TPT-SP4BT

Sound Processor

4-CHANNEL DSP CONTROLLED
BY A WIRELESS (BT) CONNECTION

USER MANUAL

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Introduction

Thank you for choosing a TIMPANO product!

The **TPT-SP4BT** is a digital audio processor that offers a variety of high-precision adjustments and settings to enhance the performance of your audio system. Through Bluetooth communication, the processor's information can be viewed and configured remotely using smartphones with Android or iOS systems. Its digital signal processor (DSP) allows real-time modification of equalizations, crossover filters, alignment, gain control, phase inversion, limiter, digital input/output routing, and other treatments. Its exclusive sequencer feature (SEQUENCER) makes it possible to configure the programmed startup and shutdown of up to three products from the remote startup connections (S1, S2, and S3).

Before installing

Please read this manual carefully.

• All connections must be made with the product turned **OFF**.

• A fuse must be installed between the amplifier and the battery is required to protect against overcurrent. The fuse needs to be installed as close to the battery as possible. Choose an appropriate fuse for the amplifier based on its consumption.

• Use the wire recommended in this manual to keep cables from overheating cables and to obtain maximum power.

• Keep the cables as short as possible to increase sound fidelity and avoid potential power losses.

• Route the installation cables as far away as possible from the original vehicle wiring to prevent interference and noise in your audio system.

- Perform the installation on a firm surface in a ventilated and dry place.
- Installation should only be done by a qualified professional.

If you have questions , contact the store where the purchase or installation was done. For more information please contact our
Customer Service: (954) 859-5529

Features

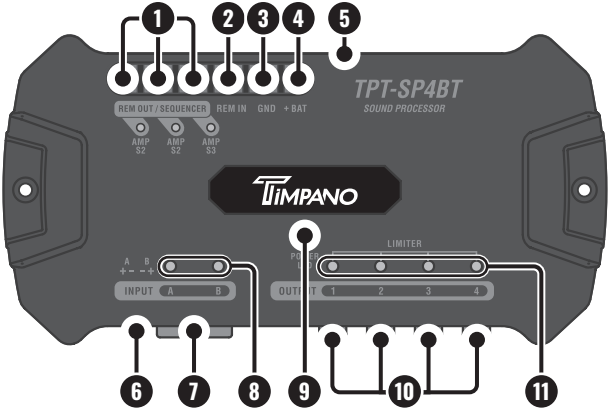
- Graphic input equalizer (15 bands and equalization presets);
- Input parametric equalizer (frequency, gain, Q factor);
- Parametric equalizer per output (frequency, gain, Q factor);
- Routing between inputs and outputs;
- High precision crossover with Butterworth and Linkwitz-Riley filters and attenuations up to 36 dB/8th;
- High-precision alignment/delay;
- Phase inversion;
- Limiter with Threshold, Attack and Release adjustment;
- Independent gain and mute per output and master volume;
- Working memory with automatic saving of settings;
- Allows saving and loading the settings made by the user;

Security password to block modification of the parameters;

- Frequency generator, frequency sweep and pink noise;
- Outputs for remote triggering with configurable interval;
- Battery monitoring;
- Limiter actuation monitoring;
- OAD update (over the air download);

Processor Overview

Audio Processor **TPT-SP4BT**



1. REMOTE OUT / SEQUENCER: This feature allows sequenced startup of other products through your remote connection (REM). Make the connection using a minimum **18 AWG** cable. Each connection can be configured, enabled or disabled by the application or SMC control.

2. REM IN: Use this connection for automatic processor activation when turning on the radio/player. Connect the remote output of the radio/player through a cable of at least **18 AWG**.

3. NEGATIVE POWER CONNECTOR (GND): Connect to the negative terminal of the battery through a minimum **13 AWG** cable.

4. POSITIVE POWER CONNECTOR (+BAT): Connect to the positive battery terminal using a minimum **13 AWG** cable. It is recommended to use a **1A fuse** for external protection.

5. SERVICE CONNECTION: Dedicated connection for authorized support services and updates.

6. AUDIO INPUT WITH WIRE CONNECTION (HIGH INPUT): HIGH INPUT type audio connection with independent action (A and B). Check this manual for the installation diagram for the radio/player harness.

7. AUDIO INPUT WITH RCA CONNECTION (INPUT): Double type RCA connectors with independent actuation (A and B). Connect to the audio output of the radio/player via RCA cables. Give preference to quality shielded cables to avoid noise.

8. MAX LEDs (INPUT CHANNELS): These LEDs act individually to indicate signal saturation on the input channels.

9. POWER LED / COMMAND BUTTON: Used to reset processor settings and updates. See topic **"Reset factory settings"**.

10. AUDIO OUTPUTS CHANNELS (OUTPUT): Individual RCA output connections provide the audio processed with the parameters performed in the processor.

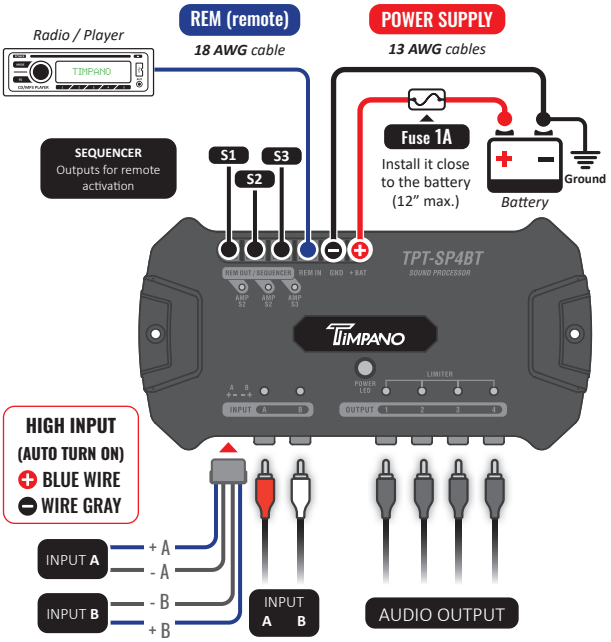
11. LIMITER LEDs (OUTPUT CHANNELS): These LEDs actuate when the "LIMITER" function is in use. Each channel has a dedicated LED for visualization of the actuation individually. The LEDs also act as output saturation indicators.

Installation

Specification of the cables and fuse for proper installation:

- Power connectors (positive/negative) ..... **13 AWG**
- Remote connectors (REM IN / REM OUT) ..... **18 AWG**
- Fuse **1A**

- Installation must be done only by qualified professionals with the product turned **OFF**.
- The use of fuse is mandatory to protect the system from short circuit and overload. Install them as close to the battery as possible.



AUTO TURN-ON

It provides the automatic activation of the processor through the signal present in the HIGH INPUT. If the signal level of your radio is not sufficient or when using the RCA connection, the activation must be done by the remote input (REM IN).

Using the Application

Before you synchronize the **TPT-SP4BT** with your device, make sure that it has the minimum requirements to operate correctly with the processor application.

Minimum requirements

- Devices with Android system from version 5.0 and Bluetooth technology 4.0 or higher;
- Devices with iOS system from version 12, with Bluetooth technology 4.0 or higher.

Download the app to your device

In your device's app store (Play store or App store), search for our **TIMPANO TPT-SP4BT** app or use the links below to be directed to the app page. Once installed, open the app to configure and use your audio processor.

DISPONÍVEL NO Google Play

Baixar na App Store

Before starting to sync with the app for the first time, make sure the processor is not registered in the list of bluetooth devices paired with your device. If so, remove it from the list to avoid sync errors.

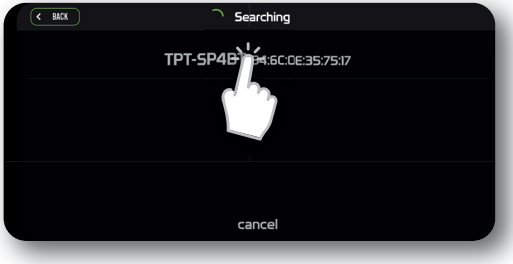
Pairing with the processor

To connect the processor to the application via Bluetooth, follow these instructions:

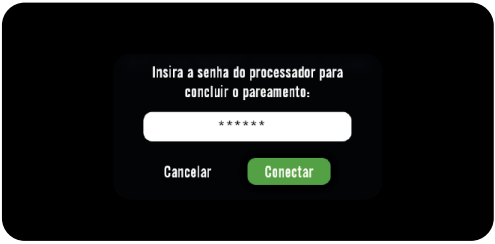
Turn on the **TPT-SP4BT** and start the APP.

Demo mode allows you to use the application without processor connection (some functions will be unavailable in this mode).

The application will start the search and show you available processors in the pairing list. Select your processor to continue.



Enter the security password and click **connect**.



The default password for pairing is: **123456**. For added security, change the password later in the settings menu.

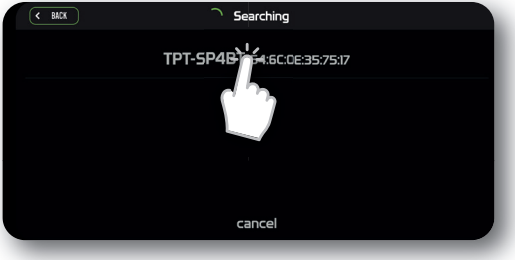
When using the **TPT-SP4BT** processor for the first time, it is necessary to install some functions and updates. This process is quick and mandatory to ensure the best performance of the processor.

Before you start the upgrade process::

- **DO NOT** disconnect the processor from power during this process.
- **DO NOT** exit or close the application during this process.
- **DO NOT** distance the device connected to the processor during this process.

After starting the processor update process, wait for the automatic completion of this process.

When completed, the processor will automatically restart and the application will be directed to the search screen to reconnect the processor.



With the connection successfully established, the application will be directed to the main menu and will be ready for use.

If you are having difficulties or problems configuring the processor, please contact your installer or our Customer Service team.

APP functions and features

Learn about some of the functionalities and features present in the main screen of the application.

Settings
Change app and processor preferences.

Shortcuts panel
Simplified real-time control and visualization of processor resources.

Connection status
Connection status and opens the device list if pressed.

Customizable shortcuts
Customize these shortcuts for a setting or tool of your choice. They can be changed whenever you wish in the **settings menu**.

Audio adjustments
- Eq. Graphic
- Eq. parametric
- Crossover
- Routing
- Gain
- Limiter
- Delay
- Phase

Processor Tools
- Audio Generator
- Configuration of the Sequencer
- Save/Copy
- Voltmeter

In the settings menu, you can access technical support and assistance options if necessary.

Reset factory settings

It is possible to restore the factory image of the processor. This is important if the user forgets the pairing password or the processor has some other problem that does not allow the connection.

To reset, follow these steps:

1. Turn off the audio processor.

2. Press and hold the control button and turn on the processor.

3. Release the control button as soon as its LED starts blinking. Press it again within 20 seconds to confirm the reset.

4. After the reset is confirmed, you will need to update the processor to the most current firmware version.

Before you start syncing with the application for the first time or when it is reset, check that the processor is not registered in the list of Bluetooth devices paired to your device. If it is, remove it from the list to avoid synchronization errors.

Troubleshooting

PRODUCT DOES NOT TURN ON:

• Check that the cables are connected correctly. Make sure that all connections have electrical and mechanical contact.

• Fuses or circuit breakers may be defective or blown. Check the condition of the circuit breakers and whether it is compatible with the consumption of the equipment.

• Check that the battery charge is sufficient for operation.

• No signal from the **REMOTE IN** input. Check that the remote connection is receiving voltage close to **12V**.

ICON INDICATING CONSTANT LOADING:

• Possible connection problem with the processor. Redo the connection via the connection icon (top right icon).

BLUETOOTH NOT VISIBLE / CANNOT PAIR:

• Close the application, turn Bluetooth off and on the device and open the application again.

• Turn the processor off and on.

NO SOUND:

• Check that the GAIN and LEVEL controls of the inputs and outputs.

• Check that the outputs are not off/mute.

• The speaker cables or RCA plugs may not be connected correctly or may be defective.

NOISES AND GLITCHES IN THE SOUND:

• Check that the installation is not close to the vehicle's original wiring, they can cause interference and noise in the audio signal.

• Make a separate power connection for the sound system. Use a fuse/circuit breaker as close as possible to the battery for protection.

Do a good grounding of the amplifier. For this remove the paint from the vehicle chassis at the desired point. Screw on the wire using a ground terminal. To protect it from oxidation, insulate it with paint.

Do not make a ground loop using several grounds. Prefer the star connection, with all grounds starting from a single point.

FCC Warning

FCC ID: 2BBF7-TPT-SP4BT

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.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to 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 in accordance with the instructions, 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 into 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.

Note: The Grantee is not responsible for any changes or modifications not expressly approved by the party responsible for compliance. such modifications could void the user's authority to operate the equipment.

The device has been evaluated to meet general RF exposure requirement. To maintain compliance with FCC's RF exposure guidelines, the distance must be at least 20 cm between the radiator and your body, and fully supported by the operating and installation.

Technical Specifications

Number of channels:	Input: **2** x **RCA** (A+B) or **2** x **HIGH INPUT** (A+B) Output: **4** (1, 2, 3, 4)
Graphic equalizer:	**15 Bands** (gain ±12dB)
Graphic equalizer presets:	**12**
Parametric equalizer:	**5 Bands (1 Input + 4 Output)** (gain ±12dB, Factor Q 0.4 a 10.0)
Crossover with freq. Variable:	**Butterworth: 12/18/24/36 dB/8ª** **Linkwitz-Riley: 12/18/24/36 dB/8ª**
Crossover presets:	**11**
Routing between input / output:	**A, B ou A+B**
Alignment:	**0ms ~ 8ms** (275cm)
Phase inversion:	**0° ~ 180°**
Limiter:	**Threshold: -24dB ~ 0dB** **Attack: 0.1ms ~ 100.0ms e Release:** **1ms ~ 1600ms** (manual or auto.)
Master level:	**0 ~ 100%**
Output gain:	**-45dB ~ +15dB** per output
Frequency generator:	**10Hz ~ 22kHz** and **Level -60 ~ 0dB**
Frequency scan:	Starting and ending frequency: **10Hz ~ 22kHz** Level: **-60dB ~ 0dB**
Pink noise generator:	Gain: **-60dB ~ 0dB**
Battery voltage monitor:	**Current, minimum and maximum voltage**
Password:	**6-digit password**
Input impedance:	RCA: **28 kΩ** / FIO: **1 kΩ**
Output impedance:	**47 Ω**
Signal to noise ratio:	**> 90dB**
Total harmonic distortion:	**< 0,01% T.H.D.**
Channel separation:	**> 80dB**
Frequency response:	**10Hz ~ 22kHz @ 0dB**
Max. Input voltage:	RCA: **5,6 Vpp** (+8,2 dBu) HIGH INPUT: **15 Vpp** (+18 dBu)
Max. Output voltage:	**5,6 Vpp** (+8,2 dBu)

Power supply:	**10V ~ 15V** DC
Max. Output current **SEQUENCER**:	**180 mA** per output
Rated current consumption:	**170mA @ 12.6V** DC
Maximum current consumption:	**710mA @ 12.6V** DC
Protection:	**Short Circuit (PTC fuse)**
Bluetooth version:	**Low Energy (LE)**
Range:	**15 meters***
Compatibility:	**Android 5.0 or higher** **iOS 12 or higher**
Dimensions (H x W x L):	**1.3” x 3,8” x 7,4”**
Weight:	**0.40 Lb**

**unobstructed viewable area.*

Any updates made in this manual will be available for costormers to consult without any charge on the brand’s site.
It is recommended that the updated manual be consulted whenever needed.

Images contained in this manual are merely illustrative and may differ from the actual product.

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