Appendix B : User's Manual

Camera Module for Pocket PC

LMC2201B

User's Manual

LOGICMECA

FCC NOTICE

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communication. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures :

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit difference from that to which the receiver is connected.
- Consult the dealer of an experienced radio/TV technician for help.

NOTE : The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. Such modifications could void the user's authority to operate the equipment.

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Welcome!

We are deeply grateful to you for purchasing **everCam** CF camera.

You can hold your important moments rapidly and correctly in your hands through the compact size and strong functions. The PDA camera displays advanced functions compared to existing PDA functions.

Read this manual fully to be much useful in using **everCam**.

For more details not mentioned in this manual, see the file(.pdf) with Adobe Acrobat 4.0 format at the Manual folder in the **everCam** install CD.

We promise that we will continuously upgrade the programs and manual of **everCam** through the **everCam** homepage(http://www.evercam.co.kr). If you have any question or problem in using this product, send e-Mail to the following address or contact the customer support center.

Again, we offer our heartfelt thanks for your purchasing our product. We hope you to enjoy a new experience of PDA use with the **everCam** CF camera.

Website: http://www.evercam.co.kr

Technical support: support@evercam.co.kr

Components

⦿ Hardware

everCam CF camera

Software CD

User's manual

Pocket case

⦿ Software

1. everCamPlayer : Main software to generally manage the programs
2. LmMovPlayer : Run and show the captured moving image
3. LmPicViewer : Show the captured image

Appearance and functions

Caution

Cautions when you install

everCam CF camera only supports PDA for Windows CE.
(Pocket PC, Pocket PC 2002, Hand Held PC)
everCam CF camera supports Compact Flash Type II.
We recommend you, before inserting the CF camera into PDA, to install driver and software through ActiveSync.

Cautions for safety

The following cautions are for extension of the service life of your product, and user safety and prevention of damage on your property when you use this product. Read the followings fully to use this product properly.

Put the camera out from PDA when you do not use it for a long time.
When you clean the camera and lens, wipe them with smooth clothes.
Do not spray water directly or wipe with benzene, thinner, or alcohol.
Do not touch or wipe the lens with hands.
Do not excessively turn the body of the camera.
Do not spill coffer or drinking water on the product.
Do not disassemble, repair and remodel the product without permission.
When the product falls or gets a shock may be a cause of damage and failure.
Contact the agency or A/S center when you need repair.

For any question, contact the maker.
everCam website: http://www.evercam.co.kr or Logicmeca : http://www.logicmeca.co.kr
When you lost the Program Upgrade and CD, Download the program on Internet.

This user manual may be changed without prior notification for functional upgrade and spec. modification.

◎ Auto installation of driver and application program

Before installing the CF camera driver, check the spec. of the current PDA product. Then, install the driver and insert the camera for smooth operation.

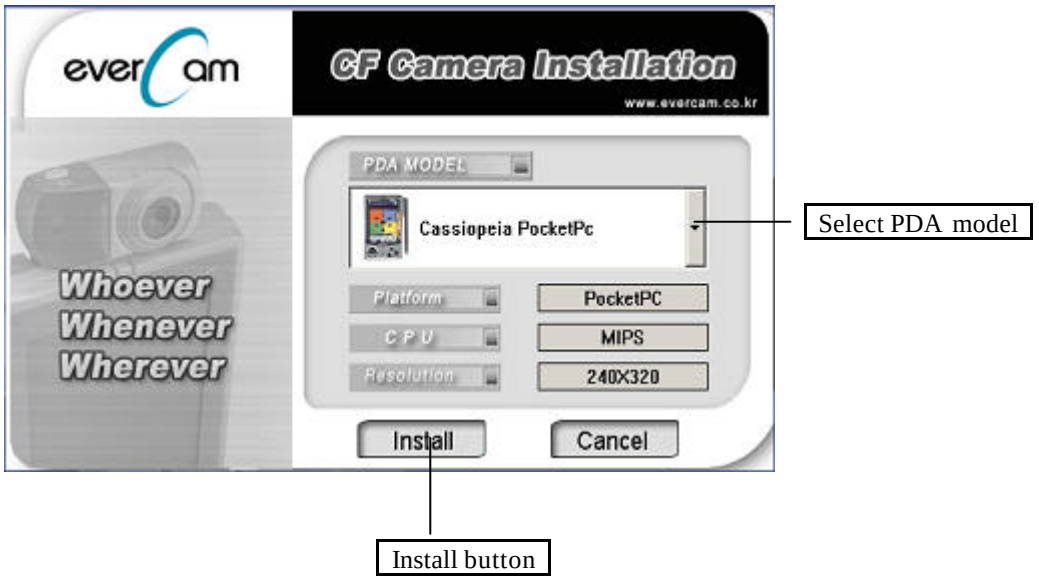
Note!

Before installing the driver, check whether Microsoft ActiveSync is installed in your PC. If not, install ActiveSync and then driver. **When ActiveSync is not installed, the CF camera driver cannot be installed.**

1. Connect PDA to your PC.

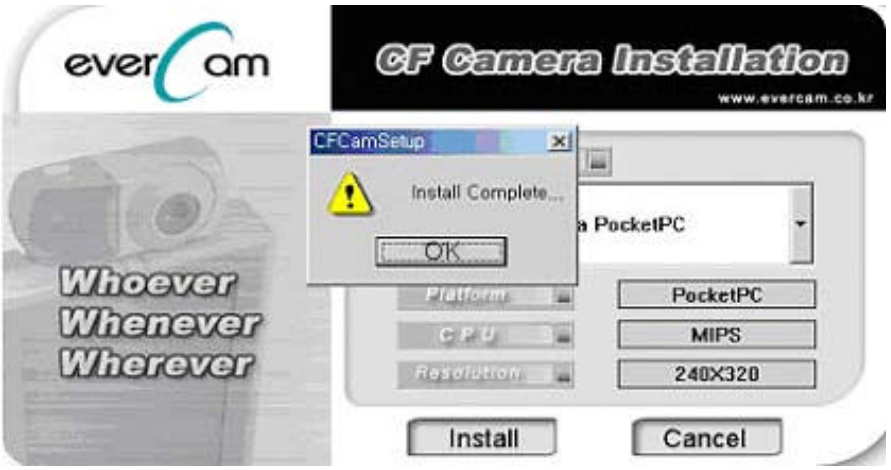
2. Put the CD into CD-ROM, then the program and driver is auto installed.
   (If they are not auto started after putting the CD, run **"CFCamSetup.exe"**.)

3. When the CF camera install screen appears, check the current PDA model name and select the proper model in the "PDA MODEL" select window.



4. Select the PDA model, then the information of the PDA is displayed in the following window. Compare the displayed information with the current PDA spec. correctly, and then click the **"Install"** button to install the program. When the confirm window appears during installation, click "Confirm".

5. Click Confirm in the install complete window, then the installation is fully completed.

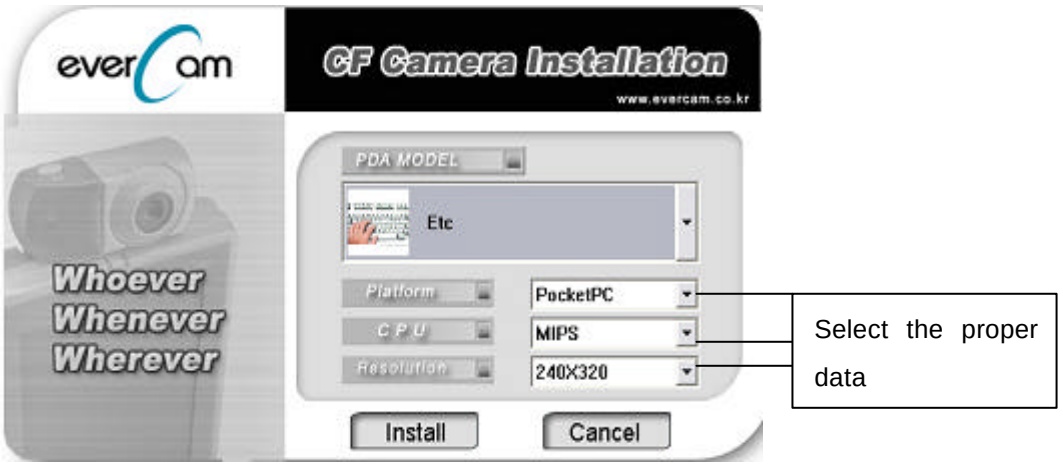


Note!

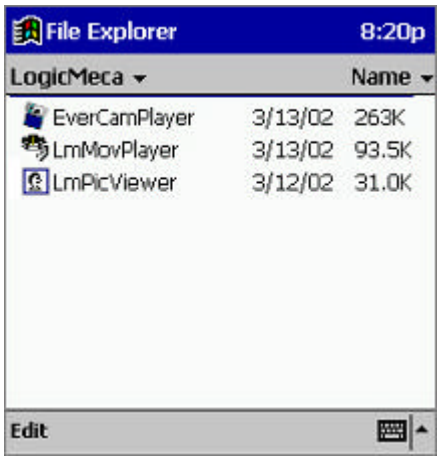
If the consistent model name does not exist in the select window,

1. **Select "ETC" positioned at the end of the "PDA MODEL"** select window.

2. Select the proper data of Platform (OS of use), CPU (PDA CPU function of use) and Resolution (PDA resolution of use) manually, and then click the **"Install" button to install the program.**

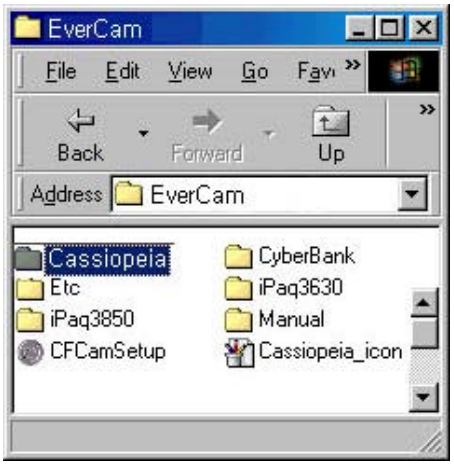


** For some products, the camera may not be executed properly even after the above procedure. In this case, contact the place purchased or see the camera website(www.evercam.co.kr). (recommended)



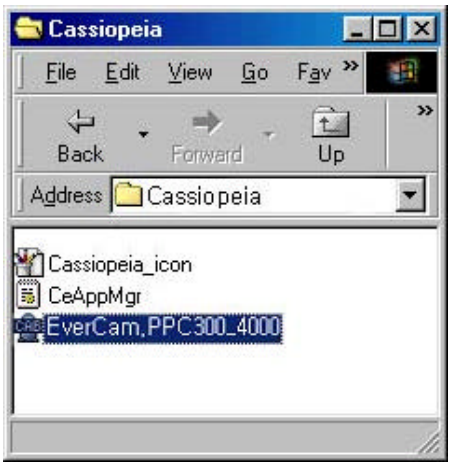
** You can confirm whether or not the file is successfully installed by moving in order of y Device –> Program Files – LogicMeca directory.

◎ Manual installation of driver and application program



(example in selecting Cassiopeia)

1. Select the proper PDA model in the CD initial screen.
(One of Cassiopeia, CyberBank, and iPaq)

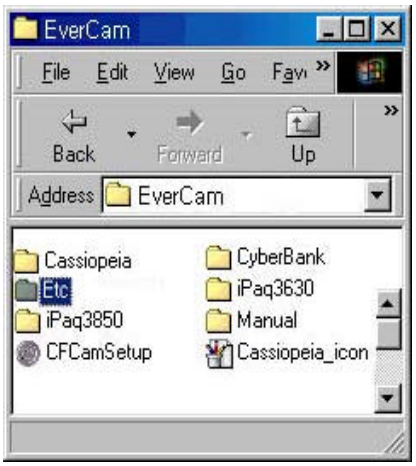


(example in selecting Cassiopeia)

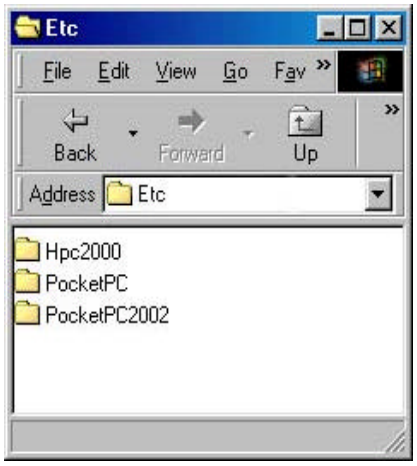
2. Copy the install file in PDA to run.

For the details of installation, see 4,5,6 and 7 of "Manual installation if there is no proper model(p10)".

- **Manual installation if there is no proper model**

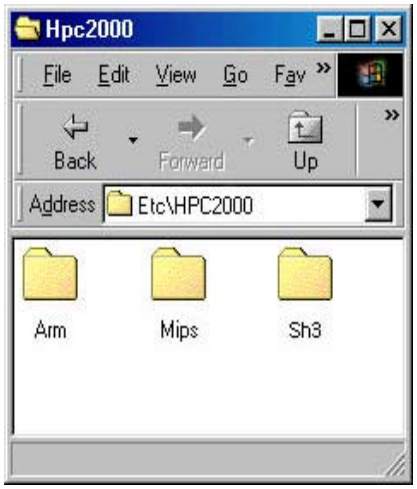


1. Select the ETC folder.



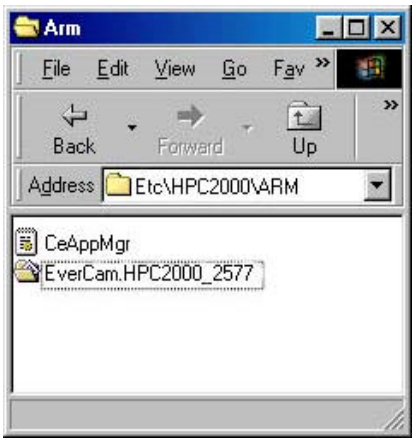
2. Select the platform.

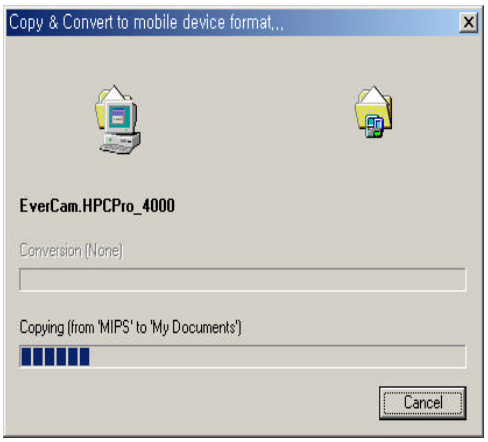
   (One of Pocket PC, Pocket PC 2002, and HPC)



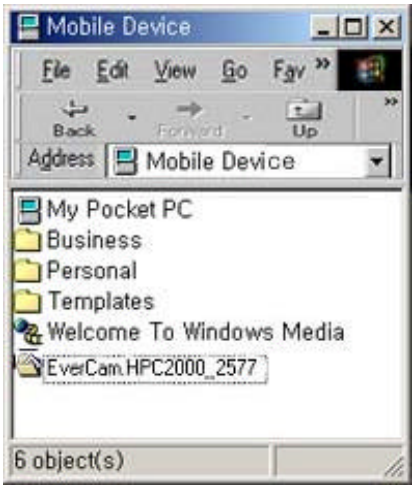
3. Select CPU.

   (One of MIPS, Strong ARM, and SH3)

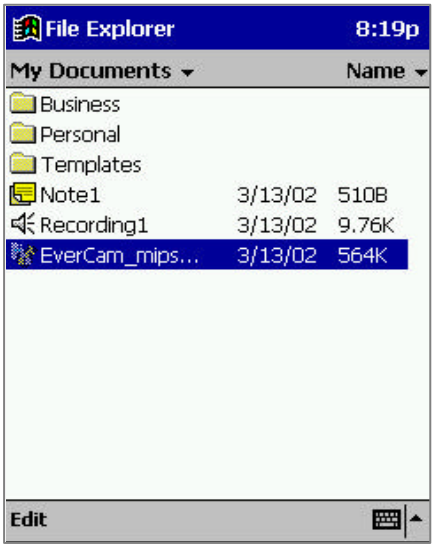




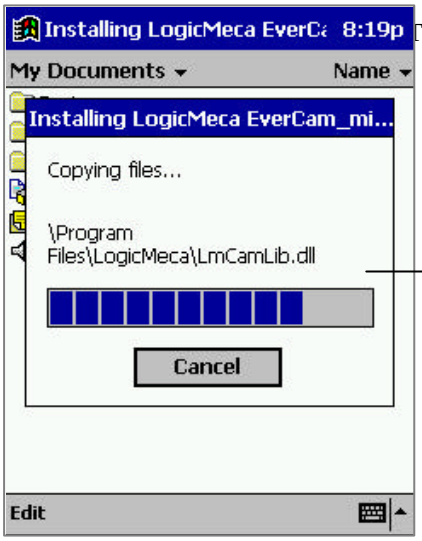
4. Select the camera install file and copy it to PDA.



(Copy to PDA completed)

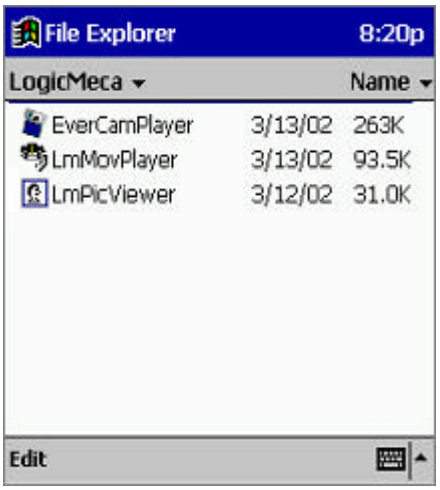


5. Run the install file copied in PDA, then the program is auto installed in PDA.



The copied EverCam install file is auto deleted in PDA after completion of installation.

Show the progress of driver installation.

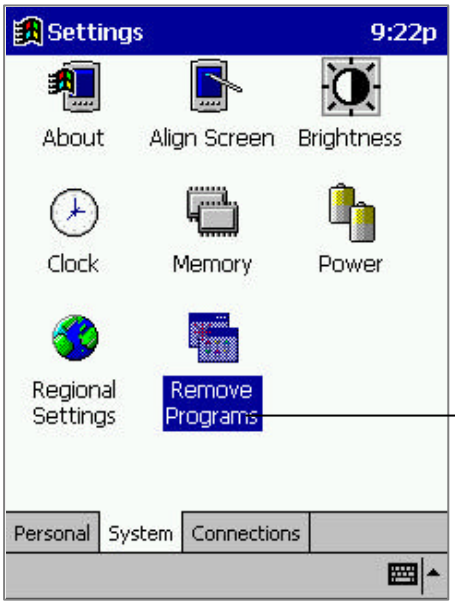


7. You can confirm whether or not the file is successfully installed by moving in order of My Device –> ProgramFiles – >LogicMeca directory.

If the camera is not normally operated after the program is installed, check the spec. of PDA OS and CPU correctly and install again.

If the same problem is repeated continuously, contact the everCam homepage(www.evercam.co.kr) and customer support center(080-788-7400).

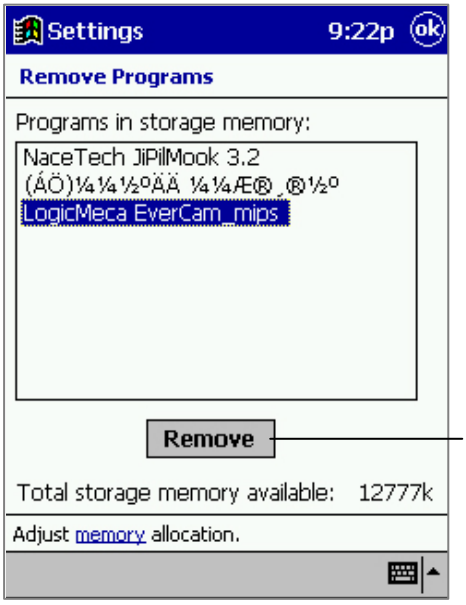
Program and driver delete



1. Remove the camera from the PDA CF slot..

2. Move in order of Start - Settings – System - Remove Programs to select the Remove icon.

program/driver delete icon



3. Select LogicMeca everCam, and then select the ***"REMOVE"*** button.

Click REMOVE, then driver and everCam Player delete is auto started.

4. Check driver delete finally.

If you want to delete, select "YES".

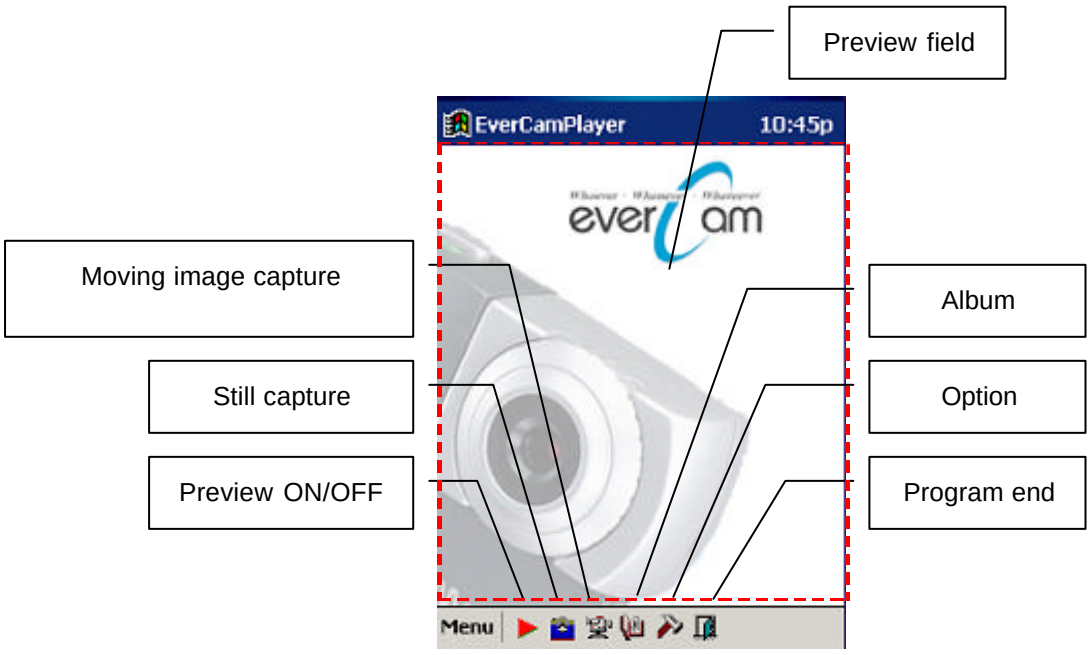
Select "YES", then driver and everCamPlayer are auto deleted completely.

◎ PDA camera application program(1)

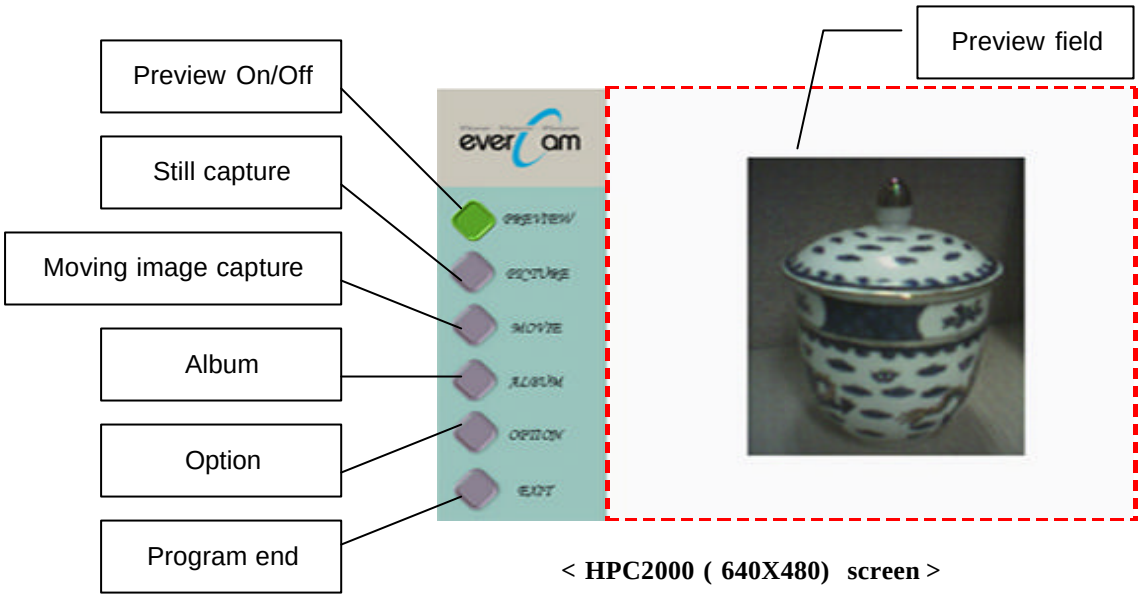
(everCam Player)

This application program supports the simple and convenient functions of Preview, Still Capture, Moving Image Capture and Album in variety by the camera mounted on the slot. Specially, you can use the self-timer capture function of capturing still and moving image for several purposes for fixed time at certain intervals.

<1> Description of the whole screen interface



< PocketPC/PocketPC2002 (240X320) screen >



< HPC2000 (640X480) screen >

<2> Functions by parts

- **Preview ON/OFF**

When you click it once, the video image transmitted from the camera is displayed in the *<Preview field >*. The sizes available of display are 120X160, 144X176, 240X320, 288X352, and 480X640, and one of them may be selected in the option. (click one more, then the Preview screen disappears.)

- **Still capture**

You can capture various image cuts conveniently by clicking the snapshot button(see the page describing "Appearance and functions") or icon like general cameras or using the "self-timer capture function" to capture certain number of images at fixed intervals. The captured images are saved in a (**JPEG File Format**), and file names are auto created and saved in a (date-month-year-hour-minute-second. jpg) format.

→ Set the self-timer capture function in the option to use.
(see the description of still capture in the option.)

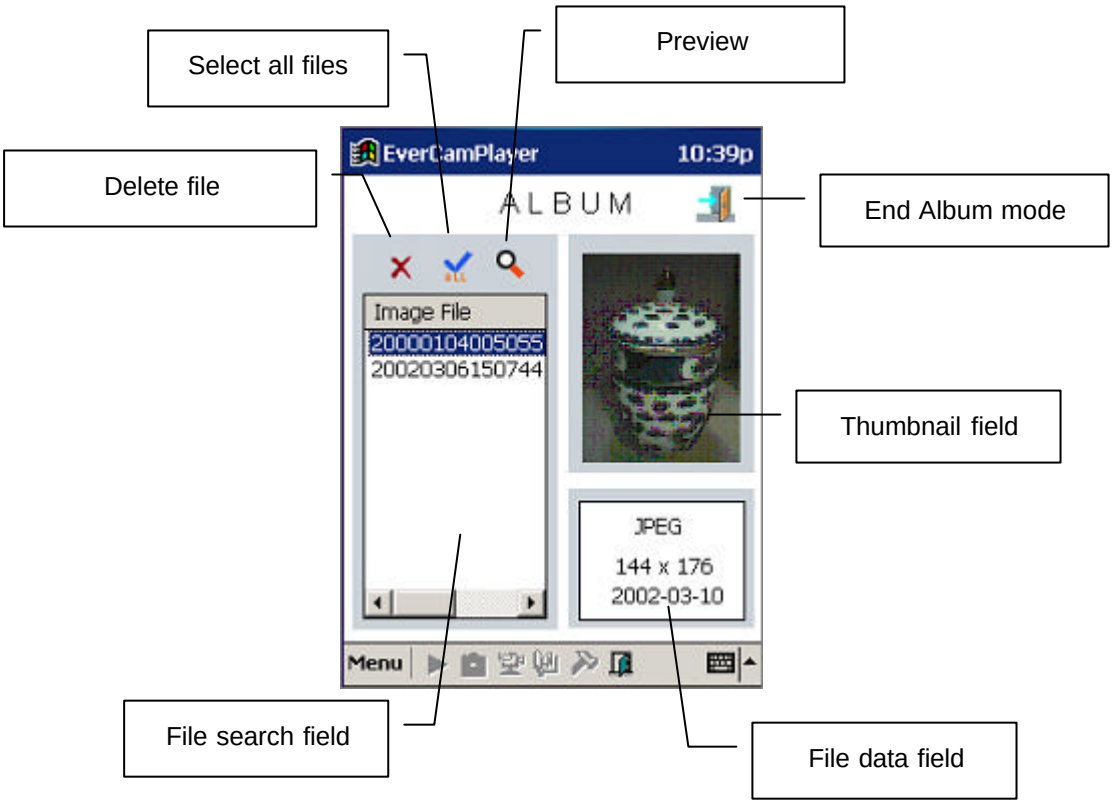
- **Moving image capture**

You can capture a moving image for certain time. The captured image is saved in a **<LMV(LogicMeca Video) File Format >,** and the file name is auto created in a "date-month-year-hour-minute-second . lmv" format. The saved moving image can be confirmed in "Album".

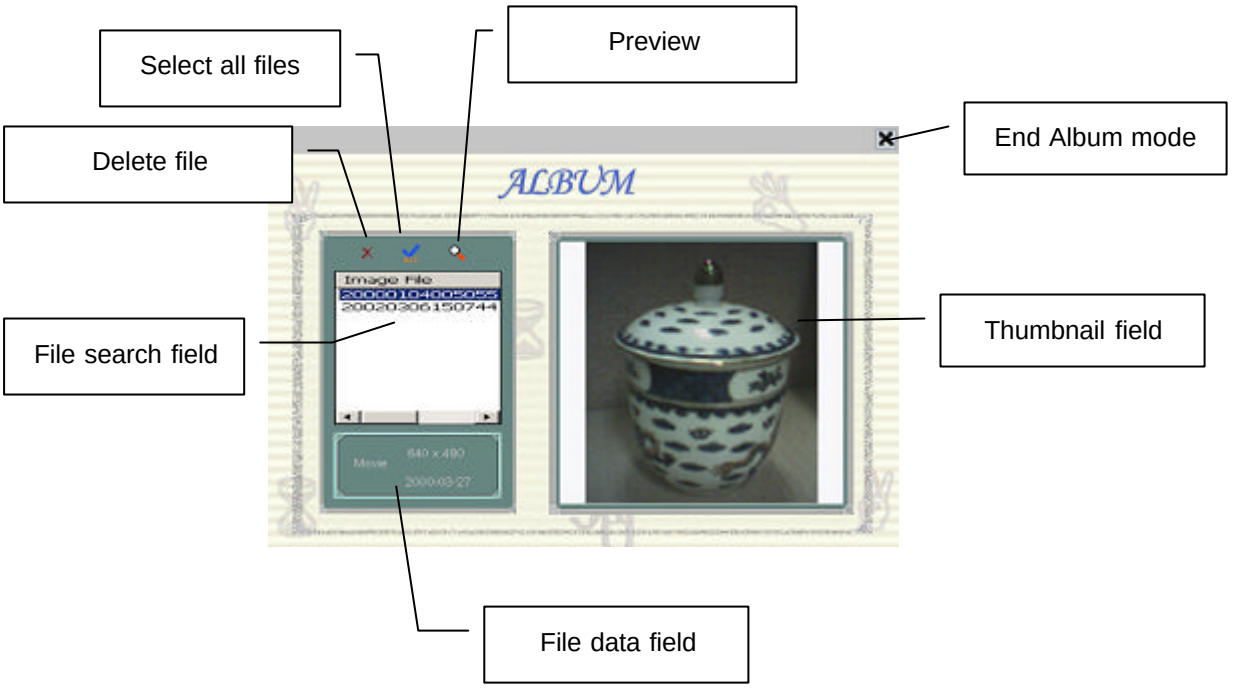
→ Set the desired capture time and interval in the option for saving the moving image.
(see the description of moving image capture in the option.)

● **Album**

This field manages the captured still file(.jpg) and moving image file(.lmv).



< PocketPC / PocketPC2002 (240 X 320) screen >



< HPC2000 (640 X 480) screen >

1) File search field

Show all still files(.jpg) and moving image files(.lmv) in the Album directory.

-Delete file → Delete the file selected in the list

-Select all files → Select all files in the list

-Preview → Select the file and double-click, then it is run. If the selected image is still, it is shown as the whole screen(actual size), and if the selected image is moving image, it is shown through the LMV-exclusive Movie Player.

2) File data field

Show data(type, image size, date created) of the file selected in the <file search field>.

3) Thumbnail field

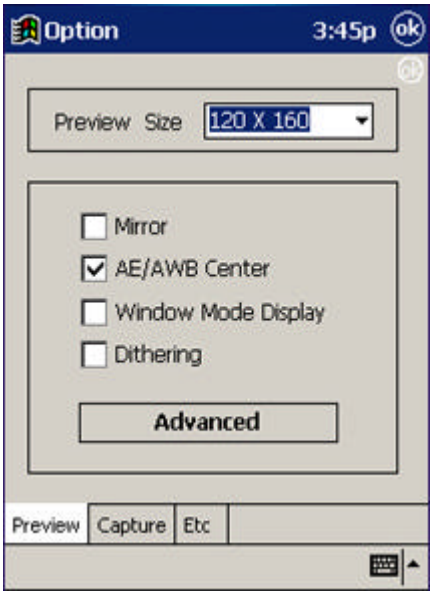
Show the file selected in the <File search field> as the type of Thumb Nail. Double-click in the field, then the selected image is shown in the whole screen.

- **Option**

It is of program configuration.

1) Preview option

Set necessary matters in displaying the camera image on the screen.



- Preview Size

Select one of 120X160, 144X176, 240X320, 288X352, and 480X640.

- Mirror

Preview by reversing the left and the right of the screen as if seeing a mirror.

- AE/AWB Center

Apply AE/AWB centering around the center of the screen.

- Windows Mode Display

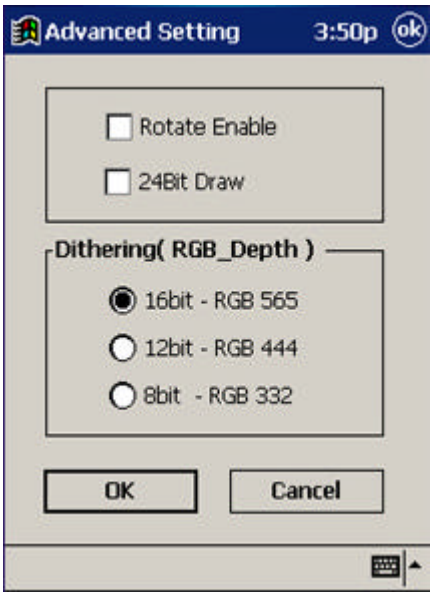
As size of the camera sensor is 480X640 VGA, other modes(120X160, 144X176, 240X320, 288X352) are displayed as Zoom Out mode in the screen although they get the 480X640 image. However, if this option is selected, as the 480X640 image is displayed fully without zoom out, the image is zoom in and just part of the image is seen.

- Dithering

Mix other colors in PDA with low resolution unavailable of displaying colors required in the screen fully to get similar colors.

◆ **Advanced Setting**

Set more details.



- Rotate Enable

Display the screen by rotating it in 90°.

- 24Bit Draw

Display the camera image in 24bit when the settings are selected, and display it in 16bit when the settings are canceled.

- Dithering(RGB_Depth)

It is needed to more effectively execute Dithering described above(select number of colors available of display in PDA).

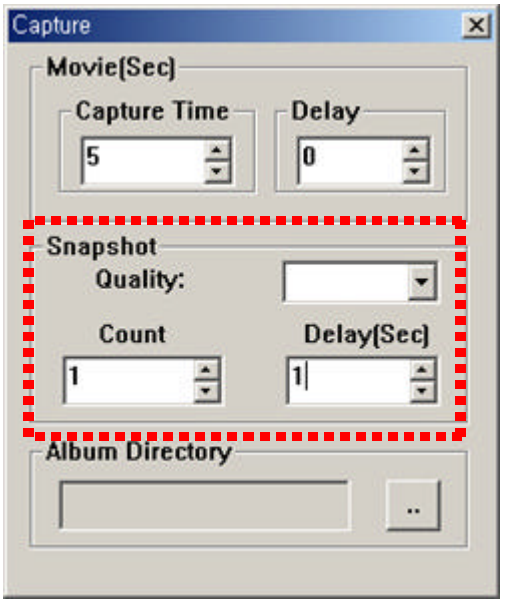
ex) 256 colors → 8bit – RGB332

4096 colors → 12bit – RGB 444

65536 colors → 16bit – RGB 565

2) Capture option

➢ Still capture



- Quality

Size of the image file is different according to image quality of the Jpeg file to save.

- Count

Set number of images to capture at a time.

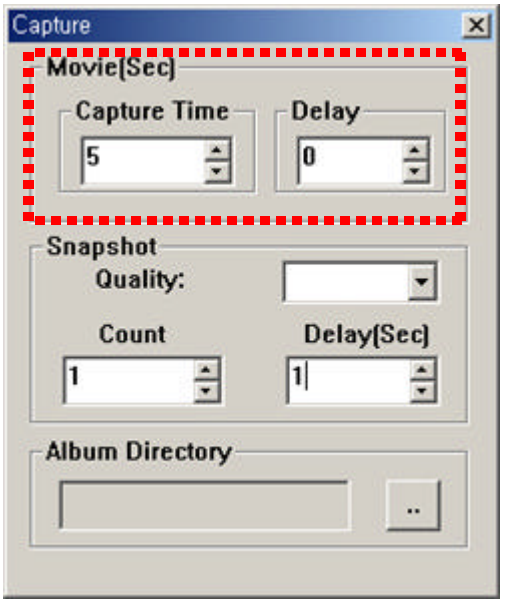
- Delay

Capture the image at the set intervals.

- Album Directory

Set the directory to save the captured file, and the Default directory is "My Documents".

➢ Moving image capture



- Capture Time

Set the time to capture.

- Delay

Capture the image at the set intervals.

Note!

When you want to cancel moving image capture, click one more time the moving image capture icon. Only the content before it is stopped is saved.

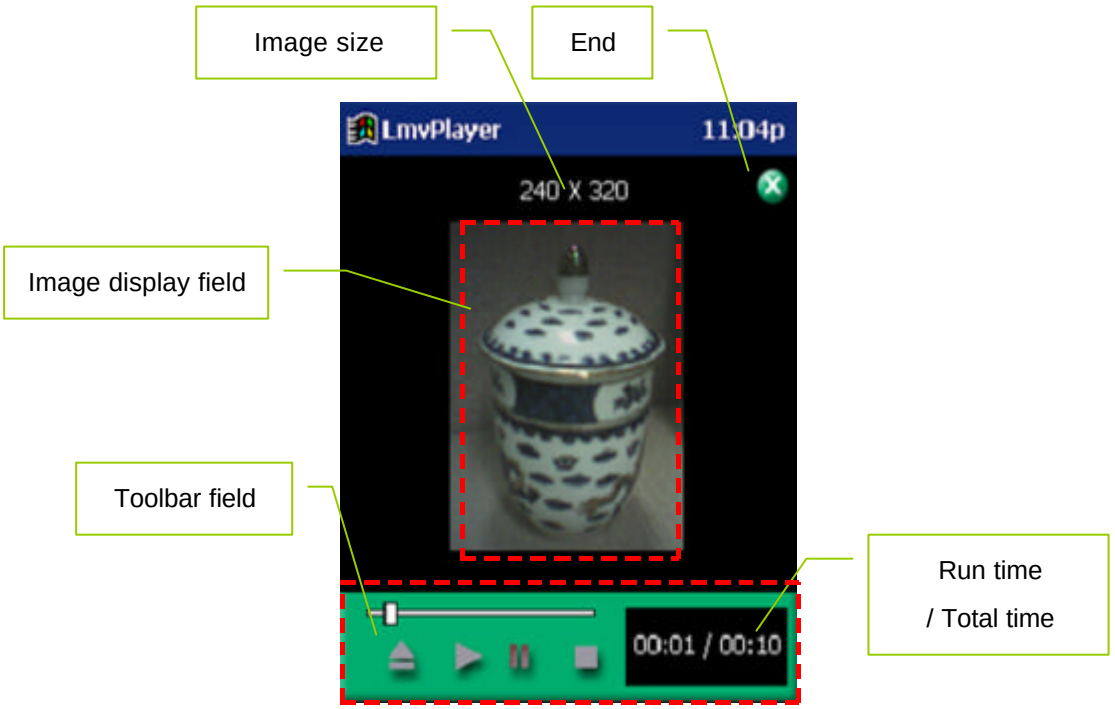
● **Program End**

Stop all the procedures being run to end the program.

PDA camera application program (2)
(LmMovPlayer)

It is moving image viewer playing the LMV(LogicMeca Video) file format available of minimizing size of a moving image file.

1> Description of the whole screen interface



2> Description of the functions

- **Image display field**

Display in 120 x 160 irrespective of size of the actual image.

- **Toolbar field**

It is composed of

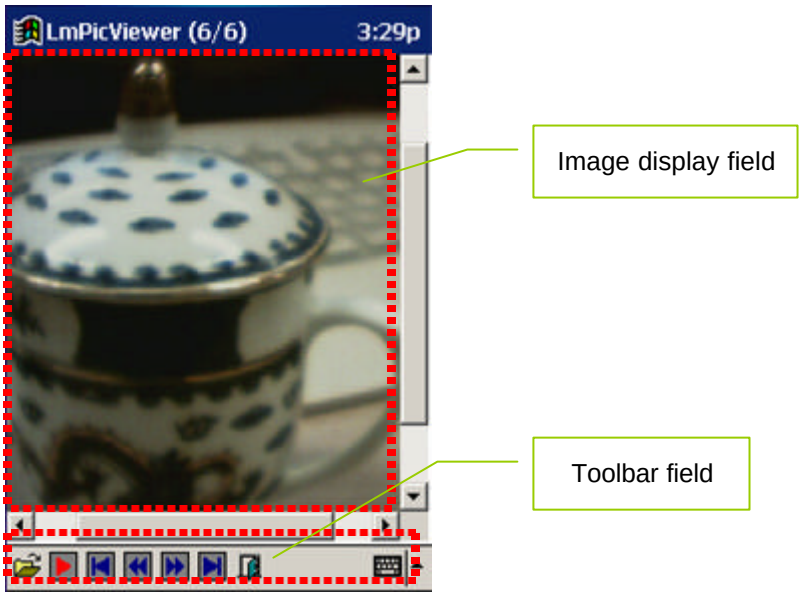
open( ), play( ), pause ( ), and stop( ).

◎ PDA camera application program(3)

(LmPicViewer)

It is image view program showing various types of image(JPG, BMP, GIF) in real size.

1> Description of the whole screen interface



2> Description of the functions

- **Image display field**

  -Show the image in real size.

- **Toolbar field**

  - Open file

    Select the desired image save file.

  - Slide show

    Show several images by turns automatically.

    (click a time – run slide show, click a time again – the show stops)

  - Initial image view

Return to the initial pictures of the saved images.

- Previous images view

Return just to the previous stage of the current picture.

- Next image view

Return to the next stage of the current picture.

- Last image view

Move to the pictures of the saved images.

- Exit

End the image viewer program.

Spec.

Image Sensor & Lens	
Sensor	1/4” VGA CMOS
Pixel	320K Pixels (648(H)X488(V))
Focus	50mm
Exposure	Automatic
Min. Illumination	5 LUX
Lens	57°

Image Resolution	
Image Capture	Max. 640X480

Image Control	
Light	Automatic Gain Control (AGC)
White Balance	Automatic
Output Signal	RGB24bit, RGB16bit, YUV422, JPEG
Power Supply / Consumption	3.3V / max 50mA
Dimension	
Weight	

Minimum System Requirement	
CPU	MIPS/Strong ARM/SH3
Interface Port	Compact Flash Type II
Memory	16MB
OS	Windows CE 3.0

FAQ (Frequently Asked Questions)

1. What is PDA specifications available of installing the CF camera?

-PDA equipped with WinCE 3.0 is only available.

- We recommend you to use the MIPS / SH3 / Strong ARM processor.
- We support Compact Flash Type II.
- We recommend the resolution of 240X320 / 640X480.
- 4096 Color or more is recommended.

2. The CF camera is not installed.

- Check whether the driver is installed in PDA.
- Check whether the driver installed in PDA is correctly installed complying with the PDA spec. (for details, see the user manual.)
- Check the Compact Flash Type is supported in PDA. (The everCam CF camera supports Compact Flash Type II.)

3. Where the newest driver and software are supported?

- The newest driver and software are supported on Internet. Visit www.evercam.co.kr to receive the support of camera driver and technology.

4. The screen is too dark.

- Lightness may be changed according to the intensity of radiation in the surroundings.
- Select Dithering , AE/AWB Center in the camera option window. (for details, see the user manual.)

5. The screen is dim and not seen well like getting foggy.

- The focus of the lens is not adjusted well or the surface of the lens is stained with foreign substance like fingerprint. In this case, adjust the focus of the lens or wipe the surface of the lens with smooth clothes.
- You may feel the preview screen different according to the resolution of PDA. The current PDA supports both 4096 colors and 56,000 colors. The image may be different according to the resolution of PDA.

6. How can I move the captured picture to PC?

- The picture captured in PDA may be transmitted to the user's PC through the ActiveSync program.
  The 'Microsoft ActiveSync' program connects a computer installing Windows95/98/ME/2000/XP or Windows NT as operating system with all portable computers installing Windows CE as operating system .

7. PDA downed

- Check connection of the CF camera.
- When the CF camera was taken off under the condition the CF camera operation program is not ended, the program may be downed. Therefore, do not take out the camera when the camera operation program is run.
- When the CF camera is taken off, end the application program and insert the CF camera again to run again the application program.
- When several programs are run, they may be downed due to the clash among softwares. In this case, reset PDA.

8. Others

For any failure or trouble except the above mentioned, contact the Q&A part in the everCam homepage or the everCam customer support center.

E-mail : support@evercam.co.kr

everCam website: http://www.evercam.co.kr

Warranty

We, LOGICMECA, warrant our product complying with the regulation of consumer compensation against damage by items as follows;

Product name	everCam	Model name	
Date purchased		Manufacturing no.	
Place purchased		Period of warranty	1 year after the purchase

Write out the fixed form of this written warranty and check it when you purchase this product. You can receive After Service only when you present this written warranty, so keep it with the user's manual.

Information of consumer compensation against damage

Types of consumer's damage			Details of compensation	
			Within the warranty	After the warranty
Failure in performance or function incurred in normal use	When a significant failure occurs in 10 days after the purchase		Exchange or refund	
	When a significant failure occurs in 1 month after the purchase		Exchange	
	Repairable	When a failure occurs 3 times due to the same defect	Free repair	Repair with compensation
		When a failure occurs 4 times due to the same defect	Exchange or refund	Repair with compensation
	Unrepairable		Exchange or refund	Repair with compensation
	Unrepairable as consumer does not keep the parts for repair(within the period of keeping the parts)		Exchange or refund	Exchange after depreciation of the fixed amount
Failure in performance or function due to consumer's intention or mistake	Consumer's mishandling or roughly repairing, or remodeling		Repair with compensation	Repair with compensation
	If foreign substance is put into the product			
	The consumer did keep the caution for safety in the user's manual			
	Due to external causes except the defect of the product			
Others	Natural disasters(lightning, fire, smoke pollution, flood damage)		Repair with compensation	Repair with compensation
	The life of a wasting part is ended.			

If a general product is converted into a business product, the period of warranty is half reduced.

The period of holding the parts is 5 years after production of the product will be stopped.

This product completed the EMC Registration .

LOGICMECA CO., LTD.

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