

Rev. 2.0.2
Item no. QSG-ES

E SERIES

Dedicated installation **amplifiers**



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E 8:2

E 10:4

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Introduction

The information contained in this Quick Start Guide is sufficient for proper installation of E Series amplifiers, and for configuration of settings in typical applications. Please refer to the full Operation Manual for detailed information on maintenance, cooling requirements, warranty, and configuration for complex installations .

Important safety instructions

1. Read these instructions.
2. Keep these instructions
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with a dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. 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 the third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched, particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with a cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. 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.
15. Do not connect the unit's output to any other voltage source, such as battery, mains source, or power supply, regardless of whether the unit is turned on or off.
16. Do not remove the top (or bottom) cover. Removal of the cover will expose hazardous voltages. There are no user serviceable parts inside and removal may void the warranty.
17. An experienced user shall always supervise this professional audio equipment, especially if inexperienced adults or minors are using the equipment.

Norge: Apparatet må tilkoples jordet stikkontakt

Sverige: Apparaten skall anslutas till jordat uttag

Suomi: Laite on liitettävä suojamaadoituskoskettimilla varustettuun pistorasiaan"

Standards



This equipment conforms to the EU requirements of the EMC Directive 2004/108/EC and Low Voltage Directive 206/958/EC valid until April 19, 2016.

From April 20, 2016 the equipment complies to EU directives for EMC 2014/30/EC and Low Voltage Directive 2014/35/EC

Standards applied: EMC Emission EN55103-1, E3

EMC Immunity EN55103-2, E3, with S/N below 1% at normal operation level.

Electrical Safety EN60065, Class I



This equipment is tested and listed according to the U.S. safety standard ANSI/ UL 60065 and Canadian safety standard CSA C22.2 NO. 60065. UL made the tests and they are a Nationally Recognized Testing Laboratory (NRTL).

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

- 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 or an experienced radio/TV technician for help.

This Class A digital apparatus complies with Canadian ICES-003.
Français: Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

Explanation of graphic symbols



The lightning bolt triangle is used to alert the user to the presence of un-insulated “dangerous voltages” within the unit’s chassis that may be of sufficient magnitude to constitute a risk of electric shock to humans.



The exclamation point triangle is used to alert the user to presence of important operating and service instructions in the literature accompanying the product.



To prevent electric shock do not remove top or bottom covers. No user serviceable parts inside. Refer servicing to qualified service personnel.



To completely disconnect this equipment from the AC mains, disconnect the power supply cord plug from the ac receptacle. The mains plug of the power supply cord shall remain readily operable.

Warning



To reduce risk of fire or electric shock, do not expose this apparatus to rain or moisture.



Do not expose this system/apparatus to dripping or splashing and ensure that no objects filled with liquids, such as vases, are placed on the apparatus.



This apparatus must be connected to a mains socket outlet with a protective earthing connection.



The mains plug is used as a disconnect device and shall remain readily operable.

Warranty

As part of the MUSIC Group, Labgruppen is committed to providing the highest quality products, service and user experience for our customers. One element of this commitment is our after sales support which now incorporates our extended Limited Warranty. In the event of any concern that is not addressed by this extended Limited Warranty we would ask you to contact us at care@music-group.com.

For full warranty details including the extended Limited Warranty, please visit <http://www.music-group.com/warranty.aspx> and register your purchase online at www.music-group.com or www.labgruppen.com.

Unpacking and visual checks

Every Lab.gruppen amplifier is carefully tested and inspected before leaving the factory and should arrive in perfect condition. If any damage is discovered, please notify the shipping carrier immediately. Save the packing materials for the carrier’s inspection and for any future shipping.

Installation

The 2 channel amplifiers are 276 mm (10.9 in) deep and their weight is approximately 4.2 kg (9.2 lbs) depending on model.

The 4 channel amplifiers are 382 mm 15,0 in) deep and their weight is approximately 6,6 kg (14,4 lbs) depending on model.

Free air flow from front to rear is required for cooling. No doors or covers should be mounted either in front of or behind the amplifiers.

Amplifiers may be stacked directly on top of each other with no spacing, though some spacing may enable more convenient installation of rear cabling.

Cooling

E Series devices use a forced-air cooling system with airflow from front to rear, allowing high continuous power levels without thermal problems. Ensure that there is sufficient space in front of and behind the amplifiers to allow for free air flow. Please refer to the full Operation Manual for thermal dissipation value when installing large numbers of amplifiers in air conditioned spaces.

NOTE: Fit solid blanks (not ventilation blanks) to unused rack spaces to ensure effective air circulation. Leaving gaps in between items of equipment degrades the effectiveness of forced-air cooling.

Operating voltage

All E Series amplifiers have a universal power supply that operates on mains from 100 – 240 V at 50 or 60 Hz. The IEC receptacle on the rear panel accepts the supplied IEC cord which terminates in a connector appropriate for the country of sale. When AC power is connected, the amplifier goes into standby (amber indication on power LEDs). It will go on if the power button is pressed (or if signal is supplied to either input or if the GPI is closed). The power LED shows green for “on” indication.

Grounding

For safety reasons, never disconnect the earth (ground) pin on the AC power cord. Use balanced input connections to avoid hum and interference. Signal ground is floating via a resistor to chassis, and therefore grounding is automatic.

Front panel



The front panel presents the following amplifier status indicators:

POWER – Bi-color LED indicates standby (amber) and on (green).

TEMP (temperature) – Flashing amber indicates excessive temperature in the power supply unit (PSU) or output stage(s). When temperature exceeds the danger threshold, the LED shows steady amber and the amplifier mutes.

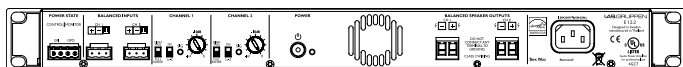
The following indications are per channel:

SIG (input signal present) - Green indication when input signal exceeds signal present threshold.

LIM (limit) – Illuminates when the amplifier limits the signal. Limiting is engaged when the channel:

- Reaches the selected voltage limit threshold (as determined by model and position of Rail Sensing Limiter (RSL) switch)
- Rail voltage sags below the selected threshold
- Maximum current output reached
- Mains voltage cannot maintain rail voltage

Rear panel



Important note on Auto Power On/Off – All E Series amplifiers include an Auto Power Down/On (APD) scheme. As shipped (factory default), the amplifier will go to low power standby mode when no signal is present for 20 minutes. It will return to power on mode when signal exceeds the signal present threshold. For information on calibrating the signal present threshold, please refer to the Operation Manual.

Power button and indication - When pressed momentarily, toggles power state between standby and on. Indicator shows amber for when it goes into standby and red if it is forced into standby by pressing the power knob and green for on.

Attenuators - Range is 0 dB to -infinity; vertical is -10 dB. Amplifier sensitivity is 4 dBu with attenuator at 0 dB and 14 dBu at -10 dB.

SIG - Illuminates green when input signal above Signal Present Threshold (SPT). For adjustment of SPT value, please refer to the full Operation Manual.

High-pass / Full-range – Selects flat or high-pass filter at 50 Hz.

70V / Lo-Z – The 70V position should be selected for constant voltage systems. 100V loudspeakers can be driven, but the power will be half of the selected tap. The 70V position is also used for full rated power into 16 ohm loads. The Lo-Z position should be selected for full power into 2 or 4 ohm loads, or for limiting maximum output into 16 ohms. For 8 ohm; see table below.

The E Series can also be used asymmetrically; i.e. one channel delivers more than the other(s). Please download the operational manual for examples at www.labgruppen.com/support/download

		Sensitivity and power (all channels driven equally) for different impedances for the different models		
		E 12:2	E 8:2	E 10:4
Impedance	70 V	4 dBu : 600 W*	4 dBu : 400 W*	4 dBu : 250 W*
	16 ohms	4 dBu : 150 W / 3.7 dBu : 310 W*	4 dBu : 100 W / 2.1 dBu : 290 W*	4 dBu : 125 W / 3 dBu : 250 W*
	8 ohms	4 dBu : 300 W / 3.8 dBu : 600 W*	4 dBu : 200 W / 2.1 dBu : 400 W*	4 dBu : 250 W
	4 ohms	4 dBu : 600 W	4 dBu : 400 W	1 dBu : 250 W
	2 ohms	1 dBu : 600 W	1 dBu : 400 W	N.R.

		Sensitivity and power (all channels driven equally) for different impedances for the different models		
		E 4:2	E 5:4	E 2:2
Impedance	70 V	4 dBu : 200 W*	4 dBu : 125 W*	4 dBu : 100 W*
	16 ohms	4 dBu : 50 W / -0.9 dBu : 200 W*	4 dBu : 63 W / 0 dBu : 125 W*	4 dBu : 50 W / -0.9 dBu : 100 W*
	8 ohms	4 dBu : 100 W / -0.9 dBu : 200 W*	4 dBu : 125 W	4 dBu : 100 W
	4 ohms	4 dBu : 200 W	1 dBu : 125 W	1 dBu : 100 W
	2 ohms	1 dBu : 200 W	N.R.	N.R.

*: If the “70V” mode is used

GPIO – GPIO allows use of external relays for power on and off. See the Operation Manual for information on configuring GPIO.

Audio inputs

Audio inputs are electronically balanced and use three-pole Phoenix-type connectors. Follow the +, - and Ground labels when making connections.

Loudspeaker outputs

Loudspeaker outputs use detachable block-type connectors. Maximum connector current rating is 41 Arms (exceeding capacity of the amplifier). Cables up to 4 mm² (12 AWG) can be accommodated. Observe polarity to avoid low frequency cancellation loss.