

# DIGITAL POWER AMPLIFIER MODULES

**VX-015DA****VX-030DA****VX-050DA**

Thank you for purchasing TOA's Digital Power Amplifier Module.

Please carefully follow the instructions in this manual to ensure long, trouble-free use of your equipment.

## 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.
- This equipment is not suitable for use in locations where children are likely to be present.
- An equipment installer and the person in charge of maintenance are required to fully understand the functions and structure of this unit, then be aware of electrical and mechanical risks before work.  
Before starting work, he or she should take possible measures to prevent occurrence of such risks.  
Be sure to contact your nearest TOA dealer if you need to confirm unclear points about risk sources of this unit.

### 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.

#### 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.
- Since the unit is designed for indoor use, do not install it outdoors. If installed outdoors, the aging of parts causes the unit to fall off, resulting in personal injury. Also, when it gets wet with rain, there is a danger of 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.

#### 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 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.
- 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 VX-3000F's cover, as this may result in fire or electric shock.
- When replacing the fuse, be sure to use the supplied one. Using any other fuse than supplied may cause fire or electric shock.
  - VX-015DA: Blade 10 A
  - VX-030DA: Blade 20 A
  - VX-050DA: Blade 30 A
- Be sure to switch off the amplifier's power when replacing the fuse. Inserting or removing the fuse with the amplifier's power on may cause personal injury.



## **CAUTION**

Indicates a potentially hazardous situation which, if mishandled, could result in moderate or minor personal injury, and/or property damage.

### **When Installing the Unit**

- Do not block the ventilation slots in the VX-3000F's cover. Doing so may cause heat to build up inside the unit and result in fire. Also, periodically clean the ventilation slots of dust.
- 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.
- Note correct polarity (positive and negative orientation) when connecting the power supply cord. Reversed polarity connections will cause damage to the unit.
- To avoid electric shocks, be sure to switch off the VX-3000F's power when connecting the unit.

### **When the Unit is in Use**

- Do not operate the unit for an extended period of time with the sound distorting. Doing so may cause the connected speakers to heat, resulting in a fire.
- Contact your TOA dealer as to the cleaning. If dust is allowed to accumulate in the unit over a long period of time, a fire or damage to the unit may result.

**Tip:** VX-3004F, VX-3008F, and VX-3016F are collectively referred to as "VX-3000F" in this manual.

## 2. GENERAL DESCRIPTION

The VX-015DA, VX-030DA, and VX-050DA are Digital power amplifier modules used for the VX-3000 system. They are module types with 1 channel of class-D digital power amplifier, which contributes to energy-saving and light weight design.

The VX-015DA, VX-030DA, and VX-050DA also feature standby mode to be set for reducing standby power consumption.

They require VX-3000F control unit and VX-3000DS (or VX-3150DS) power supply unit.

## 3. INSTALLATION PROCEDURE



### WARNING

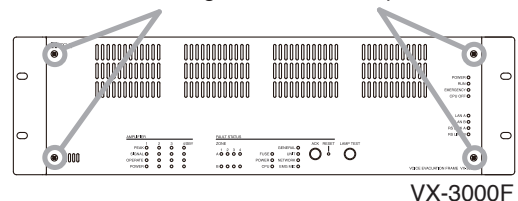
There is a high voltage section inside the power amplifier's filter. Never insert your finger or metallic objects inside the unit. When attaching or detaching the connector, never touch the internal components other than connectors.

**Step 1.** Shut off the power of the VX-3000F unit.  
Shut off the power when the power is supplied to the VX-3000F unit.

**Step 2.** Detach the front panel of the VX-3000F unit.  
Remove 4 fixing screws for front panel and detach the front panel.

**2**

Fixing screws for front panel



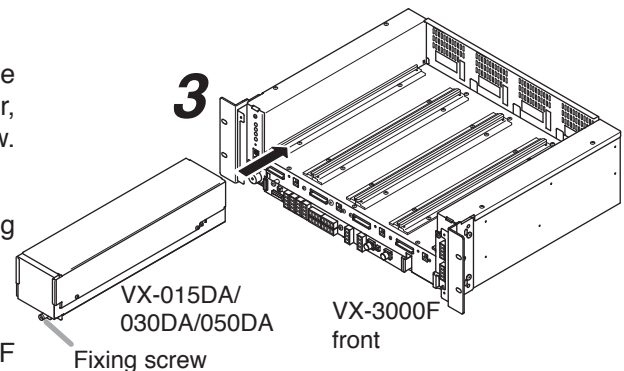
VX-3000F

**Step 3.** Install this digital power amplifier module.  
Insert the digital power amplifier module along the supporting runner until it will not go any further, then secure it using a power amplifier fixing screw.

#### Note

Use a #2 bit Philips screwdriver to tighten the fixing screw.

**3**



VX-015DA/  
030DA/050DA

VX-3000F  
front

Fixing screw

**Step 4.** Lift the lower portion of the filter of the VX-3000F unit, then connect cables.

**4-1.** Connect both the power amplifier module's DA control link connector and DA output link connector to the VX-3000F's corresponding connectors. Use the cables supplied with the power amplifier module.

#### Note

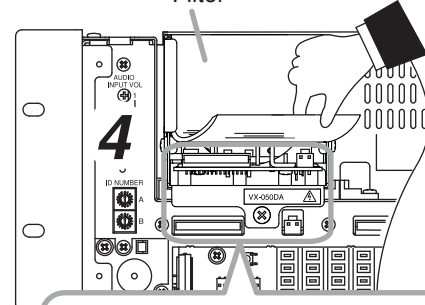
After the cable connection is complete, be sure to push the cables against the amplifier side to prevent them from protruding so that the front panel can be easily mounted without obstructing its work.

**4-2.** Replace the filter.

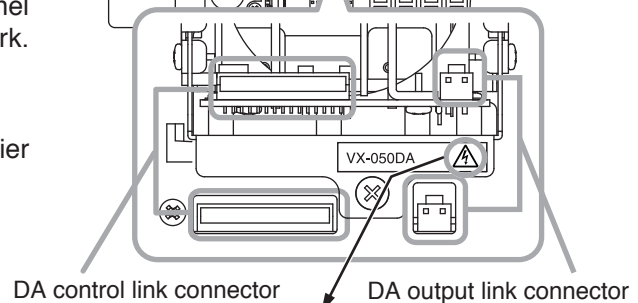
**Step 5.** When installing two or more power amplifier modules, repeat **Steps 3** and **4**.

**Step 6.** Replace the front panel.  
Secure it using 4 fixing screws for front panel.

Filter



**4**



DA control link connector

DA output link connector



This is an electric hazard mark.

There is the possibility of an electric shock when connecting cables.

Make connections when power is not supplied to the Digital Power Amplifier Modules VX-015DA, VX-030DA, and VX-050DA.

## 4. SPECIFICATIONS

Model Number	VX-015DA	VX-030DA	VX-050DA
Power Source	31 V DC (operating range: 20 to 33 V DC) DC power in: M4 screw terminal, distance between barriers: 11 mm (0.43")		
Amplification System	Class D		
Power Consumption	40 W at 31 V DC	65 W at 31 V DC	100 W at 31 V DC
Rated Output Power	150 W (at 100 V line and min. impedance and max. capacitive load) 105 W (at 70 V line and min. impedance and max. capacitive load) 75 W (at 50 V line and min. impedance and max. capacitive load) (at AC Mains VX-3000DS or VX-3150DS* <sup>1</sup> : 187 to 253 V)	300 W (at 100 V line and min. impedance and max. capacitive load) 210 W (at 70 V line and min. impedance and max. capacitive load) 150 W (at 50 V line and min. impedance and max. capacitive load) (at AC Mains VX-3000DS or VX-3150DS* <sup>1</sup> : 187 to 253 V)	500 W (at 100 V line and min. impedance and max. capacitive load) 350 W (at 70 V line and min. impedance and max. capacitive load) 250 W (at 50 V line and min. impedance and max. capacitive load) (at AC Mains VX-3000DS or VX-3150DS* <sup>1</sup> : 187 to 253 V)
Output Voltage	100 V (70 V, 50 V: selectable)		
Minimum Impedance Load	67 Ω (at 100 V line), 47 Ω (at 70 V line), 33 Ω (at 50 V line)	33 Ω (at 100 V line), 23 Ω (at 70 V line), 17 Ω (at 50 V line)	20 Ω (at 100 V line), 14 Ω (at 70 V line), 10 Ω (at 50 V line)
Maximum Capacitive Load	0.5 μF		
Number of Channels	1		
Input	DA CONTROL LINK: Nylon connector (15 pins)		
Output	DA OUTPUT LINK: Nylon connector (2 pins)		
Frequency Response	40 Hz to 20 kHz: -5 to +1 dB (at 100 V line, 30 dB* <sup>2</sup> output)		
Distortion	1% or less (at 100 V line, rated output, 1 kHz)		
Signal to Noise Ratio	100 dB or more (at 100 V line, A-weighted)		
Operating Temperature	-5 to +45 °C (23 to 113 °F)		
Operating Humidity	90% RH or less (no condensation)		
Finish	Surface-treated steel plate		
Dimensions	82.8 (w) x 91 (h) x 358.2 (d) mm (3.26" x 3.58" x 14.1")		
Weight	1.3 kg (2.87 lb)		1.4 kg (3.09 lb)
Accessory	DA CONTROL LINK Cable ..... 1 DA OUTPUT LINK Cable ..... 1 DC FUSE (10 A) ..... 1	DA CONTROL LINK Cable ..... 1 DA OUTPUT LINK Cable ..... 1 DC FUSE (20 A) ..... 1	DA CONTROL LINK Cable ..... 1 DA OUTPUT LINK Cable ..... 1 DC FUSE (30 A) ..... 1

\*<sup>1</sup> VX-3150DS: Power Supply Manager, equivalent of the VX-3000DS, sold only in Europe

\*<sup>2</sup> 0 dB = 1 V

**Note:** The design and specifications are subject to change without notice for improvement.

### Warning

This equipment is compliant with Class A of CISPR 32. In a residential environment this equipment may cause radio interference.

### Traceability Information for Europe

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

Authorized representative:  
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