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Commercial Series



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This manual does not include all of the details of design, production, or variation of the equipment. Nor does it cover every possible situation which may arise during installation, operation or maintenance.

The information provided in this manual was deemed accurate as of the publication date. However, updates to this information may have occurred.

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IMPORTANT SAFETY INFORMATION

The symbols shown above are internationally accepted symbols that warn of potential hazards with electrical products. The lightning flash with arrow point in an equilateral triangle means that tonotnt i4-10.9 (n a)-17.5 (n e)-18.8 (q)-76.1 (u)-11.7 (l)-8.9 (l)-14.3 (a-

NOTICE FOR CUSTOMERS IF YOUR UNIT IS EQUIPPED WITH A POWER CORD.

WARNING: THIS APPLIANCE SHALL BE CONNECTED TO A MAINS SOCKET OUTLET WITH A PROTECTIVE EARTHING CONNECTION.

The cores in the mains lead are colored in accordance with the following code:

GREEN and YELLOW - Earth BLUE - Neutral BROWN - Live

As colors of the cores in the mains lead of this appliance may not correspond with the colored markings identifying the terminals in your plug, proceed as follows:

- The core which is colored green and yellow must be connected to the terminal in the plug marked with the letter E, or with the earth symbol, or colored green, or green and yellow.
- The core which is colored blue must be connected to the terminal marked N or colored black.
- The core which is colored brown must be connected to the terminal marked L or colored red.

This equipment may require the use of a different line cord, attachment plug, or both, depending on the available power source at installation. If the attachment plug needs to be changed, refer servicing to qualified service personnel who should refer to the table below. The green/yellow wire shall be connected directly to the units chassis.

| CONDUCTOR | | WIRE COLOR | |
|-----------|-----------|------------|-------|
| | | Normal | Alt |
| L | LIVE | BROWN | BLACK |
| N | NEUTRAL | BLUE | WHITE |
| E | EARTH GND | GREEN/YEL | GREEN |

WARNING: If the ground is defeated, certain fault conditions in the unit or in the system to which it is connected can result in full line voltage between chassis and earth ground. Severe injury or death can then result if the chassis and earth ground are touched simultaneously.

WARNING FOR YOUR PROTECTION READ THESE INSTRUCTIONS:

KEEP THESE INSTRUCTIONS

HEED ALL WARNINGS

FOLLOW ALL INSTRUCTIONS

THE APPARATUS SHALL NOT BE EXPOSED TO DRIPPING OR SPLASHING LIQUID AND NO OBJECT FILLED WITH LIQUID, SUCH AS VASES, SHALL BE PLACED ON THE APPARATUS

CLEAN ONLY WITH A DRY CLOTH.

DO NOT BLOCK ANY OF THE VENTILATION OPENINGS INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.

DO NOT INSTALL NEAR ANY HEAT SOURCES SUCH AS RADIATORS, HEAT REGISTERS, STOVES, OR OTHER APPARATUS (INCLUDING AMPLIFIERS) THAT PRODUCE HEAT.

ONLY USE ATTACHMENTS/ACCESSORIES SPECIFIED BY THE MANUFACTURER.

UNPLUG THIS APPARATUS DURING LIGHTNING STORMS OR WHEN UNUSED FOR LONG PERIODS OF TIME.

Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or third prong are provided for your safety. If the provided plug does not fit your outlet, consult an electrician for replacement of the obsolete outlet.

Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.

Use only with the cart stand, tripod bracket, or table specified by the manufacture, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

POWER ON/OFF SWITCH: For products provided with a power switch, the power switch DOES NOT break the connection from the mains.

MAINS DISCONNECT: The plug shall remain readily operable. For rack-mount or installation where plug is not accessible, an all-pole mains switch with a contact separation of at least 3 mm in each pole shall be incorporated into the electrical installation of the rack or building.

FOR UNITS EQUIPPED WITH EXTERNALLY ACCESSIBLE FUSE RECEPTACLE: Replace fuse with same type and rating only.

MULTIPLE-INPUT VOLTAGE: This equipment may require the use of a different line cord, attachment plug, or both, depending on the available power source at installation. Connect this equipment only to the power source indicated on the equipment rear panel. To reduce the risk of fire or electric shock, refer servicing to qualified service personnel or equivalent.

If connected to 240V supply, a suitable CSA/UL certified power cord shall be used for this supply.

IMPORTANT SAFETY INFORMATION



A molded mains plug that has been cut off from the cord is unsafe. Discard the mains plug at a suitable disposal facility. NEVER UNDER ANY CIRCUMSTANCES SHOULD YOU INSERT A DAMAGED OR CUT MAINS PLUG INTO A 13 AMP POWER SOCKET. Do not use the mains plug without the fuse cover in place. Replacement fuse covers can be obtained from your local retailer. Replacement fuses are 13 amps and MUST be ASTA approved to BS1362.



This device complies with part 15 of the FCC Rules and the Product specifications noted on the Declaration of Conformity. Operation is subject to the following two conditions:

- This device may not cause harmful interference, and
- This device must accept any interference received, including interference that may cause undesired operation.

Operation of this unit within significant electromagnetic fields should be avoided.

- Use only shielded interconnecting cables.



If you want to dispose this product, do not mix it with general household waste. There is a separate collection system for used electronic products in accordance with legislation that requires proper treatment, recovery and recycling.

Private household in the 25 member states of the EU, in Switzerland and Norway may return their used electronic products free of charge to designated collection facilities or to a retailer (if you purchase a similar new one).

For Countries not mentioned above, please contact your local authorities for a correct method of disposal.

By doing so you will ensure that your disposed product undergoes the necessary treatment, recovery and recycling and thus prevent potential negative effects on the environment and human health.



CAUTION! Do not locate sensitive high-gain equipment such as preamplifiers or tape decks directly above or below the unit. Because this amplifier has a high power density, it has a strong magnetic field which can induce hum into unshielded devices that are located nearby. The field is strongest just above and below the unit.

If an equipment rack is used, we recommend locating the amplifier(s) in the bottom of the rack and the preamplifier or other sensitive equipment at the top.



Apparatet må tilkoples jordet stikkontakt

Apparaten skall anslutas till jordat uttag

Laitte on liitettävä suojakoskettimilla varustettuun pistorasiaan



EC - DECLARATION OF CONFORMITY

Brand: B
Equipment Type: Commercial Audio Amplifiers
Model names: A 1300 , A 2300

We, **Harman International, Inc.**, of 2000 JBL Drive, Berkeley, CA 94705, USA, hereby declare that the following products are in conformity with the EMC Directive 2004/108/EC and the Low Voltage Directive 2006/95/EC, and are therefore CE marked.

| | |
|--|---|
| EN 55103-1:2009 +A1:2012 | EMC Compatibility – Product Family Standard for Audio, Video, Audio-Visual and Entertainment Lighting Control Apparatus for Professional Use, Part 1: Emissions |
| EN 55103-1:2009 +A1:2012 | Magnetic Field Emissions – Annex A @ 10cm and 20cm |
| EN 61000-3-2:2006, AMD1:2008, & A2:2009 | Limits for Harmonic Current Emissions (equipment input current less than or equal to 16A) |
| EN 61000-3-3:2013 | Limitation of Voltage Fluctuations and Flicker in Low-Voltage Supply systems Rated Current less than or equal to 16A |
| EN 55022:2010 | Limits and Methods of Measurement of Radio Disturbance Characteristics of ITE: Radiated & Conducted, Class B Limits |
| EN 55103-2:2009 | EMC Compatibility – Product Family Standard for Audio, Video, Audio-Visual and Entertainment Lighting Control Apparatus for Professional Use, Part 2: Immunity |
| EN 61000-4-2:2009 | Electrostatic Discharge Immunity (Environment E2-Criteria B, 4k V Contact, 8k V Air Discharge) |
| EN 61000-4-3:2010 Ed 3.2 | Radiated, Radio-Frequency, EMC Immunity (Environment E2, Criteria A) |
| EN 61000-4-4:2007 | Electrical Fast Transient/Burst Immunity (Criteria B) |
| EN 61000-4-5:2006 | Surge Immunity (Criteria B) |
| EN 61000-4-6:2006 | Immunity to Conducted Disturbances Induced by Radio-Frequency Fields (Criteria A) |
| EN 61000-4-11:2004 | Voltage Dips, Short Interruptions and Voltage Variation |

IEC 60065:2002 +A12:2011, Safety Requirements – Audio, Video, and Similar Electronic Apparatus
 IEC 60065:2001 Ed
 +A1:2005 +A2:2010

Due to line current harmonics, we recommend that you contact your supply authority before connection.

92/31/EEC, 2006/95/EC, 93/68/EEC, 2004/108/EC

**European Representative's
Name and Address:**

Harman International, Inc.
 2000 JBL Drive
 Berkeley, CA 94705
 USA

**Responsible for the technical
documentation is:**

[Name] @ [Email]

1.0 Welcome

The JBL® for installed sound applications. There are both single channel and two channel outputs.

The product includes a rack mounting kit for installations to a cabinet. The system can be easily expanded with additional JBL Commercial Series products. Provisions are included for a remote volume control using the JBL CSR-V control module.

1.1 Features

- 1 or 2 channel outputs
- Integrated Output Transformer to drive 70V or 100V speaker systems
- Ideal for commercial and industrial use
- System may be expanded by adding JBL Commercial Series Mixers and
- Euro-block style input connectors
- Barrier strip output connectors
- Independent Bass and Treble controls for each output channel
- Remote volume control capability using JBL CSR-V module and standard Ethernet cable
- Capable of RS232 control of volume, mute and sleep mode
- Utilizes Crown's DriveCore™ technology providing excellent audio performance
- 3-Year Warranty*

*Warranty is only valid within the United States of America. For information on warranty outside of the U.S.A., please contact your local distributor.

1.2 Front Panel Controls and Indicators



- A. Output Volume Control
- B. Power Switch
- C. Illuminated ring around the output volume control will light green with signal presence while red indicates clipping, i.e. the signal has reached the threshold of audible distortion.
- D. Tone Controls - Bass and Treble potentiometers on each output channel
- E. Illuminated ring around the power switch. Blue indicates that the unit is on and in normal operating mode. Green indicates that the unit is connected to the AC mains and has been placed into sleep mode via the RS232 control.

2.0 Setup

during transit. If damage is found, notify the transportation company immediately. Only you can initiate a claim for shipping damage. We will be happy to help as needed. Save the shipping carton as evidence of damage for the shipper's inspection.

We also recommend that you save all packing materials so you will have them if you ever need to transport the unit. Never ship the unit without the factory pack.

WARNING

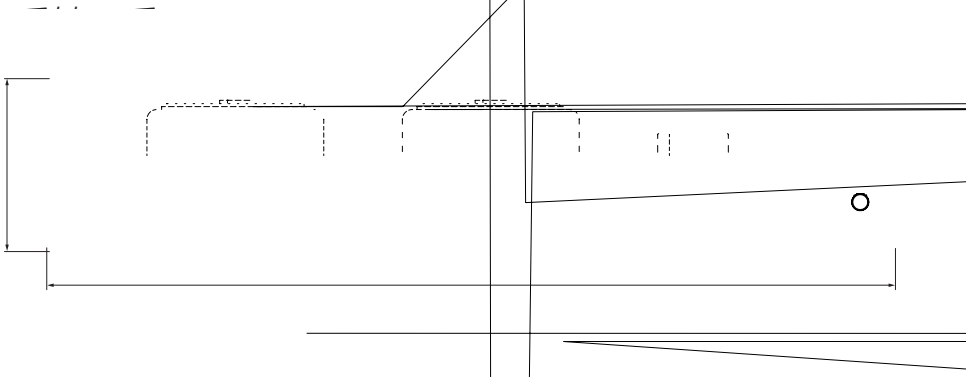
observe the Important Safety Instructions found at the beginning of this manual.

CAUTION

power source and all level controls turned completely down (counterclockwise).

-
-

the unit for convection cooling. Rubber feet are included and can be
see Figure 2.2.1.



2.3 Ensuring Proper Cooling

When using an equipment rack, keep a minimum space of 4 inches (10cm) from the top surface of the unit. Close any open spaces in the rack with blank panels. DO NOT block any air vents. The side walls of the rack should be a minimum of 2 inches

2.4 Choosing Input Wire and Connectors

We recommend using prebuilt or professionally wired balanced line (two-conductor included Euro-block connectors, see Figure 2.4. Unbalanced lines may be used, but may result in hum or RF noise very long cable runs.

You can also use RCA connectors to connect audio devices, for example, CD/DVD player. However, do not use both Euro-block and RCA audio input connectors on a single channel at the same time.

NOTE

UN

2.5 Output Wiring and Connectors

2.6 Wiring Your Audio System

Typical input and output wirings are shown in Figure 2.6.

INPUTS: Connect input wiring for both channels using either the RCA or the Euro-block input for each channel.

OUTPUTS: You may use either low impedance or high impedance speakers. Always be sure to maintain the proper polarity when wiring speakers.

Therefore, you can connect up to four 16 Ohm speakers wired in parallel, two 8 Ohm

2.7 Connecting to AC Mains

supplied AC power cord. First, connect the IEC end of the cord set to the IEC

When properly connected to a live power source and switched on, the power ring should illuminate with a blue color.

WARNING: The third prong of this connector (ground) is an important safety feature. Do not attempt to disable this ground connection by using an adapter or other methods.

your electrician.

2.8 Protecting Your Speakers

it can damage high-frequency drivers. The built-in clip limiter prevents clipping.

frequency signals from breath pops or dropped microphones can blow out drivers. You can switch to the HI-Z mode which, in addition to switching in the output

eliminating signals below 70Hz.

2.9 Startup Procedure

1. Turn down the level of your audio source.
- 2.
- 3.
4. Turn up the level of your audio source to an optimum level.
5. level is achieved.

If you ever need to make any wiring or installation changes, don't forget to disconnect the power cord.

3.0 Operation

3.1 Precautions

the following precautions for optimum performance and safety:

1. including input and output wiring hookup. Improper wiring can result in serious

this manual.
2. Use care when making connections, selecting signal sources and controlling the output level.
3. Always be sure to have all levels at minimum when connecting or disconnecting

speaker to go into a protection mode or even cause damage.
4. **WARNING:** Never connect the output to a power supply, battery or power main. Electrical shock may result.
5. Tampering with the circuitry, or making unauthorized circuit changes may be hazardous and invalidates all agency listings.
- 6.
7. Do not overdrive the mixer, which will cause clipped signal to be sent to

loudspeaker damage may result.
8.

clipping and speaker damage.
9. temperature conditions in excess of 40°C. Failure to do so will activate the

Signal Presence Indicator will light red.

CAUTION: JBL is not liable for damage that results from overdriving other system components.

3.2 70/100V Switch

impedance speakers, (4 Ohms ,minimum) The Hi-Z switch will switch in the built-in output transformer allowing the unit to drive 70V or 100V speaker systems directly when connected to the appropriate output terminals. As an added feature when driving the high impedance speakers, the system automatically switches in a 70Hz

3.3 Remote Control Capability

Remote volume control can be implemented using a CSR-V controller connected via an Ethernet cable to the RJ45 connector on the back panel. For the CSA 2300Z,

Additional features are remotely accessible through the RJ45 port using serial control. (For the CSA 2300Z, where there are two RJ45 connectors, the serial control feature is accessible via the Channel 1 connector only.)

Please see Appendix B for more details regarding remote operation using RS232.

CSA1300Z & CH1 of CSA2300Z

| Pin | Function | Usage |
|-----|----------|--------|
| 1 | +Vref | CSR-V |
| 2 | Vol Ctrl | CSR-V |
| 3 | NC | none |
| 4 | Gnd | Serial |
| 5 | Rx | Serial |
| 6 | Tx | Serial |
| 7 | NC | none |
| 8 | Gnd | CSR-V |

| Pin | Function | Usage |
|-----|----------|-------|
| 1 | +Vref | CSR-V |
| 2 | Vol Ctrl | CSR-V |
| 3 | NC | none |
| 4 | NC | none |
| 5 | NC | none |
| 6 | NC | none |
| 7 | NC | none |
| 8 | Gnd | none |

4.0 Troubleshooting

CONDITION: No sound or low sound.

POSSIBLE REASON: The input signal is not present or at a very low level.

POSSIBLE REASON: The Master Volume control is turned down.

POSSIBLE REASON: A CSR-V is connected and turned down.

POSSIBLE REASON: RS232 control has placed the unit into sleep mode.
(Power light ring will be green)

POSSIBLE REASON: The Hi-Z switch is OFF while using the 70V or 100V outputs.

POSSIBLE REASON: The power switch is OFF.

CONDITION: Distorted sound.

POSSIBLE REASON: Input signal level is too high. Please turn down the input level
level that allows the clip indicator to be constantly ON.

POSSIBLE REASON: Master Volume is too high.

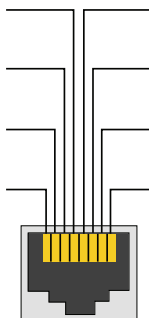
| Performance | CSA 1300Z | CSA 2300Z |
|--|---|--|
| Rated Power into 4 Ω or 8 Ω 1kHz, \leq 0.5% THD | 300W | 300W |
| Number of Output Channels | 1 | 2 |
| Insertion Loss (70V & 100V outputs) | 1 dB maximum | |
| Input Sensitivity (8 Ω Load) | Balanced line input: 775mV _{RMS} | |
| Frequency Response (8 Ω , 20Hz - 20kHz, tone controls) | +/- 1.0 dB | |
| Total Harmonic Distortion (THD) (@ Full rated power, 20Hz-20kHz) | <0.5% | |
| Signal-to-Noise Ratio (Ref. rated output, 22kHz BW, A-weighted) | >97dB | |
| Input Impedance (nominal) | Euro Block: 20 k Ω (balanced); RCA: 10 k Ω | |
| Maximum Input Level | +22dBu (Nominal) | |
| Crosstalk (Ref. rated power, A-weighted, 1kHz) | <-70 dB | |
| Tone Controls (Bass and Treble non-detented potentiometers on each channel) | Bass +/-12dB @100Hz Treble +/-12dB @10kHz | |
| Nominal AC Line Voltages | 100V, 120V, 220V, 230-240V, 50/60 Hz | |
| Minimum Load Impedance Low-Z Output 70V Output 100V Output | 4 Ω 12 Ω 24 Ω | 4 Ω 12 Ω 24 Ω |
| Operating Temperature/Humidity | 0°C to 35°C @ 95% R.H. (non-condensing) | |
| Storage Temperature | -20°C to 85°C | |
| Dimensions & Weight | | |
| Net Weight (preliminary estimate) | 13.1 lb (5.95 kg) | 17.8 lb (8.05 kg) |
| Dimensions | Width: 17.0 in. (432 mm) Depth: 10.8 in. (274 mm) Height: 3.5 in. (89 mm) | |
| Shipping Weight | 16.4 lb (7.45 kg) | 20.6 lb (9.35 kg) |

Appendix B: Remote RS232 Control

RJ45 connector pin assignments

CSA1300Z & CH1 of CSA2300Z

| Pin | Function | Usage |
|-----|----------|--------|
| 1 | +Vref | CSR-V |
| 2 | Vol Ctrl | CSR-V |
| 3 | NC | none |
| 4 | Gnd | Serial |
| 5 | Rx | Serial |
| 6 | Tx | Serial |
| 7 | NC | none |
| 8 | Gnd | CSR-V |



List of Serial Commands

| Command | Action | Comment |
|---------|------------------------------------|--|
| mu 0 0 | mute channel 1 | |
| mu 0 1 | unmute channel 1 | |
| mu 1 0 | mute channel 2 | |
| mu 1 1 | unmute channel 2 | |
| sl 0 | sleep | |
| sl 1 | wake up | |
| vs 0 x | set channel 1 volume to x | x is an integer from 0 to 37 (refer to table on p. 21) |
| vs 1 x | set channel 2 volume to x | x is an integer from 0 to 37 (refer to table on p. 21) |
| vg 0 | get channel 1 current volume value | returns an integer between 0 and 37 |
| vg 1 | get channel 2 current volume value | returns an integer between 0 and 37 |
| vr | get machine information | Returns output such as: CPU version: 04000008 Where Model: CSA1300 Sleep State: k k: 0=sleep, 1=wake ch1 vol=m, ch2 vol=n m, n: 0, 1... 36, 37 ch1 mute=y, ch2 mute=z y, z: 0=muted, 1= unmuted |

Serial Communication Settings

BAUD rate 115200

8 bit data

1 bit start

1 bit stop

No parity

Appendix B: Remote RS232 Control

Volume Level Settings

| Integer | Volume Level (Attenuation) |
|---------|----------------------------|
| 0 | 0dB |
| 1 | -1.65dB |
| 2 | -3.3dB |
| 3 | -4.9dB |
| 4 | -6.6dB |
| 5 | -8.25dB |
| 6 | -9.9dB |
| 7 | -11.55dB |
| 8 | -13.2dB |
| 9 | -14.85dB |
| 10 | -16.5dB |
| 11 | -18.15dB |
| 12 | -19.8dB |
| 13 | -21.45dB |
| 14 | -23.1dB |
| 15 | -24.75dB |
| 16 | -26.4dB |
| 17 | -28.05dB |
| 18 | -29.7dB |
| 19 | -31.35dB |
| 20 | -33dB |
| 21 | -34.65dB |
| 22 | -36.3dB |
| 23 | -37.95dB |
| 24 | -39.6dB |
| 25 | -41.25dB |
| 26 | -42.9dB |
| 27 | -44.55dB |
| 28 | -46.2dB |
| 29 | -47.85dB |
| 30 | -49.5dB |
| 31 | -51.1dB |
| 32 | -52.8dB |
| 33 | -54.45dB |
| 34 | -56.1dB |
| 35 | -57.75dB |
| 36 | -59.4dB |
| 37 | -61.05dB |

Appendix C: Contact Information

For additional information, please consult JBL Professional Customer Service, your system installer or retailer.



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Part Number:5050610 Issue: 12/16