Eden World Tour
Owners Manual

WTX-260

Covering Models
WTX-260

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Bass Guitar Amplifier
WTX-260
OPERATION MANUAL

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FOREWORD

Congratulations on the purchase of your new Eden World Tour Integrated Amplifier System. All of us at Eden are totally committed to providing you with the very best bass guitar systems in their class. Our goals are to offer you the outstanding performance quality of a top-notch, professional bass amplification system at a reasonable price point, and to make World Tour amplifiers the most musical and reliable Bass amplifiers available.

This manual will cover all versions of the WTX-260 amplifiers. The (E) versions are for export outside the US; however, both units are identical in operation.

You have purchased what we feel is one of the finest bass amplifiers in the world. The new pre-amplifier section, with its familiar Eden Enhance control and powerful new 3-way tone control system are coupled to a studio quality compressor. The new automatic Dynamic Booster for bass frequencies, along with a mid shifter, tone bypass, selectable DI and a gentle auto-compression circuit, allow you to achieve a wide array of sounds. This compact, rack mountable package houses modular circuits made with superior components and designed for years of trouble-free service.

The Eden World Tour products group is the result of our quest for ultimate bass tone and maximum reliability. Your new WTX amplifier features our latest solid-state front end, using the Golden Ear chip to provide unequaled tube emulation. Originally designed for use in high-end recording consoles, we believe the result is more than worth the cost and think you'll agree.

Your amplifier was designed, engineered and manufactured to Aircraft Vibration Standards and housed in a one-piece aluminum case with steel top to ensure maximum reliability. The modular design allows quick repair in the field should such a need arise.

The Eden line of World Tour amplifiers is the result of our research and development in combining high performance and compact size. Just as a skilled craftsman needs good quality tools that won't let him down on the job, so does a good musician. We hope you enjoy the tool we've created for you. Have fun, play low!

Please read this manual in its entirety before operating your new amplifier. Failure to do so could result in misuse or damage. We've taken the time to write it, which was a lot longer than the time it will take for you to read it. Help us help you by taking a few moments to learn how to properly use your new amp. You'll be glad you did!

CAUTION!

Your ears are your most important piece of equipment. Unfortunately, they cannot be replaced as easily as your other gear. Please take the following warning seriously.

This product, when used in combination with loudspeakers and/or additional amplification may be capable of producing sound levels that could cause permanent hearing loss. DO NOT operate at high volume levels or at a level that is uncomfortable. If you experience any discomfort or ringing in the ears or suspect hearing loss, you should consult an audiologist.

Thank you for your purchase of an Eden bass guitar product. This unit has been designed and constructed to give you years of trouble-free service.

Please take the time to review this manual and to send in your warranty registration card.

FRONT PANEL FEATURES

Gain Control – Regulates the first gain stage of the preamplifier and controls the amount of signal available to the system.

Input Pad – Pull the Gain knob to engage a –12dB pad. This is useful for basses that produce a very hot signal.

Set Level Indicator – This light helps the user set the appropriate amount of gain. When set properly, the indicator should light on your loudest/lowest notes. We'll go over this in more detail later in the manual.

Enhance Control – Called the "Magic Knob" by some, this complex control simultaneously boosts the very low bass, upper middle, and high frequencies while putting a dip in the lower middle frequencies.
It is flat when set to its minimum level (fully counterclockwise).

Compressor Bypass – Pull the Enhance knob to disengage the automatic compressor circuit.

Tone Control Section

These three controls (each with a "Pull" function) allow you to boost or cut the tone at the desired frequency. The spacing allows the controls to interact smoothly and musically. From left to right, the controls are:

Bass – This traditional shelving tone control provides 15 dB of boost or cut at approx. 30Hz. The control is flat in the 12:00 position.

Bass Boost – Pull the Bass knob to engage the Dynamic Bass Boost. This feature allows the extreme lows to be adjusted to the ear's relative loudness curve (Fletcher-Munson curve). This ensures the bass will sound full and solid even at very low playing levels.

We recommend you engage this function at low volumes so that your sound remains consistent at any volume. At higher volume levels it isn't needed but you may want to use it as a matter of taste. Because we strongly support Freedom of Choice, we want you to be able to decide when (and when not) to use this feature. (You're welcome.)

Midrange Control – This covers the center portion of the sound envelope and can be critical to getting your sound right. The body of the Bass Guitar sound is in the mid range.

Mid Shift Control – Pull the Mid knob to shift from low mid (550Hz), which is good for general playing and recording, to the high mid position (2.2KHz) for Rock and more aggressive tones.

Treble – This traditional shelving-type tone control provides 15 db of boost or cut at approximately 12KHz. The control is flat at the 12:00 position.

EQ Pre/Post DI Selector – This is another Freedom of Choice control. (You're welcome, again.) With the treble knob in the normal position, the DI is sent Pre (before) the EQ section. Pull the Treble knob to send the DI Post (after) the EQ section.

Output Limit Indicator – Lights to indicate activity of the power amplifier limiting circuit, which protects the speaker system from severe distortion. This LED indicates that the amplifier has reached its maximum output level.

Master Volume – Adjusts overall system output and stage loudness.

Input Jack – Designed to accept a standard 1/4-inch mono phone plug. For best results use a high-quality shielded cable to connect your instrument to the amplifier. This Input is buffered and will handle standard, high level and piezo input signals.

Mute switch – Mutes all outputs except the Tuner Out, allowing for silent tuning. Lead singers and guitarists love this feature! The indicator lights when Mute is on.

Mono Effects Send/Return – These standard 1/4-inch jacks allow you to send and receive your signal to and from external devices. The effects loop is positioned post (behind) the compressor and before the Enhance control and the tone section. This is at line level; do not use instrument level effects in this loop as they tend to be overloaded by the higher signal level which can cause distortion.

Stereo Aux. Inputs - These standard 1/4-inch input jacks are designed to accept the signal from an external source such as a CD or cassette player, drum machine, synth. module, etc. The signal is summed (added in) prior to the tone controls and Master Volume control.

Tuner Out Jack – This standard 1/4-inch jack is designed to provide a pre-gain signal for connection to a tuner. It can also be used to provide pre-tone signal to other devices such as a direct box or console. The signal is 2X input, enough to provide adequate signal to virtually every tuner on the market.

Mains On/Off Switch – This switch turns the system power On or Off. The switch illuminates to indicate the presence of AC power present in the chassis. This switch is prior to the fuse. **The switch light can be on even if the fuse is blown.** The light in the switch may flicker depending on local voltage conditions. This is normal and nothing to be concerned about.

REAR PANEL FEATURES

Power Cord– The removable power cord is attached here. Now, here's the cool thing: To use your WTX in North and South America, Europe, Australia, Japan, and other parts of the world, all you have to do is connect the appropriate power cord to your unit and plug it in. Your unit will automatically sense the local voltage and adjust itself accordingly.

IMPORTANT NOTE: the fuse in this amplifier is internal and IS NOT USER REPLACEABLE. If it blows, your amplifier should be checked by a qualified technician before further operation.

Footswitch Input – Connect the OPTIONAL footswitch here. Available directly from Eden (see our web site to order), the footswitch allows you to engage the Mute function and bypass the Enhance control on the fly. (More Freedom of Choice. You're welcome.)

Recording Out – This fully balanced XLR output allows you to send a pre- or post-EQ to a recording or sound reinforcement mixing console. We use Pin 2 hot configuration. Adjusting the Master Volume control will not affect this send. This output is designed to use with phantom powered systems. However, it never hurts to turn off the phantom power at the board, if possible.

Ground Lift Switch – This switch lifts the ground within the balanced output system to allow you to eliminate excessive noise/ground loops when connected to external systems.

D.I. Level – Controls the level being sent from the XLR balanced output jack. Set the control at approximately 10 to 11 o'clock initially and adjust from there. For the best tone, we suggest you send a relatively hot signal to the board, even if this necessitates engaging the board's Input Pad. Even so, make sure your soundperson or recording engineer knows you can vary the signal level if necessary.

Headphone Jack – Accepts a standard ¼ inch stereo or mono headphone plug.

Amp Outs – These consist of two ¼ inch jacks and an NL-4 connector (sometimes called a Speakon). The jacks are wired in parallel. The total speaker load impedance should not exceed 4 ohms. On NL-4 connectors, we use +1, -1 connections.

Amplifier Power Rating:

180Watts RMS @ 8Ω, 260Watts RMS @ 4Ω.

All ratings are with +3dB of headroom. This means that the maximum output is twice the RMS rating.

Interesting note: In some parts of Europe and elsewhere that uses 220/240v @ 50Hz, the WTX will produce as much as 290W RMS. We're just sayin'.

Cooling System – Your amplifier features a passive, high-temperature thermal safety system which will activate an AGC (Automatic Gain Control) circuit if the operating temperature goes above 190 degrees F. This circuit will automatically turn down the output of the system in the event of overheating. It will automatically reset itself to full power as soon as the unit cools down to a safe operating temperature.

NOTE: the D.I. will continue to operate normally even when the amplifier is in thermal safety mode. Only the stage sound will be lost.

IMPORTANT NOTE: Excessive heat is a Very Bad Thing and can result in severe damage to your amplifier. DO NOT bypass or disconnect any part of your thermal safety system. Doing so will immediately void your warranty!

SECOND REALLY IMPORTANT NOTE: Do NOT remove the rubber feet from the bottom of your amp unless you are mounting it in a rack. There is a vent underneath the amp; covering this vent will decrease the effectiveness of the cooling system and may cause damage to your amplifier. Don't say we didn't warn you!

OPERATING INSTRUCTIONS

Mechanical and Thermal Issues – During operation, your amplifier should always be placed away from sources of moisture or heat. Care should be taken not to obstruct the ventilation holes on the bottom and sides of the unit. In the event of thermal shutdown, you should eliminate the cause of the thermal problem (poor ventilation, speaker loads lower than 4 ohms) immediately. The optional rack ears can be used to install your amplifier in a conventional equipment rack for protection during transportation.

Electrical Connection – The WTX requires at least 10 Amps of correctly wired alternating current for proper operation. Providing less than 10 Amps of power may result in poor amplifier performance and bad tone, so it's probably not a good idea to plug all of your band's gear into a single wall outlet.

Connections – All line connections (everything but the speakers) should be made with high-quality shielded cables. The use of speaker cables for line connections will result in excess noise. Speaker connections should only be made with high-quality 16 gauge or larger unshielded speaker cables. We recommend 10 or 12 gauge cables with NL-4 (Speakon) connectors, although standard 1/4" cables will work fine for up to 300W RMS. *The use of shielded line or instrument cables for speaker connections can damage your amplifier.* The speaker cable should be as short as possible.

INITIAL SET UP

As bassists, each of us has in our head a concept of our perfect sound. Eden amplifiers are designed to help you easily achieve the sound you hear inside you. However, it's a multi-step process as explained below.

In order to ensure the ultimate in tone, it's important to follow the procedure outlined below. Don't skip steps; don't jump around. Yes, this may take a minute or two, but the work is well worth it. Once they've done it a few times, most users can do it time and again in about a minute.

IMPORTANT NOTE: Before you plug in your unit for the first time, please do the following things**.** First, turn the power switch to the OFF position. Then, turn the Master Volume control to minimum (fully counter-clockwise). Set the tone controls to the center position (12:00 or 0). Turn the Enhance control to the minimum position. Set the Input Gain control to the minimum (fully counter-clockwise). Set the Compressor to the OFF position (PULL Enhance). Make sure the Dynamic Boost switch is disengaged by pushing lightly on the Bass control. Push lightly on the Mid control so that it's set to 550Hz. This will set your amplifier up flat and with the Compressor disengaged.

Next, plug in the power cord to the AC inlet on the back of the unit. Use only a safe grounded receptacle for proper operation at the correct voltage for your country.

Turn On – Once you've completed the steps above, you can plug in your bass and turn on the unit (plug it in first, ok?) and let's get started. We recommend turning your system on with the Master Volume control set to its minimum position. This will prevent any unexpected signal from being sent to your speakers.

Setting Your Level – Remember, begin with the Input Gain, Enhance, Compressor, Dynamic Boost and Master Volume completely OFF – fully counter-clockwise. All EQ should be set flat, that is, at 12:00 – straight up.

While playing your lowest note (or loudest), slowly turn the Input Gain up until the compressor or set level light begins to blink with regularity. If you can't go past 9 or 10 o'clock, you can engage the Input Pad (PULL Gain) to better match the gain of your instrument to the amplifier.

If you have disengaged the compressor as we suggested, the set level light will barely blink on your loudest notes when you hit the "sweet spot". We recommend you don't increase gain beyond this point unless you engage the compressor. (By the way, this is David's favorite way to set level, even if you intend to use compression.) Next, turn up the Master Volume to the appropriate level.

SIDE NOTE: David (Eden) Nordschow is the founder of Eden, and still runs our division of US Music Corp. He's also the head of Research and Development, which means he's the Chief Propellerhead and Master of All Things Technical. If he recommends something, you might want to listen, OK? Anyway, on we go…

Setting the Compressor - If you want to use compression, engage it now by pushing on the Enhance control. The compressor light will blink when your gain goes above the compression threshold. This will generally show up more on the lower notes, or when you employ Slapping. (A properly compressed Slap sound is very cool, indeed.) If you want more compression, increase your Input Gain a little at a time until you achieve the desired effect.

SETTING YOUR EQ

The frequencies that you'll need to boost or cut are dependent upon your instrument, playing style, speaker cabinets, and venue. Extreme settings of boost or cut are unlikely to be necessary or helpful. We are frequently asked to provide suggested settings for various styles of play. We have discovered though, that most of our endorsers tend to set their EQ generally flat, using varying amounts of the Enhance Control to achieve their sound. In fact, a number of our recording artists tell us that their standard recording set-up is to have the Enhance set at approximately 9 or 10 O'clock and the tone controls set flat. They then send a post-EQ D.I. to the board.

We encourage you to experiment with different settings to obtain the sound you desire. We have included some EQ panel diagrams at the back of this manual to help you record your settings.

Enhance – Once you've set your gain, you can move on to setting your EQ, beginning with the Enhance control, or Magic Knob, as some call it. The Enhance circuitry adds very low bass, upper mids and highs while scooping out a bit of low middle. The more Enhance you dial in, the greater the boost (and cut). As with all of our EQ controls, a little goes a long way.

Begin by bringing up the Master Volume to a comfortable listening level. Slowly bring the Enhance control up while playing. If you turn it up 12:00 on the dial and still don't have your sound, stop there. Return the Enhance to OFF or leave it at no more than 12:00 and work with the EQ section.

Using the EQ Controls – Before you begin to twiddle knobs, let's talk about a few things. Excessive boosting of one or more EQ frequencies may cause an overload in the EQ section. If this happens, the EQ Clip light will engage. This is a **Very Bad Thing** and needs to be corrected immediately.

If EQ clipping occurs, you can either decrease the boost or decrease the Input Gain. Remember, too, that our EQ controls are active, and are meant to turn both ways – not just UP! This means that you can enhance a certain frequency spectrum either by boosting that frequency or by cutting the adjacent frequencies. This latter method has the advantage of maximizing potential headroom.

If possible, step well forward of your rig to get a better idea of how you will sound in the room. You may be surprised at how different you sound once you step away from the speakers.

NOTE: Many players rely on the Enhance Control (and perhaps a little Midrange Massage) to get their sound. This method leaves the Bass and Treble controls available to dial in to a particularly difficult room. Just something to keep in mind, ok?

Setting Bass and Treble – OK, now it's time to set the EQ, beginning with the Bass and Treble controls. These controls cover a fairly broad frequency spectrum and a little goes a long way. Adjust these controls up or down as needed. We suggest playing a few notes in various areas of the neck so you can hear what your adjustments have done across the fretboard.

Setting the Midrange – Adjusting the Midrange control will bring you either more up front in the mix or more in the background. As mentioned earlier, you can choose between center frequencies for the Midrange control – either 550Hz or 2.2KHz. The low position (550Hz) is good for general playing and recording. It's also good for dialing in a good Fretless Bass tone. The high position (2.2KHz) is good for getting a more aggressive Rock tone.

We suggest you start in the low position. While playing, boost and cut the Midrange so you can hear how it affects your tone. Remember to play in all ranges, not just on the first few frets. Once you have an idea of the tonal possibilities, switch to the High position and do the same thing. This will give you a better idea of what this control can do for your sound and you can then dial in what you want more effectively.

Engage the Dynamic Bass Boost – As mentioned earlier, this effect is based on the Fletcher-Munson curve and ensures that the bass is full even at the lowest volume settings. As volume increases, the effect is reduced, resulting in very consistent tone regardless of volume level. We suggest you spend some time experimenting with this **Really Neat Feature**. We believe that you'll think it's **Really Neat**, too.

Final Settings – If you haven't adjusted the Midrange yet, now is the time to do it. Boosting or cutting the mids may change how much warmth and grit you dial in, so be prepared to make adjustments there as well.

A FEW TECHNICAL THINGS TO REMEMBER

Clipping = Bad – Keep an eye on the EQ Clip light. If it blinks, either reduce Input Gain or cut back on one or more EQ ranges. As we said earlier, Clipping in preamp section is a **Very Bad Thing** and is to be avoided at all times. If you find yourself running out of amplifier headroom, cut a little in the lower frequencies, which require the most power from your amp. You'll know this is happening if you see the Limit light flashing. As long as the light is just blinking, you're fine. But, if it's on more than it's off, you might want to back off a bit.

Frequency Oddities – Two areas are a frequent source of frustration for bassists trying to achieve their sound: frequency masking and frequency enhancement. Frequency masking occurs when other instruments (particularly cymbals and electric guitars) obscure the important upper harmonic content of your sound. As a result, you find that the EQ settings that were so perfect at home lack definition in a live setting. On the other hand, the stage settings that worked so well sound harsh and/or thin in the absence of other instruments.

Frequency enhancement results from cabinet placement and room acoustics. A cabinet placed on the floor will have the lower frequencies boosted by about 3 db. Placement against a wall adds another 3 db. A corner adds 3 db more. Consequently you may find a surprising boominess to your sound. Certain qualities in the room itself can also enhance the lower frequencies, further contributing to this problem. Frequently this effect is more noticeable in the audience than it is on stage. Compensating for it may result in a stage sound that may seem a little thin. However the sound is actually quite full out in front.

NOTE; Remember, you can't equalize out major physical room anomalies. If things sound really weird where you are, try moving you rig a few feet and see if that helps. This may be particularly helpful on saggy stages that bounce like a drum head. (*The propellerhead term for this is "diaphragmatic." So says David. LB*)

YOU'RE DONE. GO PLAY.

There you have it: a quick and easy process to help you get the perfect tone from your Eden amplifier. As previously mentioned, it make take a few extra minutes the first few times you go through this, especially if you take the time to experiment with all the knobs and switches, which we highly recommend.

We are confident that the time you spend getting to know your new friend is an important investment, one that will pay off immeasurably in **Great Bass Tone**. And, after all, that's why you bought an Eden, right?

OTHER CONSIDERATIONS

Suggested Speaker Systems – Your speaker system should be chosen to accommodate the characteristics of your amplifier and your predominant application. If you will only be using one cabinet, a 4 Ohm model will draw the most current from your amplifier. If you will generally be using two cabinets, they should both be 8 Ohm models so their combined impedance will be 4 ohms. If you are uncertain about your future needs, always go with the 8 Ohm speaker option so that you can add another speaker later if you need to. In general, adding more speakers will give you greater volume than by adding a few more watts.

REALLY IMPORTANT NOTE – DO NOT operate your amplifier at an impedance of less than 4 Ohms. This will cause your amplifier to overheat and go into Thermal Protection Mode. It may also damage your amplifier and release the Magic Smoke. This is a VERY BAD THING. Don't do it. Don't even think about doing it.

About the Headphone Jack – This headphone Output is not quite the same as found on our other models. Due to the nature of the power amplifier design, attempting to use the headphone output as a line driver will cause the amplifier to go into protect mode. However, you can still drive other amplifiers by using the FX Send or the DI Output.

Using the WTX-260 Without Speakers -This amplifier is designed to be used safely with headphones only, without the loud speaker plugged in. No harm will result from using the amplifier in this fashion. This allows the use of the unit for practice with headphones and as a preamplifier with other amplifiers. Like we said earlier, neighbors and room mates really love this, which qualifies it as another **Really Neat Thing**.

MAINTENANCE

Your Eden amplifier has been designed to require minimal routine maintenance. Attention to the following areas will ensure optimum performance of your amplifier. We're serious. Don't blow this off, OK?

Contact Point Cleaning – One of the weakest links in most bass amplification systems are the solderless connection points where instruments, speaker cabinets, effects, and other devices are connected to the amplifier. (The most vulnerable of these types of connection is the jack on your instrument). In addition to contamination from airborne pollutants, these points are frequently assaulted by connectors that have picked up debris from dirty stages, cases, etc.

This contamination can result in poor contact as well as poor tone, and we all know that bad tone is a **Very Bad Thing**. These points should be cleaned regularly with a cotton swab soaked in denatured alcohol or a commercially available de-oxidant. Frequent cleaning of the plugs on your cords is also recommended.

Dust Removal – You should periodically inspect the ventilation openings on the top and sides of the unit to ensure that they have not become blocked by accumulated dust. Vacuum the openings to remove any dust buildup. Dust bunnies are definitely not cool.

The Magic Smoke – Few people realize just how much magic goes into creating Great Bass Tone. It isn't something you normally need worry about. Just have fun and leave all that to us. However – *and this is very important* – if you ever release the Magic Smoke from your amplifier this is indeed a **Very Bad Thing**, perhaps the worst thing you can do. If you see any smoke (Magic or otherwise) coming out of your amplifier, immediately turn it off and seek the services of a qualified magician…uhm, we mean…technician. **DO NOT continue to use the amplifier in this condition**.

Learn More – If you'd like to learn more about your amplifier (or about our company and its activities), we invite you to visit our website – www.eden-electronics.com. There you'll find articles to help you better understand our products and the technical stuff some people find so interesting. You'll also find our FAQ (Frequently Asked Questions) file, which is updated regularly.

While you're there, check out our on-line forum. There you can meet hundreds of other Edenites who'll be glad to help you with any questions you may have about our gear. Not to brag too much, but we think our forum is a **Really Neat Thing**, filled with **Really Neat People**. We're pretty sure you'll think so, too.

Service – In the event of amplifier malfunction, or questions about your unit's operating features that aren't answered in this manual or on our website, you should contact your Dealer. Once you and your dealer have determined it's definitely a malfunction (and not an operator error) you must call our Customer Service Department and **obtain a Return Merchandise Authorization (RMA)**. We WILL NOT accept any gear sent without an RMA, so save the time and money by calling first, ok?

Please call the USM Customer Service Dept. at:
1-800-USSOUND (1-800-877-6863)
When you hear the voice prompt, Press 1 on your phone's keypad.

Please ship Authorized Returns for service to:

Eden Electronics
C/O U.S. Music Corp.
444 E. Courtland Rd.
Mundelein, IL 60060
(847) 949-0444
(847) 949-8444(fax)

REALLY IMPORTAN NOTE: International customers should contact their local distributor for warranty assistance.

Email
eden@eden-electronics.com

Website
http://www.eden-eletronics.com

Note for those who care: This manual was written by David (Eden) Nordschow, Eden's Chief Propellerhead & Master of All Things Technical, and Lane Baldwin, Eden's Special Projects Coordinator (Many Other Functions). Any grammar errors are David and Lane's fault, as are the attempts at humor. Please don't blame our editor for any weirdness, as we were warned several times. Really.