ECHO
Headphone Tube Power Amplifier
TUBES INSTALLATION
FRONT AND REAR PANEL DESCRIPTION

1. Headphones output
2. Volume Control

1. Line input
2. Line output (pre-amp mode)
3. Power switch, fuse socket and AC power connection
CAUTION! HOT PARTS. DO NOT TOUCH! BURNED FINGERS WHEN HANDLING THE PARTS. WAIT 15 MIN AFTER SWITCHING OFF BEFORE HANDLING PARTS.

WARNING - TO REDUCE RISK OF FIRE OR ELECTRICAL SHOCK, DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE. DO NOT REMOVE COVER NO USER SERVICABLE PARTS INSIDE, REFER SERVICING TO QUALIFIED PERSONEL. HOT SURFACES, KEEP COMBUSTIBLE MATERIALS AWAY FROM TUBES, DO NOT BLOCK AIRFLOW
GENERAL SAFETY INSTRUCTION - READ BEFORE FIRST USE!

The amplifier should be plugged to power socket with ground connection. Please note that tubes can reach operational temperature with exceeding 150 Celsius (303 Fahrenheit) therefore tube exchange should be done with the device unplugged from AC power, after allowing the tubes to cool down and letting the capacitors discharge (minimum 15 minutes). Recommended ambient temperature for the amplifier to operate is between 15 and 30 Celsius (59-86 Fahrenheit). In case of tube glass cover break, stop the device operation immediately and switch off the power supply from the mains. Remove the damaged tube after cooldown of the device (min. 15 minutes).

DEVICE VENTILATION

Proper ventilation provides long lifetime of the amplifier. Upper and lower cover are equipped with ventilation holes which guarantee a free airflow. Bottom ventilation holes provide cool air into the device case, which flows through it and escapes at the top cover. Do not obstruct the airflow around the amplifier. Allow at least 30cm (12 inches) free space above the tubes and 10cm (4 inches) for the rear and sides. Do not place the device on any other heat source. All ventilation openings should remain uncovered during operation of the amplifier.

MANUFACTURER WARRANTY

The amplifier was manufactured and tested to the highest quality standards. The limited warranty covers defects in material or workmanship for 36 months (tubes for
12 months), from date of purchase. Our limited warranty is void if the product is returned with tampered labels, any alternations or in case of improper use. To request warranty service, please provide sales receipt / document of purchase and description of the problem. Product shipping is at buyer's expense.

**INSTALLATION AND BREAK-IN PERIOD**

Before turning the amplifier on for the first time, please install the tubes in the sockets, as described on the illustration. Take care while installing the tubes, ensure the pins fit appropriate holes in the socket. New amplifier requires a break-in period which takes place during normal use of the device. Please note that the optimal sound quality will be reached after approximately 30 – 50 hours of operation. In day to day use, tubes reach their operational temperature after 15 minutes from starting the device. All tubes must be installed before turning on the amp. Never place the unit in an unstable location. A device may fall, causing serious personal injury or death. Only use furniture that can safely support the device. Ensure that the amplifier is not overheating the edge of the supporting furniture. Do not place the device on tall furniture without anchoring the furniture. Do not place the amplifier on cloth or other materials that may be located between the unit and supporting furniture. Keep away the device from the reach of children.

**ABOUT FELIKS-AUDIO**

Feliks Audio is a boutique manufacturer of hand-crafted tube amplifiers, with over 20
years of audio solutions development experience. All our products are in-house engineered, tuned and assembled at our site in Lubliniec (Poland). We create special and unique designs, blending together technology and tradition.

Originally, Feliks Audio focused mainly on custom made amplifiers tailored to client’s order. Over the time we have developed many innovative and sophisticated audio solutions. Thanks to that we have gained valuable knowledge and experience across broad range of applications. Our amplifiers, among them Echo, Espressivo, Elise and Euforia, have won many supporters across the world.

Our products offer a perfect blend of passion for honest sound, great attention to technical details and beautiful finish. We do follow design simplicity, minimizing the number of elements in projected signal path. Thanks to this approach we ensure that the sound produced by our devices is pure and true.

**WHAT MAKES ECHO SO SPECIAL?**

Echo is the entry level OTL amplifier by Feliks Audio and offers amazing sound clarity with the typical “tube” feel. The amplifier is fully handmade from high quality, carefully selected components. The amplifier’s sweet spot lays with medium to high impedance headphones (from 100ohm) and can be also used as effective tube pre-amp for both tube and transistor amplifiers. It is built around two 6N1P driver and two 6N6P power tubes.
- Incredibly detailed music scene
- Very low noise levels and AC interferences
- Broad frequency: 15 Hz – 45 kHz +/- 3dB
- Performs very well also as pre-amp for tube or transistor power amps
- Gold plated ceramic tube sockets
- Pre-amp mode implemented
- Input/output safeguards eliminating undesirable power on/off noises and distortions
- Wooden, solid oak side panels
- Extended 3-year warranty

**TECHNICAL SPECIFICATION AND ELECTRICAL SYSTEM DESCRIPTION**

Echo is built with 2x 6N6P and 2x 6N1P tubes. Power supply is based on a custom made stabilized toroidal transformer with electronic ripple suppression. The amplifier is equipped with automatic bias circuit, therefore no re-tuning is required after changing tubes.
- Impedance: 100 k ohm
- Frequency response: 15 Hz - 45 Khz +/- 3 dB
- Power output: 350mW
- Amplification level: 20dB
- THD: 0.4% (300 ohm, 20 mW)
- Optimal headphones impedance: 100 - 600 ohm
- Headphones output: Jack 6.3mm
- AC: 230V/120V (power cord included)
- Weight: 3.5 kg (7.7 lbs)
- Dimensions without tubes: 265x220x115 mm [10.4x8.7x4.5 inch]

**TUBES USED**

Echo is originally equipped with high quality tubes. Stock pre-amp tubes are 6922 power tube are 6N30P. Tubes can be changed by the user, to the following:

Driver tubes: E88CC, 6N23P, 6DJ8, 6922

Power tubes: 6N6Pi

**SUPPORT**

We wish you many happy hours enjoying your new tube amplifier. Should you have any
inquiries please contact us directly at info@feliksaudio.pl or visit our website www.feliksaudio.pl

Manufacturer: HFelektronika, 42-700 Lubliniec, 2a Tuwima street
WARRANTY CARD

This is your warranty card. Make sure your seller has completed all of the fields below. In the case of a warranty service, include a copy of your purchase with this card. Please also include a description of the fault with the card.

Warranty start date

Product name

Serial number

Seller Signature

FELIKS-AUDIO
HAND-CRAFTED TUBE AMPLIFIERS