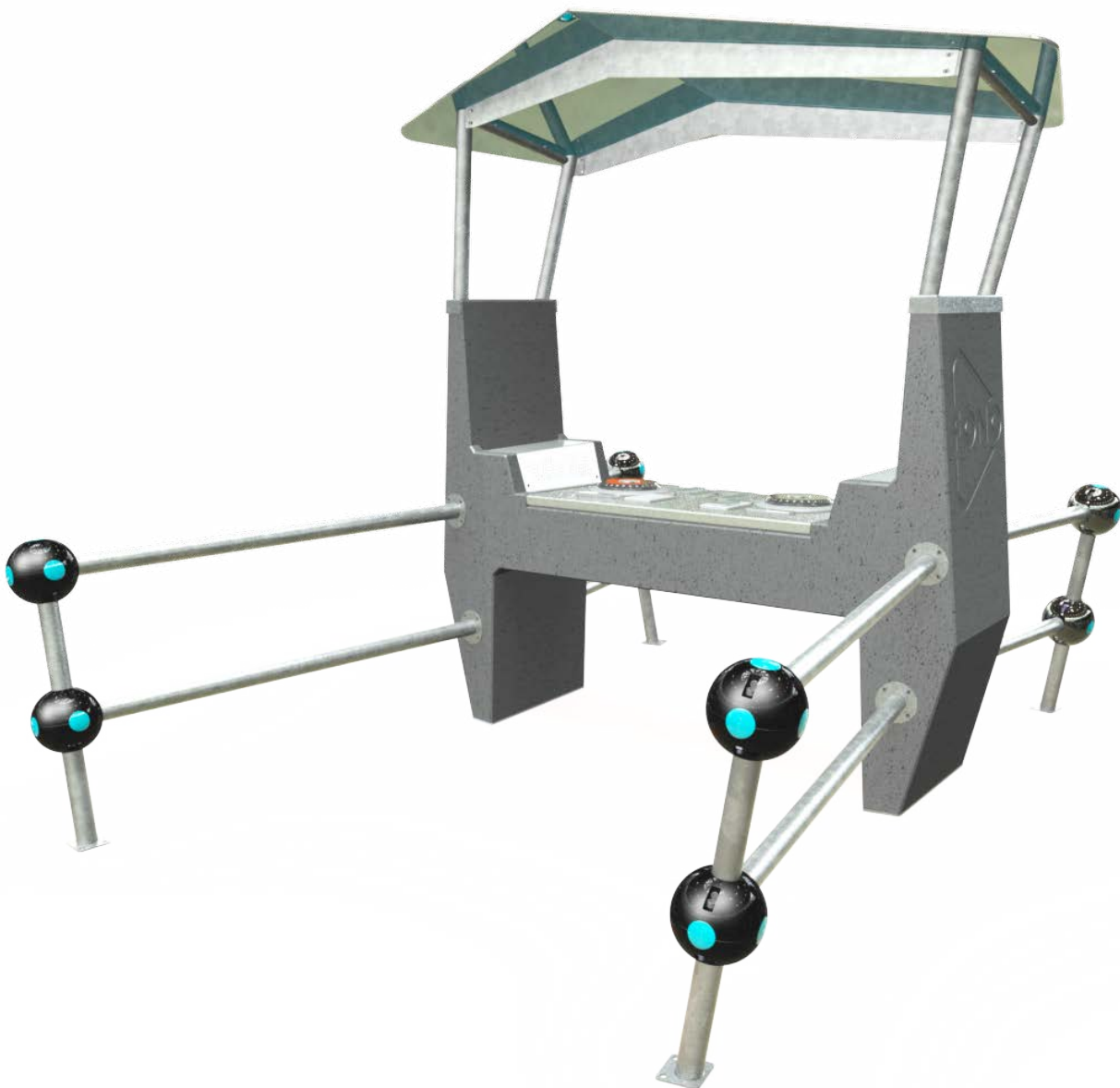


# Fono product manual

## Version 1

4 December 2015



# Index

	Page
1. What is the Fono?	3
2. Installation	4
3. Mains power	5
4. Solar energy	6
5. Fono settings	7
6. Functionality	8
7. Updating the Fono	12
8. Maintenance	14
9. Warranty	15
10. Certification	15
11. Technical information	16
12. Certificate	17
13. Versions	18

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# 1. What is the Fono?

The Fono is a creative hangout for outdoor use. It incorporates an interactive DJ table with which you can use to play and mix your own music. This product manual is about the Fono DJ table.

Key points:

- Challenging for teenagers
- Expressing creativity
- Use your own music
- Compatible with any Mobile Phone or MP3 player
- Eye-catcher
- Freely accessible
- Mobile: Relatively easy to transport
- Self sufficient on power (solar energy)



## 2. Installation

NB. Detailed installation instruction can be found in the installation manual. In this product manual, only the general installation preparations are mentioned.

### Placing the Fono

The Fono DJ table is installed on the surface. A hard surface like concrete is recommended. For placement on soft surface (grass) it is recommended to make a concrete base to put the Fono on, and/or to put sufficient anchoring in the ground.

The Fono DJ table can be lifted by using a forklift, putting the forks under the middle concrete part. Beware to put a wooden plate or some other material in between to prevent damage of the forks to the concrete table!



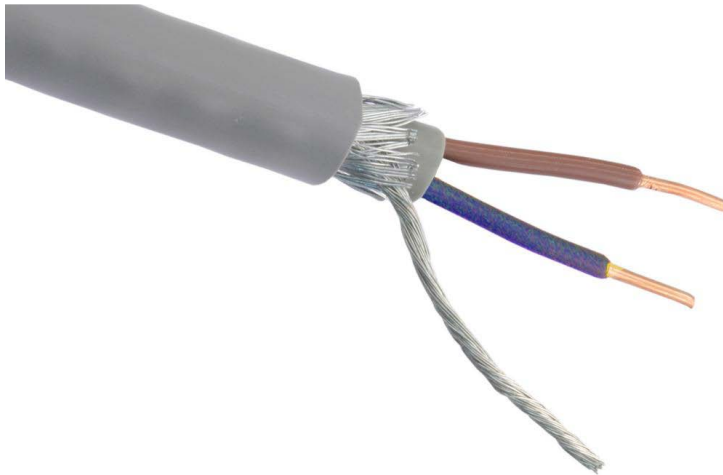
### 3. Mains power

The Fono can be installed on mains power (230V AC).

Every Fono comes with an adapter to connect the 230V to. So every solar unit can also be powered by 230V if necessary. Other power systems are also possible, please notice us if that is the case.

In doing so, it is important to use a doubly shielded power cable for safety reasons, and have this installed on a separate group. The power cable will go into the left foot of the Fono.

The type of power cable to use: Ymvk ground cable, 2 cores, 2,5mm<sup>2</sup> (see picture)

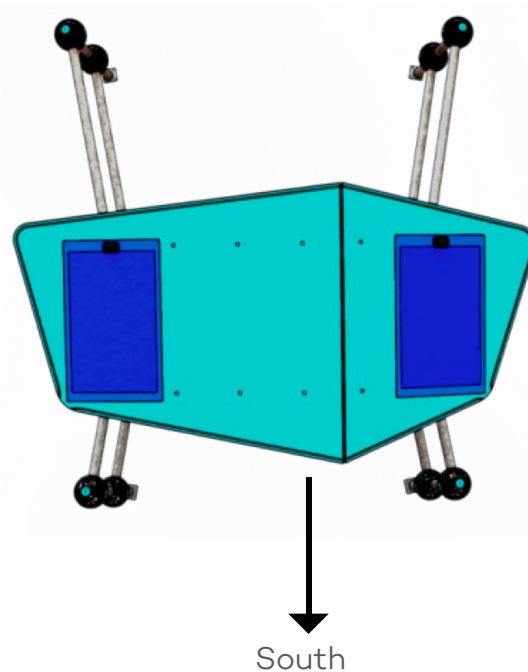


## 4. Solar energy

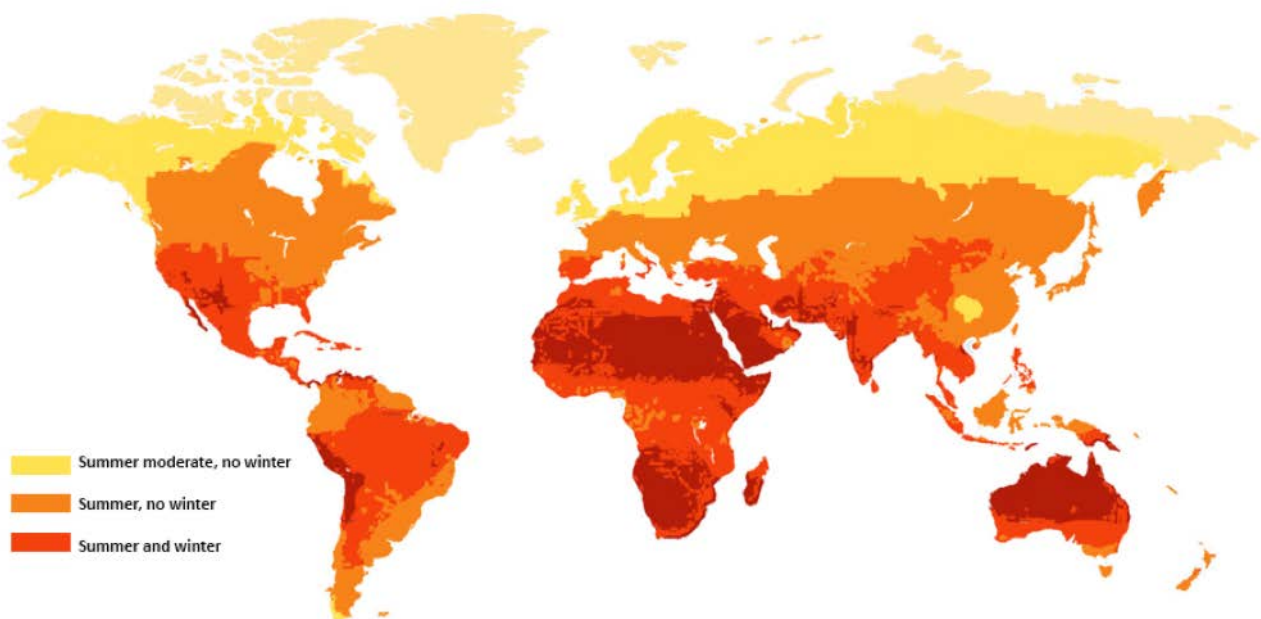
It is optional for Fono to use solar energy as power source. All electronics operate at a safe low voltage (12V).

For efficient power supply, it is important to aim the Solar panels to the South for optimal energy efficiency. If placed North, the Fono power gain efficiency will be reduced to approximately 70% (!!!). It is very important to keep the panels free from shadow!

The Fono DJ table is designed to have 3 hours of play each day in winter time, taking the worst Dutch winter between 2002 and 2012 as the example of worst case scenario.. Please be aware that if energy is getting too low on the Fono DJ table, it will switch off automatically.



Optimal placement of Fono: Aimed south



An indication for suitable locations for placing solar Fono. We advice the yellow areas to use only mains power.

# 5. Fono settings

## On/off

The Fono DJ table can be switched on and off with the clock inside. Three modes are possible:

1. Manually ON (hand symbol visible on display, and text 'on'). The Fono will stay on.
2. Manually OFF (hand symbol visible on display, and text 'off'). The Fono will stay off.
3. Automatic (on time schedule) (text 'Auto' is visible in topleft corner of display, and text 'on')  
With the – button (with the hand symbol next to it) on the clock you can switch between these modes. Also use this button to switch the Fono off and on after an update.

## Setting time schedule

When the Fono is set in Auto mode, it runs on a time schedule. The Fono can be switches on and off and certain times, for each day of the week. This is done by setting the clock inside the Fono.

1. Open the Fono
2. Open the electronics box (grey plastic)
3. Look for the clock (white digital clock with display, see picture below)
4. Press the MENU button until you see the setting PROG, and press OK
5. Choose the day(s) with the + and – and press OK (1= Monday, 2= Tuesday, etc. You can choose multiple days at the same time)
6. OK is blinking. Confirm by pressing OK again. If you want to change the day selection press – or ←
7. With + and – you can choose the setting: ON, OFF or . Confirm with OK (the setting is used for impulses of a short time, and is not advised for Fono).
8. Set the time, hours, with + and –. Confirm with OK.
9. Set the time, minutes, with + and –. Confirm with OK.
10. Set the other days if necessary, starting again with step 5.
11. When done, press MENU.
12. Close the electronics box, and close the Fono.

For more detailed settings look for the product manual of the clock: Hager EG103V.

## Checking the time (on/off)

Choose the eye symbol by pressing menu, and press OK, to view the current settings without risking to delete or change these.

## Sound volume

The sound volume of the Fono can be maximized.

1. Open the Fono
2. Look for the amplifier: A black box named NANO (see picture)
3. Look for the GAIN knob (on the left side).
4. Turn the knob while playing music to set the desired maximum volume.
5. Close the Fono again.



Clock  
(left in the Fono)

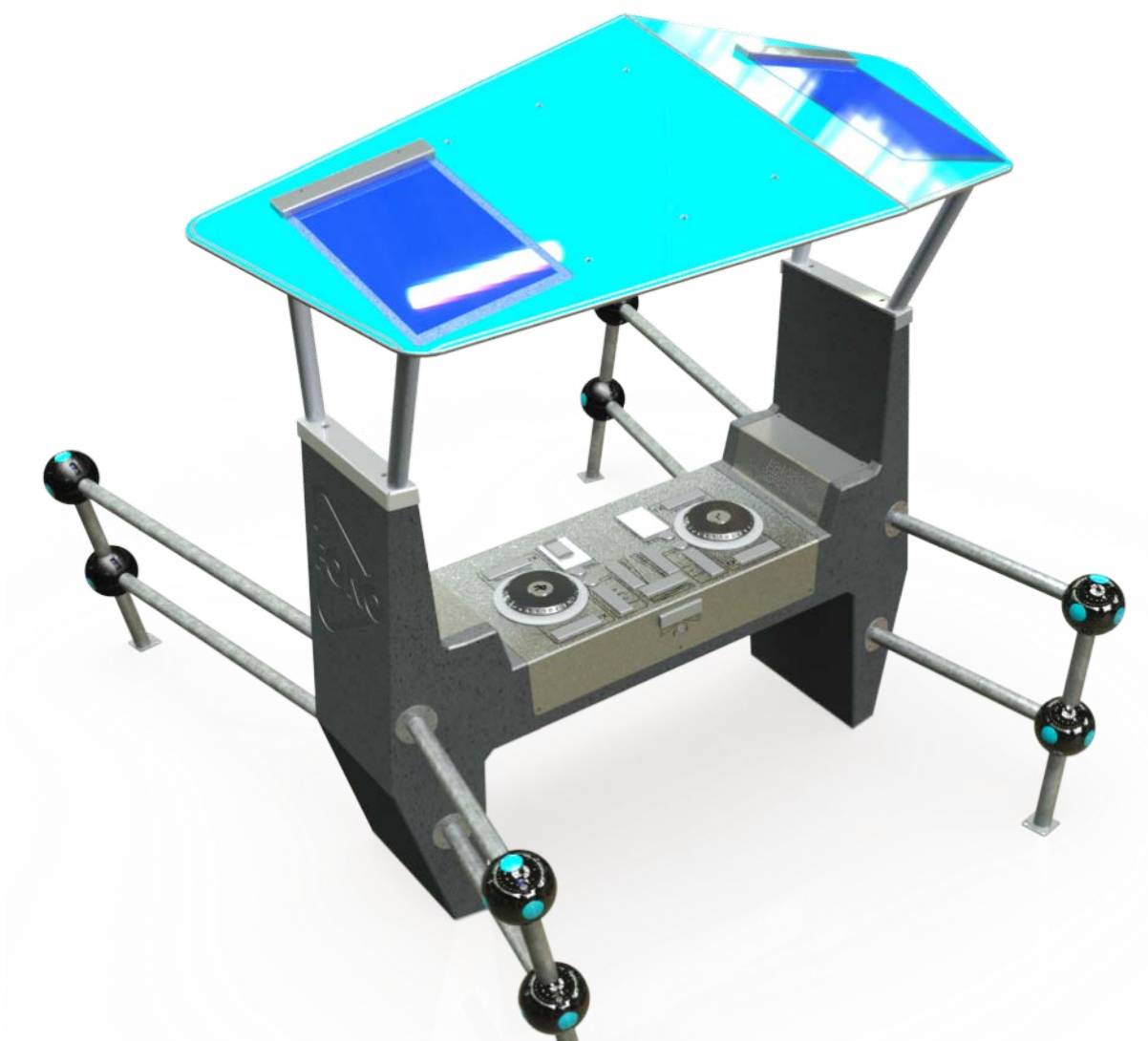


Amplifier  
(right in the Fono)

## 6. Functionality

### General

The Fono has a lot of similarities with professional DJ tables. Real DJ's helped in its development. Please note however, that this is not a professional DJ table, but a DJ table that is optimized for easy use in the outdoor space for a broad group of users. The Fono DJ table is accessible for anyone interested in creative music expression, and interested in what being a DJ feels like.





### On and off

The Fono DJ table can be set 'on' or 'off' at different time, see the chapter Fono settings.

If the Fono DJ table is 'on' it has two possible modes: Play mode and Idle mode.

In play mode, the Fono is in use: It detects an audio signal or a user using the interface.

If the Fono is not in use for 2 minutes it switches to Idle (standby) mode to save energy.

When a user moves a disc of the Fono DJ table, it will switch to play mode again.

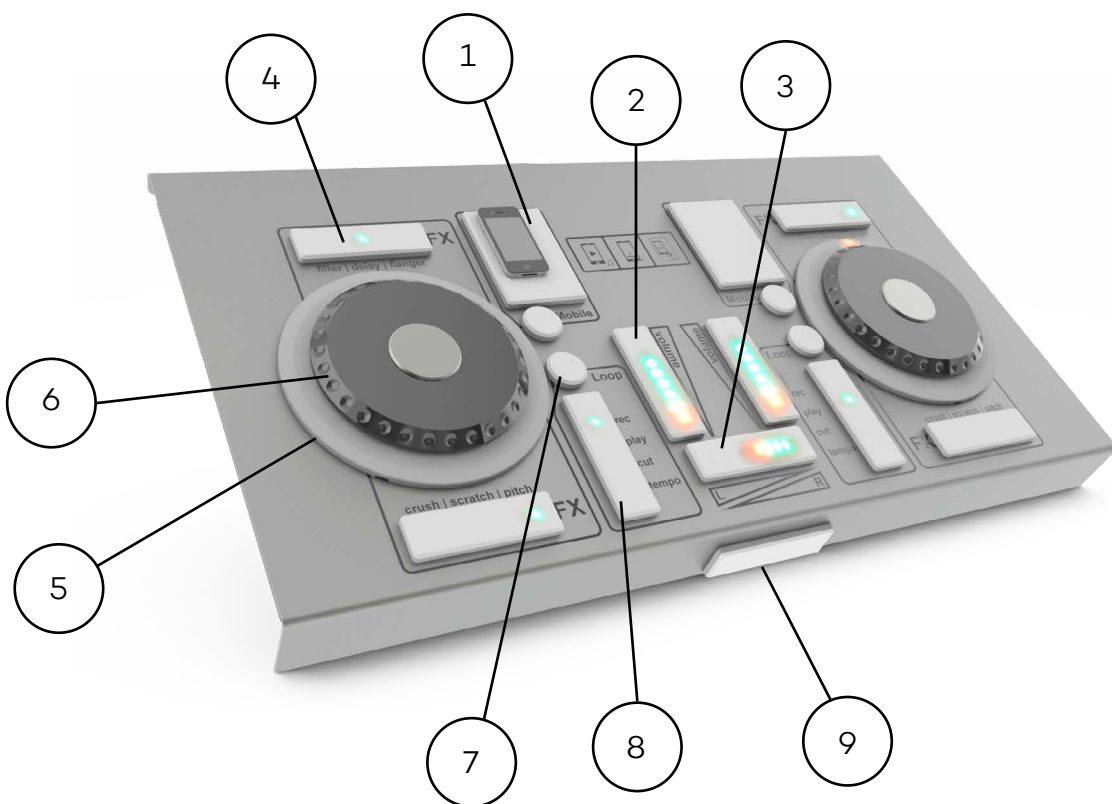
When the Fono is 'off' it only uses power to control the electronic system and protect it against climate influences. If a player is trying to use the Fono, the Fono will not work.

### Using the Fono DJ Table

The Fono can be controlled with its interface. This interface has many functions that will be explained in this chapter. Below a picture of the interface with all functions.

The buttons on the interface are touch sensitive, and can be controlled by the users' hand. The discs of the Fono are real moving parts for optimal control.

The Fono has two channels: Left (L) and right (R). Each with identical functionality



### 1. Mobile Device Pad (IMPORTANT!)

Put your mobile device, in play mode, on the mobile device pad to amplify it's music. Make sure the mobile device plays the music, and volume is set to high. The speaker of the mobile device should be placed on the circle shaped spot. Make sure the volume setting of the Fono is set high enough and the crossfader is set in the right position.

### 2. Volume

Change the output volume of the Fono by using the volume buttons: one for each channel. The more LEDs, the higher the volume.

### 3. Crossfader

Use the crossfader to mix the two channels. Touch the crossfader in the middle, both channels will be heard (red light is only on). Slide the crossfader to the left to hear only the left channel, and vice versa. Please note that if the volume levels of a channel are set to zero, you will not hear sound at all.

### 4. Effects, and the spinning disc and ring (5 and 6)

A total of 6 effects is available on the Fono, 3 above, and 3 under each spinning disc. Only one effect can be active at the same time. The effects can be controlled with the spinning discs. Rotate the disc clockwise to add effect, and counterclockwise to reduce effect. Within one play session, effect settings are saved for the next time you choose the effect. Touch an effect button twice to neutralize the effect.

The 6 effects are:

- Scratch  
Touch the scratch button. Scratch is activated. Move the disc quickly back and forth for a scratch effect. Move the disc slowly to play the music backwards or forwards in a certain tempo.
- Filter  
Touch the filter button. Change the frequency of the music by rotating the disc clock- and counterclockwise.
- Pitch  
Touch the pitch button. Change the pitch of the music by rotating the disc clockwise (higher pitch) and counterclockwise (lower pitch). Unlike professional DJ tables the tempo of the music does not change with pitch, as this is dependant to the live tempo of your phone.
- Delay  
Touch the delay button. You can add delay effect, rotating the disc clockwise. Delay is comparable to an echo.
- Flanger  
Touch the flanger button. You can add flanger effect, rotating the disc clockwise. With flanger, the sound shifts automatically from high to low frequency and back.
- Crush  
Touch the crush button. You can add crush effect to the music, rotating the disc clockwise. Crush is used to 'computerize' the music. It will sound more 'robotic'.

## 7. Mobile / Loop buttons

With these buttons you can choose for mobile or loop function.

Touch the MOBILE button to play the music 'live' from the music phone. This is the standard start-up setting.

Touch the LOOP button to activate the loop functions.

## 8. Loop mode

Touch the loop button, and it will light up indicating loop functions are active.

These are record (REC), Play, Cut and Tempo.

### Record:

Press REC to start recording mode. The button will light up red.

Start recording a loop by pressing REC again. During recording the button will flash red.

Stop recording the loop by pressing REC again, or by waiting the maximum of 10 seconds. Fono will switch to play mode, starting to play the recorded sample right away. The REC button will go off, and the play button will light up green.

(Tip: To get a nice loop time your recording to start and stop on the first beat!)

If you are not content with your recorded loop, try it again by returning to recording mode by pushing the REC button.

### Play:

Pressing PLAY plays the recorded loop, the button will light up green. Press PLAY again to pause the loop, the green light will flash.

While the loop is playing the music of your mobile device is automatically muted.

If you want to play live music from your mobile device again hit the Mobile button (see 7).

### Cut:

Press CUT to cut the loop in half. This can be done 4 times to cut the loop in half, quarter, eighths and sixteenth parts. After that pressing CUT will set the loop back to full length again.

(Tip: use this function to create a 'drop': build up tension in the music).

### Tempo:

Press TEMPO to be able to change the tempo of the loop. The TEMPO button will light up green. Rotate the disc clockwise and counterclockwise the change the tempo of the loop in realtime.

Press TEMPO again to save the new tempo.

Pressing TEMPO twice sets the tempo back to the original settings.

## 9. Headphones

Connect your headphone to the front socket (3.5mm mini-Jack) of the Fono.

The touch button above the headphone connection controls what the user is listening to. Move the slider to the left to hear the left channel, and vice versa.

# 7. Updating the Fono

New software can be uploaded on the Fono, using the update tool.

Needed:

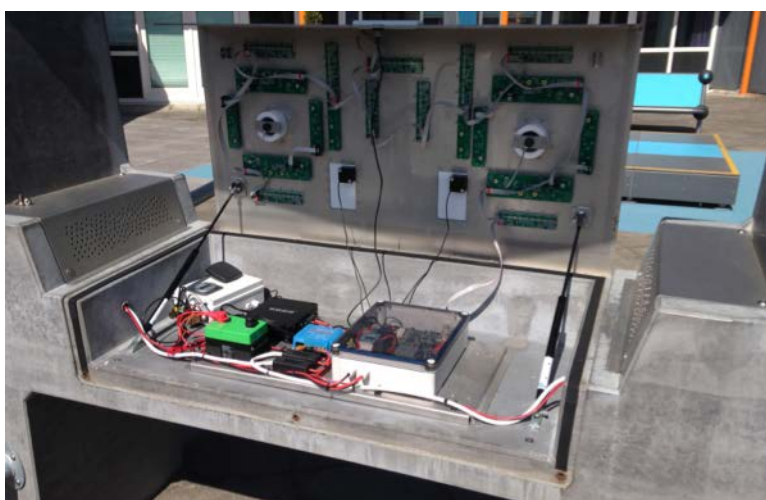
- PICKit3 tool (supplier is Microchip)
- Laptop with windows XP or higher
- Software: MPLAB IDE, version 8.XX or higher (<http://tinyurl.com/5w6l9>, bottom of page for download)
- A \*.hex file with the latest software to update on the fono
- A Pintorx-45 screwdriver (Torx security bit)
- A Philips screwdriver (5 mm)

## 1. Install MPLAB IDE

- Download the program MPLAB IDE with the link above
- Install the program, use the complete settings.
- Attach the PICKit3 tool to an USB port (always use the same port!)
- Open MPLAB IDE
- Go to configure/select device/PIC32MX575F512L in the top bar
- The program is now configured

## 2. Open the Fono

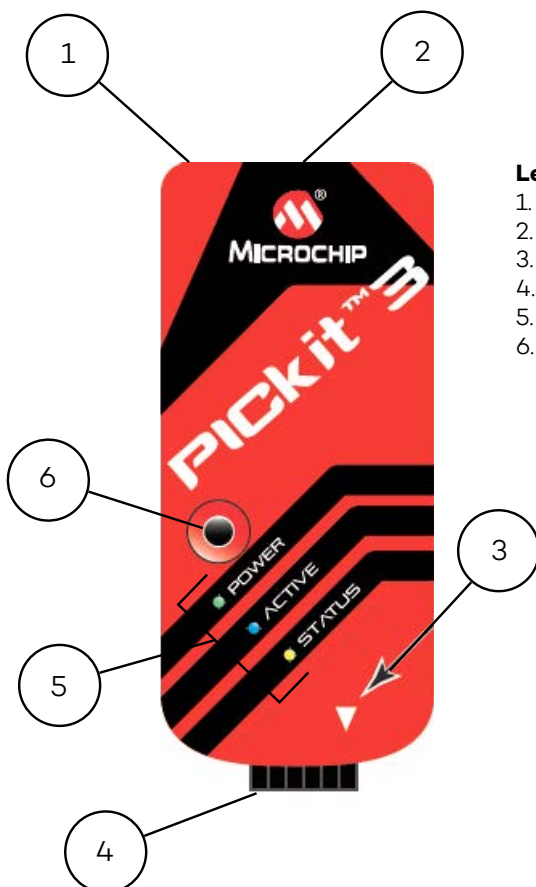
- Open the Fono (unscrew the three screws and lift cover)



- Open the electronic box (grey plastic)
- The main computer is the green printed circuit board

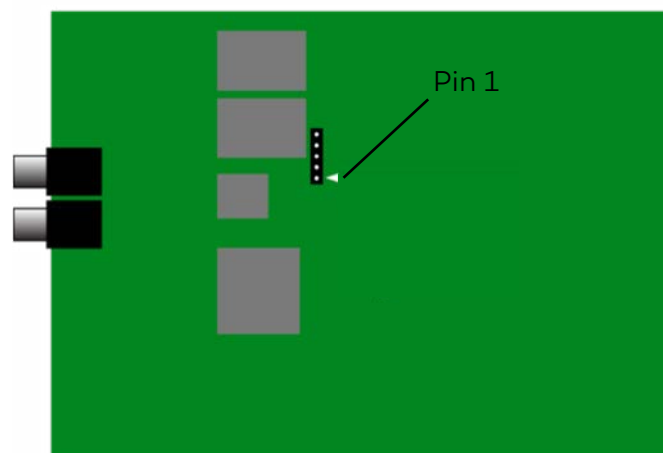
**3. Install new software on the Fono**

- A. Attach the PICKit3 tool to an USB port (always use the same port, do not press the small button)
- B. Open MPLAB IDE
- C. Go to configure/select device/PIC32MX575F512L in the top bar
- D. Plug in the device on the PCB according following picture. Be sure that the most left hole in the pick-it tool isn't used.(the Fono must have power!)
- E. Go to programmer/select programmer/PICKit3 in the top bar
- F. The PICKit3 tool will now try to read the memory of the PCB. When it is successful, it will tell in the window and you can continue to step G. Else, you have to check the setting/power, etc
- G. Go to file import and select the latest \*.hex file
- H. Go to programmer/program in the top bar.
- I. When you get the message: programming verify complete, you have installed the new software
- J. Disconnect the USB device safely
- K. Restart the Fono by unplugging the power, wait for 10 seconds and plug it in again.



**Legend:**

- 1. Lanyard connection
- 2. USB port connection
- 3. Pin 1 marker
- 4. Programming connector
- 5. Status LEDs
- 6. Push button (do not press this button)



## 8. Maintenance

To keep the Fono DJ table in top shape, it is necessary to:

- Clean all parts twice a year with a soft cloth, and lukewarm water with soap
- Pay extra attention to cleaning the solar panels regularly
- Test the Fono twice a year if all works well. Please report anything that is unusual.



## 9. Warranty

We give warranty on the Fono. The warranty terms are determined for the different parts:

- 3 years expiring warranty on all electronics (first year 100% warranty, second year 2/3rd, 3rd year 1/3rd warranty of part price)
- 10 year warranty on the steel and concrete construction

Ask for our warranty terms for more detailed warranty information.

## 10. Certification

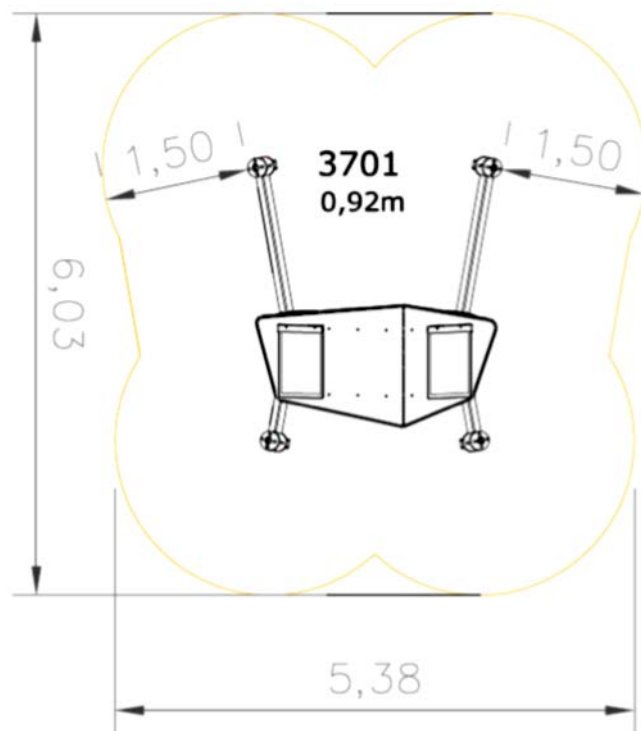
The Fono complies with the latest Safety Regulations of the European Union:

- NEN-EN 1176:1 (Play equipment)

The certificate can be found on the last page of this manual.

The Fono DJ table is street furniture and can be treated in the same way as other street furniture.

When placed in a playground, where the Fono DJ table can be used as a playground device, additional demands are applicable. The fall height in this situation is 0,92m and the safety zone around the Fono is 1,5m (see picture). Please inform us for the correct drawings.

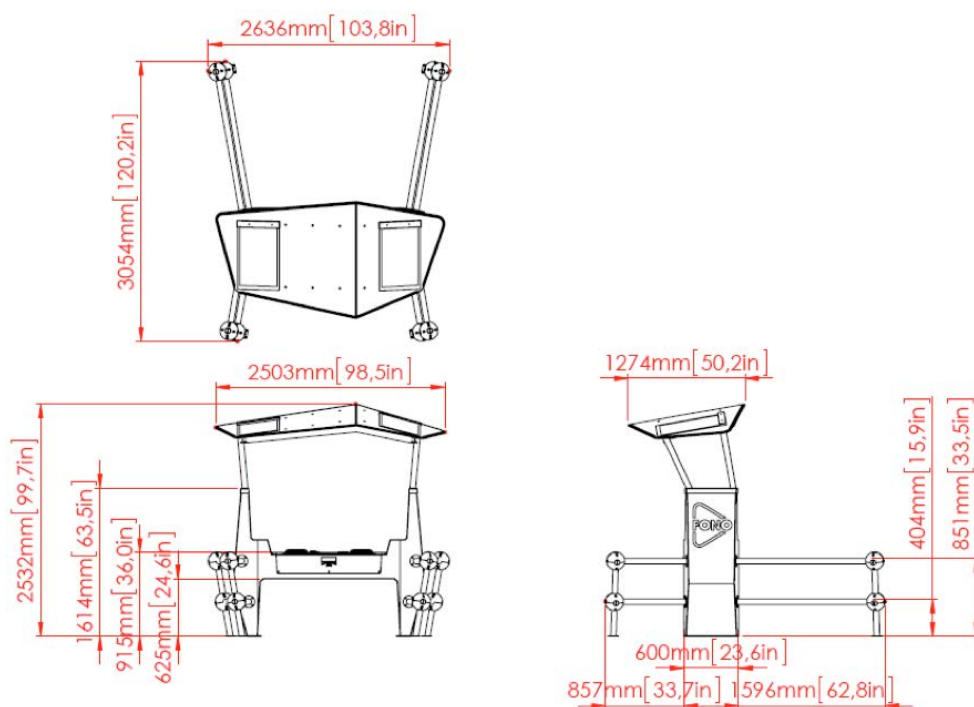


# 11. Technical information

## General information

Loading space	2,15 x 0,8 = 1,72 / 2,4 = 0,72 = rounded 0,75 loading space
Weight Fono excl. seating tubes	± 1370 kg (± 3020 lbs)
Weight Fono incl. seating tubes	± 1435 kg (± 3163lbs)
Ground surface Fono	3,1 x 2,3 x 1,6 m (L x W x H) (10,5 x 7,6 x 5,2 ft)
Dimensions Fono basic table	0,6 x 1,9 x 1,6 m (L x W x H) (2,0 x 6,2 x 5,2 ft)
Dimensions Fono complete	2,5 m x 2 m x 1,6 m (L x W x H) (8,2 x 6,6 x 5,2 ft)
Transport	
Weight Fono in transport box	± 1650 kg (± 3638 lbs) (transport box=283kg (624 lbs))
Height Fono in transport box (including extended roof)	2,10 meters
Outer dimensions transport box	2,26 x 0,77 x (2,05) m (L x W x H) (7,4 x 2,5 x 6,7 ft)
Electronics	
Input	Solar Power Or 230V mains power (optional)
Output	12 V DC
Volume	Max volume (100dB) and regular volume (70dB)
Energy use	
In use	11 W
In idle mode (standby)	4W
Off	1 W
Battery (Fono on solar power)	Lithium Ion (high durability)
Type	9,6 Ah
Capacity	Approx. 9 hours on regular sound volume (higher volume = faster energy consumption)
Hours of play	

## Dimensions





# *Certificate*

## Certification Institute

### Playground Equipment

Certificate of approval issued by Keurmerkinstituut (Certification Institute), appointed by ministerial disposal of 8 June 2004, number VGB/P&L 2478562.

Certificate number:	132512
File number:	9053
Concerns:	Fono DJ Table
Description:	YA 3701
Owner/keeper:	Yalp Nieuwenkampsmaten 12 7472 DE Goor Netherlands
Equipment type:	DJ-table with roof and solar panels
Manufacturer:	Yalp, Goor
Year of production:	2013
Supplier:	Yalp, Goor
Year of delivery:	2013
Approval date:	22 juli 2013



Keurmerkinstituut, Groeneweg 2e, Zoetermeer, The Netherlands, hereby declares that the here mentioned playground equipment conforms to the requirements of Warenwetbesluit attractie- en speeltoestellen (Staatsblad 474, 27 September 1996), EN 1176-1:2008.

drs. W. van Weperen  
director

# 13. Versions

**Version/Date:**      **Adjustments**

v1/16-12-2015

-Added picture of powercable

