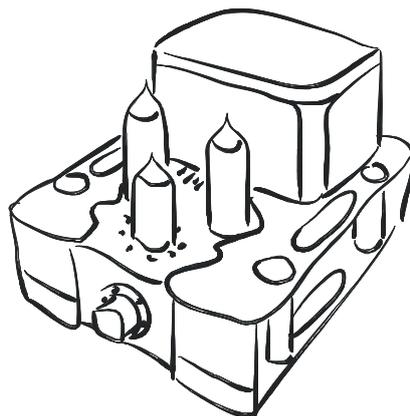


Multimedia, Compact

# MODEL "55"®

Integrated Vacuum Tube Amplifier



tec•on audio

*pristine soundscapes: hear better, listen more!®*

PALMDALE, CA

[www.teconaudio.com](http://www.teconaudio.com)

tec•on audio

## WELCOME & THANK YOU

Welcome and thank you for choosing the tec•on audio **Model "55" multimedia** integrated compact stereo tube amplifier.

The vacuum tube amplifier you have acquired is designed to give you many years of enjoyment. Whether you use your new amplifier with a portable MP3 device such as an iPod or Zune, your home computer, or as the heart of a more traditional audio components system, you will likely appreciate the incredible sound of this compact wonder amp.

This versatile component can be enjoyed a number of ways:

- \* With input from CD, DVD, radio tuner, tape or other component;
- \* Connected directly to your computer<sup>1)</sup> or digital media via a USB port;
- \* As a high-resolution amplifier for iPod, Zune or other portable MP3 players.

**Please read this OWNER'S MANUAL before operating your new tec•on Model "55" amplifier. Observe the safety directions to avoid electrical shocks or equipment failure due to improper installation!**

## ABOUT tec•on audio

Our goal is to make available to music lovers and audiophiles the superior sound of a well designed, single ended tube amplifier for playing analog, digital, MP3 and computer based music sources. The **Model "55" multimedia** brings your music to life in a *pristine soundscape*®.

Specially conceived and fined-tuned to meet our specifications and our very own demanding sonic performances, the **Model "55"** by tec•on audio is a high quality product, engineered and built with choice components. This unique, *multimedia* amplifier is equipped with a USB compatible D/A interface to allow the connection of your computer, or digital media, via a standard USB port. The digital circuit uses the Burr-Brown PCM 2702 chip, a Multi-level Enhanced delta-sigma modulator accepting 16-bit 44.1/48 kHz two-channel DAC with an integral 8x-oversampling filter. It is fully Plug & Play operation and can be used as a high quality substitute to your computer on-board sound card. It is compatible with Windows 98, 2000, XP, and Apple Mac OS X or later.

The **Model "55" multimedia** amplifier operates in class "A" topology, using two EL84 output tubes, famous for their sonic qualities. A distinctive 5755 tube based driver and no global negative feedback deliver a *pristine soundscape*® with smooth, fluid, incredibly wide and layered soundstage that will amaze you with great detail and depth. The unusual, well- balanced 5755 input tube delivers stable imaging and focus. As is known to audiophiles, the **Model "55"** amplifier sonic performance may improve after a "burn-in" period [see **IV** below].

<sup>1)</sup> Computers typically utilize poor quality sound cards for audio processing, but with the **USB** cable provided, your tec•on audio **Model "55"** allows you to bypass your computer's sound card so you can hear music from your computer with much higher resolution than previously possible.

The **Model "55" multimedia** integrated compact amplifier will perform best with sensitive speakers [at least 89 db/W/m]. There are many kinds of speakers available on the market. The **Model "55"** amplifier accepts loudspeakers rated from 4  $\Omega$  to 8  $\Omega$ , allowing you a wide range of choice to suit your taste.

We know you will enjoy your new amplifier. *Hear better, and listen more!* <sup>®</sup>

## WARNING

**Tube electronics use high voltages that can cause injury or death. Dangerous voltages may be stored in capacitors many hours after the unit has been tuned "OFF".**

**USE CAUTION! FOLLOW THE INSTRUCTIONS!**

## \* OPERATING INSTRUCTIONS \*

### **(I) UNPACKING**

Before unpacking, check if there is any damage to the carton. Place on a flat surface with the arrow upward. Carefully remove your new amplifier and all accessories from its packing carton, and examine it closely for signs of shipping damage. Insure that the tubes are correctly inserted in their sockets. Make sure that your amplifier came packed with the following items:

- Power supply cord
- USB cable
- User's manual with warranty card

### **CAUTION**

Your amplifier is preset to work on your local mains supply voltage. Check that your local mains supply voltage agrees with the setting indicated on the back panel of the amplifier. [Some tec•on audio products are equipped with dual voltage transformers (which is indicated on the back panel).]

**DO NOT POWER THE AMPLIFIER "ON" UNTIL ALL CONNECTIONS HAVE BEEN PROPERLY MADE PER THE INSTRUCTIONS.**

### **(II) CONNECTING**

1. Select the suitable input socket on the rear panel for your sound source [CD or USB, see Note below]. Connect the amplifier to the sound source with the signal wires.

If you plan to use the amplifier with your computer, connect the USB cable supplied with the unit from your computer to the USB input on the back of the amplifier.

NOTE: The USB input has priority. When using the auxiliary input source connected with RCA cables [for CD, LP, etc...], you must unplug the USB connector, otherwise there will be no sound coming from the speakers.

2. Connect the amplifier to the speakers with good quality speaker cables. Be sure to connect only positive (+) wires to positive (red) terminals, and negative (-) wires to negative (black) terminals. Reversing the phase of a speaker cable will result in the signals being out of phase and will degrade the sound quality.

**Secure speaker connections are extremely important! As with most vacuum tube amplifiers, powering the amplifier "ON" with one or both speakers disconnected will generate a very high voltage pulse inside the output stage. This high voltage pulse could possibly damage the circuitry! Units damaged by this type of misuse will not be covered by the warranty.**

**MAKE SURE THE SPEAKERS ARE CONNECTED SECURELY!**



**Connect both Speakers before turning Power "ON"**

**Never allow (+) and (-) speakers cable to touch during operation! This can cause a short circuit resulting in damage to your amplifier.**

3. Connect the power cord: first be sure to set the "VOLUME" control to the lowest position and the power switch in the "OFF" position. Then connect the power cord into the power socket on the rear panel of the amplifier. Next, connect the other end of the power cord into the outlet. The power outlet, which the amplifier power cord is connected to, must be the 3-pin grounding type. Check again to make sure both speakers are properly connected and the voltage selector switch (located on the bottom of the amplifier if installed on the unit) is properly set before turning power "ON".

### **(III) POWER ON**

Your new amplifier is ready for operation after the speakers, power cord, signal or USB cables have been properly installed. When you are sure the connections are correct, adjust the "VOLUME" to the minimum and flip the power switch located on the left of the chassis to the "ON" position. Observe that the LED and all 3 vacuum tubes are lit. The amp will be ready to play in about 30 seconds.

NOTICE: The sound quality will be affected by all the elements of the audio chain: recording, recorded medium, source, amplifier, speakers and room. We therefore recommend that you select quality inputs and quality speakers to perform with the **Model "55"** amplifier.

#### **(IV) BURN-IN**

While the amplifier should sound fine straight out of the box, you may notice that your amplifier needs a period of "burn-in" before it sounds optimal. Your unit should be considered adequately burned-in after the first 50 hours of use.

#### **(V) TUBE BIASING**

The **Model "55"** is self-biasing; there is no need to adjust the bias of the tubes.

#### **(VI) TUBE ROLLING**

The tubes supplied with this unit have been tested prior to shipping and are rugged and long lasting. Some tube aficionados enjoy trying different brands of tubes to hear the subtle differences that various tubes can impart. You can substitute the tubes that came with this amplifier with other tubes of the same type. For instance, the EL84 power tubes are available from a number of different manufacturers, most notably Russian, Chinese, and Eastern European. Tubes are plentiful and are available from tec•on audio, or are easily found on the web, or even at music stores that sell guitar amplifiers. NEVER REMOVE THE TUBES WHILE THE UNIT IS IN OPERATION.

#### **(VII) COMPUTER AUDIO: USE OF THE MODEL "55" WITH USB PORT**

##### **WINDOWS OPERATING SYSTEMS**

##### **WINDOWS COMPATIBLE**

When your computer is "ON", you will find a new USB device in the "Device Manager" (Windows XP): USB Speakers. The amplifier is designed for "Plug & Play" set up and in most cases the audio signal from your computer should play through the amplifier without requiring any additional adjustment. If the audio from your computer cannot be heard through the amplifier and you are using Windows XP, first click on the "speaker" icon at the bottom right corner of your screen and adjust the sound output to the maximum position. If you still cannot hear your computer: go to the Windows "Control Panel" and select "Sounds and Audio Devices" (XP) or "Multimedia" (98SE, ME, 200). Under the "Audio" tab, choose USB SPEAKERS for "Sound Playback". Your PC sound will now play through your tec•on audio **Model "55" multimedia** compact tube amplifier. The sound level can be adjusted from the "speaker bar" on your computer.

## MAC OPERATING SYSTEMS

### MAC COMPATIBLE

Plug the USB cable into the **USB** port of your Mac computer. Select "Sound" in System Preferences. Under the "Output" tab, select "**USB Speaker**". Your Mac's sound will now play through the tec•on audio **Model "55" multimedia** compact tube amplifier.

*Windows, Zune are trademarks of Microsoft Corporation. Apple Mac OS, iPod are trademarks of Apple Computers, Inc.*

## \* SAFETY INSTRUCTIONS \*

### READ INSTRUCTIONS

All the safety and operating instructions should be read before the unit is operated.

### RETAIN INSTRUCTIONS

Keep the safety and operating instructions for future reference.

### HEED WARNINGS

All warnings on the unit and in the operating instructions should be adhered to.

**Warning: Do not expose this appliance to rain or moisture due to the high risk of fire or electric shock. Do not open the cabinet. Dangerous high voltages are present inside the enclosure. Only qualified service personnel should attempt repairs.**

1. There are no user serviceable parts inside. Refer servicing of internal parts to qualified service personnel.
2. Never remove the cover of this product, even when turned "OFF" and even if unplugged! As with many audio amplifiers, a charge remains in the energy storage capacitors for some time after the unit has been switched "OFF". Touching high voltage parts inside the cabinet can result in electric shock and/or damage to the unit. This unit stores sufficient levels of voltage and current to cause serious injury or death.
3. Each unit has been thoroughly tested before leaving the manufacturer. If the new amplifier produces smoke, a strange smell, or strange sounds upon turning the product "ON", the unit may have been damaged in shipment. If this happens, immediately switch the power "OFF", unplug the power cord and contact tec•on audio for information on the nearest authorized service center.
4. Avoid exposing this product to direct sunlight, excessive dust, and extreme heat or moisture. Do not place near flammable objects.

**5. VENTILATION:** The unit should be placed so that its location or position does not interfere with proper ventilation. It should not be set on a bed, sofa, rug or similar surface that may block the ventilation openings, or placed in a built-in installation such as bookcase or cabinet that may impede the flow of air through the vents. Obstructing these air vents may result in malfunction or, in some cases, fire. Keep this product, 10 cm [5 inches] or more away from walls. Select a safe location away from children and pets; **tubes are very hot!**

**6. NON-USE PERIODS:** The power cord of the amplifier should be unplugged from the outlet when left unused for a long period of time.

**7. POWER SOURCES:** The amplifier should be connected to a power supply only of the type and voltage described in the operating instructions or as marked on the unit.

**8. POWER CORD HANDLING:** Power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs and sockets.

Using a damaged power cord, or one with the bare wires exposed, could cause fire or result in electric shock. When unplugging from the AC mains, never pull the cord and always grip the plug when unplugging the power cord.

This unit is equipped with a THREE WIRE GROUNDING TYPE AC PLUG. Make sure the amplifier is grounded by proper use of a three prong grounded receptacle.

**9. OBJECTS AND LIQUID ENTRY:** Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through the openings.

The amplifier should not be used near water, for example, near a bathtub, washbowl or kitchen sink, in a wet basement or near a swimming pool. Never place drinks on or near the amplifier.

If liquid should enter the cabinet it can cause malfunctions, electrical shock or fire: unplug the power cord from the AC mains and contact the nearest authorized tec•on audio service center.

**10.** Keep the product away from strongly magnetic objects.

**PLEASE FOLLOW THE SAFETY DIRECTIONS IN THIS MANUAL TO AVOID POSSIBLE ELECTRICAL SHOCK OR EQUIPMENT FAILURE DUE TO IMPROPER INSTALLATION!**

**\* SERVICING & TROUBLESHOOTING \***

**SERVICING**

The user should not attempt to service this product beyond that described in the operating instructions. All other servicing should be referred to qualified service personnel.

**DAMAGE REQUIRING SERVICE**

This product should be serviced by qualified service personnel when:

- objects have fallen, or liquid has been spilled into the unit;
- the component has been exposed to rain or moisture;
- the amplifier does not appear to operate normally or exhibits a marked change in performance;
- the amplifier has been dropped, or the enclosure damaged;
- the unit will not turn "ON" or will not produce sound in one or both channels
- there is distortion in the sound reproduction.

**TROUBLESHOOTING**

Reliable performance will be obtained from the **Model "55" multimedia** compact tube amplifier when used according to this user's manual.

Should a problem occurs, the following troubleshooting table might help you determine how to deal with it.

<b>Trouble</b>		<b>Cause</b>	<b>What to do</b>
No sound	no light	power supply not connected correctly	check the power supply cable and connections
		broken fuse	change the fuse
	Light	the volume is set at the minimum	turn up volume to the suitable level
		no signal	check input connections and sources
noisy		input signal cable not connected	check input cables connections
		faulty electronics/tubes	contact dealer
		signal wires are too close to power supply cable, or other cables.	arrange input wires apart from other cables
no stereo focus/imaging		speakers connected out of phase	connect speakers cables according to color

## TUBES

The vacuum tubes used on the **Model "55"** amplifier should provide many years of performance. Replacement tubes can be purchased from the [tec•on audio website](#).

The **Model "55" multimedia** amplifier uses two (2) EL84 inserted in the sockets close to the transformer cage, and one (1) 5755 inserted in front. The tubes need to be fully inserted in their respective sockets to operate properly. Carefully align the pins while paying attention to the pins alignment. When all pins have been aligned, push firmly straight down to insure that the tube is tightly seated and connected in its socket. Keep the tubes clean.

CAUTION: Do not attempt to turn the amp "ON" before all tubes are fully inserted and the input source and the speakers are connected.

## FUSE

The fuse used on the **Model "55" multimedia** amplifier is the 5 x 20 mm SLOW BLOW [SLO BLO] type.

If a fuse needs replacement, unplug the amplifier power cord from the wall outlet. Open the fuse compartment located under the female power plug opening on the back of the amplifier. Use the exact same fuse type and rating. The warranty will not cover damages resulting from use of overrated fuses.

## **SPECIFICATIONS**

Specifications are subject to modifications without notice or obligation

OUTPUT IMPEDANCE	Speakers: 4 $\Omega$ ~8 $\Omega$
OUTPUT POWER	Speakers: approx. 5Wpc at 1KHz
FREQUENCY RESPONSE	10Hz-30KHz (-1dB)
T.H.D	<1% (1W)
S/N	>89dB
INPUT IMPEDANCE	50K $\Omega$
INPUT SENSITIVITY	650mV
USB SOUND DECODER	44.1/48 kHz 16Bit $\Delta/\Sigma$ DAC [D/A converter], USB compliant
VACUUM TUBES	5755 $\times$ 1, EL84 $\times$ 2
POWER CONSUMPTION	38W
POWER REQUIREMENT	115V/220/230V AC, 50~60Hz AC voltage is factory set
DIMENSIONS (L x W x H)	246 mm x 190 mm x 200 mm approx. 10' x 7 1/2' x 8'
LINE IN TERMINAL	RCA stereo Connectors x 1
SPEAKER TERMINAL	Binding posts x 2
ACCESSORIES	Power cord x 1 USB cable x 1
WEIGHT	Net Weight: 8.5KG [approx. 19 lbs] Shipping Weight: 10KG [approx. 22 lbs]

\* Q & A \*

**Why is the sound so detailed and full?** The use of simple, elegant and efficient circuitry design with no global negative feedback: we have eliminated unnecessary components to minimize the amount of circuitry impacting the signal. The result is a pure, realistic sound in a **pristine soundscape**®, with detail, resolution and dynamics for which good tube amplifiers are famous.

**Why doesn't the Model "55" have equalizers or tone controls?** High end integrated amplifiers only have circuitry to amplify the signal equally along the entire frequency range necessary for clear, unadulterated acoustics. The sound quality of the recording is reproduced with fidelity without equalizers or tone controls. These controls can be found in pre-amps if necessary.

**How about surround sound?** It is our belief that stereophonic sound is still the best way to create a natural sounding center stage effect for recreating a musical performance, simply because it does not need complex sound decoding circuitry that more often than not only might muddle the sound.

**How can a low power amplifier like the Model "55" sound as loud as transistor amplifiers that have 100 or more Watts per channel?** Amplifier power ratings are NOT a reliable way to determine how an amplifier will perform. The tests are conducted with a stable, non-musical signal, usually from a white noise generator with a constant 8  $\Omega$  load. So they can boast high power, many companies design their amplifiers to perform well on the bench tests. Unlike a constant white noise signal, music provides a much more complex signal for an amplifier to recreate. In short, the wattage ratings of the typical amplifier tell you little about how the amplifier really sounds when it plays music.

**Does the Model "55" have enough power for my needs?** Single ended tube amplifiers are famous for providing breathtaking detail and a full, rich sound even at moderate volume levels, so that many users find it unnecessary to play music at high sound levels. The **Model "55"** is not designed for, nor will it produce, extremely high sound levels. However, when matched with efficient speakers, this amplifier's sound will fill a small to medium sized listening environment with surprisingly full, extremely detailed and realistic high-fidelity sound. We recommend using speakers with a sensitivity rating of at least 89dB/w/m SPL ("sound pressure level") or higher. This means the amplifier works best with efficient speakers. With speakers of 89dB/W/m, a reproduction level in the 90dB or more SPL is easily achieved in monitor listening position.

**How long can I expect a tube amplifier to last?** The **Model "55"**, while compact in size, is built to last. It is engineered to provide a long life, and is simple to set up and to operate.

**How often will I need to replace the tubes, and where do I get them?** The tubes provided with **the Model "55"** are quite rugged and will typically last many years. The tubes can be ordered from tec•on audio (see our **website**), or from any of a number of web based tube suppliers. You can even find these tubes in music stores that sell guitar amplifiers.

# WARRANTY CARD

Model: \_\_\_\_\_

Serial No: \_\_\_\_\_

Invoice: \_\_\_\_\_

Date of Purchase: \_\_\_\_\_

## Customer Information:

Name: \_\_\_\_\_

Address: \_\_\_\_\_  
\_\_\_\_\_

ZIP code: \_\_\_\_\_

Country: \_\_\_\_\_

Reseller:

**NOTE:** This portion of the Warranty Card **MUST BE** retained by the Customer. It must be produced when requesting after-sales service from an authorized **tec•on** audio service center.

## WARRANTY

Our products are individually tested at the factory and meet our specifications before being packed and sent to you.

Products sold by tec•on audio or its authorized dealers are covered by a limited ninety (90) day labor and parts warranty [excluding vacuum tubes] counted from the shipping date protecting you against defects in materials and workmanship.

Fill and keep the warranty card attached to this warranty statement, along with a copy of the original sales receipt as proof of the original date of purchase. Only one card is issued with each unit and with its serial number.

Under the terms of this warranty, defective parts will be repaired or replaced without charge [except vacuum tubes] at our location, or at a location determined by us at the time of repair. Return merchandise via prepaid, insured freight, method and carrier to be determined by tec•on audio. All returns to us must be made in the original packing, accompanied by a **Return Authorization Number (RAN)**, the warranty card, proof of purchase, and a written description of the defect, and must be shipped to us via insured freight at the customer's own expense. Charges for unauthorized services and transportation costs are not reimbursable under this warranty. You will be responsible for all round trip shipping charges and insurance.

This warranty does not apply to losses or damages occurring during shipping. This warranty does not cover cosmetic damage or any damage that results from normal use [wear and tear], negligence, misuse, abuse, tampering, installation error, connection to an improper voltage, accident, improper maintenance, alterations, modifications, lightning, power surges, or acts of God. Use of any parts other than tec•on audio may void this warranty. Any physical or cosmetic damage to the unit other than what is deemed by tec•on audio normal wear & tear will void the warranty.

This warranty does not cover the cost of parts and labor, which would otherwise be provided without charge by tec•on audio under our standard warranty.

This warranty applies only to consumer use of this product. This warranty applies only to the original purchaser of this product from tec•on audio or one of its authorized dealers. Valid only in the USA.

We assume no liability for property damage or any incidental or consequential damage whatsoever which may result from failure of this product.

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