

ESX QL750.1

ESX QL750.1 Quantum Monobloc Digital Amplifier 24V User Manual

Model: QL750.1 | Brand: ESX

1. INTRODUCTION

Thank you for choosing the ESX QL750.1 Quantum Monobloc Digital Amplifier. This high-performance 24V amplifier is designed to deliver powerful and clear audio for your vehicle's sound system, particularly suited for 24V truck and commercial vehicle applications. This manual provides essential information for proper installation, operation, and maintenance to ensure optimal performance and longevity of your amplifier.

2. SAFETY INSTRUCTIONS

Please read these safety instructions carefully before installing and operating the amplifier. Failure to follow these guidelines may result in injury, damage to the amplifier, or damage to your vehicle.

- Power Supply:** This amplifier is designed for 24V DC vehicle electrical systems only. Do not attempt to connect it to a 12V system or any other voltage.
- Professional Installation:** Installation should ideally be performed by a qualified professional to prevent damage to the amplifier or vehicle.
- Wiring:** Ensure all wiring is correctly routed and secured to prevent shorts, pinching, or damage. Use appropriate gauge wires for power and ground connections.
- Ventilation:** Mount the amplifier in a location that allows for adequate airflow to prevent overheating. Do not cover the amplifier or block its cooling fins.
- Moisture:** Keep the amplifier away from moisture, water, and excessive humidity.
- Fuses:** Always use the correct fuse rating as specified in the installation section. Never replace a fuse with one of a higher rating.
- Battery Disconnection:** Disconnect the vehicle's battery before starting any electrical work to prevent short circuits.

3. PACKAGE CONTENTS

Please check the contents of your amplifier package. If any items are missing or damaged, contact your dealer immediately.

- ESX QL750.1 Monobloc Digital Amplifier
- Remote Bass Control Unit
- Mounting Screws
- User Manual (this document)

4. PRODUCT FEATURES

The ESX QL750.1 amplifier boasts a range of features designed for superior audio performance and ease of integration:

- Monobloc 1-channel amplifier design
- Digital Class D amplification for high efficiency
- Subsonic filter: 10 - 40 Hz
- Low Pass Filter (LPF): 40 - 150 Hz
- Bass Boost: Up to 18 dB at 40 Hz
- Phase Shift: 0-180° adjustable
- High-level input with Autosense / Auto-Turn-On function
- Compatible with Start/Stop vehicle systems
- Line output for daisy-chaining multiple amplifiers
- Remote bass control included
- High efficiency: 92%

5. AMPLIFIER LAYOUT AND CONNECTIONS

Familiarize yourself with the amplifier's layout and connection terminals before proceeding with installation.



Figure 5.1: Rear panel view of the ESX QL750.1 amplifier, highlighting power input, signal inputs (RCA and high-level), output, and various control knobs.

5.1. Power Input Terminals

- **GND (Ground):** Connect to a clean, unpainted metal surface of the vehicle chassis.
- **REM (Remote):** Connect to the remote turn-on output of your head unit or a switched 24V source.
- **+24V (Power):** Connect directly to the positive terminal of the vehicle's 24V battery via an appropriate fuse holder.

5.2. Signal Input Terminals

- **INPUT (RCA):** Low-level RCA inputs for connecting to your head unit's RCA pre-outs.
- **HIGH LEVEL INPUT:** For connecting to your head unit's speaker outputs if RCA pre-outs are not available.

5.3. Output Terminals

- **OUTPUT (RCA):** Line output for connecting to another amplifier in a multi-amplifier setup.
- **SPEAKER OUTPUT:** Connect your subwoofer(s) to these terminals. Observe correct polarity.

5.4. Control Knobs and Switches

- **LEVEL INPUT (MIN/MAX):** Adjusts the input sensitivity to match the output of your head unit.
- **SUB SONIC (10Hz-40Hz):** Filters out ultra-low frequencies below the audible range, protecting your subwoofer.
- **LOW PASS (40Hz-150Hz):** Sets the upper frequency limit for the subwoofer.
- **BASS BOOST (0dB-18dB):** Increases bass output at 40Hz. Use sparingly to avoid distortion.
- **PHASE SHIFT (0°-180°):** Adjusts the phase of the subwoofer output to match other speakers in the system.
- **AUTO TURN-ON (DC/VOX/OFF):** Selects the amplifier's turn-on method when using high-level input.
 - **DC:** Detects DC offset from the head unit's speaker output.
 - **VOX:** Detects audio signal from the head unit's speaker output.
 - **OFF:** Disables auto turn-on; requires REM connection.

6. SETUP AND INSTALLATION

Proper installation is crucial for the performance and safety of your amplifier. Follow these steps carefully.

6.1. Mounting the Amplifier

- Choose a dry, well-ventilated location away from direct sunlight and heat sources.
- Ensure there is sufficient space around the amplifier for airflow, especially around the cooling fins.
- Use the provided mounting screws to secure the amplifier firmly to a solid surface in your vehicle.

6.2. Power Wiring (24V System)

1. **Disconnect Battery:** Before making any power connections, disconnect the negative terminal of your vehicle's 24V battery.
2. **Power Cable (+24V):** Run a heavy-gauge power cable (e.g., 8 AWG or thicker, depending on cable length and power requirements) from the positive terminal of the 24V battery to the amplifier's "+24V" terminal. Install an appropriate fuse holder (e.g., 40A-60A, refer to amplifier specifications for exact rating) within 18 inches (45 cm) of the battery.
3. **Ground Cable (GND):** Run a heavy-gauge ground cable (same gauge as power cable) from the amplifier's "GND" terminal to a clean, unpainted metal part of the vehicle chassis. Ensure a good electrical connection.
4. **Remote Turn-On Cable (REM):** Run a smaller gauge wire (e.g., 18 AWG) from your head unit's remote turn-on output (usually blue/white wire) to the amplifier's "REM" terminal. If using high-level input with auto turn-on, this connection may not be necessary.

6.3. Signal Input Connection

- **RCA Input:** Connect RCA cables from your head unit's subwoofer pre-out (or full-range pre-out if no dedicated sub-out) to the amplifier's "INPUT" RCA jacks.
- **High-Level Input:** If your head unit does not have RCA outputs, connect the speaker wires from your head unit to the amplifier's "HIGH LEVEL INPUT" connector. Ensure correct polarity. Set the "AUTO TURN-ON" switch to "DC" or "VOX" as appropriate.

6.4. Speaker Output Connection

- Connect your subwoofer(s) to the "SPEAKER OUTPUT" terminals. Ensure correct polarity (+ to + and - to -).
- Verify the impedance of your subwoofer(s) to ensure it is within the amplifier's supported range (e.g., 1 Ohm stable).

6.5. Initial Power-Up

- Double-check all connections for correctness and security.
- Reconnect the vehicle's battery.
- Turn on your head unit. The amplifier should power on (indicated by a power LED).

7. OPERATING INSTRUCTIONS AND ADJUSTMENTS

Once installed, fine-tune the amplifier settings for optimal sound quality.

7.1. Gain (Level Input) Adjustment

- Set your head unit's volume to about 75% of its maximum.
- Play a dynamic piece of music.
- Slowly increase the amplifier's "LEVEL INPUT" gain control until you hear distortion, then back it off slightly. This matches the amplifier's input sensitivity to your head unit's output.

7.2. Crossover Settings (Subsonic & Low Pass)

- **LOW PASS (LPF):** Adjust this control to set the upper frequency limit for your subwoofer. A common starting point is 80-100 Hz, but this depends on your subwoofer and other speakers.
- **SUB SONIC:** Set this filter just below the lowest frequency your subwoofer can safely reproduce, or just below the tuning frequency of your ported enclosure. This protects the subwoofer from over-excursion. A common setting is 20-30 Hz.

7.3. Bass Boost

- The "BASS BOOST" control provides an increase in bass output at 40 Hz. Use this feature cautiously. Excessive bass boost can lead to distortion and potential damage to your subwoofer. Start at 0dB and increase gradually if desired.

7.4. Phase Shift

- The "PHASE SHIFT" control (0°-180°) helps to align the subwoofer's output with the rest of your vehicle's speakers. Experiment with this setting while listening from your normal seating position. The correct setting will result in the most impactful and seamless bass response.

7.5. Remote Bass Control

- Connect the provided remote bass control unit to the amplifier. This allows for convenient adjustment of the subwoofer's output level from the driver's seat.

8. TROUBLESHOOTING

If you experience problems with your amplifier, refer to this section for common solutions.

Problem	Possible Cause	Solution
No Power / Amplifier does not turn on	◦ Blown fuse ◦ Loose power or ground connection ◦ No remote turn-on signal ◦ Auto turn-on switch set incorrectly (for high-level input)	◦ Check and replace fuse (use correct rating). ◦ Verify all power and ground connections are secure. ◦ Check remote wire connection and head unit output. ◦ Ensure AUTO TURN-ON is set to DC or VOX if using high-level input without a remote wire.
No Sound	◦ Input signal issue ◦ Speaker wiring incorrect or disconnected ◦ Gain set too low ◦ Crossover settings incorrect	◦ Check RCA or high-level input connections. ◦ Verify speaker wiring polarity and connection. ◦ Increase LEVEL INPUT gain. ◦ Adjust LOW PASS and SUB SONIC filters.
Distorted Sound	◦ Gain set too high ◦ Bass Boost set too high ◦ Speaker impedance too low ◦ Poor ground connection	◦ Reduce LEVEL INPUT gain. ◦ Reduce BASS BOOST. ◦ Verify speaker impedance is compatible with the amplifier. ◦ Ensure ground connection is clean and secure.
Amplifier Overheats	◦ Insufficient ventilation ◦ Speaker impedance too low ◦ Playing at high volume for extended periods	◦ Ensure adequate airflow around the amplifier. ◦ Verify speaker impedance. ◦ Reduce volume or allow amplifier to cool down.

9. SPECIFICATIONS

Technical specifications for the ESX QL750.1 amplifier:

Feature	Specification
Model Number	QL750.1-24V
Amplifier Type	Monobloc, 1-Channel, Class D Digital
Voltage	24 Volts (Min 17V, Max 24V)
Output Power (RMS)	1 x 300 W @ 4 Ohm 1 x 500 W @ 2 Ohm 1 x 750 W @ 1 Ohm
Max Output Power	900 Watts
Subsonic Filter	10 - 40 Hz

Feature	Specification
Low Pass Filter (LPF)	40 - 150 Hz
Bass Boost	0 - 18 dB @ 40 Hz
Phase Shift	0 - 180°
Efficiency	92%
Dimensions (L x W x H)	22.6 x 12 x 4.3 cm (8.9 x 4.7 x 1.7 inches)
High-Level Input	Yes, with Autosense / Auto-Turn-On
Start/Stop Compatible	Yes

10. MAINTENANCE

- The ESX QL750.1 amplifier requires minimal maintenance. Follow these guidelines to keep it in optimal condition:
- **Cleaning:** Use a soft, dry cloth to wipe the amplifier's exterior. Do not use harsh chemicals or abrasive cleaners.
 - **Ventilation:** Periodically check that the cooling fins are free from dust and debris to ensure proper heat dissipation.
 - **Connections:** Occasionally check all power, ground, and signal connections to ensure they remain tight and secure.

11. WARRANTY AND SUPPORT

ESX products are manufactured to the highest quality standards. For warranty information, please refer to the warranty card included with your product or contact your authorized ESX dealer. For technical support or service inquiries, please contact your point of purchase or visit the official ESX website.

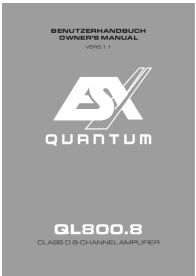
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Related Documents - QL750.1

	ESX QL750.1 (24V) Mono Verstärker: Bedienungsanleitung & Technische Daten Entdecken Sie den ESX QUANTUM QL750.1 (24V) Class D Mono Verstärker. Diese Anleitung bietet detaillierte technische Spezifikationen, Installationsschritte und Bedienungshinweise für Ihr Fahrzeug-Audiosystem.
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	ESX QL800.6 6-Channel Class D Amplifier Owner's Manual User manual for the ESX QL800.6 6-Channel Class D Amplifier. This guide provides detailed information on installation, technical specifications, safety, and troubleshooting for your car audio system.
	ESX QUANTUM QL800.8 8-Channel Class D Car Amplifier Owner's Manual Comprehensive owner's manual for the ESX QUANTUM QL800.8 8-channel Class D car amplifier, covering safety instructions, technical specifications, installation guides, functional descriptions, and troubleshooting.
	ESX Toolkit App Quick Start Guide - Car Audio System Setup A comprehensive quick start guide for the ESX Toolkit app, detailing how to download, connect, and configure your ESX DSP car audio system, including settings for presets, inputs, outputs, crossovers, equalization, and time delay.
	AX VISION VX 5000 PRO Ultra Class D Mono Amplifier User Manual Comprehensive user manual for the AX VISION VX 5000 PRO Ultra Class D Mono Amplifier, covering safety, installation, operation, and troubleshooting for automotive audio systems.
	ESX QM-FOUR-PP Class D 4-Channel Mini Amplifier User Manual Comprehensive user manual for the ESX QM-FOUR-PP Class D 4-channel mini amplifier, detailing safety instructions, technical specifications, mechanical and electrical installation, operation, and troubleshooting for car audio systems.



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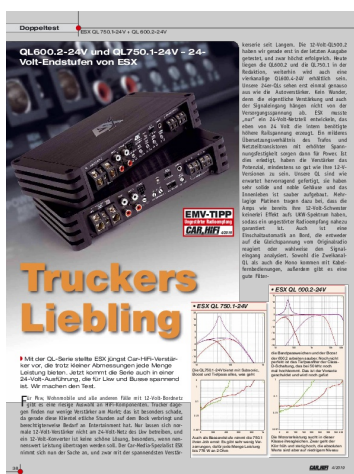


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Doppeltest ESX QL 750.1-24V QL 600.2-24V QL600.2-24V und **QL750.1**-24V 24Volt-Endstufen von ESX EMV-TIPP Ungestrirter Radioempfang 4/2019 Truckers kerserie seit Langem. Die 12-Volt-QL500.2 haben wir gerade erst in der letzten Ausgabe getestet, und zwar hchst erfolgreich. Heute liegen die QL600.2 u...

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 Fullrange Outputs RCA Fuse Ratings Dimensions Width x Height x Length **QL750.1** 1
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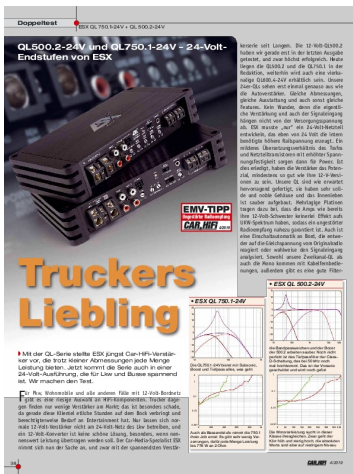


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ESX **QL750.1** Die **QL750.1** ist die strkere der beiden Monos aus ESX QL-Serie und die einzige, die 1-Ohm-stabil ist. Dafr ist die kleine Schwester QL500.1, die im gleichen Gehuse kommt, etwas gnstiger. Wie bei allen QL-Verstrkern ist es auch bei der **QL750.1** gelungen, mglichst viel Leistung in ein mgli...

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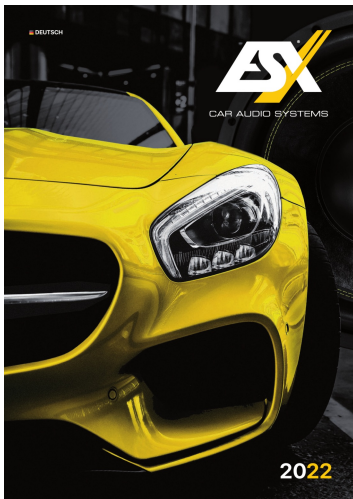


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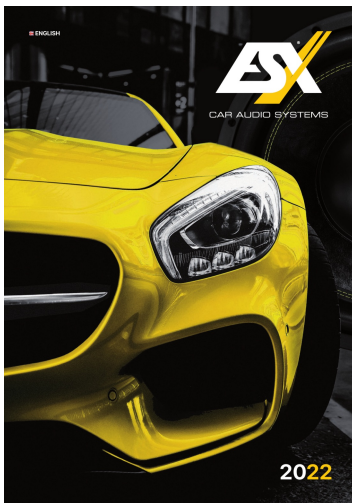
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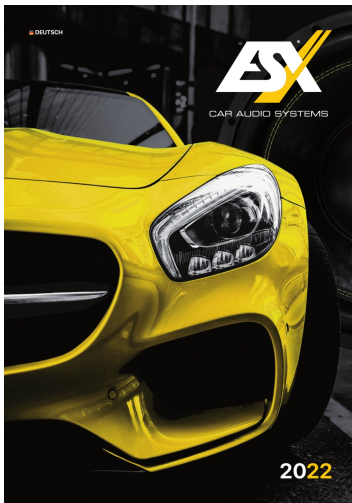
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