G0382A
Autofocus Video Inspection Probe
Operation Manual

Third Edition

For safety and warning information, please read this manual before attempting to use the equipment.
Keep this manual with the equipment.

ANRITSU CORPORATION

Document No.: M-W3899AE-3.0

Safety Symbols

To prevent the risk of personal injury or loss related to equipment malfunction, Anritsu Corporation uses the following safety symbols to indicate safety-related information. Ensure that you clearly understand the meanings of the symbols BEFORE using the equipment. Some or all of the following symbols may be used on all Anritsu equipment. In addition, there may be other labels attached to products that are not shown in the diagrams in this manual.

Symbols used in manual

⚠ DANGER This indicates a very dangerous procedure that could result in serious injury or death if not performed properly.

⚠ WARNING This indicates a hazardous procedure that could result in serious injury or death if not performed properly.

⚠ CAUTION This indicates a hazardous procedure or danger that could result in light-to-severe injury, or loss related to equipment malfunction, if proper precautions are not taken.

Safety Symbols Used on Equipment and in Manual

The following safety symbols are used inside or on the equipment near operation locations to provide information about safety items and operation precautions. Ensure that you clearly understand the meanings of the symbols and take the necessary precautions BEFORE using the equipment.

This indicates a prohibited operation. The prohibited operation is indicated symbolically in or near the barred circle.

This indicates an obligatory safety precaution. The obligatory operation is indicated symbolically in or near the circle.

This indicates a warning or caution. The contents are indicated symbolically in or near the triangle.

This indicates a note. The contents are described in the box.

These indicate that the marked part should be recycled.

G0382A
Autofocus Video Inspection Probe
Operation Manual

14 March 2017 (First Edition)
1 February 2019 (Third Edition)

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Printed in Japan

For Safety

⚠ CAUTION

Use in a Residential Environment	This equipment is designed for an industrial environment. In a residential environment, this equipment may cause radio interference in which case the user may be required to take adequate measures.
Use in Corrosive Atmospheres	Exposure to corrosive gases such as hydrogen sulfide, sulfurous acid, and hydrogen chloride will cause faults and failures. Note that some organic solvents release corrosive gases.

Equipment Certificate

Anritsu Corporation certifies that this equipment was tested before shipment using calibrated measuring instruments with direct traceability to public testing organizations recognized by national research laboratories, including the National Institute of Advanced Industrial Science and Technology, and the National Institute of Information and Communications Technology, and was found to meet the published specifications.

Anritsu Warranty

Anritsu Corporation will repair this equipment free-of-charge if a malfunction occurs within one year after shipment due to a manufacturing fault. However, software fixes will be made in accordance with the separate Software End-User License Agreement. Moreover, Anritsu Corporation will deem this warranty void when:

- The fault is outside the scope of the warranty conditions separately described in the operation manual.
- The fault is due to mishandling, misuse, or unauthorized modification or repair of the equipment by the customer.
- The fault is due to severe usage clearly exceeding normal usage.
- The fault is due to improper or insufficient maintenance by the customer.
- The fault is due to natural disaster, including fire, wind, flooding, earthquake, lightning strike, or volcanic ash, etc.
- The fault is due to damage caused by acts of destruction, including civil disturbance, riot, or war, etc.
- The fault is due to explosion, accident, or breakdown of any other machinery, facility, or plant, etc.
- The fault is due to use of non-specified peripheral or applied equipment or parts, or consumables, etc.
- The fault is due to use of a non-specified power supply or in a non-specified installation location.
- The fault is due to use in unusual environments(Note).
- The fault is due to activities or ingress of living organisms, such as insects, spiders, fungus, pollen, or seeds.

In addition, this warranty is valid only for the original equipment purchaser. It is not transferable if the equipment is resold.

Anritsu Corporation shall assume no liability for injury or financial loss of the customer due to the use of or a failure to be able to use this equipment.

Note:
For the purpose of this Warranty, "unusual environments" means use:

- In places of direct sunlight
- In dusty places
- In liquids, such as water, oil, or organic solvents, and medical fluids, or places where these liquids may adhere
- In salty air or in place chemically active gases (sulfur dioxide, hydrogen sulfide, chlorine, ammonia, nitrogen dioxide, or hydrogen chloride etc.) are present
- In places where high-intensity static electric charges or electromagnetic fields are present
- In places where abnormal power voltages (high or low) or instantaneous power failures occur
- In places where condensation occurs
- In the presence of lubricating oil mists
- In places at an altitude of more than 2,000 m
- In the presence of frequent vibration or mechanical shock, such as in cars, ships, or airplanes

Anritsu Corporation Contact

In the event of this equipment malfunctions, contact an Anritsu Service and Sales office. Contact information can be found on the last page of the printed version of this manual, and is available in a separate file on the PDF version.

Notes On Export Management

This product and its manuals may require an Export License/Approval by the Government of the product's country of origin for re-export from your country.

Before re-exporting the product or manuals, please contact us to confirm whether they are export-controlled items or not.

When you dispose of export-controlled items, the products/manuals need to be broken/shredded so as not to be unlawfully used for military purpose.

Crossed-out Wheeled Bin Symbol

Equipment marked with the Crossed-out Wheeled Bin Symbol complies with council directive 2012/19/EU (the “WEEE Directive”) in European Union.

For Products placed on the EU market after August 13, 2005, please contact your local Anritsu representative at the end of the product's useful life to arrange disposal in accordance with your initial contract and the local law.

Software End-User License Agreement (EULA)

Please read this Software End-User License Agreement (hereafter this EULA) carefully before using (includes executing, copying, registering, etc.) this software (includes programs, databases, scenarios, etc., used to operate, set, etc., Anritsu electronic equipment). By reading this EULA and using this software, you are agreeing to be bound by the terms of its contents and Anritsu Corporation (hereafter Anritsu) hereby grants you the right to use this Software with the Anritsu-specified equipment (hereafter Equipment) for the purposes set out in this EULA.

1. Grant of License and Limitations

1. Regardless of whether this Software was purchased from or provided free-of-charge by Anritsu, you agree not to rent, lease, lend, or otherwise distribute this Software to third parties and further agree not to disassemble, recompile, reverse engineer, modify, or create derivative works of this Software.
2. You may make one copy of this Software for backup purposes only.
3. You are not permitted to reverse engineer this software.
4. This EULA allows you to install one copy of this Software on one piece of Equipment.

2. Disclaimers

To the extent not prohibited by law, in no event shall Anritsu be liable for personal injury, or any incidental, special, indirect or consequential damages whatsoever, including, without limitation, damages for loss of profits, loss of data, business interruption or any other commercial damages or losses, arising out of or related to your use or inability to use this Software.

3. Limitation of Liability

a. If a fault (bug) is discovered in this Software, preventing operation as described in the operation manual or specifications whether or not the customer uses this software as described in the manual, Anritsu shall at its own discretion, fix the bug, or exchange the software, or suggest a workaround, free-of-charge. However, notwithstanding the above, the following items shall be excluded from repair and warranty.
   - i) If this Software is deemed to be used for purposes not described in the operation manual or specifications.
   - ii) If this Software is used in conjunction with other non-Anritsu-approved software.
   - iii) Recovery of lost or damaged data.
   - iv) If this Software or the Equipment has been modified, repaired, or otherwise altered without Anritsu's prior approval.
   - v) For any other reasons out of Anritsu's direct control and responsibility, such as but not limited to, natural disasters, software virus infections, etc.

b. Expenses incurred for transport, hotel, daily allowance, etc., for on-site repairs by Anritsu engineers necessitated by the above faults shall be borne by you.

c. The warranty period for faults listed in article 3a above covered by this EULA shall be either 6 months from the date of purchase of this Software or 30 days after the date of repair, whichever is longer.

4. Export Restrictions

You may not use or otherwise export or re-export directly or indirectly this Software except as authorized by Japanese and United States law. In particular, this software may not be exported or re-exported (a) into any Japanese or US embargoed countries or (b) to anyone on the Japanese or US Treasury Department's list of Specially Designated Nationals or the US Department of Commerce Denied Persons List or Entity List. By using this Software, you warrant that you are not located in any such country or on any such list. You also agree that you will not use this Software for any purposes prohibited by Japanese and US law, including, without limitation, the development, design and manufacture or production of missiles or nuclear, chemical or biological weapons of mass destruction.

5. Termination

Anritsu shall deem this EULA terminated if you violate any conditions described herein. This EULA shall also be terminated if the conditions herein cannot be continued for any good reason, such as violation of copyrights, patents, or other laws and ordinances.

6. Reparations

If Anritsu suffers any loss, financial or otherwise, due to your violation of the terms of this EULA, Anritsu shall have the right to seek proportional damages from you.

7. Responsibility after Termination

Upon termination of this EULA in accordance with item 5, you shall cease all use of this Software immediately and shall as directed by Anritsu either destroy or return this Software and any backup copies, full or partial, to Anritsu.

8. Dispute Resolution

If matters of dispute or items not covered by this EULA arise, they shall be resolved by negotiations in good faith between you and Anritsu.

9. Court of Jurisdiction

This EULA shall be interpreted in accordance with Japanese law and any disputes that cannot be resolved by negotiation described in Article 8 shall be settled by the Japanese courts.

Protection Against Computer Virus Infections

Prior to the software installation

Before installing this software or any other software recommended or approved by Anritsu, run a virus scan on your computer, including removable media (e.g. USB memory stick and CF memory card) you want to connect to your computer.

When using this software and connecting with the measuring instrument

- Copying files and data
  On your computer, do not save any copies other than the following:
  - Files and data provided by Anritsu
  - Files created by this software
  - Files specified in this document

  Before copying these files and/or data, run a virus scan, including removable media (e.g. USB memory stick and CF memory card).
- Connecting to network
  Connect your computer to the network that provides adequate protection against computer viruses.

Cautions on Proper Operation of Software

This software may not operate normally if any of the following operations are performed on your computer:

- Simultaneously running any software other than that recommended or approved by Anritsu
- Closing the lid (Laptop computer)
- Turning on the screen saver function
- Turning on the battery-power saving function (Laptop computer)

For how to turn off the functions, refer to the operation manual that came with your computer.

CE Conformity Marking

Anritsu affixes the CE conformity marking on the following product(s) in accordance with the Decision 768/2008/EC to indicate that they conform to the EMC and RoHS directive of the European Union (EU).

CE marking

1. Product Model

Model: G0382A Autofocus Video Inspection Probe

2. Applied Directive

EMC: Directive 2014/30/EU

RoHS: Directive 2011/65/EU

3. Applied Standards

- EMC: Emission: EN 61326-1: 2013 (Class A)
  Immunity: EN 61326-1: 2013 (Table 2)

	Performance Criteria*
IEC 61000-4-2 (ESD)	B
IEC 61000-4-3 (EMF)	A
IEC 61000-4-4 (Burst)	B
IEC 61000-4-5 (Surge)	B
IEC 61000-4-6 (CRF)	A
IEC 61000-4-8 (RPFMF)	A
IEC 61000-4-11 (V dip/short)	B, C

*: Performance Criteria

A: The equipment shall continue to operate as intended during and after the test. No degradation of performance or loss of function is allowed below a performance level specified by the manufacturer, when the equipment is used as intended.
The performance level may be replaced by a permissible loss of performance. If the minimum performance level or the permissible performance loss is not specified by the manufacturer, either of these may be derived from the product description and documentation and what the user may reasonably expect from the equipment if used as intended.

B: The equipment shall continue to operate as intended after the test. No degradation of performance or loss of function is allowed below a performance level specified by the manufacturer, when the equipment is used as intended.
The performance level may be replaced by a permissible loss of performance. During the test, degradation of performance is however allowed. No change of actual operating state or stored data is allowed. If the minimum performance level or the permissible performance loss is not specified by the manufacturer, either of these may be derived from the product description and documentation and what the user may reasonably expect from the equipment if used as intended.

C: Temporary loss of function is allowed, provided the function is self-recoverable or can be restored by the operation of the controls.

- RoHS: EN 50581: 2012 (Category 9)

4. Authorized representative

Name:	Murray Coleman Head of Customer Service EMEA ANRITSU EMEA Ltd.
Address, city:	200 Capability Green, Luton Bedfordshire, LU1 3LU
Country:	United Kingdom

RCM Conformity Marking

Anritsu affixes the RCM mark on the following product(s) in accordance with the regulation to indicate that they conform to the EMC framework of Australia/New Zealand.

RCM marking

1. Product Model

Model: G0382A Autofocus Video Inspection Probe

2. Applied Standards

EMC: Emission: EN 61326-1: 2013 (Class A equipment)

About This Manual

This operation manual assumes the reader has the following basic knowledge:

- Optical communications, handling optical parts
- Windows basic operations

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Chapter 1 Introduction

This chapter explains the G0382A Autofocus Video Inspection Probe (hereafter, VIP) and its specifications.

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1.1 Introduction of VIP

VIP is a portable intelligent fiber endface inspector. It is equipped with automatic image centering, auto focus with good image quality and analyzing. VIP is an evolutional endface inspector.

(1) Auto analyze function can eliminate human factors in measuring endface

VIP is designed to detect slightest scratches and defects. The result is accurate and consistent.

(2) Hyper measure speed

Automatic functions such as auto focus and auto analyze make it cost less than 1s to get measurement result in Excel format.

(3) One click measurement.

VIP is easy to use, especially for field application. Press or click the **Measure** button, VIP will complete the endface visual inspection.

(4) High image quality

VIP has high quality optical component and high resolution CCD sensor. It makes sure that software can acquire clear image to get correct analyze results.

(5) Result LED

The result LED is located on the probe to indicate the testing result. The result will show on both computer and probe at the same time after measurement. It will be red if it fails and green if it passes.

(6) Auto generate report and data

The result will be saved on Excel format in each measurement and make the quality control much easier.

(7) IEC61300 compatible

The specifications to judge the quality of endface can be defined based on the algorithms that comply with *IEC61300-3-35 Examination and measurements – Fibre optic connector endface visual and automated inspection*,

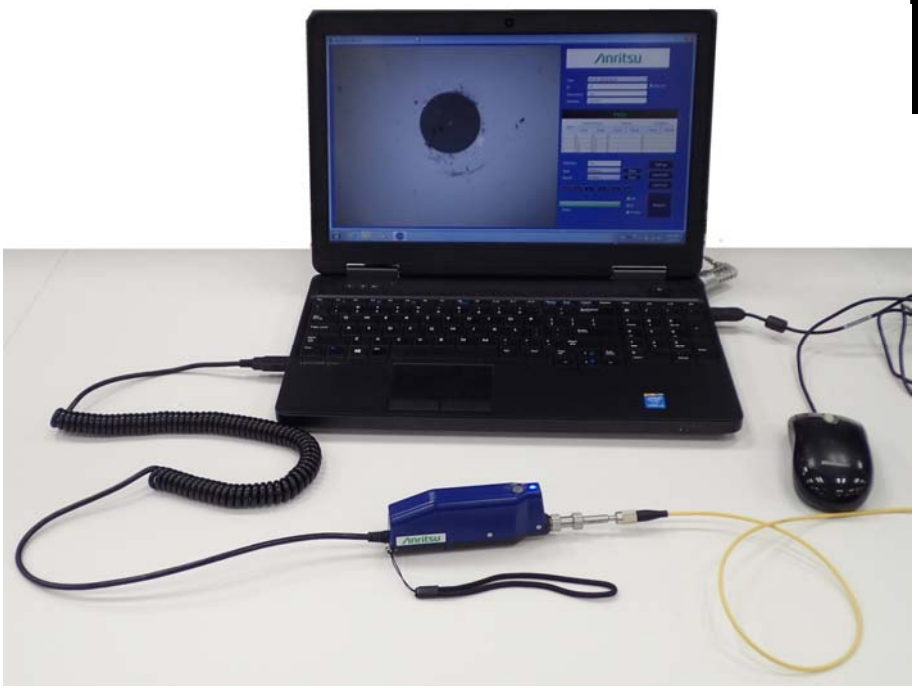

Figure 1.1-1 Usage Example of VIP

1.2 Specifications

Table 1.2-1 Specifications

Items	Parameter
Magnification	400 times with 7” monitor
Resolution	1.0 µm/pixel
Focus	Automatic
Power	2 W
Interface	USB 2.0
Dimensions	182 mm × 25 mm × 48 mm
Mass	152 g
Operation Temperature	–10 to +50˚C
Storage Temperature	–40 to +70˚C
EMC	EN61326-1
Vibration/Shock proof	MIL-T-28800E (Class3)
Legal restriction	CE & RCM Certificated RoHS & WEEE compliant

Chapter 2 Before Use

This chapter explains the following items:

- Configuration
- Hardware name and function
- Caution
- Software installation

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2.1 Configuration

2.1.1 Standard configuration

The parts included in the standard configuration are listed below. Contact your Anritsu Service and Sales Office or agent if any parts are missing or damaged.

Table 2.1.1-1 G0382A Standard Configuration

Item	Ordering Number	Name	Q'ty	Remarks
Main Frame	G0382A	Autofocus Video Inspection Probe	1	
Standard Accessories	H0382A	2.5PC-M	1	2.5mm PC Male
	H0383A	1.25PC-M	1	1.25mm PC Male
	H0384A	SC-PC-F	1	SC/PC Female
	H0385A	LC-PC-F	1	LC/PC Female
	H0386A	FC-PC-F	1	FC/PC Female
	H0387A	2.5APC-M	1	2.5mm APC Male
	H0398A	SC-APC-F	1	SC/APC Female
		Soft Case	1	

2.1.2 Accessories

The following accessories are available for the main frame. Select the required options as necessary.

Table 2.1.2-1 G0382A Accessories

Ordering Number	Name	Remarks
H0388A	1.25APC-M	1.25mm APC Male
H0390A	E2000-PC-F	E2000 PC Female
H0392A	MPO-PC/APC-F	MPO PC/APC common Female*
H0393A	LC-PC-F-L	Long LC PC Female
H0394A	LC-APC-F-L	Long LC APC Female
H0395A	FC-APC-F	FC APC Female
H0396A	ST-PC-F	ST PC Female
H0397A	MU-PC-F	MU PC Female
Z1951A	CD-ROM	Software, Operation Manual

*: Does not support Auto Focus and Automatic Measurement.

2.2 Hardware Instruction

Part names are shown in the following figure.

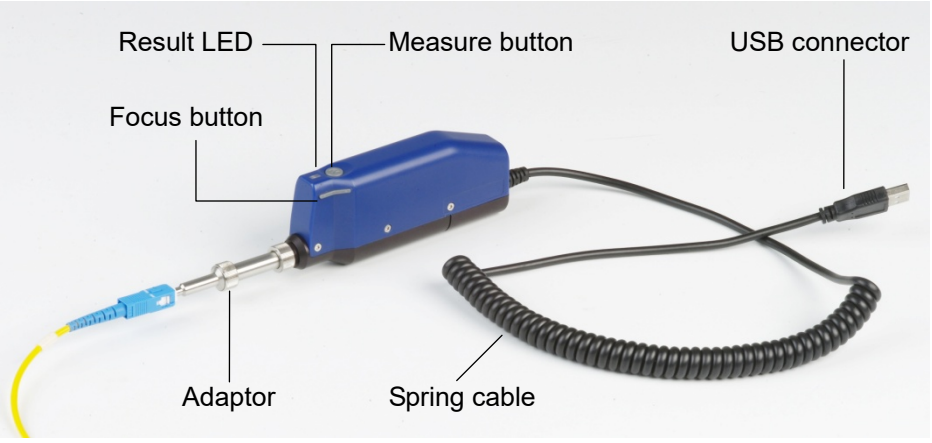


Figure 2.2-1 Part Names

Table 2.2-1 Part Explanation

Name	Explanation
Measure button	Press to start measurement.
Result LED	Indicates result. Blue: Shooting live Red: Fail Green: Pass
Focus button	Press to control the focus manually.
Adaptor	Replaceable according to a connector to measure.
USB connector	Connects to PC.
Power button	Press to toggle the power On/Off.

Procedure

1. Connect USB connector of VIP to PC.
2. Click **Autofocus VIP** on the Start menu to open the main window. (refer to Figure 3-1).
3. Select correct measure task (refer to 3.2 " Measure Task Setting Area").
4. Insert product into the adaptor and make sure the image is clear.
5. Click **Measure** on the software or press the **Measure** button on the VIP to test product.

2.3 Attaching Adaptor

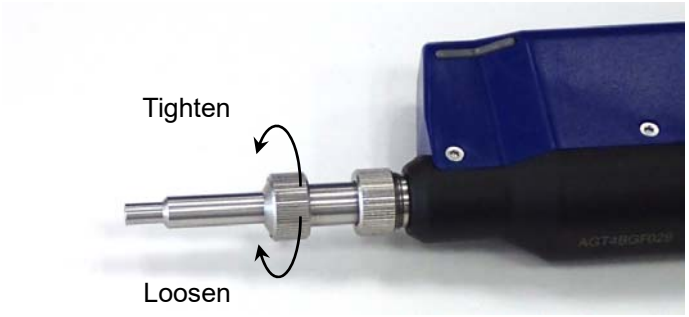
Replacing the short adaptor

The description here applies to the following adaptors.

H0382A	2.5PC-M
H0383A	1.25PC-M
H0384A	SC-PC-F
H0385A	LC-PC-F
H0386A	FC-PC-F
H0387A	2.5APC-M
H0388A	1.25APC-M
H0395A	FC-APC-F
H0398A	SC-APC-F

To replace the probe tip, perform the following procedure:

1. Loosen the ring by rotating it clockwise.



2. Pull and remove the probe tip.

3. Attach a new probe tip.

4. Fasten the ring by rotating it counterclockwise.

Note:

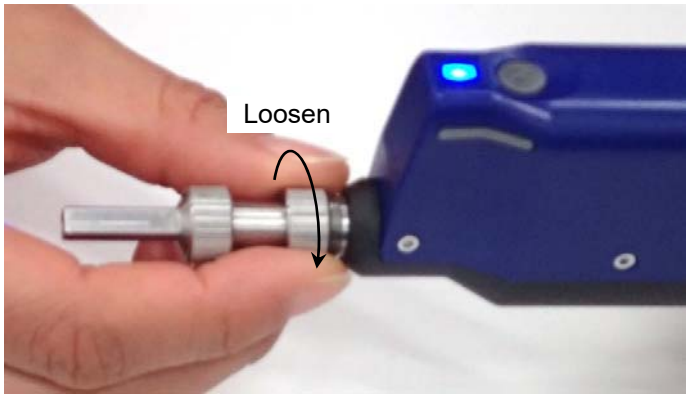
Fasten the ring, checking the position of the image, when attaching a probe tip. The image may not be displayed in the center of a focus area if the ring is tightened excessively.

Replacing the long adaptor

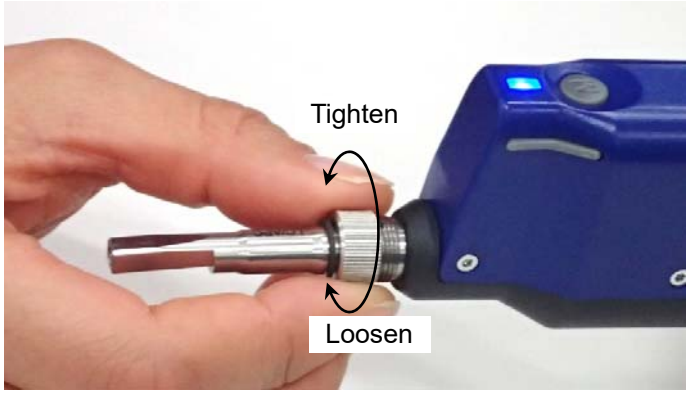
This description here applies to the following adaptors:

H0393A	LC-PC-F-L
H0394A	LC-APC-F-L
H0397A	MU-PC-F

1. Loosen the lens by rotating counterclockwise.



2. Remove the adaptor.
3. Attach a new adaptor. Rotate the adaptor clockwise and fix by holding the end close to the screw.



Perform the following procedure to reinstall the original adaptor.

1. Remove the long adaptor.
2. Attach the original adaptor. Insert the adaptor pin into the guide of the VIP.

3. Press the adaptor so that the pin will not come out of the guide. Fasten the ring by rotating it counterclockwise.

Note:

Make sure no contaminant enters the VIP when replacing.

Depending on the angle where the probe tip has attached, the fiber edge may be out of the image field. Adjust the angle by monitoring the image.

2.4 Caution

- Use the instrument in normal temperature and do not use in humid environment.
- Do not use it in high vibration environment.
- Protect the instrument with dust cover or keep it in container when not using.

2.5 MX900031A Installation

System requirement are:

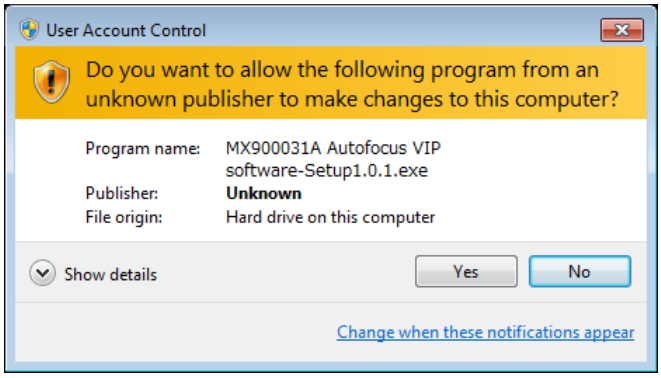
- Windows 7 (32/64bit), Windows 8 (32/64bit), and Windows 10 (32/64bit)
- .NetFramework 4.0 or later
- Office2007 or later

Note:

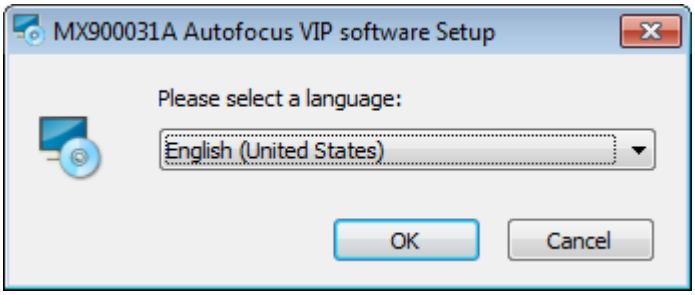
When reinstalling MX900031A, uninstall the software once and start installation.

Procedure

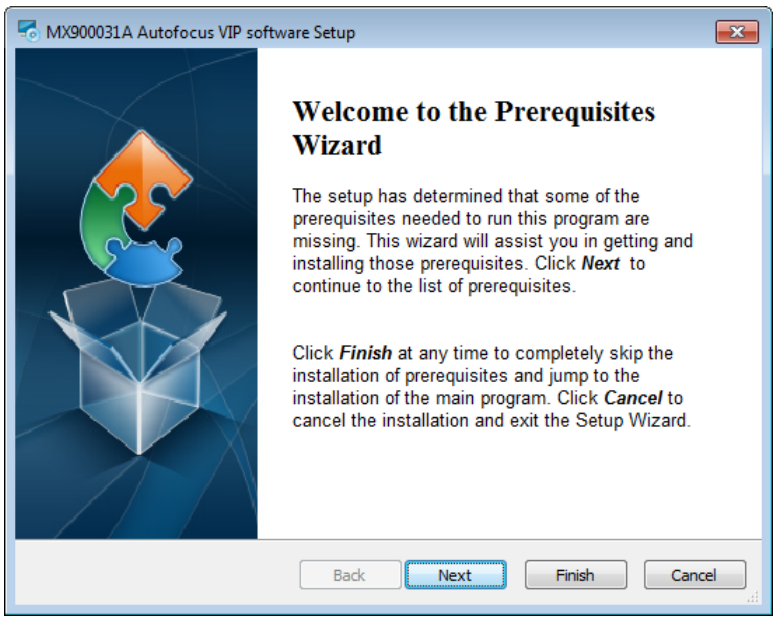
1. Extract the downloaded file.
2. Double click the MX900031A Autofocus VIP software-Setupx.y.z.exe icon. “x.y.z” is replaced by the actual software version number.
3. Click **Yes** in the dialog box below.



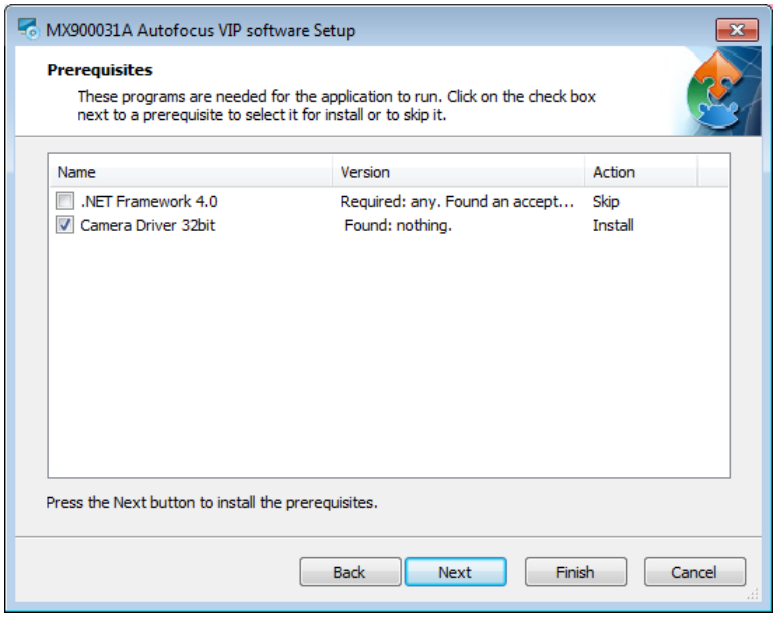
4. Select a language and click **OK.**



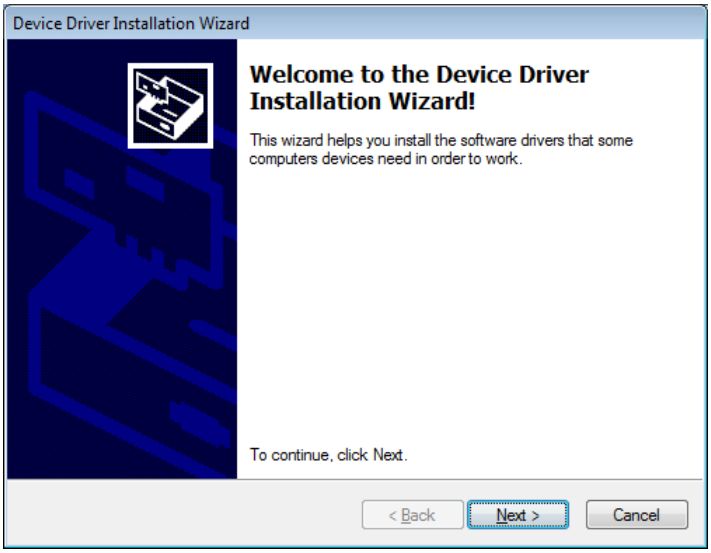
5. When the dialog box below is displayed, click **Next**. If it is not displayed, go to Step 10.



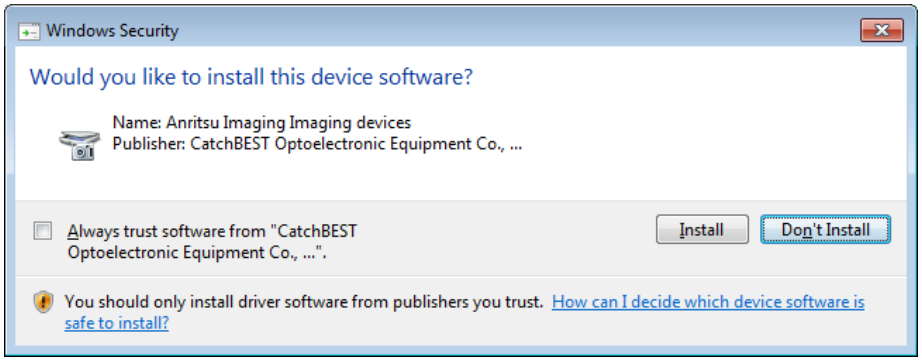
6. Click **Next**.



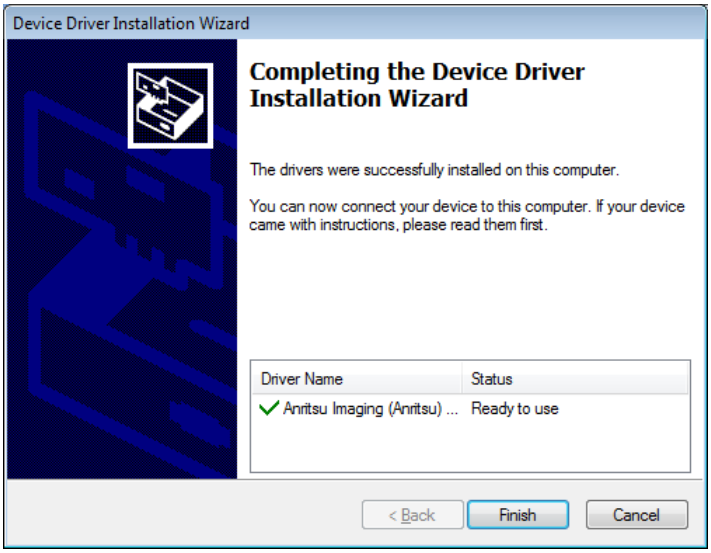
7. Click **Next**.



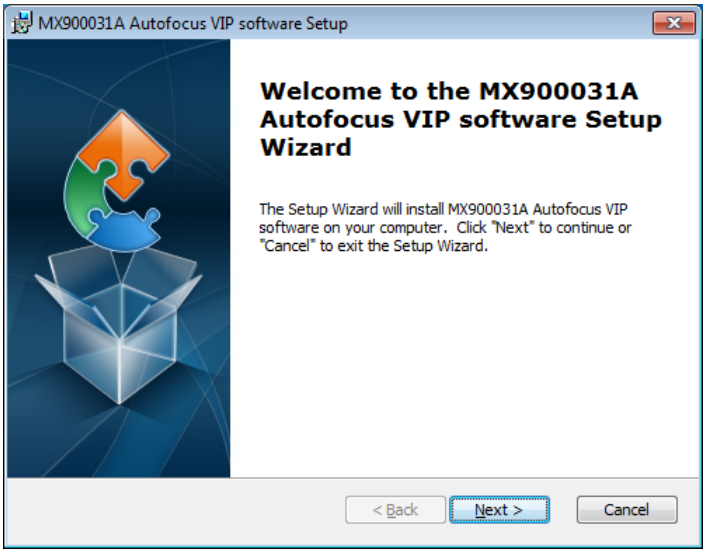
8. Click **Install**.



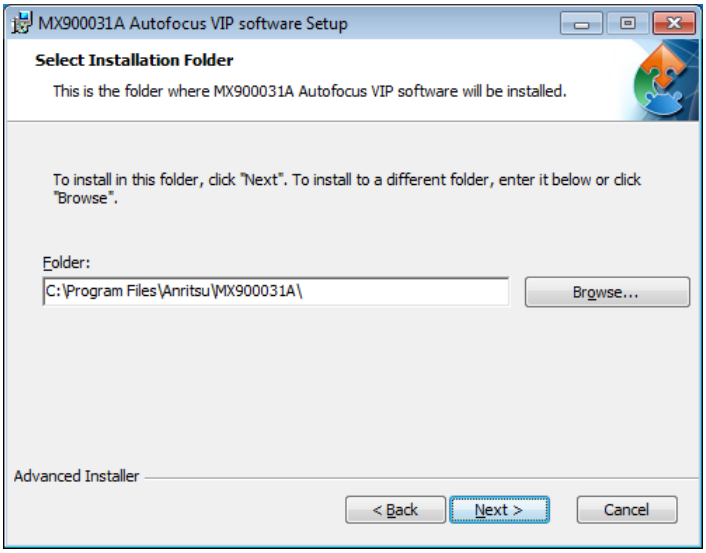
9. Click **Finish**.



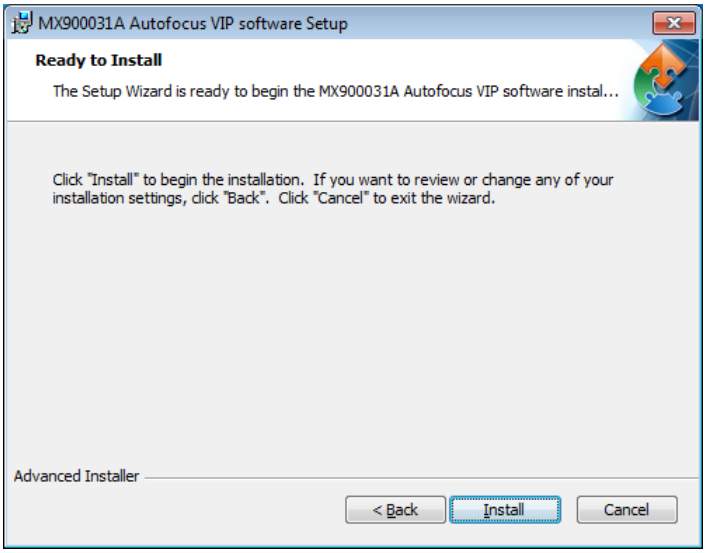
10. Click **Next**.



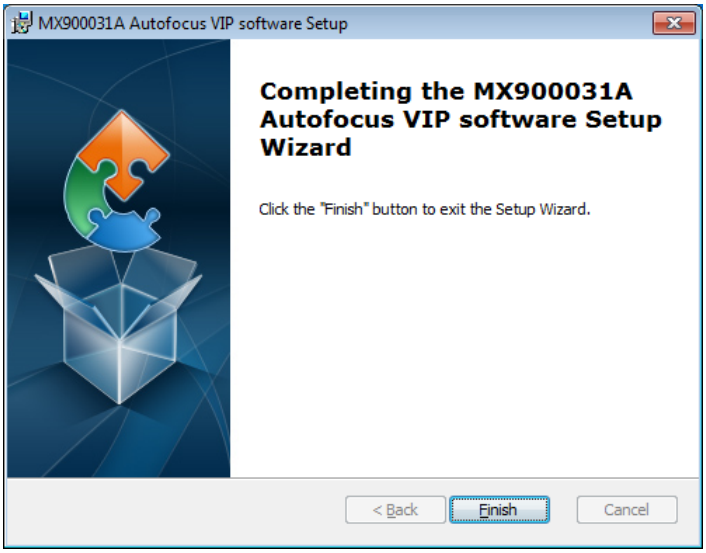
11. Confirm the displayed folder and click **Next**.



12. Click **Install**.

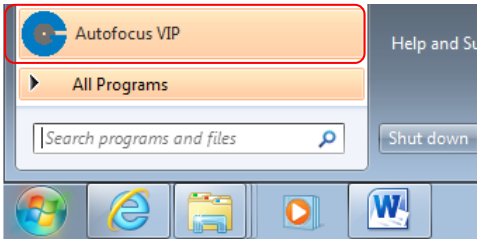


13. Click **Finish**.



Starting Software

1. Connect the Autofocus VIP to the USB connector of the PC.
2. Click **Autofocus VIP** on the Start menu.



If the Autofocus VIP is not connected to the PC, an error message appears and the startup is aborted.

Exiting Software

Click the Close button ( ) at the top right of the window.

Chapter 3 Operation

This chapter explains how to operate the MX900031A Autofocus VIP software.

3.1 Image Display Area 3-3
3.2 Measure Task Setting Area 3-4
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The software contains seven areas as shown in the following figure.

(1) Image display area

(2) Measure task setting area

(3) Result area

(4) Result save area

(5) Focus control area

(6) Status area

(7) Main control area

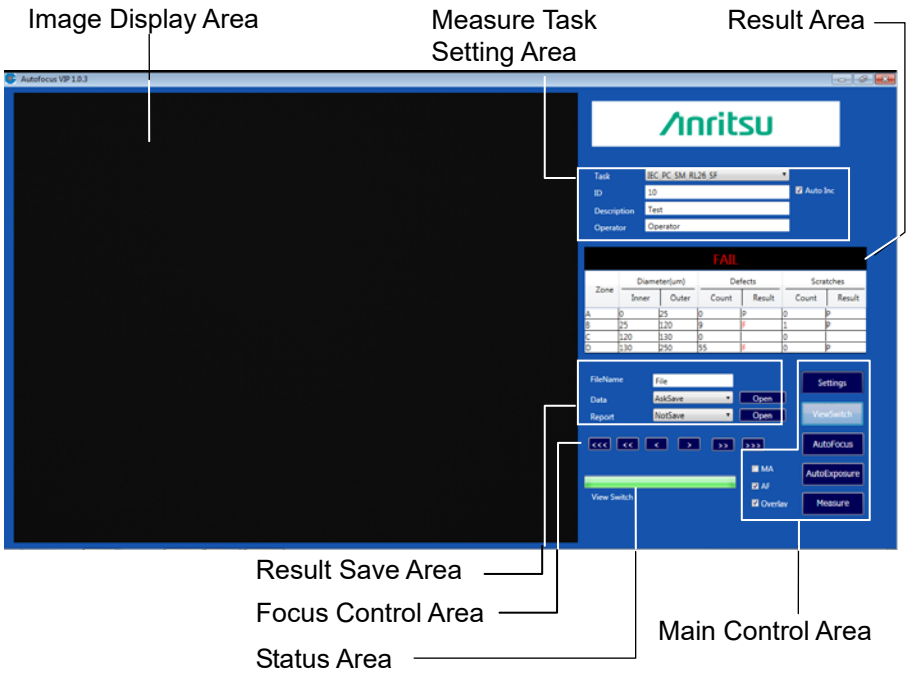

Figure 3-1 Main Window

Note:

If not used for 60 seconds, the G0382A enters the standby mode and the following message is displayed.

Equipment Dormancy

To release the standby mode, press the measurement (M) button or click OK in the message box.

3.1 Image Display Area

Image display area shows real time image and test result.

When the measurement is completed, the results are displayed. If overlay is used, the image analysis results are shown separately.

The red dots are defects exceeding standard that make the measurement fails.
The orange line is a scratch exceeding standard that makes the measurement fails.

The yellow line is a scratch meeting standard that does not make the measurement fail.

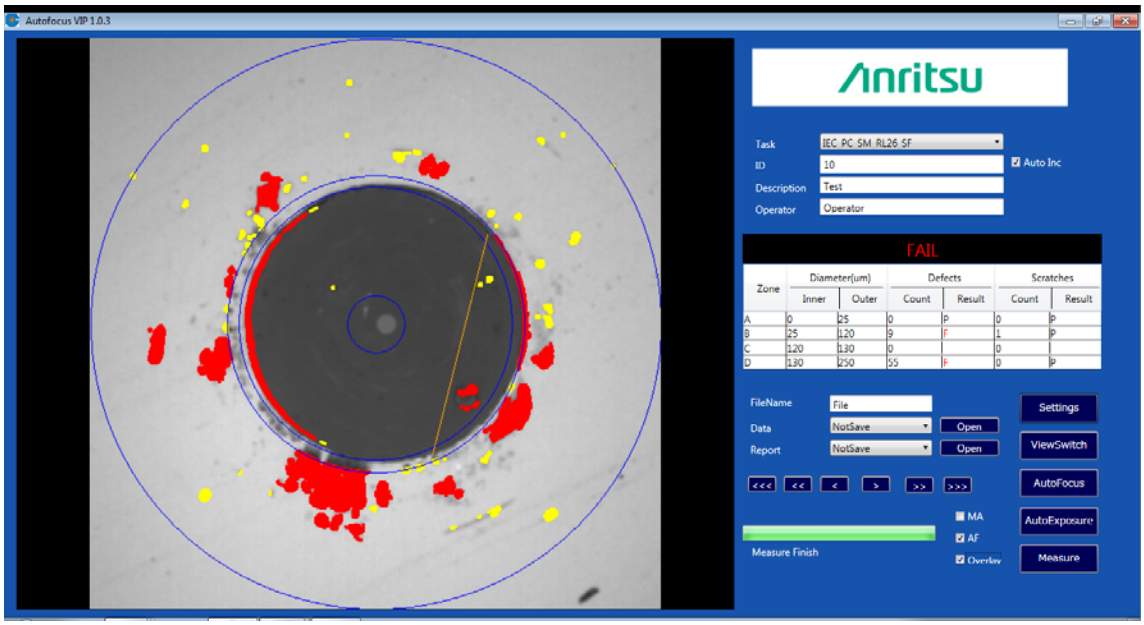

Figure 3.1-1 Results Displayed in Different Colors

3.2 Measure Task Setting Area

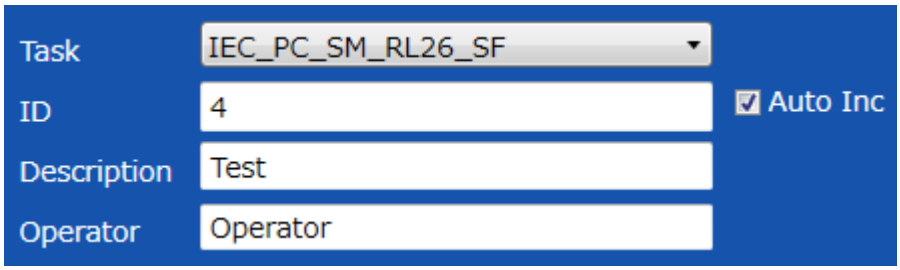

Figure 3.2-1 Measure Task Setting Area

3.2.1 Task

Choose the measure task for the products to measure in drop down menu. For details of measure task, refer to Appendix A "Task Definitions".

3.2.2 ID

The ID field accepts characters and numbers. The number at the end of ID will increase by one as a serial number when **Auto Inc** is activated. If the ID is not ended with a number, "_0" is added automatically.

3.2.3 Description

The task description of each measurement will be saved into both data and reports.

3.2.4 Operator

Input the name of the current operator.

3.3 Result Area

The measurement results are displayed in table form in this area. The final result will be shown in black area: in green letters if it passes and in red letters if it fails.

The table shows numerical results with “P” for Pass or “F” for Fail.

FAIL

Zone	Diameter(um)		Defects		Scratches	
	Inner	Outer	Count	Result	Count	Result
A	0	25	0	P	0	P
B	25	120	0	P	1	P
C	120	130	0		0	
D	130	400	9	F	0	P

Figure 3.3-1 Result Area

3.4 Result Save Area

The testing result can be saved in two ways: data only, or as a report file. There are five options for each saving format: **NotSave**, **AutoSave**, **SavePass**, **SaveFail**, and **AskSave**. If **AskSave** is chosen, a message box will pop up to confirm saving measurement result or not.

Click **Open** to open the last data or report saved.

Note:

Please close the file before next measurement

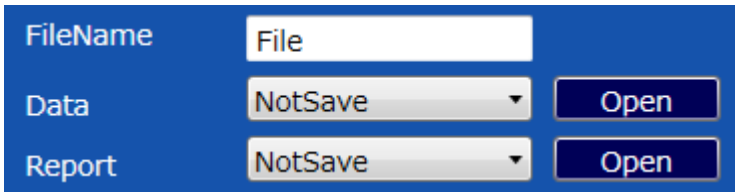

Figure 3.4-1 Result Save Area

3.4.1 File Name

Input the file name to save **in the File Name** field. (Caution: do not use illegal characters for a file name (\ / : * ? " < > |) or the results cannot be saved).

"_data" is added at the end of the file name if saved in data mode.

"_datapic" is added at the end of the file name if saved in data & image mode.

"_report" and id are added at the end of the file name if saved in report mode.

The software displays the first file name for measurement result saving. For example: file name is "test" and ID is "1", the data file name is "test_data.xls", the data & image file name is "test_datapic.xls" and report file name is "test_1_report.xls".

3.4.2 Data

Test results are recorded in an Excel file.
Clicking **Open** displays the test result file.

ID	Description	Pass/ Fail	Zone A		Zone B		Zone D		Test Task	Operator	Date	Time
			Defects	Scratches	Defects	Scratches	Defects	Scratches				
7	Test	NG	0	2	10	0	58	0	IEC_PC_SM_RL26_SF	Operator	22/12/2016	11:05:21
8	Test	NG	0	2	8	1	47	0	IEC_PC_SM_RL26_SF	Operator	22/12/2016	11:06:13
9	Test	NG	0	1	11	0	60	0	IEC_PC_SM_RL26_SF	Operator	22/12/2016	11:06:36

Figure 3.4.2-1 Pure Data Format

3.4.3 Report

A PDF file and a XLSX file are created.

Measure Report

NG

Productor ID	6
Description	Test
Measure Task	IEC_PC_SM_RL26_SF
Produced by	Anritsu
Test Time	22/12/2016 11:00:04
Operator	Operator

Zone			Defects		Scratchs	
	Inner	Outer	Count	P/F	Count	P/F
A	0	25	0	P	3	F
B	25	120	7	F	1	P
C	120	130	0			
D	130	250	50	F	0	P

Signature Date

Original

Analyse

Figure 3.4.3-1 Measure Report Format

3.5 Focus Control Area

Arrow buttons control focus to get clear image.

Arrow **>** and **<** show different moving directions. The buttons with more arrows can move the focus faster.

Figure 3.5-1 Focus Control Area

3.6 Status Area

The status bar will show the current status of measurement.

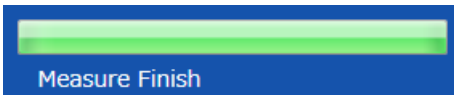

Figure 3.6-1 Status Area

3.7 Main Control Area

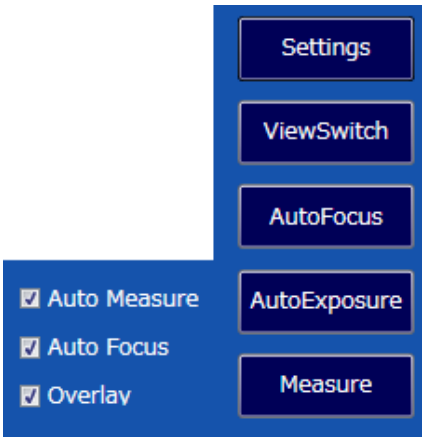

Figure 3.7-1 Main Control Area

3.7.1 Settings

You can set system with Settings such as video setting, path setting, algorithm setting, company setting and help setting.

OK: Saves change and exits.
Cancel: Ignores change and exits.

3.7.1.1 Video Setting

TargetGray: Sets target value of auto exposure in the range of 160 to 190.

AutoExpose with Measurement:
Adjusts exposure automatically to fit the Target Gray value by every measurement.

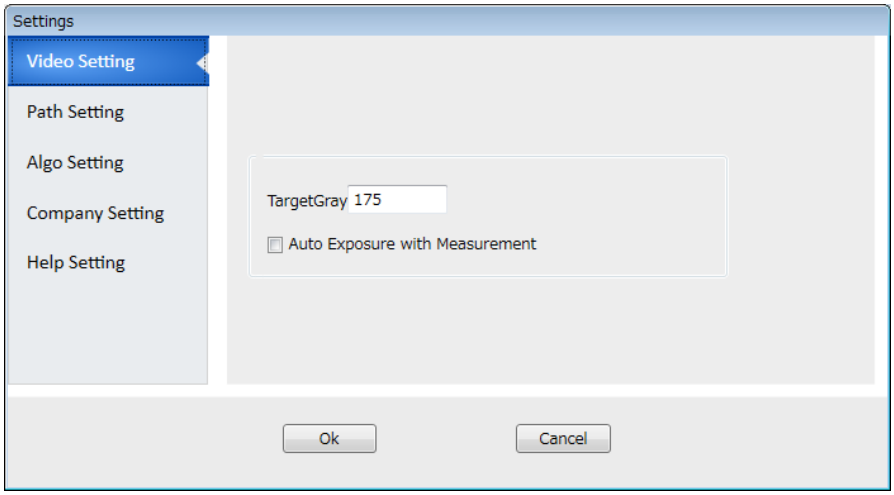

Figure 3.7.1.1-1 Video Setting

3.7.1.2 Path Setting

Set saving path of report and data.
Click **...** button to open dialog box to set saving path.

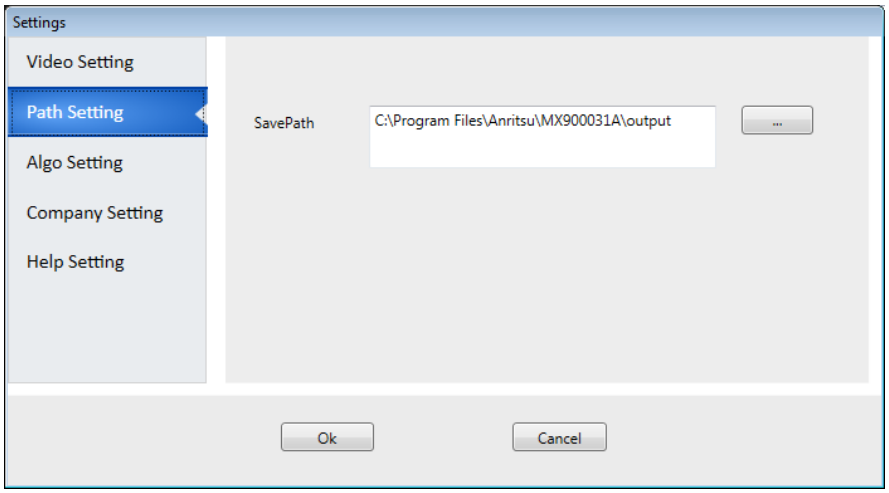

Figure 3.7.1.2-1 Path Setting

3.7.1.3 Algo Setting

The sensitivity of analyze algorithm can be set from 1 to 10 for each defect zone. The bigger the number is, the more sensitive the software becomes. But if the sensitivity is too high, there would be more false judgements. The sensitivity for A, B, and D defect zones can be set separately.
The scratch algorithm setting range is from 1 to 10. The bigger the number is, the more sensitive the software becomes. But if the sensitivity is too high, there would be more false judgements. The set value is applied to the whole area.

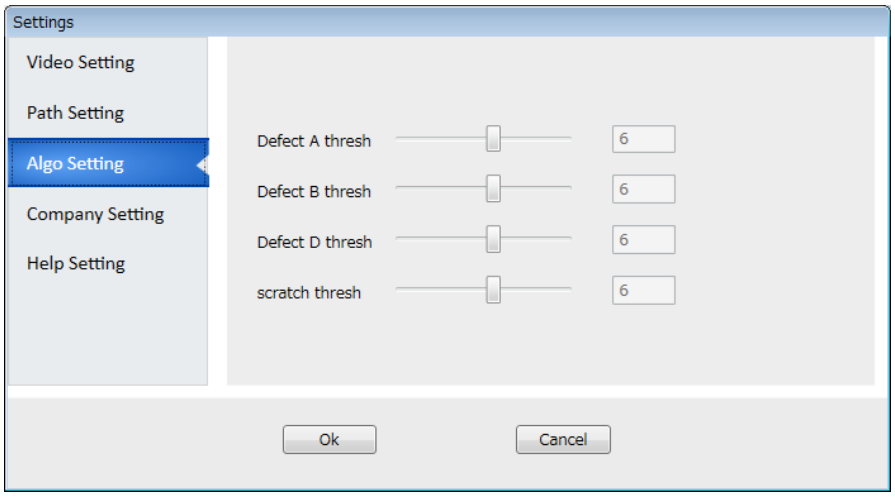

Figure 3.7.1.3-1 Algo Setting

3.7.1.4 Company Setting

To save the company name filled into report file.

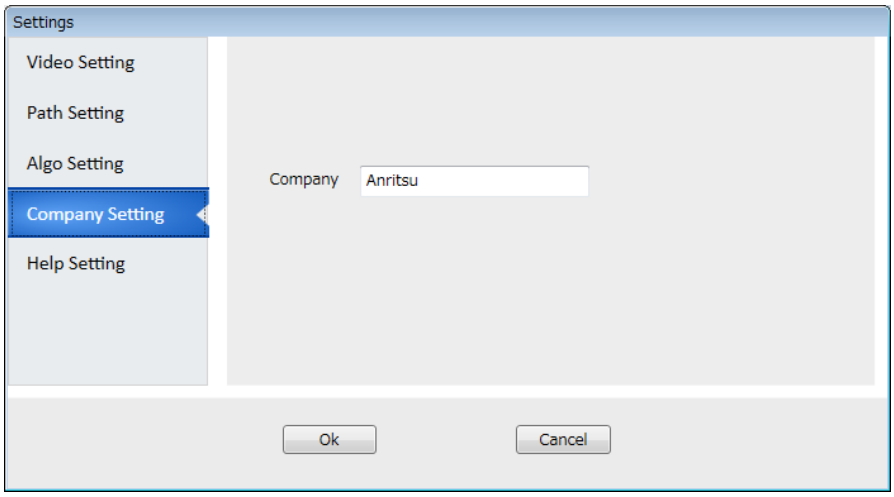

Figure 3.7.1.4-1 Company Setting

3.7.1.5 Help Setting

Version of the software and help info could be found in the area.

Help Info	Displays English operation manual.
Factory Data reset	The system can be restored to factory setting.
Language	The language of the software can be chosen.

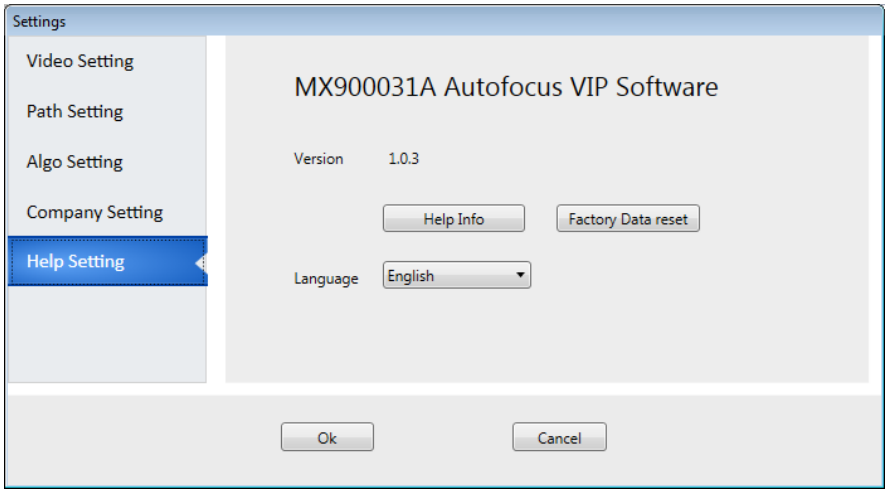

Figure 3.7.1.5-1 Help Setting

3.7.2 ViewSwitch

Click the **ViewSwitch** button to switch between the real time mode and the result mode. The magnification can be changed in real time mode.

3.7.3 AutoFocus

It controls the motor to find the clearest image.

3.7.4 AutoExposure

Auto Focus may not function properly when the brightness of the end face varies depending on the type of a ferrule adapter or connector to be measured.
Auto Exposure maintains the image brightness at appropriate level by adjusting exposure.

3.7.5 Measure

Click the **Measure** button to measure image. Result will be shown in both the software and hardware.

If the end face cannot be measured entirely, the following message appears. Click **Yes** to display the measurement results.

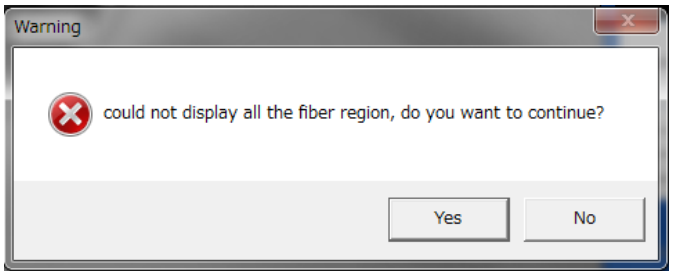

Figure 3.7.5-1 Warning Message

The following figure shows an example where the end face cannot be displayed entirely. The scratches or defects in a non-displayed zone(s) cannot be measured.

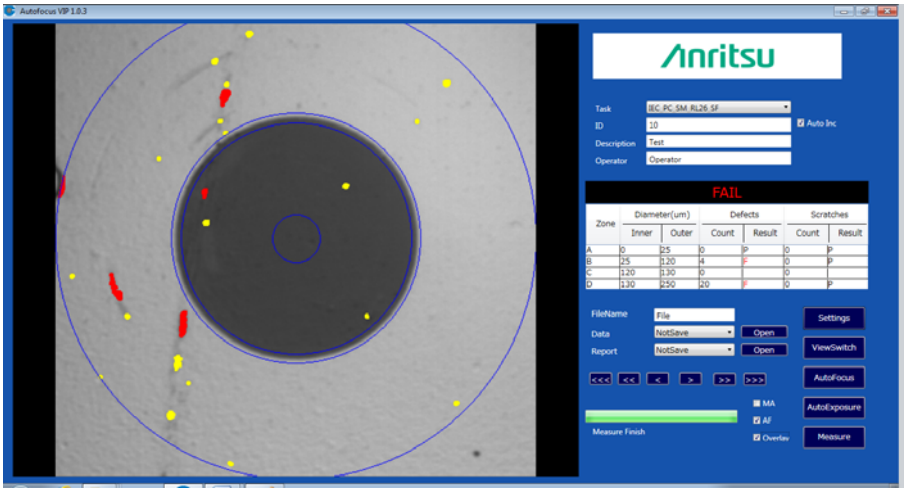

Figure 3.7.5-2 Example where the fiber end face cannot be measured entirely

3.7.5.1 MA

If the **MA** checkbox is selected, the focus is adjusted automatically when the optical fiber image is displayed and the analysis starts.

3.7.5.2 AF

The focus is adjusted automatically during measurements if the **AF** checkbox is selected.

3.7.5.3 Overlay

The result is displayed in the real time area in different colors after measurement if the Overlay checkbox is selected.

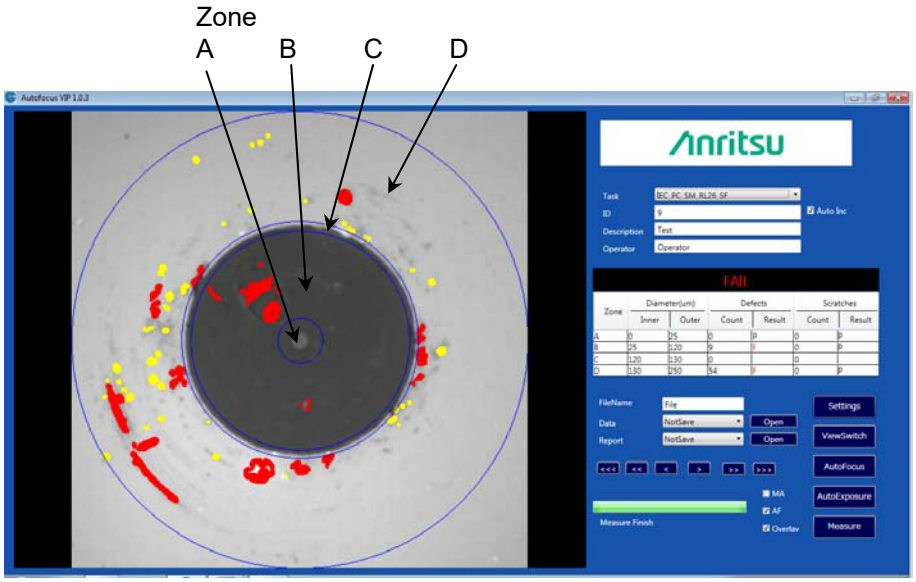

Figure 3.7.5.3-1 Result of Option Overlay

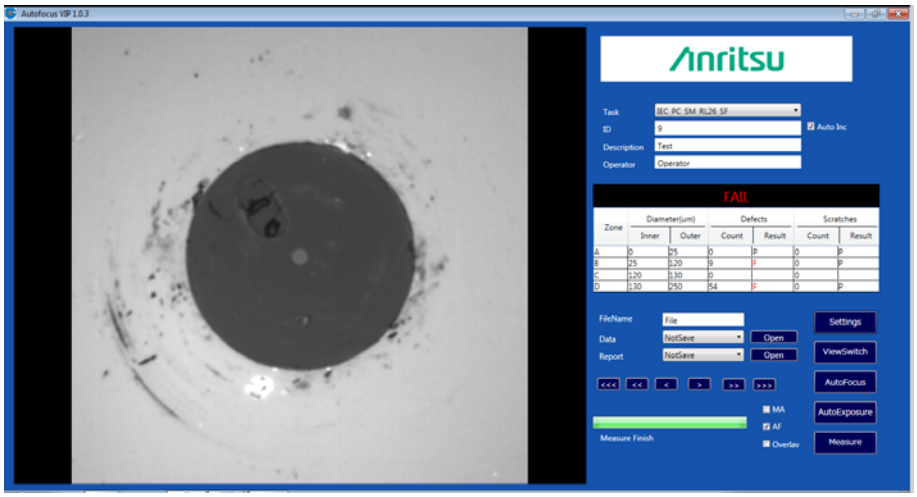

Figure 3.7.5.3-2 Original Image

Appendix A Task Definitions

Appendix A explains the pass-fail definition of tasks according to IEC 61300-3-35.
In the following table, “None” means that scratches or defects should be none. "No limit" means that there is no limit to the number of scratches or defects.
For example, “None > 3 µm” means that scratches or defects larger than 3 µm should be none.

Table A-1 IEC_PC_SM_RL45_MF, IEC_PC_SM_RL45_SF

Zone Name	Scratches	Defects
A: core	None	None
B: cladding	No limit ≤ 3 µm None >3 µm	No limit < 2 µm 5 from 2 µm to 5µm None > 5 µm
C: adhesive	No limit	No limit
D: contact	No limit	None ≥ 10 µm

Table A-2 IEC_APC_SM_MF, IEC_APC_SM_SF

Zone Name	Scratches	Defects
A: core	≤ 4	None
B: cladding	No limit	No limit < 2 µm 5 from 2 µm to 5µm None > 5 µm
C: adhesive	No limit	No limit
D: contact	No limit	None ≥ 10 µm

Table A-3 IEC_PC_SM_RL26_MF, IEC_PC_SM_RL26_SF

Zone Name	Scratches	Defects
A: core	2 ≤ 3 µm None > 3 µm	2 ≤3 µm None > 3 µm
B: cladding	No limit ≤ 3 µm 3 > 3 µm	No limit < 2 µm 5 from 2 µm to 5µm None > 5 µm
C: adhesive	No limit	No limit
D: contact	No limit	None ≥ 10 µm

Table A-4 IEC_PC_MM_MF, IEC_PC_MM_SF

Zone Name	Scratches	Defects
A: core	No limit ≤ 3 µm 0 > 5 µm	4 ≤ 5 µm None > 5 µm
B: cladding	No limit ≤ 5 µm 0 > 5 µm	No limit < 2 µm 5 from 2 µm to 5µm None > 5 µm
C: adhesive	No limit	No limit
D: contact	No limit	None ≥ 10 µm