



# ESP2000D

## User Guide

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# The Future of Sound. Made Perfectly Clear.

At KV2 Audio our vision is to constantly develop technologies that eliminate distortion and loss of information providing a true dynamic representation of the source.

Our aim is to create audio products that absorb you, place you within the performance and deliver a listening experience beyond expectations.

## Important Safety Instructions

**Before using your ESP2000D Amplifier, be sure to carefully read the applicable items of these operating instructions and the safety suggestions.**

1. Read all product instructions.
2. Keep printed instructions, do not throw away.
3. Respect and review all warnings.
4. Follow all instructions.
5. Do not use this unit near water, in unprotected out door areas or in rain or wet conditions.
6. Clean only with dry cloth.
7. Do not block any ventilation openings.
8. Install in accordance with KV2 Audio's recommended installation instructions.
9. Do not install near any heat sources such as heat radiators, heat registers, stoves or other apparatus that produce heat.
10. Do not defeat the safety purpose of the grounding type plug. A grounding type plug has two blades and a third grounding connector. The third connector is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
11. Protect the power cord from being walked on or pinched, particularly at plugs, convenience receptacles. The AC mains plug or appliance coupler shall remain readily accessible for operation.
12. Only use accessories specified by KV2 Audio.
13. Unplug this Amplifier during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the Amplifier has been damaged in any way, such as when the power-supply cord or plug has been damaged; liquid has been spilled or objects have fallen into the Vents; rain or moisture has entered the Amplifier; the Amplifier has been dropped; or when for undetermined reasons the Amplifier does not operate normally.
15. Do not remove front or back panels. Removal of the panel will expose hazardous voltages. There are no user serviceable parts inside and removable may void the warranty.
16. An experienced user shall always supervise this professional audio equipment.

**CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE THE PANELS.  
NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED PERSONNEL.**

**WARNING:** To prevent fire or electric shock, do not expose this equipment to rain or moisture.

### SAFETY SUMMARY

To reduce the risk of electric shock, disconnect the Amplifier from the AC mains before installing audio cable. Reconnect the power cord only after making all signal connections. Connect the Amplifier to a two pole, three- wire grounding mains receptacle. The receptacle must be connected to a fuse or circuit breaker. Connection to any other type of receptacle poses a shock hazard and may violate local electrical codes. Do not allow water or any foreign object to get inside the Amplifier. Do not put objects containing liquid on or near the unit. To reduce the risk of overheating the Amplifier, avoid exposing it to direct sunlight. Do not install the unit near heat-emitting appliances, such as a room heater or stove. This Amplifier contains potentially hazardous voltages. Do not attempt to disassemble the unit. The unit contains no user serviceable parts, repairs should be performed only by factory trained service personnel.

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## ESP2000D

VERY HIGH DEFINITION AMPLIFIER

ESP2000D - part number KVV 987 412 (250V)  
KVV 987 411 (230V)  
KVV 987 410 (115V)



### Application

Designed to drive the ESD and ESM range of passive loudspeaker units with superior sound quality

- Portable PA
- Fixed installations

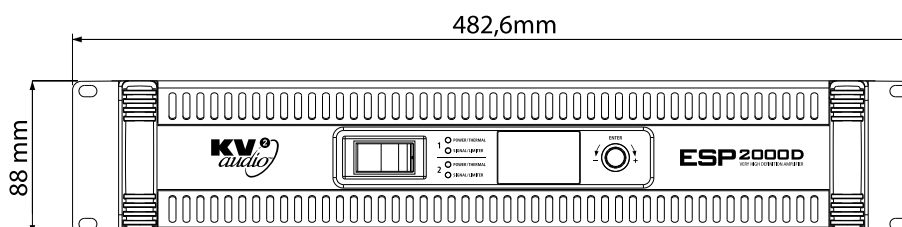
### Introduction

The ESP2000D is a two channel rack mountable power amplifier. The unit contains two separate 1000 watt amplifiers, two independent power supplies, (each channel running off each power supply), two signal paths, inputs and outputs as well as limiting and low frequency enhancement on each of the two channels within a two rack unit chassis. It can be used to power any range of passive loudspeakers as well as being specifically designed for optimised performance with KV2 Audio's ESD Series.

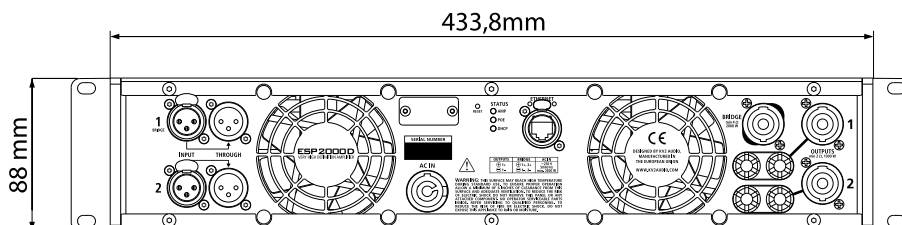
Whilst this unit is simple to operate, improper use can be dangerous. This is a very highpowered device that can output high voltages and sizeable currents. Always use safe operating techniques with the ESP2000D.

**FOR YOUR SAFETY, READ THE IMPORTANT PRECAUTIONS SECTION AS WELL AS THE INPUT, OUTPUT AND POWER CONNECTION SECTIONS OF THIS MANUAL.**

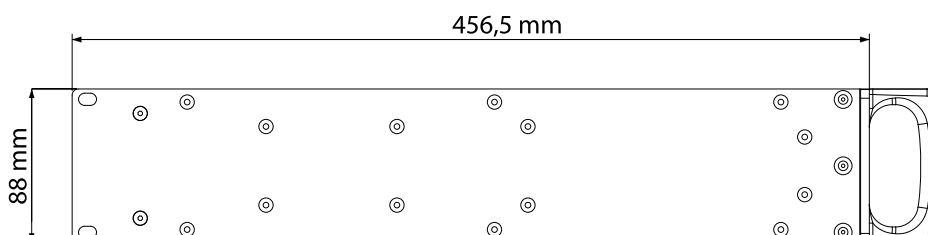
Front Panel:



Rear Panel:



Side Panel:



## Unpacking

Unpack the ESP2000D and check to see if there is any damage to it. If you find any damage, notify your supplier immediately. Only the consignee may institute a claim with the carrier for any damage incurred during shipping. Be sure to save the carton and all packaging materials for the carrier's inspection.

Should you ever need to ship the unit, only use the original factory packaging. If the shipping carton is unavailable, contact your supplier to obtain a replacement.

### The ESP2000D carton should contain:

- ESP2000D power amplifier
- User's Guide
- PowerCon detachable power cable

## Rack mounting

The ESP2000D will mount in a standard 19" rack system. Integral rear mounting rack ears are also provided for additional support. It is important that you do not rely on fixing and mounting the ESP2000D using just the front panel as the support. Use eight screws and washers to mount the amplifier to the equipment rack rails, (four for the fronts and four for the rear). We recommend using a shock mounted rack for touring use to prolong the life of your ESP2000D.

## Cooling

The ESP2000D has a comprehensive cooling system featuring chassis-sealed PCB board mounting and shock mounted, speed controlled fans. This means that the cooling system never drives air across PCB boards, connectors or components ensuring prolonged electronic component lifespan and minimizing maintenance cycles.

Air is drawn into the front of the amplifier by the two fans on the rear panel, this passes over the cooling fins of the heat sinks and exhausts through the rear. If the heat sink gets too hot, its sensing circuit will open the output relay, disconnecting the load.

It is important to have an adequate air supply at the front of the amplifier, and enough space around the rear of the amplifier to allow the cooling air to escape. If the unit is rack-mounted, do not use doors or covers on the rear of the rack; the exhaust air must flow without restriction. If you are using racks with closed backs, use fans on the rear rack panel to ensure an ample air supply.

**IMPORTANT! Please note that for correct full performance of the unit AND ANY WARRANTY COVER, it is important that regular maintenance of the front vents and filters as well as the rear panel fans be inspected and cleaned by removing any dust and debris build-up. Any product failure due to lack of attention in this matter will immediately void any current warranty. (Please refer to notes re ventilation procedures).**

## AC Power requirements

The ESP2000D is an advanced power amplifier. Understanding power distribution, voltage and current requirements, as well as electrical safety issues, is critical to the safe operation of the ESP2000D.

## AC Power

The ESP2000D uses a single PowerCon 3-pole AC main systems with locking connectors to prevent accidental disconnection. The main AC connectors (blue) serve as the power inputs.

The ESP2000D operates in either 115V, 230V or 250V modes. Although pre-configured at the factory, the unit's operating voltage mode can be changed in the field.

## Voltage requirements

The ESP2000D operates safely and without audio discontinuity if the AC voltage stays within the operating window of 100V to 120V in 115V mode, 205V to 240V when working in 230V mode and 225 to 260V when working in 250V mode at 50 or 60Hz.

**CAUTION: IF THE ON LED DOES NOT ILLUMINATE OR THE SYSTEM DOES NOT RESPOND TO AUDIO INPUT, REMOVE AC POWER IMMEDIATELY. VERIFY THAT THE VOLTAGE IS WITHIN THE PROPER RANGE. IF THE PROBLEM PERSISTS, PLEASE CONTACT KV2 AUDIO OR AN AUTHORIZED SERVICE CENTER.**

If the voltage drops below the low boundary of its safe operating range, the amplifier will shut down if the voltage does not rise above the low boundary before storage circuits are depleted. How long the amplifier will continue to function during brownout depends on the amount of voltage drop and the audio source level during the drop. If the voltage increases above the upper boundary of the range, the power supply can be damaged.

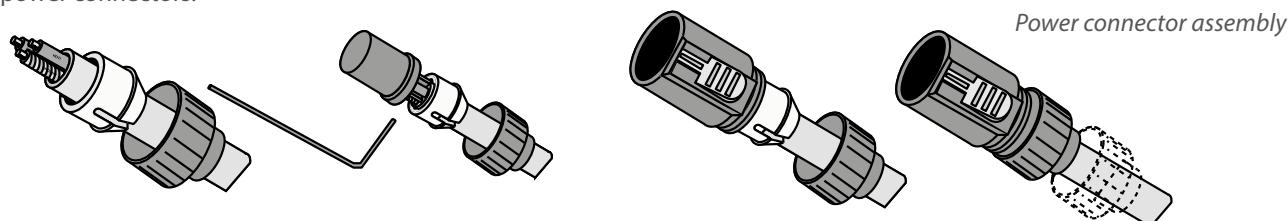
**IT IS RECOMMENDED THAT THE VOLTAGE SUPPLY BE WITHIN THE RATED VOLTAGE WINDOW. THIS ENSURES THAT AC VOLTAGE VARIATIONS FROM THE SERVICE ENTRY - OR PEAK VOLTAGE DROPS DUE TO CABLE RUNS - DO NOT CAUSE THE AMPLIFIER TO CYCLE ON AND OFF OR CAUSE DAMAGE TO THE POWER SUPPLY.**

**FOR BEST PERFORMANCE, THE AC CABLE VOLTAGE DROP SHOULD NOT EXCEED 10 VOLTS, OR 10 PERCENT AT 115 VOLTS AND 5 PERCENT AT 230 OR 250 VOLTS.**

Make sure that even with the AC voltage drop, the AC voltage always stays within recommended operating ranges. The minimum electrical service amperage required by an ESP2000D amplifier is the sum of each amplifiers maximum continuous rms current. An additional 50 percent above that amperage is recommended to prevent peak voltage drops at the service entry.

## The Power Connector

The ESP2000D requires grounded outlets. It is very important that the amplifiers AC supply be properly grounded in order to operate safely and properly. Use the PowerCon AC cable-wiring diagram overleaf to create international or special-purpose power connectors:



## Current Requirements

The ESP2000D's power supply input requires approximately 20 Amps max at 115V AC for proper operation.

When operating in 230 V mode the ESP2000D's power supply input requires approximately 10 Amps max.

The ESP2000D presents a dynamic load to the AC mains, which causes the amount of current to fluctuate depending on quiet or loud operating levels. Since different cables and circuit breakers heat up at varying rates, it is essential to understand the types of current ratings and how they correspond to circuit breaker and cable specifications.

The maximum long-term continuous current is the maximum rms current during a period of at least ten seconds. It is used to calculate the temperature rise in cables in order to select a cable size and gauge that conforms to electrical code standards. It is also used to select the rating for slow-reacting thermal breakers.

The burst current is the maximum rms current during a period of approximately one second, used to select the rating of most magnetic breakers and to calculate the peak voltage drop in long AC cables according to the formula:

$$V_{pk}(\text{drop}) = I_{pk} \times R(\text{cable total})$$

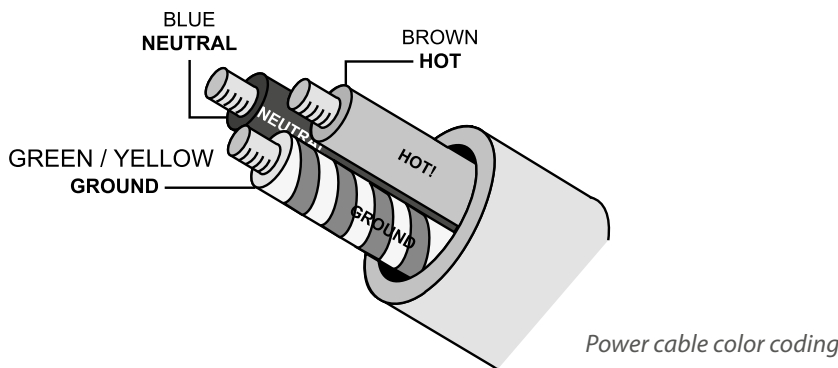
The ultimate short-term peak current is used to select the rating of fast reacting magnetic breakers. Use the table below as a guide when selecting cable gauge size and circuit breaker ratings for your operating voltage.

## Current Draw

Current Draw	115V Mode	230V, 250V
Max Long Term Continuous	20 A rms	10 A rms
Burst Current	30 A rms	15 A rms
Short Term Peak	80 A peak	40 A peak

## AC Cable Colour Coding

If the colours referred to in the diagram don't correspond to the terminals in your plug, use the following guidelines: Connect the blue wire to the terminal marked with an N or coloured black. Connect the brown wire to the terminal marked with an L or coloured red. Connect the green and yellow wire to the terminal marked with an E or coloured green or green and yellow.



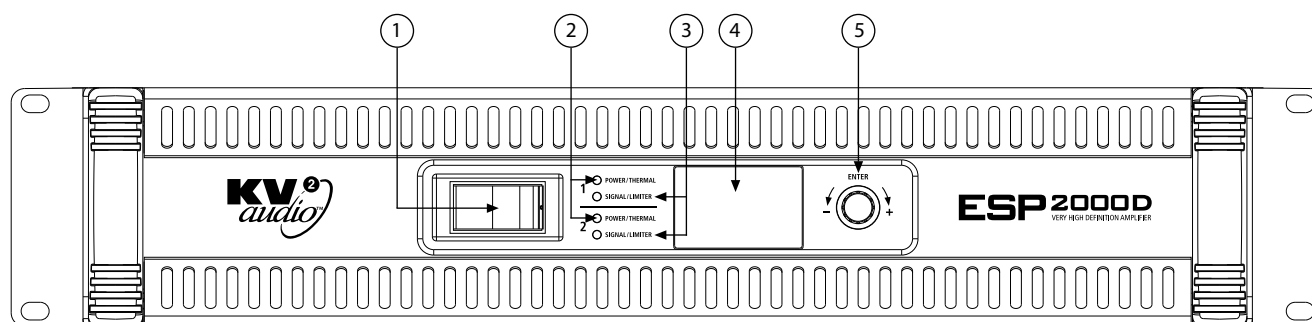
**CAUTION: THE ESP2000D REQUIRES A GROUND CONNECTION. ALWAYS USE A GROUNDED OUTLET AND PLUG.**

## Safety Summary

To reduce the risk of electric shock, disconnect the amplifier from the AC mains before installing the audio cable. Reconnect the power cord only after making all signal connections. Connect the amplifier to a two pole, three wire grounding mains receptacle. The mains plug shall remain easy to operate. The amplifier must be powered from the same phase as other interconnected powered units.

The receptacle must be connected to a fuse or circuit breaker. Connection to any other type of receptacle poses a shock hazard and may violate local electrical codes. Do not allow water or any foreign object to get inside the amplifier. Do not put objects containing liquid on or near the unit. To reduce the risk of overheating the amplifier, avoid exposing it to direct sunlight. Do not install the unit near heatemitting appliances, such as a room heater or stove. This amplifier contains potentially hazardous voltages. Do not attempt to disassemble the unit. The unit contains no user serviceable parts, repairs should be performed.

## Front Panel



### 1) AC Mains Switch

The ESP2000D has combination AC mains switch/circuit breakers on the front panel. If either of the switches shut off during normal use, push it back to the ON position once. If it will not stay on you should take the unit to qualified service personnel to have it serviced.

### 2) Power / Thermal

These are dual colour LED's. When green they indicate that the Power Switch is ON and that channel of the amplifier is powered up. When red they indicate that that channel has overheated and shut down. The unit will Auto Reset after it cools down to a safe operating temperature.

### 3) Signal / Speaker Protection

Indicator These are dual colour LED's. When green they indicate that signal is present at the Input to that particular channel of the amplifier. When yellow they indicate that the audio speaker protection limiter has been activated for that particular channel of the amplifier.

### 4) Display

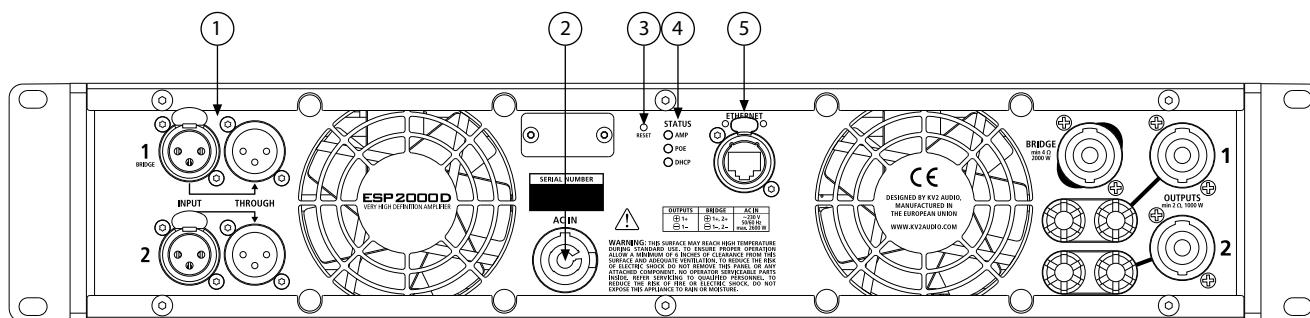
Shows the set parameters and allows settings of various functions in the menu.

### 5) Rotation encoder with Enter push-button

The encoder serves as the main way for increasing (clockwise), or decreasing (counter clockwise) values and menu positions. The encoder also serves as the ENTER (PUSH) button, allowing the operator to enter/leave the submenu in the main menu.



## Rear Panel



### 1) Input / Through

These are the input XLR connectors for channel 1 & 2 with associated 'Through Output' connectors for sending signal to other devices. When bridge mode is used, only input 1 is active.

### 2) PowerCon Power Connector

The ESP2000D accepts standard PowerCon terminated AC Mains cables. The ESP2000D uses one connector per two channels.

## Communication

The ESP2000D accept standard PowerCon terminated AC Mains cables. The ESP2000D uses one connector per two channels.

### 3) Reset

Serves as factory reset button. Resets all setup, including network settings (default settings AutoIP/DHCP).  
Use a tool with maximum diameter 2mm.

### 4) Status

LEDs indicates amplifier and amplifier diagnostics status, these are:

#### AMP

Dual colour LED. When green, it indicates that the power amplifier is powered up and all monitored parameters are OK. When red, it indicates that the amplifier is off, or some problem with the amplifier has occurred, more information can be obtained via Ethernet.

#### POE

When green, it indicates that diagnostics unit is powered via Power over the Ethernet device.

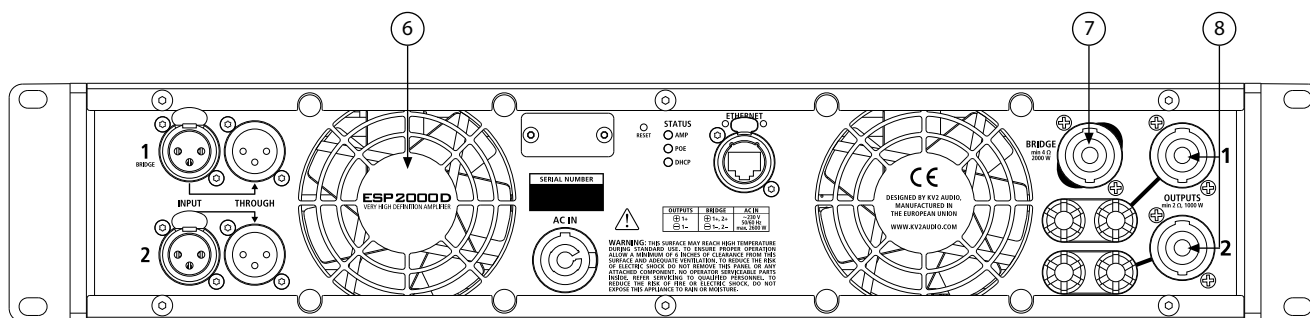
#### DHCP

When green, it indicates that diagnostics Ethernet IP address is assigned from the DHCP server.

### 5) Ethernet connector

Serves as an external communication port supporting Ethernet standard, accepts RJ45, T-658B wiring. The ESP2000D provides web-server and SNMP (Simple network management protocol). When the Ethernet cable is connected and devices successfully establish a connection, the green LED is activated. When Ethernet communication is in progress, the orange LED flashes.

## Rear Panel



### 6) Fans

The cooling fans operate continuously whilst the ESP2000D is powered on. An internal temperature sensor increases the speed of the fans during high temperature conditions. Air enters through the front grille and exits through the rear. Be sure to allow adequate air flow to the front of the rack in which the ESP2000D is mounted.

### 7) Bridge Mode Neutrik Speakon® connector

Output channel of the ESP2000D when running in Bridge Mono Mode. Do not connect other speakers to speakers outputs 1 & 2 in Bridge Mono Mode. The minimum recommended output load is 4Ω, when running in Bridge Mono Mode.

### 8) Main Outputs

The Outputs for each channel of the ESP2000D are equipped with binding posts and Neutrik Speakon® connectors on the Main Outputs. The minimum recommended output load per channel is 2Ω..

## Display menu description

The ESP2000D has three main display screens for indication and setup. The Main screens are:

**BASIC** - for input levels, mutes and +bass setup. **ADVANCED** for bridge mode, speaker protection and factory reset.

**NET** for network IP address and name indication.

### BASIC

#### VOL

Sets the amplifier input sensitivity in range from -24 to +6 dBu with 0,5dB steps.

#### MUTE

Mute switch set channel mute on / off.

#### +BASS

Switch activates a bass enhancement feature that increases output by 6dB at 60Hz.

### ADVANCED

#### BRIDGE MODE

Switch, sets Bridge Mono Mode on or off. Bridge mode requires the utilisation of two channels working together to produce a larger single output - suitable for driving large subwoofers or high powered full range boxes. Use channel INPUT 1 only as bridge mode input, INPUT 2 is unconnected. Plug positive speaker input pin at positive (RED) OUTPUT 1 and negative speaker pin at positive (RED) OUTPUT 2.

*NOTE: If Bridge Mono is your specific requirement, particularly driving subwoofers, you may prefer to utilise a KV2 Audio VHD3200 subwoofer amplifier which will offer the same power output but with improved performance. For applications where the high powered loudspeaker load is required to produce a full range signal, including Mid and High frequency reproduction above 1kHz an ESP2000 will offer superior results.*

#### SPEAKER PROTECT

Sets the internal speaker protection. The Protection circuit continuously measures long term RMS value, (speaker heating effect) and reduces input sensitivity to keep the amplifier output under the set maximum level. The speaker protection may be set at level 200W(20V), 400W (28V), 700W (38V), or OFF. Output power is calculated for a 2Ω output load.

#### FACTORY RESET

Resets the ESP2000D amplifier channels settings back to factory default. Device identification, Security and Network setup may be reset using the rear panel reset button.

### NET

**NAME:** Displays amplifier name.

**IP:** Displays assigned network address.

**MASK:** Displays assigned network subnet mask.

Amplifier name and IP address may be changed using web-server.

BASIC		ADVANCED	NET
CH	MUTE	VOL	+BASS
1		0.0dB	OFF
2		0.0dB	OFF

BASIC		ADVANCED	NET
CH	MUTE	VOL	+BASS
1	●	0.0dB	OFF
2	●	0.0dB	OFF

BASIC	ADVANCED	NET
BRIDGE MODE		OFF
SPEAKER PROTECT		→
FACTORY RESET		→

BASIC	ADVANCED	NET
BRIDGE MODE		OFF
SPEAKER PROTECT		→
FACTORY RESET		→

SPEAKER PROTECTION		
CH1	700W	CH2 OFF
WITH 2 OHM LOAD		
BACK		

BASIC	ADVANCED	NET
NAME: AMP1		
IP: N/A		
MASK: N/A		

## ESP2000D Web-server

The ESP2000D web-server is accessible using a standard web browser on PC or mobile device. The appropriate ESP2000D network address must be set to access web-server. The web-browser device IP address must be set from the same network range and must be connected into the same network.

IP addresses are assigned to networked devices when they are configured for a specific network. The way that they are assigned can be static or dynamic.

The ESP2000D network address may be set several ways:

### Auto IP

**(Default)** *Automatic Private IP Addressing*, is a method of automatically assigning IP addresses to networked devices. A networked device configured to use Auto IP first makes a request to a DHCP server for an address. If the device does not receive an IP address, which happens when there is no DHCP server on the network or when the DHCP server is not responding, the device assigns itself an address. Auto IP addresses always follow this pattern: **169.254.x.y**, where **x** and **y** are any two numbers between 0 and 255. Unlike DHCP, Auto IP does not require a router or a separate server to assign an IP address. The selected IP address is displayed on display - section NET, or can be obtained using the KV2 diagtool software.

### DHCP

**Dynamic Host Configuration Protocol.** A DHCP server enables network devices to request IP addresses and networking parameters automatically from the DHCP server, reducing the need for a network administrator or a user to manually assign IP addresses to all network devices. The assigned IP address is displayed on display - section NET, or can be obtained using the KV2 diagtool software.

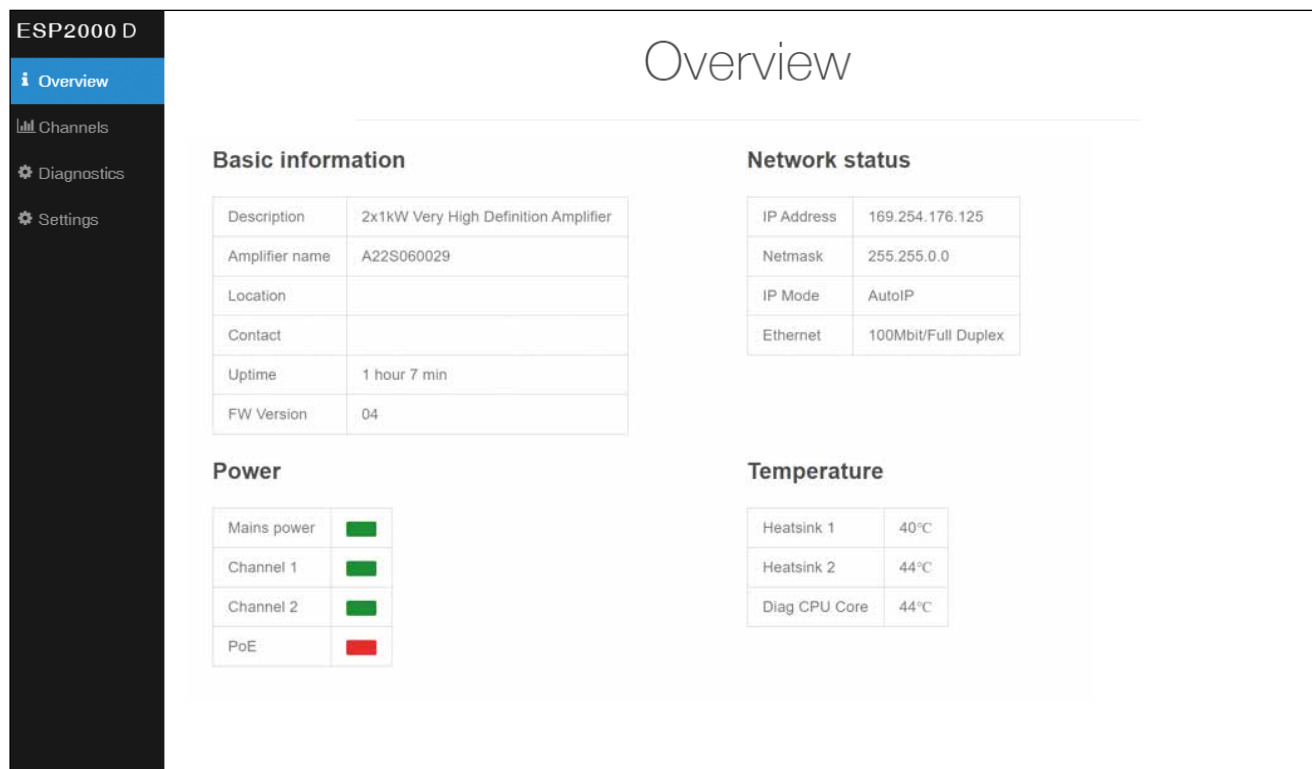
It is important to know that a dynamic IP address can change. If a network device with a dynamic IP address suddenly stops responding at its IP address, it is possible that it has obtained a new lease and its address has changed.

### Static

A static IP address must be manually assigned to a network device. This address is typed by the person who sets up devices on the network, and it never changes. A static IP address changes when the person who administers the network specifically changes it.

## Web-server page

Open the ESP2000D web-server, use the ESP2000D IP address, which is shown on display - section NET, or can be obtained using the KV2 diagtool software.



The screenshot shows the 'Overview' page of the ESP2000D web-server. The left sidebar contains navigation links: Overview (selected), Channels, Diagnostics, and Settings. The main content area is titled 'Overview' and displays four sections of information:

- Basic information:** A table with fields: Description (2x1kW Very High Definition Amplifier), Amplifier name (A22S060029), Location, Contact, Uptime (1 hour 7 min), and FW Version (04).
- Network status:** A table with fields: IP Address (169.254.176.125), Netmask (255.255.0.0), IP Mode (AutoIP), and Ethernet (100Mbit/Full Duplex).
- Power:** A table with fields: Mains power (green bar), Channel 1 (green bar), Channel 2 (green bar), and PoE (red bar).
- Temperature:** A table with fields: Heatsink 1 (40°C), Heatsink 2 (44°C), and Diag CPU Core (44°C).

## Overview

Shows the amplifier basic information.

### Basic Information

Shows the information assigned by user of the amplifier: Description, Amplifier name, Location, Contact, Uptime and Firmware revision.

### Network status

Shows the amplifier ethernet network address, netmask, mode and status.

### Power

Shows the amplifier power sources status: Mains power, Channel 1 & 2 power sources, Power over Ethernet (PoE).

### Temperature

Shows the amplifier channel 1 & 2 B heat sinks temperatures and Diagnostic CPU temperature.

ESP2000 D

Overview

**Channels**

Diagnostics

Settings

## Channels

### Control

	A	B
Mute	<input type="checkbox"/>	<input type="checkbox"/>
Input level	- 0 dB +	- 0 dB +
BASS EQ	OFF	ON
Speaker protection	OFF (Default) ▾	OFF (Default) ▾

### Diagnostics

	A	B
Bridge mode	<input type="checkbox"/>	
Signal	<input type="checkbox"/>	<input type="checkbox"/>
Speaker protection	<input type="checkbox"/>	<input type="checkbox"/>
Temperature	38°C	38°C
Output voltage	0V	0V
Output current	0A	0.4A
Calculated impedance	LowSIG	LowSIG
Calculated power	0W	0W

## Channels

Shows the amplifier control parameters and amplifier diagnostics information.

### Control

Changes the amplifier control parameters, Mute (RED = amplifier muted), Input level (-24 to +6 dB), BASS EQ (ON or OFF), Speaker protection (700, 400, 200W, OFF).

### Diagnostics

Shows amplifier diagnostics information.

### Mains voltage

### Bridge mode

Can be set using amplifier display only, Orange when activated.

### Signal

Green when input signal is present.

### Speaker protection

Orange when speaker protection hits.

### Temperature

Shows the amplifier channel A & B heat sinks temperatures.

### Output voltage

Shows the amplifier speaker output voltage.

### Output current

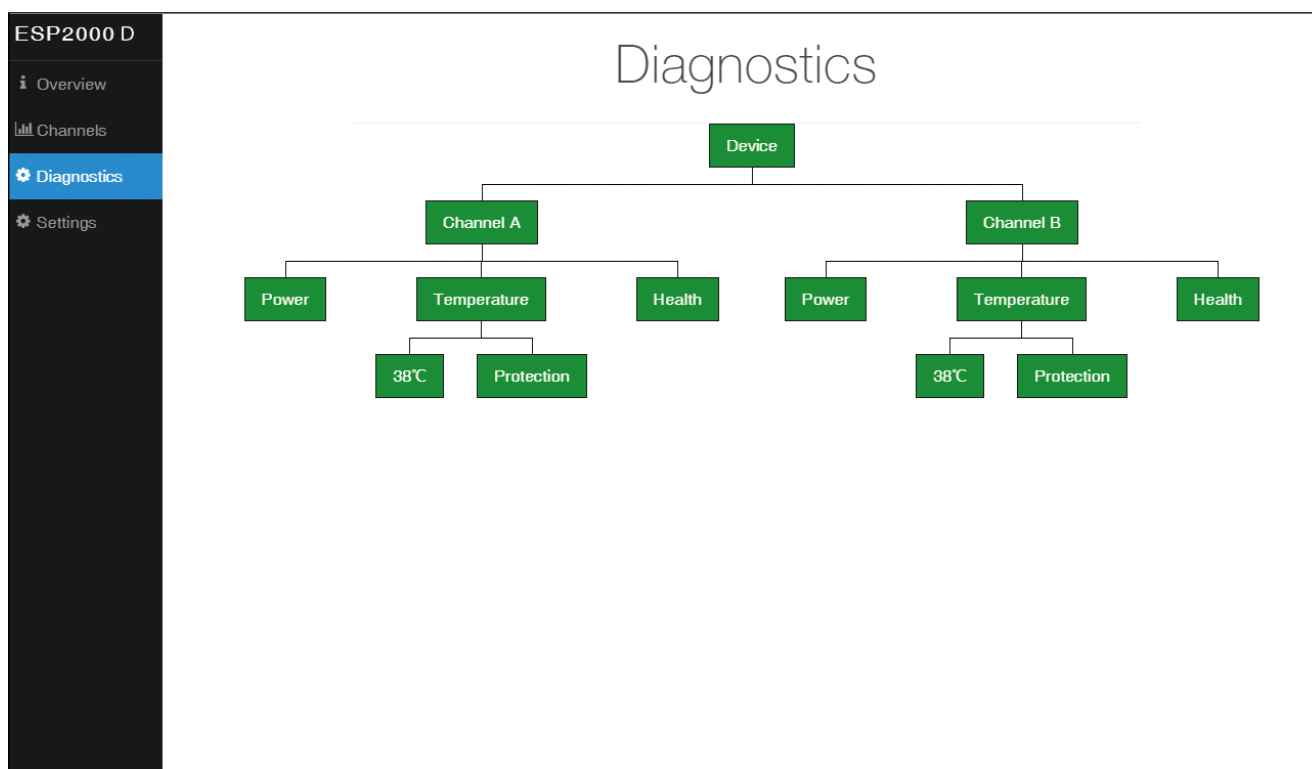
Shows the amplifier speaker output current.

### Calculated impedance

Shows the connected load calculated impedance, it is important to know that a speaker impedance is not constant and varies with frequency.

### Calculated power

Shows the connected calculated power load, it is important to know that a speaker impedance is not constant and varies with frequency.



## Diagnostics

Shows the ESP2000D amplifier and its components diagnostics information. Dual colour - Green = OK / Red = no power or some problem occurs.

### Device

Sums ESP2000D diagnostics together.

### Channel 1 & 2

Sums amplifier channel diagnostics information: Power source, Temperature, Health (amplifier 1 / 2 are working OK with dedicated gain).

### Temperature

Displays amplifiers heat sinks 1 & 2 temperatures (°C).

### Protection

When red they indicate that that channel has overheated and shut down. The unit will Auto Reset after it cools down to a safe operating temperature.

ESP2000 D

Overview

Channels

Diagnostics

Settings

## Settings

Device identification

Device name

AMP1

Location

Contact

Apply

Security

User name

admin

Password

Password confirm

Apply

Network

IP Mode

AutoIP/DHCP (default) ▼

Apply

## Settings

Shows and sets the device information, web-server password, network address.

### Device identification

Shows and sets the device local information, Device name, Location, Contact.

### Security

Sets name and password for web-server security (default User name: admin, default Password: admin).

### Network

Sets the Ethernet IP mode. AutoIP/DHCP (default). Static (IP address and netmask must be set).



## Specifications

### System Acoustic Performance

-1dB Response	3Hz to 40kHz
Channel Crosstalk	>70dB
Signal to Noise Ratio	>115dB
Total Harmonic Distortion	<0.005% (1W) / <0.01% (clip -1dB)

### Output Channels

Amplifier Type	High Efficiency, Emitter coupled
Number of Channels	2
Total Output Power	2000W
Max. Output Voltage	78V (peak) per channel
Max. Output Current	48A (peak) per channel
Minimum load impedance per channel	2Ω
Out. Power 16Ω - 1 channel / 2 channels loaded	175W / 160W (RMS)
Out. Power 8Ω - 1 channel / 2 channels loaded	340W / 300W (RMS)
Out. Power 4Ω - 1 channel / 2 channels loaded	600W / 500W (RMS)
Out. Power 2Ω - 1 channel / 2 channels loaded	1000W / 800W (RMS)
Out. Power 16Ω - bridged	600W (RMS)
Out. Power 8Ω - bridged	1000W (RMS)
Out. Power 4Ω - bridged	1500W (RMS), 2000W short term

### Signal Input

Input Channels	XLR
Input Sensitivity	1.55V
Input Impedance	20kΩ (balanced)
Signal Output	XLR Through

### Speaker Input

Speaker Output	Neutrik Speakon®, 2x Binding posts
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### Features

Level Control	-24 to +6 dB
Loudness bass enhancement	+6dB @ 60Hz
Network	Ethernet: SMNP, Webserver
RMS Limiter	On / Off
Indicators	Power ON/Thermal, Signal/Limiter

### Power

Power Connector	Neutrik PowerCon®
Operating Voltage	115V / 230V / 250V
Operating Voltage Range	100 to 120V@60Hz   205 to 240V@50Hz   225 to 260V@50Hz
Recommended Amperage	20A 115V   10A 230V   10A 250V
Soft Start	YES
Protection	Thermal breaker
Cooling	2x temperature controlled fans

### Physical Dimensions

Height	88 mm (3.5"), 2RU
Width	483 mm (19.00")
Depth	496 mm (19.5")
Weight	18,8 kg (41,23 lbs)

## Warranty

Your ESP2000D is covered against defects in material and workmanship.

Please refer to your supplier for more details.

## Service

In the unlikely event that your ESP2000D develops a problem, it must be returned to an authorized distributor, service centre or shipped directly to our factory. Because of the complexity of the design and the risk of electrical shock, all repairs must be attempted only by qualified technical personnel.

If the unit needs to be shipped back to the factory, it must be sent in its original carton. If improperly packed, the unit may be damaged.

**To obtain service, contact your nearest KV2 Audio Service Centre, Distributor or Dealer.**









The Future of Sound.  
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