BLUEDV FOR WINDOWS EXPERIENCE

Version 1.0.0.9609

INTRODUCTIONIN

July 2018, I summarized the experience of BlueDV for Windows beta-version 1.0.0.9522. After that, not only ThumbDV but also DVmega DVstick 30 (images left) was added, and as of May 2021, test version 1.0.0.9609 is available on PA7LIM, software author David's Web (Show below) has been uploaded. With this test version, D-Star, DMR, and FUSION can be used by only the Thumb DV or DVmega DVstick 30 USB sticks on a PC without any other devices. Here is a summary of my experiences with ThumbDV. If you want to use DVmega DVstick 30 left image, please replace ThumbDV with DVmega DVstick 30 and read.

http://software.pa7lim.nl/BlueDV/BETA/Windows/

Shu JA3GQJ

September 1, 2021

目次

Premise for use

- The software (Lhasa etc.) that decompresses the downloaded zip format compression software should be installed in advance on the Windows PC.
- My personal computer OS is a notebook type (64bit) and Desktop type (32bit) is all Windows10. However, somehow the Desktop type may not be usable because the received sound is interrupted in pieces. Be aware, the software may not work depending on the personality of personal computer and LAN environment.
- You must have already acquired the 7digit ID of CCS7. (For the method of obtaining, see APPENDIX at the end of the book)
- A radio is unnecessary, but a microphone (about $10) and a speaker must be prepared for personal computers.
- Be aware that it is a test version so changing version.

1. Download and install software

Download and install from http://software.pa7lim.nl/BlueDV/BETA/Windows/. See APPENDEX at the end of the book for details.

2. Software initial settings

After confirming that the COM port recognizes ThumbDV and clicking the icon on the disk top, the control panel "BlueDV for Windows" (Fig.1) will pop up. Confirm that Firmware "AMBE 3000R" is displayed on the blue screen. If ThumbDV is not recognized, "Not detected" is displayed.

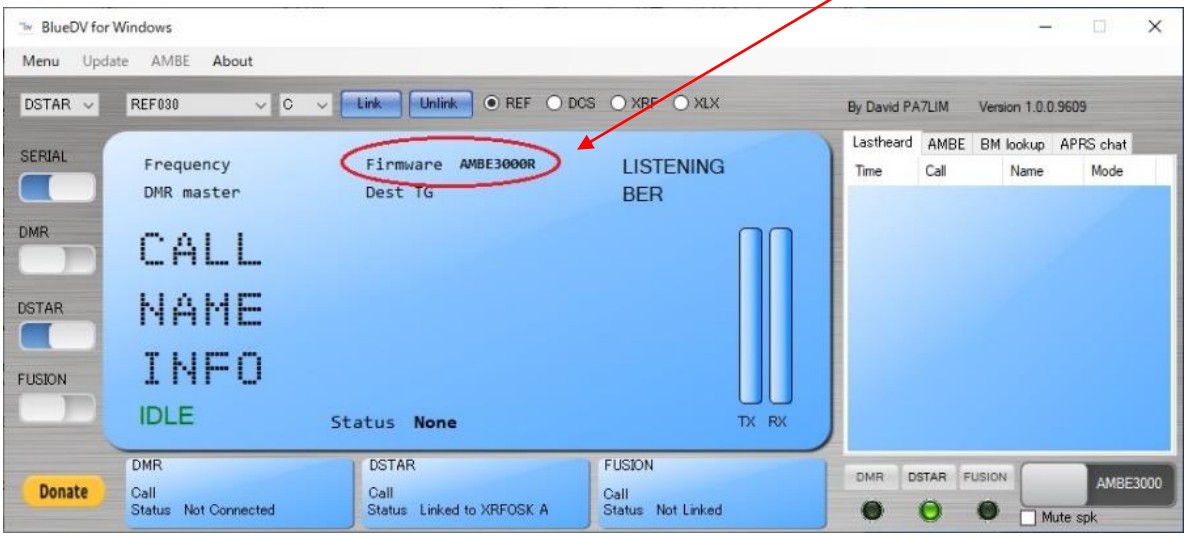


Fig.1

Fig.2 on the next page, Click the "SERIAL" button of the control panel "BlueDV for Windows" ⇒ Blue turns white ⇒ Firmware is hidden (*) ⇒ Select "Menu" tag ①⇒ Click "Setup" ② ⇒ Open the setting screen of the control panel "BlueDV for Windows"③. Then, make the necessary settings for the operation of D-Star, DMR, and FUSION.

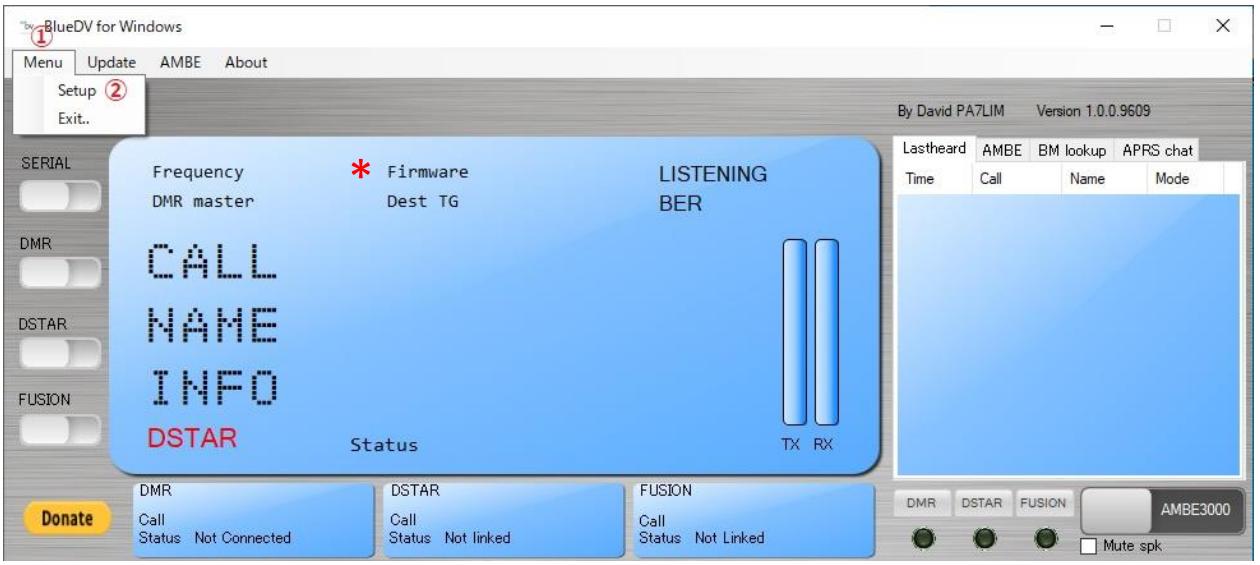

BlueDV for Windows
①
Menu
Update
AMBE
About
Setup ②
Exit..
By David PA7LIM
Version 1.0.0.9609
SERIAL
DMR
DSTAR
FUSION
Frequency
DMR master
Firmware
Dest TG
LISTENING
BER
CALL
NAME
INFO
DSTAR
Status
TX
RX
Lastheard
AMBE
BM lookup
APRS chat
Time
Call
Name
Mode
Donate
DMR
Call
Status Not Connected
DSTAR
Call
Status Not linked
FUSION
Call
Status Not Linked
DMR
DSTAR
FUSION
AMBE3000
Mute spk

Fig.2

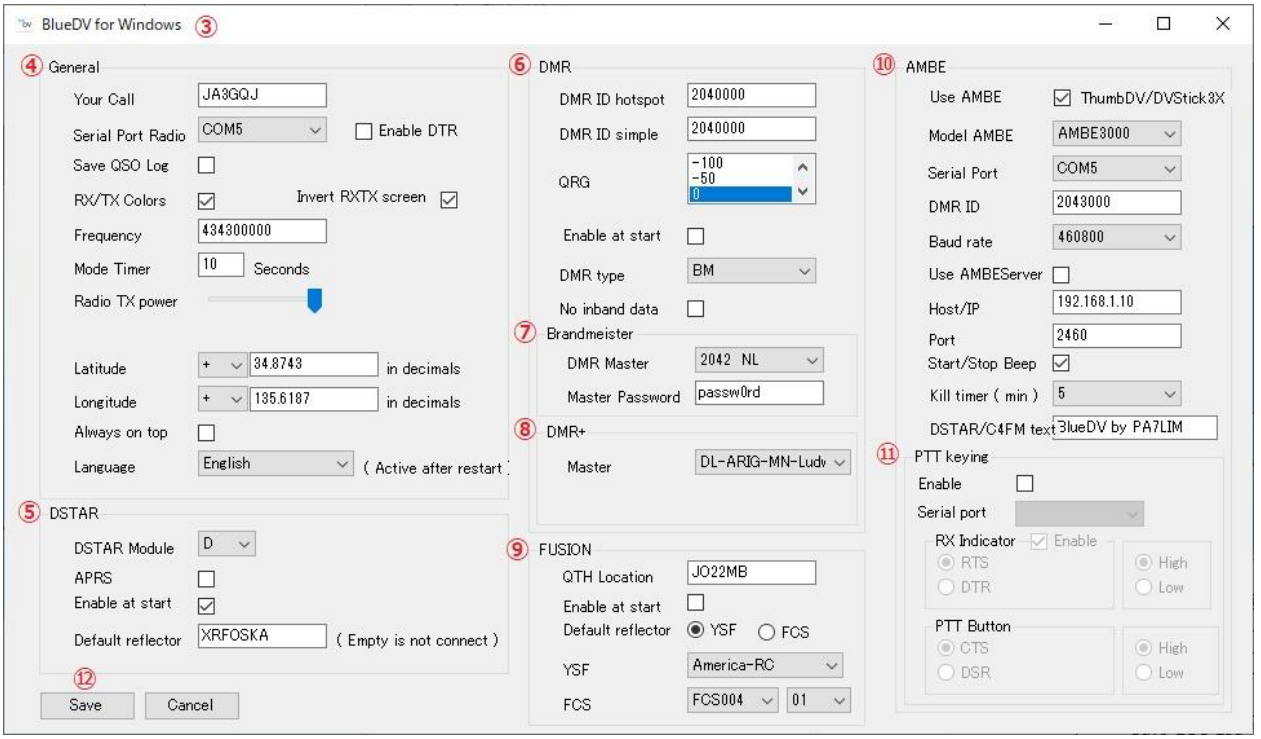

BlueDV for Windows ③
④ General
Your Call
JA3GQJ
Serial Port Radio
COM5
Enable DTR
Save QSO Log
RX/TX Colors
Invert RXTX screen
Frequency
434300000
Mode Timer
10
Seconds
Radio TX power
Latitude
34.8743
in decimals
Longitude
135.6187
in decimals
Always on top
Language
English
(Active after restart)
⑤ DSTAR
DSTAR Module
D
APRS
Enable at start
Default reflector
XRFOSKA
(Empty is not connect)
⑫
Save
Cancel
⑥ DMR
DMR ID hotspot
2040000
DMR ID simple
2040000
QRG
-100
-50
0
Enable at start
DMR type
BM
No inband data
⑦ Brandmeister
DMR Master
2042 NL
Master Password
passw0rd
⑧ DMR+
Master
DL-ARIG-MN-Ludv
⑨ FUSION
QTH Location
JO22MB
Enable at start
Default reflector
YSF
FCS
YSF
America-RC
FCS
FCS004
01
⑩ AMBE
Use AMBE
ThumbDV/DVStick3X
Model AMBE
AMBE3000
Serial Port
COM5
DMR ID
2043000
Baud rate
460800
Use AMBEServer
Host/IP
192.168.1.10
Port
2460
Start/Stop Beep
Kill timer (min)
5
DSTAR/C4FM text
3lueDV by PA7LIM
⑪ PTT keying
Enable
Serial port
RX Indicator
Enable
RTS
DTR
High
Low
PTT Button
CTS
DSR
High
Low

Fig.3

Description about each item of Fig.3 on the previous page

A) General frame ④ (common to D-Star, DMR, FUSION).

I t e m s	Description
Your Call	Enter your call sign
Serial Port Radio	In this example is COM3.(It depends on the computer due to automatic recognition.)
Save QSO Log	It may be the default
RX/ TX Color	Put a check
Invert RX/TX screen	With check mark, the screen color is red when transmitting and green when receiving.
Frequency	Since DVmega is not used, the default number is sufficient.
Mode Time	Leave the default (However, since it depends on the computer, it may be necessary to make adjustments later.)
Radio TX power	Leave the default (When not using DVMEGA)
Latitude, Longitude	Enter the latitude and longitude of your QTH, （＋） is probably north latitude and east longitude, (-) is south latitude and west longitude.
Always on top	Check if you want the control panel to always be on the front of the screen.

B) D-Star frame ⑤

Items	Description
DSTAR Module	Leave the default
Enable at start	Check it when you want to start from D-Star.
APRS	Leave the default
Default reflector	XREOSK A (Blank if you don't want to connect anywhere at startup)

C) DMR frame ⑥

Items	Description
DMR ID hotspot	Enter the 7-digit CCS7 ID obtained by referring to APPENDIX at the end of the book.
DMR ID simple	Ditto
QRG	Leave the default
Enable at start	Check it when you want to start from DMR.
DMR type	Three types can be selected from the pull-down menu:BM, DMRPLUS,XLXDMR. Here, select and set BM.
No inband data	Leave the default

D) Brandmeister frame ⑦

Items	Description
DMR Master	TG (Talk Group) can be selected from the pull-down menu.
Master Password	Leave the default passw0rd. (You can now use the Brandmeister DMR.) In the pull-down menu, there is a list called TG (Talk Group) that corresponds to modules such as XLX reflectors.

E) DMR+ frame ⑧

・You can select the desired talk group from the Master pull-down menu.

F) FUSION frame ⑨

A group can be selected from the pull-down menu.

Items	Description
QTH Location	Enter your own grit locator.
Enable at start	Check it when you want to start from FUSION.
Default reflector	Select YSF.
YSF	Select from the pull-down menu.
FCS	Leave the default

G) AMBE frame ⑩ (Important)

Items	Description
Use AMBE	Be sure to add a check mark to recognize Thum bDV.
Model AMB E	AMB E3000 (For ThumbDV)
Serial port	Enter the same number as the 'Serial Port Radio' in General frame ④.
DMR ID	Enter the same number as the 'DMR ID hotspot' in DMR frame⑥.
Baud rate	Select and set the baud rate 460800 or 921600 from the pull-down menu.
Use AMBE serve	Leave the default
Hosts/IP, Port	Leave the default
Start/Stop Beep	Add a check mark and beep when reception is successful. Remove the check mark when you get used to the operation and it becomes jarring.
Kill timer (min)	TX time setting. You can select up to 5 minutes.
DSTAR／C4FM text	The characters that appear on the receiving side when you send. You can edit it.

H) PTT keying ⑪

Leave PTT keying the default.

-------- This is the end of setting. Click "Save" ⑫ (figure on page 3) to close the screen. --------

The sound card is automatically selected by default, but you can also select a sound card by "AMBE" tag in the control panel "BlueDV for Windows" in the Fig.4. If you cannot hear the received sound or the voice does not reach the other party, it will be checked. Fig.5 on the next page is the contents (list) of the Brandmeister, and Fig.6 on the next page is the contents (list) of the DMR + pull-down menu.

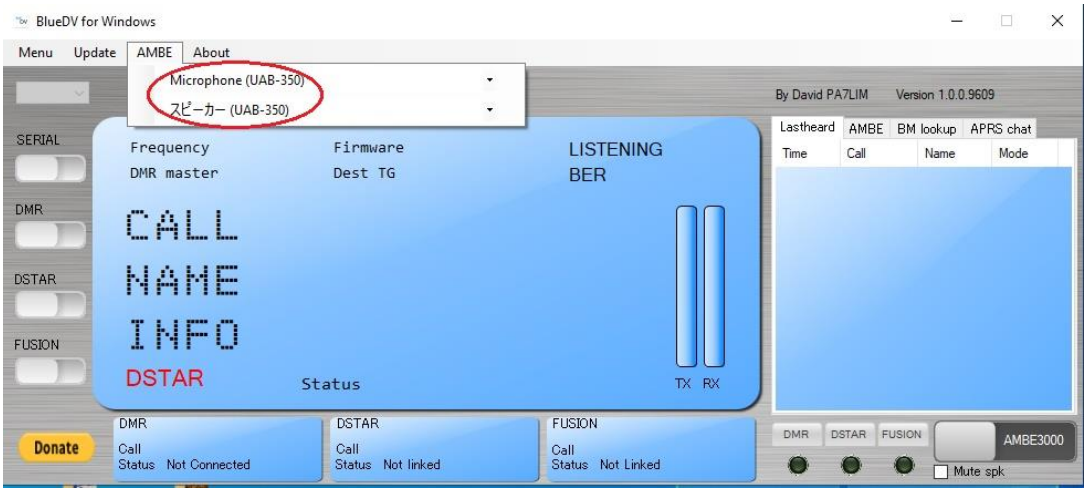


Fig.4

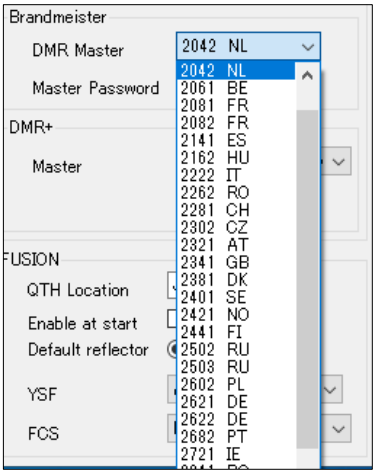


Fig.5

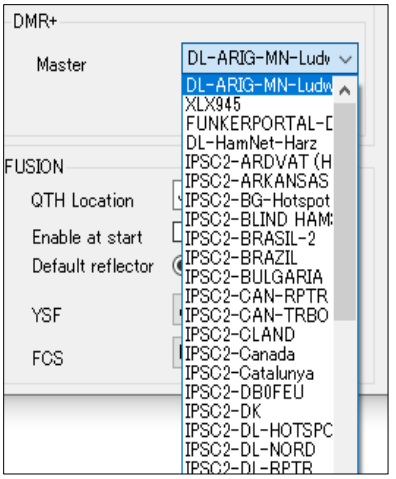


Fig.6

3.Data Update

After completing the settings, open Update tag ① on the Fig.7 to update the data of D-Star hosts, call database, DMR master.

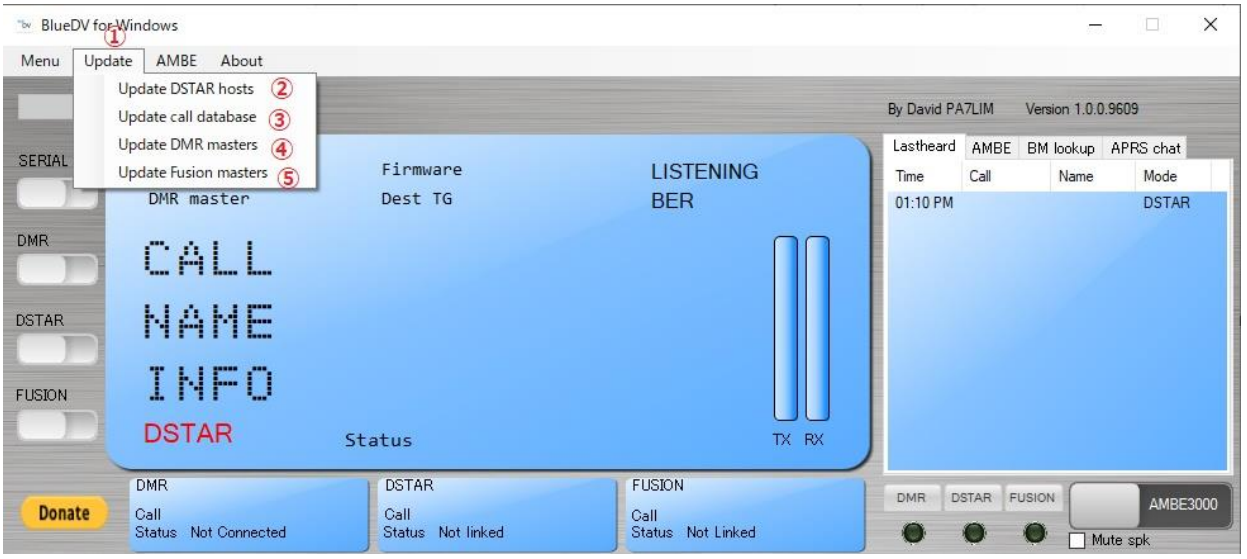
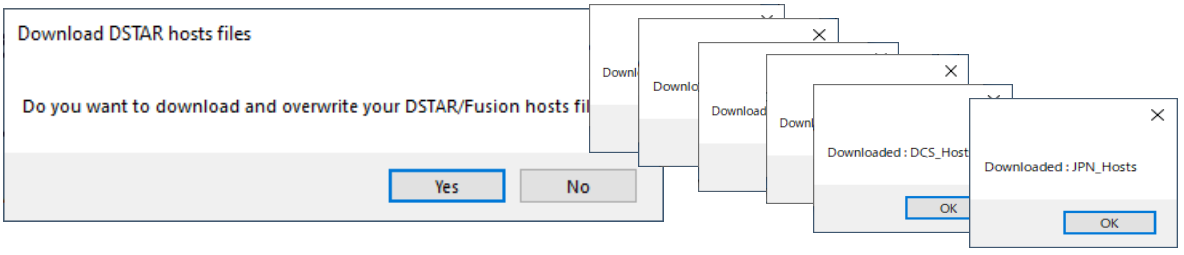


Fig.7

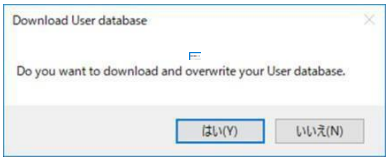
Update D-Starhosts ②

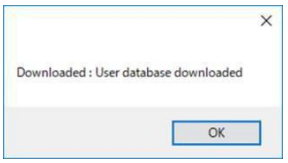
Click "Yes" on the first pop-up screen ⇒ Next, six small screens will be displayed in an overlapping manner ⇒ Then click the "OK" button on the screen in order.



Update call database ③

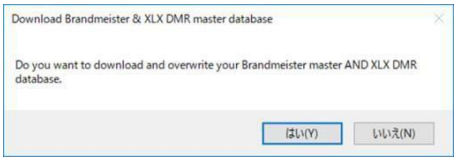
Click "Yes" on the first pop-up screen ⇒ Just click "OK" on the next pop-up screen. It will take some time for the update to finish.

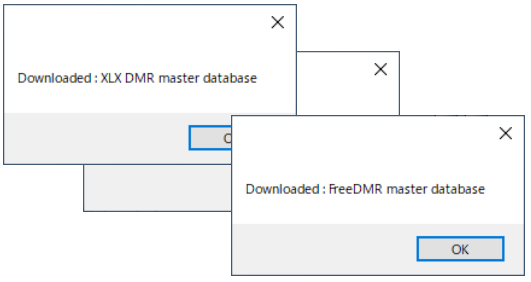




Update DMR master ④

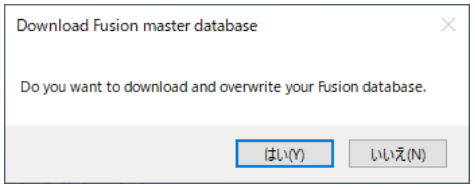
Click "Yes" on the first pop-up screen ⇒ Next, just click the "OK" button on the two pop-up screens.

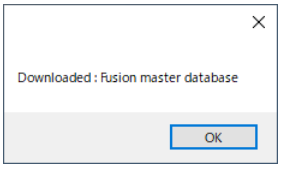




Update Fusion master ⑤

Click "Yes" on the first pop-up screen ⇒ Next, just click the "OK" button on the pop-up screens.





Next, exit the software once with "Exit" ⑥ on the Fig.8 of the control panel BlueDV for Windows.

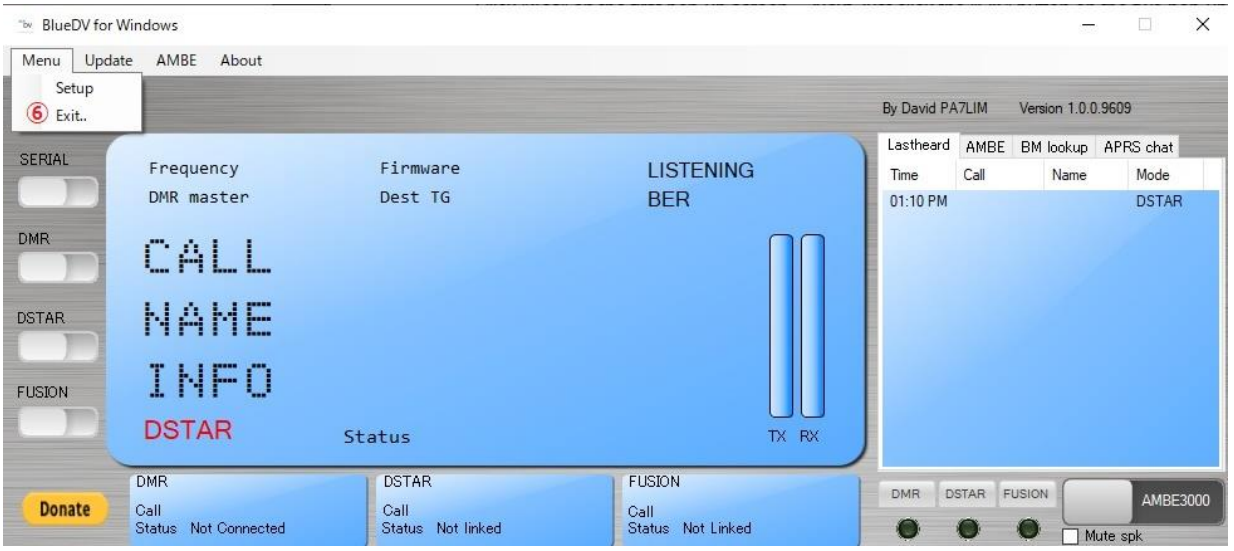


Fig.8

Operation of D-Star

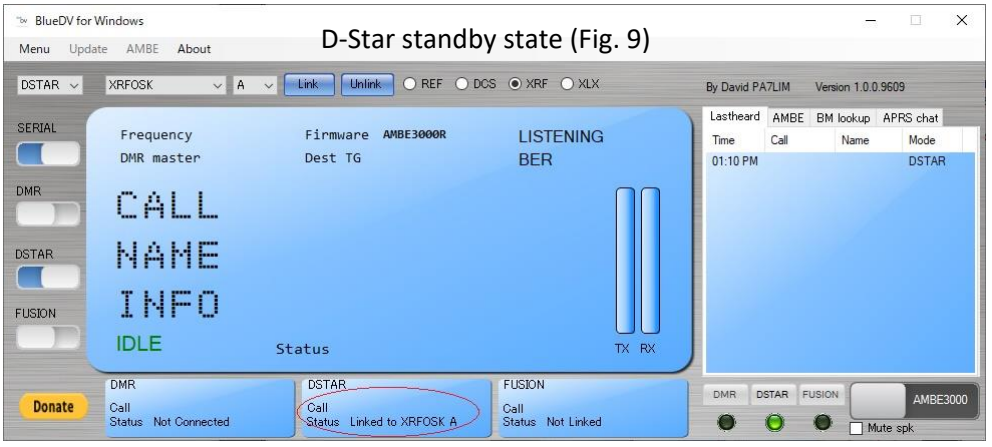
1.RX

Click the icon on the desktop ⇒ Start the software ⇒ The BlueDV for Windows control panel will pop up. The startup status is based on the default settings, and after the screen temporarily turns green, it goes into the reception standby state (Fig. 9) with the announcement of the connection. At this time, the green lamp of "DSTAR" at the bottom right of the screen is lit.

The contents of the initial settings (page3 and page 4) are:

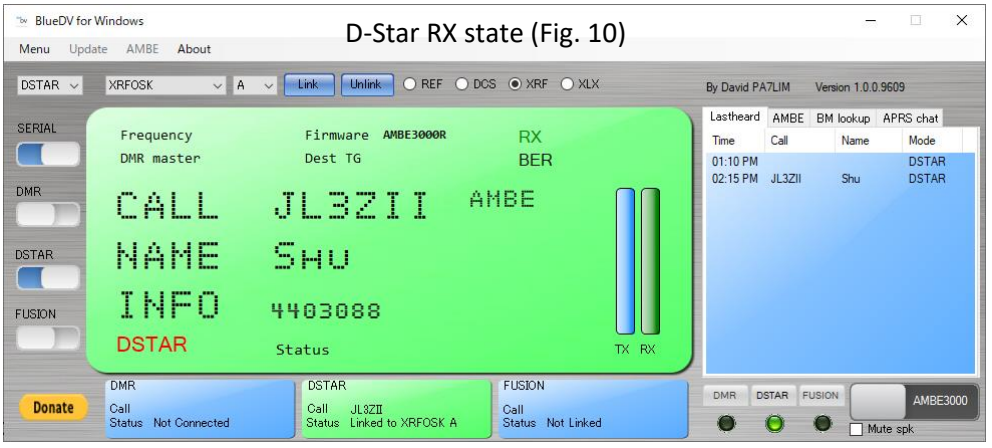
- *Enable at start ：I put a check mark.*
- *Default reflector ：XREOSK A*

D-Star standby state (Fig. 9)



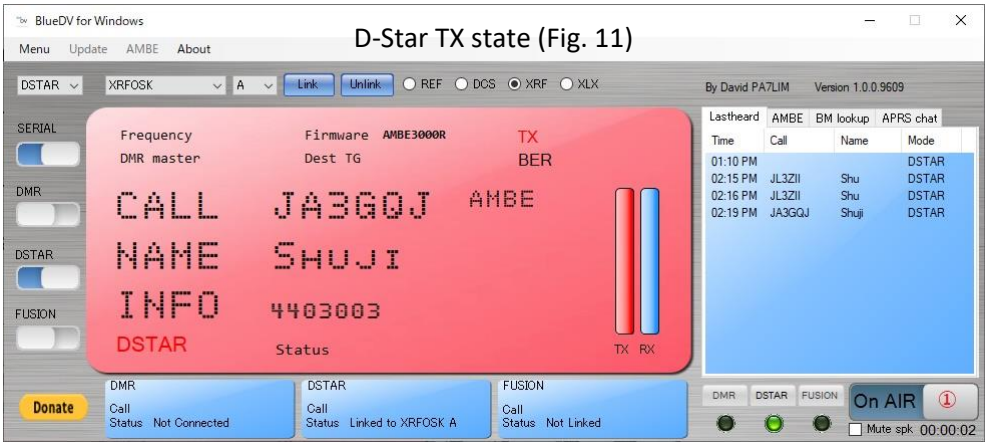
When the signal is received, the screen turns green (Fig. 10) and you can hear the voice of the other station.

D-Star RX state (Fig. 10)



2.TX

When the partner station is on standby, touch the space key on the keyboard to turn on PTT ①. Then speak into the microphone. At this time, the screen turns red to indicate the transmission status (Fig. 11). Touch the space key on the keyboard again to turn the screen blue and return to reception. You can also turn PTT ① ON / OFF by clicking the mouse. Of course, you can also make a CQ call.



D-Star TX state (Fig. 11)

3.Confirmation items required for RX and TX.

- The sound card is recognized, and the microphone should be connected.
- The gain of the speaker during reception and the gain of the microphone during transmission should be adjusted properly.

4.How to adjust the gain of the microphone and speaker

- Adjust the gain of the microphone and speaker with the DSTAR Gain of the "AMBE" tag on the D-Star control panel, referring to the report of the communication partner. In some cases, the sound card adjustment function may be used.

  For the "AMBE" tag on the D-Star control panel, see the APPENDEX page at the end of the book.

5.Change connection Reflector

If you want to change the reflector to be used, shown Fig.12 or Fig.13 on the next page, click the "Unlink" button ⇒ Disconnect the reflector in use ⇒ Select the desired group with the radio button ① ⇒ Select the reflector and module of purpose from the pull-down menus (② and ③) ⇒ Click the "Link" button to connect.

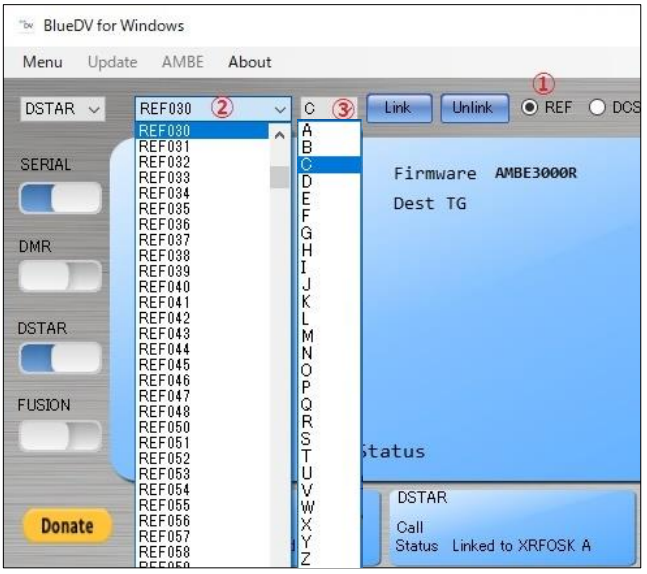


Fig.12

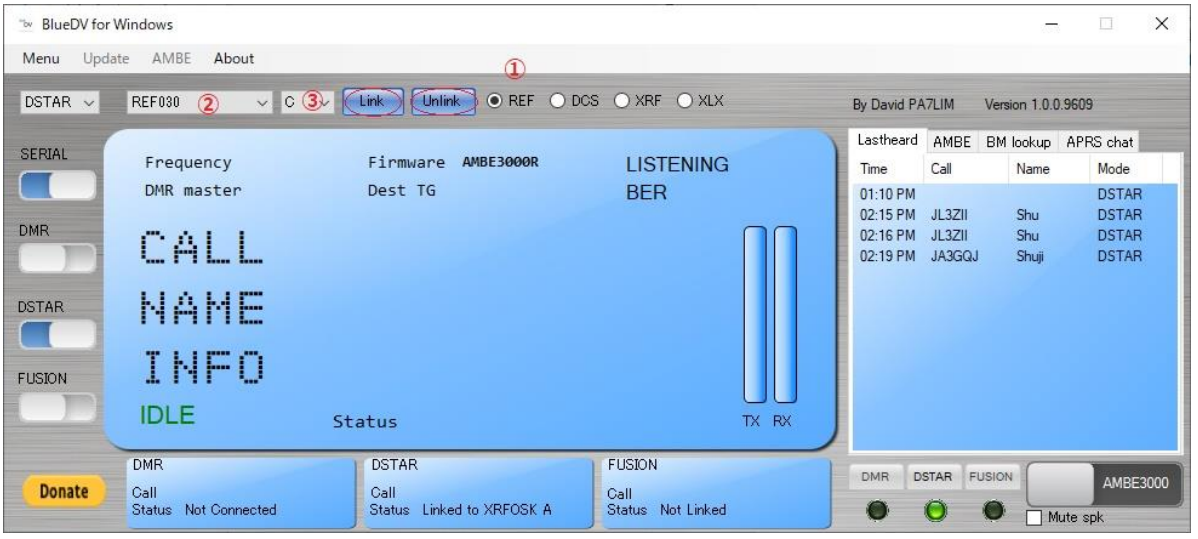


Fig.13

6.End of operation

Click the "SERIAL" button on the left side of the screen shown in Fig. 13 ⇒ Click the "X" on the upper right of the screen to finish.

What I noticed

It was connected to the XRFOSK A as specified at startup, but the reflector and module display is REF030C. Even if the display is corrected to XRFOSK A and restarted, the connection is XRFOSK A, and the display returns to REF030C. Even if you change the reflector and module and restart after operation, it will be XRFOSK A as specified at startup and it is connected, the display of the reflector and the module is REF030C. (See Fig.14 on next page)

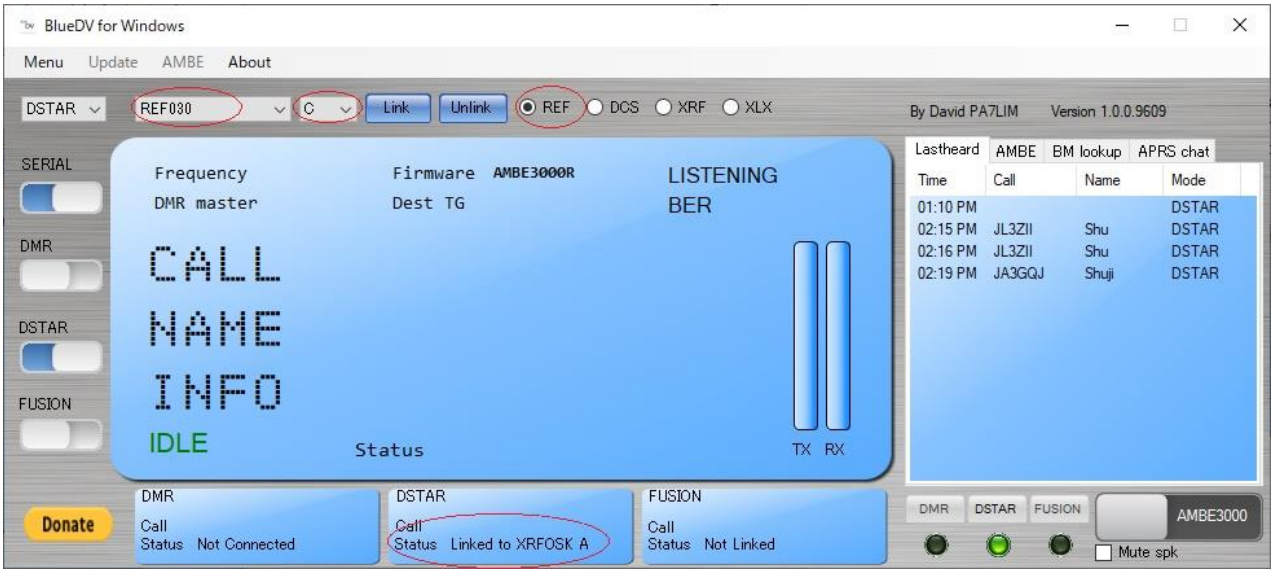


Fig.14

However, there is no problem if you select the reflector using the pull-down menu on the screen, the radio button, and the "Link" and "Unlink" buttons without worrying about this phenomenon.

The RX screen when the 'RX/TX Color' and 'Invert RX/TX Screen' are checked in the software settings and the RX screen when the check mark is not added to the RX / TX Color are different.

TX / RX screen when 'RX / TX Color' is not checked

RX screen	TX screen
	

TX / TX screen when 'R X / TX Color' is checked

RX screen	TX screen
	

Same for FUSION and DMR

Operation of FUSION

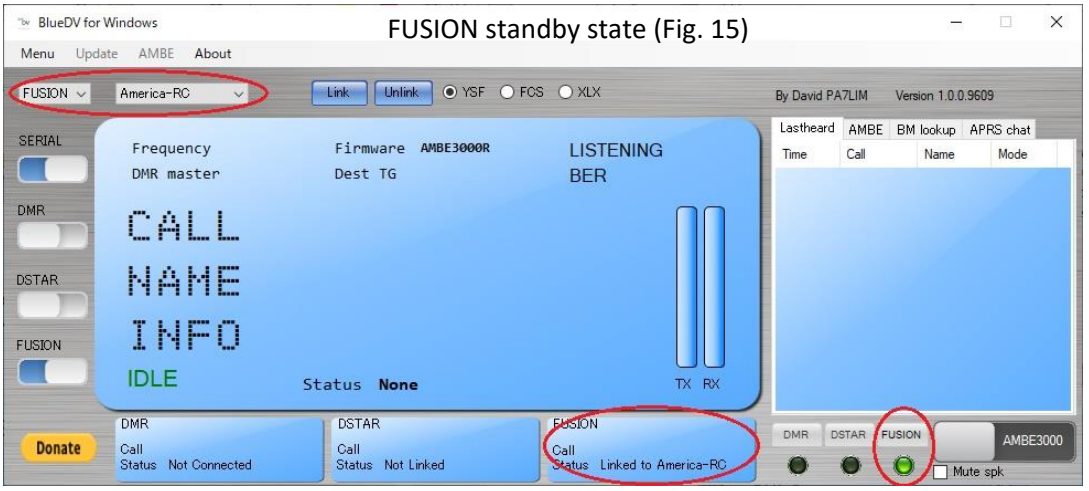
1.RX

Click the icon on the desktop ⇒ Start the software ⇒ BlueDV for Windows will pop up. The startup status will be in the reception standby state (Fig. 15) depend upon the initial settings. Unlike D-Star, the screen doesn't turn green temporarily, and there's no connection announcement. At this time, the "FUSION" green lamp at the bottom right of the screen is lit.

The contents of the initial settings (page3 and page5) are:

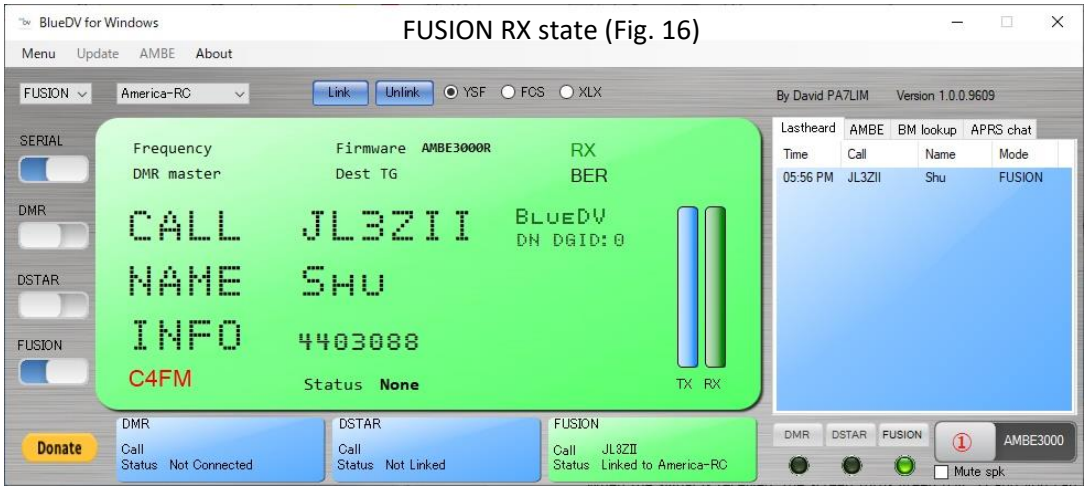
- *Enable at start ：I put a check mark.*
- *Default reflector ：YSF America-RC*

FUSION standby state (Fig. 15)



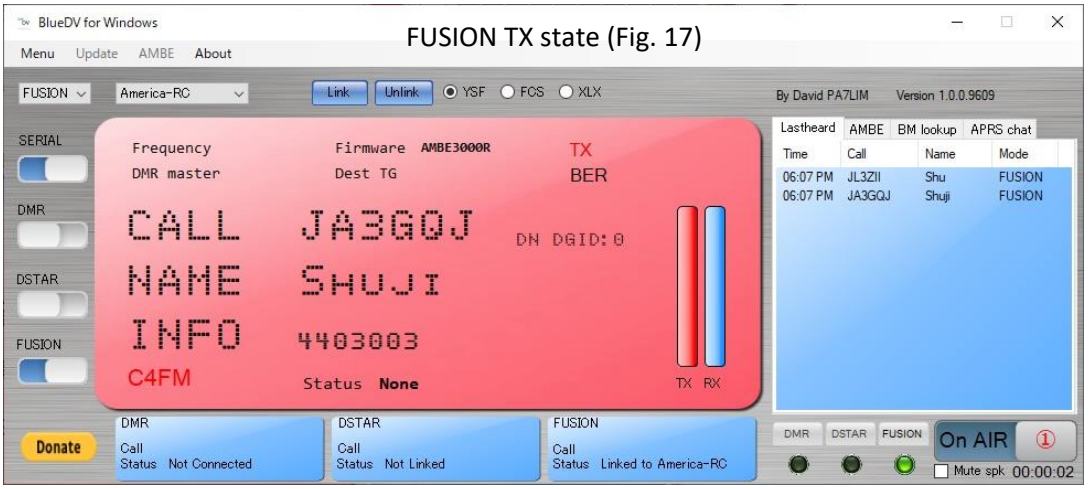
When the signal is received, the screen turns green (Fig. 16) and you can hear the voice of the other station.

FUSION RX state (Fig. 16)



2.TX

When the partner station is on standby, touch the space key on the keyboard to turn on PTT ① on the Fig.17 on next page. Then speak into the microphone. At this time, the screen turns red to indicate the transmission status (Fig. 17). Touch the space key on the keyboard again to turn the screen blue and return to reception. You can also turn PTT ① ON / OFF by clicking the mouse. Of course, you can also make a CQ call.



FUSION TX state (Fig. 17)

3.Confirmation items required for sending and receiving.

- The sound card is recognized, and the microphone should be connected.
- The gain of the speaker during reception and the gain of the microphone during transmission should be adjusted properly.

4.How to adjust the gain of the microphone and speaker

- Adjust the gain of the microphone and speaker with the FUSION Gain of the "AMBE" tag on the D-Star control panel, referring to the report of the communication partner. In some cases, the sound card adjustment function may be used.

For the "AMBE" tag on the FUSION control panel, see the APPENDEX page at the end of the book.

5.Change connection reflector

If you want to change the reflector, click the "Unlink" button ① shown Fig.18 ⇒ Disconnect the reflector in use ⇒ Confirm that the radio button of "②" is YSF ⇒ Select the desired reflector from the pull- down menu of "③" ⇒ Click the "Link" button "④" to connect.

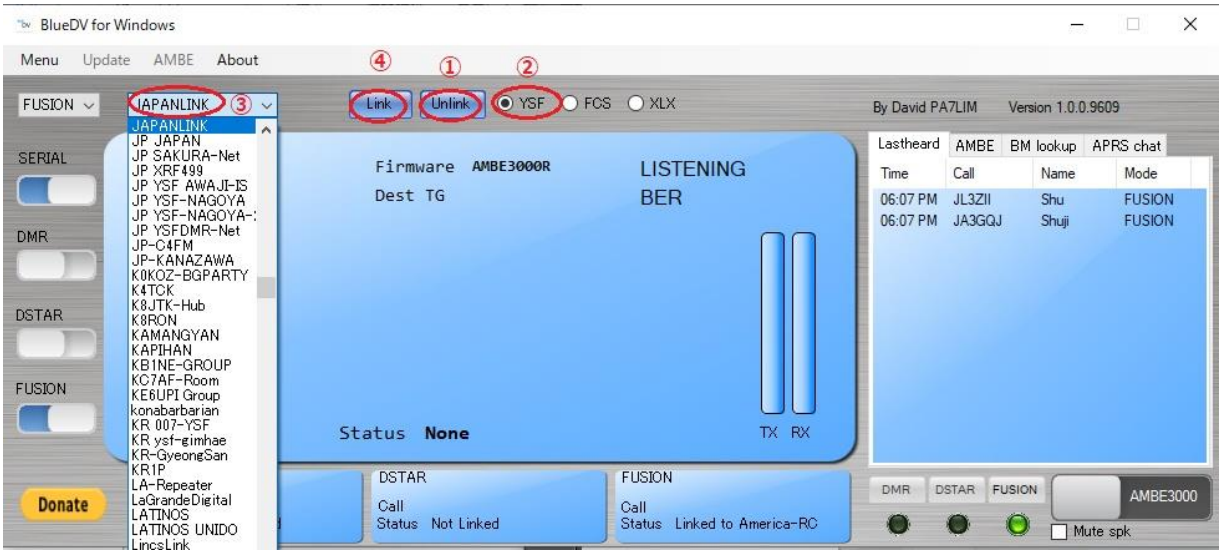


Fig.18

6.End of operation

Click the "SERIAL" button on the left side of the screen shown in Fig. 18 on previous page ⇒ Click the "X" on the upper right of the screen to finish.

Operation of DMR

1.RX

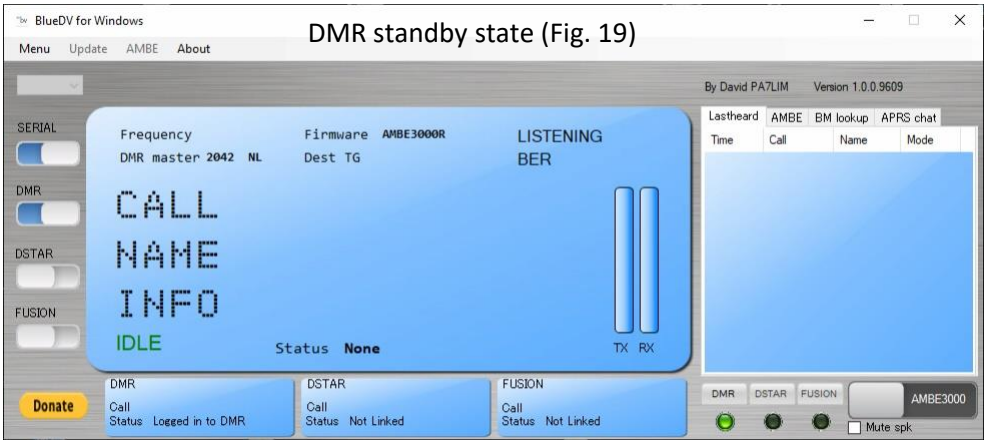
Click the icon on the desktop ⇒ Start the software ⇒ BlueDV for Windows will pop up. The startup status will be in the reception standby state (Fig. 19) depend upon the initial settings. Unlike D-Star, the screen doesn't turn green temporarily, and there's no connection announcement. At this time, the "FUSION" green lamp at the bottom right of the screen is lit.

The contents of the initial settings (page3 and page4) are:

- *Enable at start ：I put a check mark.*
- *DMR type ：BM*
- *DMR Master ：2042 NL*

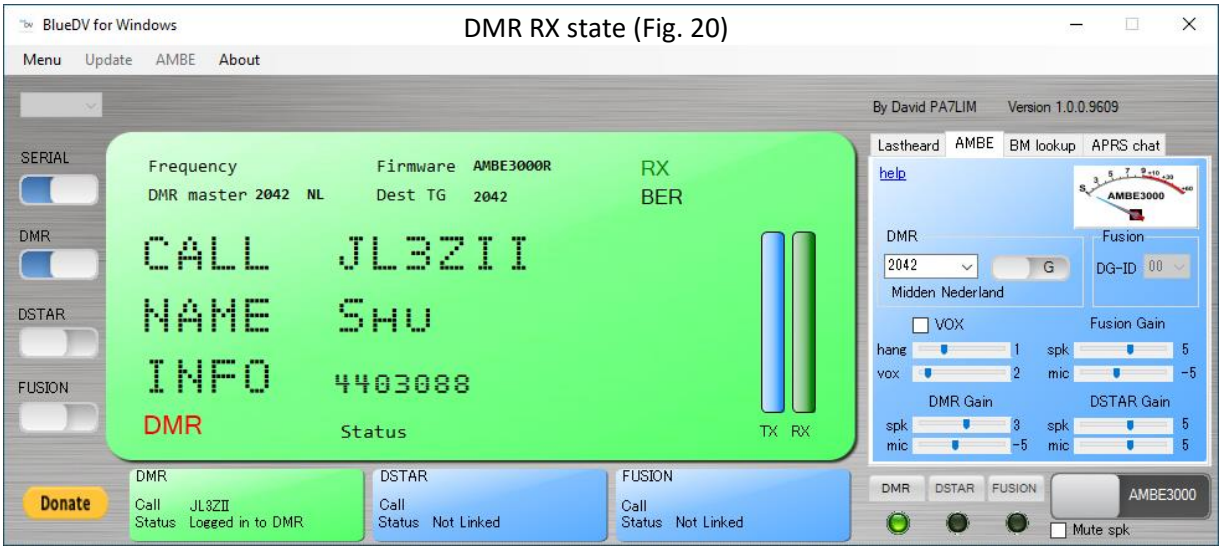
DMR of AMBE tag shows 204 NL. (Refer to APPENDEX at the end of the book for AMBE tag.)
DMR master② displays the Brandmeister and DMR + data selected in the initial settings. If you select XLXDMR, nothing is displayed.

DMR standby state (Fig. 19)



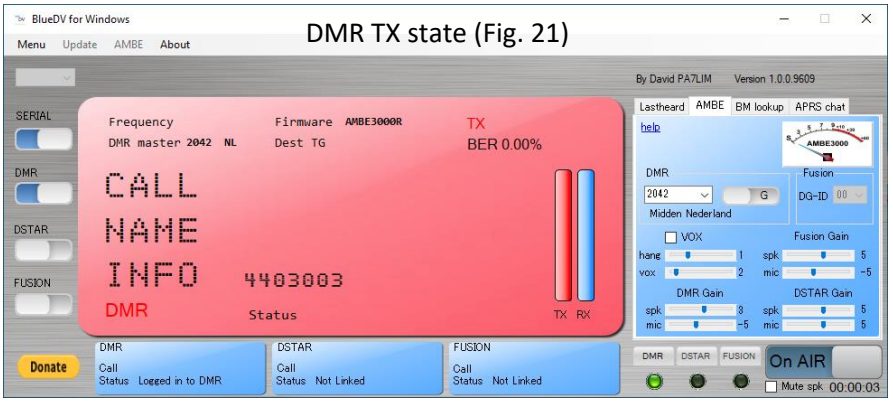
When the signal is received, the screen turns green (Fig. 20) and you can hear the voice of the other station.

DMR RX state (Fig. 20)



2.TX

When the partner station is on standby, touch the space key on the keyboard to turn on PTT ①. Then speak into the microphone. At this time, the screen turns red to indicate the TX Status (Fig.21). When you touch the space key on the keyboard again, the screen turns blue and the RX state is set. You can also turn PTT ① ON / OFF by clicking the mouse. Of course, you can also make a CQ call.



DMR TX state (Fig. 21)

3.Confirmation items required for sending and receiving.

- The sound card is recognized and the microphone should be connected.
- The gain of the speaker during reception and the gain of the microphone during transmission should be adjusted properly.

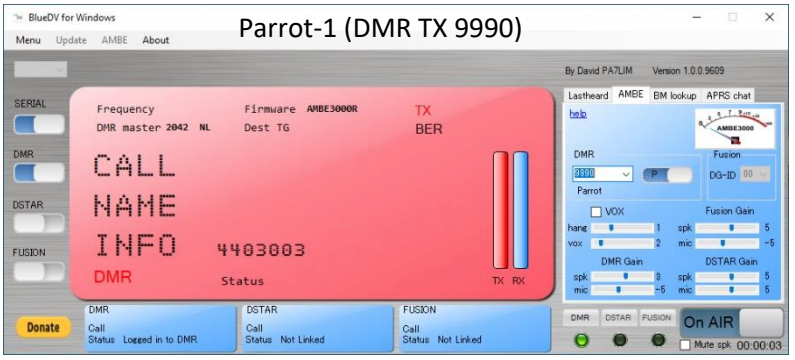
4.How to adjust the gain of the microphone and speaker

I think there are two ways as follows:

4.1. Adjust the gain of the microphone and speaker with the DMR Gain of the "AMBE" tag on the DMR control panel, referring to the report of the communication partner. In some cases, the sound card adjustment function may be used.

For the "AMBE" tag on the DMR control panel, see the APPENDEX page at the end of the book.

4.2. Enter 9990 in the DMR reflector selection field of the AMBE tag ⇒ Switch between group (G) and individual (P) to P ⇒ Touch the space key on the computer keyboard⇒ Speak into the microphone for several second (Parrot-1) ⇒ Touch again the space key on the computer keyboard to get an echo (Parrot-2 on next page) ⇒ Adjust DMR Gain.



Parrot-1 (DMR TX 9990)

5.Change connection Talkgroup

To change the TG, select from the pull-down menu of the "BM lookup" tag or enter the TG number in the "Search Talk group" field (Fig.22) to search and click the result. ⇒ "AMBE" tag opens (Fig.23) ⇒ Recorded in the DMR column. ⇒ Can be operated with the selected TG.

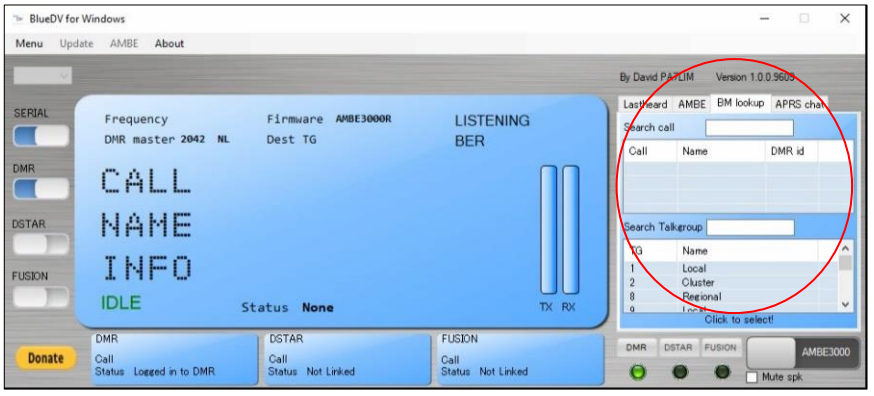


Fig.22

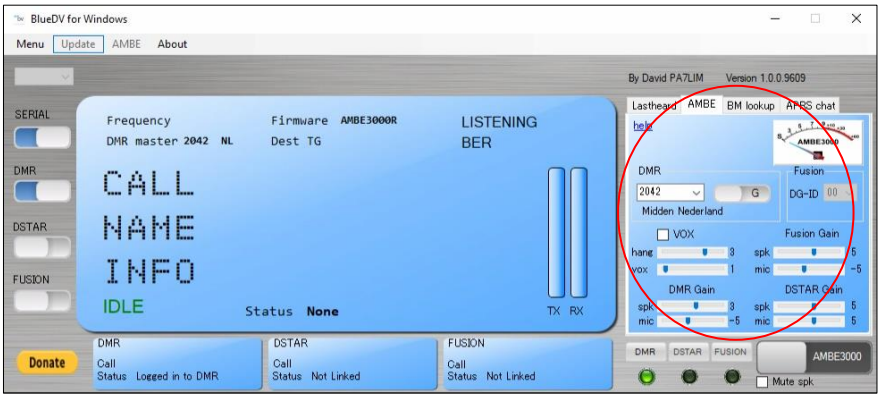


Fig.23

6.End of operation

Click the "SERIAL" button on the left side of the screen ⇒ Click the "X" on the upper right side of the screen to finish.

The following is unexperienced in Version 1.0.0.9609.

1． Operation of DMRPLUS

2． Operation of XLXDMR

（See http://radioham.mydns.jp/ja3gqj/ThmbDV_BlueDV9522e.pdf）

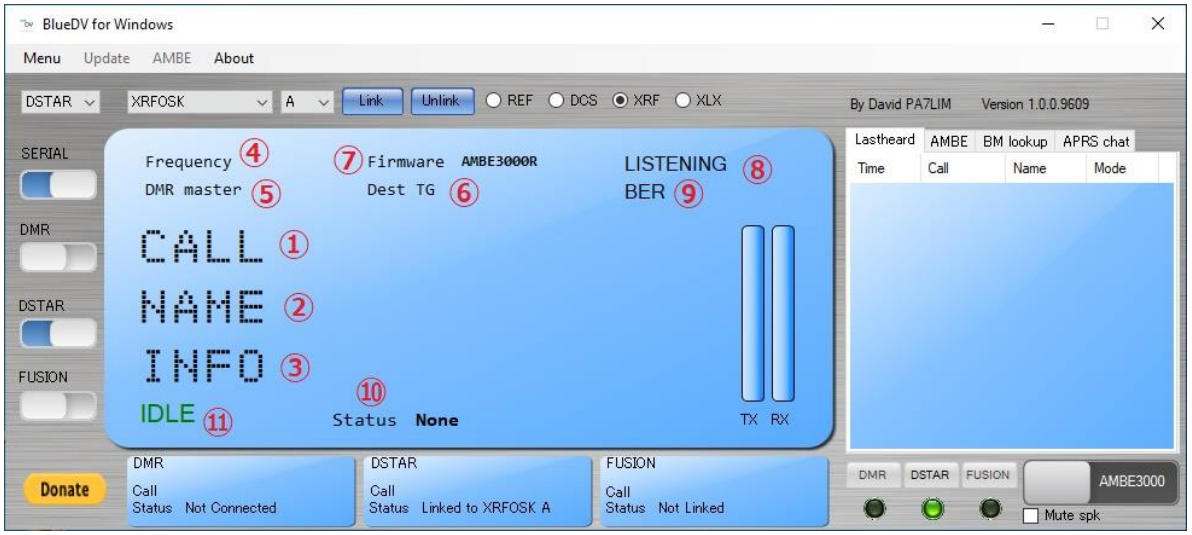
3． Operation with DVmega

DVmega

As of September 1, 2021

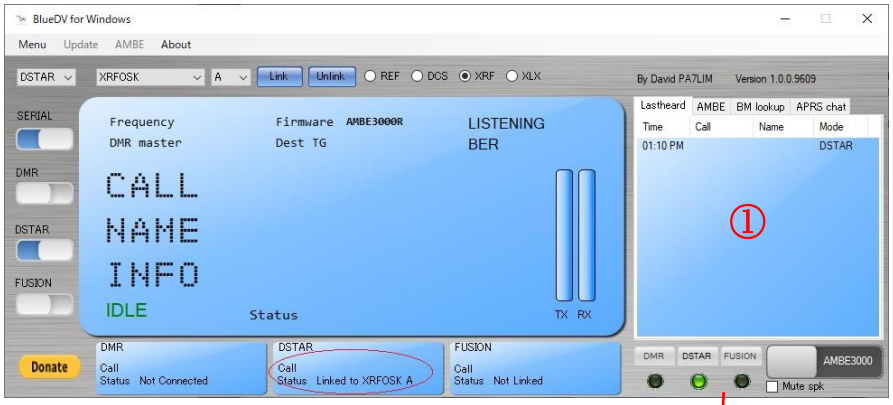
APPENDEX

1． Items and functions displayed on the screen (my understanding)

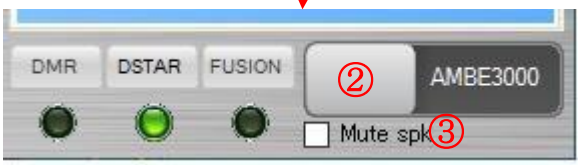


Item	Description
① CALL	When receiving, the call sign of the other station, the rig used, etc. are displayed.
② NAME	The name of the partner station is displayed when receiving.
③ INFO	Display the information of the partner station (QTH, DMR ID, etc.) when receiving.
④ Frequency	The frequency set on page 5 for DVmega is displayed.
⑤ DMR master	A DMR master other than the XLXDMR set on page 5 is displayed.
⑥ Dest TG	When operating BM or DMR +, it seems that the talk group you are using is displayed here, and when operating XLX DMR, the DMR ID is displayed. Dest stands for Destination.
⑦ Firmware	AMBE3000R, which is the product code (product description) of ThumbDV, is displayed. (When using DVmega, it is displayed as DVMEGA_NR3.07 etc.)
⑧ LISTENING	The display changes to TX when transmitting and RX when receiving regardless of mode (D-Star, DMR, or FUSION).
⑨ BER	The code error rate (bit error rate) seems to indicate the rate of data bit loss during DMR transmission.
⑩ Status	The status of its operation is displayed when the software is started. If None is displayed or nothing is displayed, it means that the operation is normal. If ThumbDV is not attached, "Can not open COM port" will be displayed. Also, if PTT keying is enabled in the initial setting but the comp port number is not entered in the Serial port, "PTT: Serial port IO error" is displayed in Status.
⑪ IDLE	Indicates that it is in a standby state. When sending / receiving D-Star, the display changes to DSTAR in red, when using DMR, the display changes to DMR in red, and when using FUSION, the display changes to FUSION in red.

The screen① on the right of the figure below changes with four types of tags: Lastheard, AM BE, BM lookup, and APRS chat.



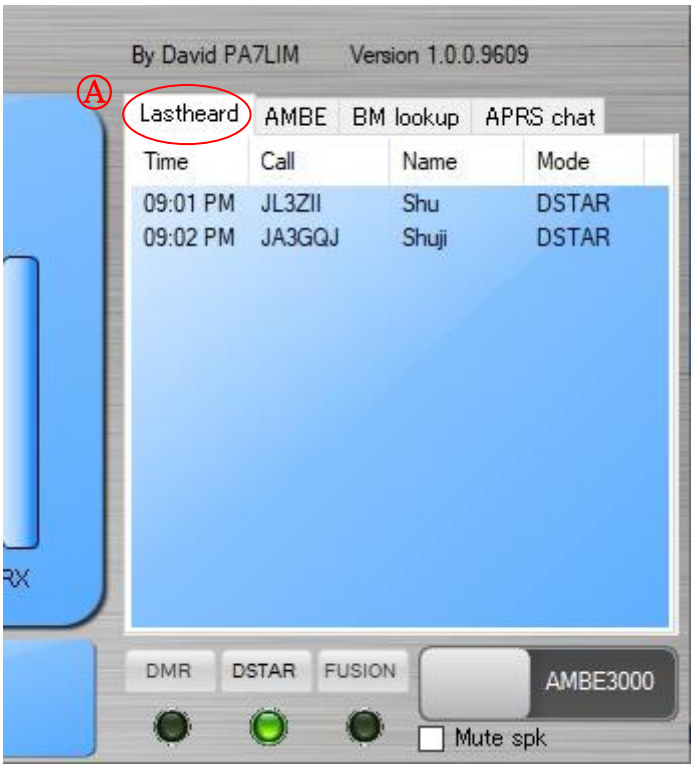
The three buttons at the bottom of screen switch between mode (DMR, DSTAR, and FUSION).



'②' is a PTT switch operated with the mouse or the space key on keyboard. If you put a check mark in Mute spk③, the speaker sound will disappear.

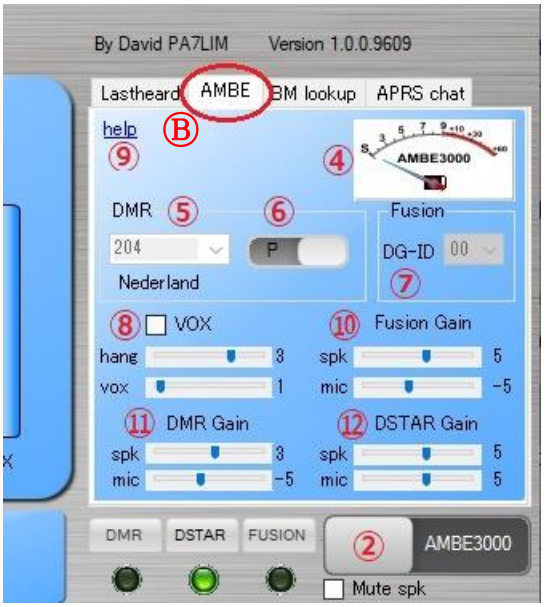
Lastheard tag Ⓐ :

The communication time, call sign, name, and mode (D-Star, DMR, FUSION) are displayed on the Lastheard tag screen. The name seems to be the one registered when getting 7-digit ID of CCS7 . Clicking on the callsign will open the web page of QRZ.COM for that station. QRZ.COM is, needless to say, a world-famous web version of the callbook that requires registration.



AMBE tag Ⓑ :

The screen of this tag has a level indicator ④ corresponding to the S meter.
The number 204 in the DMR reflector number input field ⑤ in the middle is his TG (talk group) of DMR in the Netherlands selected by default. ⑥ on the right side is a switch button for group (G) and individual (P) (default is G).
VOX ⑧ is very convenient. Adjust 'hang' and 'vox' to determine the optimum operating conditions.
In addition, there are speaker (skp) and microphone (mic) gain adjustment bars for each mode (DMR, Fusion, D-Star). Find the optimum conditions together with the adjustment function of the sound card of your computer.
Click help⑨ of this tag to open the explanation web page.

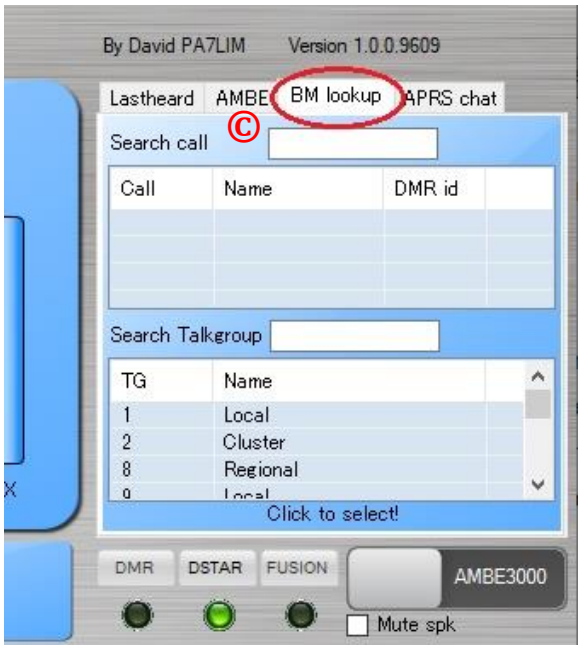


When the initial setting is BM, enter 9990 in the DMR reflector number input field ⑤ and click the PTT switch ② with the mouse or touch the space key on the keyboard to perform the echo test.

BM lookup tag Ⓒ :

This screen is like a screen to search for the desired TG or DMR ID. If you enter the TG number in the "Search Talk group" input field, the name will be displayed at the top of the menu below it. If you click there, it will be reflected in ⑤ (page 10) of the AMBE tag. You can also scroll through the menu to find and click on the desired TG directly. Enter your call sign in "Search call" to find your DMR ID. A list of ID search results is displayed with just the call sign prefix.

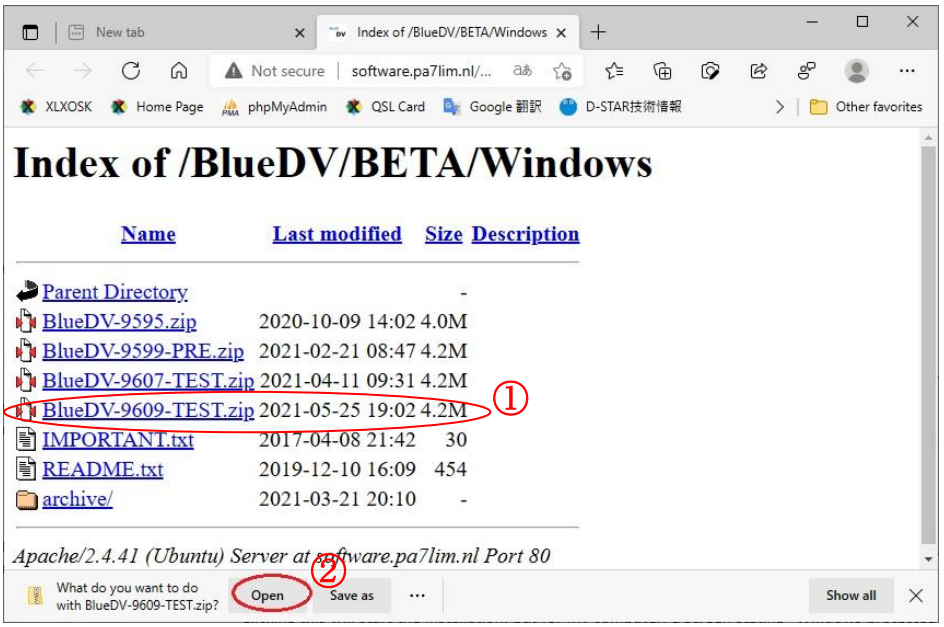
APRS chat tag Ⓓ : Usage unconfirmed



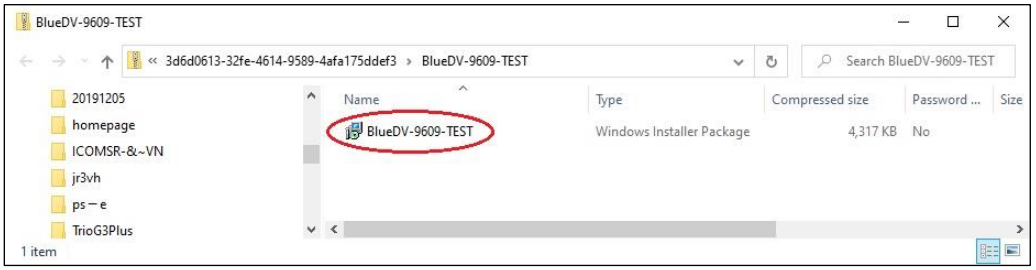
3. Download Software

Open http://software.pa7lim.nl/BlueDV/BETA/Windows/ ⇒

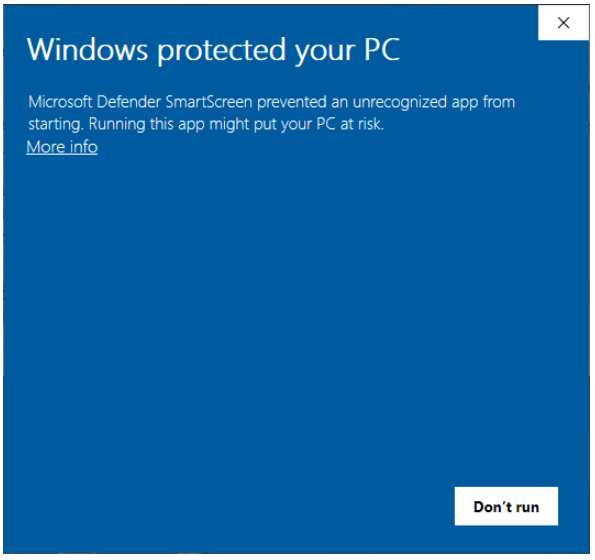
Click on BlueDV-9606-TEST.zip① with the opened page ⇒ Click "Open"②



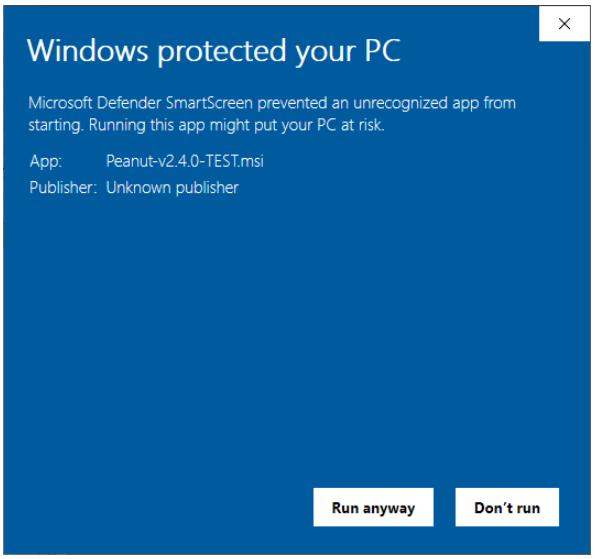
When download completed, the folder which is including BlueDV-9606-TEST file opens as follow.



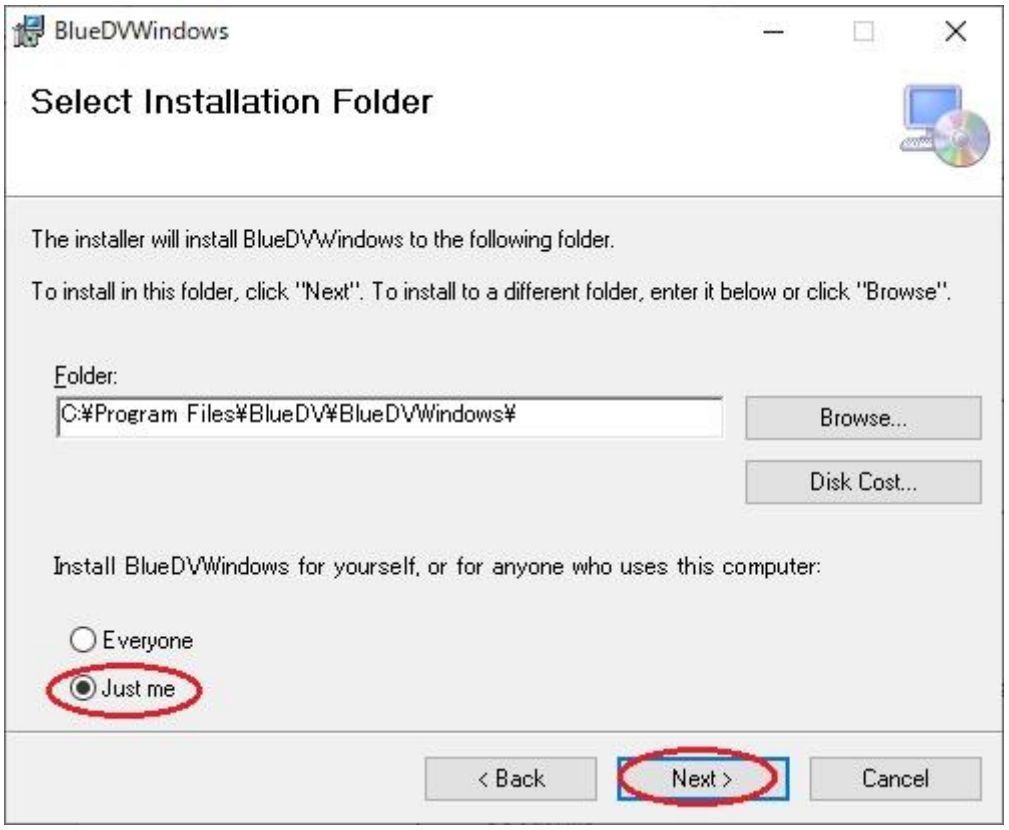
Clicking this will start the installation, but for my computer, a screen stating "Windows protected my computer" popped up as shown below. Then click "More info".

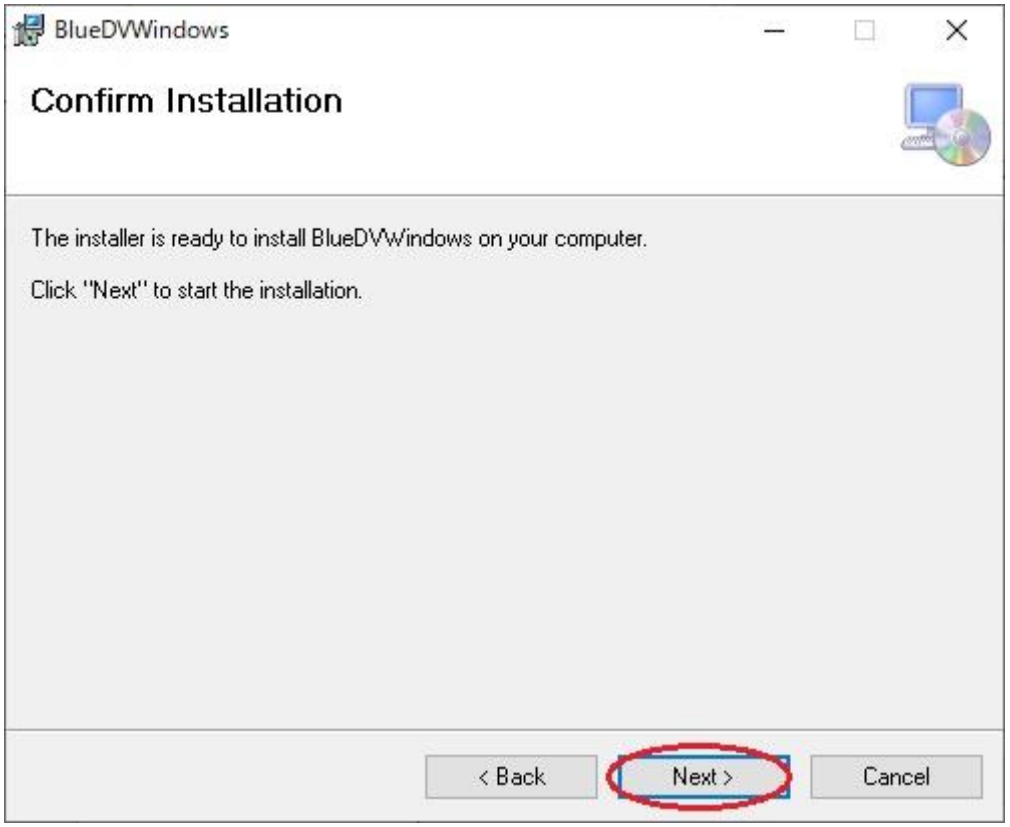


Then, the screen changed to the screen with the "Run" button as shown below, so click the "Run anyway" button.

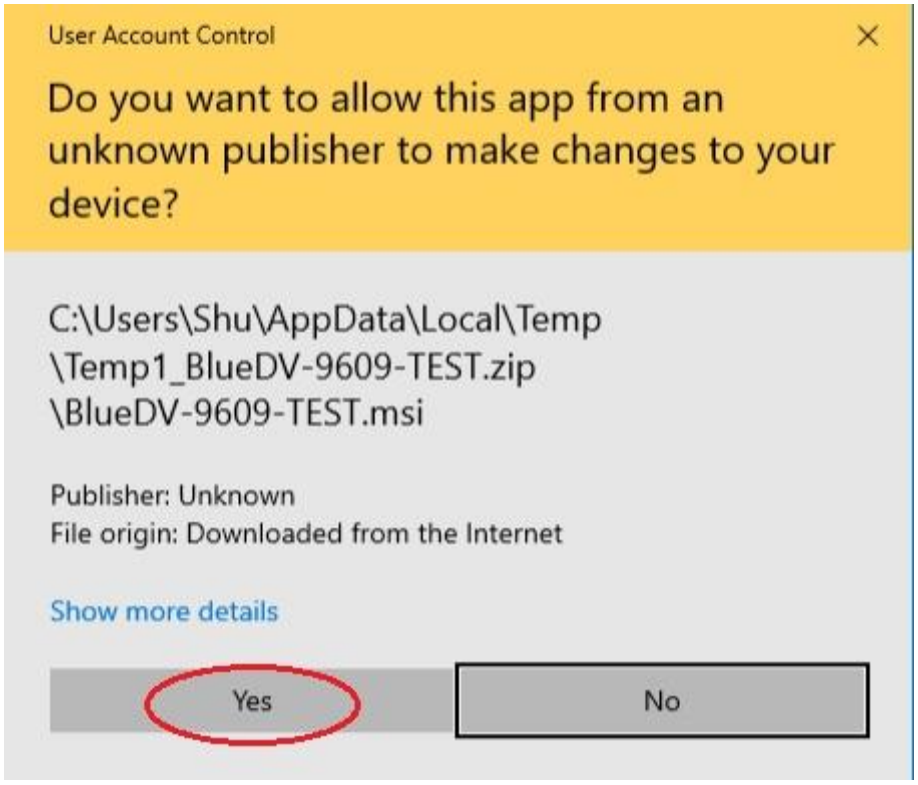


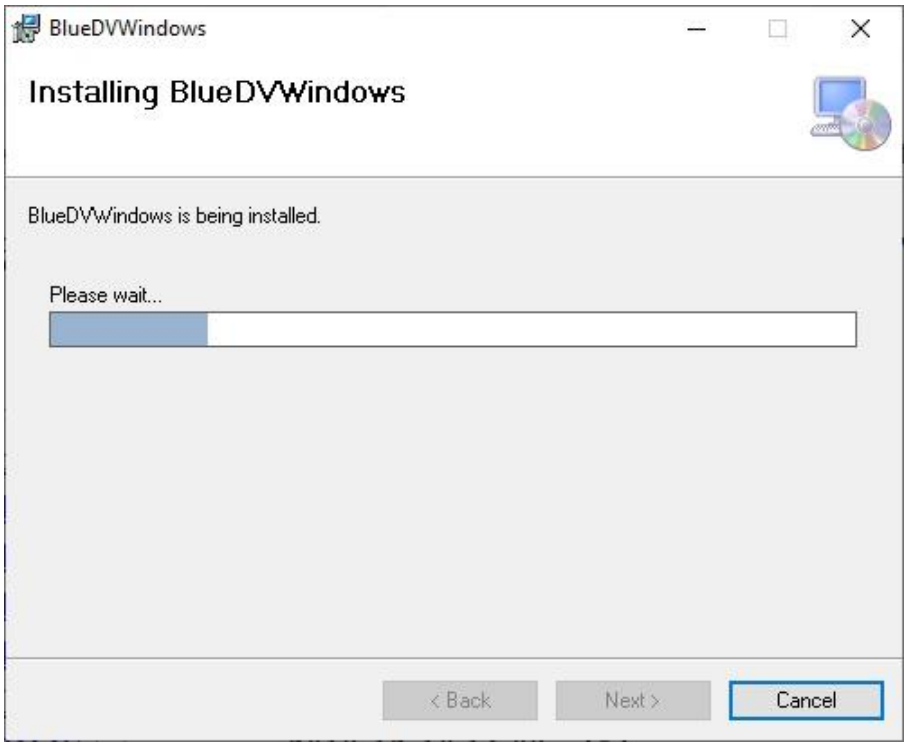
Then "Welcome to the BlueDVWindows Setup Wizard" will pop up, so click "Next>" for each screen to proceed with the installation.

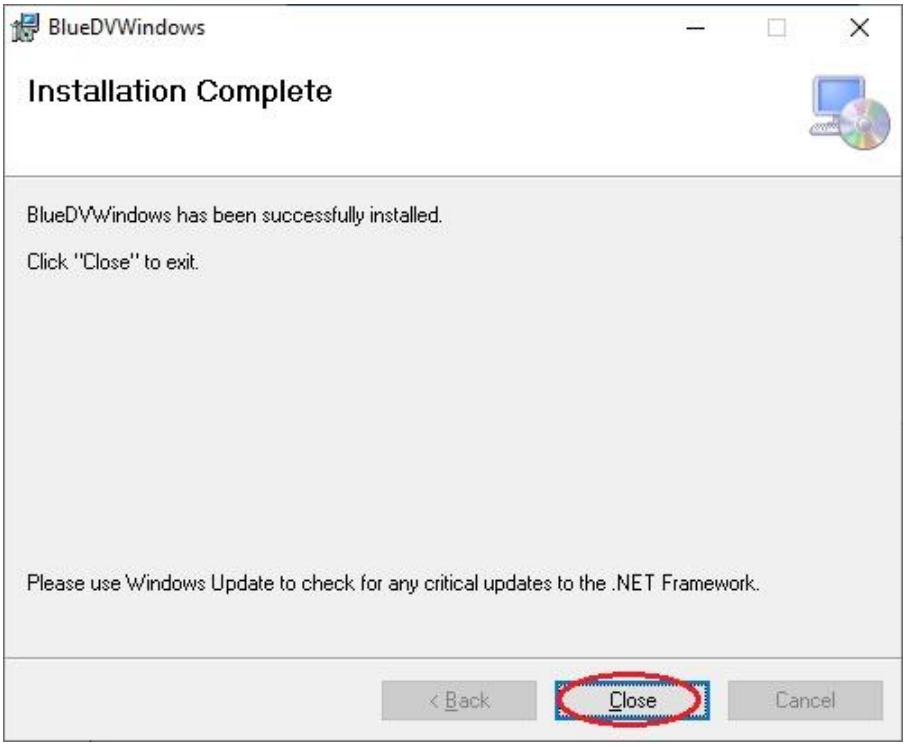

BlueDVWindows
Select Installation Folder
The installer will install BlueDVWindows to the following folder.
To install in this folder, click "Next". To install to a different folder, enter it below or click "Browse".
Folder:
C:¥Program Files¥BlueDV¥BlueDVWindows¥
Browse...
Disk Cost...
Install BlueDVWindows for yourself, or for anyone who uses this computer:
Everyone
Just me
< Back
Next >
Cancel


BlueDVWindows
Confirm Installation
The installer is ready to install BlueDVWindows on your computer.
Click "Next" to start the installation.
< Back
Next >
Cancel

When I click the "Next>" button, the following screen pops up saying "Do you want to allow the app to make changes to the device from this unknown publisher?", So click "Yes".

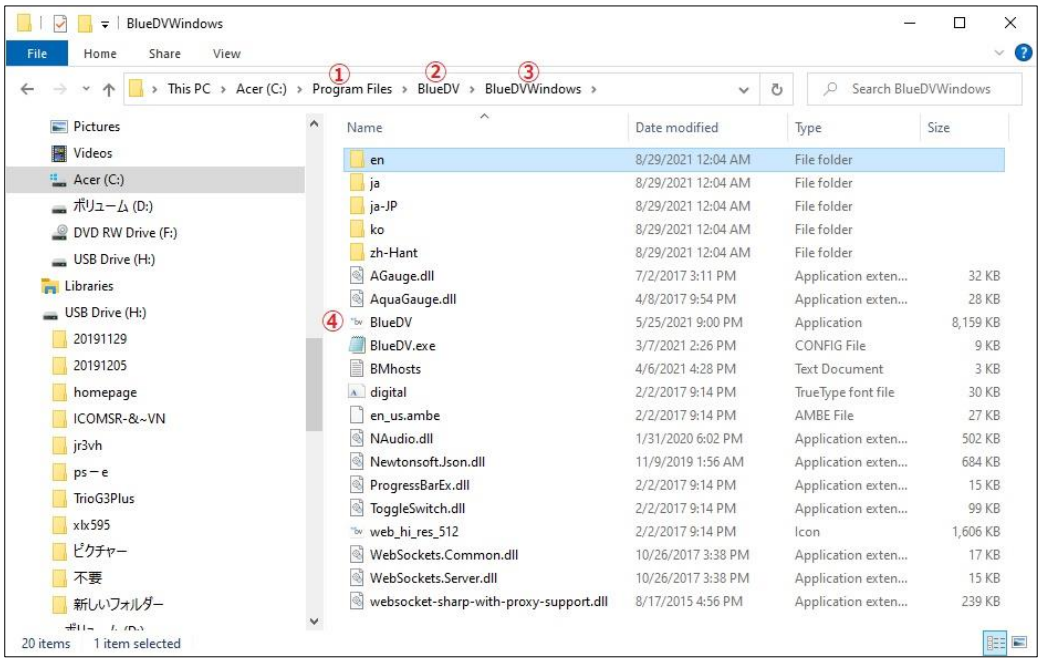






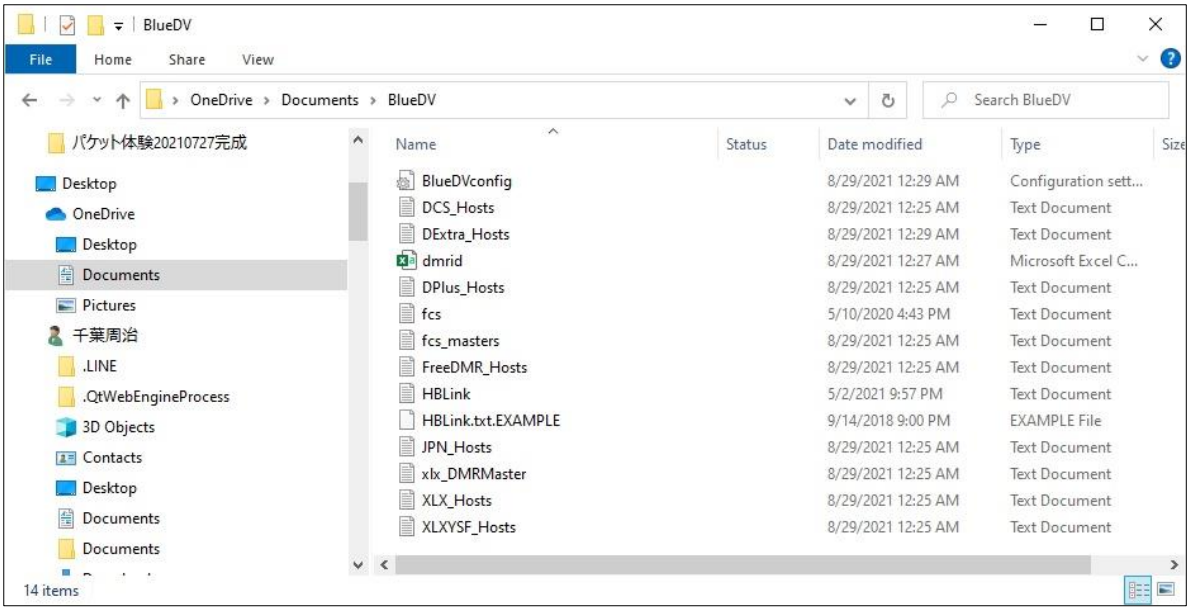
2. Confirm software installation destination

There is a folder “BlueDV”② in the Program Files① of the C: drive, and furthermore a folder “BlueDVWindows”③ is generated. BlueDVWindows executable file “BlueDV.exe”④ is in it. BMhosts.txt is a list of Brandmeister. Dmrid.csv is a 7-digit ID list of CCS 7.

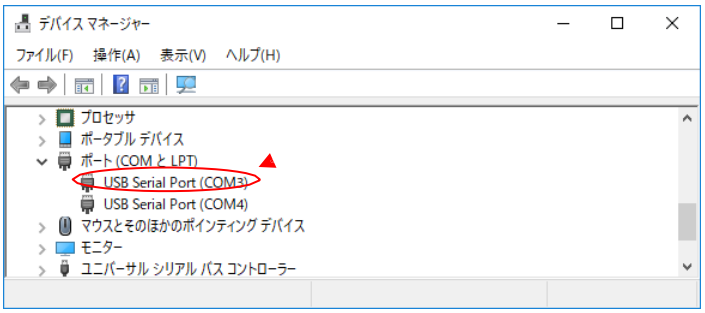


As mentioned above, the main folder of BlueDV for Windows is C: \ Program Files \ BlueDV \ BlueDVWindows, but there is another BlueDV folder in the Documents folder that can be opened by File Explorer (folder type icon) on the taskbar of the desktop.

There are reflector lists such as following for use with BlueDV for Windows in the folder, and it seems that editing will come even with notepads.

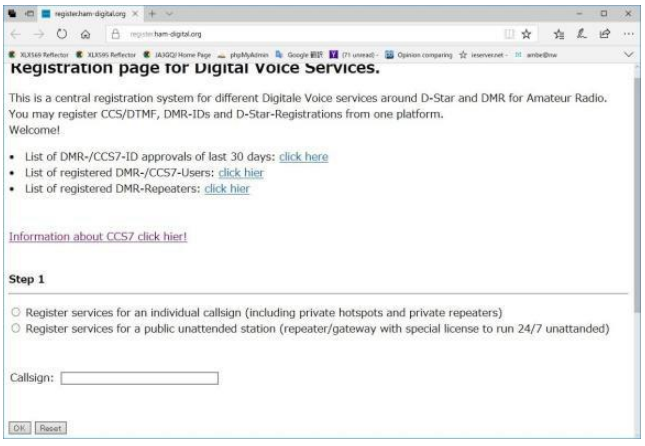


・Check COM port Install ThumbDV ⇒ Open "Device Manager" (see APPENDIX at the end of the book for how to open) and check if the COM port is recognized. In this example COM5 recognizes ThumbDV.



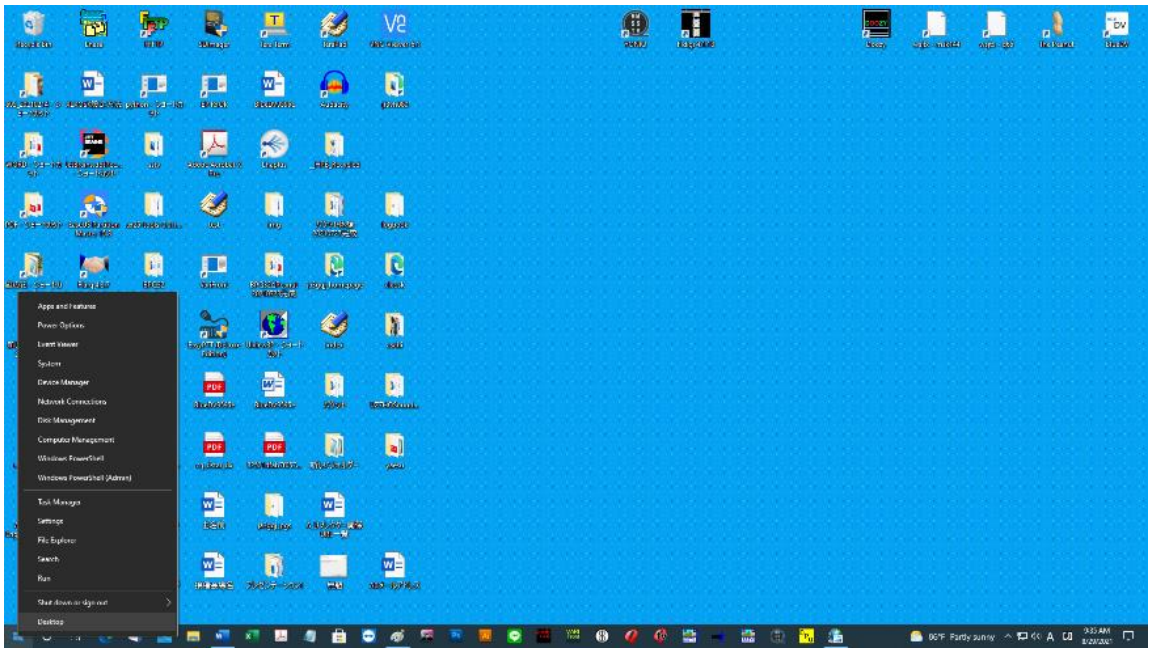
CCS7

"CCS" is an abbreviation for "Call sign Communication System". It seems to have been developed around 2010 as the best alternative to the G2 call sign routine system. However, this system was first set up in the German-speaking world, where the DCS reflector system grew rapidly and became a major system. The CCS seems to use a DCS reflector mechanism to interconnect repeaters for call sign routing. Initially, it was called CCS-ID and used a 4-digit number code, but at the end of 2014, it became impossible to handle many users, so a 7-digit number was adopted around 2015. It seems that it came to be called CCS7-ID. https://register.ham-digital.org/

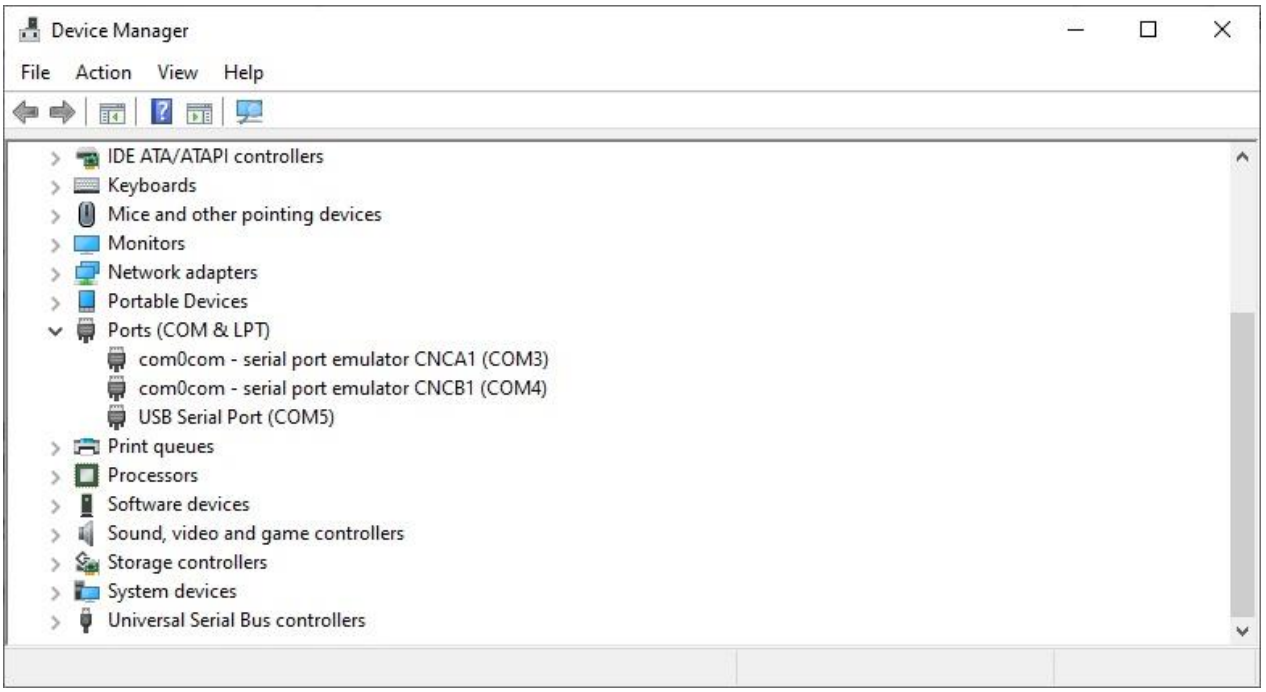


How to display Device Manager

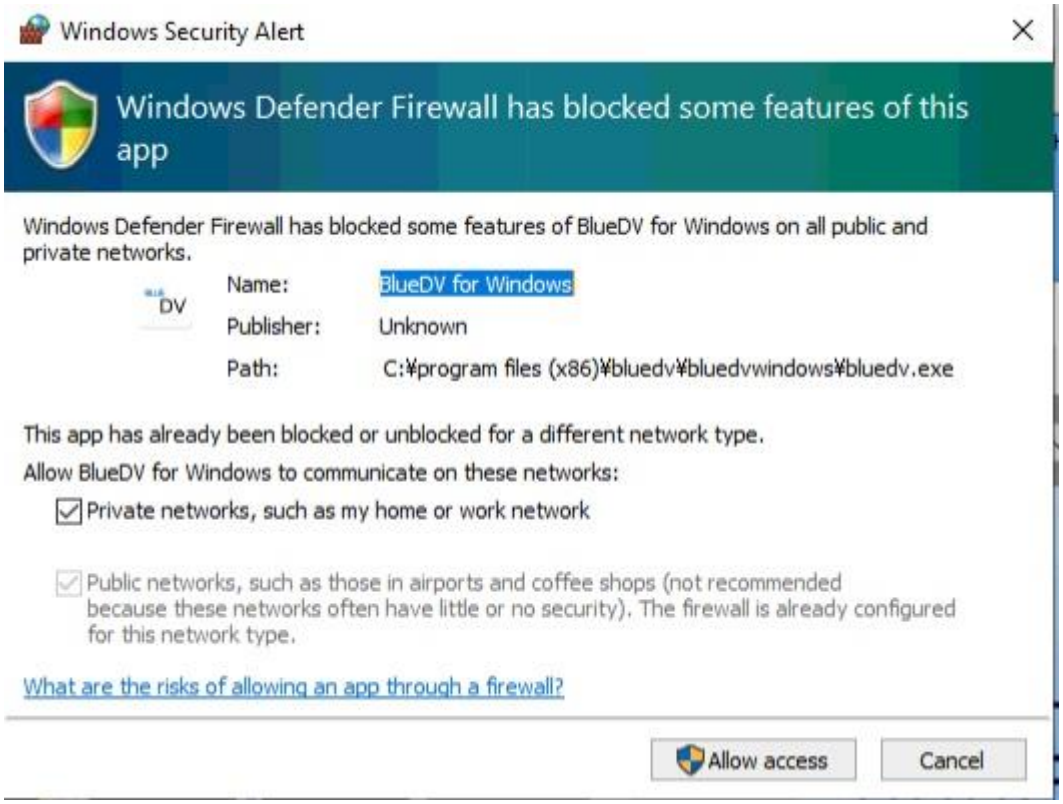
Right-click the Start button of the left edge on the taskbar of the desktop. ⇒ Select "Device Manager" on the pop-up screen. ⇒



Open Device Manager ⇒ Click "Ports (COM and LPT)" .



When starting the software for the first time, when " Windows Security alert" is displayed, click the "Allow Access " button.



that's all