



This course explains how to service the Deneb-PJ2 projector.



No additional notes

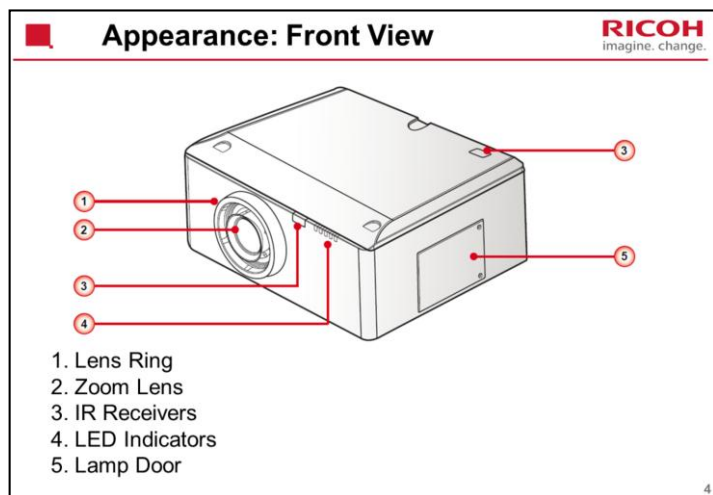
**Two Models**


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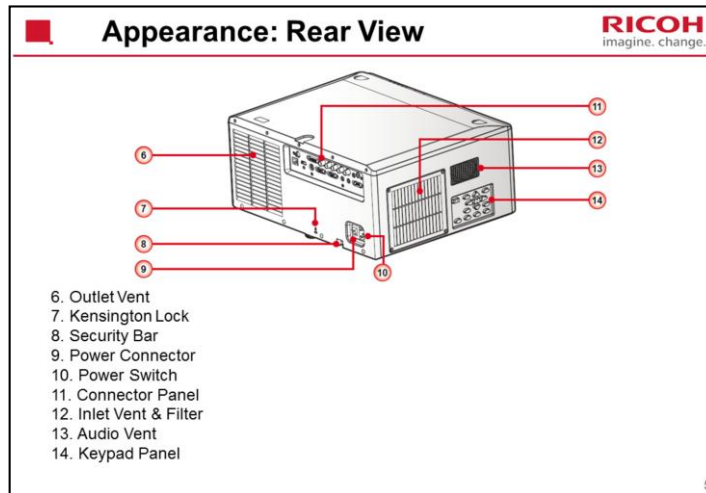
- Deneb-PJ2x (Y068): PJ K9000
 - XGA model
- Deneb-PJ2w (Y069): PJ K8500
 - WUXGA model
- These are DLP projectors with network function, and interchangeable lenses for short throw, long throw, and standard throw
 - Y121: Standard Lens Type 2 (standard throw)
 - Y122: Replacement Lens Type 5 (short throw)
 - Y123: Replacement Lens Type 6 (long throw)
 - Y127: Replacement Lens Type 7 (very long throw)
 - Replacement Lens Type 9 (Details TBA)

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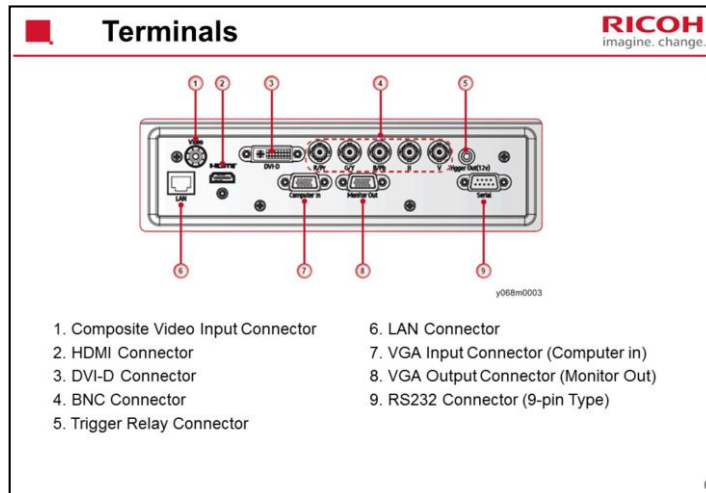
There is no GEO Board for the Deneb-PJ2 series.



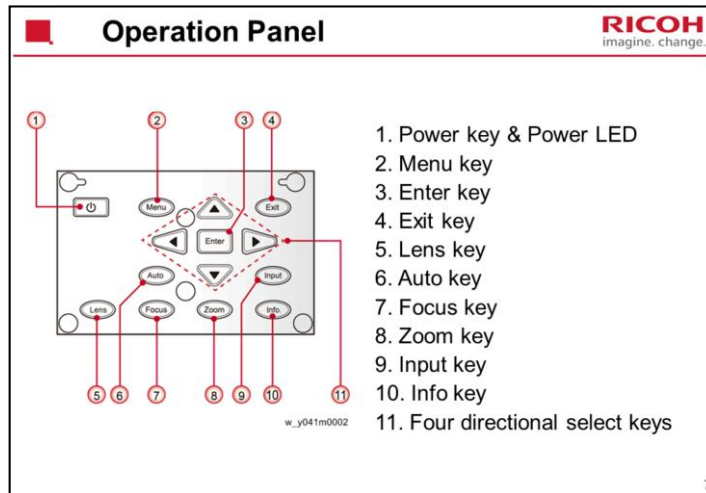
No additional notes




No additional notes




This is different from the Deneb-PJ1.

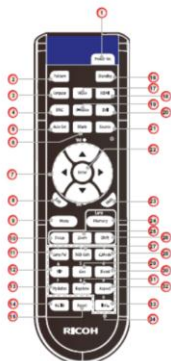


Press the Menu button to access the On-Screen Display (OSD) menu, which is sometimes mentioned in the service manual.



Remote Control





- For details, see the user's guide.

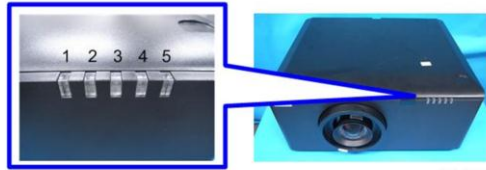
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No additional notes



Front Panel LEDs


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- The status of these LEDs tells you about the machine condition.
- See the 'Front Panel LEDs' section of the service manual for details on the meanings of the various states of these LEDs,

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1. Filter LED
2. Error LED
3. Temp LED
4. Lamp LED
5. Power LED


**Service Mode**


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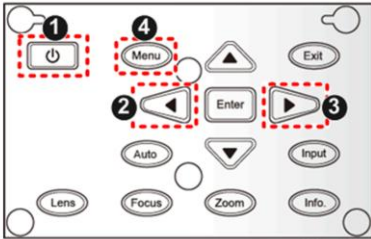
- There are two service modes.
 - Service Mode
 - Engineering Mode
- See the field service manual for the contents of the two menus.

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Deneb-PJ1 only has one service mode.



How to Enter Service Mode



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- Press the "Power [1]", "Left [2]", "Right [3]" and "Menu [4]" buttons sequentially.
- See the 'Service Mode and Engineering Mode' section of the service manual for a list of functions in the service mode menu.

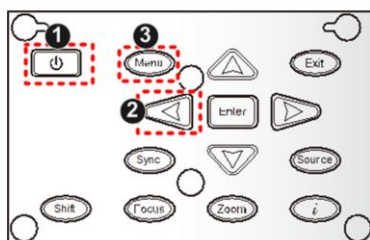
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No additional notes



How to Enter Engineering Mode

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- Press the "Power [1]", "Left [2]", "Left [2]" and "Menu [3]" buttons sequentially.
- See the 'Service Mode and Engineering Mode' section of the service manual for a list of functions in the engineering mode menu.

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No additional notes



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Specifications

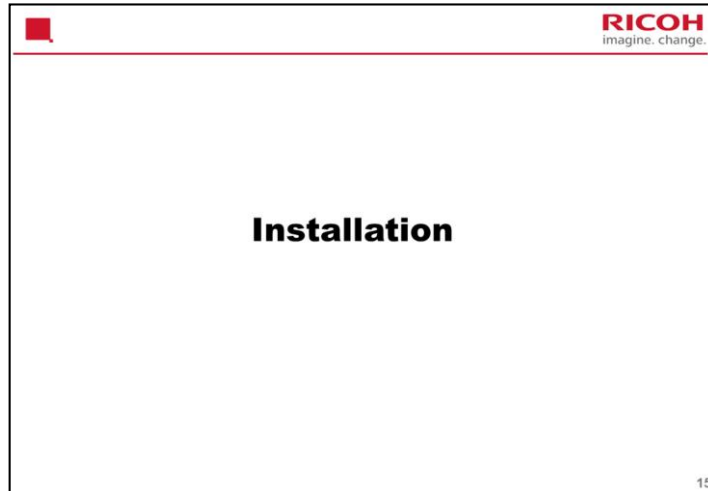
No additional notes

|  | General Specifications | RICOH imagine. change. |
|---|---|----------------------------------|
| ■ | Native Resolution <ul style="list-style-type: none"> - Deneb-PJ2r: XGA (1024x768) - Deneb-PJ2w: WUXGA (1920x1200) | |
| ■ | Throw ratio <ul style="list-style-type: none"> - 0.99-1.26 (Replacement Lens Type 5) - 1.26-1.58 (Standard Lens Type 2) - 1.58-3.00 (Replacement Lens Type 6) - 3.00-5.70 (Replacement Lens Type 7) - TBA (Replacement Lens Type 9) | |
| ■ | Lamp life <ul style="list-style-type: none"> - 1500 Hours @465W, 50% Survival Rate (Normal Mode) - 2000 Hours @360W, 50% Survival Rate (ECO Mode) | |
| ■ | Brightness <ul style="list-style-type: none"> - Typical: 6,300 (XGA), 5,500 (WXGA) - Minimum: 5,600 (XGA), 4,900 (WXGA) | |
| ■ | Power Consumption <ul style="list-style-type: none"> - 580W \pm 10% @ 110 VAC in Normal Brightness mode - 450W \pm 10% @ 110 VAC in ECO Brightness mode - Standby mode (LAN off): < 0.5 W | |

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For more details, see the field service manual.

Lens types 7 and 9 have been added since the Deneb-PJ1.



This projector is installed by the customer. However, please study the installation procedure in the user's guide to be familiar with the procedure, because some customers may need help.

This section is basically the same as the Deneb-PJ1.




Installation by the Customer

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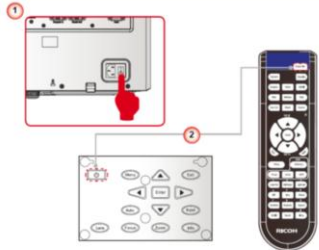
- This projector is installed by the customer.
- However, please study the installation procedure in the user's guide to be familiar with the procedure, because some customers may need help.

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No additional notes




Turning the Power On



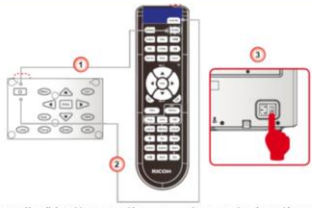
1. Plug in the power cable and turn on the power switch next to the cable inlet.
2. Turn on the lamp by pressing the power button on the control panel or on the remote control.
 - The Power LED will turn blue.
 - The startup screen will display in approximately 10 seconds.
 - The first time you use the projector, you will be asked to select a language and power saving mode.
3. Turn on and connect the source that you want to display on the screen (computer, video player, etc). The projector will detect the source automatically.
 - If not, push the menu button and go to "OPTIONS".
 - Make sure that "Auto Source" has been set to "Off".
 - If you connect multiple sources at the same time, press the direct source buttons on the control panel or on the remote control to switch between inputs.

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No additional notes



Turning the Power Off



1. Press the "Standby" button on the remote control or the power button on the control panel. 'Power off? Press power key again' will be displayed. Press the "Standby" button on the remote control or the power button on the control panel again within 15 seconds, or the message will disappear.

2. The cooling fans will execute the cooling cycle for about 60 seconds and the POWER LED will flash Blue. The projector has entered standby mode. Do not try to turn power on again until the cooling cycle has finished.

- If you wish to turn the projector back on, you must wait until the projector has completed the cooling cycle and has entered standby mode. Once in standby mode, press the power button either on the control panel or on the remote control to restart the projector.

3. Turn off the power switch, then disconnect the power cord.

- When switching the projector off, please ensure the cooling cycle has been completed before disconnecting power. Allow 60 seconds for the projector to cool down.
- Do not turn the projector on immediately after the power off procedure.

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No additional notes



Important Notes

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- Remove the projector lens before transporting the projector.

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No additional notes



Maintenance

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No additional notes



Tools Required

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- You need the following tools to update the firmware, and to make adjustments after replacing the optical engine or main board.
 - RS-232C cable (cross)
 - LAN cable
 - Portable PC

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No additional notes



Caution

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- Operators should wear straps for discharging static electricity when disassembling the machine.
- When removing or disassembling the optical engine, please note that specific environmental conditions (clean room) are required.

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No additional notes



After Replacing Components

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- After replacing certain parts, some adjustment procedures must be performed.
- This training course only explains the main points, so see the table in the “Required Action After Replacing Parts” section for which adjustments are required and where to find them in the manual.
 - Whenever you replace a component, check this table to see if you have to do any of these procedures. The text in the Replacement and Adjustments procedures does not always refer to this table.
 - The table says that we must rewrite the serial number after updating firmware. This is not true.

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The focus adjustment is different from the Deneb-PJ1.

A column for the lamp was added to the table since Deneb-PJ1.

**Removing the Projector Lens**
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Incorrect

Correct



- Note the correct way to hold the assembly.
 - Do not touch the motor.
- After replacing the lens, do the lens calibration procedure in the service manual.
- Users can replace the lens. There are three types of lens, as mentioned earlier.

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This is the same as Deneb-PJ1.



Replacing the Main Board - 1

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| | |
|------------------|---------------------|
| Model Name | RICOH PJ K8500 |
| FW / PIC ver: | R00.60 / M02.09 |
| LAN / DDP ver: | A02.07 / F01.18 |
| Lamp Driver ver: | 0515 |
| MAC: | (00,50,41,7d,d8,7f) |
| SN: | 9494439 |
| Display Hour | |
| Lens Calibration | |
| Temperature | (27,22,+1,60,55,-5) |
| Wave Form IDs | (0, 0, 0, 0) |
| Wave Form ID | 1-0 |

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| | |
|---------------------|-------|
| Projection Hours | -2183 |
| Lamp Hours (Normal) | 1 |
| Lamp Hours (ECO) | 0 |
| Lamp Hour Reset | |

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| | |
|---------------------|-------|
| Projection Hours | -2183 |
| Lamp Hours (Normal) | 1 |
| Lamp Hours (ECO) | 0 |
| Lamp Hour Reset | |

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- The main board contains a record of the lamp usage hours.
- If you have to change the main board, make a note of the lamp hours before you remove the board.
- Then use the 'Rewrite Lamp Hours' procedure after you install the new board, to store this number in the new board.
 - Go into the Engineering Mode.
 - Then select Display Hour
 - Then select and reset Lamp Hours (Normal) and Lamp Hours (Eco).

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No additional notes



Replacing the Main Board - 2

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- The machine's serial number must be stored in the new main board after it has been installed.
 - First, connect the projector to a PC with an RS232C cable.
 - Download and install the rewrite serial number tool.
 - Use this tool to input the serial number to the new board.
 - Use service mode to check that the serial number was stored correctly.
 - See the 'Rewrite SN' procedure in the service manual for full details of these procedures.
- Other procedures must be done after changing the main board. See the table in the "Required Action After Replacing Parts" section of the manual.

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The Rewrite Serial Number Tool will be available on the firmware download page.

The service manual says that we must rewrite the serial number after updating firmware. This is not true.



Replacing the Lamp - 1

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- When the lamp reaches its end of life, 'Lamp Warning, lamp life exceeded' is displayed. Replace the lamp as soon as possible.
- Allow the projector to cool for at least 30 minutes before you open the lamp cover.
- Replace with a lamp of the same type.
 - Replacement Lamp Type 19 (service part only)

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The lamp is a different type from the Deneb-PJ1.

Replacing the Lamp - 2

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Model NameRICOH PJ K8500
FW / PIC ver:R00.60 / M02.09
LAN / DDP ver:A02.07 / F01.18
Lamp Driver ver:0515
MAC:(00,50,41,7d,69,70)
SN:9494439
Display Hour
Lens Calibration
Temperature(27,22,+1,60,55,-5)
Wave Form IDs(0, 0, 0, 0)
Wave Form ID1-0

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Projection Hours-2183
Lamp Hours (Normal)1
Lamp Hours (ECO)0
Lamp Hour Reset

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▪ After you replace the lamp, do the Reset Lamp Hours procedure.

- Go into the Engineering Mode.
- Then select Display Hour, then Lamp Hour Reset.

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No additional notes

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- Adjust if there are yellowish or bluish parts in the image.

This is the same as Deneb-PJ1.



Updating the System Firmware



- There are three modules.
 - PIC, PW392, DDP4421/DDP4422
- Equipment Needed
 - Firmware Download Software
 - Download this software, and run it to automatically update the three firmware modules in succession.
 - Hardware
 - RS232 cable (female-to-female)
 - PC or Laptop
 - Procedure
 - Connect the PC and projector with the RS232C cable.
 - Run the firmware download application, and follow the procedure in the service manual to update all three modules.

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The detailed procedure is in the System Maintenance – PIC/PW392/DDP4421/DDP4422 FW Update section of the service manual. The procedure is basically the same as the Deneb-PJ1.



■ Equipment Needed

- Software
 - Network firmware file (*.bin)
- Hardware
 - LAN cable
 - PC or Laptop

■ Procedure

- Set up the projector and your computer.
 - Your browser must not be set up to use a proxy server.
 - The IP addresses of the projector and the PC must not be the same.
- Use a web browser on your computer to update the firmware.
- The procedure takes about 1 minute.

The detailed procedure is in the System Maintenance – LAN Firmware Update section of the service manual.

The procedure is basically the same as the Deneb-PJ1.

Checking the Firmware Version

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Restart the projector.

Go into service mode.

See the four versions on the screen on the right.

PW392

PIC

Model Name: RICOH PJ K8500

FW / PIC ver: R00.60 / M02.99

LAN DDP ver: A02.07 F01.18

Lamp Driver ver: 0515

MAC: (00,00,00,00,00,00)

SN: 9494439

Lens Calibration

Temperature (20,20,+1,50,55,-10)

Times of Power On/Off 48/36

Security Code 1234

Test Pattern

Lamp mode Normal

Error Log

y068m0062

LAN

DDP442x

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No additional notes



The End