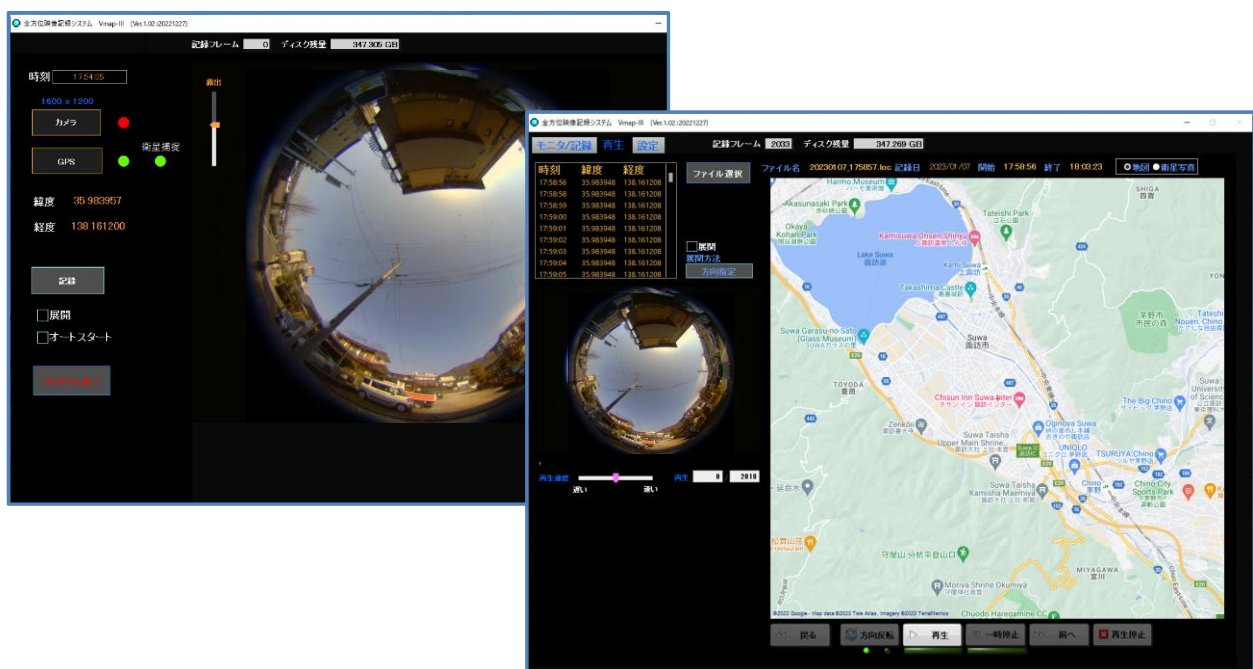


Video Mapping Software Vmap-IV

User's Instruction Manual Rev.1.12

for Rooftop type 360° Camera PLC220-12M



Thank you for purchasing our product.

- Please read the instruction manual carefully and use the product correctly.
- Please keep this manual in a safe place.
- This manual describes the functions and operation of the mapping software. For instructions on how to install and operate each device that makes up the omnidirectional video recording system, please refer to the instruction manuals for each device and the software provided with the devices.

※ To read PDF files, you will need Adobe Reader from Adobe Systems Incorporated.

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Introduction

- This manual is the instruction manual for the video mapping software exclusively for OPT Corporation's on-vehicle 360-degree camera PLC220-12M, Vmap-IV, Ver. 4.14 and later.
- From Vmap-III onwards, improvements have been made such as eliminating the recording display during recording and increasing the video frame rate.
- For details about the camera, please refer to the camera's instruction manual.
- Please keep this manual in a safe place.

Main Functions

- Captures video from the 360-degree camera PLC220-12M and records it as video and still images.
- Captures and merges time and location information from the GPS receiver with the video.
- Plays back recorded video by partially expanding it.
- Includes a function to plot and display the location on a Google Map during playback.

Note: Google Maps has free usage restrictions. Please note that it will no longer be available if the map is downloaded more than 25,000 times per day.

Disclaimer

- This product is designed to use the images from the PLC220-12M. It is not compatible with other cameras.
- This product alone does not prevent crimes.
- In any case, we shall not be liable for the following:
 - ① Accidental, special, or consequential damages or losses that occur directly or indirectly in relation to this unit
 - ② Damage or inconvenience caused by misuse or negligence by the customer
 - ③ Malfunctions caused by a system combined with third-party equipment, etc., or resulting inconvenience, damage, or losses
 - ④ Any claims for compensation or claims due to privacy violations by individuals or groups who are the subjects of surveillance images (including recordings) made public or used for any reason
 - ⑤ Loss of registered information for any reason
- This manual has been written with due care. If you find any inaccuracies or omissions, please contact OPT Corporation.
- We reserve the right to change the product and the contents of this manual without prior notice.

Protection of personal information

Information captured by this system that can identify an individual is considered "personal information" as defined by the "Act on the Protection of Personal Information." Please handle video information appropriately and in accordance with the law.

Copyright

Copying, disassembling, decompiling, reverse engineering, and transferring the software included in this product are prohibited. In addition, exporting any software included in this product in violation of export laws is prohibited.

Required PC Environment

When configuring the camera or checking its operation on a PC, please use a PC with the following minimum specifications.

CPU	Intel Core i9, AMD Ryzen 7, 3.8 GHz and more
Memory	8 GB and more
Operating System	Windows 10 64 bit(version 1607) and later, Windows 11
Screen Resolution	1920x1200 and more



Even if the PC goes to the screen saver during recording, the recording will continue. However, if the PC is set to sleep, the power will be turned off after the set time has elapsed, and the video being recorded will not be completed. Please set your PC's sleep mode to "NO".

Trademarks and registered trademarks

- Windows, Windows 10, and 11 are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries.
- Screenshots are used in accordance with Microsoft Corporation guidelines.
- The official name of Windows is Microsoft Windows Operating System.
- Adobe, Adobe Reader, and Acrobat Reader are either registered trademarks or trademarks of Adobe Systems Incorporated in the United States and/or other countries.
- Google and GoogleMap are trademarks of Google LLC.
- Vmap, Vmap-II, Vmap-III and Vmap-IV are trademarks of OPT Corporation.
- All other company names, product names and logos mentioned in this document are trademarks or registered trademarks of their respective companies.



For the sake of convenience, this manual will explain from the "Monitor/Record" screen (P.14 onwards) that is displayed first when you start Vmap-IV. However, when you first start using it, please set the initial conditions according to the explanation on P.25, 4-2. **"設定 Settings" screen** before using it.

- ※ Please note that some of the inserted images in the text are from Vmap-III except where it has no effect.

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Operation

1. Installation

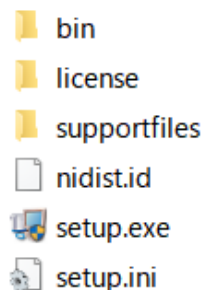
If you have other Vmap products installed on the PC where you are going to install Vmap-IV, please uninstall the existing Vmap products and follow the steps below to install it.
Please also delete the shortcut icon on the desktop.

1-1. The First installation

If you are installing the video mapping software Vmap-IV for the first time, please follow the steps below to install it.

- ① Copy the VmapIV_Installer(2025xxxx_x) folder to any location on your PC.

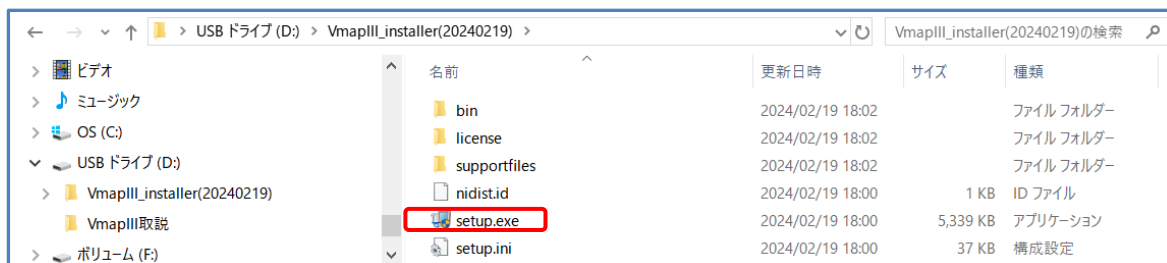
The folder contains the following subfolders and files.



※ The folder names and file names within () will change with each update.

※ The setup.ini file stores the settings, so the contents (date, size) are updated accordingly.

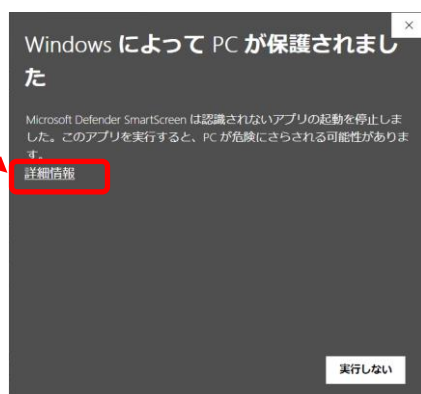
- ② Click **setup.exe**.



- ③ Depending on the version of Windows on your PC, a confirmation message like the one below may be displayed.

When you click **詳細情報 More Info**, the "実行 Run" button will appear in the bottom right, so click it. You will then be able to proceed successfully to the following steps.

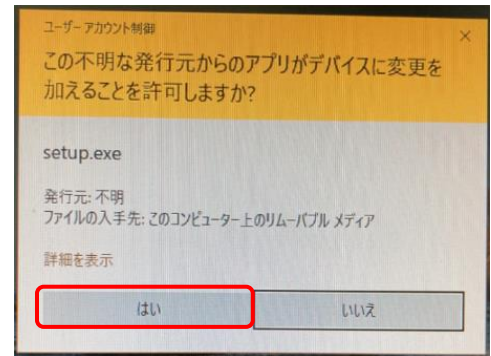
- ① Click **More info.**



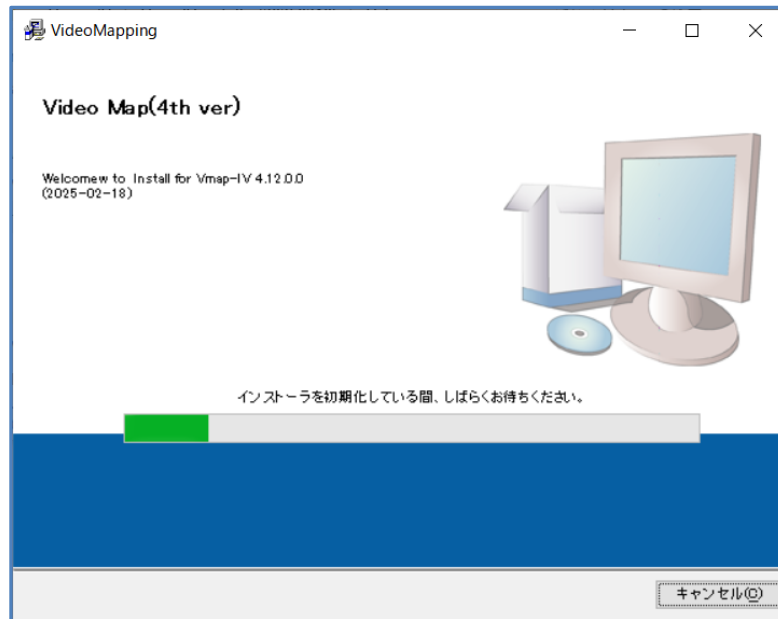
- ② Click "実行"



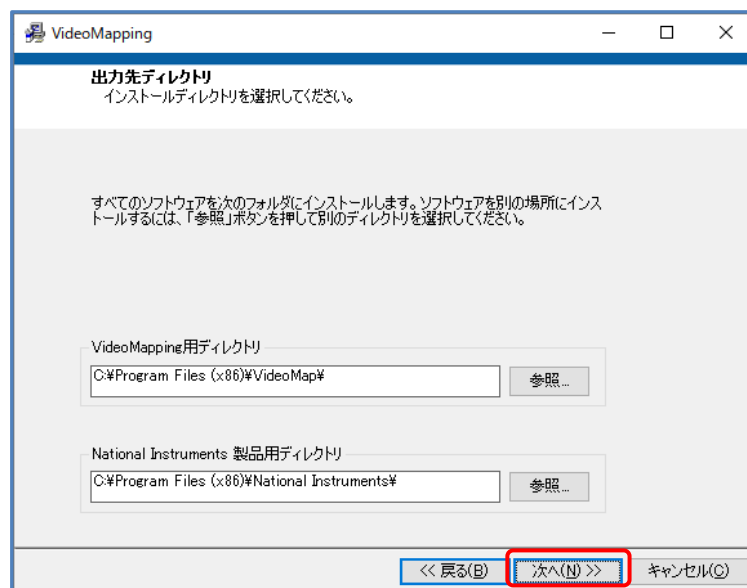
- ④ Prior to installation, approval from the PC administrator may be required.
A "User Account Control" message will appear asking "Do you want to allow this app from an unknown publisher to make changes to your device?" Click "はい (Yes)".



- ⑤ Installation of the VideoMapping will begin.



- ⑥ Click "次へ(N)" (NEXT). You will be asked to select the destination folder for installation.
(If an older version exists on your PC, it will automatically be replaced with the new version.)



※ Unless otherwise specified, the following folders will be created and files will be stored there.

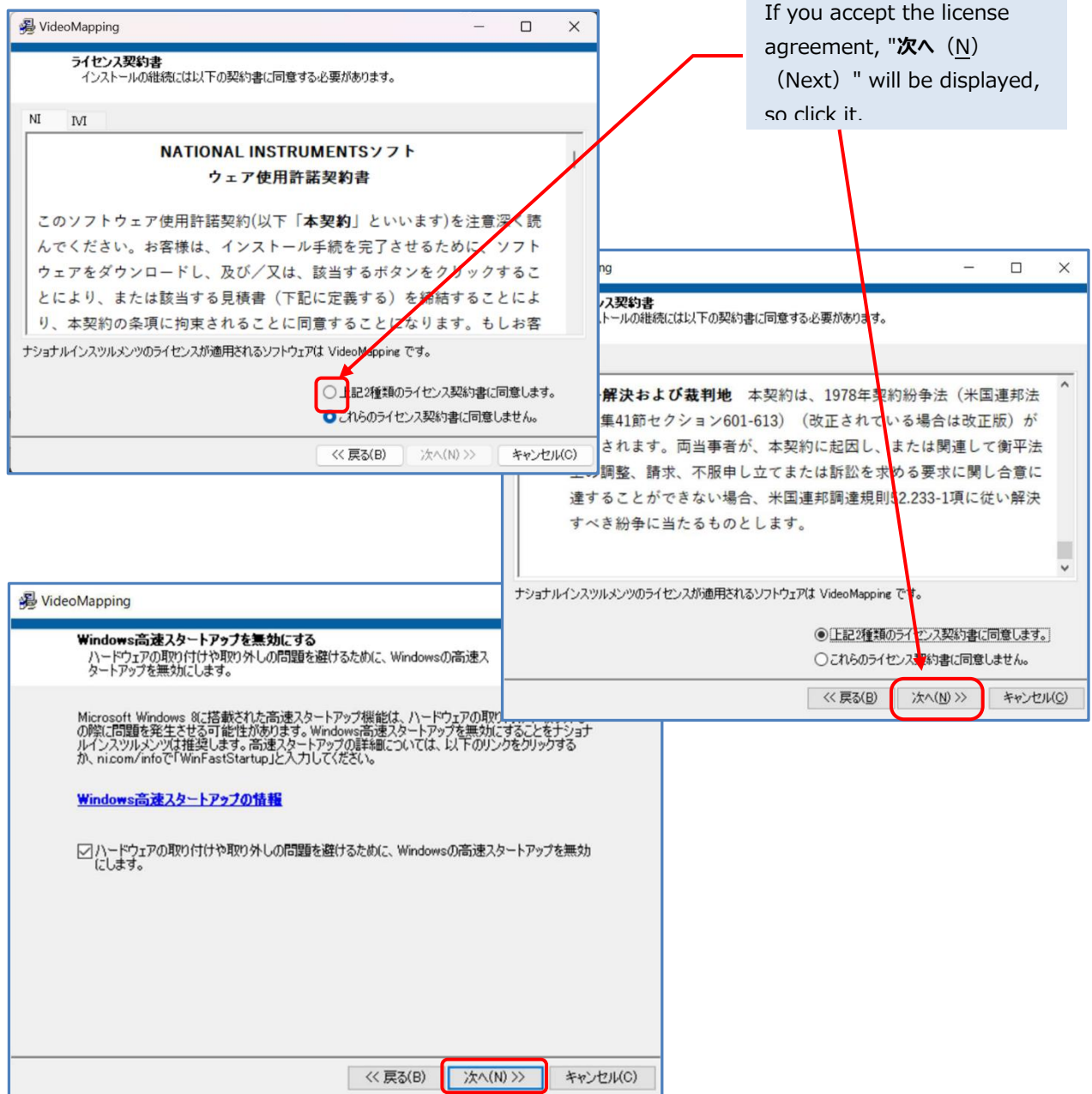
C:¥Program Files (x86)¥VideoMap¥

C:¥Program Files (x86)¥National Instruments¥

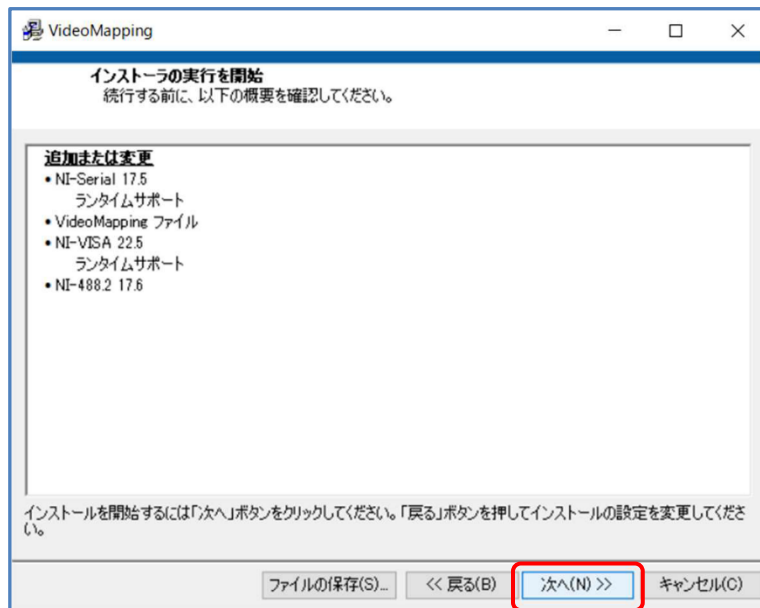
⑦ If you are OK with the information, click "**次へ** Next (N) >>" to proceed.

⑧ The below messages are indicated.

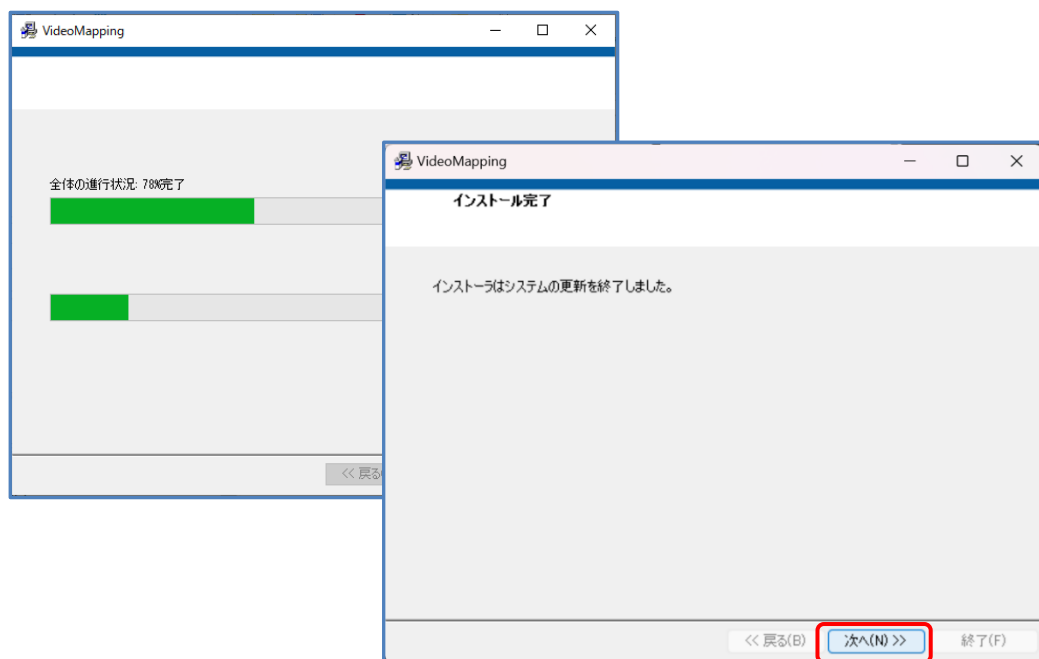
Vmap is a licensed product, so to install it correctly, you must agree to the software license agreement. Read the contents carefully, click "I accept the license agreement" at the bottom, and then click "**次へ** Next(N)>>" to proceed.



- ⑨ The following will be displayed, so click "次へ Next (N) >>" to proceed.

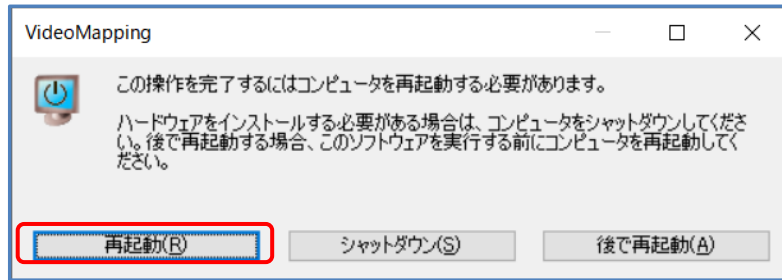


- ⑩ The installation will begin.
*The installation will take 3 to 8 minutes. A green bar will indicate the progress.
- ⑪ The message "Installation complete" will be displayed, so click "次へ Next(N) >>".



- ※ If the installation is completed without any problems, there is no need to restart the computer. "終了(F) (Finished) " will be displayed, so click "Finish(F)".

- ⑫ Restart your PC.



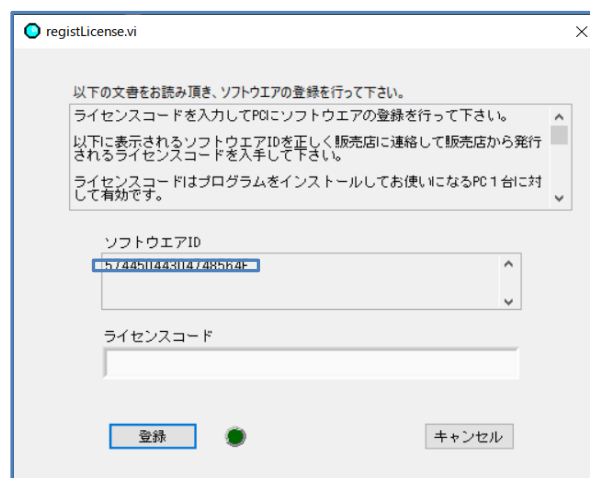
- ⑬ A Vmap-IV icon will be created on your desktop.



1-2. Registering your license code

You will need to register a license code only the first time you install it on your PC.

When you click the Vmap-IV icon, the following screen will appear, requesting you to register the software.



Contact your dealer with the "**ソフトウェア ID** Software ID" displayed on the screen and the computer name (PC name) of the PC on which the software is installed, and request the "issuance of a license code." (It may take some time for the license code to be issued.)

By entering the "**ライセンスコード** license code" that is returned to you and "**登録** registering," you will be able to use the software on this PC from then on, and this message will no longer appear.

You will need to do this every time you change PCs.

A license fee will be charged for the license.

1-3. Upgrading

If you are upgrading an already installed version of Vmap-III or Vmap-IV, please follow the steps below.

1). Copy the entire folder containing the installer for the new version of Vmap-IV to any location on your PC.

2). Run **setup.exe** in that folder. The installer will start. Follow the on-screen instructions to complete the installation.

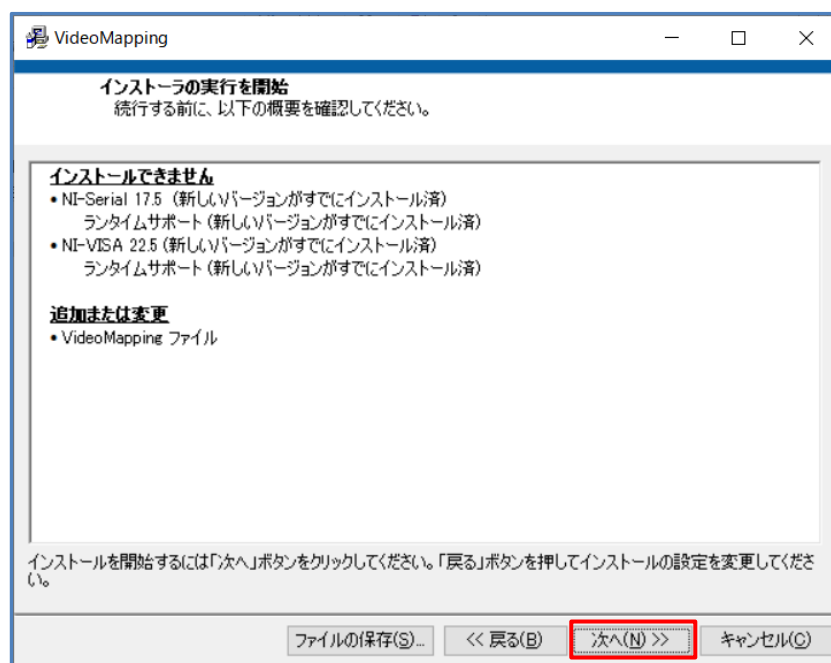
Note: If you have created a shortcut on your PC, delete the shortcut for the old version before creating a shortcut for the new version. If the shortcut for the old version is automatically deleted, create a shortcut for the new version.



The new version will inherit the settings from the old version. However, after installing the program, be sure to check the settings before using it for the first time. **P.24, 4-2 Setting screen~**

If another version of Vmap is installed on your PC, the screen displayed in step 8 when installing for the first time will be as shown below. (**Upgrade** will be displayed.)

Click "**次へ (Next) (N)>>**" to proceed.



The subsequent steps are the same as those from 1-1.⑪ onwards.

2. Connect Camera/GPS receiver

Connect the PLC220-12M and the GPS receiver to the USB port of your PC.

- The camera will automatically be recognized as a USB device.
- Please use a GPS receiver that supports USB and outputs NMEA-0183 compliant data (v3.0 4800bps).

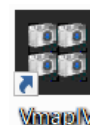
Recommended product: Globalsat BU-353N5 GPS receiver

- The GPS receiver is designed to be a USB compatible model. If it is not automatically recognized, install the driver. Please refer to the GPS receiver's instruction manual.

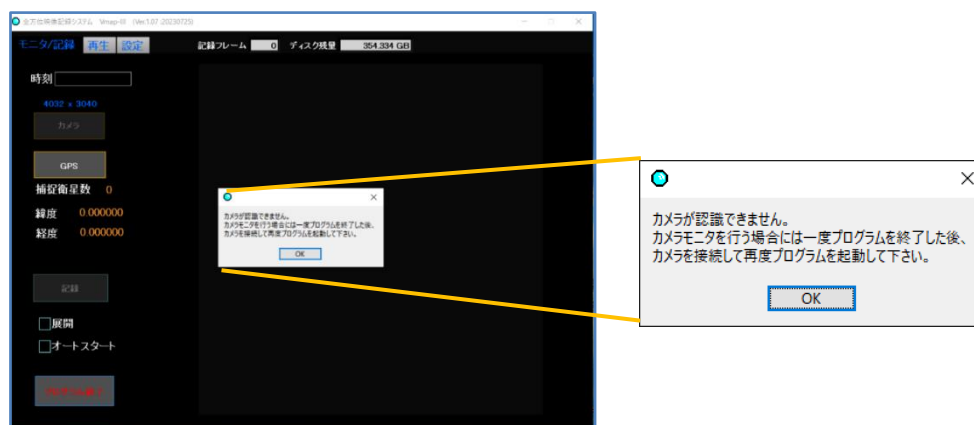
3. Starting and Exiting the Video Mapping Software

3-1. Boot

- ① Double-click the Vmap-IV icon.
- ② Vmap-IV will start and the screen will open as shown below.
(The screen below appears when the camera and GPS receiver are not connected.)



- ※ If neither a camera nor a GPS receiver is connected, the following screen will open.
If this message appears, click "OK", then click the "Exit Program" button to close the program, connect the camera and GPS receiver, and start the program again (3-1.①).



3-2. END of application

To exit Vmap-IV, click the "プログラム終了 (Exit Program)" button on the "Monitor/Recording" screen.

* You can also close it by clicking the x in the upper right, but the program may close before recording is completed.



4. Explanation of Screen

When you start Vmap-IV with the camera and GPS receiver connected, the "Monitor/Record" screen shown below will be displayed.

For convenience, we will start with the "Monitor/Record" screen that is displayed first when you start Vmap-IV, but when you first start using it, please set the initial conditions according to the explanation on **P.24, 4-2. "Settings" screen** before using it.

4-1. Explanation of the "モニタ/記録 (Monitor/Record) " screen

When the camera and GPS receiver are connected to the PC, the camera image and GPS time and location information are imported into Vmap-IV.



4-1-1. Explanation of each function

① Screen Tabs

Switches between the "Monitor/Record", "Playback" and "Settings" operation screens.
When selected it is active (blue on black), when deselected it is blue on gray.



【Select "Monitor/Record"】



【Select "Playback"】



【Select "Settings"】

When a camera is connected, all the tabs are hidden.

※ The "Screen Tabs" is hidden when the camera is connected.



② Current Time

Displays the current time.

If a GPS signal is received, the time from the GPS is displayed.

If not, the time from the PC clock is displayed.

③ Camera Resolution

Displays the "Resolution" number of the camera set on the "Settings" screen.

Example: When the resolution is set to 1600x1200 on the settings screen.



【Setting on the "Setting" screen】 【indication on the screen】

④ Camera Button

This button functionally enables a physically connected camera.

When a camera is enabled, the button will change from grey to black, and a red lamp will light up to the right of the button.

Images from the camera will be displayed on the **Video Monitor (12)**.



【no connection of camera】



【state of camera functionally connected】

※ If you cannot connect the camera, please check the status of the camera cable connection and the status of the PC's USB port.

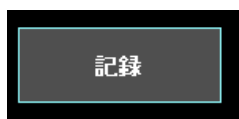
⑤ GPS Button

This function enables the GPS receiver that is physically connected. (Details are explained in **4-1-2. on page 17.**)

⑥ REC Button

This button starts and stops recording.

When clicked, the button will change from gray to black and a red light will flash to the right of the button.



【not recording】



【Video is being recorded. The red light is flashing.】

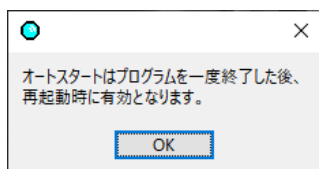
⑦ Dewarp mode setting box (Please also refer to **P.32**, ⑥ **Expand button** also)

It does not function while recording, so it is grayed out (inactive).

⑧ Auto Start setting box

Enable auto start.

If this is checked, the camera connection (④) and GPS connection (⑤) will start automatically the next time Vmap-IV is launched.



Auto start will be enabled by exiting the program once after setting it and then restarting it.

If you disable it (uncheck the box), auto start will not be enabled the next time you restart the program after exiting it.

⑨ Program End Button

The program will exit normally.

The program will not exit until the video being recorded has been completely saved to a file.

⑩ Frame Counter

Displays the number of frames and length (recording time) of the currently recording file.

⑪ Remaining Disk Recording Area

Displays the remaining recording capacity of the specified recording area.

⑫ Video Monitor

Displays live video from the camera or the video displayed in step ⑦.

4-1-2. Connect GPS

With the GPS receiver connected to the PC's USB port, press the ⑤ **GPS button** to establish a GPS connection and acquire a GPS signal.

When connected, the button will change from grey to black, and a green lamp will light up to the right of the button.

The number of satellites currently being acquired is displayed at all times.



【no connection】

【Functionally connected and receiving GPS signal】

※ Displays the status of attempting to capture satellites.



【The GPS receiver is connected but the satellites are not being acquired.】

- ※ Please make sure that satellites are captured and the GPS signal is being received correctly.
- ※ If satellites are not captured, the satellite capture lamp on the right will turn yellow.
- ※ You can still shoot and record video even if GPS information is not being received, but in that case, the GPS signal will not be acquired and mapping on a map will not be possible during playback.

※ GPS location information

When a GPS signal is acquired, the time and location information (latitude and longitude) from the GPS are displayed.



If the number of GPS captured satellites is three or less, coordinates will not be output. Even if the number of captured satellites is four or more, coordinates will not be output if the signal quality is poor.

If satellites are captured but the coordinate output is poor, the satellite capture lamp will display yellow.

4-1-3. Live Video indication

Once the equipment is connected, live video from the camera will be displayed on the **Video Monitor** (⑫).

When you press the **Record Button** ⑥ to start recording, or when recording starts with auto-start, the live video will stop and disappear after about one minute. If any other operation is performed on the PC, the live video will disappear. When you stop recording, the live video will return to being displayed.

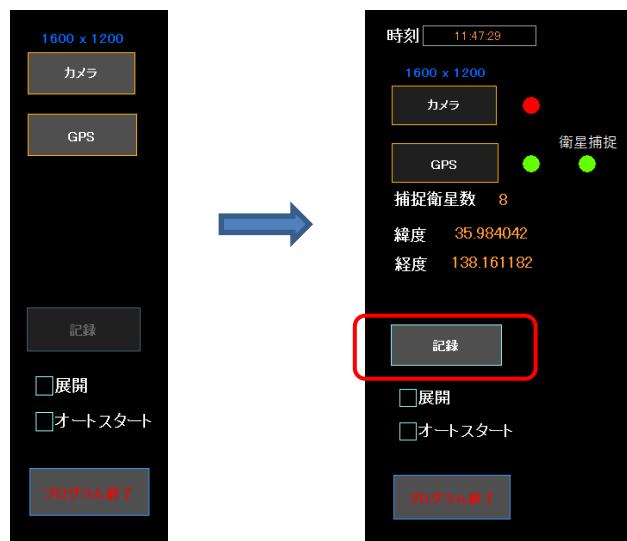


【 Live video is displayed from the time the camera is connected until recording begins. 】

(When live video starts recording, it will stop after about one minute and disappear from the display.)

4-1-4. Recording

Once the camera and GPS receiver are functionally connected and the ⑥ Record Button is available (active: gray), pressing the ⑥ Record Button will start recording live video.



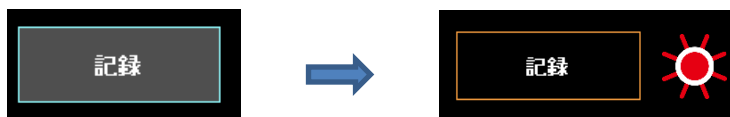
- ※ If the "Settings" → ☒ "Start recording without GPS connected" checkbox is checked, recording will start after the set time has elapsed as long as the camera is connected, even if the GPS receiver is not connected or the GPS signal is not captured.



- ※ If the "Settings" → ☐ "Start recording when GPS is not connected" checkbox is not checked, when auto start occurs, an alarm screen will appear and the message "Checking GPS sensor connection..." will be displayed. You can cancel this by clicking "OK". You can start recording by pressing the record button.

- ① Click ⑥**REC Button**.

- ② The **Record Button** ⑥ in the illustration will change from gray to black, and a red light to the right of the button will flash.



【no recording】

【Video is being recorded. The red light is flashing.】

- ※ While recording, the ④Camera Button, ⑤GPS Button and ⑦Dewarp mode setting button are inactive and cannot be clicked. This is to prevent the camera and GPS from being turned off during recording.

- ③ The recorded video will be saved in the folder specified in "Settings" → "Recording File".
If you do not specify anything for C:¥,
it will be saved to **C:¥My Documents¥VideoMap¥route data**
by default.
- If you check "Auto generate", a file will be automatically generated in the default folder.
 - For how to change or specify the recording folder, please refer to p.25, ④ Recording file save destination settings.
 - Recordings are saved in MJPEG AVI format.
 - The file name is generated using the date and time when recording started. For details, please refer to p.25, ④ Recording file save destination settings.
- ④ While recording, the number of recorded frames, recording time, and remaining disc recording capacity will be displayed at the top of the screen.

- ⑤ If  you press the **REC Button (⑥)** again, the button will turn gray and recording will stop. The recorded frame count and recording time count will stop, and the file will be saved. Live video will be displayed.



【click ⑥**REC Button**】 then 【The button turns gray and the recording stops.】

- ⑥ The next time you click the **REC button (⑥)** to start recording, a new file will begin to be generated. The count of recorded frames and recording time will start from "0".

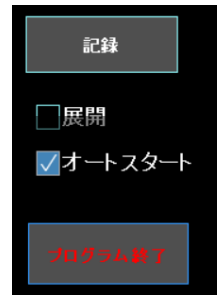


If it is not set to Auto Start, recording will stop at the set unit time, and you will need to click the REC Button again to restart recording.
If it is set to Auto Start, a new recording will automatically start even if recording ends at the set unit time.

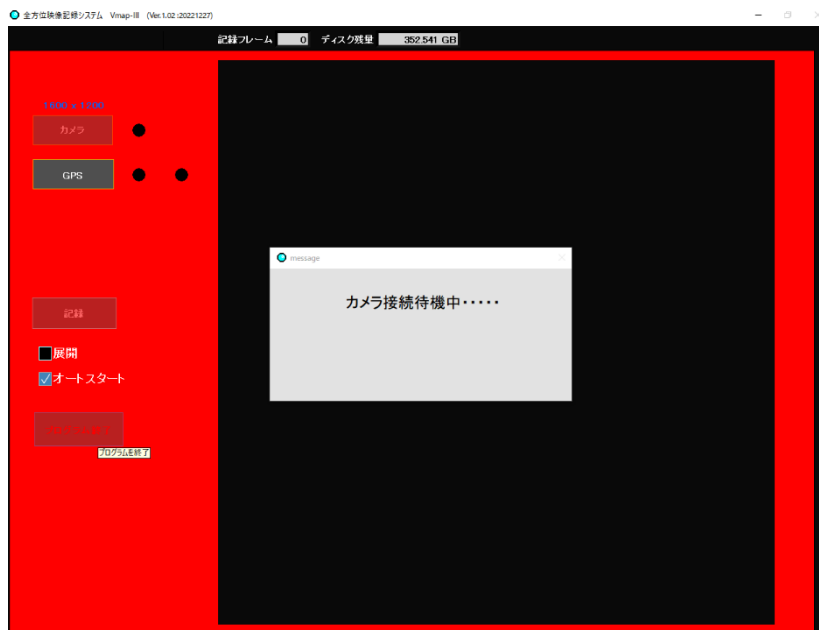
4-1-5. Auto Start

The auto-start function automatically starts recording as soon as Vmap-IV is launched.

- ① Go to "Settings" → Check the "☐ Start recording when GPS is not connected" checkbox and set the "GPS timeout" time. (If this checkbox is not checked, recording will not start automatically even if the GPS timeout time is set.)



- ② On the "Monitor/Record" screen, check the ⑧ ☐ Auto Start check box.
 - ③ After exiting Vmap-IV using the ⑨ Exit Program button, restart Vmap-IV.
 *Auto start will not be enabled unless you restart the program. After exiting the program **using the ⑨ Exit Program button**, restart Vmap-IV.
 *Auto start will not be enabled unless you restart the program.
 - ④ When Vmap-IV starts up, it will recognize the camera and automatically start recording video once it acquires the GPS signal.
- If the camera is recognized but the GPS signal is not acquired, video recording will automatically begin after the **"GPS timeout"** period has elapsed. In this case, the GPS data time will be the time of the PC's internal clock at the time of recording, and the latitude and longitude will be recorded as 00.000000.
 - When Vmap-IV starts up, if the camera is not recognized (connected), a red warning screen like the one shown below will appear. Once the camera is recognized, the normal screen will return.

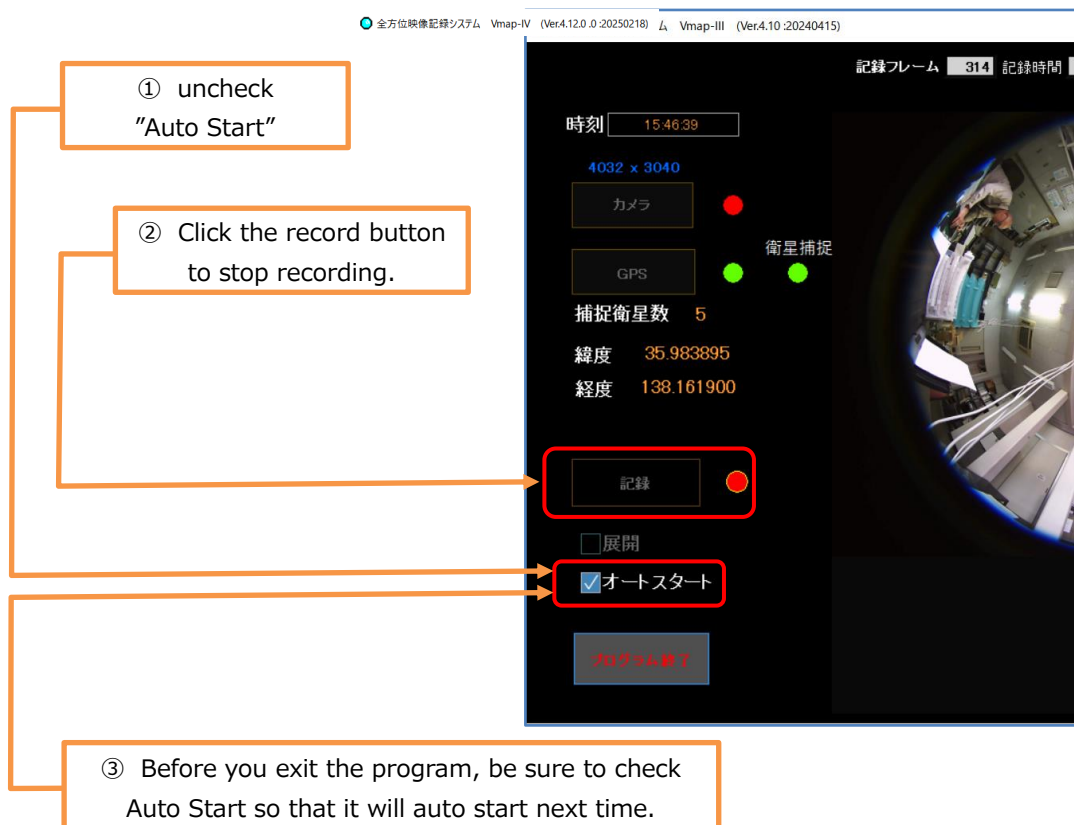


- If you uncheck the ① "Settings" → "☐ Start recording when GPS is not connected" checkbox above, and ② check the ☒ Auto Start checkbox on the "Monitor/Recording" screen and restart the program, a red warning screen like the one shown on the next page will appear, displaying "Connecting to GPS sensor...". If you do not click "OK" at this point, this screen will remain in this state indefinitely. Click "OK" to dismiss the warning,

then uncheck Auto Start, exit the program, restart it, and then check the ① "Settings" → "☐ Start recording when GPS is not connected" checkbox.



- ⑤ If you want to completely stop recording or switch to the playback screen or settings screen while recording with the auto-start setting, first uncheck the auto-start checkbox to disable the auto-start setting, then click the record button to stop recording.



4-1-6. Exit Program

When exiting Vmap-IV, **click the ⑨Exit Program Button** at the bottom left of the Monitor/Recording screen to shut down the system. The Vmap-IV program will close and you will return to the OS screen.

* Clicking the ⑨**Exit Program Button** will close the screen immediately, but any video being recorded will be saved properly before the program closes, so the video will be preserved.

* However, if you do not exit using the ⑨**Exit Program Button**, video may not be recorded properly or the system may be damaged, so please follow the precautions below to use the program correctly.

* If you are recording continuously for more than 12 hours with auto start, we recommend that you exit the program after 10 to 12 hours of operation, check the recording capacity of the HDD, etc., and then restart it.

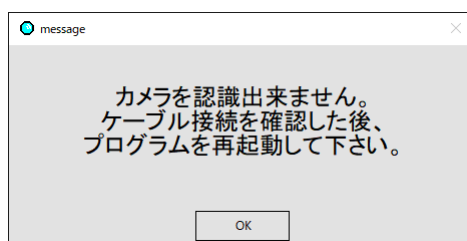


重要

- To successfully complete recording of the footage you are shooting, you must exit the program properly.
- If you shut down the system or turn off the PC without exiting the program using the ⑨ **Exit Program button**, the latest video file may not be saved correctly.
- Recording will continue even if the PC switches to screen saver during recording. However, if the PC is set to sleep, the power will be turned off after the set time has elapsed, and the footage being recorded will not be completed. **Set the PC's sleep mode to "None."**

4-1-7. Accidental Exit and Data storage

If the camera connection is lost while recording with Vmap-IV, a camera disconnection alert will appear (the screen will turn red) and recording will be interrupted.



This message will appear, so click "**OK**" and the alert will disappear. If you press the ⑥ **Exit Program button**, the recording up to that point will be saved normally.

However, when the camera is disconnected, the ☐Auto Start setting is also canceled.

The program cannot determine whether the camera disconnection was simply due to a loss of power to the camera, or whether the camera or cable was actually disconnected, so if you exit with Auto Start set, there is a possibility that the problem will occur again the next time you try Auto Start. Therefore, since this is an irregular termination, please check the

connections (preferably after manually checking the camera and GPS connections), and then set ⑧ ☒ Auto Start again before exiting the program.

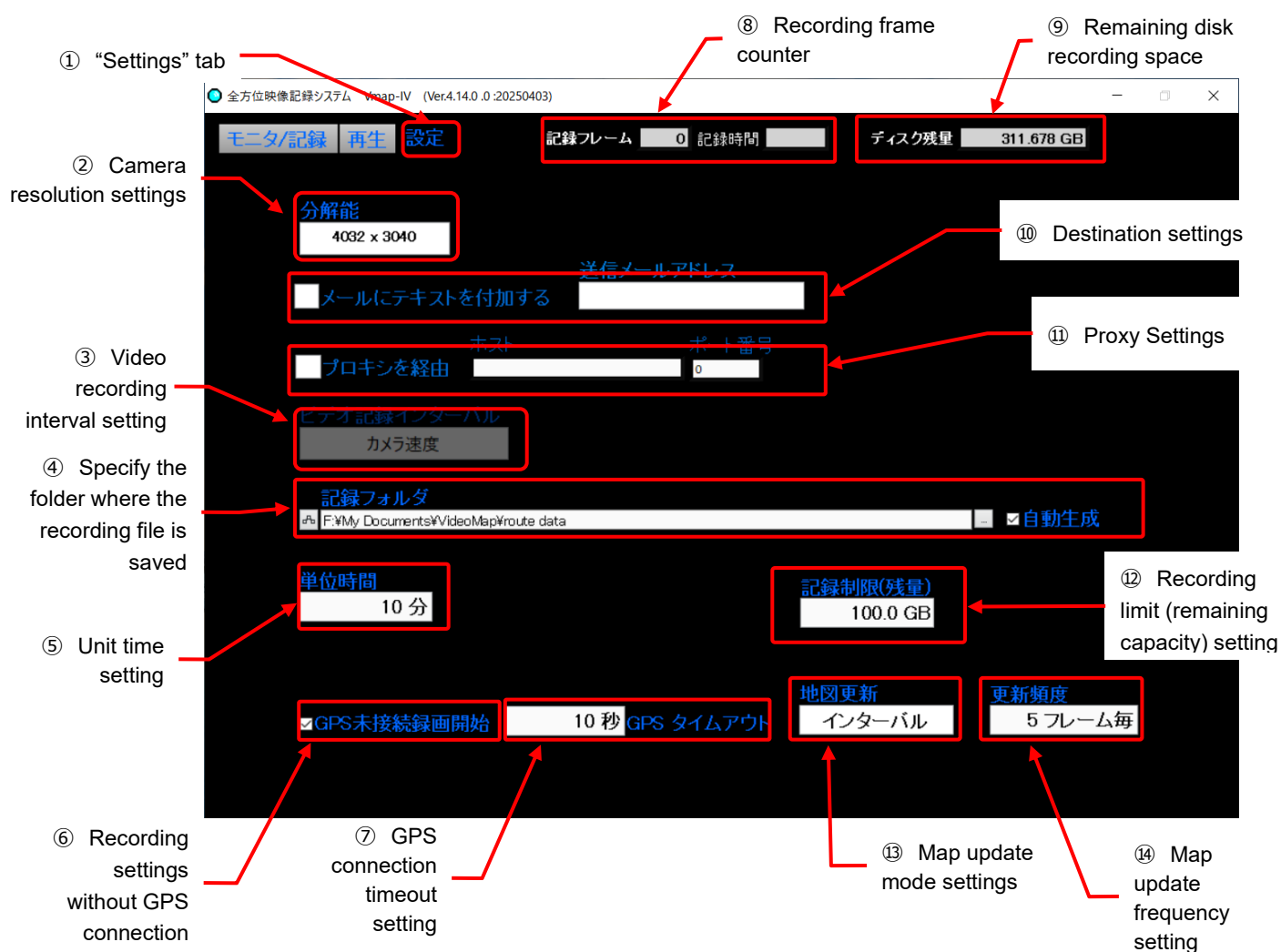
If you exit the program without setting ☐ Auto Start, the video mapping software will not auto start the next time you start it. Please reset the settings using steps 4-1-5.

4-2. Explanation of 「設定」"Settings" screen

Press the ① "Settings" tab to switch to the Settings operation screen.

You can set the shooting conditions.

- The "Settings" tab will not be displayed when the camera is on. Turn the camera off.
- The tab will not be displayed while recording. Once recording is stopped, the tab will be displayed and you will be able to make settings.
- Be sure to disable "Auto Start" before moving to the "Settings" screen.



【 Setting screen 】



When upgrading Vmap-IV, the new version will retain the settings from the old version, but be sure to check the settings after installation and before using the program for the first time.

4-2-1. Explanation of each function

① "Setting" tab

This is not displayed when recording or the camera is on. If you stop recording and turn the camera off, the "Settings" tab will appear and can be selected.

When selected, it will be active (blue on a black background). When deselected, it will be blue on a gray background.



【「モニタ/記録」 is selected】



【「再生」 is selected】



【「設定」 is selected】

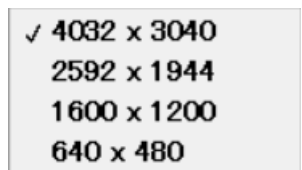
② Setting of Camera Resolution

Set the resolution of the connected camera.

Click the window frame to open a pop-up like the one on the right, displaying the available resolutions.

Selected resolutions are marked with a ✓.

Move the cursor to the resolution you want to select and it will turn blue, then click to confirm.



③ Setting of Video Recording Interval

Note: This setting is currently unavailable.

- The Vmap-III settings button remains, but it is fixed to "Camera Speed," and other settings cannot be adjusted.
- The "Camera Speed" varies depending on the shooting conditions and other settings, but it is generally around 9fps.

④ Setting of File Save Location Folder

You can specify the destination folder for your files.

Click the browse icon (...) to the right of the frame to select from the folder options that appear, or manually enter the folder name. Checking the "☐ 自動生成 (Automatically generate) " checkbox will automatically create the folder, which is convenient.



If you don't specify anything for C:\, it will be saved by default to **C:\My Documents\VideoMap\route data**.

Note: In the example shown in the diagram above, F\ is specified.

File names are automatically created according to the following rules:

- Folders for the year and month are automatically generated with the information for that day of shooting. Example: ¥2024_03 (meaning "March 2024")
- Folders for the date are automatically generated below that. Example: ¥2024_03¥29 (meaning "March 29, 2024")
- The file name will consist of numbers arranged in the order of the year, month, day, and time (hour/minute/second) when the shooting started. Example: 20240329_133950 (March 29, 2024, 13:39:50)
- The time is obtained from GPS data when GPS is connected. If GPS is not connected, it is the PC's clock data.

⑤ Setting of File Size Unit

You can set the size unit of the recorded video file in time. By default, it is set to 10 minutes.



You can set the recording time in minutes. You can specify a value from 1 minute to 60 minutes. Place the cursor in the setting box and enter the number directly, or use the mouse wheel to increase or decrease the value. Note: If the file duration is too long, it will be difficult to review the video during playback.

The recorded video file will automatically save and close after approximately 7GB (about 14 minutes of recording at a high resolution of 4032x3040). If auto-start is enabled, it will automatically begin creating a new file.

The file size will vary depending on the recording time setting and the camera's resolution at the time of recording.

⑥ Setting of GPS Unconnected Recording

Checking this box enables the feature, allowing video recording to begin even if a GPS connection is not confirmed within the set time, as long as the camera is connected. Unchecking it disables this feature, preventing recording from starting until a GPS connection is confirmed. Please also refer to **P.21, 4-1-5. Auto Start**.



⑦ Setting of GPS Timeout Time

This setting determines the time it takes to check for a GPS connection when the "⑥GPS Unconnected Recording" setting is enabled. Until this time, the device will continue to attempt to acquire a GPS signal while displaying a GPS connection alert (red flashing screen).

Depending on the satellite communication environment, acquiring a GPS signal can take several tens of seconds, so setting it to around 60 seconds is recommended.

By default, it is set to 10 seconds. You can specify a value from 1 second to 120 seconds. Place the cursor in the setting box and enter the number directly, or use the mouse wheel to increase or decrease the value.



◀ Example: Even if a GPS signal is not detected, video recording will start after 10 seconds.

⑧ Indicator of Recording Frame Counter

This displays the number of frames and recording time for the currently recording file.



⑨ Indicator of Remaining Recordable Space

This displays the remaining recording capacity of the specified recording area.

⑩ Setting of Data Recipient

You can pre-configure the recipient email address in case you need to send the recorded video.

If you want to add text to the email, check the checkbox on the left.



Important: The only compatible email client is Microsoft Outlook. Your PC must already be configured with Outlook enabled (allowing sending and receiving emails).

⑪ Setting of Proxy

A proxy is a system that acts as a "proxy" for a user when connecting to the internet, relaying communications.

This system is designed to retrieve and display Google Maps via the internet, but you may not be able to access Google Maps if your internet connection is routed through a proxy server.

In that case, you can enable Google Maps by configuring the proxy server in this section. However, please note that we cannot guarantee operation with all types of proxy servers. If the map does not display due to routing through a proxy server, please check the checkbox on the left and enter the hostname and port number to route through.



⑫ Setting of Recording Limit (Remaining Capacity)

If the maximum storage capacity of the designated recording device is reached during recording, the recording of the footage at that time (normal saving) will not be possible. Therefore, a limit is set before the maximum storage capacity is reached. When the specified capacity is reached, the old recording will be deleted to replenish the storage capacity when the recording ends and the next recording begins. A message stating "古い記録を削除する (Old recording will be deleted)" will be displayed for 3 seconds.

Please set the value by placing the cursor in the setting box and directly entering the number, or by increasing or decreasing the value using the mouse wheel.

The default setting is 100.0 GB.

We recommend setting it to 20.0 GB or more, as this is thought to be necessary for OS processing.



⑬ Setting of Map Update Mode

This setting determines how often the Google Maps displayed in conjunction with location data during playback will update. Clicking the button will open a pop-up tab like the one shown on the right.

Setting this to "**全フレーム (All Frames)**" will attempt to link to the map with each frame of the image. Depending on your PC's internet connection and capabilities, frequent communication may overload the network and potentially cause map display errors.

If you are moving slowly and your location is not changing much, we recommend selecting "**インターバル (Interval)**" and setting the update frequency in step ⑭, or displaying a wide-area map in "**未更新 (Not Updated)**" mode.

Note: The size of the displayed map area can be changed by scrolling the mouse on the map display screen.

地図更新

✓ 全フレーム
インターバル
未更新

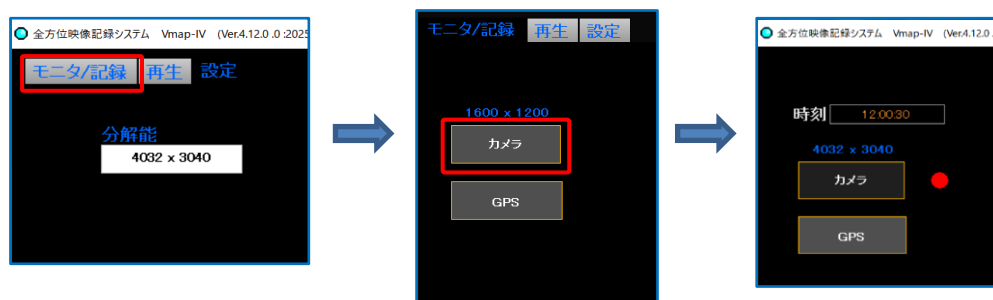
⑭ Setting of Map Update Frequency

Selecting "**インターバル (Interval)**" in ⑬ will display a setting for the map update frequency. You can set the number of frames by directly entering a value. Entering a number "XX" will switch the display to "Every XX frames". Place the cursor in the setting box and enter the number directly, or use the mouse wheel to increase or decrease the value.

The following description is exactly the same as that of Vmap-III, so we are using the Vmap-III operation screen as is. There will be no problems with operation, so please be aware of this.

4-2-2. Setup completion

Once the setup is complete, return to the **モニタ/記録** (Monitor/Recording) screen via the "Monitor/Recording" tab, and press the ④ Camera button to reconnect the camera. You should now be able to take pictures with the camera in its configured state.



① move to **モニタ/記録**

② connect the camera

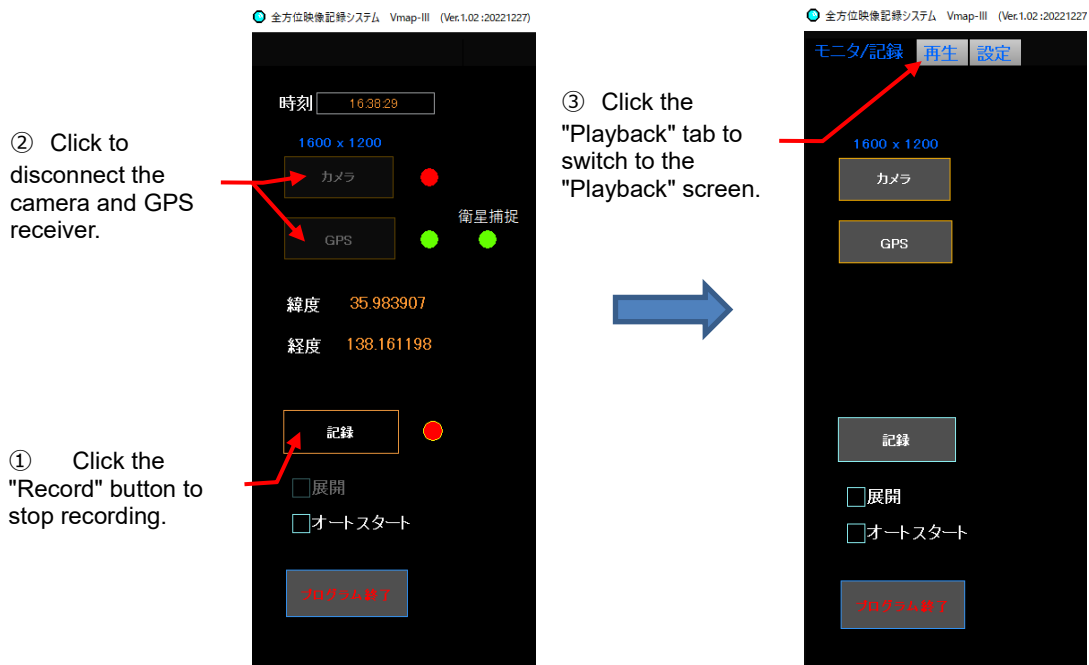
③ settings become

4-3. Explanation of 「再生」 (Playback) Screen

- You can play back video recorded using Vmap-IV.
- You can play back recorded video footage with partially enlarge or divide into 180x2 panoramas.
- There is a function to plot and display the location on a Google Maps map during video playback.
- In addition to videos recorded with Vmap-IV, still images can also be played back.

Note: The "再生 (Playback)" tab is not displayed during recording, and you cannot access the "再生 Playback" screen.

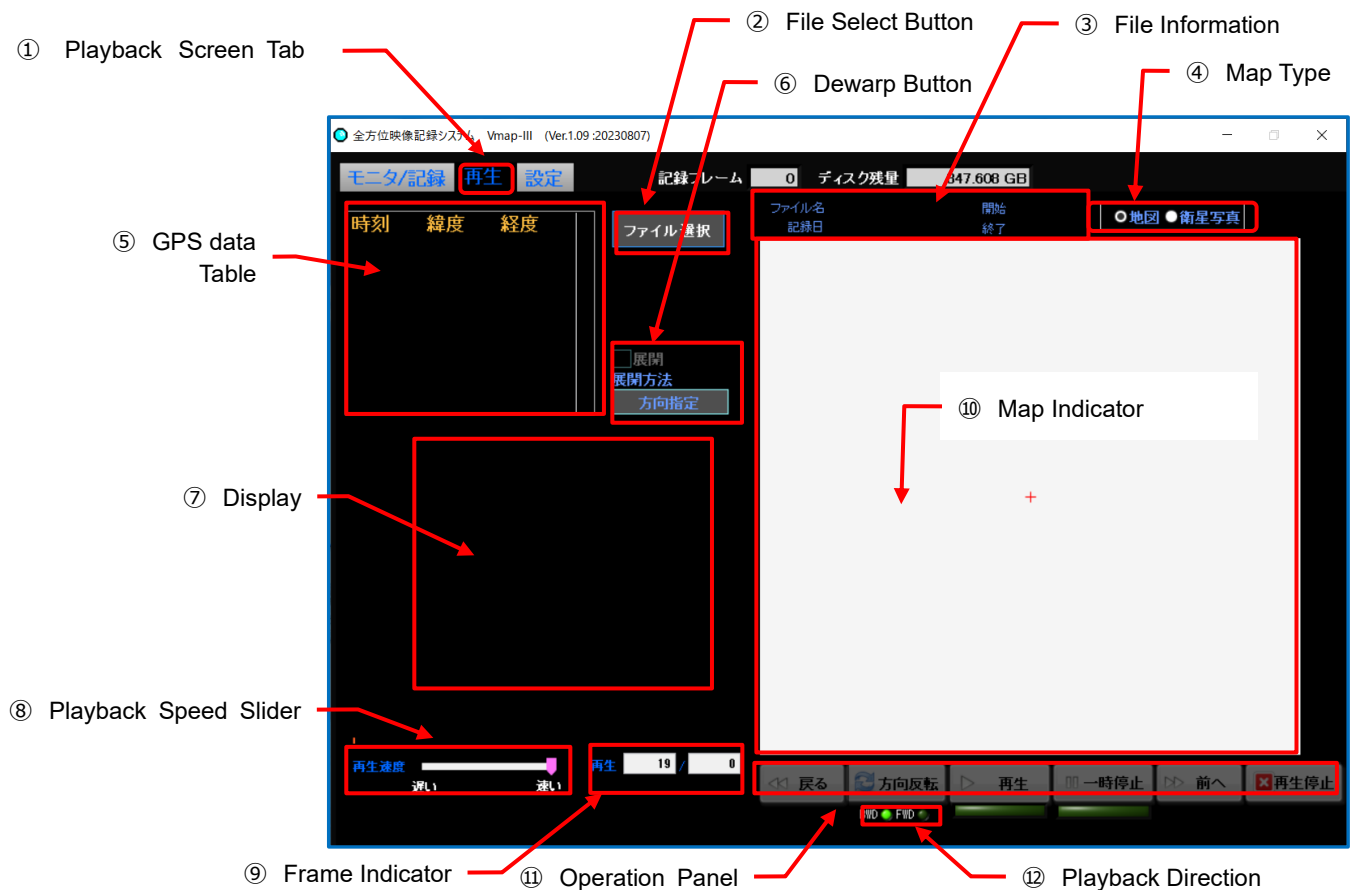
On the "モニタ/記録 Monitor/Record" screen, press the ⑥ 記録 Record button to stop recording, and press the ④ カメラ Camera button to disconnect the camera.



Note: Please check in advance where the file you want to play is saved.

Note: Normally, it is saved in the folder set in P.25, ④ Recording File Save Folder Settings.

4-3-1. Explanation of Each Button



【 Playback Screen 】

① Playback Screen Tab

Clicking the "再生 Playback" tab will switch to the "Playback screen".

② File Select Button

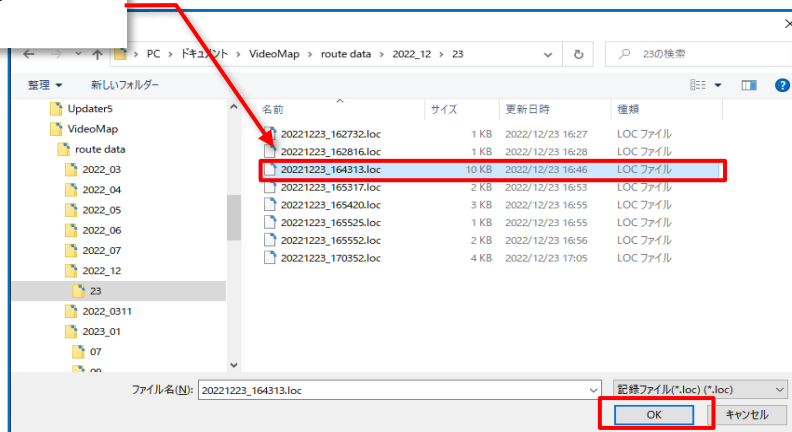
Clicking this button will display the folder where the video files are saved.

This button is inactive when a camera is connected. Please disconnect the camera by pressing the ④ Camera Button on the "Monitor/Record" screen.

The location information file (with the .loc extension) acquired simultaneously with the video is displayed, but the file name structure is the same as the video file. Please specify the file you want to play back, referring to the date and time of shooting or the file name you set yourself.

Select the recording file you want to play and press "OK".

Select the recording file you want to play and press "OK".



The video will be displayed on the Display ⑥, and the map will be displayed on the Map Indicator ⑩.

Note: The time it takes for the images to appear will vary depending on your PC's capabilities and the size of the video file.

③ File Information

The following information about the selected file will be displayed.

ファイル名	20230809_150636.loc	開始	15:06:36
記録日	2023/08/09	終了	15:06:41

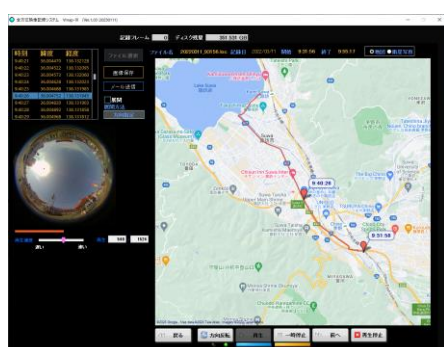
- ファイル名 : File Name: above example is 20230809_150636.loc
- 記録日 : Recording Date: above example is 2023/08/09
- 開始時刻 : Start Time: above example is 15:06:36
- 終了時刻 : End Time: above example is 15:06:41

※ You can calculate the recording time from these.

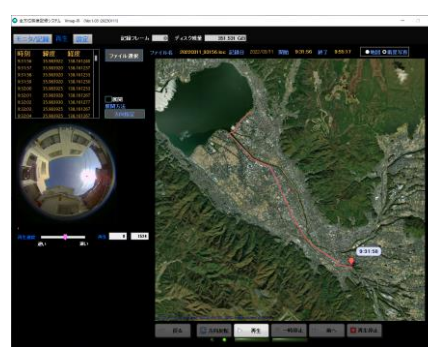
④ Map Type



⑩ You can choose to display either a "地図 Map" or "衛星写真 Satellite View" on the ⑩ Map Indicator. The map type selected when you execute "ファイル選択 File Selection" will be valid. Changing the map type at any other time will not switch the display. The timing of the switch depends on the timing of the map update.



【 地図 Map 】



【 衛星写真 Satellite View 】

⑤ GPS Data Table

- The GPS information (time, latitude, longitude) for each frame of the file being played will be listed.
- If GPS is not connected (acquired) during shooting, the time displayed will be the time from the PC's built-in clock at the time of recording, but the latitude and longitude will be displayed as 00.000000.
- The information of the currently playing frame will be inverted to blue.
- While paused, you can use the slider on the right side of the table to move the playback time significantly. ※ It does not work during playback.
- Based on the location information of the recorded video file, a map of the corresponding area will be displayed via Google, which can be accessed free of charge online.
- Your PC needs to be connected to the internet.

The recorded time and the latitude and longitude of that location are displayed.

The current location is inverted in blue.

Displays the file name, recording date, recording start time, and end time of the currently playing file.

You can zoom in, zoom out, and move the map within this area using your mouse. (This function is only available while paused or stopped playback.)

Displaying video of the current location.

Hover your mouse pointer over the travel route and **right-click** to jump to the video feed of that location. Depending on your internet connection, the transfer time may vary.

Display the travel route

「再生 Play」 Button

This displays the currently shown location. The recording time at this location is also displayed.

時刻	緯度	経度
10:18:48	35.988045	138.154303
10:18:49	35.988143	138.154227
10:18:50	35.988240	138.154152
10:18:51	35.988335	138.154078
10:18:52	35.988427	138.154007
10:18:53	35.988518	138.153937
10:18:54	35.988607	138.153868
10:18:55	35.988690	138.153802
10:18:56	35.988773	138.153738

再生速度: 遅い 速い

再生: 829 / 1141

戻る 方向反転 再生 一時停止 前へ 再生停止

BWD FWD

【 Example of played-back recorded video and map 】

⑥ 展開 Dewarp Button

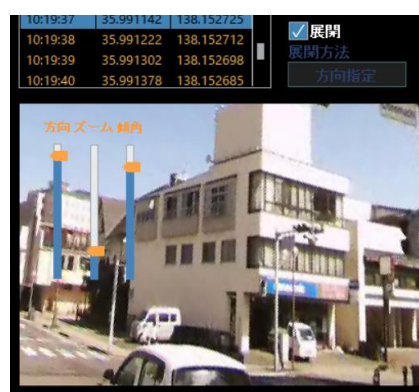
Clicking this will allow you to specify the "方向指定 direction" and "パノラマ Panorama" of the video.

- **方向指定 direction** : You can specify the location to partially expand.
- **パノラマ Panorama** : The screen is split into two halves, top and bottom, displaying images at 180° angles on each side.

※ Please select your preferred method of dewarping first, then check the box to ⑥ ☐ 展開 Dewarp.



Example of partial expansion in direction mode.



Example of partial display in panorama mode.



※ Change the dewarp position

In the direction mode, moving the cursor over the captured video will display the sliders as shown in the image on the right.

Each slider works as the followings;

- **方向 direction** : possible to change the location (right/left).
- **傾角 tilt angle** : possible to change the location (up/down).
- **ズーム zoom** : possible to zoom-in/out of the video image.



- ※ Location change is possible even while the video is playing.
- ※ In panorama mode, only the **方向** direction slider is displayed. The point at which the 360-degree panoramic image is divided into two sections has been changed
- ※ Right-clicking with the mouse will hide the sliders.
- ※ Settings using the slider are retained until the program is closed.

⑦ Display

The playback video will be displayed.

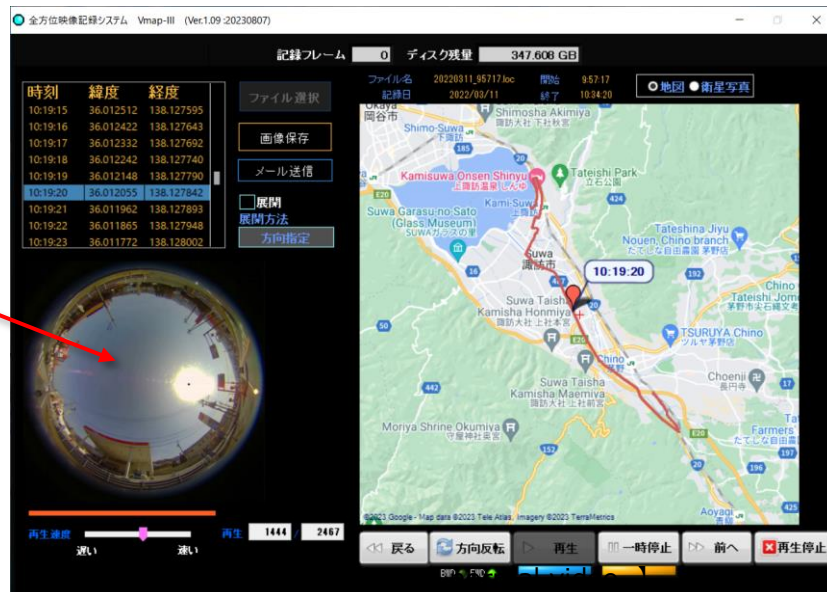
In dewarp mode, you can switch between directional video and panoramic video.

- Left-clicking with the mouse within the video display screen will open a window showing the video enlarged to VGA resolution (640x780, 350,000 pixels).
- To close the enlarged window, press the "X" in the upper right corner.

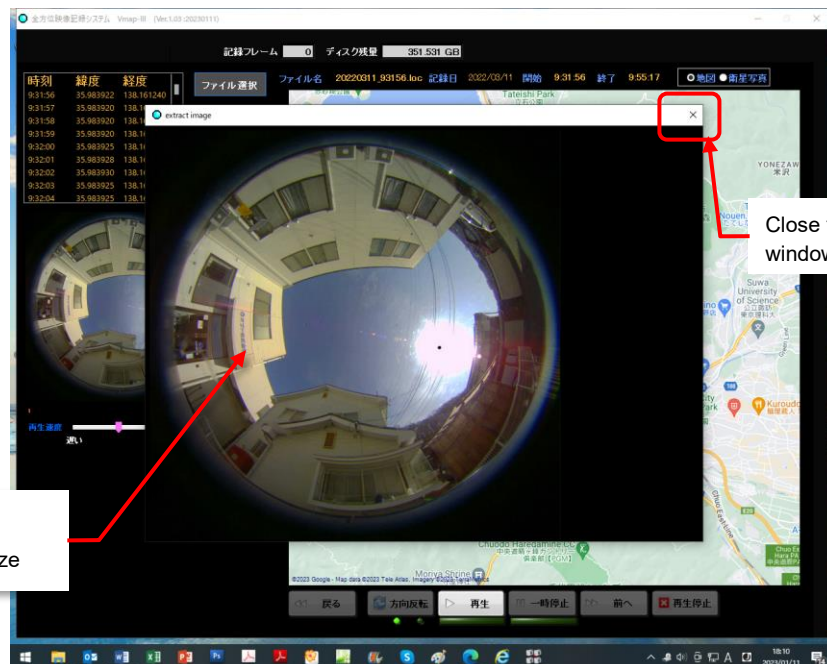
※ Regardless of monitor size, the video resolution is VGA.

Displaying on a high-resolution monitor or enlarging the image will not improve the resolution of the captured video itself. Please be aware that this may actually result in the image appearing even rougher.

Clicking on the image with the left mouse button will enlarge the image display screen to VGA size.



Window displayed enlarged to VGA size

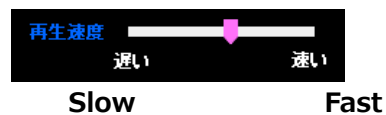


Close the enlarged view window.

【 The screen shows the image enlarged 】

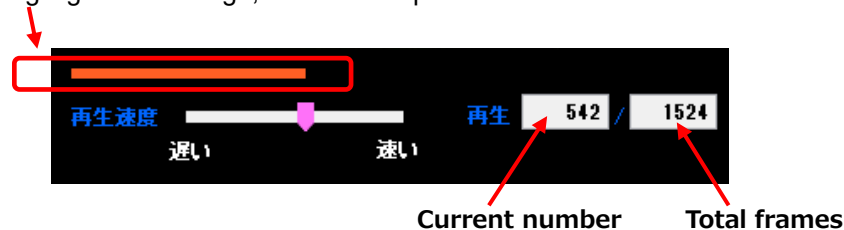
⑧ Playback Speed Slider

You can adjust the playback speed steplessly.



⑨ Frame Indicator

This number shows which frame is currently playing out of the total frames in the file. The bar above it, highlighted in orange, indicates its position within the overall file.



⑩ Map Indicator

When your PC is connected to the internet, Google Maps will display your surroundings, reflecting your GPS locational information. You can change the map update frequency in the "設定 Settings" tab → "地図更新 Map Updates" → "更新頻度 Update Frequency".

You can zoom in, zoom out, and move the map within this indicator using your mouse. However, please only perform these operations while playback is paused or stopped. The display response is slow, so please operate gently.

- Drag and drop the map with the mouse to move it.
- Use the mouse wheel to zoom in/out.

The "Settings" menu may also become slower to respond to changes depending on the map update frequency.

⑪ Operation Panel



① When playback stops

This state occurs when you select a playback file.

・Clicking the "再生 Play" button will start playback.



② During playback

During playback, the low part of the "再生 Play" button will turn blue as shown below. (In this diagram below, playback is in the forward direction.)

- Clicking the "再生停止 Stop Playback" button will stop playback.
- Clicking the "一時停止 Pause" button will pause playback.
- Clicking the "方向反転 Reverse Direction" button will reverse the playback direction.



③ During pausing

During pausing, the low part of the "一時停止 Pause" button will turn in orange as shown below.

- Clicking the "再生停止 Stop Playback" button will stop playback.
- Clicking the "一時停止 Pause" button will pause playback.
- Clicking the "方向反転 Reverse Direction" button will reverse the playback direction.
- Clicking the "前へ Forward" button will play one frame forward and then remain paused.
- Clicking the "戻る Back" button will play one frame backward and then remain paused.



⑫ Playback Direction

The indicator will show whether playback is in the forward or reverse direction.



When playing in the correct direction, the right lamp lights up green.

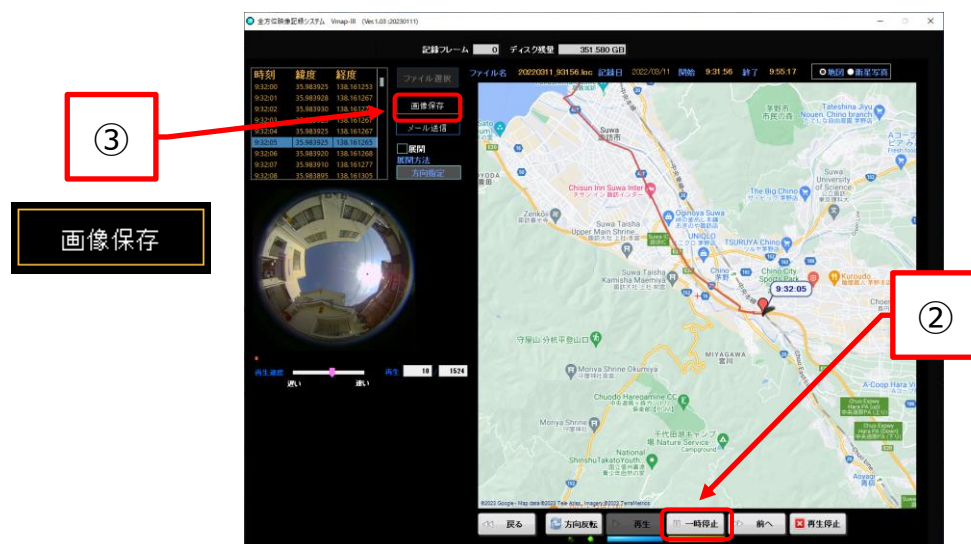


When playing in reverse, the left lamp lights up green.

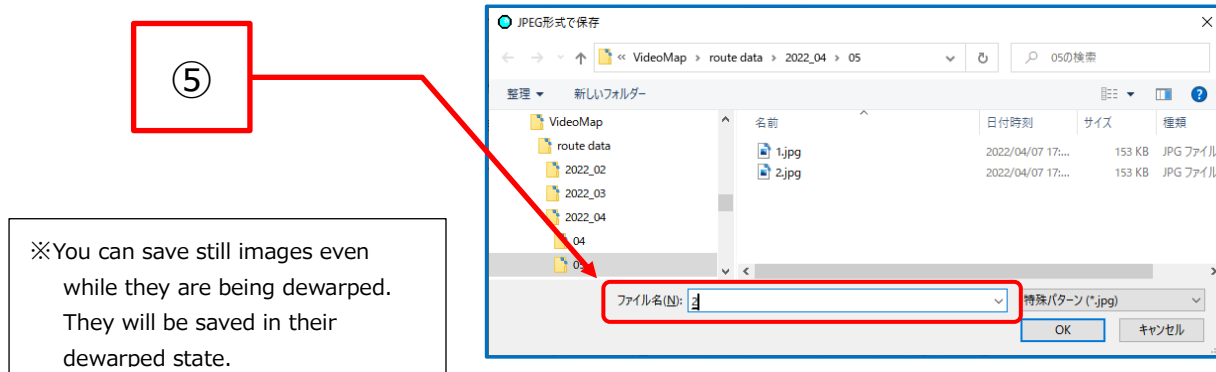
4-3-2. Still image storage

When you pause the playback of recorded video, a "画像保存 Save Image" button will appear, allowing you to save the paused screen as a still image.

- ① Playback the recording.
- ② If you press the "一時停止 Pause" button at any point, the video will stop and the "画像保存 Save Image" button will appear.
- ③ When you press the "画像保存 Save Image" button, the button will briefly turn gray and a dialog box for the save location will appear. The folder currently displayed as the video file is selected as the save location.
- ④ If you want to specify a different folder, please select it at this stage.



- ⑤ Please enter a **ファイル名** file name. The file will be saved in JPEG format

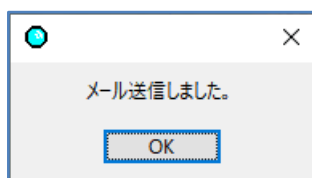


4-3-3. E-mail Transmission

You can attach saved still images to an email and send them.

The recipient address is the one set on P.26, Section 4-2-1, item ⑨, "Recipient Settings". If you pause the video using the "一時停止 Pause" button at the point you want to send, the "メール送信 Send Email" button will appear. Clicking the "メール送信 Send Email" button will briefly change it to a gray "ファイル選択 Select File" button, but the email sending process will begin.

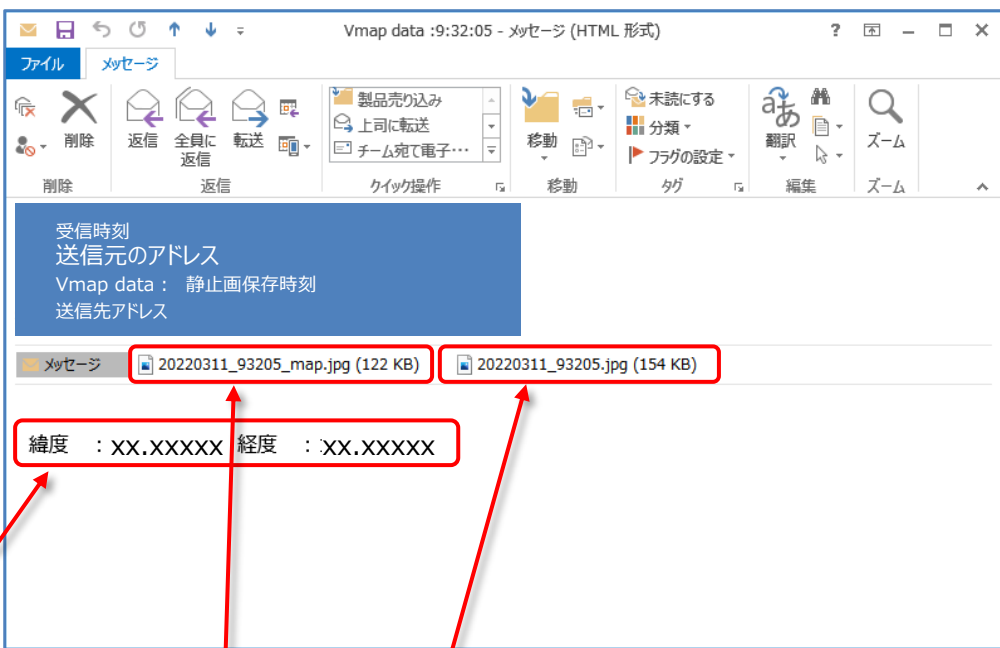
Once the transmission is complete, the following message will be displayed.



If the "☐ テキスト付加 Add Text" box in the settings screen is checked, a text editor will appear, allowing you to type your desired text. After that, pressing the "OK" button will send the email. If the box is unchecked, the email will be sent immediately after pressing the send button.

- ※ **The only supported email client is Outlook. Your PC must already be configured with Outlook enabled (allowing sending and receiving emails).**
- ※ If you see the message "メール送信できませんでした。Email could not be sent," please check if the recipient's settings are correct and if your PC is properly connected to the internet (Outlook).

The recipient will receive an email in the following format:
(The following is an example using Outlook.)



The screenshot shows an Outlook window titled "Vmap data : 9:32:05 - メッセージ (HTML 形式)". The message body contains the following text:

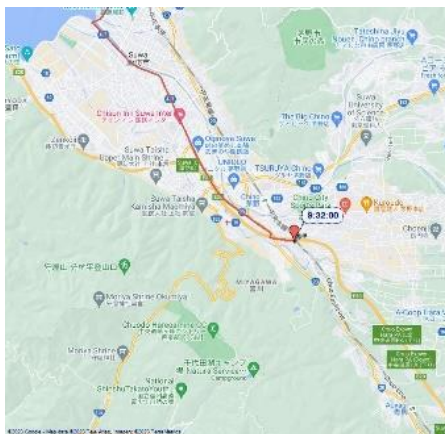
受信時刻
送信元のアドレス
Vmap data : 静止画保存時刻
送信先アドレス

Below the text, there are two attachments: "20220311_93205_map.jpg (122 KB)" and "20220311_93205.jpg (154 KB)". A red box highlights the text "緯度 : XX.XXXXX 経度 : XX.XXXXX" (Latitude: XX.XXXXX Longitude: XX.XXXXX). Red arrows point from this text to the map attachment and the video attachment.

Location information of the place where the photo was taken

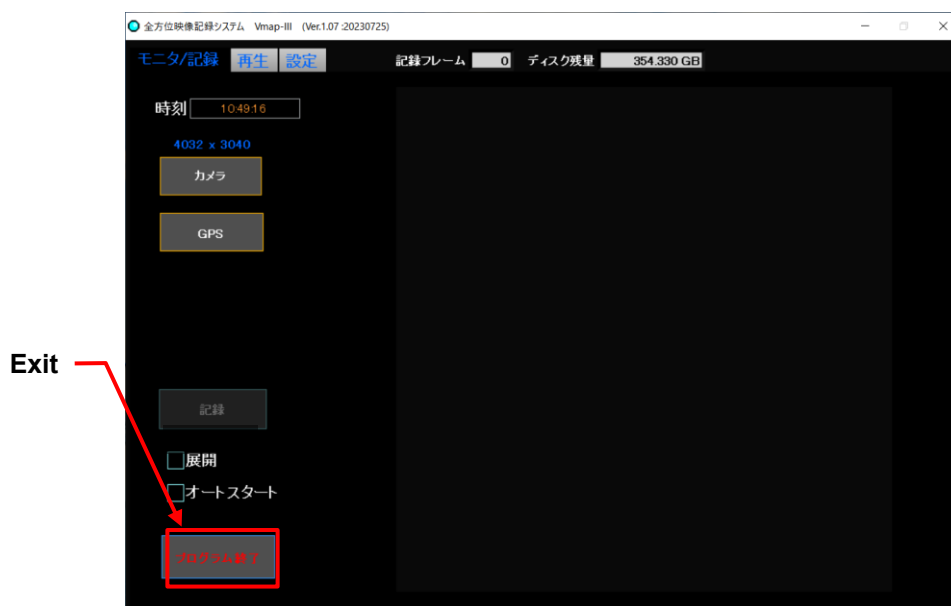
Map showing the location where the photo was taken.

Captured video:
This is the video that was displayed at that time.
In other words, if it has been expanded, the expanded video will be transmitted.



5. Exit

To exit this software, click the "プログラム終了ボタン Exit Program" button (㉑) in the lower left corner of the "モニタ/記録 Monitor/Record" screen.



- ※ Please disconnect the GPS receiver and camera before ending the program.
- ※ Both the GPS receiver and camera are powered by the PC's USB bus, so they will remain powered until the PC is turned off, even after the program ends.
- ※ If you want to enable auto-start next time, check the "Auto-start" box before ending the program.



重要

- In order for the video being recorded to complete successfully, the program must be terminated properly.
- If you shut down the system or turn off your PC instead of ending the program using the program exit button, the latest video files may not be saved correctly.
- Recording continues even if the PC goes into screen saver mode during recording. However, if the PC is set to sleep mode, it will power off after the set time has elapsed, and the footage being recorded will not be completed. Please set your PC's sleep mode to "NO".