

ALTERUS

user's manual

www.alterus.eu

www.ecat.si

ALTERUS – Table Of Contents

1. Splošen opis sistema	3
2. Delovanje sistema	4
2.1 Prikaz podatkov na zaslonu	4
2.2 Izbira želene kombinacije	5
2.2.1 Priklic poljubne kombinacije po korakih	5
2.3 Shranjevanje kombinacij - lokalno	5
2.4 Zaklep krmilnika	6
2.5 Cressendo funkcija	6
2.6 Uporaba brez pomnilniške kartice	6
2.7 Sistemski meni	6
3. Tehnične specifikacije.....	7
3.1 Glavna plošča: ALTERUS-MAIN.....	7
3.2 Razširitvena plošča 1: ALTERUS OUT48.....	7
3.3 Razširitvena plošča 3: ALTERUS IN48	7

1. General description

ALTERUS is an advanced, yet simple organ piston controller, which ensures simple and quick installation, very easy operation and removable media support. Graphic LCD display can display (in addition to standard bank/combination number) bank names, that can be edited by the user. Operating the controller is very simple and is mostly done by the rotating wheel and four special buttons (next, previous, reset, store).

ALTERUS uses standard SD cards as its memory media (same, that are used in mobile phones, cameras ...), which means simple and cheap memory extension. Actually - it's so cheap, that every single organ player can have its own memory card and therefore situations, where one organist re-wrote/deleted other organist's data, are becoming history!

Editing piston combinations can be done on organs (ofcourse!), but it is also possible to edit them at home, using any Windows based computer and special ALTERUS PC software. This way, all (or most) work can be done at home and afterwards the organ player only inserts the memory card in the organs and starts playing. This is especially useful at locations, where many users are using the organs (music schools, music academy, concert halls ...).

ALTERUS highlights

- Storing of **999 combinations** in **99 different banks**. That means: $99 \times 999 =$ almost **100.000 memory places!** On a single SD card. Then you replace it and have another 100.000 places. And so on ...
- Data is stored on **standard SD card**. Each musician can have its own SD card. No more data rewriting from another organist!
- **Delete & Insert functions:** possibility to insert a new combination or delete a specific combination within pre-programmed sequence!
- Programmable **Crescendo function** with up to 32 levels.
- Programmable **fixed combinations** (pp, mf, ff, tutti ...)
- System is operated using **rolling wheel and 4 buttons** (previous, next, store, reset) only. Operating is so simple, that anyone can do it, even without manuals!
- Main board is equipped with **48 inputs** and **48 outputs** for piston controls by default. **Extension boards** are available for bigger organs to increase inputs and outputs.
- **ALTERUS PC software** adds option to organists, that an organ player can prepare his combinations at home. Then, he just comes, inserts SD card into organs and starts playing!

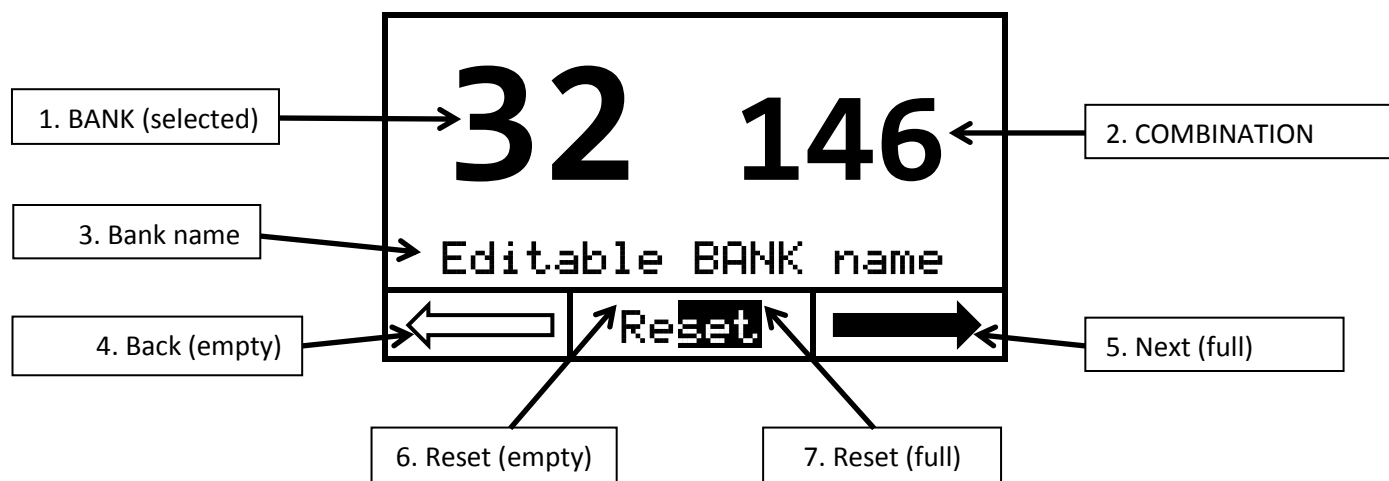
2. Operating ALTERUS

Normally, ALTERUS operates with inserted SD memory card. Each card contains 99 databanks and each databank contains 999 piston combinations.

In case, that SD card is not inserted, a warning message »SD card missing!« is displayed, however organ can still be operated without save/recall functions activated (following functions are active: piston control, crescendo, fixed combinations)

2.1 Graphic Display

ALTERUS is equipped with graphic LCD display, which displays actual data such as selected bank, combination, bank name and other information regarding to the system.



1. Number of the currently selected bank (0-99)
2. Number of the currently selected combination (0-999) within bank
3. Bank name (up to 20 characters)
4. Arrow above the »back« button; empty arrow means, that current piston combinations does not match stored combination or that bank/combination displayed is not active.
5. Arrow above the »next« button; full arrow means, that current piston combinations does match stored combination – displayed bank/combination is active.
6. Text above the »Reset« button, empty; Reset function is activated – all pistons are set to off.
7. Text above the »Reset« button, full; anytime we can disable all pistons by pressing »Reset« button. In this case, Reset text changes colour. Pressing the »Reset« button again restores previous piston state.

2.2 Selecting the piston combination

After the organs are turned on, ALTERUS is initialized and we may select any bank or combination using the rotating wheel. Rotating the wheel we increase/decrease the number, short press on the rotating wheel switches between changing the bank and changing the combination. Parameter, that is currently adjustable, is displayed with bigger numbers.

After a proper bank/combination is selected, we can activate (set pistons to positions) it pressing »Next« button.

N.b. When changing the bank, combination is automatically changed to 1.

By default, after organ startup ALTERUS jumps to bank 1 and combination 1. However, we may change this default behaviour using the ALTERUS PC software. This way, we may select to which bank and combinations organs go, after the system is started.

2.2.1 Step-by-step piston combination recall

1. Turning the rotating wheel select the desired memory bank.¹
2. Short press on the rotating wheel to switch to combination adjustment mode. Combination number gets bigger.
3. Turning the rotating wheel select the desired combination.
4. For activating combination press »Next« button. Arrows and Reset on display goes coloured and pistons move to stored positions.
5. For activating the next combination press »Next« button. For returning to the previous combination, press the »Previous« button.
6. You can deactivate all the pistons anytime by pressing the »Reset« button. Pressing »Next« or »Reset« button again will sett the pistons to the position before deactivating.
7. If you want to change the bank or combination, use the rotating wheel. When using the rotating wheel, systems goes to inactive state (arrows and reset are not coloured) and combination gets active (changes) only, when pressing »Next« button.

2.3 Saving the piston combinations

1. Set the pistons to desired positions.
2. Using the rotating wheel move to the bank and combination, where you want to store current pistons set.
3. Press the »Save« button to save current piston set to selected combination. After saving, combination will automatically increase by 1.
4. Change the pistons regarding to the next combination and press »Save« button again.

WARNING! When storing the combinations, old piston combinations will be rewritten without any warning! Be careful not to re-write the combinations, which you will still need!

¹ If turning the rotating wheel changes combination numbers instead of the banks, short press the rotating wheel. Wheel rotating always changes the parameter, that is written in big numbers.

2.4 Controller lock

To avoid unattended changes, ALTERUS can be locked. Press and hold the rotating wheel for 3 seconds and keylock icon will be displayed on a display. Now all settings are locked (pistons ...) and cannot be changed.

To unlock the ALTERUS, press and hold rotating wheel again, until the unlocked keylock icon is displayed.

2.5 Cressendo function

ALTERUS supports 32-level »cressendo«, which can be programmed into internal EEPROM memory, so it is operational also, when no SD card is inserted. Usually, this function is only programmed when the organs are set up.

Later changes of the cressendo levels is possible using the service program and SD memory card.

2.6 Using the ALTERUS without memory card inserted

ALTERUS can also be used without SD memory card, however there's some missing functionality: storing and recalling the combination is not possible.

In this case, »SD card missing« warning message is displayed.

If fixed piston combinations (piano, forte, tutti ...) or cressendo function are programmed, they will operate without SD card inserted as well.

2.7 System menu

System menu includes several possibilities for internal test procedures and is not meant to be used by the end-user. We recommend, that you do not enter it, except if instructed so (for example, remote troubleshooting).

Entering the system menu procedure:

- Press and hold the rotating wheel
- Press and hold »Save« button
- Hold both buttons for approx. 3 seconds

3. Technical Specifications

3.1 Main board: ALTERUS-MAIN

- Number of inputs: 48
- Display type: GLCD, 128x64
- Buttons: Next, Previous, Reset, Save + rotary encoder
- Input type: NO, pull-up (activated, when connected to GND)
- Number of banks: 99, possible to rename (up to 20 characters)
- Number of combinations: 999 (inside single bank)
- Data storage media: SD memory card, up to 16 GB
- Interface type: I2C (master)

3.2 Expand board 1: ALTERUS OUT48

- Number of outputs: 48 (signal) + 48 (LED)
- Output type - signal: Pull-up toward VCC 12-24 V, GND when activated
- Output type – LED: GND when activated
- Interface type: I2C (slave)

3.3 Expand board 2: ALTERUS IN48

- Number of inputs: 48
- Input type: NO, pull-up (activated, when connected to GND)
- Interface type: I2C (slave)