

TOA A-812D

TOA A-812D Digital Mixer Amplifier Instruction Manual

Model: A-812D

1. INTRODUCTION

The TOA A-812D is a versatile digital mixer amplifier designed for various sound reinforcement applications, including paging announcements and background music (BGM) in commercial environments such as schools, offices, and supermarkets. This unit integrates a six-channel mixer with a 120W amplifier, offering advanced features like Auto Gain Control for microphone inputs, assignable input priorities, and a built-in defeateable pre-announce chime. It supports up to eight inputs and includes robust signal processing functions.

This manual provides essential information for the safe and efficient installation, operation, and maintenance of your A-812D Digital Mixer Amplifier. Please read it thoroughly before use and retain it for future reference.

2. SAFETY INSTRUCTIONS

To ensure safe operation and prevent damage to the unit or injury to users, always observe the following safety precautions:

- **Power Source:** Connect the unit only to the specified AC power source (120 V AC, 60 Hz). Ensure the power cord is securely plugged in.
- **Ventilation:** Do not block ventilation openings. Ensure adequate airflow around the unit to prevent overheating.
- **Moisture:** Do not expose the unit to rain or moisture. Do not place objects filled with liquids, such as vases, on the unit.
- **Foreign Objects:** Do not insert any metallic objects or flammable materials into the ventilation openings.
- **Servicing:** Do not attempt to service this product yourself. Refer all servicing to qualified service personnel.
- **Grounding:** Ensure proper grounding to prevent electric shock.
- **Speaker Output:** When operating in 70V mode, **DO NOT CONNECT 4Ω LOAD** to the speaker output terminals. This can cause damage to the amplifier.
- **Mode Switch:** Always turn off the power unit or remove the AC cord before changing the 70V/4Ω mode

switch.

3. PACKAGE CONTENTS

Verify that all items are present in the package:

- TOA A-812D Digital Mixer Amplifier Unit
- AC Power Cord
- Terminal Block Plugs (various types for inputs/outputs)
- Volume Control Cover
- Rackmount Hardware
- Instruction Manual (this document)

4. PRODUCT OVERVIEW

4.1 Rear Panel Layout

The rear panel of the A-812D houses all primary connections and configuration switches. Refer to the image below for a visual guide to the various components.



Figure 1: Rear Panel of the TOA A-812D Digital Mixer Amplifier. This view displays the AC power inlet, speaker output terminals, various audio input connectors (XLR, RCA, terminal blocks), control input/output terminals, DIP switches for configuration, and two module slots.

1. **AC Power Inlet (AC120V~60Hz 103W):** Connect the supplied AC power cord here.
2. **Speaker Output (SP OUT CLASS 2 WIRING):** Terminals for connecting speakers. Switchable between 4Ω and 70V operation. Ensure the correct mode is selected via the MODE switch.
3. **SIGNAL GND:** Ground terminal for external equipment.
4. **MODE Switch (70V / 4Ω):** Selects the speaker output mode. **IMPORTANT:** Power off the unit or remove the AC cord before changing this switch.
5. **POWER REMOTE OUT:** Terminals for remote power control.
6. **DIP Switches (CHIME SW1-SW4, MODULE SW3-SW4):** Configure chime patterns and module audio routing.
 - **CHIME SW1-SW4:** Selects chime type (4NOTE, 2NOTE, 1NOTE, NONE).
 - **MODULE SW3-SW4:** Configures module audio (DUCK/DUCK, AUDIO/AUDIO).
7. **REMOTE VOLUME:** Terminal for connecting an external remote volume control.
8. **EMERGENCY OUT (H C E):** Emergency output terminals.

9. **CHIME VOLUME:** Rotary control to adjust the chime volume.
10. **DUCKER DEPTH:** Rotary control to adjust the ducking depth.
11. **INPUT 3 PHANTOM (OFF/ON):** Switch to enable/disable phantom power for Input 3.
12. **INPUT 4 PHANTOM (OFF/ON):** Switch to enable/disable phantom power for Input 4.
13. **REC OUT (RCA):** Audio output for recording.
14. **PRE AMP OUT (RCA):** Pre-amplifier audio output.
15. **PWR AMP IN (RCA):** Power amplifier audio input.
16. **LAN:** Ethernet port for network control and monitoring via a Windows web browser.
17. **INPUT 1 (LINE/MIC, PHANTOM OFF/ON):** Terminal block input with switchable Line/Mic level and phantom power.
18. **INPUT 2 (LINE/MIC, PHANTOM OFF/ON):** Terminal block input with switchable Line/Mic level and phantom power.
19. **INPUT 5 (DUCK AUDIO):** Terminal block input with ducking audio functionality.
20. **INPUT 6 (DUCK AUDIO):** Terminal block input with ducking audio functionality.
21. **CONTROL IN (CH1-CH4):** Control input terminals for emergency/priority functions.
22. **MODULE 1 & 2 Slots:** Bays for installing optional 900-Series modules to expand functionality.

4.2 Front Panel Controls and Indicators

The front panel provides user-accessible controls and indicators for daily operation. While not shown in the provided image, typical controls include:

- **Power Switch:** Turns the unit on or off.
- **Master Volume Control:** Adjusts the overall output level.
- **Input Volume Controls:** Individual controls for each input channel.
- **Bass/Treble Controls:** Tone adjustments for the output.
- **LED Indicators:** Power, Signal, Peak, and Protection indicators.

5. SETUP

5.1 Installation

The A-812D is designed for rackmount installation. Use the provided rackmount hardware to secure the unit in a standard 19-inch equipment rack. Ensure adequate ventilation space (at least 1U above and below) to prevent overheating. Avoid installing the unit near heat sources or in direct sunlight.

5.2 Connections

Before making any connections, ensure the unit is powered off and disconnected from the AC power source.

1. Speaker Connection:

- Determine whether to use 4Ω or 70V output.
- Set the **MODE Switch** on the rear panel to the appropriate setting (70V or 4Ω).
- Connect your speakers to the **SP OUT** terminals. For 70V systems, ensure speakers are compatible and correctly wired. For 4Ω operation, connect a speaker with a nominal impedance of 4Ω. **Do not connect a 4Ω load in 70V mode.**

2. Microphone/Line Input Connections (Inputs 1-4):

- Connect microphones or line-level devices to the respective terminal block inputs.
- For condenser microphones requiring phantom power, set the corresponding **PHANTOM** switch (INPUT 1, 2, 3, or 4) to **ON**.
- Ensure the LINE/MIC switch for Inputs 1 and 2 is set correctly based on the connected device.

3. Auxiliary Input Connections (Inputs 5-6):

- Connect auxiliary audio sources (e.g., CD players, media players) to the **INPUT 5** and **INPUT 6 DUCK AUDIO** terminal blocks. These inputs are typically used for background music with ducking functionality.

4. Remote Control Connections:

- Connect external remote volume controls to the **REMOTE VOLUME** terminals.
- Connect control signals for emergency/priority functions to the **CONTROL IN** terminals (CH1-CH4).

5. Network Connection:

- Connect an Ethernet cable to the **LAN** port for network control and monitoring.

6. Module Installation:

- If using optional 900-Series modules, install them into the **MODULE 1** and **MODULE 2** slots according to their specific instructions.

7. Power Connection:

- Once all audio and control connections are made, connect the AC power cord to the **AC Power Inlet** and then to a suitable power outlet.

6. OPERATING INSTRUCTIONS

6.1 Basic Operation

1. **Power On:** Turn on the main power switch on the front panel. The power indicator should illuminate.
2. **Adjust Input Levels:** Use the individual input volume controls on the front panel to set appropriate levels for each connected audio source.
3. **Adjust Master Volume:** Use the master volume control to set the overall output level to your speakers.
4. **Tone Control:** Adjust the Bass and Treble controls as needed to achieve the desired sound quality.

6.2 Advanced Features

- **Auto Gain Control (AGC):** The A-812D features Auto Gain Control for microphone inputs, which automatically adjusts input levels to maintain a consistent output volume, preventing sudden loudness changes.
- **Assignable Input Priorities:** Configure input priorities to ensure important announcements (e.g., paging, emergency) override background music or other audio sources. This is typically set via internal software or DIP switches.
- **Voice Detection Function with Ducking:** When a signal is detected on a priority input, the ducking function automatically reduces the volume of other audio sources (e.g., BGM connected to DUCK AUDIO inputs) to make the priority signal clear. The **DUCKER DEPTH** control on the rear panel adjusts the amount of volume reduction.
- **Defeatable Pre-announce Chime:** The built-in chime can be configured and enabled/disabled using the **CHIME SW1-SW4** DIP switches and its volume adjusted with the **CHIME VOLUME** control.
- **DSP Functions:** The unit includes Digital Signal Processing (DSP) capabilities such as filters, EQ, gate, limiter, and ducker for fine-tuning audio performance. These advanced settings are typically accessed via the

network interface.

- **Remote Control via Windows Web Browser:** Connect the unit to a network via the LAN port to access its control interface using a standard web browser on a Windows PC. This allows for remote configuration and monitoring of various parameters.

7. MAINTENANCE

- **Cleaning:** Wipe the unit with a soft, dry cloth. Do not use volatile solvents such as benzene or thinner.
- **Ventilation:** Regularly check that the ventilation openings are clear of dust and obstructions.
- **Connections:** Periodically check all cable connections for security and good contact.
- **Storage:** If storing the unit for an extended period, disconnect it from power and store it in a cool, dry place.

8. TROUBLESHOOTING

If you encounter issues with your A-812D, refer to the following common problems and solutions:

Problem	Possible Cause	Solution
No power	Power cord disconnected; Power switch off; Blown fuse	Check power cord connection; Turn on power switch; Replace fuse (refer to service manual if needed)
No sound output	Speaker connections incorrect; Volume controls too low; Input source not active; Incorrect MODE switch setting	Verify speaker wiring; Increase master and input volumes; Check input source; Ensure MODE switch matches speaker type (4Ω/70V)
Distorted sound	Input level too high; Speaker impedance mismatch; Faulty cable	Reduce input volume; Check speaker impedance compatibility; Replace cables
Chime not working	Chime DIP switches set to NONE; Chime volume too low	Adjust CHIME SW1-SW4; Increase CHIME VOLUME
Ducking not functioning	DUCKER DEPTH set to minimum; Incorrect module SW settings	Increase DUCKER DEPTH; Verify MODULE SW3-SW4 settings

If the problem persists after attempting these solutions, contact qualified service personnel.

9. SPECIFICATIONS

Power Source	120 V AC, 60 Hz
Rated Output	120W
Power Consumption	170 W (rated output), 46 W (based on UL62368), 200 mA or less (power switch OFF)
Frequency Response	50 Hz to 20 kHz ±3 dB (1/8 rated output)
Total Harmonic Distortion	1 % or less at 1 kHz, rated power (20 kHz LPF (AUX-0025))

Dimensions (W x H x D)	16.54" x 3.78" x 12.33" (420 mm x 96 mm x 313 mm)
Weight	11.46 pounds (5.2 kg)
Number of Channels	8 (4 Mic/Line, 2 Aux, 2 Module Slots)
Connectivity Technology	Auxiliary, LAN

10. WARRANTY AND SUPPORT

For warranty information and technical support, please refer to the warranty card included with your product or visit the official TOA website. Keep your purchase receipt as proof of purchase for warranty claims.

TOA Corporation is committed to providing high-quality products and customer service. Should you require assistance, please contact your local TOA distributor or authorized service center.