability
- Engineered for high performance with wide frequency response, very low noise and distortion, and excellent output regulation
- Three models: A-503A (30 W), A-506A (60 W), A-512A (120 W)
- 25 V, 70.7 V and 4 ohm transformer-isolated speaker outputs with screw terminal connector and protective cover plate
- Two low impedance microphone inputs, balanced, transformer-isolated with XLR-F connectors and switchable phantom power
- Three auxiliary line inputs, unbalanced with RCA connectors
- Hi-z mic/phono input (switchable), unbalanced with RCA/screw terminal connectors
- Optional module converts inputs 3 & 4 to low impedance microphone inputs with XLR-F connectors.
- External mute terminals for switch closure override of inputs 3-5 with adjustable mute depth
- Individual channel and master volume controls
- Remote mic volume terminals (input 2) for control with an external 10k ohm linear-taper potentiometer
- Bass/treble tone controls insert jacks for connecting external signal processor
- Booster and tape outputs for connecting external mixer, amplifier or recording device
- +24 VDC input for connection to external power source
- Rear panel AC convenience outlet for powering external equipment
- Over-current and thermal protection circuitry prevents potential damage from overload, short-circuit and over-heating
- Optional rack-mount kit, model MB-21B2 (2 RU)
- UL / cUL listed
- Five year warranty

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to download the TOA 900 Series Module Guide!

IP Series

IP-300D
IP-450D
IP-600D

DUAL CHANNEL POWER AMPLIFIERS

- Clean, reliable, affordable power you can depend on
- Compact, lightweight design
- Remarkably quiet operation, extremely low noise floor
- Stereo, bridged, and parallel output modes - switch-selectable with independent adjustment of each channel in parallel mode
- Optional constant voltage transformers available for commercial distributed speaker systems
- Electronically balanced screw-terminal and 1/4" TRS phone jack input connectors
- Optional input transformer available - model IT-101
- Large dual screw-terminal barrier strip accepts two sets of #10 AWG speaker cable conductors for each output channel
- High quality "Alps" brand stepped attenuators for precise gain adjustments, recessable to prevent accidental setting changes
- Attenuator security covers included provide an additional level of security
- Signal presence, peak, protect, and attenuator bypass LED's for instantly recognizable status indication
- Temperature-controlled, variable-speed fan for efficient cooling
- Removable front panel dust filters simplify maintenance
- Advanced protection circuitry monitors voltage, current and thermal levels and disables output to minimize potential damage from overloads, short circuit, DC offset or over heating
- In-rush current limiter prevents AC breaker overload during system turn-on of multiple amplifiers
- Built-in front rack-mount brackets and rear rack supports (2 RU)
- Detachable front handles for mounting in door-equipped racks
- Optional transformers, model MT-300M (200 W), MT-450M (300 W), MT-600M (400 W)
- Five year warranty

Model	**Per Ch.** (8 Ohms)	**Per Ch.** (4 Ohms)	**Bridged** (8 Ohms)	**25/70.7 V Per Ch.** (w/optional transformers)
IP-300D	200 W	300 W	600 W	200 W/ch
IP-450D	300 W	450 W	900 W	300 W/ch
IP-600D	400 W	600 W	1200 W	400 W/ch

SAME DAY SHIPPING

on most orders received by 11am PST

CA Series

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

MOBILE MIXER/AMPLIFIERS

- Mobile mixer/amplifiers for remote applications
- 12 VDC powered
- Easy to install, rugged and reliable
- Supports 4 or 8 ohm speaker loads
- Two microphone inputs with volume controls
- 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
- Five year warranty

FIVE YEAR WARRANTY

FREE TECHNICAL SUPPORT

Amplifier Mounting Hardware and Accessory Reference

Model	Accessory	
A-903MK2 A-906MK2	MB-25B	Rack-mount Kit (2 RU)
A-912MK2 P-906MK2 P-912MK2	YA-920	Volume Control Security Knob
P-924MK2	MB-35B	Rack-mount Kit (3 RU)
	YA-920	Volume Control Security Knob
A-901A	MB-920	Rack-mount Kit (2 RU)
W-906A	BX-9F	Flush-mount Backbox
W-912A	BX-9S	Surface-mount Backbox
	WE-2	Expander Kit (adds two module slots)
BG-1015 BG-1030 BG-1060 BG-1120	MB-1000 YA-920	Rack-mount Kit (2 RU) Volume Control Security Knob
BG-115	MB-25B-BK	Rack-mount Kit (2 RU)
BG-130	MB-25B-J	Rack-mount Kit for Two Units (2 RU)
	WB-900B	Wall-mount Kit
A-503A	MB-21B2	Rack-mount Kit (2 RU)
A-506A A-512A	U-51	Dual Mic Input Module (converts channels 3 and 4 to Low-Z with XLR-F connectors)
IP-300D	MT-300M	25/70 V Output Transformer (200 W)
IP-450D	MT-450M	25/70 V Output Transformer (300 W)
IP-600D	MT-600M	25/70 V Output Transformer (400 W)
	All Models	
	PF-511	Perforated Vent Panel (1 RU)
	U-52	600:600 ohm unbalanced-to-balanced transformer

MB-25B

MB-35B

MB-920

BX-9F

BX-9S

WE-2

MB-25B-J

MB-21B2

U-51

MT-600M

PF-511

U-52

WB-900B

Interior Design Speakers

The building's design calls for speakers that can be aimed, but the architect is balking at ugly boxes and brackets. TOA has a solution. With our new H Series, we've taken a whole new approach to mounting speakers – we eliminated the brackets. Our H-1 and H-2 are designed to be mounted into the wall or ceiling, then aimed to deliver quality sound exactly where you need it. And our new HB-1 subwoofer hides neatly between standard 16-inch-on-center wall studs. All H Series grilles are attractive, simple, and uncluttered, and can be painted to match–and disappear into–any architecture. Does your installation require broad coverage? The H-3 Wide Dispersion model offers 140° of horizontal coverage and mounts with a standard two-gang electrical box. Offices, restaurants, stores, atriums, foyers, hallways, pew backs: H Series speakers are ideal for any environment where both sound quality and appearance are critical. Balanced-dome tweeters and neodymium magnet cone woofers help the H-1, H-2 and H-3 deliver the crisp highs and clean low-end response you've come to expect from TOA. Semi-flush mounting virtually eliminates the out-of-phase sound reflections that plague bracket- mounted models. And all H Series speakers are optimized to take advantage of the low frequency boost that develops between 200 and 300 Hz due to half-space and quarter-space loading. Simple to install. Easy to aim. Great quality sound. And a look that will please architects and designers everywhere.

H-1

INTERIOR DESIGN SPEAKERS

- Sleek, stylish appearance blends well with modern architecture for background/foreground music and paging systems
- Wide variety of applications including houses of worship, hotels, museums, offices, restaurants, retail stores and residential spaces
- Minimum reflection design reduces sound wave reflections typical of conventional bracket-mounted "box" type speakers
- Loudspeaker components rotate internally to allow flexible aiming
- Two-way, sealed enclosure
- 3" x 2" cone woofer with neodymium magnet and 1" balanced-dome tweeter, ferrofluid-cooled
- Built-in passive crossover with optimized filter slopes
- Frequency Response: 120 to 20k Hz
- Coverage Angle: 120° H x 100° V
- Sensitivity: 85 dB SPL (1 W, 1 m)
- Continuous Power Handling: 90 W (4 ohms)
- Built-in 70.7/100 V multi-tap transformer (12 W max.) with 4 and 16 ohm modes
- Overload protection circuitry
- Paintable grille
- Removable terminal block with loop-through terminations
- Mounting hardware included
- Optional equalization with 900 Series module, model E-04R
- Five year warranty

H-2
H-2WP

INTERIOR DESIGN SPEAKERS

- Sleek, stylish appearance blends well with modern architecture for background/foreground music and paging systems
- Wide variety of applications including houses of worship, hotels, museums, offices, restaurants, retail stores and residential spaces
- Weather-proof version available, model H-2WP
- Minimum reflection design reduces sound wave reflections typical of conventional bracket-mounted "box" type speakers
- Loudspeaker components rotate internally to allow flexible aiming
- Two-way, sealed enclosure
- 4" cone woofer with neodymium magnet and 1" balanced-dome tweeter, ferrofluid-cooled
- Built-in passive crossover with optimized filter slopes
- Frequency Response: 100 to 20k Hz
- Coverage Angle: 100° H x 60° V
- Sensitivity: 88 dB SPL (1 W, 1 m)
- Continuous Power Handling: 120 W (4 ohms)
- Built-in 70.7/100 V multi-tap transformer (12 W max.) with 4 and 16 ohm modes
- Overload protection circuitry
- Paintable grille
- Removable terminal block with loop-through terminations
- Mounting hardware included
- Optional system equalization with 900 Series module, model E-05R
- Five year warranty

H-3
H-3WP

WIDE-DISPERSION WALL-MOUNT SPEAKER

- Special appearance blends well with modern architecture for background/foreground music and paging systems
- Wide variety of applications including hotels, houses of worship, museums, offices, residential spaces, restaurants, and retail stores
- Wide coverage area: 140° horizontal dispersion
- Weather-resistant version available, model H-3WP
- Minimum reflection design reduces sound wave reflections typical of conventional bracket-mounted "box" type speaker
- Two-way, sealed enclosure
- Dual 4" woofers with neodymium magnets and 1" dome tweeter
- Built-in crossover with optimized filter slopes
- Frequency Response: 100 to 20k Hz
- Coverage Angle: 140° H x 70° V
- Sensitivity: 89 dB SPL (1 W, 1 m)
- Continuous Power Handling: 150 W (8 ohms)
- Built-in 70.7/100 V multi-tap transformer (30 W max.) with 8 and 16 ohm modes
- Overload protection circuitry
- Paintable grille
- Removable terminal block with loop-through terminations
- Mounting hardware included
- Optional equalization with 900 Series module, model E-06R
- Five year warranty

CEILING SPEAKERS

F-122CU

FULL-RANGE PREMIUM CEILING SPEAKER (5")

- Ideal for applications requiring premium sound quality and smooth off-axis coverage
- Special diffuser provides wide off-axis high frequency response
- UL-Listed for Fire Protective and General Purpose Signaling (UL1480 UUMW/UEAY, UL2043)
- Ported bass-reflex design
- 5" full-range driver
- Wide-dispersion: hemispherical
- Frequency Response: 70 to 20k Hz
- Sensitivity: 90 dB SPL (1 W, 1 m)
- Continuous Power Handling: 120 W
- Built-in 25/70.7 V multi-tap transformer (30 W max.) with 8 and 16 ohm direct modes
- Convenient power tap selector on front baffle
- Integral metal back can and safety cable
- Fast and easy installation with three-point quick-mount system and removable terminal block with loop-through terminations
- Low-profile, paintable grille
- Overload protection circuitry
- Mounting ring included
- Optimized equalization with 900 Series module, model E-03R or dual channel rack-mount processor, model AC-120
- Optional tile rails, model HY-TB1, surface-mount back can, model HY-BC1 and trim ring, model HY-TR1
- Five year warranty

F-2852C

CO-AXIAL CEILING SPEAKER (6.5")

- Ideal for applications requiring premium sound quality with extended bass response
- Special diffuser provides wide off-axis high frequency response
- Ported bass-reflex design
- Co-axial: 6.5" cone driver and dome tweeter
- Wide-dispersion: 120° conical (1-4k Hz avg.)
- Frequency Response: 60 to 20k Hz
- Sensitivity: 91 dB SPL (1 W, 1 m)
- Continuous Power Handling: 180 W (8 ohms)
- Built-in 25/70.7/100 V multi-tap transformer (30 W max.) with 8 and 16 ohm modes
- Convenient power tap selector on front baffle
- Metal back can and safety cable
- Fast and easy installation with three-point quick-mount system and removable terminal block with loop-through terminations
- Low-profile, paintable grille
- Overload protection circuitry
- Mounting ring included
- Optional tile rails, model HY-TB1
- Five year warranty

F-2352C

CO-AXIAL CEILING SPEAKER (5")

- Special diffuser provides wide off-axis high frequency response
- Ported bass-reflex design
- Co-axial: 5" cone driver and dome tweeter
- Wide-dispersion: 170° conical (1-4k Hz avg.)
- Frequency Response: 70 to 20k Hz
- Sensitivity: 90 dB SPL (1 W, 1 m)
- Continuous Power Handling: 120 W (8 ohms)
- Built-in 25/70.7/100 V multi-tap transformer (30 W max.) with 8 and 16 ohm direct modes
- Convenient power tap selector on front baffle
- Metal back can and safety cable
- Fast and easy installation with three-point quick-mount system and removable terminal block with loop-through terminations
- Low-profile, paintable grille
- Overload protection circuitry
- Mounting ring included
- Optional tile rails, model HY-TB1, surface-mount back can, model HY-BC1 and trim ring, model HY-TR1
- Five year warranty

F-2322C

FULL-RANGE CEILING SPEAKER (5")

- Ported bass-reflex design
- 5" full-range driver
- Frequency Response: 70 to 20k Hz
- Wide-dispersion: 170° conical (1-4k Hz avg.)
- Sensitivity: 90 dB SPL (1 W, 1 m)
- Continuous Power Handling: 120 W (8 ohms)
- Built-in 25/70.7/100 V multi-tap transformer (30 W max.) with 8 and 16 ohm direct modes
- Convenient power tap selector on front baffle
- Metal back can and safety cable
- Fast and easy installation with three-point quick-mount system and removable terminal block with loop-through terminations
- Low-profile, paintable grille
- Overload protection circuitry
- Mounting ring included
- Optional tile rails, model HY-TB1, surface-mount back can, model HY-BC1 and trim ring, model HY-TR1
- Five year warranty

F-2352SC

ECONOMY CO-AXIAL CEILING SPEAKER (5")

- Special diffuser provides wide off-axis high frequency response
- Co-axial: 5" driver and dome tweeter
- Wide-dispersion: 155° conical (1-4k Hz avg.)
- Frequency Response: 80 to 20k Hz
- Sensitivity: 89 dB SPL (1 W, 1 m)
- Continuous Power Handling: 18 W (8 ohms)
- Built-in 25/70.7/100 V multi-tap transformer (6 W max.) with 8 and 16 ohm direct modes
- Convenient power tap selector on front baffle
- Fast and easy installation with three-point quick-mount system and detachable four pole push-terminal input connector
- Low-profile, paintable grille
- Dust cover to protect components
- Optional surface-mount back can (HY-BC1)
- Five year warranty

F-1522SC

COMPACT CEILING SPEAKER (4")

- Ultra-compact - only 4.17" (106 mm) deep!
- 4" full-range driver
- Wide-dispersion: 160° conical (1-4k Hz avg.)
- Frequency Response: 65 to 18k Hz
- Sensitivity: 88 dB SPL (1 W, 1 m)
- Continuous Power Handling: 18 W
- Built-in 25/70.7/100 V multi-tap transformer (6 W max.) with 8 and 16 ohm direct modes
- Convenient power tap selector on front baffle
- Fast and easy installation with three-point quick-mount system and detachable four pole push-terminal input connector
- Low-profile, paintable grille
- Dust cover to protect components
- Five year warranty

HY-TB1

TILE SUPPORT RAILS

- Required for T-bar ceiling applications (24")
- Fits models F-122C, F-2322C, F-2352C and F-2852C

HY-BC1

SURFACE BACK CAN

- For surface-mount applications in open ceilings
- Low-gloss black paint finish
- Fits models F-122C, F-2322C, F-2352C and F-2352SC

HY-TR1

TRIM RING

- For covering existing holes (11.8" max.) in retrofit applications
- Fits models F-122C, F-2322C and F-2352C

F-121C
F-121CM

WIDE-DISPERSION CEILING SPEAKER

- Concealed diffuser for wide high frequency dispersion
- Ported, bass-reflex design
- 5" full-range driver
- Wide-dispersion: hemispherical
- Frequency Response: 80 to 18k Hz
- Sensitivity: 90 dB SPL (1 W, 1 m)
- Continuous Power Handling: 120 W (8 ohms - F-121C)
- Built-in 70.7/100 V multi-tap transformer (30 W max. - F-121CM)
- Integral back can and safety cable
- Fast and easy installation with self-aligning support flanges
- Low-profile, paintable grille
- Overload protection circuitry
- Optimized equalization with 900 Series module, model E-03R or dual channel rack-mount processor, model AC-120
- Optional tile-bridge, model TBF-100 (box of 10 pcs)
- Optional back-box, model BBF-100 (box of 3 pcs, use with TBF-100)
- Five year warranty

F-101C
F-101CM

HIGH CEILING SPEAKER

- For high ceiling applications
- Ported, bass-reflex design
- Wide-dispersion: 120° conical (1-4k Hz avg.)
- Frequency Response: 80 to 18k Hz
- Sensitivity: 90 dB SPL (1 W, 1 m)
- Continuous Power Handling: 120 W (8 ohms - F-101C)
- Built-in 70.7/100 V multi-tap transformer (30 W - F-101CM)
- Integral back can and safety cable
- Fast and easy installation with self-aligning support flanges
- Low-profile, paintable grille
- Overload protection circuitry
- Optional tile-bridge, model TBF-100 (box of 10 pcs)
- Optional back-box, model BF-100 (box of 3 pcs, use with TBF-100)
- Five year warranty

PC-671R

FLUSH-MOUNT SPEAKER ASSEMBLY

- 8" cone driver
- Built-in multi-tap transformer (6 W max.)
- Frequency Response: 90 to 16k Hz
- Sensitivity: 96 dB SPL (1 W, 1 m)
- Continuous Power Handling: 6 W
- Five year warranty

PC-671RV

FLUSH-MOUNT SPEAKER ASSEMBLY WITH VOLUME CONTROL

- 8" cone driver
- Built-in multi-tap transformer (6 W max.)
- Screwdriver-adjustable volume control
- Frequency Response: 90 to 16k Hz
- Sensitivity: 96 dB SPL (1 W, 1 m)
- Continuous Power Handling: 6 W
- Five year warranty

BS-1030B
BS-1030W

MUSIC/PAGING SPEAKERS

- Compact speaker for indoor/outdoor music and voice paging distribution
- Weather-resistant (IEC IP-X4 rating)
- Two-way, bass-reflex design
- 4.72" cone woofer and 1" dome tweeter
- Durable ABS resin UV-resistant paintable enclosure
- Frequency response: 80 Hz to 20 kHz
- Sensitivity: 90 dB SPL (1 W, 1 m)
- Continuous Power Handling: 90 W (8 ohms)
- Built-in multi-tap 70.7/100 V transformer (30 W max.) with direct 8 ohm mode
- Paintable steel mesh grille
- Available in black (BS-1030B) and white (BS-1030W)
- Horizontal or vertical mounting with rotatable logo badge
- Mounting bracket included
- Five year warranty

F-10B
F-10W

TRIANGULAR DESIGNER SPEAKER

- Sealed triangular enclosure mounts into corners
- 4" full-range cone speaker
- Acoustically damped cabinet
- Frequency Response: 100 to 18k Hz
- Sensitivity: 88 dB SPL (1 W, 1 m)
- Continuous Power Handling: 45 W (8 ohms)
- Optional multi-tap transformer, model TM-11 (10 W max.)
- Available in black (F-10B) or white (F-10W)
- Five year warranty

F-160G
F-160GM
F-160W
F-160WM

2-WAY SPEAKER

- Two-way, ported bass-reflex design
- 5.25" woofer and 1" dome tweeter
- Optimized for maximum efficiency with a flat frequency response when mounted in a half- or quarter-space environment
- Polypropylene enclosure available in white (F-160W, F-160WM models) or dark gray (F-160G, F-160GM)
- Frequency Response: 100 to 20k Hz
- Sensitivity: 91 dB SPL (1 W, 1 m)
- Continuous Power Handling: 150 W (8 ohms)
- Built-in multi-tap 70.7/100 V transformer (30 W max.) (F-160GM / F-160WM)
- Overload protection circuitry
- Horizontal or vertical mounting with rotatable logo badge
- Optional wall and ceiling-mount brackets
- Five year warranty

F-240G
F-240GM
F-240W
F-240WM

2-WAY SPEAKER

- Two-way, ported bass-reflex design
- Optimized for maximum efficiency with a flat frequency response when mounted in a half- or quarter-space environment
- Polypropylene enclosure available in white (F-240W, F-240WM models) or dark gray (F-240G, F-240GM)
- 6.5" woofer and 1" titanium dome tweeter
- Frequency Response: 65 to 20k Hz
- Sensitivity: 92 dB SPL (1 W, 1 m)
- Continuous Power Handling: 150 W (8 ohms)
- Built-in multi-tap 70.7/100 V transformer (30 W max.) (F-240GM / F-240WM)
- Overload protection circuitry
- Horizontal or vertical mounting with rotatable logo badge
- Optional wall and ceiling-mount brackets
- Five year warranty

F-505G
F-505W

TWO-WAY SPEAKER

- Two-way, ported bass-reflex design
- 8" woofer and HF compression driver
- Uniform directivity horn with controlled dispersion coverage pattern (60°H x 40°V)
- Frequency Response: 80 to 20k Hz
- Sensitivity: 93 dB SPL (1 W, 1 m)
- Continuous Power Handling: 240 W (8 ohms)
- Polypropylene enclosure in white (F-505W) or dark gray (F-505G)
- Built-in overload protection circuitry
- Input panel with push terminals and 1/4" phone jacks
- Optional mounting brackets
- Five year warranty

F-605G
F-605W

TWO-WAY SPEAKER

- Two-way, ported bass-reflex design
- 12" woofer and HF compression driver
- Uniform directivity horn with controlled dispersion coverage pattern (60°H x 40°V)
- Polypropylene enclosure available in white (F-605W) or dark gray (F-605G)
- Frequency Response: 80 to 20k Hz
- Sensitivity: 98 dB SPL (1 W, 1 m)
- Continuous Power Handling: 360 W (8 ohms)
- Overload protection circuitry
- Input panel with push terminals and 1/4" phone jacks
- Optional mounting brackets
- Five year warranty

HB-1

IN-WALL SUBWOOFER

- Low frequency enhancement for a wide variety of speaker system applications including hotels, houses of worship, museums, offices, residential spaces, restaurants, and retail stores
- Minimum-depth design allows recessed, flush-mount installation in spaces with only 4.1" of available depth
- Wall-mount between 16" spaced wall studs
- Ceiling-mount using supplied mounting frame and rigging points
- Tuned, ported enclosure for deep bass and low distortion
- Acoustic bandpass filter design eliminates need for external crossover
- Heavy-duty loudspeaker component: 8" woofer with ferrite magnet
- Solid, vibration-free steel enclosure: also acts as heat-sink to dissipate excessive heat away from the speaker component
- Frequency Response: 45 to 200 Hz
- Sensitivity: 91 dB SPL (1 W / 1 m, 1/2 space)
- Continuous Power Handling: 240 W (8 ohms)
- Removable terminal block with loop-through terminations
- Paintable grille
- Mounting bracket included
- Optional 70.7/100 V multi-tap transformer, model MT-S0601 (60 W max.)
- Optional 900 Series low-pass-filter module, model E-07S
- Five year warranty

FB-100

SUBWOOFER

- Low frequency enhancement for a wide variety of speaker system applications including hotels, houses of worship, museums, offices, residential spaces, restaurants, and retail stores
- Tuned, ported enclosure for deep bass and low distortion
- Acoustic bandpass filter design eliminates need for external crossover
- Floor, wall, corner or ceiling-mount: omni-directional coverage allows flexible placement
- Heavy-duty loudspeaker component: 10" woofer with ferrite magnet and 2" aluminum voice coil for efficient heat dissipation
- Solid, vibration-free construction, top-loaded for simplified maintenance
- Frequency Response: 35 to 160 Hz
- Sensitivity: 94 dB SPL (1 W / 1 m, 1/2 space)
- Continuous Power Handling: 450 W (8 ohms)
- Paintable black finish
- Removable terminal block with loop-through terminations for convenient connection of parallel speakers
- Six rigging points for suspended mounting
- Optional 70.7/100 V multi-tap transformer, model MT-S0601 (60 W max.)
- Optional 900 Series low-pass-filter module, model E-07S
- Five year warranty

F-505WP
F-505WP-L

WEATHER-RESISTANT TWO-WAY SPEAKER

- Weather-resistant construction for outdoor or humid indoor applications
- Two-way, ported bass-reflex design
- 8" woofer and HF compression driver
- Uniform directivity horn with controlled dispersion coverage pattern (60°H x 40°V)
- Durable polypropylene enclosure
- Frequency Response: 80 to 20k Hz
- Sensitivity: 93 dB SPL (1 W, 1 m)
- Continuous Power Handling: 240 W (8 ohms - F-505WP-L)
- Built-in multi-tap 70.7/100 V transformer (60 W max.) (F-505WP)
- Overload protection circuitry
- Optional wall and ceiling-mount brackets
- Five year warranty

BS-20W
BS-20W-WHT

WEATHER-RESISTANT TWO-WAY SPEAKER

- Two-way sealed enclosure
- 5.2" treated cone woofer and CD horn (90°H x 30°V) with piezo driver
- Frequency Response: 100 to 20k Hz
- Sensitivity: 94 dB SPL (1 W, 1 m)
- Built-in 70.7/100 V transformer (20 W max.)
- Mounting bracket included
- Five year warranty

F-160WP

WEATHER-RESISTANT TWO-WAY SPEAKER

- Weather-resistant construction for outdoor or humid indoor applications
- Two-way, ported bass-reflex design
- 5.25" woofer and 1" dome tweeter
- Optimized for maximum efficiency with a flat frequency response when mounted in a half- or quarter-space environment
- Polypropylene dark gray enclosure
- Frequency Response: 100 to 20k Hz
- Sensitivity: 91 dB SPL (1 W, 1 m)
- Built-in multi-tap 70.7/100 V transformer (30 W max.)
- Optional mounting bracket
- Five year warranty

F-605WP
F-605WP-L

WEATHER-RESISTANT TWO-WAY SPEAKER

- Weather-resistant construction for outdoor or humid indoor applications
- `Two-way, ported bass-reflex design
- 12" woofer and HF compression driver
- Uniform directivity horn with controlled dispersion coverage pattern (60°H x 40°V)
- Durable polypropylene enclosure
- Frequency Response: 80 to 20k Hz
- Sensitivity: 98 dB SPL (1 W, 1 m)
- Continuous Power Handling: 360 W (8 ohms - F-605WP-L)
- Built-in multi-tap 70.7/100 V transformer (120 W max.) (F-605WP)
- Overload protection circuitry
- Optional wall and ceiling-mount brackets
- Five year warranty

SL-60W

WEATHER-RESISTANT TWO-WAY SPEAKER

- Weather-resistant speaker ideal for outdoor BGM, foreground music and PA applications
- 12" cone woofer and CD horn with piezo driver
- Constant directivity horn with controlled dispersion coverage pattern (90°H x 40°V)
- Polyethylene resin enclosure
- Frequency Response: 50 to 20k Hz
- Sensitivity: 92 dB SPL (1 W, 1 m)
- Continuous Power Handling: 240 W (8 ohms)
- Optional mounting brackets
- Five year warranty

CS Series

TOA CS Series Wide-Range Paging Speakers are ideal for indoor and outdoor commercial sound system applications for voice paging, background music and tone signaling distribution. Compared to traditional metal paging horns, CS Series speakers offer wider frequency range and superior sound quality. CS Series models include the CS-64 (6 W), CS-154 (15 W) and CS-304 (30 W). Each includes a built-in 70.7V/100 V transformer with screwdriver-adjustable power taps. All CS models are fully weather-resistant to withstand demanding environmental conditions with a sealed enclosure, full-range moisture-resistant cone speaker, stainless-steel mounting hardware and a protective mesh grille. The enclosure is also coated with polyurethane resin paint to resist the fading effects of prolonged exposure to ultraviolet light. The CS Series Wide-Range Paging Speakers are backed with a five year warranty.

CS-64 (6 W)
CS-154 (15 W)
CS-304 (30 W)
WIDE-RANGE PAGING SPEAKERS

- Wide-range paging speakers for voice paging, background music and tone signaling distribution
- Weather-resistant to withstand demanding environmental conditions
- Constant directivity coverage (CS-154/CS-304)
- Moisture-resistant speaker component (4.72")
- Frequency Response:
  CS-64: 130 to 13k Hz
  CS-154: 150 to 15k Hz
  CS-304: 120 to 15k Hz
- Sensitivity (1 W, 1 m):
  CS-64: 96 dB SPL
  CS-154: 97 dB SPL
  CS-304: 98 dB SPL
- Built-in multi-tap 70.7/100 V transformer:
  CS-64: 6 W
  CS-154: 15 W
  CS-304: 30 W
- Screwdriver-adjustable power taps
- Lightweight, sealed enclosure prevents moisture damage
- Cable strain-relief
- Polyurethane resin paint resists the fading effects of ultraviolet light
- IEC IP-64 standards compliant for dust and moisture-resistance
- Wide temperature range: -4° F to 131° F
- Protective stainless-steel mesh grille prevents speaker damage
- Stainless-steel mounting bracket included
- Five year warranty

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to download the TOA Speaker Design Guide!

PAGING HORNS

SC Series

TOA SC Series Paging Horn Speakers provide intelligible voice paging and tone signaling for indoor and outdoor sound system applications. Fully weather-resistant for reliable operation in demanding environmental conditions, SC Series models are available with a choice of power ratings from 10 W to 50 W and a built-in 25 V / 70.7 V transformer with external screwdriver-adjustable power taps. The SC Series are easy to install in wall, pole or ceiling-mount applications and include corrosion-resistant stainless-steel mounting hardware. The SC Series models are also designed for intercom talk-back applications requiring dual operation as both a microphone and speaker. Each model is a double re-entrant horn with compression driver for high sensitivity and a lightweight aluminum enclosure. The loud-speaker diaphragm is heat and moisture-resistant to prevent deformation and extend operation. The SC Series are also IP-65 standards compliant for dust and moisture-resistance with a wide operating temperature range from -4° F to 130° F. The SC Series Paging Horn Speakers are backed with a five year warranty.

SC-610 (8 ohm)
SC-610T
SC-615 (8 ohm)
SC-615T
SC-630 (8 ohm)
SC-630T
SC-650 (16 ohm)

PAGING HORN SPEAKERS

- Paging horn speakers for voice paging and tone signaling distribution
- Weather-resistant to withstand demanding environmental conditions
- Double re-entrant horn with compression driver
- Dispersion Angles:
  SC-610/T: 70° H x 100° V
  SC-615/T: 70° H x 90° V
  SC-630/T: 55° H x 70° V
  SC-650: 55° H x 45° V
- Frequency Response:
  SC-610/T: 315 to 12.5k Hz
  SC-615/T: 280 to 12.5k Hz
  SC-630/T: 250 to 10k Hz
  SC-650: 250 to 6k Hz
- Sensitivity (1 W, 1 m):
  SC-610/T: 110 dB SPL
  SC-615/T: 112 dB SPL
  SC-630/T: 113 dB SPL
  SC-650: 108 dB SPL
- Continuous Power Handling:
  SC-610/T: 10 W
  SC-615/T: 15 W
  SC-630/T: 30 W
  SC-650: 50 W
- Usable as a microphone for intercom talk-back applications
- Built-in 25/70.7 V transformer (“T” models) with (8 and 16 ohm models also available)
- Screwdriver-adjustable power taps
- Lightweight, sealed, aluminum enclosure prevents moisture damage
- Cable strain-relief
- IEC IP-65 standards compliant for dust and moisture-resistance
- Wide temperature range: -4°F to 131°F
- Phenolic loudspeaker diaphragm prevents deformation from heat and moisture
- Stainless-steel mounting bracket included
- Optional swivel-mount bracket, model YS-151S
- Five year warranty

SL-122

TWO-WAY STAGE SPEAKER

- Compact and lightweight
- 12" woofer and CD horn (90°H x 40°V) with piezo driver
- Frequency Response: 70 to 20k Hz
- Sensitivity: 95 dB SPL (1 W, 1 m)
- Continuous Power Handling: 240 W (8 ohms)
- Two paralleled 1/4" phone jacks
- Rugged stackable enclosure with durable textured vinyl coating and protective steel mesh grille
- Convenient carrying handle
- Built-in stand-mounting adapter (1 3/8" diameter)
- Five year warranty

SL-122M

TWO-WAY FLOOR MONITOR

- Compact and lightweight
- 12" woofer and CD horn (90°H x 40°V) with piezo driver
- Frequency Response: 70 to 20k Hz
- Sensitivity: 95 dB SPL (1 W, 1 m)
- Continuous Power Handling: 240 W (8 ohms)
- Two paralleled 1/4" phone jacks
- Rugged enclosure with durable textured vinyl coating and protective steel mesh grille
- Convenient carrying handle
- Five year warranty

SL-152

TWO-WAY STAGE SPEAKER

- Compact and lightweight
- 15" woofer and CD horn (90°H x 40°V) with piezo driver
- Frequency Response: 70 to 20k Hz
- Sensitivity: 98 dB SPL (1 W, 1 m)
- Continuous Power Handling: 240 W (8 ohms)
- Two paralleled 1/4" phone jacks
- Rugged stackable enclosure with durable textured vinyl coating and protective steel mesh grille
- Convenient carrying handle
- Built-in stand-mounting adapter (1 3/8" diameter)
- Five year warranty

SL-152M

TWO-WAY FLOOR MONITOR

- Compact and lightweight
- 15" woofer and CD horn (90°H x 40°V) with piezo driver
- Frequency Response: 70 to 20k Hz
- Sensitivity: 98 dB SPL (1 W, 1 m)
- Continuous Power Handling: 240 W (8 ohms)
- Two paralleled 1/4" phone jacks
- Rugged enclosure with durable textured vinyl coating and protective steel mesh grille
- Convenient carrying handle
- Five year warranty

Speaker Mounting Hardware and Accessory Reference

Model	Mounting Hardware		Accessories	
F-122CU	HY-TB1	Tile Rails (2)	E-03R	900 Series EQ Module
	HY-BC1	Surface-mount Back Can	AC-120	Dual Channel Rack-Mount Processor
	HY-TR1	Trim Ring		
F-2352C	HY-TB1	Tile Rails (2)		
	HY-BC1	Surface-mount Back Can		
	HY-TR1	Trim Ring		
F-2322C	HY-TB1	Tile Rails (2)		
	HY-BC1	Surface-mount Back Can		
	HY-TR1	Trim Ring		
F-2352SC	HY-BC1	Surface-mount Back Can		
F-2852C	HY-TB1	Tile Rails (2)		
F-101C/M	BBF-100	Back-box (requires TBF-100)		
	TBF-100	Tile-bridge		
F-121C/M	BBF-100	Back-box (requires TBF-100)	E-03R	900 Series EQ Module
	TBF-100	Tile-bridge	AC-120	Dual Channel Rack-Mount Processor
F-160G/W/M	WCB-12/W	Ceiling/Wall-Mount Bracket		
F-160WP	YS-150WP	Ceiling/Wall-Mount Bracket		
F-240G/W/M	CMB-31/W	Ceiling-Mount Bracket		
	WCB-24/W	Wall-Mount Bracket (Economy)		
	WCB-31/W	Wall-Mount Bracket		
F-505G/W	HY-30/W	Ceiling-Mount Bracket		
	HY-501B/W	Wall-Mount Bracket		
F-505WP/-L	HY-30/W	Ceiling-Mount Bracket		
	HY-501B/W	Wall-Mount Bracket		
	YS-500	Pole/Wall-Mount Bracket (requires YS-60B for pole-mounting)		
	YS-60B	Pole bands		
F-605G/W	HY-30/W	Ceiling-Mount Bracket		
	HY-601B/W	Wall-Mount Bracket		
F-605WP/-L	HY-30/W	Ceiling-Mount Bracket		
	HY-601B/W	Wall-Mount Bracket		
	YS-600	Pole/Wall-Mount Bracket (requires YS-60B for pole-mounting)		
	YS-60B	Pole bands		
FB-100	Six rigging points on enclosure (mounting hardware supplied by others)		E-07S	900 Series Low-Pass-Filter Module
			MT-S0601	70.7/100 V Matching Transformer (60 W)
H-1	Mounting hardware included (see installation manual for details) HY-H1 Wall-Mount Bracket also available separately for pre-construction (included w/ H-1) Note: Also fits RACO 953, supplied by others, not required for installation		E-04R	900 Series EQ Module
H-2/WP	Mounting hardware included (see installation manual for details)		E-05R	900 Series EQ Module
H-3/WP	Mounting hardware included (see installation manual for details)		E-06R	900 Series EQ Module
HB-1	Mounting hardware included (see installation manual for details)		E-07S	900 Series Low Pass-Filter Module
			MT-S0601	70.7/100 V Matching Transformer (60 W)
PC-671R/RV	Back-box,tile-bridge and rails (supplied by others)			
SL-60W	HY-401	Ceiling-Mount Bracket		
	YS-60	Pole/Wall-Mount Bracket (requires YS-60B for pole-mounting)		
	YS-60B	Pole bands		

Whether for coaching or crowd control, megaphones remain a great vehicle for getting your message across. And, with 10 different models available, TOA offers an ER Series megaphone to fit nearly every need. Most models feature a breakthrough antibacterial treatment that protects the heavily-used handles and microphone elements. Ideal for situations where many people will be handling a megaphone, this unique antibacterial application kills most germs within 24 hours.

High-impact plastic horns deliver a smooth, ring-free sound. For maximum communication efficiency, TOA's easy-to-use megaphones offer extended battery life and sound coverage of up to 1/2 mile. Distinctive whistle or siren signaling options will get the crowd's attention and make sure your message is heard. To complete the line, both hand- and shoulder-held megaphones are available. From rallies and movie locations to fires and emergencies, you can be sure TOA's ER Series megaphones have got you covered.

ER-604W

SHOULDER MEGAPHONE

- Shoulder megaphone with external handheld microphone, volume control and On/Off switch
- Push button-activated whistle tone
- External Microphone and Auxiliary inputs
- Batteries: eight "AA" or external 12 VDC
- Battery test indicator
- Output Power: 10 W
- Range: 525'
- Optional Headset Microphone: WH-4000H
- Five year warranty

ER-1015

HAND-HELD MEGAPHONE

- Hand-held megaphone with built-in microphone, volume control and On/Off switch
- Anti-bacterial treatment on handle and microphone
- Batteries: six "C"
- Output Power: 23 W
- Range: 1030' (speech)
- Five year warranty

ER-1015S

HAND-HELD MEGAPHONE
WITH SIREN FUNCTION

- Handheld megaphone with built-in microphone, volume control and On/Off switch
- Push-button activated siren tone
- Anti-bacterial treatment on handle and microphone
- Batteries: six "C"
- Output Power: 23 W
- Range: 1030' (speech) / 1640' (siren)
- Five year warranty

ER-2015

SHOULDER MEGAPHONE

- Shoulder-held megaphone with external hand-held microphone with volume control and On/Off switch
- Anti-bacterial treatment on microphone
- Batteries: six "C"
- Output Power: 23 W
- Range: 1310' (speech)
- Five year warranty

ER-2015W

SHOULDER MEGAPHONE WITH WHISTLE FUNCTION

- Shoulder-held megaphone with external hand-held microphone with volume control and On/Off switch
- Push-button activated whistle tone
- Anti-bacterial treatment on microphone
- Batteries: six "C"
- Output Power: 23 W
- Range: 1310' (speech) / 1640' (whistle)
- Five year warranty

MEGAPHONES

ER-510

HAND-HELD MEGAPHONE

- Compact, hand-held megaphone with built-in microphone
- Anti-bacterial treatment on handle and microphone
- Batteries: eight "AA"
- Output Power: 10 W
- Range: 820' (speech)
- Five year warranty

ER-77

SHOULDER MEGAPHONE

- Shoulder-type megaphone with external hand-held microphone with volume control and On/Off switch
- Batteries: eight "C"
- Output Power: 35 W
- Range: 2640' (1/2 mile)
- Five year warranty

ER-510S

HAND-HELD MEGAPHONE WITH SIREN FUNCTION

- Compact, hand-held megaphone with built-in microphone
- Push-button activated siren tone
- Anti-bacterial treatment on handle and microphone
- Batteries: eight "AA"
- Output Power: 10 W
- Range: 820' (speech) / 1030' (siren)
- Five year warranty

ER-69W

SHOULDER MEGAPHONE WITH WHISTLE FUNCTION

- Shoulder-type megaphone with external microphone, volume control, On/Off switch and whistle signal
- Auxiliary input jack for external sound source
- Batteries: Ten "D" cells or external 12 VDC
- Battery consumption meter
- Output Power: 45 W
- Range: 2640' (1/2 mile)
- Five year warranty

ER-510W

HAND-HELD MEGAPHONE WITH WHISTLE FUNCTION

- Compact, hand-held megaphone with built-in microphone
- Push-button activated whistle tone
- Anti-bacterial treatment on handle and microphone
- Batteries: eight "AA"
- Output Power: 10 W
- Range: 820' (speech) / 1030' (whistle)
- Five year warranty

DT-920

AM/FM TUNER

- Frequency synthesized digital tuner with multi-function digital display
- Presets for 40 AM and/or FM stations
- Automatic station scan (local or distant) and manual tuning
- Automatic station storage to memory using scan modes
- Includes FM dipole and AM loop antenna
- Optional rack-mount kit, model MB-DT-920 (2 RU)
- Five year warranty

TT-104B

PROGRAM TIMER

- For timed control of external equipment and events
- Four independent outputs with thirty programmable steps per output
- Outputs feature 0.5 A (@ 24 VDC) five second dry contact closures
- Weekly program with pause mode for vacations/ holidays.
- ±5 second per month clock accuracy with 100 hour backup battery if power fails
- Optional rack-mount kit, model MB-15B (1 RU)
- Five year warranty

ZM-104

IMPEDANCE METER

- Measures impedance of speaker lines up to 100k ohms
- Batteries: four (AA)
- 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
- Five year warranty

VISIT www.toaelectronics.com

to download specification sheets, manuals, CAD data and more!

PORTABLE CONFERENCE SYSTEMS

TOA's TS Series Portable Conference System is compact, lightweight, and easy to set up and operate. The TS Series is ideal for a variety of applications including boardrooms, meeting halls, and community buildings.

System configuration is easy using three main components: System Controller, Chairperson Station and Delegate Station. The Chairperson/Delegate Stations connect to the System Controller in a "daisy-chain" configuration using supplied cables. You can connect a maximum of 70 Chairperson/Delegate Stations to a single System Controller or 140 Chairperson/Delegate Stations using three System Controllers.

The Chairperson and Delegate Stations include a detachable gooseneck microphone and built-in speaker. The microphone has a distinctive red LED for visual indication of the person speaking. Both stations have a Press On/Off Talk button to activate the microphone and LED and disconnect the speaker to prevent feedback. The Chairperson Station also has a Press-To-Talk Priority button to activate a single tone chime and override all Delegate Stations.

For long term recording, connect a conventional tape recorder to the TS-700 System Controller or a mini-cassette recorder to the Chairperson/Delegate Stations.

TS-700

SYSTEM CONTROLLER

- Single unit supports a maximum of 70 Chairperson/Delegate's Stations
- Three units support up to 140 Chairperson/Delegate's Stations
- Microphone limit switch sets the number of simultaneously active Delegate's Stations to one, two, four or six stations
- Time out switch automatically turns off active Chairperson/ Delegate's Microphones, adjustable to 20 seconds, 40 seconds or always on
- External microphone input and two auxiliary inputs
- Recording outputs
- Separate volume controls for external microphone, auxiliary line (for conference station's built-in speaker) and priority chime
- Optional rack-mount kit, model MB-23B-BK (2 RU)
- Five year warranty

TS-702

DELEGATE STATION

- Detachable gooseneck microphone and built-in speaker
- Distinctive red ring lights on mic for visual indication of the person speaking
- On/Off talk switch
- Recording output (mini-jack)
- Quick-lock mini-connector
- Connection cable included (6.5 ft.)
- Five year warranty

TS-701

CHAIRPERSON STATION

- Detachable gooseneck microphone and built-in speaker
- Distinctive red ring lights on mic for visual indication of the person speaking
- On/Off Talk switch
- Press-To-Talk Priority speech button activates chime tone and overrides Delegate's Stations
- Multiple simultaneous Chairperson Stations operation possible
- Recording output (mini-jack)
- Quick-lock mini-connector
- Connection cable included (6.5 ft.)
- Five year warranty

YR-700

EXTENSION CABLE

- Allows remote location of TS-700 system controller in fixed installations to a distance of 32.8 ft.

VS-900 Security Intercom Systems

The TOA VS-900 Security Intercom System provides reliable and intelligible voice communication for critical security applications, including corporate security, correctional institutions, educational facilities, hospital access points, and parking structures. For over 35 years, TOA has developed a proven track record of innovative, reliable intercom products, including the groundbreaking EXES and IC-100 systems. The TOA VS-900 system is UL and cUL Listed and manufactured to ISO-9001 standards to ensure continuous operation for extended periods.

Ideal for applications with multiple "sub" stations calling in to one or more "master" stations, the VS-900 has a wide range of standard and software programmable features, including comprehensive Call-Forwarding to allow system operators freedom of movement and most importantly, to ensure that no calls go unanswered. The VS-900 integrates easily with access control and video surveillance equipment via a simple RS-232 communications protocol. Other features include telephone system integration, paging and external source distribution, event logging, and recording outputs.

The VS-900 scalable architecture allows the most cost effective configuration for each application with easy expansion as the size of the facility grows. Each exchange mainframe supports up to 4 master stations and 64 sub-stations. For large systems, exchanges can be expanded or "tie-lined" to provide up to 64 master stations and 1,024 sub-stations. The master stations can be either the TOA MS-900 or standard off-the-shelf single line telephones with support for Caller-ID signaling. Sub-stations include Economy, Indoor, Outdoor, and Panic models, each with heavy-duty plate, call switch and optional LED/relay control. Direct select interface cards provide relays, LED drivers and switch inputs for custom consoles and annunciator panels.

The VS-900 Security Intercom System is backed with a two year warranty.

- Security Intercom Systems for critical applications such as corporate, correctional, educational, government, military, parking structures, police, and others
- "Sub-to-Master" and "Master-to-Master" Station communication
- Proven TOA Quality and Reliability
- UL-Listed, manufactured to ISO-9001 standards
- User-Friendly Installation, Setup and Maintenance
- Modular Design — scalable for cost-effective system configurations with easy system expansion
- Station Capacity:
  Single Exchange: 4 Master stations and 64 Sub-stations
  (Up to) 16 Tie-lined Exchanges: 64 Master stations and 1,024 Sub-stations
- Flexible Programming and Control Software — for setup and maintenance of multiple exchanges from one PC, remotely via modem or via network using an RS-232-to-Ethernet converter
- Security System Integration — communication protocol available for remote control and monitoring of intercom system functions from external devices
- Comprehensive Call Forwarding Features — Time-based, No-Answer, Busy and C/O line to prevent unanswered calls and allow attendant mobility
- Recording Outputs — for individual conversation recording of each master station, telephone master station and telephone line port with start/stop control activation
- Event Logging — all system events are date and time-stamped for PC archiving
- Master Station Flexibility — supports TOA MS-900 or standard Caller-ID analog telephones
- Console Master Interface — allows custom master station fabrication with headset, microphone, speaker, and key ports
- Durable Sub-stations — choose from Economy, Indoor, Outdoor, and Panic models, each with heavy-duty plate, call-switch and optional LED/relay control
- Simple "Star Configuration" Wiring — each station connects to exchange via shielded, twisted pair (sub) or two twisted pairs (master)
- Extended Cable Runs — Master Stations: 7,546 ft., Sub-stations: 4,265 ft. and Tie-Lined Exchanges: 4,921 ft. (#20 AWG)
- Site Connector Interface — allows remote exchange connections with fiber optic or other media converters
- Telephone Interface supports two outside C/O telephone lines or trunks
- Paging Interface — for external amplifier zone distribution with sixteen control ports
- External Source Input — for station and external amplifier zone distribution with four trigger inputs
- Two year warranty

Features and Functions

Scalable Architecture — The expandable, modular design allows you to specify the most cost-effective station configuration for each installation. A single VS-900MF exchange mainframe supports up to 4 master stations and 64 sub-stations. You can easily connect up to 16 exchanges for a maximum of 64 master stations and 1024 sub-stations.

Master Station Flexibility — Along with TOA MS-900 Master Stations, the VS-900 also supports standard analog Caller-ID telephones.

Direct Select Interface — The Direct Select Interface cards provide external relays, Call-LED drivers and direct select switch inputs for applications requiring camera/door control or custom annunciator panels. The interface can also be used for custom master stations with headset interface, microphone input, speaker output and key inputs.

System Integration Solution — VS-900 functions can be both remote controlled and monitored with a serial RS-232 data connection. A simple communications protocol allows integration with access control and video surveillance equipment such as camera controllers, PLC's, and touch-screens.

Flexible Programming and Control Software — System programming and maintenance is accomplished with flexible Microsoft Windows®-based software. Software features include system configuration, remote dialing, event logging and communication monitoring. Systems can be set up at the office and uploaded to the VS-900 at the job-site. In multi-exchange systems, you can program and maintain up to sixteen exchanges from a single connection. Programming and event log data can be easily saved to disk or printed.

Remote System Management — The software accommodates a dial-up modem connection for off-site programming and maintenance of up to 16 exchanges.

Telephone System Integration — With the VS-900CO Telephone Interface card, you can connect up to two outside telephone lines or trunks to each exchange allowing the following convenient features.

- ***Outside Line Access*** — Dialing a pre-assigned access number allows master stations to access an outside telephone line for outgoing calls.
- ***Direct-In Line/Group Call*** — Routes incoming telephone calls to individual or multiple master stations simultaneously.
- ***Direct-In Dial*** — Incoming telephone line callers can dial specific master or sub-stations directly.

Master Station Features — The TOA MS-900 Master Station includes a 12-digit alphanumeric LCD, clock, 8 programmable auto-dial keys and the following convenient functions.

- ***Alphanumeric Station Numbering*** — For easily recognizable dialing and display, station numbering is fully programmable for both 2 to 6 digit and 8 alphanumeric characters.
- ***Call-In Display Priority*** — Sub-stations can be assigned either Emergency or Normal display priority in the master station queue during multiple station call-in.
- ***Call Queuing*** — Up to 64 incoming calls can be queued in order of pre-assigned priority and answered in any order. Once an existing call is terminated, the next call moves to the top of the queue.
- ***Selective Response*** — The master station operator can scroll through a list of multiple incoming calls and select a specific station call to answer.
- ***Redial*** — The master station operator can redial the last dialed key sequence with a single key operation.
- ***Call Hold*** — The master station operator can place an answered call on hold.
- ***Call Transfer*** — The master station operator can place an answered call on hold, dial a third party and then either transfer the original calling party or return to the original conversation.
- ***Auto-Dial*** — Each master station operator can assign frequently dialed station numbers or dialing sequences to eight programmable keys to allow convenient one-touch operation.

Multiple Communication Modes — Depending on the type of station in use, users have the choice of Handset, Hands-free and Press-to-talk (Simplex) Communication.

Call Forwarding — Incoming calls to a master station can be forwarded internally, manually or automatically, to another master station or group of master stations or externally, to an outside telephone number.

- ***Manual Forwarding*** — Each master station can manually dial a key sequence to route future sub-station calls to a new destination.
- ***Remote Forwarding (Call Capture)*** — Sub-station calls to a master station can be forwarded to a new destination from a remote master station location.
- ***Time-Based Forwarding (Automatic)*** — Sub-station calls to a master station can be automatically forwarded at a pre-programmed time to a new destination and then automatically reset to normal operation. Ideal for shift changes or off-hours security.
- ***No Answer Forwarding*** — Sub-station calls to a master station can be automatically forwarded to a pre-programmed destination after a specific number of unanswered rings.
- ***Busy Forwarding*** — Sub-station calls to a master station can be automatically forwarded to a master station or group if the called master station is busy.
- ***Off-Site Forwarding / Outside Line Call Forwarding*** — Station calls can also be routed via Call Forwarding to a preprogrammed outside telephone number.

Master Station Group Call — Routes incoming sub-station calls to multiple master stations simultaneously.

Conference / Emergency Conference — Any master station can initiate a conference with up to two other master stations. A pre-assigned four station emergency conference can also be initiated with a single key sequence.

Audio Monitoring — Real-time audio monitoring of pre-programmed sub-station groups with automatic scrolling and stop/forward/back control.

Event Logging — System events are stored with station numbers, date and time stamp for PC archiving.

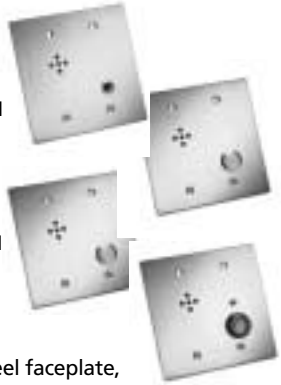
Voice Recording — All master station, telephone master stations and telephone line ports have individual recording outputs for recording conversation audio. Each has an associated control port for start/stop control of an external recording device for the beginning and end of the conversation.

Paging — Master stations and telephone master stations can initiate paging to up to 19 sub-station zones, All-Zones and Emergency All-Stations/Zones. A separate Paging Output is also available for connection to an external paging amplifier along with 16 programmable control outputs for external relay activation.

Automatic Time-out — A preprogrammed time limit allows automatic termination of Incoming Station Calls, Conversations and Paging.

External Source Input — Line input for connecting an external music source or tone generator. Four programmable trigger inputs distribute the external source to pre-programmed zones.

MS-900
MASTER STATION
- Connects to VS-900MS card using two-twisted pair wiring
- Handset and hands-free speaker/microphone
- Alpha-numeric, 12 character display
- Digital clock display
- In-use indicator
- Eight programmable auto-dial keys
- Press-to-talk, redial and transfer keys
- Station number directory
- Adjustable speaker volume and microphone sensitivity
- Speaker High/Low volume selector switch
- Standard RJ-11 telephone jack
- External speaker terminals for high ambient noise areas
- Wall-mount bracket included
- Optional wall jacks, model XWJ-100F (flush) or XWJ-100S (surface)



RS-150
ECONOMY INDOOR SUB-STATION

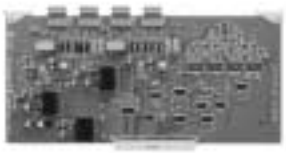
RS-160
INDOOR VANDAL SUB-STATION

RS-170
OUTDOOR VANDAL SUB-STATION

RS-180
OUTDOOR PANIC SUB-STATION

- Heavy-duty brushed stainless steel faceplate, #11 GA (RS-150: #14 GA)
- Vandal-resistant call button (except RS-150)
- Weather-resistant models (RS-170 and RS-180)
- Connects to VS-900RS card using shielded, twisted pair wiring
- Mounts in two-gang deep electrical box with adapter ring (supplied by others)

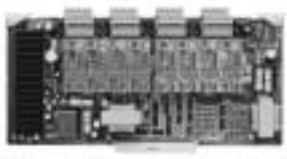
RS-180 Special Features:
- Red vandal-resistant call button
- Red Call Assurance LED for ADA-compliance
- Control output - open collector-type for external relay control
- Labeling area for ADA-compliant message



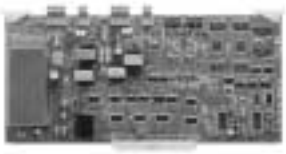
VS-900MS
MASTER STATION LINE CARD
- Two (2) MS-900 Master Station ports
- Two Recording Line outputs
- Two Recording Control outputs (open collector)
- Removable terminal blocks

VS-900MF
EXCHANGE MAINFRAME
- Mainframe for system cards
- Supports up to 4 master stations and 64 sub-stations
- Requires one PU-200 Power Supply for 32 sub-stations and 2 PU-200 for 33-64 sub-stations
- 24 VDC input for backup power supply
- ON/OFF Switch
- LED's for Status Indication
- Microsoft Windows® -based PC required for system programming
- All programming stored in EEPROM
- 2 RS-232 ports (programming / logging)
- Rack-mount brackets included (10 RU)
- Optional wall-mount bracket, model YC-303

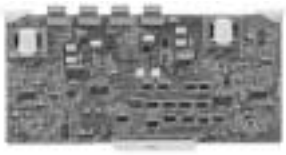
PU-200
POWER SUPPLY FOR VS-900MF
- Connects to the VS-900MF and provides two 20 VAC outputs
- One PU-200 supports 1 or 2 VS-900RS, two PU-200 support 3 or 4 VS-900RS
- Wall-mount brackets included
- Optional rack-mount panel, model PN-100B (4 RU)



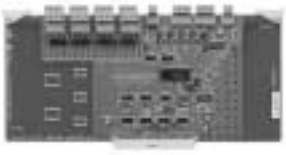
VS-900RS
SUB-STATION LINE CARD
- Sixteen (16) RS Sub-station ports
- Two (2) talk paths/speech links (one speech, one speech/paging)
- Paging input and output for external paging amplifier connection
- Removable terminal blocks



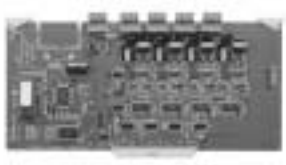
VS-900AL
TELEPHONE MASTER STATION LINE CARD
- Two (2) standard analog telephone ports (telephone equipment supplied by others)
- Caller-ID signaling
- Two recording line outputs
- Two recording control outputs (open collector)
- Removable terminal blocks



VS-900CO
C/O TELEPHONE INTERFACE CARD
- Two outside telephone (C/O) line ports
- Two recording line outputs
- Two recording control outputs (open collector)
- Removable terminal blocks

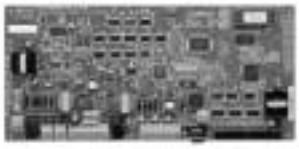


VS-900AF
AUDIO FUNCTION CARD
- Paging line output
- Sixteen paging control outputs (open collector)
- External source line input
- Four external source trigger inputs for zone distribution
- Conference link for conference and emergency conference features
- Removable terminal blocks



VS-900TI
TIE-LINE INTERFACE CARD
- Required in each VS-900MF exchange in a multi-exchange tie-lined system (16 maximum)
- Multi-drop (bussed) configuration simplifies wiring
- Up to four voice links (4x send/4x receive), two twisted pair wiring each
- One data link, RS-485, shielded twisted pair wiring
- Removable terminal blocks

VS-900SC
SITE CONNECTOR TIE-LINE INTERFACE
- For connecting exchanges via standard audio fiber interfaces or other media converters (supplied by others)
- Combines four voice links from two exchanges
- Two exchange systems requiring fiber or other media connection do not require the VS-900SC
- Requires external power supply, model PU-200



VS-900DI
DIRECT SELECT/MASTER STATION INTERFACE CARD
- Supports up to (32) VS-910DI Direct Select I/O cards
- Connects between MS-900 Master Station and VS-900MS port
- Use standalone without MS-900 to provide interface for custom master stations
- Headset port
- Microphone input
- Speaker output (1 W, 8 Ohms)
- Key Input terminals (XFER, PTT, C)
- In-use indication output
- Requires 24 VDC (1 A) power supply, model XPS-24VS
- Mountable in user-supplied console or enclosure

VS-910DI
DIRECT SELECT I/O CARD
- Connects to VS-900DI (32 max.)
- 32 programmable relay outputs (24 VDC, 1 A)
- 32 programmable call-LED drivers (open collector type)
- 32 programmable direct select switch inputs
- Relays programmable to activate automatically at call-in/answer for camera call-up or manually for door control
- Requires 24 VDC (1 A) power supply, model XPS-24VS
- Mountable in user-supplied console or enclosure

VS-900 System Configuration

Master Stations[1]	Sub-stations[2]	VS-900MF	PU-200	VS-900MS/AL	VS-900RS	VS-900CO[3]	VS-900AF[3]	VS-900TI
4	64	1	2	2	4	1	1	0
8	128	2	4	4	8	2	2	2
12	192	3	6	6	12	3	3	3
16	256	4	8	8	16	4	4	4
20	320	5	10	10	20	5	5	5
24	384	6	12	12	24	6	6	6
28	448	7	14	14	28	7	7	7
32	512	8	16	16	32	8	8	8
36	576	9	18	18	36	9	9	9
40	640	10	20	20	40	10	10	10
44	704	11	22	22	44	11	11	11
48	768	12	24	24	48	12	12	12
52	832	13	26	26	52	13	13	13
56	896	14	28	28	56	14	14	14
60	960	15	30	30	60	15	15	15
64	1024	16	32	32	64	16	16	16

[1]TOA MS-900 Master Station or analog (DTMF) telephone (supplied by others)

[2]RS-150, RS-160, RS-170, RS-180

[3]Optional

RUGGED & RELIABLE

EASY TO INSTALL

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Literature Order #: L-CATALOG
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