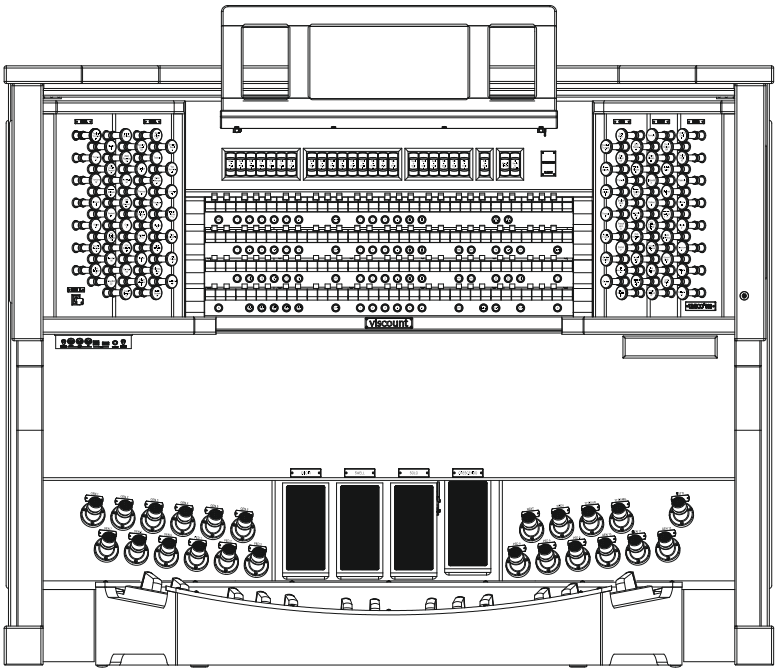
VISCOUNT

# Physis Organs



## Reference Manual

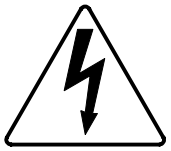
- English

Ver. USA - 1.16

# IMPORTANT SAFETY INSTRUCTIONS

WARNING: READ THIS FIRST! *** AVIS IMPORTANT!

*This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.*



*Ce simbole sert pour avertir l'utilisateur qu'à l'interieur de ce produit sont présents éléments non isolés soumis à "tensions dangereuses" suffisants à créer un risque d'électrocution.*

*This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.*

*Ce simbole sert pour avertir l'utilisateur qu'à l'interieur de la documentation de l'appareil sont presentes importantes instructions pour l'utilisation correcte et la manutention de l'appareil.*

WARNING
TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK:
DO NOT EXPOSE THIS APPARATUS TO RAIN OR MOISTURE
AND OBJECTS FILLED WITH LIQUIDS, SUCH AS VASES,
SHOULD NOT BE PLACED ON THIS APPARATUS.
DO NOT REMOVE COVER (OR BACK)
NO USER-SERVICEABLE PARTS INSIDE
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL

ATTENTION
AFIN D'EVITER LES RISQUES DE FEU OU SCHOCK ÉLÉCTRIQUE:
N'EXPOSÉZ PAS CET INSTRUMENT À PLUIE OU HUMIDITÉ
NE PAS OUVRIR LE COUVERCLE (OU PANNEAU ARRIERE)
L'UTILISATEUR NE PEUT EFFECTUER AUCUNE REPARATION
POUR TOUTE REPARATION EVENTUELLE, FAIRE APPEL A
UN PERSONNEL QUALIFIE

## "INSTRUCTIONS PERTAINING TO A RISK OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSONS"

### *WARNING:*

*1) Read these instructions.*

*2) Keep these instructions.*

*3) Heed all warnings.*

*4) Follow all instructions.*

*5) Do not use this apparatus near water.*

*6) Clean only with dry cloth.*

*7) Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.*

*8) Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.*

*9) Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wider blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.*

*10) Protect the power cord from being walked on or pinched, particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.*

*11) Only use attachments/accessories specified by the manufacturer.*

*12) Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.*

*13) Unplug this apparatus during lightning storms or when unused for long periods of time.*

*14) Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.*

*NOTE: The socket-outlet shall be installed near the equipment and shall be easily accessible. To completely disconnect this apparatus from the AC MAINS, disconnect the power supply cord plug from the AC receptacle.*

SAVE THESE INSTRUCTIONS *** INSTRUCTIONS A CONSERVER

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# 1. IMPORTANT NOTES

## 1.1 LOOKING AFTER THE PRODUCT

- Do not apply excessive force to the organ's structures or the controls (knobs, stops, push-buttons, etc.).
- When possible, do not place the instrument close to units which generate strong interference, such as radios, TVs, computer videos, etc.
- Do not place the organ close to heat sources, in damp or dusty places or in the vicinity of strong magnetic fields.
- Do not expose the instrument to direct sunlight.
- Never insert foreign bodies inside the instrument or pour liquids of any kind into it.
- For cleaning, use only a soft brush or compressed air; never use detergents, solvents or alcohol.
- Always use good quality screened cables for connection to amplification or diffusion systems. When disconnecting cables from sockets, always take hold of the connector and not the cable itself; when winding cables, do not knot or twist them.
- Before making the connections ensure that the other units (especially amplification and diffusion systems) you are about to connect are switched off. This will prevent noisy or even dangerous signal peaks.
- Connect the net cable to an earthed socket.
- Check that the voltage corresponds to the voltage shown on the serial number plate of the organ.
- If the organ is to be out of use for lengthy periods, disconnect the plug from the power socket.

## 1.2 NOTES ABOUT THE MANUAL

- Take good care of this manual.
- This manual is an integral part of the instrument. The descriptions and illustrations in this publication are not binding.
- While the instrument's essential characteristics remain the same, the manufacturer reserves the right to make any modifications to parts, details or accessories considered appropriate to improve the product or for requirements of a constructional or commercial nature, at any time and without undertaking to update this publication immediately.
- All rights reserved; the reproduction of any part of this manual, in any form, without the manufacturer's specific written permission is forbidden.
- All the trademarks referred to in this manual are the property of the respective manufacturers.

- Read all the information carefully in order to obtain the best performances from your product and waste no time.

- The codes or numbers in square brackets ([]) indicate the names of the buttons, sliders, trimmers and connectors on the instrument. For example, [ENTER] refers to the ENTER button.

- Illustrations and screens showed are for information purposes only and may differ from your product.

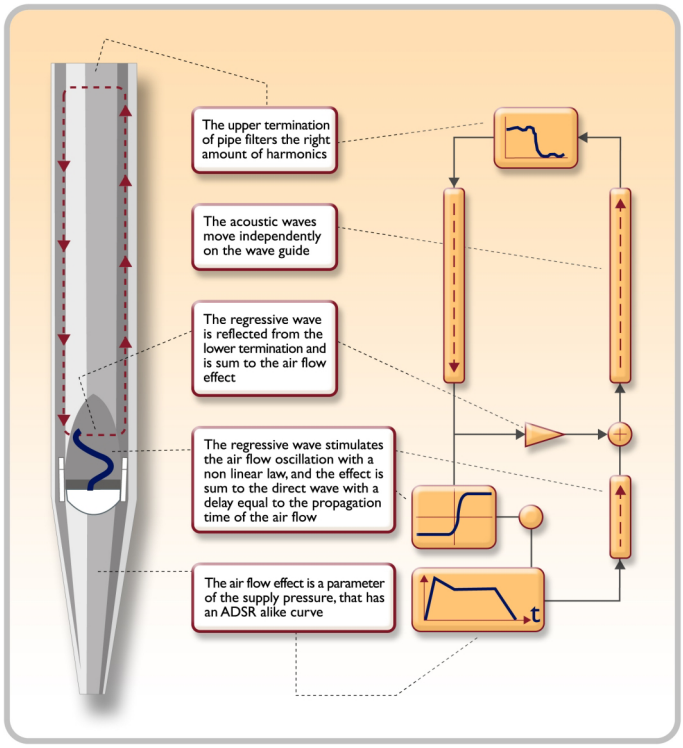
- The instructions provided in this manual only concern the instrument's operating system version that was up to date when the document was released. Therefore, such instructions might not describe faithfully your current operating system release. Please, visit the website www.viscountinstruments.com to check for the newest operating system release and manual.

**This user manual is updated to version 1.14.20 of the instrument's operating system.**

# 2. INTRODUCTION

*Dear Customer,*

Thank you for choosing the organ **Viscount**.
The Company, a world leader in the construction of fine classical organs, has installed in this instrument the latest and most sophisticated technology dedicated to the high fidelity reproduction of pipe organ sounds, with impressive flexibility and remakable quality of timbre.




After years of research exploring musical synthesis techniques, our Research and Development unit, is the FIRST in the world to create the sounds of a pipe organ by using the "physical modeling technology" upon which the **Physis** is based.

Instead of using "sound samples" from pipe organs (previously the standard method) this revolutionary sound generation system involves the real-time calculation of the waveform generated by a precise mathematical model based on the sound emission physics of a pipe organ, incorporating the principal physical parameters ie. construction geometry, materials used, and pertaining air pressure, etc.

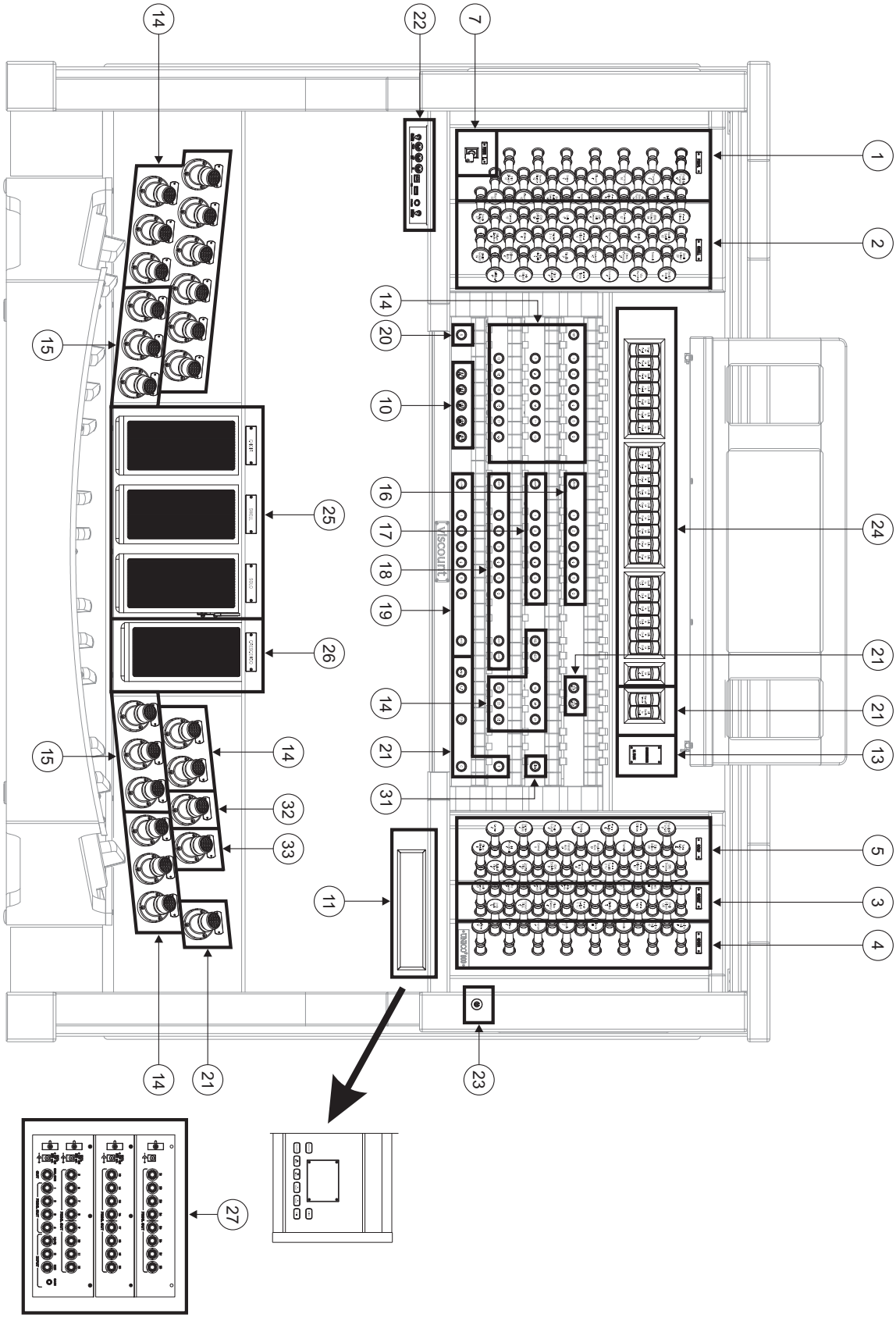
The fact that the simple reproduction of memorized "sound" has been disregarded, permits the achievement of unimaginable realism, with the level of detail previously only created by a traditional pipe organ.
For example, the mathematical model allows the production of a different sound for each key since it provides the virtual reproduction of the original instrument by assigning a different pipe to each note, similar to a pipe organ. Furthermore, it will generate a different sound for each consecutive pressure of the same note, thus simulating the precise condition of the air volume inside the pipe as it is pressed.

The organ also permits the "physical" editing of the sounds produced, by adjusting the parameters - just as the organ builder constructs the pipes. If however, "editing" is not your forte, you may choose your sound from a big library of pre-programmed pipe organ voices already in the instrument's memory.

To conclude we suggest that you visit our web-site www.viscountinstruments.com where you will find information, updates, documents and news about our unique range of instruments.

# 3. GENERAL DESCRIPTION

## UNICO 800



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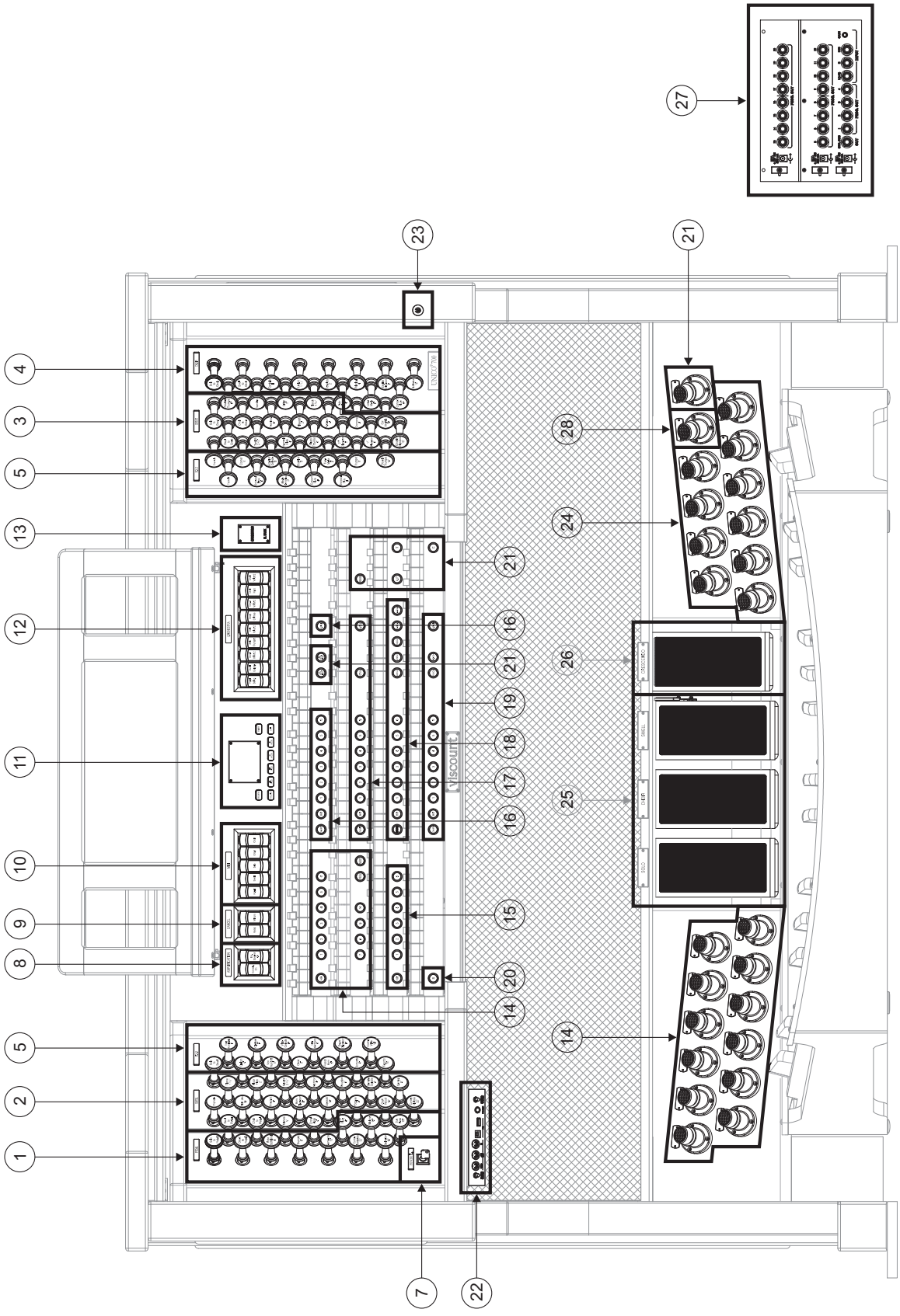
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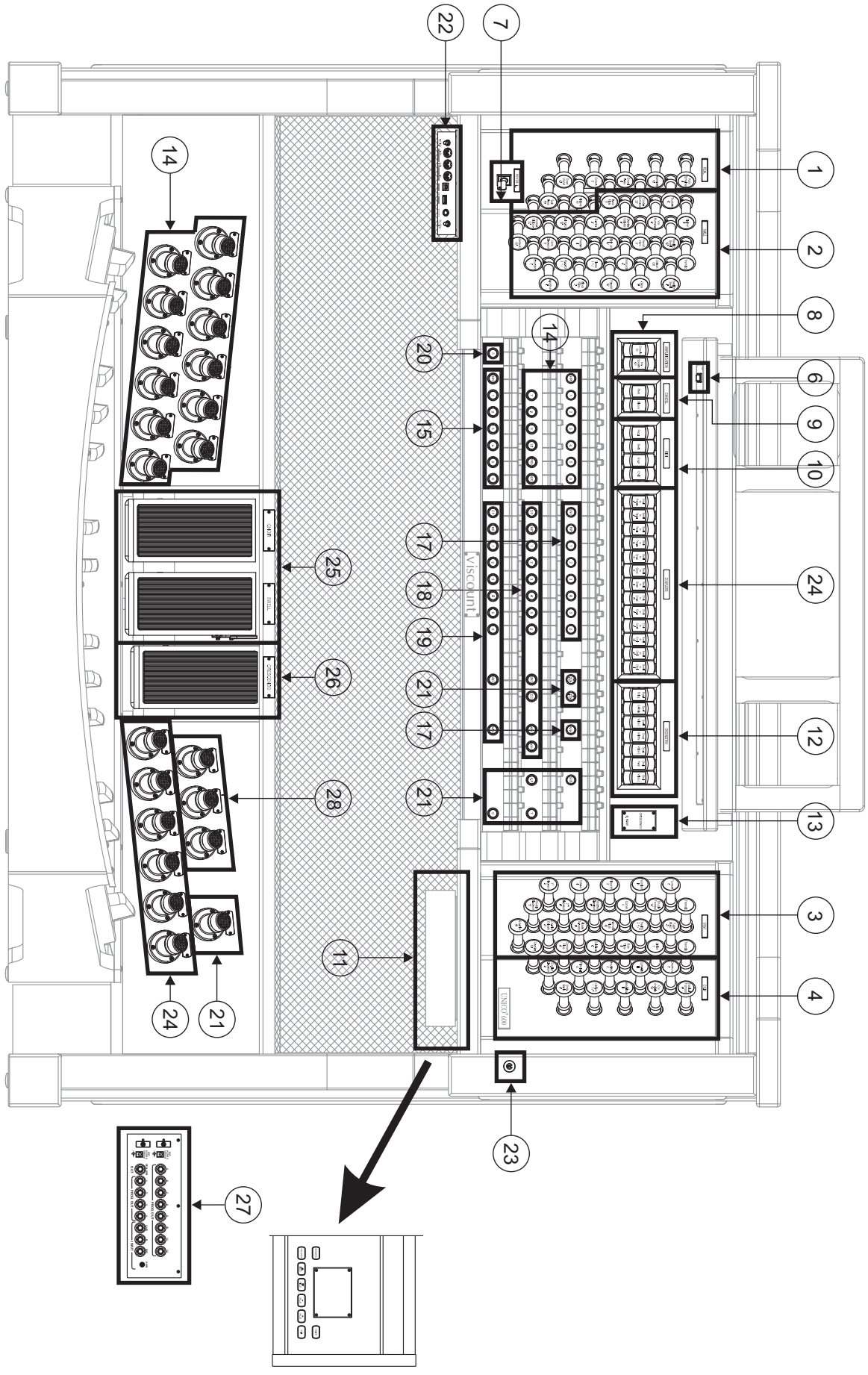
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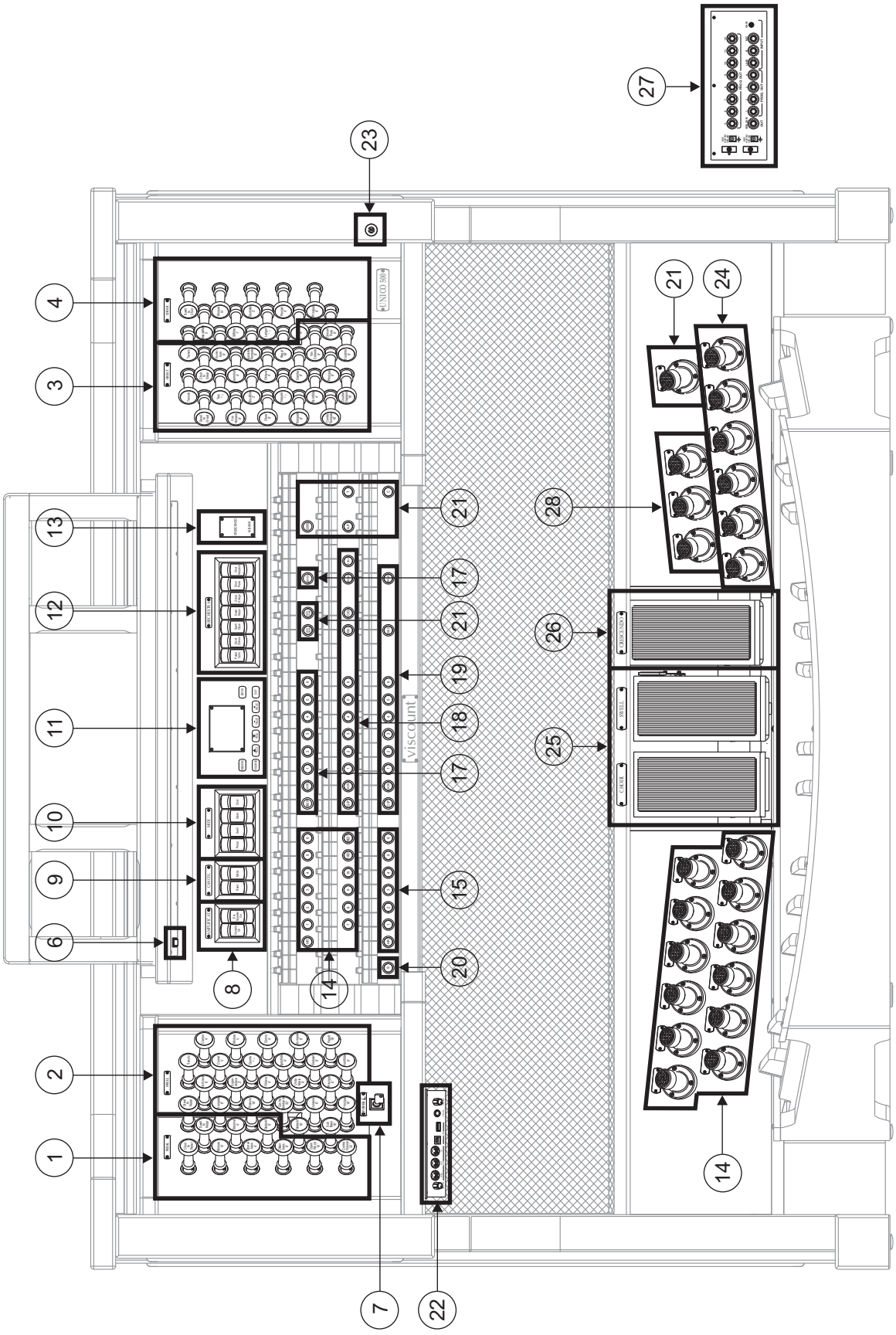

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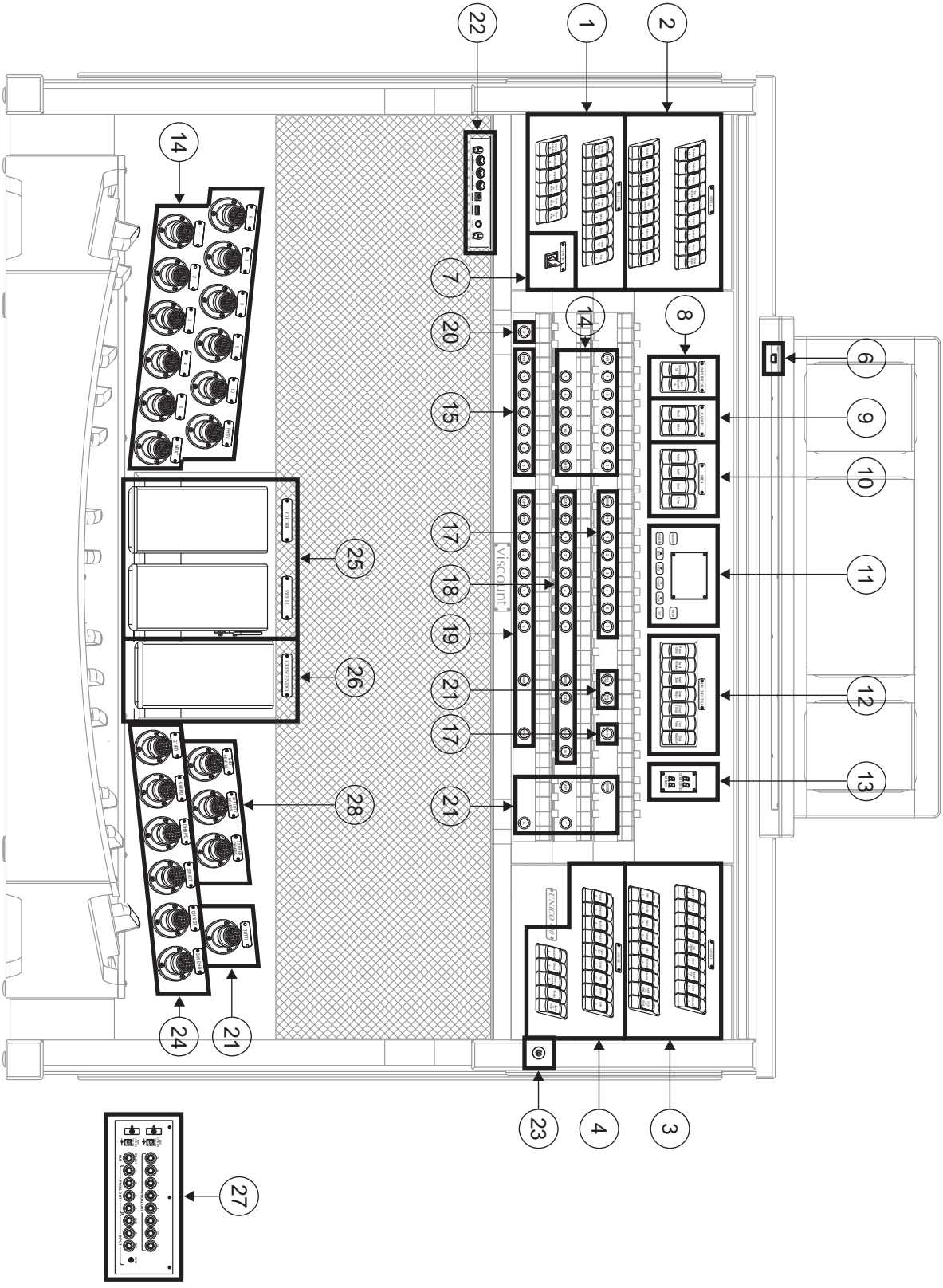
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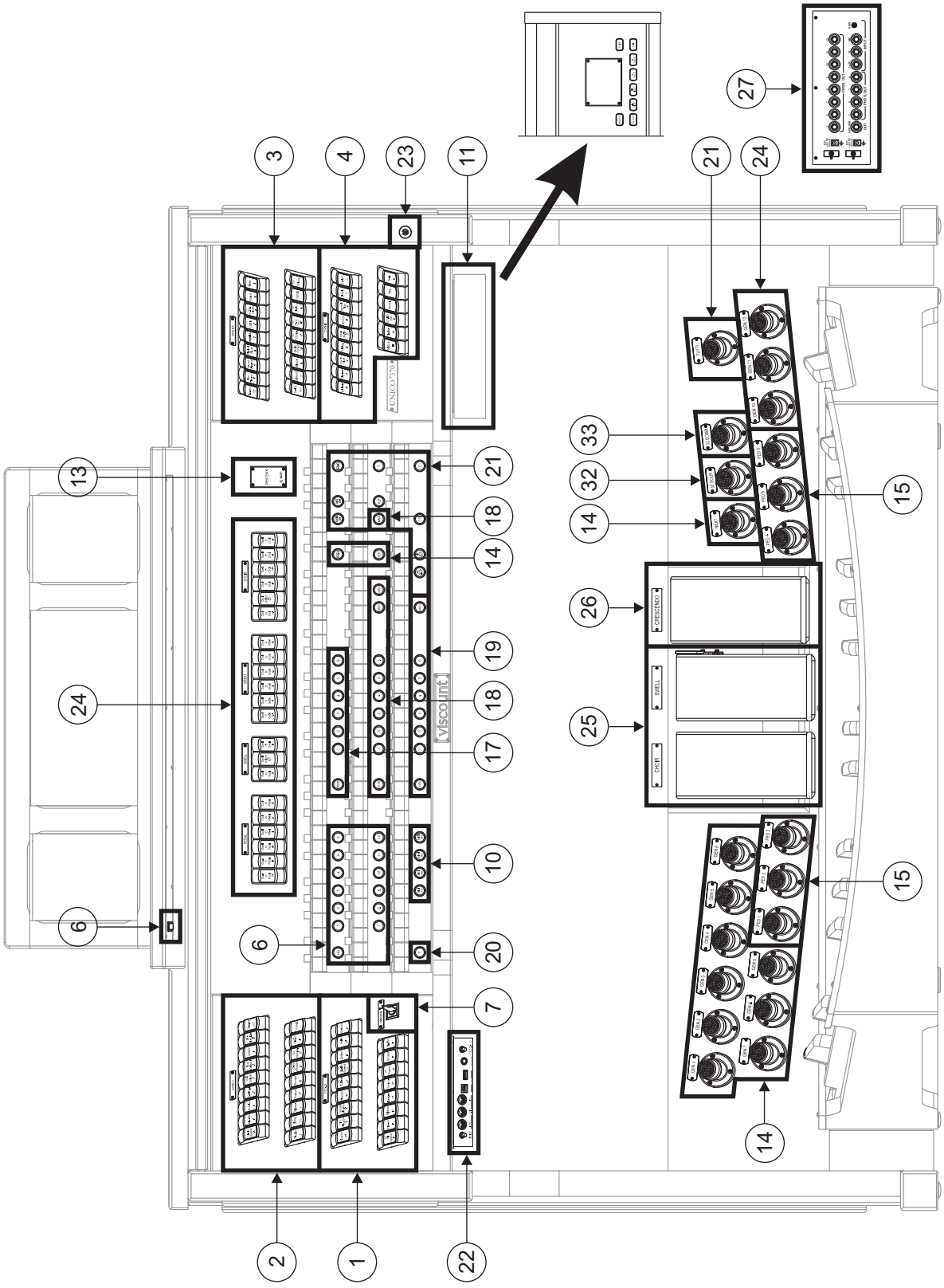
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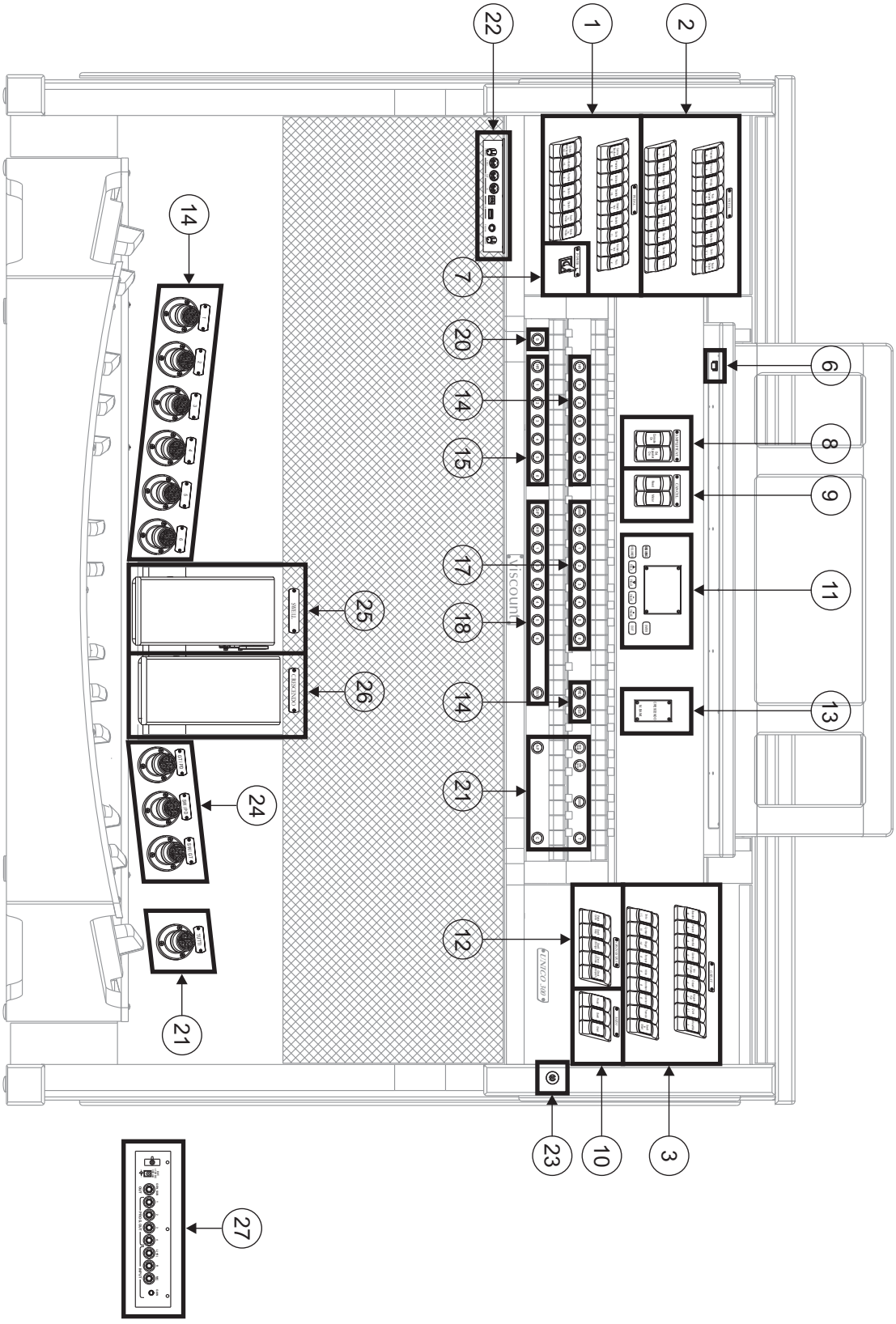

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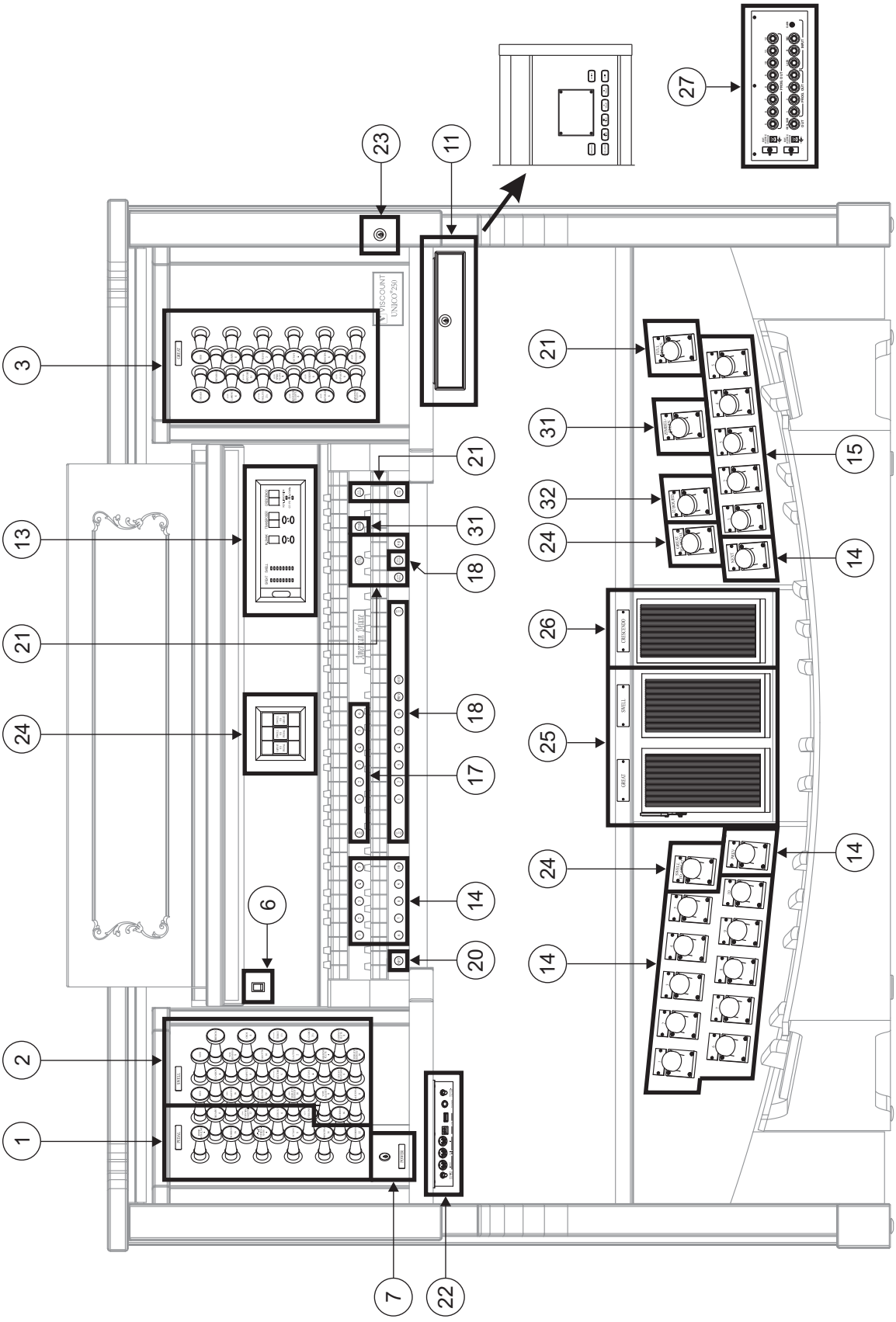

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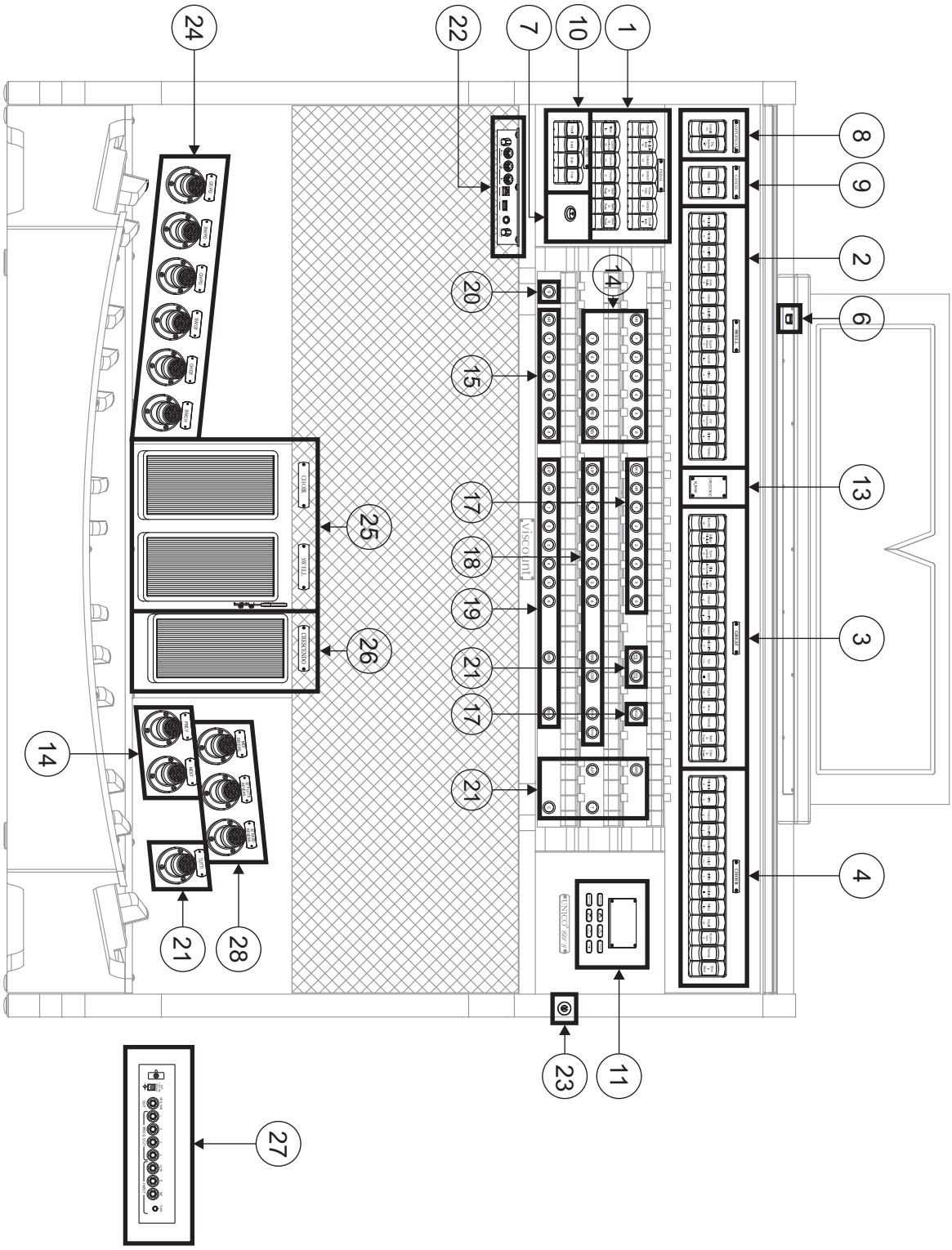

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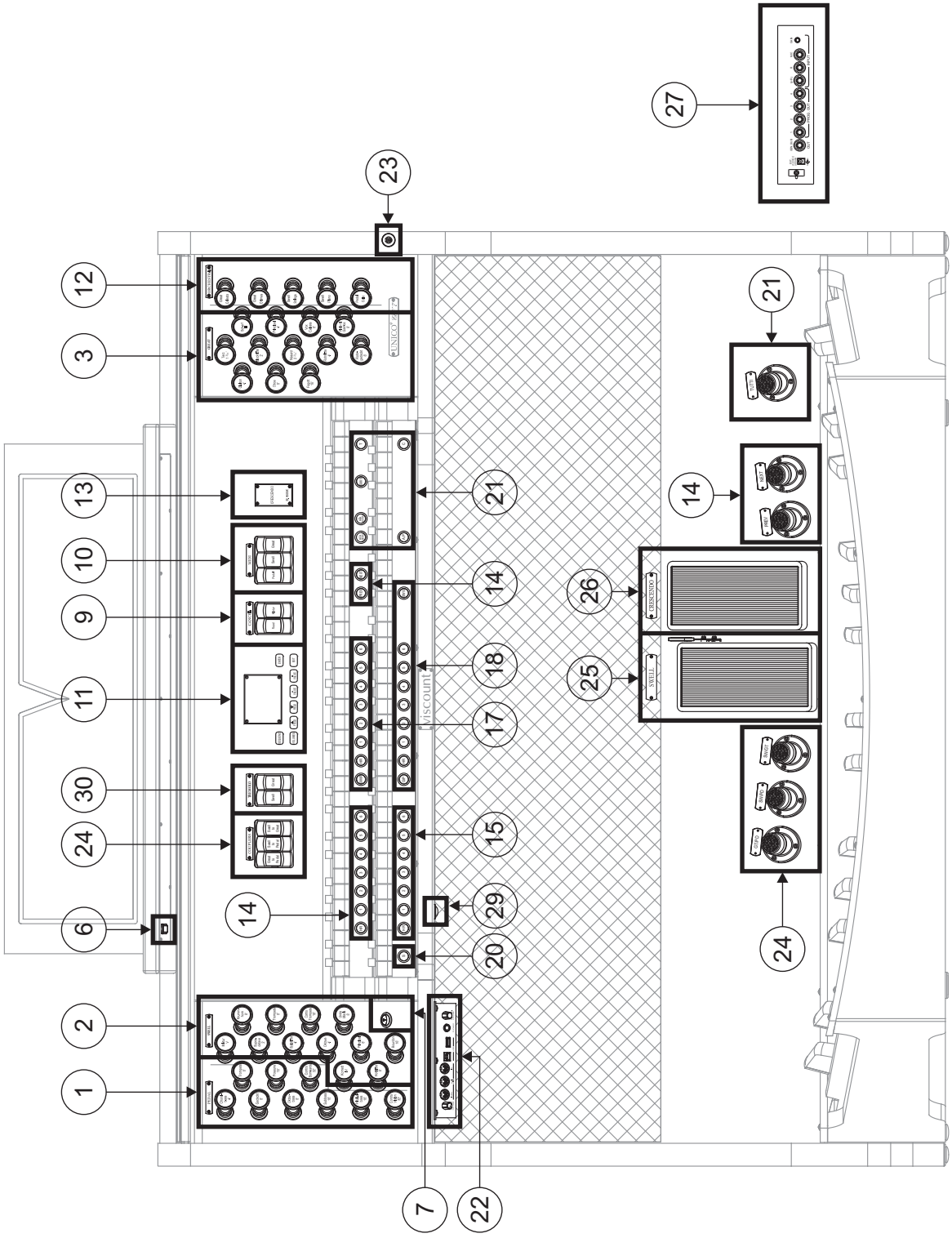

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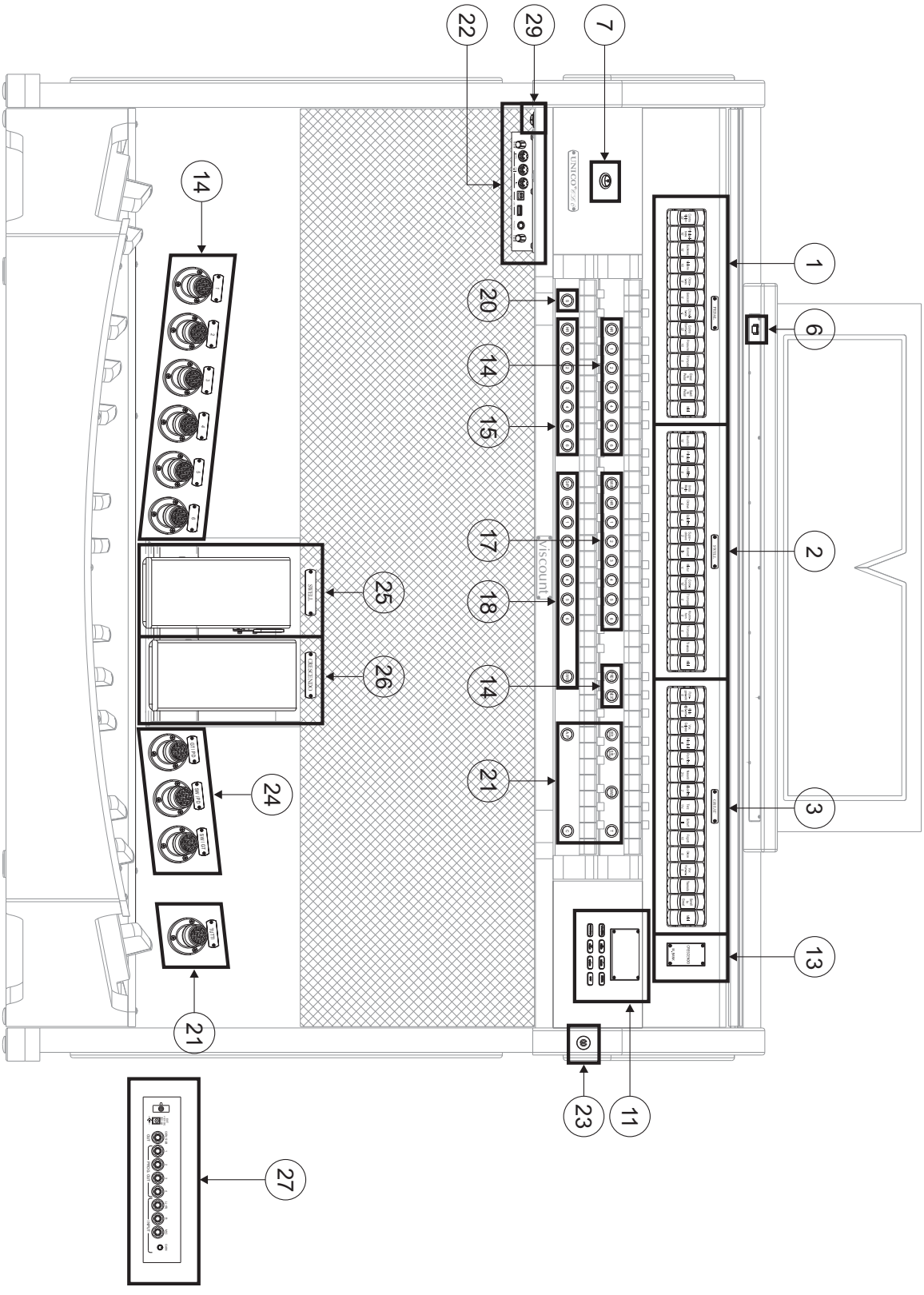

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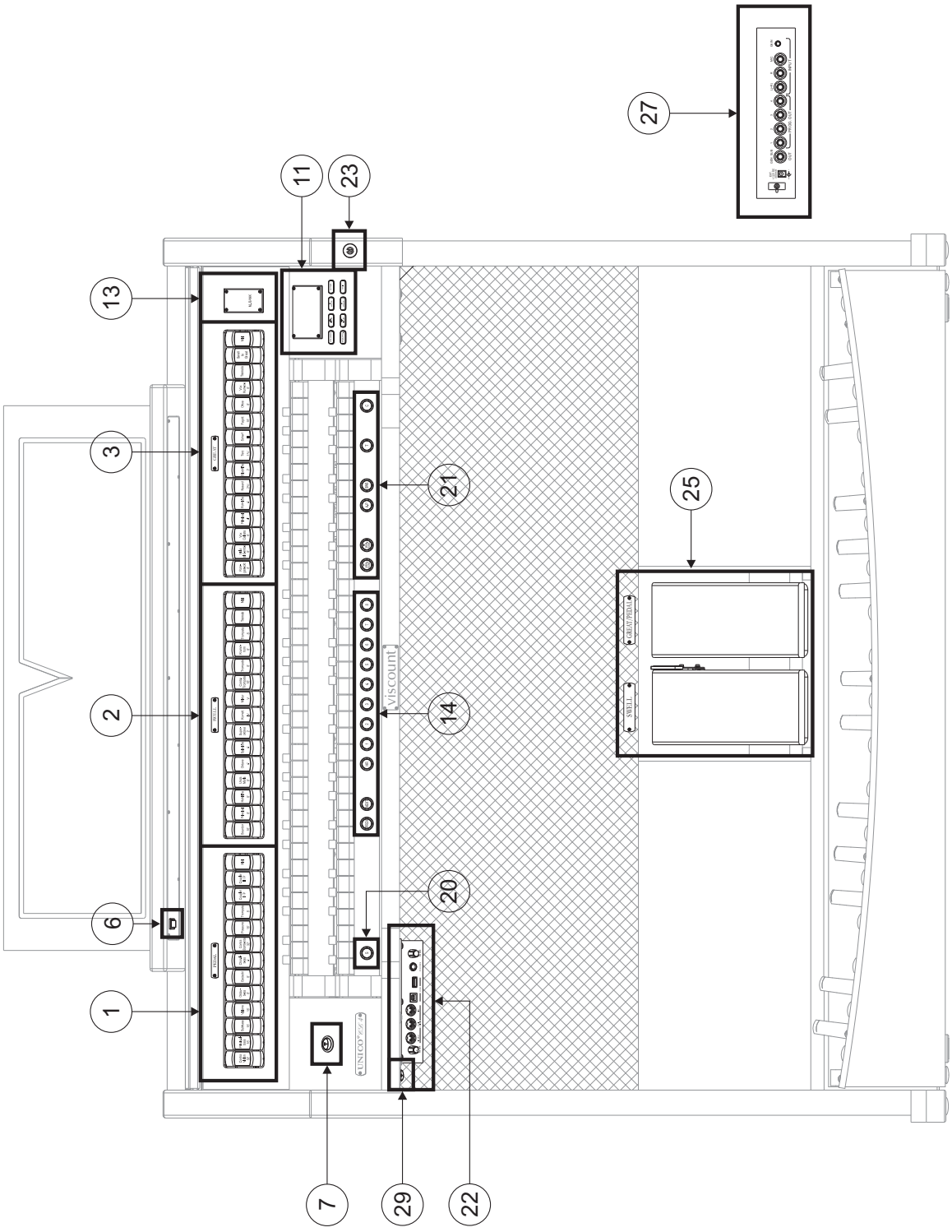

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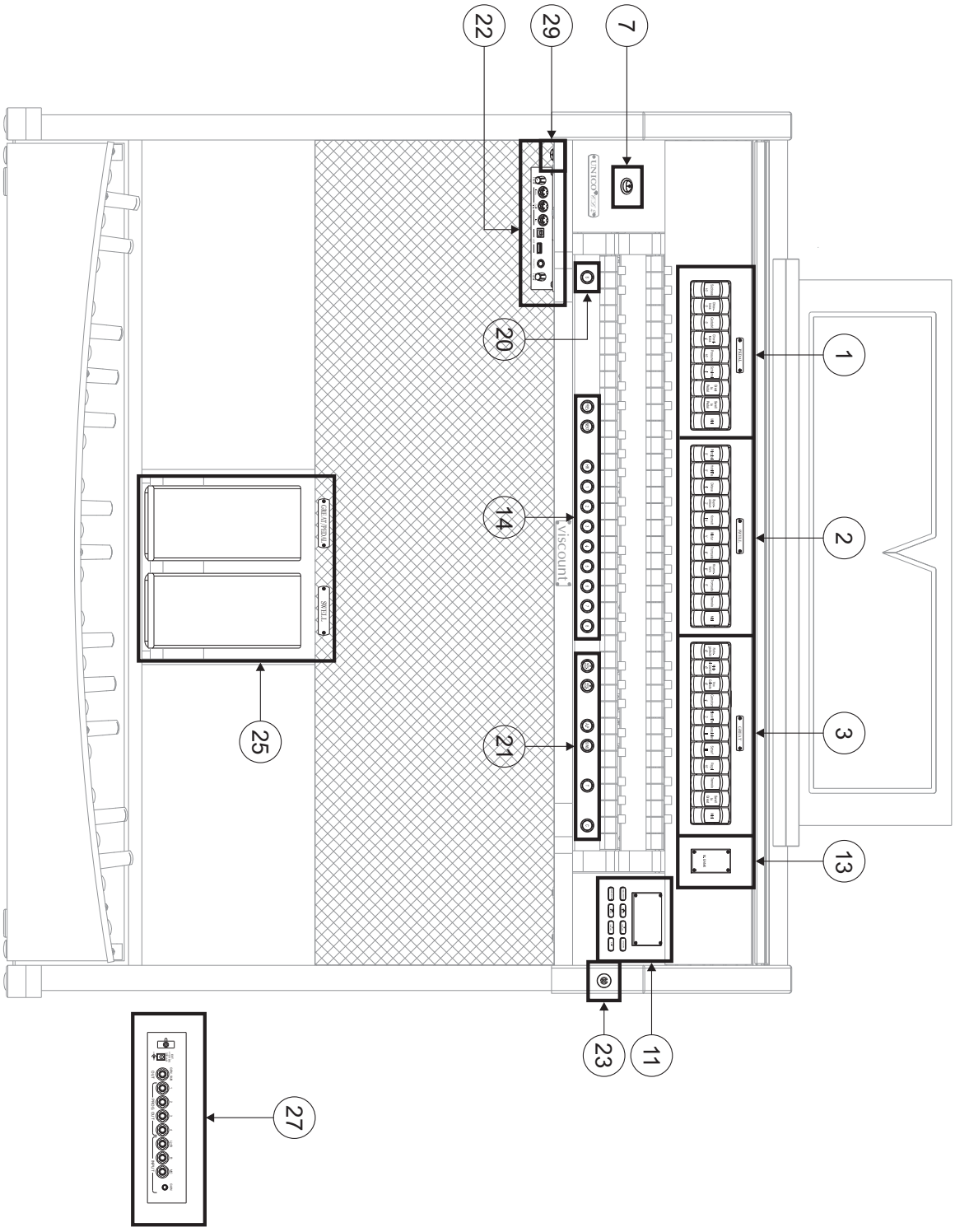
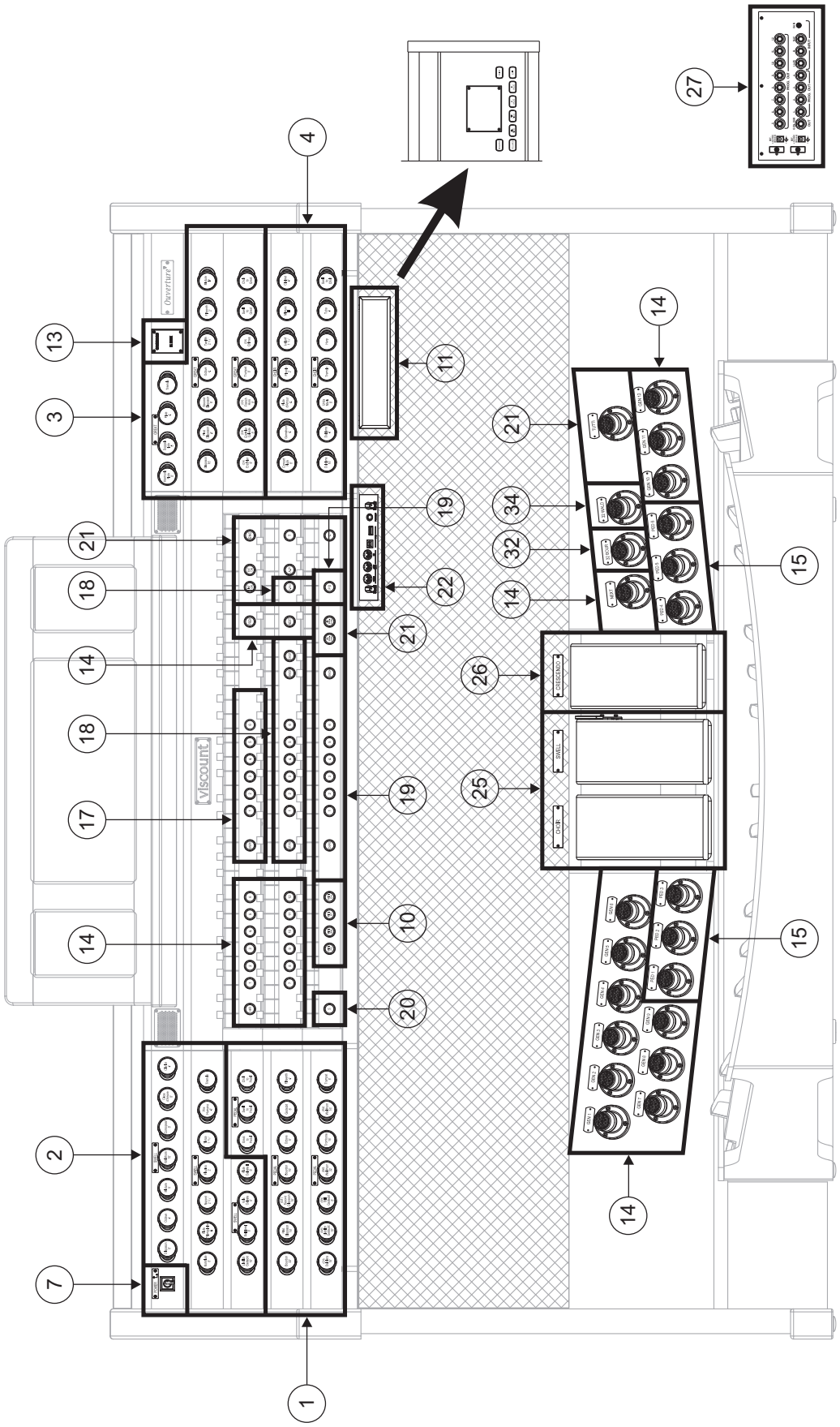


# *Ouverture*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SWELL
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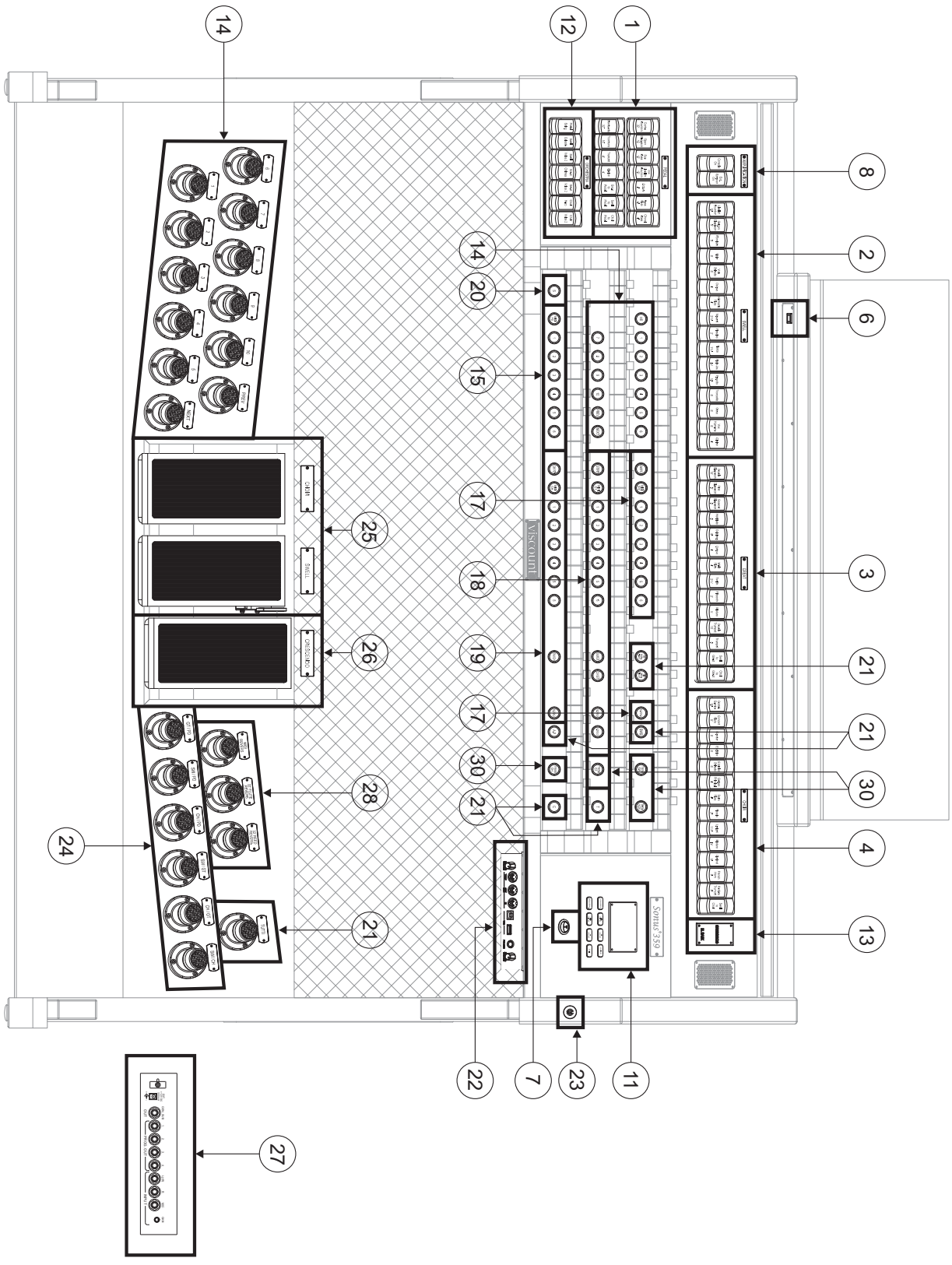
# *Sonus 359 American Deluxe*



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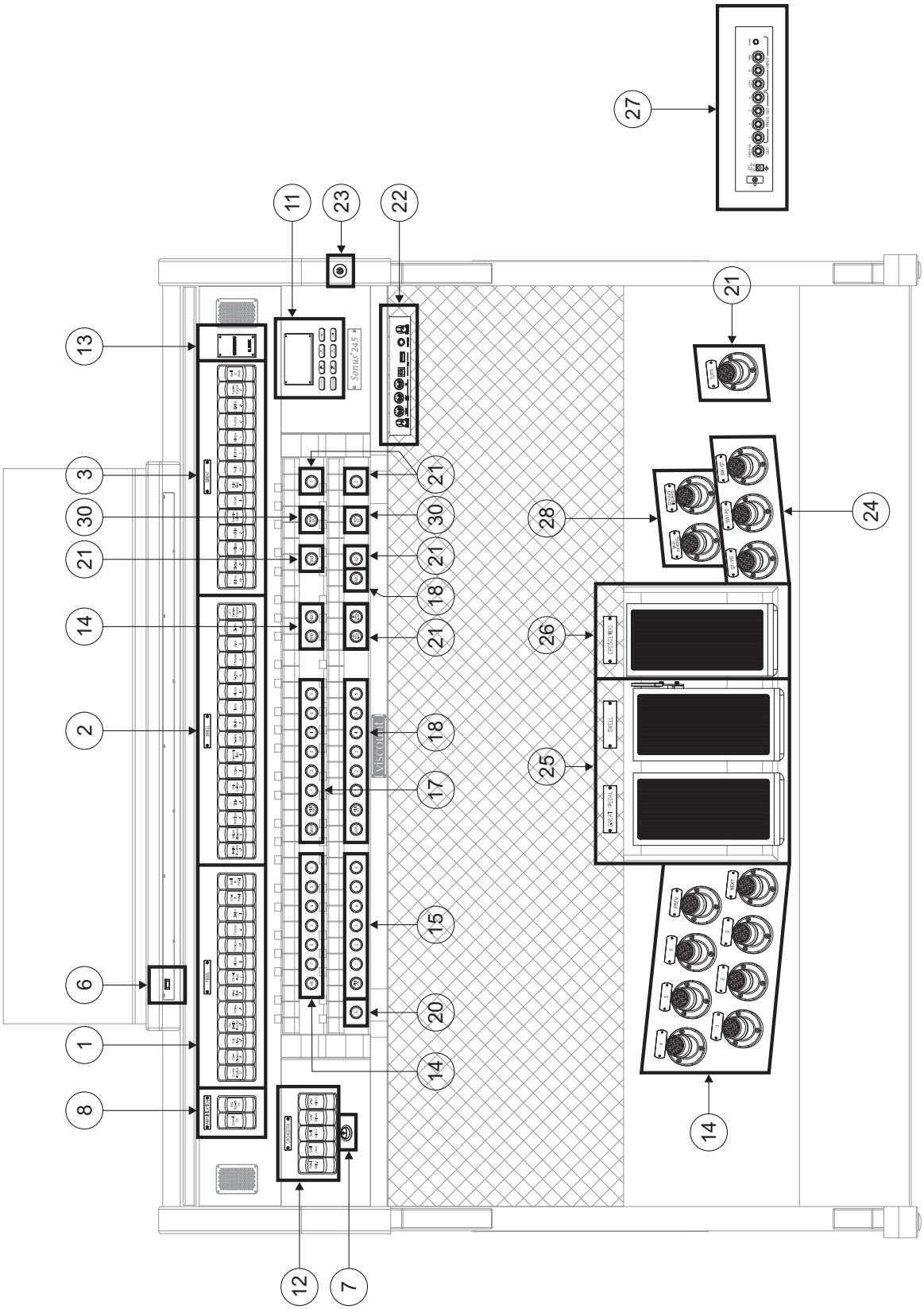


1. **PEDAL Section**
   Contains pedal stops and manual-pedal couplers. The couplers available are:
   - Great to Pedal
   - Swell to Pedal
   - Choir to Pedal
   - Solo to Pedal

2. **SWELL section**
   Contains stops, couplers and tremolos of Swell. The coupler available is:
   - Solo to Swell

3. **GREAT Section**
   Contains stops, couplers and tremolos of Great. The couplers available are:
   - Swell to Great
   - Choir to Great
   - Solo to Great

4. **CHOIR section.**
   Stops, manual couplers and tremolos for Swell. The coupler available is:
   - Swell to Choir
   - Solo to Choir

5. **SOLO section.**
   Stops and tremolos for Solo.

For each rocker switch a different voice can be selected. You can also adjust the main sound-generation parameters. Further information can be found on chapter 8.
Two tremolos are available for each section, and both can be activated through the [TREMOLO] or [TREM] controls. Speed and depth of both tremolos can be adjusted. Further information can be found on paragraph 9.1. For some models, these sections also contain a [MIDI] control, to transmit MIDI-note codes to the MIDI [OUT] port. It is also possible to play one or two orchestral voices. In some models, in which Orchestral stops are not present, it's necessary to activate the orchestral voice through the functions described on chapt. 8.3, 8.4 and 8.5. The list of stops available to play orchestral voices may change, according to the sound configuration of the organ. Check the website www.viscountinstruments.com for further information.

6. **Light switch**
   On-off button for the music stand and manuals lights.

7. **Power switch**
   Instrument on/off switch.

8. **AMPLIFICATION section**
   Amplification controls.
   - [CONSOLE ON]: switches on the instrument's internal amplification system.
   - [EXT. SPEAKER ON]: this command activates the PROG.OUT and GEN. SUB outputs, in the rear panel (point 27), in order to link external speakers to the instrument and use them to diffuse the sound around the ambience.

9. **CANCEL section**
   Cancel buttons which allow disabling of all the Reed voices ([REEDS] tab) and the Plenum voices ([MIXTURE] tab). However, when a stop is deactivated through this control, the stop light is still on.

**10. MIDI section.**

These controls, provided for each manual and the pedal board, allow transmission of the note MIDIcodes on the MIDI [OUT] port to be enabled and disabled. All the instrument's other MIDI messages will continue to be transmitted, even with the MIDI control off.

**11. Control and programming section.**

The buttons and the display in this sections allow the user to program and set up the instrument and the sequencer. This section is described in chapter 4 and following.

**12. ORCHESTRA section.**

Contains the orchestral voices. It is possible to select the voice activated by each rocker-switch, and adjust the main sound generation parameters of each voice. For further information read par. 8.4.

**13. Additional displays**

- [CRESCENDO]: shows the step currently reached by the [CRESCENDO] pedal (point 26).
- [M. BANK]: displays the memory bank of the combinations (general and divisional), selected using the [MEM. BANK +] and [MEM. BANK -] pistons, or by holding the [S] piston (p. 20) and using the [PREV] and [NEXT] buttons (p. 14) or by the buttons below this display.
- [GREAT] and [SWELL] (in some models only): show the level of the [GREAT] and [SWELL] expression pedals (point 25).
- [TRANSPOSER] (in some models only): shows the transposition value selected in the TUNING video page or by the buttons below this display.

**N.B.**
*When the organ is switched on, it selects automatically the memory bank n.1.*

**14. General combinations.**

- [1] / [10] or [8] or [6]: pistons and (in some models only) toe pistons to recall the combinations saved in the selected memory bank (several memory banks are available, and can be chosen by pressing [MEM- BANK +] and [MEM. BANK -]). These combinations can be modified. To do so, follow the procedure described at point 20.
- [HR]: restores the voice setup prepared in manual mode before a memory was recalled.
- [PREV.] / [NEXT]: general combinations sequencers. [PREV.] displays them in descending order, [NEXT] in ascending order.

**15. Pedal pistons.**

- [1] / [6]: pedal divisional combinations. These combinations can be modified. To do so, follow the procedure described at point 20.
- [HR] (only available for some models): restores the voice setup prepared in manual mode before a memory was recalled, when the piston is on.
- [MIDI PD] (only available for some models): to allows transmission of notes played on the pedalboard on the MIDI [OUT] output

**16. Solo pistons**

- [1] / [6]: Swell divisional combinations. These combinations can be modified. To do so, follow the procedure described at point 20.
- [HR] (only available for some models): restores the voice setup prepared in manual mode before a Solo memory was recalled, when the piston itself is on.
- [SO/PD]: Solo to Pedal coupling.
- [M.SOLO] (only available for some models): activates the MIDI SOLO function, which allows mono transmission of the notes played on this manual on the MIDI [OUT] output, with priority to the highest note.

**17. Swell pistons**

- [1] / [6]: Swell divisional combinations. These combinations can be modified. To do so, follow the procedure described at point 20.
- [HR] (only available for some models): restores the voice setup prepared in manual mode before a Swell memory was recalled, when the piston itself is on.
- [MIDI SW] (only available for some models): to allows transmission of notes played on this manual on the MIDI [OUT] output.
- [SW/P] or [SW/PD] or [SW TO PED]: Swell to Pedal coupling.
- [M.SOLO] (only available for some models): activates the MIDI SOLO function, which allows mono transmission of the notes played on this manual on the MIDI [OUT] output, with priority to the highest note.

**18. Great pistons.**

- [1] / [6]: Great divisional combinations. These combinations can be modified. To do so, follow the procedure described at point 20.
- [HR] (only available for some models): restores the voice setup prepared in manual mode before a Great memory was recalled, when the piston itself is on.
- [MIDI GT] (only available for some models): to allows transmission of notes played on this manual on the MIDI [OUT] output.
- [G/P] or [GT/PD] or [GT TO PED]: Great to Pedal coupling.
- [SW/G] or [SW/GT] or [SW TO GT]: Swell to Great coupling.
- [C/G] or [CH/GT](only available for 3 and 4-manual models): Choir to Great coupling.
- [M.SOLO] (only available for some models): activates the MIDI SOLO function, which allows mono transmission of the notes played on this manual on the MIDI [OUT] output, with priority to the highest note.
- [O.SOLO] or [SOLO MELODY] (only in certain models): activates the Organ Solo / Solo Melody function. By default, you can play the melody with Swell stops when the Swell to Great coupling is active. Therefore, all the while the function is active, notes are played with monophonic Swell voices. However the melody can be played also on other manuals. To do so, access the corresponding options under the PROGRAMMABLE FUNCTIONS menu (see par. 9.6).

**19. Choir pistons.**

- [1] / [6]: Choir divisional combinations. These combinations can be modified. To do so, follow the procedure described at point 20.
- [HR] (only available for some models): restores the voice setup prepared in manual mode before a memory for Choir was recalled.
- [MIDI CH] (only available for some models): to allows transmission of notes played on this manual on the MIDI [OUT] output.
- [C/P] or [CH/PD] or [CH TO PED]: Choir to Pedal coupling.
- [SW/C]: Swell to Choir coupling.
- [M.SOLO] (only available for some models): Activates the MIDI SOLO function, which allows mono transmission of the notes played on this manual on the MIDI [OUT] output, with priority to the highest note.

**20. [S] or [SET] piston**: piston that saves general and divisional combinations, Tutti and Crescendo steps. To save a combination or the Tutti, after setting up the voices, press and hold the [S] piston; then press the piston/toe piston corresponding to the combination you wish to save.
To save a Crescendo step, select it through the Crescendo pedal, press and hold [S], and then press the general memories [HR] piston. To copy the content of one step to another, first select the step you wish to copy, then press and hold the [S] piston, select the step in which you wish to paste the content, and finally press the general memories [HR].

**N.B.**
*If the [S] piston LED light is off, this means that the Lock Organ (see cap. 11.2) function is active. In this case, saving combinations and visualizing the programming functions will be impossible.*

**21. General organ controls.**

These are the controls that are not dedicated to a single section, but affect the whole instrument.

- [MEM. BANK +] and [MEM. BANK - ]: select the memory bank shown on the additional display [MEM. BANK] (point 12).
- [MANUAL TRANSFER] (only in certain models): inversion of manuals and divisional combinations of the Great and Choir sections. The inversion of the sections is anyway programmable: for more information refer to "KEYBOARADS INVERSION" in the explanation of the UTILITY & MIDI menu at the beginning of chap. 10.
- [SWS] or [ALL SWELLS TO SWELL]: when the All Swells in Swell or Solo function is active, the main volume can be controlled through the expression pedal [SWELL].
- [A.P] or [AUTO PEDAL]: activates the Automatic Pedal or Pedal Automatic Piano functions. Select the mode of the piston among the PROGRAMMABLE FUNCTIONS under the SET-UP menu (see par. 9.6).
- [P/D] (only in certain models): Pipe/Digital piston which allows to disable, when the LED is on, the internal sound generation of the voices set in Local Off (see chapter 13), and to play them with pipe organ through systems of external interfacing as Viscount VPI.
- [T] or [TUTTI] or [FULL ORGAN]: piston or toe piston (where available) that recalls Tutti. The Tutti can be modified, for further information read point 20.
- [C] or [GEN CAN]: cancel piston. Turns off all stops, tremolos, couplers, MIDI controls, and other pistons on the manuals (except when differently set through the PROGRAMMABLE FUNCTIONS, described in par. 9.6), then deletes and reboots the general and division HR .
- [MAIN ON] (only in certain models): this command activates the Main outputs. For further information read par. 9.2.
- [ANT ON] (only in certain models): this command activates the Antiphonal outputs. For further information read par. 9.2.
- [INT ON] (only in certain models): switches on the instrument's internal amplification system.
- [EXT ON] (only in certain models): this command activates the PROG.OUT and GEN. SUB outputs, in the rear panel (point 27), in order to link external speakers to the instrument and use them to diffuse the sound around the ambience.

**22. Forward connection panel.**

In this panel you can find the most frequently used connections and controls.

- [MASTER VOLUME]: regulates the main volume.
- [REVERB VOLUME] regulates the volume of the reverb effect.
- MIDI [IN]: MIDI input port.
- MIDI [OUT]: MIDI output port.
- MIDI [THRU]: sends out the MIDI data received from the [IN] port to additional MIDI units.
- [USB]: two USB ports. The right port links the organ to a computer, in order to run the computer program "Physis – The Editor". The left port is dedicated to USB pen drive (not included with the organ) to use as memory disk, instead of the internal memory.
- [PHONES]: plug for a headphone set.

**N.B.**
- *For further information about the MIDI interface of the Physis organs, read chapters 10.5, 14.5 and 14.6.*
- *For further information about the USB devices and internal memory, read chapter 11.*

**N.B.**

- *If, when turning the [MASTER VOLUME] knob, this warning message is displayed:*

*it means that the potentiometer is not assigned to any regulation. To verify this, display the relative PROGRAMMABLE FUNCTION of the SET-UP menu as described in par. 9.6.*

**23. Roll top lock.**

**24. Coupler controls.**

Pistons, tabs and stops to enable and disable the couplers, and sup-super octaves.

**25. Expression pedals**.

The expression pedals control at every time the volume of one or more sections, and can be used to obtain the most diverse dynamic effects.

The number of the pedals depends on the model and its number of manuals:

- [SOLO]: continuous control of Solo volume.
- [SWELL]: continuous control of Swell volume.
- [CHOIR]: continuous control of Choir volume.
- [GREAT]: continuous control of Great volume.
- [GREAT / PEDAL]: continuous control of Great and pedalboard volume at the same time.

The [GREAT / PEDAL] pedal works also as Crescendo pedal. For further information about this function read par. 9.6.

One of the pedals is actually equipped with a leverage system and can be used to control the sustain effect for Orchestral voices.

**26. [CRESCENDO] pedal.**

With this pedal you can select the Crescendo level. These levels activate a fixed set of stops, linked with an equal number of loudness, from *pianissimo* to *fortissimo*.

The current level is shown on the additional [CRESCENDO] display (see point 13). The Crescendo controls all the registers, and modifies the stops configuration.

Each level of the crescendo can be programmed. To save the Crescendo configuration, see point 20.

**27. Rear connections.**

On the rear of the organ, there are various sockets to connect it to an external speaker systems, together with line and microphone input.

- [EXT. +12V DC] connectors: +12 Volt can be obtained from these connectors to switch-on any VISCOUNT speaker connected to the PROG. OUT. outputs.
- OUT [GEN. SUB] (General Sub-Woofer): dedicated output for the connection with low-frequency speakers (sub-woofers).
- PROG. OUT (Programmable Outputs): the instrument's general line outputs, allowing simulation of the wind-chests of pipe organs. The signals are distributed over the outputs on the basis of the EXTERNAL OUTPUT ROUTER settings (see par. 9.10). These settings allow you to select the type

of wind-chest, its size and the position in space of the speakers. Each output also has dedicated level and equalization controls (see par. 9.11 and 9.8).
- INPUT [L(+R)] / [R]: line inputs which allow other instruments to be played using the organ's internal amplification. If the source is monophonic use the [L+(R)] connector only.
- INPUT [MIC]: microphone input allowing amplification of the signal from a microphone.
- [GAIN]: trimmer for regulating the gain of the input signal received at the [MIC] connector.

**WARNING!**
*This group of rear connections is not visible from the outside and the organ's wooden rear panel has to be removed to access it. Contact qualified staff for this procedure.*

**28. Reverse Pistons.**
Each of these pistons, when active, deactivates several functions and stops, without acting on the normal pistons dedicated to these functions and stops. Thanks to the reverse pistons it is possible to switch on/off several stops and functions quickly and at the same time. When the reverse pistons are deactivated, the functions will be re-activated.
- [MIDI REVERS.]: turns off all the MIDI controls.
  However, even when MIDI REVERS. is active, it is still possible to program the MIDI controls.
- [32' FLUTE REVERS.]: deactivates all 32' flutes.
- [32' REED REVERS.]: deactivates all 32' reeds.

**29. Power switch for the [EXT +12V DC] connector.**
This connector is situated on the rear panel.

**30. Tremolo controls.**
Here are the tremolo of each section (1st Tremolo, see par. 8.2) and, if present, the one dedicated to the register Vox Humana (2nd Tremolo, see par. 8.2).

**31. [ZIMB] piston or [ZIMBELSTERN] toe-stud.**
Switch on and off the Zimbelstern sound.

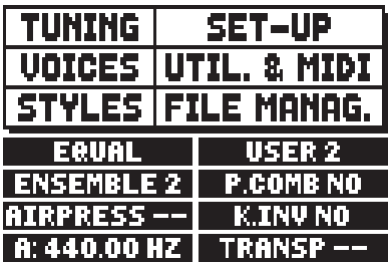
**32. [32' BOUR] toe-stud.**
Switches on and off the Bourdon 32' pedalboard's stop.

**33. [32' BOMB] toe-stud.**
Switches on and off the Bombarde 32' pedalboard's stop.

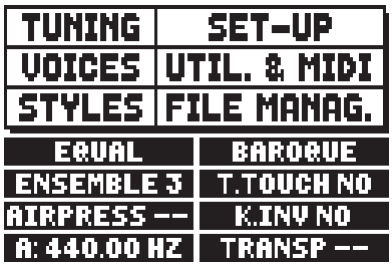
**34. [32' WALD] toe-stud.**
Switches on and off the Waldhorn 32' pedalboard's stop.

# 4. PROGRAMMING SECTION AND MAIN SCREEN

When the instrument is turned on, it needs a few second to actually start working. In this stage, the lights on the manual pistons glow in sequence and the display shows the introduction screen.
When the display shows the main screen, the organ is ready to play.




Models equipped with divisional combinations




Models not equipped with divisional combinations

The top of the screen shows the following fields to access the configuration sub-menus:

- **TUNING:** instrument tuning parameters (chap. 6).
- **VOICES:** functions relating to all the organ's voices (chap. 8).
- **STYLE**: style selection (chap. 7).
- **SET-UP:** organ general set-up functions (chap. 9).
- **UTIL. & MIDI** (Utility & MIDI): utility and MIDI functions (chap.10).
- **FILE MANAG.** (File Manager): management of the files saved in the internal memory or the USB device (chap.11).

To display the contents of a menu, simply locate the cursor (in reverse mode) on the field required using the [FIELD ▲] and [FIELD ▼] buttons and press [ENTER]. [EXIT] quits the menu and returns to the main screen.

The bottom of this screen displays the instrument parameters, which are always useful to know:

- **[box on top left]**: ("Equal" in the screen shown above) displays the temperament currently in use, selected in the TUNING menu.
- **ENSEMBLE**: the ENSEMBLE value set in the TUNING menu.
- **AIR PRESS**: the AIR PRESSURE parameter value set in the TUNING menu.
- **A**: the instrument's tuning, expressed as the frequency of A4, set in the TUNING menu.
- **[box in top right-hand corner]:** (User2 or Baroque in the screen above) contains the style selected (see STYLE menu).
- **P. COMB** (in the models equipped with divisional memories): the status of the PISTON COMBINE function as set in the UTILITY & MIDI menu.
- **T. TOUCH** (in the models not equipped with divisional memories): the status of the TRACKER TOUCH function as set in the UTILITY & MIDI menu.
- **K. INV**: the status of the KEYBOARD INVERSION function (see UTILITY & MIDI menu).
- **TRANSP:** the transposition set in TUNING.

These are only information fields and cannot be selected or modified. To set the function they describe, enter the menus listed above.

The buttons to visualize and navigate through all the display screens are located near the display.

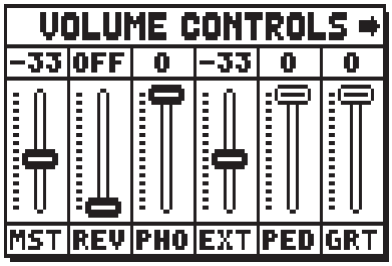
- **[SEQUENC]:** screens for use of the instrument's internal sequencer.
- **[VOLUMES]:** screen containing all the instrument's volumes.
- **[FIELD ▲]** and **[FIELD ▼]:** buttons used to move the cursor, identified by the field in reverse. [FIELD ▲] moves it in the field above or the previous field, [FIELD ▼] in the field below or the next field.
- **[VALUE +] and [VALUE -]:** buttons which regulate the values of the parameters, whether they are numerical or alphanumerical. [VALUE +] increases, [VALUE -] decreases.
- **[EXIT] and [ENTER]:** access and quit the display screens and menus, or confirm or cancel prompts made by the system. [ENTER] accesses menus/screens and confirms, [EXIT] abandons the currently displayed menu / view and returns to the previous level, or cancels system requests. If it is held pressed for a while, the main screen is immediately displayed, regardless of the current menu level.

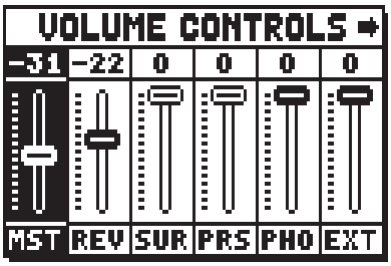
## 4.1 ERROR MESSAGES - MAIN SCREEN

**USB PORT MALFUNCTION - USB PEN IS INACTIVE, PLEASE CALL FOR SERVICE**
The USB port is malfunctioning, please contact the technical assistance at the e-mail address service@viscount.it.
This error message might also appear when accessing the FILE MANAGEMENT functions, the Sequencer or launching an operating system update.

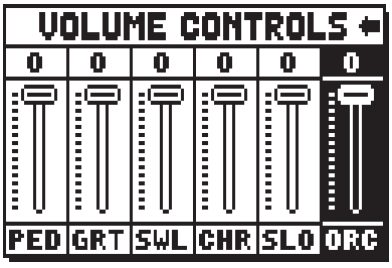
# 5. SETTING THE VOLUMES (VOLUMES function)

The **Physis** organs allow the user to adjust all the volumes, in order to obtain a perfect sound balance among the sections and between internal and external amplifications. To visualize the volume screen, press the [VOLUMES] button:

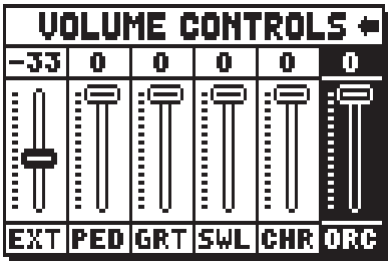


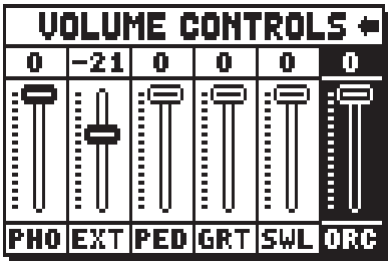

models equipped with
front and side speakers




4 manuals models




3 manuals models



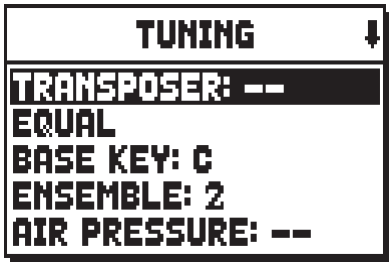

2 manuals models

- **MST** (Master): the organ's overall volume, which can also be adjusted with the [MASTER VOLUME] trimmer underneath the manuals.
- **REV** (Reverb): reverb effect, which can also be adjusted with the [REVERB VOLUME] trimmer underneath the manuals.
- **SUR** (Surround)**:** volume of the side speakers expands the sound stage, giving the feeling of being in a bigger environment. Not present in the organs without side speakers.
- **PRS** (Presence)**:** volume of the front side speakers makes the sound more natural and detailed, emphasizing on the dynamic evolution of the pipes sound. Not present in the organs without additional front speakers.
- **PHO** (Phones): level of the output signal at the headphone [PHONES] connector underneath the manuals.
- **EXT** (External outputs): general volume of the PROG. OUT connectors on the rear panel.
- **PED** (Pedal): pedal board divisional volume.
- **GRT** (Great): Great divisional volume.
- **SWL** (Swell): Swell divisional volume.
- **CHR** (Choir): Choir divisional volume.
- **SLO** (Solo): Solo divisional volume.
- **ORC** (Orchestra): volume of the orchestra section. Not present in the models without orchestral voices.

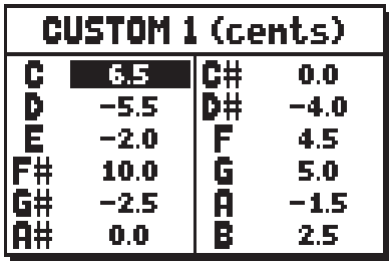
Press [EXIT] or wait about 4 seconds to quit the screen and return to the previous video page.

# 6. TUNING THE INSTRUMENT (TUNING menu)

Selecting the TUNING field on the main video page gives access to all the instrument's tuning parameters.



- **TRANSPOSER**: transposer with a range of -6 to +5 semitones. When switched on, the organ's transposition is always zero.
- **[second field on the display]:** (Equal in the screen shown) selector for setting historical temperaments of various periods and countries of origin.
  In addition to the historical temperaments it is possible to program up to 4 custom temperaments, adjusting the pitch difference with respect to the Equal temperament for each note of the octave.
  To program a temperament, select one of the four **CUSTOM** items in the display field and press [ENTER].
  This screen appears:

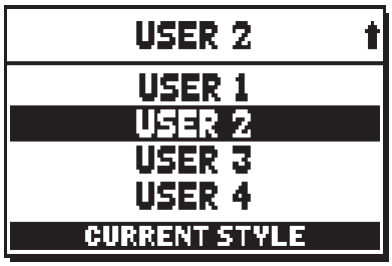



  in which the 12 notes of the octave are shown and the variation in 0.5 cents of semitone in a range from -32 to + 31.5 cents. After making the desired adjustments, press [EXIT] to store them in the previously selected CUSTOM temperament and return to the TUNING screen.
- **BASE KEY:** the note on which the chain of 12 fifths that make up the temperament starts.
- **ENSEMBLE:** level of tiny natural differences in pitch between one organ pipe and another, simulating the tuning error that occurs in the organ's pipes due to wear over time and variations in temperature. The values range from – (pipes perfectly tuned) to 8 (maximum pitch instability).
- **AIR PRESSURE:** simulates the drop in air pressure when a large quantity of air is requested in a short time (e.g. when large chords are played with the Tutti). This is reflected in a temporary, gradual drop in pitch, more evident in the longest, widest pipes (flutes, bourdons, principals). It is also possible to select different modes of operation of the parameter, for more information see par. 9.14.
- **PITCH (A):** fine tuning of the pitch, indicated as the frequency of A4 (an 8' pipe).

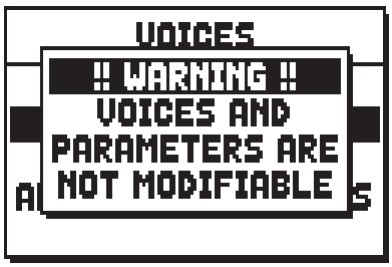
**NOTES**
- *When the instrument is switched on, its transposition value is set to zero*
- *Transposition does not have any effect on playback of pieces with the internal sequencer (unlike recording, where the notes are acquired with the current transposition). A specific transposer is provided for this purpose (see point 12.3).*

# 7. THE ORGAN STYLES (STYLES menu)

The Style identifies the setup of the organ stops, meaning the voice and the relative parameters of each stop, allowing the use of sounds appropriate to the repertoire to be performed.
The many organ styles allow the musician to use several sound configurations, as if several different instruments were present at the same time in the same place.
The organ has eight Styles, meaning eight sound setups, in the same console. The first four of them, which from now on we will also call the Presets or preset styles, are programmed by our laboratories on the basis of the appropriate organ schools, and cannot be modified by the user. The other four Styles, called User styles, can be freely modified and customised to personal taste, making the organ extremely flexible. Select the STYLE field on the main page for the Style selection:




As we have already stated, the styles contain the information regarding each register: that is, which stops to activate and the sound parameters. Again, the first four Styles cannot be modified, so accessing to the VOICES function the display shows the following warning message:




However it is possible to display and check the settings of these Styles, to continue press any display button or wait about three seconds.

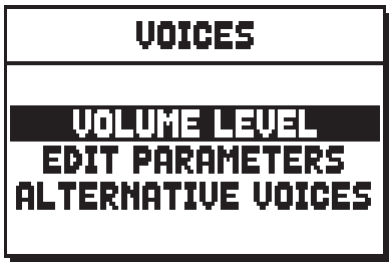
**NOTE**
*Please note that in general and divisional combinations, only the state of the stops is saved, and NOT which voice they activate. Selecting a style might change the voices recalled by the stops, and therefore a combination may activate stops which were not saved as 'active'. It is a good practice to always remember which style was active when saving a combination.*

# 8. SELECTING AND REGULATING THE VOICES (VOICES menu)

One of the main features of the new **Physis** synthesis technology used by the organ for sound generation is that it offers the user a wide array of options for customising the instrument with a very large number of organ timbres, and also makes available several parameters which can be adjusted to further increase the setup potential.
The VOICES menu contains all the functions for selecting and regulating the voices' audio parameters.

**NOTES**
- *The functions described below cannot be edited when a Preset style is selected. Select a User style to regulate these parameters.*
- *The voices selected for each rocker switch or draw-stop, and the sound generation parameters and volume, are automatically saved in the current Style. This means that when another style is recalled, the voices will be reset with new parameters taken from the last style recalled. The changes made earlier are not lost, and will be made available when the style in which they were made is selected again.*
- *While programming this functions, in order to assign a voice to a rocker switch and to adjust it, we advice to select the desired voice first and then to adjust its generation parameters. Please do so, as when a new voice is selected, its parameters are reset to default.*

The first video page displayed allows selection of the function to be accessed:




- **VOLUME LEVEL**: regulation of the volume of each individual voice (par 8.1).
- **EDIT PARAMETERS**: regulation of the sound generation parameters for each individual voice (par. 8.2).
- **ALTERNATIVE VOICES:** selection of alterative voices (par. 8.3).

## 8.1 REGULATING THE VOLUME (VOLUME LEVEL function)

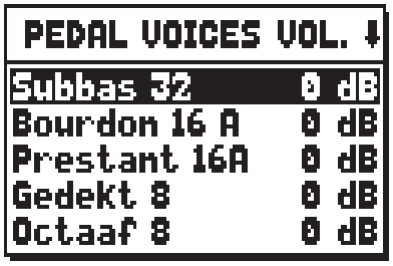
The volumes for each single stop can be adjusted in a range of -9 dB to +6 dB, and allows a perfect balance of the overall sound of the organ.
Select the VOLUME LEVEL field, in the VOICES menu. The display will show the organ sections, select the section that contains the voice you wish to adjust:

4 manuals models

3 manuals models

2 manuals models

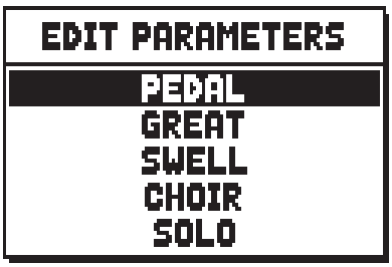
As usual, use the [FIELD ▲] and [FIELD ▼] and [ENTER] buttons to select the field on the display.
Another way of displaying and adjusting the volume immediately is to hold out the draw-stop (NOT in models with electromechanical draw-stops) or hold down the rocker tab for a few moments in the voice on position, while the cursor is on the VOLUME LEVEL field in the VOICES menu, or in the function itself.



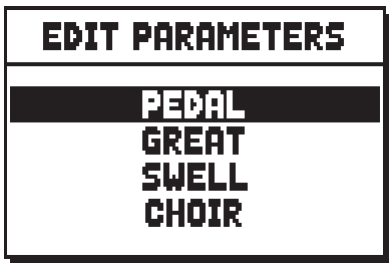

The LED of the stop the volume of which is being adjusted will flash to prevent modification errors; the stop will be on and can be played for better, quicker adjustment. Other stops can also be switched on to assess the overall effect of the changes.
To quit the function and save the values press [EXIT]. The changes made will be automatically saved in the current organ style.

## 8.2 REGULATING THE AUDIO PARAMETERS (EDIT PARAMETERS function)

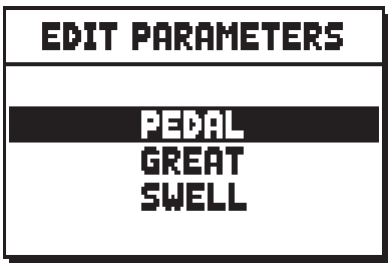
Each organ voice can be customized with the sound generation parameters, that control the tone colour.
To view the screens containing the sound generation parameters of each individual voice, select the EDIT PARAMETERS field in the VOICES menu:




4 manuals models

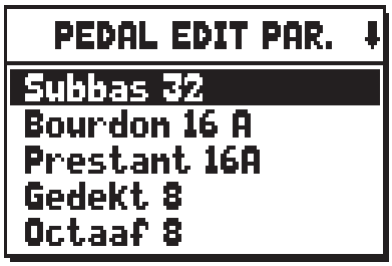



3 manuals models

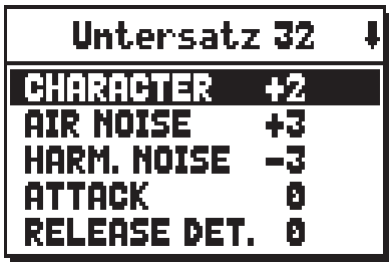



2 manuals models

the display shows the organ's sections, allowing selection of the one containing the voice to be modified:




after which the voice the parameters of which are to be viewed can be displayed.
Another way of viewing the setting screen directly is to hold out the draw-stop or hold down the rocker tab (except in the models with electromechanical draw-stops) for a few moments in the voice on position with the cursor on the EDIT PARAMETERS field in the VOICES menu, or in the function itself.



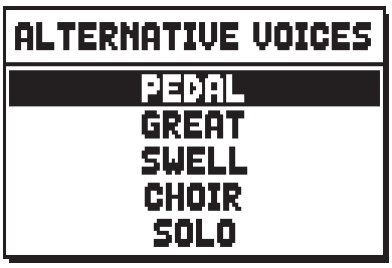

The LED of the stop being modified will flash to prevent modification errors; the stop will be on and can be played for better, quicker adjustment. Other stops can also be switched on to assess the overall effect of the changes.
The parameters displayed are not the same for every voice, since some families have specific setting parameters not required for other types of voice.
The settings which can be made are:

- **CHARACTER**: harmonic richness.
- **AIR NOISE**: noise of the air blowing through the pipe.
- **REED NOISE**: imperfect synchronisation of the reed throb period.
- **ATTACK**: attack time the sound takes to reach the maximum volume.
- **REL. DETUNE**: (Release Detune) detuning in the release phase.
- **FREQ. SKEW**: gradual change in the air's pitch during the attack and release phases.
- **DETUNE**: detuning to produce the throb effect in the voices concerned.
- **DETUNE TYPE:** Select one of the three types of beating:
  - **A**: the beat frequency is almost constant over the entire range of the keyboard;
  - **B**: the beat frequency increases moderately proceeding towards the top of the keyboard;
  - **C**: the beat frequency increases significantly progressing towards the upper part of the keyboard.
- **KEYB. LO LEV**.: (Keyboard Low Level) gain (positive values) or attenuation (negative values) of the volume in the low part of the manual.
- **KEYB. LO LEV**.: (Keyboard High Level) gain (positive values) or attenuation (negative values) of the volume in the high part of the manual.
- **TREMOLO:** select the first (1st) or second (2nd) tremolo. The selected tremolo will be applied to the register when activated through the dedicated stop or draw-stop (see also chap. 9.1).

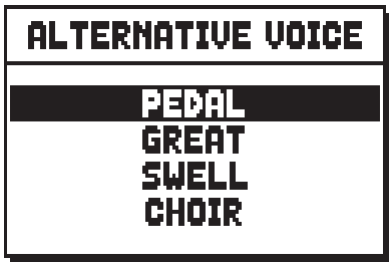
To quit the function and save the values press [EXIT].

## 8.3 SELECTING THE ALTERNATIVE VOICES (ALTERNATIVE VOICE function)

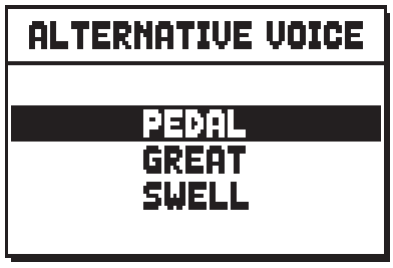
Each stop on the panel has a set of voices, the default voice set by the current Style and the alternative voices, which are variants on the original. To select an alternative voice, the ALTERNATIVE VOICES function has to be recalled:




4 manuals models

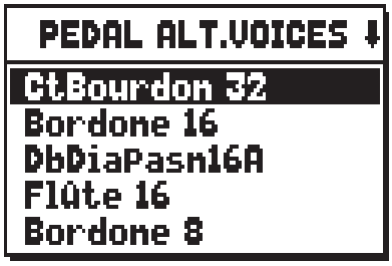



3 manuals models

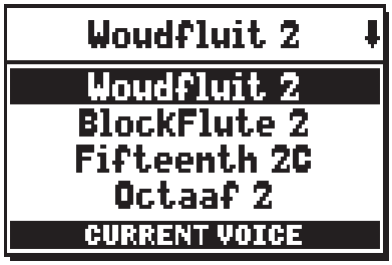



2 manuals models

As for the other VOICES menu functions, the next step is to select the section of the organ containing the voice to be modified: this displays the list of the voices present in the chosen section.




Here again, there is the option of displaying the alternative voices screen directly by holding out the draw-stop (except in the models with electromechanical draw-stops) or holding down the rocker tab for a few moments in the voice on position, while the cursor is on the ALTERNATIVE VOICES field in the VOICES menu, or in the function itself.
The LED of the stop being replaced will flash to prevent modification errors; the stop will be on and can be played for better, quicker adjustment. The display now shows the list of the alternative voices:




identified as "CURRENT VOICE" in the bottom of the screen.
It should also be remembered that the top of the screen always contains the name screen-printed on the draw-stop or tab, so that the stop the voice of which is being changed can be identified at all times.
When the [FIELD ▲] and [FIELD ▼] buttons are used to move the cursor to other voices, the prompt changes to "ENTER TO REPLACE".

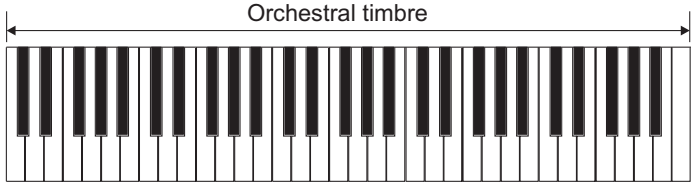
instructing you to press [ENTER] to confirm the new voice and render it usable. The voice on which the cursor is located is available and can be played even before [ENTER] is pressed, allowing the modification required to be evaluated immediately. Other stops can also be switched on to assess the overall effect of the changes.
Press [EXIT] to replace other voices or exit the function. The changes made are automatically saved into the current organ style.

**NOTE**
*When an alternative voice is selected, the sound generation parameters in the EDIT PARAMETERS function are automatically reset to the default values of the new voice. The volume setting (in the VOLUME LEVEL function) remains unchanged.*

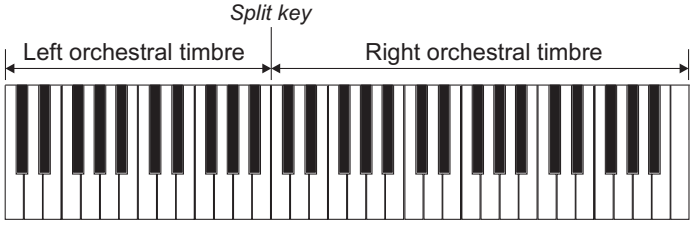
## 8.4 SELECTING AND ADJUSTING THE ORCHESTRAL VOICES

The same operations described in the chapter above can be performed also with orchestral voices, with a single exception: the list of alternative voices and audio parameters are the same, regardless of which register is selected at the moment.
To see the list of alternative voices, access the ALTERNATIVE VOICES function, then press and hold for a few seconds the ORCHESTRA stop (or the normal organ stop which has orchestral alternative voices as well) of the desired section, or move the cursor on the orchestral voice that you wish to replace and then press [ENTER]:

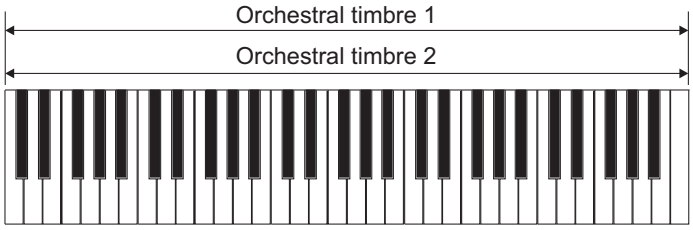
As you may notice, there are three types of orchestral stops:
- **Single**: a single stop played on the whole manual / pedalboard. This kind of voice is shown with the name of the single stop.




- **Split**: two stops (named Left and Right) played in two different halves of the manual / pedalboard. The split point can be changed. This kind of voice is shown as the names of the two stops hyphenated.



- **Layer**: two stops (named 1 and 2) overlapped along the whole manual / pedalboard. This kind of voice is shown as the names of the two stops with a "+" in between.




Use the buttons [FIELD ▲] and [FIELD ▼] to move the cursor. The stops is immediately active and ready to play. To confirm the change and save it in the current organ style, press [ENTER].
Press [EXIT] to cancel the changes and leave the screen.

To adjust the audio parameters instead, select the EDIT PARAMETERS function from the VOICES menu. To see and then adjust the sound parameters of an orchestral voice, push and hold the stop for a few seconds or move the cursor on the desired orchestral voice and then press [ENTER].

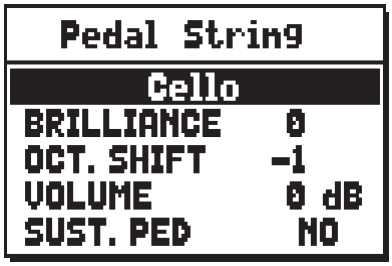
The sound parameters that can be modified are shown in a different manner, according to the kind of voice. Parameters of the **Single** voices clearly relate to the single stop.
Parameters of the **Split** voices identified by an "**L**" relate to the stop active on the left of the split point, while parameters identified with an "**R**" relate to the stop active on the right half of the manual / pedalboard.
Parameters of the **Layer** voices identified with "**1**" relate to the first stop of the voice (the one before the "+" symbol). Parameters identified with "**2**" relate to the second stop, after the "+" symbol.

- **BRILLIANCE:** decrease (negative values) or increase (positive values) the brilliance of the stop.
- **OCTAVE SHIFT:** shift the notes played with the stop one octave higher or lower.
- **VOLUME:** decrease (negative) or increase (positive) the volume of the stop.
- **SUST. PED.** (sustain pedal): sets the status of the sustain pedal. This function is useful for those orchestral voices for which applying a sustain effect is unrealistic. Select NO to prevent the sustain effect from affecting the stop.
- **SPLIT KEY** (only for **Split** voices): modifies the position of the split point.

Once again, press [ENTER] to save the setting into the current organ style or [EXIT] to cancel the operation.

## 8.5 SAVING DIFFERENT ORCHESTRA VOICES AND PARAMETERS IN THE COMBINATIONS

General and divisional combinations make possible to save the voice and the settings for each Orchestra register, so that different voices can be played for each combination (including the Tutti).
For example, recalling a previously programmed combination, the pedal Orchestra voice may be an acoustic bass, with a 1-octave transposition, while using a second combination the Pedal Orchestra voice may be a cello, with no transposition, but a bit brighter than the standard setup.
To program combinations with different Orchestra voices, simply select the required voice and/or adjust the parameters keeping pressed for a few moments the bottom Orchestra register that you desire to edit while the main video page is displayed:




The first display field (preselected at the access of the video page) shows the selected Orchestra sound. Using [VALUE +] and [VALUE -] buttons you can select (and play) all the Orchestra sounds.
Others edit parameters are:

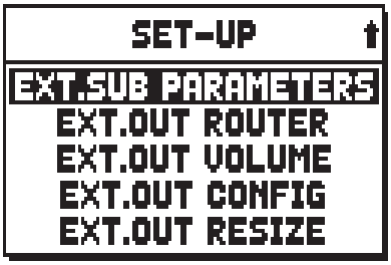
- **BRILLIANCE:** voice brilliance.
- **OCTAVE SHIFT:** octave transposer of the notes played with the voice.
- **VOLUME:** voice volume.
- **SUST. PED:** enable of the Sustain switch to act with this voice.

In addition to the standard voices, there also preset voices composed by two voices in Layer or Split mode. Selecting these voices the video page shows parameters for each voice, indicated as **L** (Left) and **R** (Right) for the voices in Split mode and **1** and **2** for voices in Layer mode. Split sounds has also the **SPLIT KEY** parameter to set the split point note.
To quit the edit menu press the [EXIT] button.
After Orchestra sounds are programmed it is possible to store them in the desired combination. If you wish to set a different Orchestra sound in a different combination but associate it to the same register, enter the edit menu, select the voice, adjust the parameters as required and save all the settings in another combination. Keep in mind that once a different orchestral sound is selected, it will be associated to that stop also when future combinations are saved, even if the stop is saved as "off". To restore the initial sound (that is, the one set by the current Organ Style) press and hold for a while the tab / draw stop in off position, or go back in HR condition by pressing the [C] piston.

***NOTES***
- *The procedure described above is available only when the main video page is displayed.*
- *The changes applied to the Orchestra sounds with this procedure are not applied to Orchestra voices used by the current Organ Style and their settings. Selecting another style or displaying the video pages of the VOICE menu, will set the Orchestra registers as prescribed by the Organ Style and not by the combinations.*
- *Crescendo and HRs do not store Orchestra voices and parameters so it is not possible to play different Orchestra voices for the same register with these memories.*

# 9. INSTRUMENT GENERAL SETTINGS (SET-UP menu)

The SET-UP menu contains all the instrument's general settings except for the settings relating to the MIDI interface and the accessory and utility functions. To recall this menu, select the SET-UP field from the main video page:

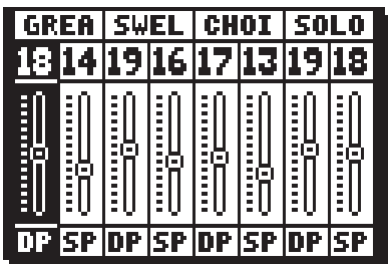



The functions available are as follows:

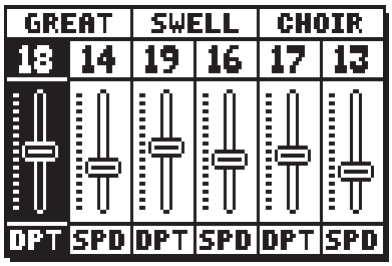
- **1st TREMOLO**: adjust the speed and depth of the first tremolo for each manual (see chap.9.1).
- **2nd TREMOLO:** adjust the speed and depth of the second tremolo for each manual (see chap.9.1).
- **REVERBERATION**: selection of the type of room for the reverb effect (par. 9.2).
- **INT. AMPL. EQUALIZER** (Internal amplification equalizer): setting of the 5-band equalizer of the internal amplifier (par. 9.3).
- **INT. AMPL. PANNING** (Internal amplification panning): setting of the stereophonic distribution of the stops of the internal amplification system, to simulate different types of wind- chests for the various stops (par. 9.4).
- **INT. AMPL. TUNE-UP** (Internal amplification tune-up)**:** sets the stereophonic distribution of signal on the side speakers (can be selected only in models equipped with side speakers, par. 9.5).
- **PROG. FUNCTION** (Programmable functions): settings relating to operation of the combinations, the pistons, the Crescendo and the trimmers underneath the manuals (par. 9.6).
- **SWS. PROGRAMMING** (Enclosed programming)**:** program the [SWS] piston function (chap 9.7).
- **AIR SUPPLY CONFIG:** allows the selection of five different operating modes of the AIR PRESSURE parameter (see chapter 6), each of which simulates the behavior of the "wind distribution system" of a particular type of pipe organ, and allows the adjustment of the effect depth separately for each section (section 9.14).
- **EXT. OUT EQUALIZER** (External outputs equalizer): setting of the equalizers of the PROG. OUT outputs on the rear (par. 9.8).
- **EXT. SUB PARAMETERS** (External sub parameters)**:** adjusting the parameters of the rear output [GEN. SUB.] (Section 9.9).
- **EXT. OUT ROUTER** (External outputs router): setting of the routing of the stops on the PROG. OUT outputs on the rear to simulate the position of the wind-chests and the arrangement of the pipes inside them (par. 9.10)
- **EXT. OUT VOLUME**: setting of the volumes of the PROG. OUT outputs on the rear (par. 9.11).
- **EXT. OUT CONFIG** (External out config): setting of the PROG. OUT rear outputs (par. 9.12).
- **EXT. OUT RESIZE** (External out resize)**:** Adapts automatically the link between stops and rear outputs, according to the amount of outputs actually used (par 9.13).

## 9.1 ADJUSTING THE TREMOLO (1st TREMOLO and 2nd TREMOLO functions)

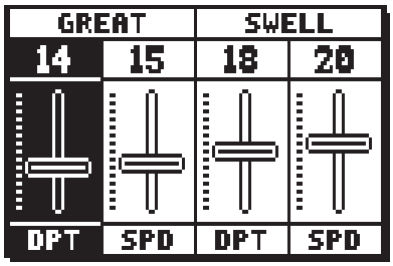
In a pipe organ it is of the utmost importance that the air pressure remain constant, so as to obtain a steady and sustained sound. However, mechanical devices were introduced to generate periodical variations in the air flow. These variations created the "tremulant" effect on the sound, which made some lead registers (such as Vox Humana) more pleasant, and the tone of the reeds colourful.
Use the [TREMOLO] plates to activate and deactivate the effect.
The 1st TREMOLO functions adjust the speed and depth of the first tremolo of each manual.



4 manuals models



3 manuals models



2 manuals models

That show the current **DPT** (depth) and **SPD** (speed) values of the manuals' tremolo.
Press [EXIT] to go back to the SET-UP menu and save the new settings.

Physis organs have two tremolos for each section so as to customise further the sound, or to add more tremolo to certain registers, such as Vox Humana. Access the EDIT PARAMETERS function under the VOICES menu (see chap. 8.2) to select which tremolo will be applied to each register. To adjust the second tremolo speed and depth, select the 2nd TREMOLO field under the SET-UP menu. The video pages look exactly like the ones of the first tremolo. These variations allowed to add a "tremulant" effect to the sound, which made some registers sound more pleasant, and gave more expression to the reed stops.

**NOTE**
*Tremolo depth and speed can be saved with a different value for each general or divisional combination and for the Tutti. To do so, activate this function in the PROGRAMMABLE FUNCTIONS menu (par. 9.6).*

## 9.2 SELECTING THE REVERBERATION STYLE (REVERBERATION function)

Reverberation is the result of a series of sound reflections in a closed environment.
Order and value of each reflection depend on many factors of the environment, such as the size of the room, the number and material of the objects inside the room, the listener's position and so on.
The digital processors of the **Physis** organs can recreate artificially the complex factors affecting the reverberation of a real pipe organ, generating the right reverberation to complete an already excellent sound quality.
The REVERBERATION function (in the SET-UP menu) allows to select the kind of reverberation, ranging from great churches – with wide reflections - to small rooms with short and soft reverberation. There is a total of eight styles. It is also possible to simulate the type of room in which the organ is virtually located and consequently the quantity of acoustic reflections generated by the environment itself, and the level of the effect on the [EXT. SUB.] outputs.
The [REVERB] potentiometer, on the left panel, modifies the level of reverberation. Through the display settings it is possible to choose whether this potentiometer should also control the acoustic reflections or not.

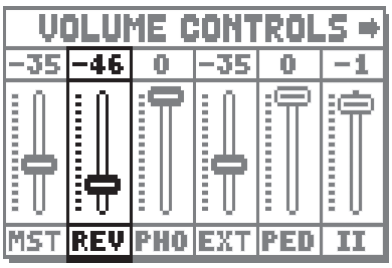
To set the desired effect, select the REVERBERATION field under the SET-UP menu and press [ENTER]:

The top field indicates the simulated environment, and thus the reverberation effect generated.
The reverb styles are typical reverberation of a:

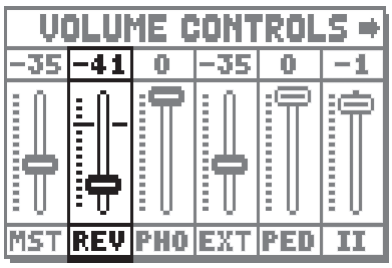
- **CATHEDRAL**:typical reverberation of a cathedral
- **BASILICA**:typical reverberation of a Basilica
- **GOTHIC CHURCH** :typical reverberation of a gothic church
- **BAROQUE CHURCH** :typical reverberation of a baroque church
- **ROMANIC CHURCH** :typical reverberation of a romanic church
- **PARISH** :typical reverberation of a parish
- **CAPPELLA** :typical reverberation of a chapel

The **WET/DRY** parameter sets another function for the [REVERB] potentiometer, for a more accurate adjustment of the acoustic effect:

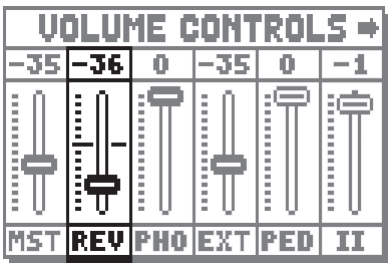
- **OFF**: the potentiometer only modifies the amount of reverberated signal.
- **LOW – MED – HIGH:** the potentiometer controls, on thee scales, the level of reverberated signal and (from the continuous line on, in the VOLUMES screen) the quantity and quality of acoustic reflections of the environment, simulating an ever deeper and mellow effect.



Wet / Dry = Off



Wet / Dry = Low



Wet / Dry = Med o Hi

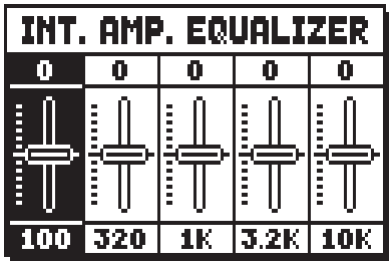
The **EXT SUB** parameter adjusts the level of the reverb effect in the signal on the output [GEN. SUB] and in the MAIN outputs eventually set as EXT. SUB (for more information see section 9.9).

Press [EXIT] to go back to the SET-UP menu and save the new settings.

**NOTE**
*The internal reverberation also affects the signal from the [INPUT] ports (rear connection panel).*

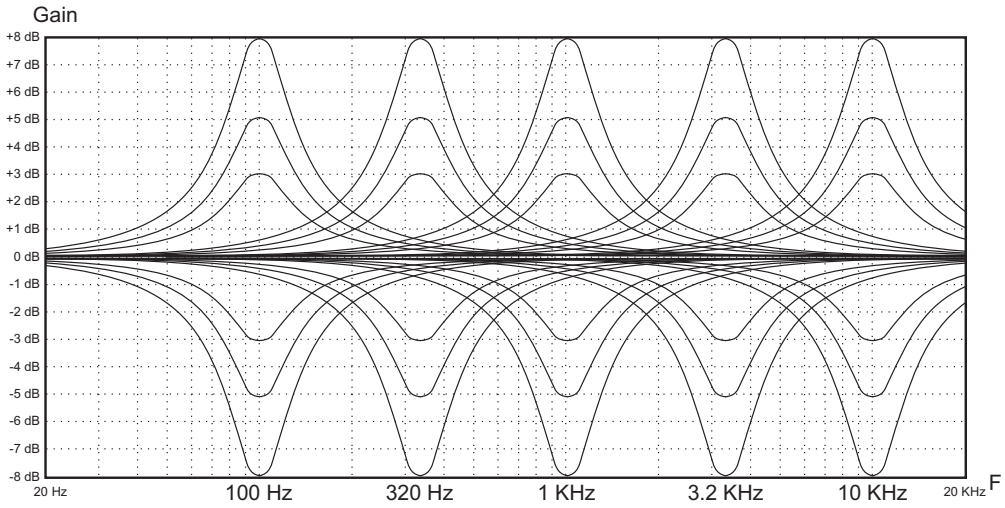
## 9.3 ADJUSTING THE INTERNAL EQUALIZER (INT. AMPL. EQUALIZER function)

The INTERNAL AMPLIFICATION EQUALIZER function (SET UP menu) adjusts the five-band equalizer and therefore the sound of the organ as a whole.



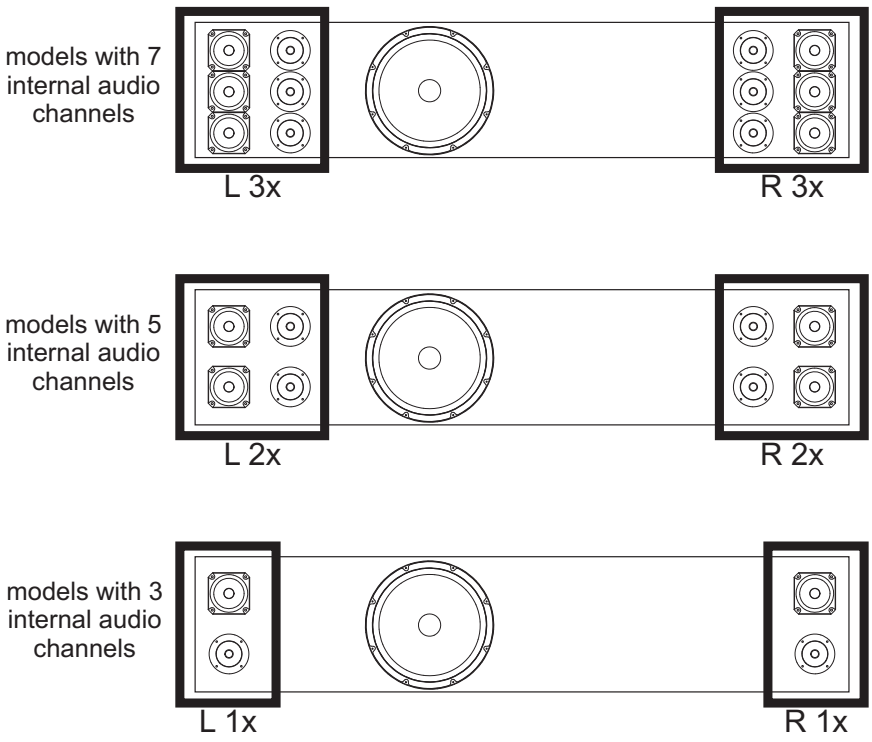

In the lower part of the screen there are the five central band frequencies. To move the cursor from one band to the other, use the buttons [FIELD ▲] and [FIELD ▼].
The top of the screen shows the increase or decrease of the signal of the selected band. Each band can be modified from **+8 dB** (maximum signal gain) to **-8 dB** (maximum signal dampening).

The following graph shows how the equalizer works.



## 9.4 ARRANGING THE VOICES IN THE INTERNAL AMPLIFICATION (INT. AMP. PANNING function)

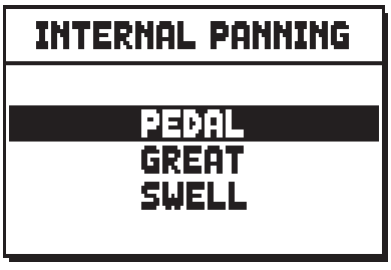
Another option to customize the sound configuration of the organ is to arrange the voices' stereophonic reproduction (this is also called panning).
The organ is equipped with one or more left and right channels. The simultaneous diffusion through both channels simulates a third, central channel.




Arranging the voices in the two channels simulates the position of the windchests of real pipe organs, since they were usually placed in different areas. It also simulates the different position of the pipes inside the windchest, which could vary according to the stop played, the period when the organ was built and the wishes of the builder.
Select the INT. AMPL. PANNING function under the SET UP menu to access the following screen:

4 manuals models

3 manuals models

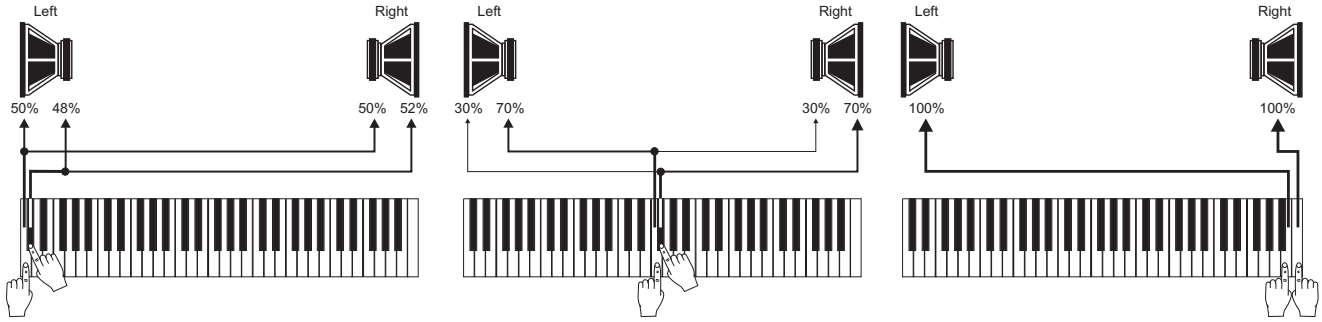



2 manuals models

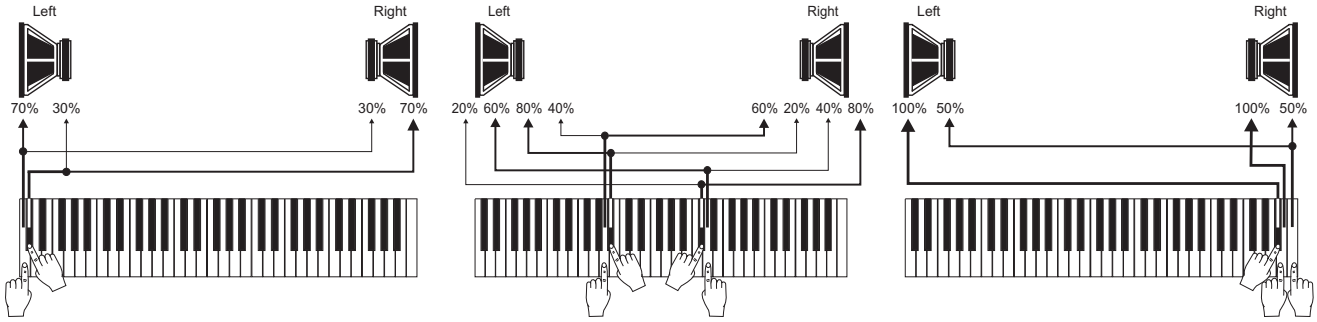
First select the organ section containing the voice you wish to set the panning for. In addition, you can access the panning set up screen by pulling (or pressing) the draw-stop or stop for a few seconds while the display cursor is on the INT. AMPL. PANNING field of the SET-UP menu, or while in the panning function screen already. The LED of the stop the panning of which is being adjusted will flash to prevent modification errors; the stop will be on and can be played for better, quicker adjustment.
Other stops can also be switched on to assess the overall effect of the changes.

As you may notice, the left side of the screen shows the voices in the selected section, while the right side shows the current internal panning. The following options are available:

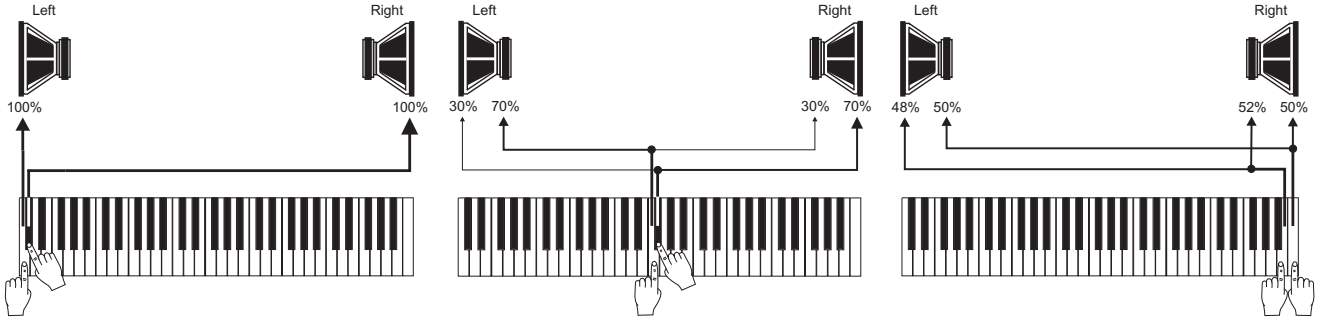
- **SINGLE CUSP:** the tallest, broadest pipes are located in the centre, so the voice's lowest notes are played by the most central speakers. As the pitch rises the signal is gradually distributed further and further to the outside, alternating.



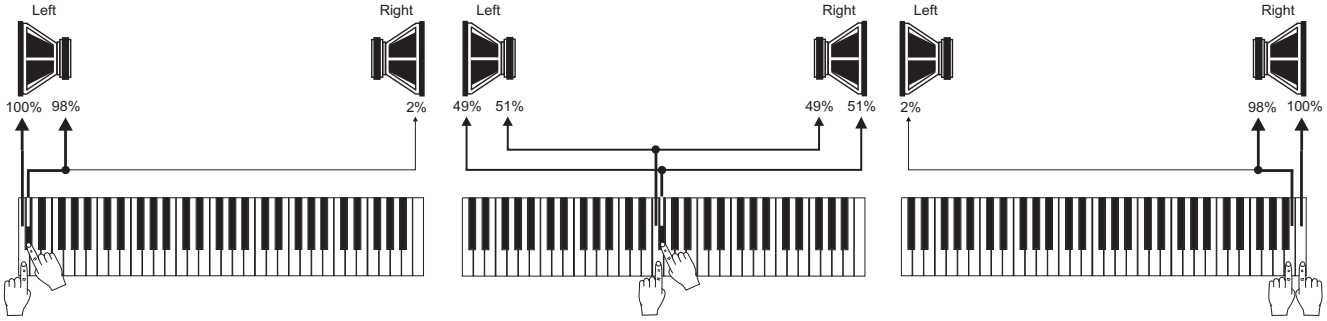

- **DOUBLE CUSP**: there are two separate cusps, both resembling to the single cusp described above. The lowest keys sound in an intermediate position, between the centre and the outside, alternating (one on the right cusp, one on the left cusp). As the pitch rises, rises the signal is gradually distributed further and further to the outside, alternating.



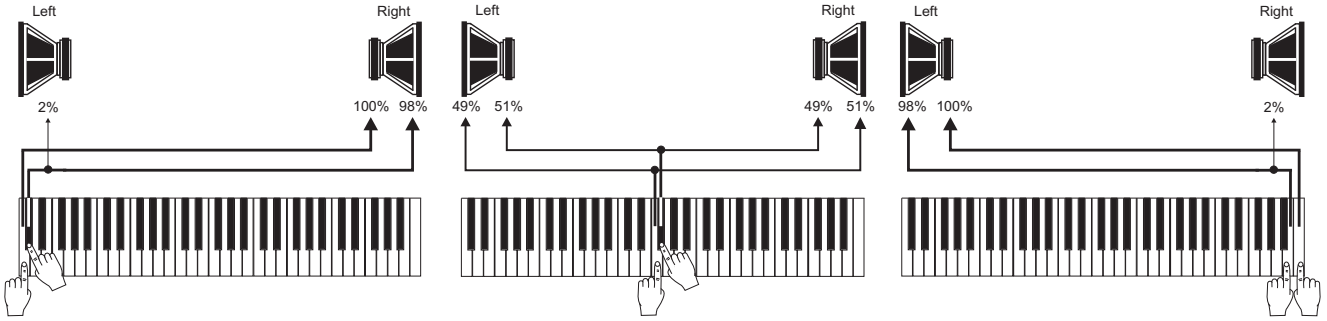

- **DOUBLE WING**: the highest notes sound in the centre. As the pitch lowers, the signal is gradually distributed further and further to the outside, alternating.



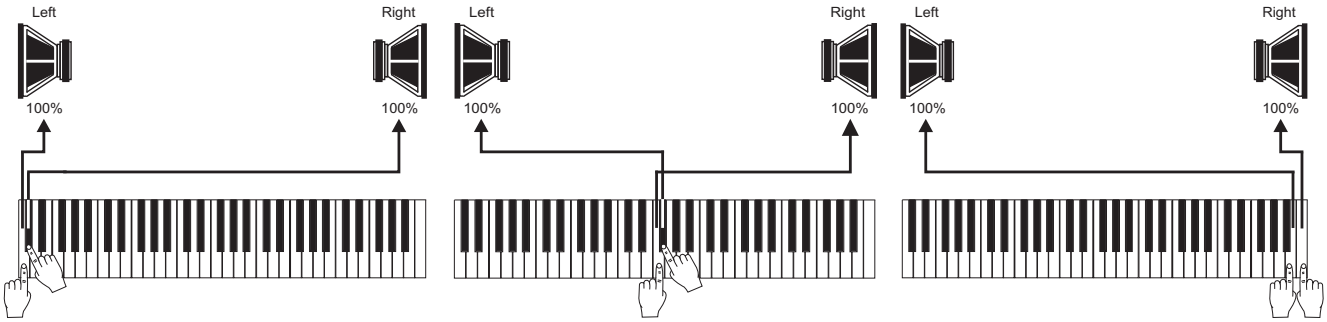
- **SINGLE WING** (from left) : the tallest, broadest pipes are installed on the left, so the lowest notes are played by the speakers furthest to the left. As the pitch rises the notes are played more and more to the right.



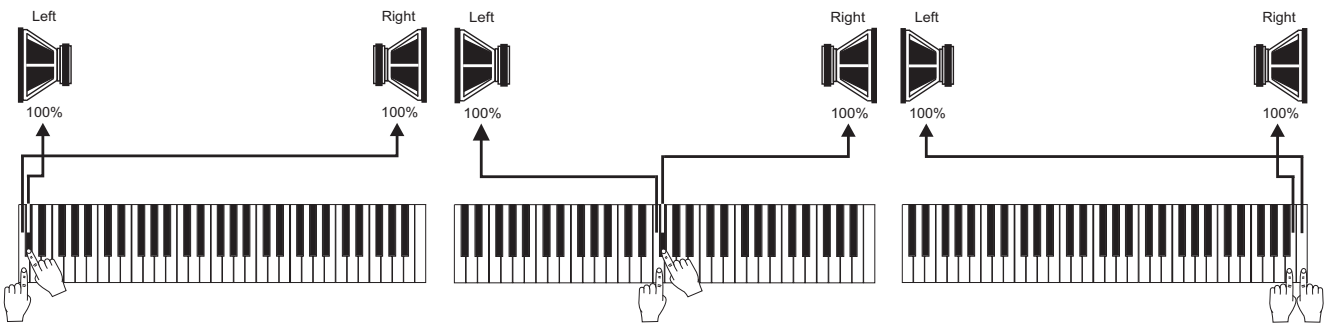

- **SINGLE WING** (from right): the tallest, broadest pipes are installed on the right, so the lowest notes are played by the speakers furthest to the right. As the pitch rises the notes are played more and more to the left.



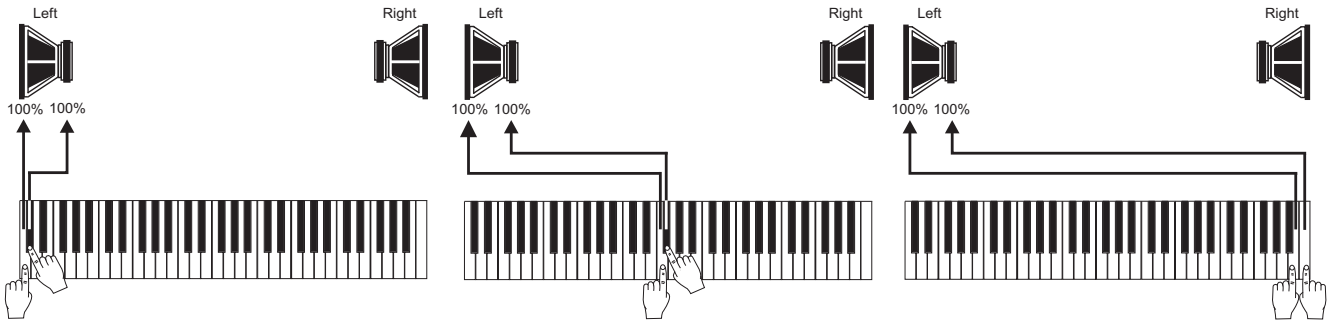

- **C-C#** **C-C# ALTERNATING** : the notes sound alternated (one right, one left) from C (left) to C# (right).



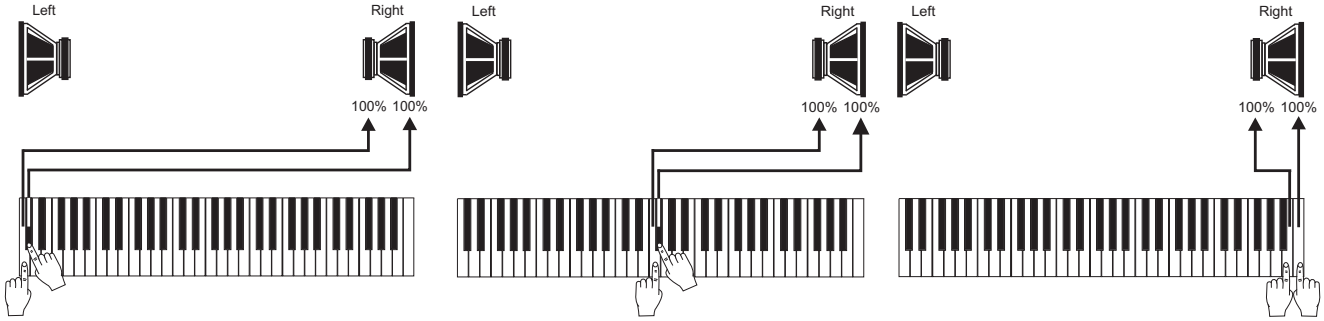

- **C#-C** **C#-C ALTERNATING** : the notes sound alternated (one right, one left) from C (right) to C# (left).



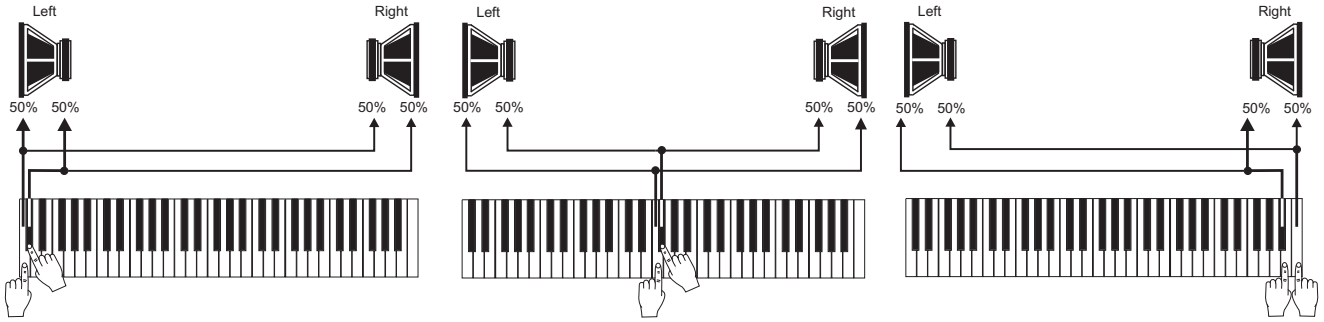
- **LEFT** **LEFT MONOPHONIC**: all notes play on the left channel.




- **RIGHT** **RIGHT MONOPHONIC**: all notes play on the right channel.




- **MONO** **COMPLETE MONOPHONIC**: all notes sound on both channels, left and right.

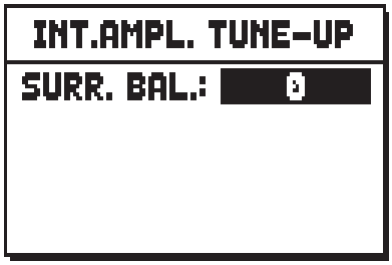



- **POLY** **ALTERNATING POLIPHONIC**: the notes are distribute among the audio channels, so as to avoid having more unison frequencies on the same speaker. This limits the electrical sum of the signal, so as to favour the "in air" melting of the sound, as in a real pipe organ.
  The distribution of the notes on the audio channels is not unique but depends on the register, the pitch, and the keyboard area in which the note is located.

**NOTE**
*For further information about the types of windchest and how they work, see the par. 14.3.*

## 9.5 STEREOPHONIC BALANCE OF THE SIDE SPEAKERS (INT. AMPL. TUNE-UP function)

It is possible to adjust the distribution of the stereo signal spread by side speakers so as to balance the best sound response in case of asymmetric positioning of the organ than the walls of the room in which is located. To do so, selec the INT. AMP. TUNE-UP field on the display. The following page will appear:



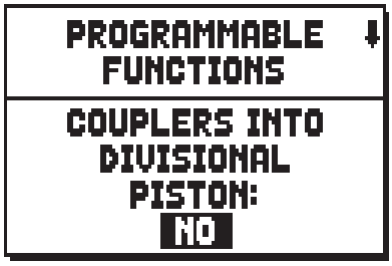

Set the SURR. BAL. (surround balance) parameter as 0 to distribute the signal evenly on both sides. The other parameters are accompanied by an arrow: from ← 1 to ← 63 the signal is diffused more and more to the left, while values from → 1 to → 63 send more signal to the right speakers.

**NOTE**
*This function is only available for models equipped with side speakers.*

## 9.6 COMMANDS AND CONTROLS OPTIONS (PROGRAMMABLE FUNCTIONS)

The PROG. FUNCTIONS sub-menu contains several settings related to the divisional pistons, Crescendo and potentiometer controls (under the manuals).
In this menu you can decide which additional function to save into the (general and/or divisional) combinations, and which ones should be deactivated by pressing the Cancel piston.
It is also possible to temporarily deactivate the Crescendo pedal, so as to prevent undesired stops to turn on, or set the [MASTER] potentiometer not only to control the main volume but also the general volume of the rear connection panel signals.

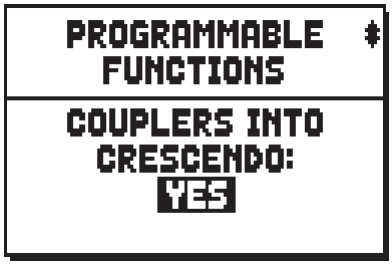
Select the PROG. FUNCTIONS field. In the following screens, you can activate or deactivate several functions. In the first screen you can decide whether you want (select **YES**) or do not want (**NO**) to save the manual couplings to the divisional memories:



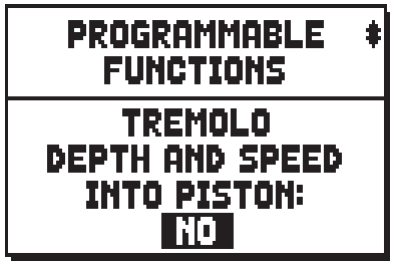

on models with sub- and super octave and/or Unison Off, the followings can be saved:

- **NONE:** no couplers saved
- **INTER-DIVISIONS:** only couplers (sub and super octave included) between two manuals or manual and pedalboard (only available for models with intra-divisional couplers)
- **INTRA-DIVISIONS:** only sub and super octave and Unison Off (only for models with intra-divisionals)
- **ALL:** all couplings

In models equipped with [CRESCENDO] pedal or [GREAT/PEDAL] pedal, to save manual couplings in the Crescendo:

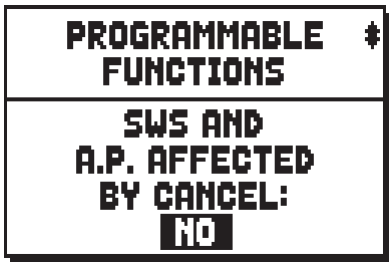



to save the depth and speed value of the tremolo in general and divisional combinations:

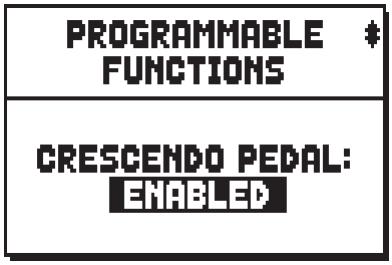


to save the state of the All Swells to Swell and the Automatic Pedal into the general combinations:

to turn off the All Swells to Swell and the Automatic Pedal when the Cancel piston is pressed:




In models equipped with a [CRESCENDO] pedal, the following options are available:



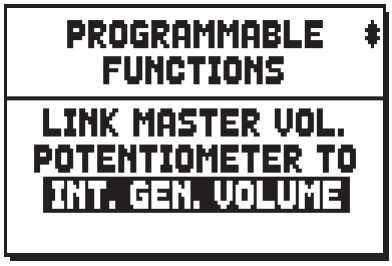

- **CRESCENDO:** control the Crescendo steps
- **GREAT/PEDAL:** control the swell box of Great and Pedalboard
- **DISABLED:** the Crescendo pedal is disabled

In models equipped with both [CRESCENDO] pedal and [GREAT/PEDAL], the following options are available:
- **ENABLED:** the [CRESCENDO] pedal is enabled.
- **DISABLED:** the [CRESCENDO] pedal is disabled.

In models that are not equipped with [CRESCENDO] pedal, the following options for [GREAT/PEDAL] are available.

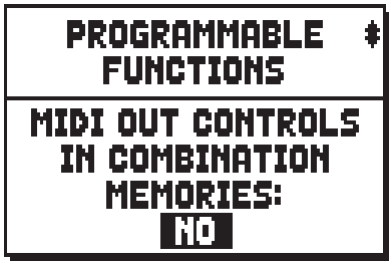
- **GREAT/PEDAL:** control the swell box of Great and Pedalboard
- **CRESCENDO:** control the Crescendo steps (displayed in a pop-up window on the display)

Which volume is controlled by the [MASTER VOLUME] potentiomer, placed under the manuals:

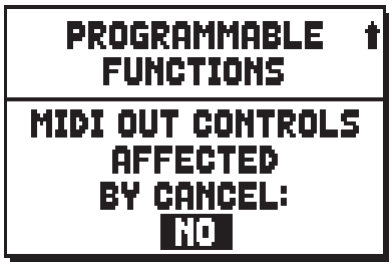



- **INT. GEN. VOLUME:** only the internal amplification volume
- **INT. &EXT. VOLUME:** the volume of both the internal amplification and of the signal of the rear outputs [PROG. OUT] and [GEN. SUB].
- **EXT. GEN. VOLUME:** only the volume for the signal of the rear outputs [PROG. OUT] and [GEN. SUB]
- **NOTHING:** do nothing.

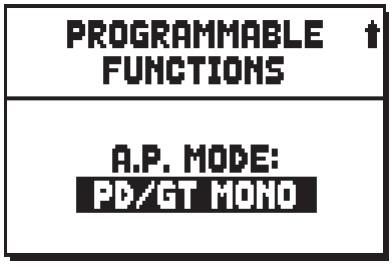
To save the state of the MIDI stops to combinations (this screen will appear only in models that allow to transmit MIDI codes).




To switch off the light of MIDI stops when the Cancel piston is pressed (this screen is available only in models that allow to transmit MIDI codes).




The [A.P.] piston function:




Select PD/GT MONO to activate the Monophonic Pedal function (with piston on). This function allows to play pedalboard registers on the Great. When doing this the pedalboard is deactivated and the stops become monophonic, with priority on the lowest note.

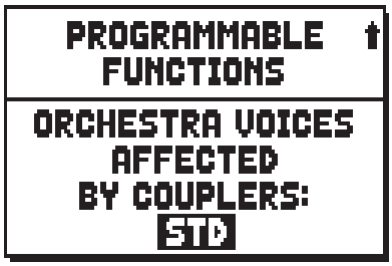
Select PED AUTOM. PIANO to activate the Pedal Automatic Piano function (with piston on). This function automatically adjusts the sound composition of the pedalboard, according to the manual currently played.

Selecting PD/KEYB MONO will activate the Mono Pedal function which allows you to play the Pedalboard voices on all the manuals (with the thumb piston on). When doing this the pedalboard is deactivated and the stops become monophonic, with priority on the lowest note.

**NOTES**
- *As long as the Pedal Automatic Piano function is assigned to the [A.P.] piston, its position will not be saved in the combination, not even when the SWS AND A.P. INTO GENERAL PISTON function is active.*
- *Some of the screens described above appear only in certain models and therefore may not appear in your instrument.*

The section on which to play the melody when the Organ Solo function is active (see point 18, chap. 3):

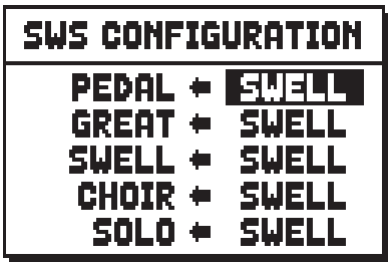
If the notes generated with couplers are played also by orchestral stops:



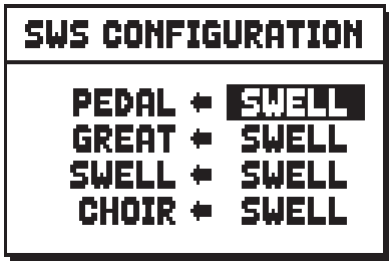

in models equipped with sub- and super-octave couplers, and/or with unison off couplers, the user can select which of these couplers will affect the orchestra stops:
- **NONE:** no couplers
- **STD:** only couplings between two manuals, or between manual and pedalboard (though not sub- and super-octave)
- **ALL:** all kinds of couplers

## 9.7 PROGRAMMING THE [SWS] PISTON FUNCTION (SWS CONFIGURATION function)

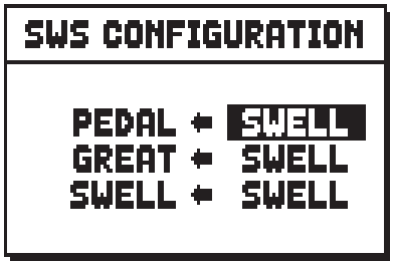
This function allows to choose the expression pedal that regulates the volume of each section while the [SWS] piston is on. To do so, select the SWS. PROGRAMMING field on the display. The following page will appear:




4 manuals models




3 manuals models




2 manuals models

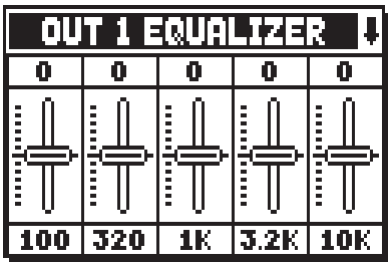
The organ sections can be found on the left side, while on the right the expression pedal can be selected. This pedal will regulate the volume of the corresponding section while the [SWS] piston is on.
When the **FREE** option is selected, the section volume will not be affected by any pedal.

**N.B.**
- *The GT/PD option can be used (only for models equipped with this expression pedal) also by assigning the GREAT/PEDAL function to the [CRESCENDO] pedal (see chap. 9.6 - CRESCENDO PEDAL setting).*
- *This configuration is also saved to general combinations (so as to adapt it to the sound setup) if the "SWS AND AP INTO GENERAL PISTONS" option is active (see par. 9.6).*

## 9.8 REGULATING THE REAR OUTPUTS EQUALIZER (EXT. OUT EQUALIZER function)

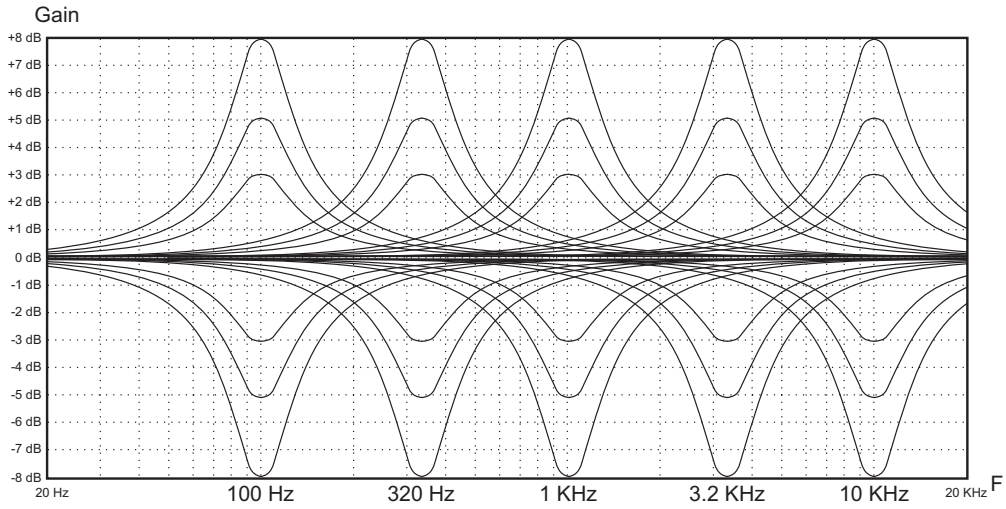
The instrument is equipped with an internal equalizer, to adjust the sound of the internal speakers of the organ, and also with external equalizer, each one dedicated to one of the output of the rear connection panel. Adjusting the parameters of each output separately makes the simulation of real wind chests even more realistic and accurate. These equalizers work in real time and can be adjusted anytime and quickly. For more sound controls and panning see par. 9.11 and 9.10.

To access this menu, select the EXT. OUT EQUALIZER field under the SET-UP menu.



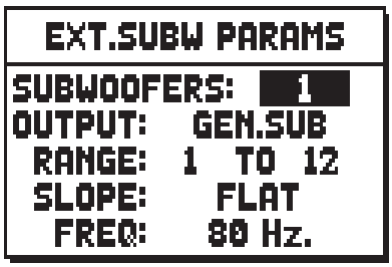

The screen looks like the one of the internal equalizer (see par. 9.3), with the only difference that on the top of the display will appear the name of the output that you are setting.
To select a different external equalizer use the [VALUE +] and [VALUE -] buttons, when this field is selected.

In the lower part of the screen you will see the frequencies of the equalizer's five bands. To move the cursor from one band to the other, press the [FIELD ▲] and [FIELD ▼] buttons.
On the top of the screen the gain value of the selected band is displayed. The bands can be adjusted from +8 dB to -8 dB.
The following graph shows the equalizer functioning.



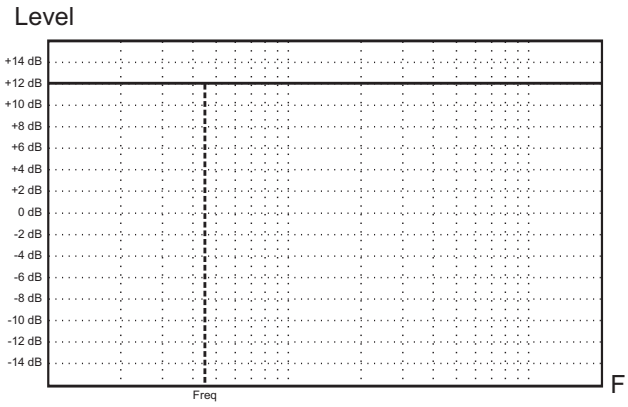
## 9.9 SETTINGS OF REAR AUDIO OUTPUTS CONNECTED TO SUB-WOOFER SYSTEMS (EXT. SUB PARAMETERS function)

The organs of the Physis series are equipped with a rear audio output [GEN. SUB] dedicated to sub-woofer systems for the diffusion of low frequency signals. However, it is also possible to set the MAIN outputs as sub-woofer outputs, to assign them and to [GEN. SUB] specific groups of MAIN outputs, and finally activate an adjustable low-pass filter for each SUB output.
To access the setup screen, select the EXT. SUB PARAMETERS field of the SET-UP menu:

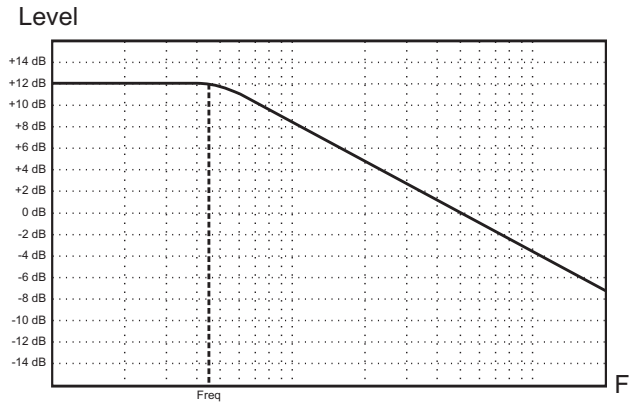



The parameters that can be customized are:

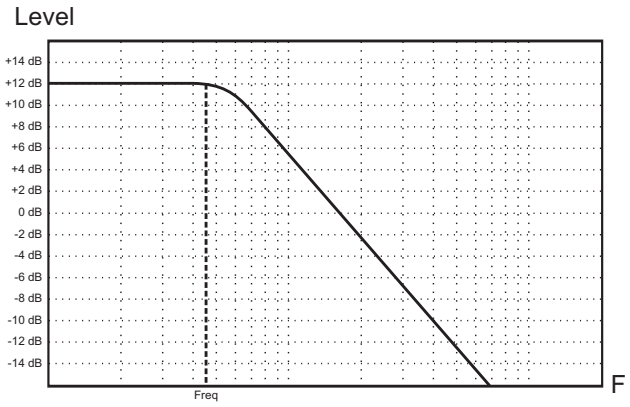
- **SUBWOOFERS:** set here how many rear audio outputs are to be used as a sub-woofer outputs.
- **OUTPUT:** select the audio output for which the sub-woofer parameters are to be set.
- **RANGE:** sets the group of consecutive MAIN outputs that are assigned to the sub-woofer output selected with the OUTPUT parameter.
- **SLOPE**: sets the filter slope to **FLAT**, **12dB/oct** or **24dB/oct**.




Slope = Flat



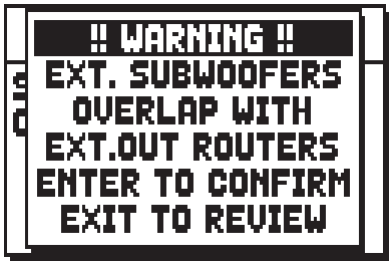

Slope = 12 dB / Oct.




Slope = 24 dB / Oct.

o **FREQ**: adjusts the cutoff frequency of the filter, ranging from **80** to **300 Hz**.

**N.B.:**
- *In models equipped with 4 outputs it is not possible to set one or more MAIN outputs for use with sub-woofers, therefore the SUBWOOFERS and OUTPUT parameters are not available.*
- *The following message, displayed by pressing [EXIT] to quit the function:*




*indicates that one or more MAIN outputs set for use with sub-woofer were previously assigned to one or more items using the EXT OUT ROUTERS function (see section 9.10). By pressing [ENTER] the voices assigned to the outputs affected by this overlap will therefore no longer be audible except with the sub-woofer(s) and therefore it is advisable to check and/or modify the assignment on the MAIN outputs via the EXT OUT ROUTERS function.*

\ *Instead, press [EXIT] to remain in the EXT SUB PARAMETERS function and change their settings.*

## 9.10 SETTING THE ROUTING OF THE VOICES ON THE REAR AUDIO OUTPUTS (EXT. OUT ROUTER function)

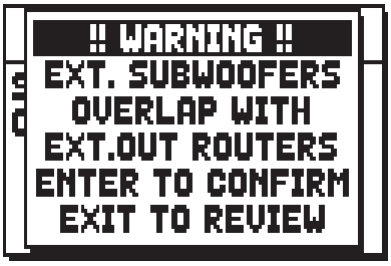
One of the **Physis** organs' key features is the capability of simulating the position of the wind-chests and the arrangement of the pipes inside them, for every stop. This is achieved by setting the routing of the audio signals, i.e. the way in which they are distributed, on the rear outputs. For each stop, the system is able to set an output configuration which reflects the layout of the pipes in real wind-chests, as follows:
- single or double cusp
- double wing
- left or right wing
- mono
- alternate keys

Moreover, each of these layouts can be further specified with regard to the width of the wind-chest and its location in space, defined by the number of outputs used.

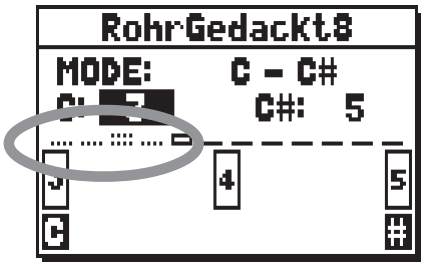
There are also three polyphonic modes with which the notes are distributed in the audio outputs so as to avoid as much as possible the overlap of unison frequencies on the same output. This helps to limit the electric sums of the signals in favor of mixing "in the air" of the sounds that come from different sound sources, as naturally happens on a pipe organ.
The distribution of the notes in the outputs is not unique but depends on the type of register, the pitch and the keyboard area in which the note is located.

**NOTE**

- *The following message, displayed by pressing [EXIT] to quit the function:*



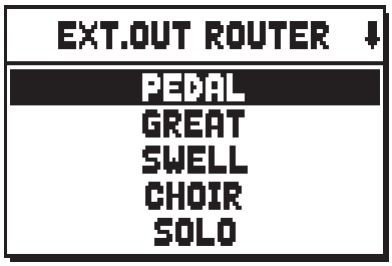

*informs that one or more voice outputs have been addressed to MAIN outputs already configured for use with sub-woofer (see section 9.9). These outputs are also shown on the display area in the screen showing the total outputs. If two dot lines are displayed, this indicates that one or more overlaps are present:*

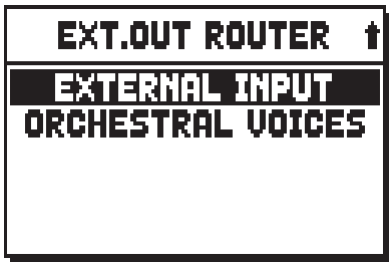



*Pressing [ENTER] from the previously described message confirms the current routing, the overlapping voices will not be audible except with the sub-woofer(s) and it is recommended to check and/or modify the assignment on the MAIN outputs.*
*Press [EXIT] to remain in the EXT. OUT ROUTER function and change its settings.*

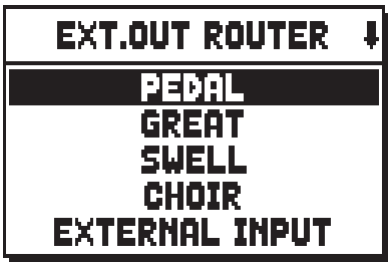
- *Models equipped with 4 rear outputs cannot access the EXT. OUT ROUTER function if the EXT. OUT CONFIG function is set as GENERAL-REVERB (see par. 9.12) since the outputs cannt be modified.*
- *For further information about the types of windchest and how they work, see the par. 14.3.*

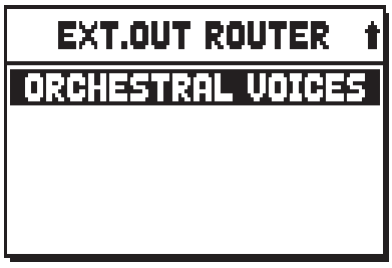
To access the rear audio output setting video page, select the EXT. OUT ROUTER field in the SET-UP menu:



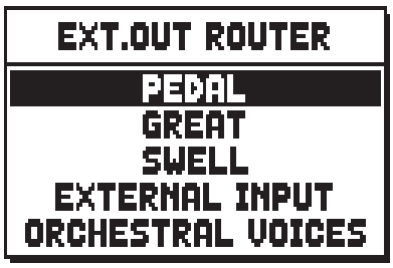




4 manuals models



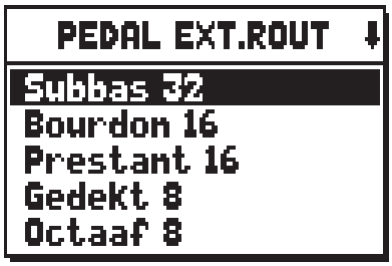




3 manuals models

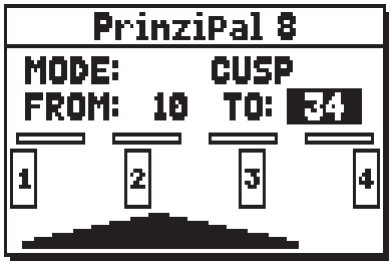



2 manuals models

this displays the screen for selection of the section which contains the stop to set up, which has to be chosen from the list of the stops in a section:



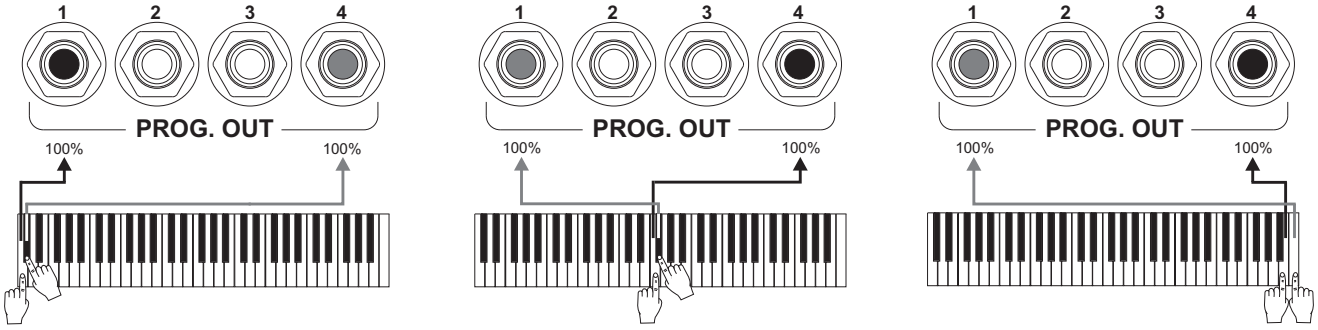

Here again, there is the option of displaying the set-up screen directly by holding out the draw-stop or holding down the rocker tab for a few moments in the voice on position with the cursor on the EXT. OUT ROUTER field in the SET-UP menu, or in the function itself. The LED of the stop being set up will flash to prevent modification errors; the stop will be on and can be played for better, quicker adjustment. Other stops can also be switched on to assess the overall effect of the changes.



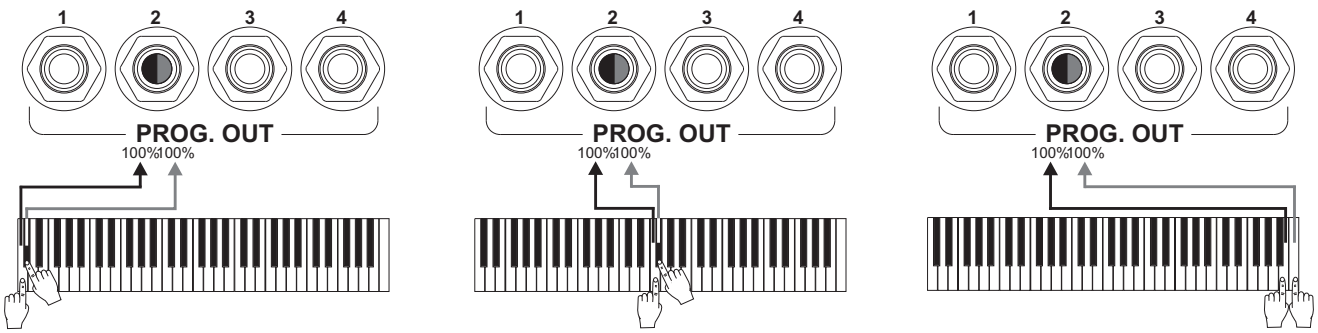

the screen comprises four sections:

- **MODE**: selects the type of wind-chest from:

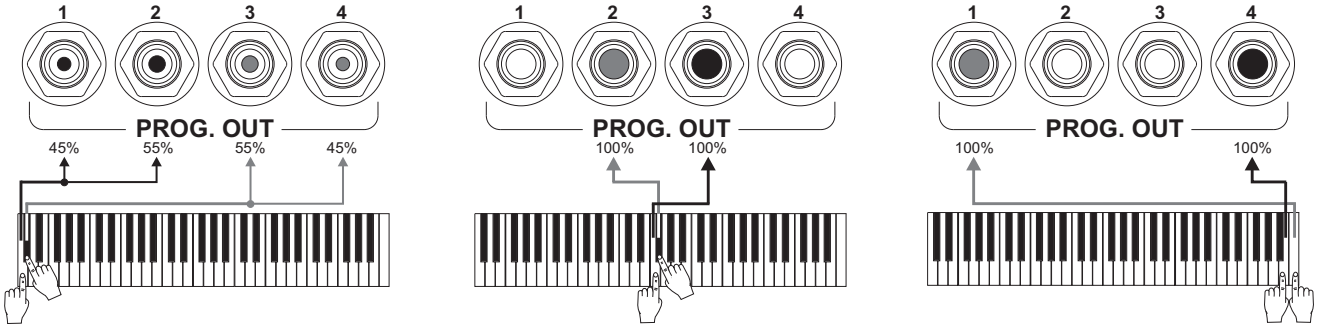
  - **C – C# (alternated keys)**



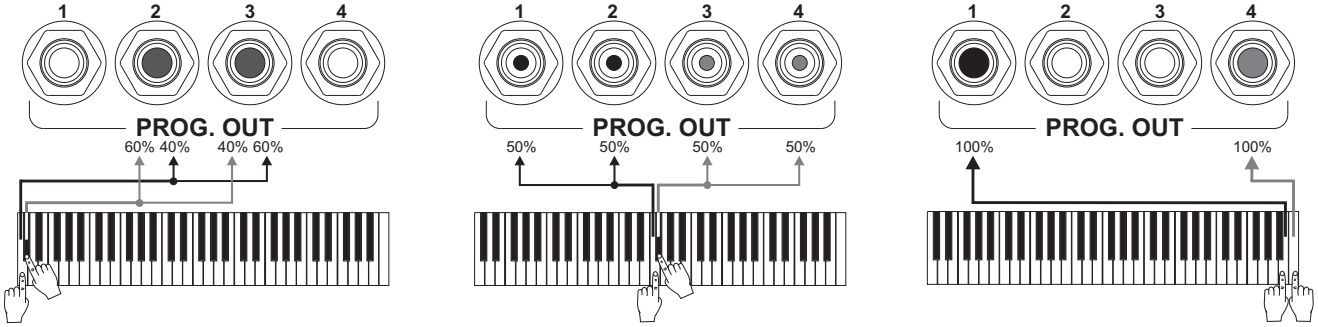

  - **MONO:** mono



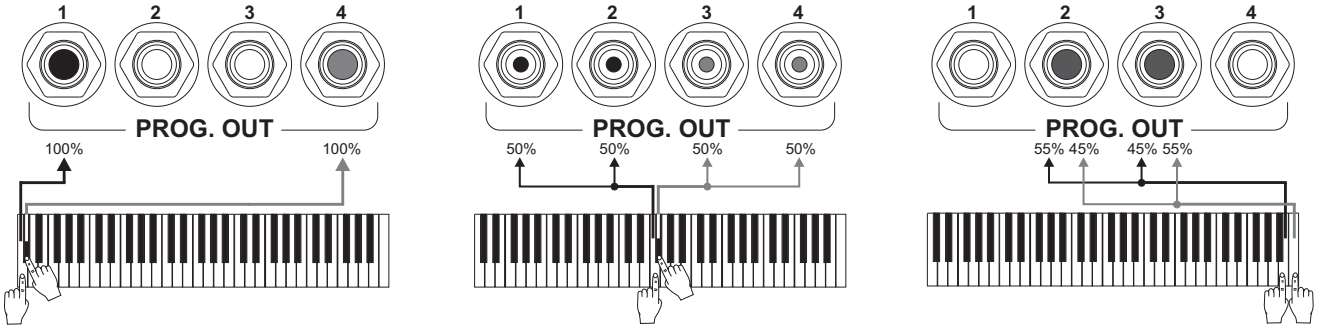
- **DOUBLE CUSP:** double cuspide



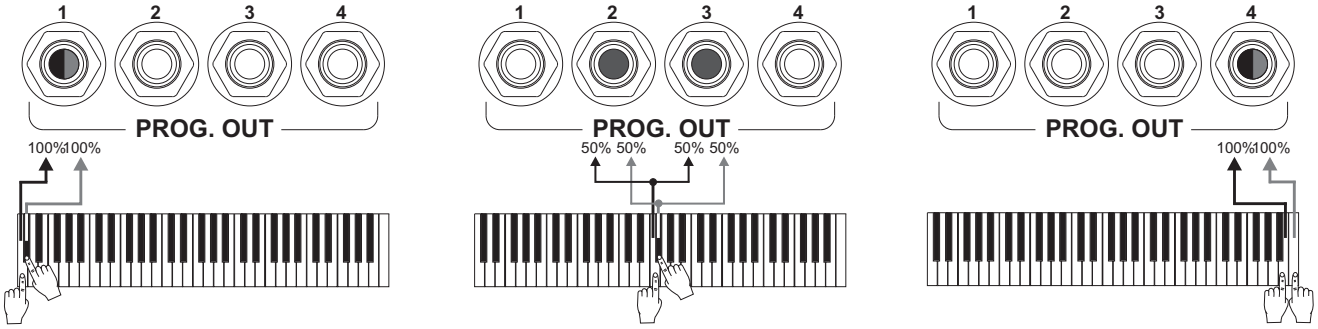

- **CUSP:** cuspide




- **DOUBLE WING**




- **WING**




- **POLY 2:** polyphonic alternating on two outputs
- **POLY 4:** polyphonic alternating on four outputs
- **POLY 6:** polyphonic alternating on six outputs

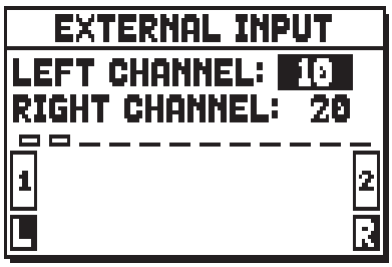
**NOTES**

- *Although the windchest description features two Wing modes (left and right), in the set-up menu you will see just one WING option. To set it as "left" or "right" wing, just adjust the parameters of the limit position "FROM" and "TO", to set the windchest in the desired configuration. If the "FROM" value is lower than the "TO" value, the wing will go from right to left (right wing). If the "FROM" value is higher than the "TO" value, it will be a left wing.*
- *For Mixtures and Hornets it is advised to set the windchest on two outputs close to each other (1-2 or 3-4) in order to avoid lack of signal in some of the selected outputs.*
- *The examples in the pictures relate to FROM and C values set to 10, TO and C# to 40, POSITION to 20 and they are to be intended as examples only. The real percentage of the signals may vary, especially according to the stops selected and the output levels.*

- **FROM and TO**: they select the limits of the area, set in outputs, within which the wind-chest is to be located. The value is set as [output number-position between two outputs], bearing in mind that there are four positions between one output and the next (2-4-6-8 on the display). A value of 40 means that the end of the range (FROM or TO) is on output [4]; a value of 82 means that the FROM or TO point is between output [8] and [9], close to [8] since it is in the first fifth of the area between output [8] and output [9]. The screen previously shown refers to a peaked wind-chest placed between output [1] and a position between outputs [3] and [4].
- **POSITION (in MONO and POLY modes):** the single output for MONO mode or the group of outputs for POLY modes.
- **[position indicator]:** it consists of small rectangles located above the drawing of the wind-chest and indicates that the zone is displaying the part below the total number of outputs.
- **[wind-chest on outputs]:** in the bottom of the screen, it provides a graphic illustration of the wind-chest with the references to the outputs being used, to give an immediate picture of its position and the outputs which will carry the notes, in accordance with the wind-chest configuration.

To view the setup of another stop, simply activate the draw-stop / tab or press [EXIT] to quit the function. In both cases the set-up just created is saved automatically.

For orchestral voices and input signals, only a stereophonic panning is allowed, with left and right signal rearranged to the PROG. OUT outputs.



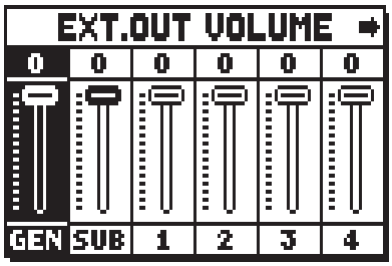
The **LEFT CHANNEL** and **RIGHT CHANNEL** inputs and the orchestral voices can be connected to a pair of outputs or intermediate positions between the two.



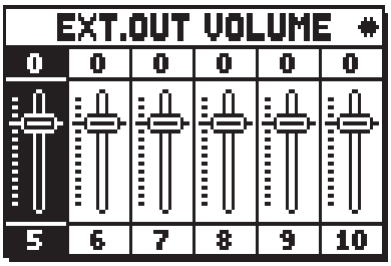
The options available are:

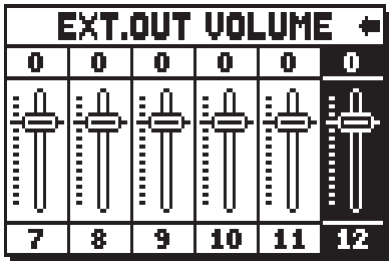
## 9.11 REGULATING THE VOLUME OF THE REAR OUTPUTS (EXT. OUT VOLUME function)

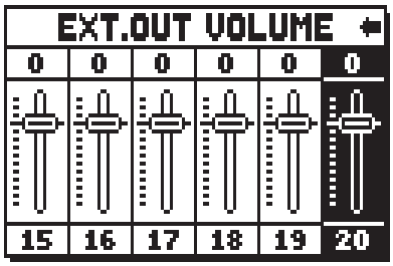
The external sound configuration can be customized further by regulating the volume of the rear outputs. To access these options, select the EXT. OUT VOLUME field. The following screen will appear.




models with 4 audio outputs




models with 12 or 20 audio outputs

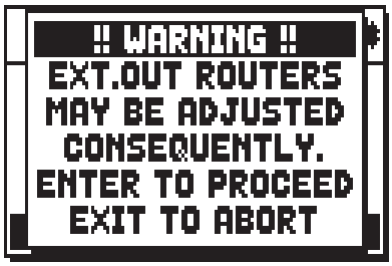
The options available are:

- **GEN** (general): general volume of the PROG. OUT outputs. It can be also adjusted through the [MASTER VOLUME] potentiometer (to do so, see Programmable Functions, par. 9.6).
- **SUB** (general sub): volume of the low frequencies output, [GEN. SUB] connector.
- **1 – 4 / 1 – 12 / 1 – 20**: general volumes of the line signal, from the respective output connectors.

## 9.12 CONFIGURING THE AUDIO OUTPUTS ON THE REAR (EXT. OUT CONFIG function)

Thanks to this function, the PROGRAMMABLE OUTPUTS can be configured to manage the Antiphonal signal (controlled through the AMPLIFICATION tabs), the general signal or just the reverberated signal of the instrument. Selecting the EXT. OUT CONFIG. field of the SET-UP menu the display will show the screen:

Use the [VALUE +] and [VALUE -] buttons to select the desired configuration. Then press ENTER] to confirm the selection or [EXIT] to cancel. After selecting a new configuration, the following warning pop-up is displayed:




to inform that the external panning (see par- 9.10) of certain stops might be modified automatically.
Stops placed between outputs [2] and [3] (in organs equipped with 4 outputs), [8] and [9] (in organs quipped with 12 outputs) or between [16] and [17] (in organs equipped with 20 outputs), and/or outputs set as GENERAL or REVERB, will be automatically set as Mono on the first output of the previously configured panning. Press [ENTER] to confirm the automatic panning adjustment or [EXIT] to abort.
Functioning of different modes is described in the tables below.

Models equipped with 4 audio outputs:

| MODE | OUTPUTS 1-2 | OUTPUTS 3-4 |
|---|---|---|
| STANDARD | As set in Ext. Router Conf. function. | As set in Ext. Router Conf. function. |
| GENERAL-REVERB | General signal | Reverberated signal only |

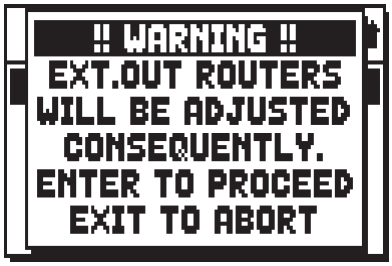
Models equipped with 12 or more audio outputs:

| MODE | OUTPUTS 1-8 (or 1-16) | OUTPUTS 9-10 (or 17-18) | OUTPUTS 11-12 (or 19-20) | TAB AMPLIFICAT. [CONSOLE ON] (if present) | TAB AMPLIFICAT. [EXT. SPEAKER ON] (if present) |
|---|---|---|---|---|---|
| STANDARD | As set in Ext. Router Conf. function. | As set in Ext. Router Conf. function. | As set in Ext. Router Conf. function. | Internal amplification | Outputs 1-12 (or 1-20) |
| GENERAL-REVERB | As set in Ext. Router Conf. function. | General signal | Reverberated signal only | Outputs 1-8 (or 1-16) | Outputs 9-12 (or 17-20) |
| ANTIPHONAL | As set in Ext. Router Conf. function. | As set in Ext. Router Conf. function. | As set in Ext. Router Conf. function. | Outputs 1-8 (or 1-16) | Outputs 9-12 (or 17-20) |
| GENERAL-ANTIPH. | As set in Ext. Router Conf. function. | General signal | As set in Ext. Router Conf. function. | Outputs 1-8 (or 1-16) | Outputs 9-12 (or 17-20) |
| ANTIPH.-REVERB | As set in Ext. Router Conf. function. | As set in Ext. Router Conf. function. | Reverberated signal only | Outputs 1-8 (or 1-16) | Outputs 9-12 (or 17-20) |

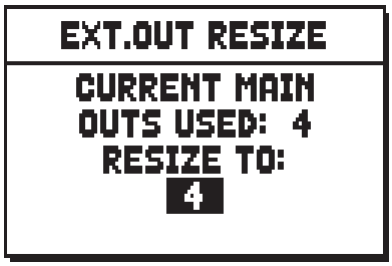
**NOTE**
*In the models equipped with 4 audio outputs, it is not possible to configure the registers output router in the EXTERNAL OUT ROUTER function selecting the GENERAL+REVERB outputs mode.*

## 9.13 AUTOMATIC RESIZE OF EXTERNAL ROUTERS (EXTERNAL OUT RESIZE function)

As already shown in par. 9.10, with External Routers, each stop can be channelled to one or more PROGRAMMABLE rear Outputs; connecting more outputs after the stop channelling has been programmed may affect some output related features, so that some outputs may not work as intended. The EXTERNAL OUT RESIZE function sets up the output configuration (concerning the windchest size but not its type) according to the amount of outputs in use.
To recall the function, selecte the EXT. OUT RESIZE field under the SET-UP menu.




The system will warn you that the external panning of the stops will be modified automatically (according to the outputs in use). Press [EXIT] to abort and go back to the SET-UP menu. Press [ENTER] to continue: the following screen will show:




The **CURRENT MAIN OUTS USED** parameter points out the amount of outputs currently used by the External Routers, as set in the EXTERNAL OUT ROUTER function.
Instead, the **RESIZE TO** parameter must be set to the current amount of connected outputs. Press [EXIT] to cancel the new configuration, or [ENTER] to confirm it.

The repositioning takes place through several adjustments, so as to use the outputs as already configured before. However, some routers might be placed differently from what you intended. Therefore, at the end of the procedure, the system will advice to check again the settings through the EXTERNAL OUT ROUTER function.

**NOTE**
*In models equipped with 4 rear audio outputs, the function EXT. OUT RESIZE cannot be accessed if the function EXT. OUT CONFIG is set as GENERAL-REVERB, since the number of outputs used cannot be modified (see par. 9.12).*

## 9.14 FINE ADJUSTMENT of the AIR PRESSURE PARAMETER (AIR SUPPLY CONFIG function)

As already described in chap. 6, by means of the AIR PRESSURE parameter in the TUNING screen, the Physis organs allow to simulate the air pressure drop when a large quantity is required suddenly.
Through the AIR SUPPLY CONFIG function it is possible to further customize the behavior of this parameter, selecting five different operating modes, each of which simulates the behavior of the "wind distribution system" of a particular type of pipe organ and regulating its influence separately for each organ section.
To access the adjustment screen, select the AIR SUPPLY CONFIG field in the SET-UP menu:

The **MODE** parameter allows to select the five operating modes of the AIR PRESSURE, and more precisely:
- **STANDARD**: no change to the behavior set in the TUNING menu.
- **BAROQUE SMALL**: behavior of a small baroque organ, with particularly sensitive and unstable air supply.
- **BAROQUE LARGE**: behavior of a large baroque organ, more stable and with a slower response to transients than BAROQUE SMALL, but still rather sensitive.
- **ROMANTIC**: behavior of a great romantic / symphonic organ, with a rather stable air supply, but with a notable "ensemble" effect when big chords are played.
- **GENTLY FLEXIBLE**: behavior of an organ equipped with flexible air supply, which influences the instrument in a delicate way.

By pressing the [FIELD ▼] button, the second adjustment screen can be displayed:

4 manuals models

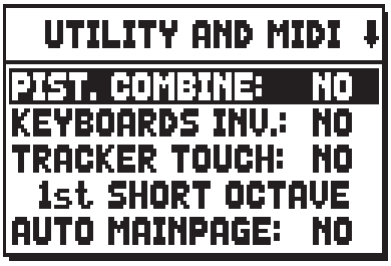
3 manuals models

2 manuals models

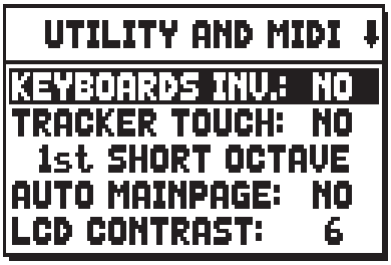
in which the intensity of the effect can be adjusted separately for each organ division.

# 10. UTILITIES AND MIDI FUNCTIONS (UTIL. & MIDI menu)

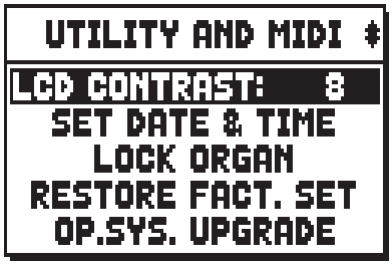
The UTILITY & MIDI menu, which can be recalled by selecting the field of the same name in the main video page, contains all the accessory functions and the settings relating to the organ's MIDI interface. The menu is displayed on several screens:

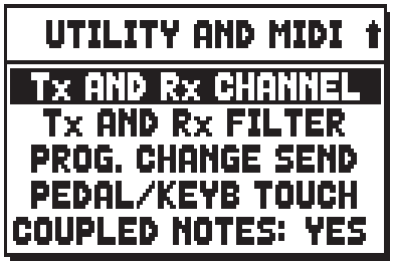



Models equipped with divisional combinations




Models not equipped with divisional combinations

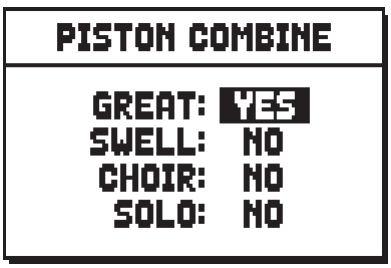


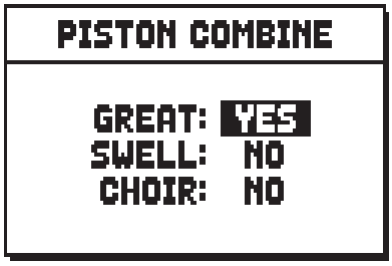

The first part contains all the additional functions and utilities. Unless stated otherwise, select **YES** to activate the function, **NO** to deactivate it.

- **PIST. COMBINE** (Piston Combine, only for models with divisional combinations): synchronizes manual and pedalboard combinations through the following options:
  - **KB->P:** when a manual combination is loaded, the same is activated on the pedalboard.
  - **P->KB:** when a pedalboard combination is loaded, the same is activated on the manual.
  - **KB+P:** when a combination on either pedalboard or manual is loaded, the same is activated on the other section.

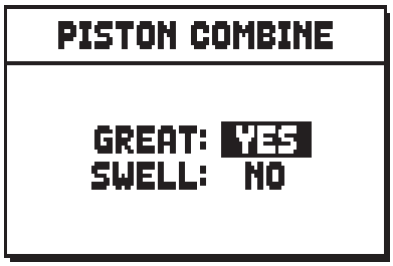
  Place the cursor on the PIST.COMBINE field and press [ENTER] to select which manual will be synchronized.




4 manuals models



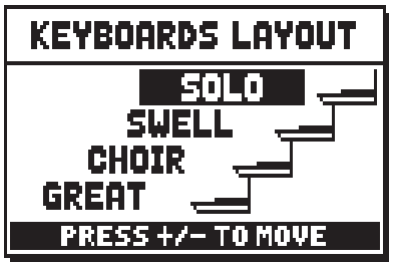

3 manuals models



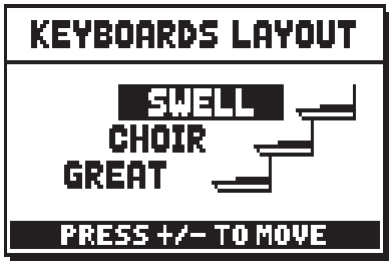

2 manuals models

Press [EXIT] to store the new configuration and come back to the MIDI&UTILITY menu.

- **KEYBOARDS INV.** (Keyboard Inversion): inverts the manuals, so that the stops for one section play on a selected manual. To select a manual, select this field and then press [ENTER].



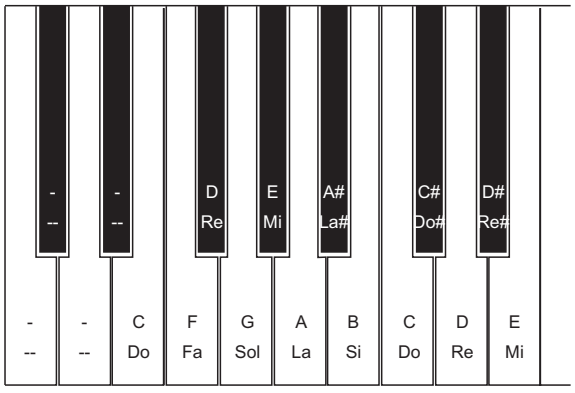

4 manuals models



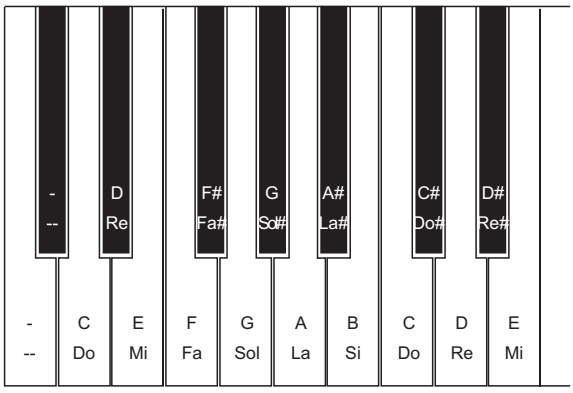

2 manuals models

The display shows graphically the organ manuals with, next to them, the corresponding organ section when the Keyboards Inversion function is active. Using the [FIELD ▲] and [FIELD ▼] buttons it is possible to move the cursor and position it in correspondence with the manual to be associated with the section, using the [VALUE +] and [VALUE -] buttons.

- **TRACKER TOUCH**: simulates the typical tracker touch of mechanical organs that affects the attack times. Attack time is delayed on flue pipes only, release is delayed on all stops.
- **1st SHORT OCT.** (1st Short Octave) makes the first octave on manuals and pedalboard short, so as to perform pieces written for ancient organs (16th to 18th century) in which the first octave was shortened. Pressing [ENTER] with the cursor on this field you can select for each manual and the pedalboard if you want to play with short octave and in what mode (pedalboard only).




SHORT




SHORT CDE

- **AUTO MAINPAGE**: automatic return to the main video page if no display functions are used for 10 seconds.
- **LCD CONTRAST**: regulates the display contrast.
- **SET DATE & TIME**: date and time setting (par.10.1).
- **LOCK ORGAN**: set the code to lock out the organ to prevent access to the instrument's set-up screens and the saving of combinations, the Tutti and the Crescendo (par.10.2).
- **RESTORE FACT. SET** (Restore factory settings): restores the factory settings (par.10.3).
- **OP. SYS. UPGRADE** (Operating Sytem upgrade): upgrades the operating system (par. 10.4)

The second part of the menu relates to the MIDI interface settings (par. 10.5):

- **Tx AND Rx CHANNEL**: MIDI transmission and reception channel set-up.
- **Tx AND Rx FILTER**: MIDI transmission and reception filter set-up.
- **PROG. CHANGE SEND** (Program Change send): saving of the combinations and transmission of MIDI Program Change and Bank Select messages.
- **KEYBOARD VELOCITY:** selection of the dynamic curves of the manuals for use of the Orchestra voices and the transmission of MIDI notes.
- **COUPLED NOTES**: links the channels

## 10.1 REGULATING THE INTERNAL CLOCK (SET DATE & TIME function)

The organ is equipped with an internal clock, mainly to assign date and time to files created with the FILE MANAGEMENT functions and the sequencer. Select the SET DATE & TIME function from the UTILITY & MIDI menu:

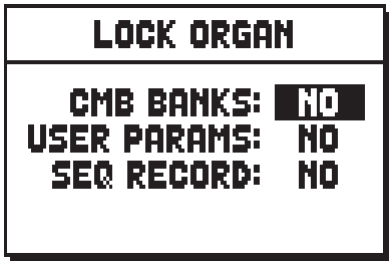
- **DAY**: set here the current day.
- **MONTH**: set here the current month.
- **YEAR**: set here the current year.
- **[last field]**: adjust the current time.

When the configuration is over, press [ENTER] to save the settings.
As the pop-up says, the time adjustments will be working the next time the organ is switched on.

**N.B.:**
*If the error message "RTC CHIP MALFUNCTION, DATE & TIME NOT AVAILABLE, PLEASE CALL FOR SERVICE" is displayed when the function is accessed, this means that the chip that calculates time and date is not working, and consequently it is not possible to adjust. Contact technical assistance at the e-mail address service@viscount.it indicating the error message displayed.*

## 10.2 CONTROLLING THE ACCESS TO THE ORGAN SETTINGS (LOCK ORGAN function)

When necessary, organ configurations can be locked, so that only authorized users can access them.
The LOCK ORGAN function is designed just for this purpose. When active, combinations, Tutti, Crescendo steps and Local Off stops cannot be modified. Only volume, tuning and Organ Style options will be available. The Record function of the sequencer is also locked, so that recorded songs cannot be edited.
To recall this function, select the LOCK ORGAN field under the UTILITY & MIDI menu.




Here you can select which sections will be locked:

- **CMB BANKS** (Combinations Banks)**:** locking the modification of the combinations of the bank 1 (selecting **1st**) or of all the combinations, Tutti, Plenum and Crescendo (selecting **YES**).

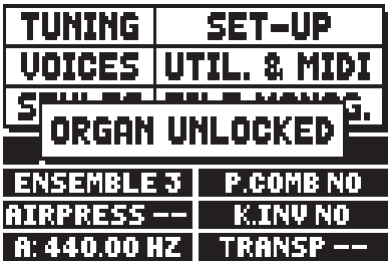
- **USER PARAMS** (User Parameters)**:** locks the functions under the menus: VOICES, SETUP, UTILITY & MIDI, FILE MANAGER and Local Off options.
- **SEQ RECORD:** locks the sequencer's Record function.

Now press [ENTER] to set a password:

Press [VALUE +] and [VALUE -] to select the characters. Use the [FIELD ▲] and [FIELD ▼] buttons to move the cursor. Press [ENTER] to save the code, and [EXIT] to abort.
When the organ has been succesfully locked, the display shows the following message:

To unlock the organ, allow the saving of combinations and make the other adjustment functions accessible, recall the UNLOCK ORGAN function under the UTILITY & MIDI menu (see next page).

enter the right password with the buttons described above. If the password is correct, the following message will show:



otherwise:

**N.B.**
- *The password must be 4 characters long.*
- *To check the operating system version while the organ is locked, access the UNLOCK ORGAN function and then select OP-SYS-INFO.*

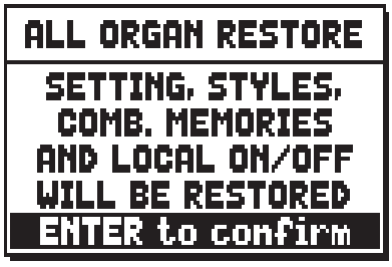
## 10.3 RESTORING FACTORY SETTINGS (RESTORE FACT. SET. Function)

The organ has several options to restore the original (factory) settings. To recall this function select the RESTORE FACT. SET. field under the UTILITY & MIDI menu:

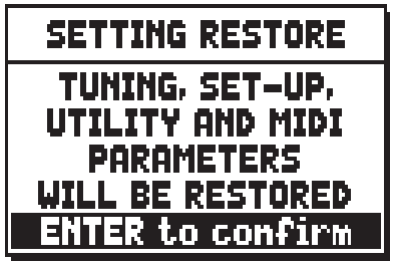
The following settings can be restored to default:

- **ENTIRE ORGAN**: all the settings and functions from the TUNING, VOICES (the four User styles), SET-UP, UTILITY & MIDI menus, general and divisional memories, crescendo steps, Tutti, Local Off states and mixtures.
- **SETTING PARAMETERS**: settings from the TUNING, SETUP and UTILITY & MIDI menus.
- **USER STYLES**: register settings from the VOICES menu, related to the four user styles.
- **COMB. MEMORIES**: (combination memories): all the general and divisional memories, crescendo steps and Tutti.

To restore the factory settings, select one of these four modes and press [ENTER]. The display will show the settings that will be restored and will ask for confirmation.

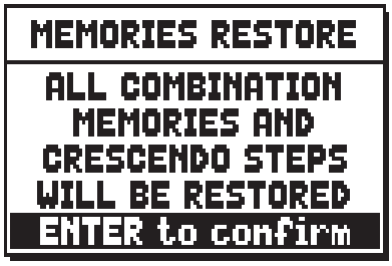



Entire organ



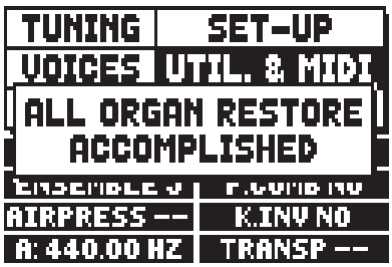

Setting parameters

User Style




Combination memories

Press [ENTER] again to start the process or [EXIT] to abort it. When the process is complete, the following message will show:




Entire organ

Setting parameters

User Style

Combination memories

## 10.4 UPGRADING THE OPERATING SYSTEM (OP. SYS. UPGRADE function)

The operating system of the Physis organs can be easily and quickly update. Just copy the update files in an flash drive and plug it in the USB connector under the manuals, then recall the OP. SYS. UPGRADE function. To get the installation files and all the necessary information to perform the upgrade, please refer to the web site www.viscountinstruments.com.

## 10.5 MIDI FUNCTIONS

**NOTE**
*For further information about the MIDI interface of the Physis organs, see par. 14.5 and 14.6.*

### SELECTING THE INPUT AND OUTPUT CHANNELS (Tx AND Rx CHANNEL function)

The organ can send out MIDI messages on a single channel, or through two channels simultaneously. It can only receive on one channel. To set the MIDI channels, select the Tx AND Rx CHANNEL field under the UTILITY & MIDI menu. The following page will appear:

| SECTION | Tx A/B | Rx |
|---|---|---|
| PEDAL | 5 / - | 5 |
| GREAT | 3 / - | 3 |
| SWELL | 2 / - | 2 |
| CHOIR | 4 / - | 4 |
| SOLO | 1 / - | 1 |

4 manuals models

| SECTION | Tx A/B | Rx |
|---|---|---|
| PEDAL | 4 / - | 4 |
| GREAT | 2 / - | 2 |
| SWELL | 1 / - | 1 |
| CHOIR | 3 / - | 3 |

3 manuals models

| SECTION | Tx A/B | Rx |
|---|---|---|
| PEDAL | 4 / - | 4 |
| MAN.I | 2 / - | 2 |
| MAN.II | 1 / - | 1 |

2 manuals models

The **SECTION** column lists the organ sections; for each section a channel from the **Tx A/B** and **Rx** can be assigned. Press [EXIT] to leave the screen and save the settings.

### FILTERS SETTINGS (MIDI FILTERS function)

A MIDI filter allows to block a particular message **on all MIDI channels** (if the signal is channelled).
The Control Change filter, for example, blocks these MIDI messages in the [MIDI OUT] port, on all MIDI channels of the organ. In the same way, the receiving filter blocks CC on all channels received from the [MIDI IN] port.
To configure the MIDI filters, select the Tx AND Rx FILTER field under the UTILITY & MIDI menu.

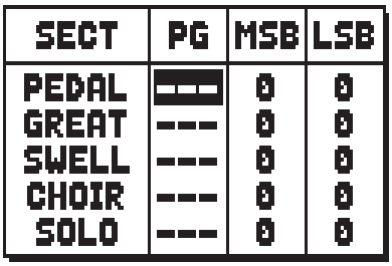
| MESSAGE | Tx | Rx |
|---|---|---|
| CC | NO | NO |
| PG | NO | NO |
| SysEx | NO | NO |
| RealTime | YES | YES |

The MESSAGE column will show the MIDI messages that can be filtered:
- **CC**: Control Change
- **PG**: Program Change
- **SysEx**: System Exclusive
- **RealTime**: Real Time

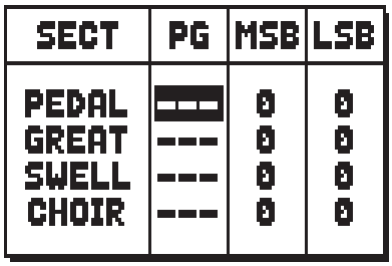
Through the Tx and Rx colum, the state of filters (transmission and reception) can be modified. Select **YES** to activate the filter, **NO** to deactivate it. When a filter is active, the relating MIDI message is not transmitted/ received. Press [EXIT] to leave the screen and save the current settings.

## TRANSMISSISSION OF PROGRAM CHANGE AND BANK SELECT MESSAGES (PROG. CHANGE SEND function)

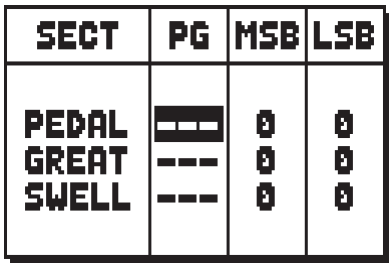
Program Change (PG) MIDI messages can recall, in a connected unit, a particular sound or program (patch). Thanks to this function you may select a desired voice from external module (such as an expander) connected to the MIDI [OUT] port. You can also transmit Bank Select messages MSB (CC n. 0) and LSB (CC n.20) to select stop banks from an external source.
Select the PROG. CHANGE SEND field under the UTILITY & MIDI menu, then press [ENTER]



4 manuals models



3 manuals models



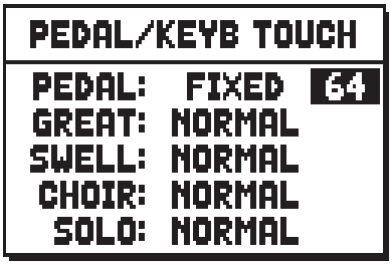
2 manuals models

The **SECT** (Section) column lists the organ section, and the associated Program Change and MSB and LSB Bank Select messages are shown in the **PG**, **MSB** and **LSB** columns.

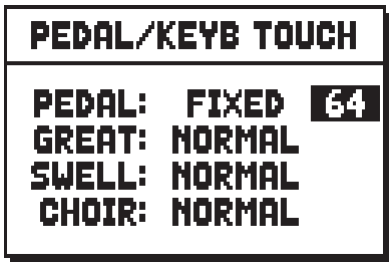
Please note that the MIDI messages of this screen are immediately sent to the corresponding section, and also **saved in the general, divisional and Tutti memories**. To do so, select the Program Change and Bank Select and fix the desired memory. This process might prove useful when, using an external expander, you wish to combine a voice from this unit with other stops.
When a MIDI message is not necessary, cancel it by selecting the "---" value. To leave the screen and go back to the UTILITY & MIDI menu press [EXIT].

## REGULATING THE MIDI VELOCITY (PEDAL/KEYB. TOUCH function)

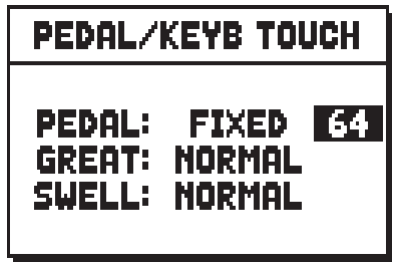
This function sets the velocity of the notes transmitted through MIDI [OUT] port, played with Orchestra stops, for each section. This is the corresponding screen:



4 manuals models



3 manuals models



2 manuals models

For each section, set a fixed value (**FIXED** from **1** to **127**) or three dynamic curves: **SOFT**, **NORMAL** or **HARD**. Press [EXIT] to leave and save the settings.

**NOTE**
*Soft, Normal and Hard curves are not available for the Pedal section.*

**The COUPLED NOTES function**

The COUPLED NOTES function allows to select the notes to send through MIDI.
Select YES to send both the notes actually played on the manuals and the ones resulting from the coupling controls.
For example, by playing on the pedalboard while the coupling GT/P is active, notes from the pedalboard will be transmitted both on the pedalboard MIDI Channel AND on the Great MIDI Channel.
Select NO to send only the notes physically played (in this example, notes will be transmitted only on the pedalboard channel).

In models equipped with sub- and super-octave couplers, and/or with unison off couplers, the user can also select which of these couplings will send out MIDI data:

- **NONE:** no couplers
- **STD:** only couplings between two manuals, or between manual and pedalboard (though not sub- and super-octave)
- **ALL:** all kinds of couplers

# 11. FILE MANAGEMENT FUNCTIONS (FILE MANAG. menu)

The **Physis** organs use two different types of mass memory: the internal memory, and a data storage device for connection to the [USB] slot underneath the manuals (USB pen drive). These data storage units are used to save organ's set-up or parts of it, pieces of music and song lists. Saving this file types is useful as it allows to store large amounts of organ configurations and music pieces, as many as the memory can contain - the internal memory can store up to several thousands of these files. This chapter will also deal with internal work memory: this memory is in use whenever the organ is on, and it is not the same as the mass memory (internal or USB drive), which is used for data storage instead. If a USB pen drive is connected, the system will use it as the mass memory. However, the internal memory can still be used for copying files (from and to the USB pen), but it is not possible to load, delete and rename files saved on the internal memory: the USB stick has to be removed before this can be done. Selecting the FILE MANAGEMENT field in the main screen accesses the relative menu containing all the file management functions. There is also a screen which provides information about the firmware versions installed on the organ. As the video page shows, the bottom of the screen identifies the memory unit currently in use:

As the video page shows, the bottom of the screen identifies the memory unit currently in use:
- **INTERNAL MEMORY**
- **USB STICK DRIVE**

The functions available are as follows:
- **DIR**: displays the contents of the mass memory (par. 11.1).
- **LOAD**: load files (par.11.2).
- **SAVE**: save of the set-up of the organ or parts of it in the mass memory (par.11.3).
- **COPY**: copy files from one memory unit (e.g. internal) to another (par.11.4).
- **RENAME**: file rename (par.11.5).
- **DELETE**: file delete (par.11.6).
- **SONGLIST**: programming of a list of pieces (par.11.7).
- **O.S. INFO**: display the firmware versions installed in the system (par.11.8).

When connecting a new or just formatted pen drive to the organ, the system will automatically create two directories in the drive: "v_settings" and "v_songs". The system needs these two folders to arrange files, and they **must not be deleted or renamed**, otherwise the saved files will be lost.
The system will save the organ configuration in the "v_settings" directory. "v_songs" is used for pieces and song lists storage. The system uses the following files:
- **.all**: all settings, TUNING, VOICES, SET-UP, UTILITY & MIDI functions, general and divisional memories, mixtures, crescendo steps, Tutti, local off state (saved in the "v_settings" folder).
- .**set**: settings from the TUNING, SET-UP and UTILITY & MIDI menus ("v_settings" folder).
- **.sty**: settings from the VOICES menu related to the current Style ("v_settings" folder).
- **.cmb**: general and divisional memories, Mixtures, Crescendo steps and Tutti ("v_settings" folder).
- **.mid**: MIDI songs ("v_songs" folder).
- **.lst**: lists of MIDI songs ("v_songs" folder).

For a detailed description on the content of the .all, .set, .sty and .cmb files, read par. 14.4.

***NOTES***

- *Once the USB pen is inserted please wait some seconds before displaying the FILE MANAGEMENT menu. If the instrument still does not detect the drive, press [EXIT] to leave the menu and then try again.*
- *To copy a file into a USB pen that has never been used, first use your computer to create manually two folders: "v_songs" and "v_settings". Files should be placed in the folders according to the extensions listed above.*
- *Should you need to rename the files on the USB drive with a computer, please remember that: .all, .set, .cmb, .sty files: names can have a maximum length of 12 characters or digits. Letters must be either all lower case.*
  *.mid e .lst files: names can have a maximum length of 12 characters or digits. Letters must be all lower case. Do not delete the first three characters and the "_".*
- *When using a computer to rename files stored on the USB pen, remember that names can only contain a maximum of 12 numbers and letters, which must all be lowercase.*
- *Always use USB pens formatted with FAT or FAT32 file system (no NTFS). We advise to use dedicated utilities created by the drive producer (usually available on CD-ROM or website).*

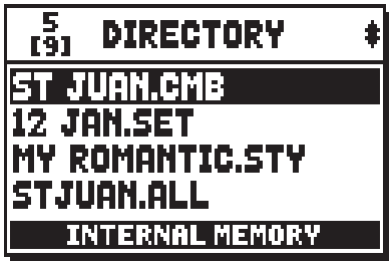
## 11.1 FILE MANAGEMENT (DIR function)

In order to visualize what files are in your memory, select the DIR field under the FILE MANAGEMENT menu:

Then select which files are to be shown:

- **ALL TYPES**
- **SONGS (MID)**: music pieces, .mid files.
- **SONGLISTS (LST)**: song lists, .lst files.
- **COMB.MEM (CMB)**: memories (of any kind), .cmb files.
- **SETTINGS (SET)**: settings from TUNING, SETUP and UTILITY & MIDI menus, .set files.
- **STYLES (STY)**: organ styles, .sty files.
- **ALL ORGAN (ALL)**: general organ configurations, .all files.

Select one of these options to display a list of files. A field on the top left indicates the position of the selected file in the list, and the number of files with the same extension (in square brackets):



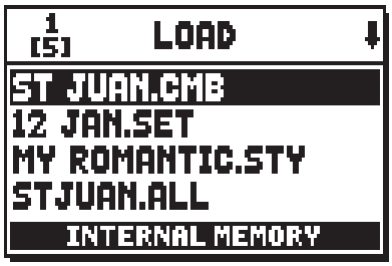
To manage a file, select it and press [ENTER]:

- **COPY**: copy the file from one memory unit to the other (USB to internal or the other way around). The process is described in par. 11.4.
- **RENAME**: rename file, see par. 11.5.
- **DELETE**: delete file. See par.11.6
- **LOAD**: load a file to the work memory of the organ. See par. 11.2.
- **SAVE**: save again a file in the current memory unit. If a .CMB file is selected, this will be overwritten with the current organ configurations. See par. 11.3.

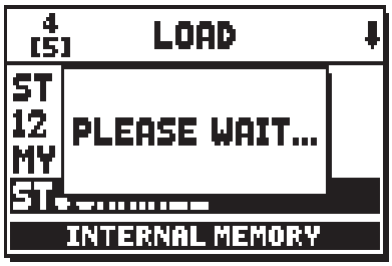
**NOTE**
*Load and Save functions are not available for .MID and .LST files.*

## 11.2 LOADING ORGAN COMBINATIONS AND/OR SETTINGS (LOAD function)

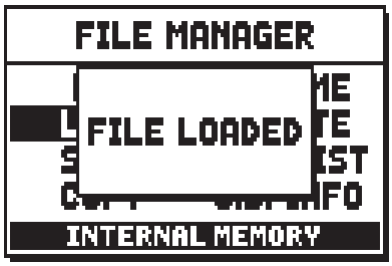
The **Physis** organs can save the current configurations. The LOAD function allows to recall into the work memory these configurations and combinations already saved to the mass storage memory (internal or external) and therefore use them.
To load a file, select the LOAD field under the FILE MANAGEMENT menu:




Use the [FIELD ▲] and [FIELD ▼] buttons to select the file to load and press [ENTER], or [EXIT] to cancel the operation. While loading, the display shows this screen:

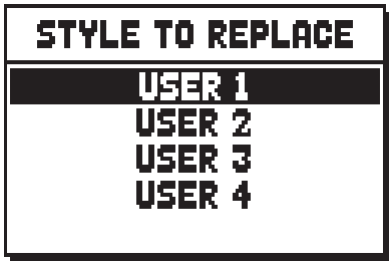


And then:




**LOADING ORGAN STYLE (.STY) FILES**

When loading a .sty file, you have to decide in which of the four user slots to place the style.

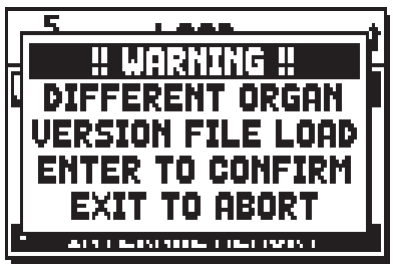



Use the [FIELD ▲] and [FIELD ▼] buttons to select which style will be overwritten and press [ENTER]. Press [EXIT] to quit the screen.

When the procedure is over, the user style will be named after the .sty file just loaded. To rename a user style you can use the same procedure: save it as .sty files with the new name and then load it again on the organ.

**IMPORTANT NOTES**

- *When a file is loaded, all the related information (settings, memories, styles etc.) currently present in use on the organ will be lost. To avoid this, first save the current settings (see par. 12.3) and then load a file.*
- *When the system load a .ALL or .STY file, it might not be able to find the sound described in the file for a certain register, because the sound is not available in the list of the alternative voices. In this case, the register will be assigned a similar sound or, when this is impossible, the first one on the list. In both cases the audio parameters (EDIT PARAMETERS function described at par.8.2) will be reinitialized. Furthermore, when loading an .ALL or .STY file created with a different organ model, the system will show this message:*

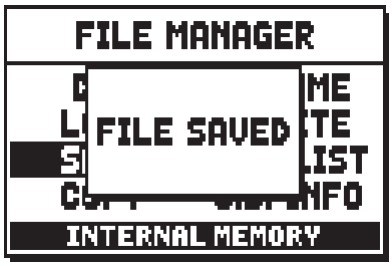


## 11.3 SAVING AS FILE OF ORGAN COMBINATIONS AND/OR SETTINGS (SAVE function)

To save settings and combinations into the internal memory or an USB pen drive, select the SAVE field under the FILE MANAGEMENT menu:

In this screen you can select which options to save. Each set of options corresponds to a file type and therefore a file extension. You can see the file extension (see description at beginning chap. 11) on the left of the display, and the content in the middle. Select the file extension field with the cursor and press [VALUE +] and [VALUE -] to scroll all the possible extensions. To write the file name, move the cursor to the first character with [FIELD ▲] e [FIELD ▼] and then select the character with [VALUE +] and [VALUE -]. Press [ENTER] to start the saving process.

And then:

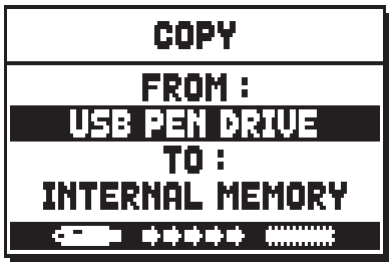



If a file with the same name and extension is already present in your memory, decide whether to replace it or not:

**NOTE**
*When a file is overwritten, all its content will be lost.*

## 11.4 COPYING AND DUPLICATING A FILE (COPY function)

Another useful function is duplication. You can copy the same file on two different memories, or duplicate the file on the same memory.
To recall this function, select the COPY FIELD from the FILE MANAGEMENT menu.

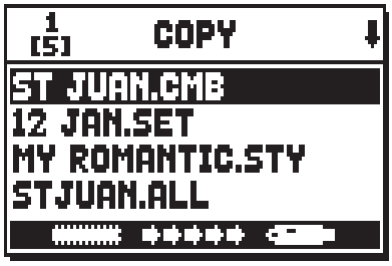



Now select the memory unit (**FROM** field), which contains the file to copy (from now on named "source") and the unit memory you wish to save the file in (**TO** field, called from now on "destination").
Once again, the available memories are an external flash drive ("USB PEN DRIVE" in the video page) or INTERNAL MEMORY. To select, use the [VALUE +] and [VALUE -] buttons.

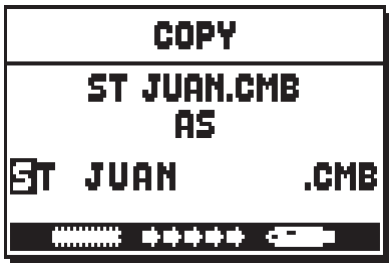
Copy from internal memory to pen drive.

Copy from pen drive to internal memory.

Now press [ENTER] to continue. The display shows all the files inside the source memory.

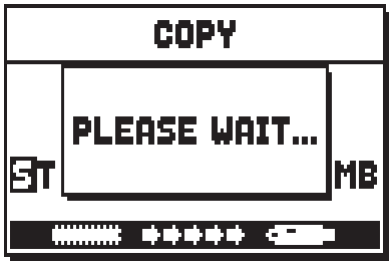



Use [FIELD ▲] e [FIELD ▼] to select the source file, then press [ENTER]:

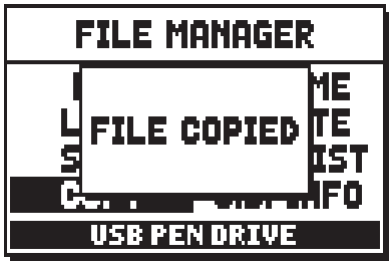



The system will now ask for a new file name. It needs not to be different from the original name.
To write the file name, move the cursor on the first letter with [FIELD ▲] and [FIELD ▼] and then select the character with [VALUE +] and [VALUE -].

Press [ENTER] to start saving:




When the copy is complete:



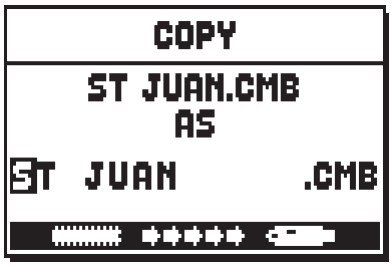

If there is a file with the same name in the same memory, the system will ask you to overwrite (the old file) or rename (the new file).

Press [ENTER] to save and overwrite, or [EXIT] to cancel an go back to the name composition screen.

**N.B.:**
- *The content of an overwritten file will be completely lost.*
- *The system does not allow two .mid files on the same memory to have names beginning with the same three characters.*

As stated above, the COPY function is also able to create two or more copies of the same file in the same memory unit. It can be used to create backup files. To do so, select the copy function:

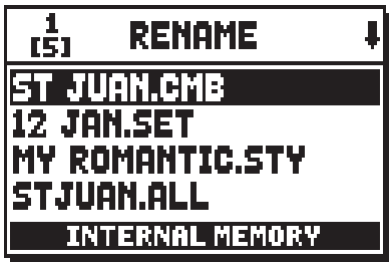
Select the same memory both as source and destination. (e.g FROM INTERNAL MEMORY TO INTERNAL MEMORY). Now choose a new file name.



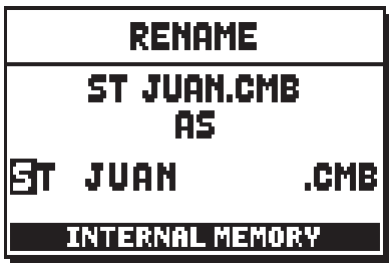

This time, you need to give it a new name, as it is impossible to store two files with identical name in the same memory unit. Also, you cannot change extension.
Write the file name as described above. If a file of the same name is already present, the display will show this error message:

## 11.5 RENAMING FILES (RENAME function)

To rename a file, select the RENAME field, under the FILE MANAGEMENT menu. The display will show all the files in the current memory unit.




Select the file you wish to rename:




To modify a name, use [FIELD ▲] e [FIELD ▼] to select the character, and [VALUE +] and [VALUE -] to change it.

Then press [ENTER] to confirm.

If there is already a file of the same name in your memory unit, the display will show:

Press [ENTER] to overwrite the old file or [EXIT] to quit and return to the file rename screen.

**N.B.:**
- *The content of an overwritten file will be irreparably lost.*
- *The first three characters of a .mid file name must be digits, followed by "_".*
- *The system does not allow two .mid files on the same memory to have names beginning with the same three characters.*

## 11.6 DELETING FILES (DELETE function)

When you wish to eliminate one or more files from the current memory, recall the DELETE function from the FILE MANAGEMENT menu.

Press [FIELD ▲] and [FIELD ▼] to scroll the file list and select the file you intend to delete, then press [ENTER] (see next page).

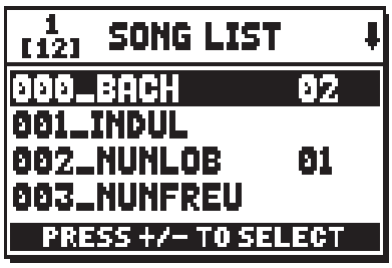
Press [ENTER] again to confirm and delete, or [EXIT] to return to the file list.

**NOTA**
*When a file is deleted, its content is irreparably lost.*

## 11.7 EDITING OF LISTS OF SONGS (SONGLIST function)

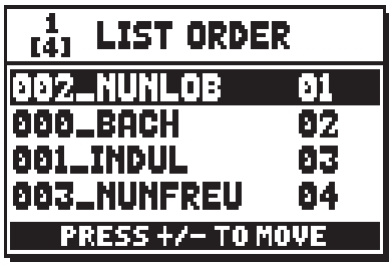
The organ function **SONGLIST** is used to create and save lists of music pieces (MIDI files).
To program a list of pieces, recall the FILE MANAGEMENT menu and select the SONGLIST function; the system asks whether you wish to create a new one or modify an existing one:

Select the [NEW LIST] field to create a new list, or select an .lst file to modify the list it contains.
In both cases, the first operation is to select the pieces you wish to include in the list:




Use the [FIELD ▲] and [FIELD ▼] buttons to select the MIDI file, [VALUE +] to add it to the list and [VALUE -] to remove it. Its position within the list appears beside the name of the file. Now press [ENTER] to continue the programming or [EXIT] to abort, in this case the system requests a confirm to proceed with the quit:

Then arrange the pieces within the list (or confirm the previous programming):




To move a piece into a different position, locate the cursor on the relative field of the file with the [FIELD ▲] and [FIELD ▼] buttons and use [VALUE +] to move the position forward or [VALUE -] to set an earlier position. Finally, press [ENTER] to save the list or [EXIT] to return to the previous video page.

As for MIDI files, the first three characters can only be numbers.
To enter the name, use the [FIELD ▲] and [FIELD ▼] buttons to move the cursor and [VALUE +] and [VALUE -] to select the character.
Press [ENTER] to confirm the name and proceed to save, or [EXIT] to return to the previous video page.

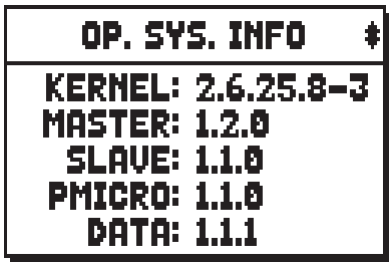
**NOTE**
*If you wish to rename .lst files saved to the USB stick using a computer, always make sure that the names are shorter than 12 characters (either numbers or letters) and that all letters, included the file extension, must be lower case.In add of this please pay attention to do not delete the first three characters and the "_".*

## 11.8 OPERATING SYSTEM VERSION (O.S. INFO function)

To check what release of the operating system is currently running in your instrument, select the O.S. INFO field from the FILE MANAGEMENT menu. To check if there are updates and to install them, see chap. 10.4.

The upper section of the screen shows the organ model and version (Europe, USA, UK, Standard, Custom etc.) while the MODEL field shows the identification number of your organ.

The RELEASE field indicates the release of the operating system currently installed.
Since the operating system is divided into several sections, press the [FIELD ▼] button to see the release of each section:




- **KERNEL**: central section of the operating system, it connects the various sections to the hardware.
- **MASTER**: interface beween Kernel and sections.
- **SLAVE**: sound generation.
- **PMICRO**: display and commands (manuals, buttons, stops, pistons).
- **DATA**: memory management.

## 11.9 ERROR MESSAGES – FILE MANAGEMENT FUNCTIONS

**USB PEN ERROR – CAN'T READ/WRITE PEN'S DIRECTORIES**
The system can't initialize the directory of the pen drive. Check that the pen drive is properly connected, and formatted according to the instructions in this manual.

**FILESYSTEM ERROR**
Reading error of the current memory unit. If this occurs with a pen drive, try disconnecting and then connecting it again shortly thereafter. If this doesn't work, try formatting the flash drive using a computer. If this occurs with the internal memory, try again or contact the technical support at the e-mail address service@viscount..

**SOURCE FILE AND NEW FILE COINCIDE – NO OPERATION PERFORMED**
For a file to be copied or rename you need to change its name.

**NO FILES FOUND**
There are no files of that type in the current memory.

If these errors occur, before trying anything else:
- If having problems with an USB pen drive, check that the pen is properly connected, formatted according to the instructions in this chapter, that it is working and that the file in use is not corrupted.
- If having problems with the internal memory, try again and then, if still having problems, contact the technical support at the e-mail address service@viscount.it communicating the error message.

**NOT ENOUGH FREE MEMORY SPACE - PLEASE DELETE SOME FILE IN USB PEN DRIVE**
**NOT ENOUGH FREE MEMORY SPACE - PLEASE DELETE SOME FILE IN INTERNAL MEMORY**
There is not enough free memory on the select unit to copy or save the file(s). Erase older files in the internal memory or use an external USB drive with more free space.

**FILE COPY FAILED – CAN'T RENAME SOURCE FILE**
The system can't rename the file.
Please remember that .mid and .lst files need have the first three characters different from any other .mid and .lst file.

**FILE COPY FAILED – CAN'T READ SOURCE FILE'S PROPETIES**
The system can't read the file.

**FILE COPY FAILED – SOURCE FILE IS NOT A REGULAR FILE**
The copy failed because the file is not standard (it might be a directory or a link).

**FILE COPY FAILED – CAN'T OPEN SOURCE FILE**
The system can't open the file that it is trying to copy.

**FILE COPY FAILED – CAN'T READ SOURCE FILE**
The system can't read the file that it is trying to copy.

**FILE COPY FAILED – CAN'T OPEN DESTINATION FILE**
The system failed to create the new file.

**FILE COPY FAILED – CAN'T WRITE DESTINATION FILE**
The system failed to write the new file.

**FILE RENAME FAILED**
The system failed to rename the file.

**FILE DELETED FAILED – CAN'T REMOVE SELECTED FILE**
The system failed to delete the file.

**FILE DELETED FAILED – CAN'T REMOVE FILE TO BE REPLACE**
The system failed to delete a file while trying to rename or overwrite a file.

**FILE SAVE FAILED – CAN'T CREATE FILE**
The system failed to save a file, because it could not create a new file.

**FILE SAVE FAILED – CAN'T WRITE FILE'S HEADER**
The system failed to save a file, it could not write the file's header.

**FILE SAVE FAILED – CAN'T WRITE FILE'S DATA**
The system failed to save the file because it couldn't write the file's data.

**FILE LOAD FAILED – CAN'T OPEN FILE**
The system failed to load a file, the desired file could not be opened.

**FILE LOAD FAILED – CAN'T READ FILE'S HEADER**
The system failed to load a file, its header was impossible to read.

**FILE LOAD FAILED – FILE'S LENGTH CHECK FAILED**
The file load failed because the actual file length is different from what stated in the header.

**FILE LOAD FAILED – INVALID VERSION NUMBER**
File load failed because the file has been generated with a newer and not compatible release of the operating system.

**FILE LOAD FAILED – CAN'T READ FILE'S DATA**
The system failed to load a file, its data could not be read.

**FILE LOAD FAILED – INVALID FILE'S CHECKSUM**
The system could not load a file. The checksum test failed.

**FILE LOAD FAILED – INVALID FILE'S CHECKSUM**
The system could not load a file. The checksum test failed.

**CLOCK NOT SET TO PROPER DATE/TIME, PLEASE CHECK/SET DATE & TIME**
The system clock has not been adjusted to the current time / date, so the files will be saved with the wrong time / date. To adjust the time and date use the SET DATE & TIME function in the UTIL & MIDI menu.

**RTC CHIP MALFUNCTION, DATE & TIME NOT AVAILABLE, PLEASE CALL FOR SERVICE**
The chip that calculates time and date is not working, so the files will be saved with the wrong time and date. Contact technical assistance at the e-mail address service@viscount.it indicating the error message displayed.

# 12. PLAYING and RECORDING OF MUSICAL SEQUENCES (SEQUENCER)

The organ is equipped with an internal sequencer (digital recorder). The sequencer can record songs played on the instrument, controls used and MIDI data received through the MIDI [IN] port.
Recordings can then be saved on the USB stick or in the internal memory as MIDI files (Standard MIDI file, format 1 to 125 beats per minute, 384 ticks per quarter note) and played back at any time.
Song lists can also be played. To program playlists, see per. 11.7.
To recall the sequencer press the [SEQUENC.] button beside the display. The screen for selection of the system's three operating modes is displayed:

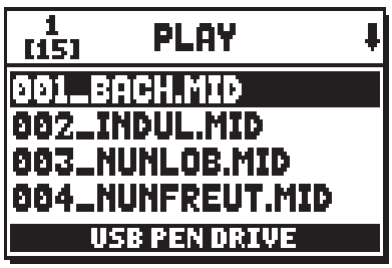
- **PLAY**: playback of the performances saved in the internal memory or the USB pen (par.12.1)
- **PLAY OPTIONS**: options for playing back pieces (par.12.3).
- **RECORD**: recording of pieces of music (par. 12.2).

The memory unit currently used appears in the bottom of the screen. Remember that the USB stick has priority over the internal memory; to use the latter, first remove the USB device.

**NOTES:**
- *Once the USB pen is inserted please wait a few seconds before recalling the sequencer.*
- *Transposition set in the TUNING menu does not have any effect on playback of pieces (unlike recording, where the notes are acquired transposed). To do this you have to set the transposer described on par. 12.3.*
- *If using a pen drive, remember to format it with FAT or FAT32 (no NTFS) file system.*

## 12.1 PLAYING BACK A PIECE (PLAY mode)

In the sequencer mode selection screen described above, select the PLAY field. The display shows the MIDI files stored in the memory unit currently in use:



Now select the MIDI file you wish to play back:

The new screen provides information about all the controls necessary for use of the sequencer:
- **[ENTER]:** starts playback of the piece.
- **[EXIT]**: quits the sequencer function.
- **[FIELD ▲]**: selects the previous piece saved in the memory or transferred to a Songlist (see point 11.7).
- **[FIELD ▼]:** selects the next piece saved in the memory or transferred to a Songlist (see point 11.7).
- **[VALUE -]** (press and hold): rewind.
- **[VALUE +]** (press and hold): fast forward.
- **[VALUE -]** (press once): slow down play speed. It can be seen on top left as percentage (100 in the picture above).
- **[VALUE +]** (press once): increase play speed. It can be seen on top left as percentage (100 in the picture above).

Once the playback of a song has been started, the display changes to:

as the screen shows, the functions of the [**ENTER**] and [**EXIT**] buttons have changed to:
- [**ENTER**]: pause /restart playback of the piece.
- [**EXIT**]: stop playback of the piece.

[FIELD ▲], [FIELD ▼], [VALUE -], [VALUE +] keep the functions already described.

## USING RECORDED AND/OR MODIFIED PIECES WITH DEDICATED SOFTWARE

MIDI files recorded by the internal sequencer can be modified with the most common MIDI editing softwares. This might prove useful to correct errors of the recording or to generally improve the track. **However, we strongly advice inexperienced users not to do so.** When modifying a MIDI file, please follow these rules:

- Do not modify the tracks channel. If it necessary, respect the internal sequencer channelling. The sections are channelled as follows:
  - Pedal: 1
  - Choir: 4
  - Great: 2
  - Swell: 3
  - Solo: 5

The internal sequencer also assigns a name to the track while recording, that corresponds to the sections playing a track. Most computer software can read the track names:

- "Pedal" track
- "Choir" track
- "Great" track
- "Swell" track
- "Solo" track
- "Volumes" track: divisional volumes and expression pedals
- "Stops" track: stops conditions

There are other tracksfor internal use and future developments only, that should not be altered.

- Divisional modules are recorded as Control Change 7 events. Expression pedals position as Control Change 11. These Control Change channel are identical to the previous ones.
- The stops settings, together with cancel, enclosed, coupling settings etc. are recorded as Exclusive System. We advice you not to alter these codes. If you wish to add or remove stops from a recording, you should know its exclusive system code. To do so, you should monitor the MIDI OUT port of the organ and, switching on and off a stop, check the MIDI code transmitted. Add or remove this code only from the "stops" track.
- When saving the MIDI file do not change the resolution of 384 tpqn (tick per quarter note).

The sequencer can also paly non-recorded tracks. Again, keep in mind that:

- The track channelling may not be consistent with the internal sequencer. Reset the channels according to what described above.
- Stop codes might not be present in a MIDI track. In this case we advice you overdub (see par. 12.2) with the desired stop combination.
- Divisional volumes and expression pedals may be lacking from a MIDI track. Again, we advice you overdub the tracks.

## 12.2 RECORDING A PIECE (RECORD mode)

In the sequencer mode video page, select the RECORD field. The display will show:

select [NEW SONG] to start a new recording. Otherwise, a MIDI file can be loaded to overdub it, or in other words make a new recording which will be added to the performance already recorded.

As in Play mode, the screen again carries information about the functions of the buttons:
- **[ENTER]**: starts the recording.
- **[EXIT]:** quits the sequencer function.

Once recording has started, the functions change to:

- **[ENTER]**: pause /restart recording.
- **[EXIT]**: stop recording.

Press [EXIT] to end the session. The display will show the screen allowing the recording just made to be saved:

The functions displayed allow:
- **SAVE:** saving of the recording as a MIDI file.
- **PLAY:** playback of the recoding before saving it.
- **OVERDUB:** creation of a new recording to be added to the sequence just acquired.
- **DISCARD AND EXIT:** delete the recording and quit sequencer Record mode.

If the SAVE field is selected, the system prompts the user to assign a name to the MIDI sequence about to be saved:

When composing the name, use the [FIELD ▲] and [FIELD ▼] buttons to move the cursor and [VALUE +] and [VALUE -] to select the character. The first three characters can only be numbers, since they are required for future expansions of the instrument.
To confirm the name and proceed to save the data, press the [ENTER] button; use [EXIT] to return to the previous screen, aborting the saving operation.

The following message confirms that the file has been saved:

If [EXIT] is pressed while in the save screen (i.e. when the recording has been acquired but not saved), the system warns that the recording is about to be lost:

and that [ENTER] must be pressed to confirm that you wish to quit and delete the data acquired, or [EXIT] to return to the save screen.

**NOTE**
*If you wish to rename .mid files saved to the USB stick using a computer, always make sure that the names are shorter than 12 characters (either numbers or letters) and that all letters, included the file extension, must be lower case.In add of this please pay attention to do not delete the first three characters and the "_".*

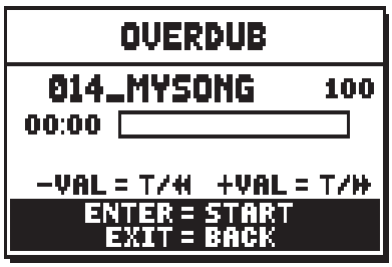
## OVERDUBBING

The internal sequencer record, play, but also overdub already recorded MIDI tracks. It can be done:
- selecting a MIDI file from the current memory unit, from the RECORD function;
- at the end of a recording session, accessing the OVERDUB function.

The system will ask whether to substitute the settings (stops, coupling, tremulant, MIDI controls, general controls) recorded in the track with the ones currently selected. Press [ENTER] to use the new settings or [EXIT] to leave them as they are.

The system will ask the same question, this time regarding the divisional volumes and expression pedals.

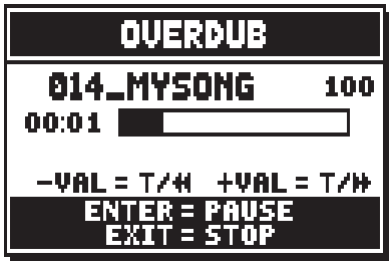
Now the sequencer is ready to overdub:




The screen carries information about the functions of the buttons:

- **[ENTER]**: start recording.
- **[EXIT]**: leave the sequencer.
- **[VALUE -]**:(press once): decrease play /recording speed. It can be seen on top left as percentage (100 in the picture above).
- **[VALUE +]** :(press once): increase play / recording speed. It can be seen on top left as percentage (100 in the picture above).
- **[VALUE -]**: (press and hold): rewind.
- **[VALUE +]**: (press and hold): fast forward.

As the recording begins, the controls change again:

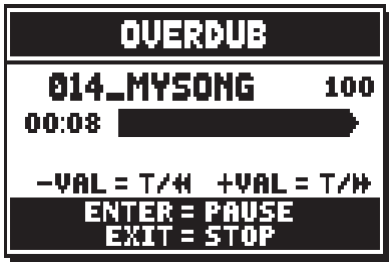



- **[ENTER]**: pause / start recording.
- **[EXIT]**: stop recording.

[VALUE +] and [VALUE -] maintain the functions described above.

**NOTES**
- *When overdubbing tracks with changing tempo, it is impossible to rewind or Fast Forward while recording. However, it can be done when paused.*
- *After the overdubbing has been started, it is impossible to change the play speed. However, it can be done when paused or stopped.*

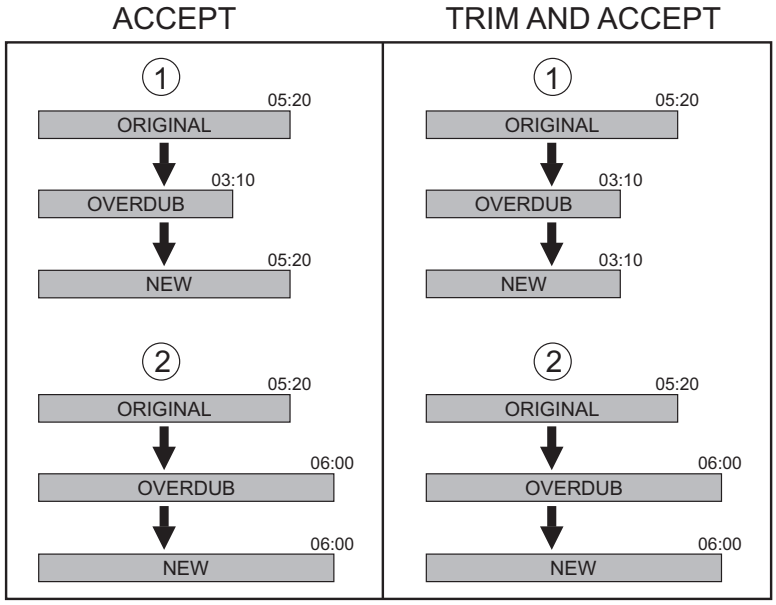
Note that when the original piece ends, the overdubbing does not stop. To warn you of this, the advancement bar changes to:




Press [EXIT] to quit the recording. The system will ask you to accept the overdubbing:

You can choose one of the following options:

- **ACCEPT**: accept the overdubbing. In case the overdub track is shorter than the original piece, it will not be shortened.
- **TRIM AND ACCEPT**: accept the overdubbing. If the overdub track is shorther than the original piece, this will be trimmed to end together with the overdubbing.
- **PLAY**: play the piece with the overdubbing, so as to assess the track. The changes will not be saved yet.
- **PLAY FROM LAST OVD** (overdub): plays the piece, starting from the first event of last overdubbing, so as to assess the track. The changes will not be saved yet.
- **DISCARD**: discards the overdubbing.

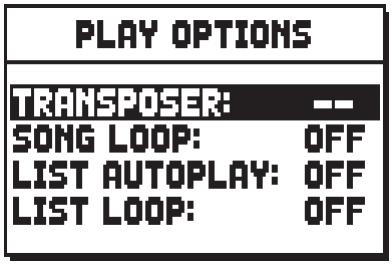


Press [EXIT] to quit the screen. The display will show:

Warning you that the overdubbing will be lost. Press [ENTER] to continue – and therefore discard the recording – or [EXIT] to return to the previous screen.
Select ACCEPT or TRIM AND ACCEPT to move to the saving screen. Now it is possible to save the piece with a different name.
Selecting PLAY or PLAY FROM LAST OVD will activate the sequencer play mode. Press [EXIT] to return to the previous screen.

## 12.3 PLAY OPTIONS OF THE SEQUENCER (PLAY OPTIONS menu)

Select the PLAY OPTIONS field. The menu offers several options:




- **TRANSPOSER:** sets a semitone transposition on the pieces played by the sequencer.
- **SONG LOOP:** select YES to automatically loop any song.
- **LIST AUTOPLAY:** select YES to automatically play the next song when the previous is over, without pressing the [FIELD ?] button. Only works with song lists.
- **LIST LOOP:** select YES to automatically loop a song list.

## 12.4 ERROR MESSAGES – SEQUENCER

**FILESYSTEM ERROR**
An error occurred while reading from the current memory unit. If the unit is a pen drive, try disconnecting it and reconnecting it shortly thereafter. If nothing changes, try formatting your pen drive using a computer. If the error occurs in the internal memory, try again, then get in touch with the technical assistance at e-mail address service@viscount. Remember to always communicate the error message.

If these errors occur, before trying anything else:
- If having problems with an USB pen drive, check that the pen is properly connected, formatted according to the instructions in this chapter, that it is working and that the file in use is not corrupted.
- If having problems with the internal memory, try again and then, if still having problems, contact the technical support at the e-mail address service@viscount.it communicating the error message.

**NO FILES FOUND**
The current memory unit does not contain files of the requested kind.

**NOT ENOUGH FREE MEMORY SPACE - PLEASE DELETE SOME FILE IN USB PEN DRIVE**
**NOT ENOUGH FREE MEMORY SPACE - PLEASE DELETE SOME FILE IN INTERNAL MEMORY**
There is not enough free memory on the select unit to save the file. Erase older files in the internal memory or use an external USB drive with more free space.

**SONG LOAD FAILED – CAN'T READ FILE'S PROPERTIES**
The system failed to load a MIDI file. The system cannot read the file's properties.

**SONG LOAD FAILED – THE MIDI FILE IS TOO BIG**
The system failed to load a MIDI file. The instrument cannot read .mid files bigger than 400 Kb.

**SONG LOAD FAILED – THE MIDI FILE IS CORRUPTED**
Uploading the .MID file failed. The .MID file is damaged.

**SONG LOAD FAILED – CAN'T OPEN THE MIDI FILE**
The system failed to load a MIDI file. The system cannot read the file.

**SONG LOAD FAILED – CAN'T READ THE MIDI FILE**
The system failed to load a MIDI file. The system cannot read the file that has to be copied.

**SONG SAVE FAILED – CAN'T REMOVE EXISTING SONG**
The system failed to save a .mid file. The system wasn't able to delete the file that has to be removed.

**SONG SAVE FAILED – CAN'T OPEN THE MIDI FILE**
The system failed to save the .mid file. It could not open the file that has to be overdubbed.

**SONG SAVE FAILED – CAN'T WRITE THE MIDI FILE**
The system failed to save the .mid file. It could not write the file.

**SONGLIST LOAD FAILED – CAN'T OPEN FILE**
The system failed to load the .lst file. It could not open the file.

**SONGLIST LOAD FAILED – CAN'T READ SONGS' NUMBER**
The system failed to load the .lst file. It could not read the number of .mid files in the list.

**SONGLIST LOAD FAILED – CAN'T READ SONG'S FILENAME**
The system failed to load a .lst file. The number of .mid files indicated in the song list is different from the actual number of .mid files present.

**SONGLIST LOAD FAILED – EMPTY SONGLIST**
The system failed to load the .lst file. The list is empty. It is likely that the file was not created through the proper function in the FILE MANAGEMENT menu (see par. 11.7).

**CLOCK NOT SET TO PROPER DATE/TIME, PLEASE CHECK/SET DATE & TIME**
The system clock has not been adjusted to the current time / date, so the files will be saved with the wrong time / date. To adjust the time and date use the SET DATE & TIME function in the UTIL & MIDI menu.

**RTC CHIP MALFUNCTION, DATE & TIME NOT AVAILABLE, PLEASE CALL FOR SERVICE**
The chip that calculates time and date is not working, so the files will be saved with the wrong time and date. Contact technical assistance at the e-mail address service@viscount.it indicating the error message displayed.

# 13. STOP LOCAL OFF

Setting a stop in Local Off mode means that it will not be played by the organ's internal sound generation system, but the relative MIDI (System Exclusive code) message will be transmitted, so that it can be turned on and played on a connected instrument.
To set a stop in Local Off mode press, while the main screen is on the display, the [S] (Set) piston, keep it pressed and also press the [C] (Cancel) button. The LEDs of all the stops will light up and the display will show the video page:

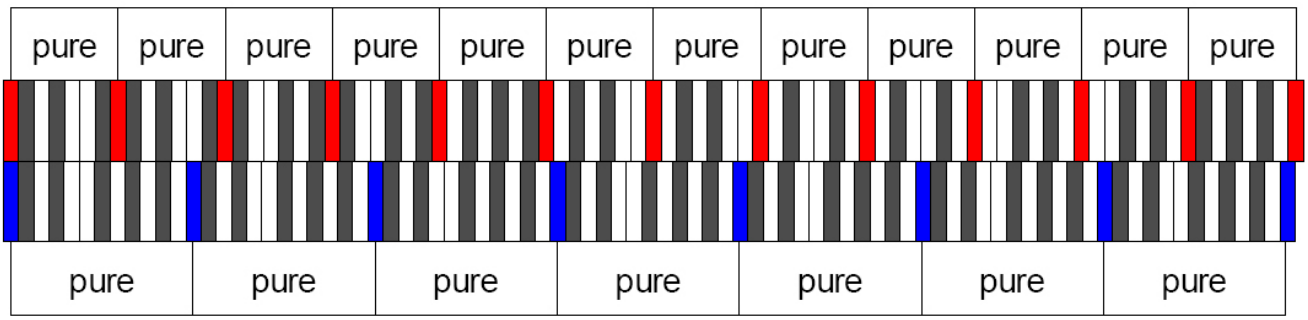
To set a voice in Local Off mode, operate its draw-stop or rocker switch so that its light goes out.
After setting the setup required, press [S] and [C] together to save it.
Accessing the Local Off setting function after this will trigger display of the status of the stops as follows:

- Light on: stop in Local On mode (plays with internal generation)
- Light off: stop in Local Off status

# 14. APPENDIX

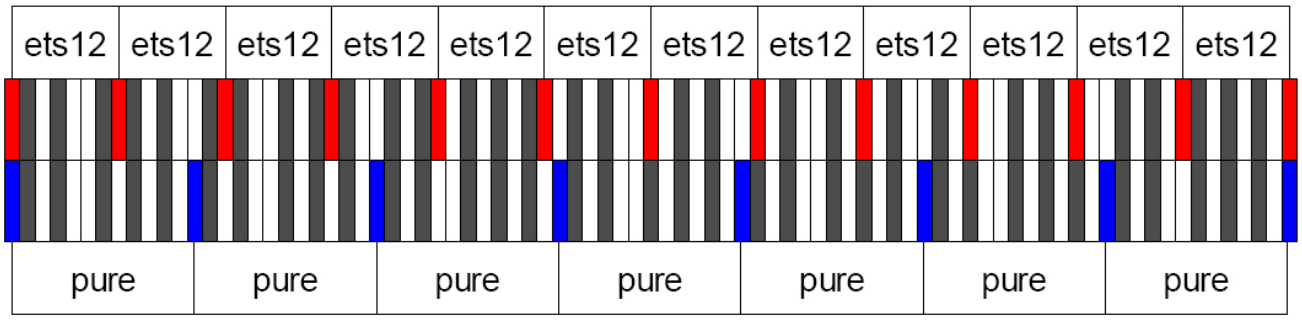
## 14.1 TEMPERAMENT

Tuning a fixed intonation instrument (e.g. organs) consists of creating a chain of twelve fifths, properly crafted so that at the extremes the interval can be reduced, through division or multiplication, to a perfect octave. A perfect fifth is achieved when two sounds have a frequency ratio of 3:2. If from any sound we calculate twelve ascending perfect fifths, the sound obtained is $(3/2)^{12}$. With 7 octaves instead, the result is a $2^7$ frequency. If we compare these values we find that $(3/2)^{12}$ is slightly higher than 27. Rounding off after the fourth decimal, we find that:
$(3/2)^{12}$=129,7463 , while $2^7$ = 128,0000. The ratio between these two value is called **Pythagorean comma**. It can be defined as the surplus of twelve perfect fifth compared to seven octaves, both starting from the same sound.

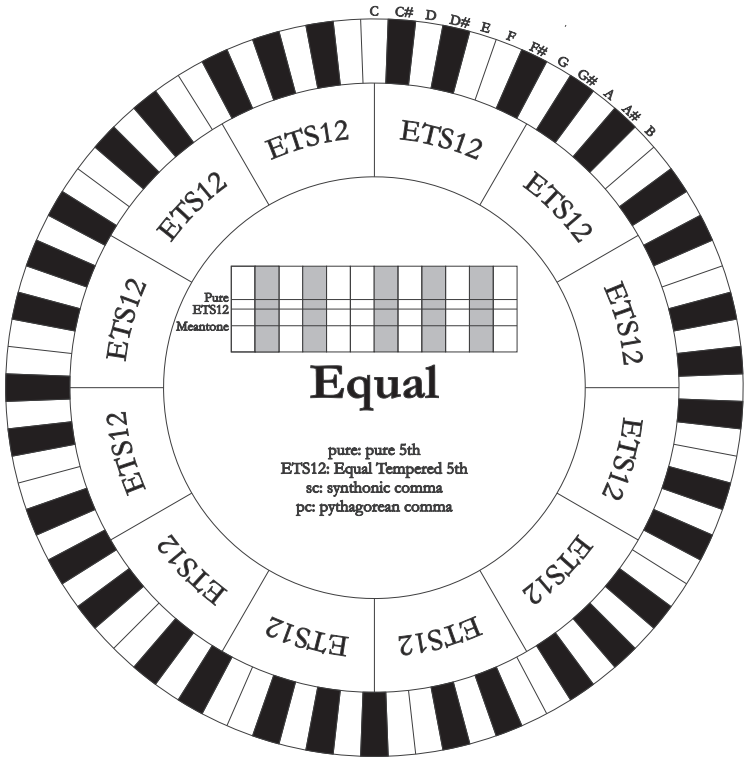


The picture is not in scale (otherwise the comma would be almost invisible) but it gives a graphical understanding of the problem.

Now, dividing the Pythagorean comma in 12 equal parts, and subtracting this value to each pure fifth, the result is a twelve-fifth chain, ending with the same value as seven octaves.




This is the Equal Temperament System (with the comma split in twelve parts).



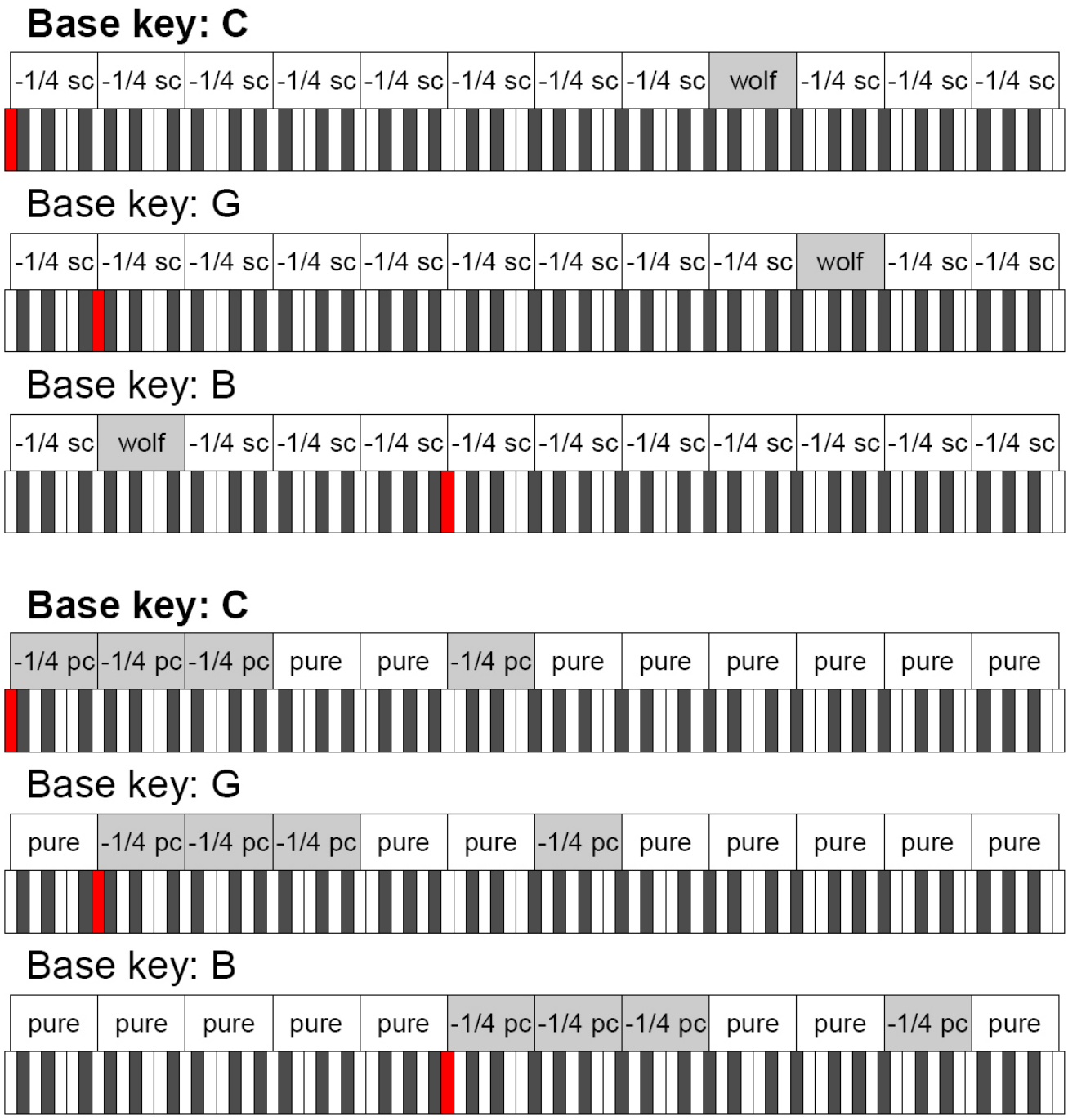

The Pythagorean comma can be split in larger parts and divided among a few (less than 12) fifths. This leads to other temperaments, such as the Werckmeister III, which spreads the comma in four, equal parts, between C-G, G-D, D-A, and B-F#.

A very important interval in the history of tuning is the major third. A chain of four pure fifths makes (3/2)^4. A major third interval is represented by a 5/4 ratio. Therefore, rounding off, the frequency of a major third, generated by Pythagorean fifths is 1,2656, while a natural major third is 1,2500. This surplus is called **Syntonic comma**.

A series of four fifths, each one reduced by ¼ of Syntonic comma, makes a perfect major third. These fifths are called "meantone". If a temperament recovers only one syntonic comma, it still needs to compensate the small difference between Pythagorean and syntonic comma. This difference is called **skisma**.

For example, the Kirnberger II temperament is based on the syntonic comma. It spreads the comma equally between D-A and A-E and the skisma between F# and C#.
A series of three natural major thirds makes a frequency of 5/4^3. The difference between that and the octave is called **enharmonic comma**.
When a temperament makes up for more than the Pythagorean comma, usually one fifth is much wider than the rest and becomes unusable. It is called the **wolf fifth**.

The circle of fifths of each temperament can start from any key editing the parameter called Base Key. Follows an explicating graph: in the first half is rapresented Meantone temperament with Base Key set on C, after on G and finally on B. The second half shows Werkmeister temperament with the same three values of the Meantone. With the parameter Base Key set to C each temperament is built exactly as shown in the following circular graphs.

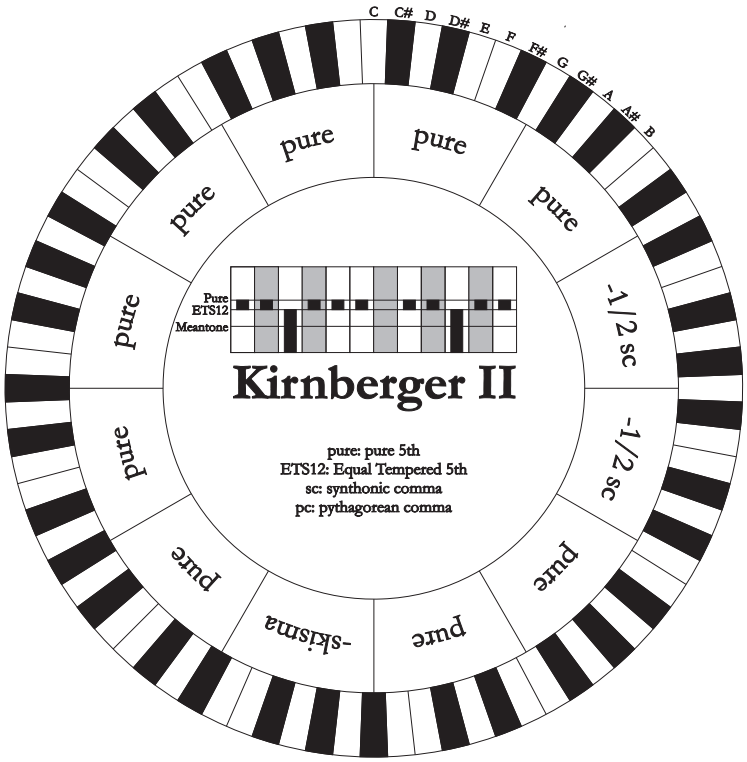



-1/4 sc: a pure fifth narrowed by 1/4 of syntonic comma
-1/4 pc: a pure fifth narrowed by 1/4 of pythagorean comma

## 14.2 TEMPERAMENTS OF THE PHYSIS ORGANS

### KIRNBERGER II

Based on two fifths, reduced by half syntonic comma, and one fifth reduced by a skisma. There are three pure majors: C, G, D. Therefore, the major triads on C and G are pure. Same goes with the minor triads, on E and B. The four major thirds on C#, G#, Eb, Bb are Pythagorean. The coexistence of pure and tempered chords gives a peculiar character to this tuning.

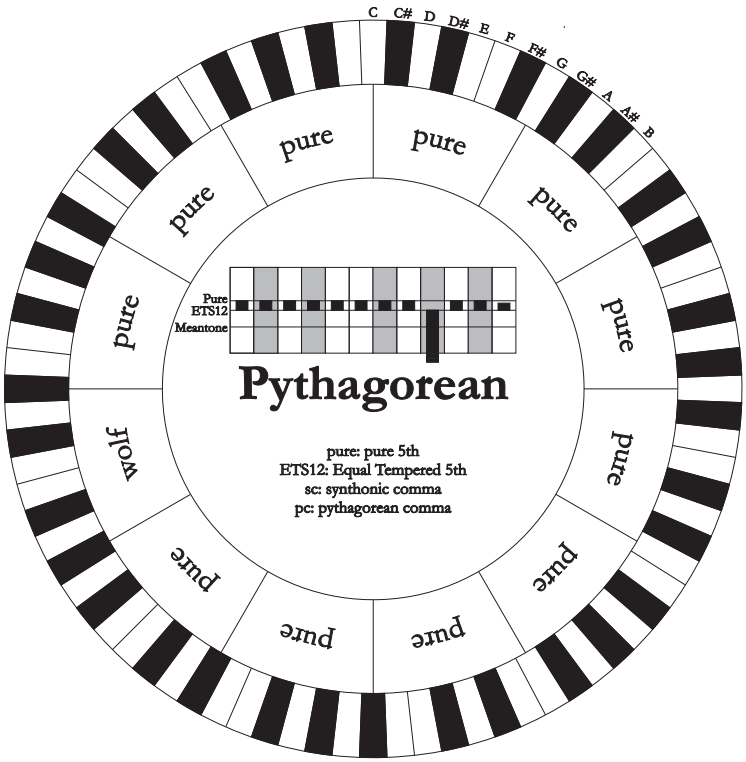



### WERCKMEISTER III

Based on four fifths, each reduced by ¼ Pythagorean comma – the others are pure. Creates three Pythagorean major thirds on: C#, F#, G#. As the number of alteration in the piece performed increases, so does the harmonic tension.

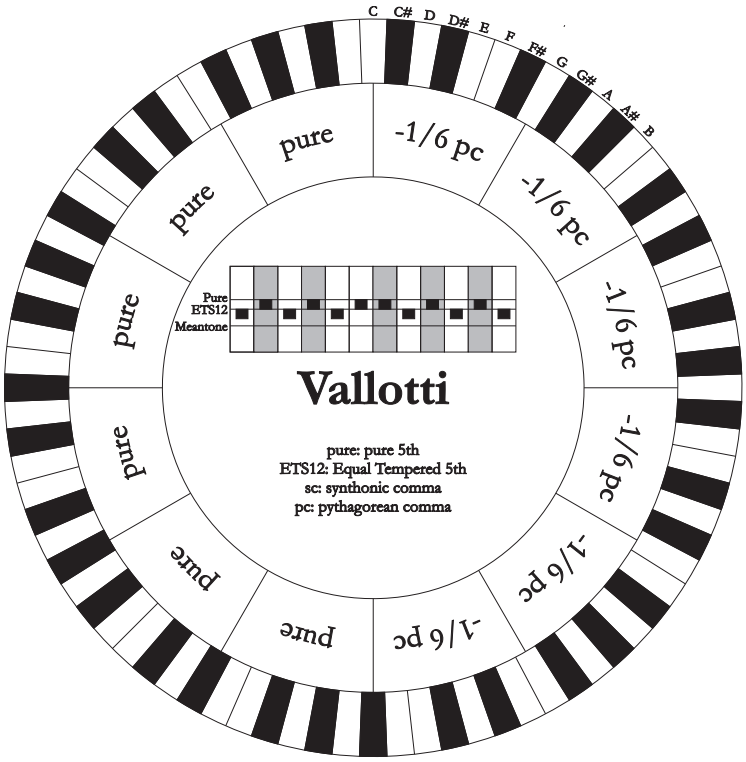
**PYTHAGOREAN**

Based on eleven pure Pythagorean fifths and a wolf fifth on G#. This tuning can be used to play monodies, and music that does not use thirds in general. Most useful for curiosity and educational ends.



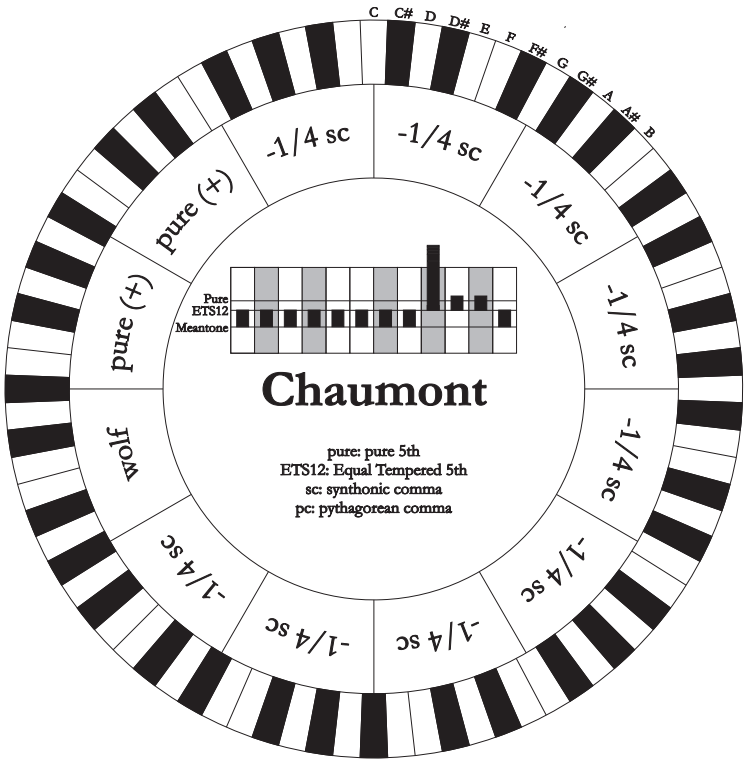

**VALLOTTI**

Based on six fifths, each decreased by 1/6 of Pythagorean comma. The others are pure fifths.
The major thirds on Eb–B, Bb–E, F–A are equivalent, as the ones on C, G and D. Thirds on F#, C# and G# are Pythagorean instead.



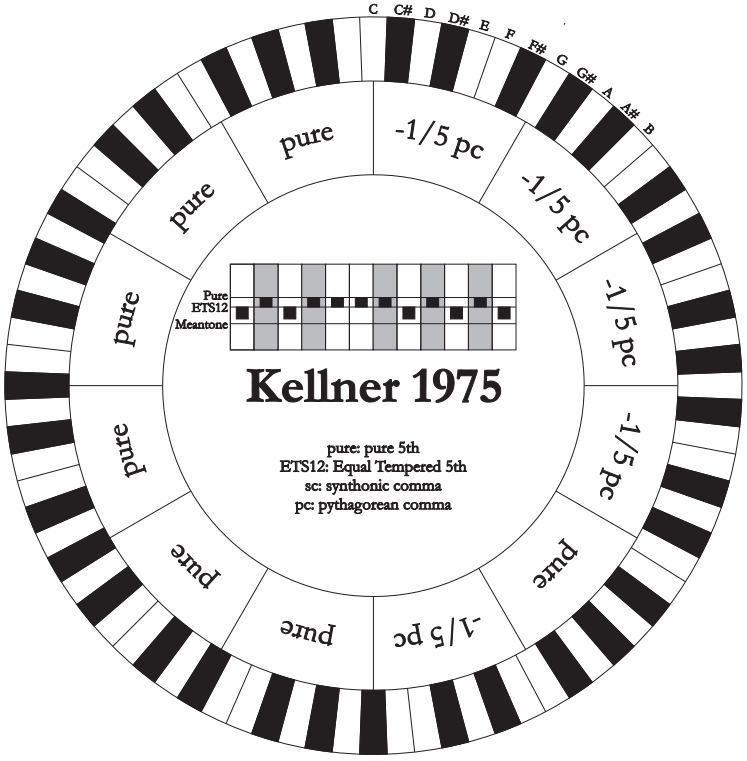
**CHAUMONT**

A meantone temperament; the wolf fifth has been improved by enlarging the fifths on Eb and Bb. There are six pure major thirds: F, C, G, D, A, E. The third major on B, although not very pleasant, can still be used.



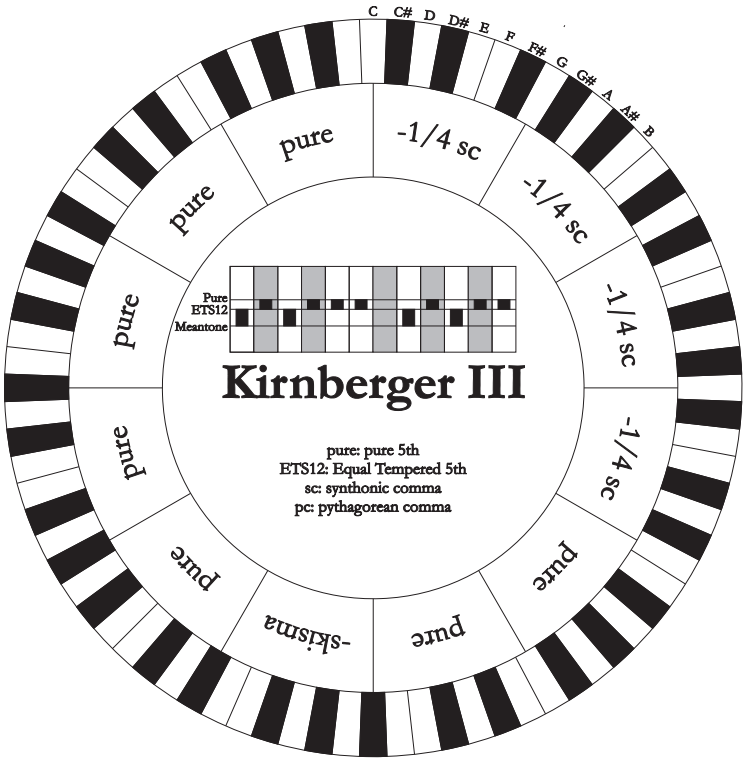

**KELLNER 1975**

This tuning was created by Kellner, who figured out its structure from the symbols on the first page of the "Wohltemperierte Klavier" by Bach, 1722. The tuning is based on five fifths, each reduced of 1/5 of Pythagorean comma. This originates three Pythagorean major thirds, on: C#, F#, G#. None of the thirds is pure. The major third closer to being pure is on C.



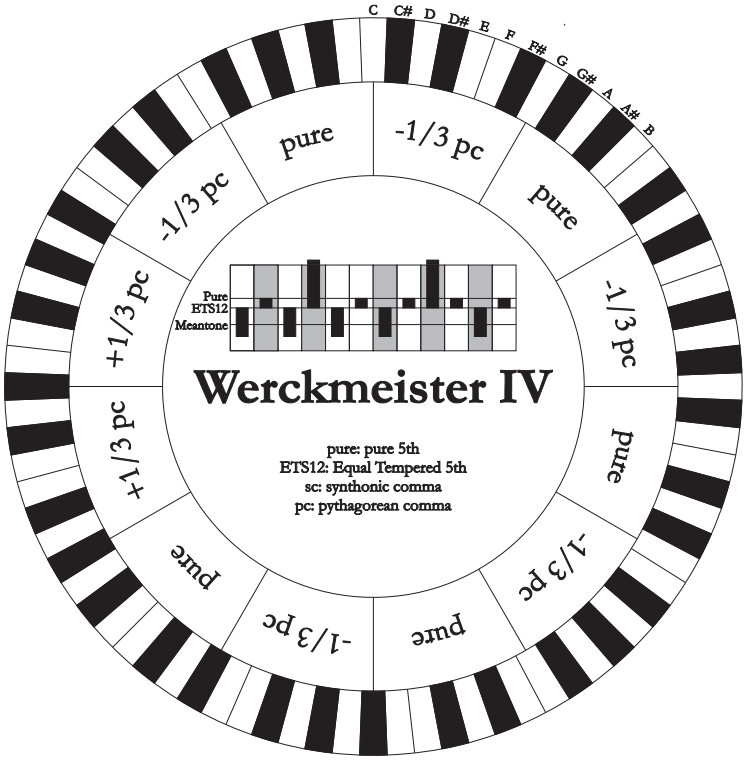
**KIRNBERGER III**

Based on four fifths, each one reduced by ¼ of syntonic comma, and one fifth reduced of the remaining skisma. There is only one pure major third on C. From most to least pure, they are G, D, A and F, Bb, Eb. E, B and F# are equivalent one with the other. Pythagorean major thirds are on C# and G#. Pieces with many alterations are well characterised.




**WERCKMEISTER IV**

Based on five fiths, each *reduced* of 1/3 of Pythagorean comma, and two more thirds *increased* of the same amount. Very pleasant with mostly unaltered tonalities, it becomes "harder" as the alterations increase.

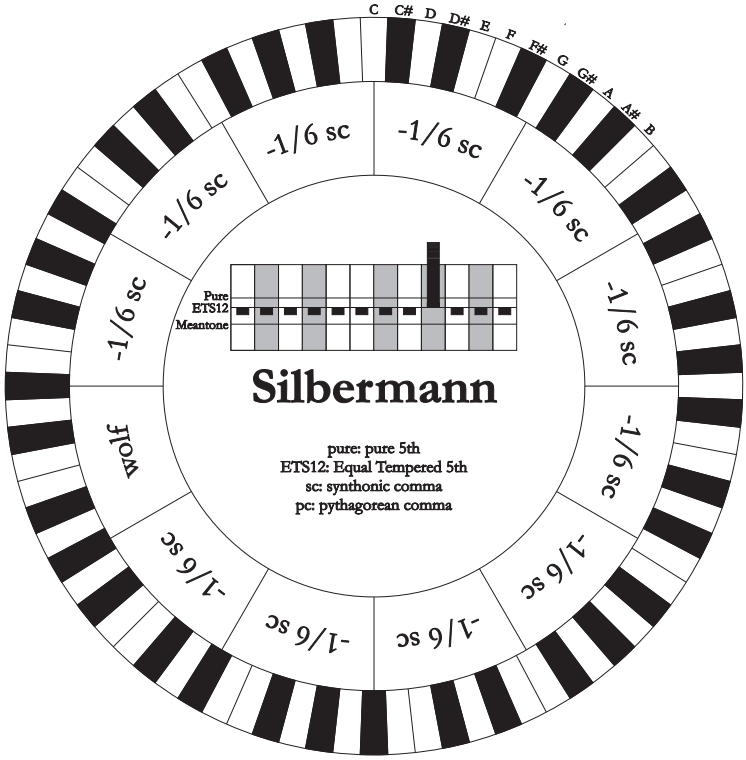


**WERCKMEISTER V**

Based on five fiths *reduced* by 1/5 of Pythagorean comma, and one fifth *increased* of the same amount. This tuning is rarely used as there is no tonality that is much euphonic.

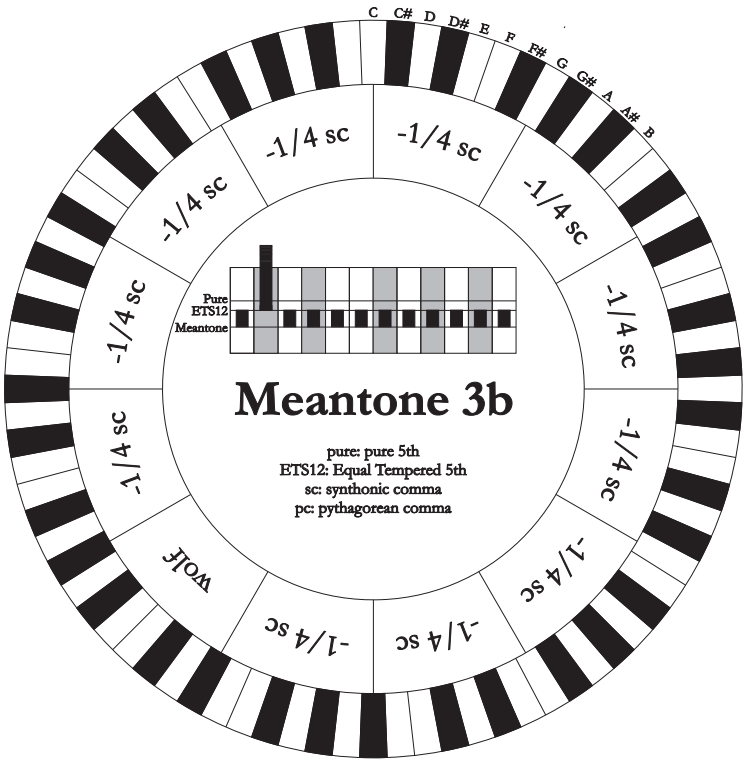
**SILBERMANN**

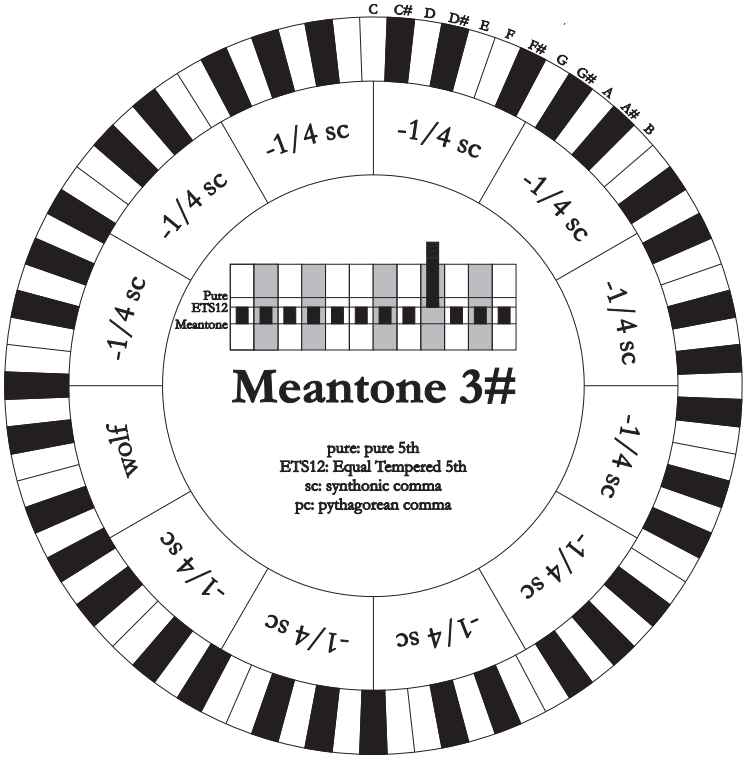
Based on fifths reduced of 1/6 of syntonic comma. Wolf fifth is located on G#. Thirds that in meantone tuning are pure, here are 1/3 syntonic comma wider. The wolf fifth is less prominent, not cacophonic yet not completely acceptable.



**MEANTONE 3b - MEANTONE 3#**

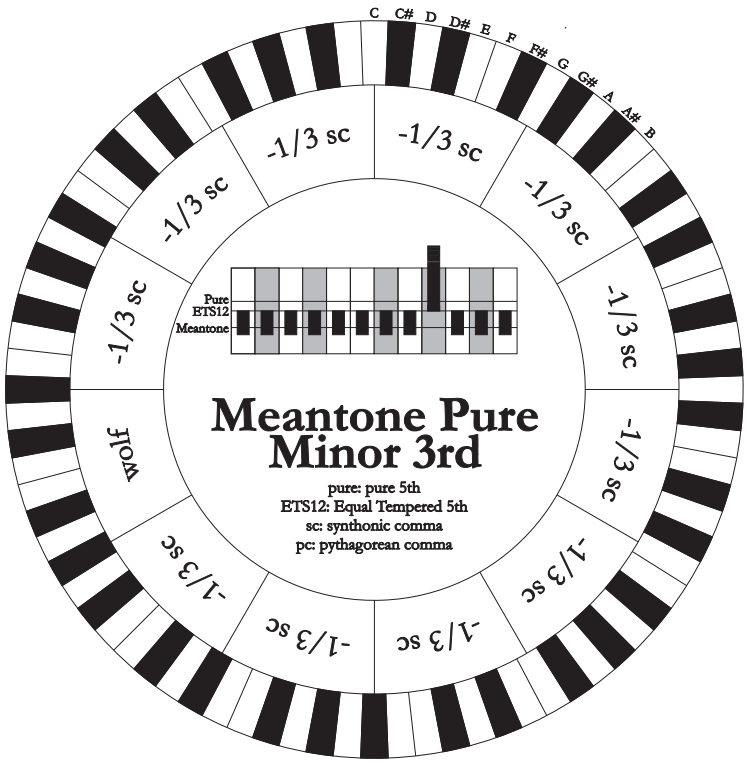
This tuning is the prototype of all temperaments based on fifths reduced by ¼ of syntonic comma.
This generates eight pure major thirds: Eb, Bb, F, C, G, D, A, E. However, the other thirds are unsuable (B, F#, G#). The fifths are defined as meantone fifths: shorter than pure fifths but still sounding well. Only one, G#, fills all the gap created by 11 others and becomes a wolf fifth. Tonalities with little alterations sound very pleasant. Well characterised chromatic scale. Move the wolf on C# to use the G# key as Ab.



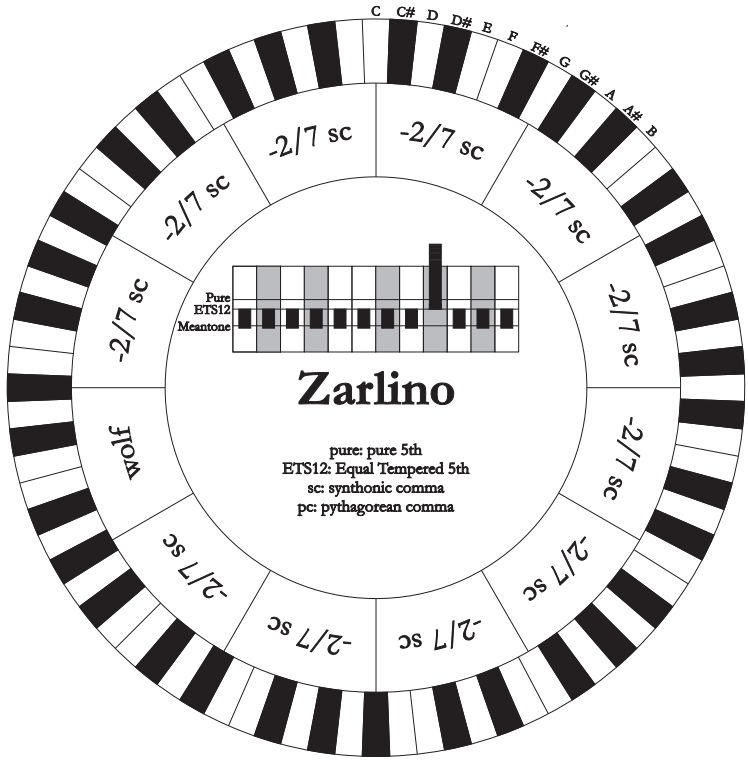
**MEANTONE PURE MINOR 3rd**

This temperament is built with fifths narrowed by 1/3 of syntonic comma. The wolf fifth on G# is very large and completely unusable. The nine minor thirds based on C, G, D, A, E, B, F#, C#, G# are pure.
The eight major thirds based on Eb, Bb, F, C, G, D, A, E, are narrower, with respect to the pure, by 1/3 of syntonic comma. Again in this temperament the chromatic scale has a particular character.



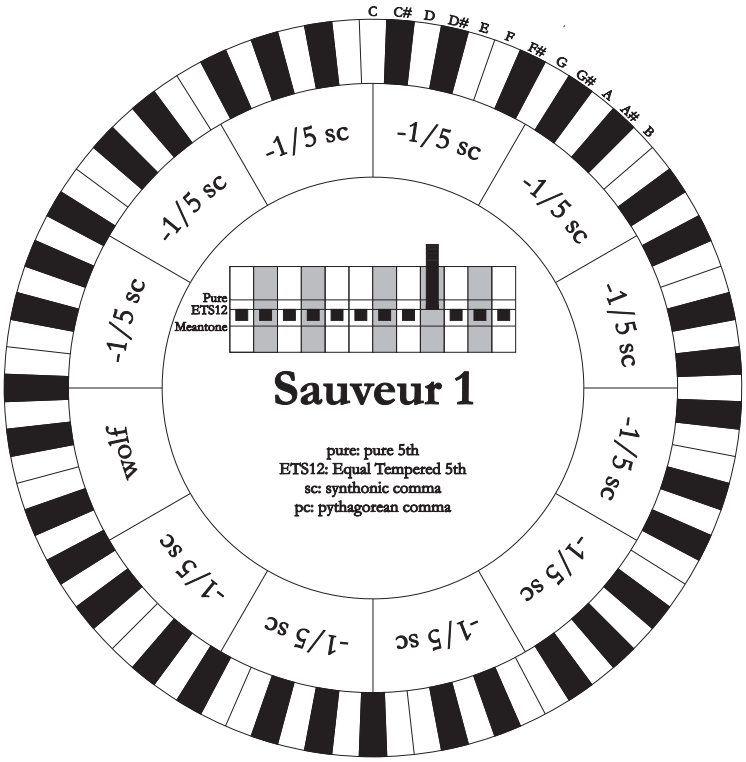

**ZARLINO**

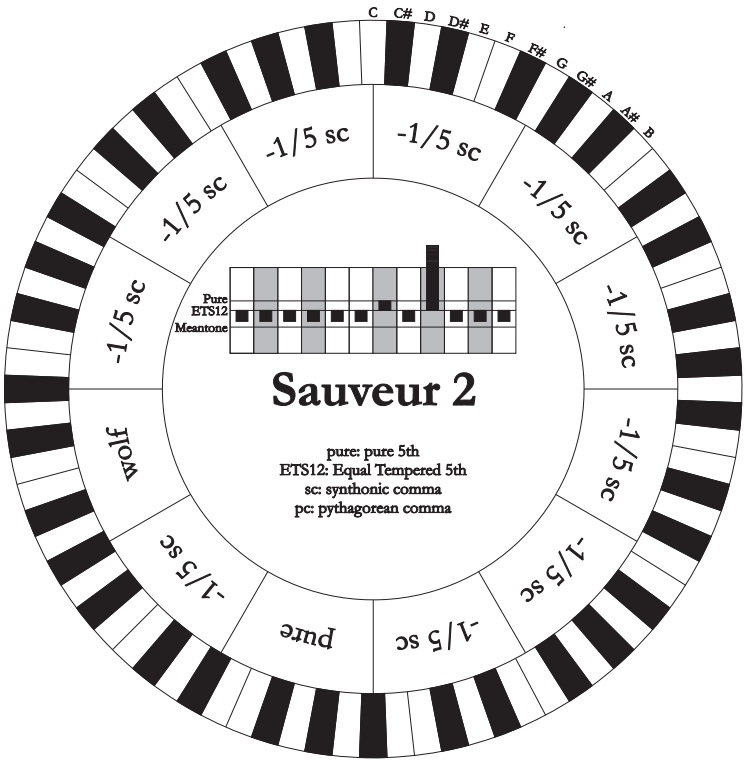
Eleven fifths are reduced by 2/7 of syntonic comma. The wolf fifth, very wide and therefore unusable, lies on G#. Eight third majors are usable and reduced by 1/7 of syntonic comma.
Well characterised chromatic scale.



**SAUVER 1 - SAUVER 2**

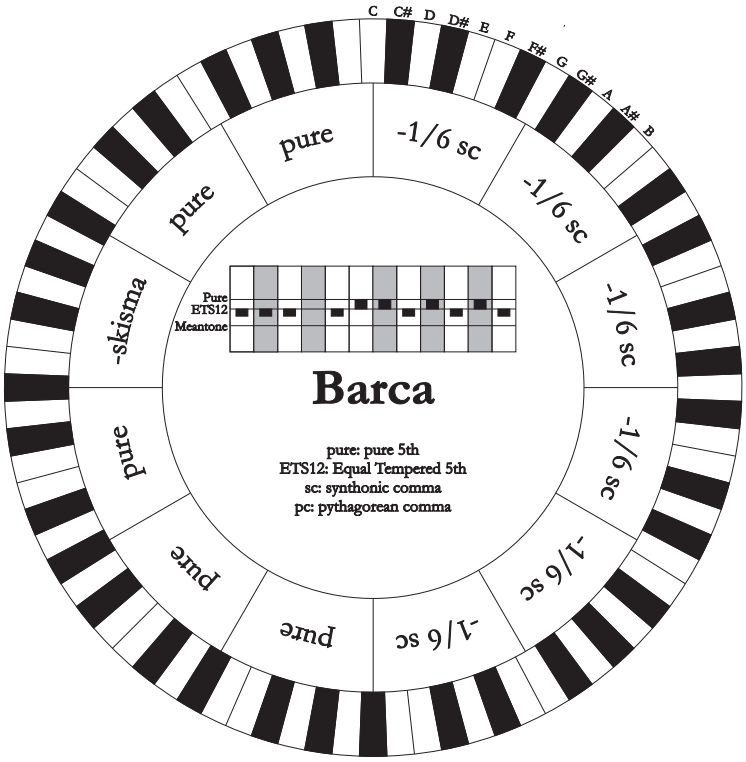
The Saveur 1 tuning is based on eleven fifths, reduced by 1/5 of syntonic comma. Wolf fifth lies on G#. In Saveur 2 the fifth on F# is pure. The eight third majors of the meantone are somewhat wider here, so the "wolf" is less prominent. Well tuned tonalities are particularly "warm" and pleasant.



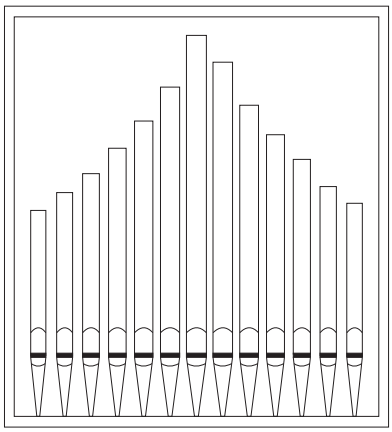
**BARCA**

The Barca temperament is based on six fifths (from C) reduced by 1/6 of syntonic comma each, and one fifth (on Eb) reduced of the remaining skisma. Therefore there are no Pythagorean thirds, and tonalities with many alterations still sound well.

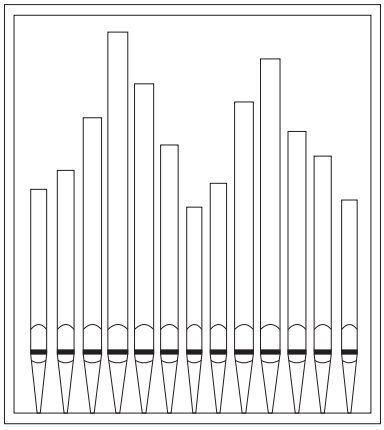


## 14.3 THE WINDCHEST IN PIPE ORGANS

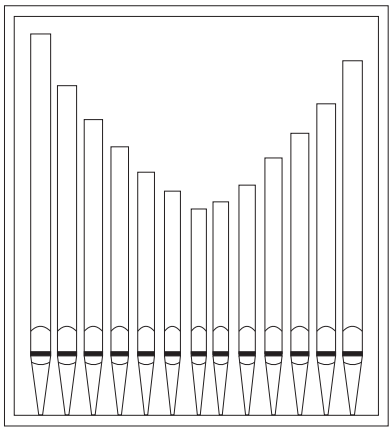
The wind chest is a crate where the air from a bellows (manual or electric) is spread equally among the pipes. Usually, each manual has its own wind chest. However, there are different kinds of wind chests: some contain only one stop, while other have an additional crate filled with air from the bellows that spreads air to all the stops for each note.
Here you will find a short description of each kind of wind chest simulated by the organ.



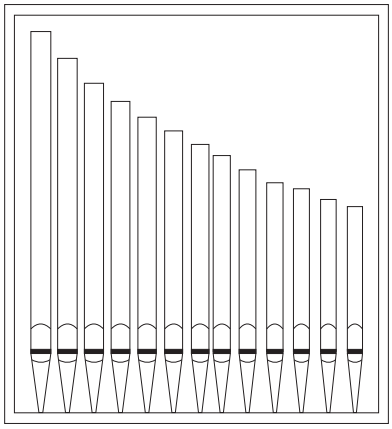
**Single cusp**
The tallest, broadest pipes are located in the centre. As the pitch rises the pipes are gradually distributed further and further to the outside, alternating (e.g. C to the right, C# left).



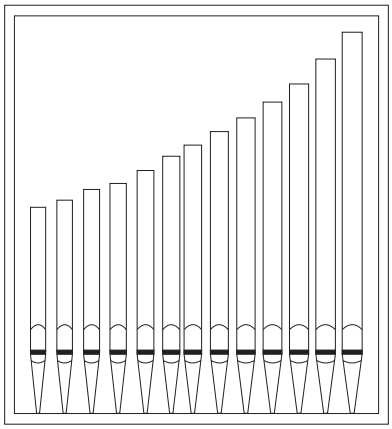
**Double cusp**
there are two separate cusps, both resembling to the single cusp described above. The lowest keys sound in an intermediate position, between the centre and the outside, alternating (one on the right cusp, one on the left cusp). As the pitch rises, rises the pipes are gradually distributed further and further to the outside, alternating (e.g. C right, C# left).



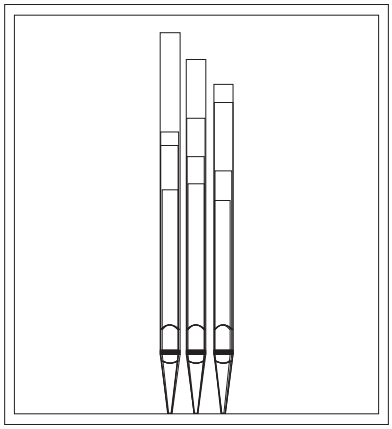
**Double wing**
The tallest pipes are placed in the centre. As the pitch lowers, the pipes are gradually distributed further and further to the outside, alternating.



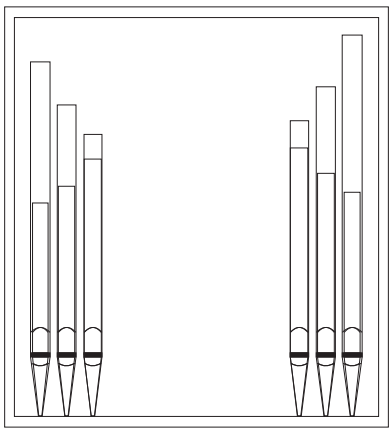
**Single wing (left)**
The tallest pipes are placed to the left, and the smaller (with higher pitch) pipes to the right.



**Single wing (right)**
This pipe configuration is the opposite of the previous one: the lowest pitched pipes are placed on the right and the highest pitched ones to the left.



**Mono**
All the pipes are placed inside the wind chest, so the sound is not affected by the position of the pipes.



**Alternated**
The pipes are placed alternating in two positions (e.g. C in one position, C# in the other).

# 14.4 CONTENT OF THE .SET, .STY, .CMB and .ALL FILES

## FILE .SET

| PARAMETER | POSITION | NOTE |
|---|---|---|
| Air Pressure | TUNING menu | |
| Temperament | TUNING menu | |
| Base Key | TUNING menu | |
| Ensemble | TUNING menu | |
| Pitch | TUNING menu | |
| Reverb | SETUP menu, REVERBERATION function | |
| Wet / Dry | SETUP menu, REVERBERATION function | |
| Int. Amp. Equalizer | SETUP menu, INT. AMPL. EQUALIZER function | |
| Int. Amp. Tune-up | SETUP menu, INT. AMPL. TUNE-UP function | |
| Internal Panning | SETUP menu, INT. AMPL. PANNING function | |
| Couplers into Divisional Piston | SETUP menu, PROGR. FUNCTIONS function | |
| Tremulant Depth and Speed in Piston or Tremolo Depth and Speed in Piston | SETUP menu, PROGR. FUNCTIONS function | |
| Enclosed and A.P. into General Pistons or SWS and A.P. into General Pistons | SETUP menu, PROGR. FUNCTIONS function | |
| Enclosed and A.P. affected by Cancel or SWS and A.P. affected by Cancel | SETUP menu, PROGR. FUNCTIONS function | |
| Crescendo Pedal | SETUP menu, PROGR. FUNCTIONS function | if [CRESCENDO] swell is present |
| Man.I/Pedal Swellbox or Great/Pedal Swellbox | SETUP menu, PROGR. FUNCTIONS function | if [CRESCENDO] swell is not present and [GREAT/PEDAL] or [MAN.I/PEDAL] swell is present |
| Link Master Vol. potentiometer to | SETUP menu, PROGR. FUNCTIONS function | |
| MIDI Out Controls in Combiation Memories | SETUP menu, PROGR. FUNCTIONS function | |
| MIDI Out Controls affected by Cancel | SETUP menu, PROGR. FUNCTIONS function | |
| A.P. Mode or SWS Mode | SETUP menu, PROGR. FUNCTIONS function | |
| Organ Solo dest. keyboard | SETUP menu, PROGR. FUNCTIONS function | |
| Orchestra voices affected by coupler | SETUP menu, PROGR. FUNCTIONS function | |
| ENC or SWS configuration | SETUP menu, ENC or SWS CONFIGURATION function | |
| Ext. Out Equalizers | SETUP menu, EXT. OUT EQUALIZER function | |
| Ext. Sub Freq. | SETUP menu, EXT. SUB EQUALIZER function | |
| Ext. Sub Slope | SETUP menu, EXT. SUB EQUALIZER function | |
| Mode | SETUP menu, EXT. OUT ROUTER function | |
| From | SETUP menu, EXT. OUT ROUTER function | if Mode is not setted as Mono |
| To | SETUP menu, EXT. OUT ROUTER function | if Mode is not setted as Mono |
| Position | SETUP menu, EXT. OUT ROUTER function | if Mode is setted as Mono |
| External Input Left Channel | SETUP menu, EXT. OUT ROUTER function | |
| External Input Right Channel | SETUP menu, EXT. OUT ROUTER function | |
| Orchestral Voices Left Channel | SETUP menu, EXT. OUT ROUTER function | |
| Orchestral Voices Right Channel | SETUP menu, EXT. OUT ROUTER function | |
| Ext. Out Volumes | SETUP menu, EXT. OUT VOLUME function | |
| External Out Config | SETUP menu, EXT. OUT CONFIG function | |
| Ext. Out Resize | SETUP menu, EXT. OUT RESIZE function | |
| Coupled Notes | UTILITY & MIDI menu | |
| Velocity Curves | UTILITY & MIDI menu, PEDAL/KEYB. TOUCH function | if section is not setted as Fixed |
| Fixed Velocity | UTILITY & MIDI menu, PEDAL/KEYB. TOUCH function | if section is setted as Fixed |
| Keyboard Inversion modes | UTILITY & MIDI menu, KEYB. INV. function | |
| Keyboard Inversion | UTILITY & MIDI menu | |
| Auto Mainpage | UTILITY & MIDI menu | |
| LCD Contrast | UTILITY & MIDI menu | |
| Tx Channels | UTILITY & MIDI menu, TX AND RX CHANNEL function | |
| Rx Channels | UTILITY & MIDI menu, TX AND RX CHANNEL function | |
| Tx Filters | UTILITY & MIDI menu, TX AND RX FILTER function | |
| Rx Filters | UTILITY & MIDI menu, TX AND RX FILTER function | |
| Piston Combine modes | UTILITY & MIDI menu, PIST. COMB. function | |
| Piston Combine | UTILITY & MIDI menu | |
| 1st Short Octave | UTILITY & MIDI menu | |
| Tracker Touch | UTILITY & MIDI menu | |
| IV, III, II, I, PED or SOL, SWL, GRT, CHR, PED | VOLUMES | according to the number of the organ's sections |
| EXT | VOLUMES e SETUP, EXT. OUT VOLUME | if the parameter is not linked to the [MASTER VOLUME] potentiometer |
| PHO | VOLUMES | |
| MST | VOLUMES | if the parameter is not linked to the [MASTER VOLUME] potentiometer |

| | | |
|---|---|---|
| ORC | VOLUMES | |
| SUR | VOLUMES | if organ is equipped with the surround loudspeakers |
| PRS | VOLUMES | if organ is equipped with the presence loudspeakers |

## FILE .STY

| PARAMETER | POSITION | NOTE |
|---|---|---|
| Voice Identifier (ID) | Internal data | |
| Range | Physis Editor | |
| Level Compensation | Physis Editor | |
| Pitch Compensation | Physis Editor | |
| Character | VOICES menu, EDIT PARAMETERS function | presence depending on the type of voice |
| Air Noise | VOICES menu, EDIT PARAMETERS function | presence depending on the type of voice |
| Harmonic Noise | VOICES menu, EDIT PARAMETERS function | presence depending on the type of voice |
| Attack | VOICES menu, EDIT PARAMETERS function | presence depending on the type of voice |
| Frequency Skew | VOICES menu, EDIT PARAMETERS function | presence depending on the type of voice |
| Release Detune | VOICES menu, EDIT PARAMETERS function | presence depending on the type of voice |
| Low Scaling | VOICES menu, EDIT PARAMETERS function | presence depending on the type of voice |
| High Scaling | VOICES menu, EDIT PARAMETERS function | presence depending on the type of voice |
| Detune | VOICES menu, EDIT PARAMETERS function | presence depending on the type of voice |
| Detune Type | VOICES menu, EDIT PARAMETERS function | presence depending on the type of voice |
| Tremulant | VOICES menu, EDIT PARAMETERS function | |
| Orchestra voice 1 Volume | VOICES menu, EDIT PARAMETERS function | |
| Orchestra voice 2 Volume | VOICES menu, EDIT PARAMETERS function | |
| Orchestra voice 1 Brilliance | VOICES menu, EDIT PARAMETERS function | |
| Orchestra voice 2 Brilliance | VOICES menu, EDIT PARAMETERS function | |
| Orchestra voice 1 Octave Shift | VOICES menu, EDIT PARAMETERS function | |
| Orchestra voice 2 Octave Shift | VOICES menu, EDIT PARAMETERS function | |
| Orchestra voice 1 Sustain Pedal | VOICES menu, EDIT PARAMETERS function | |
| Orchestra voice 2 Sustain Pedal | VOICES menu, EDIT PARAMETERS function | |
| Orchestra voice 1 Split Key | VOICES menu, EDIT PARAMETERS function | presence depending on the type of voice |
| Orchestra voice 2 Split Key | VOICES menu, EDIT PARAMETERS function | presence depending on the type of voice |

## FILE .CMB

| COMBINATIONS | CONTENT | NOTE |
|---|---|---|
| Tutti | all stops, all couplers, all tremulants, tremulants depth and speed*, Enc/Sws*, MIDI controls* **, Ap*, Organ Solo**, Section off**, MIDI Program Change and Bank Select, Orchestra parameters *** | * if enabled in Programmable Functions<br>** if present in the organ<br>*** in the USA organs version |
| General (max 25 per 16 memory banks) | all stops, all couplers, all tremulants, tremulants depth and speed*, Enc/Sws*, MIDI controls* **, Ap*, Organ Solo**, Section off**, MIDI Program Change and Bank Select, Orchestra parameters *** | * if enabled in Programmable Functions<br>** if present in the organ<br>*** in the USA organs version |
| Divisional (max 25 per 16 memory banks for each organ section) | for each organ section: stops, couplers*, tremulant, tremulants depth and speed*, MIDI controls* **, MIDI Program Change and Bank Select, Orchestra parameters*** | * if enabled in Programmable Functions<br>** if present in the organ<br>*** in the USA organs version |
| Crescendo (16 steps) | all stops, all couplers, all tremulants, MIDI controls* | * if enabled in Programmable Functions |
| Plenum | all stops, all couplers, all tremulants, tremulants depth and speed*, Enc/Sws*, MIDI controls* **, Ap*, Organ Solo**, Section off**, MIDI Program Change and Bank Select, Orchestra parameters *** | * if enabled in Programmable Functions<br>** if present in the organ<br>*** in the USA organs version |
| Reed | all stops, all couplers, all tremulants, tremulants depth and speed*, Enc/Sws*, MIDI controls* **, Ap*, Organ Solo**, Section off**, MIDI Program Change and Bank Select, Orchestra parameters *** | * if enabled in Programmable Functions<br>** if present in the organ<br>*** in the USA organs version |
| Ripieno | all stops, all couplers, all tremulants, tremulants depth and speed*, Enc/Sws*, MIDI controls* **, Ap*, Organ Solo**, Section off**, MIDI Program Change and Bank Select, Orchestra parameters *** | * if enabled in Programmable Functions<br>** if present in the organ<br>*** in the USA organs version |

## FILE .ALL

| CONTENT | NOTE |
|---|---|
| the same of 4 .sty files | 1 file for each Preset Style |
| the same of 1 .cmb file | |
| the same of 1 .set file | |
| Local Off of each stop | |
| Tremulants Depth and Speed | |

## 14.5 WHAT MIDI IS

The MIDI interface (Musical Instrument Digital Interface) allows instruments of different makes and kinds to communicate with each other, using this very specific protocol of codes. This allows the creation of systems of MIDI instruments, offering much greater versatility and control than is possible with single instruments. To make this communication possible, all MIDI instruments have two or three 5-pin DIN connectors called:

- **MIDI IN:** The connector through which the instrument receives the MIDI data transmitted by other units.
- **MIDI OUT:** The connector through which the instrument sends the MIDI data it has generated to other units.
- **MIDI THRU:** This connector, not always provided on all instruments, is used for connecting several units in series, since it transmits the MIDI data exactly as they are received by the respective MIDI IN port.

Most instruments equipped with MIDI interface transmit MIDI messages which specify, for example, which note has been played and with what dynamic, by means of the MIDI OUT connector. If this connector is connected to the MIDI IN connector of another MIDI instrument, such as an expander, the second instrument will respond exactly to the notes played on the transmitter instrument.
The same type of information transfer is used for recording MIDI sequences. A computer or a sequencer can be used to record the MIDI data generated by the transmitter instrument. If these recorded data are sent back to the instrument, it automatically repeats the recorded performance.
MIDI is able to transmit a multitude of digital data by means of just one cable, and thus just one connector. this is thanks to the MIDI channels. There are 16 MIDI channels, and in a similar way as for radio communications in which two stations can only communicate if they are tuned to the same frequency (or channel), two MIDI instruments connected together are only able to communicate if the transmitter instrument channel is the same as the receiver instrument channel.
MIDI messages subdivide into channel messages and system messages. The following is a short description of these messages:

*CHANNEL MESSAGES*

**NOTE ON**
This message is transmitted when a note is depressed on the keyboard. Each Note On message contains the following information:
*Note On*: when a key has been struck;
*Note Number*: the key which has been pressed, and therefore the relative note played;
*Velocity*: note dynamic (i.e. the force applied when the key was struck).
Note messages are expressed as a number from 0 to 127, with middle C represented by number 60.

**NOTE OFF**
This message is transmitted when a key struck previously is released.
When it is received, the sound of the note relating to the key is switched off. Each Note On message contains the following information:
*Note Off*: a key has been released;
*Note Number*: which key has been released;
*Velocity*: dynamic (i.e. how fast the note was released).

***N.B.:***
*A Note On message with Velocity=0 is considered equivalent to a Note Off message.*

**PROGRAM CHANGE**
This message is used to select the programs or sounds of the receiver instrument.
There is also a specific standard called General MIDI which describes which sound should be recalled for each Program Change received. This association is usually described by means of a table included in the user manual of the instrument which adopts the standard.
This message contains the following information:
*Program Change*: voice or program change;
*Program Change Number*: the number of the program or voice to be activated;

**CONTROL CHANGE**
These are control messages (often associated to trimmers or pedals) used to add expression to the performance, allowing you to set (and control in real time if necessary) voice parameters such as volume (CC n.7) or the position of the swell pedals (CC n.11), etc.
This message contains the following information:
*Control Change:* a controller has been adjusted
*Controller Number:* which controller has been adjusted
*Controller Position:* the position of the controller

*SYSTEM MESSAGES*

**SYSTEM EXCLUSIVE**
These messages can only be interpreted by an instrument made by the same producer as the transmitter device (in some cases only by the same model). They mainly relate to the instrument's sound generation and programming parameters. The Unico uses these messages to control all the internal parameters and for switching the voices on and off.

**REAL TIME**
These messages are used for the real-time control of specific modules or functions of a connected instrument. These messages include the Start, Stop, Pause/Continue and Clock commands.
*START*: the sequencer has started to record or play back a MIDI sequence
*STOP*: the sequencer has been stopped
*PAUSE / CONTINUE*: the sequencer has been set in stop status
*CLOCK*: the sequencer speed

***N.B.***
*The organ does not transmit / receive the messages described above. They are described for your information only.*

The Real Time messages also include the Active Sensing code, sent to keep the dialogue between two MIDI instruments alive. When the receiver instrument does not receive any MIDI data or the Active Sensing code in a time interval of about 300 milliseconds, it considers the MIDI connection to have been deactivated, so it switches off any notes still active. Remember that the transmission and reception of this message is optional, so not all instruments are equipped to handle it.

# 14.6 DETAILED MIDI IMPLEMENTATION

**CHANNEL MESSAGES**

**NOTE:**
- Using default settings, channel messages are sent on the following MIDI channels:

  Ch.1: Swell notes or controls
  Ch.2: Great notes or controls
  Ch.3: Choir notes or controls
  Ch.4: Pedal notes or controls
  Ch.5: Solo notes or controls

- Ch.16 is a reserved channel (system)

**Note On**
Message which is generated when a key is pressed.

Data format: 9nH kkH vvH

n=channel number :00H – 0EH (1 – 15)
kk=note number :1EH – 65H (30 – 101)
vv=note on velocity :01H – 7FH (1 – 127)
:00H (0) Note Off

**Note Off**
Message which is generated when a key is released.

Data format: 8nH kkH vvH
9nH kkH 00H

n=channel number :00H-0EH (1 – 15)
kk=note number :1EH – 65H (30 – 101)
vv=note off velocity :00H – 7FH (0 – 127)
ignored

- This message can be also received as Note On with velocity=0.

**Control Change**
Messages to control volumes, expressions and other system controls.

- **Bank Select MSB (CC 0)**

Controller transmitted in combination of Program Change and Bank Select LSB in order to select a specific bank of sound.
It also can be received by the organ to recall Memory Banks.

Data format: BnH 00H vvH

Transmitted:
n=channel number :00H – 0EH (1 – 15)
vv=bank MSB number :00H – 7FH (0 – 127)

Received:
n=channel number :FH (16)
vv=Memory Bank number :00H – 7FH (0 – 127)

- **Volume (CC 7)**

Message which controls the sections volume.

Data format: BnH 07H vvH

n=channel number :00H – 0EH (1 – 15)
vv=volume value :00H – 7FH (0 – 127)

- **Expression (CC 11)**

Message which controls the sections expression.

Data format: BnH 0BH vvH

n=channel number :00H – 0EH (1 – 15)
vv=expression value :00H – 7FH (0 – 127)

- **Bank Select LSB (CC 32)**

Controller transmitted in combination of Program Change and Bank Select MSB in order to select a specific bank of sound.

Data format: BnH 20H vvH

n=channel number :00H – 0EH (1 – 15)
vv=bank LSB number:00H – 7FH (0 – 127)

- **Sustain (CC 64)**

Message which controls the Sustain / Damper effect.

Data format: BnH 40H vvH

n=channel number :00H – 0EH (1 – 15)
vv=switch :00H (0) off (received as 00H-39H)
:7FH (127) on (received as 40H-7FH)

- **All sounds off (CC 120)**

Terminates all voices currently on for the specific channel.

Data format: BnH 78H 00H

n=channel number :00H – 0EH (1 – 15)

- **All notes off (CC 123)**

Terminates all notes currently on for the specific channel.

Data format: BnH 7BH 00H

n=channel number :00H – 0EH (1 – 15)

**Program Change**

Messages for selecting sounds, timbres or programs in external modules. It also can be received by the organ to recall combinations, Tutti, Plenum, Reed and Crescendo steps.

Data format: CnH mmH

Transmitted:
n=channel number :00–EH (1–15)
mm=Program Ch. number :00H–7FH (0–127)

Received:
n=channel number :FH (16)
mm=Program Ch. number:
00H (0): general HR
01H-0AH (1-10): general combinations 1-10
10H (16): Pedal HR
11H-16H (17-22): Pedal combinations 1-6
20H (32): Great HR
21H-26H (33-38): Great combin. 1-6
30H (48): Swell HR
31H-36H (49-54): Swell combin. 1-6
40H (64): Choir HR
41H-46H (65-70): Choir combin. 1-6
50H (80): Solo HR
51H-56H (81-86): Solo combin. 1-6
60H (96): Tutti OFF
61H (97): Tutti ON
62H (98): Great Plenum OFF
63H (99): Great Plenum ON
64H (100): Swell Plenum OFF
65H (101): Swell Plenum ON
66H (102): Choir Plenum OFF
67H (103): Choir Plenum ON
68H (104): Solo Plenum OFF
69H (105): Solo Plenum ON
6AH (106): general Plenum OFF
6BH (107): general Plenum ON
6CH (108): Reed OFF
6DH (109): Reed ON
6FH (111): Crescendo — (OFF)
70H–7FH (112-127): Crescendo steps 1-16

**SYSTEM EXCLUSIVE MESSAGES**

- **Register on/off**

Data format: F0H 31H snH xxH yyH F7H

F0H: Exclusive status
31H: Viscount ID
sH : switch
0H=voice off
4H=voice on
nH : channel number (00H – 0EH)
xxH : voice id – first byte
yyH : voice id – second byte
F7H: EOX

- First and second id bytes depend by the voice in the first Organ Style. These bytes don't change selecting an alternative voice.

- **1st Tremolo Speed**

Parameter: Speed
Video page: Set-up / 1st Tremolo

Data format: F0H 31H 2sH 5AH vvH F7H

F0H: Exclusive status
31H: Viscount ID
2sH : channel number (s=0H – EH)
5AH: 1st tremolo speed
vvH : speed value (04H – 20H)
F7H: EOX

- This message is transmitted when the 1st Tremolo is switched on.

- **2nd Tremolo Speed**

Parameter: Speed
Video page: Set-up / 2nd Tremolo

Data format: F0H 31H 2sH 5AH vvH F7H

F0H: Exclusive status
31H: Viscount ID
2sH : channel number (s=0H – EH)
5BH: 2nd tremolo speed
vvH : speed value (04H – 20H)
F7H: EOX

- This message is transmitted when the 2nd Tremolo is switched on.

- **1st Tremulant Depth**

Parameter: **Tremolo**
Video page: Set-up / 1st Tremolo

Data format: F0H 31H 2sH 5CH vvH F7H

F0H: Exclusive status
31H: Viscount ID
2sH : channel number (s=0H – EH)
5CH: 1st tremolo depth
vvH : depth value (04H – 20H)
F7H: EOX

- This message is transmitted when the 1st Tremolo is switched on.
- When switched off, the Tremolo depth value is trasmitted as 00H

- **2nd Tremolo Depth**

Parameter: Depth
Video page: Set-up / 2nd Tremolo

Data format: F0H 31H 2sH 5CH vvH F7H

F0H: Exclusive status
31H: Viscount ID
2sH : channel number (s=0H – EH)
5DH: 2nd tremolo depth
vvH : depth value (04H – 20H)
F7H: EOX

- This message is transmitted when the 2nd Tremolo is switched on.
- When switched off, the Tremolo depth value is trasmitted as 00H.

- **Base key**

Parameter: Base key
Video page: Tuning

Data format: F0H 31H 2FH 2FH vvH F7H

F0H: Exclusive status
31H: Viscount ID
2FH: system control
32H: Base key
vvH : Base key value (00H – 0BH)
F7H: EOX

- **Temperament**

Parameter: Temperament
Video page: Tuning

Data format: F0H 31H 2FH 31H vvH F7H

F0H: Exclusive status
31H: Viscount ID
2FH: system control
31H: temperament
vvH : temperament type
00H=Equal
10H=Kirnberger II
11H=Werckmeister III
12H=Pythagorean
13H=Meantone 3#
14H=Vallotti
15H=Chaumont
16H=Kellner 1975
17H=Kirnberger III
18H=Werckmeister IV
19H=Werckmeister V
1AH=Silbermann
1BH=Meantone 3b
1CH=Meantone Pure Minor 3rd
1DH=Zarlino
1EH=Sauveur 1
1FH=Sauveur 2
20H=Barca
F7H: EOX

Data format: F0H 7EH 7FH 08H 08H 03H 7FH 7FH [ss] ... F7H

F0H: Exclusive status
7EH: Universal Non Realtime message
7FH: channel (any)
08H: Sub-ID #1=MIDI Tuning standard
08H: Sub-ID #2=scale/octave tuning 1-byte form (Non Real-Time)
03H: channel/options byte 1
7FH: channel byte 2
7FH: channel byte 3
[ss]:12 byte tuning offset of 12 semitones from C to B
00H: -64 cents
40H: 0 cents
7FH: +64 cents
F7H: End of Exclusive

- **Ensemble**

Parameter: Ensemble
Video page: Tuning

Data format: F0H 31H 2FH 32H vvH F7H

F0H: Exclusive status
31H: Viscount ID
2FH: system control
32H: ensamble
vvH : ensamble value (00H – 08H)
F7H: EOX

- **Pitch**

Parameter: Pitch (A)
Video page: Tuning

Data format: F0H 31H 2FH 67H 00H 0nH 0nH 0nH F7H

F0H: Exclusive status
31H: Viscount ID
2FH: system control
67H: fine tuning
0nH 0nH 0nH: nibblezed data of tuning value
02H 00H 0CH=-50 cents (A=427,47Hz)
04H 00H 00H=0 cents (A=440 Hz)
05H 0FH 04H=+50 cents (A=452,89Hz)
F7H: EOX

- **Reed Cancel**

Data format: F0H 31H 2FH 6AH vvH F7H

F0H: Exclusive status
31H: Viscount ID
2FH: system control
6AH: reed cancel
vvH : switch
00H=on
10H=off
F7H: EOX

- **Mixture Cancel**

Data format: F0H 31H 2FH 6BH vvH F7H

F0H: Exclusive status
31H: Viscount ID
2FH: system control
6BH: mixture cancel
vvH : switch
00H=on
10H=off
F7H: EOX

- **Cancel**

Data format: F0H 31H 2FH 6CH 00H F7H

F0H: Exclusive status
31H: Viscount ID
2FH: system control
6CH: cancel
00H: execute cancel
F7H: EOX

- **Couplers**

Data format: F0H 31H 2FH 70H vvH F7H

F0H: Exclusive status
31H: Viscount ID
2FH: system control
70H: coupler
vvH : type and switch
00H=Swell to Pedal on
10H=Swell to Pedal off
01H=Great to Pedal on
11H=Great to Pedal off
02H=Choir to Pedal on
12H=Choir to Pedal off
03H=Swell to Great on
13H=Swell to Great off
04H=Choir to Great on
14H=Choir to Great off
05H=Swell to Choir on
15H=Swell to Choir off
F7H: EOX

- This message is received only.

Data format: FF0H 31H 2FH 70H 7FH vvH ssH F7H

F0H: Exclusive status
31H: Viscount ID
2FH: system control
70H: coupler
7FH: other coupler
vvH ssH:type and switch
04H 21H:Solo to Pedal on
04H 20H:Solo to Pedal off
14H 21H:Solo to Great on
14H 20H:Solo to Great off
24H 21H:Solo to Swell on
24H 20H:Solo to Swell off
34H 21H:Solo to Choir on
34H 20H:Solo to Choir off
02H 31H=Swell to Pedal 4' on
02H 30H=Swell to Pedal 4' off
03H 31H=Choir to Pedal 4' on
03H 30H=Choir to Pedal 4' off
11H 21H=Choir Unison Off on
11H 20H=Choir Unison Off off
12H 11H=Swell to Great 16' on
12H 10H=Swell to Great 16' off
12H 31H=Swell to Great 4' on
12H 30H=Swell to Great 4' off
13H 11H=Choir to Great 16' on
13H 10H=Choir to Great 16' off
13H 31H=Choir to Great 4' on
13H 30H=Choir to Great 4' off
14H 11H=Solo to Great 16' on
14H 10H=Solo to Great 16' off
14H 31H=Solo to Great 4' on
14H 30H=Solo to Great 4' off
22H 11H=Swell to Swell 16' on
22H 10H=Swell to Swell 16' off
22H 21H=Swell Unison Off on
22H 20H=Swell Unison Off off
22H 31H=Swell to Swell 4' on
22H 30H=Swell to Swell 4' off
32H 11H=Swell to Choir 16' on
32H 10H=Swell to Choir 16' off
32H 31H=Swell to Choir 4' on
32H 30H=Swell to Choir 4' off
24H 31H=Solo to Swell 4' on
24H 30H=Solo to Swell 4' off
34H 11H:Solo to Choir 16' on
34H 10H:Solo to Choir 16' off
34H 31H:Solo to Choir 4' on
34H 30H:Solo to Choir 4' off
44H 21H:Solo Unison Off on
44H 20H:Solo Unison Off off
F7H: EOX

- This message is received only.

- **Orchestra volume**

Parameter: Orch.
Video page: Volumes

Data format: F0H 31H 2FH 72H vvH F7H

F0H: Exclusive status
31H: Viscount ID
2FH: system control
72H: orchestra volume
vvH : orchestra volume value (00H – 7FH)
F7H: EOX

- **Orchestral Voice Change**

Data format: F0H 31H 2sH 41H xxH yyH iiH ttH v1H v2H b1H b2H o1H o2H u1H u2H kkH F7H

F0H: Exclusive status
31H: Viscount ID
2sH : channel number (s=0H – EH)
41H: orchestral voice change
xxH : voice id – first byte
yyH : voice id – second byte
iiH:alternative voice id
ttH: timbre type
05H=single
06H=layer
07H=split
v1H:voice1/L volume
v2H:voice2/R volume
b1h: voice1/L brilliance
b2h: voice2/R brilliance
o1H:voice1/L octave shift
o2H:voice2/R octave shift
u1H:voice1/L sustain enable
u2H:voice2/R sustain enable
kkH: split key
F7H: EOX

- this message is transmitted only when an alternative orchestral voices changes after recalling a combination.
- with Single type, voice2 bytes are fixed to 40H
- with Single and Layer types, "split key" byte is not used.
- after recalling a combination, if the orchestral voice is setted as in the Organ Style, the message change to:
  F0H 31H 2sH 41H xxH yyH 00H 7FH 00H 00H 00H 00H 00H 00H 00H 00H 00H F7H

## SYSTEM REAL TIME MESSAGES

FEH: Active Sensing

FEH is transmitted every 300 msec. whenever is no other MIDI data being transmitted.

# MIDI IMPLEMENTATION CHART

**Viscount Physis Organs**
Classic Organ

Version: 1.2
Date: 22 Jan. 2019

| FUNCTION… | | TRANSMITTED | RECEIVED | REMARKS |
|---|---|---|---|---|
| **BASIC** | Default | 1,2,3,4,5 | 1,2,3,4,5 | *1 |
| **CHANNEL** | Changed | 1÷15 | 1÷15 | |
| **MODE** | Default | Mode 3 | Mode 3 | |
| | Messages | ******** | ******** | |
| | Altered | ******** | ******** | |
| **NOTE** | | 30÷101 | 30÷101 | |
| **NUMBER** | True Voice | 36÷96 | 30÷101 | |
| **VELOCITY** | Note ON | O | O | |
| | Note OFF | O | O | |
| **AFTER** | Key's | X | X | |
| **TOUCH** | Ch's | X | X | |
| **PITCH BENDER** | | X | X | |
| **CONTROL** | 0 | O | O | Bank Select MSB |
| **CHANGE** | 7 | O | O | Volume |
| | 11 | O | O | Expression |
| | 32 | O | O | Bank Select LSB |
| | 64 | O | O | Sustain |
| | 120 | O | O | All sound off |
| | 123 | O | O | All Notes Off |
| **PROGRAM** | | O | O | *1 |
| **CHANGE** | True# | | | |
| **SYSTEM EXCLUSIVE** | | O | O | *1 |
| **SYSTEM** | Song Pos | X | X | |
| **COMMON** | Song Sel | X | X | |
| | Tune | X | X | |
| **SYSTEM** | Clock | X | X | |
| **REAL TIME** | Commands | X | X | |
| **AUX** | Local On-Off | X | X | |
| **MESSAGES** | All notes off | O | O | |
| | Active Sense | O | O | |
| | Reset | X | X | |

**NOTES:**
*1: see Detailed MIDI Implementation for further informations

Mode 1: Omni On, Poly
Mode 2: Omni On, Mono
Mode 3: Omni Off, Poly
Mode 4: Omni Off, Mono

O=YES
X=NO

**Disposal of old Electrical & Electronic Equipment (Applìcable throughout the European Union and other European countries with separate collection programs)**

**Dir. 2002/95/CE, 2002/96/CE e 2003/108/CE**

This syrnbol, found on your product or on its packaging, indicates that this product should not be treated as household waste when you wish to dispose of it. Instead, it should be handed overt to an applicable collection point for the recycling of electrical and electronic equipment. By ensuring this product is disposed of correctly, you will help prevent potential negative consequences to the environment
and human health, which could otherwise be caused by inappropriate disposal of this product. The recycling of materials will help to conserve natural resources. For more detailed information about the recycling of this product, please contact your local city offi ce, waste disposal service or the retail store where you purchased this product.

CE

This product complies with the requirements of EMCD 2004/108/EC and LVD 2006/95/EC.

## FCC RULES

**NOTE:** This equipment has been tested and found to comply with the limits for a **Class B** digital Device, persuant to Part 15 if the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction, may cause harmful interference to radio comunications. However, there is no guarantee that the interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determinated by turning the equipment off and on, the user is encuraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced Radio/Tv technician for help.

The user is cautioned that any changes or modification not expressly approved by the party responsable for compliance could void the user's authority opearate the equipment.

## INFORMATIONS FCC

**NOTE** : Cet instrument a été controlé et il est garanti pour etre en conformité avec les spécifications techniques établies pour les dispositifs numériques de la « **Classe B** » selon les normes de protection contre les interférences avec d'autres dispositifs électroniques environnants. Cet appareil produit et utilise des fréquences radio. S'il n'est pas installé et utilisé selon les instructions contenues dans le mode d'emploi, il peut générer des interférences. L'observation des normes FCC ne garanti pas qu'il y aura aucune interférence. Si cet appareil est la cause d' interférences avec une réception Radio ou TV, il est possible
de le vérifier en éteignant puis en allumant l'instrument : Vous pouvez alors résoudre le problème en suivant les procédures suivantes :

- déplacer ou orienter l'antenne de l'appareil avec lequel se manifeste l'interférence.
- déplacer cet instrument ou l'appareil avec lequel se produit l'interférence
- connecter cet instrument à une prise de courant différente afin de mettre les deux appareils sur deux circuits différents.
- consulter le revendeur ou un technicien radio/tv pour d'autres renseignements.

D'éventuelles modifications non approuvées par le constructeur peuvent annuler votre garantie de l'appareil.

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