# Domino 3


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AER The Acoustic People®

# **Domino** 3

## user manual


# 1. Introduction

Welcome to AER

Thank you for purchasing the **Domino** 3 of our **acoustic-line**-series.

To obtain maximum enjoyment from your amplifier please read this manual carefully before using your **Domino** 3.

Based on our Compact60$_2$-acoustic-system we have developed the **Domino** 3 a 2x100-watt system that combines the excellent tone of the Compact with increased power and higher efficiency.

The **Domino** 3 is – of course – dynamically controlled and equipped with two parallel power-amplifiers, two 8"-twin-cone loudspeakers, 1"-neodym tweeter for additional headroom, 4 inputs with mute-option (inputs 3 and 4 with shared equalization), channel mute, insert-link feature and AER-32/24-bit-digital-effects with 16 presets.

Read on and have fun using your **Domino** 3!

# 2. Safety Instructions

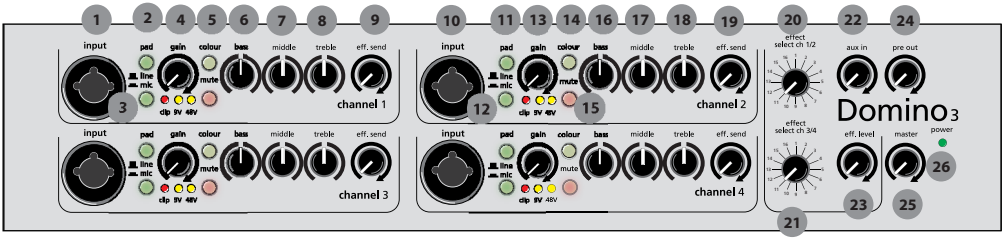
The following guidelines shall help minimize the risk of injury through fire or electric shock.


The lightning flash with the arrow head symbol within an equilateral triangle is intended to alert the user to the presence of unisolated ´dangerous voltage´ within this product´s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying this product.

1. Carefully read these safety notes before you use the device!
2. Keep these safety notes in a safe place.
3. Pay attention to all warnings, instructions and additional texts on the unit.
4. This device was only designed for operation under normal climatic conditions (temperate climate).
5. Do not install or use your amp in close proximity to water or if you are wet yourself.
6. Do not subject your device to sudden and severe temperature changes. This could cause moisture condensation inside the unit, which could damage it. In the event of moisture condensation allow the device to dry out completely before use.
7. Use your amp in a safe place where nobody can step on cables or trip over and damage them.
8. Pay attention to an unhindered air circulation around the amp, never obstruct the air vents or grilles.
9. Always pull the mains plug before cleaning your amp or when left unused for a long period of time. Use only a dry cloth for cleaning. Avoid the use of detergents and do not let any liquids seep into the unit.
10. Use only the right fuses with the same current rating and trigger characteristic as replacements. Never mend fuses! Pull the mains plug before replacing a fuse. Should a fuse blow again after a short while, the device needs to be checked.
11. Never install your amp close to devices with strong electromagnetic fields such as large mains transformers, revolving machines, neon illumination etc. Do not lay signal cables parallel to power current cables.
12. There are no user-serviceable components inside the unit. To avoid the risk of an electric shock, the unit must not be opened. All maintenance, adjustment and repair works should be carried out by qualified staff only. Any unauthorized tampering will void the 2-year warranty.
13. In keeping with the EMV regulations screened cables with correctly fitted connectors must be used for all signal connections.
14. Always use an earthed power supply with the correct mains voltage. If you are in doubt about the power outlet ground, have it checked by a qualified technician.
15. Cable up your amp only when it is powered off.
16. This device should be installed near the socket outlet and disconnection of the device should be easily accessible. The mains plug of the powersupply shall remain readily operable. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles and the point where they exit from the apparatus.
17. This product may cause permanent hearing loss. Do not operate for long periods of time at a high volume level or at any level that is uncomfortable. If you experience any hearing loss or ringing in the ears, you should consult an audiologist.
18. The product should be located away from heat sources such as radiators, heat registers or other products that produce heat.
19. Do not place any open sources of fire, like candles, on the device.
20. Care should be taken so that objects do not fall onto the device and liquids are not spilled into the enclosure through openings. Ensure that no objects filled with liquids, such as vases, are placed on the device.
21. Do not place this device on an unstable cart, stand, tripod, bracket or table. The device may fall, causing serious injury to you and serious damage to the device itself.

# 3. Controls and Connections




## 3.1 Front Side

| | | |
|---|---|---|
| 1) | **input** | signalinput, Combijacket for 6,3 mm mono or XLR plugs |
| 2) | **pad** | input sensitivity switch – attenuator deactivated, activated |
| 3) | **line/mic** | signal source selector switch of the combo socket:<br>**line** (only via jackplug) for instruments (pickup) and other line level sources<br>**mic** (only via XLR-connector) for microphones |
| 4) | **gain** | input level control |
| 5) | **colour** | tone colour filter activation switch: deactivated , active |
| 6) | **bass** | bass frequency control |
| 7) | **middle** | middle frequency control |
| 8) | **treble** | treble frequency control |
| 9) | **eff. send** | effect level control |
| 10) | **input** | signal input, 6,3 mm mono jack socket or XLR-male-connetor |
| 11) | **pad** | input sensitivity switch – attenuator deactivated, activated |
| 12) | **line/mic** | signal source selector switch of the combo socket:<br>**line** (only via jackplug) for instruments (pickup) and other line level sources<br>**mic** (only via XLR-connector) for microphones |
| 13) | **gain** | input level control |
| 14) | **colour** | tone colour filter activation switch: deactivated , active |
| 15) | **mute** | channel mute switch: deactivated, active |
| 16) | **bass** | bass frequency control |
| 17) | **middle** | middle frequency control |
| 18) | **treble** | treble frequency control |

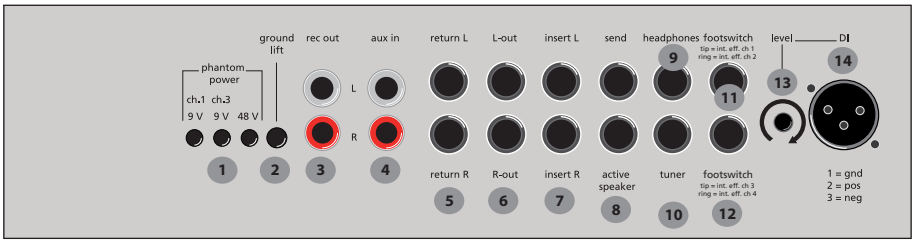
**channels 1 – 4**

| | | |
|---|---|---|
| 19) | **effect send** | effect level control |
| 20) | **eff. select 1/2** | Effect control for channel 1 and 2 |
| 21) | **eff. select 3/4** | Effect control for channel 3 and 4 |
| 23) | **eff. level** | master level control for internal effects |

**effect**

| | | |
|---|---|---|
| 22) | **aux in** | aux in level control |
| 24) | **pre out** | input level control for L-out und R-out |
| 25) | **master** | master level control |

**master**




## 3.2 Back Side

1) **phantom power:**
**ch. 1, 9 V** switch to activate 9-V-phantom-power at chanal 1
**ch. 1, 9 V** switch to activate 9-V-phantom-power at chanal 3
**48 V** switch to activate 48-V-Phantom-power

2) **ground lift:**
signal-/protective-ground disconnecting switch: ⏤ deactivated, ⏤ acitve

3) **rec out:** stereo output with equalizer, effect, stereo-reproduction of ext. effect, aux in and stereo simulation (switchable), Cinch/RCA-sockets (white = left channel, red = right channel).

4) **aux in**: stereo input for additional signal sources, e.g. CD-player, Cinch/RCA-sockets (white = left channel, red = right channel)

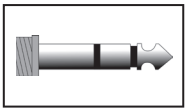
5) **return:**
as part of the effect loop operates as signal input from an external effect device (from output of the effect device). The effect can be switched on or off via footswitch.

6) **L-out/R-out**: stereo output with equalization, effects, stereo-reproduction of external effect, aux in and stereo-simulation (switchable), 6,3 mm jack socket.

7) **insert**: insert point, 6,3 mm stereo-jack-plug, tip = send, ring = return, for serial looping of effect-devices or for connecting AER-amps with link-feature. (see para. 5.6, page 11)

8) **send:**
is an output to connect to an external effect device and in conjunction with return (input) forms a loop here designed as an external effect loop. The effect can be switched on or off via footswitch.

9) **headphones**:
stereo-headphones socket



***!!!Warning: Only use headphones with stereo jackplugs in this output socket!!!***

10) **tuner:**
tuner output socket (mono, -10 dbV)
**pre master**

11/12) **footswitch mute channel 1/2 + 3/4:** Stereo connector socket for a double-footswitch, mute input 1/2 (tip = input 1, ring = input 2) resp. mute input 3/4 (tip = input 3, ring = input 4).

13) **DI level:** signal output control to DI Output.

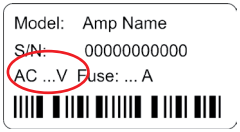
14) **DI-out**: signal output, symmetrcal, XLR-female-socket, **without** equalization and effects, **pre master15)**

15) **power on**: (not shown)
Combined mains switch with mains socket and fuse holder. (s. Technical Data Mains Fuse)

# 4. Starting up

## 4.1 Cabling and switching on

Before connecting to mains, please ensure that your local mains voltage is suitable for the voltage of the device (e.g. 120V in the USA, 230V in Europe). The relevant specs and safety symbols are printed on the rear side of the unit.




Connect all cables according to your application and switch the amplifier on. The green **power** control LED indicates operational readiness.

## 4.2 Level Adjustment

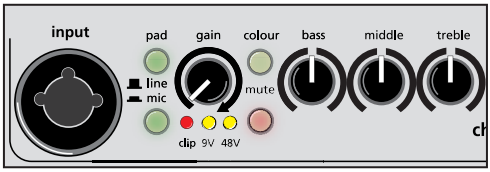
### Note: Level adjustment

By setting the level correctly we mean the signal level in one or several devices in a signal chain is neither too high nor too low. This applies equally to all circuits in a complete circuit design (EQs, preamps etc.)

Consequently, care must be taken that no part of the circuit is overloaded or that distortion is unintentionally added to the signal.

We have carefully designed the circuit to achieve this objective whilst also providing controls for „manual" intervention.

First ensure, that the **master** level control is zeroed (over to far left), so that when you are setting the




sound level, the signal passes through the electronics only and does not reach the loudspeaker. By pressing the **high-/low-** (attn.) resp. **line-/mic-**switches you can adapt the amplifier to your signal sources (guitar pickups, microphone etc).

Turn the **gain** control clockwise until the red **clip** indicator flashes momentarily when playing with a strong attack. Thus you make sure that your signal source (e.g. instrument) provides the input-stage of the amplifier with the necessary input.

The **clip**-LED indicates an overload. A short flicker is of no danger to AER devices. During operation a short flicker can be accepted, to be on the safe side you should reduce the **gain** slightly to achieve an optimal and distortion-free performance.

Please bear in mind: The **Domino**2.A is equipped with four inputs. Four individual **gain**-levels may boost the input-signal of the effect-section and thus cause distortion. This distortion can only be heard and in this case it is imperative, to reduce the **gains** to elminitate the distortion.

With the **line/mic**-switch you can adjust your amplifier to your signal-sources (guitar pickup, microphone etc.). The **attn.**-switch (attenuator de-/activation), as well as **gain**-control and **line/mic**-switch, helps with the signal-matching. Start **without attenuator** (switch **not pressed**). Should the input-signal be too strong and you can't avoid clipping even by reducing the **gain**-control, **then activate the attenuator** (switch **pressed**).

Finally set the desired overall volume level with the **master** level control.

# 5. Functional characteristics

## 5.1 Mute

The **mute** switch turns the appliance to mute as required. The function can also be activated by a standard footswitch (on/off switch).

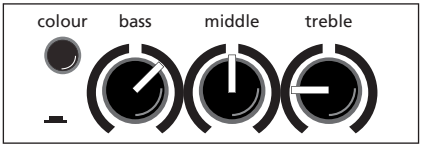
## 5.2 Equalization

The triple-band equalizer of your **Domino**2.A provides you with an active and high quality sound interaction tool that supports the natural tone of instruments and voice whilst simultaneously offering you the possibility of a controlled accentuation.

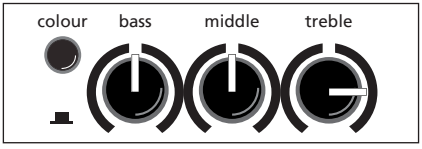
With all controls in mid position the filters are set to produce a very pleasing and natural sound impression that you can „colour up" by using the **colour** filter with the effect of lowering the mids and lifting the trebles (-3 dB at 700 Hz, +10 dB at 8kHz). The tone becomes more open and light and is especially suited for finger-picking techniques.

The equalization can support or soften the effect of the **colour** filter and allows a differentiated mids-accentuation.

**A: with colour-filter** (switch pressed)
reduce **treble** to soften possible sharpness




**B: without colour-filter** (switch not pressed)
boost **treble** to brighten the sound




**Note:**

The active equalization of the **Domino 3**effects the signal adjustment. If you spot an intensified flickering of the **clip** indicator, level the signal level with the **gain** control (s. **4.2 Level adjustment**).

## 5.3 Effects

The **Domino 3** has a built-in (internal) digital 32/24-bit-AER-effect processor, with the **select**-switch you can choose between 16 diverging presets (s. **chart below**).

The **return**-control determines the intensity of the internal effects (left stop = no effect), the **eff. send**-controls level the ratio of effect and original signal per channel.

| Progr.-No. | Description |
|---|---|
| 1 | ambience: short |
| 2 | ambience: medium |
| 3 | ambience: long |
| 4 | reverb: short |
| 5 | reverb: medium-short |
| 6 | reverb: medium |
| 7 | reverb: long |
| 8 | reverb: very long |
| 9 | delay: 100ms |
| 10 | delay: 320ms short |
| 11 | delay: 320ms long |
| 12 | chorus |
| 13 | delay (410ms) with reverb-portion short |
| 14 | reverb with delay-portion (410ms) long |
| 15 | chorus with reverb-portion |
| 16 | reverb with chorus-portion |

Furthermore an additional effects unit (external effect) may be connected to the **Domino 3**. For this purpose use the **send** and **return** sockets on the rear side of the amplifier (**send goes to input, return to the output** of the external effects device). The intensity of the effect is adjusted at the external effects unit.

General Note:

Use of 48V or 24V phantom power

(Phantom power = remote supply, here: powering an audio device via the connected audio line)

Turn on the phantom power only if the unit connected to the **XLR sockets of channels 2 and 3/4** is designed to handle it!

In general, suitable units are e.g. condenser microphones, active DI-boxes and other special audio devices, whose power supply is drawn from the phantom power. Such devices are also labelled accordingly; please heed the permissible power consumption (max.10mA).

High-quality dynamic microphones with a balanced signal need no phantom power, but can handle it anyway.

Other devices, which have not been designed explicitly for phantom power operation, can suffer from considerable malfunctions and damage may result as well.

**Examples of devices that may be damaged by incorrect application of phantom power include:**

Low-cost dynamic microphones with a mono jack-plug (unbalanced signal) that were fitted afterwards with an XLR connector.

Audio devices with a balanced XLR output (e.g. DI-boxes, effects devices, instrument preamps with a DI output etc.) which are not protected against phantom power applied to their XLR output. (The DI connectors on AER products are protected against applied phantom power.)

Other audio devices (such as preamps, effects pedals etc.) whose unbalanced line output was replaced by an XLR socket.

**If in doubt please consult the manufacturer of the device you are using.**

## 5.4 Phantom power

Microphones requiring **48V phantom power** can be directly connected to the **XLR sockets of channels 2 and 3/4**. The phantom power can be switched on and off via the **48V**-switch.

The **jack sockets of channel 1 and 3/4** can additionally be supplied **15V-Phantomspeisung** by an internal jumper.

**Please note: For these alterations the device must be opened, therefore only qualified service personnel may carry out the modifications concerning the activation of phantom power.**

## 5.5 Stereo-Simulation

The **Domino**2.A is mono – thus **L-out** and **R-out** are carrying the same output-signal. You can use these sockets to connect additional active AER fullrange-systems (e.g. AG 82, CX 8, AS Q8, AS 281), whose levels are adjusted by the **pre master**-control independent of the overall volume (**master**) of your **Domino**2.A. By activating the stereo-simulation (**stereo sim.**-switch pressed), a stereo-like, wider sound impression is generated.

On stage (**Domino 3** as monitor) the sound remains unchanged..

P.S. For questions or suggestions contact us:
tachauch@aer-amps.com

## 5.6 Insert

The **insert**-loop is an in-/output on a stereo-socket to link different effect-devices (EQ, compressor etc.) in serial mode with **tip** = **send** (input) and **ring** = **return** (output). This configuration allows several more applications, such as:

**1. use as additional line-output**

**2. use as additional line-input**

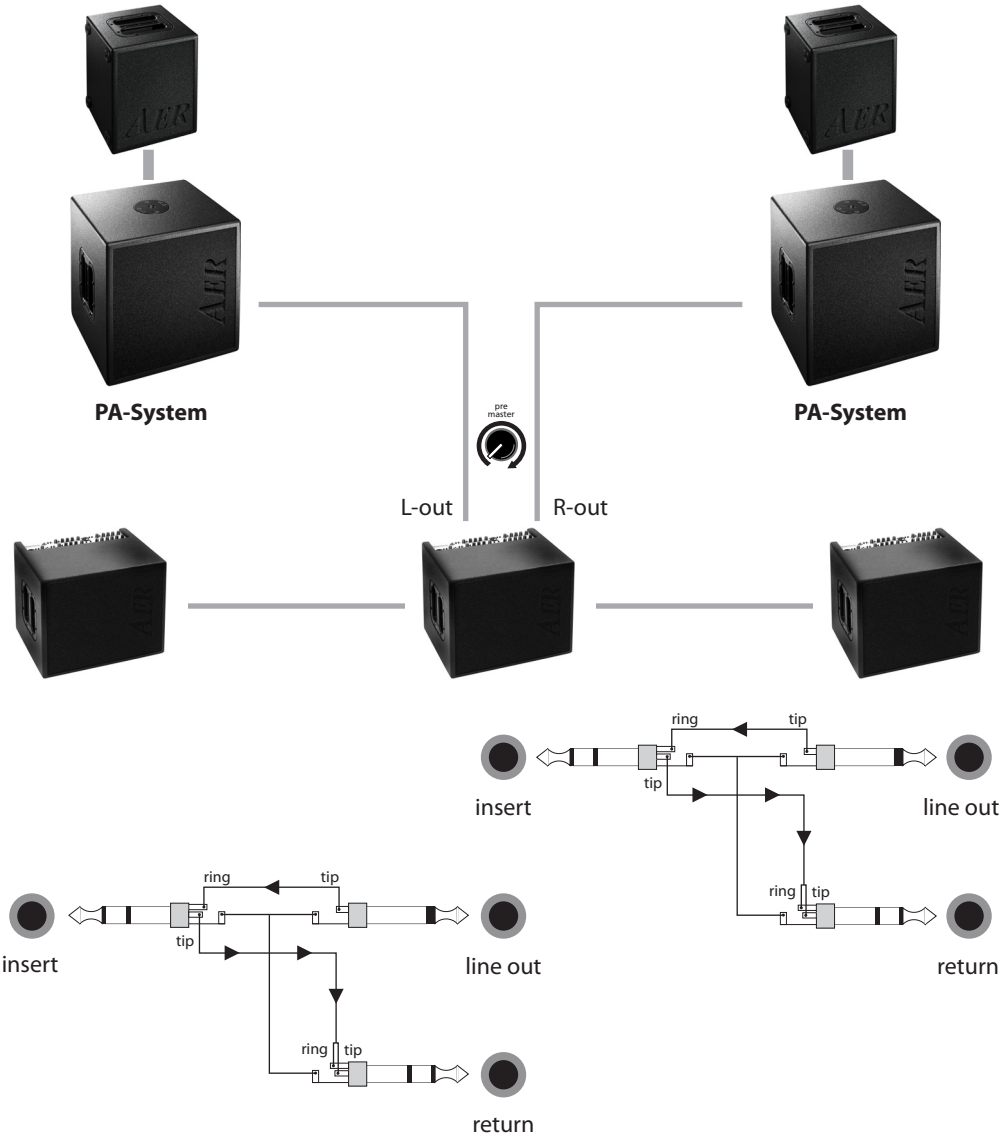
**3. link between two or more AER-amps with insert-feature (AG8, Domino, Compact ClassicPro)**

For each of these applications you'll need the appropriate cable connection, e.g. use as line-output: stereo-jack (tip and ring = hot, sleeve = ground) to mono-jack.

The particular **AER-link-application** (s. no. 3 - link between AER-amps) is represented on page 11. In link-operation it is assured, that the signals of all connected amps are hearable on all devices, even with different effect settings. You just have to be aware, that the different levels depend on each other.

This setting (in combination with active loudspeakers, **pre master**-function) works as a complete and easily operated reinforcement/monitor system.

## 5.7 Example for the linking of AER-amps via the insert connection




In case of occupied **return**-socket due to insert operation, you can still loop an external effect using the **send**- and **aux-in**-sockets.

# 6. Technical Specifications Domino 3, part 1

| Inputs (notes 1, 2) | |
|---|---|
| **Inputs, channels** | Combo socket, XLR + jack ¼" (6.35 mm) |
| **1 – 4** | **Line mode**<br>High impedance, unbalanced jack input for instruments (pick-ups) and line-level sources<br>Sensitivity: 26 mV (–32 dBV)<br>Pad switch (attenuator): –10 dB<br>Impedance: 1 Meg<br>Equivalent input noise,<br>A-weighted: 1.6 µV (–116 dBV)<br>Phantom power: +9 V DC at ring of jack sockets in Ch. 1 and Ch. 3, switchable per channel (note 4), max. 100 mA (all channels total), overload protected |
| | **Mic mode**<br>XLR (balanced), stereo jack (balanced), or mono jack (unbalanced) input<br>Sensitivity: 7.5 mV (–43 dBV)<br>Pad switch (attenuator): –19 dB<br>Impedance (balanced): 1.7 k<br>Equivalent input noise,<br>A-weighted: 0.3 µV (–130 dBV)<br>Voice filter: –4 dB at 450 Hz<br>(referred to 10 kHz)<br>Phantom power: 48 V, with common on/off<br>switch for all four channels (note 4) |
| | Clip indicator: Headroom 6 dB |
| **Return** | Stereo return from external parallel effect loop<br>2 x mono jack, ¼" (6.35 mm, left/right<br>Sensitivity: 375 mV<br>Routing: stereo to speakers, headphones, rec out, and L/R-out; mono (L+R) to DI out |
| **Aux in** | Auxiliary stereo input (e.g., for CD player)<br>Level adjustable<br>Cinch (RCA) sockets (left/right)<br>Sensitivity: 375 mV<br>Routing: stereo to speakers, headphones, rec out, and L/R out; mono (L+R) to DI out |
| **Outputs (note 3)** | |
| **Tuner** | Tuner output, not affected by **mute** switch<br>Mono jack, ¼" (6.35 mm)<br>Output voltage: 360 mV |
| **Headphones** | Headphones output. When connected, internal speakers are muted.<br>Stereo jack, ¼" (6.35 mm)<br><br>Output power:<br>max. 2 x 100 mW / 32 ohms<br>Input sensitivity for<br>2 x 50 mW / 32 ohms:<br>30 mV at line input (any channel) |
| | **Caution:** For stereo headphones with stereo jack plug only.<br>Do not connect mono plugs. |
| **Active speaker** | Mono (L+R) output post-master, suitable for active extension speaker<br>Mono jack, ¼" (6.35 mm)<br>Output voltage: 1.4 V<br>Activates 100 Hz low-cut filter for internal speaker if plugged in. |
| **L/R-out** | Stereo line output after tone controls, with aux in and effects<br>Level adjustable by pre out<br>2 x mono jack, ¼" (6.35 mm, left/right)<br>Output voltage: 0…1.4 V |
| **Rec out** | Recording output after tone controls, with aux in and effects<br>Cinch (RCA) sockets (left/right)<br>Output voltage: 1.4 V (note 4) |
| **DI** | Balanced XLR output before master, after tone controls, with aux in and effects (note 4)<br>Level adjustable<br>Output voltage: 0…145 mV |
| **Send** | Send for parallel effect loop<br>Mono jack, ¼" (6.35 mm)<br>Output voltage: 710 mV (note 4) |
| **USB lamp** | DC output for a lamp<br>Data lines are not connected.<br>Output voltage: 5 V DC, max. 200 mA |
| **Insert points** | |
| **Insert L/R** | Stereo insert point after master volume<br>2 x stereo jack (L/R), ¼" (6.35 mm)<br>Tip = send, ring = return<br>Output voltage: 1.4 V |
| **Tone controls (all channels)** | |
| **colour** | +10 dB at 8 kHz, –3 dB at 700 Hz |
| **bass** | ±8 dB at 100 Hz, shelf type |
| **middle** | ±4 dB at 650 Hz |
| **treble** | ±9 dB at 10 kHz, shelf type |
| **Effects** | |
| **Internal effect** | AER 32-bit digital effect processor with 16 factory presets<br>Two independent, simultaneous effects (one for channels 1 and 2, and one for channels 3 and 4).<br>USB interface and PC software for creating userdefined settings |

# 6. Technical Specifications Domino 3, part 2

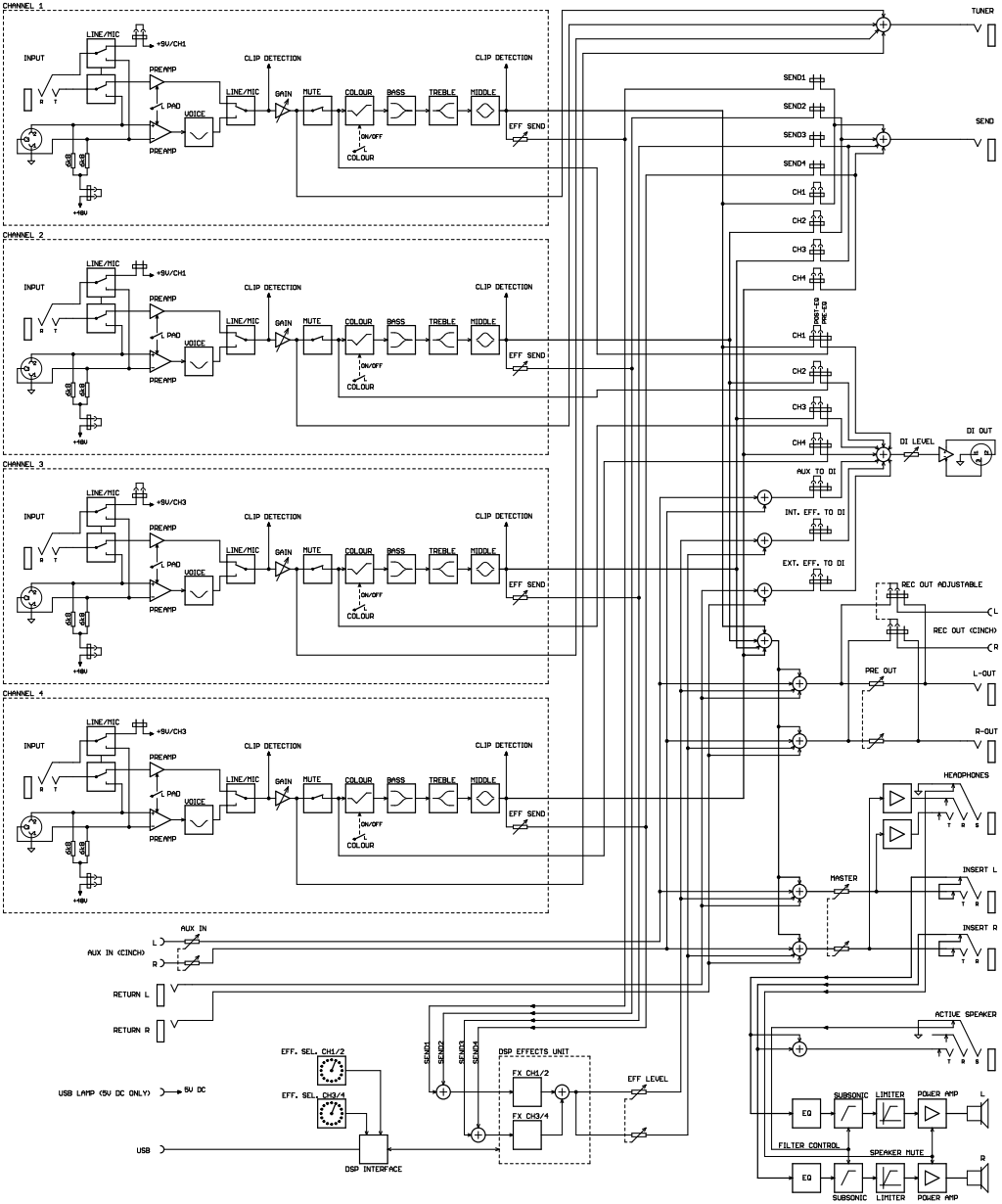
| | |
|---|---|
| **External effect** | Parallel effect loop<br>(see send and return) |
| **Power** | |
| **Power amp** | 2 x 100 W / 4 ohms,<br>discrete bipolar transistor design<br>Dynamic range: 100 dB (A-weighted, see note 2) |
| **Limiter threshold** | 2 x 85 W |
| **Analog signal processing** | Subsonic filter, low distortion<br>RMS limiter |
| **Speaker system** | Two 8" (200 mm) twin cone full-range speakers,<br>bass reflex enclosure |
| **Mains power** | Mains voltage (depending on model): 100, 120, 230, or 240 V AC, 50–60 Hz.<br>Power consumption: max. 420 W |
| **Mains fuse** | 5 x 20 mm<br>Slow 3.15 A for 230 and 240 V models<br>Slow 6.3 A for 100 and 120 V models |
| **General** | |
| **Cabinet** | 15 mm (0.6") finnish birch plywood |
| **Finish** | Waterbased acrylic, black spatter finish |
| **Dimensions** | 365 mm (14.37") high<br>420 mm (16.54") wide<br>300 mm (11.81") deep |
| **Weight** | 16 kg (35.3 lbs) |

**Notes:**

1. **Input sensitivity**
   Input sensitivities refer to 2 x 85 watts into 4 ohms, full gain and master settings, neutral tone control settings, and 1 kHz sine-wave test signal.
2. **Noise and dynamic range**
   Equivalent input noise voltage was obtained by measuring noise voltage at speaker output and dividing by the effective voltage gain of the amplifier. Full gain and master settings, neutral tone control settings, input shorted, measuring bandwidth 20 Hz – 20 kHz.
   Dynamic range: Range between output signal at limiter threshold and A-weighted output noise with master volume in zero position.
3. **Output levels**
   Output levels refer to 50 mV / 1 kHz sine-wave test signal at channel 1 input in line mode, full gain and master settings, and neutral tone control settings.
4. **Options**
   The following options can be activated by jumper settings.
   **9 V phantom power** can be enabled for channels 2 and 4 if required. (Not recommended generally, because only a common switch will be available for channels 1/2, and channels 3/4 respectively)
   **48 V phantom power** can be disabled for each of the four channels.
   **DI output** can be changed from post-equalizer to pre-equalizer (tone controls) for each channel, and disconncted from aux in, internal, and external effects.
   **Send level** can be made dependent on eff. send controls for each channel.
   **Rec out** level can be made dependent on pre out control. 0 dBV = 1 V

**Specifications and appearance subject to change without notice.**

# 7. Circuit diagram Domino 3



notes