Two View Server Manual

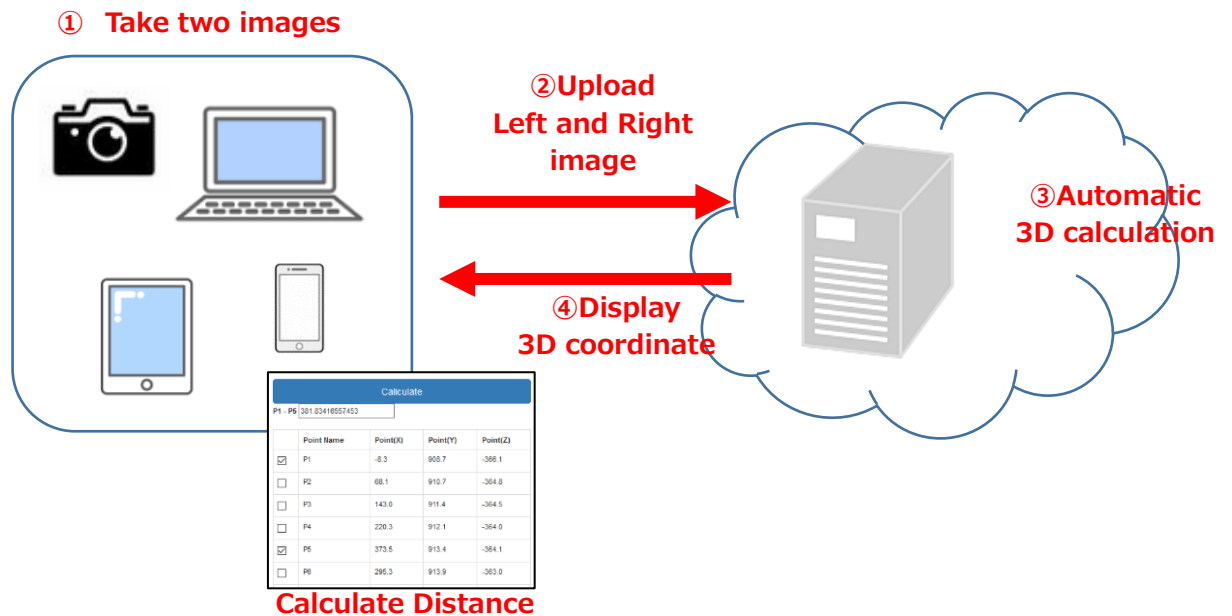Int'l Technology Transfer Corp.

Contents

1．General

1) Outline of TwoViewServer

Take two images from the left and right side of the calibrated plate.

Then upload the two images to the server. You will get the 3D coordinate of the object points and the distance between any two of them.

Any PC、iPad、Android Smartphone which can be connected to the internet are available.

① Take two images

②Upload Left and Right image

③Automatic 3D calculation

④Display 3D coordinate

Calculate Distance

2) Calibration Plate

The calibration plate must be included in the both images from the left and right.

If you need more accurate result, you should use the formal calibration plate which has the white target marker in each corner.

For easy measurement, you can use the flag calibration plate which does not require the camera parameter which is required for the accurate measurement.

The marker plate can be downloaded from our website and printed to use.

Calibration Plate

Marker Plate

3) System requirement

OS Browser	Windows7	Windows10	Android	iOS
InternetExplorer	×			
Edge		○		
Chrome	○	○	×	
Firefox	○	○	○	
Safari				○

2．Before using

1) Registration

To use the system, the login name and the password is required when the Internet connection to the TwoViewServer is done.
They are provided by your request to ITTC by email.
The camera information to use is also required.
　　Please contact to support@ittc.co.jp by email or fax to 81-78-271-6056

2) Registration information

If the initial registration is done, we will inform you that you can use the TwoView system.

3．Photography

There are some recommendations when taking pictures which are used for the TwoViewServer system.

1) Arrangement of the calibration plate and the view of the camera direction.
The calibration plate must be included in camera view.

The calibration plate must be around the center of each view image.

（Do not lay the plate within 10% of the size of the view image）

The plane of the calibration plate must be placed parallel to the plane of the object on which the points to be measured lay.
(Put the calibration plate on the floor and measure the points on the wall is not recommended)

Following is the recommended way of taking pictures.

$30°$ ～ $70°$

Angle
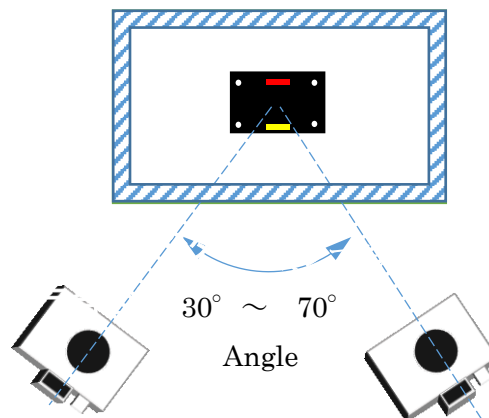
For the calibration plate with red and yellow color label,
The red color must be upside of the yellow label.

Calibration plate

Marker Plate

2) Camera Setting

When using the calibration plate with red and yellow label, use a flush so that the white target of the 4 corners of the plate can be seen clearly. But please check if the color of the red and yellow label is identified with its color. The excessive light of the flush may change the original color in the photo image.

For smartphone, in most cases the flush would not be applicable because of excessive light. In that case, it is recommended to take photo without a flush.
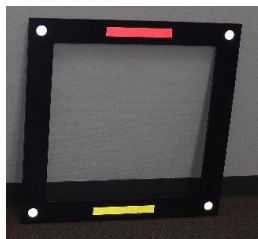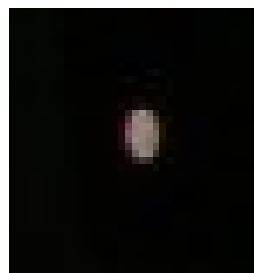

OK
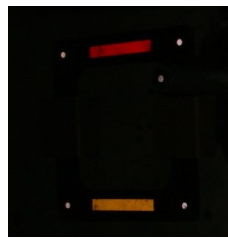
NG（暗い）

NG（白飛びしている）

NG(blurred)

3) Using the marker

When using a flush in the measurement, the white Target can be added for the points to be measured. The position can be calculated automatically if the white target is clearly visible.

OK

NG（dark）
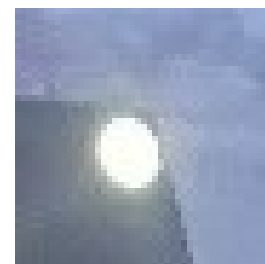
NG（bad environment）

４．Usage

1) Connect TwoiViewServer

Connect to following address
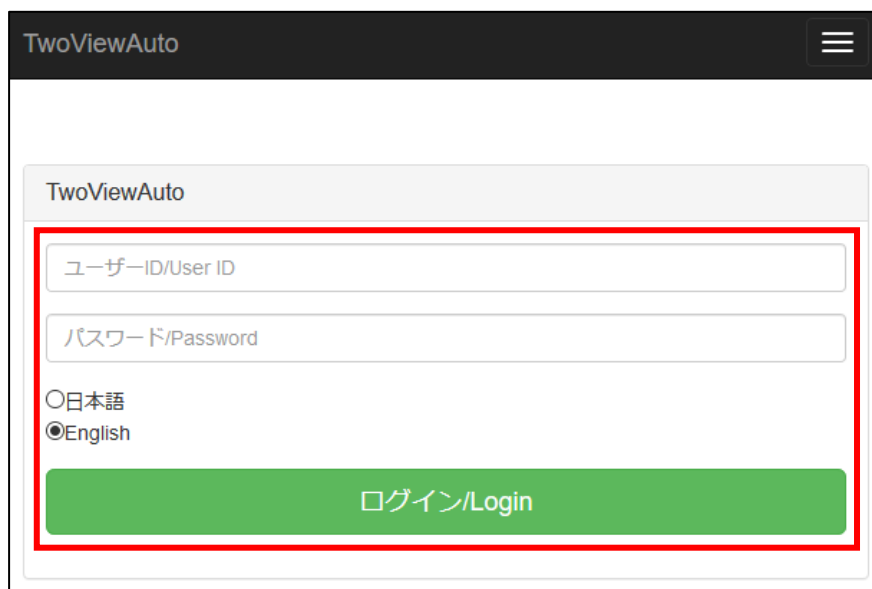   http://twoviewserver.ittc.co.jp/login.php

or connect by the QR code captured by the camera

2) Login

Following image will be showed.
After input the UserID and Password, click English and Login .
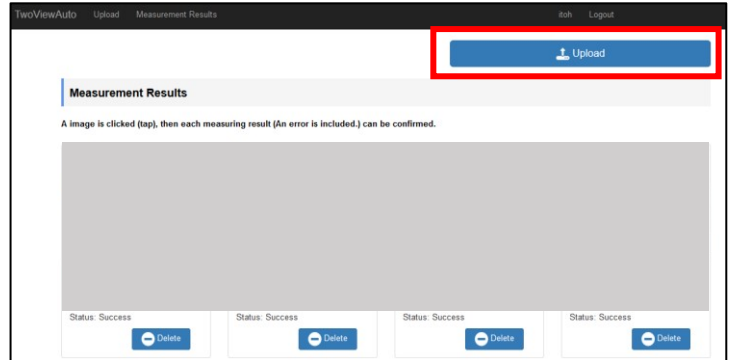
3) Settings

Following screen is appeared when login is accepted.

(SmartPhone)
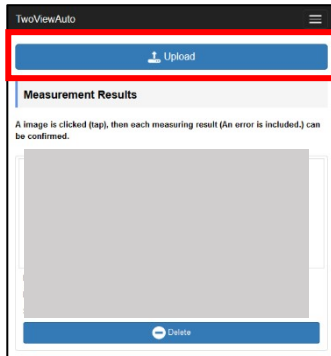
(PC)

Click [Upload] button then following screen is shown.
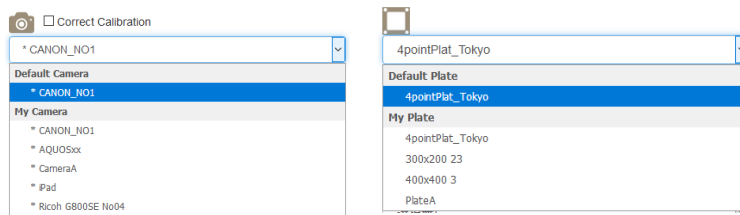
(SmartPhone)

(PC)
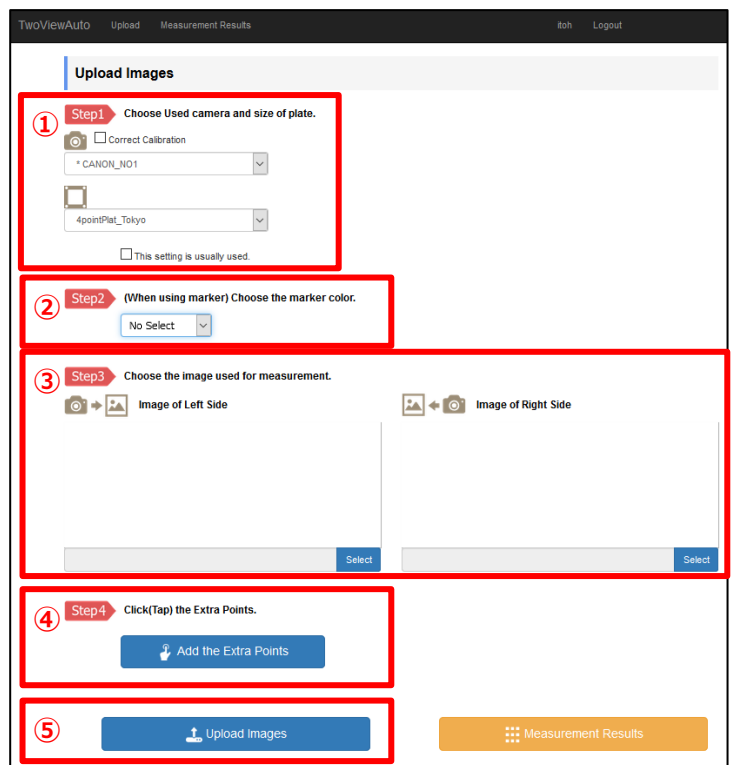
① Selection of the camera and the calibration plate size
Select the camera parameter from the camera list and the calibration plate type from the plate list.
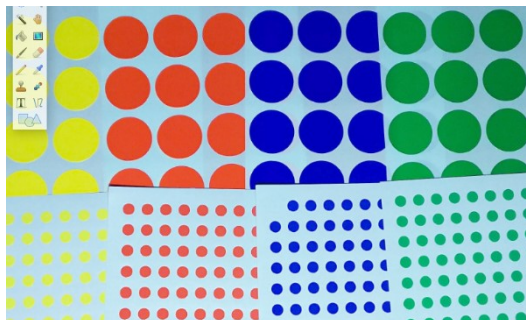

If you check "This setting is usually used" and upload images, this setting will be set as default.

② Choose the image used for measurement
When a marker sticker like the bottom is stuck on the measure point,the System look for a marker and calculate a coordinate in the marker center automatically.
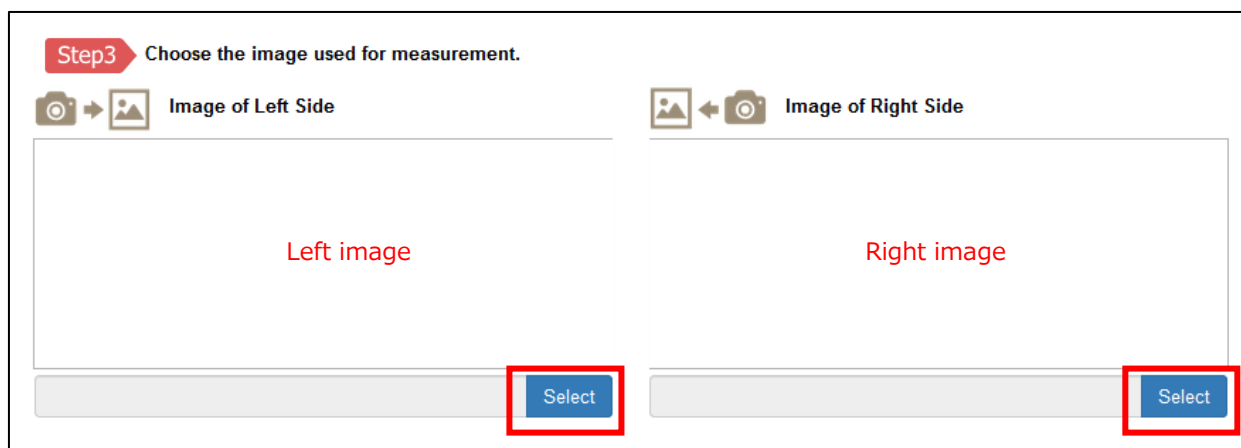

6 colors of marker can be used. When using a marker sticker, please choose from the menu.

Yellow
Red
Pink
Yellow
Green
Deep Blue
Light Blue
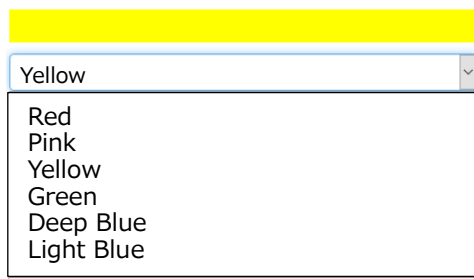
※ When designating a marker, "④Adding points to be measured" can't be done any more.

③ Select images to upload
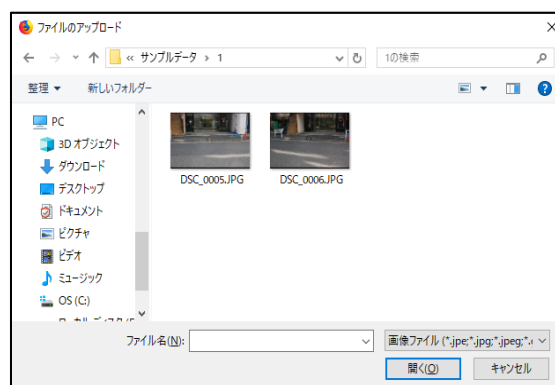Click Select button and select the left and right image.

If click Select button in the smartphone, the screen shows like right side. When click Camera button the camera App of the smartphone will be activated and the photo can be taken.
(please note that the image taken in this mode is not saved in the smartphone.   When click View button and all previous images taken are shown in the screen.

If Select button in PC, following dialogue will be shown to selectg the image.
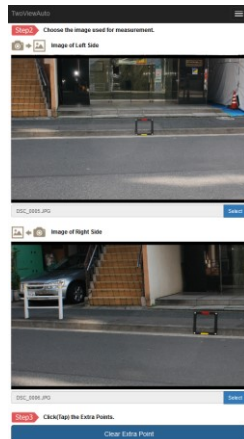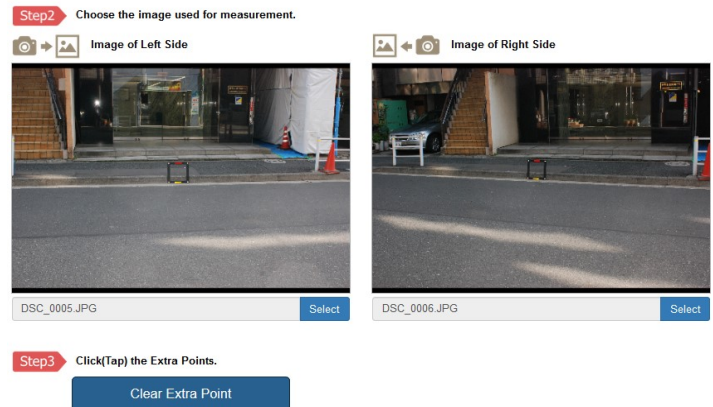
④ Adding points to be measured

　　If you want to calculate the point in the image by manual selection, you can select the corresponding location of left and right image by mouse or hand click pointing. Clcik . Add the Extra Point

　　And select the location to measure in the image.

(SmartPhone)　　　　　　　　(PC)

The points should be selected in the same sequences.
The same sequence is either selecting corresponding point in each image or by the same sequence of the selection for both images.
You can zoom the image to get the precise location by mouse scroll in PC and two fingers in SmartPhone.

If you select 3 points, the label P0,P1,P2 is shown in the image.
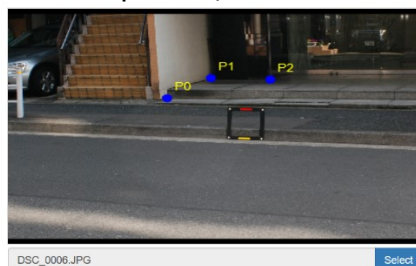
To undo the selection of the points、 click 　Clear Extra Point

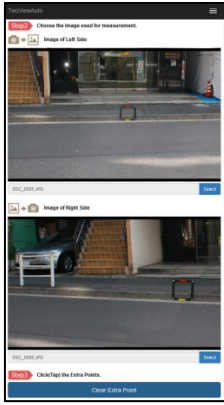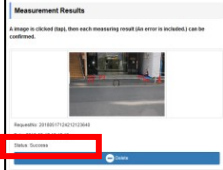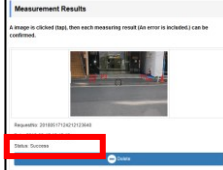　※ When selecting the abovementioned "② Choose the image used for measurement", this function can't be used any more.
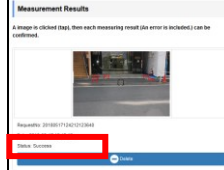
⑤ Execution of calculation

Click Upload Images after setting and the calculation begins automatically.

4) Result Display
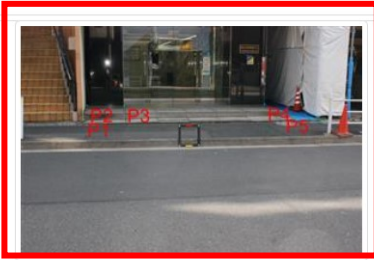
After uploading the data, the calculation status is shown in the image screen.

Status	Send image →	calculating →	calculating →	result
Process	Sending Images ※1	Waiting for calculation	Calculating	Show the result
Image		Waiting	Processing	Success or Error

※1 Uploading speed will vary by internet conditions

If the calculation is successfully done, Status:Success will be displayed and the point labels will be shown in the image. By clicking left image, the right image shows the point in turn.
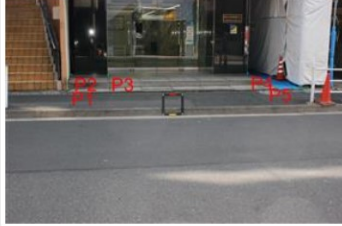

No: 20180517124212123640
Date: 2018-05-17 12:42:12
Status: Success
Delete

No 2018051712421212364

Caliculate

	Point Name	Point(X)	Point(Y)	Point(Z)
☐	P1	-2032.6	599.1	-2325.5
☐	P2	-2040.9	1039.9	-3896.8
☐	P3	-976.5	1021.8	-3904.2
☐	P4	3303.8	1056.1	-3815.1
☐	P5	3263.0	655.3	-2336.8

If you click the image, the image is enlarged.
The enlarged images is closed by clicking x in the right down part of the window.
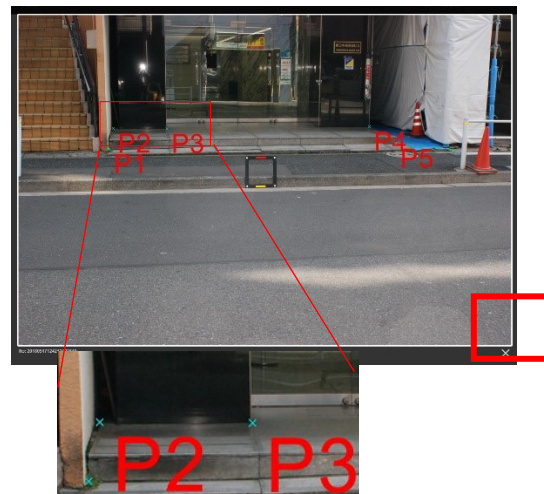
When there is a error, error information will be displayed.
If you click an images, you will see error details and ways to cope with.
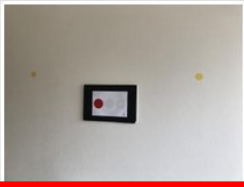
5) Distance calculation

After making check mark for any two points and click Calculate , and the distance

Between the points will be calculated and shown.

6) Download the result

Clicking Upload button will download the text file of the point coordinate.

7) Reviewing the previous data

To review the previous data, click 'Result' in the image screen and click the Result image.
And the distance calculation can be done as in the item 5).
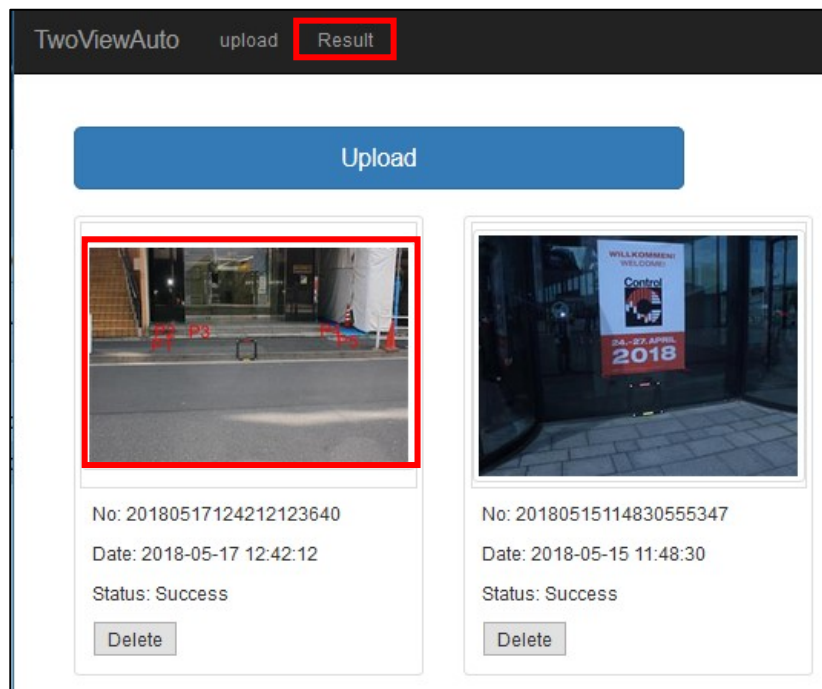
5．Processing time

The processing time varies depending on the internet environment condition.

For example, the uploading time of two images of 5MB by the line of 10Mbps is
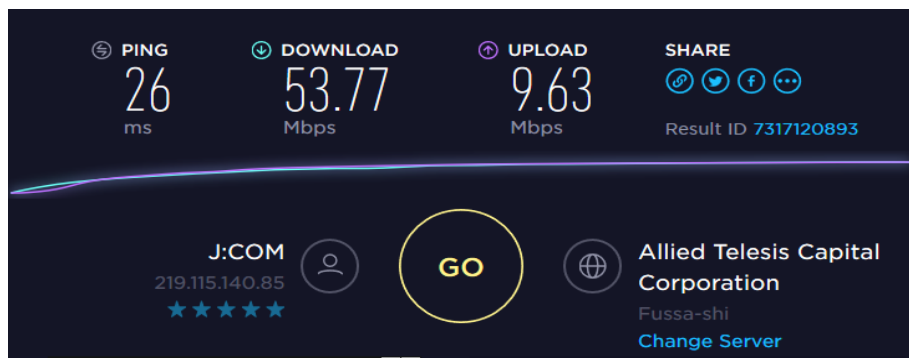
     10000/8＝1250　byte/second　　-- speed

     5000×2＝10,000　byte—data volume

     10000/1250=8 seconds – required time

Your connection speed can be checked by following address,

     http://www.speedtest.net/　　(Please install Apri in case of Android and iOS)

If the uploading time is very slow, please use the smaller images.

（When the accurate measurement, the camera parameter should be changed）

6．Support

If you have any questions, please contact to following address.

     Email　support@ittc.co.jp　　FAX　81-78-271-6056

7．Concerning uploaded images

Concerning your confidential images, please delete them after calculation and manage your data carefully. ITTC is not responsible for any consequences you might experience when you use our service.