

The torus Amplifier



Owners Manual

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SAFETY INSTRUCTIONS FOR THE TORUS AMPLIFIER

Caution:

To avoid the risk of electric shock do not remove the panel from the Amplifier cabinet. If this unit fails or has a serious deterioration in performance then refer repair to the dealer where you purchased the unit.

- 1) Please read these instructions carefully and keep them for future reference.
- 2) Please heed all warnings.
- 3) It is strongly advised that the Torus system is installed, by a suitably trained person, to avoid causing damage or injury resulting from an incorrect installation.
- 4) Do not use this apparatus near water or allow it to get wet.
- 5) Keep well ventilated.
- 6) Do not install near heat sources such as radiators, stoves etc.
- 7) Protect the power cord from damage.
- 8) Disconnect from the power supply during lightning storms or extended periods of inactivity.
- 9) Refer all servicing to qualified service personnel. If the unit develops a fault of any sort please refer repair back to your dealer.
- 10) Do not force the controls or switches further than their normal stops.
- 11) Clean with a dry soft cloth. If you do use polish, then apply polish to the cloth not directly to the unit.

UNPACKING

The easiest way to unpack the Torus amplifier to avoid damage is as follows:

- Open the carton flaps right back and invert the carton and contents.
- Lift the carton away from the product.
- We recommend that you retain the packaging for future use.

In addition to this manual, the carton should contain:

1 Torus Amplifier

1 Mains lead

1 High Level Signal Lead, for use with two-channel operation.

TORUS AMPLIFIER CONNECTIONS

Always switch off your system before disconnecting or connecting any wires.

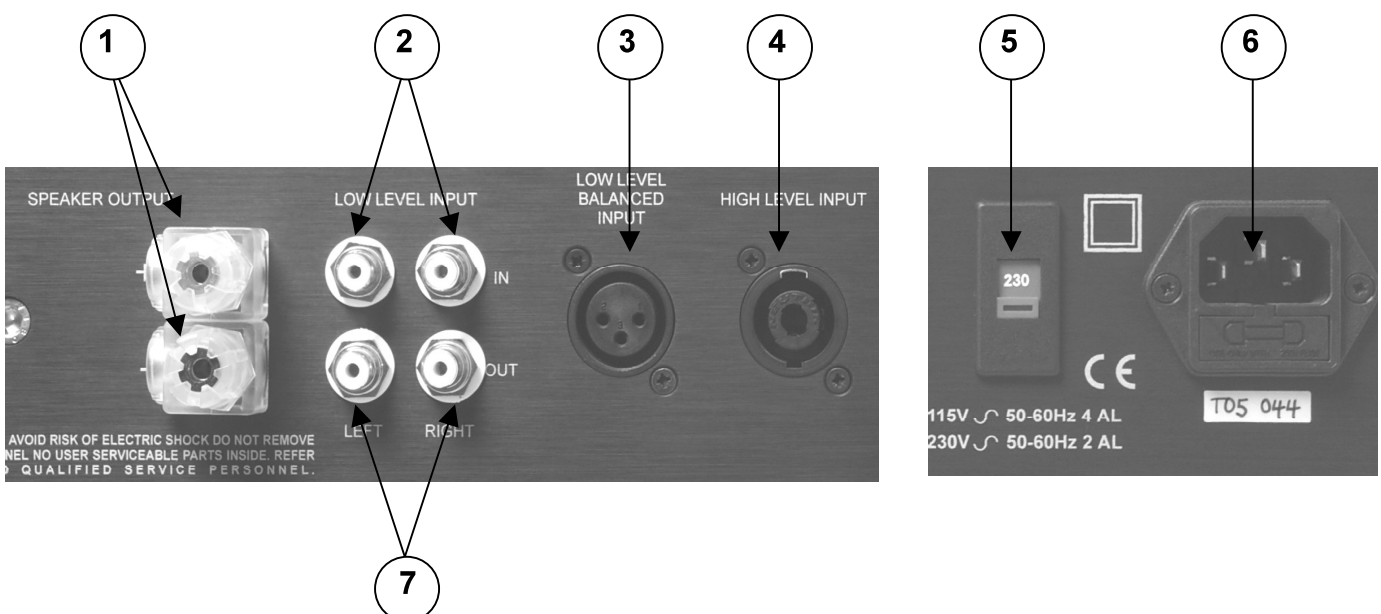
To ensure connecting up of the Torus Amplifier is as versatile as possible we have included two separate inputs. One Neutrik Speakon socket and two pairs of gold plated RCA sockets for inputs and another pair of gold plated RCA sockets to daisy chain the signal to another source. This makes the Torus amp extremely easy to connect simultaneously to both Hi-Fi and AV surround systems.

The high level input is an unbalanced dual channel (stereo) input that uses a professional touch proof Neutrik Speakon connector. Signals for this input would normally be sourced from the left and right speaker terminals of the main system amplifier. The advantage of this method is that the Torus Amplifier receives exactly the same signal as being supplied to the main speakers. This means that the character and tonal balance of the bass from the main speakers is carried through to the Torus Amplifier and then to the Torus Infrasonic Generator.

The low level input is via one set of the gold plated RCA to RCA connectors marked as "IN" on the front panel. Signals for the low level input are unbalanced and would normally be sourced from the LFE output of an AC3 decoder. Alternatively the low level input can be connected to a dedicated sub out of a processor (for single outputs connect to the input marked "Mono"), or to a stereo pre-amp output where available.

- 1) Amplified summed mono output to drive the Torus Infrasonic Generator.
 - 2) Low Level Stereo / Mono Input RCA connectors for connection to pre-amp output, Dolby output or other dedicated sub outputs.
 - 3) Low Level Balanced mono input for connection to dedicated sub output or similar mono out.
 - 4) High Level Input for connection to power amplifier outputs with High Level Lead.
 - 5) Voltage selector switch.
 - 6) Main Power Supply Input – IEC Connector.
- Please do not adjust the Voltage Selector as this may cause damage to the amplifier.**

- 7) Low Level Output RCA for linking stereo signal through to other auxiliary equipment or another Torus Amplifier.



CONNECTING UP YOUR TORUS AMPLIFIER

Method 1: USING HIGH LEVEL TORUS AMPLIFIER INPUT

PLEASE NOTE: It may not be possible or advisable to connect the high level input directly to an amplifier that has a **class D digital** output. Please check with the supplier of your amplifier that this form of connection is possible.

PLEASE ALSO NOTE: The high level lead and connection **must not** be used with a power amplifier of **dual mono bridged** design as this may damage the power amplifier.

The Torus Amplifier can still be connected by the low level input as shown in method 2 if your power amplifier is unsuitable for high level connection.

It is strongly advised, that the Torus system is installed, by a suitably trained person, to avoid causing damage or injury resulting from an incorrect installation.

Figure 1. Shows a diagram on how to connect the high level input of the Torus Amplifier. Using the optional Neutrik lead, connect the Torus Amplifier to the output of your amplifier via your existing speaker plug or to a spare set of speaker terminals if available. In effect you are Bi-Wiring your Torus to your power amp. Please note that the Neutrik cable has only three leads and is arranged this way to preserve the star-earthing of your amplifier (assuming it has a star earth arrangement).

To connect the high level lead you will need to connect the RED wire to the RED terminal of the RIGHT hand speaker terminal of your power amp. Connect the YELLOW wire to the Red terminal of the LEFT hand channel speaker terminal of your power amp. The BLACK wire is connected to either one of the BLACK speaker terminals of your power amplifier. This is important as some power amplifiers do not like their black terminals joined. Now plug the neutrik connector into the high level input of the Torus. The Neutrik plug will fit only one way as it has a key. Next push the plug in then turn clockwise until you feel it latch. To undo the Neutrik plug, pull back the silver lever on the Neutrik plug and turn counterclockwise.

Method 1 – To connect to a power amplifier using the High Level Input & High Level Lead

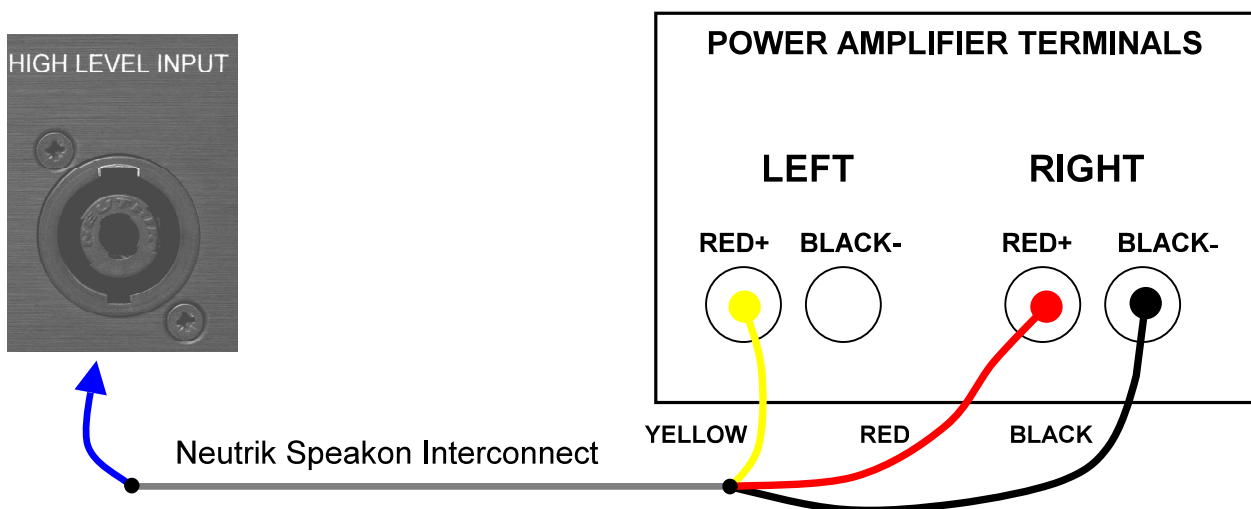


figure 1.

CONNECTING UP YOUR TORUS AMPLIFIER

Method 2: USING LOW LEVEL TORUS AMPLIFIER INPUT

Figure 2. Shows a diagram of how to connect the low level input of the Torus Amplifier. Using a pair of RCA to RCA interconnect (not supplied), plug them into the Torus Amplifier low level input and the other ends into the dedicated sub output on your amplifier or processor. If a dedicated sub output is not available then you can use a spare set of pre-amp outputs.

If you only have a single sub woofer output socket on your equipment then connect it with just one of single interconnect. In this instance use the Left input on your Torus Amplifier. Please Note that high and low level connections can be used at the same time if required. This gives you the advantage of being able to connect up a Hi-Fi and AV system simultaneously.

Method 2 - To Connect to a Preamplifier / Pre-Out or Processor Using the low level input & RCA Interconnects

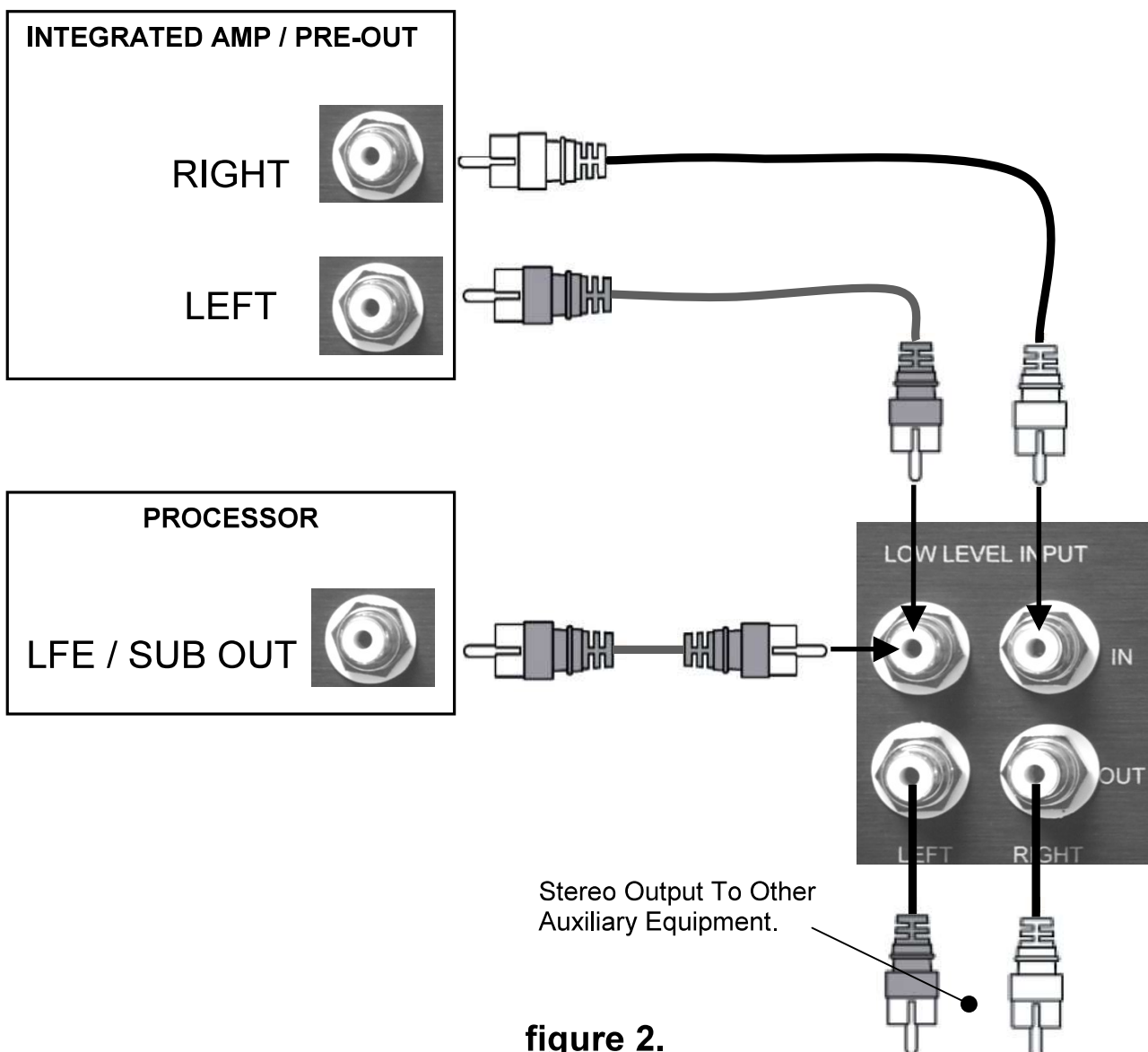


figure 2.

Method 2b: USING BALANCED LOW LEVEL TORUS AMPLIFIER INPUT

Figure 3. Shows a diagram of how to connect the Balanced, low level input of the Torus Amplifier. Using an XLR to XLR interconnect (not supplied), plug one end into the Torus Amplifier low level balanced input and the other end into the dedicated sub output on your amplifier or processor.

The Torus Amplifier low level, balanced input is a mono input. You must ensure that you use a dedicated sub output or a similar mono output to ensure that bass energy from all channels has been summed to a mono signal for the Torus Amplifier. This is not relevant when using the high and low level connections, detailed on the previous pages, as the Torus Amplifier sums the stereo input to a mono output when using those methods of connection.

Please Note that high and low level connections can be used at the same time if required. This gives you the advantage of being able to connect up a Hi-Fi and AV system simultaneously.

Method 2b - To Connect to a Preamplifier / Processor Using the low level balanced input & XLR Interconnect

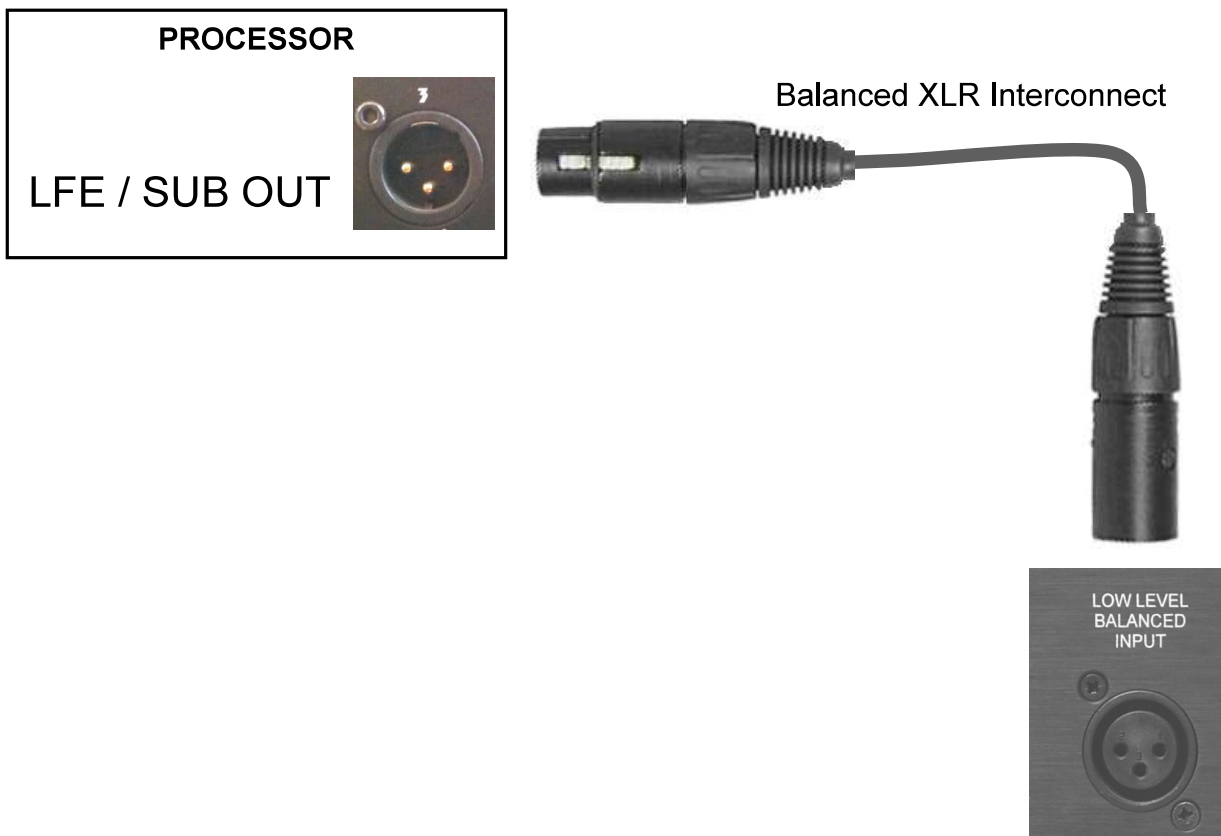
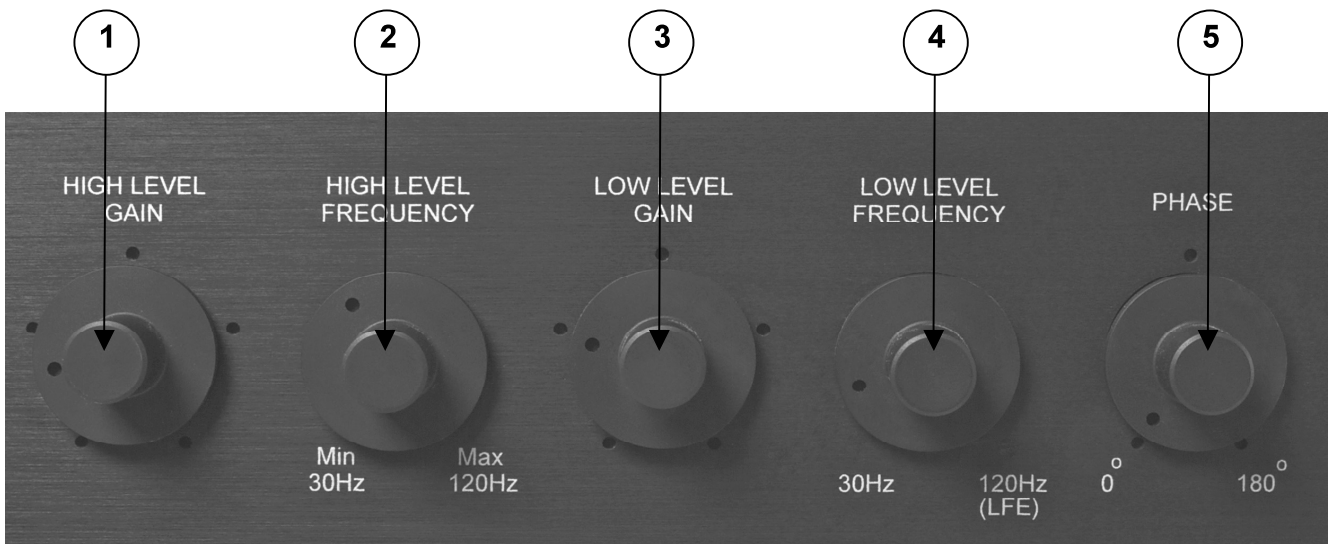


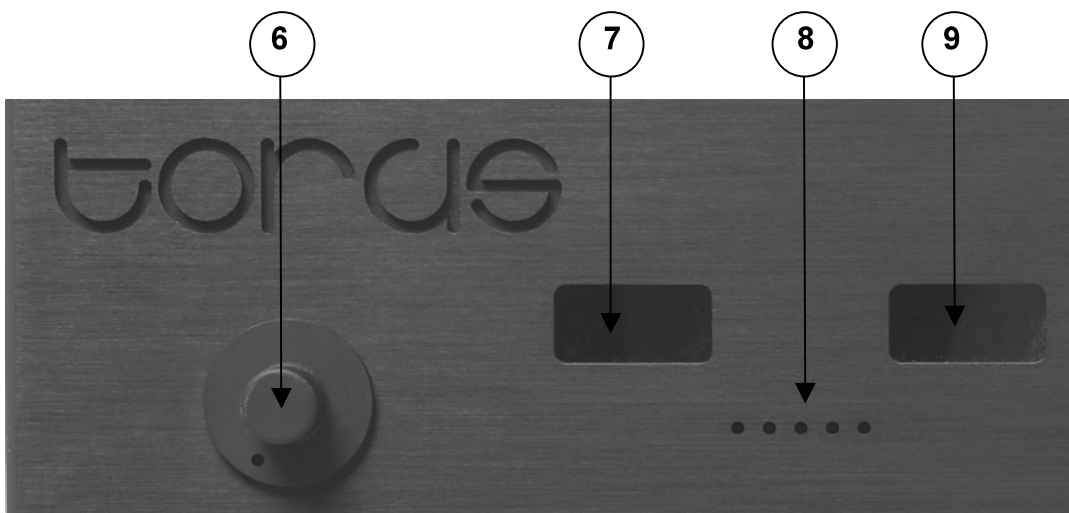
figure 3.

TORUS AMPLIFIER CONTROLS AND THEIR FUNCTIONS

- 1) High Level Input Gain Adjust.
- 2) High Level Input Frequency Contour to allow integration at the crossover point between the Torus Infrasonic Generator and main loudspeakers.
- 3) Low Level Input Gain Adjust.
- 4) Low Level Input Frequency Contour to allow integration at the crossover point between the Torus Infrasonic Generator and main loudspeakers.
In the L.F.E. Position the filter is opened wide to allow the optimum performance from processor built in bass filtering.
- 5) Continuously Variable Phase Control to adjust the phase of the signal sent to the Torus Infrasonic Generator.



- 6) Power Switch for the Torus Amplifier.
- 7) High Level Crossover Frequency Read-out.
- 8) Torus Amplifier Output Level Indicator.
- 9) Low Level Crossover Frequency Read-out.



SETTING UP YOUR TORUS AMPLIFIER

Your Torus Amplifier has the unique ability to be connected to both a Hi-Fi system and an A.V. processor simultaneously, allowing you to control both the frequency and gain of both inputs independently, two processors in one amp!

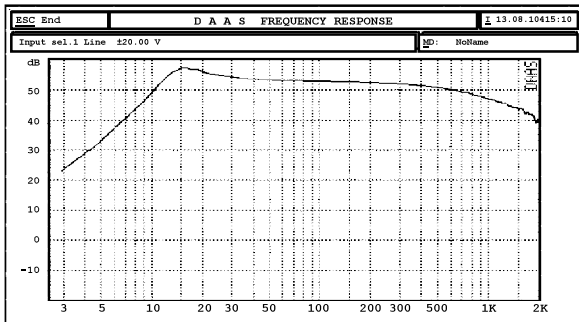
- Connect your Torus Amplifier as shown in Figure 1 or Figure 2. Now attach your Torus Infrasonic Generator to the Torus Amplifier with a good quality loudspeaker cable as shown on page 27 in the Torus Infrasonic Generator Manual. Plug the Torus Amplifier into your mains socket using the supplied cable or another suitable IEC power cable. At this point have the power switch in the off position.
- Now turn both the high level and low level gains to the minimum position, and the frequency control to 120Hz. If using the subwoofer out from an AV Processor then you may select the LFE position. Turn the phase control to position 0°.
- Now switch the power on, and play a track that you are familiar with that has bass content (If you are using both inputs then start by setting the high level input first using an audio CD then repeat the setting up procedure on the low level input using a film track).
- Adjust the gain control until the level of the bass from your Torus Infrasonic Generator matches the level from your main system speakers. Now slowly adjust the frequency control counter clockwise until the output from the subwoofer meets the lowest notes from your main speakers (the crossover point), you may need to adjust the gain control again to match your main system speakers. **
- The Torus Amplifier has a fully adjustable phase control to allow time alignment of the Torus with the main loudspeakers. Listen to the quality of the bass with the phase in the 0 deg position and then slowly adjust towards the 180 deg position. Choose the position that subjectively offers the tightest cleanest bass.
- For further adjustment the Torus Amplifier is equipped with a Parametric Equalizer that allows you to roll off the output below one of four preset frequencies, these are shown on the next page. We would recommend initially conducting the above steps with the switches set to "bypass mode". When you are more familiar with the Torus system, the Parametric Equalizer can be engaged if you wish to roll off the lowest frequencies that the Torus is to operate down to. This function should be engaged if you wish to use more than one Torus system in a stagger-tuned configuration. This is covered on page 34 of the Infrasonic Generator manual.

Following these setup instructions will get your Torus System up and running, but with a little extra invested time and experimentation you will be able to fine tune the Torus setup for seamless integration with the rest of your system.

*** If using the Torus with Wilson Benesch floor standing loudspeakers, we would recommend setting the crossover frequency at between 38-40Hz as a starting point. For Wilson Benesch stand mounted loudspeakers we would suggest 48-50Hz. ***

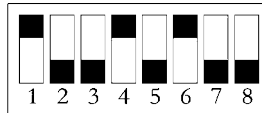
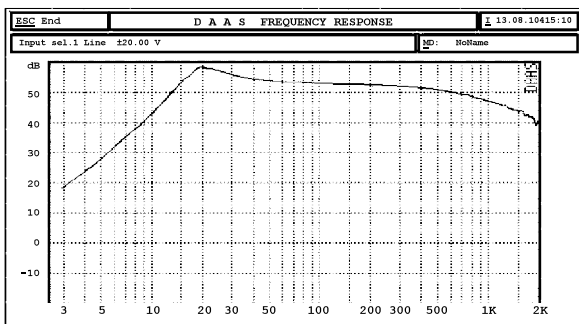
TORUS AMPLIFIER PARAMETRIC EQ. SWITCHING

In addition to the controls detailed above the Torus Amplifier is equipped with a Parametric Equalizer that allows the output signal to the Torus Infrasonic Generator to be rolled off below one of four preset frequencies. On the underside of The Torus Amplifier is a set of dual inline switches that will allow you to select which setting you require for the Torus Amplifier's Parametric Equalizer, including a setting for bypassing this function altogether.



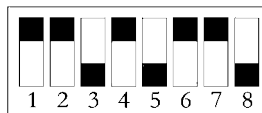
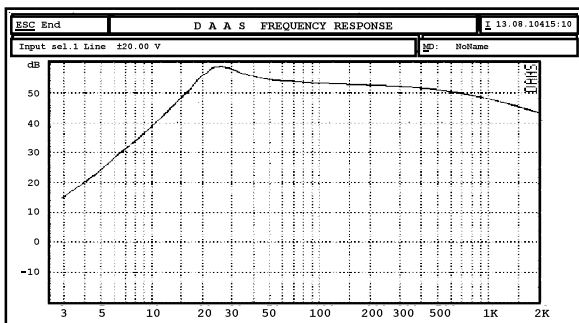
— On
— Off

15Hz



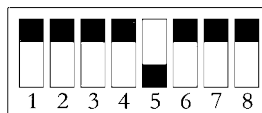
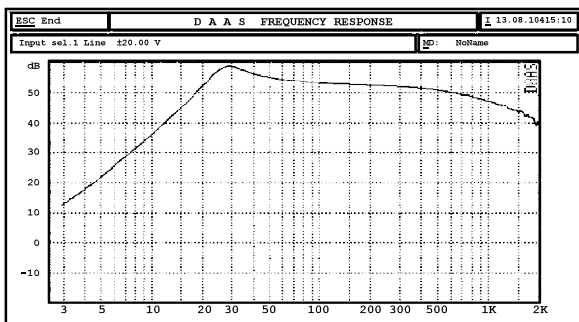
— On
— Off

20Hz



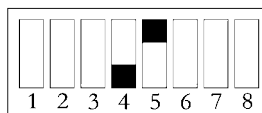
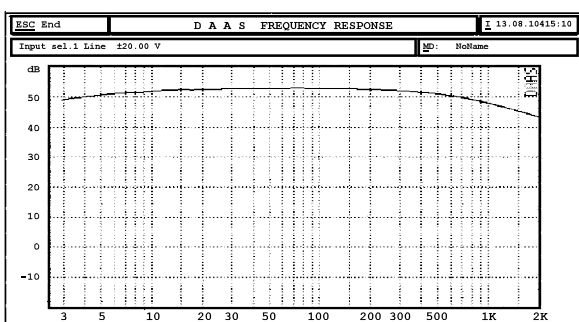
— On
— Off

25Hz



— On
— Off

30Hz



— On
— Off

Bypass

For bypass, switch 4 must be set to the OFF position and Switch 5 to the ON position. When in bypass mode switches 1,2,3,6,7 and 8 have no effect.

TORUS AMPLIFIER SPECIFICATIONS

Features:-

Independent frequency adjustment and gain controls
Fully adjustable phase control
Discrete Bipolar DC Coupled
Thermal Protection
S/C Protection
Selectable Parametric Equalizer
LED Vu

Specifications:-

Power Output 200W RMS into 8 Ohms

Input Sensitivity:-

High Level 1.0V
Low Level Unbalanced 100mV
Low Level Balanced 300mV

Input Impedance:-

High Level 100K ohm
Low Level 10K ohm

Frequency Adjust:-

High Level 30Hz to 120Hz
Low Level 30Hz to 120Hz then LFE 2.0kHz
Eq 6dB @ 15,20,25 or 30Hz + Over-ride straight through
S/N <100dB
Distortion 0.05%

Power Requirements:-

115V / 230V A.C. 50 / 60 Hz

Dimensions:-

Height 90mm
Width 430mm
Depth 300mm
Weight 10Kg