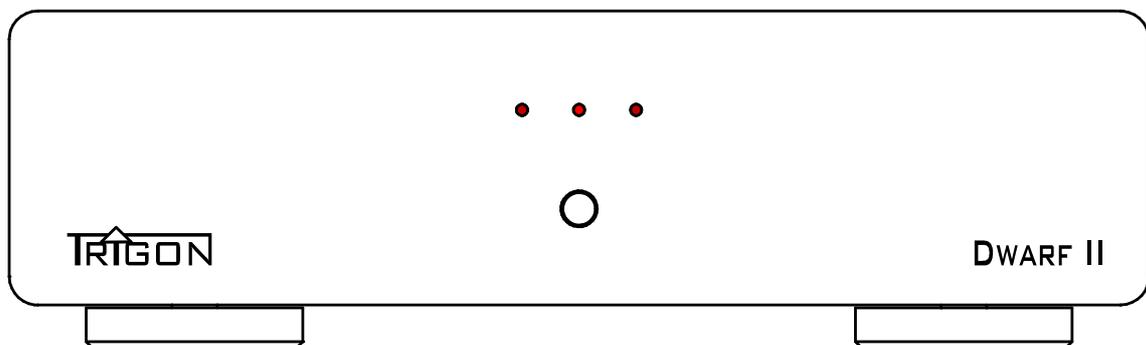




INSTRUCTION MANUAL

FOR MONO POWER AMPLIFIER

DWARF II



Mono Power Amplifier **DWARF II**

TRIGON DWARF II - The David between the Mono Power Amplifier

The extreme skinny construction under the use of massive aluminium and structure vanished steel, realizes a timeless and highquality design. Compared with TRIGON Suspension Absorber feet, external disturbances of sensitive music signals will be reduced to a minimum.

The covered power cable **TRIGON VOLT** and a very flat designed, but highly overdimensional power pack, guarantee a signal adequate power supply. This complete and discreet built output stage, which keeps short signal ways, fulfils all the complexity of musical expectations. The **DWARF II** gives - what music plays – with sensitivity and power to the speaker. It is the mediator between the music and its emotions. The **DWARF II** unites precise technology, high operational safety and operating comfort. A long distance signal way protected switch design supervises the amplifier electronic. All operational conditions are switched with a frontage key through a relay and are signalled through LED display. **DWARF II** can be switched on / off either manually, by a fed control voltage or by the audio signal itself. For a pleasant realized operation it is recommended to place the **DWARF II** in immediate proximity to the speakers – not only during stereo operation, but also while using multi-channelling.

We thank you very much for choosing **DWARF II** and wish you to enjoy music and technology.

DELIVERY CONDITIONS

Regularly the **DWARF II** are delivered in pairs in one box. Except the **DWARF II** you will also find two main cables, an operation instruction and a guarantee card.

Please keep the original packaging, so you can send, in case of service or guarantee, safely and avoid transportation damage.

INSTALLATION AND START-UP

Regularly Mono Power Amplifier is situated close to the speakers. With lower ohm output impedances at the preamplifier the connection Cable should not be longer than 5 meters. Avoid direct sunlight, or other heat sources and any kind of humidity. Keep the louvers absolutely free. Don't put the amplifiers on top of each other. There should be at least a minimum of 15 cm space between the **DWARF II**. This measure is important, because the equipment could easily overheat. Turn the volume control at the pre-amplifier to "Zero". Connect one of the exits of the pre-amplifier with the Input **(5)** of the **DWARF II**.

Connect now the affiliated cable on the speaker **(9)**. Take care of the right poling (pole); otherwise the sound quality would suffer considerably.

Next you have to switch the main cable in the socket **(10)**, and connect it to the 230-volt mains.

Finally you turn the mains switch **(12)** in direction "-" and your amplifier **DWARF II** is ready for use.

When the **DWARF II** are connected to the mains the Status-LED **(2)** light up slightly and indicate the Standby-mode.

3. OPERATION

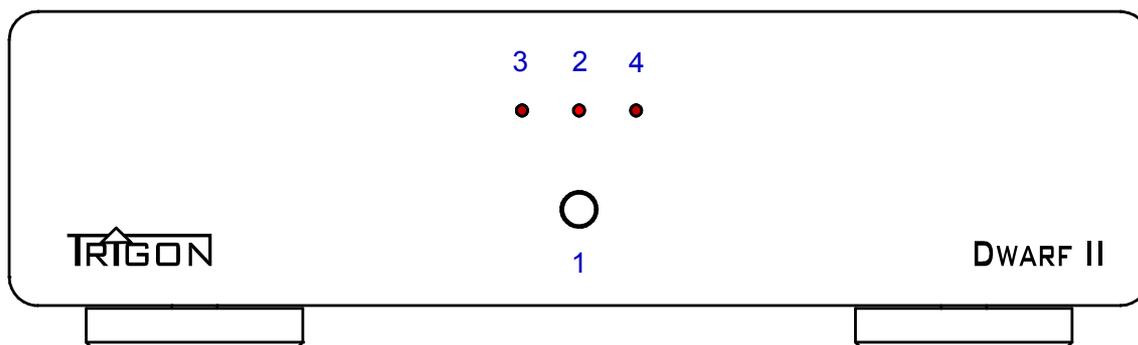
3.1 Operating mode switch

By pressing this key all operating modes are switched. Please find them following:

Switch on - Switch on Audio Trigger - Switch on control voltage Trigger - Switch off

By each single depressing the next following switching level is adjusted. In the end it starts from the beginning again, because the single operations modes are wired up like in a ring.

3.1.1 The operating modes in detail:



Switch on: A short depressing of the key switches the mono power amplifier on. The Status LED (2) flashes until all operating states work normally. After a few seconds the speaker relays are activated and the LED (2) lights constantly bright.

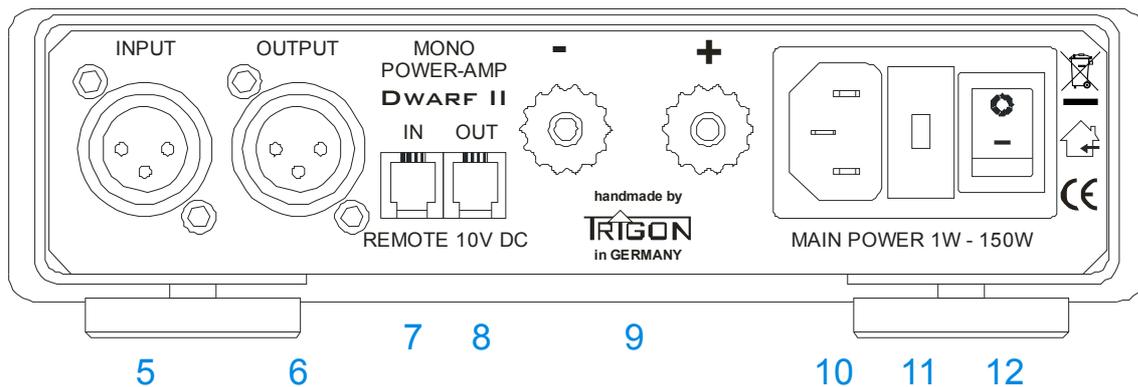
Audio Trigger: A further pressing starts the music controlled automatic switchon. If there is for about 4 minutes no incoming music signal, the mono power amplifiers switch off. The LED (2) flashes until the power down is finalized. LED (2) and LED (3) light slightly now. Both LED light up brightly, if there is an incoming music signal to indicate that the Audio Trigger is switched on. Hence DWARF II is switched on/off by the audio signal incoming to the Input (5).

Control Voltage Trigger: One further pressing of the key (1) activates the Control Voltage Trigger, which is more elegant than the Audio Trigger. DWARF II can now be switched on/off by a low DC Voltage (3-12Volt). Several preamplifier provide those control voltages by an external socket. This option offers the advantage that DWARF II will be turned on or off whenever the preamplifier is switched on or off. Is the Control Voltage Trigger selected LED (3) switches off and LED (4) lights up.

SWITCH OFF: By pressing the key (1) one more time the mono power amplifier is switched off and the start up Triggers are deactivated. DWARF II now is in Standby-mode. The next pressing of key (1) switches on DWARF II again and the procedure starts from the beginning.

DWARF II can also be switched off at any position by a longer pressing of key (1). During the pressing LED (2) first flashes quickly, as soon as it flashes slower the key can be released and DWARF II turns off.

3.2 Rear Panel controls and connections



5. Input socket: To this socket the Output of the preamplifier is connected.

6. Output socket: To this socket another DWARF II (or any other power amplifier with symmetrical Input) can be connected (e.g. for Bi-amping)

7. Remote Input: To this socket the DC Voltage for the Control Voltage Trigger is connected. The voltage should be between 3 and 12 V.

8. Remote Output: This connector outputs a 10V DC voltage when a trigger signal is applied to socket (7). This feature allows to connect e.g. a further **DWARF II**.

9. Speaker terminals: Connector for the speaker cable.
CAUTION! The load impedance must not be inferior to 3 Ohms!

10. AC input socket: To this socket you connect the AC mains cable.

11. Fuse compartment: The main fuse is located here. In the event that the main fuse needs to be changed, please remove the AC mains connector first.

Caution! Replace fuses only with the same type to avoid possible damage!

12. Mains switch: With this switch the **DWARF II** is turned to the **Standby-Mode**. It will be switched on finally by pressing key (1). Normally the mains switch can be kept turned on, except you know, you won't use the power amplifier for some days. The current consumption in the Standby-mode amounts less than 2 Watts.

4. Protective functions

DWARF II is equipped with several safety functions to protect the power amplifier and connected speakers. All these safety functions are indicated by different flashing sequences of the LED in the front.

- **DC-Offset** (dangerous DC voltage on the speaker output)
- **Overload** (overload of the power amplifier)
- **Temperature control**
- **HF Detector** (high frequency, inaudible oscillation of the power amplifier)

DC-Offset can arise when the preamplifier which is connected to the **DWARF II** itself outputs a small **Offset** voltage. This DC voltage is intensified by **DWARF II** and the DC Voltage, which is dangerous for the speaker, appears to the speaker Output terminals. Further a DC voltage can appear to the Output, if the set-up of the power amplifier is defective. In this case the DC-protection deactivates the speaker relays immediately to avoid damage to the speakers. When DC-protection reacts the speakers are immediately switched off by the

speaker relays and all three LED are flashing. Please power off the **DWARF II** completely by the mains switch **(12)** to reset the protection circuit. The **DWARF II** can be powered up again after approx. 10 seconds. If all LED are still flashing after the reset, there may be a defect in the output stage and the unit must be sent in for service. Please contact your authorized dealer, distributor or **TRIGON ELEKTRONIK GMBH** directly.

If LED **(3)** flashes quickly LED **(4)** flashes slower at the same time, an **Overload** occurred to the power amplifiers and the speakers are turned off. The flashing of the LED stops after approx. 5 seconds and the speaker relays switches on again. Possible reasons for an overload are e.g. a too low speaker impedance or an over-regulation of the power amplifier expressed in a loud and distorted rendition.

Should the operation **temperature** of the unit reach its maximum permissible value the speakers are deactivated and LED **(3)** flashes quickly. Once the temperature returns to normal design parameters, the speakers will be reactivated and the LED stops flashing. To supply the power amplifier in cooling down it is useful to turn the volume control at the preamplifier to "Zero".

Sometimes it may happen, that the combination speaker and speaker cable does not suit very well to **DWARF II** and the power amplifiers start to oscillate in an inaudible level of frequency. In this case the power amplifiers warm up depending on the intensity of oscillation, because the power amplifiers emit now power to the speakers. To protect the power amplifier against the oscillation caused by external influences **DWARF II** is equipped with protective electronics which turns off the speakers to stop oscillation immediately. During the deactivation of the speakers LED **(4)** flashes quickly.

After approx. 5 seconds speakers are reactivated again. If LED **(4)** starts flashing again quickly (and speakers are turned off again), please power off the **DWARF II** at the mains switch and use a different speaker cable. In most cases oscillation can be prevented thereby, provided that the now used cable has a less capacitive resp. inductive rate.

Following an overview of all LED light sequences and their meaning in short form:

- **DC-Offset:** All LED are flashing, speaker is deactivated permanently
- **Overload:** LED **(3)** flashes quickly, LED **(2)** flashes slower, the speaker turns off short-term
- **Temperature control:** LED **(3)** flashes quickly, speakers are deactivated till the temperature of the power amplifier returns to normal
- **HF Oscillation:** LED **(4)** flashes quickly and the speaker is deactivated short-term

Specifications:

Input Impedance	: 47KOhm
Input	: 1x XLR Balanced
Output	: 1x Speaker, 1x Line
Output Power	: 1x 90W at 4 Ohm, 60W at 8 Ohm
Signal Noise	: 40µV (A-weighted)
Frequency Response	: 20Hz – 150KHz (-3dB)
THD + N	: < 0.02%
Dimensions H x W x D	: 59,5mm x 200mm x 330mm
Weight	: 5.2 kg
Warranty	: 3 years

Manufacturing and Development:

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