TOA

OPERATING INSTRUCTIONS

MIXER AMPLIFIER WITH MEDIA PLAYER
A-3240DM-AM

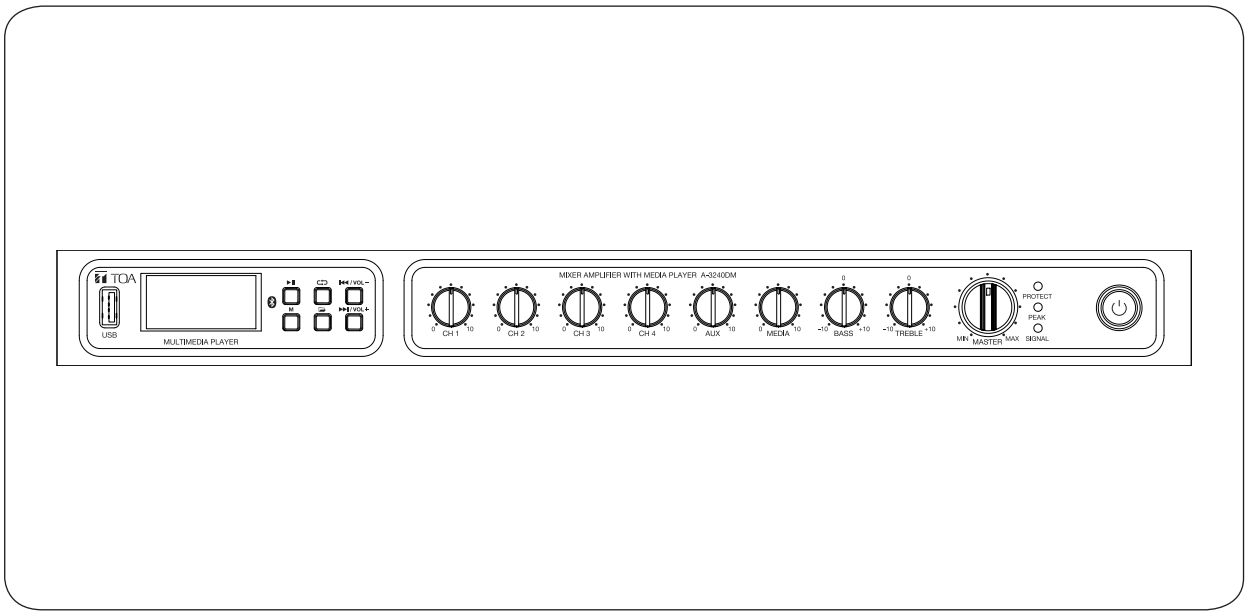


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Thank you for purchasing TOA's Mixer Amplifier With Media Player.
Please carefully follow the instructions in this manual to ensure long, trouble-free use of your equipment.

TOA Corporation

1. SAFETY PRECAUTIONS

- Before installation or use, be sure to carefully read all the instructions in this section for correct and safe operation.
- Be sure to follow all the precautionary instructions in this section, which contain important warnings and/or cautions regarding safety.
- After reading, keep this manual handy for future reference.

Safety Symbol and Message Conventions

Safety symbols and messages described below are used in this manual to prevent bodily injury and property damage which could result from mishandling. Before operating your product, read this manual first and understand the safety symbols and messages so you are thoroughly aware of the potential safety hazards.

⚠ **WARNING**	Indicates a potentially hazardous situation which, if mishandled, could result in death or serious personal injury.
⚠ **CAUTION**	Indicates a potentially hazardous situation which, if mishandled, could result in moderate or minor personal injury, and/or property damage.

⚠ WARNING

When Installing the Unit

- Do not expose the unit to rain or an environment where it may be splashed by water or other liquids, as doing so may result in fire or electric shock.
- Use the unit only with the voltage specified on the unit. Using a voltage higher than that which is specified may result in fire or electric shock.
- Do not cut, kink, otherwise damage nor modify the power supply cord. In addition, avoid using the power cord in close proximity to heaters, and never place heavy objects -- including the unit itself -- on the power cord, as doing so may result in fire or electric shock.

When the Unit is in Use

- Should the following irregularity be found during use, immediately switch off the power, disconnect the power supply plug from the AC outlet and contact your nearest TOA dealer. Make no further attempt to operate the unit in this condition as this may cause fire or electric shock.
  - · If you detect smoke or a strange smell coming from the unit.
  - · If water or any metallic object gets into the unit.
  - · If the unit falls, or the unit case breaks.
  - · If the power supply cord is damaged (exposure of the core, disconnection, etc.).
  - · If it is malfunctioning (no tone sounds.).
- To prevent a fire or electric shock, never open nor remove the unit case as there are high voltage components inside the unit. Refer all servicing to your nearest TOA dealer.
- Do not place cups, bowls, or other containers of liquid or metallic objects on top of the unit. If they accidentally spill into the unit, this may cause a fire or electric shock.
- Do not insert nor drop metallic objects or flammable materials in the ventilation slots of the unit's cover as this may result in fire or electric shock.
- Do not touch a power supply plug during thunder and lightning, as this may result in electric shock.
- When replacing the AC fuse, be sure to use the proper one among the following supplied fuses: AC fuse T2.5A L AC250V.
  Using any other fuse than supplied may cause fire or electric shock.
- Handle or use the batteries properly.
  Doing otherwise may cause leakage or explosion of the batteries, resulting in a fire, personal injury, damage to peripheral equipment, or contamination of environment.

⚠ CAUTION

When Installing the Unit

- Never plug in nor remove the power supply plug with wet hands, as doing so may cause electric shock.
- When unplugging the power supply cord, be sure to grasp the power supply plug; never pull on the cord itself. Operating the unit with a damaged power supply cord may cause a fire or electric shock.
- Do not block the ventilation slots in the unit's cover. Doing so may cause heat to build up inside the unit and result in fire.

- When connecting multiple appliances to a single power socket through a multi-outlet power strip, a total current consumption of the appliances must not exceed the allowable current capacity of the power socket.
  Failure to observe this instruction may result in a fire or electric shock.

- Avoid installing the unit in humid or dusty locations, in locations exposed to the direct sunlight, near the heaters, or in locations generating sooty smoke or steam as doing otherwise may result in fire or electric shock.

- System units (except remote microphones) are designed exclusively to be mounted in an equipment rack. Be sure observe the following instructions when rack-mounting the unit. Failure to do so may cause a fire or personal injury.
  · Install the equipment rack on a stable, hard floor. Fix it with anchor bolts or take other arrangements to prevent it from falling down.
  · The supplied rack-mounting screws can be used for the TOA equipment rack only. Do not use them for other racks.

- Note correct polarity (positive and negative orientation) when connecting the power supply cord. Reversed polarity connections will cause damage to the system.

When the Unit is in Use

- Use the specified power supply unit for the system. Note that the use of other power supply unit may cause a fire.

- Do not place heavy objects on the unit as this may cause it to fall or break which may result in personal injury and/or property damage. In addition, the object itself may fall off and cause injury and/or damage.

- If dust accumulates on the power supply plug or in the wall AC outlet, a fire may result. Clean it periodically. In addition, insert the plug in the wall outlet securely.

- Unplug the power supply plug from the AC outlet for safety purposes when cleaning or leaving the unit unused for 10 days or more. Doing otherwise may cause a fire or electric shock.

- When operated continuously at maximum output, the amplifier may not sustain full-power operation and the thermal protection function may engage. This is normal and protects the unit from overheating.

EMC PRECAUTIONS

Warning: Operation of this equipment in a residential environment could cause radio interference.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.
If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer to an experienced radio/TV technician for help.

2. GENERAL DESCRIPTION

TOA's A-3240DM is a 240W digital power amplifier, equipped with priority function, multimedia (Bluetooth®/ USB/FM) player. Designed to suit the following PA system applications: paging announcements, BGM, and broadcasting in schools, offices, and shops.

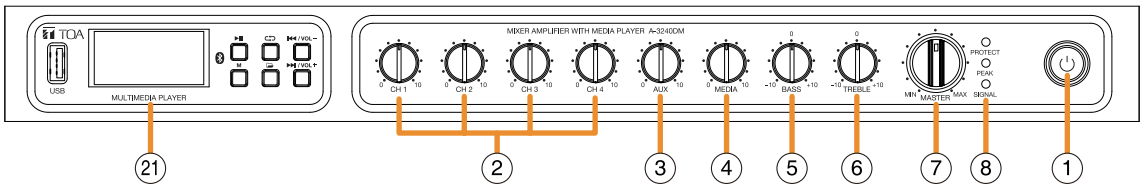
* The Bluetooth® word mark and logos are registered trademarks owned by Bluetooth SIG, Inc. and any use of such marks by TOA Corporation is under license.
  Other trademarks and trade names are those of their respective owners.

3. FEATURES

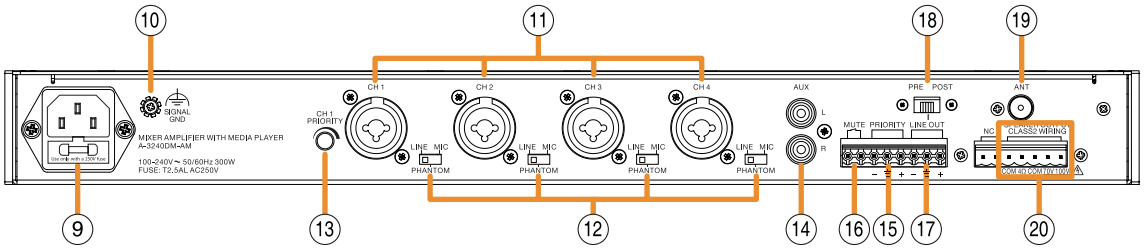
- Power output of 240 W.
- Priority function provided for inputs as follows:
  Priority input has the highest priority to all inputs. (Contact activation)
  CH1 input has precedence over the inputs other than 'Priority input'.
- Following audio signal inputs suitable for the intended applications: 4 Microphone / Line inputs, 1 AUX inputs, 1 Priority input, 1 Bluetooth input, 1 USB input, and FM input.
- Phantom-powered Microphone inputs (power ON/OFF switchable).
- Combined XLR/phone jack Microphone inputs for convenient use.
- Tone controls (bass and treble).
- Master volume control for overall input (excluding the Priority input) signal level adjustment.

4. NOMENCLATURE AND FUNCTIONS

[Front]



[Rear]



1. Power switch and Power indicator
Press to turn ON the power, lights blue when the power is switched on.
Press again to turn the power OFF.

2. CH 1 - 4 volume controls [LINE / MIC 1 - 4]
Adjust the microphone / line level.

3. AUX volume control
Adjust the AUX level.

4. Media volume control
Adjust the multimedia player (21) level.

5. Bass control
Adjusts bass response. Rotate clockwise to increase bass output, and counterclockwise to reduce it. The center position provides flat characteristics.

6. Treble control
Adjusts treble response. Rotate clockwise to increase treble output, and counterclockwise to reduce it. The center position provides flat characteristics.

7. Master volume control
Adjusts the overall signal level.

8. Indicator
- Signal indicator: Lights green when the respective channel's intput signal pass through.
- Peak indicator: Lights red when the input signal is too high.
Note: When the peak indicator lights up, turn the input volume control counterclockwise until its light switches off or decreases the input signal level of the connected external device. Operating the unit while the peak indicator remains lit may cause the protection circuitry to be activated.
- Protect indicator: Lights red when the protection circuitry is activated.
If the problem is resolved, the protection output systems will deactivate automatically, and normal amplifier operation is resumed.

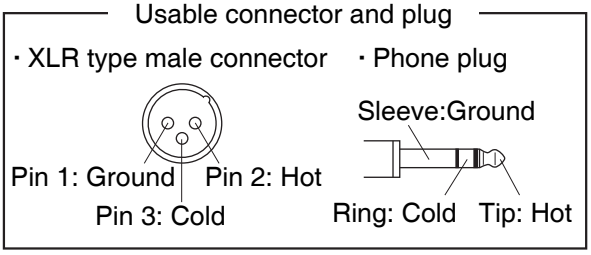
9. AC inlet
Connect to power source of 100 - 240 V AC, 50/60 Hz using the supplied power cord.
The socket includes the fuse compartment. When changing it, make sure to replace it with a model of the same characteristics.
Fuse: T2.5AL AC250V

10. Ground terminal
A functional ground terminal.

11. CH 1 - 4 input terminals [LINE / MIC 1 - 4]
- LINE: 0 dB, 3.3 kΩ, electronically balanced.
- MIC: -40 dB, 2.2 kΩ, electronically balanced.
Either LINE or MIC level can be selected by the selector switch (12).
Combined XLR (female)/phone jack connectors.

Note:
Use an XLR connector when connecting a phantom-powered microphone to this terminal. Using a phone plug instead may cause a noise if it is touched or rotated.

Usable connector and plug



12. LINE / MIC selector switches [CH 1 - 4]
Selects the input sensitivity of LINE or MIC as follows:
- LINE: 0 dB
- MIC: -40 dB, used with Dynamic Microphone.
- MIC (phantom): -40 dB, must be used only with external condenser microphones. Activating 18 V phantom power while a dynamic microphone or any non-compatible device is connected may cause permanent damage.

13. CH 1 priority sensitivity control
Adjusts the threshold level for the CH 1 input to activate the mute function. Turn clockwise to increase the threshold level (lower sensitivity), and counterclockwise to decrease it (higher sensitivity).

Note:
• The audio signal level to activate muting is independent of input volume settings. So, the Mute Receive input is muted if a signal enters the CH 1 input even when the input volume is turned down. To avoid unwanted muting caused by unintentional inputs such as background noise and noise sound, it is recommended to cut the audio signal at the input equipment (such as a microphone with talk switch).
• CH1 input has precedence over the inputs other than 'Priority input' (15).

14. AUX input terminal
-10 dB, 10 kΩ, unbalanced.
Accepts external equipment output signals.

15. Priority input terminal
-3 dB, 100 kΩ, electronically balanced.
An Emergency broadcast input.

16. Control input terminal
Accept make contacts to give a priority to the priority input (15).

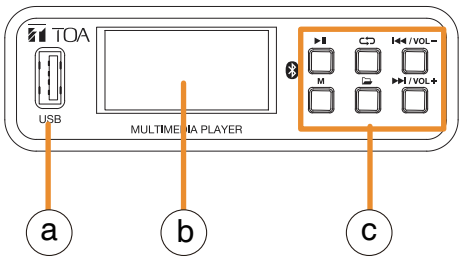
17. Line output terminal
-2 dB, 4.2 kΩ, balanced.
Connect to the line input of other equipment.

18. Line output selector switches [PRE / POST]
- PRE: Line output is not affected by MASTER (7) level.
- POST: Line output depends on MASTER(7) level.

19. Antenna terminal
Connect to FM antenna (75 Ohms).

20. Speaker output terminals
4 Ω, 70 V and 100 V outputs, connects to speakers.
Impedance for 70 V line : 21 Ω
Impedance for 100 V line : 42 Ω

21. Multimedia player



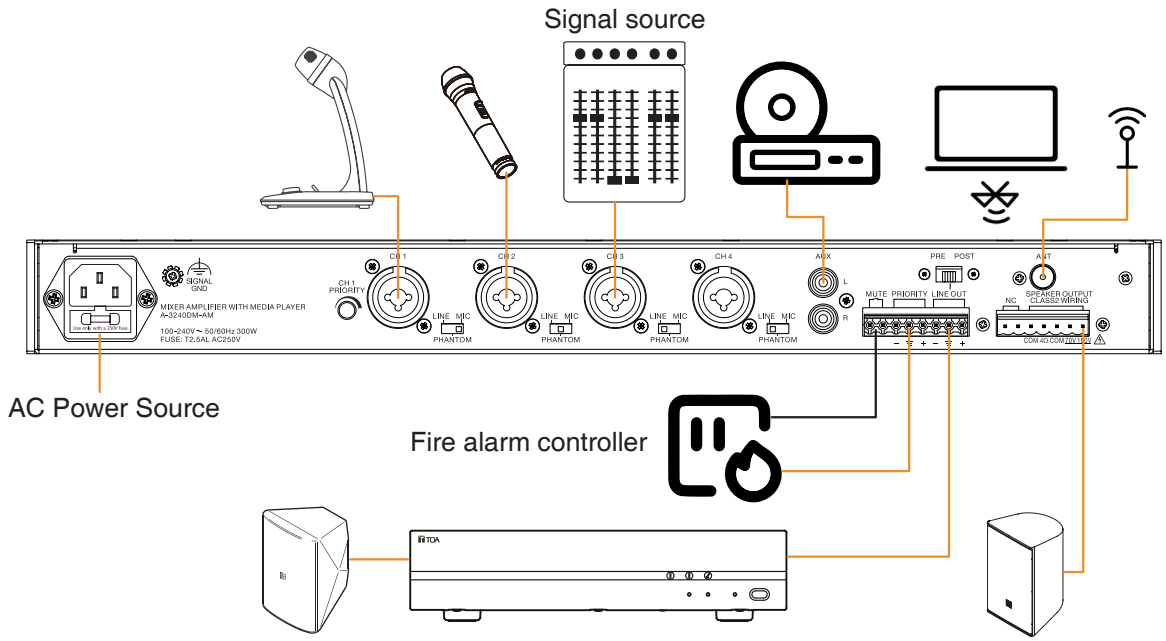
a. USB Card Input
Socket for USB Input.
Audio formats: MP3, WAV, WMA, FLAC.
Format: FAT16, FAT32, Max. 32GB.
Note: not recommended for charging.

b. LC-Display
It shows the working status of the multimedia player, such as playback mode, Bluetooth connected device, volume, song information, repeat mode, radio, etc.

c. Function keys

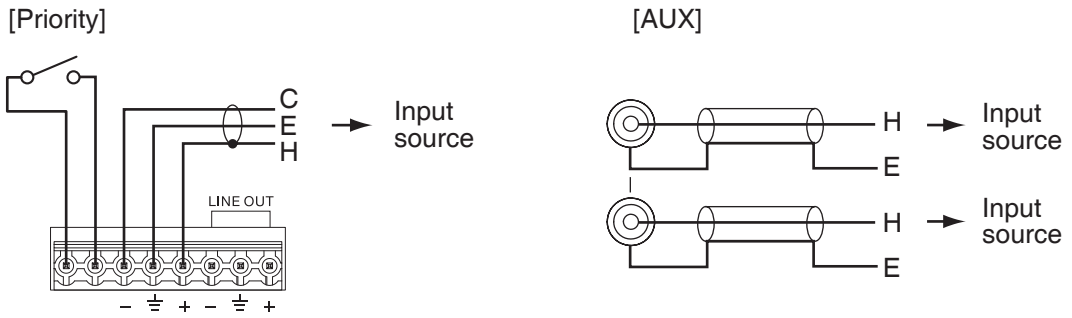
Key	Action	Bluetooth Bluetooth name: A-3240DM (default) Pairing password: 3240 (default)	USB	FM
M	Short press	Switch playback mode: Bluetooth / USB / FM		
	Long press	Turn on / off the multimedia player		
▶II	Short press	Play / pause playback	Play / pause playback	Start / stop automatic station search
	Long press	Disconnect the Bluetooth device	-	-
🗁	Short press	-	Display the music list, select by ⏮ / ⏭, press ▶II to confirm	Manual search for radio stations in descending order
	Long press	Delete the paired Bluetooth device	-	-
⮌	Short press	-	Switch repeat mode: one / folder / random / all	Manual search for radio stations in ascending order
⏮ / VOL−	Short press	Skip to previous track	Skip to previous track	Returns to previous station
	Long press	Volume decreases	Volume decreases	Volume decreases
⏭ / VOL+	Short press	Skip to next track	Skip to next track	Skip to next station
	Long press	Volume increases	Volume increases	Volume increases

5. APPLICATION EXAMPLES

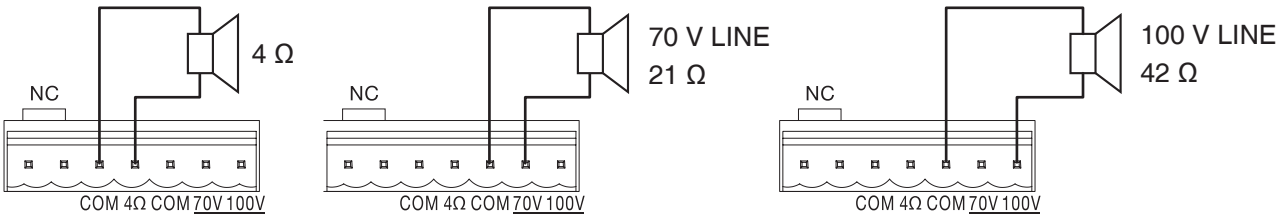


6. CONNECTIONS

6.1. Input Connections



6.2. Speaker Connections



Notes

Do not use both the 4 Ω, 70 V and 100 V terminals at the same time.
The impedance shown in the figure represents the total impedance of the speaker system (load). If the load exceeds the total impedance, the power fuse of the unit will be cut off.

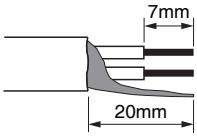
7. REMOVABLE TERMINAL PLUG CONNECTION

Cautions

- Be sure to use shielded cables for audio signal lines.
- Avoid soldering cable conductor, as contact resistance may increase when the cable is tightened and the solder is crushed, possibly resulting in an excessive rise in joint temperatures.
- Use cables of AWG 12-24.

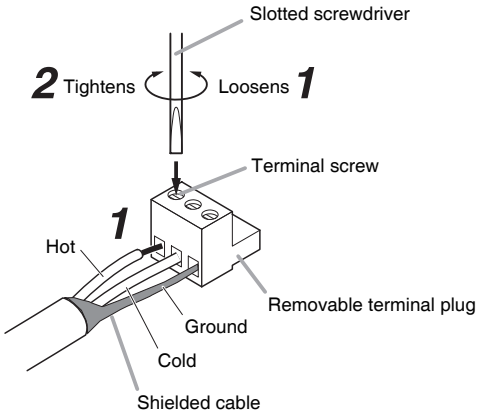
Cable end treatment

Shielded cable



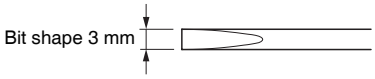
Connector connections

Step 1. Loosen the terminal screw, then insert the cable.
Step 2. Retighten the terminal screw. (Pull on the cable to ensure it is securely connected.)



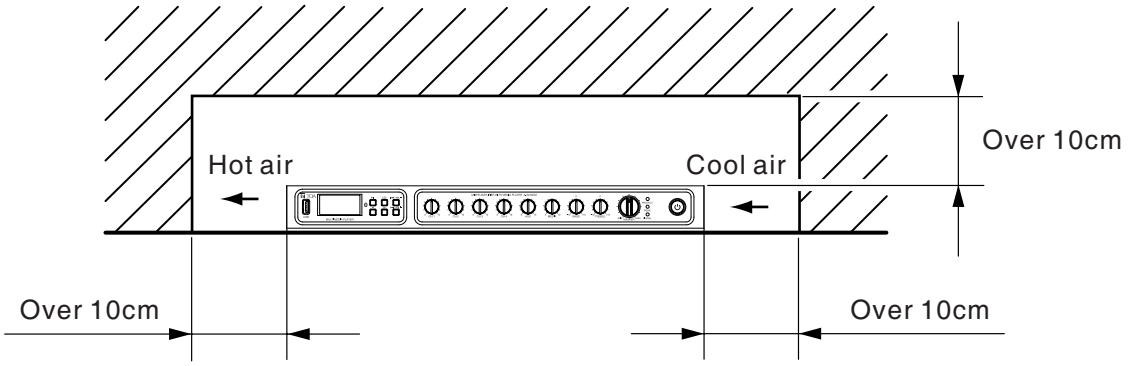
Tip

Recommended slotted screwdriver type: Screwdriver with blade that is 3 mm in width.



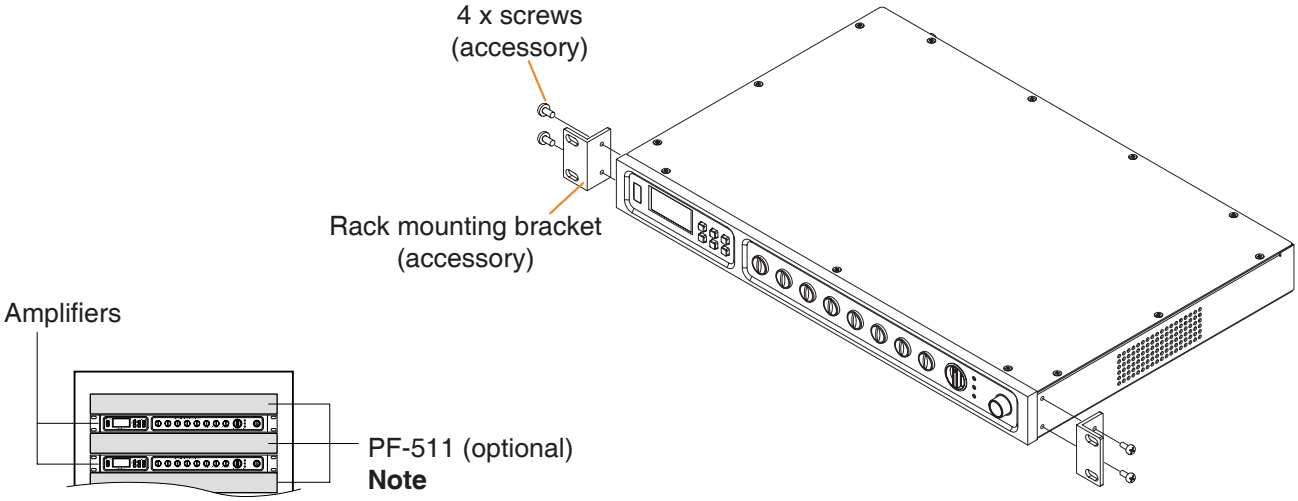
8. INSTALLATION

To prevent the internal temperature rise, keep the unit at least 10 cm away from objects that may obstruct air flow.



9. RACK MOUNTING

To mount the unit in a standard 19" equipment rack, use the 4 screws of the accessory to attach the accessory's rack mounting bracket to the unit.



Note

Use the optional PF-511 Perforated Panels to provide sufficient ventilation when mounting 2 or more units in an equipment rack.

10. POWER ON/OFF SEQUENCE

Power on

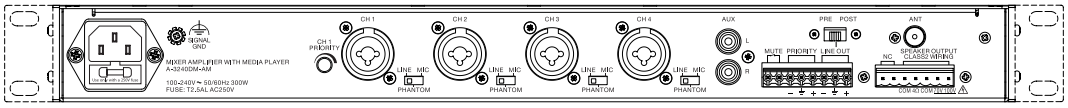
Source ——— Sound console ——— Peripheral devices ——— **Power Amplifier**

Power off

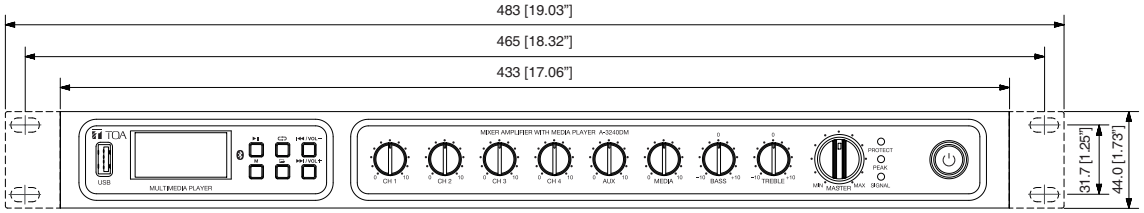
Power Amplifier ——— Peripheral devices ——— Sound console ——— Source

11. DIMENSIONAL DIAGRAM

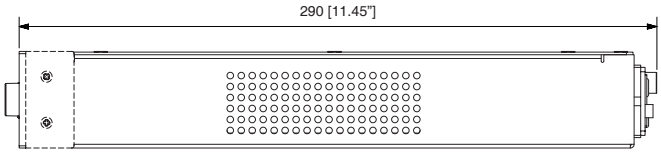
Unit: mm [inches]



Rear View



Front View



Side View

12. SPECIFICATIONS

Power Source	100-240 V AC, 50/60 Hz
Rated Output	240 W
Power Consumption	300 W
Frequency Response	80 - 16,000 Hz, ±3 dB
Distortion	< 1 %
Input	MIC 1-4: -40 dB(*1), 2.2 kΩ, electronically-balanced, combined type of XLR-3-31 equivalent and phone jack LINE 1-4: 0 dB(*1), 3.3 kΩ, electronically-balanced, combined type of XLR-3-31 and phone jack AUX: -10 dB(*1), 10 kΩ, unbalanced, RCA pin jack PRIORITY: -3 dB(*1), 100 kΩ, electronically-balanced, Removable terminal block (3 pins) Bluetooth: Ver. 5.3, Max. 25m USB: Audio formats: MP3, WAV, WMA, FLAC, Format: FAT16, FAT32, Max. 32GB FM: 87.5 MHz - 108 MHz, automatic/manual search for channels
Output	LINE: -2 dB(*1), 4.2 kΩ, balanced, Removable terminal block (3 pins) SPEAKER OUT: High impedance (100 V line/42 Ω, 70 V line/21 Ω), Removable terminal block, Low impedance (4 Ω), Removable terminal block (Both Low and High impedance terminals cannot be used at the same time.)
S/N Ratio	88 dB or more (Master volume: min) 82 dB or more (Master volume: max) 78 dB or more (MIC 1 - MIC 4) 82 dB or more (LINE 1 - LINE 4) 82 dB or more (AUX)
Tone Control	Bass: ±10 dB at 100 Hz, Treble: ±10 dB at 10 kHz
Control Input	MUTE: No-voltage make contact input, open voltage: 18 V DC, short-circuit: 30 mA or less, Removable terminal block (2 pins)
Indicators	Signal(green), Peak(red), Protect(red), Power(blue)
Priority	Priority: Overrides other inputs, ON/OFF selectable with MUTE control input terminal setting CH 1 Priority: Overrides other inputs except 'Priority', Adjust the priority sensitivity via the CH1 priority volume
Cooling	Forced air cooling
Operating Temperature	0 °C to +40 °C (32 °F to 104 °F)
Operating Humidity	Under 90% RH (no condensation)
Finish	Panel: aluminum, black, alumite Case: plated steel sheet
Dimensions	433 (W) x 44 (H) x 290 (D) mm (17" x 1.7" x 11.5")
Weight	5.6 kg (12.35 lbs)
Included Accessories	Power cord (1.8 m) ...1, Fuse (T2.5AL AC250V) ...2, Antenna ...1, Removable terminal plug (5 pins) ...1, Removable terminal plug (3 pins) ...2, Removable terminal plug (2 pins) ...1, Rack mounting bracket ...2, Bracket mounting screw ...4, Rubber foot pad ...4

Notes

- (*1) 0 dB = 1 V
- The design and specifications are subject to change without notice for improvement.

Manufacturer:
TOA Corporation
7-2-1, Minatojima-Nakamachi, Chuo-ku, Kobe, Hyogo, Japan

Traceability Information for Canada
Authorized representative:
TOA Canada Corporation
3670 Odyssey Drive, Unit 1, Mississauga, ON L5M 0Y9, Canada
TEL: +1-800-263-7639

TOA Corporation

www.toacanada.com
202602