



VE2DX ÉLECTRONIC

VE2DX Electronics Design Inc.

VE2DX ICOM METERS

WITH TrueCIV TECHNOLOGY.

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March 8th 2022	VE2DX	Release first version 1.6	01.01.00
March 9th 2022	VE2DX	Updated for version 1.7, fixe data mode bug	01.02.00
March 10th 2022	VE2DX	Updated for release 1.9, added features Battery meter and Brightness control	01.05.00
March 12th 2022	VE2DX	Updated to release 2.0, added a final version of Brightness and Battery indicator instructions	02.00.00
July 4 th 2022	VE2DX	Updated to new release VE2DX ICOM Meter Version	03.00.00
August 1 st 2023	VE2DX	Updated to new release	04.00.00
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November 17 th 2023	VE2DX	Cleaned up errors and removed echo setting in Putty	04.02.00

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 **IMPORTANT** 

Correctly identify your CI-V port (Remote) in your manual plugging the Radio into the IM1-4BT meter.

Some radios like ID-52, ID-5100, 2730, etc... require NON_STANDARD CI-V cables to connect to CI-V in the Radio.

To turn on the VE2DX ICOM METER©, hit the  Power/Reset button on the left side wall.

While the VE2DX ICOM METER© is powered on, simply hit ONCE the  Power/Reset button on the left side wall to reset the application.

To turn off the VE2DX ICOM METER©, you must hit TWICE the  Power/Reset button located on the left side wall (If not power via USB ONLY!) or use the power feature in the menu or use the POWER OFF option in the configuration menu.

Important note:

Not all ICOM radios support all CI-V commands that the VE2DX ICOM METER© can offer; the CI-V command tables in all ICOM radios vary; older radios support fewer CI-V commands than newer radios, thus in more complicated displays, and some indicators may not work on older radios.

1. Introduction

Congratulations on your purchase of the **VE2DX ICOM METER** ©. This ESP32-based fully integrated platform uses VE2DX Electronics Design Inc. code to offer users a flexible device supporting 23 different ICOM radios over four other communication platforms.

With the **VE2DX ICOM METER** ©, you do NOT need to reload or reboot the Meter to change display mode; you simply hit either the left or right buttons to move between screens; this feature is a significant advantage of the **VE2DX ICOM METER** ©.

There are three variations of the **VE2DX1 ICOM METER** ©.

- The **IM1-4BT Plus**© comes with the **VE2DX CT17B-Micro**© **Internal Hub** with **VE2DX TrueCIV**© **technology**, allowing users to connect to older and newer ICOM radios using CI-V cabled connections.
- The **IM1-4BT**© has the same hardware and firmware as the **IM1-4BT Plus**© without the **VE2DX CT17B-Micro**© **Internal Hub** with **VE2DX TrueCIV**© **technology**.
- The **IM1-4BT Tough (TUFF)** © comes with the **VE2DX CT17B-Micro Jr**© **Internal Hub** with **VE2DX TrueCIV**© **technology**, giving the user more flexibility to connect to both older and newer ICOM radios using CI-V cabled connections. This variation uses a water-resistant enclosure, giving the user more flexibility for outdoor use

The **VE2DX ICOM METER**© offers the user a 2 Bar graph type display with multiple information from the radio and 2 Needles style displays that will change from S-Meter to one of 4 different TX mode needle meters (ALC, Power, SWR, COMP) while transmitting.

One prominent feature of the **VE2DX ICOM METER**© is that it automatically shows a flashing alarm message if the SWR goes over three during a transmission.

This manual will explain to the user the different features of the **VE2DX ICOM METER**©, How to install and configure the Meter, how to operate the Meter, and troubleshoot any problems.

2. Technical information

2.1. Technical Specification

The **VE2DX ICOM METER ©** is based on a fully integrated ESP32 platform.

Resources	Parameter
ESP32-D0WDQ6-V3	240MHz dual core, 600 DMIPS, 520KB SRAM, Wi-Fi
Flash Memory	4MB (IM1- 4BT and IM1-4BTPlus) and 16MB (IM1-4BTTough)
Power Input	5V @ 500mA
USB	Type C
Wi-Fi	Integrated 802.11b/g/n HT40 Wi-Fi transceiver, baseband, stack, and LWIP
Bluetooth	Integrated dual-mode Bluetooth (classic and BLE)
Antenna	2.4G 3D Antenna
Operating Temperature	0°C to 60°C
Net weight	47.2g
Product Size	54 x 54 x 18mm
Case Material	3D Printed Plastic



3. Operations

3.1. Buttons

The operations of the buttons are relatively simple.

- Left to go up in the menu or change the display.
- Right to go down in the menu or change the display in the opposite direction.
- The center button is used to enter the configuration menu and make a selection.

3.2. Installation

The installation process is pretty simple.

1. Connect the **VE2DX ICOM METER** using a **USB-C cable** to a power source or type 3 PC USB Port.
2. Once power is applied, the **VE2DX ICOM METER** will power up and show copyrights and version information.
3. If you get a screen requesting a password, please go to section 6 below.
4. The following display you will get is the last radio display screen used by the Meter when you powered it off.
5. You will note some important information on the top line;
 - 5.1. In the center of the line, the call sign (VE2DX by default) can be changed in the configuration menu. This is also where the red **HIGH SWR** will be flashing if your SWR goes over three during a transmission.
 - 5.2. On each side of the call sign box is the status of communication that will flash as data is coming in; these are CI-V, BT (Bluetooth), USB (USB over IP), or CIVoIP (CI-V over IP).
 - 5.3. The next box to the right is the radio model linked to the **VE2DX ICOM METER**; by default, the 705 will come up.
 - 5.4. In the right corner, the connection mode is displayed; by default, this will be set to BT.

6. To get into the configuration menu, simply push the Center Button. You will get a Blue menu, and the latest configuration option will be shown.
 - 6.1. Simply use the left and right buttons to go up and down to the desired option.
 - 6.2. The Center Button is used to enter and set the desired option.

3.3. Configuration menu

The configuration menu can be accessed from any four displays by simply hitting the center button. The last menu option selected will be shown; this will be a radio selection by default.

The menu selection shows up in light blue; once selected, the options for that selection are shown in Yellow below the menu.

3.3.1. Radio Selection

In the radio selection menu, you can choose from 23 different radios and up to 4 different modes of operation depending on the Radio.

Older radios like 756ProIII or 7000 only support CI-V cabled connections. To use these, you **MUST** have an **IM1-4BT Plus©** that comes with the **VE2DX CT17B-Micro© Internal Hub** with **VE2DX TrueCIV© technology**; you can add a **VE2DX CT17B-Micro© Internal Hub** to an **IM1-4BT©** to upgrade it to an **IM1-4BT Plus©**.

A selection of a radio model followed by CI-V indicates that the Radio **MUST** be connected to the **VE2DX ICOM Meter** via a CI-V cable plugged into the Radio REMOTE connector and any of the **VE2DX CT17B-Micro**.

A selection of a radio model followed by BT indicates that the Radio **MUST** be connected to the **VE2DX ICOM Meter** via Bluetooth; only the ICOM 705 currently supports this connection.

A selection of a radio model followed by USB indicates that the Radio **MUST** be connected to the **VE2DX ICOM Meter** via a USBoIP; this is done using a UDP connection via your Wi-Fi network to the PC where the ICOM radio with USB CI-V support is connected to a USB port. It is explained in 3.5.

A selection of a radio model followed by CIVoIP indicates that the Radio **MUST** be connected to the **VE2DX ICOM Meter** via a CIVoIP; this is done using a UDP connection via your Wi-Fi network direct to the ICOM radio with LAN or Wi-Fi CI-V support. It is explained in 3.6.

3.3.2. Display Peaks

While in bar graph displays, the **VE2DX ICOM METER**© can offer you the option of holding peak values on the bar using a small yellow vertical bar; this option is turned ON or OFF in this menu setting.

3.3.3. Needle Meter Mode

In either of the two Needle style displays, the Meter will default show the S-Meter when the Radio is in RX. When the Radio is in TX, you can select one of 4 Needle Meter modes in this menu: RF Power, SWR (1) Comp, or ALC.

(1) Even if SWR is NOT selected, if the SWR goes over three, a **HIGH SWR** alarm will be flashing in red instead of the callsign in the center of the top of the display.

3.3.4. Needle Meter Color

This configuration setting selects one of 3 needle meter background colors. The colors available are Black, White, or Yellow.

3.3.5. CallSign

The **VE2DX ICOM METER**© gives the user the option of changing the call sign being displayed in the center of the top line of the Meter; using the left and right buttons, simply change the displayed letters or numbers to match your call sign, then select them one by one using the center button. Once you are done, simply select the SAVE?, or if you want to cancel, select CANCEL?

3.3.6. SHOW SERIAL#

The **VE2DX ICOM METER**© firmware is protected using a unique serial number and password; this selection will let you see your serial number, if you do not have your password, simply contact **VE2DX ELECTRONIC DESIGN INC.** With proof of purchase via email at info@ve2dx.com

3.3.7. Wi-Fi SSID

This selection is used to configure your Wi-Fi SSID if you use the **VE2DX ICOM METER**© in USBoIP or CIVoIP modes; note you do not need to configure this option. This is done using the left and right buttons; simply change the displayed letters or numbers to match your call sign, then select them individually using the center button. Once you are done, simply select the SAVE? or if you want to cancel, select CANCEL?

3.3.8. Wi-Fi PASSWORD

This selection is used to configure your Wi-Fi SSID PASSWORD if you use the **VE2DX ICOM METER**® in USBoIP or CIVoIP modes; note you do not need to configure this option. This is done using the left and right buttons; simply change the displayed letters or numbers to match your call sign, then select them individually using the center button. Once you are done, simply select the SAVE? or if you want to cancel, select CANCEL?

3.3.9. Remote IP

When using the **VE2DX ICOM METER**® in USBoIP or CIVoIP, you need to enter the target UDP device; this device is ided as the REMOTE. In this menu setting, you will enter the Remote device's IP address. This is done using the left and right buttons; simply change the displayed numbers to match your call sign, then select them individually using the center button. Once you are done, simply select the SAVE? or if you want to cancel, select CANCEL?

3.3.10. Remote Port

Once the REMOTE IP has been defined, you need to enter the target UDP device port to link the Radio. In this menu setting, you will be entering the port number of the Radio in the Remote device. This is done using the left and right buttons; simply change the displayed digits to match your call sign, then select them individually using the center button. Once you are done, simply select the SAVE? or if you want to cancel, select CANCEL?

3.3.11. Data LEDs

The **VE2DX ICOM METER**® allows the user to monitor data exchanges between the Meter and the Radio; this is done using flashing indicators on each side of the Call Sign in the center of the top line. The different possibilities are;

- If it is present, CI-V shows cabled CI-V activities on the **VE2DX CT17B-Micro**® Internal Hub.
- BT shows Bluetooth CI-V activities.
- USB; shows USBoIP CI-V activities via Wi-Fi.
- CIVoIP shows CIVoIP CI-V activities via Wi-Fi.

3.3.12. CI-V Speed

This selection lets the user set the **VE2DX ICOM METER**® cabled CI-V Speed; at this time it supports 4800bps and 9600bps (1, 2)

- (1) 9600bps is the default setting for ICOM radios.

3.3.13. CI-V Echo

This feature is not yet available.

3.3.14. Transverter Mode

This selection changes the frequency being displayed by the **VE2DX ICOM METER**© according to 7 possible local oscillator values: 22Mhz, 116Mhz, 118Mhz, 404Mhz, 406Mhz, 1.267Ghz, and 9.968Ghz.

3.3.15. Brightness

This selection is used to adjust the display brightness.

3.3.16. BEEP

This selection is used to adjust the volume of the beep feedback.

3.3.17. Screensaver

This feature is not yet available.

3.3.18. Power OFF

This selection is used to turn off the **VE2DX ICOM METER**©.

3.3.19. EXIT

This selection is used to exit the configuration menu.

3.4. Configuration of USBolP

To use CIVoIP, you must have your **VE2DX ICOM METER**© configured for your WI-FI SSID, Password, REMOTE IP (IP address of the PC where the Radio is plugged into via USB), and REMOTE PORT (Configure UDP port number into the PC where the Radio is plugged into via USB).

- Next, install a UPD Serial Port emulator in the PC like "COM Port Data Emulator" and set up a UDP Server pointing to the COM port used by the Radio CI-V USB port.
- Setup the
- Select in the **VE2DX ICOM METER**© configuration menu Radio Selection the Radio and mode showing USBolP; if it is not in the list, the Radio does not support CI-V on USB.
- Reboot the Meter and **VE2DX ICOM METER**©.
- You are now connected.

3.5. Configuration of CIVoIP

This feature will be added soon.

4. Configuring your Radio

4.1. Setting up your VE2DX ICOM METER©

Simply plug the **VE2DX ICOM METER©** into a valid USB power source; the unit will automatically power on within 30 seconds. If appropriately configured for 705, the top right side should say 705 and BT. The screen will come up with a **NEED PAIRING** flashing on the display.

Press the middle button to go to the configuration page.

Select **RADIO SELECTION** to properly configure your Radio and mode of communication with the **VE2DX ICOM METER©**.

4.2. Setting up your Icom IC-705 using Bluetooth.

Note (1) The following is based on the ICOM IC-705; the principals are the same in the ID-52 and ID-5100 (with Bluetooth Option); please refer to your ICOM manual for specifics.

The ICOM 705 differs slightly from other radios since it does not have a CI-V port; thus, you must use Bluetooth, USBolP via Wi-Fi, or CIVoIP via Wi-Fi. This section will explore how to configure the **VE2DX ICOM METER©** with an ICOM IC-705 using Bluetooth.

1. Turn On the **ICOM IC 705**.
2. Hit **Menu/Set/Bluetooth**.



3. Verify that **Bluetooth** is on. If not, turn it on.



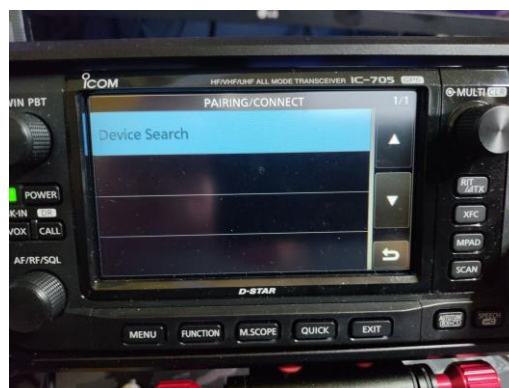
4. Hit **Pair/Connect**.



△ IMPORTANT △

The ICOM IC-705 cannot have more than 5 Bluetooth devices configured; this includes BOTH data or audio devices if you already have 5 Bluetooth devices configured;

5. Hit **Device Search**



6. Hit Search Data Device



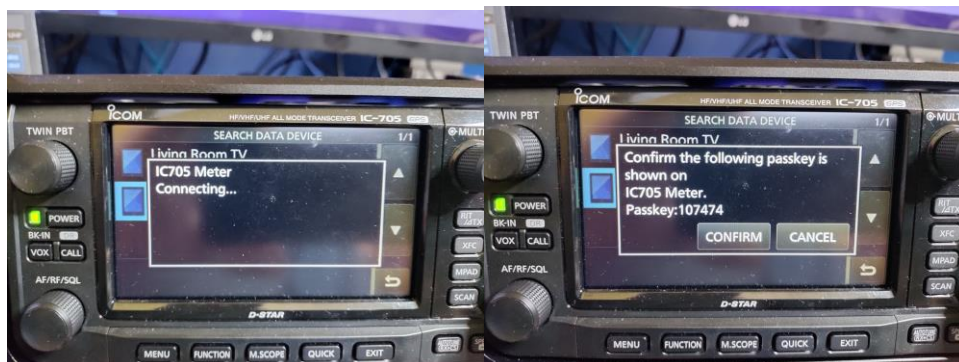
7. You will see a new device called VE2DX ICOM METER©; select the device; this may take up to 30s.



8. A prompt window will ask "Connect," hit YES



9. A prompt window will ask, “**Confirm the following passkey is shown on VE2DX ICOM METER©.**” Don’t worry about the **passkey**; it may change from unit to unit; simply hit confirm.



10. Windows will then indicate “**Connecting**” followed by “**Connected.**”



11. The display will then show your list of Bluetooth devices, and the **VE2DX ICOM METER©** will be shown with “**(Connect).**”



12. You're done. Hit the **Menu** Button.



Your **VE2DX ICOM METER**® should now show you DATA from the ICOM IC-705. You will also notice a small **battery icon** in the upper right corner with a **% value** that will change from **25%, 50%, 75%, or 100%**; this is the internal **VE2DX ICOM METER**® battery charge status. Finally, in the upper left corner of **VE2DX ICOM METER**® the display, you will see your connection information, in this case, **705 BT**; this same information is also shown under the ALC setting of the **VE2DX ICOM METER**® on the righthand side.



4.3. Setting up a Cabled CI-V ICOM Radio

Following the configuration instructions, go into Radio Selection and select your radio models showing CI-V next to it.

The CI-V indicates that the **VE2DX ICOM METER**® will use the **VE2DX CT17B-Micro**® Internal Hub with **VE2DX TrueCIV**® technology to communicate with the ICOM Radio.

At this time, you may get a “Check CI-V” message flashing on the **VE2DX ICOM METER**® if the CI-V cable is not plugged into the REMOTE jack of the Radio, the Radio is not powered on, the CI-V address is not set up to default value, or the Speed of the CI-V REMOTE jack does not match the Speed of the **VE2DX ICOM METER**®.

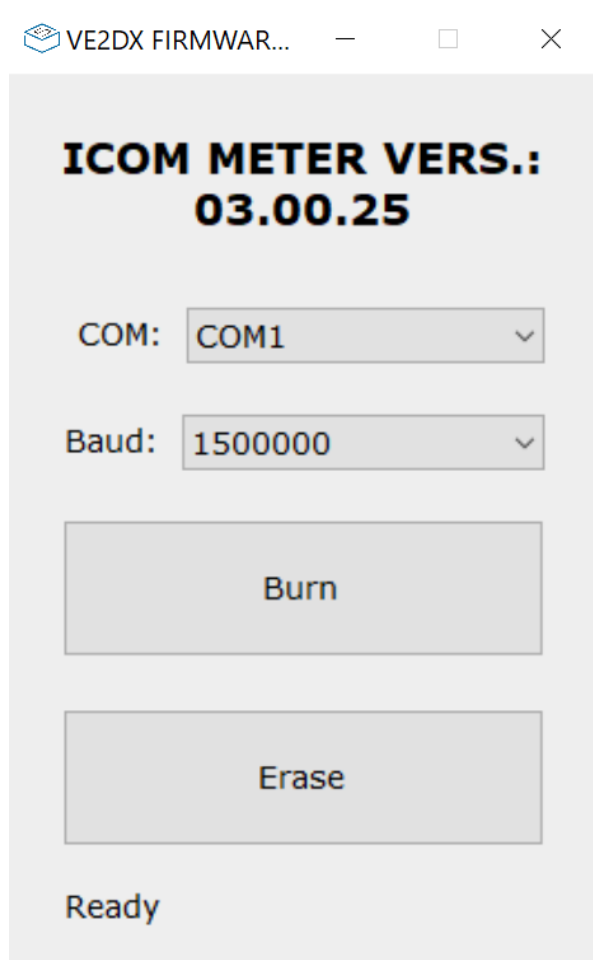
Plug a mono 3.5mm cable from the REMOTE connector in the back of your ICOM radio to any of the 3 CI-V connectors on the side (1) of the **VE2DX CT17B-Micro**® Internal Hub with **VE2DX TrueCIV**® technology.

- (1) The **VE2DX CT17B-Micro**® Internal Hub with **VE2DX TrueCIV**® technology is a three-port hub; thus, you can use the other 2 CI-V connectors to link your other ICOM Radios or OEMs CI-V devices. If the connection was done correctly, you should start getting data from the **VE2DX ICOM METER**®.

5. Firmware updates

The **VE2DX ICOM METER**© firmware update process is straightforward.

- 1- Go to <https://ve2dx.com/support>
- 2- In the FIRMWARE section.
- 3- Download the latest firmware for your device.
- 4- During download, your AntiVirus may alert you to the possibility of a Virus; this **does happen randomly; there are no viruses in our update software, so disregard this warning.**
- 5- Plug your **VE2DX ICOM METER**© USB cable into your PC.
- 6- Using DEVICE MANAGER, locate the SERIAL PORT section and identify your COM PORT for your Meter by simply disconnecting it from the PC and looking at the changes in the list.
- 7- Once the EXE file is downloaded, simply run it.



- 8- Select your COM PORT.

9- If needed, ERASE the Meter.

```
C:\Users\ve2dx\Downloads\esptool.exe
esptool.py v4.1
Serial port COM78
Connecting...
Chip is ESP32-D0W0Q6-V3 (revision 3)
Features: WiFi, BT, Dual Core, 240MHz, VRef calibration in efuse, Coding Scheme None
Crystal is 40MHz
MAC: 08:b6:1f:87:46:54
Uploading stub...
Running stub...
Stub running...
Erasing flash (this may take a while)...
```

10- Press Burn.

```
C:\Users\ve2dx\Downloads\esptool.exe
esptool.py v4.1
Serial port COM78
Connecting...
Detecting chip type... Unsupported detection protocol, switching and trying again...
Connecting.....
Detecting chip type... ESP32
Chip is ESP32-D0W0Q6-V3 (revision 3)
Features: WiFi, BT, Dual Core, 240MHz, VRef calibration in efuse, Coding Scheme None
Crystal is 40MHz
MAC: 08:b6:1f:87:46:54
Uploading stub...
Running stub...
Stub running...
Changing baud rate to 1500000
Changed.
Configuring flash size..
Auto-detected Flash size: 16MB
Flash will be erased from 0x00000000 to 0x00400fff...
Compressed 4198400 bytes to 1681637...
Writing at 0x00115b3f... (26 %)
```

11- Look for a black window with process status.

12- When done, the Meter will reboot.

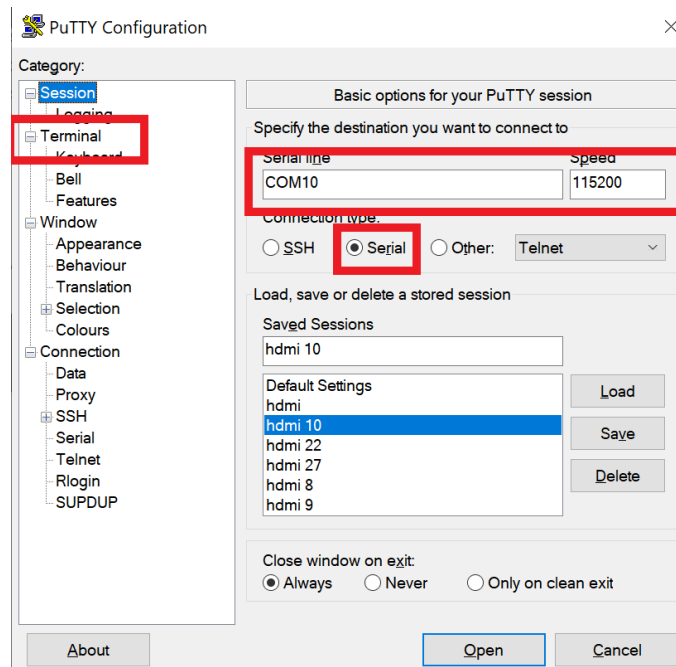
On rare occasions, you may be asked to reenter your password; go to section 6 for information on how to enter your password.

6. Password configuration

The **VE2DX ICOM METER**® may request the Serial Number Password after an update; if this happens, your meter password is located under the Meter, and a second label was shipped in the box.

If your firmware password is reset, you will need to follow the following steps;

- Your serial number and password are on a small white label under your device, and a spare label is found in your box.
- If you cannot locate your password, contact VE2DX Electronics Design Inc. At info@ve2dx.com, send you the serial number and proof of purchase, and we will send you your password.
- Plug your VE2DX ICOM METER into a USB3 port on a Windows 10 PC.
- On Windows 10 Control Panel, Open Device Manager.
- Expand the Ports(COM & LPT).
- While monitoring the Ports(COM & LPT) section, disconnect and plug back in your **VE2DX ICOM METER**® Note the new COM port number being created.
- Download and install PUTTY or another Serial port emulator.
- In Putty, Select Serial and set your COM port address to the number found earlier in Device Manager, Ports(COM & LPT).
- In Putty, set the Speed to 115200



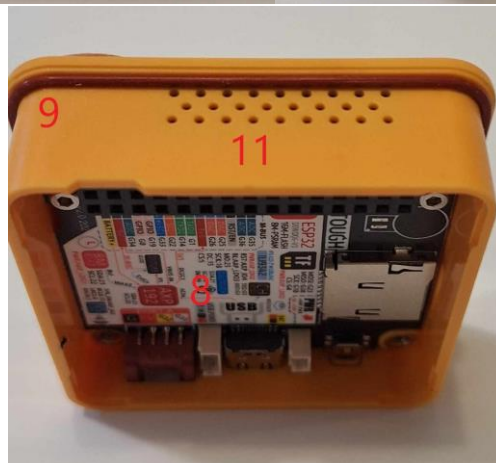
- Click on OPEN.
- A black background window shows a series of periods (.....); hit ENTER.
- You will be asked to enter your password; if you make a mistake, hit ENTER and restart the process. If not, after entering the password, your **VE2DX ICOM METER**® will reboot, and the first display will be shown.

7. IM1-4BT and IM1-4BTPlus Descriptions.



Number	description	IM1-4BT	IM1-4BTPlus
1	Power/Reset (1)	X	X
2	USB-C Port (2)	X	X
3	IO Port (Not Used)	X	X
4	ICOM CI-V Port		X
5	ICOM/Yeasu /Kenwood Port		X
6	ICOM CI-V Port		X
7	UP Button	X	X
8	Select/Menu Button	X	X
9	DOWN Button	X	X
10	Display	X	X
11	SD Card (Not Used)	X	X
12	Microphone (Not Used)	X	X
13	CE Certification	X	X
14	Serial Number and Password	X	X
15	Speaker	X	X

8. IM1-4BT Tough Description.



Number	description	IM1-4BTTough
1	Power/Reset (1)	X
2	USB-C Port (2)	X
3	IO Port (Not Used)	X
4	ICOM CI-V Port	X
5	ICOM/Yeasu /Kenwood Port	X
6	ICOM CI-V Port	X
7	UP Button	X
8	Select/Menu Button	X
9	DOWN Button	X
10	Display	X
11	SD Card (Not Used)	X
12	Microphone (Not Used)	X
13	CE Certification	X
14	Serial Number and Password	X
15	Speaker	X
16	CT17B-Micro Jr	X
17	2 x CI-V Ports	X

9. Troubleshooting

Troubleshooting the **VE2DX ICOM METER**© is pretty simple. The following table will walk you through the process. If you do not resolve the issue following your inquiry in this table, please contact your reseller for support or directly VE2DX ELECTRONIC DESIGN INC. Via email at info@ve2dx.com or directly by phone at 450-689-4591.

Problem	Possible issue	FRU replacement, if required
The Meter won't power up?	Press the RED button on the left of the Meter. Bad USB cable. USB cable is not plugged in at both ends. Bad power source, Bad Meter.	Disconnect the Radio from the Meter (Ground loop). Try a different USB Cable. Try a different power source. Replace Meter.
Is the Meter resetting randomly?	Bad USB Cable. Bad Power source. Is your meter firmware up to date? Possible ground loop between Radio and Meter. Bad Meter.	Disconnect the Radio from the Meter (Ground loop). Try a different USB Cable. Try a different power source. Replace Meter.
Is the Meter not communicating with the Radio?	The Radio is turned off. The Radio is not connected to the Meter. The radio model did not match the meter configuration. CI-V speed is not set correctly. Configuration error (Meter, Radio, UDP, etc...) If BT Radio is not paired with the Meter.	Power on the Radio. Check configuration (Meter, Radio, UDP, Wi-Fi, etc...) If BT, ensure the VE2DX ICOM HDMI INTERFACE © is paired and connected. Check connections.
The Meter is very slow.	Make sure that TRANSCEIVE is OFF in the radio configuration. (1) Update your firmware.	Turn OFF TRANSCEIVE in the radio configuration.
On Older radios, a lot of the indicators won't light up.	The CI-V table of the older radios is not as detailed as with newer radios.	Nothing
My Radio is not in the RADIO SELECTION menu	Sorry, this means your Radio is not supported (at this time! 🙄).	Contact info@ve2dx.com with the make and model of your Radio; we will see if there is a way to make it work.

My Radio is a 756Pro, I selected a 756ProIII, and it does not work.	Sorry, the CI-V tables for the 756, 746, and 706 radio families are all different, and so are the CI-V tables; these were not included	These are not supported, sorry ☹️
Where are the updates?	NA	WWW.VE2DX.COM in the support section.
Do I have to pay for new features?	NA	No
Do you have a Yeasu version?	NA	Soon (well, everything is relative!!)
What are TrueTTL and TrueCIV	NA	Please look for my TrueTTL WhitePaper at WWW.VE2DX.COM in the support section.
What are all these connectors and MicroSD slots for?	NA	These are default hardware from the M5Stack Basic that we use as a processor; they are not used in the VE2DX ICOM METER ®.
Can I just download your firmware and use it?	NA	Sorry, but no, a license is required; it is based on the unique Serial number of your M5Stack and requires a Password. You can purchase this license from your local Ham Radio dealer or WWW.VE2DX.COM .
Can I buy your firmware and use it on my M5Stack Basic?	NA	Yes, simply download the firmware from our support page at WWW.VE2DX.COM , and you can purchase the license from your local Ham Radio dealer or WWW.VE2DX.COM .
I purchased an IM1-4BT. Can I upgrade it to an IM1-4BT Plus?	Order a CT17B-Micro	Yes, simply order a CT17B-Micro from your local Ham Radio dealer, remove the existing base (2) from the IM1-4BT, replace it with the CT17B-Micro, and you are done; your firmware already supports the CI-V cabled radios.
I selected a radio with CI-V next to it but can't find where to plug my 3.5mm plug; I don't see any jacks anywhere.	Order a CT17B-Micro	You ordered an IM1-4BT; it does not come with the CT17B-Micro. Simply order a CT17B-Micro from your local Ham Radio dealer, remove the existing base (2) from the IM1-4BT, and replace it with the CT17B-Micro, and you are done; your firmware already supports the CI-V cabled radios.

Can I run off a battery?	NA	<p>Yes, there are three options.</p> <ul style="list-style-type: none"> - simply get an external power pack that supports USB. <p>We offer two batteries that can be STACKED between the base and the Meter to offer you integrated power, a 750mAh and a 1.5Ah. Simply ask your local Ham Radio dealer for the VE2DX ICOM METER BETTRIES.</p>
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(1) ICOM TRANSCEIVE MODE generates hundreds of CI-V packets for a simple move of the knob; this slows drastically the **VE2DX ICOM METER**©; **turning OFF TRANSCEIVE** will resolve this issue.

If you have an OEM device that requires TRANCEIVE by using PULL mode, the data exchanges between the ICOM radio and the **VE2DX ICOM METER**© should generate the necessary data for this device.

10. Warranty

A 1-year limited warranty on all hardware covers the VE2DX ICOM METER©.

The **VE2DX ICOM METER©** is covered by lifetime updates at no cost.

The **VE2DX ICOM METER©** is covered by lifetime support at no cost.

At **VE2DX ELECTRONICS DESIGN INC.** We are proud to have a WAY TOO LARGE OPEN-DOOR policy; if you have a question, a new feature, or a project that you would like to discuss with us, please give us a call at 450-689-4591 or drop us an email at info@ve2dx.com, we will discuss the idea or question with you with a smile 😊

If you are looking for an ELMER, please give us a call. We will be happy to try to help you.

73 De Richard VE2DX 😊