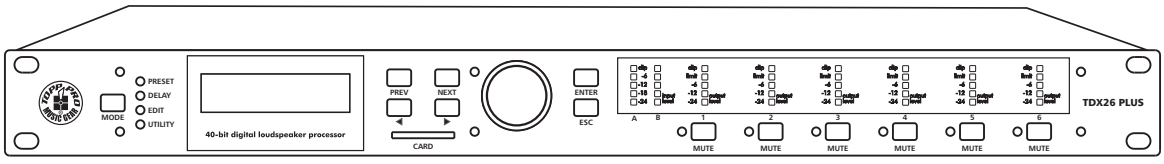
TDX SERIES

# User's Manual

## TDX26 PLUS



# SAFETY RELATED SYMBOLS


This symbol, wherever used, alerts you to the presence of un-insulated and dangerous voltages within the product enclosure. These are voltages that may be sufficient to constitute the risk of electric shock or death.

This symbol, wherever used, alerts you to important operating and maintenance instructions.

Please read.

Protective Ground Terminal

AC mains (Alternating Current)

AC mains (Alternating Current)

ON: Denotes the product is turned on.

OFF: Denotes the product is turned off.

**WARNING**

Describes precautions that should be observed to prevent the possibility of death or injury to the user.

**CAUTION**

Describes precautions that should be observed to prevent damage to the product.

Disposing of this product should not be placed in municipal waste but rather in a separate collection.

## WARNING

### Power Supply

Ensure that the mains source voltage (AC outlet) matches the voltage rating of the product. Failure to do so could result in damage to the product and possibly the user. Unplug the product before electrical storms occur and when unused for long periods of time to reduce the risk of electric shock or fire.

### External Connection

Always use proper ready-made insulated mains cabling (power cord). Failure to do so could result in shock/death or fire. If in doubt, seek advice from a registered electrician.

### Do Not Remove Any Covers

Within the product are areas where high voltages may present. To reduce the risk of electric shock do not remove any covers unless the AC mains power cord is removed. Covers should be removed by qualified service personnel only.

No user serviceable parts inside.

### Fuse

To prevent fire and damage to the product, use only the recommended fuse type as indicated in this manual. Do not short-circuit the fuse holder. Before replacing the fuse, make sure that the product is OFF and disconnected from the AC outlet.

### Protective Ground

Before turning the unit ON, make sure that it is connected to Ground. This is to prevent the risk of electric shock.

Never cut internal or external Ground wires. Likewise, never remove Ground wiring from the Protective Ground Terminal.

### Operating Conditions

Always install in accordance with the manufacturer's instructions.

To avoid the risk of electric shock and damage, do not subject this product to any liquid/rain or moisture.

Do not use this product when in close proximity to water.

Do not install this product near any direct heat source.
Do not block areas of ventilation. Failure to do so could result in fire.
Keep product away from naked flames.

## IMPORTANT SAFETY INSTRUCTIONS

Read these instructions
Follow all instructions
Keep these instructions. Do not discard.
Heed all warnings.
Only use attachments / accessories specified by the manufacturer.

### Power Cord and Plug

Do not tamper with the power cord or plug. These are designed for your safety.

Do not remove Ground connections!
If the plug does not fit your AC outlet seek advice from a qualified electrician.

Protect the power cord and plug from any physical stress to avoid risk of electric shock.

Do not place heavy objects on the power cord. This could cause electric shock or fire.

### Cleaning

When required, either blow off dust from the product or use a dry cloth.

Do not use any solvents such as Benzol or Alcohol.
For safety, keep product clean and free from dust.

### Servicing

Refer all servicing to qualified service personnel only.
Do not perform any servicing other than those instruct -ions contained within the User's Manual.

The mains plug or an appliance coupler is used as the disconnect device, the disconnect device shall remain readily operable.

**PORTABLE CART WARNING**

Carts and stands - The component should be used only with a cart or stand that is recommended by the manufacturer.
A component and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the component and cart combination to overturn.

# Index

# 1 Introduction

Thank you for purchasing TOPP PRO product, the TDX26 PLUS. TDX26 PLUS is 2 In Digital Signal Processor for speaker management. For the input section, thereare Input Gain, 8 bands Parametric Equalizer(PEQ)and delay functions for the stereo input signal processing. In the 6 / 4 output channels section, there are equipped with Input selection, 5-band Parametric Equalizer, Crossover, Delay, Gain, Limiter,and Mute.In order to make the users understand the ways of operation conveniently, it uses the LEDs and LCD to indicate the respective parameter settings.
Please read this manual carefully so you can take advantages of all the features of the TDX26 PLUS.
Thanks again for choosing TOPP PRO.

# 2 Features

- 2 balanced Inputs and 6 balanced Outputs
- 10 FACTORY PRESETS+64 USER PRESETS+128 CARD PRESETS
- 5 LEDs for every Channel Level Display
- Digital Audio Input with Sample Rate Converter
- Output Mute button for every output channel
- USB user interface for PC software control
- RS-485 multi-units linking interface
- Input Gain Control from -30 to +6 dB
- 5-band Input parametric EQ with 0.05 Oct. Frequency step
- 5-band Output parametric EQ with 0.05 Oct. Frequency step
- 900ms Inputs Delay and 291ms Outputs Delay Line Support for Speaker Placement
- Re-routable input selection for the output management
- Output Volume Control from -30 to +6 dB
- Comp/Lim Function for every output channel
- 0.5 dB /step for Parametric EQ Boost and Cut
- Auto-detectable Digital Input enable

# 3 Useful Data

Please write your serial number here for future reference.

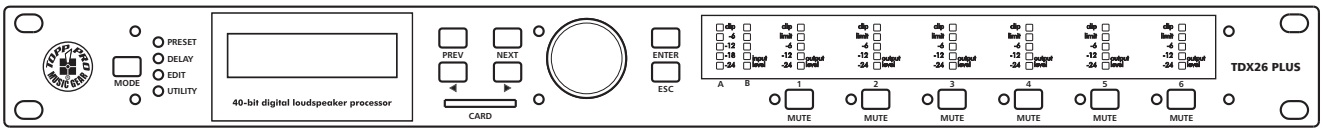
**Serial Number:**

**Date of Purchase:**

**Purchased at:**

## Introduction

Congratulations for having chosen the **TDX26 PLUS**!




**TDX26 PLUS** is an extremely versatile **digital processor for loudspeaker systems**
The powerful **40 bit** resolution DSP, together with low-noise **24 bit** converter, provides an extremely high processing quality and a dynamics suitable for the most professional applications.

**TDX26 PLUS** has **2 inputs (analog or digital)** and **6 independent outputs** and can be configured as **2 or 3-way stereo, 2, 3, 4, 5 and 6-way mono** or as **distribution mixer with up to 6 outputs**. Configuration that allows 2 input signals to be summed and routed to different outputs is also available Each of **2 inputs** has:

- MASTER DELAY, available also on the input SUM;
- digital NOISE GATE;
- 5-BAND PARAMETRIC EQ;
- level control.

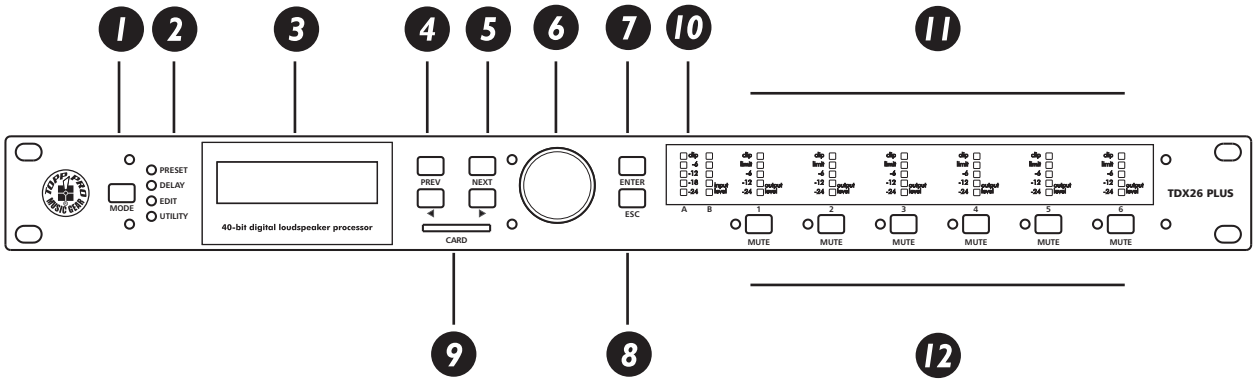
Each of **6 outputs** has:
- DELAY line;
- 5-BAND PARAMETRIC EQ;
- CROSSOVER HP and LP filters which can be selected from the BESSEL, BUTTERWORTH and LINKWITZ-RILEY types with slopes up to 48dB;
- phase control with 5° steps through a full 360°;
- digital COMPRESSOR/LIMITER;
- LEVEL and MUTE control.

All settings can be stored and recalled in an instant. In fact, the system has:
- **10 Factory PRESETS**, each of which can be used as a basic configuration for preparing custom PRESETS, others already optimized for TOPP PRO loudspeaker systems.
- **64 User PRESETS**, which can be freely programmed to store all the system settings.
- **128 Card PRESETS**, in fact User PRESETS that can be stored on Multimedia Memory Cards.

Each User or Card PRESET can contain any of the Input/Output configurations available.

All operations are carried out via user interface that includes a 2x16 LCD, a convenient DIAL for the parameter modification and selector buttons for the direct access to all the features. **TDX26 PLUS** is also equipped with **2 types of serial interface** (**USB** and **RS485**) for the remote control thru a PC and for the linking of more units.

# 4 Front Panel




**1. MODE**

Butto for selecting the PRESET, DELAY, EDIT and UTILITY menus.

Press **MODE** button to select the menu, indicated by the relative **LED**. Selecting a menu allows access to the editing of its parameters. If none of the **menu LEDs** are lit, the **display** shows the name of the current PRESET (i.e. the PRESET currently loaded in the memory) and no parameter can be modified.

**2. LEDs MENU**

Show the selection status of the PRESET, DELAY, EDIT and UTILITY menu.

**3. DISPLAY**

Rear-lit 2x16 display.

View the pages of the various menus and the relative parameters.

**4. PREV / NEXT**

Menu page navigation keys.

Each menu is made up of several pages, which can in turn contain other pages or a variable number of parameters. The **PREV** and **NEXT** keys allow to go to the previous page or next one respectively.

**5. ◀ , ▶**

Navigation cursor keys.

Each editing page contains a variable number of parameters (fields).
The ◀ and ▶ keys **allow** to move the cursor in the page, selecting the various parameters available as required.

**6. DIAL**

Encoder for editing values.

Modify the value of the selected parameter.
Turn the DIAL clockwise to raise the value and counter clockwise to lower it.

**7. ENTER**

Enter key.

- Access to the editing page whose name is shown on the display.

In some cases (e.g. PRESET name) also allows to:

- Access the editing of the selected parameter
- Confirm the value entered

**8. ESC**

Escape key.

- Exit the editing page shown on the display, confirming the value entered.

In some cases (e.g. PRESET name) also allows to:

- Exit the editing of the selected parameter
- Reject the value entered and return to the stored value.

**9. CARD**

Slot for the MEMORY CARD.

Holds a MULTIMEDIA CARD on which 128 User PRESETS can be stored and recalled whenever required.
MEMORY CARD is very useful for safe storage for later use of PRESETS and for their transfer from one TDX26 PLUS to another one.

**10. INPUT LEVEL A-B**

LED ladders indicating the level of inputs A and B.

**N.B.: the input gain is adjusted using the INPUT GAIN parameter (EDIT menu).**

To ensure a good signal/noise ratio, i.e. an up-front distortion-free signal, keep the signal quite high, but make certain the red **CLIP** LED doesn't light up continually. **CLIP**.

**11. OUTPUT LEVEL 1-2-3-4-5-6**

LED ladders showing the level of the respective outputs.

**N.B.: the output level is adjusted using the OUTPUT GAIN parameter (EDIT menu).**

IMPORTANT! Enabling the **LIMITER** on any output also changes the way in which the level is displayed on the corresponding LED ladder: in this case, in fact, the level shown on the ladder is no longer the "absolute" output level, but the level of the signal at -24dB, -12dB, -6dB compared to the LIMITER threshold (orange LIMIT LED), whatever the threshold value is.

**12. MUTE 1-2-3-4-5-6**

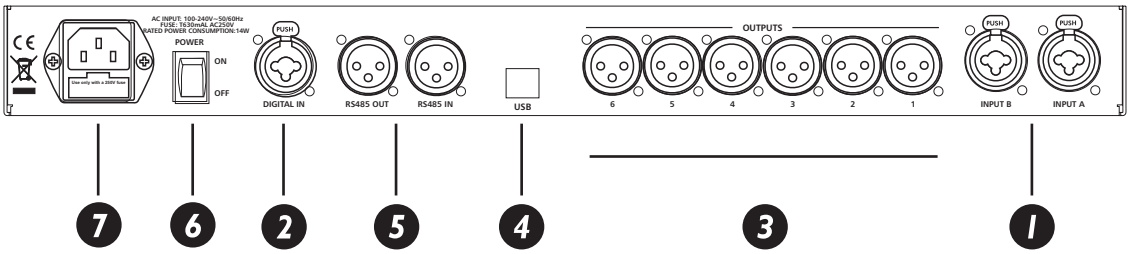
Keys with LEDs for muting the signal of the respective outputs.

When the LED is lit, the MUTE function is enabled and no signal is fed to the relative output.

**N.B.: this function is useful for avoiding signal peaks (bumps) when the sound system is switched on and off, for isolating the individual audio sections during testing or sound checks, to enable or disable sound reinforcement zones quickly, etc.**

The mode in which the MUTE function is restored when the unit is switched on can be set using the **Wake Up** function (**UTILITY** menu, **Misc. Setup** submenu) and can be set as **Normal** (last setting before the unit was switched off) or **Mute** (all outputs automatically forced into Mute status).

# 5 Rear Panel




**1. INPUTS A-B**

Audio inputs of the respective sections. Combo Connectors (compatible with balanced XLR and JACK).
The A/D conversion is made with high quality, low noise 24 bit converters.

**2. DIGITAL IN**

**Digital audio input A-B. Balanced XLR-F connector (one cable is enough to feed both inputs).**
The digital inputs can be used in alternative to the analog ones (A & B inputs) to connect the processor to units fitted with AES/EBU digital outputs (i.e. digital mixers). In this case, two conversions are bypassed, improving the signal quality. The Digital/Analog Input selection can be set using the **Input Select** function (**UTILITY** menu - **Misc. Setup** submenu).
A signal connected to the digital input has the same processing as that connected to analog input.

**3. OUTPUTS 1-2-3-4-5-6**

**Audio outputs. Balanced XLR-M connectors.**
The D/A conversion is made with high quality, low noise 24 bit converters.

**4. USB**

USB serial communication interface port.
Allow incoming and outgoing communication between a **TDX26 PLUS** and a PC or other **TDX26 PLUS** units.
Communication protocol includes:
- **Remote control**: connecting the TDX26 PLUS to a PC and using the editing software is possible to remotely control all the processor functions.
- **PRESET DUMP**: connecting two TDX26 PLUS to DUMP the single PRESETS from one unit to the other (see DUMP procedure).
- **PROGRAM CHANGE** commands send/receive: connecting two TDX26 PLUS, when a PRESET is recalled on the first one, to send a PROGRAM CHANGE command to the second one to recall the same PRESET number (see LOAD PRESET procedure).

**5. RS485 IN & OUT**

RS485 standard serial communication interface port.
Allow incoming and outgoing communication between a **TDX26 PLUS** and a PC or other **TDX26 PLUS** units.
The characteristics of the RS485 interface make these ports particularly suitable for remote control over long distances (difficult with USB standard ports) and for daisy-chaining several **TDX26 PLUS**.

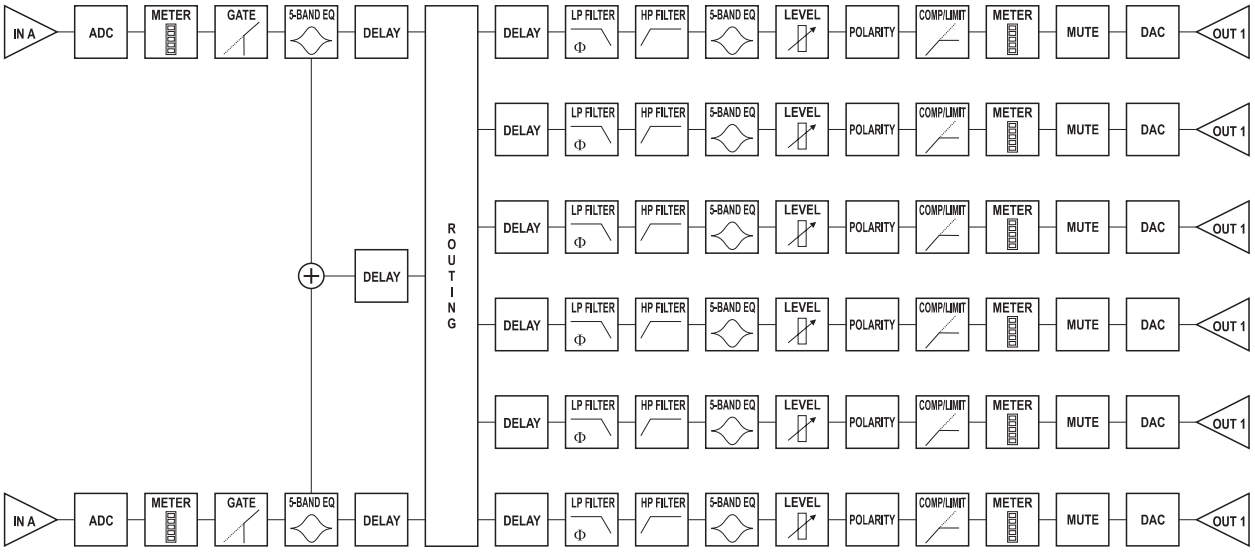
**6. POWER**

Unit's ON/OFF switch.
Before switching on or off, make certain that the sound system's amplifiers are off to avoid signal peaks, which are annoying and sometimes dangerous.

**7.AC ~**

Connector for the power supply cable.
Before switching on the unit, make certain that the mains voltage matches that shown on the rear (a tolerance of up to ±10% is acceptable). Before connecting or disconnecting the power cord, make certain the ON/OFF switch is in the OFF position.

## Signal Processing




❶ ❷ ❸ ❹ ❺ ❻ ❼ ❽ ❾ ❿ ⓫ ⓬ ⓭ ⓮ ⓯ ⓰ ⓱ ⓲

❶ **Balanced inputs (IN A & IN B).**

❷ **24-bit A/D converters.**

❸ **LED ladders for monitoring input signals.**

❹ **NOISE GATE on the inputs.**

❺ **5-band parametric equalizers for A & B inputs.**

❻ **3 delay lines (IN A, IN B & Sum A+B).**

❼ **Routing System for connecting INPUTS and OUTPUTS.**

❽ **Delay lines 1-6 output.**

❾ **Low-pass filters (LPF) with phase fine control - CROSSOVER.**

❿ **High-pass filters (HPF) - CROSSOVER.**

⓫ **5-band parametric equalizers for the outputs.**

⓬ **Output level controls.**

⓭ **Polarity inverter.**

⓮ **Output level COMPRESSOR/LIMITERS.**

⓯ **LED ladders showing output levels and limiter action.**

⓰ **Output MUTING controls.**

⓱ **24-bit D/A converters.**

⓲ **XLR-M balanced outputs.**

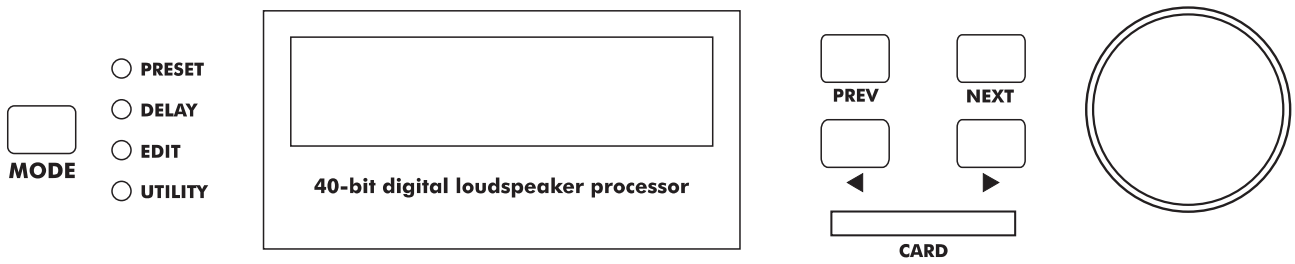
# 7 Getting Started

## Before starting

Attention!
Before starting work, remember that **TDX26 PLUS** is a powerful versatile signal processor mainly designed for use with audio systems, whose input and output routing configurations can be set only by recalling one of the PRESETS included in the internal memory. These characteristics mean that correct careful use must be made of the unit and users must be sufficiently familiar with the unit's main functions.
Before going ahead, it's advisable to get to know at least the introductory part of this manual.

## The Before Principles of Navigation and Editing

All the **TDX26 PLUS** parameters and functions can be accessed and edited using the buttons on the front panel. All available information is shown on each occasion on the display.




The control software is organized in the **PRESET**, **DELAY**, **EDIT** and **UTILITY menus**, each of which contains the relative types of parameters and functions. The navigation, i.e. access to the system's menus, and changes of the various parameters follow logical criteria, which can be summed up as follows:

- The menu is selected using the **MODE** key.
- The menu selected is indicated by the relative **menu LED** and showed on the **display**.
- In **default conditions** (i.e. when none of the menu LEDs are lit), the display shows the principle information on the PRESET currently loaded in the memory.
- Each menu is made up of several **pages**, which can be reached using the **PREV** and **NEXT** keys.
- Each page is accessed by means of the **ENTER** key and left using the **ESC** key or **MODE** key.
- A page can contain other pages. In this case, the name of the page is preceded by an arrow ➔
- Each page contains one or more **parameters** (fields), which can be selected using the ◀ and ▶ keys.
- The selected parameter can be identified by its **flashing characters**.
- **Changes** are made to the selected parameter by means of the **DIAL** knob.
- Changes have immediate effect and, apart from a few exceptions (for example when assigning a name to a PRESET), don't need to be confirmed to be entered.

## System Configuration

- Refer to the **Configurations** chapter to find the **TDX26 PLUS** configuration which corresponds with your sound system (2 x 3 ways; 2 x 2 ways + 2 Aux Mono; etc.).

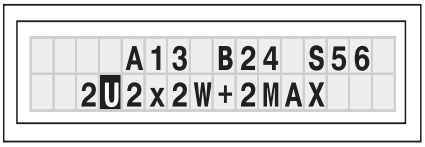
- Refer to the **Connections** chapter and, with the equipment switched off, carry out the audio and power connections among the various components of your sound system.

- Connect the mains cable and switch on only the **TDX26 PLUS**. The display shows data regarding the operating system release for a few seconds.


At the same time, the system restores the exact operating conditions at the time of switching off.

**N.B.: in actual fact, a "photograph" of the last scene used is uploaded. This includes the last PRESET loaded, all the temporary changes (if any) made to it and the settings of the various options of the system.**

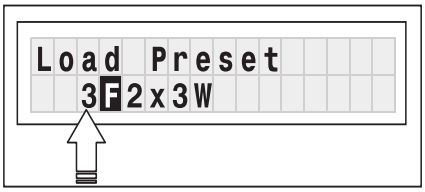
The system then enters default status, showing the main operating information on the display.




- Set all the **TDX26 PLUS** outputs in **MUTE** status (LEDs lit) by pressing the relative keys.

- Load the **Factory PRESET** containing the **configuration** you've found:

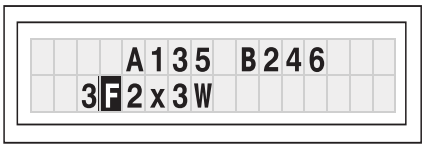
Press the **MODE** Key until the **PRESET** menu LED lights up. The display shows the **Load PRESET** page:




(example)

Use the **DIAL** to find the necessary Factory PRESET (indicated by the letter **F**). Check that if, among the PRESETS available, there are already some optimised for the specific speaker enclosures being used.

Press **ENTER**. The display shows the PRESET loaded in the unit's memory and the relative configuration:




(example)

### Adjusting the input signal

Setting the input signal of a digital unit is particularly important, much more than with an analog unit, as any saturation of the A/D converters caused by excessively high input signals cause a typical particularly distinct noise (high level square wave).

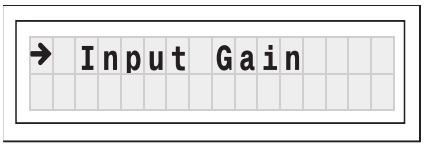
Proceed as follows:
- Keep the **TDX26 PLUS** outputs in **MUTE** status (LEDs lit).

- Feed a signal in on the **TDX26**'s input and watch the **INPUT LEVEL A-B** LED ladders. To obtain a good signal/noise ratio, i.e. an up-front distortion-free signal, keep the signal quite high, but make certain the red **CLIP** LED doesn't light up continually.

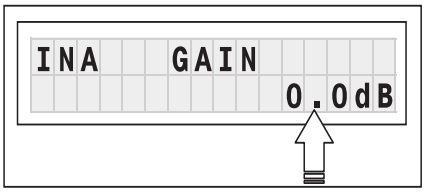
- First of all, find the output level setting for your mixer (or other unit) connected to the input of the **TDX26 PLUS**

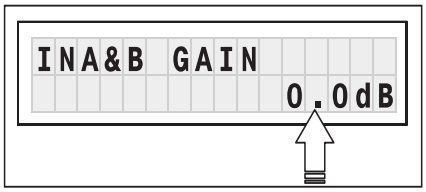
- Then adjust the **TDX26 PLUS** input gain if necessary:

Press the **MODE** key until the **EDIT** menu LED lights up. Use the **PREV** and **NEXT** keys to go to the **Input Gain** page:

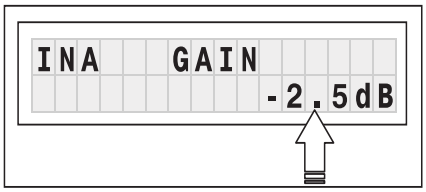


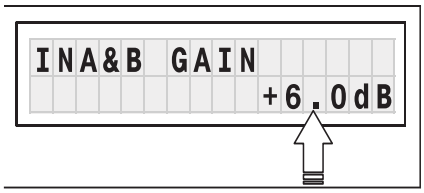

Press **ENTER**. The display shows the **INA Gain** or **INA&B Gain** page (according to the configuration and other utilities loaded in the memory):




Use the **DIAL** to change the gain value and watch the level of the signal on the LED ladders until the ideal values are reached.




Then use the **PREV** and **NEXT** keys to access the **INB Gain** page (if there is one – this depends on the configuration and the other utilities loaded in the memory).
Repeat the settings as explained above.

## First Setup



At this point, the first custom setup can be prepared.

The following is only a description of setup procedure.
The detailed specifications of each parameter are shown in the respective paragraphs of the manual.

- Firstly, set the following parameters in the order shown:

| | |
|---|---|
| **Output Pol.** | Polarity of the outputs |
| **Xover** | Crossover frequencies (separation of the speaker channels) |
| **Output Delay** | Alignment of the speaker enclosure components |
| **Output Gain** | Levels of the outputs |

**N.B.: the regulation of the TDX26's parameters is closely linked to the characteristics of the sound system's components. So if you're not experts, refer to the documentation and technical specifications of your power amplifiers, loudspeaker enclosures, monitors, etc. This will enable you to work faster and safely.**

- Disable the MUTE function on the outputs you intend using and listen the sound, carry out instrumental checks (if you have the necessary equipment) and any corrections required.

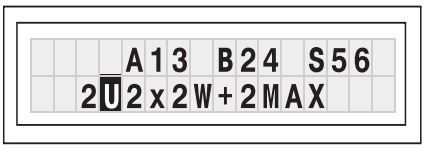
- Then, if necessary, adjust the values of the following functions:

| | |
|---|---|
| **Output EQ** | Output equalizers |
| **Output Comp/Limit** | Output compressor/limiters |

**N.B.: in this first phase of setting up your sound system, the adjustment of these functions (which are very useful, if not indispensable during installation) can wait. Remember however that adjusting the equalizers also affects the signal level. So if considerable equalization changes are made, remember to check and if necessary adjust the output levels too.**

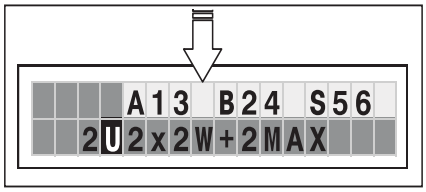
## 10 Display information in default conditions

In default conditions, i.e. when none of the **menu LED's** is lit, so no type of editing is enabled, the display shows the main information on the PRESET currently stored in the memory:




There are various information areas:

### System configuration



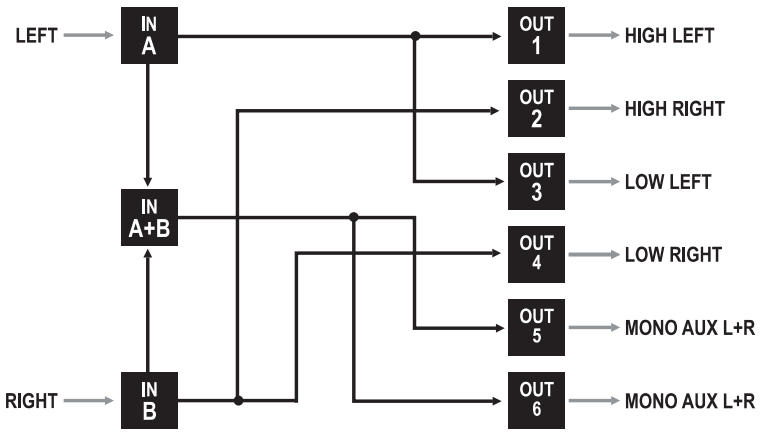

System configuration

The bold letters indicate the inputs:
**A** = Input A
**B** = Input B
**S** = SUM (sum of inputs A and B)

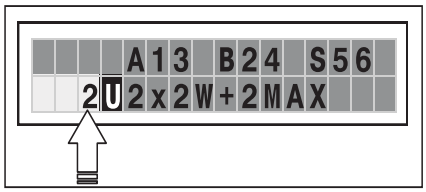
Numbers **1**, **2**, **3**, **4**, **5** and **6** indicate the respective outputs.

In the example:
The signal connected to Input **A** is assigned to outputs **1** and **3**.
The signal connected to Input **B** is assigned to outputs **2** and **4**.
The **Sum** of the signal on inputs **A** and **B** is assigned to outputs **5** and **6**.
The system is therefore configured as shown in the following diagram.

### A13B24S56 - 2-WAY STEREO + 2 MONO AUX (2X2W+2MAX)



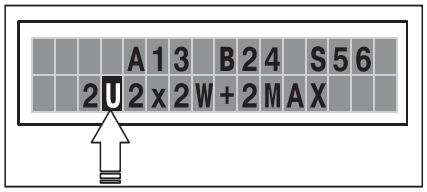
**Number of PRESETS**




Number of PRESET

10 Factory PRESETS, 64 User PRESETS and 128 Card PRESETS are available.

**Type of PRESET**




Type of PRESET

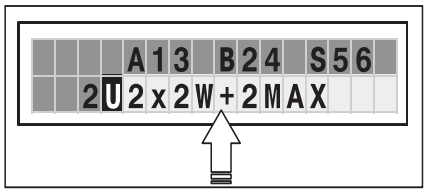
There are 3 categories of PRESETS:

F = Factory PRESETS factory programmed, cannot be permanently changed. These include all the system's usable configurations + some specific setups for TOPP PRO enclosures. These are the starting points for creating User PRESETS and Card PRESETS from scratch.

U = User PRESETS can be programmed by users.

C = Card PRESETS can be programmed by users and stored on a Multimedia Memory Card.

**Name of the PRESET**

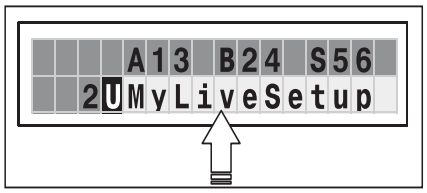



Name of the PRESET

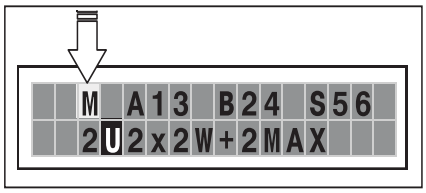
In the example, the name indicates a two-way stereo system + two auxiliary mono outputs.

**N.B.: the name of a Factory PRESET normally indicates the general structure of the sound system to be connected to the TDX26 PLUS or of a specific speaker enclosure model.**

The name of a User PRESET and a Card PRESET can be edited as required. For example:



## PRESET Modifications




PRESET Modifications

This indication shows that the value of one or more parameters has been temporarily modified with respect to the values stored in the PRESET shown.
Practically speaking, this indication means that the changes made to the PRESET have not been stored.

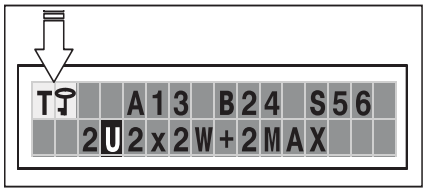
N.B.: **once it has been enabled, the indication remains even if the "original" values are reset manually.**

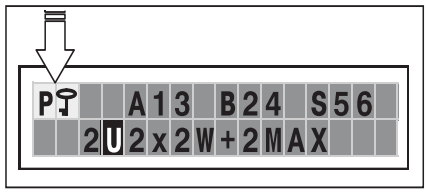
The indication disappears as soon as the PRESET is saved or as soon as a new PRESET is loaded (including this same PRESET). In other words, the indication disappears as soon as stored values are accessed.

If the PRESET isn't saved, temporary changes are lost as soon as a new PRESET is loaded (including this same PRESET).

N.B.: **temporary changes are kept on the other hand in the "buffer memory": when the unit is switched on, the system maintains exactly the same settings as when the unit was switched off, including temporary changes.**

## System Protection

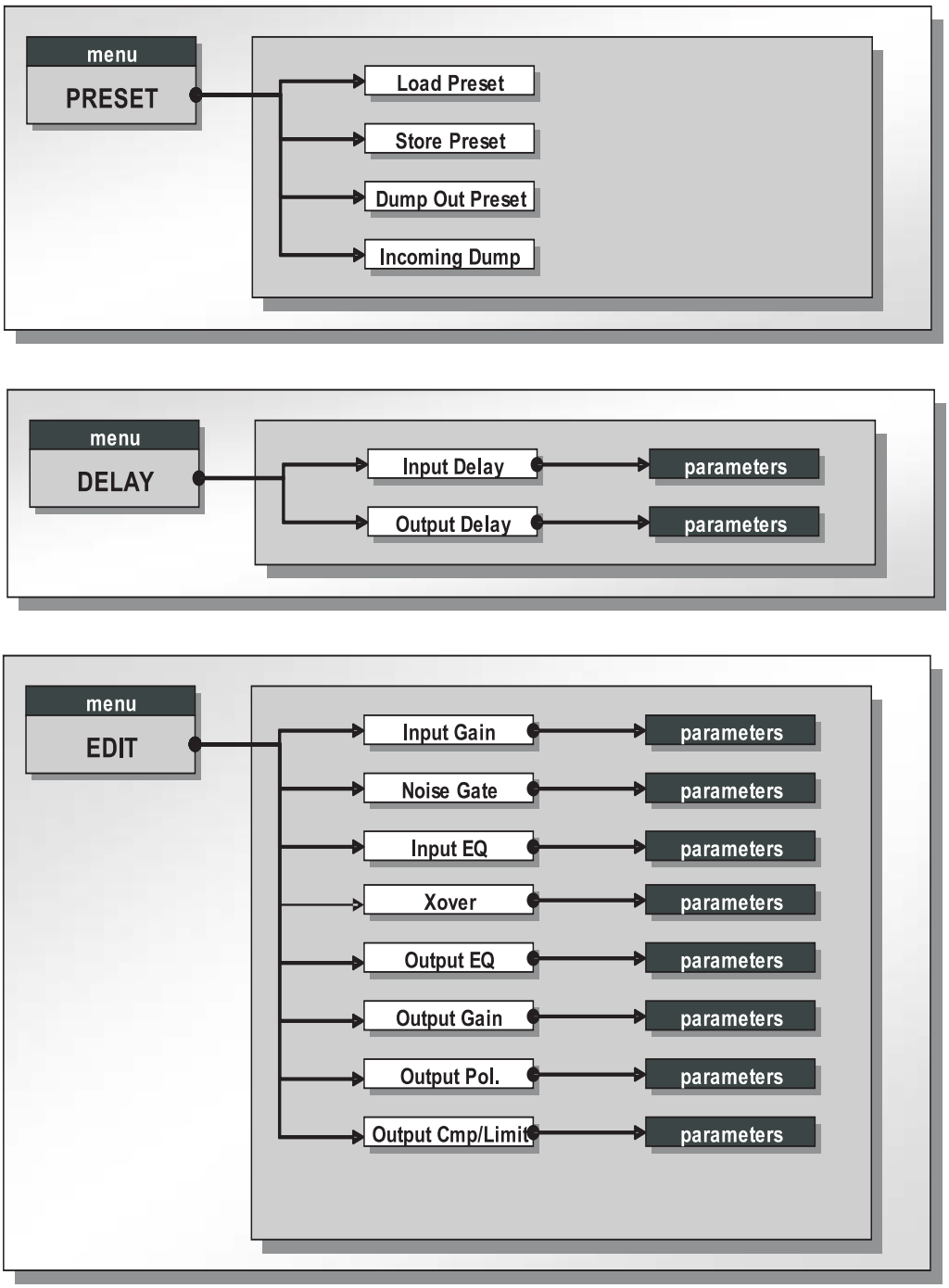


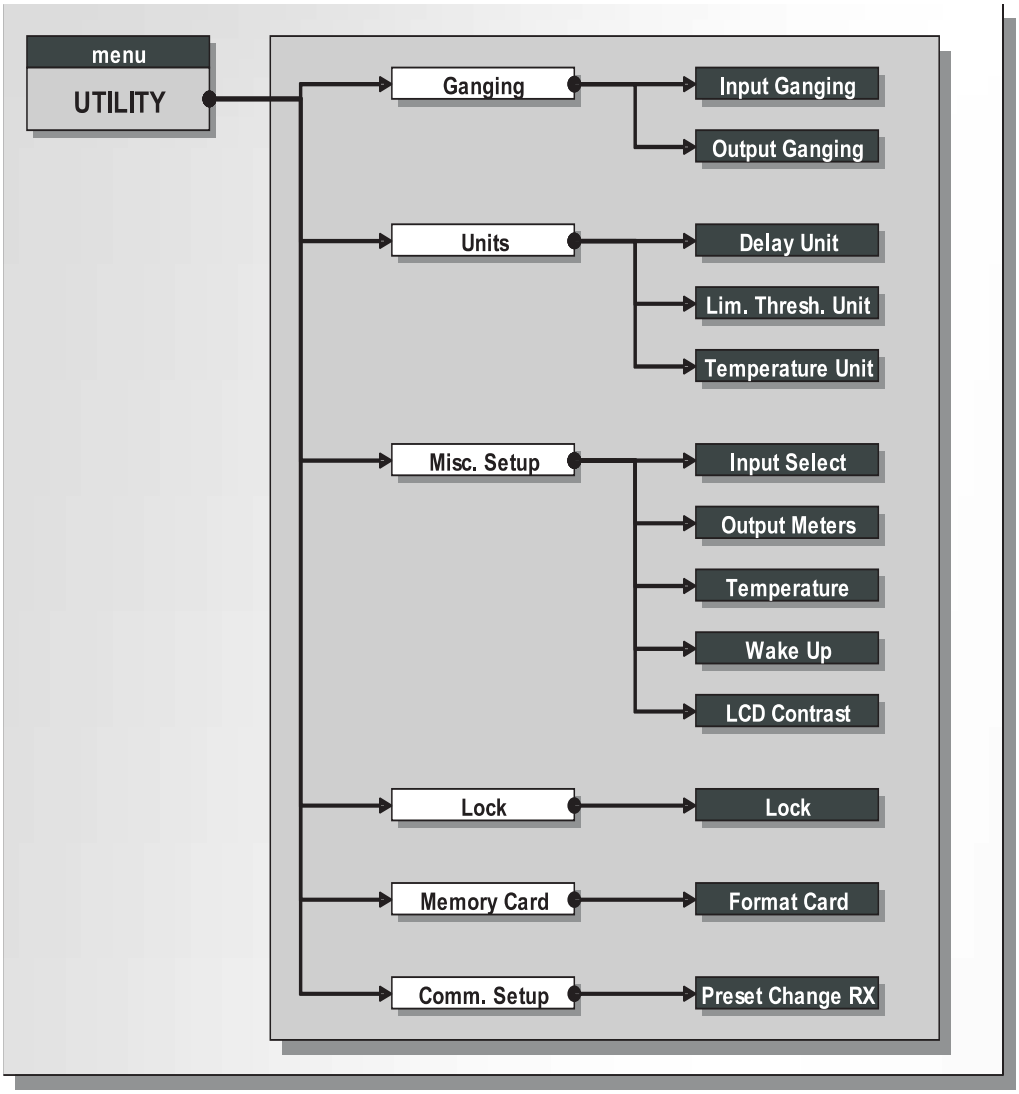

These indications appear when the **LOCK** function (**UTILITY** menu) is enabled, i.e. when the system is totally (**T**) or partially (**P**) protected against accidental or unauthorized changes (even if temporary).
Protection is ensured by a **password**, without which editing procedure can't be unlocked.

## Menu map

The control software is organized in **PRESET**, **DELAY**, **EDIT** and **UTILITY menus**, each of which contains the relative types of parameters and functions.
To facilitate menu navigation, refer to the following map:




**parameters** In these pages, the number of the parameters and how they are presented varies according to the configuration of the PRESET and according to Ganging and Units settings (UTILITY menu). In fact, these pages only show the parameters that can actually be used, in the most suitable form of editing.


menu
UTILITY
Ganging
Input Ganging
Output Ganging
Units
Delay Unit
Lim. Thresh. Unit
Temperature Unit
Misc. Setup
Input Select
Output Meters
Temperature
Wake Up
LCD Contrast
Lock
Lock
Memory Card
Format Card
Comm. Setup
Preset Change RX

## Variations of the Audio Parameter editing pages

parameters

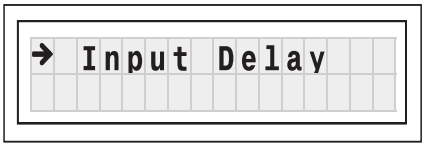
TDX26 PLUS can be configured with a large number of IN/OUT combinations. In some configurations certain parameters aren't used. To streamline editing, the system only presents the parameters that can be used on each occasion.
For example, in the case of a 6-way configuration, input B and SUM aren't used. The system therefore only presents the parameters relative to Input A.

Some functions also affect the way in which parameters are edited or represented.
The Ganging function (UTILITY menu) allows to "group together" the treatment of compatible inputs and/or outputs.
For example, it allows to equalize simultaneously and with identical values the two outputs which feed the mid sections of a stereo sound system.

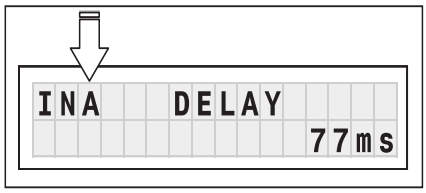
The Units option (UTILITY menu) allows to edit the values of several functions using the measurement units preferred.
For example, it allows to edit the Delay in meters, millimeters, milliseconds or microseconds.

In these cases too, the system automatically presents the parameters in the most suitable type of editing.

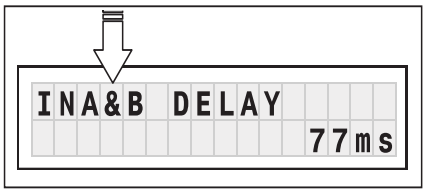
For example, in the Input Delay function



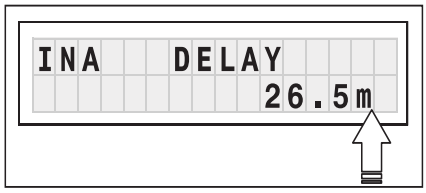

according to the configuration of the PRESET and according to Ganging and Units settings, the system can have variations of this type:




Editing of individual inputs




Editing of ganged inputs




Measurement units preferred

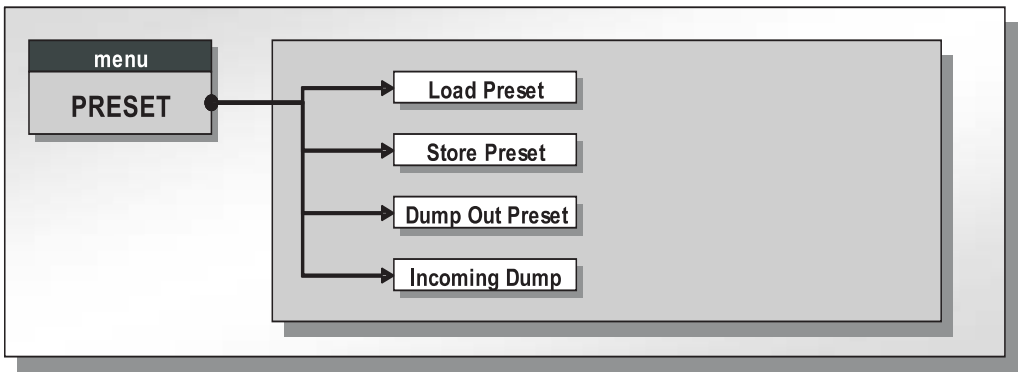
This also affects the number and contents of the editing pages on each occasion.
For example, the INPUT DELAY editing pages can have the following variations:

## TDX26 PLUS - INPUT DELAY EDITING PAGES

| CONFIGURATION | INPUT GANGING | PAGES | PARAMETERS |
|---|---|---|---|
| A13 B24 S56 | OFF | 3 | INA Delay INB Delay SUM Delay |
| | ON | 2 | INA&B Delay SUM Delay |
| A135 B246 | OFF | 2 | INA Delay INB Delay |
| | ON | 1 | INA&B Delay |
| A1234 S56 | OFF | 2 | INA Delay SUM Delay |
| | ON | 2 | INA Delay SUM Delay |
| A123 B4 S56 | OFF | 3 | INA Delay INB Delay SUM Delay |
| | ON | 3 | INA Delay INB Delay SUM Delay |
| A12345 S6 | OFF | 2 | INA Delay SUM Delay |
| | ON | 2 | INA Delay SUM Delay |
| A1234 B5 S6 | OFF | 3 | INA Delay INB Delay SUM Delay |
| | ON | 3 | INA Delay INB Delay SUM Delay |
| A123456 | OFF | 1 | INA Delay |
| | ON | 1 | INA Delay |
| A12345 B6 | OFF | 2 | INA Delay INB Delay |
| | ON | 2 | INA Delay INB Delay |

## PRESET menu

This menu allows access to the Presets' control:




There are 3 distinct categories of PRESETS:

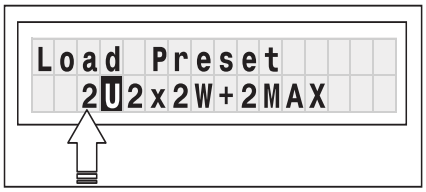
**Factory PRESETS: factory-programmed storage.** Factory PRESETS can be used normally, temporarily modified, but can't be cancelled, overwritten or permanently modified. Factory PRESETS contain some specific settings for certain types of enclosures and all the system's usable configurations. For this reason they're the ideal starting point for creating custom PRESETS.

**User PRESETS: stored data that can be programmed by users.** User PRESETS are internal memory areas in which your own personal settings can be saved.

**Card PRESETS: stored data which can be programmed by users on a Multimedia Memory Card.** Card PRESETS are external memory areas in which your own personal settings can be saved.

### Load PRESET

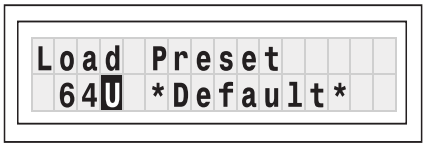
This menu page allows the required PRESET to be loaded and made operative.

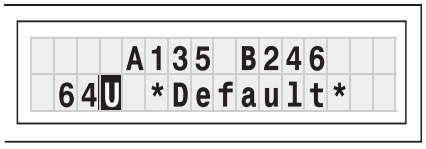



To load a PRESET:

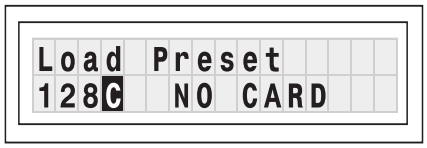
Use the **DIAL** to reach the required PRESET.
10 Factory PRESETS, 64 User PRESETS and 128 Card User PRESETS are available.

**N.B.: since the system must always be configured, there are no empty memory areas. All the User and Card areas not yet used by custom PRESETS are automatically occupied by the *Default* PRESET, which contains a standard start configuration with all the values of the various parameters at zero.**

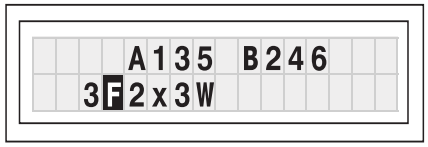


Scrolling through the 128 memory areas reserved for the Card when the Multimedia Memory Card isn't inserted, the display shows the following message:




Press **ENTER**.
The system returns to default status and the display shows the information on the PRESET that has just been loaded.

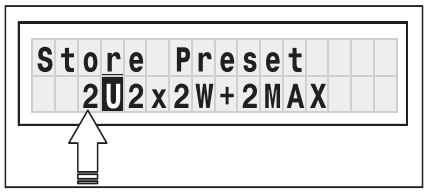



**N.B.: in the example, Factory PRESET #3, named "2x3W" has been loaded: its system configuration is Input A signal assigned to outputs 1, 3 and 5; Input B signal assigned to outputs 2, 4 and 6.**

Loading a PRESET, a PRESET Change command is also automatically sent to the serial ports and can be used to automatically load a PRESET with the same number to any other **TDX26 PLUS** units connected and enabled (see **UTILITY** menu - **Comm. Setup** submenu - **PRESET Change RX** option).

**Store & Naming PRESET**

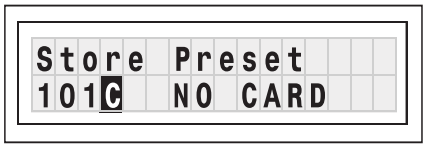
**This menu page allows to create new PRESETS, i.e. to save all the current system settings.**




To save a PRESET:
- Use DIAL to reach the memory area in which the PRESET is to be saved.

**N.B.: in this procedure, the Factory PRESET areas aren't available, since the Factory PRESETS cannot be permanently modified. Nevertheless remember that it is possible to load a Factory PRESET, save it in a User PRESET or Card PRESET area, modify it as required and then store it again in the same User or Card area.**

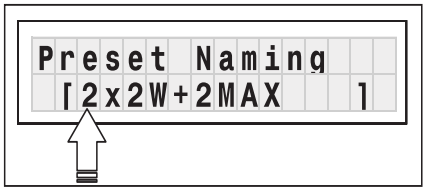
**N.B.: scrolling through the memory areas, the display shows the number, type and name of the PRESETS contained in them; scrolling through the 128 Card memory areas without the Multimedia Memory Card, a warning appears on the display:**


- Press ENTER. The PRESET Naming page appears, by means of which it's possible to edit the name of the PRESET to be saved.

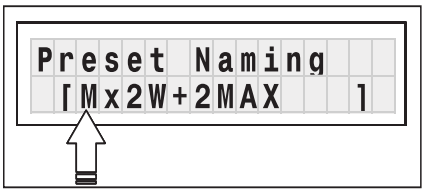
**N.B.: if you're in one of the 128 memory areas reserved for the Card and you remove the Multimedia Memory Card before pressing ENTER, nothing happens: the display remains unchanged and Store PRESET procedure remains unvaried.**

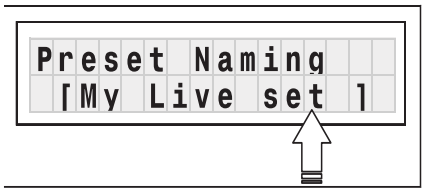
The name of the "start" PRESET (i.e. of the PRESET currently loaded) is proposed as default. The cursor takes up position on the first of the twelve character spaces available.




At this point:
a) If you decide to **accept and confirm the name suggested**, press **ENTER**.
b) If you want to **abort Naming procedure** (for example because you've chosen the wrong memory area) and return to Store PRESET procedure, press **ESC**.

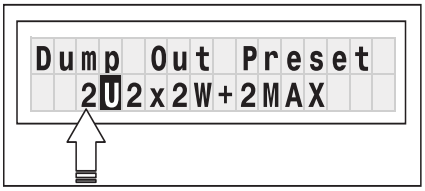
If you want to **assign a new name** to the PRESET you're storing:
- use the ◀ and ▶ keys to position the cursor on the required character
- use **DIAL** to enter the alphanumeric value wanted
- after finishing, press **ENTER**.




**Dump Out PRESET**

**This menu page allows to download a PRESET via the serial ports.**
This allows to immediately "copy" the settings of the various PRESETS of a **TDX26 PLUS** to another **TDX26 PLUS**.

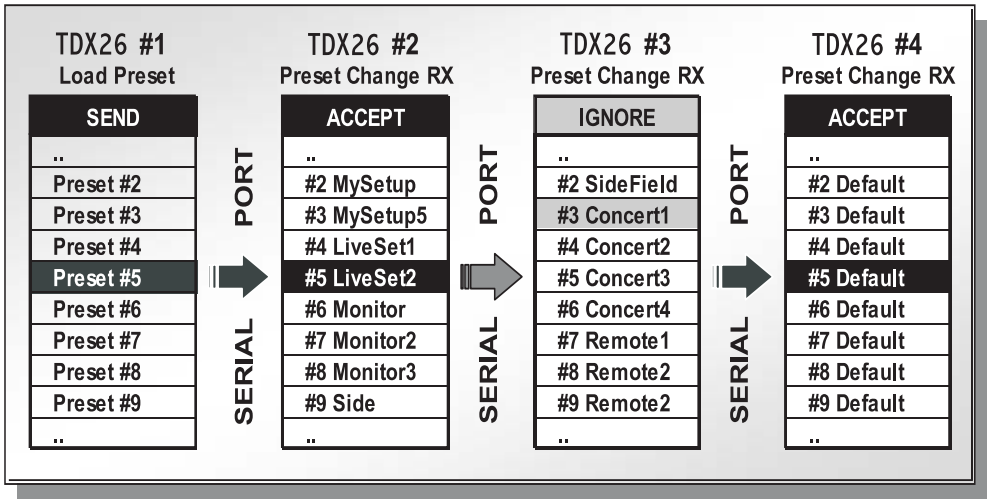



To download a PRESET:
- Use **DIAL** to reach the required PRESET.
- Press **ENTER**.

**N.B.: the menu page remains unchanged to allow other PRESETS to be dumped.**
All the Preset's data (name, configuration, parameter values, etc.) are immediately transmitted to the units connected to the serial ports (other **TDX26s**, computers, etc.).

**N.B.: in order for the transfer to have effect, the receiving units must be able to identify and accept Incoming Dump operations.**

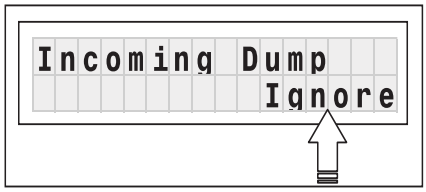
When two or more **TDX26 PLUS** are connected, the PRESET sent by the transmitting **TDX26 PLUS** (TX) overwrites (and therefore cancels) the existing PRESET in the same memory position of the receiving **TDX26 PLUS** (RX).



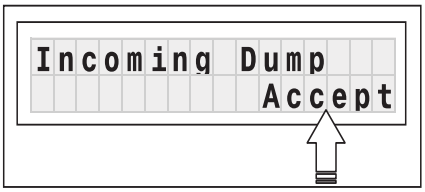

### Incoming Dump

**Allows to accept or ignore the Dump of a PRESET sent from another TDX26 PLUS or from a computer via serial ports.**
Settings can be:

Ignore the data received via the serial ports.

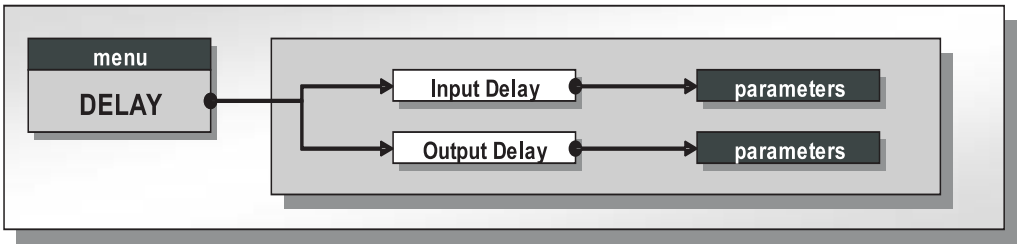



Accept the data received via the serial ports.



## DELAY Menu

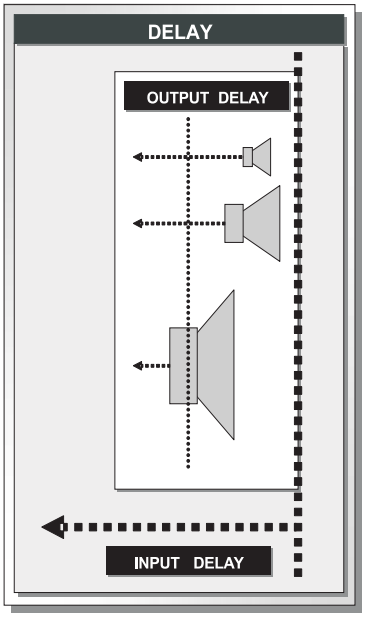
This menu allows to work on the system's delay lines.




**parameters** In these pages, the number of the parameters and how they are presented varies according to the configuration of the PRESET and according to Ganging and Units settings (UTILITY menu). In fact, these pages only show the parameters that can actually be used, in the most suitable form of editing.

### The practical differences between Delay Input and Delay Output

A Delay is only a processor by means of which a signal is deliberately delayed by a programmable length of time. From a technical point of view, the Delays applied to the inputs and outputs are equivalent. Nevertheless, their application is different:

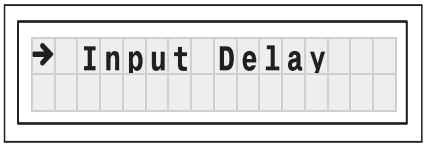


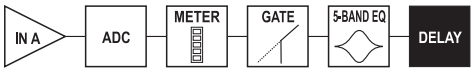

- **Input Delay**: **delays the signal of an input** (or the sum of the inputs) before sending it to the routing system. In this way, **all the outputs which depend on that input are delayed by the same length of time**. Also called **Master Delay**, input Delay is mainly used to compensate for the effects dues to the distance between the various speaker enclosures or between various blocks of a complex sound system (for example in large concert halls, stadiums, etc.), thus achieving virtual alignment.

- **Output Delay**: only **delays the signal of a specific output**. Also called **Channel Delay**, output delay is mainly used to compensate for the distance between different blocks of the same sound system (for example clusters) or to correct internal alignment of a speaker enclosure's components.

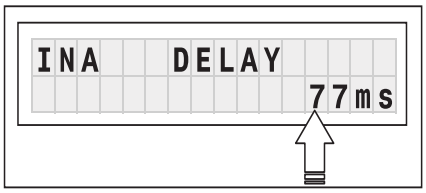
## Input Delay

This menu page allows to adjust the delay lines of Input A, Input B and SUM.



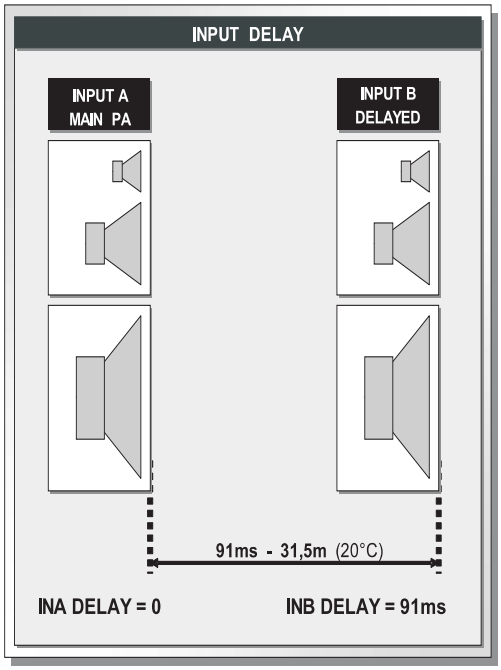




The values can be set in the following ranges:



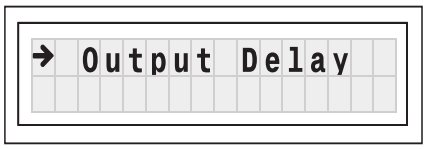

| INPUT DELAY | | |
|---|---|---|
| unit | range | step |
| m | 0.0 ~ 900.0 | 0.5 |
| mm | 0 ~ 900000 | 7 |
| ms | 0 ~ 2621 | 1 |
| us | 0 ~ 2621438 | 21 |

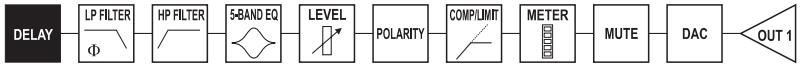
The measurement unit can be chosen with the function **Delay Unit** (**UTILITY** menu - **Units** submenu).



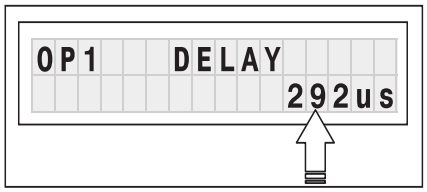
## Output Delay

This menu page allows to adjust the delay lines of outputs 1, 2, 3, 4, 5 and 6.



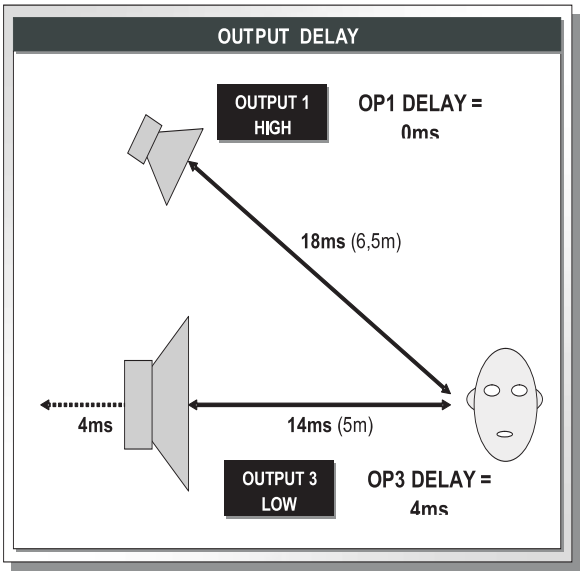



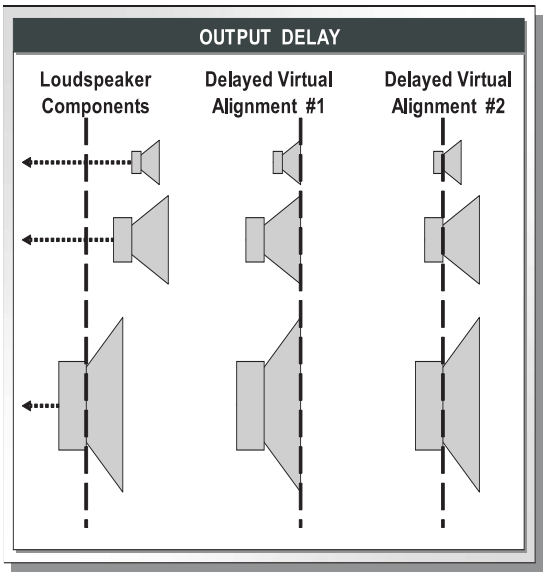

The values can be set in the following ranges:




| OUTPUT DELAY | | |
|---|---|---|
| unit | range | step |
| m | 0.0 ~ 100.0 | 0.5 |
| mm | 0 ~ 100000 | 7 |
| ms | 0 ~ 291 | 1 |
| us | 0 ~ 291271 | 21 |

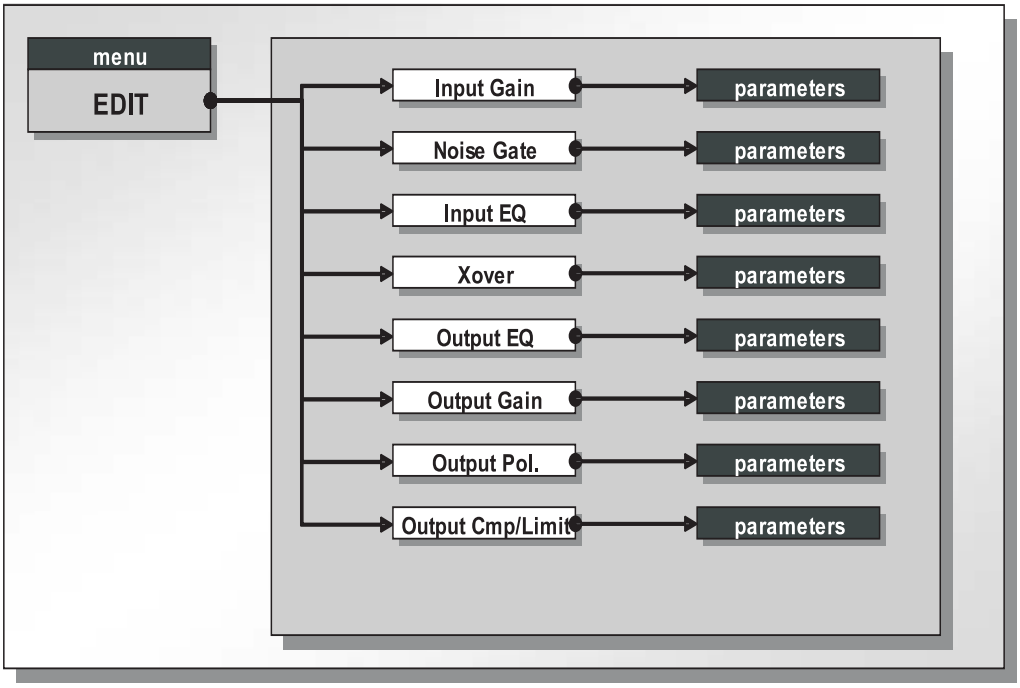
The measurement unit can be chosen with the function **Delay Unit** (**UTILITY** menu - **Units** submenu).



# 14 EDIT menu

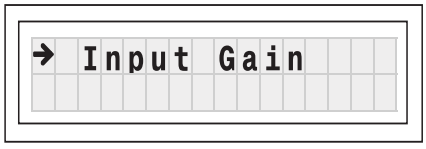
This menu allows to edit the system's actual audio parameters.



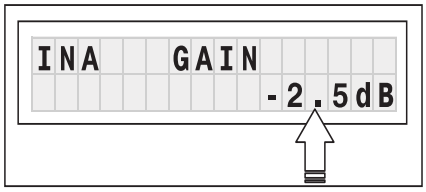

parameters **In these pages, the number of the parameters and how they are presented varies** according to the configuration of the PRESET and according to **Ganging** and **Units** settings (**UTILITY** menu). In fact, these pages only show the **parameters that can actually be used, in the most suitable form of editing**.

## Input Gain

Input gain control.




Allows to adjust the amplification of the signal fed in through Inputs A and B.
Editing values are in the range **+6dB ~ -30dB, with 0.5dB steps.**

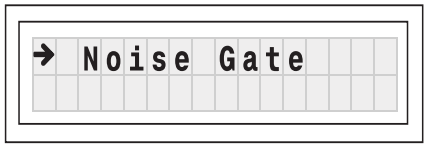


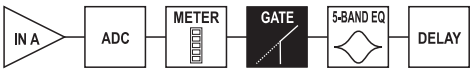

**N.B.: setting the input signal of a digital unit is particularly important, much more than on an analog unit, as any saturation of the A/D converter due to an excessively high input signal causes a typical particularly distinct noise. To achieve a good signal/noise ratio, i.e. an up-front distortion-free signal, feed a signal in on the** TDX26's input **and watch the INPUT LEVEL A-B LED ladders. Keep the signal quite high, but make certain the red CLIP LED doesn't light up continually.**

## Input Noise Gate

Noise reduction filter on the inputs.

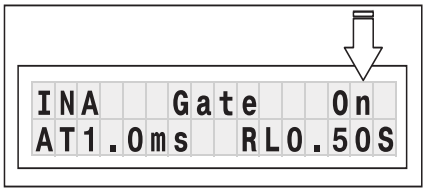
Allows to cut or reduce the background noise generated by the unit connected to the processor's inputs (the mixer, for example). The filter is active when the input signal is below a certain threshold and reduce its level cutting the undesired background noises.



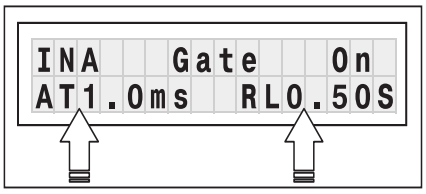




The following editable parameters are available, in two different pages:

Noise Gate ON/OFF

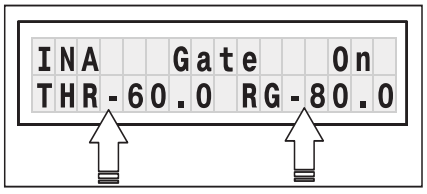



Reaction times
Allows to set the Noise Gate attack and release times.
**- ATTACK (AT): is the time needed by the filter to bring back the signal to its normal level when it goes above the threshold.**
**- RELEASE (RL): is the time needed by the filter to cut the signal once it goes below the threshold.**




Threshold
Allows to set the threshold level: if the signal goes below this threshold the Noise Gate reduces the level. The editing values are within the following ranges: **+8dBu ~-60dBu, with 2dBu steps**

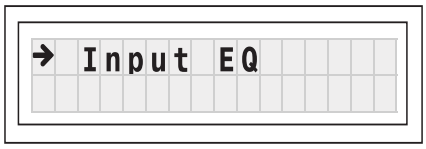
Range
Allows to set the amount of the signal level reduction.
The editing values are within the following ranges: **0dBu ~-80dBu, with variable steps**

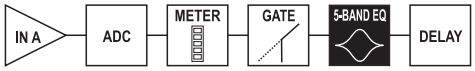


## Input EQ

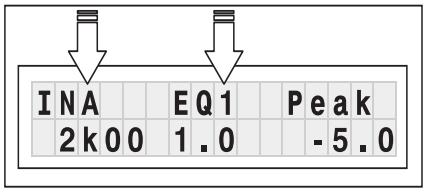
### Input equalizer with 5 parametric filters.

Allows to alter the overall tone of the signal connected to the respective input. Also called **Master EQ**, the equalization of the input signal effects all the outputs connected to the input and the input SUM. This component's characteristic quality and programmability (identical to the output Equalizer) enable it to be used so effectively and flexibly as to make the use of graphic equalizers often unnecessary.



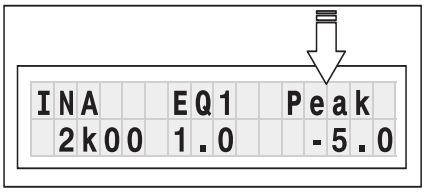

Each equalizer has 5 pages (one for each filter), showing the **name of the input** it affects and the **number of the filter**.



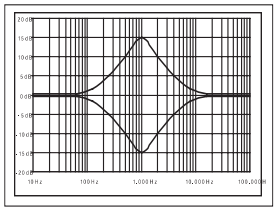

Example: Input A - Filter 1

The following editable parameters are available for each filter:

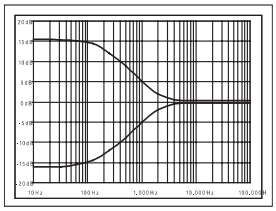
**Type of filter**
**Allows to choose among Peaking, Low or High Shelving with a slope of 6 or 12 dB per octave and Notch filter.**



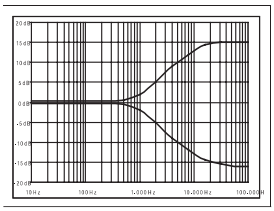

Peaking



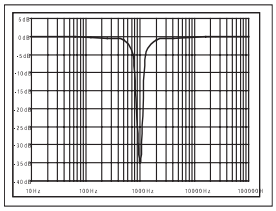
Low Shelving



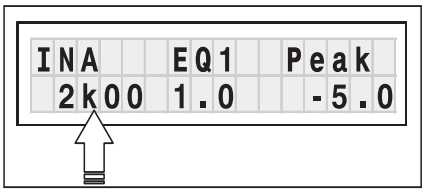
High Shelving



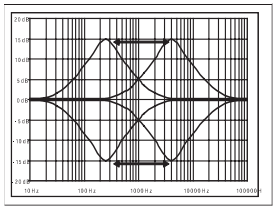
Notch



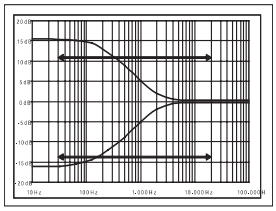
**Centre Frequency / Cutoff Frequency**
**Allows to choose the centre frequency of the Peaking curve and Notch filter, or the cutoff frequency of Shelving curves.**



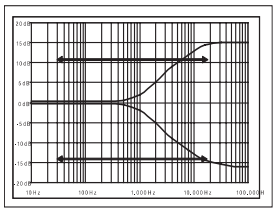
Peaking



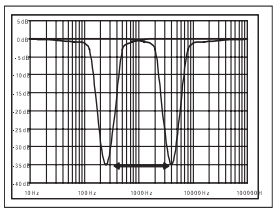
Low Shelving



High Shelving

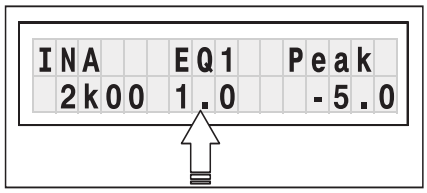


Notch

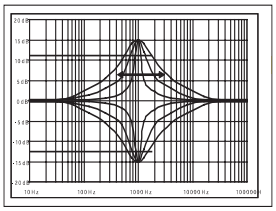


Bandwidth

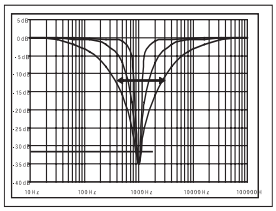
Allows to choose the width in octaves of the Peaking or Notch type curve. It's not used with Shelving curves.
It is not used with Shelving EQ.




Peaking

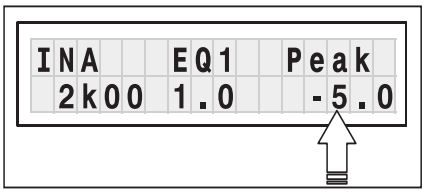


Notch

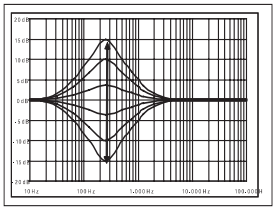


Gain

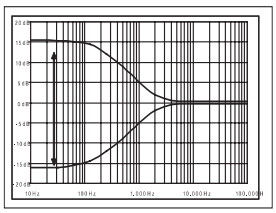
Allows to control the boost or cut of the selected frequencies.
It's not used with the Notch Filter, which has a fixed cut.



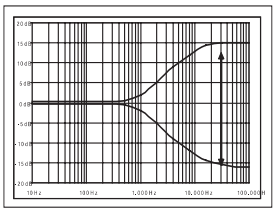

Peaking



Low Shelving



High Shelving



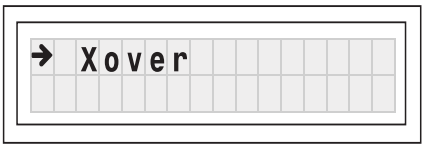
The values can be set in the following ranges:

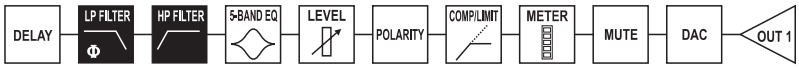
| 5-BAND FULL PARAMETRIC EQ | | | | |
|---|---|---|---|---|
| NAME | TYPE | GAIN | FREQ | WIDTH |
| Peak | Peaking | ±15dB (step 0.5dB) | 15.6Hz ~ 16kHz | 0.05 ~ 3.00 oct (step 0.05 oct) |
| LoSh 6 | Low Shelving 6dB/oct | | | |
| LoSh 12 | Low Shelving 12dB/oct | | | |
| HiSh 6 | High Shelving 6dB/oct | | | |
| HiSh 12 | High Shelving 12dB/oct | | | |
| Notch | Notch Filter | -45dB (fix) | | 0.05 ~ 3.00 oct (step 0.05 oct) |

## Xover

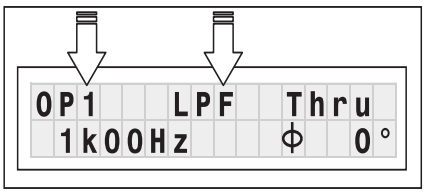
### Low-pass and high-pass filters.

Made up of a combination of a low-pass filter and high-pass filter, the crossover allows to divide the audio signal into segments that can be used by the individual sections of a sound system (for example High, Mid & Low).

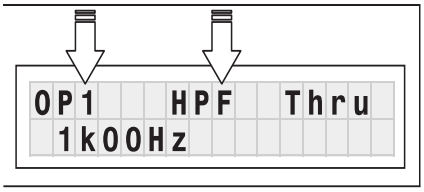



Each Xover has 2 slightly different pages (one for each filter), where the **name of the output** it affects and the **type of filter** are shown.




Output 1 - Low Pass Filter



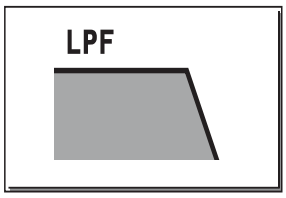

Output 1 - High Pass Filter

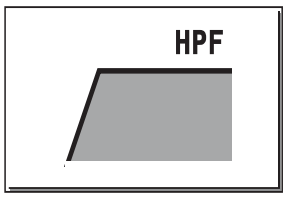
### Low Pass Filter

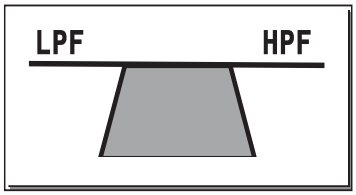
The low-pass filter allows all the frequencies below a specific frequency to pass, whereas it cuts all the frequencies above it.

### High Pass Filter

The high-pass filter allows all the frequencies above a specific frequency to pass, whereas it cuts all the frequencies below it.



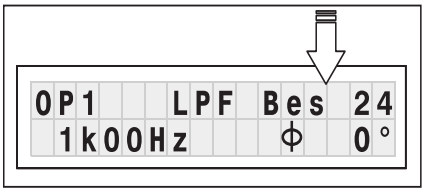



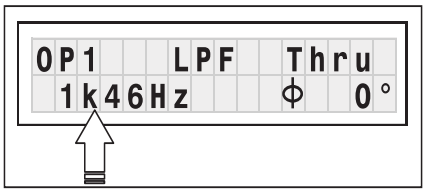

Signal segment obtained with the combination of LPF and HPF.

**Each filter has the following editable parameters:**

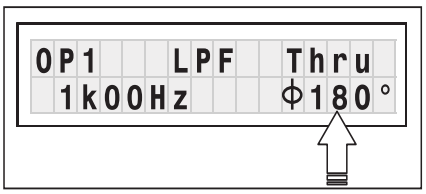
**Type of filter**
Allows to choose three different types of filter and different attenuation slopes:
**Butterworth** (But) at 6, 12, 18 or 24dB per octave,
**Bessel** (Bes) at 12, 18 or 24dB per octave,
**Linkwitz-Riley** (LR) a 12, 24 or 48dB per octave.
By setting the **Thru** value, the filter is disabled and the signal passes without its frequency being altered.




**Crossover frequency**
Allows to choose the filter cutoff frequency.




**Phase**
Allows fine control (in 5° steps) of the signal's phase.
The effect of this control is summed with that of the Output Polarity function (0° ~180°).
In this way it's possible to adjust the phase of each individual output with 5° steps through a full 360°.
**N.B.: this control is only in the Low-Pass Filter window.**



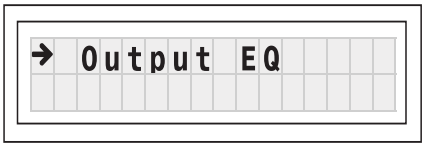

The values can be set in the following ranges:

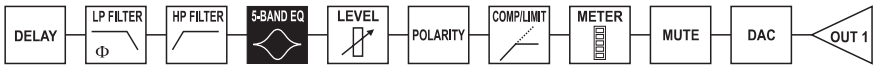
| XOVER | | | | | |
|---|---|---|---|---|---|
| | NAME | TYPE | SLOPE | FREQ | PHASE |
| LPF | Thru | | | | 0° ~180° (step 5°) |
| | But | Butterworth | 6, 12, 18, 24 dB/oct | 15.6Hz ~16kHz | |
| | Bes | Bessel | 12, 18, 24 dB/oct | | |
| | LR | Linkwitz-Riley | 12, 24, 48 dB/oct | | |
| HPF | Thru | | | | |
| | HiSh 6 | Butterworth | 6, 12, 18, 24 dB/oct | 15.6Hz ~16kHz | |
| | HiSh 12 | Bessel | 12, 18, 24 dB/oct | | |
| | Notch | Linkwitz-Riley | 12, 24, 48 dB/oct | | |

### Output EQ

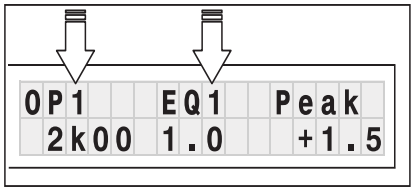
**Output equalizer with 5 parametric filters.**

Also called **Channel EQ**, allows to alter the tone of each individual output.
The characteristics of quality and programmability are identical to those of the Input Equalizer and enable this unit to be used extremely effectively and flexibly.




Each equalizer has 5 pages (one per filter), indicating the **name of the output** it effects and the **number of the filter**.



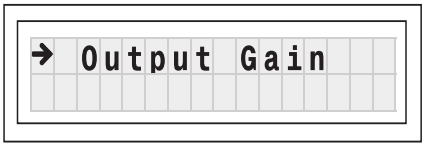

Example: Output 1 - Filter 1

Since technical specifications and editing fields of the Output EQ are identical to those of the Input EQ, please refer to INPUT EQ section for descriptions.

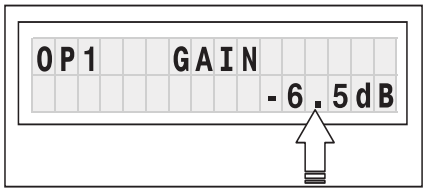
### Output Gain

**Output level control.**

Allows to adjust the signal level of each individual output.



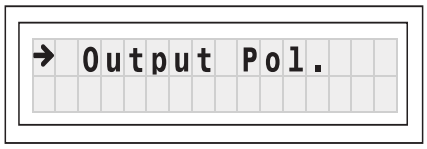

Editing values are between **+6dB ~ -30dB, with 0.5dB steps.**




**N.B.: the level of each output is shown by the respective OUTPUT LEVEL LED ladder. To avoid distortion, don't let the red CLIP LED light up. As automatic protection, you can also enable the LIMITER (EDIT menu) on the outputs that require it. In this case, remember that enabling the LIMITER changes the display mode on the relative LED ladder: in fact, the level shown is no longer the "absolute" output level, but the level of the signal in relation to the LIMITER threshold.**

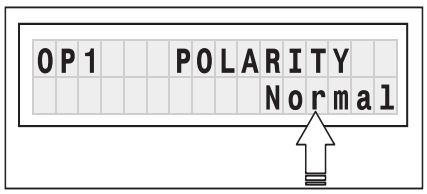
**Output Pol.**

Controls the outputs' polarity.
Allows to invert the phase of the signal of individual outputs.

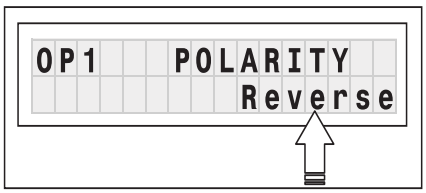



Editing values are:

**Normal**: leaves the phase unchange




**Reverse**: shifts the phase through 180°, inverting it.

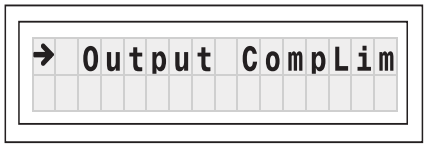



.

The effect of this control is summed with that of the Φ parameter of the **LPF** filter (**Xover** - **EDIT** menu), which operates with 5° steps in a range of between 0° and 180°.
In this way it's possible to set the phase of each individual output with 5° steps within a complete 360° revolution, a very useful function when assembling arrays of speaker enclosures, in the control of the interpolation between various enclosures or between sections of the same system.

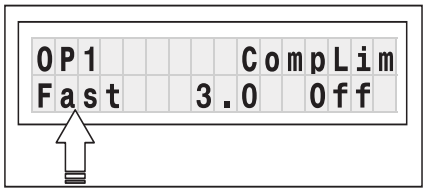
**Output Compressor/Limiter.**

Allows to keep the signal of each individual output within a set level.
Can be used effectively to protect the components of a sound system or to obtain compression effects and to increase the signal dynamics while keeping it within certain limits.




The following editable parameters are available:

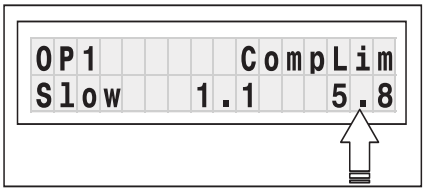
Reaction times
Allows to choose between 3 types of Limiter reaction speed.
In fact, these are attack and release times that are optimised so that the Limiter reacts more or less rapidly when the signal exceeds or drops below the threshold:
- **Fast**: short times, suited to rapid Limiter operation. Normally more suited to outputs dedicated high frequencies.
- **Normal**: intermediate times, suited to the majority of applications. Normally more suited to outputs dedicated to mid frequencies or full-range systems.
- **Slow**: long times, suited to avoiding rapid repeated level jumps (pump effect).Normally most suited to outputs dedicated to low frequencies.

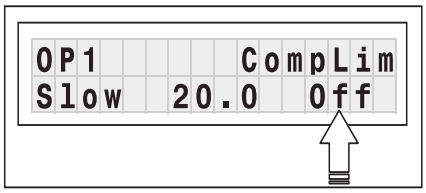



| COMP/LIMIT | ATTACK | RELEASE |
|---|---|---|
| *FAST* | 1 ms | 10 ms |
| *NORMAL* | 8 ms | 80 ms |
| *SLOW* | 45 ms | 450 ms |

### Threshold

Allow to set the level above which the Compressor/Limiter intervenes (limiting the signal) and below which it leaves the signal unchanged.
The editing values are within the following ranges: **+19.8dBu ~-10dBu, with 0.2dBu steps (7.574V ~ 0.245V with variable steps)**.
The measurement unit can be chosen with the **Lim. Thresh. Unit** function (**UTILITY** menu - **Units** submenu). The **Off** value disables the Compressor/Limiter, whereas any other value enables it.

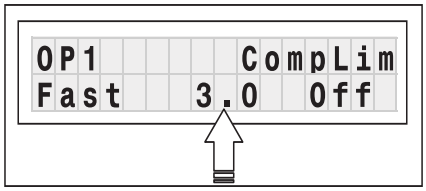


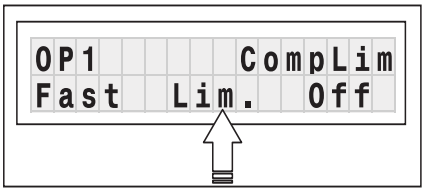




**IMPORTANT! Enabling the Compressor/Limiter on a specific output also changes the way in which the level is displayed on the corresponding LED ladder: in fact, the level shown on this ladder is no longer the "absolute" output level, but the level of the signal at -24dB, -12dB, -6dB compared to the COMPRESSOR/LIMITER's threshold (orange LIMIT LED), no matter what the threshold value is**

### Compression Ratio

Allows to set the compression ratio, that is to say how the signal exceeding the trheshold has to be reduced.
The editing values are the following: **Lim. 20.0 10.0 8.0 6.0 5.0 4.0 3.5 3.0 2.5 2.0 1.7 1.5 1.3 1.1**



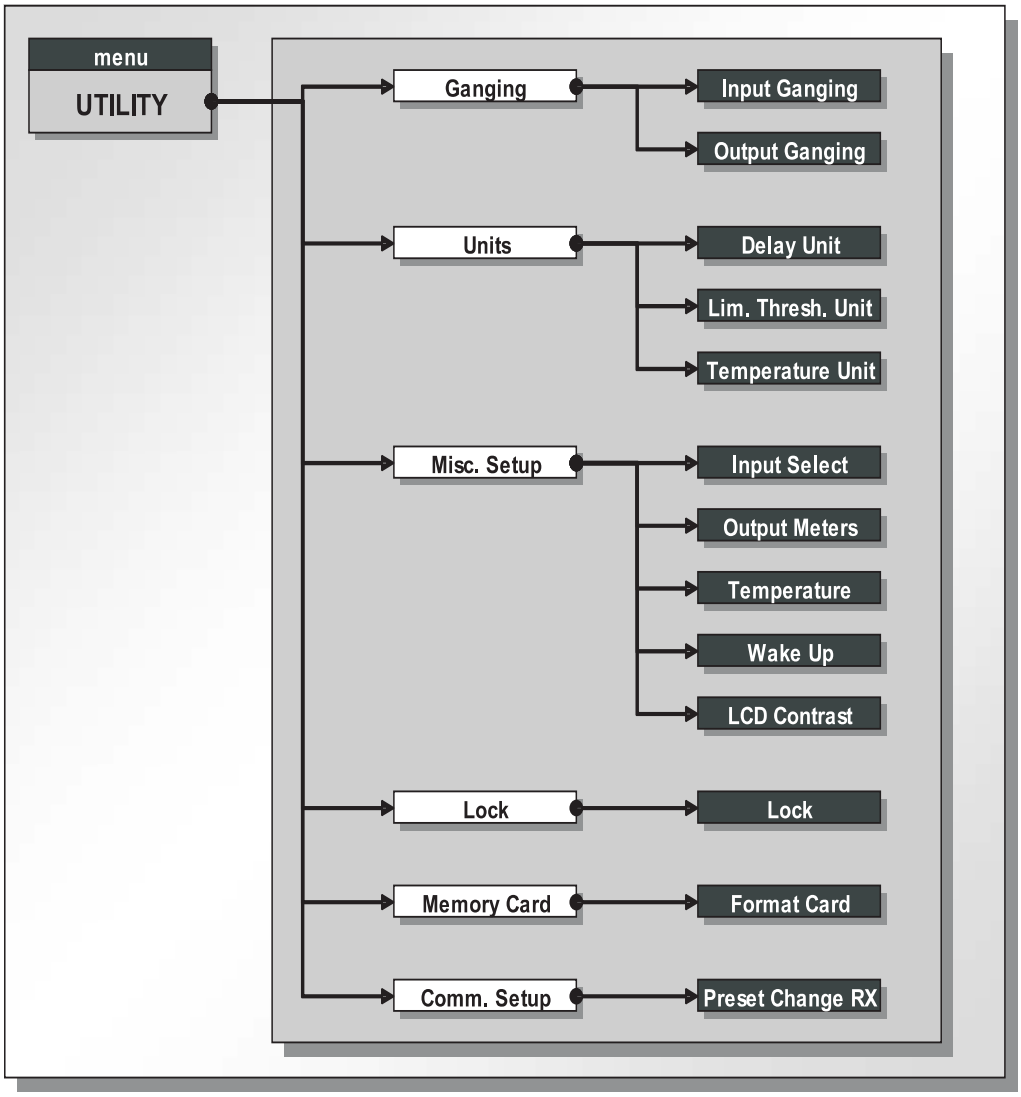




The **Lim.** value corresponds to the maximum compression ratio (all the signal exceeding the threshold is cut) and in this condition the processors acts as a LIMITER.
The other values allow to reduce the signal with a ratio from **1:20.0** (high compression) to **1:1.1** (low compression) in order to obtain different compression effects according to the kind of signal and to the kind of application.

## UTILITY Menu

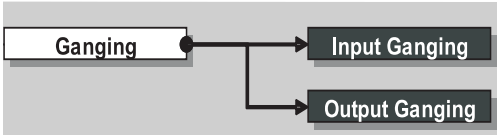
15

This menu comprises a series of submenus that allow to set a series of system options and access certain utilities, such as the control of the Multimedia Memory CARD or protection against accidental or unauthorized changes:



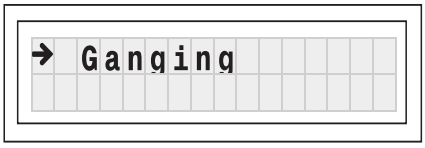

## Ganging submenu

16




This submenu allows to group together the treatment of similar inputs and/or outputs.

Similar is intended as meaning elements which have the same properties and/or the same structure.
For example, the right and left sections of a stereo system are similar, as they are made up symmetrically of the same quantity and type of elements (the same components for High, Mid and Low frequencies).



The practical use of the Ganging function consists in the possibility of editing with identical values the parameters of similar elements, carrying out single (instead of double) operations.
For example, it's possible to set the same Delay value or equalization on both inputs with just one operation; or set identical Xover parameters for the various outputs fed to a stereo sound system; or yet again, enable the LIMITER simultaneously on the two outputs dedicated to two mono stage monitors.

The system automatically recognizes incompatible elements contained in the various configurations and only enables the Ganging function where it can effectively be used. Therefore, the Ganging function doesn't have any effect on the MONO setups. The Ganging function can be enabled separately for both groups of input and groups of outputs.

**IMPORTANT: precisely for its characteristics, the Ganging function affects the way in which the relative parameters audio are edited or represented: As soon as Inputs and/or Outputs are ganged, the various menu pages only show the values that can actually be used. This however doesn't mean that the values change immediately. On the contrary, the values remain unchanged (even if not shown) until new values are entered. Only at that point ganged Inputs and/or Outputs assume the same value with just one operation.**

For example, even if the display shows that "Input A&B" are ganged in the page with a certain parameter, the value shown remains that of Input A until a new value is entered, as Input B doesn't automatically assume the values of Input A.
To check this:
1. set Input Gangin=Off, load the *Default* PRESET, set INA Delay=1 and INB Delay=0;
2. set Input Gangin=On, return to the Input Delay menu: the display shows INA&B Delay=1:
    a. if you leave the value unchanged and once again set Input Gangin=Off going back to the Input Delay menu, the display shows INA Delay=1 and INB Delay=0 ("original" values).
    b. if you change the value, for example INA&B Delay=3, and you once again set Input Gangin=Off going back to the Input Delay menu, the display shows INA Delay=3 and INB Delay=3 ("new" values).

This condition is used to avoid accidental or temporary enabling of the Ganging function from changing the values of all the stored PRESET. The rule can be summed up as follows: "only the values that have to be intentionally changed are changed".

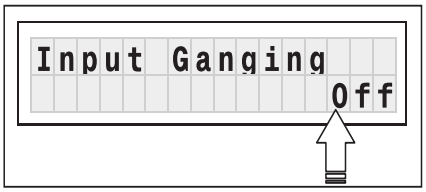
So generally speaking, to avoid contradictions, oversights and confusion between what is shown and what is effectively carried out, it's advisable to enable the Ganging functions before starting to edit a PRESET. Moreover, it's best to make certain to effectively set the required value, manually confirming all the parameters required.

**N.B.: the elements in Ganging assume the "new" value as soon as the DIAL changes the status of the "old" value. So, if the value which has to be allocated to the elements in Ganging is the same as the "old" value, it's necessary to use the DIAL, temporarily change the value (even only by one step) and then go back to the "old" value.**

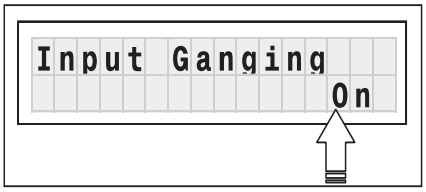
### Input Ganging

Allows to enable/disable Ganging function on the inputs.
The settings are:

Disabled



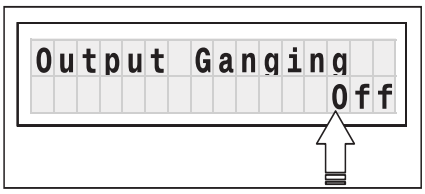

Enabled



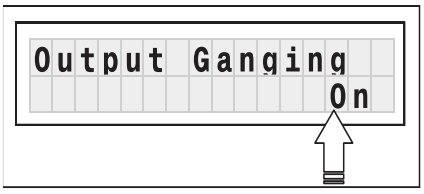
### Output Ganging

Allows to enable/disable Ganging function on the outputs.
The settings are:

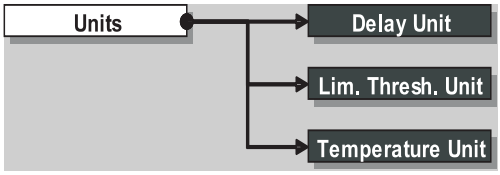
Disabled



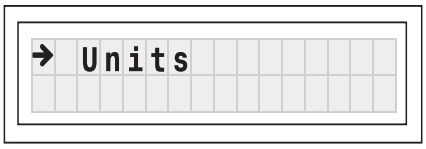

Enabled




### Units submenu



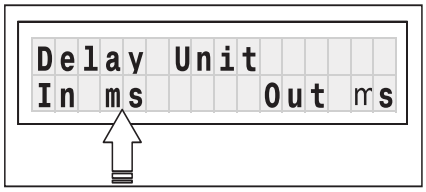

This submenu allows to choose the measurement units to be used with certain functions.



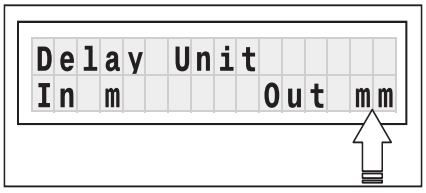

### Delay Unit

Allows to set the measurement units in which Delays are expressed (DELAY menu).
The options include: **m** = meters - **mm** = millimeters - **ms** = milliseconds - **ms** = microseconds

Measurement units for **Input Delay**

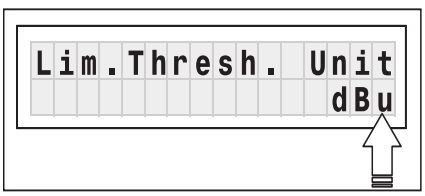


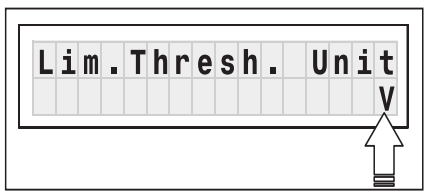

Measurement units for **Output Delay**




### Lim. Thresh. Unit

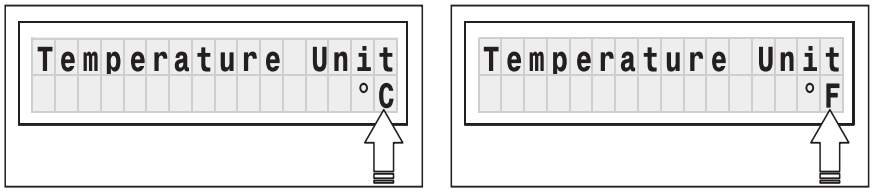
**Allows to set the measurement units for the threshold of the Limiter (EDIT menu - Output Limiter).**
The options include: **dBu** = decibel (0 dBu = 0.775 V rms) - **V** = volt



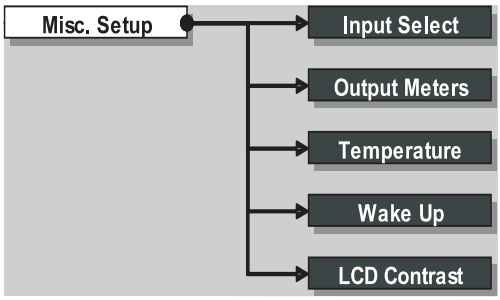



### Temperature Unit

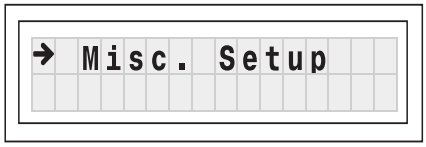
Allows to set the measurement units for the Temperature function (**UTILITY** menu - Misc. Setup submenu).
The options include: °C = degrees Centigrade - °F = degrees Fahrenheit




### Misc. Setup submenu

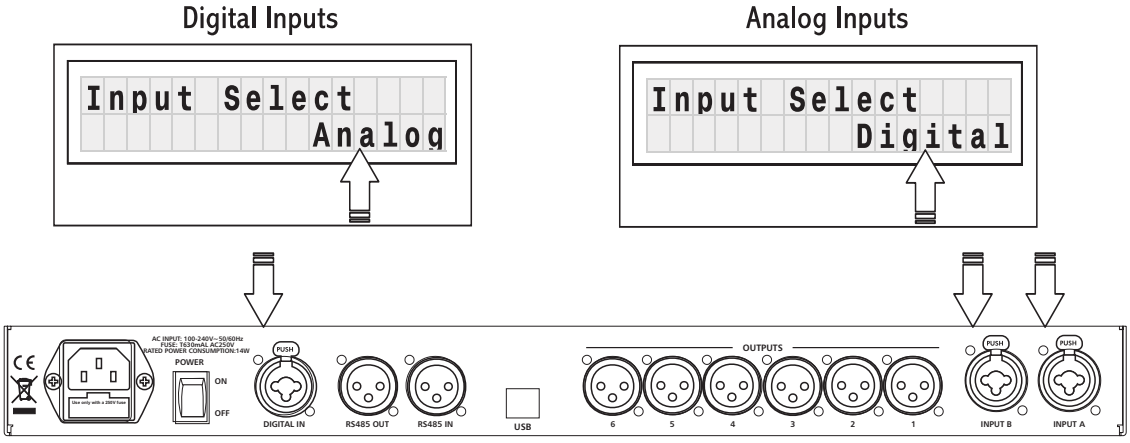



This submenu allows to set a series of system options.




### Input Select

Allows to choose which TDX26 PLUS inputs to use.
The options include:



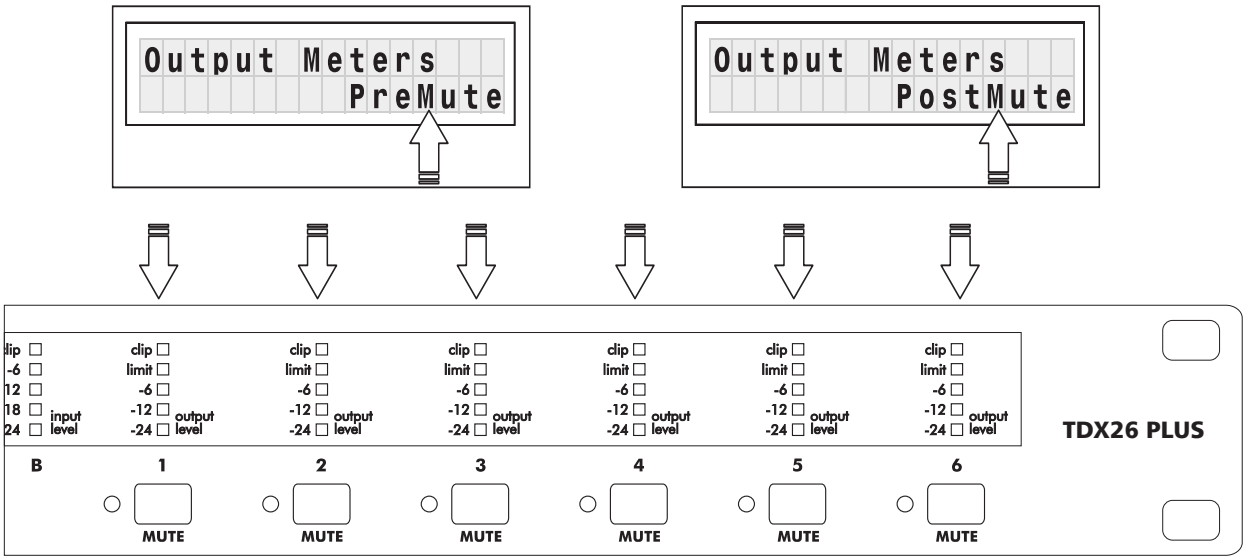

The inputs selected become **Input A** and **Input B**.
Any signal on the inputs not selected is ignored.

## Output Meters

Allows to decide whether to display the outputs' signal before or after MUTE.
The options include:

PreMute
the signal is always shown
no matter what the MUTE status

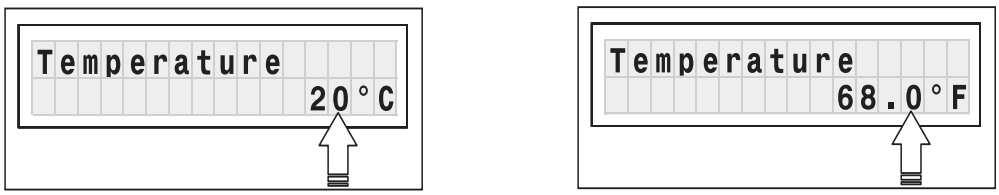
PostMute
the signal is only shown if
the output isn't in MUTE




## Temperature

Allows to key in the value of the environmental temperature of place of installation.

The system uses this value to automatically compensate for the differentials due to the difference speed of sound transmission according to the air temperature.
This allows to set the delays during the sound-check and only have to reset them automatically when necessary (for example during a concert, in the event of big jumps in temperature, etc.).
The editing values are in the following ranges: +60°C ~-30°C with 1°C steps, 140.0°F ~-22.0°F with 1.8°F steps.

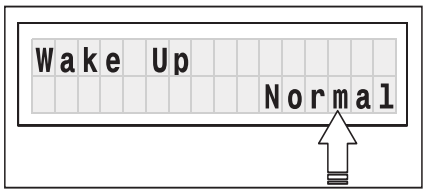



**N.B.: the measurement units can be chosen between °C (degrees Centigrade) and °F (degrees Fahrenheit) by means of the Temperature Unit function (UTILITY menu - Units submenu).**

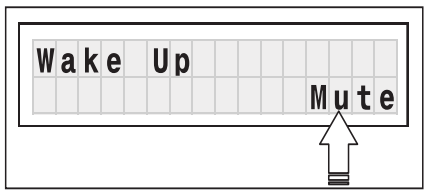
### Wake Up

Allows to choose the mode in which MUTE functions are restored when the TDX26 PLUS is switched on.
The options include:

**Normal**
when switched on, the system restores the last MUTE configuration before switching off

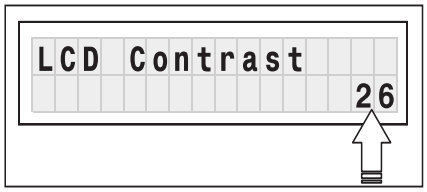



**Mute**
when switched on, the system automatically sets all the outputs in MUTE



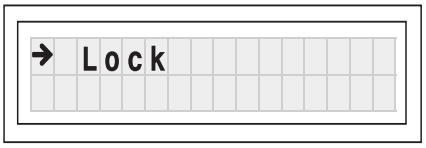

### LCD Contrast

Allows to adjust the Display contrast.
The values are in the following range: **0** (minimum contrast) ~**32** (maximum contrast).




### Lock submenu

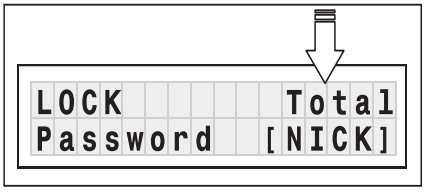

Allows to enable or disable the protection of the system against accidental or unauthorized changes.



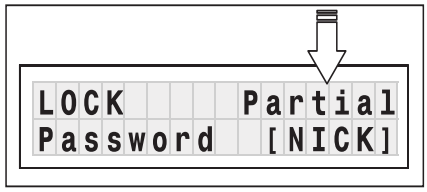

This function is very useful whenever even temporary changes or tampering with the settings stored in the system must be prevented. For example: fixed installations used by several operators (discotheques, clubs, conference halls, etc.), sound system rental, etc.

**How to enable protection**
- First of all, choose the **protection mode**:
Two modes are available:

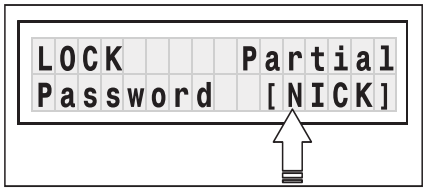
**Total:**
all editing functions are blocked and access to the PRESET menu is disabled

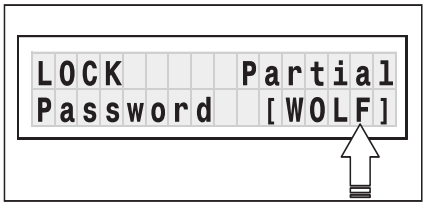



**Partial:**
only the parameters relative to the Inputs can be edited (Delay, Gain, EQ), all other editing functions are blocked and access to the PRESET menu disabled



- Then use the ◀ and ▶ keys to access the area in which the **password** is entered.
**IMPORTANT! The protection cannot be unlocked without the password!**
So write it down or at least choose a word that is easily remembered.
The password is made up of four alphanumerical characters, obtainable using the ◀ and ▶ keys and editable with the **DIAL**



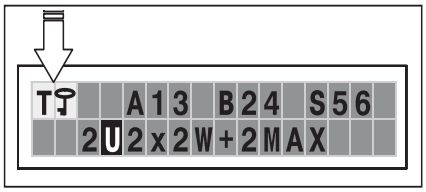




- After entering the password, press **ENTER**.
**N.B.: confirmation is only accepted if the cursor is positioned on one of the password's four characters. This allows to avoid accidental enabling, without having seen the password.**
Protection is enabled and the system takes up default status.

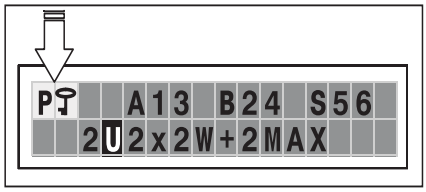
**How to disable the protection**

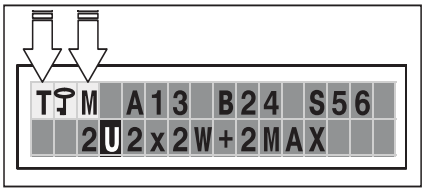
If the protection is enabled, when the system is in default status (i.e. when none menu LEDs are lit and therefore no type of editing is enabled), the following appears on the display:

Total Protection enabled




Partial Protection enabled

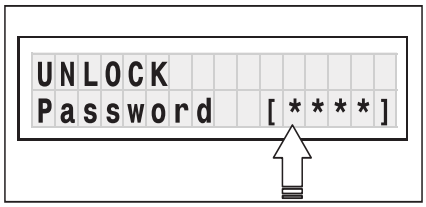


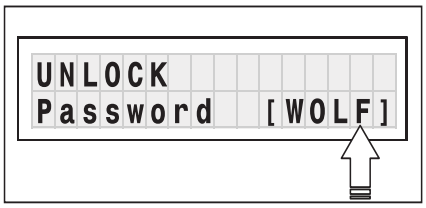

**N.B.: alongside the symbol of Total or Partial protection, the letter M may also appear. This means that the system is protected, but the PRESET in question has undergone one or more changes that have not yet been stored. You can however switch the system on and off without any problems, as the current settings are kept in the buffer memory. Nevertheless, if this is your work setup, it's advisable to store it in a PRESET.**

**To unlock the protection:**

- Access the **LOCK** submenu.
The display shows the prompt for entering the password to unlock the protection.
The four alphanumeric characters of the password are encrypted



- Enter in the **password** using the combination of the ◀ and ▶ keys and the **DIAL**, then press **ENTER**.
**NB: in the event of an incorrect password, the display prompts again, encrypting all the characters again.**

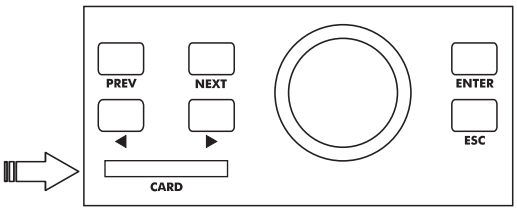



Protection is unlocked and the system enters default status.

**Memory Card submenu**


**Allows to format the Multimedia Memory Card.**

Formatting is the preparation of the memory areas of the Card. Without formatting (or without compatible formatting) the Card can't be used by the system.

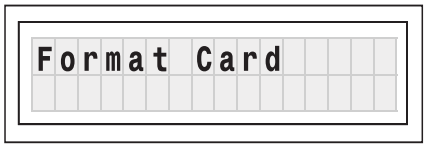




**How to format the Card**

- Insert a Multimedia Memory Card in the slot.
New or used Cards can be used, providing they are compatible (min 1MB).
**ATTENTION! Formatting cancels any data contained in the Card.**

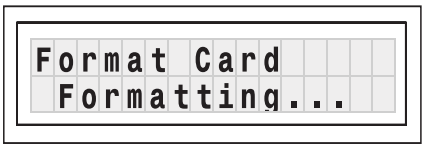
**-** In the Memory Card submenu, press **ENTER**.

The Format Card page appears.



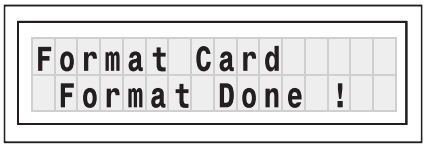

- Press **ENTER**.
The system formats the Card until it communicates that it has completed.

This operation only requires a few seconds.




The Card is ready to be used.


**N.B.: in the event of an error or a Card fault, if there is no Card in the slot or if the Card is removed during formatting, the display shows the following message:**



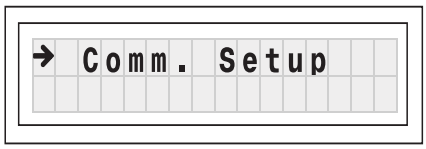

During formatting, the system automatically stores the *Default* PRESET in all the 128 CARD memory areas..

N.B.: since the system must always be configured, there are no empty memory areas. All the User and Card areas not yet used by stored user data are automatically occupied by the *Default* PRESET, which contains a standard start configuration with all the values of the various parameters at zero.

### Comm. Setup submenu


This submenu allows access to the setting of communication with other units via the serial ports.

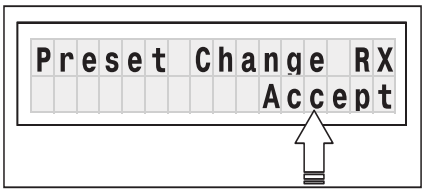
N.B.: the Dump Out PRESET and Incoming Dump functions are an exception, as they're controlled directly in the PRESET menu.



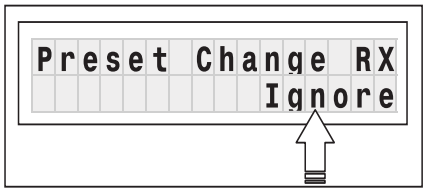

### PRESET Change RX

Allows to accept or ignore the PRESET Change command sent via the serial ports from a computer or another TDX26 PLUS when it loads a PRESET.
The settings can be:

Ignore PRESET Change commands received.

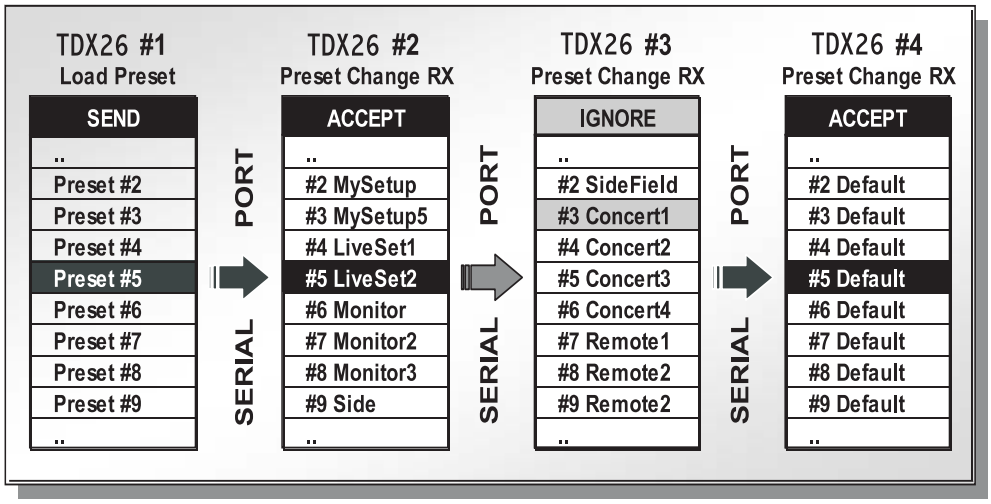



Accept and execute PRESET Change commands.




The PRESET Change command is completely identical to MIDI Program Change: the transmitting unit sends an instruction containing a number of PRESETS to load; the receiving units (if they are able to accept the command) each loads into its own memory the PRESET with the corresponding number.
This means that, in a chain of **TDX26 PLUS**, all the units set with "PRESET Change RX = Accept" load the same number of PRESET, in spite of the fact that it corresponds to PRESETS with different contents in the various units.

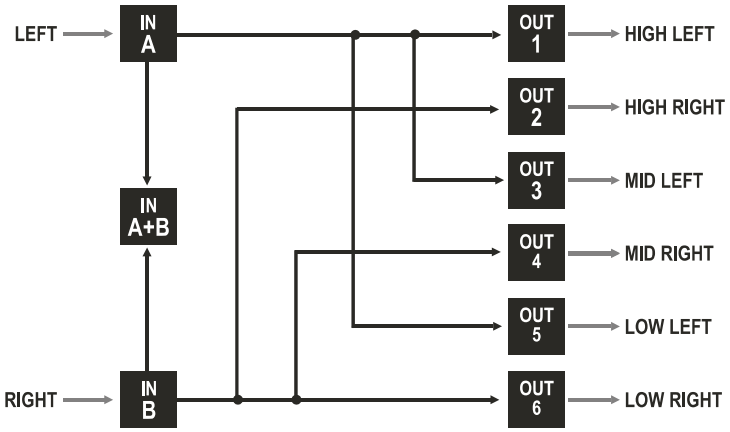
N.B.: to transmit the same contents, the PRESET Dump function is used.



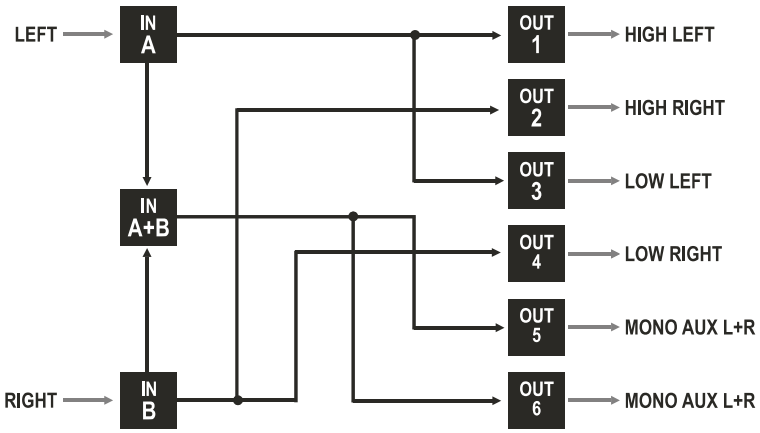
# 17 Configurations

The following diagrams show the TDX26's various system configurations, as if to say the various input and output hardware combinations.

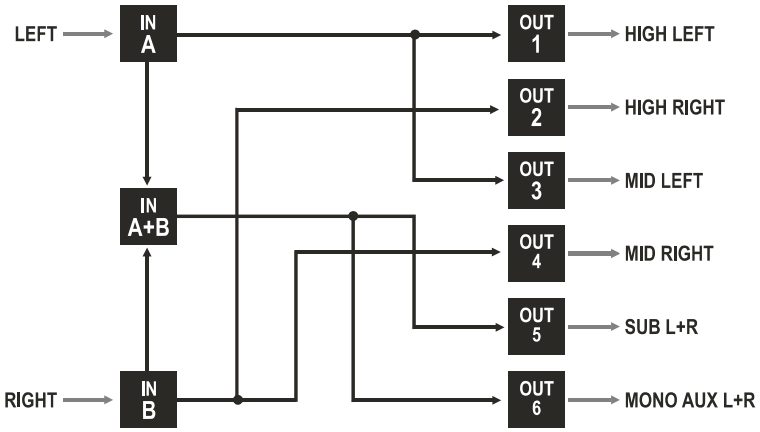
## A135B246 - 3-WAY STEREO (2X3W)



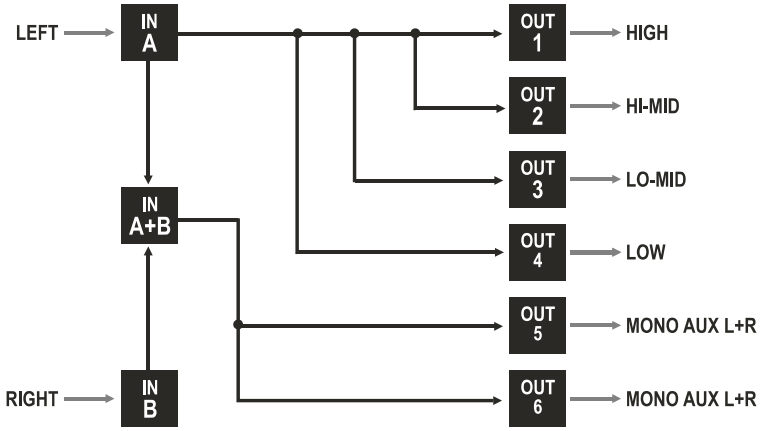

## A13B24S56 - 2-WAY STEREO + 2 MONO AUX (2X2W+2MAX)



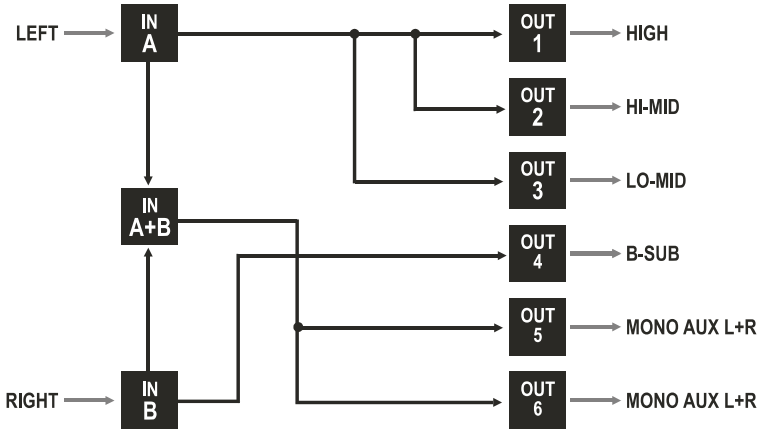

## A13B24S56 - 3-WAY STEREO with MONO SUB + MONO AUX (2X3W+MSB+MAX)



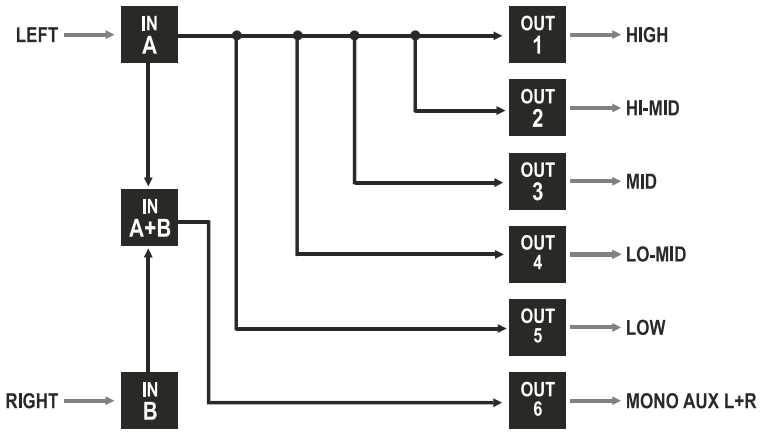
## A1234S56 - 4-WAY MONO + 2 MONO AUX (4W+2MAX)



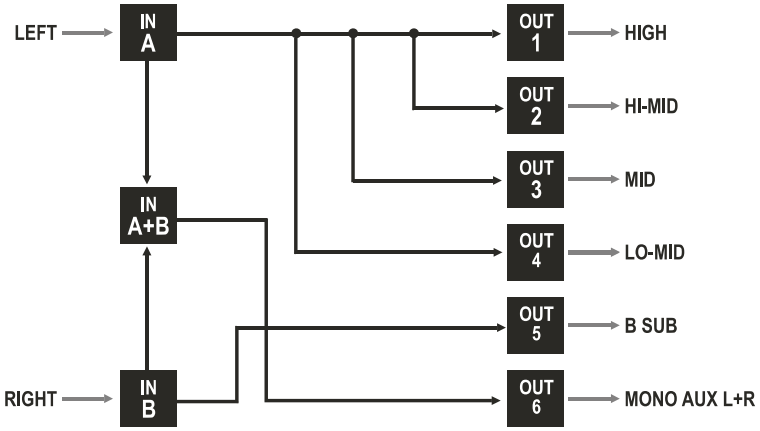

## A123B4S56 - 4-WAY MONO with B SUB + 2 MONO AUX (4W+BSB+2MAX)



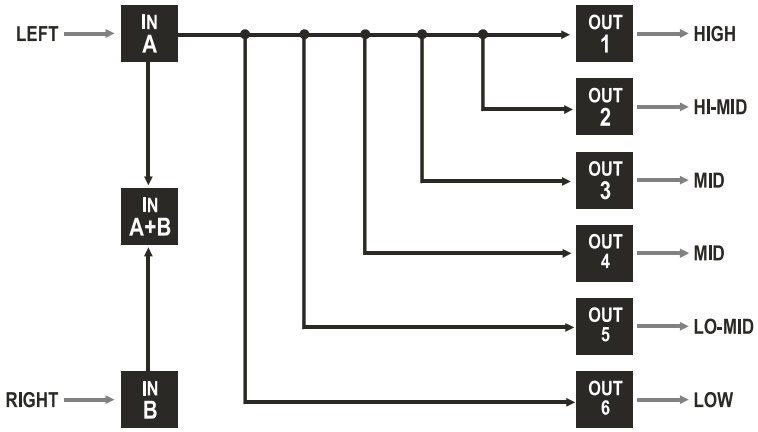

## A12345S6 - 5-WAY MONO + MONO AUX (5W+MAX)



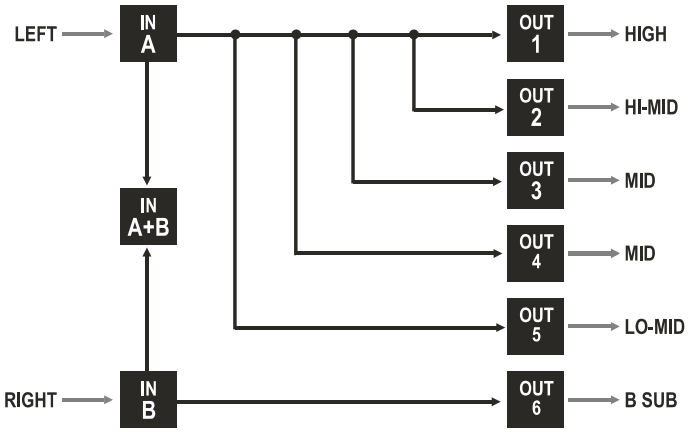
## A1234B5S6 - 5-WAY MONO with B SUB + MONO AUX (5W+BSB+MAX)




## A123456 - 6-WAY MONO (6W)




## A12345B6 - 6-WAY MONO with B SUB (6W+BSB)

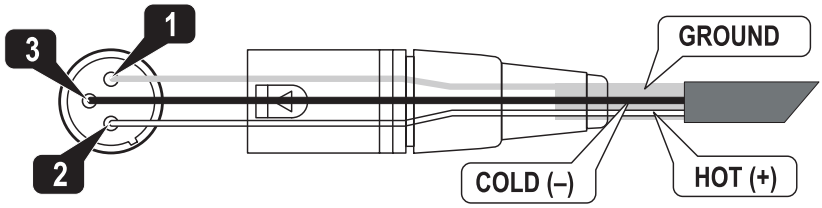


## Connections

The following diagrams show the schemes of the recommended cables and some connection examples referred to various system configurations.

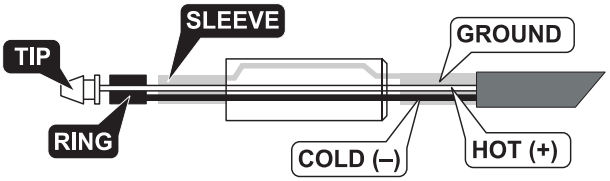
### Inputs A & B, Digital IN, RS485 IN

BALANCED XLR-M



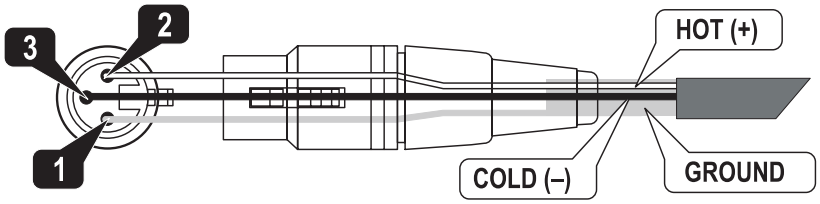

### Inputs A & B

BALANCED JACK




### Outputs 1~6, RS485 OUT

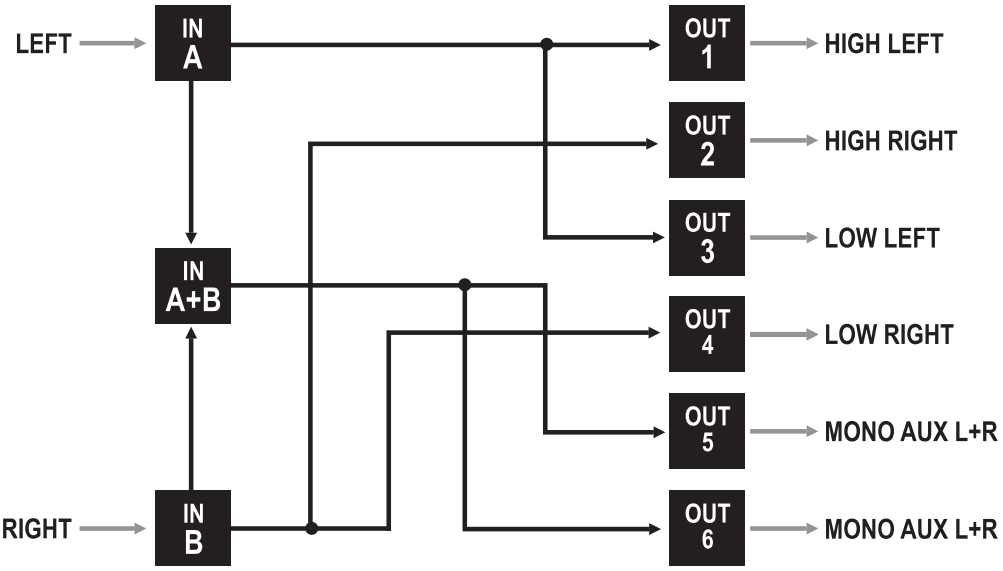
BALANCED XLR-F

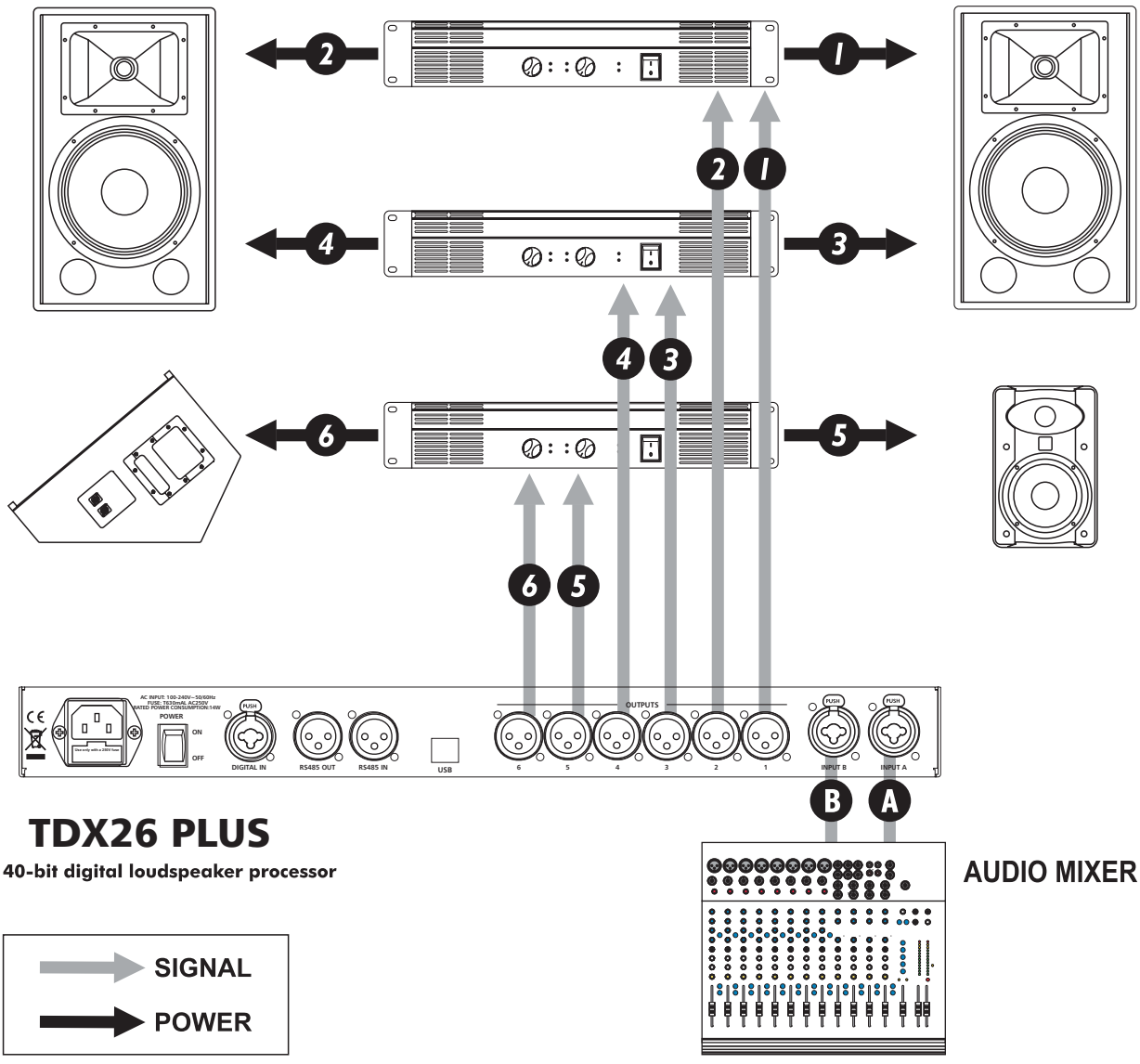



### USB

USB (9-Pin)

## A13 B24 S56 2-WAY STEREO + 2 MONO AUX (2X2W+2MAX)




**TDX26 PLUS**

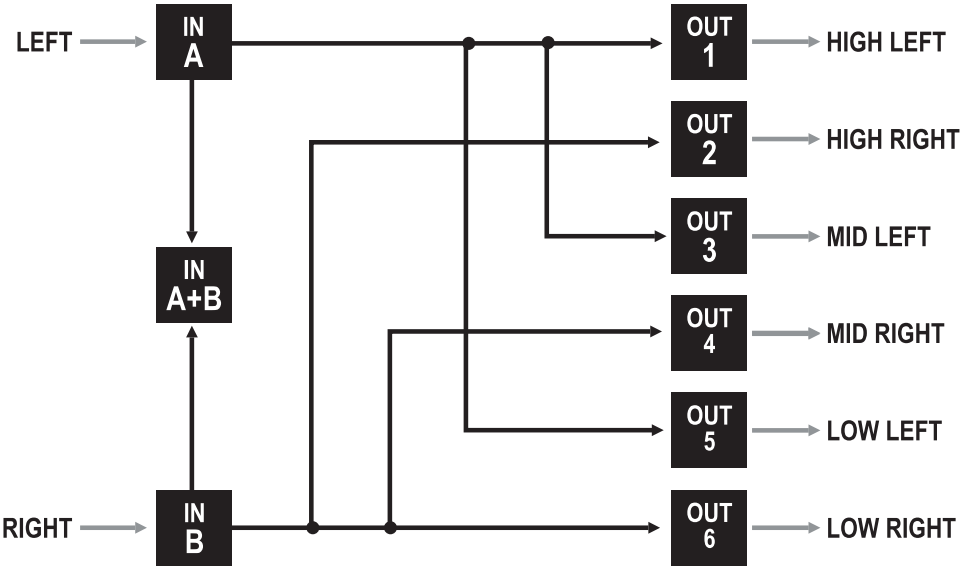
**40-bit digital loudspeaker processor**

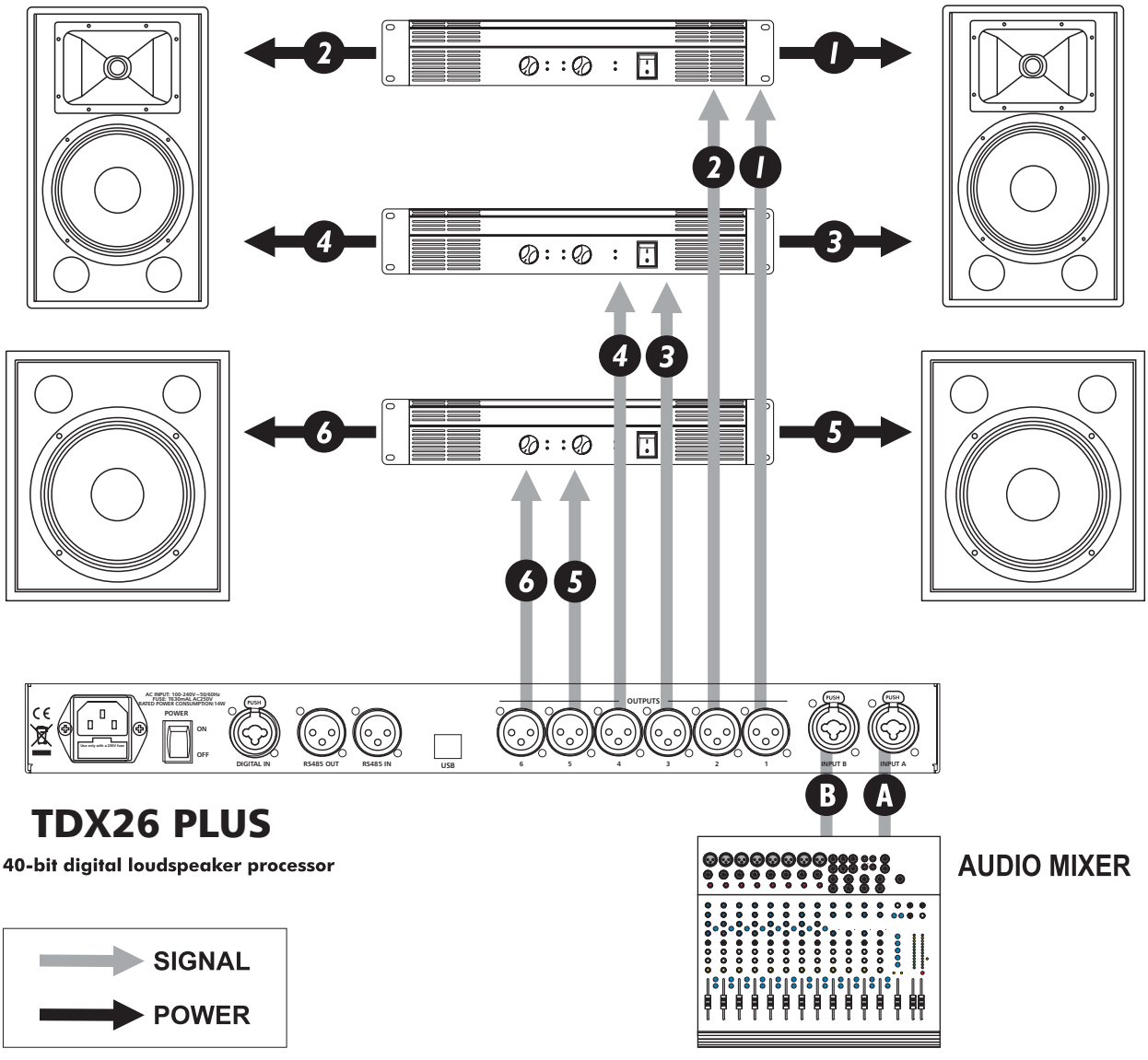
AUDIO MIXER

SIGNAL

POWER

## A135 B246 3-WAY STEREO (2X3W)




**TDX26 PLUS**

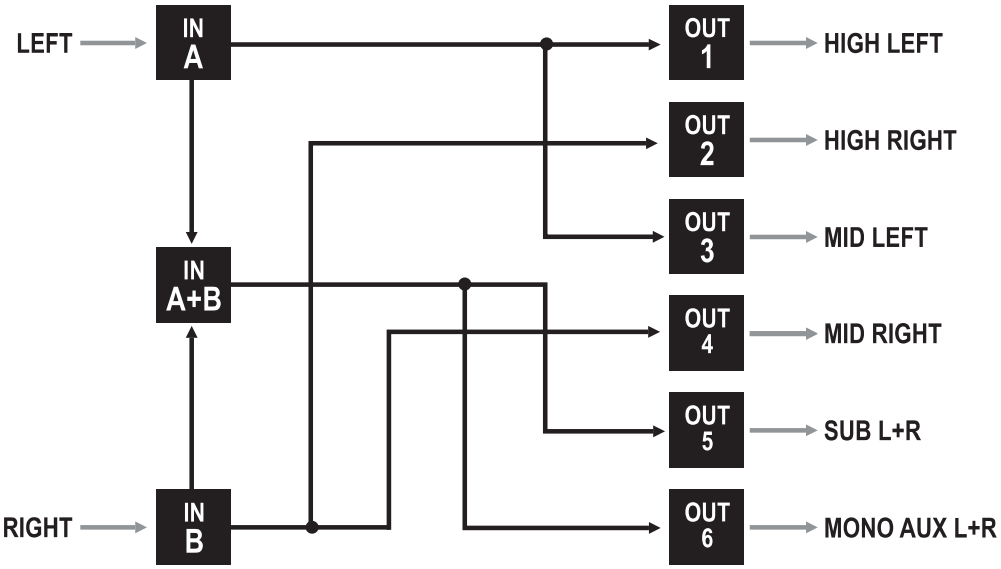
**40-bit digital loudspeaker processor**

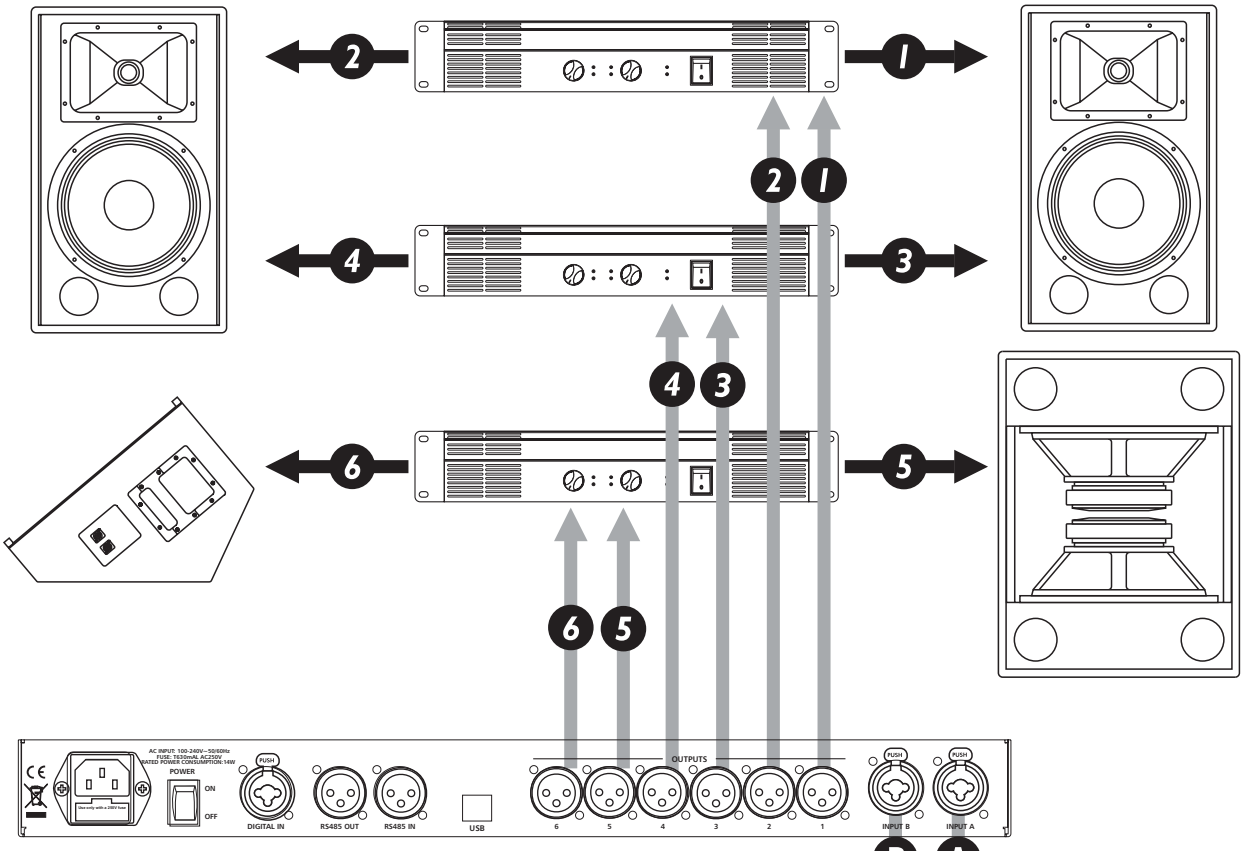
AUDIO MIXER

SIGNAL

POWER

## A13 B24 S56 3-WAY STEREO with MONO SUB + MONO AUX (2X3W+MSB+MAX)




**TDX26 PLUS**

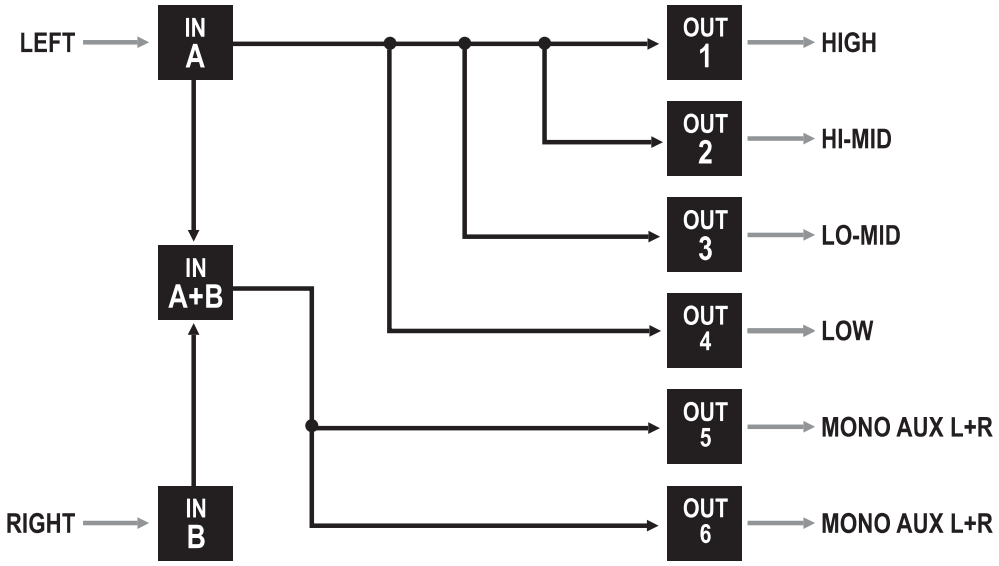
40-bit digital loudspeaker processor

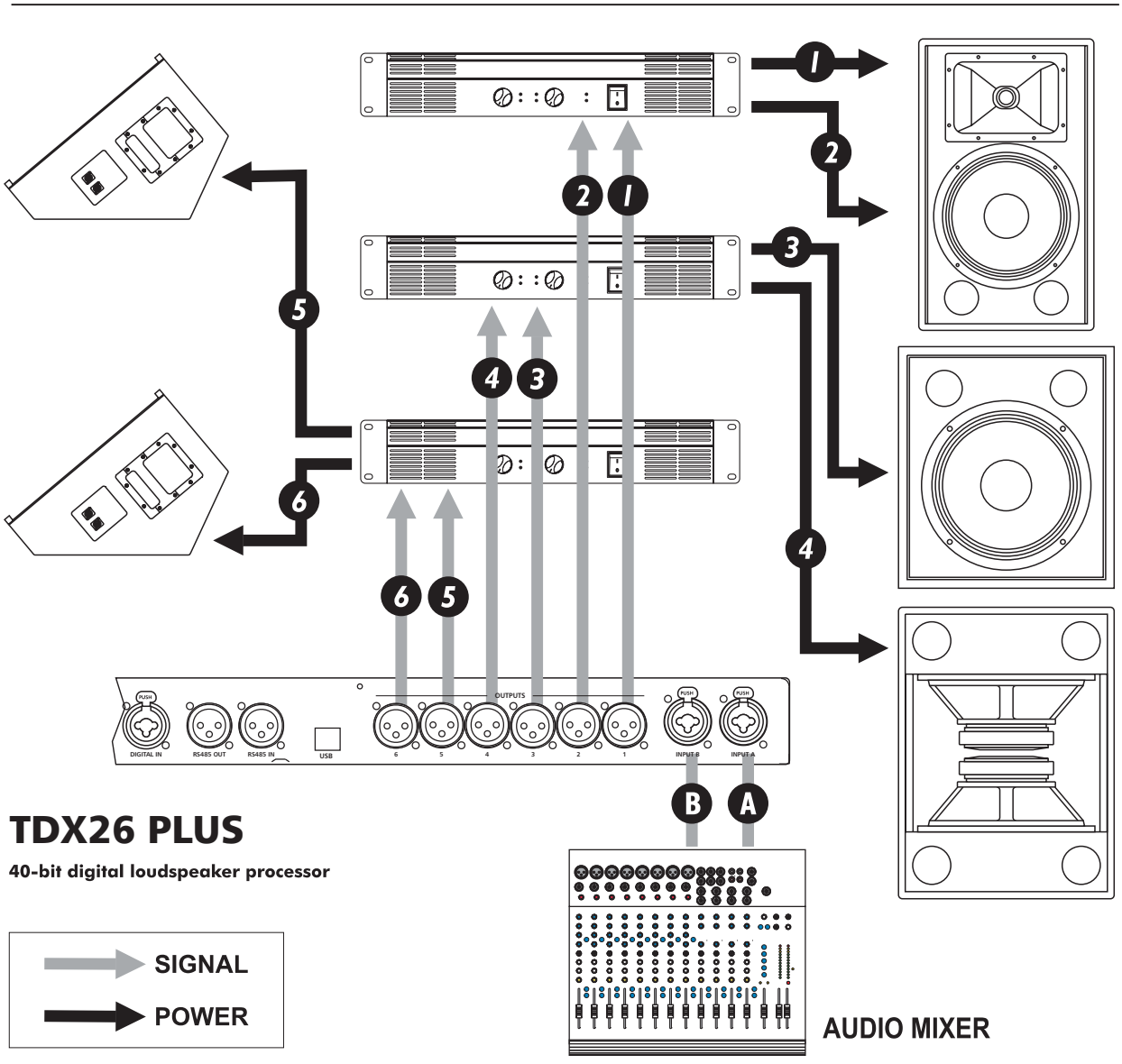
AUDIO MIXER

SIGNAL

POWER

## A1234 S56 4-WAY MONO + 2 MONO AUX (4W+2MAX)



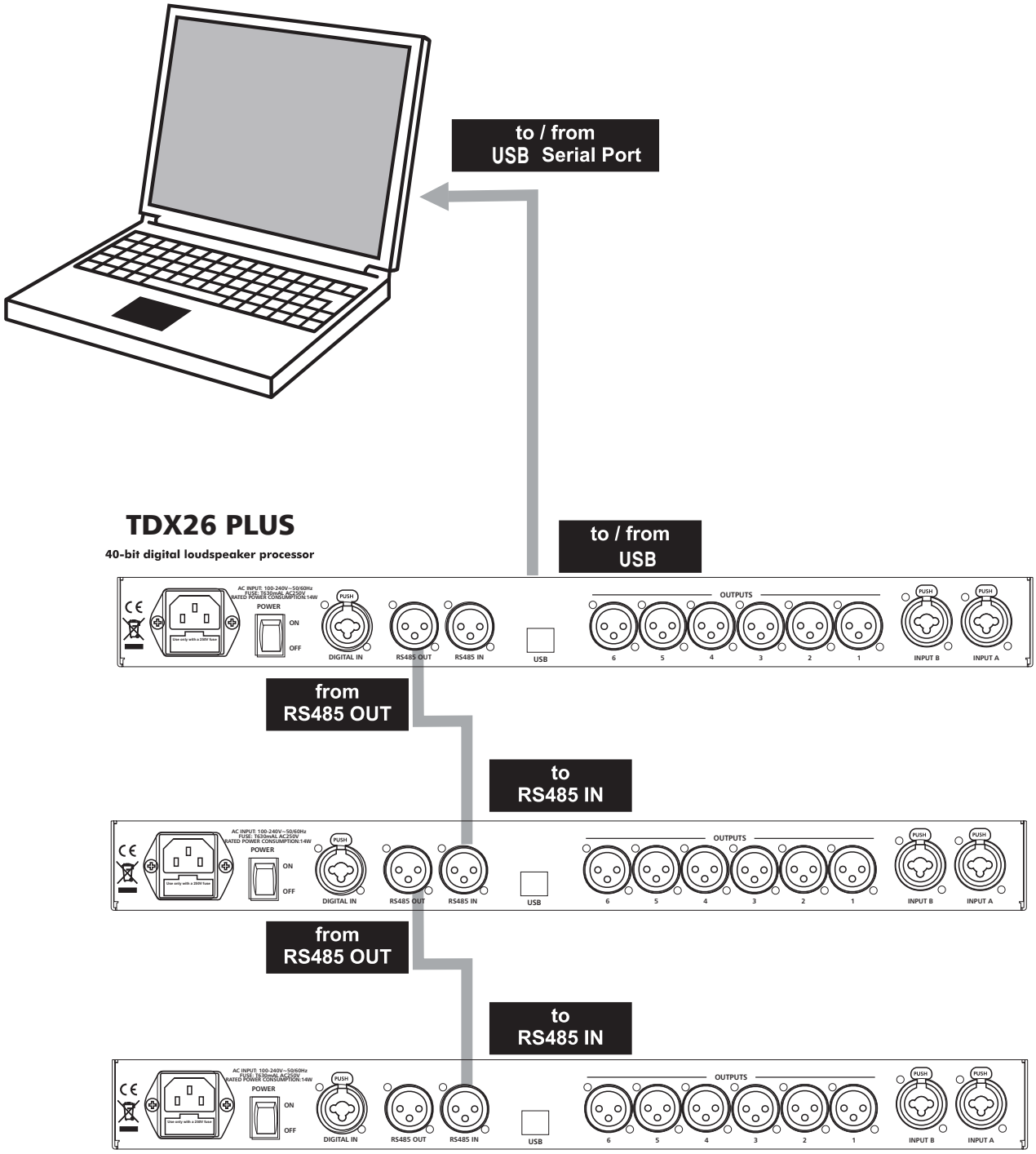

**TDX26 PLUS**

**40-bit digital loudspeaker processor**

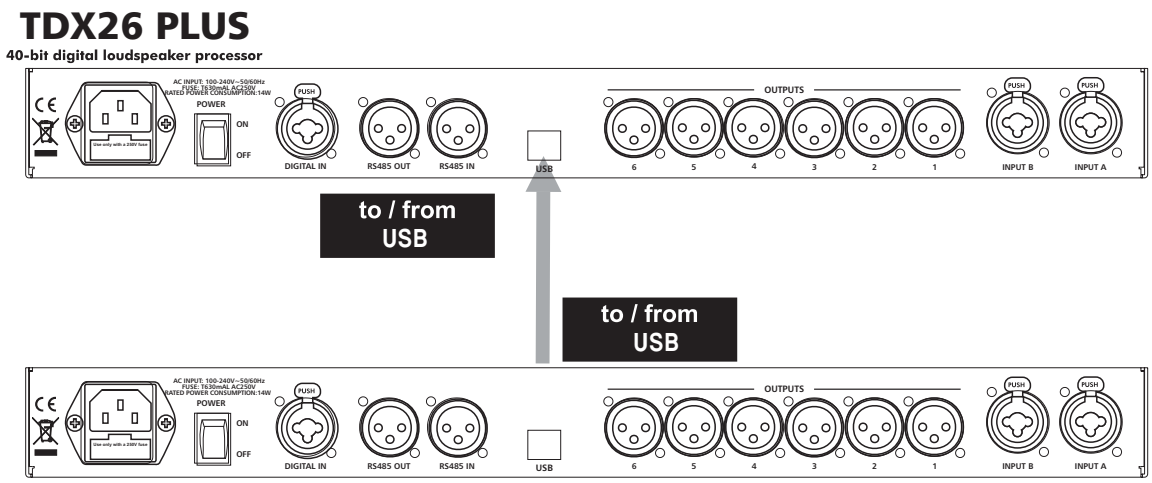
SIGNAL

POWER

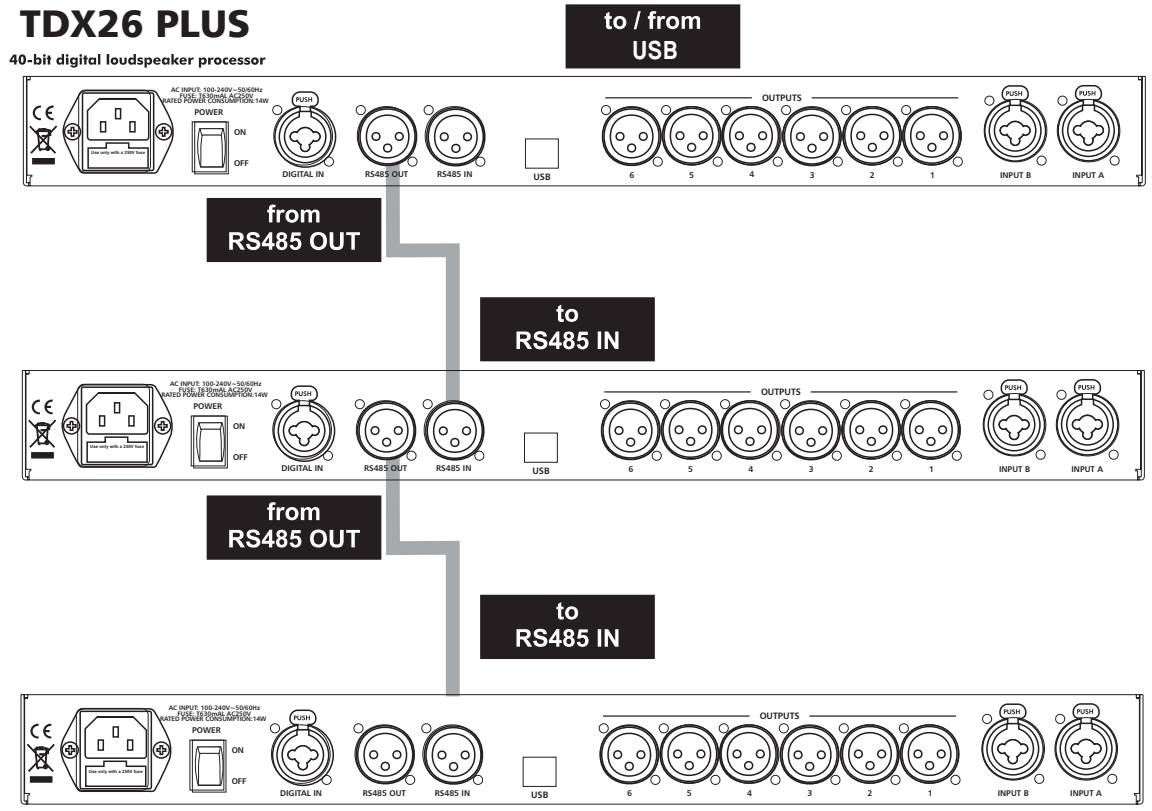
## Communications: PC & one or more TDX26 PLUS connection



## Communications: two TDX26 PLUS short distance connection




## Communications: two or more TDX26 PLUS long distance connection



## TDX26 PLUS - FACTORY PRESETS

| # | Name | Configuration | Description |
|---|---|---|---|
| 01 | **DEFAULT** | A135 B246 | Default preset - routing = 3-WAY STEREO |
| 02 | **2X2W+MAX** | A13 B24 S56 | 2-WAY STEREO + 2 MONO FULL-RANGE OUT |
| 03 | **2X3W** | A135 B246 | 3-WAY STEREO |
| 04 | **2X3W+MSB+MAX** | A13 B24 S56 | 3-WAY STEREO with MONO SUB + 1 MONO FULL-RANGE OUT |
| 05 | **4W+2MAX** | A1234 S56 | 4-WAY MONO + 2 MONO FULL-RANGE OUT |
| 06 | **4W+BSB+2MAX** | A123 B4 S56 | 4-WAY MONO with B-SUB + 2 MONO FULL-RANGE OUT |
| 07 | **5W+MAX** | A12345 S6 | 5-WAY MONO + 1 MONO FULL-RANGE OUT |
| 08 | **5W+BSB+MAX** | A1234 B5 S6 | 5-WAY MONO with B-SUB + 1 MONO FULL-RANGE OUT |
| 09 | **6W** | A123456 | 6-WAY MONO |
| 10 | **6W+BSB** | A12345 B6 | 6-WAY MONO with B-SUB |

# TDX26 PLUS • TECHNICAL SPECIFICATIONS

| | |
|---|---|
| **INPUT section** | |
| **Connectors** | 2 x COMBO |
| **Nominal input sensitivity** | 0 dB (0.775 V) |
| **Input Impedance** | 30kOhm, electronically balanced |
| **Maximum Input Level** | +20dBu |
| **Input Gain** | -30 / +6 dB variable in 0.5 dB steps |
| **Digital input** | AES/EBU, XLR-F |
| **Digital input sample rate** | 32 kHz ~ 48 kHz |
| **Output Section** | |
| **Connectors** | 6 x XLR-M |
| **Output Impedance** | 600 Ohms, electronically balanced |
| **Nominal Output Level** | 0 dBu |
| **Maximum Output Level** | +20 dBu |
| **Output Gain** | -30 / +6 dB variable in 0.5 dB steps |
| **DSP Section** | |
| **A/D converters** | 24 bit |
| **D/A converters** | 24 bit |
| **Internal dynamics** | 40 bit |
| **Sampling frequency** | 48 kHz |
| **Features** | |
| **Configuration** | 2-WAY STEREO, 3-WAY STEREO, 2,3,4,5,6-WAY MONO |
| **Crossover Filters Type** | Bessel, Butterworth or Linkwitz-Riley |
| **Crossover Filters Slope** | 6, 12, 18, 24, or 48dB per octave |
| **Delay Step** | 21 microseconds minimum |
| **Max Delay time** | 900ms (inputs), 291 ms (outputs) |
| **EQ filters** | Up to 40 maximum (depending on the crossover slope) |
| **EQ Type** | Peak, 6dB Lo-Shelf, 12dB Lo-Shelf, 6dB Hi-Shelf, 12dB Lo-Shelf, Notch |
| **EQ Gain** | +/15dB, variable in 0.5dB steps |
| **EQ Bandwidth** | 0.05 to 3.00 octaves, variable in 0.05 steps |
| **EQ freq** | 15.6 Hz to 16 kHz |
| **Dynamics** | Compressor/Limiter on the outputs - Noise Gate on the inputs |
| **Memories** | 10 FACTORY PRESETS + 64 USER PRESETS + 128 CARD PRESETS |
| **Communications** | 9-pin USB, XLR-F RS485 IN, XLR-F RS485 IN |
| **General Performance (with filters out)** | |
| **Frequency Response** | 20Hz - 20kHz, ±0.25dB |
| **Dynamic range** | >117dB 20Hz to 20kHz<br>>120dB 20Hz to 20kHz on AES/EBU input |
| **Channel Separation** | >100dB 20Hz to 20kHz |
| **Distortion (THD)** | 0.05%, 20Hz to 20kHz |
| **Input Metering** | -24dB, -18dB, -12dB, -6dB, CLIP relative to Clip point (+20dBu) |
| **Output Metering** | -24dB, -12dB, -6dB, LIMIT relative to limiter threshold setting, CLIP |
| **General** | |
| **Dimensions** | 483x44x300 mm |
| **Weight** | 4.0 Kg |
| **Power supply** | see label on the unit |

# 21 GUARANTEE

**Topp Pro** guarantees the normal operation of the product against any defect of manufacture and/or vice of material, by the term of (12) months, counted as of the date of purchase on the part of the user, committing itself to repair or to change, to its election, without position some, any piece or component that will fail in normal conditions of use within the mentioned period.
This guarantee is valid if the original buyer will have to present /display this certificate properly sealed and signed by the selling house, accompanied by the corresponding invoice of purchase where it consisted the model and serial number of the acquired equipment.

The guarantee does not cover:

-Damages caused by the illegal use of the product, repair and/or nonauthorized modification conducted by people by **Topp Pro.**

-Damages caused by the connection of the equipment to other equipment different from the specified ones in the manual of use, or by bad connection to these last ones.

-Damages caused by electrical storms, blows and / or incorrect transport.

-Damages caused by excesses or falls of tension in the network or by connection to networks with a tension different from the required one by the unit.

-Damages caused by the presence of sand, acid of batteries, water, or any strange element inside the equipment.

-Deteriorations produced by the course of the time, use and/or normal wear of the unit.

-Alteraion or absence of the serial number of factory of the equipment.

The repairs could only be carried out the authorized technical service by **Topp Pro**, that will inform about the term and other details into the repairs to take place according to this guarantee.

**Topp pro,** will repair this unit in counted a term nongreater to 30 days as of the date of entrance of the unit to the Technical Service. In those cases in that due to the particularity of the spare part, outside necessary their import, the repair time and the viability of the same one will be subject to the effective norms for the import of parts, in which case one will inquire to the user about the term and possibility into repair.

With the object of its correct operation, and of the validity of this one guarantee, this product will have to be installed and to be used according to the instructions that are detailed in the manual associate or the package of the product.

This unit will be able to appear for its repair, next to the invoice of purchase (or any other comprobante where the date of purchase consists), to its authorized distributer **Topp Pro** or an authorized technical center on watch by **Topp Pro.**

**Exclusion of damages:**

THE RESPONSIBILITY OF TOPP PRO BY ANY DEFECTIVE PRODUCT IS LIMITED THE REPAIR OR THE REPLACEMENT OF HE HIMSELF, TO TOPP OPTION PRO. IF WE CHOSE TO REPLACE THE PRODUCT, THE REPLACEMENT CAN BE A RECONDITIONATED UNIT. TOPP PRO WILL NOT BE RESPONSIBLE BY THE DAMAGES BASED ON THE LOST, INCONVENIENCE, LOSS OF USE, BENEFITS, LOST SAVINGS, BY THE DAMAGE TO OTHER EQUIPMENT OR OTHER ARTICLES IN THE USE SITE, OR BY ANY OTHER DAMAGE IF HE IS FORTUITOUS, CONSEQUENT OR OF ANOTHER TYPE, ALTHOUGH TOPP PRO HAS BEEN NOTICED OF THE POSSIBILITY OF SUCH DAMAGES.

Some states do not allow to exclusion or the limitation to the fortuitous or consequent damages, so the aforesaid limitation can not be applied to you.
This guarantee gives specific legal rights him, you can also have other right that varies of state to state.

## NOTES


**TOPP PRO MUSIC GEAR**

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# TDX SERIES