Instruction manual

TARAMPS®

T 0302 FX
MULTICOLOR
CAR SOUND MIXER

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

Index

Term of warranty

TARAMPS, located on Abilio Daguano Street 274, Res. Manoel Martins – Alfredo Marcondes, SP - Brazil, ZIP CODE 19180-000, guarantees this product against any defects on terms of project, making, assembling, and/or with solidarity, due to project vices which cause it improper or inadequate to its original use within 12 months from the date of purchase. In case of defect during the warranty period, TARAMPS responsibility is limited to the repairing or substitution 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 as 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.
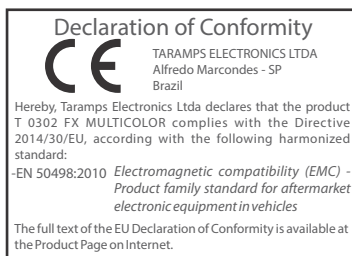
Technical assistance

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

CE

TARAMPS ELECTRONICS LTDA
Alfredo Marcondes - SP
Brazil

Hereby, Taramps Electronics Ltda declares that the product T 0302 FX MULTICOLOR 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 0302 FX MULTICOLOR** 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 69 variable lighting effects**, causing a different visual effect for the user. See pages 07 and 08.

The **T 0302 FX MULTICOLOR** features 3 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 and 3 feature shared L+R type RCA inputs with an RTS connector for greater connection flexibility.

All 3 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
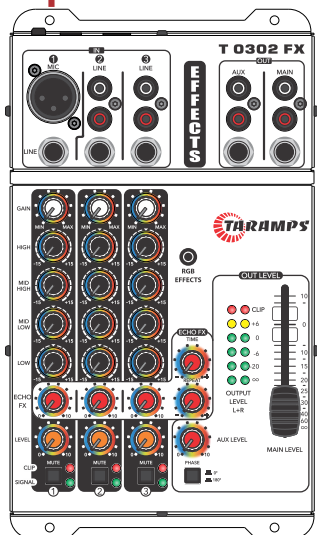
Use the P4 adapter with terminal that comes with the product to connect the power wires to the vehicle's 12V battery. Use 1.5mm^2 gauge wires for both the positive and negative wires. Screw the wires according to the following instruction:
1- Borne ⊕ on the battery positive
2 - Borne ⊖ on the battery negative.
As protection, a fuse must be installed close to the positive pole of the battery **(1A fuse)**. check for more details on pag. 09 of this manual. For the REMOTE connection, use 0.5 mm^2 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 1 Ampere fuse on the positive supply terminal.

On this page you have an overview of the **T 0302 FX MULTICOLOR** 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.


Pontos de fixação

Pontos de fixação

Connections
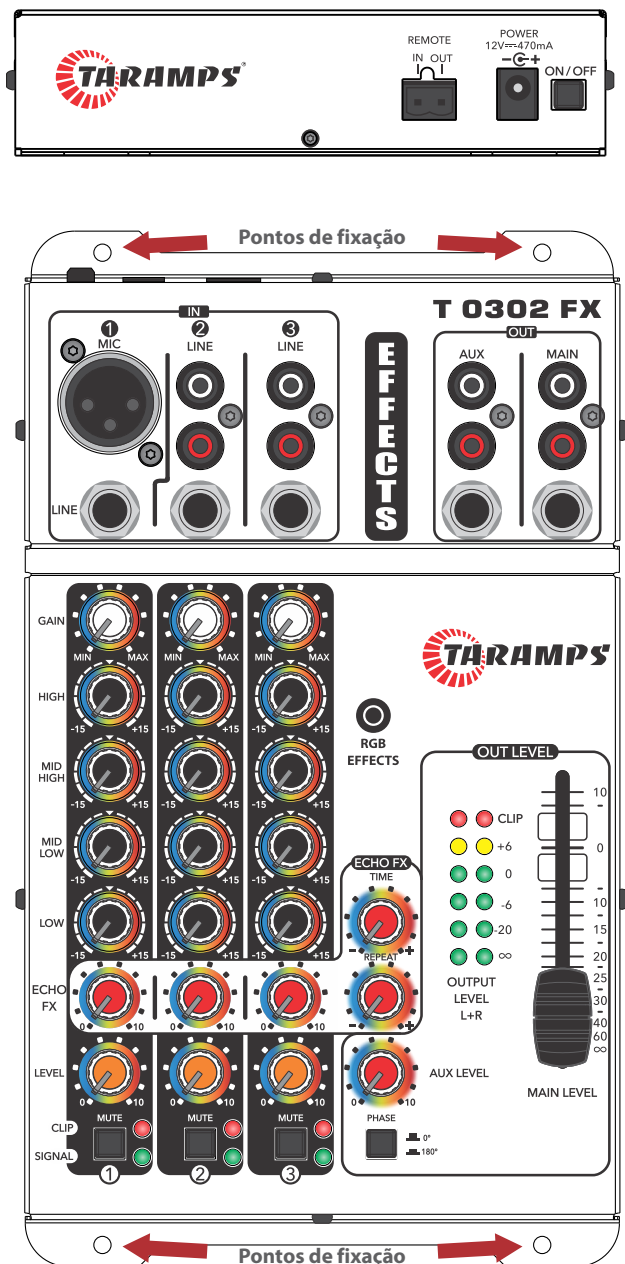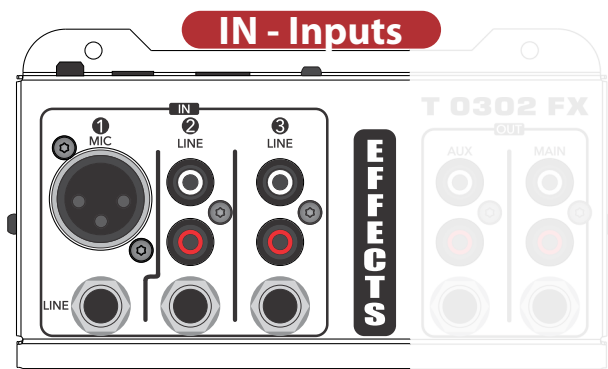
IN - Inputs

MIC / LINE 1

Balanced inputs for XLR (Canon) and TRS connectors. ATTENTION: these inputs DO NOT HAVE PHANTON POWER.

LINE 2 3

Unbalanced inputs Inputs for RCA or (TRS 1/4") connector. They allow you to receive signals from several types of sound gear such as CD/DVD/MP3-player, audio processors, etc... with high level outputs.

OUT - Outputs
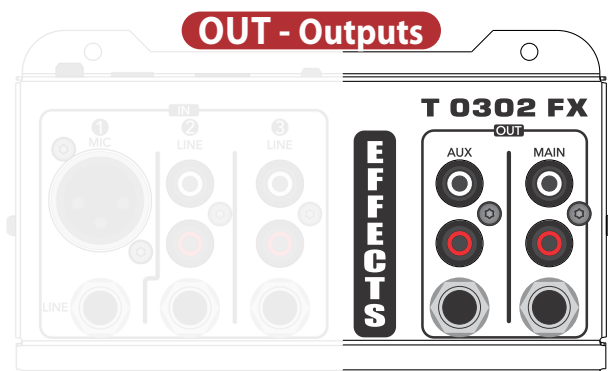
AUX OUT

It features an RCA connector in parallel with a connector for TRS. This output mixes all input signals, including L and R.
This output features a phase inversion button and independent level control, but it also responds to the **MAIN LEVEL** control.

MAIN OUT

It features an RCA connector in parallel with a connector for TRS.
This output mixes all input channels, including R and L.

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, ranging from approximately 50ms to 350ms. The REPEAT control increases the number of repetitions from 1 (minimum) to 12, with exponential attenuation.
In a practical way, the TIME control can be compared to the size of an echo room. For a larger room, the sound takes more time to reflect on the walls. For smaller rooms the reflection time is short, some times difficult to realise. The REPEAT control can be compared to the type of wall coating material. Soft material absorbs more sound energy, creanting less echo repetition. Hard material reflects more effectively the sound creating more sound reflection.

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.
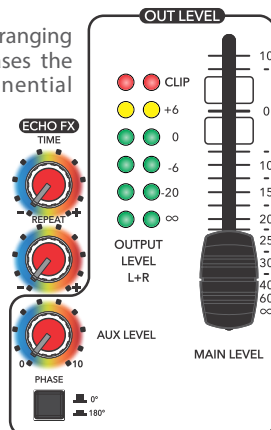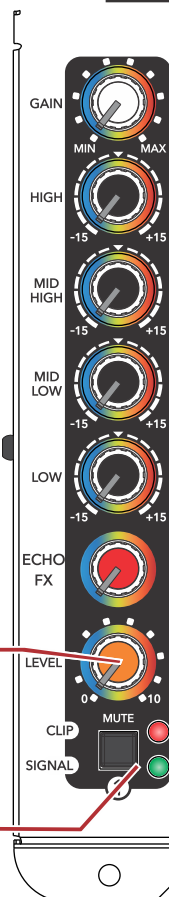
RGB EFFECTS

The **T 0302 FX MULTICOLOR** 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 table:

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	turns off all RGB effect LEDs
1	changes the automatic effect randomly
2	rainbow effect with wave animation
3	horizontal lines falling and accumulating, changes colors automatically.
4	vertical back and forth with white background and dots alternating colors.
5	vertical fill in red.
6	strobe effect in white
7	giroflex effect
8	fixed color: red
9	fixed color: orange
10	fixed color: yellow
11	fixed color: green
12	fixed color: green + cyan
13	fixed color: cyan
14	fixed color: blue
15	fixed color: purple
16	fixed color: pink
17	fixed color: pink + red
18	fixed color: faint white
19	fixed color: medium white
20	fixed color: strong white
21	palette per function: white gain / eq. blue / eco red / level orange
22	palette per function: white gain / eq. green / eco red / level orange
23	palette per function: white gain / eq. cyan / eco red / level orange
24	palette per function: white gain / eq. purple / eco green / level orange
25	palette per function: red gain / eq. purple / eco green / level blue
26	green background with white pimball animation
27	red background with white pimball animation
28	blue background with white pimball animation
29	purple background with white pimball animation
30	yellow background with white pimball animation
31	cyan background with white pimball animation
32	rainbow background with pimball (arcade) animation in white

AUDIO EFFECTS TABLE

0	turns off all RGB effect LEDs
1	vu-meter: green background, scale from green to red
2	vu-meter: green background, scale from blue to green
3	vu-meter: white background, range from green to purple
4	vu-meter: blue background, scale from blue to red
5	vu-meter: green background, scale from green to red
6	VU-meter: purple background, green/yellow/red scale.
7	rainbow effects with wave animation
8	horizontal lines falling and accumulating, changes colors automatically.
9	vertical back and forth with white background and dots alternating colors.
10	vertical fill in red.
11	strobe effect in white
12	giroflex effect
13	fixed color: red
14	fixed color: orange
15	fixed color: yellow
16	fixed color: green
17	fixed color: green + cyan
18	fixed color: cyan
19	fixed color: blue
20	fixed color: purple
21	fixed color: pink
22	fixed color: pink + red
23	fixed color: faint white
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26	palette per function: white gain / eq. blue / eco red / level orange
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28	palette per function: white gain / eq. cyan / eco red / level orange
29	palette per function: white gain / eq. purple / eco green / level orange
30	palette per function: red gain / eq. purple / eco green / level blue
31	green background with white pimball animation
32	red background with white pimball animation
33	blue background with white pimball animation
34	purple background with pimball (arcade) animation in white
35	yellow background with white pimball animation
36	cyan background with white pimball animation
37	rainbow background with pimball (arcade) animation in white

Installation

Power and activation

The **T 0302 FX MULTICOLOR** was designed to be used in car audio systems with a 12V battery, but it can also be used with an external 12V plug adapter with a current of at least 2A, which must be purchased separately (in this case, the consumer should pay attention to the adapter plug that should be standard P4-2mm) . It has an ON/OFF button that eliminates the REMOTE IN connections.

It can automatically turn on and off by remote activation using the REMOTE IN connection. To do so, keep the ON/OFF key off (unpressed).

The REMOTE OUT connection can be used for powering 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 CD/DVD player. 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).

Use a 0.75mm² cable for the connections and **use a 1A 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

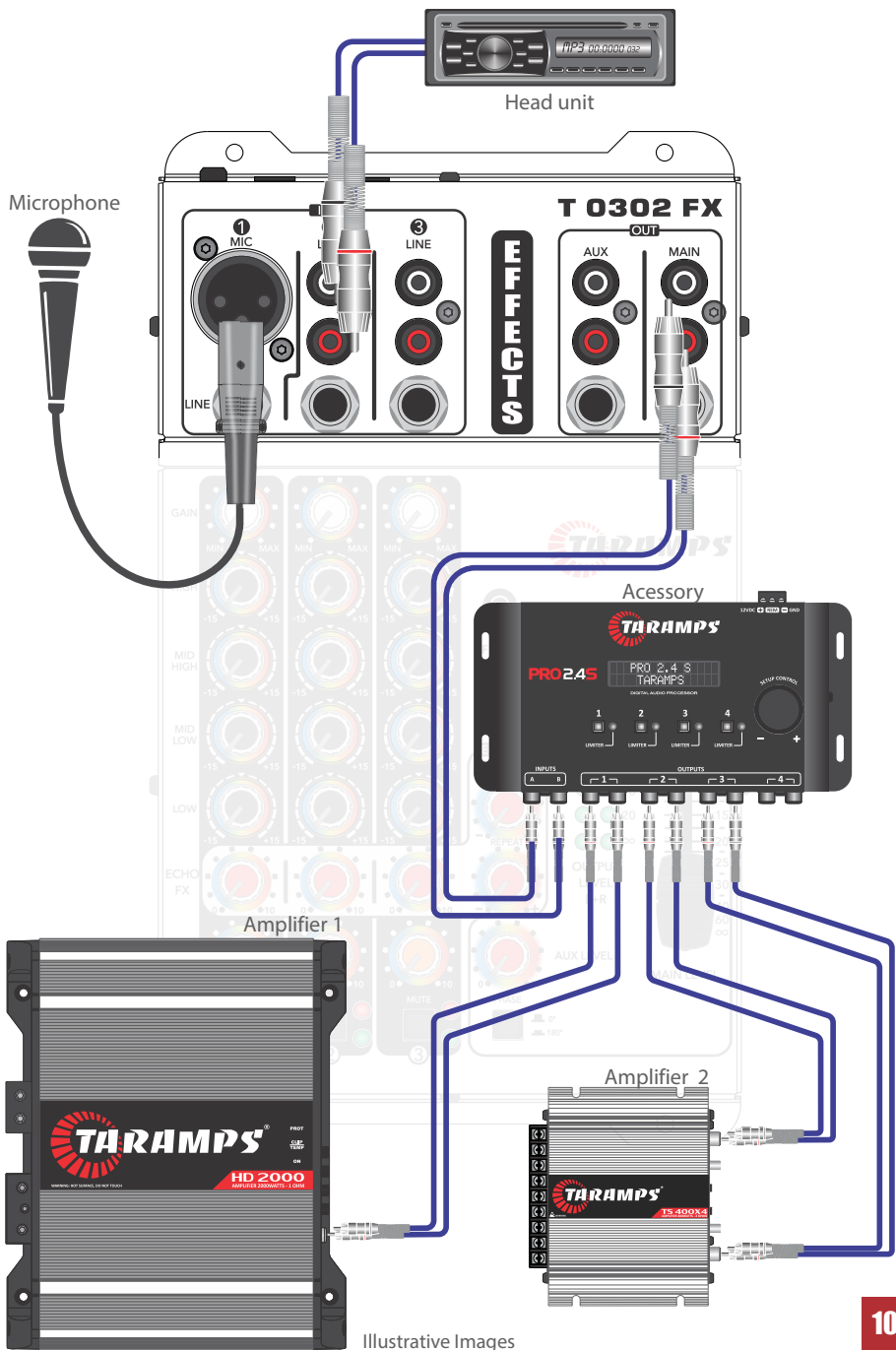⚠ **CAUTION**   Check power polarity and recommended gauge.
it is recommended to install a 1 Ampere fuse on the positive supply terminal.
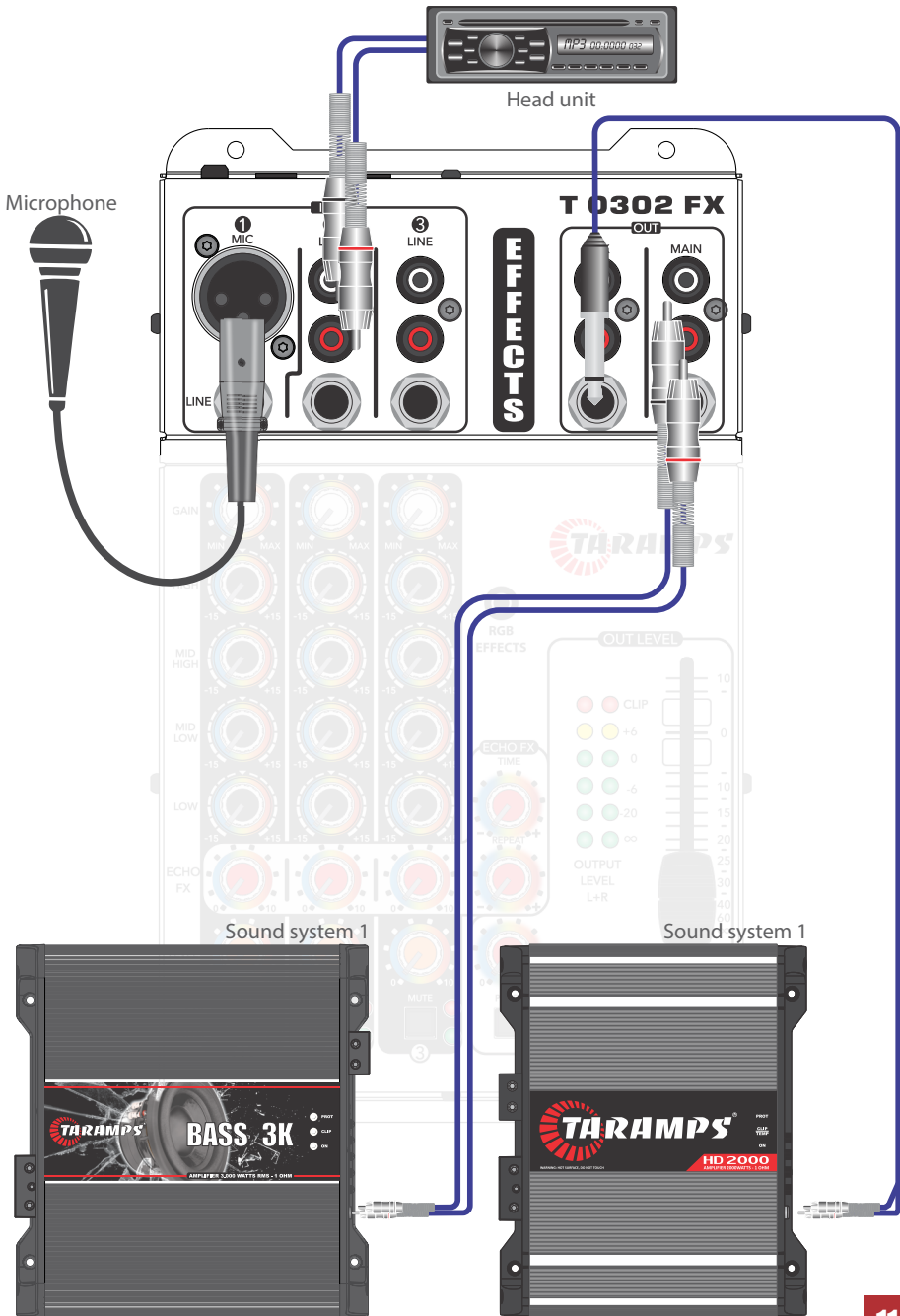
POWER ON/OFF   04

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 0302 FX

① MIC

③ LINE

EFFECTS

OUT

AUX   MAIN

LINE

Acessory

12VDC · REM · GND

PRO 2.4S

PRO 2.4 S
TARAMPS

DIGITAL AUDIO PROCESSOR

SETUP CONTROL

1   2   3   4

LIMITER LIMITER LIMITER LIMITER

INPUTS   OUTPUTS

A   B   1   2   3   4

Amplifier 1

Amplifier 2

TARAMPS
PROT
CLIP/TEMP
ON
HD 2000
AMPLIFIER 2000WATTS - 1 OHM
WARNING: HOT SURFACE, DO NOT TOUCH

TARAMPS
TS 400X4

Illustrative Images

Installation

Connection examples - 2

Head unit

Microphone

T 0302 FX

① MIC LINE ③ LINE EFFECTS OUT MAIN

LINE

Sound system 1

Sound system 1

BASS 3K
AMPLIFIER 3,000 WATTS RMS - 1 OHM
PROT
CLIP
ON

TARAMPS
HD 2000
AMPLIFIER 2000 WATTS - 1 OHM
PROT
CLIP/TEMP
ON

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 Line (TRS) Min: 620mV ~ Max 7.6mV
Channel 2/3 input sensitivity:	Line (TRS/RCA) Min: 2.55V ~ Max: 60mV
4 EQ bands per channel:	High ±15dB (18KHz) Mid High ±15dB (2.4KHz) Mid Low ±15dB (240Hz) Low ±15dB (30Hz)
Channel 1 input impedance:	Mic (XLR): unbalanced 4K Ohms Balanced 8K Ohms Line (TRS): unbalanced 8.5K Ohms Balanced 17K Ohms
Channel 2 and 3 input impedance:	Line (TRS): unbalanced 10K Ohms Line (RCA): unbalanced 10K Ohms
Echo Fx Time / Echo Fx Repeat:	50 ~ 350ms 1 ~ 12 repetições
Output impedance:	Main Out (P10/RCA): 47R Aux Out (P10/RCA): 47R
Max outputs level:	Main Out (P10/RCA): 18 dBu/6.3Vac Aux Out (P10/RCA): 18 dBu/6.3Vac
Power Voltage (POWER):	9 ~ 16 Vdc
Consumption*:	470 mA
Remote Input (REM Connector):	9 ~ 16 Vdc
Remote Output (REM Connector):	100 mA
Dimensions (WxHxD):	145x42x242mm (5.28"x1.65"x9.66")
Weight:	0.82Kg (1.80lb)

*The consumption of T 0302 FX MULTICOLOR may vary according to the effect used.

Taramps reserves the right to modify the content of this manual without prior notice and without any obligation to apply the modifications to previously produced units.

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