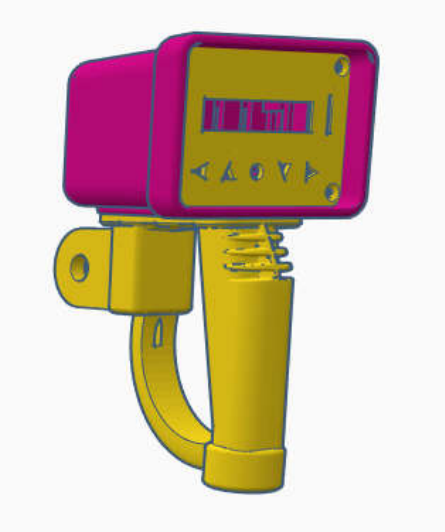

MAG-IC 3D

User Manual

spare

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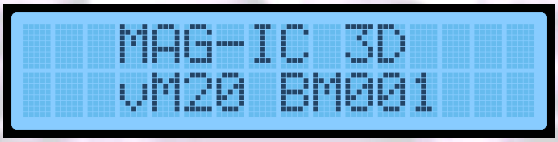
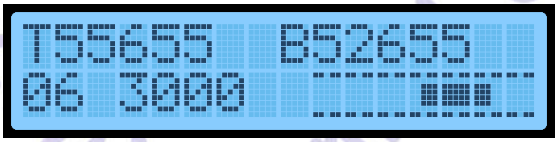
Startup – welcome screen



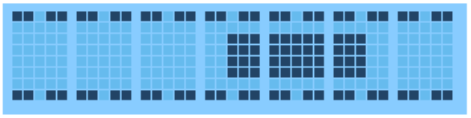
„MAG-IC 3D“ – brand name
„vM20“ – code version
„BM001“ – serial number

Main screen – working screen



„T55655“ – Top sensor value
„B52655“ – Bottom sensor value
„06“ – current number of samples in a column
„3000“ – difference between sensors

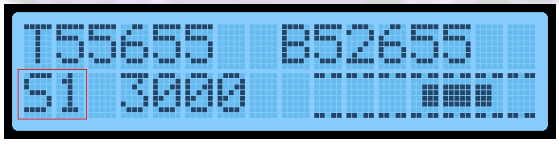
Bar scale display and meaning



negative anomaly | positive anomaly
zero point

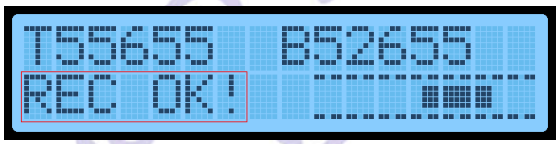
Key function in Main screen

Press on  key shortly displays „**Sx**“

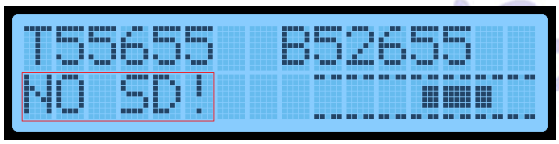


(where „**x**“ is current value) and increase audio sensitivity by one. Minimum is „**S1**“ and maximum is „**S9**“. When sensitivity is at „**S9**“; on next press it returns back to „**S1**“.

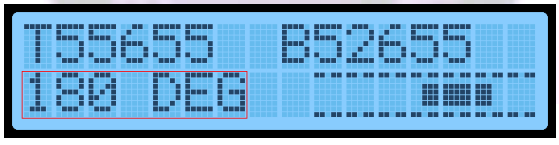
Press on  key store current sample values in file on SD card. If SD card is inserted and valid it will display:



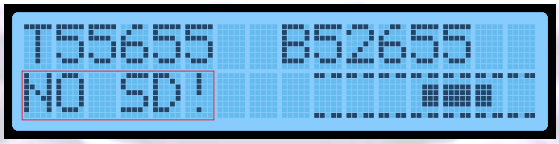
If SD card is not present or corrupted; it will display:



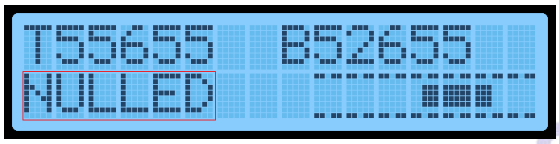
Press on  will tell the code to store following samples in next column (*turned for 180 degrees regarding the present one*) and it will shortly display:



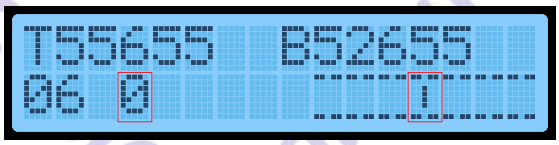
If SD card is not present or corrupted; it will display:



Press on  will shortly display:

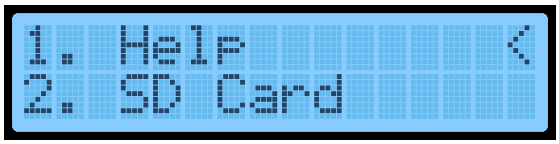


and than:

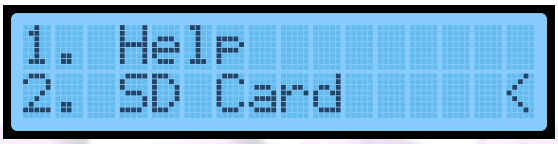


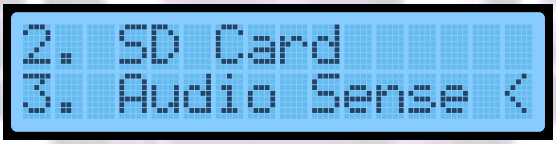
This means that difference value (*between sensor values*) is „**NULLED**“ and present relation between sensor values will be taken as „zero“ for further readings. Bar scale display will act accordingly.

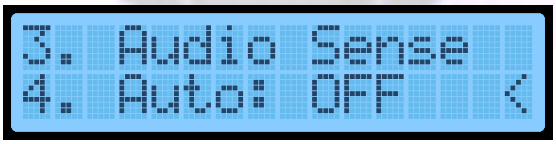
Press on **O** (***OK*** *or* ***Menu*** *button*) will enter the **Menu mode**.



Symbol „**<**“ points on item in Menu. To switch between the items (*choices, options*); scroll down or up by **pressing the**  **or**  **buttons**.

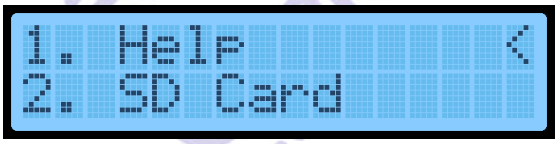




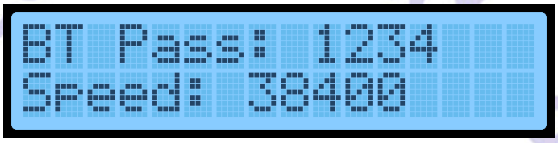


To exit from **Menu**; press the  button.

1. Help

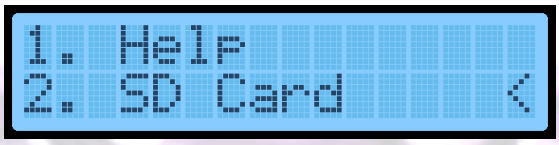


Press **O** and it will display:

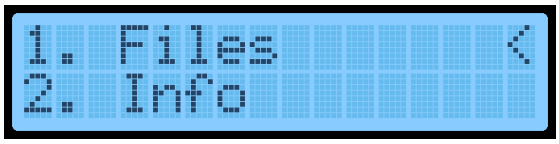


BT Pass: 1234 – „1234" is BT pairing password.
Speed: 38400 – „38400" Baud rate for Bluetooth.
or
Speed: 9600 – „9600" Baud rate for Bluetooth.
(depends on the BT module type and code version)

2. SD Card



Press **O** and it will display:

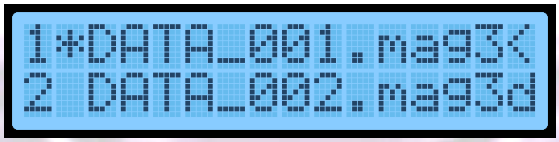


SD Card - Files submenu

Files submenu

1. List - option, list files on SD card.

Press **O** and it will display:

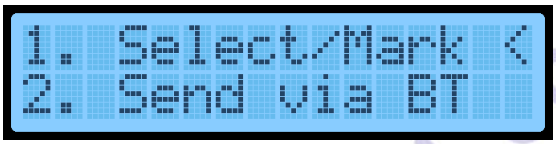


Scroll down or up through the file list by pressing the ↑ or ↓ buttons.

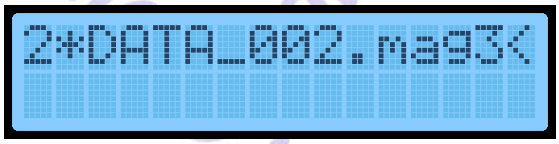
Symbol „<“ on the right side points on position in list.

Symbol " * " on the left side indicates the "active" file for storing sampled data

To choose and manage the file; scroll **down** or **up** by pressing the ↑ or ↓ buttons to the file you want to mark and press **O** button. New submenu will display:



1. Select/Mark - will mark the file as "***active***".



This marks the file as "***active***" for storing the data.

To return back through menus; press the ← button.

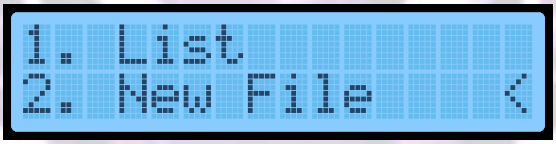
Notice

If empty SD Card is inserted; code will automatically generate the first file ("DATA_001.mag3d"), after the powering ON the device. Every next file is generated manually by user.

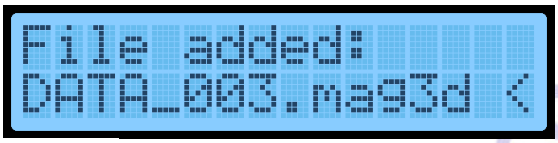
2. Send via BT - will send the file through BT when connection is established with pc computer.

1. **Files submenu**

2. **New File** - generate new file on SD card.

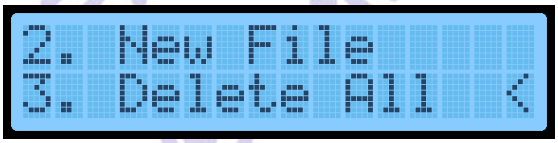


Press **O** and it will display:

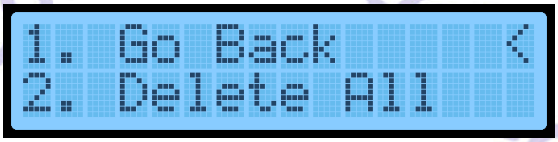


1. **Files submenu**

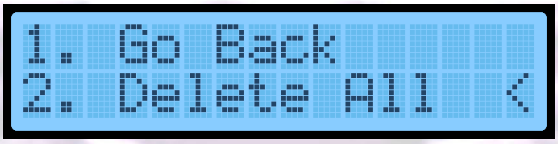
3. **Delete all - submenu**



Press **O** and it will display:

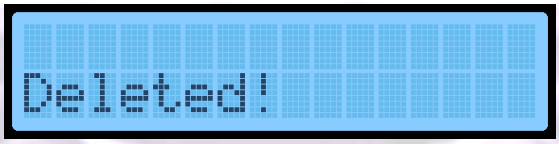


You can go back by pressing **O** button, or press 

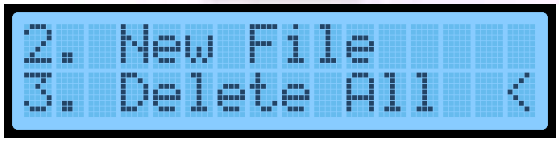


and press again **O** **to delete all files from SD card**.

It will display:



and return to display:



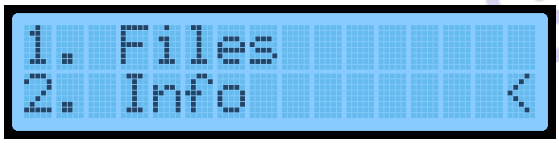
Notice

After the deleting all files from SD card; code will automatically generate first file ("DATA_001.mag3d").

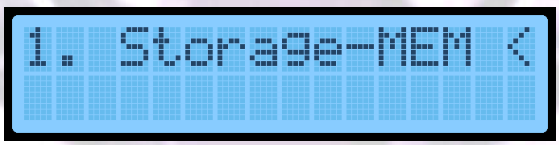
Every next file is generated manually by user.

To return back through menus; press the ← button.

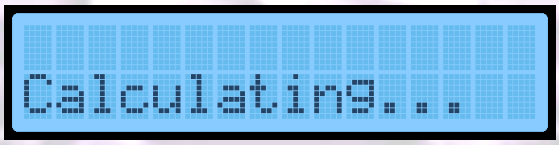
SD Card - 2. Info



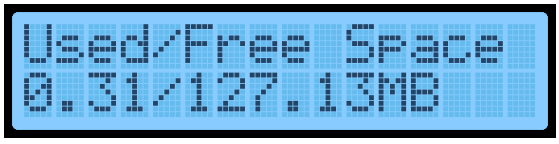
Press **O** and it will display:



Press **O** again and it will shortly display:



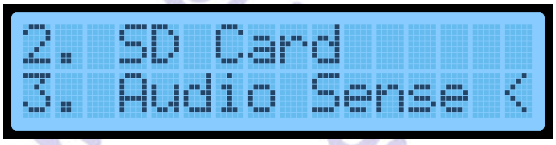
and than something like:



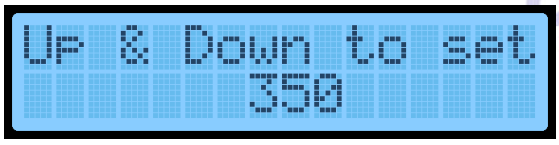
(*old 128MB SD card example*)

To return back through menus; press the ← button.

Menu - 3. Audio Sense

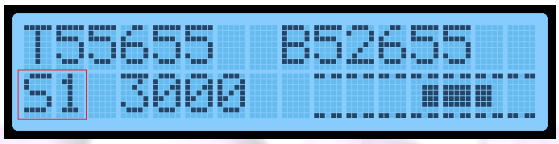


Press **O** and it will display:



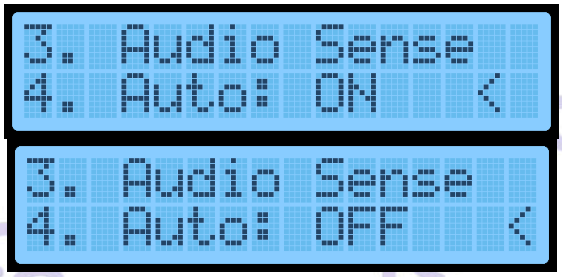
Press the ↑ or ↓ button to set the audio threshold.
(*this value is than stored in eeprom*)

Audio treshold value is than multiplied with "***Sensitivity***" value, set on the main screen:



Notice
Both settings affects only audio behavior.

Menu - 4. Auto (sampling/recording mode)



Press **O** to change from „ON" to „OFF" and vice versa.
It sets the sampling mode to „automatic" or „manual".
Automatic mode of taking data from sensors will start to take samples at each second, without need for operator to press the → button for each sample (record).

It will continue until next **press&hold** on → button again.
To stop sampling (recording in this case), **press and hold for short** the → button, until audio apears, indicating the stopping of recording/sampling .

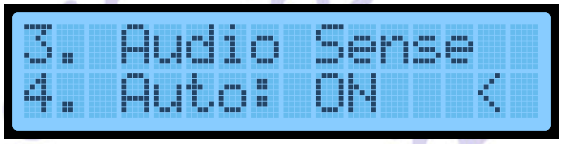
Next press on → button; it will continue with recording in the same column (*unless 180 DEG* ↑ *was pressed in meantime to switch for 180 degress and place further samples/records into next column*).

So, procedure for proper sampling/recording in „Auto" mode would be:

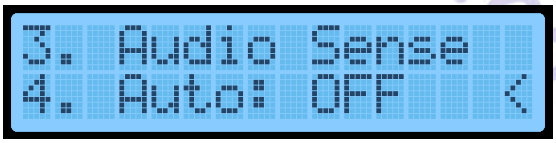
1) Stand on 1. row and 1. column on matrix.
2) Press ↓ button once to take the referent values („NULLED" appears shortly on LCD)
3) Press → to start sampling/recording.
4) Start walking the current column, trying to keep the one second pace at each sample.
5) At last row of current column ***PRESS*** *and shortly* ***HOLD*** the → button, **<u>until hear the confirmation sound.</u>**
6) Turn for 180 degress, step into next column (last row now).

Repeat from „3)" till „6)" until the whole matrix finished.

To switch off the „automatic" mode and put it in „manual mode", while in menu:



Press **O** button and it will set and show:

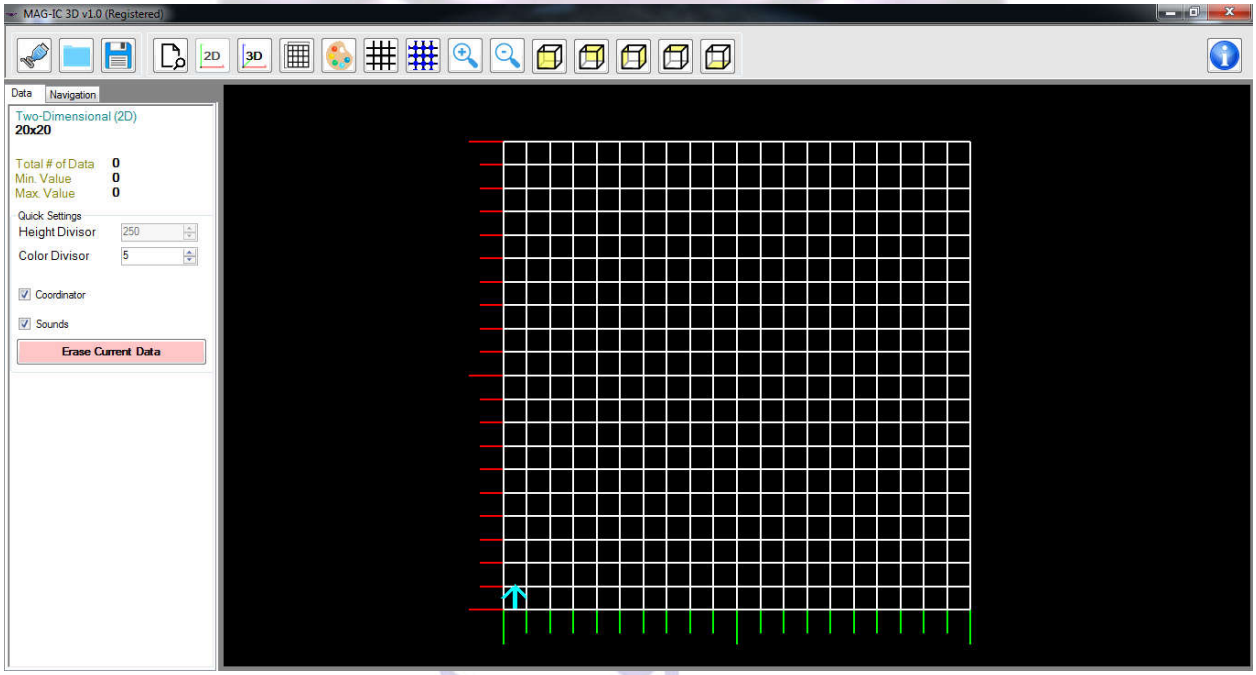


indicating that device is set to „manual" recording mode.

Notice

By default, „automatic" mode is set to ON when powering the device for the first time.

MAG-IC 3D Windows PC software



With **MAG-IC 3D**, you can view your terrain recordings in **two-dimensional** and **three-dimensional** graphic representations.

Load a recorded sample from a file or record it **live** by establishing communication between your device and the software.

The graph is simple and can be customized for better appearance of your preference.

Use the *quick settings* tab to adjust proper height of the 3D graph's peaks, color divisor, toggle coordination arrow and sounds.

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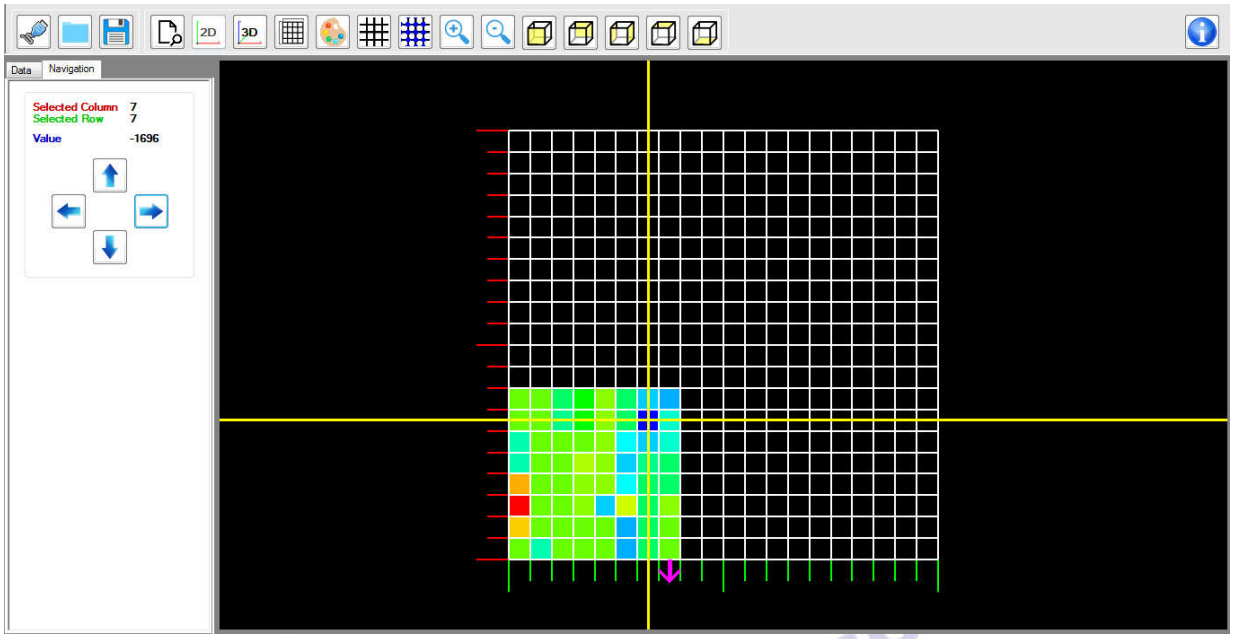
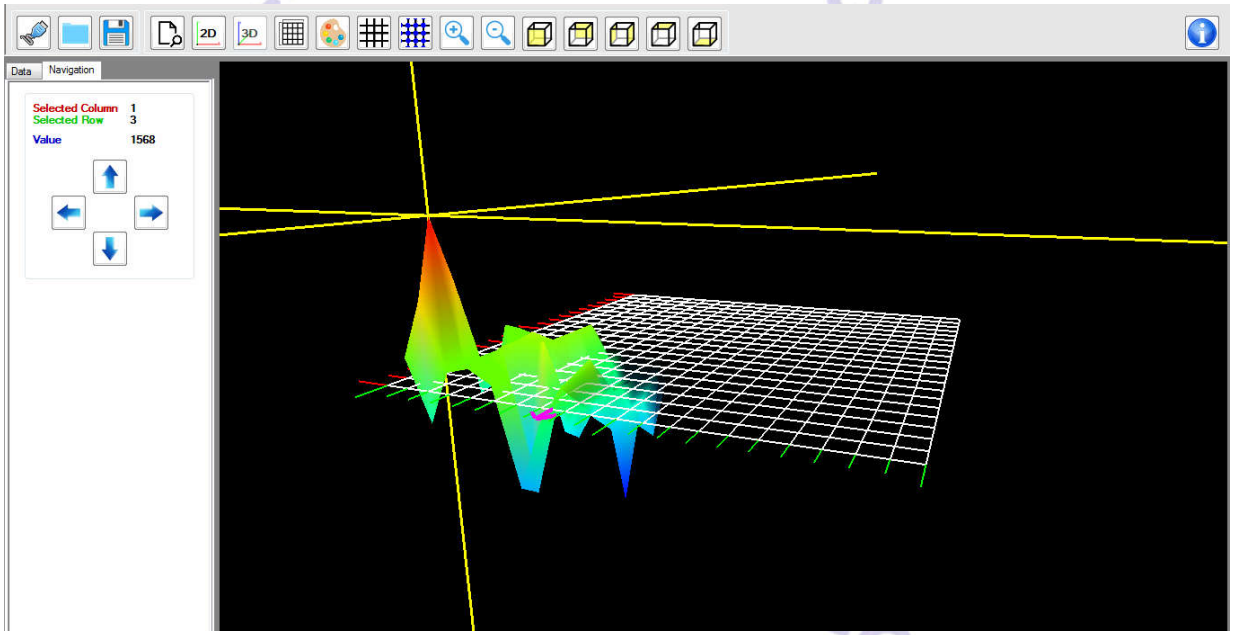




The **Navigation** tab lets you navigate through the graph and view the data values of each cell.

Tool bar

This is the main tool bar.

Serial Communication (Enter Live Mode)

This will open a window for listing available Ports and opening them which will allow your software to communicate with your Bluetooth module.

Choose the port of your Bluetooth device that you've connected to your computer from the dropdown list and **Open** it which will put the program in **Live Mode** from where you can start recording your device's data. After you're done, you can either **Close** it from here or just exit the program.

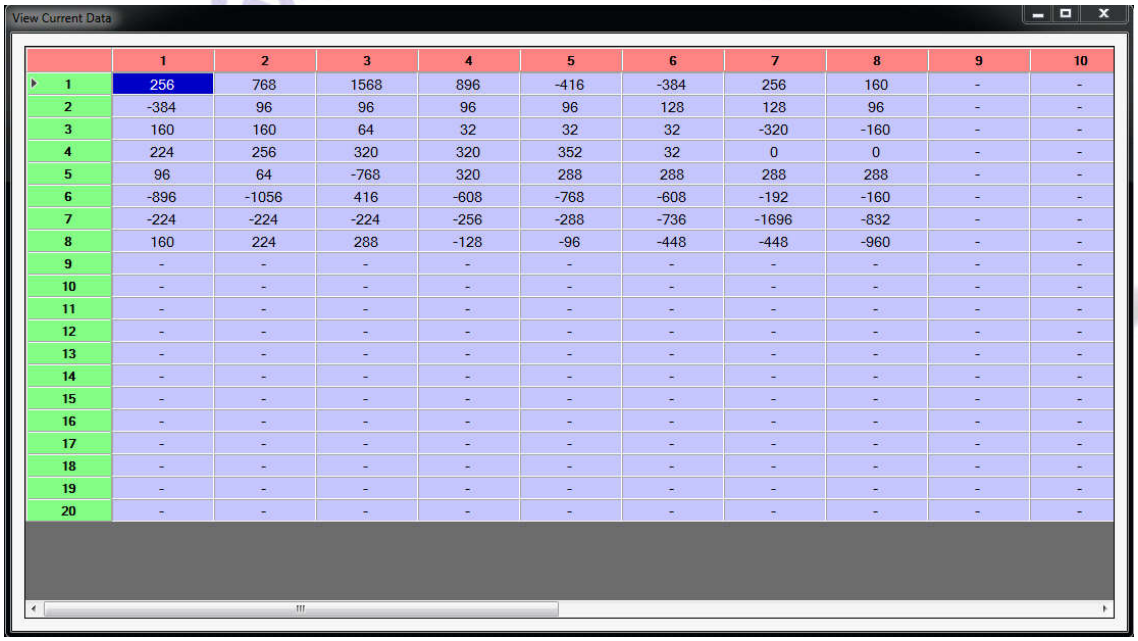
Open File / Save to File

Open a **.mag3d** format file that contains saved data and load it into your current session or save your current session to a file.

*(Note: Opening a new file while in **Live Mode** is not possible. You must **close** your current port from the **Serial Communication** window first)*

View data table

View the current session data in table form. The table is made of Rows and Columns like the graph, in current set Matrix Size and represent the data's values.

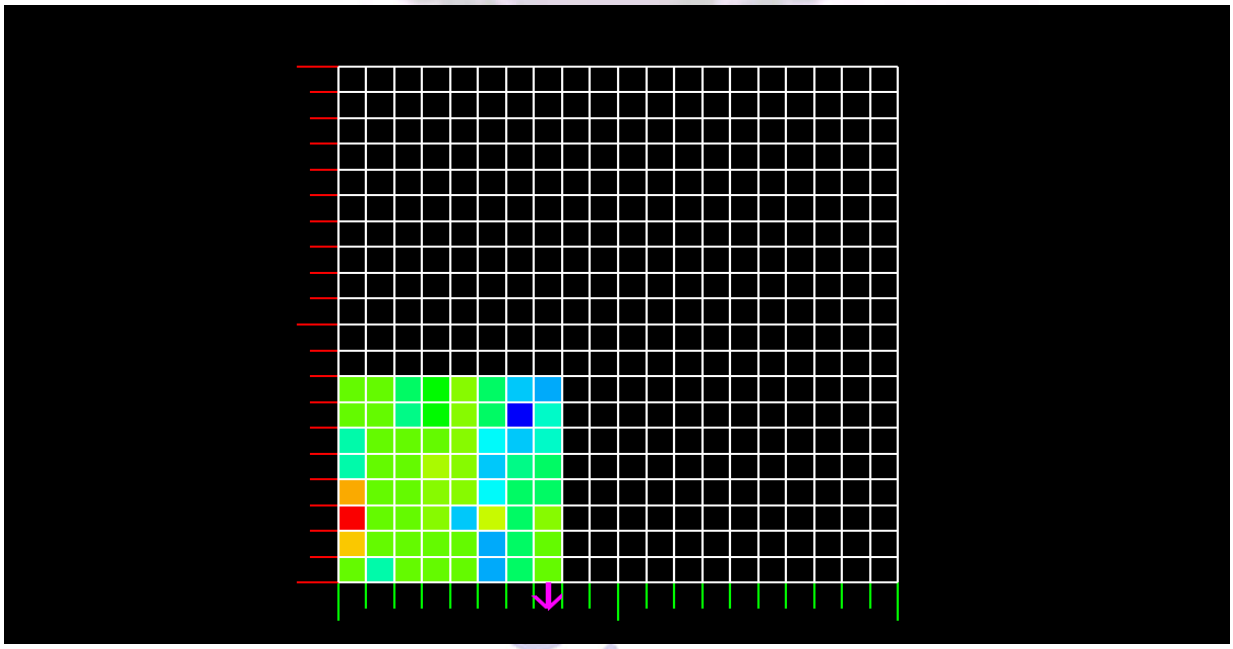


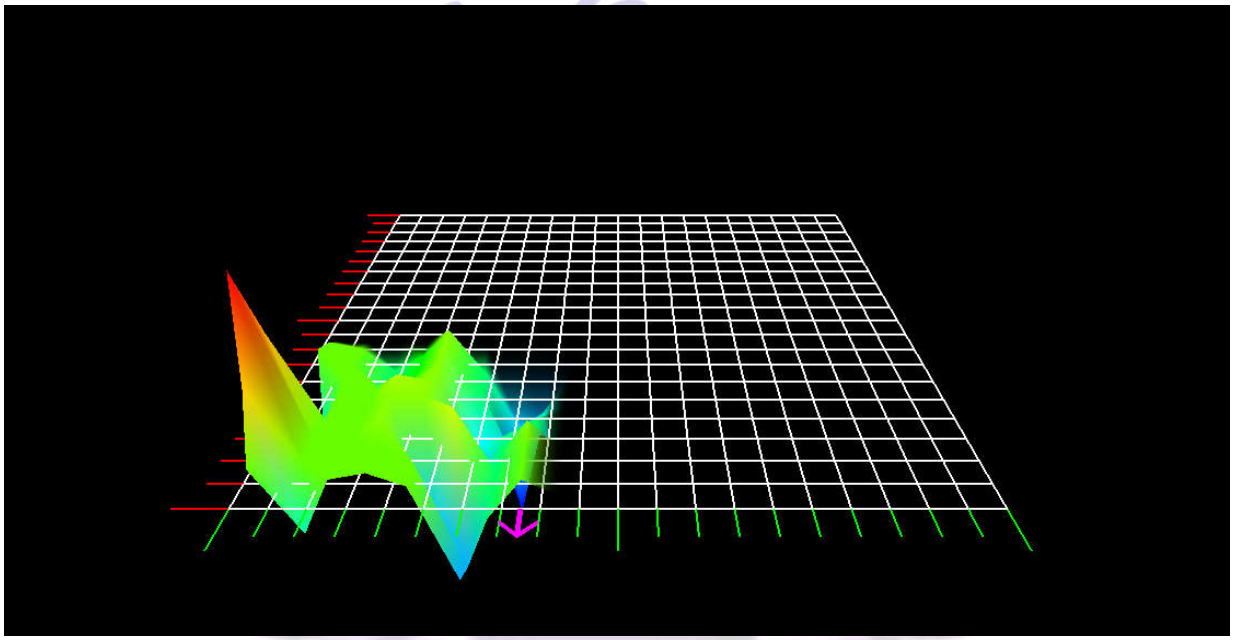
	1	2	3	4	5	6	7	8	9	10
1	256	768	1568	896	-416	-384	256	160	-	-
2	-384	96	96	96	96	128	128	96	-	-
3	160	160	64	32	32	32	-320	-160	-	-
4	224	256	320	320	352	32	0	0	-	-
5	96	64	-768	320	288	288	288	288	-	-
6	-896	-1056	416	-608	-768	-608	-192	-160	-	-
7	-224	-224	-224	-256	-288	-736	-1696	-832	-	-
8	160	224	288	-128	-96	-448	-448	-960	-	-
9	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-
11	-	-	-	-	-	-	-	-	-	-
12	-	-	-	-	-	-	-	-	-	-
13	-	-	-	-	-	-	-	-	-	-
14	-	-	-	-	-	-	-	-	-	-
15	-	-	-	-	-	-	-	-	-	-
16	-	-	-	-	-	-	-	-	-	-
17	-	-	-	-	-	-	-	-	-	-
18	-	-	-	-	-	-	-	-	-	-
19	-	-	-	-	-	-	-	-	-	-
20	-	-	-	-	-	-	-	-	-	-

ivconic@gmail.com

Toggle View (2D and 3D)

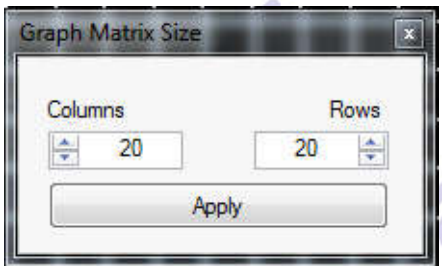
The graphic representation of your data can be represented in **two** and **three** dimensions.





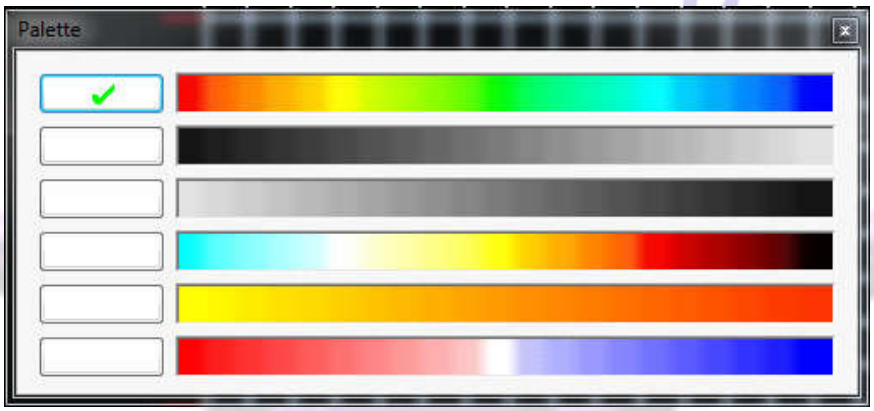
Matrix Size

Determine the size of your graph in **Rows** and **Columns** (**Red** axis and **Green** axis). The size of your graph defaults to 20x20, can't be smaller than 6x6 and greater than 40x40. This is used to determine how many matrices can be seen at an instance, you can load up to 1600 data maximum (40x40).



Palette

You can set different color combinations for your graph.



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You can hide the grid and only show the "mesh" of your data, show points of the 3D geometry for better coordination, zoom in and out (additionally can be done with your mouse wheel) and auto adjust your camera point.

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