



**MAYER** EM

# MD900

## Quick-start & Quick-guide



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*Quick-start & quick-guide Vers:1.0B*

<b>FOREWORD</b>	<b>5</b>
<b>NOTE</b>	<b>5</b>
<b>GENERAL SAFETY INSTRUCTIONS</b>	<b>6</b>
	<b>6</b>
POWER SUPPLY CONNECTION	6
DISPOSAL	6
<b>PACKAGE CONTENT</b>	<b>7</b>
<b>MD900 XVAOS UPDATE</b>	<b>7</b>
USB-STICK	7
<b>QUICK START</b>	<b>10</b>
PLAYING VIA MIDI KEYBOARD	10
ARRANGEMENT	11
CLIP-LAUNCHER	12
<b>FRONT PANEL OVERVIEW</b>	<b>13</b>
<b>GENERAL PANEL FUNCTIONS</b>	<b>14</b>
FOCUS BUTTON	14
ASSISTANCE DISPLAY	15
<b>REAR CONNECTIONS</b>	<b>16</b>
<b>START-UP</b>	<b>17</b>
CONNECTIONS DETAILS	18
USB- STORAGE DEVICES	18
PEDAL SUSTAIN/HOLD	18
EXPRESSION PEDAL	19
MIDI IN	19
MIDI THRU	19
MIDI OUT	19
AUDIO IN-L/R	20

<b>AUDIO OUT-(L)R &amp; OUT -L</b>	<b>20</b>
<b><u>TOUCH-DISPLAY OVERVIEW</u></b>	<b><u>21</u></b>
<b>PARAMETER-LABEL</b>	<b>22</b>
<b>MIDI-LEARN</b>	<b>22</b>
<b><u>PARTS</u></b>	<b><u>23</u></b>
<b><u>SAMPLE PLAYER</u></b>	<b><u>24</u></b>
<b><u>CLIP-LAUNCHER</u></b>	<b><u>24</u></b>
<b><u>MIDI SETTINGS</u></b>	<b><u>25</u></b>
<b>MIDI DEVICES</b>	<b>25</b>
<b>MIDI INPUTS</b>	<b>26</b>
<b><u>SYNTH A(B,C,D)</u></b>	<b><u>27</u></b>
<b>PRESET SELECTION</b>	<b>27</b>
<b>SAVE PRESET</b>	<b>28</b>
<b><u>VOICE A (B,C,D)</u></b>	<b><u>29</u></b>
<b><u>LIST OF FIGURES</u></b>	<b><u>30</u></b>

## Foreword

After several years of preliminary work and the great passion for synthesizers, the basis for the MD900 was created. It is characterized by its powerful sound its analog charm and the stereo width.

I would like to thank you very much for buying the MD900. For all those who only read through this manual I hope to have aroused curiosity about this extraordinary synthesizer.

*HORST MAYER*

## Note

Every care has been taken in the preparation of this Quick Start Guide in order to avoid errors and inconsistencies. We apologize in advance for any errors. Mayer-EMI makes no warranties of any kind with respect to this manual, other than those required by trade laws.

The contents of this manual are subject to change without notice.

This manual may not be reproduced , even in part, without the permission of the manufacturer.

*Mayer Elektronische Musikinstrumente, Franz Prendigerstrasse 74, A-2540 Bad Vöslau*

## General safety instructions



Please read the following safety instructions carefully! They contain some basic rules for handling electrical devices. Please read all instructions before you put the device into operation.

### Suitable installation site

- Operate the MD900 only in closed rooms avoid humidity and dust.
- Ensure unobstructed air supply to all sides of the device. Do not place the device in the immediate vicinity of heat sources.
- Do not expose the device to direct sunlight or strong vibrations.

### Power supply connection

Only use the power supply unit included in the MD900 packages . Refer to the separate instructions for the power supply (included in the power supply packaging). This power supply is designed to power the MD900 and the devices connected to the USB 2.0 host (maximum 1.5A in total).

The scope of delivery also includes country adapters for:

US / EU / UK / AU

### Intended use

The MD900 is exclusively intended for generating and processing audio signals and control signals according to the MIDI standard or connected USB 2.0 MIDI devices such as controllers or keyboards. Any other use is not permitted and excludes any warranty claims against MAYER-EMI.

### Disposal

The MD900 is manufactured in compliance with the European Union RoHS.

Nevertheless, this device may be hazardous waste and must not be disposed of in household waste.

For disposal, please contact your dealer or Mayer-EMI ([mayer-emi.at](http://mayer-emi.at)).

## Package Content

- MD900 Desktop extended Virtual Analog Synthesizer
- Power Supply Input:100-240VAC 47-63Hz, Output: 12VDC / 2.5A
- USB Stick (Mayer-EMI)

## MD900 XVAOS Update

We recommend that you keep the latest versions of the XVAOS (operating system) and panel firmware up to date. Please visit our product website, direct link: [mayer-emi.at/support](https://mayer-emi.at/support). There you will find, among other things, current versions of quick reference guides/manuals as well as the latest factory presets and of course the update packages and other useful packages.

### USB-Stick

The supplied USB stick is used for data exchange (import/export) and for updating (update) the MD900.



Attention. This USB stick contains various packages from the factory that automatically start and stop the XVAOS when it is plugged in.

Make sure that everything has been saved.

When the packages are stopped, the XVAOS restarts automatically.

## Update of the MD900

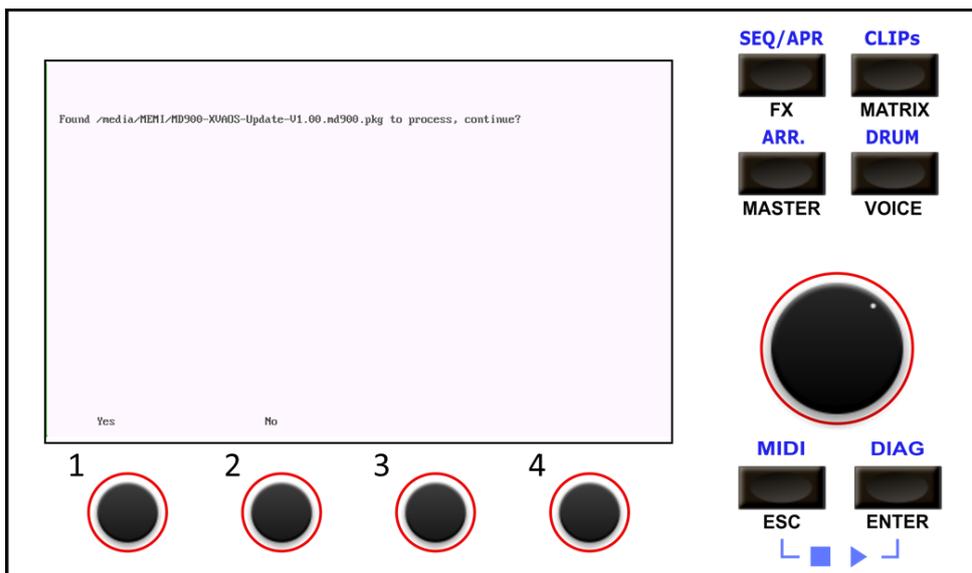
To update the XVAOS, perform the following steps:

- Copy the current XVAOS version file into the root directory of the enclosed USB stick. After that the USB stick should contain the following structure:



Info: The file name may contain a different version number (Vx.yy)

- Properly eject the USB Stick from the host computer and plug it into one of the MD900 USB ports (see [Rear connections](#)).
- After a few seconds, the XVAOS is stopped, and a prompt appears to execute the update  
*Found /media/MEM1/MD900-XVAOS-Update-V1.00.md900.pkg to process, continue?*

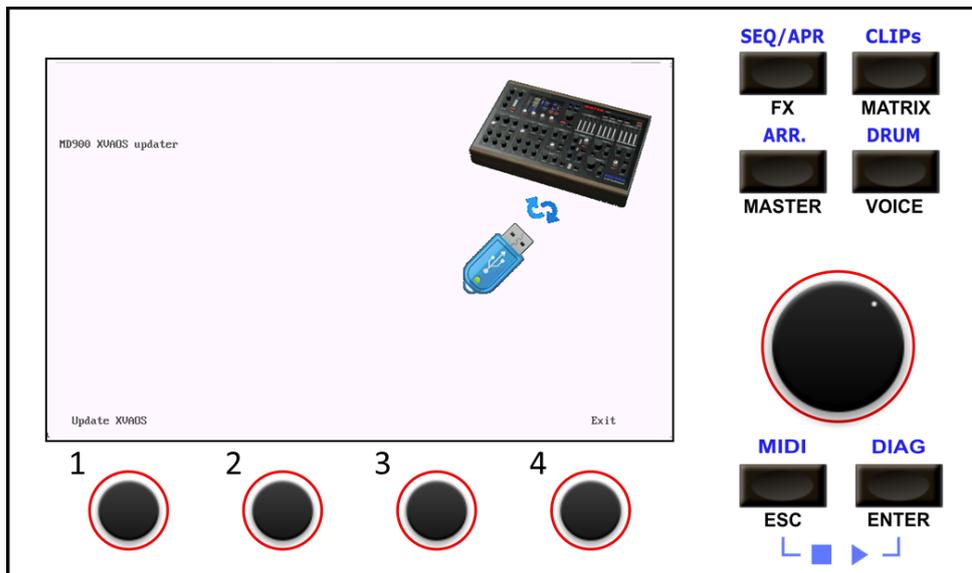


Above the rotary pushbutton 1 appears the option: Yes

Above the rotary pushbutton 2 appears the option: No

- If the displayed file name matches the name of the previously copied file and the update is to be performed, the update process can be started by pressing the rotary pushbutton 1 (option Yes)
- The update file is loaded and checked
- The update menu is then displayed:

### MD900 XVAOS updater



Above the rotary pushbutton 1 appears the option: *Update XVAOS*

Above the rotary pushbutton 4 appears the option: *Exit*

- To perform the update, press turnkey 1 (Update XVAOS option).
- The update is started and confirmed with the following message:

--> *Copy XVAOS update ... ok*

- To exit, press the rotary knob 4 (Exit option). The update menu is closed and the XVAOS is started.

## Quick start

### Playing via MIDI keyboard

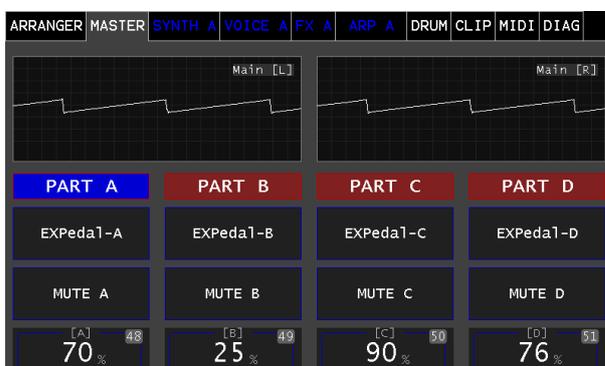
Let's start with the blue PART-A:

- ☑ The MD900 is connected to the included power supply and ready for operation.
- ☑ We have connected a MIDI keyboard (DIN-MIDI or USB-MIDI) and set MIDI ports and channels.
- ☑ The stereo output is connected to a mixer/audio interface/active speakers.
- ☑ Or via headphones, the total volume MAIN-LEVEL & HEADP. are set.
- ☑ In TAB: **MASTER** each synth part A,B,C,D can be mixed in volume.
- ☑ Mute is not activated.
- ☑ EXPedal is off
- ☑ Preset of the corresponding part is loaded. (or [**default**] preset)

Now you should be able to hear the first sounds from the MD900.

In case no sound can be heard from the MD900, we proceed as follows:

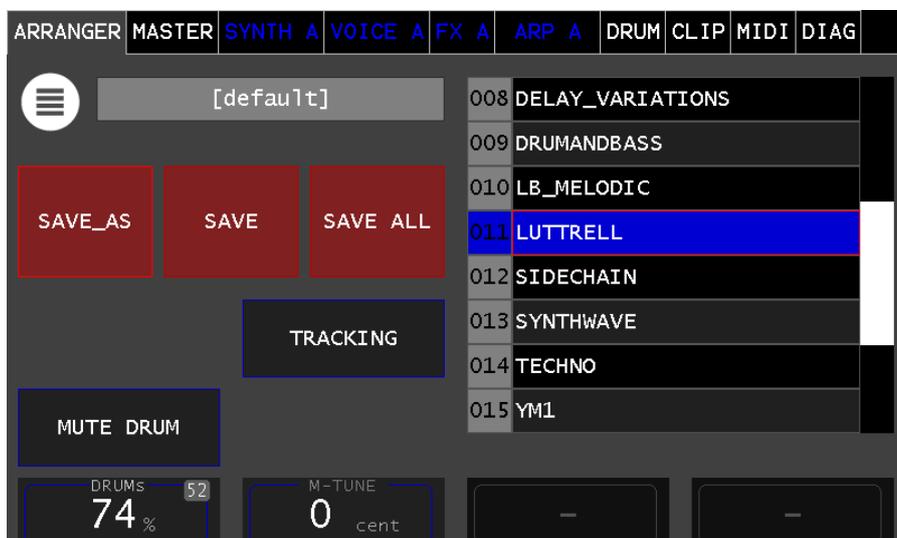
1. in the tab: **DIAG** we can observe the incoming MIDI events. Let's check if the events match our expectations and settings. Correct if necessary.
2. if there are no MIDI note ON/OFF events, please check the device assignment, see MIDI DEVICES or the connected DIN - MIDI Keyboard.
3. in the tab: **MIDI/IN-A** please check the port and channel settings according to the received or desired port/channel/ Start=0 End=192 settings, see MIDI INPUTS
4. volume [A] > 0 % MAIN->LEVEL slider on the panel > 0%
5. we see a signal at MASTER in Main[L] and Main[R].



6. check if the TS jack connection to your monitor system.

## Arrangement

Via the TAB: ARRANGER Demo arrangements can be loaded and started via the clip launcher.



Select from the list and confirm (selection wheel, and press to confirm).

After loading the arrangement, the MIDI settings may need to be adjusted (the MIDI settings are saved in the arrangements). If necessary, save the arrangement afterwards with SAVE/SAVE\_AS to save your MIDI settings

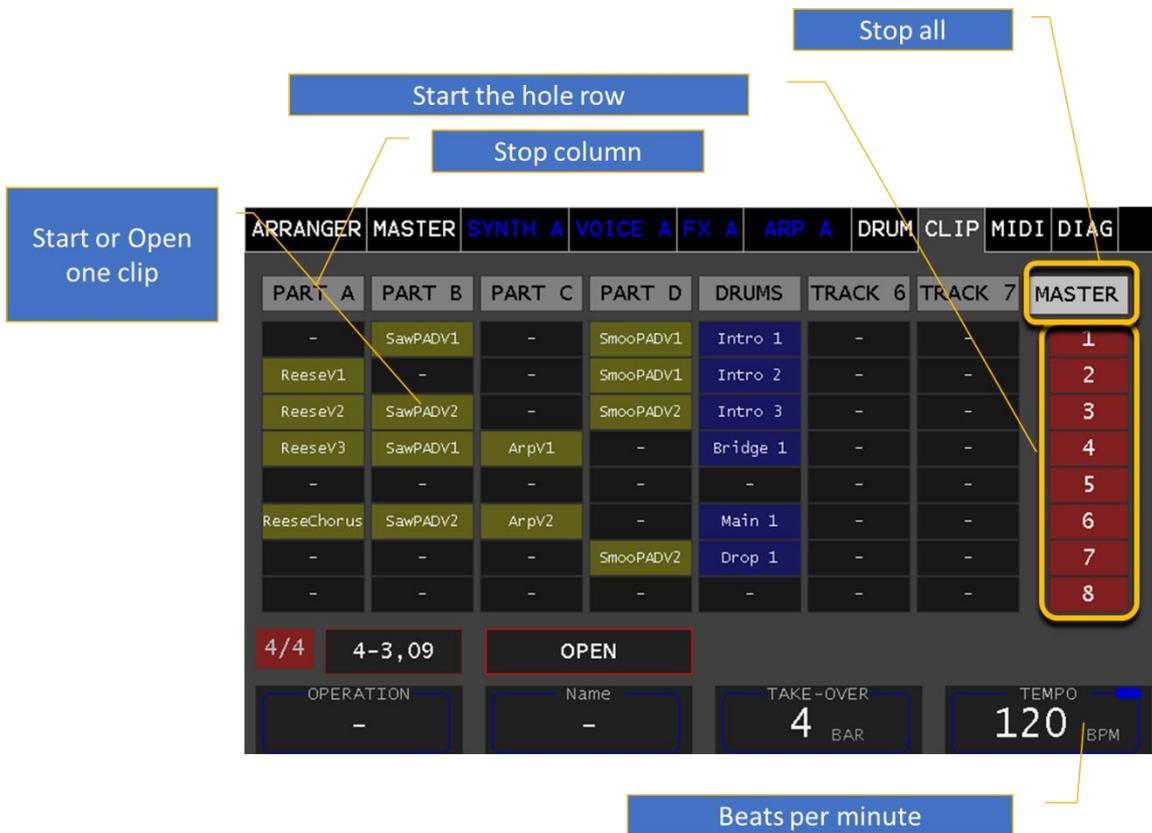


Attention: After starting the MD900 the [default] arrangement is loaded. In this case the MIDI settings are automatically saved as basic settings. If you then save this [default] arrangement with SAVE\_AS under a new name, these MIDI settings will be applied.

If you load an arrangement, the MIDI settings of the arrangement are applied.

## CLIP-Launcher

If an arrangement is loaded which also contains CLIPs, these can be started in the launcher.



The **OPEN** touch button can be used to distinguish between clip start and clip open. If the **OPEN** button has a blue background, the "Piano Roll View" or the "Arpeggiator View" is opened.

The Label: **TAKE-OVER** determines the number of bars until a selected clip is started/changed.

The Label: **TEMPO** determines the beats per minute (BPM) and generates the MD900 wide internal beat.

More details in the "MD900 User Manual".

## Front panel overview

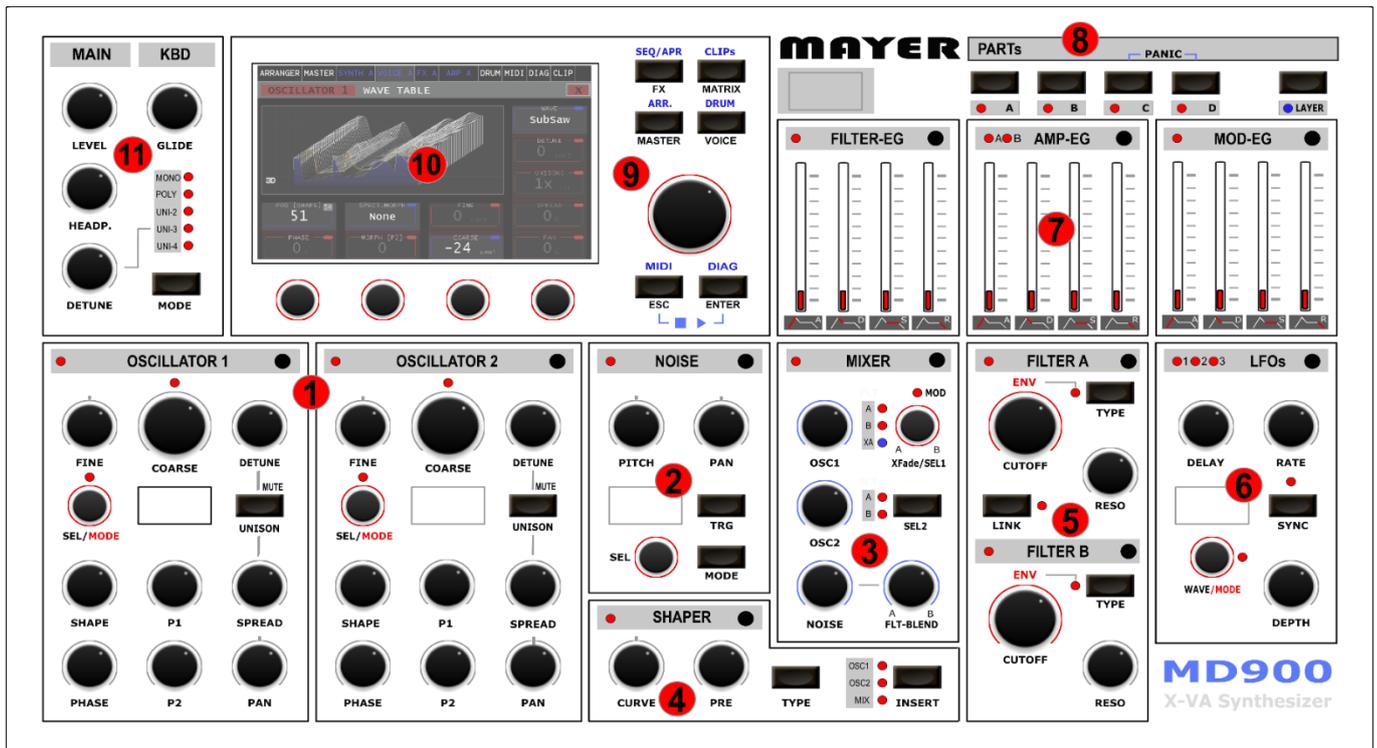


FIGURE 1. [FRONT PANEL]

### Oscillator (Wavetable & Algorithm)

1. NOISE Oscillator (Sample based)
2. Mixer (OSC1 + OSC2 + Noise)
3. Wave-shaper
4. Filter A/B Section
5. LFO Section
6. Envelope Generator
7. PART Selection
8. quick dial keys & dial wheel touch display
9. Keyboard Mode, Volume Main, Volume Headphone

## General panel functions

### Focus button

The sections have a focus key on the right side of the label bar. After pressing this focus button, the corresponding section is displayed on the touch display. On the left side of the label bar this selection is indicated by a red LED, see Figure 2. [Example LFO Section]

Holding the focus button changes to assignment mode and marks this section as source in the modulation matrix, this is indicated by flashing of the LED. Pressing the focus button again terminates the assignment mode. More about this in the MD900-operating manual section [ [MD900-operating manual->Modulation matrix](#) ].

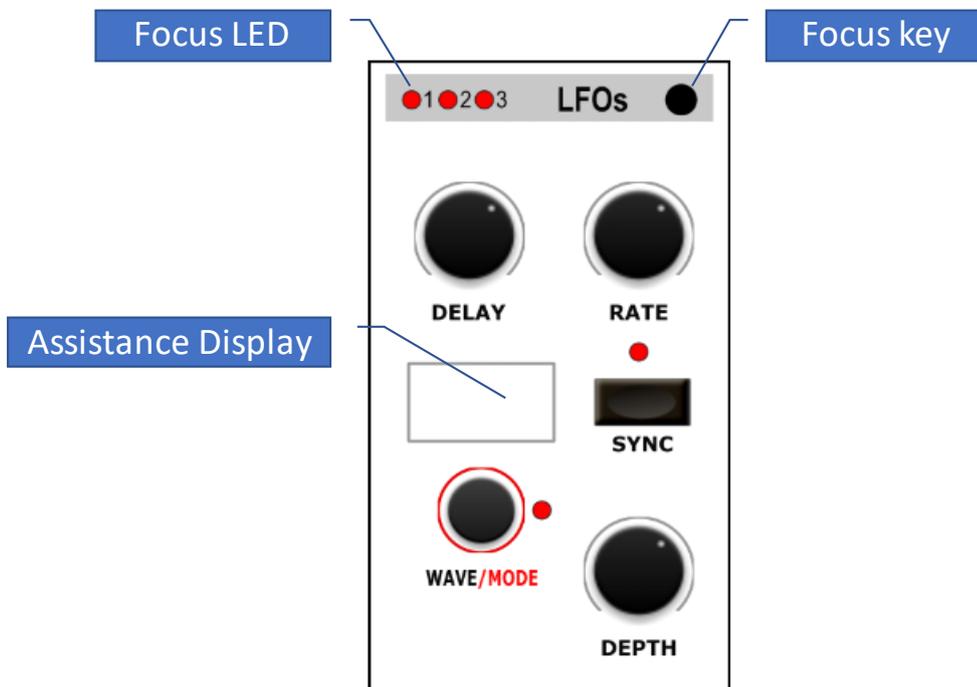


Figure 2. [Example LFO Section]

## Assistance display

Some of the sections have their own assistance display which shows detailed information. Furthermore, parameter details are displayed during setting. This is very helpful for the value retrieval function [see [MD900-operating manual->Tracking](#)].

If a parameter is changed via the controller, the corresponding parameter is displayed. The current value and the controller value are displayed, see Figure 3. [Assistance display]

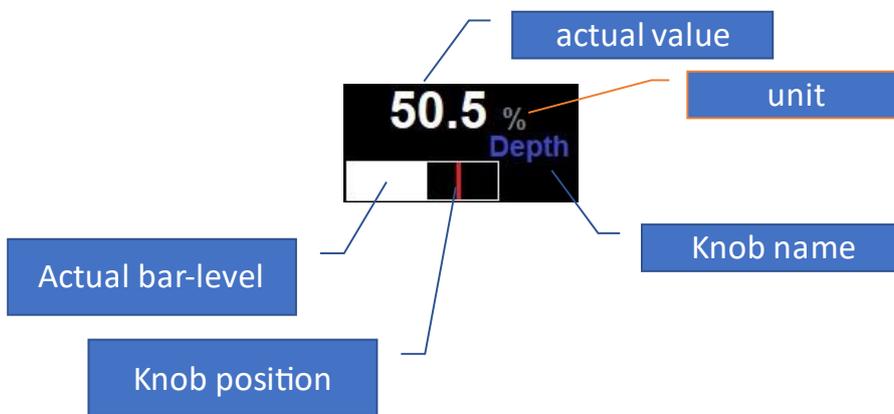
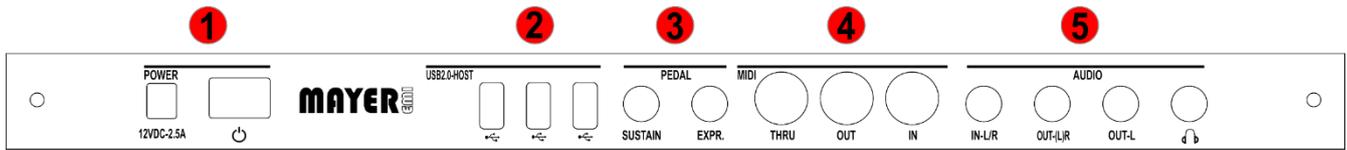


Figure 3. [Assistance display]

## Rear connections



- 1 1 Power supply connector, power switch & indicator light
- 2 USB 2.0 host ports
- 3 Pedal connectors
  - Sustain/Hold Pedal (optional function see Envelope Generator)
  - Expression Pedal
- 4 DIN MIDI interfaces (IN,OUT,THRU)
- 5 Audio connectors
  - Stereo Audio Input (OPTIONAL)
  - Mono - Right Channel / Stereo Audio Output
  - Mono - Left Channel
  - Stereo head phone

## Start-up

The MD900 is powered by an external power supply, connect the supplied power supply to the rear panel jack (12VDC-2.5A) Connect to the Audio OUT with 2 mono or one stereo cable to connect the synth to a mixer/audio interface or amplifier. Alternatively, you can use headphones. The MD900 can be controlled or played by a keyboard or an external sequencer via MIDI (DIN / USB). When shipped from the factory, the MD900 hears from Part A,B,C,D MIDI Channel 1,2,3,4 from the DIN MIDI-IN jack.

After switching on the MD900, the Initial Preset (default) is loaded on all 4 Parts.

The MASTER appears in the touch display when the MD900 is ready to play.



Info: after switching on it takes about 20 seconds then the MD900 is ready to play.

The volume can be adjusted at the MAIN-LEVEL this also changes the volume of the headphones which can be controlled independently at the MAIN-HEADP.

The audio outputs are designed with relatively high levels as it is usual for electronic instruments.

Set the volume on your monitor to minimum before turning on the MD900 to reduce on/off switching noise.

## Connections details

### USB 2.0 host interfaces

The MD900 has 3 x USB 2.0 host interface sockets. At these USB sockets the connection of MIDI "class-compliant" keyboards or controllers is possible. The management of the connected devices is enabled in the MIDI menu (see MIDI settings).

Via MIDI-Learn function most of the controllers can be controlled by MIDI. (see MIDI-learn)



Info: During the switch-on process, the pedal should not be pressed, otherwise the corresponding polarity will not be detected correctly

### USB- storage devices

The connection of USB - storage devices like memory sticks and hard drives is possible. This is used for export/import of arrangements/presets/wave/wavetable/midi-clips.



Info: only FAT/FAT32 file system on the mass storage devices is supported

### Pedal Sustain/Hold

A pedal (normally open or normally closed) can be connected to this mono jack socket. When switching on, the polarity is queried so that pressing the pedal triggers the Sustain/Hold function independently of the switching function.

The function Sustain/Hold can be selected preset (sound program) specific, per Envelope Generator (see Envelope Generator).

- *Sustain*: selects between two different release times.
- *Hold*: keeps the sustain phase independent from releasing the keys on the keyboard

## Expression Pedal

This is a stereo jack socket to which an expression pedal (volume pedal) can be connected. In the Master (see [MD900-operating manual-> Master](#)) the Expression Pedal can be activated per PART (A;B;C;D). By the appropriate selection the volumes of the selected PARTs can be changed with it.

## MIDI IN

This is a stereo jack socket to which an expression pedal (volume pedal) can be connected. In the Master (see MENU Master) the Expression Pedal can be activated per PART (A;B;C;D).By the appropriate selection the volumes of the selected PARTs can be changed with it.

## MIDI THRU

This DIN MIDI Output socket according to MIDI 1.0 specification forwards the signals received on MIDI Input without delay.



Info: If the AUDIO OUT(L)R is to be used as a stereo output, nothing must be plugged into the OUT-L jack socket.

## MIDI OUT

This DIN MIDI output jack according to MIDI 1.0 specification is used to connect external sound generators.

### AUDIO IN-L/R

This stereo jack is an audio input for future expansion (effects etc.) not used yet

Input level < 2Vpp

### AUDIO OUT-(L)R & OUT -L

This stereo jack can optionally be connected to a mixer/audio interface/active speaker using a TS stereo cable, or if mono cables are used, AUDIO OUT-(L)R jack is the Right channel output and OUT-L is the Left channel output.

## TOUCH-display overview

The following Figure 4. [Touch-Display] shows the general controls. The groups 1-4 of Encoder controls allow to set the parameters of the corresponding section (e.g. Oscillator 1). Each group can have up to 5 levels. I.e. the corresponding parameter can be selected on the touch display, this can now be changed in sequence using the endless controller. Pressing the endless controller depends on the parameter and is explained in the corresponding sections.

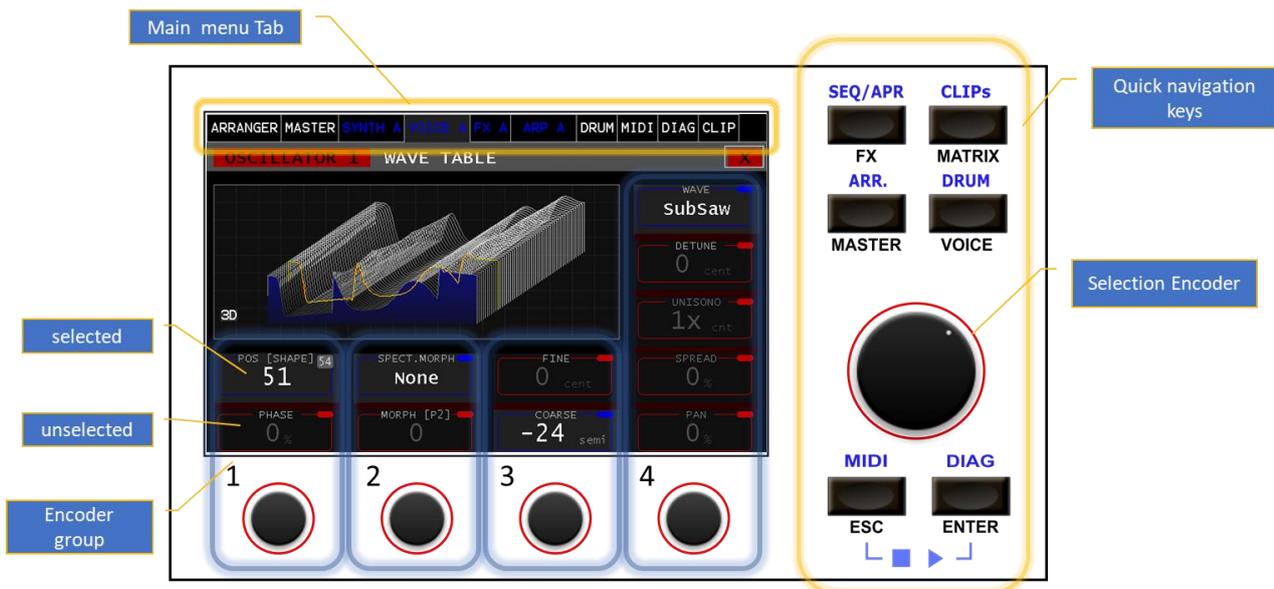


Figure 4. [Touch-Display]

The main menu tab is located in the upper display area so that the menu selection can be made via the touch. The quick selection keys allow an alternative hierarchy-free quick selection in a section or menu.

The black labeled e.g. VOICE are triggered by a short press. A longer press (> 800ms) selects the blue-labeled menu items such as DRUM.

The selection wheel is used for scrolling or selection. A selection is acknowledged by pressing it.

The exact function of the selection wheel depends on the menu and is explained in the context.

Pressing the ESC + ENTER key at the same time starts/stops all active sequencers/arpeggiators/drums.

## Parameter-Label

In the Figure 5. [Parameter Label] the label is shown in detail.

The NAME, VALUE and UNIT of the corresponding label are displayed.

## MIDI-Learn

If the LABEL has a blue marking in the upper right corner of the frame, the "MIDI Learn Mode" can be activated by pressing and holding > 3 seconds. It is indicated by "L". If now a control signal is received from one of the connected MIDI ports, the assignment to this parameter is done and an automatic scaling is performed. Now the CC number is displayed. By holding > 3 sec. again, this assignment is deleted or the "MIDI Learn Mode" is terminated.

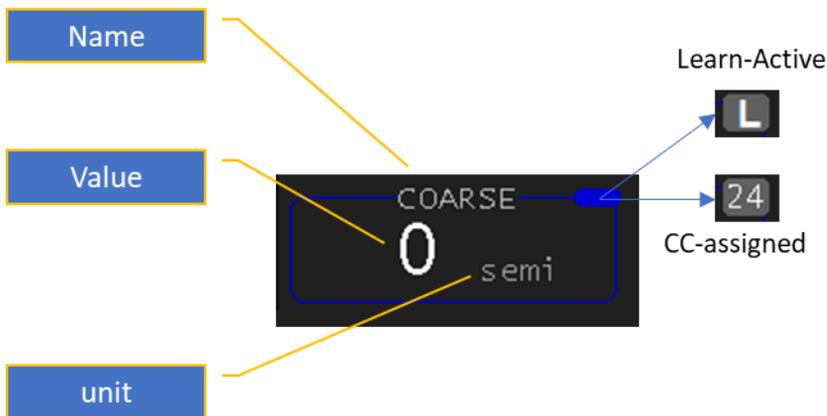


Figure 5. [Parameter Label]

## PARTs

The MD900 is equipped with 4 parts, i.e. it can generate four different sounds simultaneously. The up to 16 voices for these sounds are divided. The advantage is that the polyphony can be distributed to the sounds where it is needed. In other words there are 4 synthesizers (defined as PARTs) that share a common voice pool.

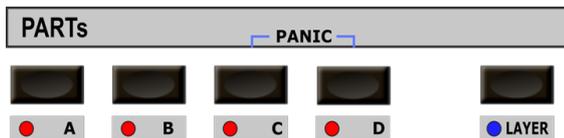


figure 6. [PART selection]



Info: The white labeled menu items are not PART specific and apply generally

Now it is a matter of loading the sound presets for the corresponding PARTs on the one hand and assigning the operation, whether via the TOUCH display or the control panel, to the corresponding PART.

This is done in the PARTs section with the help of the buttons **A-D**. As shown in Figure 6 [PART selection], the PARTs **A-D** are distinguished by colors for better orientation. These colors and letters are also shown in the assistance displays.

## Sample Player

Is as already mentioned out of competition and can be considered as 5th part it can play up to 14 samples simultaneously. This sample player is used for "one shot samples" (drum, percussion, noises etc.) and can be triggered by the internal "drum sequencer" or externally via MIDI channel 10.



Info: The samples for DRUM/NOISE (wave files) can be loaded into the MD900 by the user. Also the wavetable files.

Presets /Arrangements/Drum-kits can also be exported and imported.

(see MD900-Operating manual ->Import/export)



Info: The DRUM sample player is quasi the 5th PART and can play 14 samples simultaneously, it does not need any resources from the synth engine

## Clip-Launcher

This is rounded off by the "Clip Launcher" which can also be operated via an external controller.

With the help of the "Clip-Launcher" an autonomous performance with arpeggiators or sequences (looped MIDI files per clip) or the "drum grid pattern" is possible in an impressive way. These features make the MD900 a "groove box".

The Arranger in the MD900 allows you to save the entire setting that is:

Presets, drum kits, samples, clips, sequencer/arpeggiator settings and arrangement specific MIDI settings. This allows a setting to be loaded and ready to play at the touch of a button.

## MIDI settings

### MIDI Devices

If you want to use a connected USB-MIDI Keyboard you have to map the USB device to a MIDI Port (**P1-P4**). This will then allow us to assign it to a part (A-D).

In the default settings the DIN MIDI In is mapped to P1 . To assign our connected USB-MIDI Device we go to the tab MIDI->Devices see Figure 7. [MIDI Device].

By pressing the touch button **UPDATE** the Devices list (right) will be updated.

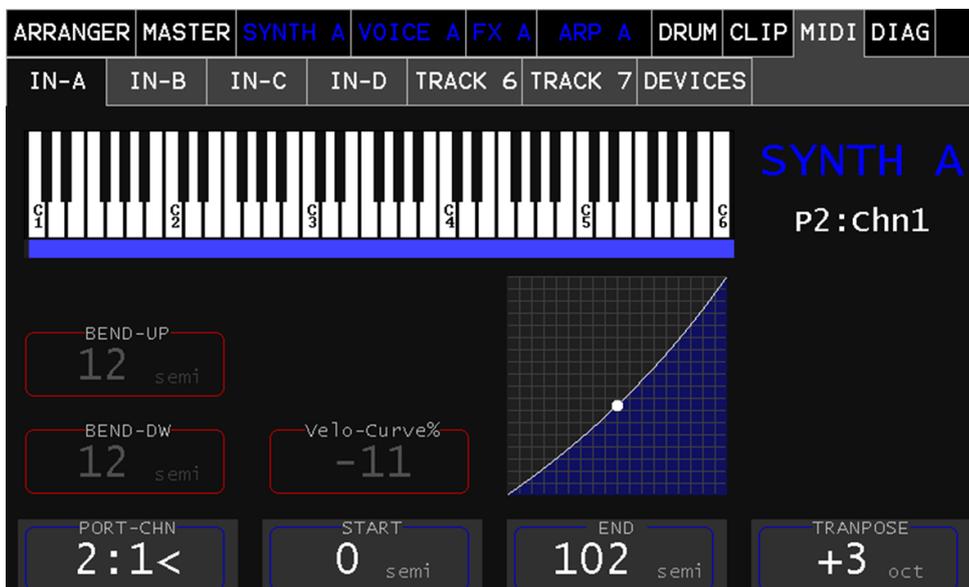
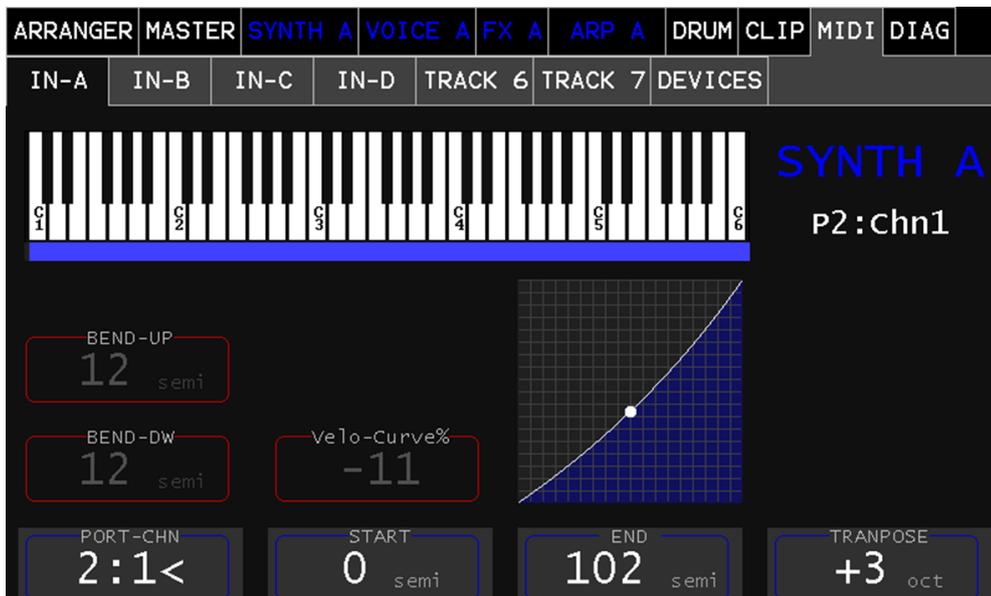


Figure 7. [MIDI Device]

## MIDI Inputs

Now we can use the MIDI inputs and thus set them. To do this, we switch to the corresponding tab **IN-A,B,C,D** In this panel we can set the MIDI inputs (Port & Channel) among others.



The LABEL: **PORT-CHN** allows the selection of the port (e.g. P2). Pressing the encoder key

Figure 8. [MIDI PART Input]



will toggle between Port & Channel indicated by the "<".



LABEL: **START,END** sets the active range where this part accepts note ON/OFF values (useful for splitting the keyboard)

LABEL: **TRANPOSE** shifts up octave by octave

LABEL: **BEND-UP** sets the pitch bend range upwards in semitone steps

LABEL: **BEND-DW** sets the pitch bend range down in semitone steps

LABEL: **Velo-Curve** MIDI velocity correction curve

## SYNTH A(B,C,D)

### Preset selection

This colored main menu tab represents the synthesizer of the corresponding PART. The colored differentiation serves for a better orientation, which SYNTH (Part) is active at the PANEL or in the main menu. In this section **SYNTH A** is used for explanation and applies to the others (**B,C,D**) in the same way and can now be selected and loaded in the same way. See Figure 10. [Presets]

The presets are grouped by the category. With the button of the same name the "Listview" can be switched to the selection of such a category. Figure 9. [Category].

If a category is selected in the list view, the presets are listed and can be selected and loaded in the same way. See Figure 10. [Presets]

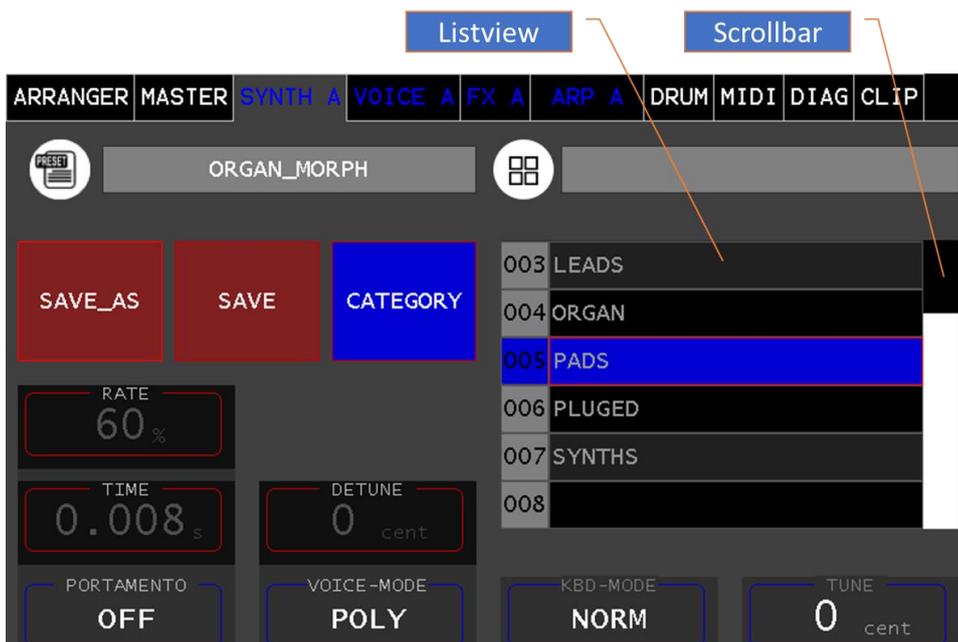


Figure 9. [Category]

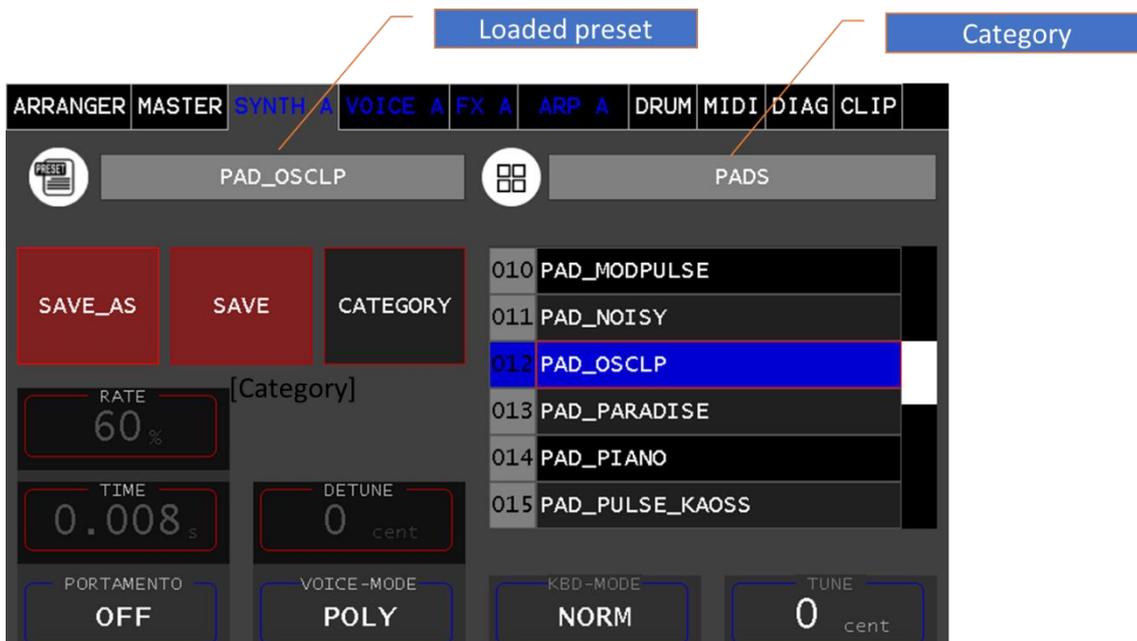


Figure 10. [Presets]

## Save preset

Saving a loaded preset is done by pressing the SAVE button it will save all current settings of the **SYNTH-A** stored under the same name

## Save as

Saving under a new name is done with the SAVE\_AS key, this opens a keyboard, see Figure 11. [ALPHA-KBD]. A "\_" is added to the Current preset name.

By pressing the OK key, the preset will be saved under the entered name.

Pressing the [x] key will return to the preset selection without saving.



Figure 11. [ALPHA-KBD]

## VOICE A (B,C,D)

This colored main menu tab represents the VOICE view and serves as a clear navigation to the individual sections. By tapping on the corresponding section (module), you can access the user interface of the corresponding section. With [x] or at the panel with ESC you return to the **VOICE** view.

Furthermore, it shows the voice allocation. The bar height is proportional to the velocity value. By the identifier **A,B,C,D** the corresponding PART is displayed, by which this voice was requested. If the identifier is an (x) then this voice is disabled, see Figure 12. [VOICE view].

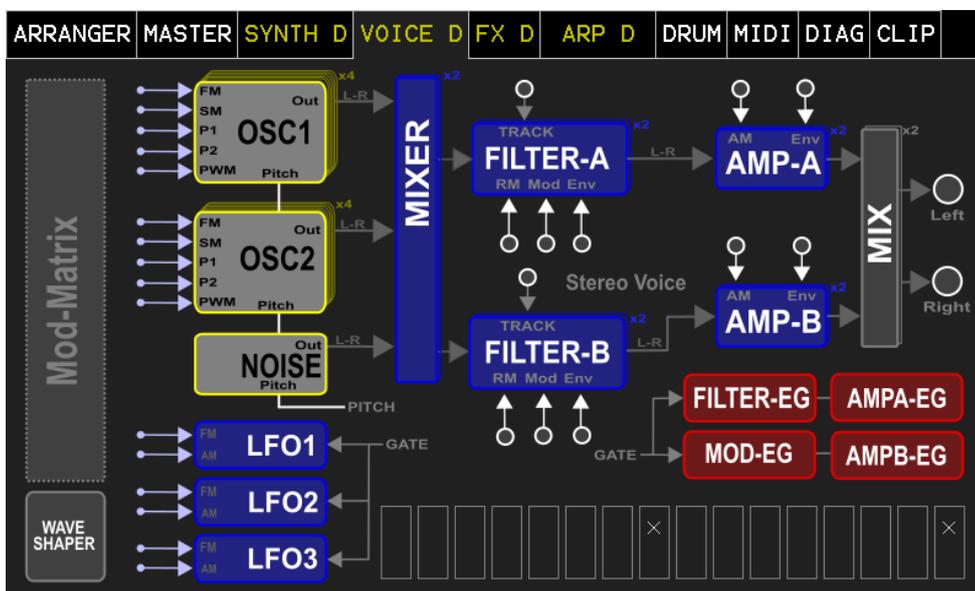


Figure 12. [VOICE view]



Info: The VOICE button on the panel can be used to navigate directly to this menu. See FIGURE 1.

[FRONT PANEL]FIGURE 1. [FRONT PANEL 9

## List of Figures

FIGURE 1. [FRONT PANEL] .....	13
Figure 2. [Example LFO Section] .....	14
Figure 3. [Assistance display] .....	15
Figure 4. [Touch-Display].....	21
Figure 5. [Parameter Label] .....	22
figure 6. [PART selection] .....	23
Figure 7. [MIDI Device].....	25
Figure 8. [MIDI PART Input].....	26
Figure 9. [Category].....	27
Figure 10. [Presets] .....	28
Figure 11. [ALPHA-KBD].....	28
Figure 12. [VOICE view] .....	29