EPSILON 32-500

32 IN/2 OUT SUMMING MIXER

OPERATOR'S MANUAL

Version 2.0

KAHAYAN®

PRO AUDIO

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TABLE OF CONTENTS

IMPORTANT SAFETY INSTRUCTIONS……3

INTRODUCTION……..……..4

SETUP AND BASIC ASPECTS..……..……..5

SUMMING MODES.……...…….……7

SATURATION……...……..…9

POWER SUPPLY……11

SPECIFICATIONS & WARRANTY……...……12

RECALL SHEET……13

CREDITS…….…...……14

IMPORTANT SAFETY INSTRUCTIONS

1. Read these instructions
2. Keep these instructions
3. Heed all warnings
4. Follow all instructions
5. Do not use this apparatus near water
6. Clean only with dry cloth
7. Install in accordance with the manufacturer's instructions
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat
9. Protect the power cord from being walked on or pinched particularly at plugs and the point where they exit from the apparatus
10. Unplug this apparatus during lightning storms or when unused for long periods of time
11. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is dam- aged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped

INTRODUCTION

The Epsilon 32-500 is a 32 channel **summing mixer unique** in the mixing market because it's capable of combining **3 summing styles using only 1 machine**. This means 3 different ''analog consoles'' in 1 summing mixer. The 3 summing modes are: 500 series, Kahayan Bus and External Bus (see page 7).

The Epsilon 32-500 is the **first summing mixer** that allows you to use **500 series modules**. You can use our solid 4000 – 500 series modules or any 500 series preamp working as a summing bus (see page 7).

Another unique aspect to the Epsilon 32-500 is the possibility to expand through the **use of external rack modules (in External summing mode)**. These modules can add new summing styles. We recommend Kahayan modules like the Kahayan Vintage 12k72 or Solid 4000, and also preamps. Our equipment possesses the ability of expansion meaning it is in **constant evolution**.

All components are hand-selected one by one. The Assembly is completely handmade. The Rack consists of 3 rack units of 35 cm depth. Furthermore the unit was conceived as a Summing Bus and can be used as mastering equipment using only two channels.

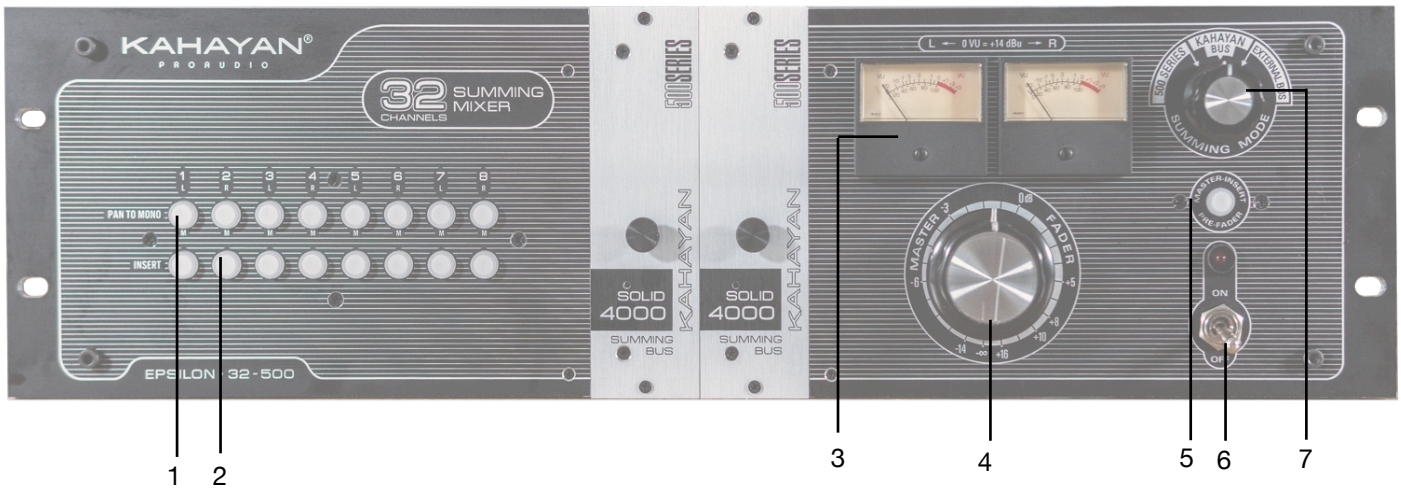
HEATING AND WARM-UP

It is advisable to wait a minute after turning it on, to modify the gain and output levels, this way avoiding any noise generated by the lack of capacitor charging. An effect that may damage the reference speakers.

For more information please visit: www.kahayan.es

SETUP AND BASIC ASPECTS

Front panel:



1. Pan switch: Only the **first 8 channels** can be configurated in pan. By default all the channels are setup by these way: The odd channels (1,3,5...) face **left** and the even channels (2,4,6…) face **right**. These switches allows you to setup in **mono** the first 8 channels. They function with an on/off switch.

2. Channel insert: Only the **first 8 channels** have inserts. They function with an on/off switch.

3. Master Vu Meters: These meters allows to measure the final level and it is configured post-fader. It is calibrated at 14 dBu=0 VU. Useful for signal checking when cabling and studio setup.

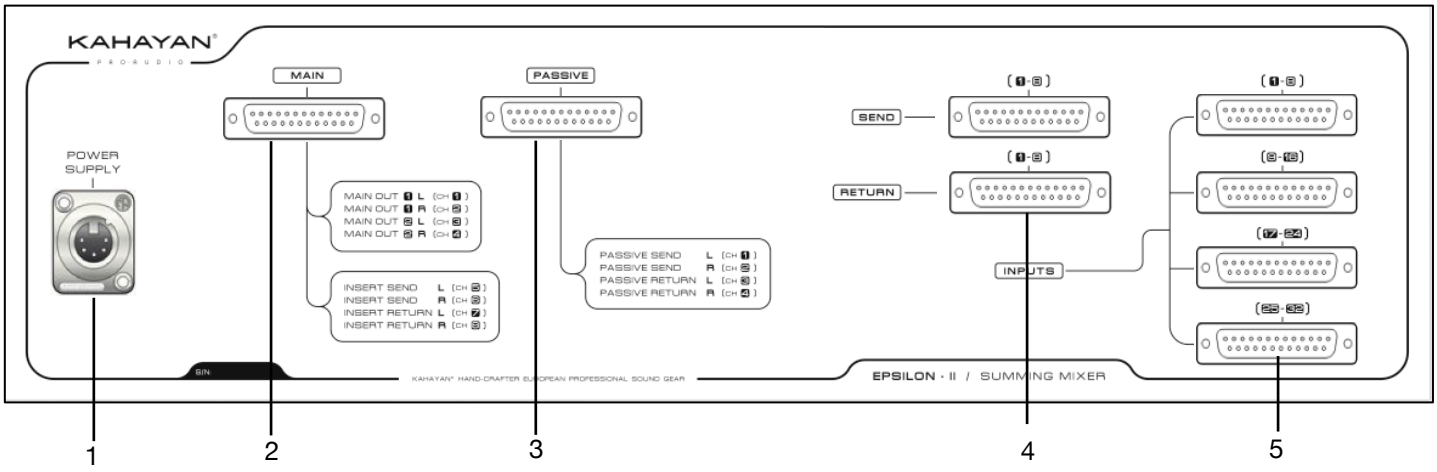
4. Master fader: The Master Fader allows to attenuate or enhance the stereo mix at -∞ dB to +16 dB.

5. Master Insert switch: Allows you to activate the stereo mix insert. This insert is a pre-master fader.

6. On/off power switch: Switches the power on or off.

7. Summing mode switch: Allows you to choose 3 different summing styles.

Rear panel:



1. Power supply: The Epsilon 32-500 has an external power supply which must be connected to the 5 pin XLR found at the rear.

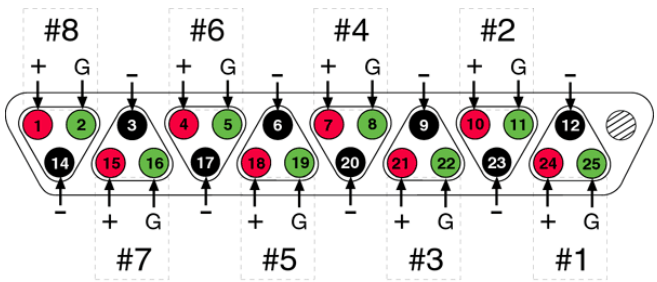
2. Main outputs/ master insert: This DB25 connector is split into the following sections:
1-2: Main out
3-4: Monitor out. It has the same signal as the main out but you can use it for other applications. Note: must be connected properly (balanced connectors) or the vu meters will work descalibrated.
5-6: Master insert send.
7-8: Master insert return: In the Epsilon box you will find 2 XLR female-female for this.

3. External (Passive): This DB25 connector is split into the following sections:
1-2: Passive send.
3-4: Passive return. In the Epsilon box you will find 2 XLR female-female for this.

4. Insert 1-8: Return 1-8 channels and Send 1-8 channels.

5. Inpust 1-24: 4 DB25 connectors that received the 32 channels.

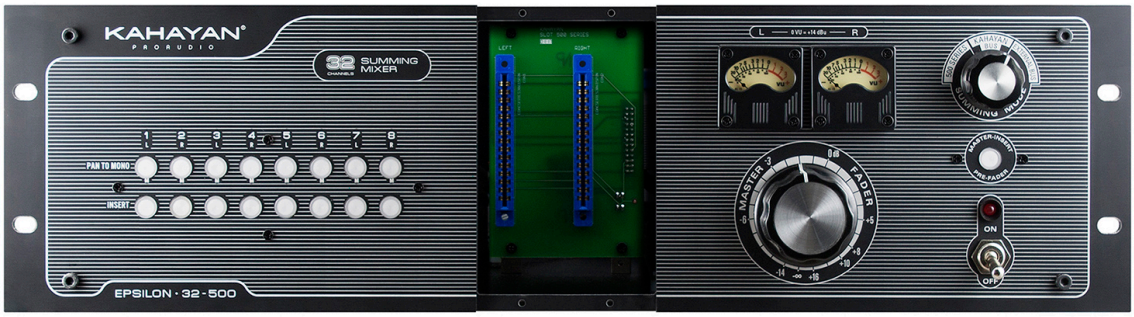
Note: All the DB25 connectors use the Tascam® format with the following configuration:



SUMMING MODES

The Epsilon 32-500 has **3 summing modes**: 500 series, Kahayan bus and External bus (Passive)

1- 500 SERIES. This first summing mode allows you to use 500 series modules thru the 2 space rackmounts that the Epsilon 32-500 has. You can use our 500 series modules or any 500 series preamps.



The Kahayan solid 4000–500 series modules give you the classic solid british sound, with all the saturation and ‘glue’ of these consoles: if you ‘smash’ these summing bus modules you achieve all the saturation of this classic sound.

Also, you can use any 500 series preamp working **as a summing bus circuit**. All you have to do is setup a pair of preamps in the 2 space rackmounts, choose ‘mic mode’ and increase 34dB of gain. Here we are opening all the sound options.

2- KAHAYAN BUS. This second summing mode is extremely clear and colorless. You get the exact amount of what comes out of the DAW but with the benefits of analog summing:

Transparent, ‘smooth’ and open in the stereo image.

3- EXTERNAL BUS (Passive). The signal does not pass through any active circuit and has a drop of about -34dB, thus must connect our EPSILON EXPANSION or any EXTERNAL PREAMP of two channels to enhance the output level. In this way, it is added with the color of the previous contribution.

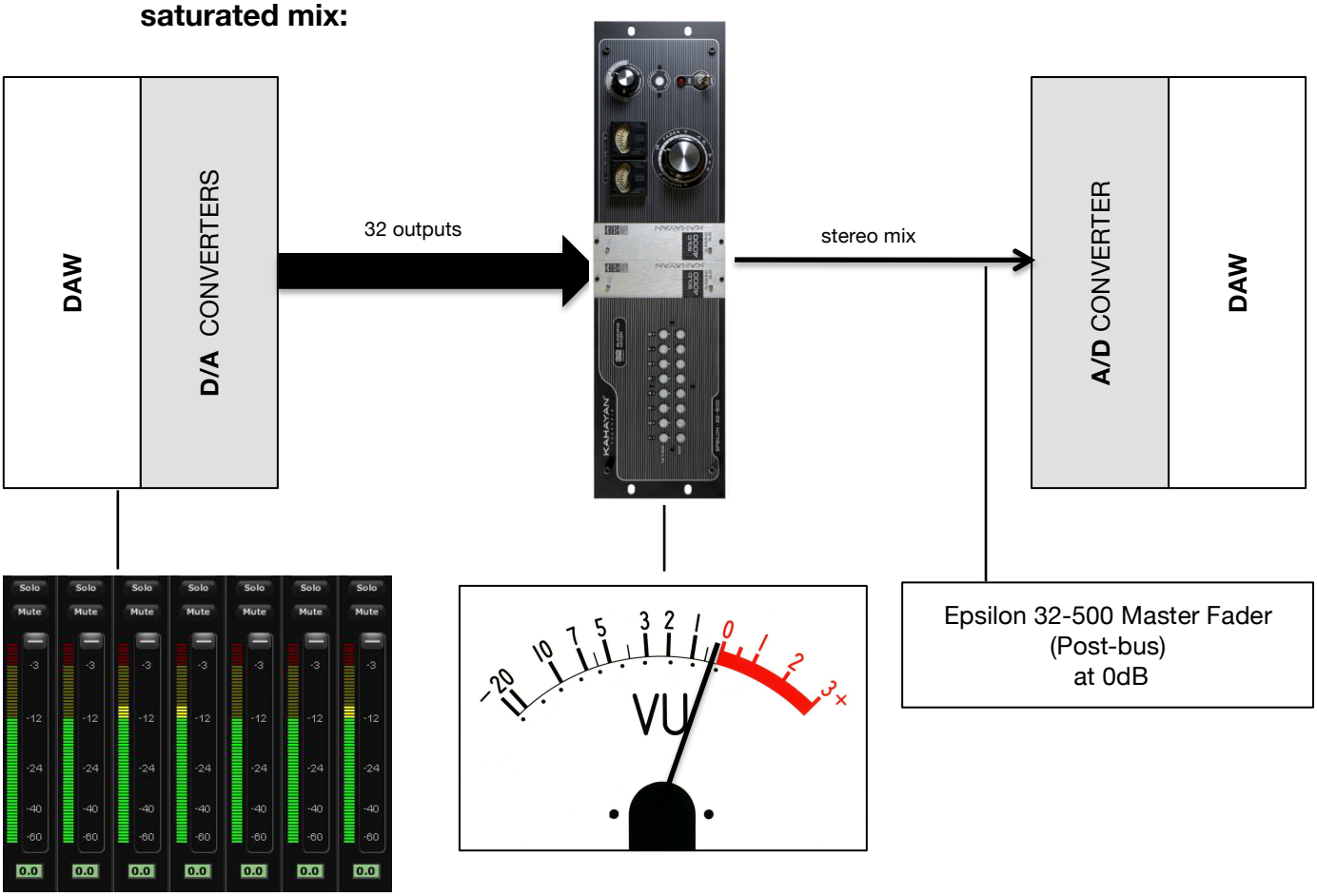
Here we open up infinite possibilities in color, timbre and response; You can introduce pre-valves, the latest generation of discrete concept, etc.

For more more information please visit: www.kahayan.es

SATURATION

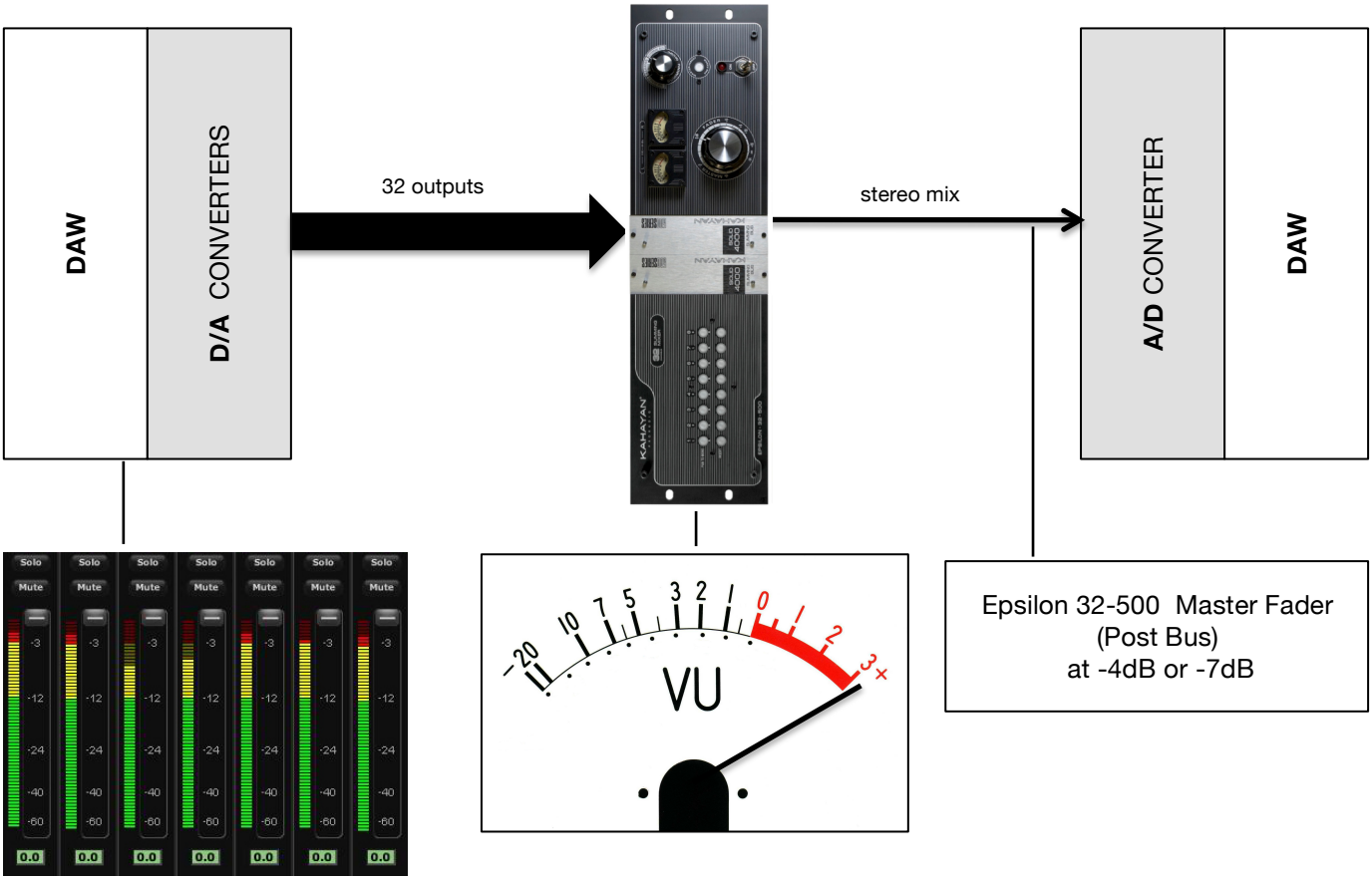
Many top mixing engineers use analog consoles for comfort and also for the capacity to saturate the console summing bus. When we speak about creating a mix with ‘’punch’’, ‘’glue’’ or ‘’impact, we are speaking largely about the effects of the console analog saturation. So, exactly the same occurs with the Epsilon 32-500. When we saturate the Epsilon summing bus the same effects appear as when using an analog console.

In the following diagram we have showed an example of a **’’clean’’ non-saturated mix:**



In a ‘’clean’’ mix the DAW output levels are normal or ‘’low’’. Inside our summing bus the signal levels are will be closet o 0VU=+4dBu and the Epsilon 32-500 master fader doesn't require attenuation, it´s positionated at 0dB. **Remember:** the master fader is post-summing bus.

In the following diagram we have showed an example of a ‘’**saturated’’ mix**:



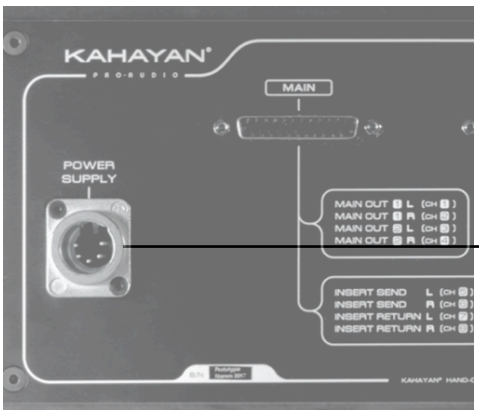
In a ‘’saturated’’ mix the DAW output levels are ‘’high’’. Inside our summing bus the signal levels are will be off the scale and the Epsilon 32-500 master fader requires attenuation. This is the same situation when using an analog console the master vumeters are off scale. The Epsilon requires that the master fader attenuate the output levels to send the mix to DAW or other analog gear.

Note: To saturate the Epsilon 32-500 with a higher dBu level we recommend 3 options available to the user:
1-Calibrate the D/A converters to produce a higher level=change the dBFs/dBu relation.
2-Force the digital levels inside the DAW.
3-In the 1-8 inserts, insert analog gear which provides more volume.

Conclusion: Use the ‘’saturation amount’’ that sounds best in your opinion…

POWER SUPPLY

The Epsilon 32-500 has a power supply which must be connected to the 5 pin XLR found at the rear as you can see in the diagram:



Power supply connector

NOTE: Don´t forget that the external power supply has an on/off switch.

See Safety Instructions on page 3

SPECIFICATIONS

- Analog Summing 32 Channel
- 32 balanced inputs on DB25
- 2 MAIN balanced stereo outputs on DB25
- Stereo pre-fader Insert on/off switch
- The first 8 input channels have Insert (DB25) and Pan
- The Master Fader allows to attenuate or enhance the stereo signal at -∞ dB to +16 dB
- Headroom: +24dBu
- Power supply at 220/110 volts and 50/60 Hz
- Power supply uses **250mA fuse** at 220v and a **500mA fuse** at 110v.
- Weight: 8Kg (with our solid 4000-500 series modules and power supply)
- The manufacturer reserves the right to change the technical specification of the product without prior notice.

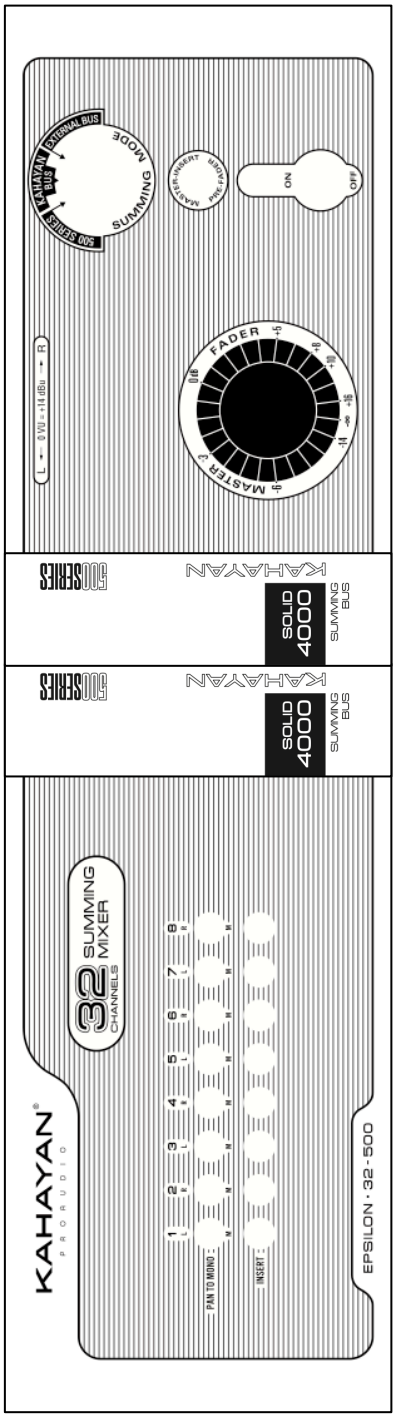
WARRANTY

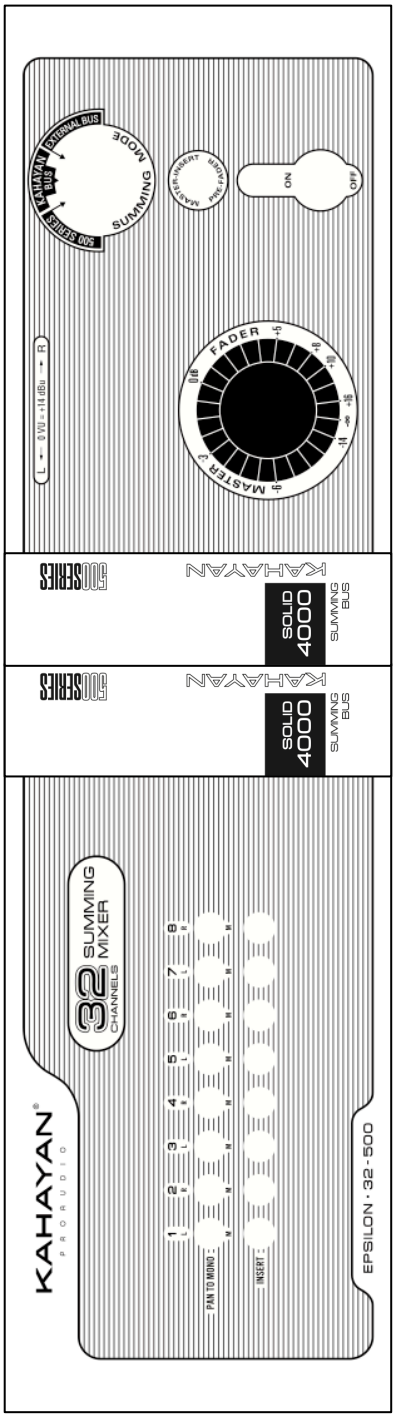
These products are guaranteed for a period of two years from the date of shipment to the end user for countries of the European Union. For other countries, please refer to the law in effect.

During the warranty period Kahayan Pro-Audio will, at their discretion, either repair or replace products which prove to be defective, provided that the product is returned to an authorised Kahayan service facility. The warranty will not cover shipping the unit back to the Kahayan service facility, unless the customer determines otherwise with his dealer/distributor.

Defects caused by unauthorised modifications, accident, negligence or any misuse are not covered by this warranty. For further information please contact your dealer or the distributor in your country.

RECALL SHEET





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