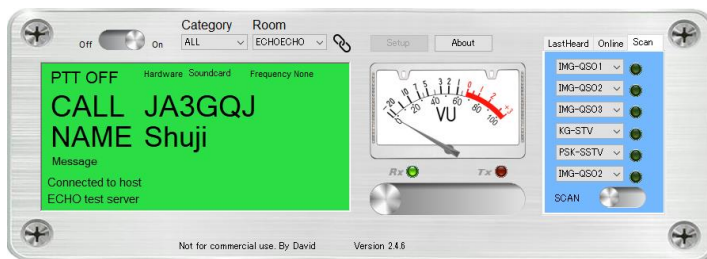


2023

Image exchange QSO experience using Peanut



I think Peanut is Internet communication software for amateur radio stations with a lot of functions. Image communication enthusiasts have found that Peanut can be used for not only voice communication but also analog SSTV and digital SSTV signals, character communication of weak signals such as FT8, MSK144, Q65 mode, and character communication such as msfk, bpsk, rtty, GMSK. Then those mode are used for image exchange QSO by specified text. There are softwires for Windows, Android cellphone, iPad, iPhone and Linux. Here is a summary of the experience report using Peanut on Windows 10.

JA3GQJ

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Software and modes used with Peanut

Peanut is an Internet conversation software such as CQ-100, and enthusiasts who have experience operating MSSTV demonstrate their amateur spirit and they find that it can use image exchange in the mode shown in Table 1.

Software	Mode
Vari Image Front	rtty-L, msfk-U, bpsk, GMSK
EZ Pix	GMSK (FSK-W)
MMSSTV・YONIQ	MMSSTV・YONIQ
JTDX/WSJTX	FT8 / msfk-144, Q65
JS8CALL	JS8CALL
Image controller Easy Simple	Control Vari Image Front, MMSSTV/YONIQ, JTDX/WSJTX and JS8CALL

Table 1

Image controller Easy Simple is the key to image communication

Image controller Easy Simple is software developed by Kazu JQ1HDR , and as shown in Table 1, it is important to carefully read the explanation on Kazu's homepage, as it is the key to image communication that controls multiple image communication software.

<http://jq1hdr.world.coocan.jp/Instruction3/index.html>



Setting screen



Received image display screen

**Software used for image communication in combination with
"Image Controller Easy Simple"**



EZ Pix and MMSSTV/YONIQ can be operated independently in combination with Peanut.

FTP server also required → Use a free rental server

Also use DigiSites → See Richard W3WVG's web page

Rooms and operation modes

As of May 2023, Peanut has the 212 rooms, which corresponds to the channel frequency in radio. There is history that Kazu JQ1HDR and other image communication enthusiasts have asked the Peanut developer, David PA7LIM, to add three rooms as shown in Table 2. These three rooms dedicated to image exchange, where conversation is also possible. Table 2 summarizes each room and available modes. Peanut also has the appeal of being able to have a conversation while sending image signals.

Room	Available modes
IMG-QSO1	FT8, JS8CALL, msfk-144, Q65, Voice
IMG-QSO2	rtty-L, msfk-U, bpsk, GMSK (FSK-W) , Voice
IMG-QSO3	MMSSTV/MMSSTV · YUNIG 、 Voice

Table 2

1. Software download and installation

Refer to APPENDIX 1 at the end of this report to complete the download and installation.

2. Peanut settings

Complete the installation referring to APPENDIX 1 → Then the icon in Fig. 1-1 will appear on the desktop → Then click on it → ※1

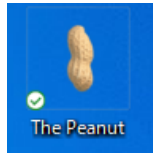


Fig. 1-1

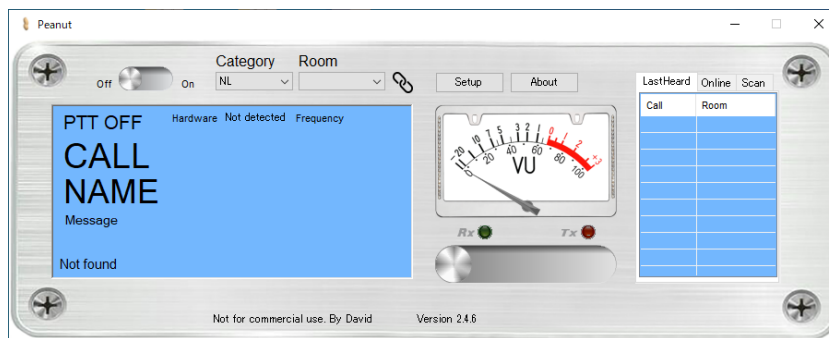


Fig.1-2

※1 → Then the screen in Fig.1-2 pops up → Then click "Setup" button → Then the setup screen (Fig.1-3) pops up

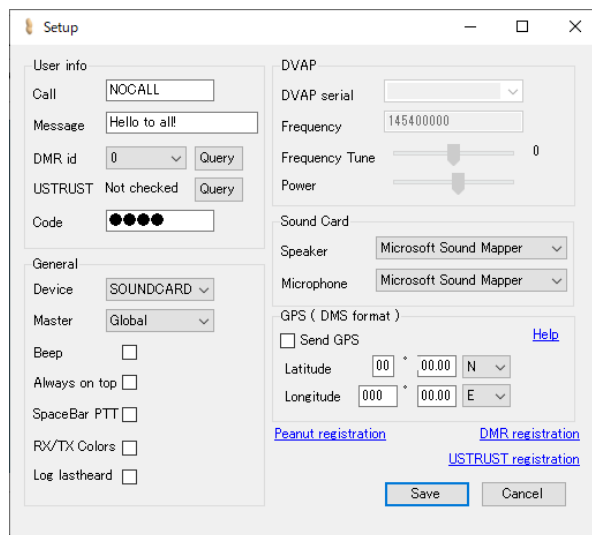


Fig.1-3

2-1 Peanut Registration

Peanut will not work without a cord, so if you click "Peanut Registration" on the setting screen (Fig.1-3), the Peanut user registration page(Fig.1-4) will open. Get the 5-digit code as described on the page

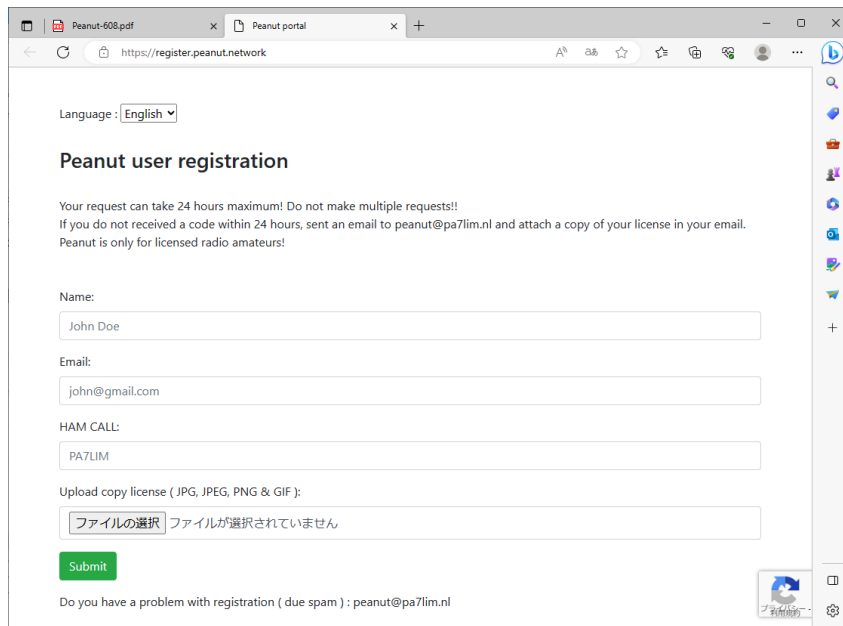


Fig.1-4

2-2 Setting

Fig. 1-5 is my data entered in the blanks in Fig. 1-3.

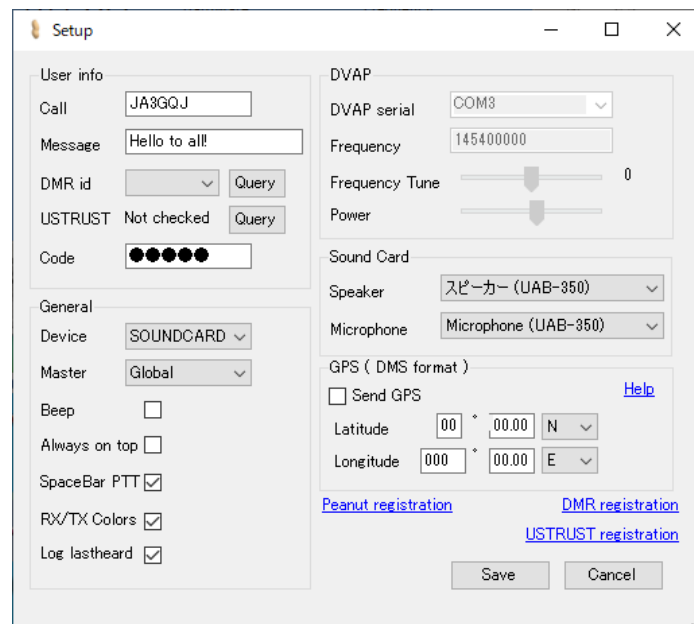


Fig.1-5

User Info Frame

Callsign = Input own callsign

Message = The entered message will be displayed on the <http://peanut.pa7lim.nl/> page.

DMRid = Click “DMR registration” and follow the instructions on the page that opens to receive a 7-digit number. However, image communication was not affected even if it is not

registered. If you have already registered, click the "Query" button and a 7-digit number will be entered automatically.

USTRUST Not checked = Even without registration, image communication was not affected. If registered, click the "Query" button to change "Not checked" to "Found".

General Frame

Device = There are two types of devices, "SOUNDCARD" and "DVAP", but I don't use "DVAP", so I chose "SOUNDCARD".

Master = Three groups of "Global", "Japan", and "USA" can be selected from the pull-down menu. IMG-QSO1, IMG-QSO2 and IMG-QSO3 rooms are in "Global".

Beep = I have put a check mark.

Always on top = If you put a check mark here, the operation screen will always be displayed in front of the computer screen.

Space Bar PTT= If you put a check mark here, the space key will become a PTT switch.

RX/TX Colors = If you put a check mark, the window of the operation screen turns red color when sending. I have put a check here.

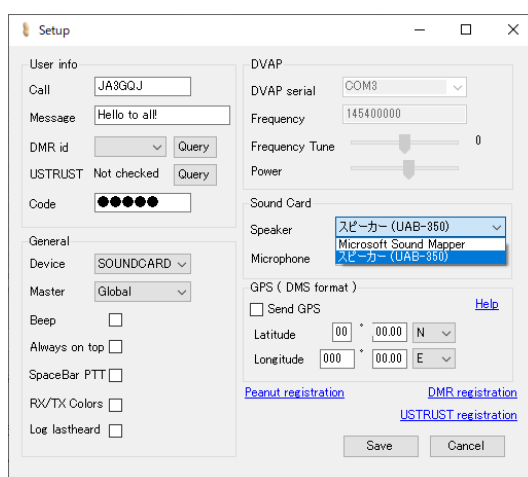
Log Last heard = I have not put a check mark here.

DVAP Frame

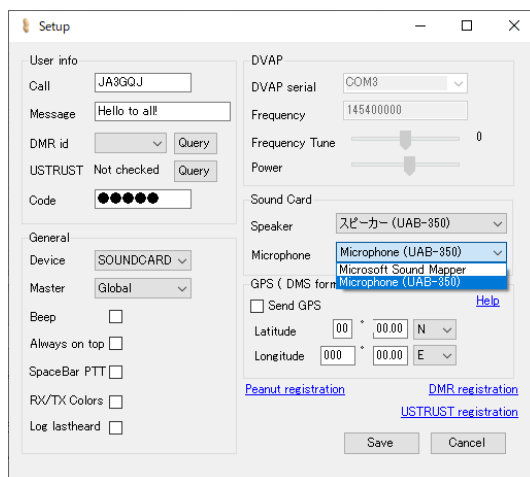
I don't use DVAP so skip here.

Sound Card Frame

Speaker = Select the computer's sound device from the pull-down menu. For sound devices, see APPENDIX-2 "Checking Windows 10 sound devices" at the end of the book.



Microphone = Select the computer's sound device from the pull-down menu. For sound devices, see APPENDIX-2 "Checking Windows 10 sound devices" at the end of the book.



GPS (DMS format) Frame

I don't use this function because I don't know how to use it.

Send GPS = Skip

Latitude = Skip

Longitude = Skip

DMR Registration = Click here and follow the instructions on the page that opens to obtain a 7-digit number. However, even if you do not have number you can make QSO for image exchange.

USTRUST Registration = Click here and follow the instructions on the page that appears to register. However, even if you do not registration you can make QSO for image exchange.

Click the "Save" button to complete the settings. Exit Peanut once.

3. Sound card tuning

Attach a PC microphone costing around 1,000 yen to the microphone terminal of the sound device → Then click the peanut icon on the desktop. → Then Peanut's operation screen pops up. → Select "ALL" from the "Category" pull-down menu. → Then select "ECHOECHO" from the "Room" pull-down menu. → Then turn on PTT. → Then the color of the operation screen window change from light blue to red (Fig. 2-1) . → Then speak into the microphone → Then adjust mike gain. referring to APPENDIX 2, "Checking

the sound device of Windows 10" so that VU meter needle does not fall into the red zone
 → Then turned off PTT when stop talk. → Then sound(echo) is returned from Peanut.
 → Then screen color changes from red to green (Fig. 2-12). → Then I adjust the volume of the speaker of the sound device appropriately by referring to APPENDIX 2, "Checking the sound device of Windows 10".

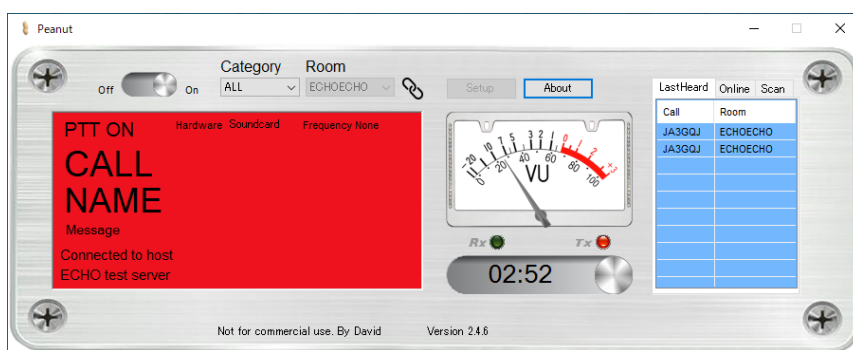


Fig.2-1

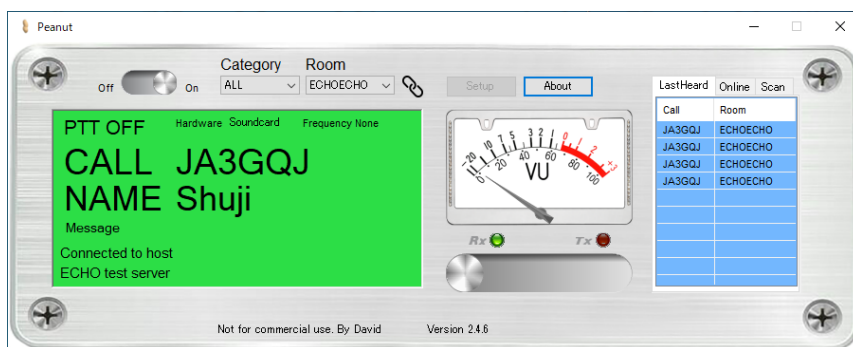


Fig.2-2

4. Receiving audio

Click <http://peanut.pa7lim.nl/> → The Peanut Global dashboard opens. → There is a list of "ACTIVEQSO" (Fig. 3-1) in the middle of the page. → Select the room name in the list from the "Room" pull-down menu on the Peanut operation screen. → The color of the window on the Peanut operation screen changed from blue to green (Fig.3-2) and the voice of the QRV station hear. → The call sign of the transmitting station is displayed in the "LarstHeard" tag (Fig. 3-3) → Click "Online" tag (Fig. 3-4) on the right side of the VU meter. → A list of currently connected (or QRV) stations is displayed.

ACTIVE QSO'S

CALL	MESSAGE	ROOM	TIME
DC0PC	Peter	XRF021B	00:05
F4KNF		YSF-FRA	00:24
4FOX		YSF-FREE	00:00
CX1DDS		ECHOECHO	00:01
DX1CC		DMR4107	00:00
M0XDR		YSF-CQNW	01:00
N4PRB		YSF-AR	00:32
KN6SF		DMR51547	00:00
M0XNW		YSF-NWUK	01:43
ARAGON-R	ARAGON (ESPA?A)	URUGUA-L	01:39
ARAGON-R	SERVIDOR PEANUT	ARAGON-R	01:38
EA5DIF	Hello to all!	CW-TOR	00:12
EA7AAR		ASTUR	01:26

Fig.3-1

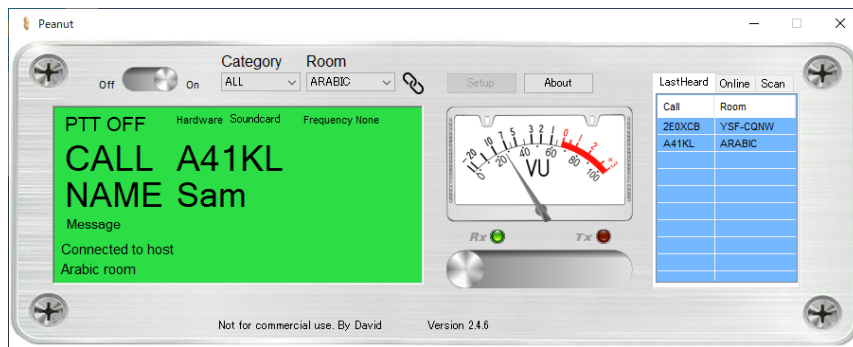


Fig.3-2

LastHeard	Online	Scan
Call	Room	
2E0XCB	YSF-CQNW	
A41KL	ARABIC	

Fig.3-3

LastHeard	Online	Scan
Call		
A41KL		
OD5KB		
JA3GQJ		

Fig.3-4

Scan

The "Scan" tag scans 6 rooms in about 6 seconds. Select a room from the list in each pull-down menu (Fig.3-5). If there is a QRV station in the selected room (Fig.3-6), it will stop there. When the QSO ends, the scan will start again.



Fig.3-5



Fig.3-6

5. Send audio

Transmission using PPT

Decide on a room. → Use the mouse to turn on the PPT switch (below the VU meter) in Fig.3-2 or press the space key to turn on the PPT switch → Then speak into the microphone.

· Transmission using VOX

The VOX function was created at the request of image communication enthusiasts. To use the VOX function, press the control key and function key F10 at the same time. → A comment like the one shown in Fig. 3-7 appears. → Click the "OK" button → A "VOX" tag (Fig. 3-3) is created to the right of the "Scan" tag.

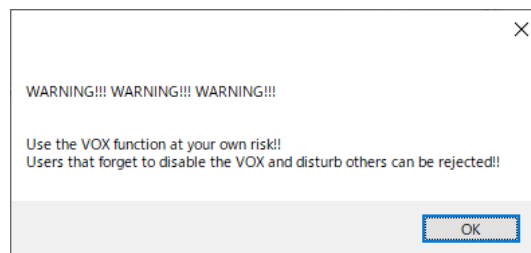


Fig.3-7

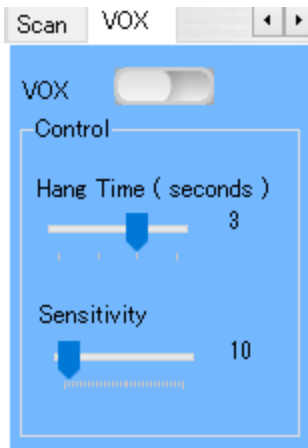


Fig.3-8

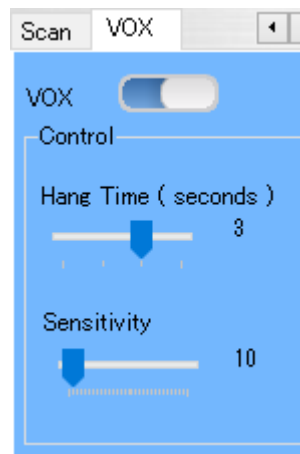


Fig.3-9

I check SCAN switch OFF. → Turn on the VOX switch (Fig.3-9). → I adjust Hang Time (seconds) and Sensitivity to find the optimum value. I don't really feel the need for VOX if it's only for voice calls, but it's convenient for image communications if you can find the optimum value through critical adjustments. During scanning (when the SCAN switch is on), VOX does not operate (VOX switch is turned off).

6. Receiving images

Fig.4-1 is an Imagination diagram of his FT8 image (character) communication of JTDX using "Peanut", "image controller Easy Simple", and "DigiSites". You can also try replacing JTDX with Vari Image Front, MMSSTV/YONIQ, JS8CALL and EZ Pix. That's why Peanut supports not only voice communication but also many of these image (text) communication software.

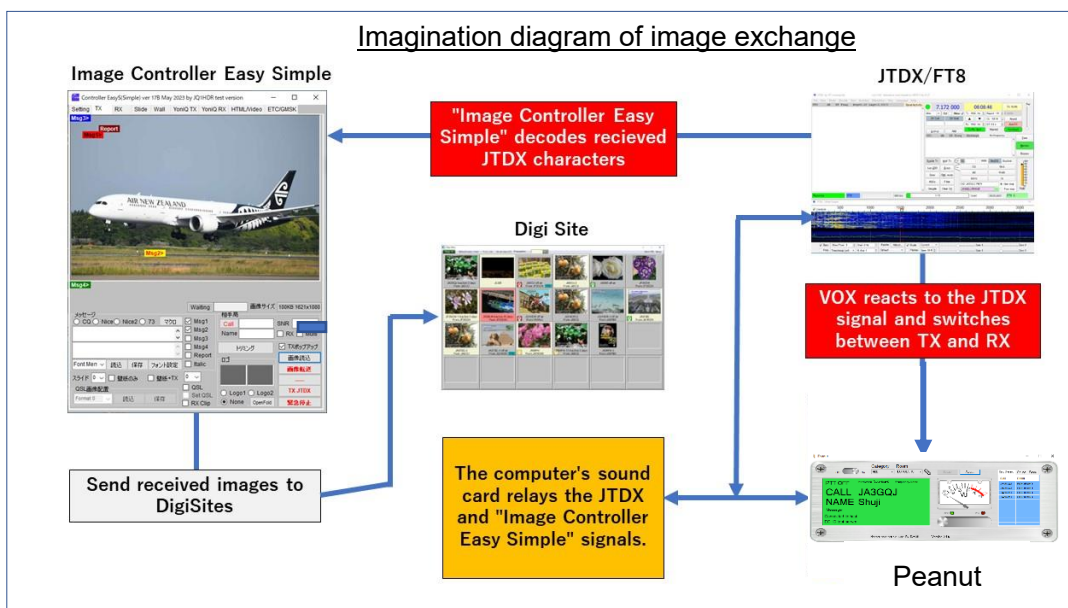


Fig.4-1

EZ Pix, MMSSTV and YONIQ can be operated simply by combining with Peanut without "Image Controller Easy Simple "but other software requires the combination operation of "Image Controller Easy Simple" and Peanut

Input/output processing of image signals by sound card

Image exchange by Peanut is different from on-air by transceiver, and Peanut and communication software operate by sharing the sound card of the personal computer. Also, even if signals for image and signals for audio are sent at the same time, the image exchange will not be affected I think. Fig.4-2 shows an image diagram of the image (character) signal input/output processing circuit of the sound card. Depending on the image (text) signal mode, you may be able to send and receive image by moving the microphone closer to the speaker without using the hardware selector switch. However, for stable transmission and reception of image (character) signals, it is better to electrically connect the sound card's microphone input and speaker output directly.

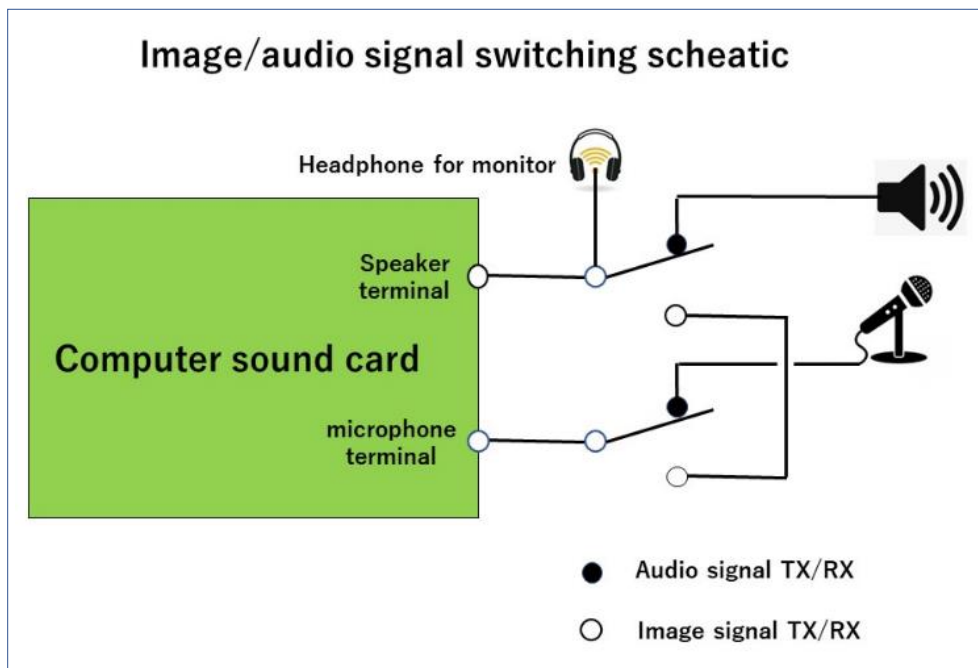


Fig.4-2

Receiving images in combination with "Image Controller Easy Simple"

Determine the Peanut room corresponding to the software to be used → Then activate the software → Waiting signals for images instead of audio signals → Then displayed on the RX tag screen of "Image Controller Easy Simple" when image is received, also uploaded to DigiSites.

Receiving images with EZPix alone

Select Peanut's room IMG-QSO2 → Then activate EZPix → Wait for GMSK signal → When received image it is displayed on the "Receive" tag screen and also uploaded to DigiSites. EZPix is software for exchanging images using specified characters in GMSK mode developed by Richard W3WVG.

7. TX images

7-1 TX images in combination with "Image Controller Easy Simple"

The following items 6-1-1 to 6-1-4 are all sent using PTT of Peanut. It is also assumed that the adjustment of the transmission level has been completed on page 5, item 3, "Adjusting the sound card."

7-1-1 Combination with Vari image Front (Mode is GMSK or msfk-U)

In this mode, it is better to directly connect the microphone circuit and the speaker circuit. I select a room corresponding to Vari image Front mode. → Then activate Image Controller Easy Simple and Vari image Front. → Then Select Image Controller Easy Simple's "TX" tag. → Then click the "Load image" button. → Then double-click on the image to be sent in the opened image storage folder. → Then the image will be pasted on the screen of the "TX" tag. → Then use the macro to add text to the image. → Then click the "Transfer image" button. → Then the sent image will be displayed enlarged Indicates, this means that the image has been transferred to the server. → Then you push Peanut's PTT on → Then click the function key corresponding to "Vari image Front" mode. → Then transmission starts. → After while transmission ends automatically. → Then a list of receiving stations is displayed in Image Controller Easy Simple's "On Air & Rx List". → Then you push Peanut's PTT off. → Then standby for reception.

7-1-2 TX images in combination with JTDX (Mode FT8)

This mode does not require a direct connection between the microphone circuit and the speaker circuit.

I select Peanut's room IMG-QSO1. → Then activate Image Controller Easy Simple and JTDX. → Then select Image Controller Easy Simple [TX] tag. → Then click the "Load image" button. → Then image storage folder is opened. → Then double-click on the image you want to send. → Then the image will be pasted on the screen of the "TX" tag. → Then use the macro to add text to the image. → Then click the "Transfer

image" button. → Then the sent image will be displayed enlarged Indicates this means that the image has been transferred to the server. → Then you push Peanut's PTT on →

Then click the "Enable Tx" button on JTDX → Then start transmission. → End transmission automatically after while. → Then the call sign of the receiving station is displayed in "On Air & Rx List" of Image Controller Easy Simple. → Then you push Peanut's PTT off.

→

Then stand by for reception.

7-1-3 TX images in combination with MMSSTV · YONIQ

In this mode, it is better to directly connect the microphone circuit and the speaker circuit. I select Peanut's room IMG-QSO3. → Then activate Image Controller Easy Simple and MMSSTV/TONIQ. → Then select Image Controller Easy Simple's "Yoniq Tx" tag. → Then click the "Load image" button. → Then image storage folder is opened. → Then double-click on the image you want to send. → Then the image will stick to the "Yoniq Tx" tag screen. → Then use the macro to add text to the image. → Then click the "Create image" button. → Then click the "to Yoniq" button. → Then the image will stick to the TX tag screen of MMSSTV/YONIQ. → Then you push Peanut's PTT on. → Then MMSSTV/YONIQ Click the "TX" button. → Then start transmission. → Then end transmission at the time according to the mode. → Then you push Peanut's PTT off. → Stand by for reception.

7-1-4 TX images with EZPix (Mode GMSK) alone

This mode does not require a direct connection between the microphone circuit and the speaker circuit.

Select Peanut room IMG-QSO2. → Then activate EZPix → Then click EZPix's "Load image" button. → Then the image storage folder will open. → The double-click the image you want to send. → Then the image will be attached to EZ Pix's "Send" tag .→ Then you push Peanut's PTT on. → Then click the "Send" button on EZ Pix. → Then start sending. → Then finish sending in about 6 seconds. → Then you push Peanut's PTT off. A list of receiving station callsigns is displayed in the "Rx OK" frame of EZPix.

8. TX Image using the VOX function

If you have completed adjusting the VOX of Peanut, you can send it by simply clicking the send button of each software.

As of June 11 , 2023

APPENDIX-1

Install the Peanut software by opening <https://software.pa7lim.nl/peanut/STABLE/>. Since the file is in zip format, I installed the decompression software "Lhasa.exe" in advance. I search the Internet to download Lhasa.exe.

When the page (Fig. 1) opens, click "Peanut-v2-4-6.zip" → Then a small screen (Fig. 2) will be displayed on the upper right. → ※1

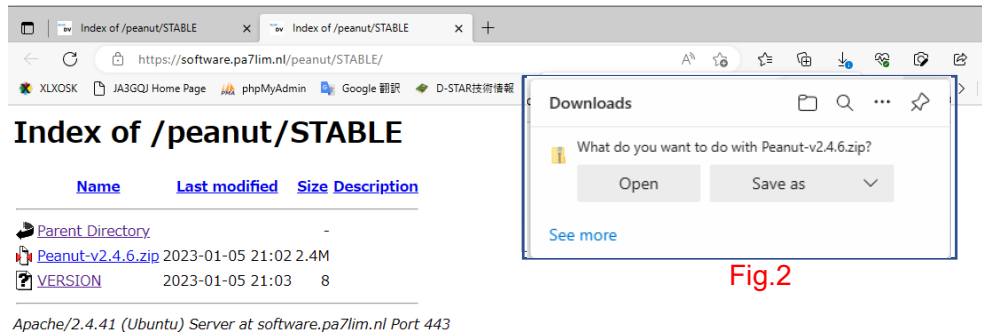


Fig. 1

※1 → Click the "Open" button → Then the progress bar is displayed momentarily → Then the screen changes (Fig. 3) → ※2

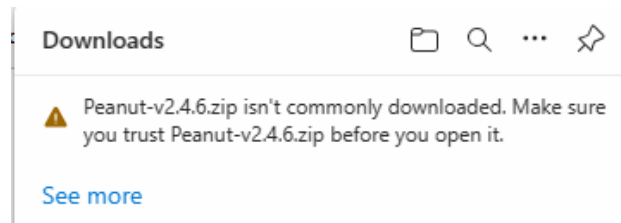


Fig. 3

※2 → Then place the mouse pointer over the characters in Fig. 3 → Then a trash can and "..." icon will be displayed to the right of the characters (Fig. 4) → ※3

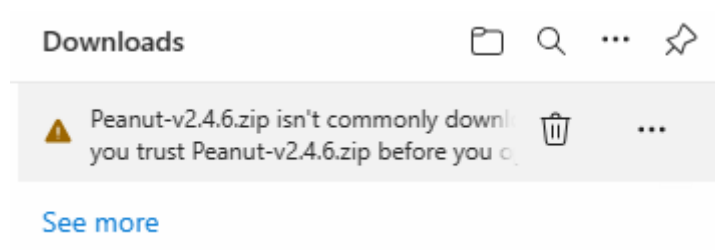


Fig.4

※3 → Then click "..."/> → Then a new screen will appear below it (Fig.5) → Then click "Keep" → ※4

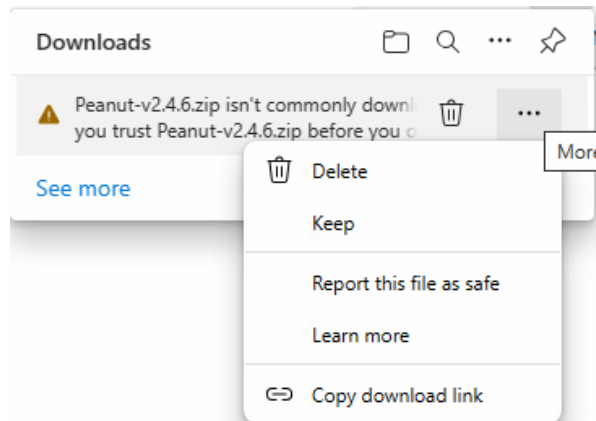


Fig.5

※4 → Then the screen changes (Fig.6) → Then click "Show more" → ※5

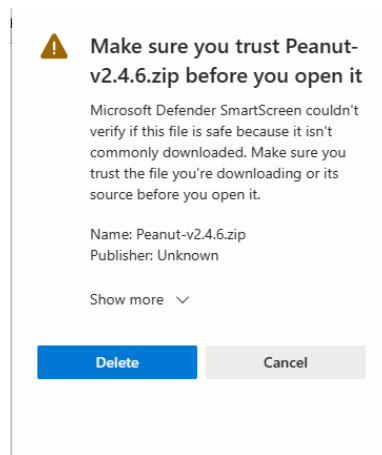


Fig. 7

※5 → Then the screen changes (Fig.8) → Then click "Keep anyway" → ※6

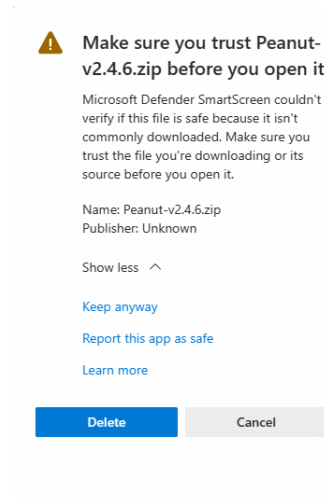


Fig.8

※6 → Then the screen changes after progress bar is displayed momentarily(Fig.9) →
※7

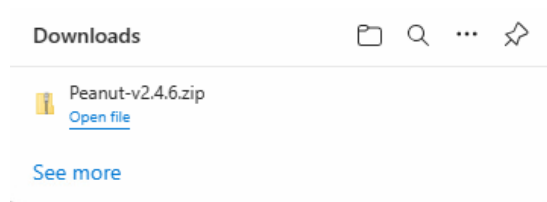


Fig.9

※7 → Then the folder containing the downloaded "Peanut-v2.4.6.exe" (Fig.10) is open → ※8

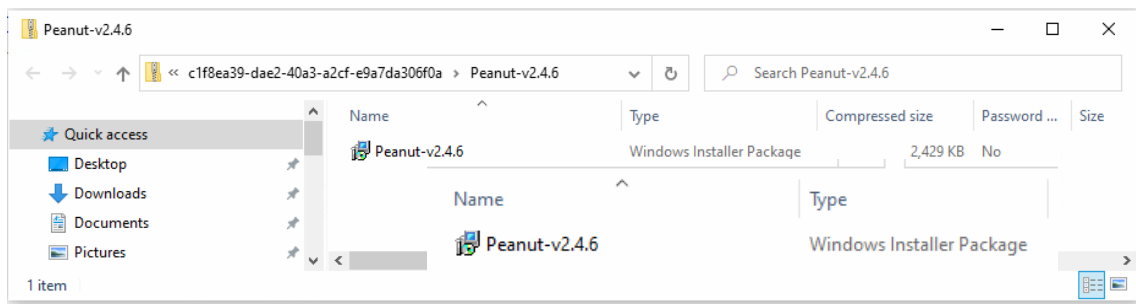


Fig.10

※8 → Then execute "Peanut-v2.4.6.exe" → Then the screen in Fig.11 is displayed →
Then click "More info" → Then change to the screen in Fig.12 → Then click "Run anyway"
→ ※9

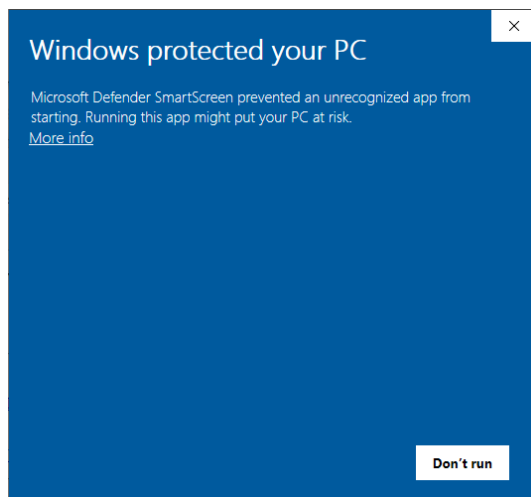


Fig.11

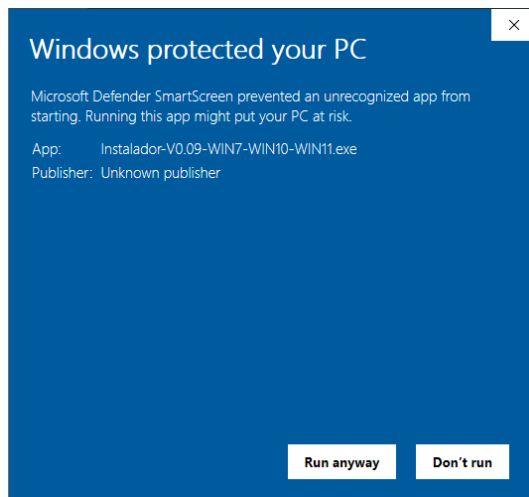


Fig.12

※9 → Then 「Welcome to the Peanut Setup Wizard」 Fig. 13. will be displayed → Then click "Next" → Then 「Select Installation Folder」 Fig. 14. will be displayed → Then click "Next" → ※10

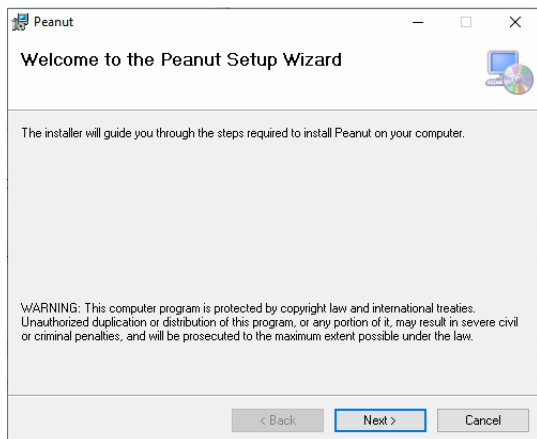


Fig.13

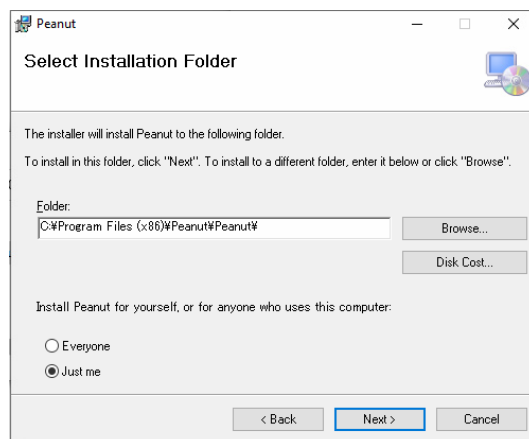


Fig.14

※10 → Then 「Confirm Installation」 Fig.15 will be displayed → Then click "Next" → Then 「User Account Control」 Fig.16 will be displayed → ※11

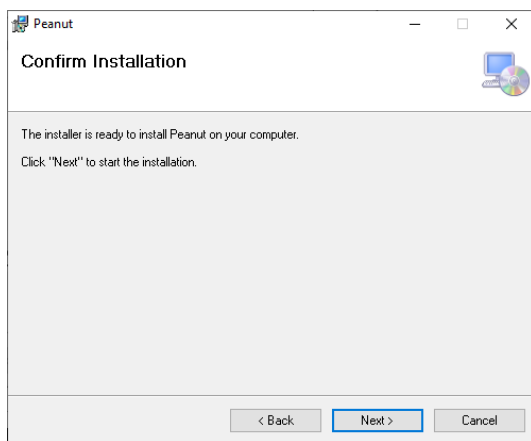


Fig.15

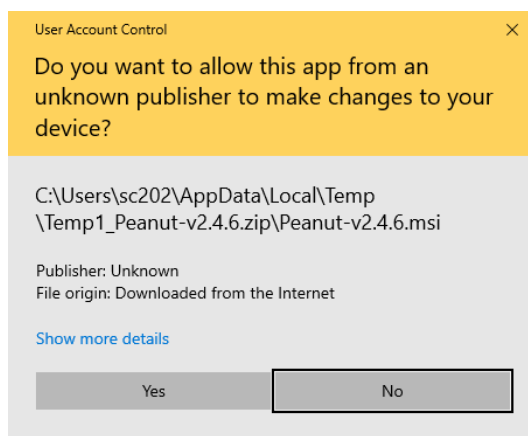


Fig.16

※11 → Then click "Yes" → Then a progress bar is displayed momentarily → Then "Installation Complete" Fig. 17 → Then icon appear desktop Fig.18.

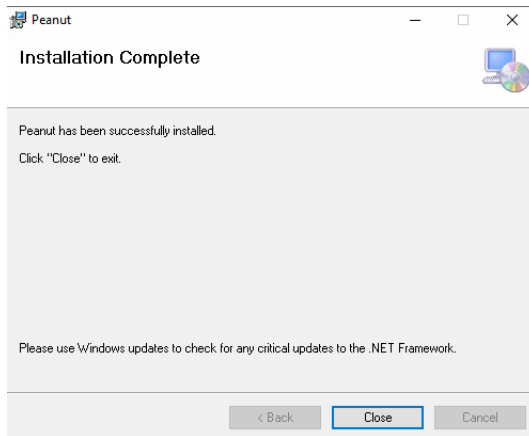


Fig. 17

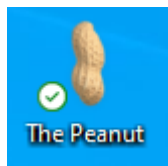


Fig. 18

APPENDIX-2

Check the Windows 10 sound device

Right-click the speaker icon (Fig.S-1) in the lower right corner of the desktop → ※1

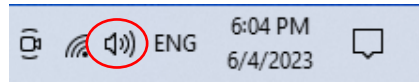


Fig.S-1

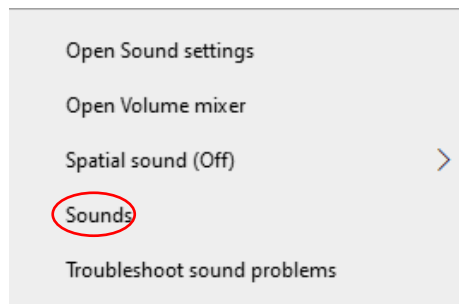


Fig. S-2

※1 → Click "Sound " on the pop-up screen (Fig. S-2) → Then the screen Fig. S-3 will be displayed → Then select the "Playback" tag → Then microphone device will be displayed (Fig. S-4) (The microphone icon with a check mark is the device currently in use) → Then right-click on the icon → Then select "Properties" on the pop-up screen (Fig. S-5) → Then the microphone properties screen (Fig. S-6) is pop up → Then select the "Level" tag on the speaker properties screen (Fig. S-7) → Then adjust the volume with the slide bar → Then "OK" button to go back to → ※2

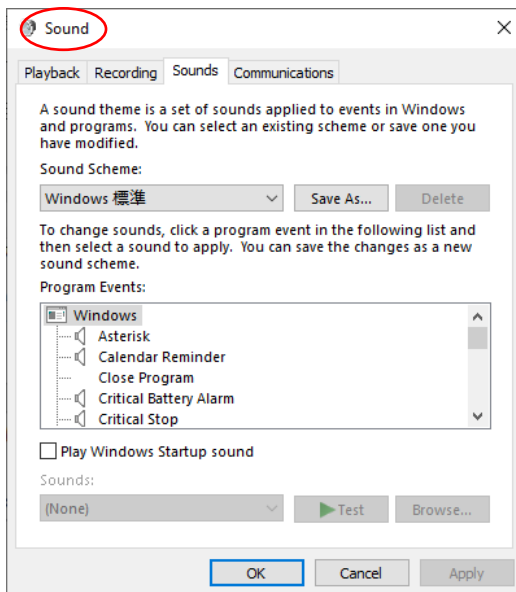


Fig. S-3

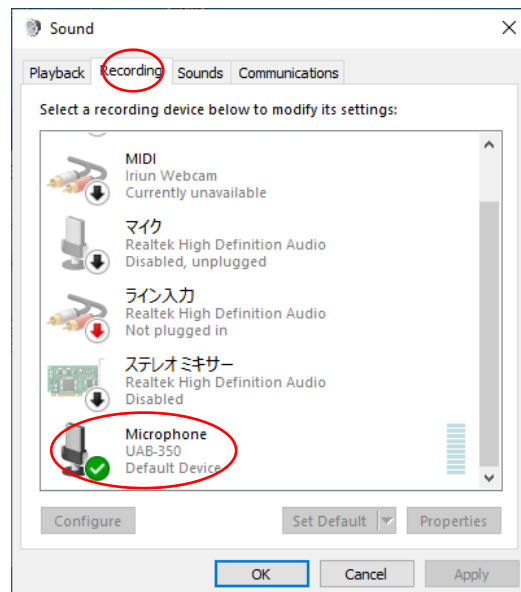


Fig. S-4

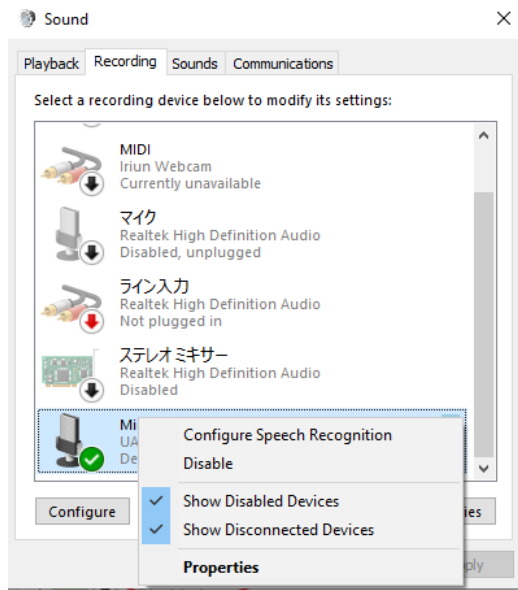


Fig.S-5

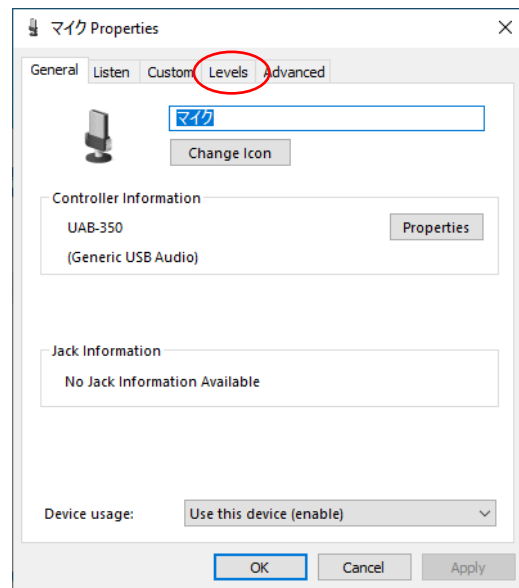


Fig.S-6

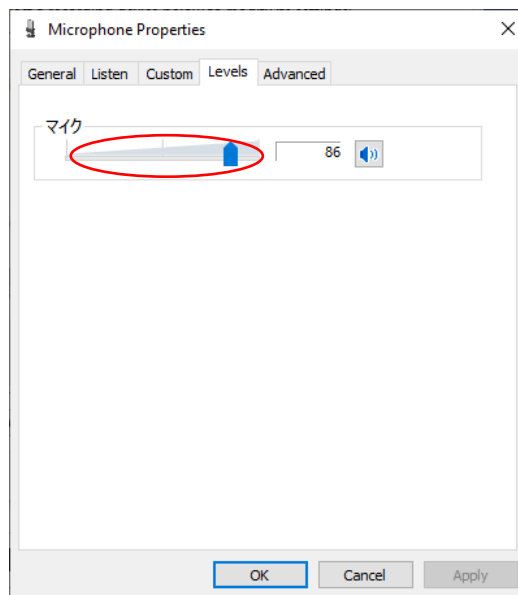


Fig.S-7

※2 → Then select the "Play back" tag → Then the speaker device is displayed (Fig. S-8)(The microphone icon with a check mark is the device currently in use) → Then right-click the icon → Then "Properties" screen is popup (Fig.S-9) → Then select "Properties" on the popup screen (Fig.S-10) → ※3

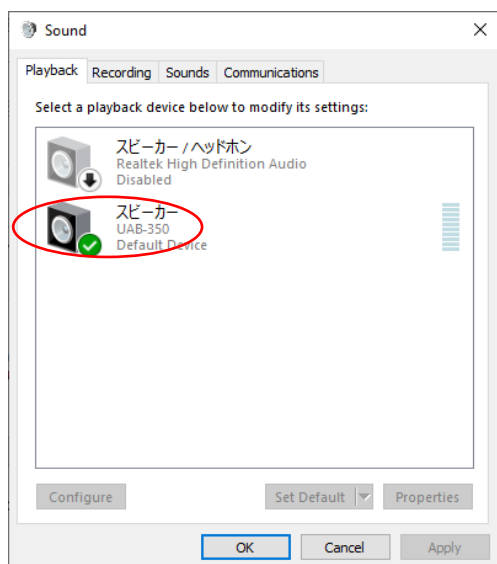


Fig.S-8

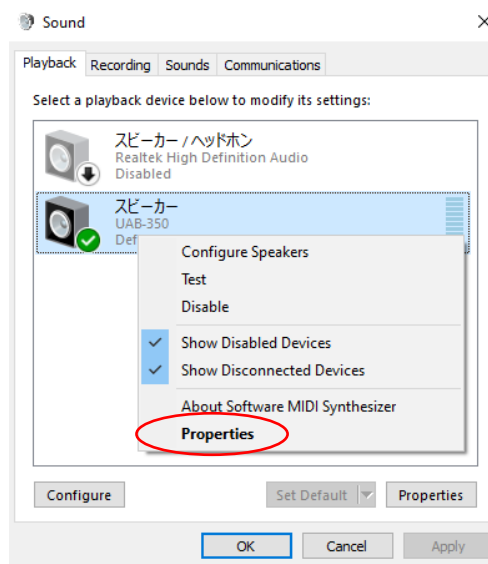


Fig.S-9

※3 → Then select the "Level" tag on the "Microphone properties" screen → Then "Fig. S-11" opens → Then adjust the gain with the slide bar → Then click on the "OK" button to return the screen in Fig. S-7 → Then click on the "OK" button to finish checking the sound device

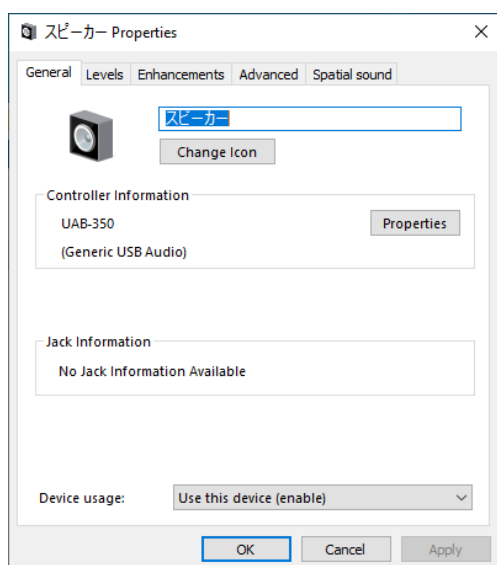


Fig.S-10

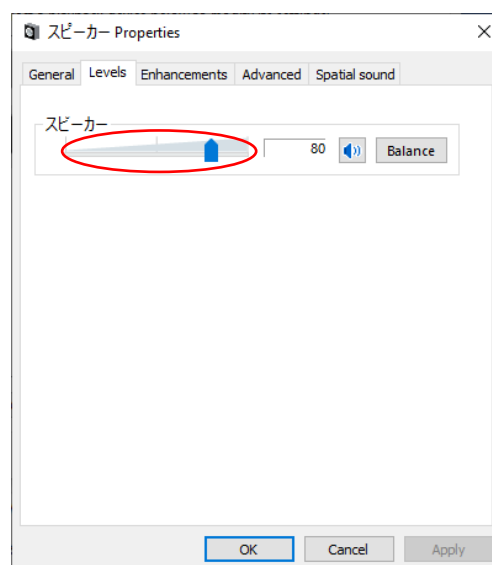


Fig.S-11

In addition, if it is only the volume of the speaker, you can adjust it with the slide bar that pops up by left-clicking the speaker icon at the bottom right of the desktop.

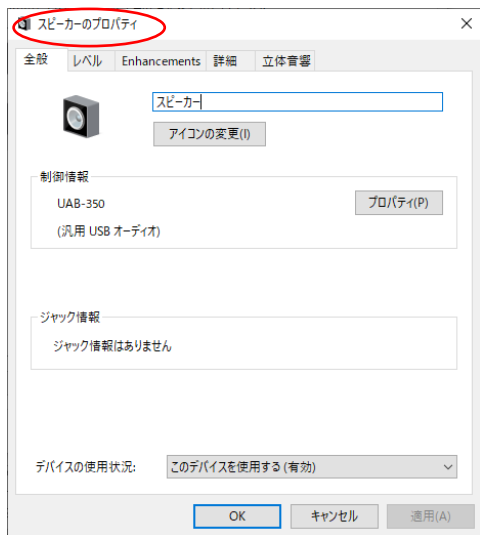


Fig.S-10

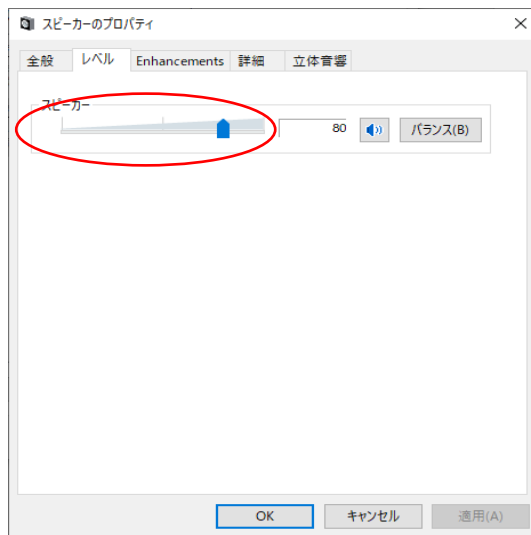


Fig.S-11

In addition, if it is only the volume of the speaker, you can adjust it with the slide bar that pops up by left-clicking the speaker icon at the bottom right of the desktop.

