# Instruction manual

**TARAMPS**®

# T 0504 FX
## MULTICOLOR
CAR SOUND MIXER

STEREO

⚠ The installation of this product must be made by a qualified professional.

# Index

## Term of warranty

TARAMPS, located at Júlio Budisk highway, SN, KM 30 – Alfredo Marcondes, SP - Brazil, ZIP CODE 19180-000, warrants this product against any defects on terms of project, making, assembling, and/or with solidarity, due to project vices which cause in it improper or inadequacy as to the purpose for which it was produced 12 months from the date of purchase. In case of defect during the warranty period, TARAMPS' responsibility is limited to the repairing or replacement of the device of its own making.

**This warranty excludes:**
•Damaged products by improper installation, water infiltration, violation by unauthorized individuals;
•Tamper or torn warranty seal;
•Cases in which the product is not used in adequate conditions;
•Defects caused by accessories, modifications or features attached to the product;
•The product with damage from falling, bumps or nature related problems (flooding, lightning, etc);
•Warranty card is not properly filled or torn;
•Costs involving uninstallation, reinstallation of equipment as well the shipment to the factory;
•Damage of any kind, due to problems in the product, as well as losses caused by discontinued use of the product.

## Technical assistance
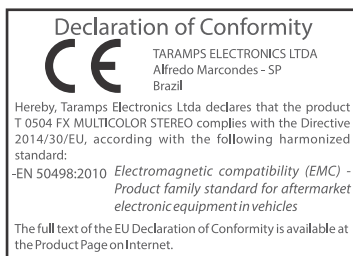
For international support, check on our website:
www.taramps.com.br/en/rede-de-assistencias-tecnicas or contact direct the factory support:
Phones: +55 18 3266-4050 / +55 18 99749-3391
E-mail: service@taramps.com.br

# Introduction

Read this manual before installing the product. In case of questions contact our technical support: **+55 (18) 3266-4050** or **www.taramps.com.br.**

## Declaration of Conformity

$C\epsilon$

TARAMPS ELECTRONICS LTDA
Alfredo Marcondes - SP
Brazil

Hereby, Taramps Electronics Ltda declares that the product T 0504 FX MULTICOLOR STEREO complies with the Directive 2014/30/EU, according with the following harmonized standard:

-EN 50498:2010 *Electromagnetic compatibility (EMC) - Product family standard for aftermarket electronic equipment in vehicles*

The full text of the EU Declaration of Conformity is available at the Product Page on Internet.

At the end of its lifespan, this product must not be disposed of in household waste. Look for an electronic equipment collection or recycling center for proper disposal.

# Safety requirements

To ensure proper use, please read through this manual before using the car sound mixer. It is specially important that you know the **CAUTIONS** contained here.

**-** The installation of this product must be done by a qualified professional.
**-** Use the correct tools for installing this product.
**-** This product is for use with 12V batteries. Always check the voltage before installing.
**-** Never install the product in places exposed to dust, humidity and water. Pay attention to install it far from fuel tank, fuel lines, heat sources and other parts of vehicle.
**-** Be sure to install protection fuse or a circuit braker near to battery. Follow the ampere rating as indicated here in this manual. Use of improper fuse or circuit breaker could result in overheat, smoke, damage to product, injury or burns.
**-** Avoid running wires over or through sharp edges. Use rubber or plastic grommets to protect any wires routed through car's body.
**-** Automotive sound systems may produce high sound pressure levels. Avoid continuous exposure to levels over 85dB to prevent permanent hearing loss.

## ⚠ Safety

As you read this manual, pay attention to the safety symbols.

⚠ **CAUTION**   This symbol with **"CAUTION"** is intended to alert the user to the presence of important instructions. Failure to heed the instructions will result in risk of injury to user or product damage.

Taramps reserves the right to modify the contents of this document at any time without prior notice and does not have the obligation to apply the changes in units which were previously produced.

# Presentation

The **T 0504 FX MULTICOLOR (STEREO)** mixer was designed for sound systems allowing the mixing of several types of audio signals with high fidelity, ensuring the original dynamics of the sound. It features a 4-band equalizer that allows you to increase or reduce specific ranges of mid-bass and highs, allowing for a professional control in any situation. It also has the Echo FX feature, which allows you to add the Echo effect to your songs or voice. Its outputs with timed MUTE avoid undesirable noises (Pops) when turned on or off, dispensing with the sequencing of activations, facilitating installation.

With a **total of 92 variable lighting effects**, causing a different visual effect for the user. See pages 08 and 09.

The **T 0504 FX MULTICOLOR (STEREO)** features 5 input channels, CHANNEL 1 is balanced with two shared connections, one XLR and one RTS. This is a high-sensitivity, wide-gain input, which allows the use of a Microphone or LINE IN.
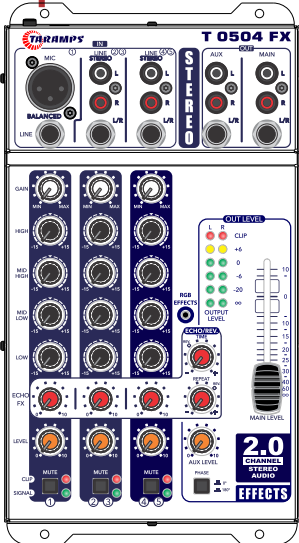
CHANNELS 2/3 and 4/5 have RCA STEREO inputs shared with a J10 STEREO connector for greater connection flexibility.

All 5 inputs have independent controls for:
- Gain for adjusting the input signal level.
- 4 EQ controls HIGH, MID HIGH. MID LOW and LOW with ±15dB boost/attenuation.
- Level for output control.

The 2 outputs have great amplitude and can deliver up to +18dBu or 6.3Vac of distortion-free signal.

# Important recommendations



Use the P4 adapter with terminal that comes with the product to connect the power wires to the vehicle's 12V battery. Use 1.5mm² gauge wires for both the positive and negative wires. Screw the wires according to the following instruction:

1- Borne ⊕ on the battery positive
2 - Borne ⊖ on the battery negative.

As protection, a fuse must be installed close to the positive pole of the battery **(2A fuse)**. check for more details on pag. 09 of this manual. For the REMOTE connection, use 0.5 mm² wire.

The sound mixer must be fixed in an easily accessible and ventilated place. It is not recommended to install the product on the sides of speakers, as vibrations can damage their internal components.

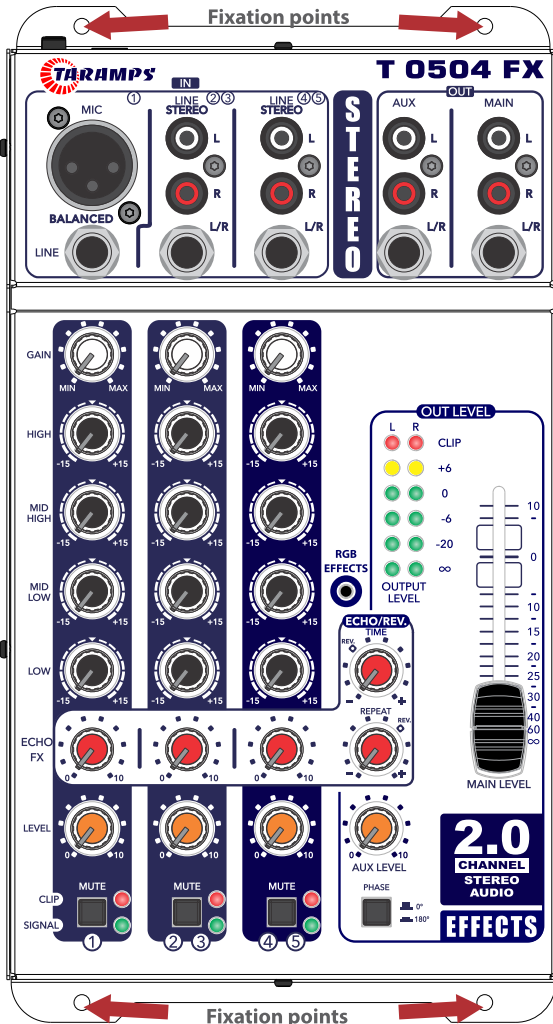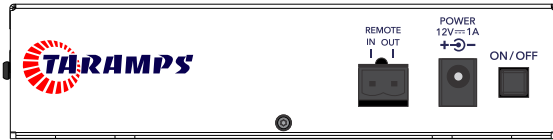In order to avoid noise captation, use good quality shielded signal cables and connectors.

⚠️ **CAUTION** Check power polarity and recommended gauge.
it is recommended to install a 2 Amperes fuse on the positive supply terminal.

# Product overview

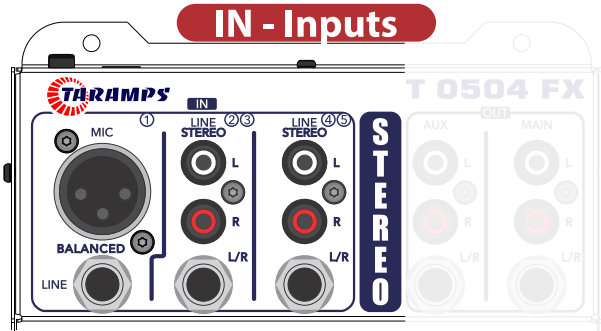On this page you have an overview of the **T 0504 FX MULTICOLOR (STEREO)** sound mixer, you will better understand the commands on the next page. To be able to use all the product commands, carefully read all the commands below.

Install the mixer in an easily accessible place and, if fixing is necessary, use the 4 screwing holes to avoid possible vibrations.
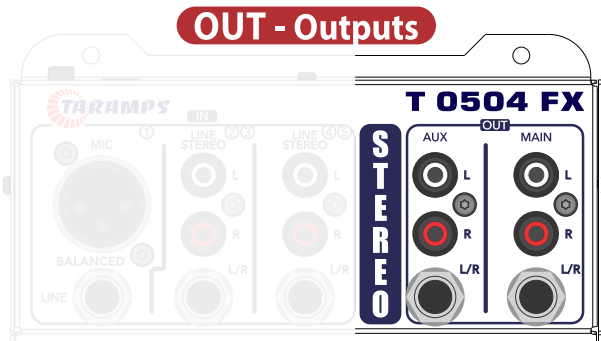


Fixation points



Fixation points

# Connections

### MIC / LINE ①

**Balanced inputs** for XLR (Canon) and TRS connectors. ATTENTION: these inputs DO NOT HAVE PHANTON POWER. Note: This channel will be mixed on the L and R output.

### LINE ② ③ / ④ ⑤

**Unbalanced inputs** Inputs for RCA or (TRS 1/4") STEREO connector. They allow you to receive signals from several types of sound gear such as HEAD UNIT/MP3-player, audio processors, etc... with high level outputs.
**Note: Using P10 mono will cancel the signal to output R.**

### AUX OUT

It has an RCA connector in parallel with a P10 connector. This output is STEREO.

This output has a phase inversion button and independent level control, but it also responds to the **MAIN LEVEL** control.

### MAIN OUT

It has an RCA connector in parallel with a P10 connector.
This output is STEREO.

# Functions

## Controls

**GAIN** — Adjusts the input signal level. It must be used in case of input saturation, signaled by the CLIP LEDs.

**HIGH** — Increases or reduces **treble** by up to ±15dB

**MID HIGH** — Increases or reduces **mid-high** by up to ±15dB

**MID LOW** — Increases or reduces **mid-low** by up to ±15dB

**LOW** — Increases or reduces **Low** by up to ±15dB

**ECHO FX** — Regulates the amount of effect that will be applied to the channel. Being 0, no effect and 10, maximum effect.

**LEVEL CHANNELS** — Adjusts the audio level of the channel (channel 1, 2 or 3) that will be mixed at the outputs.

**MUTE**

Mutes the channel mixing at the outputs. It is useful for quick channel cutting without changing the gain settings. When activated, the red CLIP LED will light regardless of the input signal level.

**LED INDICATORS**

Red LED shows channel input saturation or MUTE button pressed.
Green LED indicates that the channel is receiving signal at its input.

**ECHO FX**

ECHO FX: The TIME control increases the time between repetitions, which can vary from approximately 50ms to 350ms. The REPEAT control increases the number of repetitions from 1 (minimum) to 12, and with each repetition the signal is exponentially attenuated.
In practical terms, we can compare the TIME control to the size of a room with echo. The larger the room, the longer it takes for the sound to reflect off its walls. In smaller rooms, the reflection is quick, sometimes difficult to notice. The REPEAT control represents the type of material that the echo room has lining its walls. More phono-absorbent materials attenuate the sound waves more, reflecting little of the sound. The less absorbent the material, the more reflections will occur in the room.

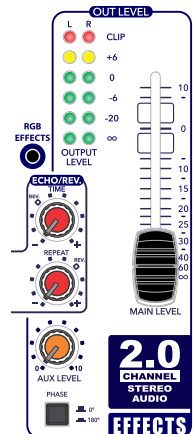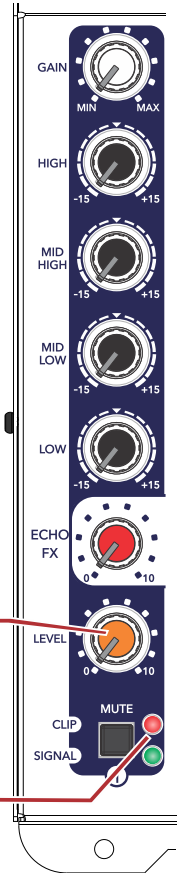**PHASE** — Inverts the signal phase of the AUX OUT channel by 180°

**AUX LEVEL** — Adjusts the audio output level at AUX OUT
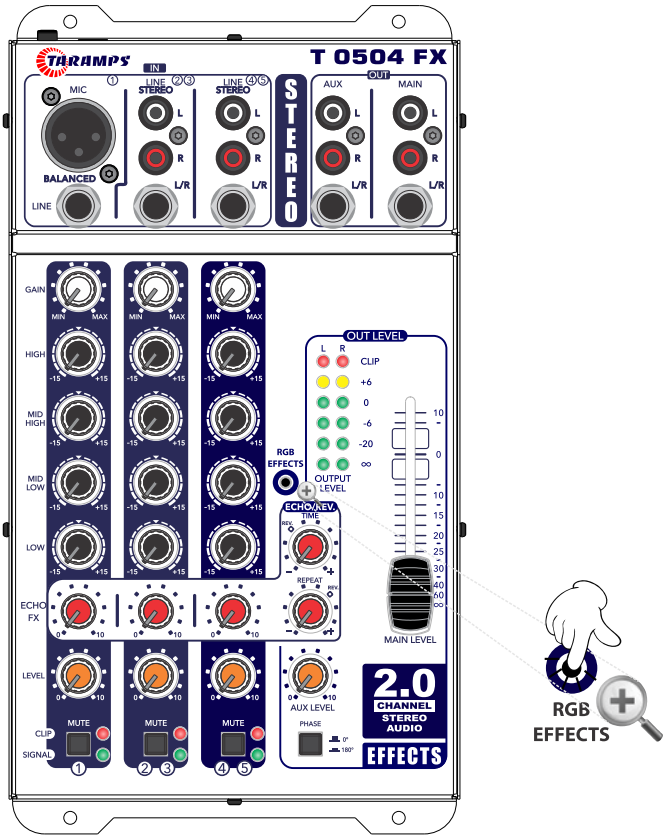
**VU-METER** — Indicates the level of the output signal.

**MAIN LEVEL** — Controls the signal level at the outputs.

# KEYS RGB EFFECTS



**1-Change the effect:** Short press. Each press changes the effect.

**2-Turn off the RGB LEDs:** Press the button for 2 seconds. The panel lights up white and dims until it turns off completely. Release the button at this point.

**3-Turn the RGB LEDs back on:** Press the button and the RGB LEDs will start working again.

**4-DEMO mode (demonstration):** Press the button for 3 seconds. The LEDs will light up white and dim, indicating that you are going through the off function. Keep it pressed until the RGB LEDs flash WHITE 3x. Release the button at this point.

**5-RESET mode (factory reset):** Press the button for 7 seconds. The RGB LEDs will show the OFF, DEMO functions, as described above. Keep it pressed until the RGB LEDs flash RED 3x. Release the button at this point.

**6- DIMMING (brightness reduction):** With the device OFF, press the button and wait for it to start up while holding it down.

The panel will light up white and will alternate brightness until you release the button. The brightness will be set to the desired option. To cancel dimming, proceed with the RESET procedure.

# RGB EFFECTS

The **T 0504 FX MULTICOLOR (STEREO)** sound mixer has several lighting effects that can be chosen by the user. There are two operating modes that alternate depending on the state of the sound mixer:

**STANDBY MODE:** activated when there is no audio output for 10 seconds. At this moment, the RGB EFFECTS button will set the lighting effect to standby mode.

**AUDIO MODE:** activated when there is an audio signal output from the table. At this moment, the RGB EFFECTS button will configure the lighting effect for audio mode.

**RGB EFFECTS**

NOTE: VU-METER effects are only available in AUDIO MODE. This effect works with the output audio level and serves only as a lighting effect. For greater output level accuracy, use the LED VU-METER next to MAIN LEVEL.
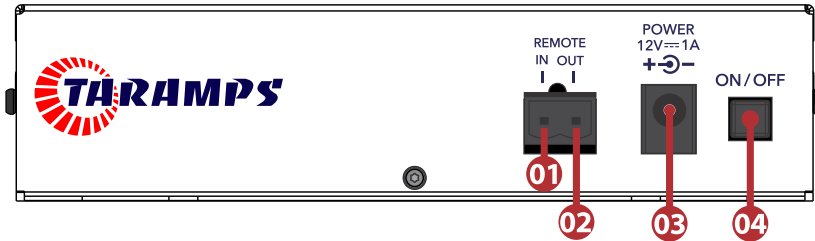
## STANDBY EFFECTS TABLE

| | |
|---|---|
| **0** | 4 comets from red to green |
| **1** | 4 comets from red to blue |
| **2** | 4 comets from green to blue |
| **3** | 4 comets from pink to purple |
| **4** | 4 comets from blue to purple |
| **5** | 4 comets from white to pink |
| **6** | rainbow effect with wave animation |
| **7** | horizontal lines falling and accumulating, changes colors automatically |
| **8** | goes back and forth vertically with white background and dots alternating colors |
| **9** | vertical fill in red. |
| **10** | strobe effect in white |
| **11** | gyroflex effect |
| **12** | color bomb effect |
| **13** | matrix effect |
| **14** | fixed color: red |
| **15** | fixed color: orange |
| **16** | fixed color: yellow |
| **17** | fixed color: green |
| **18** | fixed color: green + cyan |
| **19** | fixed color: cyan |
| **20** | fixed color: blue |
| **21** | fixed color: purple |
| **22** | fixed color: pink |
| **23** | fixed color: pink + red |
| **24** | fixed color: weak white |
| **25** | fixed color: medium white |
| **26** | palette by function: white gain / blue eq. / red echo / orange level |
| **27** | palette by function: white gain / green eq. / red echo / orange level |
| **28** | palette by function: white gain / green eq. cyan / red echo / orange level |
| **29** | palette by function: white gain / purple eq. / green echo / orange level |
| **30** | palette by function: red gain / purple eq. / green echo / blue level |
| **31** | rainbow background with pinball animation in white / 1 dot |
| **32** | rainbow background with pinball animation in white / 2 dot |
| **33** | rainbow background with pinball animation in white / 3 dot |
| **34** | green background with pinball animation in white |
| **35** | red background with pinball animation in white |
| **36** | blue background with pinball animation in white |
| **37** | purple background with pinball animation in white |
| **38** | yellow background with pinball animation in white |
| **39** | cyan background with pinball animation in white |

# AUDIO EFFECTS TABLE

| | |
|---|---|
| **0** | 4 comets from red to green |
| **1** | 4 comets from red to blue |
| **2** | 4 comets from green to blue |
| **3** | 4 comets from pink to purple |
| **4** | 4 comets from blue to purple |
| **5** | 4 comets from white to pink |
| **6** | vu-meter mono: lilac background, scale from green to red |
| **7** | vu-meter mono: white background, scale from green to lilac |
| **8** | vu-meter mono: yellow background, scale from blue to green |
| **9** | vu-meter mono: cyan background, scale from green to red |
| **10** | vu-meter mono: blue background, scale from blue to red |
| **11** | vu-meter mono: blue background, scale from green to lilac |
| **12** | vu-meter mono: pink background, scale from pink to green |
| **13** | vu-meter stereo: lilac background, green/yellow/red |
| **14** | vu-meter stereo: white background, scale from green to lilac |
| **15** | vu-meter stereo: yellow background, scale from blue to green |
| **16** | vu-meter stereo: cyan background, scale from green to red |
| **17** | vu-meter stereo: blue background, scale from blue to red |
| **18** | vu-meter stereo: blue background, scale from green to red to pink |
| **19** | vu-meter stereo: lilac background, lilac to green scale |
| **20** | rainbow effect with wave animation |
| **21** | horizontal lines falling and accumulating, changes colors automatically |
| **22** | goes back and forth vertically with white background and dots alternating colors |
| **23** | vertical fill in red. |
| **24** | strobe effect in white |
| **25** | gyroflex effect |
| **26** | color bomb effect |
| **27** | matrix effect |
| **28** | fixed color: red |
| **29** | fixed color: orange |
| **30** | fixed color: yellow |
| **31** | fixed color: green |
| **32** | fixed color: green + cyan |
| **33** | fixed color: cyan |
| **34** | fixed color: blue |
| **35** | fixed color: purple |
| **36** | fixed color: pink |
| **37** | fixed color: pink + red |
| **38** | fixed color: weak white |
| **39** | fixed color: medium white |
| **40** | palette by function: white gain / blue eq. / red echo / orange level |
| **41** | palette by function: white gain / green eq. / red echo / orange level |
| **42** | palette by function: white gain / cyan eq. / red echo / orange level |
| **43** | palette by function: white gain / purple eq. / green echo / orange level |
| **44** | palette by function: red gain / blue eq. purple / eco green / level blue |
| **45** | rainbow background with pinball animation in white / 1 dot |
| **46** | rainbow background with pinball animation in white / 2 dot |
| **47** | rainbow background with pinball animation in white / 3 dot |
| **48** | green background with pinball animation in white |
| **49** | red background with pinball animation in white |
| **50** | blue background with pinball animation in white |
| **51** | purple background with pinball animation in white |
| **52** | yellow background with pinball animation in white |
| **53** | cyan background with pinball animation in white |

# Installation

## Power and activation



The **T 0504 FX MULTICOLOR (STEREO)** was developed to be used in automotive systems with a 12V battery, but it can also be used with an external 12V power adapter with a current of at least 2A, which must be purchased separately (in this case, the consumer must be careful with the adapter plug, which must be a standard P4-2mm). It has an ON/OFF button that eliminates the need for REMOTE IN connections.

It can be turned on and off automatically by remote activation using the REMOTE IN connection. To do this, keep the ON/OFF button off (unpressed).

The REMOTE OUT connection can be used to activate amplifiers and is timed to minimize transients when turning the system on and off.

### REMOTE IN 01

Connection that turns on or off automatically from a remote cable from a Head Unit. Use 0.5 mm² cable.
Note: If the ON/OFF button is pressed, the device will not turn off by remote activation.

### REMOTE OUT 02

Output for activating other devices. It can be used to turn on amplifiers or other equipment as long as they have a remote input. This output is current limited and not suitable for currents greater than 100mA. Use 0.5 mm² or higher gauge cables.

### 12V POWER SUPPLY 03

Standard P4 /12V 2mm power connector. Use the TERMINAL/P4 adapter that comes with the product or a 12V adapter source (adapter source doens't come with the product).
Since consumption varies due to the effects of the LEDs, use 2A or higher power supplies. Low amperage power supplies will prevent the table from working properly.
Use a 0.75mm² cable for the connections and **use a 2A fuse on the positive wire as close as possible to the battery**, following the marking on the TERMINAL/P4 adapter:
⊕ to the battery's 12V positive terminal.
⊖ to the battery's negative terminal

> ⚠️ **CAUTION** Check power polarity and recommended gauge.
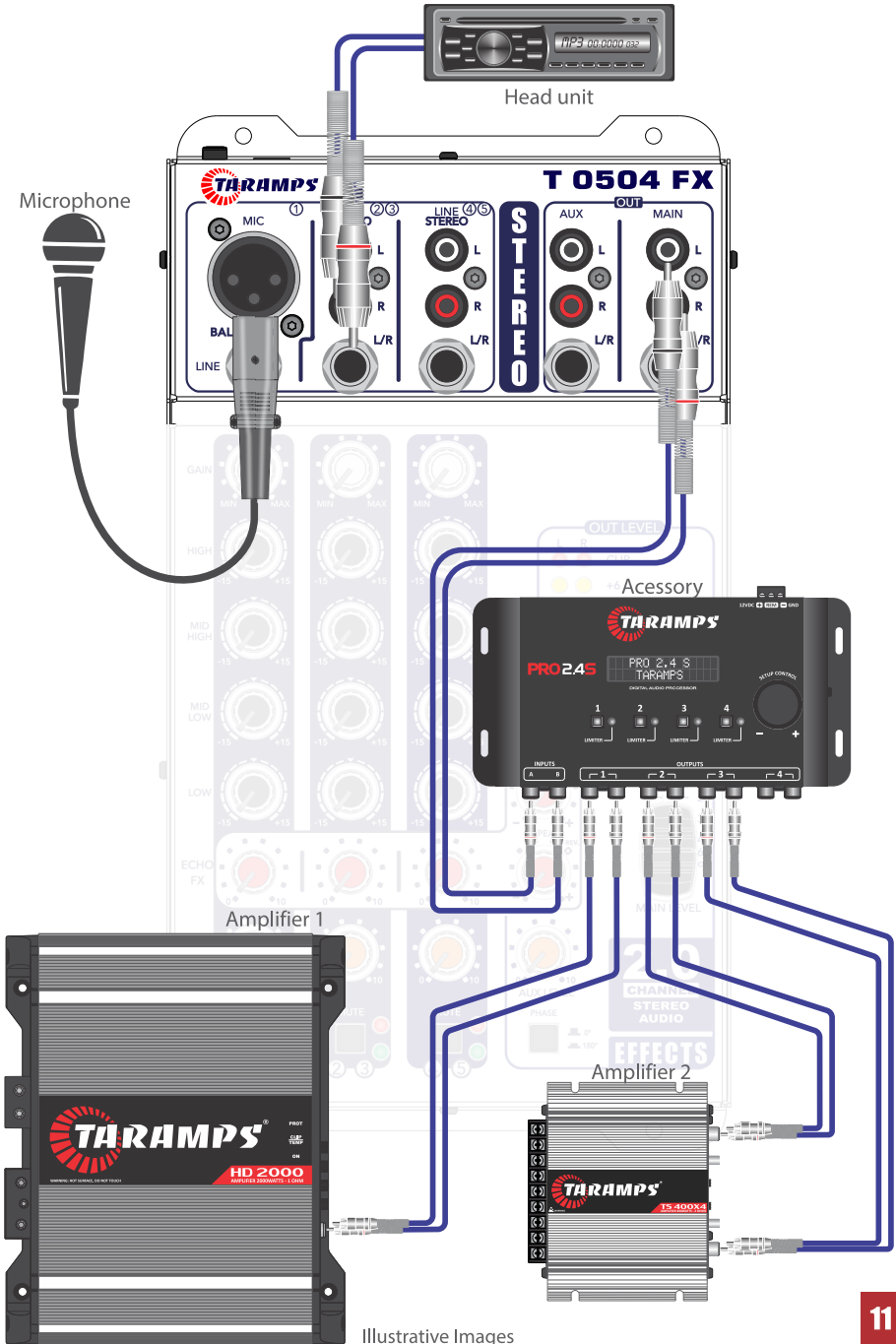> it is recommended to install a 2 Amperes fuse on the positive supply terminal.

### POWER ON/OFF 04

Turns on the sound mixer regardless of the REMOTE IN signal when pressed.
If the REMOTE IN input is active (remote on) this button will not turn off the device until the REMOTE IN input is deactivated.
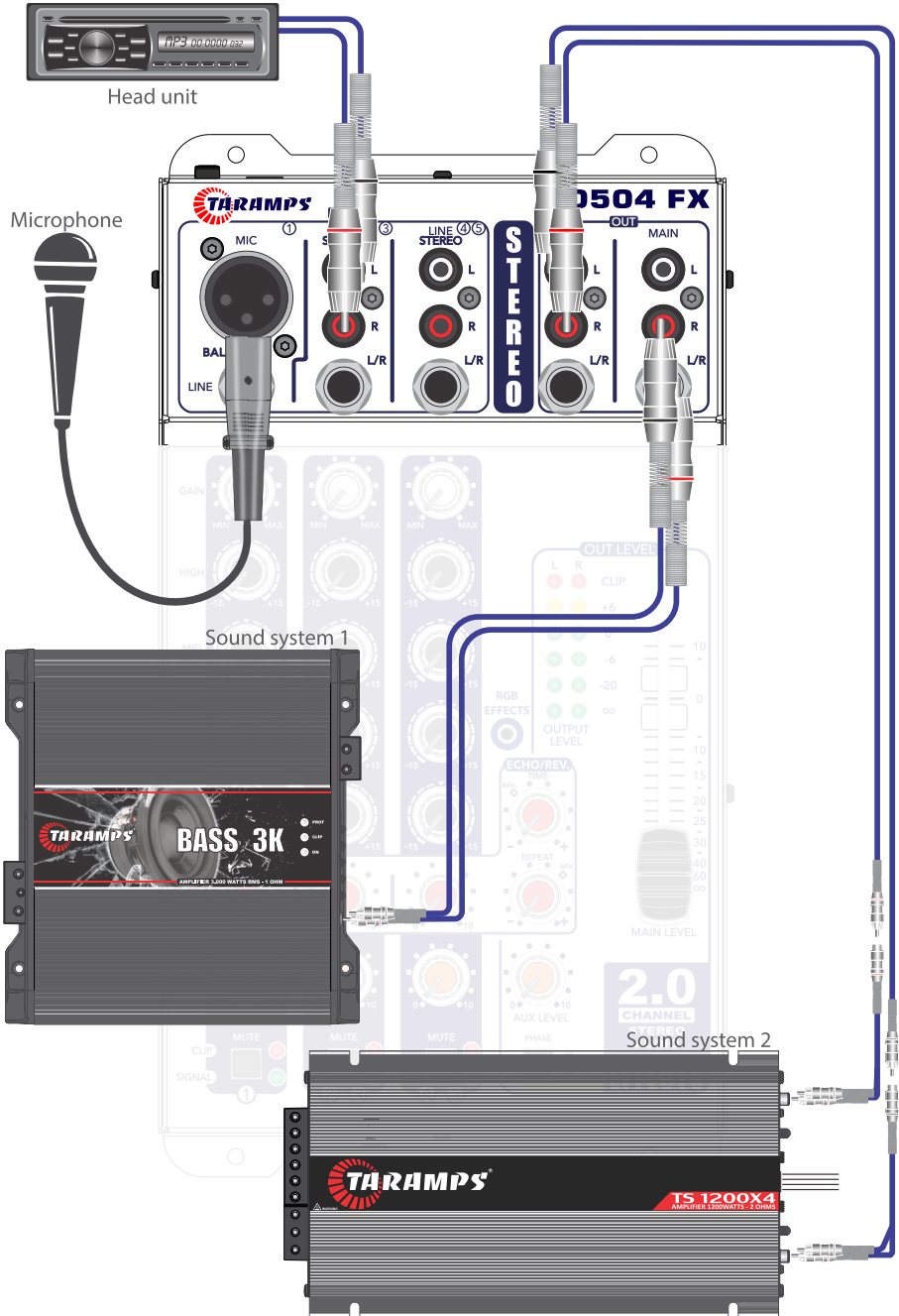
# Installation

## Connection examples - 1

Head unit

Microphone

T 0504 FX

Acessory

PRO 2.4 S

Amplifier 1

Amplifier 2

HD 2000

TS 400X4

Illustrative Images

# Installation

## Connection examples - 2



Head unit

Microphone

Sound system 1

Sound system 2

Illustrative Images

# Technical features

| | |
|---|---|
| Frequency Response (-3dB): | 2Hz ~ 76Khz |
| Total Harmonic Distortion: | <0,009% (T.H.D.) |
| Signal to Noise Ratio (SNR): | 112dB |
| Channel 1 input sensitivity: | Mic (XLR) Min: 500mV ~ Max 7mV<br>Line (TRS) Min: 620mV ~ Max 7.6mV |
| Channel 2/3 and 4/5 input sensitivity: | Line (TRS/RCA) Min: 2.55V ~ Max: 60mV |
| 4 EQ bands per channel: | High ±15dB (12KHz)<br>Mid High ±15dB (2,5KHz)<br>Mid Low ±15dB (300Hz)<br>Low ±15dB (80Hz) |
| Channel 1 input impedance: | Mic (XLR): unbalanced 4K Ohms<br>Balanced 8K Ohms<br>Line (TRS): unbalanced 8.5K Ohms<br>Balanced 17K Ohms |
| Channel 2/3 and 4/5 input impedance: | Line (TRS): unbalanced 10K Ohms<br>Line (RCA): unbalanced 10K Ohms |
| Echo Fx Time / Echo Fx Repeat: | 50 ~ 350ms 1 ~ 12 repetições |
| Output impedance: | Main Out (P10/RCA): 47R<br>Aux Out (P10/RCA): 47R |
| Max outputs level: | Main Out (P10/RCA): 18 dBu/6.3Vac<br>Aux Out (P10/RCA): 18 dBu/6.3Vac |
| Power Voltage (POWER): | 9 ~ 16 Vdc |
| Consumption*: | 1A |
| Remote Input (REM Connector): | 9 ~ 16 Vdc |
| Remote Output (REM Connector): | 100 mA |
| Dimensions (WxHxD): | 149x42x257mm (7.64"x1.65"x10.12") |
| Weight: | 0.94Kg (2,07lb) |

* The consumption of T 0504 FX MULTICOLOR (STEREO) may vary according to the effect used.

# TARAMPS