User manual

TDC series

Power amplifiers

Models:

TDC–1200W
TDC–3200W

Contents

Panel A. Dimensions

486mm

[19.13"]

88mm

[3.46"]

431mm

[16.97"]

266mm

[10.47"]

Panel B. Specifications

	TDC-1200W	TDC-3200W
Frequency range	20 Hz – 20 kHz	20 Hz – 20 kHz
Channel count	2	2
Nominal power, per channel, 4 Ohm load	600 W	1600 W
Nominal power, per channel, 8 Ohm load	400 W	1100 W
Nominal power, two channels bridged, 8 Ohm load	1200 W	3200 W
Nominal power, two channels bridged, 16 Ohm load	600 W	1600 W
Amplifier	Class D high efficiency	
DSP audio controls	6-band parametric EQ, volume, polarity, delay	
DSP utility controls	Power saving mode, power-up mode	
Input sensitivity	+5dBu	+7dBu
Maximum input level	+20dBu	
Input impedance	18 kOhm unbal., 36 kOhm bal.	
Crosstalk separation	85 dB @ 1 kHz	
THD	<0,5% from 0,1 W to full power (typical <0,01%)	
Power consumption, 1/8 of max output power @ 8 Ohm	220 VA	600 VA
Damping factor, 8 Ohm	> 10000 @ 100 Hz	> 500 @ 100 Hz
S/N ratio	100 dB	
Connectors	2x RCA unbal. input, 2x XLR female bal. input, 2x XLR male bal. output, 4-pin Phoenix speaker terminal, RJ-45 Ethernet	
Dimensions (W×H×D)	486 x 88 x 294 mm, 2U	
Net weight	5,25 kg	5,9 kg

Panel C. Front and rear panels
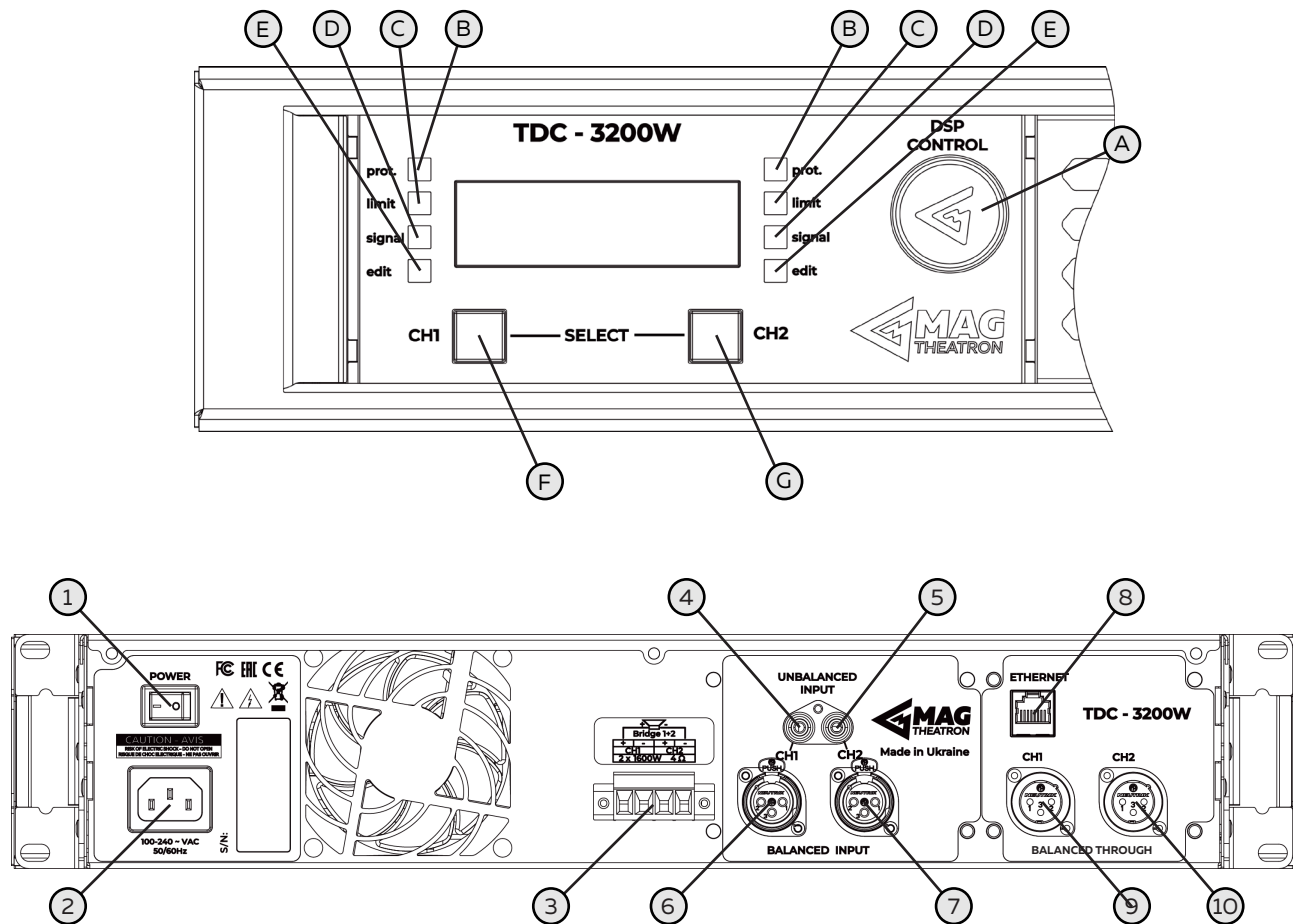
A. Control wheel.
B. Channel protect LED.
C. Channel limiter LED.
D. Channel signal LED.
E. Channel edit mode LED.
F. Channel 1 selection button.
G. Channel 2 selection button.
1. Mains switch.
2. Mains plug.
3. Output Phoenix connector.
4. Channel 1 unbalanced RCA input.

5. Channel 2 unbalanced RCA input.
6. Channel 1 balanced XLR female input connector.
7. Channel 2 balanced XLR female input connector.
8. Ethernet RJ-45 connector.
9. Channel 1 balanced XLR male through connector.
10. Channel 2 balanced XLR male through connector.

Panel D. Audio and Ethernet connection

Input connectors, balanced

Input connectors, unbalanced
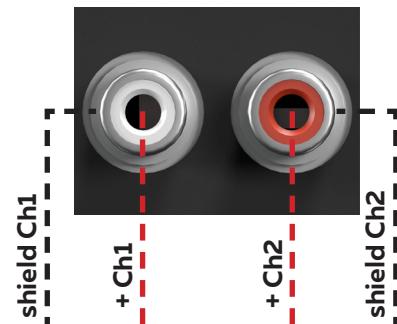
Through connectors, balanced
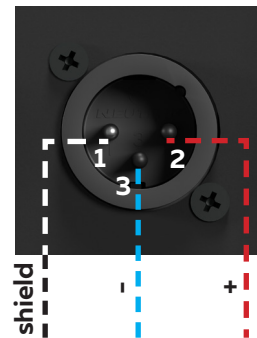
Loudspeaker connection, stereo mode
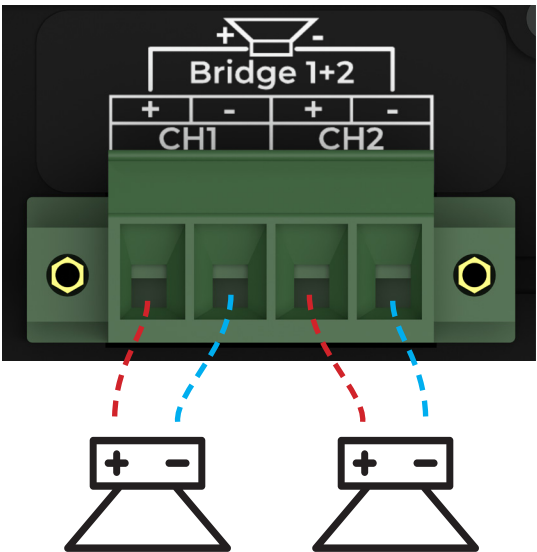
Loudspeaker connection, bridged mode
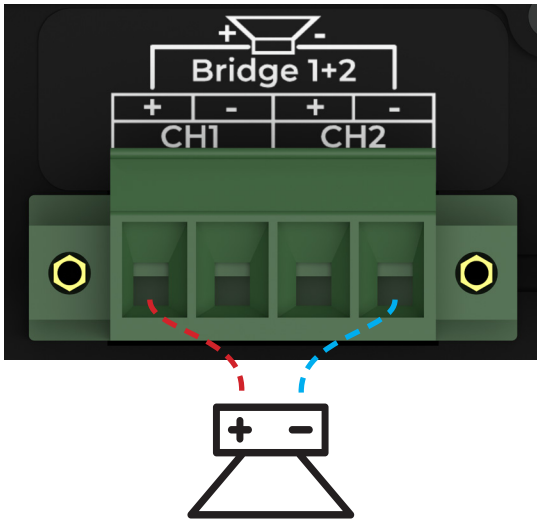
ETH port in

			568A	568B
1	ETH TX+	GREEN/WHITE		
2	ETH TX–	GREEN		
3	ETH RX+	ORANGE/WHITE		
4	not connected	BLUE		
5	not connected	BLUE/WHITE		
6	ETH RX–	ORANGE		
7	not connected	BROWN/WHITE		
8	not connected	BROWN		

Panel E. Menu structure

Wheel
Rotate or press
1 2

Turn to display the AMPLIFY menu, or use to edit the parameters.

Start screen
MAG-CINEMA

Event Screen
MAG-CINEMA   d5.1
DC3000

first press to call the DSP less than channel number 1

simultaneous pressing the button # 1 and the # 2 button for controlling two channels   Password#1

first press to call the DSP less than channel number 2

second press to return to the AMPLIFIER menu

event message	
Ch N-	ordinary message
Prot-	alarm message
Sleep-	sleep message
St.By-	standby mode message
Mute-	mute sound mode message

Ch1-   Name
Ch2-   Name

DSP menu for channel №1

Input selector		Input selector
Analog_1		Analog_1
Analog_2		Analog_2
AES/EBU_1_1	common selector for AES / EBU pairs	AES/EBU_1_1
AES/EBU_1_2	Pair number 1	AES/EBU_1_2
AES/EBU_2_1		AES/EBU_2_1
AES/EBU_2_2	Pair number 2	AES/EBU_2_2
AES/EBU_3_1		AES/EBU_3_1
AES/EBU_3_2	Pair number 3	AES/EBU_3_2
AES/EBU_4_1		AES/EBU_4_1
AES/EBU_4_2	Pair number 4	AES/EBU_4_2
----EXIT----		----EXIT----

1
Password#1 <<SOURCE>> Analog_1

DSP menu
Activated by pressing button 1 or button 2

<<___DSP MENU___>>
SOURCE

1	SOURCE
2	PHASE
3	INPUT GAIN
4	SPEAKER PRESET
5	PEQ BAND 1
6	PEQ BAND 2
7	PEQ BAND 3
8	PEQ BAND 4
9	PEQ BAND 5
10	PEQ BAND 6

2
Password#1 PhaseInvert ------Normal------

| Phase invertor |
| ------Normal------ |
| ------Invert------ |

3
Password#1 Input Gain >   0dB

| Channel input gain |
| -80db\+6db steep 1db |

4
Password#1 Preset № 1 v Name: SCR-315
Load   -   Yes
Password#2 Store   -   Yes

Select Speaker preset

Speaker preset base
quantity - 50 pieces

Select Speaker preset

The second DSP menu is completely identical to the first

DSP menu for channel №2

The second DSP menu is completely identical to the first

Type filtr	
Switch	Peak
ON	Low Shelf
OFF	High Shelf

Go To 1

| Gain |
| +6db\-6db   steep 0.5db |

5
Password#1 ON Peak   Gn +6,0
Fq 7127   Qu   0,5

| Parametrick Eqalizer |
| quantity - 6 pieces |

| Frequency |
| 20Hz-20159Hz |
| steep 1/12 okt |

Quality	
for Peak	0.5db - 12db steep 0.5 db
for Shelf	0.5db – 2.8db steep 0.1 db

Copy menu for both channels

Press key 1+ key2 for DSP menu
<<___DSP MENU___>>
SOURCE   ≠

≠

for DSP menu if not compared
!1≠2!   Different
Copy 1 to 2 ?

designation
result of parameter comparison

| 1 | = compared |
| 2 | ≠ not compared |

Both channels are identical
Both channels are not identical

if the parameters do not match

1	Copy 1 to 2 ?
2	Copy 2 to 1 ?
3	-----Exit----

Copy channel 1 to channel 2
Copy channel 2 to channel 1
Exit

optional for DSP menu(5-10)

| 4 | AllCopy 1 to 2 ? |
| 5 | AllCopy 2 to 1 ? |

Copy all six EQ bands from channel 1 to channel 2
Copy all six EQ bands from channel 2 to channel 1

communication screen

PC Connected ...

| PC Connected ... |
| Connected ... (f,l,m,s) |
| Firmware update |

→ there is a connection to the PC
→ there is a connection to the cinema equipment

Additional options

Turning the device ON with wheel pressed will reset Ethernet settings to default. Device will not be available for 30 seconds.

Default ethernet settings

IP address network	192.168.000.007
Subnet mask network	255.255.255.000\24
Type of ip address	STATIC
Gateway address	192.168.000.001
Name Ethernet module	Mag-Audio

Additional options

Turning the device on wheel and button №1 or №2 will enter the HARDWARE update mode. If update process will not be activated in 15 seconds, device will reboot normally. In HARDWARE update mode yellow LED №1 indicates active HARDWARE update mode (always lit). Yellow LED №2 indicates update process (flashing when data stream is active). No messages on display.

Command Cinema menu

Activated while "CinemaMode" is active for first amplifier group

2
| SysMute | - | UnMute |
| SysStBy | - | ON |

Cinema Group Mute
| UnMute ----- Mute |

Cinema Group Standby
| ON ----- StBy |

3
| Sound system |
| Mode - d7.1 [V] |

Cinema sound system

AES\EBU	Analog
d7.1	a7.1
d5.1	a5.1
d4.0	a4.0
d2.1	a2.1
d2.0	a2.0

if present AES\EBU module

designation
password protected

| <<SOURCE>> |
| Analog_1 |

Amplifier menu

Activated by pressing or rotating the wheel

| <<AMPLIFIER MENU>> |
| MASTER VOLUME |

| MASTER VOLUME |
| AMP SETTING |
| METERS |
| INFO |
| NETWORK |
| SIGNAL GENERATOR |
| Service |
| PASSWORD |

1 - Master Volume
| MasterVol. | 3.6 |
| min | max |

Master volume
| 0 - 10 | steep 0.1 |
| 100dB - 0dB |

Range	dB	Shift
0 - 4	100 - 20	2 dB
4.1 - 10	20,5 - 0	0,33 dB

2 - Amplifier setting
Ch._1-	UnMuted
Ch._2-	UnMuted
StandBy	- OFF
EnergySave	- OFF

Chanell muted
| UnMuted ----- Muted |

Amplifier standby
| ON ----- OFF |

Amplifier energy save
| ON ----- OFF |

3- Meters
Temp. M1	39 C
Temp. M2	39 C
IMP.1ch-	4 Ohm
IMP.2ch-	4 Ohm

Temperature
| 0 C - 100 C |

Chanell impedance
| 16 Ohm - 1 Ohm |

3- Info
MODEL	-	DC 1200
Unit	-	Name
1Ch-		Name
2Ch-		Name
Amplifier ID	:001
FirmHard	:001:001
Prot.Ver.	:001
S\N	010203040506
Code-	1513erD1518
Ext.mod.	NET:AES

| Factory name of the amplifier |
| User name of the amplifier |
| User name of the chanell №1 |
| User name of the chanell №2 |
| Amplifier identifier |
| Version - Firmware : Hardware |
| Protocol version |
| Product serial number |
| Secret product code |

External modules
NET	Ethernet module
AES	AES\EBU module
----	Not present module

3.1- Continued Info
continued if present Ethernet module
IP_addr	P:08234
	192.168.000.007
Subnet mask	/24
	255.255.255.000
Gateway	STATIC
	192.168.000.001

| Port (computer networking) |
| IP address network |
| Network prefix size |
| Subnet mask network |
| Type of ip address |
| Gateway address |

4- Network
if present Ethernet module
| ID_Edit | Yes | Password#1 |
| Net_Setup | Yes | |

4.1
| AMP_ID - [01] |
| Exit > Save! |

Amplifier identifier editor
| Radge - 0 - 31 |

4.2
| IP_Edit - Yes | Password#1 |
| MASK_Edit - Yes | Password#1 |

IP address editor
| Radge - All 4 oktet |

Subnet mask editor
| Radge - 1 - 31 |

4.3
| Gateway_Edit Yes | Password#1 |

Gatewa address editor
| Radge - All 4 oktet |

5 Signal generator
| Gn -23dB | Sinus |
| Frequency | 80 |

Generator gain
| Range - OFF; (-40dB - 0dB) |

Type
| Noise |
| Sinus |

Frequency(Hz) sinus
| 80; 1000; 8000 |

5- Service
| Contrast set - 20 |
| EventScreen - ON |
| Name Editor - Yes |
| CinemaMode - ON |

Display Contrast
| Range - (19 -25) |

Events Screen
| Range - (ON-OFF) |

Selection Name
| Ch 1 U.Name < > |

Selection Name | **Standart names(3** |
Edit username Channel 1	L ;R ;C ;LFE;
Edit username Channel 2	LRC;RRC;LSS;RSS
Edit the unit name	
----Exit---	

6- Password
Go To 1
| Input Password |
| [OPEN] - >000000< |

three-level password protection
OPEN	first level functions are available
MID	all functions are available
---	password protection enabled

1. Safety instructions

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

EXPLANATIONS OF GRAPHICAL SYMBOLS

The triangle with the lightning bolt is used to alert the user to the risk of electric shock.

The triangle with the exclamation point is used to alert the user to important operating or maintenance instructions.

The CE mark indicates compliance with low voltage and electromagnetic compatibility.

The symbol for earth/ground connection.

The symbol indicating that the equipment is for indoor use only.

The symbol for conformity with Directive 2002/96/EC and Directive 2003/108/EC of the European Parliament on waste electrical and electronic equipment (WEEE).

WARNING: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT ATTEMPT TO OPEN ANY PART OF THE UNIT. NO USER–SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

TO COMPLETELY DISCONNECT THIS APPARATUS FROM THE AC MAINS, DISCONNECT THE POWER SUPPLY CORD PLUG FROM THE AC RECEPTACLE.

THE MAINS PLUG OF THE POWER SUPPLY CORD MUST REMAIN READILY ACCESSIBLE.

DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE, DRIPPING OR SPLASHING LIQUIDS. OBJECTS FILLED WITH LIQUIDES, SUCH AS VASES, SHOULD NOT BE PLACED ON THIS APPARATUS.

WHEN THE UNIT IS INSTALLED IN RACK CABINET OR A SHEFL, MAKE SURE THAT IT HAS SUFFICIENT SPACE ON ALL SIDES TO ALLOW FOR PROPER VENTILATION (50 CM FROM THE FRONT AND REAR VENTILATION OPENINGS).

CONNECTIONS TO THE MAINS SHALL BE DONE ONLY BY AN ELECTRO TECHNICALLY SKILLED PERSON ACCORDING TO THE NATIONAL REQUIREMENTS OF THE COUNTRIES WHERE THE UNIT IS SOLD.

IMPORTANT SAFETY INSTRUCTIONS

1. Read these instructions carefully.

2. Keep these instructions.

3. Heed all warnings.

4. Follow all instructions.

5. Do not use this equipment near water.

6. Clean only with a dry cloth.

7. Do not block any ventilation openings. Install following the manufacturer's instructions.

8. Do not use near heat sources such as stoves, heat registers, radiators, or other equipment (including amplifiers) that produces heat.

9. Do not use the unit near open fire sources.

10. Connect the unit only to the electric network with grounding. Use only electric plugs that provide grounding.

11. Protect the power cord from being walked on, pinched, or otherwise damaged.

12. Use only accessories specified by the manufacturer.

13. Unplug this unit during lightning storms or when unused for long periods.

14. Refer all servicing to qualified service personnel. Servicing is required when the system has been damaged in any way, such as a power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the unit, the unit has been exposed to rain or moisture, does not operate normally, or has been dropped.

15. WARNING – TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS SYSTEM UNIT TO RAIN OR MOISTURE.

THIS UNIT CONTAINS POTENTIALLY LETHAL VOLTAGES. TO PREVENT ELECTRIC SHOCK OR HAZARD, DO NOT REMOVE THE COVER. NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

INSTALLING OF THIS UNIT MUST BE PERFORMED ONLY BY QUALIFIED TRAINED PERSONNEL FOLLOWING APPLICABLE SAFETY RULES. DO NOT ALLOW INSTALLATION OF THIS UNIT IF INSTALLATION HARDWARE IS BROKEN, BENT, PARTS ARE MISSING OR IS OTHERWISE DAMAGED.

2. Regulatory information

FCC COMPLIANCE NOTICE

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

CAUTION: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, under part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used following the instruction manual, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.

- Increase the separation between the equipment and receiver.

- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.

- Consult the dealer or an experienced radio/TV technician for help.

EC DECLARATION OF CONFORMITY

Manufacturer:
MAG Audio LLC
Merezhna 2
Bila Tserkva, Kyiv region
09100 Ukraine

We declare that under our sole responsibility the products:

Model Names: TDC-1200W, TDC-3200W

Intended use: Home Cinema Audio Amplifier

Conform with the provisions of the following EC Directives, including all amendments, and with national legislation implementing these directives:

- 2006/95/EC Low Voltage Directive

- 2004/108/EC Electromagnetic Compatibility Directive

- 2002/95/CE RoHS Directive

The following harmonized standards are applied:

EN 55103-1:2009 /A1:2012

EN 55014-1:2006 /A1:2009 /A2:2011

EN 55022:2010 /AC:2011

EN 61000-3-2:2006 /A1:2009 /A2: 2009

EN 61000-3-3:2013

EN 61000-3-11:2000

EN 61000-3-12:2011

EN 55103-2:2009 /IS:2012

EN 61000-4-2:2009

EN 61000-4-3:2006 /A1:2008 /IS1:2009 /A2:2010

EN 61000-4-4:2012

EN 61000-4-5:2006

EN 61000-4-6:2014

EN 61000-4-11:2004

EN 60065:2002 /A1:2006 /A11:2008 /A2:2010 /A12:2011

Bila Tserkva,

18 Aug 2023

Alexey Asanov

CEO

For compliance questions: info@mag-audio.com

3. TDC series

3.1. Introduction

Congratulations on buying your MAG Theatron TDC series amplifier. Before you get started, please read this user's manual and safety instructions. In case you have any questions, please do not hesitate to contact your dealer of MAG Theatron.

MAG Theatron is the leading European professional and cinema audio equipment brand. MAG Theatron presents a comprehensive range of audio products, including screen, surround speakers, and subwoofers for high-demanding home cinemas, accessories, and amplification for smooth integration and convenient exploitation.

3.2. About the amplifier platform

TDC series amplifiers are designed to introduce a new dimension of simplicity and precision into your home cinema installation. It follows intelligent cinema system building techniques and adds advanced DSP and controls, so projects are more streamlined with reduced total costs. Efficient class D amplification provides for less environmental footprint, and along with smart standby and energy-saving modes reduces cinema running expenses. Analog as well as AES/EBU inputs are provided for integration with modern cinema servers.

3.3. Unpacking and checking for shipping damage

Your MAG amplifier has been completely tested and inspected before leaving the factory. Carefully inspect the shipping package before opening it, and then immediately inspect your new product. If you find any damage notify the shipping company immediately.

The box contains the following:

– One TDC series amplifier.

– One AC mains power cord.

– This user guide.

3.4. Disposal of the packing material

The transport and protective packing have been selected from materials that are environmentally friendly for disposal and can normally be recycled.

Rather than just throwing these materials away, please ensure they are offered for recycling.

4. Installation

The common installation of the amplifier is in rack cabinets: to limit the risk of mechanical damages, the amplifiers must be fixed to the rack using both frontal and rear mounting brackets.

Note: instead of connecting the amplifier to the power grid directly, plug the amplifier's mains connection into a power distribution panel inside the rack cabinet.

4.1. Cooling

Install the amplifier in a well-ventilated location: the ventilation openings must not be impeded by any item such as newspapers, tablecloths, curtains, etc; keep a distance of at least 50 cm from the front and rear ventilation openings of the amplifier.

TDC series amplifiers implement a forced-air cooling system to maintain low and constant operating temperatures. Drawn by the internal fans, air enters from the front panel and is forced over all components, exiting at the back of the amplifier.

The amplifier's cooling system features "intelligent" variable-speed DC fans which are controlled by the heatsink temperature sensing circuits: the fans' speed will increase only when the temperature detected by the sensors rises over carefully predetermined values. This ensures that fan noise and internal dust accumulation are kept to a strict minimum.

Should however the amplifier be subject to an extreme thermal load, the fan will force a very large volume of air through the heat sink. In the extremely rare event that the amplifier should dangerously overheat, sensing circuits shut down all channels until the amplifier cools down to a safe operating temperature. Normal operation is resumed automatically without the need for user intervention.

In case a rack with closed back panels is used, leave one rack unit empty for every four installed amplifiers to guarantee adequate airflow.
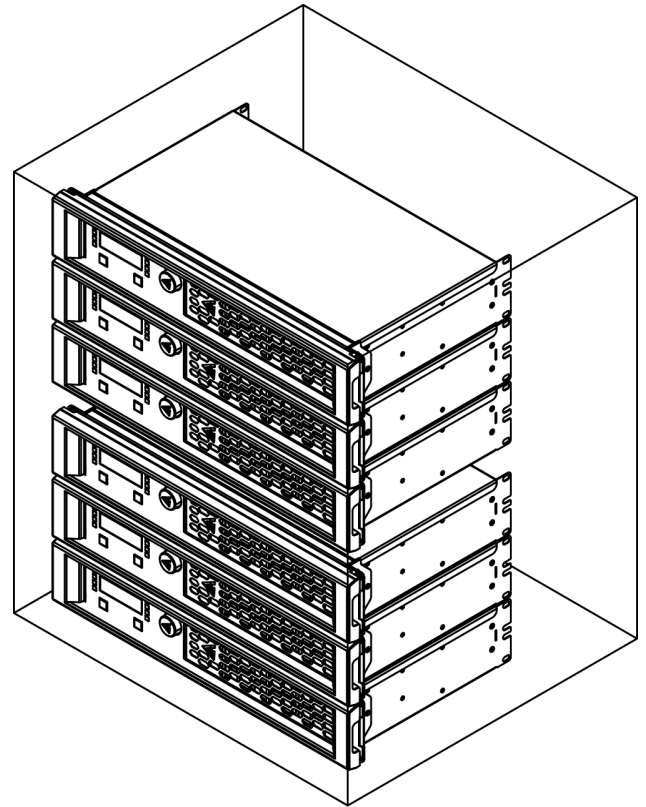
4.2. Cleaning

Always use a dry cloth for cleaning the chassis and the front panel. Air filter cleaning should be scheduled according to the dust levels in the amplifier's operating environment.

Disconnect the AC mains source

before attempting to clean

any part of the amplifier

TDC series amplifiers are equipped with a magnet-held front panel. Pull the front panel to remove it, and retrieve the vent filter. The vent filter can be cleaned using compressed air, or it can be washed in warm water. Let the filter to thoroughly dry out before returning it to the amplifier

Front panel　　　　　　Vent filter
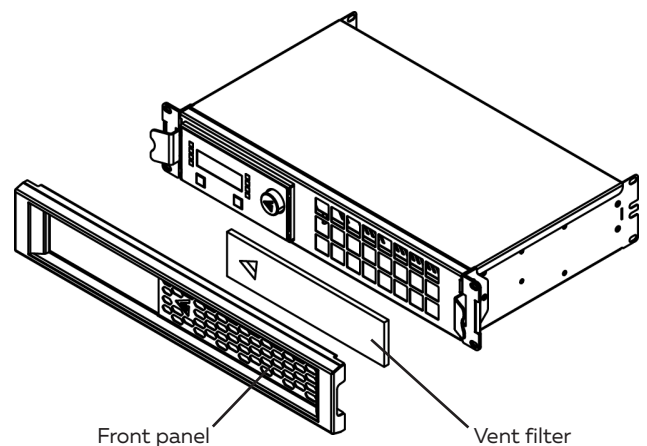
4.3. AC Mains supply

The AC Main connection is made via the IEC C13 connector.

⚠ **Make sure the AC mains voltage used is within the acceptable operating voltage range: 115V-230V ±10%.** ⚠

⚠ **It is important to connect the ground for safety, do not use an adapter that disables the ground connection.** ⚠

The TDC series amplifiers have an automatic power factor correction system - PFC - for a perfect mains network interface. The PFC minimizes the reactive power reflected on the network and reduces the harmonic distortion on voltage/current waveform: in this way, the amplifier is seen as a resistive load from the mains network. Furthermore, the system allows performance to be maintained even in case of varying mains voltage.

⚠ **Connection to the main shall be done only by an electrotechnically skilled person according to the national requirements of the countries where the unit is sold.** ⚠

4.4. Precautions regarding installation

Placing and using the amplifier for long periods on heat-generating sources will affect its performance. Avoid placing the amplifier on heat-generating sources. Install this amplifier as far as possible from tuners and TV sets. An amplifier installed close to such equipment may experience noise or generic performance degradation.

WARNING: TO PREVENT FIRE OR ELECTRIC SHOCK:

- This device must be powered exclusively by earth-connected mains sockets in electrical networks compliant with the IEC 364 or similar rules.

- Install the amplifier into a rack cabinet.

- With a TDC amplifier, a sectioning breaker between the mains connections and the amplifier must be installed inside the rack cabinet. The suggested device for TDC-1200W and TDC-3200W is 10A class C or D.

- Before powering this amplifier, verify that the correct voltage rating is being used.

- Verify that your mains connection is capable of satisfying the power ratings of the device.

- Do not use this amplifier if the electrical power cord is frayed or broken.

- Output terminals are hazardous: wiring connections to these terminals require installation by an instructed person.

- Take care to secure the output terminal before switching the device on.

- Take care to secure the output terminal before switching the device on.

- To avoid electrical shock, do not touch any exposed speaker wiring while the amplifier is operating.

- Do not spill water or other liquids into or on the amplifier.

- No naked flame sources such as lighted candles should be placed on the amplifier.

- Do not remove the cover. Failing to do so will expose you to potentially dangerous voltage.

- It is necessary to verify these fundamental requirements of safety and, in case of doubt, require an accurate check by qualified personnel.

- The manufacturer cannot be held responsible for damages caused to persons, things, or data due to an improper or missing ground connection.

- Contact the authorized service center for ordinary and extraordinary maintenance.

5. Connections

5.1. Signal grounding

There is no ground switch or terminal on the TDC series amplifiers. All shield terminals of input connectors are directly connected to the chassis. This means that the unit's signal grounding system is automatic. To limit hum and/or interference entering the signal path, use balanced input connections.

In the interests of safety, the unit MUST always operate with electrical safety earth connected to the chassis via the dedicated wire in the 3-wire cable. (ref. Chapter 4:3. AC mains supply.) Never disconnect the ground pin on the AC mains power cord.

5.2. Analog balanced input

Balanced analog inputs are provided with two XLR female connectors. Refer to Panel D for proper pinouts.

5.3. Analog unbalanced inputs

Unbalanced analog inputs are provided with two RCA connectors. Refer to panel D for proper RCA pinouts.

5.4. Analog balanced output (through)

Balanced analog outputs for sending the signal to another amplifier are provided with two XLR male connectors. Refer to Panel D for proper pinouts.

5.5. Loudspeaker connections

⚠ **CLASS2 WIRING** **TDC-1200W, TDC-3200W**

CLASS 2 WIRING

Phoenix (Euroblock) terminal with 4 pins is provided for loudspeaker connections. Refer to Panel D for proper connections for single channel mode and bridged mode.

To remain within safe operating conditions, when using low impedance loads - i.e. 4 Ohm or less (8 Ohm or less in bridge mode) - connections must be made with a four-wire cable. Use suitable wire gauges to minimize power and damping factor losses in speaker cables.

5.6. Ethernet connection

Ethernet connection is provided via the rear port labeled "RS485 ETHERNET".

MAG Cinema recommends the use of Ethernet Cat5 straight-through - patch - cables with pin/pair assignments TIA/EIA-568-B, i.e. T568B (refer Panel D).

6. Front panel

TDC offers a convenient front menu, that gives access to all the amplifier's functions by using the wheel and two channel buttons.
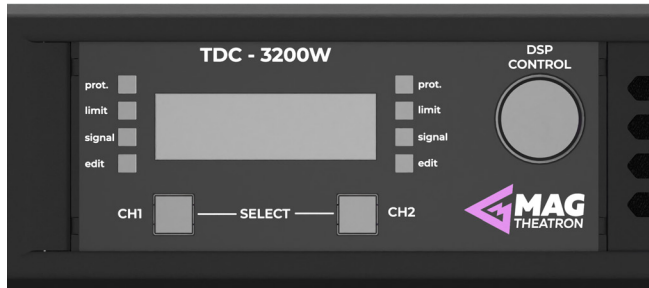
Rotating the wheel navigates through amplifier or channel menus, and changes the parameter values inside the menu.
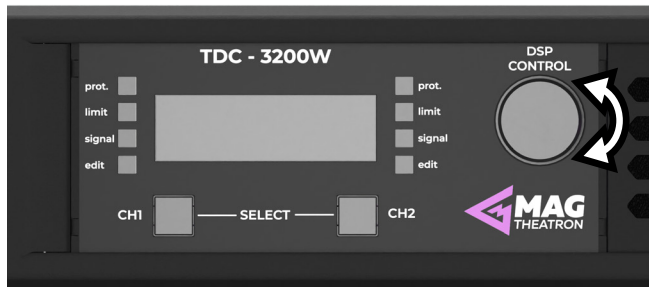

Pressing the wheel opens the Amplifier menu, opens any of the sub-menus of the Amplifier menu or the Channel menu, and cycles through the parameters inside the menu.
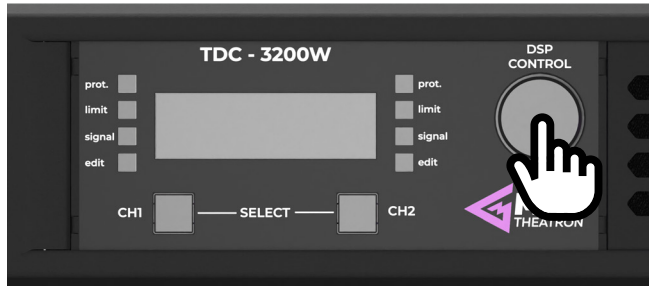
Pressing any of the Channel select buttons opens the Channel menu for that channel.
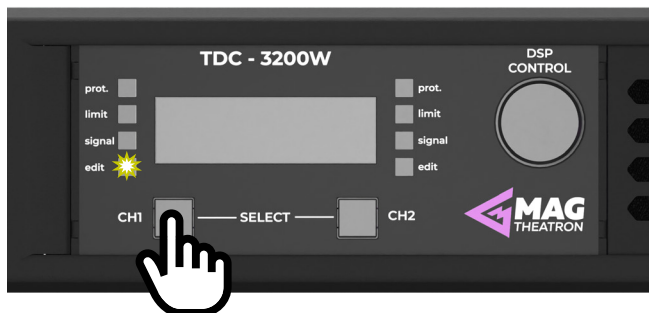
Pressing both Channel buttons at the same time opens a Channel menu for controlling the parameters of both channels at the same time.
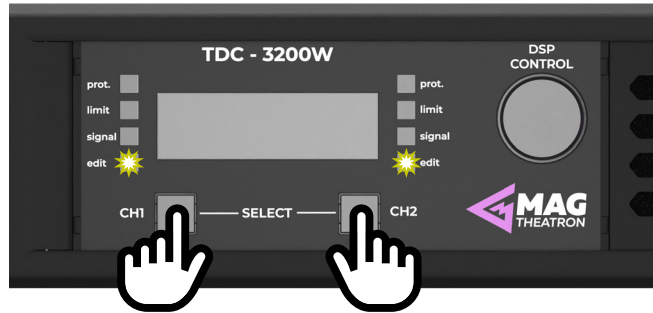
6.1. Front LEDs

LEDs on the front panel are used to indicate different working conditions and statuses of the amplifier.
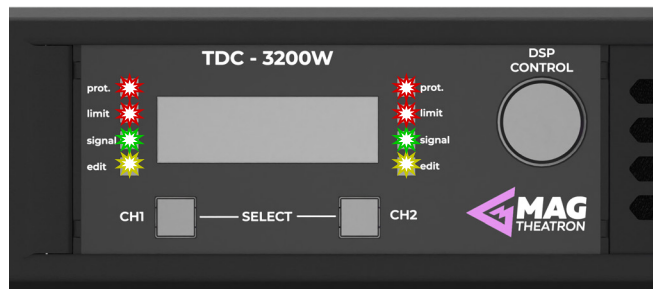
PROTECT - indicates temperature and protection statuses:

– Short flashing: temperature 60-70 degrees C

– Long flashing: temperature 70-80 degrees C

– Constantly lit: temperature channel shutdown or channel malfunction

LIMIT – indicates the operation of the channel limiter.

SIGNAL - indicates a presence on the analog or digital input

EDIT – indicates channel selected for editing in Channel menu

7. Using the frontal menu

7.1. Menu diagram

Panel E shows the detailed menu diagram for the Amplifier menu and Channel menu.

7.2. Event screen

The amplifier shows the event screen when there is no menu selected. The event screen alternates between two views:

- Welcome screen - shows amplifier name, and can be changed by the user.

```
     MAG-THEATRON
        TDC3200
```

- Channel info screen - shows the name of the channels and the status of the amplifier.

```
   Ch1-L
   Ch2-R
```

7.3. AMPLIFIER MENU

The amplifier menu is accessed by rotating the wheel once when no other menu is selected and the amplifier is in the splash screen mode.

```
‹‹AMPLIFIER MENU››
   AMP SETTINGS
```

7.3.1. AMP SETTINGS submenu

Allows to change overall amplifier parameters: channel mute, standby mode, and energy saving mode.

Press the wheel to select different settings.

Rotate the wheel to choose options within each setting.

Screen 1: turn on and off the mute for each output channel.

```
 Ch._1-     UnMuted
 Ch._2-     UnMuted
```

Screen 2: turn on and off the standby and energy-saving modes.

```
 Standby ▦-   OFF
 EnergySave - OFF
```

7.3.2. METERS submenu

Shows information about temperature and impedance load.

Screen 1: amplifier temperature in degrees Celsius and Fahrenheit.

```
 Temp. M1 :   49°
 Temp. M1 :120.2F
```

Screen 2: impedance loads for both channels.

```
 IMP.1ch-Inf   Ohm
 IMP.2ch-Inf   Ohm
```

7.3.3. INFO submenu

Shows detailed info about amplifier settings.

Rotate the wheel to cycle through different screens

Screen 1: shows the amplifier model and custom name within the system.

```
 MODEL-TDC1200
 Unit -   Empty
```

Screen 2: shows channel names.

```
 Ch1   -L
 Ch2   -R
```

Screen 3: shows amplifier ID within the system, firmware, and hardware version.

```
 Amplifier_ID:000
 FirmHard:004:011
```

Screen 4: shows the data exchange protocol version, the bootloader version, and the serial number.

```
 P.v:001 Boot:018
 S/N-0123456789AB
```

Screen 5: shows the control board and DSP microcontroller version, and installed additional boards.

```
 H230801   F200825
 Ext.mod.  ---:---
```

Screen 6: shows IP address and the macroprotocol port.

```
 IP_addr° P:08233
 192.168.000.007
```

Screen 7: shows subnet mask.

```
Subnet mask  /24
255.255.255.000
```

Screen 8: shows gateway, and DHCP status.

```
Gateway ° STATIC
192.168.005.001
```

Screen 9: shows MAC address.

```
MAC-0123456789AB
_____
```

7.3.4. NETWORK submenu

Allows to change the networking parameters: IP, gateway, network mask, and more.

Press the wheel to select different settings.

Rotate the wheel to choose options within each setting.

Choose "Yes" on the setting you want to change, then press the wheel again to navigate away and enter setting edit mode.

Screen 1: allows to choose to edit amplifier ID ("ID Edit") or enter the network setup.

```
 ID Edit   - No ?
 Net_Setup - No ?
```

Choose ID Edit -> Yes to enter amplifier ID edit.

```
AMP_ID -  ▉ [00]
      Exit>SAVE!
```

Choosing Exit>Save quits the menu.

On Screen 1, choose Net_Setup to edit networking parameters.

```
   IP  Edit - No ?
 MASK Edit - No ?
```

```
GatewayEdit No ?
Reload ETH- No ?
```

Choose IP Edit to edit the IP address.

```
   IP_address
   192.168.000.007
```

Press the wheel to cycle through characters.

Rotate the wheel to change the value.

Choose MASK Edit to edit the network mask.

```
Mask  /size>▉24
255.255.255.000
```

Press the wheel to cycle through setting and characters

Rotate the wheel to change the value.

Choose GatewayEdit to edit the gateway IP.

```
Gateway IP
192.168.000.001
```

Press the wheel to cycle through setting and characters

Rotate the wheel to change the value.

Choose Reload ETH to manually restart the network module.

7.3.5. SIGNAL GENERATOR submenu

Controls the built-in test signal generator.

```
Gn OFF     Noise
Frequency- -----
```

Gn: Choose generator gain in dB or turn it off.

Noise/Sine: switch between white noise or sine.

Frequency: choose between 80 Hz, 1000 Hz, and 8000 Hz (for sine generator only).

7.3.6. SERVICE submenu

Controls the appearance of the amplifier menu.

Screen 1: change display contrast, and turn the event screen on and off.

```
Contrast set-▉20
EventScreen - ON
```

Contrast set: change the display contrast.

EventScreen: turn on and off the event screen.

Screen 2: change the channel name (shown on the event screen and in the Web UI).

```
Name Editor▉No ?
_____
```

Choose Yes to enter the channel name editor.

```
Selection Name
Ch 1 U.Name  <  >
```

Rotate the wheel to select the channel to change the name.

Press the wheel to enter the name entry mode.

```
Edit Ch 1 U.Name
<  >>>L
```

Press the wheel to cycle through characters to edit.

Rotate the wheel to change the character.

7.3.7. PASSWORD submenu

Allows to lock the amplifier to protect from unintentional changes.

```
Input Password
[Open]   >000001<
```

Rotate the wheel to change the character.

Press the wheel to cycle through characters to edit.

Enter any password other than "000001" to lock the amplifier.

Enter the "000001" to unlock the amplifier.

Note: The password lock in the PASSWORD submenu is only applicable to the amplifier's menu itself and does not affect the functions of the Web UI.

7.3.8. SYSTEM UNIT submenu

Allows to choose metric or imperial units.

```
System unit
---   Metric   ---
```

7.4. CHANNEL MENU

The Channel menu is accessed by pressing CH1 or CH2 buttons to edit the settings of that channel.
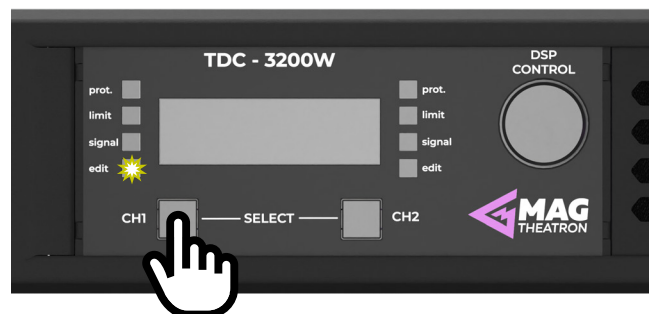
If both CH1 and CH2 buttons are pressed at the same time, both channels will be edited simultaneously with identical parameters.
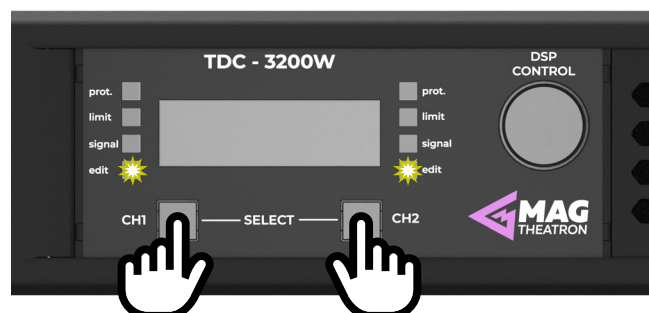
7.4.1. VOLUME submenu.

Changes the channel volume.

```
Volume
>_____   -10.0dB
```

7.4.2. SOURCE submenu.

Allows to select the input for the selected output channel.

```
«Source»
Analog_1    ▓-ON
```

Rotate the wheel to select the input.

Press the wheel to confirm the selection.

```
«Source»
--- EXIT ---▓-
```

Select EXIT to discard changes to channel input.

7.4.3. PHASE submenu

Allows to swap the polarity of the selected channel.

```
   PhaseInvert
 ---   Invert ---
```

7.4.4. INPUT GAIN submenu

Allows to control the input gain of the selected channel

```
    Input Gain
 >_____      0dB
```

7.4.5. SPEAKER PRESET submenu

Reserved for future use.

7.4.6. PEQ BAND 1-6 submenus

Controls the parametric equalizer of the selected channel.

```
 OFF Peak Gn +1.0
 Fq  1000 Qu  1.5
```

On/Off: Turn the PEQ band on or off.

Peak/Low/High: Switches PEQ band type between peaking, low-shelf, or high-shelf.

Fq: Selects the center frequency of the PEQ band.

Qu: controls the bandwidth of the PEQ band.

7.4.7. DELAY submenu

Controls the delay of the selected channel.

```
     « Delay »
 Delay■-   0.000  m
```

8. Web UI

TDC series amplifiers provide a convenient Web UI to control all the settings of the amplifier.

8.1. Default IP, user name and password

TDC series amplifier comes with following default settings:

IP: 192.168.0.7

Subnet mask: 255.255.255.0

Gateway: 192.168.0.1

username: admin

password: m.a.g   (m[dot]a[dot]g)

Make sure your PC is in the same network as the TDC series amplifier before attempting the connection to the Web UI.

8.2. Connecting to the Web UI

Enter the TDC amplifier IP address in the address bar of your browser.

The pop-up window will appear requesting to enter the username and password. Use the default username and password on the first run (They can be changed later).

8.3. Using the Web UI

Upon connecting the Source window appears first.

In the window header, there is general information including the amplifier model, custom user name, and Unit ID (serial number).

At the left of the window, there is a menu to access different settings of the amplifier.
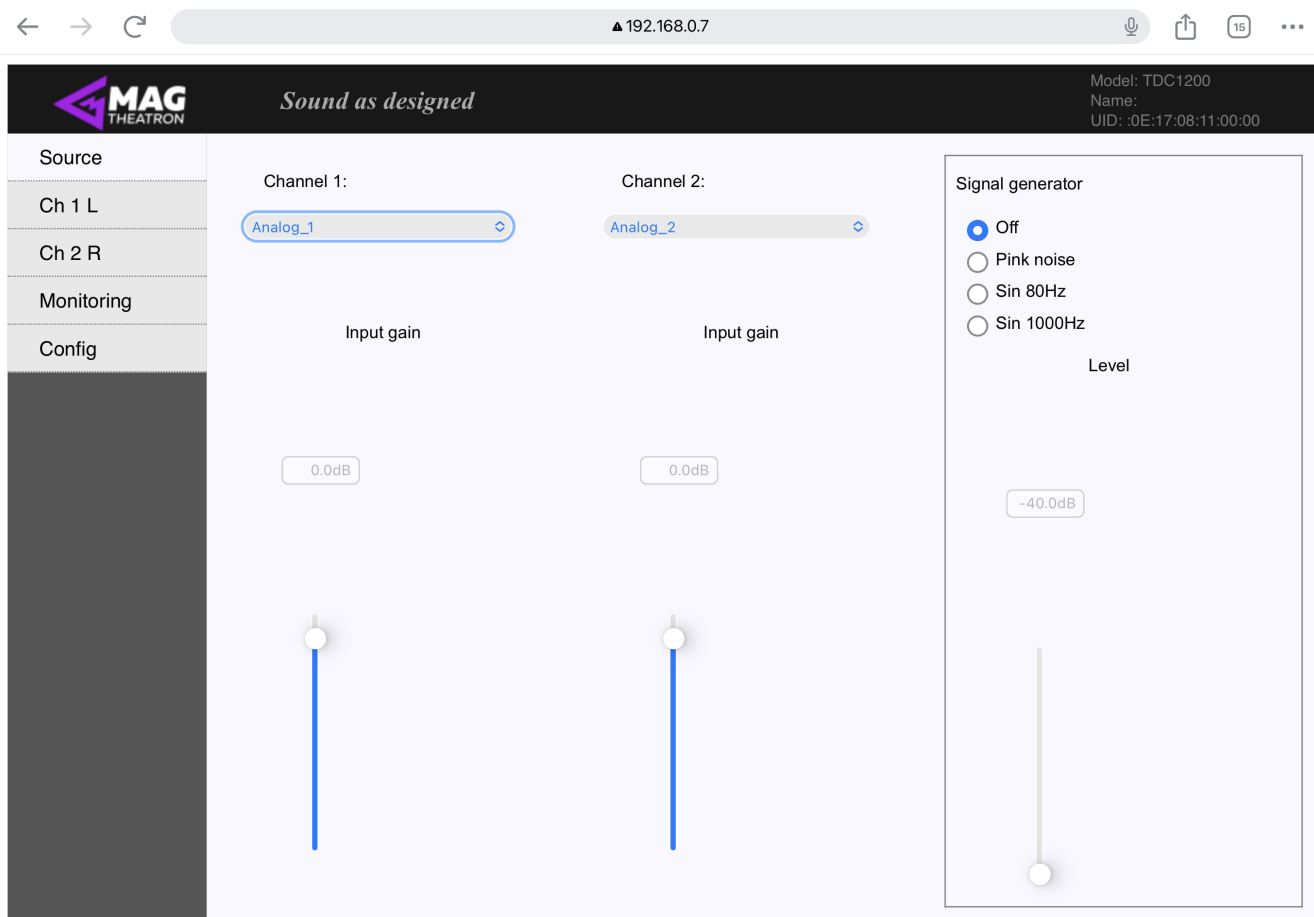
8.3.1. Source window

The source window allows one to choose the input, and control the input gain for both channels.

It also gives access to the signal generator.

8.3.2. Channel windows

Two windows for each output channel provide PEQ control, channel volume control, delay, and polarity inversion.
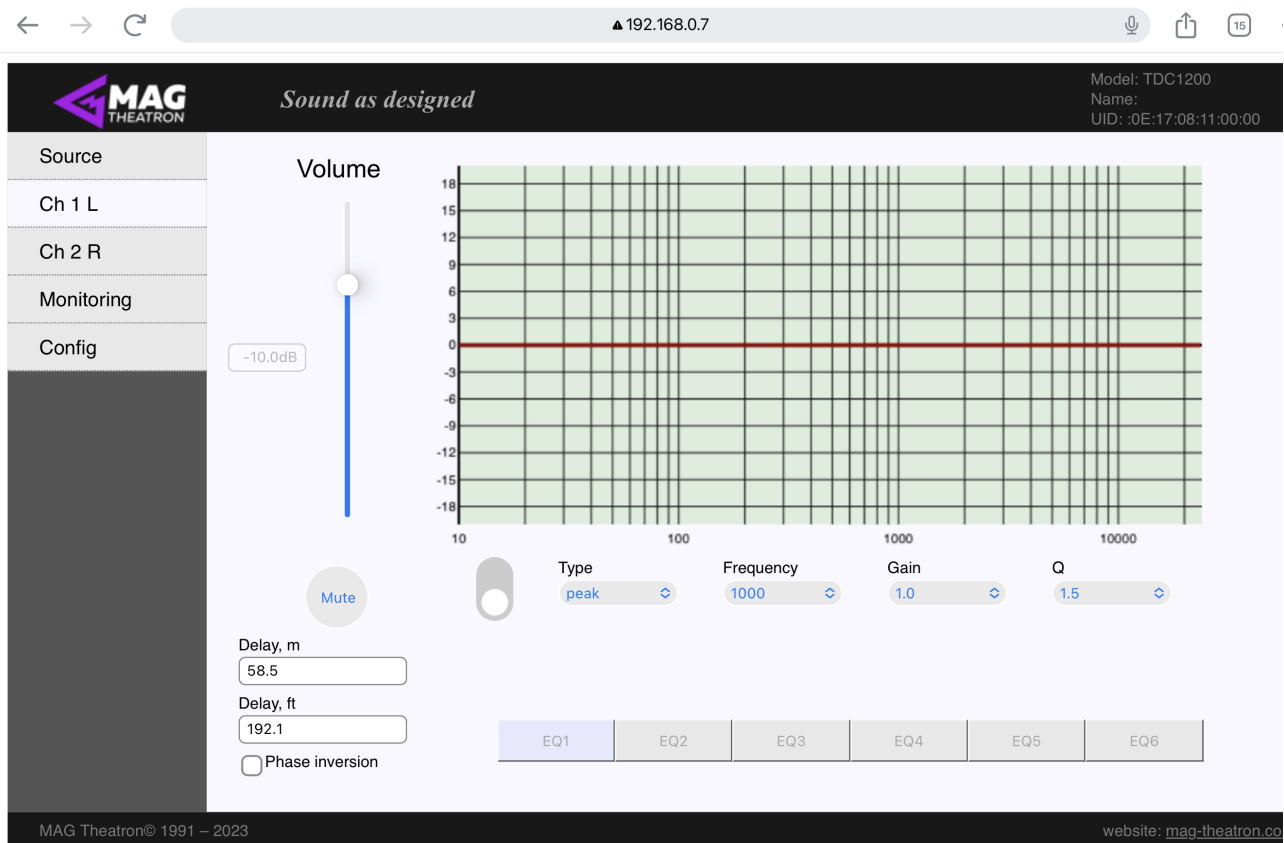
8.3.3. Monitoring window

Monitoring windows show the temperature of the amplifier, electrical data including voltage, current, and load impedance, and status messages: channel protect, channel mute, signal on input indicator and sleep indicator.

Standby mode and energy saving mode can also be switched from the Monitoring window.
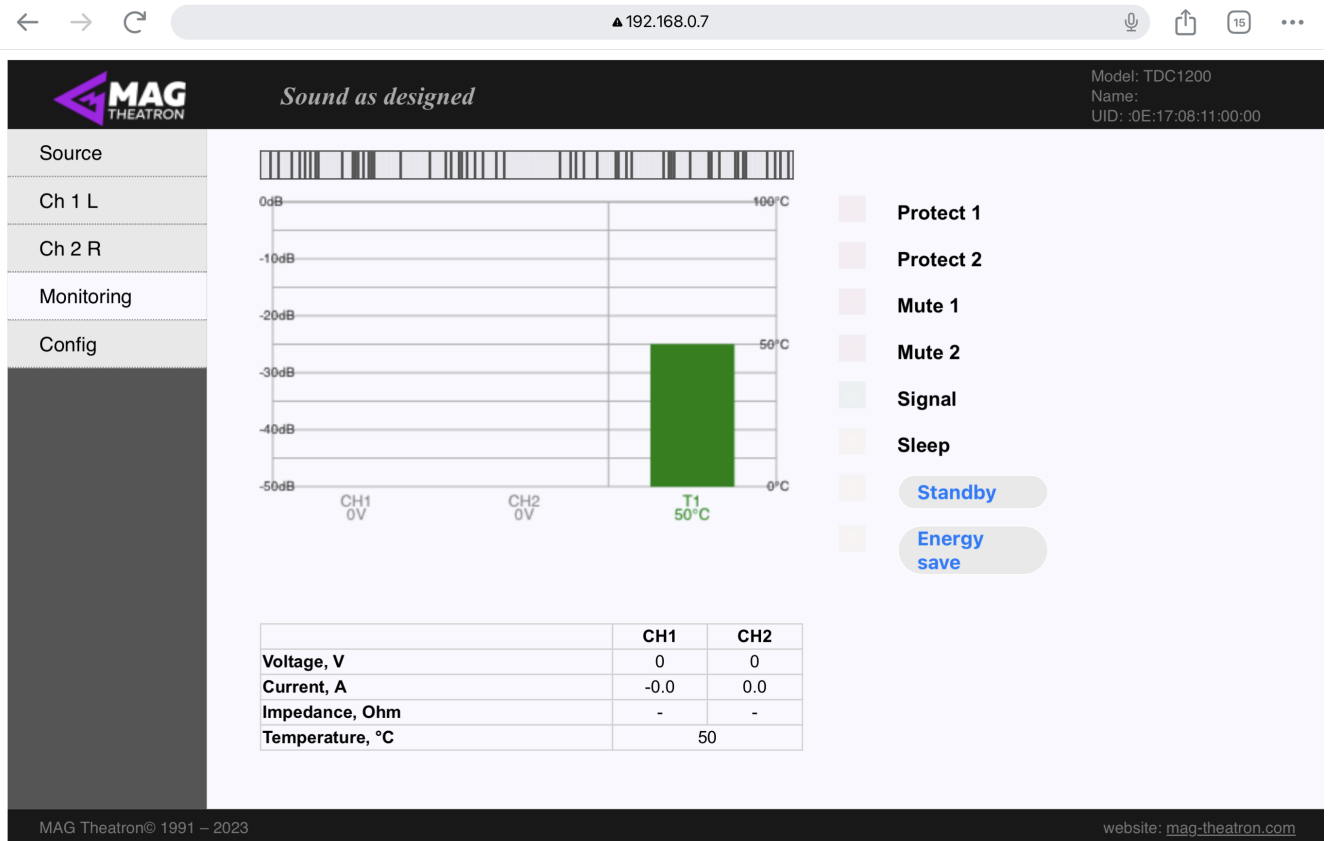
8.3.4. Config window

The Config window contains various amplifier settings in four tabs.

Amp config tab allows to give an amplifier the custom name, as well as create a custom name for each output channel.

IP config tab allows changing the IP address, network submask, and gateway IP. It is also possible to switch between static IP and dynamic IP mode.

Misc config tab allows changing the MAC address and to set the custom username and password to access the device.

Reboot tab allows to manually reboot the network adapter.

9. Remote communication

9.1. About MAG Cinema macroprotocol

TDC series amplifiers are capable for remote control from PC, media server, or other device. Communication is implemented through Ethernet connection via TCP/IP or UDP protocol. Control is performed through the macroprotocol: a set of semi-human readable commands allowing to adjust master volume, mute, unmute, put the system into stand-by mode and wake the system back, switch system type and input.

9.2. Sending the amplifier rack up for remote communication

External commands shall be sent to the IP adress of the TDC amplifier. The port number for macroprotocol can be found in Amplifier Menu > INFO > Screen 6. (8233 by default).

9.3. Macroprotocol syntaxis

Standard syntaxis of MAG Cinema macroprotocol is as follows:

`M A G - N E T . < c o m >  < v > < f m >`

Where:

- MAG-NET. - Marker stating start of the remote control command;

- <com> - name of the command;

- <v> - value to set;

- <fm> - Finish marker of the command.

9.4. Macroprotocol commands

List of avaliable MAG Cinema macroprotocol commands, as well as possible values for them, are stated below:

Command	Value	Comments
mute	1	Mutes all amplifiers [Example: MAG-NET.mute 1\0A\0D]
mute	0	Unmutes all amplifiers [Example: MAG-NET.mute 0\0A\0D]
standby	1	Puts all amplifiers in the standby mode [Example: MAG-NET.standby 1\0A\0D]
standby	0	Wakes all amplifiers from the standby mode [Example: MAG-NET.standby 0\0A\0D]
fader	000...100	Sets master volume to 00,0 - 10,0
fader	050	Sets master volume to 5 [Example: MAG-NET.fader 050\0A\0D]
fader	035	Sets master volume to 3.5 [Example: MAG-NET.fader 035\0A\0D]
fader	070	Sets master volume to 7 [Example: MAG-NET.fader 070\0A\0D]

9.5. Finish markers.

MAG Cinema Macroprotocol supprots following finish markers:

- ICMP server: \0A\0D; \0A; \0D; or !

- DOREMI, GDC server: \r\n; \r; \n; or !

10. Warranty and assistance

10.1. Product warranty

By this warranty MAG Audio grants that all equipment manufactured under the MAG Cinema trademark is free from defects in material, components and factory workmanship under the normal use and maintenance for the time as specified below.

All warranty repairs and maintenance of MAG Cinema products shall be carried out at MAG Audio production sites or by MAG Audio authorized personnel at no cost for the product purchaser.

Warranty period for DC series MAG Cinema amplifiers is 3 years from the date of purchase.

Warranty repairs or maintenance will be performed only if a) MAG Cinema product was purchased from an official MAG Audio distributor / dealer and b) warranty card with specified serial number, production date, realization date, vendor's signature and stamp is presented.

Warranty shall not cover following: damage caused by accident, misuse or failure to follow exploitation rules stated in technical manual; repairs performed by non-authorized personnel; mechanical damage caused by shipping accidents and normal tear and wear.

Warranty shall not be applicable to any product with defaced, removed, or modified serial number.

If your MAG Cinema product needs repairs or maintenance, contact your official MAG Audio distributor / dealer. Please do not ship your MAG Cinema product without prior authorization.

10.2. Assistance

There are no user-serviceable parts in your amplifier. Refer servicing to qualified technical personnel. In addition to in-house service department, MAG Audio supports the chain of distributors, authorized in repairs and service. If your amplifier needs repair contact your MAG Cinema dealer or distributor.

Occasionally, due to the nature of the failure, it might be necessary to return defective products to MAG Audio for repair. In this case, before shipping, please kindly contact your MAG Cinema distributor or dealer, or MAG Audio directly. You will be provided the RMA number code and detailed instructions regarding your particular case. Please do not send products without a prior authorization.

Thank you for your understanding and cooperation and continued support as we work to improve our partnership.

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