

4MinX



Getting started

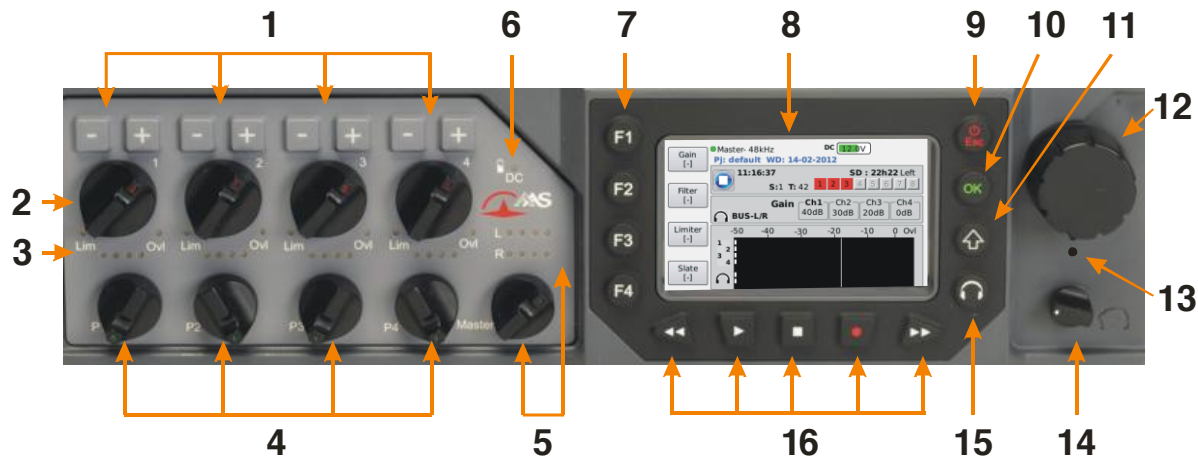


4MinX characteristics may change without any prior notice for improvement purpose

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Front panel & controls



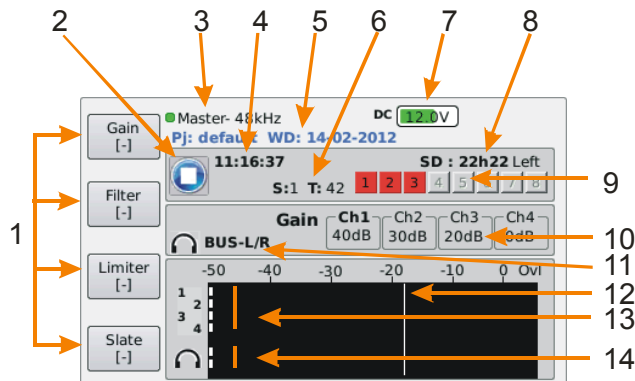
1. **+/- Keys:** These 4 keys control the Mic/Line inputs 1 to 4. Their action is defined by the selection made by **F1-F4** keys. When **F1** gain mode is set by default they enable to adjust the input gain by 10dB step ; Press **F2** to switch to Filter mode to control the digital high-pass filter frequency on each channel, and more if you like (cf 7).
2. **Level controls:** Faders for Mic 1 to 4 inputs.
3. **Level status indicators:** The 4 mic inputs have a 4 segment Post Fader indicator (2xgreen/Orange/Red), one led «high level» (Threshold -12dBFS) and another one to indicate limitors "on" (green) and "activated"

(red). By default, the levels which change the led colors for the level indicators (and the bargraphs) are -50, -40, -18 et -3 dBFS. To modify them, go on [Menu > Settings > Display settings > Metering thresholds](#).

4. **Px Potentiometers:** By default these 4 small potentiometers are not assigned. You can use them as per your needs via [Menu > Audio > P1-P4 function](#) choosing for example to activate the Pan L-R for Mic/Line 1 and 2 inputs, or one fader for AES inputs or Line.

5. **Master:** This potentiometer controls the level sent to the [Mixdown \[Bus\]](#) (and thus the general level of the Mixdown file created by default). The 4 LED segment indicator. You can also increase the Master gain by 6 or 9 dB via [Menu > Audio > Master gain](#).
6. **Battery level indicator:** The LED turns into red when the battery is getting charged by an external power supply and green when it is fully charged. It turns off when 4MinX is running on NP-F battery.
7. **F1 to F4 short-cuts:** The function assigned to these keys may vary depending on the context. When on the main screen, [F1](#) to [F3](#) are linked to [+](#) and [-](#) keys to control the input gain, the filter frequency and to activate the limiter, while the [F4](#) activates the Slate mic. Go to [Menu > Settings > Functions keys](#) to create your own settings and define up to 8 short-cuts by playing with the Shift key and combinations.
8. **3" VGA LCD Screen** (see below)
9. **Power/Esc key:** The [Esc](#) key enables to power on 4MinX (hold on for >2seconds) or to get in or out of the menu. Should you press this key while the unit is on during 10s, this will power it down without saving the settings. Please only use in emergency case.
10. **OK key:** Used at [Enter](#) key for the menus or to validate confirmation messages.
11. **Shift key:** Used in combination with other keys, it gives access to other functions. On 4MinX, it only lasts 30s.
12. **Rotary encoder:** Used to navigate, to scroll up and down the menus. Press the encoder to validate the choice ([Enter](#)) and thus is a quick alternative to the [OK](#) key.
13. **Slate Microphone:** The mic is active when the Slate mode is on. It can be used as a return channel or intercom mic or by using the [Aux](#) for example.
14. **Headphone level:** It handles with the level of the headphone connected on the right side panel of 4MinX
15. **Headphone menu key:** The headphone has its own menu key to define the source and the monitoring mode (mono/stereo/MS, etc.). By pressing twice on the headphone key you switch from one menu to the other. Press [Esc](#) to leave the menu.
16. **Recording keys:** [Play](#), [Stop](#), [Rec](#), [Forward](#) and [Fast Rewind](#) Buttons. To record, press twice [Rec](#). To make it secure, the record is going ahead even when pressing [Stop](#). To really end the record, press twice on [Stop](#). By pressing once on [Play](#) you access the "[reading](#)" screen where the [F1](#) to [F4](#) keys enable you to navigate into the list of previous takes. Pressing twice on [Play](#), you play back the last file. [Forward](#) and [fast Rewind](#) keys help you to navigate into the file by step of 5 second (1minute is the [Shift](#) key is on). Press [F4](#) to leave the reading menu to make other records.

LCD Screen



- Function keys**– These 4 zones show the assigned functions to **F1** to **F4**. By combining with **Shift** key, you get 8 short-cuts for Gain, Phase, Limiter, Solo, Tone, Slate etc...To personalize go to **Menu > Settings > Function Keys**.
- Record** – Status of the recording: Stop, Record or Play.
- Synchronisation** – Mode and sample rate frequency
- Clock** – Time of clock system or Time Code.
- Project Information** – Displays regularly the actual project name, the **Workday** , Scene name...
- Scene/Take number**– please see **Menu > Recording > Project management**. The take number are self-incremented
- Powering** – shows the external powering tension (if connected) and the NP-F battery tension.
- Time left** – shows the time left on the SD card taking into account the card memory size, the sample frequency, resolution and file numbers validated during the recording and their content.
- BWF Status** – These 4 small squares display the status of the BWF files previously defined in the Recording menu. The square turns into red when the file is validated for recording and turns into green if not recorded. For more information, please consult the paragraph "**Arm**" BWF files in this guide.
- 1 to 4 channel parameters**– displays the corresponding settings to the activated key. According to the situation, these keys can show gain, filter, limiter parameters etc...
- Headphone source** – Indicates the selected source for the headphone.
- Reference level** – Above this level (fixed by default at -18dB) the bargraphs turns to yellow and the 4 LED into orange. This threshold can be modified by **Menu > Settings > Display settings > Metering thresholds > Yellow LEDs**.
- 4/8 channel bargraphs** – level indicators assignable for 4/8 channel (scale and ballistic peak or vu, sources) from **Menu > Settings > Display settings : Bargraph Count** to go from 4 to 8 channel bargraphs, **Bargraph sources** for sources selection
- Monitoring bargraphs** – Display the selected source level for the headphone monitoring.

INTRODUCTION

To design 4MinX, we did not fear to go off the beaten tracks to offer you more power and flexibility. We advise you to read this quick getting started guide to start using it in very short time. For more detailed information on each step, do not hesitate to consult the full user manual on our web site:

www.aeta-audio.com

In this guide, we started assuming that most of the main basics are known and that you already have an SD card, one headphone and optional cables (see accessories in the full user manual.)

SETTING IT UP

Powering

Before switching on 4MinX, select one of these 3 potential powering mode:

NP-F battery

A compliant NP-F 970 battery, similar to the one used for Sony Z1 or Z7 cameras would give you 7 hours autonomy. The battery case is located on the rear panel as per the image shows:



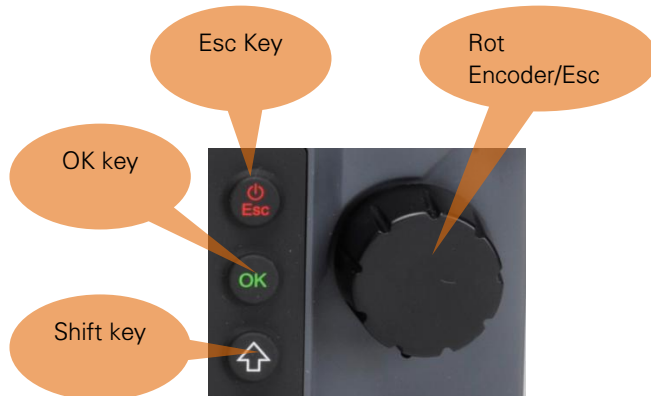
Main

AC PSU main connector is on HIROSE 4 points interface. Should you connect an NP-F battery, the adaptor will recharge it while powering the 4MinX at the same time.

External power supply

You can have an external DC. 4MinX needs 12 V DC but is able to work with tension from 8 to 18V / 800 mA minimum (10 V for the charger). Consult the full manual for the DC HIROSE cabling.

Scrolling up/ down/ across the menus



To set up 4MinX press the **Esc** button for around 3 seconds. The display will then invite you to create a **workday**. To validate, press **OK**. Before going further Let's us tell you more about the menu structure:

- Menu can be reached via **Esc** key
- You turn the rotary encoder to scroll up and down in the menu depending left or right movement.
- To validate you can either press **OK** or directly press the rotary encoder. To make it simple, we use the word "Enter" for validation.
- To leave a menu and come back to the previous one, you can either select the line with '**<**' sign or press on **Shift**

You can also use the **Esc**. In this case you leave directly any menu.

About our conventions in navigating

All along this guide, the instructions on how to navigate are indicated in a different format. The '**>**' sign means that you have to press **Enter** to go to next level.

For example, to set up the mic inputs powering, you can go to: **Menu > Audio > Audio inputs > Input 2 > Power**

It means that:

- Press **Esc** to get the menu list
- Select **Audio** (By scrolling down with the rotary encoder) then press **Enter**,
- Select **Audio inputs** in the list and press **Enter**,
- Select **input 2** in the list and then press **Enter**,
- Select **Power** in the list and then press **Enter**,

You reach the parameters section and can select the powering mode you like for the mic connected on the mic input 2...

It really looks more complicated and long to describe than to do!

Switching on / and off 4MinX

- To switch 4MinX on, press **Esc** for > 3 seconds
- To turn it off, go to **Menu > Tools > Power down**. This method saves all the settings. Please find below the navigating menu structure



To switch 4MinX off, in case of emergency, press **Esc** during around 10 seconds. Take care, this method does not save the parameters changed while operating.

4MinX philosophy

4MinX : File oriented recorder

Available in 2, 4, 6 and 8 tracks, its management is quite different from conventional units.

When you record with 4MinX, you don't record directly on tracks but create directly files which will contain themselves one, two or various tracks depending on the selected configuration.

Thus, the 8 small squares on the screen do not represent the tracks but the BWF files (in red when armed).

It is up to you to determine their content and their type (mono, stereo ou polyphonic) as per your needs and « workflow » of chosen postproduction.

For more information, please read the paragraph on « *Selection of BWF files sources* »

An extremely powerful routing

Apart from the sources that you include in each file, 4MinX offers a strong and detailed routing enabling to define what you send to buses, to analog and digital outputs. For more information, please read the « *point on routing* » paragraph.

Files identification

In order to have an easy identification of your files in directories on the SD card, you can create **Project**. Each **Project** can contain one or various **WorkDay**. In each **WorkDay** you have several **Scenes** each of them containing "**Takes**". Takes can be automatically named according to date, name of the project and the **Scene** etc... For more information, please consult in this guide the paragraph « How to use the projects » as well as 3.5.1 and following from the user manual. In the below example, the project named *Test-studio* has 3 **Workdays**.



AUDIO

Inputs

6 analog inputs:

- 4 Mic/line inputs on XLR3. Inputs 1 et 2 have a PAD, 3 and 4 can also be reached on *MiniCon* Neutrik 12 pins
- 2 line inputs on XLR 5 points

4 digital inputs:

- 2 digital pair on XLR3, AES 3 or AES 42 with 10V powering for digital microphones.

Outputs

8 analog outputs:

- 2 pair of analog outputs on 2 XLR5 on the right side panel (Line Out 1/2, 3/4).
- 2 outputs on Mini jack stereo 3,5mm (idem Line 1/2 at -6dB).
- 2 outputs on MiniCon 12 pins (Ext I/O) located on the left side panel.

6 digital outputs:

- 3 pair of AES3 on TA3 located on the left side panel (Dig. Out 1-2, 3-4, 5-6).

Note: Any symmetrical inputs or outputs can be set as asymmetrical.

Routing

You can change what you send to [Mixdown \[Bus\]](#), in [Auxiliary \[Aux\]](#) or to analog or digital outputs. By default, the signal on the mixer of the [Mixdown \[Bus\]](#) is duplicated on all the outputs (analog and digital) with for example [Bus L](#) on **odd** output, and [Bus R](#) on **even** outputs.

- Should you like to change the default routing, please go to [Menu > Audio > Routing](#)
- To change the sources assigned by default to [Bus](#), choose [> Mixdown \[Bus\]](#)
- To change the sources assigned by default to [Aux](#), choose [> Auxiliary \[Aux\]](#)
- To change the sources assigned by default to 4MinX physical outputs, choose [> Output sources](#)

TO SET UP INPUT 1 TO 4

Microphones powering

The default position is « OFF ».

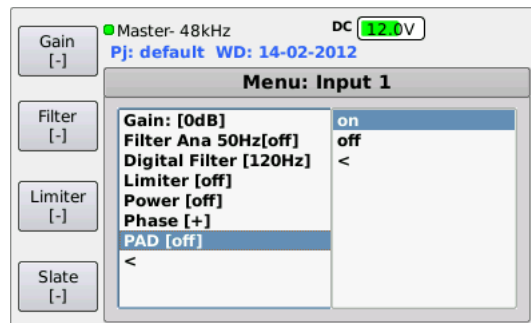
Phantom 48V and Tonnadder 12V can be activated separately on each input via [Menu > Audio > Audio Inputs > Input \(1 to 4\) > Power](#).



Use the rotary encoder to select **48V** or **T12**.

Pad

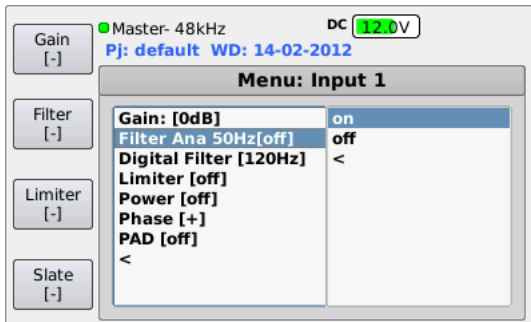
A 20db attenuator is available on input 1 and 2 which can be activated via [Menu > Audio > Audio inputs > Input 1 \(ou 2\) > Pad](#).



Hi-Pass Filter (HPF)

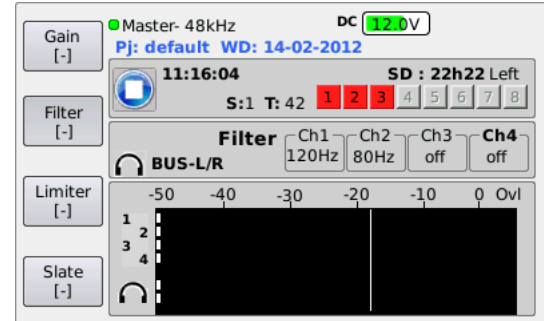
The 4 channels have two different HPF: one analog with 50 Hz frequency and one adjustable analog (50-80-120-160-200-300 Hz). The analog filter can be activated via

Menu > Audio > Audio Inputs > Input (1 to 4) > Filter Ana 50Hz.



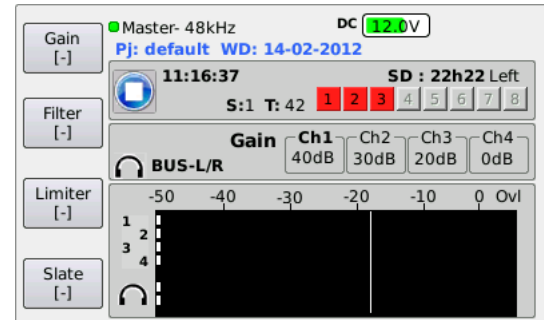
On the other hand, the digital filter can be reached directly from the main screen. By simply pressing **F2** the +/- keys are assigned to HPF settings with display of the frequency for the 4 channels. Press on +/- buttons to select the ad hoc frequency.

You can adjust the filter parameters via **Menu > Audio > Audio Inputs > Input (1to 4) > Digital filter.**



Input gain

The input gain (or Trim) can be adjusted by 10dB step using F1 and same as for filters, the +/- buttons.



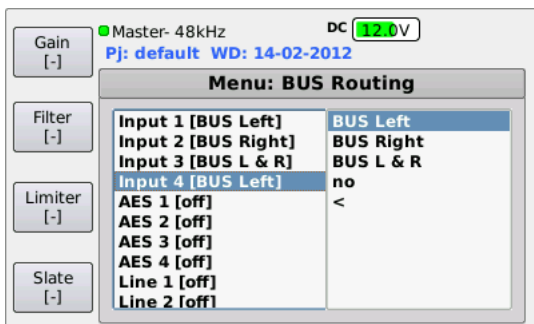
You can also adjust the gain via **Menu > Audio > Audio Inputs > Input (1to 4) > Gain**

Fader

Use the small knobs to adjust the level sent to the mixer. « 0dB » position is reached when having a 12.00 position.

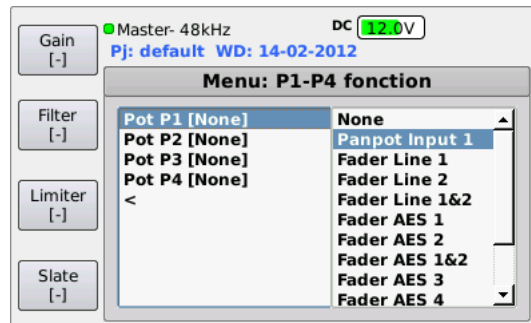
Routing

Please go to **Menu > Audio > Routing > Mixdown**. To change the stereo balance and assign the channels in the Mixdown, you can either chose the **BUS L&R** for centrer, **Bus Left**, **Bus Right**. Select **no** should you don't want to have the source in the mix.



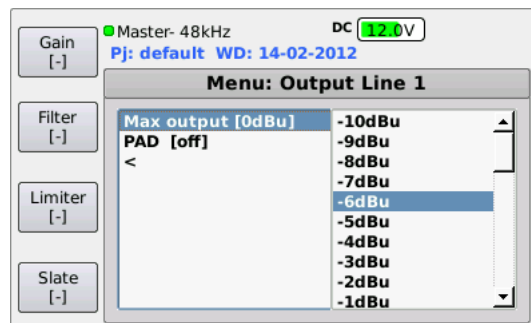
Pan

To get more spatial shades, you can switch to « panoramic », but in this case you need first to assign the multi-functions buttons **P1-P4** to this function as shown: **Menu > Audio > P1-P4 functions**.



Output levels

The max output level on each outputs can be adjusted from -10 to +22 dBu via **Menu > Audio > Audio Outputs > Line out (1 to 4)**. A 40 dB pad is available in this menu to get similar output level to mic level, for example to connect wireless transceivers which don't have line inputs.



Ext I/O port

The Neutrik MiniCON 12 pins connector located on the right side panel offers two additional line outputs to connect wireless transmission to camera, to earphone...Please consult the user manual for cabling. By default the mixdown is assigned there but you can change the setting via **Menu > Audio > Routing > Output sources**.

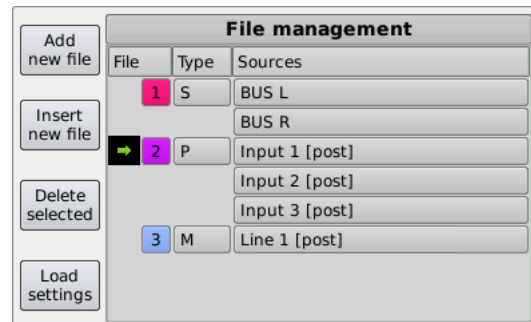
TO CONFIGURE BWF FILES

As mentioned in the introduction, with 4MinX, you don't record directly on tracks but in files including the tracks. For each BWF file you have a small square displayed by default on screen in red meaning that it is armed for recording.

By default, 4MinX record a single stereo file. You can transform it into a polyphonic file including for example the pre-mix (Mixdown) as well as the different pre-fader inputs. For actual postproduction workflow requests, it might be clever to deliver each source as a single mono BWF file.

To create and configure the BWF files, go to **Menu > Recording > File management**.

When reaching the page it appears like this:



Define the file type

A BWF file on 4MinX can be Mono, Stereo or Polyphonic. In the « Type » zone, select '**M**' for Mono, '**S**' for Stereo or '**P**' for Poly and press **Enter**. The number of channel you can have depends on the version of your 4MinX (from 2 to 8 tracks).

Choose the source for the BWF files

To choose the source of an existing file, press first the rotary encoder to select the line on the file, then navigate and select Sources. You get a red text when selected.

Press **Enter** to get the menu showing the available sources. As all the sources are MONO, if the file is stereo (**S**), you need to select two sources which will be then compiled into one BWF file.

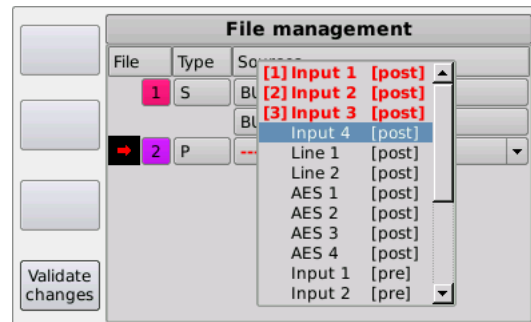
Use the rotary encoder to select the source to be recorded, and then press **Enter** to select it, repeat this action for the next source: the scrolling list will automatically shut down as long as the two sources are selected.

All inputs can be selected in pre fader or post fader.

Source	Description
BUS L & R	Stereo bus Left-Right of the mixer
Post 1 à 4	1 to 4 Mic/line inputs signal
Line 1 & 2	1 et 2 Line inputs signal
AES 1 à 4	AES 1 to 4 inputs signal

Create a new bwf file

To add a new BWF file, press on **F1** (Add new file) in **File management** menu. This will create a new line as shown:



On this new line, you need again to define the type of the file, as well as the sources by using the rotary encoder in the scrolling lists, and validate by pressing **Enter**. Once all sources defined, press **F4** to leave the menu.

Please consider that you can assign each source only one time. After being selected, the source is no more available for other settings.

Please be careful that the new configuration has to be downloaded to become active by pressing **F4** (Load) and confirm by pressing **OK**.

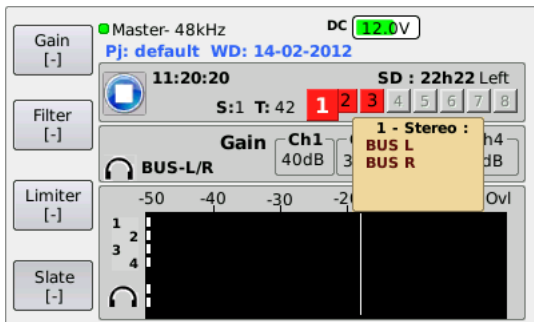
Armed or unarmed BWF files

On the main screen, the 8 squares above the bargraphs indicate the status of the BWF files:

- Grey : no file being defined
- Red : the file is armed. It will be taken into account for the next records.
- Green : The file is unarmed. It won't be taken into account for the next records.

From the main screen, you can arm or unarm the BWF files before recording as you would do with "*Rec Ready*" on a multi-tracks tape recorder.

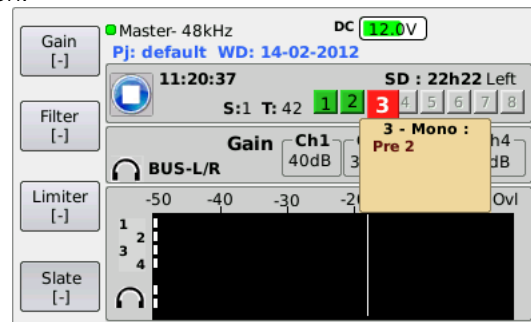
To do so, press on **Shift** then on **OK**. The file content will appear as:



The rotary encoder enables to navigate from one file to the other and see respective contents.

To change the status from « armed » to « unarmed », simply press on **OK**.

The square corresponding to the file turns from red to green.



MEMORY CARDS AND BACK UP

Insert an SD card

Before starting recording, insert an SD card or SDHC, (contacts on the lower side) in the appropriate interface located on the right side panel. 4MinX records audio on memory card SD or SDHC type in FAT 16 or 32 format. Actually the maximum size available is 4 Go (SD) and 128 Go (SDHC). We highly recommend high speed supports class.10 or similar.

Eject a SD card

Please be careful before ejecting your SD card, as you would do with a PC, you need to do it properly and go on **Menu > Tools > Eject media**

Confirm by pressing **OK**

Back up

Backup copies can be done on FAT 32 memory support (e.g. portable USB hard disk to be connected on the USB 2.0 micro port. Attention, USB A port is of type 1, thus it might be preferably used for connecting a keyboard).

PLAY-REC

Record

To start recording, press twice on **Rec**. Should you want to listen on the headphone, you would hear a confirmation beep.

To stop recording, press twice on Stop. Before any action from your side, 4MinX arranges all the files (indicated by Flushing and then Finalizing).

Play the records

To listen what is recorded, press on **Play**. 4MinX goes to « reading » menu and displays the specific page where you can:

- Start playing the last recorded by pressing again on **Play**.
- **Forward** and **Rewind** by step of 5 seconds (1 minute if Shift is activated).
- Navigate in the list of recorded takes with F1 (Next Take) and F2 (Previous Take)
- Enter in Player Management with F3

Please do not forget to press F4 (Exit) to leave the « reading » mode and come back to the main screen to start new records.

HEADPHONE MONITORING

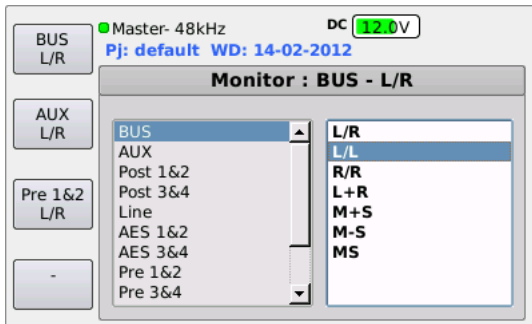
Solo

To listen the inputs 1 to 4 as solo, you need to assign a short-cut to the solo mode via **Menu > Setting > Functions keys >** and choose the available short-cut, for example Shift+F1. Then **-** and **+** keys will enable you to listen respectively the Pre signal or the Post Fader

Select the sources

The default source is the Mixdown, but it can be modified via Monitor menu. To reach this menu, press on the **headphone** button. Press again to select the sources in the scrolling list and press **Esc** to leave.

In this menu you can also define short-cuts. Once you have selected the source, press **F1-F4** to save it. Confirm by pressing on **OK**

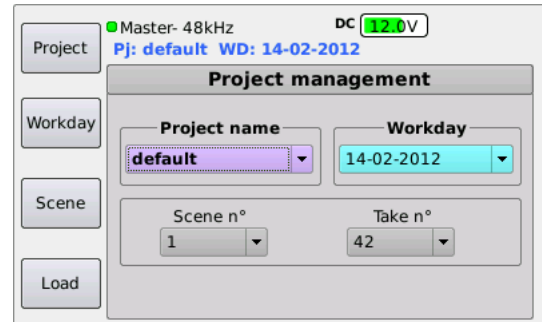


TO USE THE PROJECTS

To ease your work you can use the projects. As mentioned in the introduction, each project "may contain one or various *WorkDay* ». Each *WorkDay* itself gathers a number of "*Scene*" containing "*Take*" which number is incremented automatically. Going further than a tree structure, the project saves also the BWF file configuration. Once created, one can upload the project at any time.

Create a new project

To create a new project, select from menu **Recording > Project management**



Press on **F1** (Project) to access the page to create the project, then press again on **F1** (New project) to name the new project:

Master- 48kHz DC 12.0V

New project name :

Essais_studio

0 1 2 3 4 5 6 7 8 9 . - _

a b c d e f g h i j k l m

n o p q r s t u v w x y z

space

Del

Clear

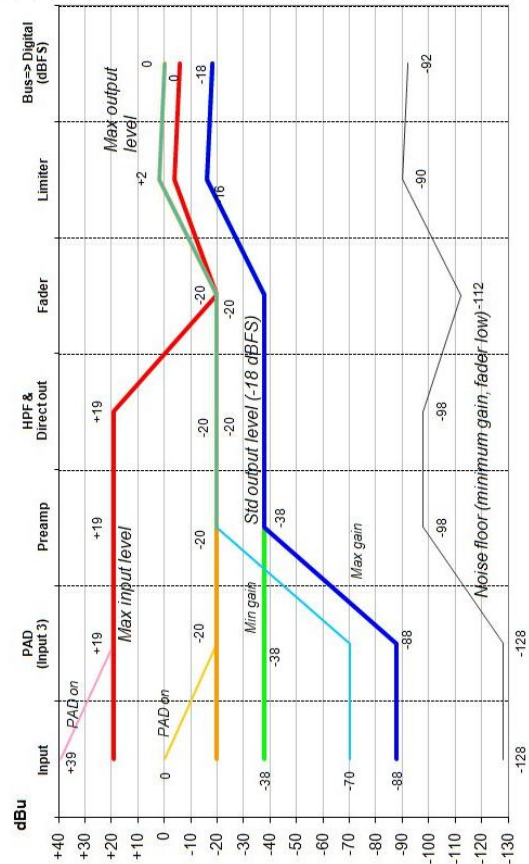
Enter

You can use the rotary encoder to select the character and validate by pressing on the encoder or alternatively plug a USB keyboard (for more information on this point, please have a look at the manual). Press on **F4** (Enter) to validate. Then you can create a new scene name. The **Workday** field may show the date.

The **Scene No.** is set as 1 and **Take No.** at 0. To name the scene you can also press F3 (Scene).... Press **F4** (Load), and **OK** in the validation window to open a new project. The display comes back to the main screen.

Important: be aware that the project also saves the BWF file configuration. Therefore, if you download a new project, the previous BWF file configuration will be erased.

Mic/Line input level map



Left side panel

Mic/Line IN 1 to 4 : symmetrical, analog adjustable gain from 0 to 50 dB by 10dB steps.
20 dB Pad available only on input 1 & 2 .
max acceptable level : +39 dB on inputs 1 & 2, +19 dB on inputs 3 & 4.
Independent control mic powering on the 4 inputs

Ext I/O : Neutrik MiniCon 12 pins connector including 9V powering for HF transceivers and receivers.
Receivers are assigned on inputs 3-4, transmitters receive by default the Bus L -R. To change this configuration, please go to menu Routing (Consult our manual in technical chapter for cabling)



Digital IN 1/2 et 3/4 : AES3 format, AES-42 compatible (10V/250mA). SRC available on the 2 inputs; adjustable gains from 0 to 36 dB by 6 dB steps.

Digital OUT 1/2, 3/4 and 5/6 : Digital outputs 1/2, 3/4 and 5/6 AES3 format on TA3 interface (mini XLR). The Mixdown [Bus] set at default source can be modified via menu Routing.

Right side panel

Headphone:
Stereo Jack
Compatible
Headph. $\geq 16 \Omega$.

**Minijack stereo
Output :**
asymmetric signal
on Line Out 1/2
reduced by 6 dB.

Sync In : BNC for
synchro word clock
on external clock
option

Micro USB A :
USB2 480 Mbit/s interface
for backup. Once the
storage mean connected,
go for **Menu > Recording >
Backup to USB** to start the
backup

Line OUT 1 to 4 : Two 5 pins XLR each of them
including one pair of symmetrical outputs with line level
(1 & 2, 3 & 4). The defined default source is Mixdown
(Bus) but any output can be differently set up via menu
Routing. Level adjustment and 40dB pad activated via
Menu > Audio > Audio Outputs. Y cable (XLR 5 to 2
x XLR 3 pins male) available as accessories.

Line In 1/2 : 2 analog inputs with line level on a
XLR 5 pins. Max adjustable accepted level from
-10 to +22 dBu via **Menu>Audio>Audio Inputs**.
Y cablee (XLR 5 to 2 XLR 3 pins female)
available as accessories.

Direct I/O :
SubD 9
rassemblant
les sorties
OutPre 1 à 4

SD card : Slot for
SD/SDHC.

Ethernet : RJ45
for remote
(to come)

**Time code
I/O :** Lemo
5pins for TC
option

Ext. DC IN : HiRose
4pins for external
additional supply
powering DC 8 - 18 V.
Can also be used for
connecting an AC/DC
adaptor charger



