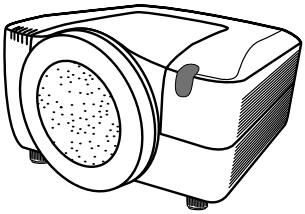
Projector

CP-X10000/CP-WX11000/CP-SX12000

User's Manual (detailed) – Operating Guide



Thank you for purchasing this projector.

⚠**WARNING** ►Before using this product, please read the "User's Manual - Safety Guide" and related manuals to ensure the proper use of this product. After reading them, store them in a safe place for future reference.

About this manual

Various symbols are used in this manual. The meanings of these symbols are described below.

⚠**WARNING** This entry warns of a risk of serious personal injury or even death.

⚠ **CAUTION** This entry warns of a risk of personal injury or physical damage.

NOTICE This entry notices of fear of causing trouble.

🕮 Please refer to the pages written following this symbol.

NOTE • The information in this manual is subject to change without notice.
• The manufacturer assumes no responsibility for any errors that may appear in this manual.
• The reproduction, transfer or copy of all or any part of this document is not permitted without express written consent.

Trademark acknowledgment

• Windows® is a registered trademark of Microsoft Corporation in the U.S. and/or other countries.
• VESA and DDC are trademarks of the Video Electronics Standard Association.
• Mac® is a registered trademark of Apple Inc.
• DVI is a trademark of Digital Display Working Group.
• HDMI, the HDMI logo and High-Definition Multimedia Interface are trademarks or registered trademarks of HDMI Licensing LLC.
• Trademark PJLink is a trademark applied for trademark rights in Japan, the United States of America and other countries and areas.

All other trademarks are the properties of their respective owners.

HITACHI
Inspire the Next

Read this Safety Guide first.

Projector

User's Manual - Safety Guide

Thank you for purchasing this projector.

WARNING • Before using, read these user's manuals of this projector to ensure correct usage through understanding. After reading, store them in a safe place for future reference. Incorrect handling of this product could possibly result in personal injury or physical damage. The manufacturer assumes no responsibility for any damage caused by mishandling that is beyond normal usage defined in these manuals of this projector.

NOTE • The information in this manual is subject to change without notice.
• The manufacturer assumes no responsibility for any errors that may appear in this manual.
• The reproduction, transmission or use of this document or contents is not permitted without express written authority.

About The Symbols

Various symbols are used in this manual, the user's manual and on the product itself to ensure correct usage, to prevent danger to the user and others, and to prevent property damage. The meanings of these symbols are described below. It is important that you read these descriptions thoroughly and fully understand the contents.

WARNING	This symbol indicates information that, if ignored, could possibly result in personal injury or even death due to incorrect handling.
CAUTION	This symbol indicates information that, if ignored, could result possibly in personal injury or physical damage due to incorrect handling.

Typical Symbols

This symbol indicates an additional warning (including cautions). An illustration is provided to clarify the contents.

This symbol indicates a prohibited action. The contents will be clearly indicated in an illustration or nearby (the symbol to the left indicates that disassembly is prohibited).

This symbol indicates a compulsory action. The contents will be clearly indicated in an illustration or nearby (the symbol to the left indicates that the power plug should be disconnected from the power outlet).

Safety Precautions

⚠ WARNING

Never use the projector if a problem should occur.

Abnormal operations such as smoke, strange odor, no image, no sound, excessive sound, damaged casing or elements or cables, penetration of liquids or foreign matter, etc. can cause a fire or electrical shock.
In such case, immediately turn off the power switch and then disconnect the power plug from the power outlet. After making sure that the smoke or odor has stopped, contact your dealer. Never attempt to make repairs yourself because this could be dangerous.



Disconnect the plug from the power outlet.

• The power outlet should be close to the projector and easily accessible.

Use special caution for children and pets.

Incorrect handling could result in fire, electrical shock, injury, burn or vision problem.
Use special caution in households where children and pets are present.



Do not insert liquids or foreign object.

Penetration of liquids or foreign objects could result in fire or electrical shock.
Use special caution in households where children are present.
If liquids or foreign object should enter the projector, immediately turn off the power switch, disconnect the power plug from the power outlet and contact your dealer.



• Do not place the projector near water (ex. a bathroom, a beach, etc.).
• Do not expose the projector to rain or moisture. Do not place the projector outdoors.
• Do not place flower vases, pots, cups, cosmetics, liquids such as water, etc on or around the projector.
• Do not place metals, combustibles, etc on or around the projector.
• To avoid penetration of foreign objects, do not put the projector into a case or bag together with any thing except the accessories of the projector, signal cables and connectors.

Never disassemble and modify.

The projector contains high voltage components. Modification and/or disassembly of the projector or accessories could result in fire or electrical shock.



Do not disassemble.

• Never open the cabinet.
• Ask your dealer to repair and clean insider.

Do not give the projector any shock or impact.

If the projector should be shocked and/or broken, it could result in an injury, and continued use could result in fire or electrical shock.
If the projector is shocked, immediately turn off the power switch, disconnect the power plug from the power outlet and contact your dealer.



Do not place the projector on an unstable surface.

If the projector should be dropped and/or broken, it could result in an injury, and continued use could result in fire or electrical shock.



• Do not place the projector on an unstable, slant or vibrant surface such as a wobbly or inclined stand.
• Use the caster brakes placing the projector on a stand with casters.
• Do not place the projector in the side up position, the lens up position or the lens down position.
• In the case of a ceiling installation or the like, contact your dealer before installation.

Safety Precautions (continued)

⚠ WARNING

Be cautious of High temperatures of the projector.
High temperatures are generated when the lamp is lit. It could result in fire or burn. Use special caution in households where children are present.
Do not touch about the lens, air fans and ventilation openings during use or immediately after use, to prevent a burn. Take care of ventilation.
• Keep a space of 30 cm or more between the sides and other objects such as walls.
• Do not place the projector on a metallic table or anything weak in heat.
• Do not place anything about the lens, air fans and ventilation openings of the projector.
• Never block the air fan and ventilation openings.
• Do not cover the projector with a tablecloth, etc.
• Do not place the projector on a carpet or bedding.



Never look through the lens or openings when the lamp is on.
The powerful light could adversely affect vision.
Use special caution in households where children are present.



Use only the correct power cord and the correct power outlet.
Incorrect power supply could result in fire or electrical shock.
• Use only the correct power outlet depending on the indication on the projector and the safety standard.
• The enclosed power cord must be used depending on the power outlet to be used.



Be cautious of the power cord connection.
Incorrect connection of the power cord could result in fire or electrical shock.
• Do not touch the power cord with a wet hand.
• Check that the connecting portion of the power cord is clean (with no dust), before using. Use a soft and dry cloth to clean the power plug.
• Insert the power plug into a power outlet firmly. Avoid using a loose, unsound outlet or contact failure.



Be sure to connect with ground wire.
Connect the ground terminal of AC inlet of this unit with the ground terminal provided at the building using the correct power cord; otherwise, fire or electric shock can result.
• Don’t take the core of power cord away.



Surely connect the ground wire.

Safety Precautions (continued)

⚠ WARNING

Be careful in handling the light source lamp.

The projector uses a high-pressure mercury glass lamp made of glass. The lamp can break with a loud bang, or burn out. When the bulb bursts, it is possible for shards of glass to fly into the lamp housing, and for gas containing mercury to escape from the projector's vent holes.



Please carefully read the section "Lamp".

Be careful in handling the power cord and external connection cables.

If you keep using a damaged the power cord or cables, it can cause a fire or electrical shock. Do not apply too much heat, pressure or tension to the power cord and cables.

If the power cord or cables is damaged (exposed or broken core wires, etc.), contact your dealer.



• Do not place the projector or heavy objects on the power cord and cables. Also, do not place a spread, cover, etc, over them because this could result in the inadvertent placing of heavy objects on the concealed power cord or cables.

• Do not pull the power cord and cables. When connecting and disconnecting the power cord or cables, do it with your hand holding the plug or connector.

• Do not place the cord near the heater.

• Avoid bending the power cord sharply.

• Do not attempt to work on the power cord.

Be careful in handling the battery of the remote control.

Incorrect handling of the battery could result in fire or personal injury. The battery may explode if not handled properly.

• Keep the battery away from children and pets. If swallowed consult a physician immediately for emergency treatment.

• Do not allow the battery in a fire or water.

• Avoid fire or high-temperature environment.



• Do not hold the battery with the metallic tweezers.

• Keep the battery in a dark, cool and dry play.

• Do not short circuit the battery.

• Do not recharge, disassemble or solder the battery.

• Do not give the battery a physical impact.

• Use only the battery specified in the other manual of this projector.

• Make sure the plus and minus terminals are correctly aligned when loading the battery.

• If you observe a leakage of the battery, wipe out the flower and then replace the battery. If the flower adheres your body or clothes, rinse well with water.

• Obey the local laws on disposing the battery.

Safety Precautions (continued)

⚠ CAUTION

Be careful in moving the projector.
Neglect could result in an injury or damage.
• Do not move the projector during use. Before moving, disconnect the power cord and all external connections, and close the slide lens door or attach the lens cap.
• Avoid any impact or shock to the projector.
• Do not drag the projector.
• For moving the projector, use the enclosed case or bag if provided.



Do not put anything on top of the projector.
Placing anything on the projector could result in loss of balance or falling, and cause an injury or damage. Use special caution in households where children are present.



Do not attach anything other than specified things to the projector.
Neglect could result in an injury or damage.
• Some projector has a screw thread in a lens part. Do not attach anything other than specified options (such as conversion lens) to the screw thread.



Avoid a smoky, humid or dusty place.
Placing the projector in a smoke, a highly humid, dusty place, oily soot or corrosive gas could result in fire or electrical shock.
• Do not place the projector near a smoky, humid or dusty place (ex. a smoking space, a kitchen, a beach, etc.). Do not place the projector outdoors.
• Do not use a humidifier near the projector.



Take care of the air filter to normal ventilate.
The air filter should be cleaned periodically. If the air filter becomes clogged by dust or the like, internal temperature rises and could cause malfunction. The projector may display the message such as “CHECK THE AIR FLOW” or turn off the projector, to prevent the internal heat level rising.
• When the indicators or a message prompts you to clean the air filter, clean the air filter as soon as possible.
• If the soiling will not come off the air filter, or it becomes damaged, replace the air filter.
• Use the air filter of the specified type only. Please order the air filter specified in the other manual of this projector to your dealer.
• When you replace the lamp, replace also the air filter. The air filter may be attached when you buy a replacement lamp for this projector.
• Do not turn on the projector without air filter.



Avoid a high temperature environment.
The heat could have adverse influence on the cabinet of the projector and other parts. Do not place the projector, the remote control and other parts in direct sunlight or near a hot object such as heater, etc.



Avoid Magnetism.
Manufacture strongly recommends to avoid any magnetic contact that is not shielded or protected on or near the projector itself. (ie.,. Magnetic Security Devices, or other projector accessory that contains magnetic material that has not been provided by the manufacture etc.) Magnetic objects may cause interruption of the projector's internal mechanical performance which may interfere with cooling fans speed or stopping, and may cause the projector to completely shut down.



Safety Precautions (continued)

⚠ CAUTION

Remove the power cord for complete separation.



Disconnect the plug from the power outlet.

• For safety purposes, disconnect the power cord if the projector is not to be used for prolonged periods of time.
• Before cleaning, turn off and unplug the projector. Neglect could result in fire or electrical shock.

Ask your dealer to cleaning inside of the projector about every year.



Accumulations of dust inside the projector cause result in fire or malfunction. Cleaning inside is more effective if performed before every humid periods such as rainy season.
• Do not clean inside yourself because it is dangerous.

NOTE

Do not give the remote control any physical impact.
A physical impact could cause damage or malfunction of the remote control.
• Take care not to drop the remote control.
• Do not place the projector or heavy objects on the remote control.

Take care of the lens.
• Close the slide lens door or attach the lens cap to prevent the lens surface being scratched when the projector is not used.
• Do not touch the lens to prevent fog or dirt of the lens that cause deterioration of display quality.
• Use commercially available lens tissue to clean the lens (used to clean cameras, eyeglasses, etc.). Be careful not to scratch the lens with hard objects.

Take care of the cabinet and the remote control.
Incorrect care could have adverse influence such as discoloration, peeling paint, etc.
• Use a soft cloth to clean the cabinet and control panel of the projector and the remote control. When excessively soiled dilute a neutral detergent in water, wet and wring out the soft cloth and afterward wipe with a dry soft cloth. Do not use undiluted detergent directly.
• Do not use an aerosol sprays, solvents, volatile substances or abrasive cleaner.
• Before using chemical wipes, be sure to read and observe the instructions.
• Do not allow long-term close contact with rubber or vinyl.

About bright spots or dark spots.
Although bright spots or dark spots may appear on the screen, this is a unique characteristic of liquid crystal displays, and such do not constitute or imply a machine defect.

Be careful of printing of the LCD panel.
If the projector continues projecting a still image, inactive images or 16:9 aspect images in case of 4:3 panel, etc., for long time, the LCD panel might possibly be printed.

Safety Precautions (continued)

NOTE

About consumables.
Lamp, LCD panels, polarizors and other optical components, and air filter and cooling fans have a different lifetime in each. These parts may need to be replaced after a long usage time.
• This product isn't designed for continuous use of long time. In the case of continuous use for 6 hours or more, or use for 6 hours or more every day (even if it isn't continuous), or repetitious use, the lifetime may be shortened, and these parts may need to be replaced even if one year has not passed since the beginning of using.
• Any inclining use beyond the adjustment range explained in these user's manuals may shorten the lifetimes of the consumables.

Before turning on the power, make the projector cool down adequately.
After turning the projector off, pushing the restart switch or interrupting of the power supply, make the projector cool down adequately. Operation in a high temperature state of the projector causes a damage of the electrode and un-lighting of the lamp.

Avoid strong rays.
Any strong ray (such as direct rays of the sun or room lighting) onto the remote control sensors could invalidate the remote control.

Avoid radio interference.
Any interfering radiation could cause disordered image or noises.
• Avoid radio generator such as a mobile telephone, transceiver, etc. around the projector.

About displaying characteristic.
The display condition of the projector (such as color, contrast, etc.) depends on characteristic of the screen, because the projector uses a liquid crystal display panel. The display condition can differ from the display of CRT.
• Do not use a polarized screen. It can cause red image.

Turn the power on/off in right order.
To prevent any trouble, turn on/off the projector in right order mentioned below unless specifying.
• Power on the projector before the computer or video tape recorder.
• Power off the projector after the computer or video tape recorder.

Take care not to fatigue your eyes.
Rest the eyes periodically.

Set the sound volume at a suitable level to avoid bothering other people.
• It is better to keep the volume level low and close the windows at night to protect the neighborhood environment.

Connecting with notebook computer
When connecting with notebook computer, set to valid the RGB external image output (setting CRT display or simultaneous display of LCD and CRT).
Please read instruction manual of the notebook for more information.

Lamp

⚠ WARNING

HIGH VOLTAGE HIGH TEMPERATURE HIGH PRESSURE

The projector uses a high-pressure mercury glass lamp. The lamp can **break with a loud bang, or burn out,** if jolted or scratched, handled while hot, or worn over time. Note that each lamp has a different lifetime, and some may burst or burn out soon after you start using them. In addition, when the bulb bursts, it is possible for **shards of glass** to fly into the lamp housing, and for **gas containing mercury** to escape from the projector's vent holes.

About disposal of a lamp • This product contains a mercury lamp; do not put in trash. Dispose of in accord with environmental laws.
For lamp recycling, go to www.lamprecycle.org. (in USA)
For product disposal, contact your local government agency or www.eiae.org (in the US) or www.epsc.ca (in Canada).
For more information, call your dealer.



Disconnect the plug from the power outlet

• If the lamp should break (it will make a loud bang when it does), unplug the power cord from the outlet, and make sure to request a replacement lamp from your local dealer. Note that shards of glass could damage the projector's internals, or cause injury during handling, so please do not try to clean the projector or replace the lamp yourself.
• If the lamp should break (it will make a loud bang when it does), ventilate the room well, and make sure not to breathe the gas that comes out of the projector vents, or get it in your eyes or mouth.
• Before replacing the lamp, make sure the power switch is off and the power cable is not plugged in, then wait at least 45 minutes for the lamp to cool sufficiently. Handling the lamp while hot can cause burns, as well as damaging the lamp.



• Do not open the lamp cover while the projector is suspended from above. This is dangerous, since if the lamp's bulb has broken, the shards will fall out when the cover is opened. In addition, working in high places is dangerous, so ask your local dealer to have the lamp replaced even if the bulb is not broken.
• Do not use the projector with the lamp cover removed. At the lamp replacing, make sure that the screws are screwed in firmly. Loose screws could result in damage or injury.



• Use the lamp of the specified type only.
• If the lamp breaks soon after the first time it is used, it is possible that there are electrical problems elsewhere besides the lamp. If this happens, contact your local dealer or a service representative.
• Handle with care: jolting or scratching could cause the lamp bulb to burst during use.
• Using the lamp for long periods of time, could cause it dark, not to light up or to burst. When the pictures appear dark, or when the color tone is poor, please replace the lamp as soon as possible. Do not use old (used) lamps; this is a cause of breakage.

Regulatory Notices

FCC Statement Warning

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.

WARNING: 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 communications. 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 different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

INSTRUCTIONS TO USERS: This equipment complies with the requirements of FCC (Federal Communication Commission) equipment provided that the following conditions are met. Some cables have to be used with the core set. Use the accessory cable or a designated-type cable for the connection. For cables that have a core only at one end, connect the core to the projector.

CAUTION: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

For the Customers in CANADA

NOTICE: This Class B digital apparatus complies with Canadian ICES-003.

Warranty And After-Service

Unless seen any abnormal operations (mentioned with the first paragraph of WARNING in this manual), when a problem occurs with the equipment, first refer to the "Troubleshooting" section of the "Operating Guide", and run through the suggested checks. If this does not resolve the problem contact your dealer or service company. They will tell you what warranty condition is applied.

Contents

About this manual 1
Contents 2
Introduction 3
Projector features 3
Important safety instruction (for the moving) 3
Checking the contents of package . . 4
Attaching the lens unit. 4
Part names 5
Projector 5
Control panel. 6
Indicator lamp 6
Rear panel 6
Remote control 7
Setting up 8
Installation environment 8
Projection style 8
Projection distance 9
Placement. 10
Supplementary anti-theft means . . . 10
Connecting with your devices 11
Connecting power supply 15
Remote control 16
Putting batteries 16
Transmitting condition. 17
Changing the frequency of remote control signal. 17
Using the REMOTE ID function . . . 18
Using as a wired remote control . . . 18
Laser pointer. 18
Operating 19
Turning on. 19
Turning off. 20
Using the elevator feet 20
Using the functions for the lens. . . . 21
Displaying and switching the image 22
Selecting an aspect ratio. 23
Using the automatic adjustment feature. . 23
Adjusting the position 24
Correcting the keystone distortion . . . 24
Using the magnify feature. 25
Temporarily freezing the screen . . . 25
Temporarily blanking the screen . . . 26
Temporarily shutting the screen . . . 26
P by P (Picture by Picture) 27
Using the menu function 28
EASY MENU. 29
Aspect, Auto keystone, Keystone, Keystone, Picture mode, Eco mode, Mirror, Reset, Filter time, Language, Advanced menu, Exit
PICTURE menu 31
Brightness, Contrast, Gamma, Color temp, Color, Tint, Sharpness, Active iris, My memory
IMAGE menu 34
Aspect, Over scan, V position, H position, H phase, H size, Auto adjust execute
INPUT menu 36
Progressive, Video nr, 3D-YCS, Color space, Component, Video format, Digital fomat, Digital range, Computer in, Frame lock, Resolution
SETUP menu 40
Auto keystone, Keystone, Keystone, Eco mode, Mirror, Monitor out
SCREEN menu. 42
Language, Menu position, Blank, Start up, MyScreen, MyScreen Lock, Message, Source name,Template, C.C.
OPTION menu 47
Source skip, Auto search, Auto keystone, Direct on, Auto off, Sutter timer Lamp time, Filter time, My button, My source, Service
NETWORK menu 56
Setup, Projector name, My image, Information, Service
SECURITY menu 61
Enter password, Security password, MyScreen password, Pin lock, Transition detector, My text password, My text display, My text writing
Maintenance 67
Lamp unit 67
Filter unit 69
Internal clock battery. 70
Others 70
Troubleshooting 71
Related messages 71
Regarding the indicator lamps 72
Phenomena that may be easily mistaken for machine defects. 74
Warranty and after-service. . . 77
Specifications 77

Introduction

Projector features

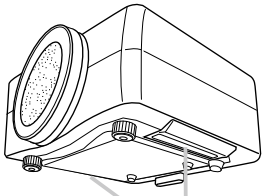
This projector has a capability to project various picture signals onto a screen. This projector requires only a minimal amount of space for installation and can produce a large projected image from even a short distance. Moreover, the projector has the following features to extend its potentiality for broad use.

- ✓ The HDMI port can support various image equipment which have digital interface to get clearer pictures on a screen.
- ✓ The super bright lamp and high quality optical system can fulfill the demands of professional uses.
- ✓ The selectable optional lens units and the super wide range of the lens shift feature will give much more chances to install the product wherever you want.
- ✓ The lens shutter can hide your inside operations and will help your presentation.
- ✓ The wealth of I/O ports is believed to support any business scene.
- ✓ This projector's network supports the PJLink™ standard.
- ✓ PJLink™ is a unified standard for operating and controlling data projectors. PJLink™ enables central control of projectors manufactured by different vendors and projectors can be operated by a controller. PJLink™ compliant equipment can be managed and controlled at any time and in any place, regardless of manufacturer.
  For the command of PJLink™, see 🕮User's Manual (Technical)
  For specifications of PJLink™, see the web site of the Japan Business Machine and Information System Industries Association.
  URL: http://pjlink.jbmia.or.jp
- ✓ The unique Electric Dust Catcher Air filter system is expected to prevent air dust from getting into the projector and offers you less maintenance frequency.

Important safety instruction (for moving)

*For details, see the 🕮 User's Manual (concise) or Safety Guide.

⚠**WARNING** ►Always move the projector with two or more people. Place your hands in the dented parts on the bottom of the projector when carrying the projector.
►Remove all the attachments including the power cord and cables, from the projector when carrying the projector.

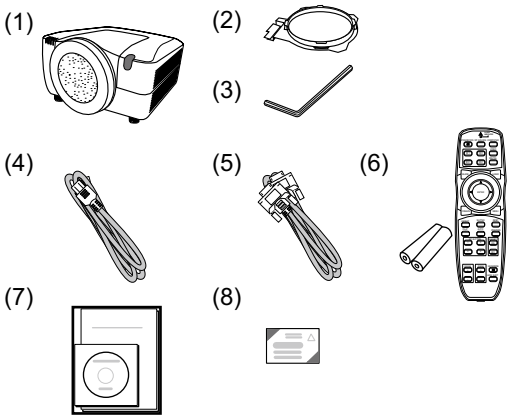


Dented parts

Checking the contents of package

Soon after purchasing this product, check that all the following items are included in the package. If any items should be missing, tell your dealer immediately.

(1) Projector
(2) Lens adapter
(3) Hexagon wrench (for installation of the optional lens unit)
(4) Power cord
(5) Computer cable
(6) Remote control with two batteries
(7) User's manuals (a book and a CD)
(8) Security label



NOTE • This product is supplied without a lens unit so that you can choose from a range of lenses (📖77) that can meet your requirements. Ask your dealer about details, and prepare one or more lens unit together with this product.
• Some additional accessories or services may be required for your use. We recommend consult with your dealer beforehand.

⚠**CAUTION** ►Keep the original packing materials, and use them correctly when transporting or storing the product.

Attaching the lens unit

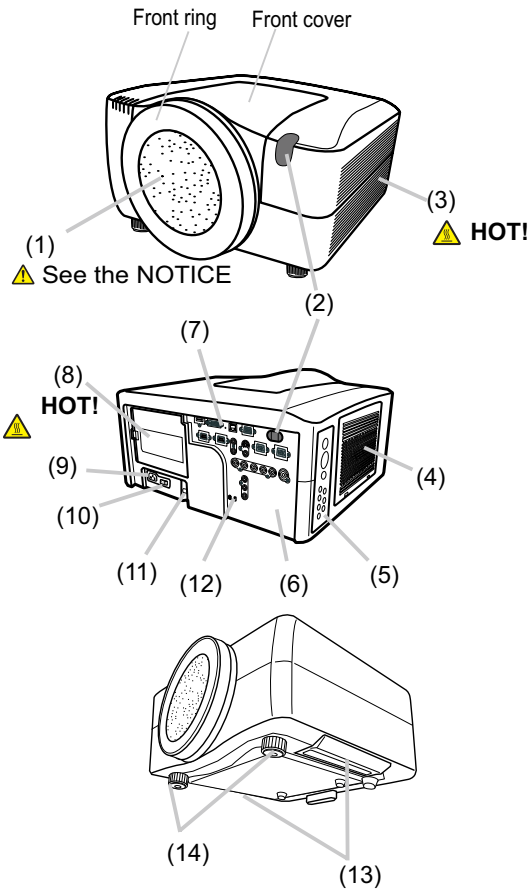
Request your dealer to install the lens unit in the projector. Be sure to leave both removing and attaching the lens unit to the service personnel your dealer sent.

⚠**WARNING** ►Use only the lens unit specified by the manufacturer.
►Leave both attaching and removing the lens unit to the service personnel your dealer sent.
►Read and keep the user's manual of the lens unit.
►Use special caution not to drop the lens unit or knock it against something.
►Do not transport the projector to which the lens unit is attached.
⚠**CAUTION** Keep the original packing materials for the lens unit, and use them correctly when transporting or storing the lens unit.
NOTICE ►Do not touch the lens surface directly.
► Keep the dust protector of the projector, and use it while no lens unit is attached to the projector.

Part names

Projector

(1) Dust protector
(2) Remote sensors (x 2) (17)
(3) Exhaust vents
(4) Filter cover (69)
The filter unit and intake vent are inside.
(5) Control panel (6)
(6) Rear panel (6)
(7) Shutdown switch (73)
(8) Lamp cover (67)
The lamp unit is inside.
(9) AC IN (AC inlet) (15)
(10) Power switch (19,20)
(11) Security bar (10)
(12) Security slot (10)
(13) Dented part (x 2) (3)
(14) Elevator feet (x 2) (20)

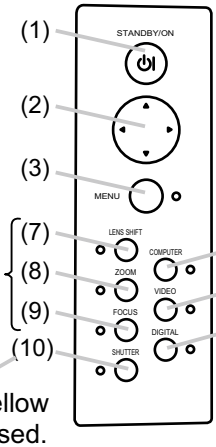


⚠**WARNING** ►**HOT!** : Do not touch around the lamp cover or the exhaust vents during use or just after use, since it is hot.
►Do not look into the lens or vents while the lamp is on, since the strong light is not good for your eyes.
►Do not grab the front cover or front ring to hold the projector, since you can drop the projector.
►Do not handle the elevator feet without holding the projector, since the projector may drop down.
⚠**CAUTION** ►Maintain normal ventilation to prevent the projector from heating up. Do not cover, block or plug up the vents. Do not place anything that can stick or be sucked to the vents, around the intake vents. Clean the air filter periodically.
NOTICE ►Do not touch the lens surface directly.
► Keep the dust protector of the projector, and use it when no lens unit is attached to the projector.

Control panel

(1) STANDBY/ON button (📖19,20)
(2) Cursor buttons (▲/▼/◄/►) (📖28)
(3) MENU button (📖28)
(4) COMPUTER button (📖22)
(5) VIDEO button (📖22)
(6) DIGITAL button (📖22)
(7) LENS SHIFT button (📖21)
(8) ZOOM button (📖21)
(9) FOCUS button (📖21)
(10) SHUTTER button (📖26)

The indicator will light in green while the menu of the function is displayed.

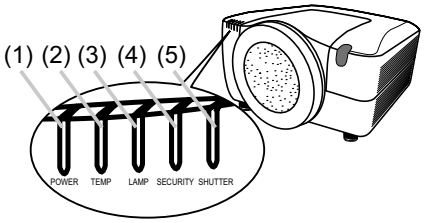


The indicator of group the selected input port belongs to will light in green.

The indicator will blink in yellow while the lens shutter is closed.

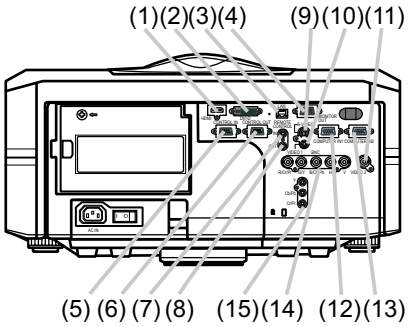
Indicator lamp (📖72)

(1) POWER indicator
(2) TEMP indicator
(3) LAMP indicator
(4) SECURITY indicator
(5) SHUTTER indicator



Rear panel(📖10)

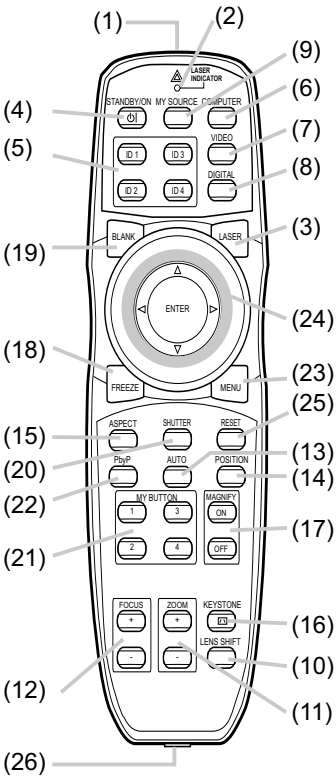
(1) HDMI port
(2) DVI-D port
(3) LAN port
(4) MONITOR OUT port
(5) CONTROL IN port
(6) CONTROL OUT port
(7) REMOTE CONTROL IN port
(8) REMOTE CONTROL OUT port
(9) S-VIDEO port
(10) VIDEO 1 port
(11) VIDEO 2 port
(12) COMPUTER IN1 port
(13) COMPUTER IN2 port
(14) BNC (G/Y, B/Cb/Pb, R/Cr/Pr, H, V) ports
(15) Component (Y, Cb/Pb, Cr/Pr) ports

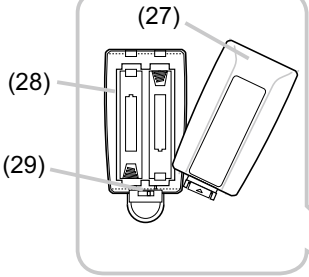


⚠**CAUTION** ►Use the shutdown switch only when the projector is not turned off following the normal procedure, since pushing this switch stops operation of the projector without cooling it down.

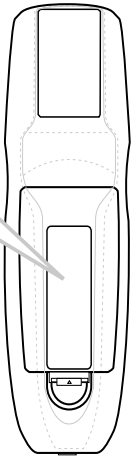
Remote control

(1) Laser pointer (📖*18*)
It is a beam outlet.
(2) LASER INDICATOR (📖*18*)
(3) LASER button (📖*18*)
(4) STANDBY/ON button (📖*19,20*)
(5) ID (1-4) button (📖*18*)
(6) COMPUTER button (📖*22*)
(7) VIDEO button (📖*22*)
(8) DIGITAL button (📖*22*)
(9) MY SOURCE button (📖*22*)
(10) LENS SHIFT button (📖*21*)
(11) ZOOM +/- button (📖*21*)
(12) FOCUS +/- button (📖*21*)
(13) AUTO button (📖*23*)
(14) POSITION button (📖*24*)
(15) ASPECT button (📖*23*)
(16) KEYSTONE button (📖*24*)
(17) MAGNIFY ON/OFF button (📖*25*)
(18) FREEZE button (📖*25*)
(19) BLANK button (📖*26*)
(20) SHUTTER button (📖*26*)
(21) MY BUTTON (1-4) button (📖*49*)
(22) P by P button (📖*27*)
(23) MENU button (📖*28*)
(24) ENTER button : press the center point.
Cursor button: press the point ▲/▼/◄/► (📖*28*).
(25) RESET button (📖*28*)
(26) Wired remote control port (📖*18*)
(27) Battery cover (📖*16*)
(28) Battery holder (📖*16*)
(29) Frequency switch (📖*17*)





Back of the remote control



⚠**WARNING** ►Do not look into the beam outlet or point the beam at people or pets while pressing the LASER button, since the beam is not good for eyes.

⚠**CAUTION** ►Note that the laser beam may result in hazardous radiation exposure. Use the laser pointer only for pointing on the screen.

Setting up

Read this chapter through first. Then install the projector into place.

Installation environment

This product requires an installing place that is stable, cool and airy. Check your installation environment in accordance with the following.

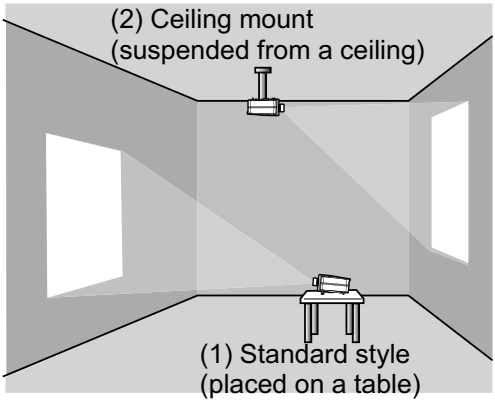
⚠**WARNING** ►Do not place the product on an unstable surface such as an uneven, tilted, or vibrating place.
►Do not place the product near water - for example, near a bathtub, washbowl, kitchen sink, or laundry tub; in a wet basement, near a swimming pool, beach; or outdoors.

⚠**CAUTION** ►Do not place the product in a dusty, smoky, or humid place - for example, on a passage, in a smoking space, in a kitchen, or outdoors.
►Do not place the product near heat sources - for example, radiators, heat registers, stoves, or other product (including amplifiers) that produces heat.
►Do not place this product in a magnetic field.

NOTICE ►Do not place the product in a place where radio interference may be caused.
► Do not place the projector in a place where any strong lights hit the remote sensors.

Projection style

This projector can be used by the following projection styles. Choose the style suitable to your use.



NOTE • In the case of ceiling mount, upward projection, or downward projection, the specified mounting accessories (🕮77) and service are required to install the projector. Request them from your dealer. Ask your dealer for installation other than styles above.

⚠**WARNING** ►Consult with your dealer about installation beforehand.
►Use only the mounting accessories the manufacturer specified, and leave installing and removing the projector with the mounting accessories to the service personnel.

Projection distance

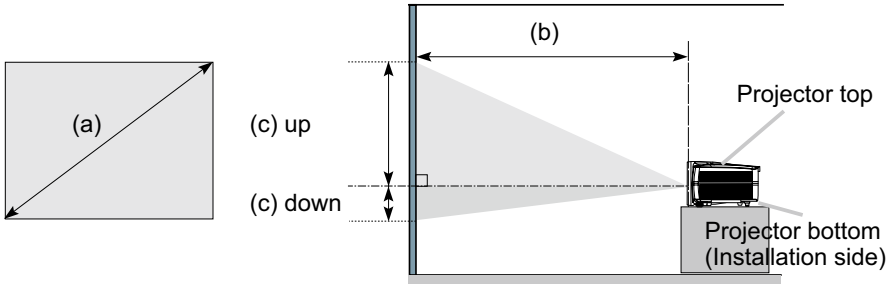
Refer to the following to arrange the projector and your screen. The values shown in the following table were calculated for the model CP-X10000 with the standard lens unit SD-804. See the user's manual of your lens unit for your case. The values differ for every combination of the projector and the lens unit.

* The values shown in the table are calculated for a full size screen: 1024×768

(a) Screen size (diagonal)

(b) Projection distance (±10%)

(c) Screen height (±10%), when the vertical lens shift is set full upward.



(a) Screen size [inch (m)]	4 : 3 screen				16 : 9 screen			
	(b) Projection distance [m (inch)]		(c) Screen height [cm (inch)]		(b) Projection distance [m (inch)]		(c) Screen height [cm (inch)]	
	min.	max.	down	up	min.	max.	down	up
40 (1.0)	1.7 (66)	2.3 (89)	-23 (-9)	84 (33)	1.3 (53)	1.8 (72)	-33 (-13)	83 (33)
60 (1.5)	2.6 (103)	3.5 (136)	-34 (-13)	125 (49)	2.1 (83)	2.8 (110)	-49 (-19)	124 (49)
70 (1.8)	3.1 (121)	4.0 (159)	-40 (-16)	146 (58)	2.5 (98)	3.3 (129)	-58 (-23)	145 (57)
80 (2.0)	3.5 (139)	4.6 (183)	-45 (-18)	167 (66)	2.9 (112)	3.8 (148)	-66 (-26)	165 (65)
90 (2.3)	4.0 (157)	5.2 (206)	-51 (-20)	188 (74)	3.2 (127)	4.3 (168)	-74 (-29)	186 (73)
100 (2.5)	4.4 (175	5.8 (230)	-56 (-22)	209 (82)	3.6 (142)	4.7 (187)	-82 (-32)	207 (81)
120 (3.0)	5.4 (211	7.0 (277)	-68 (-27)	251 (99)	4.4 (172)	5.7 (225)	-99 (-39)	248 (98)
150 (3.8)	6.7 (266	8.8 (347)	-85 (-33)	313 (123)	5.5 (216)	7.2 (283)	-123 (-49)	310 (122)
200 (5.1)	9.0 (356	11.8 (464)	-113 (-44)	418 (164)	7.4 (290)	9.6 (379)	-164 (-65)	414 (163)
250 (6.4)	11.3 (447	14.8 (582)	-141 (-56)	522 (206)	9.2 (364)	12.0 (474)	-206 (-81)	517 (204)
300 (7.6)	13.6 (537	17.8 (699)	-169 (-67)	627 (247)	11.1 (438)	14.5 (570)	-247 (-97)	620 (244)
350 (8.9)	15.9 (628	20.7 (816)	-198 (-78)	731 (288)	13.0 (512)	16.9 (666)	-288 (-113)	724 (285)
400 (10.2)	18.2 (718	23.7 (934)	-226 (-89)	835 (329)	14.9 (586)	19.4 (762)	-329 (-130)	827 (326)
500 (12.7)	22.8 (899	29.7 (1168)	-282 (-111)	1044 (411)	18.6 (734)	24.2 (954)	-411 (-162)	1034 (407)
600 (15.2)	27.4 (1081	35.6 (1403)	-339 (-133)	1253 (493)	22.4 (882)	29.1 (1145)	-493 (-194)	1241 (488)
700 (17.8)	32.0 (1262	41.6 (1638)	-395 (-156)	1462 (576)	26.2 (1030)	34.0 (1337)	-576 (-227)	1447 (570)

NOTICE ►Do not use a polarized screen, since it can cause a red image.

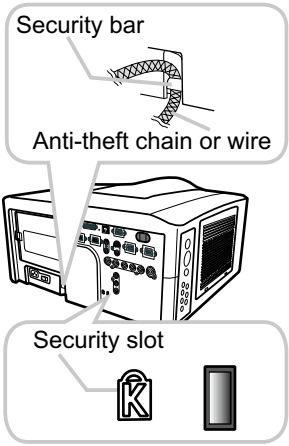
Placement

In placing the projector in place in accordance with the preceding section "Projection distance" (🕮9) heed the following too.

⚠**WARNING** ►Keep the projector away from anything that is easy to catch fire.
►Do not block or cover the openings on the projector, and keep sufficiently space for ventilation around the projector.
• Do not use the projector on a cushiony surface such a rug, a carpet or bedding.
• Keep the projector away from any light materials such as a piece of paper that can stick to the intake holes.
►Do not use the projector on an unstable stand such as a cart.
►Place the projector so that nothing enters to the inside of the projector.
• Keep the projector away from any small things such as paperclips that can fall into the inside.
• Keep the projector away from any liquids that can spill or leak into the product.
⚠**CAUTION** ►Keep the projector away from anything that is heat conductive such as metal.
• Do not use the projector on a metallic table.
►Keep the projector away from anything that is weak in heat such as some kinds of plastics.
NOTICE ►Place the projector so that there is nothing that blocks the projection light to the screen.
► Avoid exposing directly the remote sensor to any strong lights.

Supplementary anti-theft means

This projector has the security bar for a commercial anti-theft chain or wire up to 10 mm in diameter, and also the security slot for the Kensington lock.
For details, see the manual of your security tool.



NOTE • These are not provided as comprehensive theft preventions but supplemental measures.

⚠**WARNING** ►Do not use the security slot to prevent the projector from falling down, since it is not designed for it.

⚠**CAUTION** ►Do not place the anti-theft chain or wire near the projector's exhaust vents, since the chain or wire heated by the hot exhaust gas may cause burns.

Connecting with your devices

Before connecting the projector to your devices, check the manual of the device in order to make sure that the device is suitable to connect with this projector and to check what is required for the connection.
Consult your dealer when the required accessory did not come with the product or the accessory is damaged. It may be regulated under some standard.

After making sure that the projector and the devices are turned off, perform the connection, according to the following instructions. Refer to the figures in subsequent pages.

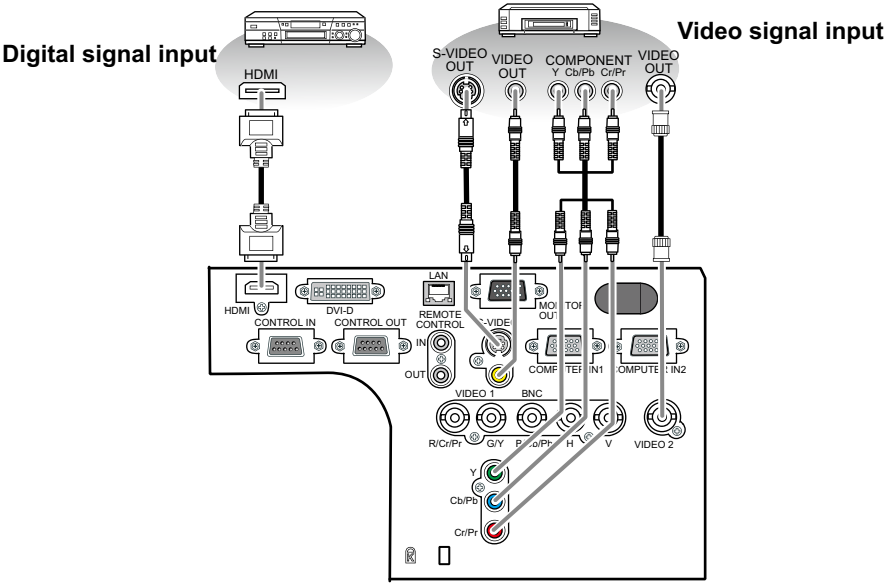
NOTE • For this product, the optional cable cover is ready to be purchased. To place an order for it, please tell your dealer the type name of it (🕮77).

⚠**WARNING** ►Use only the accessories specified or recommended by manufacturer. Modify neither a projector nor accessories.
►Do not connect or disconnect the projector with devices while they are connected to a power supply except for the cases directed by the manuals of devices.
⚠**CAUTION** ►Some connecting cable may have to have a specific length, or a ferrite core at the end to connect to the projector, under the regulation of electro-magnetic interference. When a ferrite core is attached to the specified cable only at one end, connect to the projector the end that the ferrite core is attached at.
►Be careful not to set a connector into a wrong port or with a wrong way.
►Be careful not to damage the cables. Route the cables not to be stepped on and pinched out.
NOTICE ►Do not turn your device on prior to the projector, except for the cases directed by the manuals of devices.

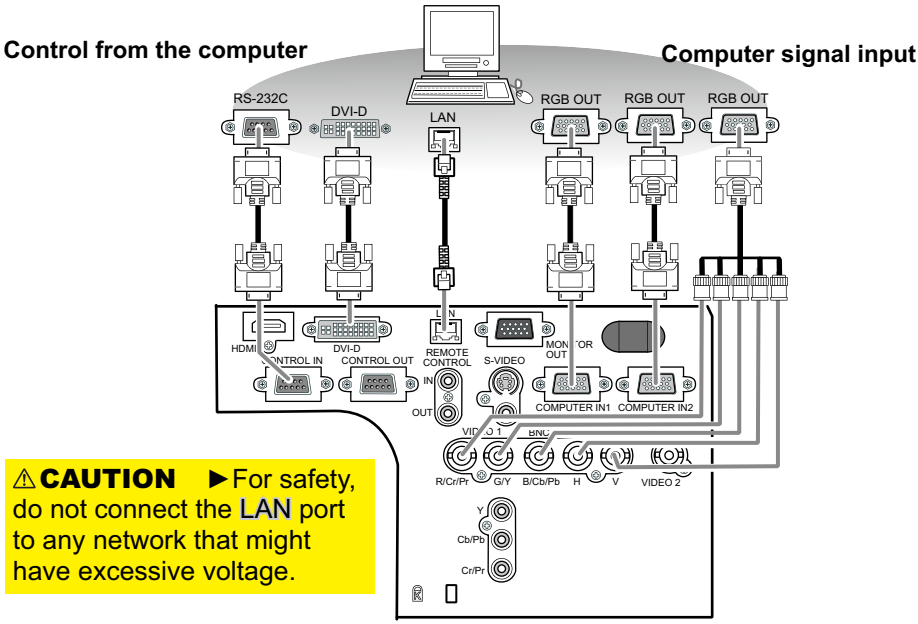
(continued on next page)

Connecting your devices (continued)

Example of connecting with VCR or DVD players



Example of connecting with computers

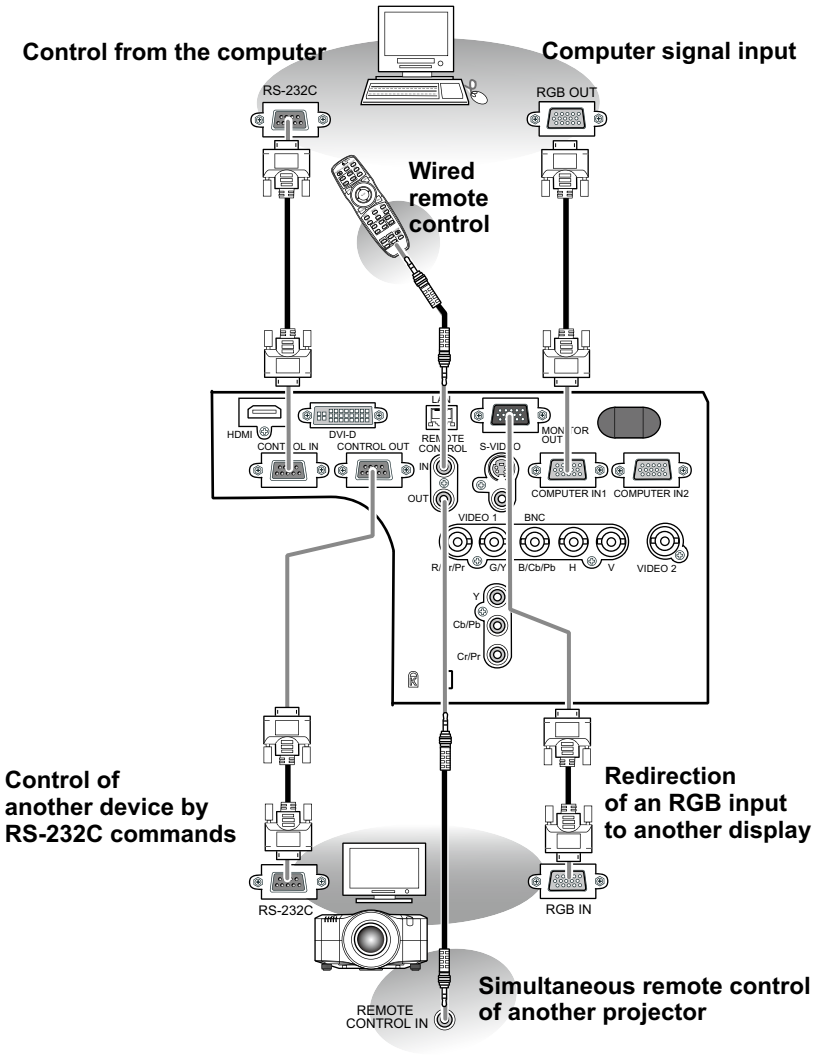


⚠**CAUTION** ►For safety, do not connect the LAN port to any network that might have excessive voltage.

(continued on next page)

Connecting your devices (continued)

Example of connecting with another projector or a display device



Connecting your devices (continued)

NOTE • Be sure to read the manuals for devices before connecting them to the projector, and make sure that all the devices are suitable to be connected with this product.
• Before connecting to a PC, check the signal level, the signal timing, and the resolution.
- Be sure to consult to the administrator of the network. Do not connect LAN port to any network that might have excessive voltage.
- Some signal may need an adapter to input this projector.
- Some PCs have multiple screen display modes that may include some signals which are not supported by this projector.
- Although the projector can display signals with resolution up to UXGA (1600X1200), the signal will be converted to the projector's panel resolution before being displayed. The best display performance will be achieved if the resolutions of the input signal and the projector panel are identical.
• While connecting, make sure that the shape of the cable's connector fits the port to connect with. And be sure to tighten the screws on connectors with screws.
• When connecting a laptop PC to the projector, be sure to activate the PC's external RGB output. (Set the laptop PC to CRT display or to simultaneous LCD and CRT display.) For details on how this is done, please refer to the instruction manual of the corresponding laptop PC.
• When the picture resolution is changed on a computer depending on an input, automatic adjustment function may take some time and may not be completed. In this case, you may not be able to see a check box to select "Yes/No" for the new resolution on Windows. Then the resolution will go back to the original. It might be recommended to use other CRT or LCD monitors to change the resolution.
• In some cases, this projector may not display a proper picture or display any picture on screen. For example, automatic adjustment may not function correctly with some input signals. An input signal of composite sync or sync on G may confuse this projector, so the projector may not display a proper picture.
• The HDMI and DVI-D ports of this model are compatible with HDCP (High-bandwidth Digital Content Protection) and therefore capable of displaying a video signal from HDCP compatible DVD players or the like.

About Plug-and-Play capability

Plug-and-Play is a system composed of a computer, its operating system and peripheral equipment (i.e. display devices). This projector is VESA DDC 2B compatible. Plug-and-Play can be used by connecting this projector to a computer that is VESA DDC (display data channel) compatible.
• Take advantage of this feature by connecting an RGB cable to the COMPUTER IN1 port (DDC 2B compatible). Plug-and-Play may not work properly if any other type of connection is attempted.
• Please use the standard drivers in your computer as this projector is a Plug-and-Play monitor.

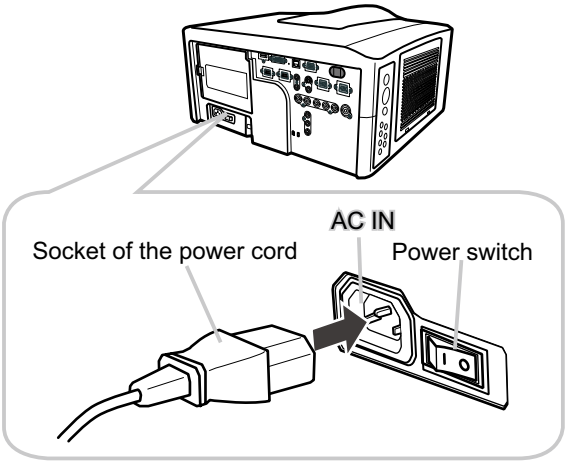
NOTE for HDMI

• The HDMI supports the following signals.
-Video signal : 480i@60,480p@60,576i@50, 576p@50,720p@50/60,1080i@50/60,1080p@50/60
-PC signals : See User's Manual (detailed) Technical
• This projector can be connected with another equipment that has HDMI or DVI connector, but with some equipment the projector may not work properly, something like no video.
• Be sure to use an HDMI cable that has the HDMI logo.
• When the projector is connected with a device having DVI connector, use a DVI to HDMI cable to connect with the HDMI input.

Connecting power supply

In accordance with the warnings shown below, connect the AC inlet of the projector to the proper power outlet. The following walks you through the connection.

1. Make sure that the power switch of the projector is set to the off-position (marked with "O").
2. Insert the socket end of the power cord into the AC IN (AC inlet) of the projector.
3. Plug the other end of the power cord into the power outlet.



⚠**WARNING** ►Do not connect the projector to a power supply when the lens unit is not attached.
►Use this projector from only the specified power supply in accordance with the label indication on the projector.
►Use a power outlet that is close to the projector and easily accessible.
►Do not overload the outlet, since overloading can result in a fire or an electric shock.
►Use only the power cord that came with this product and is suitable for your power supply. If the suitable power cord did not come with this product, consult your dealer.
►Do not use a damaged power cord. If the power cord you need is damaged, ask your dealer for a new power cord of the same type.
►Do not handle the power cord with wet hands.
►Do not repair or modify the power cord.
►Be careful not to damage the power cord. Route the power cord so that it is not likely to be walked on or pinched by items placed upon or against them.
►Connect firmly the power cord not to result in loose connection. Do not use a loose or unsound power outlet.

Remote control

Putting batteries

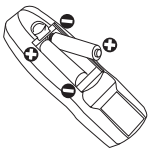
The remote control needs the two batteries of the following type.

HITACHI MAXELL, part number LR6 or R6P

The batteries that came with the product are a type suitable to this remote control.
The following walks you through loading batteries into the remote control.

1. Remove the battery cover in the back of the remote control. Push lightly the knob of the battery cover while pulling it up.





2. Put the batteries into the battery holder, according to the polarity markings “+” and “-“ inside the holder.

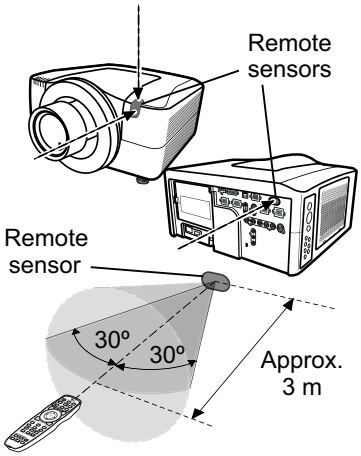
3. Put the battery cover back into place until it clicks.

NOTE • If the remote control malfunctions, try replacing the batteries with fresh ones.

⚠**WARNING** ►Be careful not to press the LASER button when loading the batteries. It is dangerous if a laser beam is unintentionally turned on. Please refer to the section "Laser pointer" (🕮*18*).
►Be careful of handling batteries, since a battery can cause explosion, cracking or leakage that could result in a fire, injury, or environment pollution.
• Use only the specified batteries. Do not use batteries of different types.
• When replacing, replace both of the batteries with new batteries of the same type. Do not use a new battery with a used battery.
• Do not use a battery with damage, such as scratches, dents, rust or leakage.
• Make sure the plus and minus terminals are correctly aligned when loading a battery.
• Do not work on a battery; for example recharging or soldering.
• If the remote control is not used for a long period of time, remove the batteries.
• Keep batteries in a dark, cool and dry place. Never expose a battery to a fire or water.
• Keep batteries away from children and pets.
• When a battery leaked, wipe the leakage out well with a waste cloth. If the leakage adhered to your body, immediately rinse it well with water. When a battery leaked in the battery holder, replace the batteries after wiping the leakage out.
• Obey the local laws on disposing a battery.

Transmitting condition

The remote control works with the remote sensors on the projector using infrared light (Class 1 LED). The remote sensor senses the remote control signals reached into the range within 60 degrees (to right and left) and 3 meters about from the sensor.

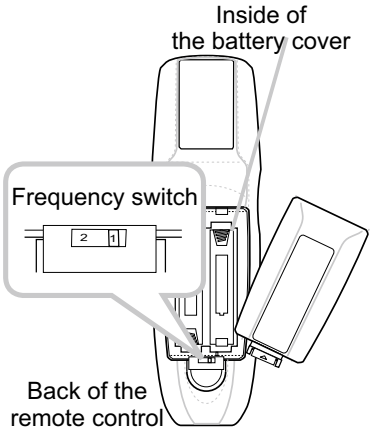


NOTE • You can inactivate one or two sensors from the three sensors using the item REMOTE RECEIVE. of the SERVICE menu under the OPTION menu.
• When you want to use two or more projectors of this type at the same time and the same place, utilize the REMOTE ID function. The buttons of ID 1, ID 2, ID 3 and ID 4 on the remote control can name the projector given the same ID number as the button by the item REMOTE ID of the SERVICE menu under the OPTION menu.

NOTICE ►Avoid exposing directly the remote sensor to any strong lights.
►Do not put anything between the remote control and the remote sensor on the projector, since it may interfere with transmission of the remote control signals.

Changing the frequency of remote control signal

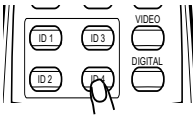
The accessory remote control has the choice of mode 1 or mode 2, in the frequency of its signal. If the remote control does not function properly, attempt to change the signal frequency.
Please remember that the “REMOTE FREQ.” in SERVICE item of OPTION menu (📖51) of the projector to be controlled should be set to the same mode as the remote control.
To set the mode of the remote control, slide the knob of the frequency switch inside the battery cover into the position indicated by the mode number to choose.



Using the REMOTE ID function

This is the function to define which projector is controlled by the remote control. Utilize this function when you use some projectors of the same type at the same time.

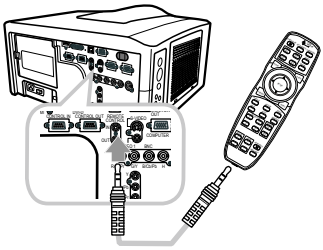
1. Set the ID number to the projector beforehand, referring to the item “REMOTE ID” item (52).
2. Press a ID button on the remote control. The ID button selected will light for 3 seconds.



NOTE • Each time you press any button (except ID buttons), the ID button of current selected ID number will light.
• To confirm the projector's current ID, press any ID button for 3 seconds. Its number will be shown on each screen regardless of set ID of projector.

Using as a wired remote control

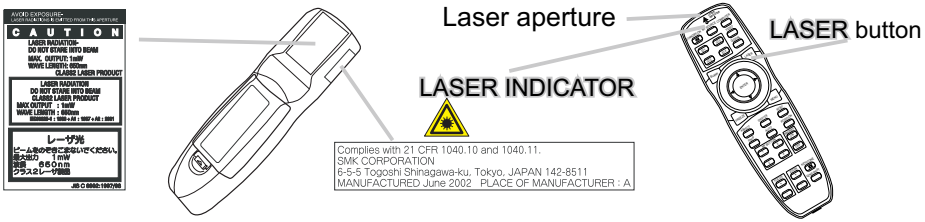
The accessory remote control works as a wired remote control, when the wired control port at the bottom of the remote control connects with the REMOTE CONTROL port on the back of the projector via an audio cable with 3.5 diameter stereo mini plugs. This function is useful when a wireless remote signal may not reliably reach the projector.



NOTE • To connect the remote control with the projector, use an audio cable with 3.5 diameter stereo mini plugs.

Laser pointer

This remote control has a laser pointer in place of a finger or rod. The laser beam works and the LASER INDICATOR lights while the LASER button is pressed.



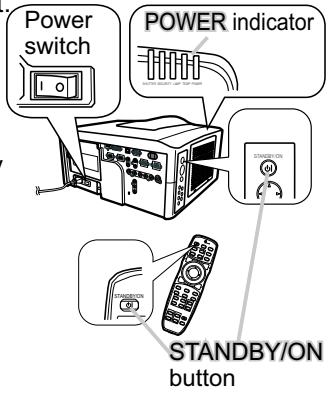
⚠**WARNING** ►Use the laser beam of the remote control only for the pointer on the screen. Do not apply the laser beam to anything except the screen.
• Never hit eyes by the laser beam since the laser beam can injure eyes.
• Do not apply the laser beam to anything except the screen.

Operating

Turning on

The following walks you through the steps to turn the projector on. For other devices, follow the manual of each.

1. Make sure that the power cord is firmly and correctly connected to the projector and the outlet.
2. Press down the side marked "I" on the power switch.
   The POWER indicator will light up in steady orange.
   Then wait for the buttons to become ready. It may take several seconds.
3. Press the STANDBY/ON button (on the projector or the remote control).
   The projection lamp will light up and the POWER indicator will begin blinking in green. When the power is completely on, the indicator will stop blinking and light in steady green.



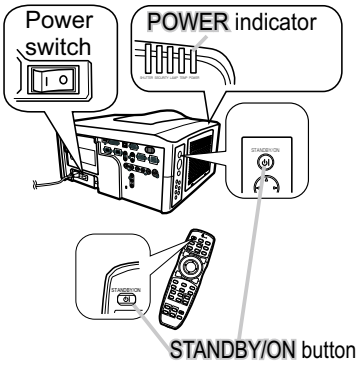
To display the picture, select an input signal according to the section "Displaying and switching the image" (22).

NOTE • When the item DIRECT ON of the OPTION menu is set to the ON, and that the projector was turned off by only the power switch without using the STANDBY/ON button, switching the power switch on turns the projector on without the formal procedure shown above.

⚠**WARNING** ►Do not look directly into the lens or the openings on the projector while the lamp is on.
►Do not approach the lamp cover and the exhaust vents, while the projection lamp is on.
NOTICE ►Do not turn your device on prior to the projector, except for the cases directed by the manuals of devices.

Turning off

The following walks you through the steps to turn the projector off.



1. Press the STANDBY/ON button on the projector or the remote control.
   The message "Power off?" will appear on the screen for about 5 seconds.
2. Press the STANDBY/ON button again while the message is shown.
   The projector lamp will go off, and the POWER indicator will begin blinking in orange.
   Then the POWER indicator will stop blinking and light in steady orange when lamp cooling is complete.
3. After making sure that the POWER indicator lights in steady orange, and press down the side marled "O" on the power switch.
   The POWER indicator will go off.

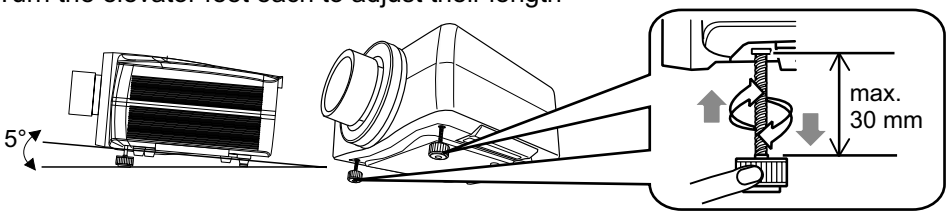
For other devices, follow the manual of each.

NOTE • Use the shutdown switch only when the projector can be not turned off by normal procedure.

⚠**WARNING** ►Do not approach the lamp cover and the exhaust vents for a while after the lamp goes out, since they may be hot and could cause burns.
NOTICE ►Turn your device off prior to the projector, except for the cases directed by the manuals of devices.

Using the elevator feet

Lengthening or shortening the length of the elevator feet shifts the projection position and the projection angle.
Turn the elevator feet each to adjust their length

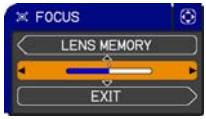


⚠**WARNING** ►Do not lengthen the elevator feet to 30 mm or more. The foot lengthened exceeding the limit may come off and drop the projector down, and result in an injury or damaging the projector.
⚠**CAUTION** ►Do not place the projector with an inclination of 5 degrees or more. The projector leaned exceeding the limit could cause malfunction and shorten the life of the projector.

Using the functions for the lens

ZOOM / FOCUS





Press the ZOOM / FOCUS button. The ZOOM / FOCUS dialog will appear. Adjust the zoom / focus using the ◄/► button while the dialog is displayed. Press the ▼ button to select "EXIT" on the dialog. It finishes the OSD menu.

LENS SHIFT



Press the LENS SHIFT button. The LENS SHIFT dialog will appear. Using the ▲/▼/◄/► buttons while the dialog is displayed shifts the lens.

CENTERING

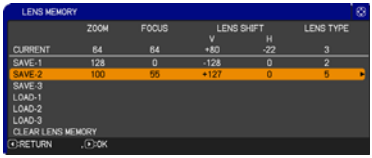
❍ **In the LENS SHIFT dialog:**
Press the DIGITAL button.

❍ **In the standby mode:**
Press the LENS SHIFT and the DIGITAL buttons for 3 seconds at the same time.

- While the lens is shifting, the menu will disappears and the icon of hourglass will appears on screen. Shifting may takes some time. Depending on the case, it may reach one minute.
- The LENS SHIFT indicator lights up or blinks in green while the lens is shifting. Then the indicator will stop blinking and light for 3 seconds in steady green when the centering is complete.
- When the lens is located in the center already, pressing the DIGITAL button in the LENS SHIFT dialog lights in steady green the LENS SHIFT indicator for 3 seconds.

LENS MEMORY SAVE / LOAD / CLEAR

This projector is equipped with memory functions for the lens adjustments (zoom, focus and shift).
To display the LENS MEMORY dialog, select the LENS MEMORY on the ZOOM, FOCUS or LENS SHIFT dialog. Then the LENS MEMORY dialog will appear.



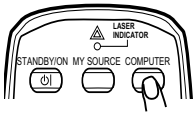
❍ **SAVE:**To save the current lens adjustments, select a SAVE-(1-3) and press ► or ENTER button.

❍ **LOAD:**To load a saved adjustments, select the LOAD-(1-3) and press ► or ENTER button. When the MY BUTTON button is allocated to the LOAD-(1-3) the memory can be loaded without the LENS MEMORY dialog.

❍ **CLEAR:**Selecting the CLEAR LENS MEMORY in the LENS MEMORY dialog displays CLEAR LENS MEMORY dialog. Select the number to be cleared using ▲/▼ buttons and press the ► button. The dialog to check your intention will come out. Then press the ► button again in the dialog.

Displaying and switching the image

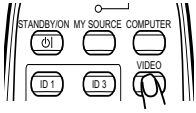
1. Press the COMPUTER button to select an input port for the RGB signal.
   Each time you press the button, the projector switches its RGB input port from the current port as below.



→ COMPUTER IN1 → COMPUTER IN2 → BNC

- While ON is selected for AUTO SEARCH item in OPTION menu, the projector will keep checking every port sequentially till an input signal is detected (📖47). If COMPUTER button is pushed when VIDEO 1, VIDEO 2, S-VIDEO, Component, HDMI or DVI-D port is selected, the projector will check COMPUTER IN1 port first.

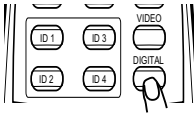
1. Press the VIDEO button to select an input for video signal.
   Each time you press the button, the projector switches its video input port as below.



COMPONENT (Y, Cb/Pb, Cr/Pr) → S-VIDEO → VIDEO 1 → VIDEO 2

- While ON is selected for AUTO SEARCH item in OPTION menu, the projector will keep checking every port sequentially till an input signal is detected (📖47). If VIDEO button is pushed when COMPUTER IN1 or COMPUTER IN2 port is selected, the projector will check Component port first.

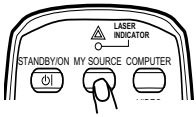
1. Press the DIGITAL button to select an input for digital signal.
   Each time you press the button, the projector switches its digital input port as below.



HDMI ↔ DVI-D

- While ON is selected for AUTO SEARCH item in OPTION menu, the projector will keep checking every port sequentially till an input signal is detected (📖47). If DIGITAL button is pushed when Component, S-VIDEO, VIDEO 1 or VIDEO 2 port is selected, the projector will check HDMI port first.

1. Press the MY SOURCE button on the remote control. The input signal will be changed into the signal you set as MY SOURCE(📖49).



- This function also can use for document camera. Select the input port that connected the document camera.

Selecting an aspect ratio

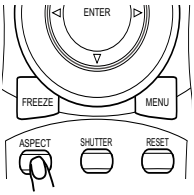
1. Press the ASPECT button on the remote control.
Each time you press the button, the projector switches the mode for aspect ratio in turn.

❍ **For a computer signal**
NORMAL → 4:3 → 16:9 → 16:10* → SMALL* → NATIVE* → FULL*

❍ **For an HDMI or DVI-D signal**
NORMAL → 4:3 → 16:9 → 16:10* → 14:9 → SMALL* → NATIVE* → FULL*

❍ **For a video signal, s-video signal or component video signal**
4:3 → 16:9 → 16:10* → 14:9 → SMALL* → NATIVE* → FULL*

❍ **For no signal**
4:3 (fixed, except CP-WX11000) / FULL (fixed, CP-WX11000)

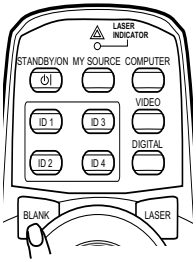


● *16:10 / FULL: CP-WX11000 only. NATIVE: Except CP-X10000. SMALL: Except CP-WX11000.
● The NORMAL mode keeps the original aspect ratio of the signal.

Using the automatic adjustment feature

1. Press the AUTO button on the remote control.
Pressing this button performs the following.

❍ **For a computer signal**
The vertical position, the horizontal position and the horizontal phase will be automatically adjusted.
Make sure that the application window is set to its maximum size prior to attempting to use this feature.
A dark picture may still be incorrectly adjusted. Use a bright picture when adjusting.



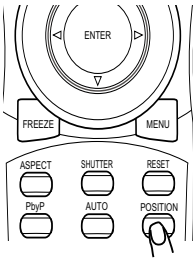
❍ **For a video signal and s-video signal**
The video format best suited for the respective input signal will be selected automatically. This function is available only when the AUTO is selected for the VIDEO FORMAT item in the INPUT menu (📖37). The vertical position and horizontal position will be automatically set to the default.

❍ **For a component video signal**
The vertical position, horizontal position and horizontal phase will be automatically set to the default.

● The automatic adjustment operation requires approx. 10 seconds. Also please note that it may not function correctly with some input. When this function is performed for a video signal, a certain extra such as a line may appear outside a picture.
● The items adjusted by this function may vary when the FINE or DISABLE is selected for the AUTO ADJUST item of the SERVICE item in the OPTION menu (📖50).

Adjusting the position

1. Press the POSITION button on the remote control when no menu is indicated.
   The “POSITION” indication will appear on the screen.
2. Use the ▲/▼/◄/► cursor buttons to adjust the picture position. When you want to reset the operation, press the RESET button on the remote control during the operation.
   To complete this operation, press the POSITION button again. Even if you do not do anything, the dialog will automatically disappear after a few seconds.

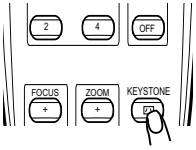


- When this function is performed on a video signal, s-video signal or component video signal, some image such as an extra-line may appear at outside of the picture.
- When this function is performing on a Video signal, S-Video signal, or component signal of 480i@60 or 576i@50 input the range of this adjustment depends on the OVER SCAN in IMAGE menu (📖34). It is not possible to adjust when the OVER SCAN is set to 10.

Correcting the keystone distortion

1. Press the KEYSTONE button on the remote control. A dialog will appear on the screen to aid you in correcting the distortion.





2. Use the ▲/▼ cursor buttons to select AUTO or MANUAL operation, and press the ► button to perform the following.
   1) AUTO executes automatic vertical keystone correction.
   2) MANUAL displays a dialog for keystone correction. Use the ▲/▼ cursor buttons to select the direction to correct (⏢ or ⏢) then use the ◄/► buttons for adjustment.

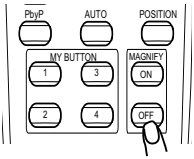


   To close the dialog and complete this operation, press the KEYSTONE button again. Even if you don’t do anything, the dialog will automatically disappear after a few seconds.

- The adjustable range of this function will vary among inputs. For some input, this function may not work well.
- When V:INVERT or H&V:INVERT is selected to the MIRROR item in the SETUP menu, if the projector screen is inclined or angled downward, this function may not work correctly.
- When the zoom adjustment is set to the TELE (telephoto focus), this function may be excessive. This function should be used when the zoom adjustment is set to the full WIDE (wide-angle focus) whenever possible.
- When the projector is placed on the level (about ±3°), this function may not work.
- When the projector is inclined to near ±30 degree or over, this function may not work well.
- When the vertical lens shift is not set fully upward (not set fully downward for the optional lens type USL-801 only (📖51)), this function may not work well.
- When the horizontal lens shift is not set to the center, this function may not work well.
- This function will be unavailable when Transition Detector is on (📖64).

Using the magnify feature

1. Press the ON button of MAGNIFY on the remote control. The "MAGNIFY" indication will appear on the screen and the projector will go into the MAGNIFY mode. In the Magnify mode, the picture will be zoomed. The indication will disappear in several seconds with no operation.



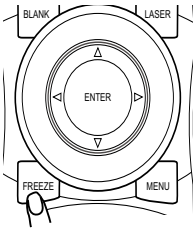
2. Use the ▲/▼ cursor buttons to adjust the zoom level. To move the zoom area, press the POSITION button in the MAGNIFY mode, then use the ▲/▼/◄/► cursor buttons to move the area. And to finalize the zoom area, press the POSITION button again.
To exit from the MAGNIFY mode and restore the screen to normal, press the OFF button of MAGNIFY on the remote control.

- The projector automatically exits from the MAGNIFY mode when the input signal is changed or when the display condition is changed.
- In the MAGNIFY mode, the keystone distortion condition may vary, it will be restored when the projector exits from the MAGNIFY mode.

NOTE • The zoom level can be finely adjusted. Closely watch the screen to find the level you want.

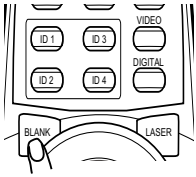
Temporarily freezing the screen

1. Press the FREEZE button on the remote control. The "FREEZE" indication will appear on the screen (however, the indication will not appear when the OFF is selected for the MESSAGE item in the SCREEN menu (📖*45*)), and the projector will go into the FREEZE mode, which the picture is frozen.
To exit the FREEZE mode and restore the screen to normal, press the FREEZE button again.



- The projector automatically exits from the FREEZE mode when some control buttons are pressed.
- If the projector continues projecting a still image for a long time, the LCD panel might possibly be burned in. Do not leave the projector in the FREEZE mode for too long.

Temporarily blanking the screen

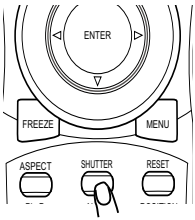


1. Press the BLANK button on the remote control.
   The blank screen will be displayed instead of the screen of input signal. Please refer to the BLANK item in SCREEN menu (📖42).
   To exit from the blank screen and return to the input signal screen, press the BLANK button again.

- The projector automatically exits from the BLANK mode when some control buttons are pressed.

Temporarily shutting the image

1. Pressing the SHUTTER button closes or opens the mechanical lens shutter.
   The closed shutter blocks the projection light, so that it can black out the screen.
   - The SHUTTER indicator on the projector blinks while the shutter is closed.
   - The projector will turn off automatically when the time set up by the SHUTTER TIMER passes (📖48).
   - When turning the power off with the STANDBY/ON button (📖20), the lens shutter closed opens automatically. If the power supply is stopped while opening or closing the lens shutter, the moving of the lens shutter is stopped too. However, when turning the projector on, the lens shutter closed or incompletely opened opens automatically.

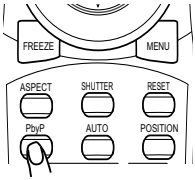


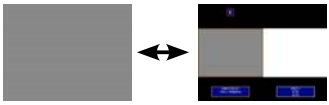
PbyP (Picture by Picture)

The **PbyP** is a function to display two different picture signals on a screen that is split in two areas for each signal. Some of functions can be used with the same operation as it for the normal mode (not in the **PbyP** mode). There are some operations available only in the **PbyP** mode.

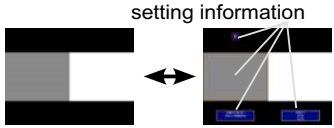
Starting the PbyP

Press the PbyP button on the remote control, then the **PbyP** function will be started. To quit the **PbyP** mode, press the button again.



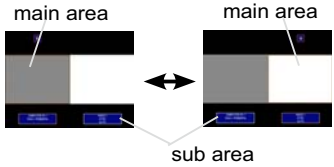


Showing the setting information



The setting information is displayed for several seconds when the **PbyP** function is started. It shows the input signal information for each area. Also, there will be a yellow frame and speaker mark with one of the area that is the main area where most of operations are effective. The information can be displayed using the cursor buttons ▲/▼/◄/► when the setting information is not on the screen.

Changing the main area



Most of operations are effective for the main area only. Also the audio input signal paired with the picture input signal for the main area is assigned as the audio output signal. The main area can be changed using the cursor buttons ◄/► when the setting information is on the screen.

Changing the picture input signal



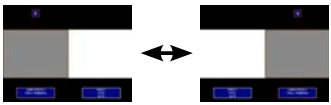
<signal combination>

Main \ Sub	COMPUTER IN1	COMPUTER IN2	BNC	HDMI	DVI-D	Component	Scart RGB	S-Video	Video 1	Video 2
COMPUTER IN1		0	0	0	0	0	0	0	0	0
COMPUTER IN2	0		0	0	0	0	0	0	0	0
BNC	0	0		0	0	0	0	0	0	0
HDMI	0	0	0		X	0	X	X	X	X
DVI-D	0	0	0	X		0	X	X	X	X
Component	0	0	0	0	0		0	0	0	0
Scart RGB	0	0	0	X	X			X	X	X
S-Video	0	0	0	X	X	0	X		X	X
Video 1	0	0	0	X	X	0	X	X		X
Video 2	0	0	0	X	X	0	X	X	X	

Press the COMPUTER, VIDEO or DIGITAL button while in the **PbyP** mode, the menu to select the input signal will be appeared. Choose a signal using the cursor buttons ▲/▼. If you want to change the signal in the sub area, switch the main area using the cursor buttons ◄/► first. Displaying the same signal on the both areas is not allowed. For other combinations of the input signal, refer to the right table. Any combinations marked with X can not be selected.

Using the PbyP SWAP function

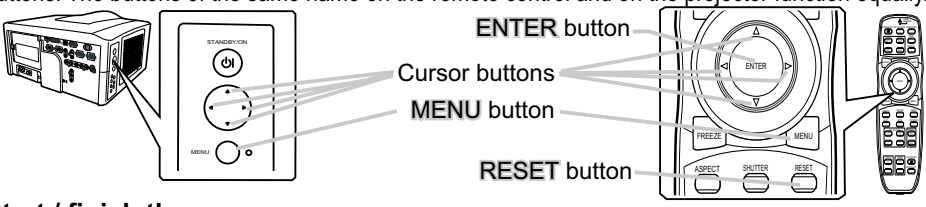
Press the MY BUTTON assigned the **PbyP SWAP** (📖*49*). The position of the both area is exchanged without any setting change.



NOTE •For some signals, it may not be displayed correctly in the **PbyP** mode, even if it can be displayed properly in the normal mode.

Using the menu function

This projector has the following menus: PICTURE, IMAGE, INPUT, SETUP, SCREEN, OPTION, NETWORK, SECURITY and EASY MENU. The EASY MENU consists of functions often used, and the other menus are classified into each purpose and brought together as the ADVANCED MENU. Each of these menus is operated using the same methods with the ▲/▼/◄/►, ENTER and RESET buttons. The buttons of the same name on the remote control and on the projector function equally.



Start / finish the menu

To start the MENU, press the MENU button. The MENU you last used (EASY or ADVANCED) will appear. EASY MENU has priority to appear just after powered on. To finish the MENU, press the MENU button again.
If you want to change it to EASY/ADVANCED MENU, select the EASY/ADVANCED MENU on the menu.



Indication in OSD (On Screen Display)



The meanings of the general words on the OSD are as follows.

Indication	Meaning
EXIT	Selecting this word finishes the OSD menu. It's the same as pressing the MENU button.
RETURN	Selecting this word returns the menu to the previous menu.
CANCEL or NO	Selecting this word cancels the operation in the present menu and returns to the previous menu.
OK or YES	Selecting this word executes the prepared function or shifts the menu to the next menu.

NOTE ● If you want to move the menu position, use the ▲/▼/◄/► buttons after pressing the POSITION button.
● Some functions cannot be performed when a certain input port is selected, or when a certain input signal is displayed.
● When you want to reset the operation, press the RESET button on the remote control during the operation. Note that items whose functions are performed simultaneously with operation (ex. LANGUAGE, H PHASE etc.) cannot be reset.
● Even if you do not do anything, the dialog will automatically disappear after about 30 seconds.

EASY MENU

From the EASY MENU, items shown in the table below can be performed.
Select an item using the ▲/▼ cursor buttons on the projector or remote control. Then perform it according to the following table.



<table>
<tr><th>Item</th><th>Description</th></tr>
<tr><td>ASPECT</td><td>Using the ◄/► buttons switches the mode for aspect ratio.
See the ASPECT item in IMAGE menu (📖34).</td></tr>
<tr><td>AUTO KEYSTONE</td><td>Using the ► button executes the auto keystone function.
See the AUTO KEYSTONE item in SETUP menu (📖40).</td></tr>
<tr><td>KEYSTONE</td><td>Using the ◄/► buttons corrects the vertical keystone distortion.
See the KEYSTONE item in SETUP menu (📖40).</td></tr>
<tr><td>KEYSTONE</td><td>Using the ◄/► buttons corrects the horizontal keystone distortion.
See the KEYSTONE item in SETUP menu (📖41).</td></tr>
<tr><td>PICTURE MODE</td><td>Using the ◄/► buttons switches the picture mode.
The picture modes are combinations of GAMMA and COLOR TEMP settings. Choose a suitable mode according to the projected source.
NORMAL ⇔ CINEMA ⇔ DYNAMIC ⇔ BOARD(BLACK)
DAYTIME ⇔ WHITEBOARD ⇔ BOARD(GREEN)
<table>
<tr><th></th><th>COLOR TEMP</th><th>GAMMA</th></tr>
<tr><td>NORMAL</td><td>2 MID</td><td>1 DEFAULT</td></tr>
<tr><td>CINEMA</td><td>3 LOW</td><td>2 DEFAULT</td></tr>
<tr><td>DYNAMIC</td><td>1 HIGH</td><td>3 DEFAULT</td></tr>
<tr><td>BOARD(BLACK)</td><td>4 Hi-BRIGHT-1</td><td>4 DEFAULT</td></tr>
<tr><td>BOARD(GREEN)</td><td>5 Hi-BRIGHT-2</td><td>4 DEFAULT</td></tr>
<tr><td>WHITEBOARD</td><td>2 MID</td><td>5 DEFAULT</td></tr>
<tr><td>DAYTIME</td><td>6 Hi-BRIGHT-3</td><td>6 DEFAULT</td></tr>
</table>
• When the combination of GAMMA and COLOR TEMP differs from pre-assigned modes above, the display on the menu for the PICTURE MODE is “CUSTOM”. Please refer to the GAMMA and COLOR TEMP (📖31, 32) items in PICTURE menu.
• When this function is performed, lines or other distiortions may appear.</td></tr>
</table>

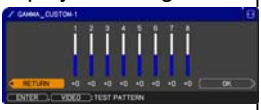
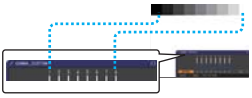
(continued on next page)

Item	Description
ECO MODE	Using the ◄/► buttons turns off/on the eco mode. See the ECO MODE item in SETUP menu (🕮41).
MIRROR	Using the ◄/► buttons switches the mode for mirror status. See the MIRROR item in SETUP menu (🕮41).
RESET	Performing this item resets all of the EASY MENU items except the FILTER TIME and LANGUAGE. A dialog is displayed for confirmation. Selecting the OK using the ► button performs resetting.
FILTER TIME	The usage time of the air filter is shown in the menu. Performing this item resets the filter time which counts usage time of the air filter. A dialog is displayed for confirmation. Selecting the OK using the ► button performs resetting. See the FILTER TIME item in OPTION menu (🕮48).
LANGUAGE	Using the ◄/► buttons changes the display language. See the LANGUAGE item in SCREEN menu (🕮42).
ADVANCED MENU	Press the ► or ENTER button to use the menu of PICTURE, IMAGE, INPUT, SETUP, SCREEN, OPTION, NETWORK or SECURITY.
EXIT	Press the ◄ or ENTER button to finish the OSD menu.

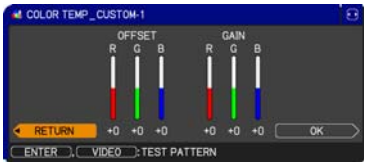
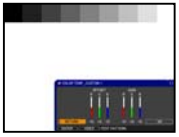
PICTURE menu

From the PICTURE menu, items shown in the table below can be performed.
Select an item using the ▲/▼ cursor buttons on the projector or remote control, and press the ► cursor button on the projector or remote control, or the ENTER button on the remote control to execute the item. Then perform it according to the following table.



Item	Description
BRIGHTNESS	Using the ◄/► buttons adjusts the brightness. Dark ⇔ Light
CONTRAST	Using the ◄/► buttons adjusts the contrast. Weak ⇔ Strong
GAMMA	Using the ▲/▼ buttons switches the gamma mode. 1 DEFAULT ⇔ 1 CUSTOM ⇔ 2 DEFAULT ⇔ 2 CUSTOM ⇔ 3 DEFAULT ⇕ ⇕ 6 CUSTOM 3 CUSTOM ⇕ ⇕ 6 DEFAULT ⇔ 5 CUSTOM ⇔ 5 DEFAULT ⇔ 4 CUSTOM ⇔ 4 DEFAULT **To adjust CUSTOM** Selecting a mode whose name includes CUSTOM and then pressing the ► button or the ENTER button displays a dialog to aid you in adjusting the mode. This function is useful when you want to change the brightness of particular tones.  Choose an item using the ◄/► buttons, and adjust the level using the ▲/▼ buttons. You can display a test pattern for checking the effect of your adjustment by pressing the ENTER or VIDEO button. Each time you press the ENTER or VIDEO button, the pattern changes as below.  No pattern ⇨ Gray scale of 9 steps ⇨ ⇦ Ramp ⇦ Gray scale of 15 steps The eight equalizing bars correspond to eight tone levels of the test pattern (Gray scale of 9 steps) except the darkest in the left end. If you want to adjust the 2nd tone from left end on the test pattern, use the equalizing adjustment bar “1”. The darkest tone at the left end of the test pattern cannot be controlled with any of equalizing adjustment bar. • When this function is performed, lines or other distortions may appear. 

(continued on next page)

Item	Description
COLOR TEMP	Using the ▲/▼ buttons switches the color temperature mode. 1 HIGH ⇔ 1 CUSTOM ⇔ 2 MID ⇔ 2 CUSTOM ⇕ ⇕ 6 CUSTOM 3 LOW ⇕ ⇕ 6 Hi-BRIGHT-3 3 CUSTOM ⇕ ⇕ 5 CUSTOM⇔5 Hi-BRIGHT-2⇔4 CUSTOM⇔4 Hi-BRIGHT-1 **To adjust CUSTOM** Selecting a mode whose name includes CUSTOM and then pressing the ► button or the ENTER button displays a dialog to aid you in adjusting the OFFSET and GAIN of the selected mode.  OFFSET adjustments change the color intensity on the whole tones of the test pattern. GAIN adjustments mainly affect color intensity on the brighter tones of the test pattern. Choose an item using the ◄/► buttons, and adjust the level using the ▲/▼ buttons. You can display a test pattern for checking the effect of your adjustment by pressing the ENTER or VIDEO button. Each time you press the ENTER or VIDEO button, the pattern changes as below. No pattern ⇨ Gray scale of 9 steps⇩ ⇧ Ramp ⇦ Gray scale of 15 steps  • When this function is performed, lines or other distortion may appear.
COLOR	Using the ◄/► buttons adjusts the strength of whole color. Weak ⇔ Strong • This item can be selected only for a video signal, s-video, component video, HDMI or DVI-D signal when the VIDEO is selected on the DIGITAL FORMAT item (🕮37).
TINT	Using the ◄/► buttons adjusts the tint. Reddish ⇔ Greenish • This item can be selected only for a video signal, s-video, component video, HDMI or DVI-D signal when the VIDEO is selected on the DIGITAL FORMAT item (🕮37).
SHARPNESS	Using the ◄/► buttons adjusts the sharpness. Weak ⇔ Strong • There may be some noise and/or the screen may flicker for a moment when an adjustment is made. This is not a malfunction.

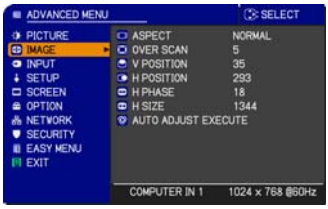
(continued on next page)

<table>
<tr><th>Item</th><th>Description</th></tr>
<tr><td>ACTIVE IRIS</td><td>Using the ▲/▼ cursor buttons changes the active iris control mode.
PRESENTATION ⇔ THEATER ⇔ MANUAL
<table>
<tr><td></td><td>Feature</td></tr>
<tr><td>PRESENTATION</td><td>The active iris displays the best presentation image for both bright and dark scenes.</td></tr>
<tr><td>THEATER</td><td>The active iris displays the best theater image for both bright and dark scenes.</td></tr>
<tr><td>MANUAL</td><td>The active iris is set to fixed brightness (0:dark - 7:bright)</td></tr>
</table>
• The screen may flicker when the PRESENTATION or THEATER modes are selected. If this occurs select MANUAL.</td></tr>
<tr><td>MY MEMORY</td><td>This projector has 4 memories for adjustment data (for all the items of the PICTURE menu).
Selecting a function using the ▲/▼ buttons and pressing the ► or ENTER button performs each function.
SAVE-1 ⇔ SAVE-2 ⇔ SAVE-3 ⇔ SAVE-4
LOAD-4 ⇔LOAD-3 ⇔ LOAD-2 ⇔ LOAD-1

<u>SAVE-1, SAVE-2, SAVE-3, SAVE-4</u>
Performing a SAVE function saves the current adjustment data into the memory linked in the number included in the function’s name.
• Remember that the current data being stored of a memory will be lost by saving new data into the memory.
<u>LOAD-1, LOAD-2, LOAD-3, LOAD-4</u>
Performing a LOAD function loads the data from the memory linked in the number included in the function’s name, and adjusts the picture automatically depending on the data.
• The LOAD functions whose linked memory has no data are skipped.
• Remember that the current adjusted condition will be lost by loading data. If you want to keep the current adjustment, please save it before performing a LOAD function.
• There may be some noise and the screen may flicker for a moment when loading data. This is not malfunction.
• The LOAD functions can be also performed by the MY MEMORY button which can be set by the MY BUTTON item in OPTION menu (🕮49).</td></tr>
</table>

IMAGE menu

From the IMAGE menu, items shown in the table below can be performed.
Select an item using the ▲/▼ cursor buttons on the projector or remote control, and press the ► cursor button on the projector or remote control, or ENTER button on the remote control to execute the item.
Then perform it according to the following table.

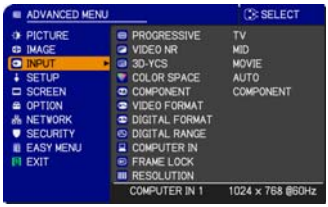


Item	Description
ASPECT	Using the ▲/▼ buttons switches the mode for aspect ratio. **For a COMPUTER signal** NORMAL ⇔ 4:3 ⇔ 16:9 ⇔ 16:10* ⇔ SMALL* ⇔ NATIVE* ⇔ FULL* **For an HDMI or DVI-D signal** NORMAL ⇔ 4:3 ⇔ 16:9 ⇔ 16:10* ⇔ 14:9 ⇔ SMALL* ⇔ NATIVE* ⇔ FULL* **For a Video signal, S-video signal or component video signal** 4:3 ⇔ 16:9 ⇔ 16:10* ⇔ 14:9 ⇔ SMALL* ⇔ NATIVE* ⇔ FULL* **For no signal** 4:3 (fixed, except CP-WX11000) / FULL (fixed, CP-WX11000) • *16:10 / FULL: CP-WX11000 only. NATIVE: Except CP-X10000. SMALL: Except CP-WX11000. • The NORMAL mode keeps the original aspect ratio of the signal.
OVER SCAN	Using the ◄/► buttons adjusts the over-scan ratio. Small (It magnifies picture) ⇔ Large (It reduces picture) • This item can be selected only for a video, s-video, component and HDMI or DVI-D signal when the VIDEO is selected on the DIGITAL FORMAT item (📖***37***). • When this adjustment is too large, certain degradation may appear at the frame area of the picture. In such a case, please adjust small.
V POSITION	Using the ◄/► buttons adjusts the vertical position. Down ⇔ Up • Over-adjusting the vertical position may cause noise to appear on the screen. If this occurs, please reset the vertical position to the default setting. Pressing the RESET button when the V POSITION is selected will reset the V POSITION to the default setting. • When this function is performed on a video signal, s-video signal, or component video signal of 480i@60 or 576i@50 input the range of this adjustment depends on the OVER SCAN (📖***above***) setting. It is not possible to adjust when the OVER SCAN is set to 10. • This item cannot be selected for an HDMI or DVI-D signal.
H POSITION	Using the ◄/► buttons adjusts the horizontal position. Right ⇔ Left • Over-adjusting the horizontal position may cause noise to appear on the screen. If this occurs, please reset the horizontal position to the default setting. Pressing the RESET button when the H POSITION is selected will reset the H POSITION to the default setting. • When this function is performed on a video signal, s-video signal, or component video signal of 480i@60 or 576i@50 input the range of this adjustment depends on the OVER SCAN (📖***above***) setting. It is not possible to adjust when the OVER SCAN is set to 10. • This item cannot be selected for an HDMI or DVI-D signal.

Item	Description
H PHASE	Using the ◄/► buttons adjusts the horizontal phase to eliminate flicker. Right ⇔ Left • This item can be selected only for a computer signal or a component video signal. (except 480i@60, 576i@50, SCART RGB input.)
H SIZE	Using the ◄/► buttons adjusts the horizontal size. Large ⇔ Small • This item can be selected only for a computer signal. • When this adjustment is excessive, the picture may not be displayed correctly. In such a case, please reset the adjustment by pressing the RESET button on the remote control during this operation.
AUTO ADJUST EXECUTE	Selecting this item performs the automatic adjustment feature. **For a computer signal** The vertical position, the horizontal position and the horizontal phase will be automatically adjusted. Make sure that the application window is set to its maximum size prior to attempting to use this feature. A dark picture may still be incorrectly adjusted. Use a bright picture when adjusting. **For a video signal and s-video signal** The video format best suited for the respective input signal will be selected automatically. This function is available only when the AUTO is selected for the VIDEO FORMAT item in the INPUT menu (🕮37). The vertical position and horizontal position will be automatically set to the default. **For a component video signal** The vertical position, horizontal position and horizontal phase will be automatically set to the default. • The automatic adjustment operation requires approx. 10 seconds. Also please note that it may not function correctly with some input. When this function is performed for a video signal, a certain extra such as a line may appear outside a picture. • The items adjusted by this function may vary when the FINE or DISABLE is selected for the AUTO ADJUST item of the SERVICE item in the OPTION menu (🕮50).

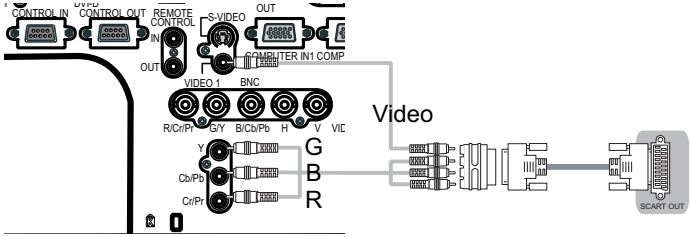
INPUT menu

From the INPUT menu, items shown in the table below can be performed.
Select an item using the ▲/▼ cursor buttons on the projector or remote control, and press the ► cursor button on the projector or remote control, or ENTER button on the remote control to execute the item.
Then perform it according to the following table.



Item	Description
PROGRESSIVE	Using the ▲/▼ buttons switches the progress mode. TV ⇔ FILM ⇔ OFF • This function is performed only for an interlaced signal at the VIDEO 1, VIDEO 2 or S-VIDEO input, and for 480i@60, 576i@50 or 1080i@50/60 signal at the Component, HDMI or DVI-D input. • When TV or FILM is selected, the screen image will be sharp. FILM adapts to the 2-3 Pull-Down conversion system. But these may cause a certain defect (for example, jagged line) of the picture for a quick moving object. In such a case, please select OFF, even though the screen image may lose sharpness.
VIDEO NR	Using the ▲/▼ buttons switches the noise reduction mode. HIGH ⇔ MID ⇔ LOW • This function is performed only for the VIDEO 1, VIDEO 2 or S-VIDEO input, and for 480i@60, 576i@50 or 1080i@50/60 signal at the Component, HDMI or DVI-D input. • When this function is excessive, it may cause a certain degradation of the picture.
3D-YCS	Using the ▲/▼ buttons switches the 3D-YCS mode. STILL ⇔ MOVIE ⇔ OFF • This function performs only at a VIDEO 1 or VIDEO 2 input of NTSC, and PAL. • MOVIE is the mode for images with a lot of motions like movies, and STILL is the mode for images with few motions or completely still ones like slides.
COLOR SPACE	Using the ▲/▼ buttons switches the mode for color space. AUTO ⇔ RGB ⇔ SMPTE240 ⇔ REC709 ⇔ REC601 • This item can be selected only for an RGB signal or a component video signal (except 480i@60, 576i@50 and SCART RGB). • The AUTO mode automatically selects the optimum mode. • The AUTO operation may not work well at some signals. In such a case, it might be good to select a suitable mode except AUTO.

(continued on next page)

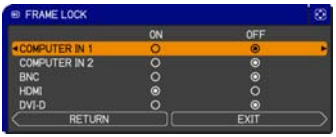
Item	Description
COMPONENT	Using the ▲/▼ buttons switches the function of the Component (Y, Cb/Pb, Cr/Pr) port. COMPONENT ⇔ SCART RGB When the SCART RGB is selected, the Component (Y, Cb/Pb, Cr/Pr) and VIDEO 1 ports will function as a SCART RGB port. A SCART adapter or SCART cable is required for a SCART RGB input to the projector. For details, contact your dealer. 
VIDEO FORMAT	Set the video format for the S-VIDEO, VIDEO 1 port and VIDEO 2 port. (1) Use the ▲/▼ buttons to select the input port. (2) Using the ◄/► buttons switches the mode for video format.  AUTO ⇔ NTSC ⇔ PAL ⇔ SECAM ⇔N-PAL ⇔ M-PAL ⇔ NTSC4.43 ⇔ • This item is performed only for a video signal from the VIDEO 1, VIDEO 2 port or the S-VIDEO port. • The AUTO mode automatically selects the optimum mode. • The AUTO operation may not work well for some signals. If the picture becomes unstable (e.g. an irregular picture, lack of color), please select the mode according to the input signal.
DIGITAL FORMAT	Set the video format for the HDMI port and DVI-D port. (1) Use the ▲/▼ buttons to select the input port. (2) Using the ◄/► buttons switches the format of digital format. AUTO ⇔ VIDEO ⇔ COMPUTER ⇔ • If the COMPUTER is selected, COLOR, TINT, OVERSCAN can not be selected.

	Feature
AUTO	Selecting the optimum mode automatically.
VIDEO	Suitable for DVD signals
COMPUTER	Suitable for computer signals

(continued on next page)

<table>
<tr><th>Item</th><th>Description</th></tr>
<tr><td>DIGITAL RANGE</td><td>
(1) Use the ▲/▼ buttons to select the input port.
(2) Using the ◄/► cursor buttons changes the digital signal mode.
AUTO ⇔ NORMAL ⇔ ENHANCED
<table>
<tr><th></th><th>Feature</th></tr>
<tr><td>AUTO</td><td>Selecting the optimum mode automatically.</td></tr>
<tr><td>NORMAL</td><td>Suitable for DVD signals (16-235)</td></tr>
<tr><td>ENHANCED</td><td>Suitable for computer signals (0-255)</td></tr>
</table>
• If the contrast of the screen image is too strong or too weak, try finding a more suitable mode.
</td></tr>
<tr><td>COMPUTER IN</td><td>
Set the computer input signal type for the COMPUTER IN port.
(1) Use the ▲/▼ buttons to select the COMPUTER IN port to be set.
(2) Use the ◄/► buttons to select the computer input signal type.


• Selecting the AUTO mode allows you to input a sync on G signal or component signal from the port.
• In the AUTO mode, the picture may be distorted with certain input signals. In such a case, remove the signal connector so that no signal is received and select the SYNC ON G OFF, and then reconnect the signal.
</td></tr>
<tr><td>FRAME LOCK</td><td>
Set the frame lock function on/off for each port.
(1) Use the ▲/▼ buttons to select the input ports.
(2) Use the ◄/► buttons to turn the frame lock function on/off .
ON ⇔ OFF

• This item can be performed only on a signal with a vertical frequency of 50 to 60 Hz.
• When ON is selected, moving pictures are displayed more smoothly.
• This function may cause a certain degradation of the picture. In such a case, please select OFF.
</td></tr>
</table>

(continued on next page)

Item	Description
RESOLUTION	The resolution for the COMPUTER IN1, COMPUTER IN2 and BNC input signals can be set on this projector. (1) In the INPUT menu select the RESOLUTION using the ▲/▼ buttons and press the ► button. The RESOLUTION menu will be displayed.  (2) In the RESOLUTION menu select the resolution you wish to display using the ▲/▼ buttons. Selecting AUTO will set a resolution appropriate to the input signal. (3) Pressing the ► or ENTER button when selecting a STANDARD resolution will automatically adjust the horizontal and vertical positions, clock phase and horizontal size. The INPUT-INFORMATION- dialog (📖55) will be displayed.  (4) To set a custom resolution use the ▲/▼ buttons to select the CUSTOM and the CUSTOM RESOLUTION BOX will be displayed. Set the horizontal (HORZ) and vertical (VERT) resolutions using the ▲/▼/◄/► buttons. This function is may not support all resolutions.  (5) To save the setting place the cursor on the right-most digit and press the ► button. The horizontal and vertical positions, clock phase and horizontal size will be automatically adjusted. After the INPUT-INFORMATION- dialog (📖55) has displayed for about 10 seconds the screen will return to the RESOLUTION menu displaying the changed resolution.   (6) To revert back to the previous resolution without saving changes place the cursor on the left-most digit and press the ◄ button. The screen will then return to the RESOLUTION menu displaying the previous resolution. • For some pictures, this function may not work well.

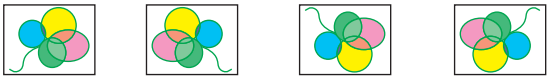
SETUP menu

From the SETUP menu, items shown in the table below can be performed.
Select an item using the ▲/▼ cursor buttons on the projector or remote control, and press the ► cursor button on the projector or remote control, or the ENTER button on the remote control to execute the item. Then perform it according to the following table.



Item	Description
AUTO KEYSTONE	Selecting this item performs the Automatic keystone distortion correction. Projector automatically corrects vertical keystone distortion due to the (forward/backward) setup angle by itself. This function will be executed only once when selected in the menu. When the slant of the projector is changed, execute this function again. • The adjustable range of this function will vary among inputs. For some input, this function may not work well. • When V:INVERT or H&V:INVERT is selected to the MIRROR item in the SETUP menu, if the projector screen is inclined or angled downward, this function may not work correctly. • When the zoom adjustment is set to the TELE (telephoto focus), this function may be excessive. This function should be used when the zoom adjustment is set to the full WIDE (wide-angle focus) whenever possible. • When the projector is placed on the level (about ±3°), this function may not work. • When the projector is inclined to near ±30 degree or over, this function may not work well. • When the vertical lens shift is not set fully upward (not set fully downward for the optional lens type USL-801 only (📖*51*), this function may not work well. • When the horizontal lens shift is not set to the center, this function may not work well. • This function will be unavailable when the Transition Detector is on (📖*64*).
KEYSTONE	Using the ◄/► buttons corrects the vertical keystone distortion. Shrink the bottom of the image ⇔ Shrink the top of the image • The adjustable range of this function will vary among inputs. For some input, this function may not work well. • When the horizontal lens shift is not set to the center, this function may not work well. • This function will be unavailable when the Transition Detector is on (📖*64*).

(continued on next page)

Item	Description
KEYSTONE	Using the ◄/► buttons corrects the horizontal keystone distortion. Shrink the left of the image ⇔ Shrink the right of the image • The adjustable range of this function will vary among inputs. For some input, this function may not work well. • When the zoom adjustment is set to the TELE (telephoto focus), this function may be excessive. This function should be used when the zoom adjustment is set to the full WIDE (wide-angle focus) whenever possible. • When the vertical lens shift is not set fully upward (not set fully downward for the optional lens typeUSL-801 only (📖51), this function may not work well. • This function will be unavailable when the Transition Detector is on (📖64).
ECO MODE	Using the ▲/▼ buttons turns off/on the eco mode. NORMAL ⇔ ECO • When the ECO is selected, acoustic noise and screen brightness are reduced.
MIRROR	Using the ▲/▼ buttons switches the mode for mirror status.  NORMAL ⇔ H:INVERT ⇔ V:INVERT ⇔ H&V:INVERT If the Transition Detector is on and MIRROR status is changed, Transition Detector alarm (📖64) will be displayed when projector is restarted after the power switch is turned off. • When the "MIRROR" has been set to the "V:INVERT", the screen will be turned upside down, after the menu dialog disappeared.
MONITOR OUT	The combination of a picture shown on screen and output from the MONITOR OUT port can be arranged in the menu. The picture coming into the port selected in the (2) is output to the MONITOR OUT port while an image from the port chosen in the (1) is on screen. (1) Choose a picture input port using ▲/▼ buttons. • Choose STANDBY, to select the output signal from the MONITOR OUT port in the standby mode. (2) Select one of the COPUTER IN or BNC ports using ◄/► buttons. COMPUTER IN1 ⇔ COMPUTER IN2 ⇔ OFF ⇔ BNC • OFF disables the MONITOR OUT port. 

SCREEN menu

From the SCREEN menu, items shown in the table below can be performed.
Select an item using the ▲/▼ cursor buttons on the projector or remote control, and press the ► cursor button on the projector or remote control, or ENTER button on the remote control to execute the item.
Then perform it according to the following table.



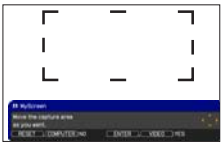
Item	Description
LANGUAGE	Using the ▲/▼/◄/► buttons switches the OSD (On Screen Display) language. 
MENU POSITION	Using the ▲/▼/◄/► buttons adjusts the menu position. To quit the operation, press the MENU button on the remote control or keep no operation for about 10 seconds.
BLANK	Using the ▲/▼ buttons switches the mode for the blank screen. The blank screen is a screen for the temporarily blanking feature (📖26). It is displayed by pressing the BLANK button on the remote control. MyScreen ⇔ ORIGINAL ⇔ BLUE ⇔ WHITE ⇔ BLACK ⇧⇩ • To avoid remaining as an afterimage, the MyScreen or ORIGINAL screen will change to the plain black screen after several minutes.

	Feature
MyScreen	Screen can be registered by the MyScreen item (📖44).
ORIGINAL	Screen preset as the standard screen.
BLUE, WHITE, BLACK	Plain screens in each color.

(continued on next page)

<table>
<tr><th>Item</th><th>Description</th></tr>
<tr><td>START UP</td><td>Using the ▲/▼ buttons switches the mode for the start-up screen. The start-up screen is a screen displayed when no signal or an unsuitable signal is detected.
MyScreen ⇔ ORIGINAL ⇔ OFF
<table>
<tr><th></th><th>Feature</th></tr>
<tr><td>MyScreen</td><td>Screen can be registered by the MyScreen item (📖44).</td></tr>
<tr><td>ORIGINAL</td><td>Screen preset as the standard screen.</td></tr>
<tr><td>OFF</td><td>Plain black screen.</td></tr>
</table>
• To avoid remaining as an afterimage, the MyScreen or ORIGINAL screen will change to the BLANK screen (📖26) after several minutes. If also the BLANK screen is the MyScreen or ORIGINAL, the plain black screen is instead used.
• When the ON is selected to the MyScreen PASSWORD item in the SECURITY menu (📖62), the START UP is fixed to MyScreen.</td></tr>
</table>

(continued on next page)

Item	Description
MyScreen	This item allows you to capture an image for use as a MyScreen image which can be used as the BLANK screen and START UP screen. Display the image you want to capture before executing the following procedure. 1. Selecting this item displays a dialog titled “MyScreen”. It will ask you if you start capturing an image from the current screen.  Please wait for the target image to be displayed, and press the ENTER or VIDEO button when the image is displayed. The image will freeze and the frame for capturing will appear. To stop performing, press the RESET or COMPUTER button on the remote control. 2. Using the ▲/▼/◄/► buttons adjusts the frame position. Please move the frame to the position of the image which you want to use. The frame may not be able to be moved for some input signals.   To start registration, press the ENTER or VIDEO button on the remote control. To restore the screen and return to the previous dialog, press the RESET or COMPUTER button on the remote control. Registration takes several minutes. When the registration is completed, the registered screen and the following message is displayed for several seconds: **“MyScreen registration is finished.”** If the registration failed, the following message is displayed: **“A capturing error has occurred. Please try again.”** • This item cannot be selected for an HDMI or a DVI-D signal. • This function cannot be selected when the ON is selected to the MyScreen Lock item (📖***below***). • This function cannot be selected when the ON is selected to the MyScreen PASSWORD item in SECURITY menu (📖***62***).
MyScreen Lock	Using the ▲/▼ buttons turns on/off the MyScreen lock function. ON ⇔ OFF When the ON is selected, the item MyScreen is locked. Use this function for protecting the current MyScreen. • This function cannot be selected when the ON is selected to the MyScreen PASSWORD item in SECURITY menu (📖***62***).

(continued on next page)

Item	Description
MESSAGE	Using the ▲/▼ buttons turns on/off the message function. ON ⇔ OFF When the ON is selected, the following message function works. “AUTO IN PROGRESS” while automatically adjusting “NO INPUT IS DETECTED” “SYNC IS OUT OF RANGE” “INVALID SCAN FREQ” “Searching….” while searching for the input “Detecting….” while an input signal is detected The indication of the input signal displayed by changing The indication of the aspect ratio displayed by changing The indication of the PICTURE MODE displayed by changing The indication of the ACTIVE IRIS displayed by changing The indication of the MY MEMORY displayed by changing The indication of “FREEZE” and “II” while freezing the screen by pressing the FREEZE button. • When the OFF is selected, please remember if the picture is frozen. Do not mistake freezing for a malfunction (🕮25).
SOURCE NAME	Each input port for this projector can have a name applied to it. (1) Use the ▲/▼ buttons on the SCREEN menu to select SOURCE NAME and press the ► button. The SOURCE NAME menu will be displayed.  (2) Use the ▲/▼ buttons on the SOURCE NAME menu to select the port to be named and press the ► button. Right side of the menu is blank until a name is specified. The SOURCE NAME dialog will be displayed.  (3) The current name will be displayed on the first line. Use the ▲/▼/◄/► buttons and the ENTER or VIDEO button to select and enter characters. The RESET button can be used to erase 1 character at a time. Also if you move the cursor to DELETE or ALL CLEAR on screen and push the ENTER or VIDEO button, 1 character or all characters will be erased. The name can be a maximum of 16 characters.  (4) To change an already inserted character, press the ▲ button to move the cursor to the first line, and use the ◄/► buttons to move the cursor on the character to be changed. After pressing the ENTER or VIDEO button, the character is selected. Then, follow the same procedure as described at the item (3) above.  (5) To finish entering text, move the cursor to the OK on screen and press the ENTER or VIDEO button. To revert to the previous name without saving changes, move the cursor to the CANCEL on screen and press the ENTER or VIDEO button.

(continued on next page)

Item	Description
TEMPLATE	Using the ▲/▼ buttons switches the mode for the template screen. Press the ► button to display the selected template, and press the ◄ button to close the displayed screen. The last selected template is displayed when the MY BUTTON allocated to the TEMPLATE function is pressed (📖49). ⇄ TEST PATTERN ⇔ DOT-LINE1 ⇄ DOT-LINE4 ⇔ DOT-LINE3 ⇔ DOT-LINE2 
C.C. **(Closed Caption)**	The C.C. is the function that displays a transcript or dialog of the audio portion of a video, files or other presentation or other relevant sounds. It is required to have NTSC format video or 480i@60 format component video source supporting C.C. feature to utilize this function. It may not work properly, depending on equipment or signal source. In this case, please turn off the Closed Caption. **DISPLAY** Select Closed Caption DISPLAY setting from following options using ▲/▼buttons. OFF ⇔ ON OFF:Closed Caption is off ON: Closed Caption is on  • The caption is not displayed when the OSD menu is active. • The Closed Caption is the function to display the dialogue, narration, and / or sound effects of a television program or other video sources. The Closed Caption availability is depending upon broadcaster and/or content. **MODE** Select Closed Caption MODE setting from following options using ▲/▼buttons. CAPTIONS ⇔ TEXT  CAPTIONS: Display Closed Caption TEXT: Display Text data, which is for additional information such as news reports or a TV program guide. The information covers the entire screen. Not all of the C.C. program has Text information. **CHANNEL** Select Closed Caption CHANNEL from following options using ▲/▼buttons. 1 ⇔ 2 ⇔ 3 ⇔ 4 ⇧⇦⇧ 1: Channel 1, primary channel / language 2: Channel 2 3: Channel 3 4: Channel 4  The channel data may vary, depending on the content. Some channel might be used for secondary language or empty.

OPTION menu

From the OPTION menu, items shown in the table below can be performed.
Select an item using the ▲/▼ cursor buttons on the projector or remote control, and press the ► cursor button on the projector or remote control, or ENTER button on the remote control to execute the item, except for the items LAMP TIME and FILTER TIME. Then perform it according to the following table.



Item	Description
SOURCE SKIP	The port that is set to the "SKIP" is ignored in searching by the AUTO SEARCH function (📖***below***) or the buttons of COMPUTER, VIDEO, or DIGITAL (📖**22**). (1) Choose a picture input port using ▲/▼ buttons. (2) Using the ◄/► buttons turns on/off the SOURCE SKIP function. NORMAL ⇔ SKIP • This setting of "SKIP" is not available when specifying one certain input port by MY SOURCE button etc.
AUTO SEARCH	Using the ▲/▼ buttons turns on/off the automatic signal search function. ON ⇔ OFF When the ON is selected, detecting no signal automatically cycles through input ports in the following order. The search is started from the current port. Then when an input is found, the projector will stop searching and display the image. COMPUTER IN1 ⇨ COMPUTER IN2 ⇨ BNC ⇨ HDMI ⇨ DVI-D VIDEO 2 ⇦ VIDEO 1 ⇦ S-VIDEO ⇦ COMPONENT • The port that is set to the "SKIP" is ignored in searching by the AUTO SEARCH function (📖***above***).
AUTO KEYSTONE	Using the ▲/▼ buttons turns on/off the automatic keystone function. ON ⇔ OFF ON : Automatic keystone distortion correction will be executed whenever changing the slant of the projector. OFF : This function is disabled. Please execute the AUTO KEYSTONE in the SETUP menu for automatic keystone distortion correction. • When the projector is suspended from the ceiling this feature will not function properly so select the OFF. • This function will be unavailable when the Transition Detector is on (📖**22**).

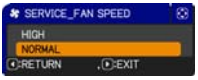
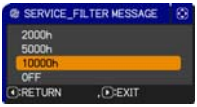
(continued on next page)

Item	Description
DIRECT ON	Using the ▲/▼ buttons turns on/off the DIRECT ON function. ON ⇔ OFF When set to the ON, the lamp in projector will be automatically turned on without the usual procedure (*19*), only when the projector is supplied with the power after the power was cut while the lamp was on. • This function does not work as long as the power has been supplied to the projector while the lamp is off. • After turning the lamp on by the DIRECT ON function, if neither input nor operation is detected for about 30 minutes, the projector is turned off, even though the AUTO OFF function (*below*) is disabled.
AUTO OFF	Using the ▲/▼ buttons adjusts the time to count down to automatically turn the projector off. Long (max. 99 minutes) ⇔ Short (min. 0 minute = DISABLE)   When the time is set to 0, the projector is not turned off automatically. When the time is set to 1 to 99, and when the passed time with no-signal or an unsuitable signal reaches at the set time, the projector lamp will be turned off. If one of the projector's buttons or the remote control buttons is pressed or one of the commands (except get commands) is transmitted to the CONTROL port during the corresponding time, projector will not be turned off. Please refer to the section “Turning off ” (*20*).
SHUTTER TIMER	Using the ▲/▼ buttons adjusts the time with shutter closed to count down to automatically turn the projector off. 1h ⇔ 3h ⇔ 6h • The shutter will open automatically when turning the projector on again.
LAMP TIME	The lamp time is the usage time of the lamp, counted after the last resetting. It is shown in the OPTION menu. Pressing the RESET button on the remote control or the ► button of the projector displays a dialog. To reset the lamp time, select the OK using the ► button. CANCEL ⇨ OK • Please reset the lamp time only when you have replaced the lamp, for a suitable indication about the lamp. • For the lamp replacement, see the section "Lamp unit" (*67, 68*).
FILTER TIME	The filter time is the usage time of the air filter, counted after the last resetting. It is shown in the OPTION menu. Pressing the RESET button on the remote control or the ► button of the projector displays a dialog. To reset the filter time, select the OK using the ► button. CANCEL ⇨ OK • Please reset the filter time only when you have cleaned or replaced the air filter, for a suitable indication about the air filter. • For the air filter cleaning, see the section "Filter unit" (*69*).

(continued on next page)

Item	Description
MY BUTTON	This item is to assign one of the following functions to MY BUTTON -(1 to 4) on the remote control (📖7). (1) Use the ▲/▼ buttons on the MY BUTTON menu to select a MY BUTTON - (1 to 4) and press the ► button to display the MY BUTTON setup dialog. (2) Then using the ▲/▼/◄/► buttons sets one of the following functions to the chosen button. • COMPUTER IN1: Sets port to COMPUTER IN1. • COMPUTER IN2: Sets port to COMPUTER IN2. • BNC: Sets port to BNC. • HDMI: Sets port to HDMI. • DVI-D: Sets port to DVI-D. • COMPONENT: Sets port to Component (Y, Cb/Pb, Cr/Pr). • S-VIDEO: Sets port to S-VIDEO. • VIDEO 1: Sets port to VIDEO 1. • VIDEO 2: Sets port to VIDEO 2. • INFORMATION: Displays the INPUT -INFORMATION- (📖55) or the NETWORK -INFORMATION- (📖55) or nothing. • AUTO KEYSTONE : Performs automatic keystone distortion correction (📖47). • MY MEMORY: Loads one of adjustment data stored (📖33). When more than one data are saved, the adjustment changes every time the MY BUTTON is pushed. When no data is saved in memory, the dialog "No saved data" appears. When the current adjustment is not saved to memory, the dialog as shown in the right appears. If you want to keep the current adjustment, please press the ► button to exit. Otherwise loading a data will overwrite the current adjusted condition.   • ACTIVE IRIS: Changes the active iris mode. • PICTURE MODE: Changes the PICTURE MODE (📖29). • FILTER RESET: Displays the filter time reset confirmation dialogue (📖48). • TEMPLATE: Makes the template pattern selected to the TEMPLATE item (📖46) appear or disappear. • P by P SWAP: Swaps the picture of right side with left side in the P by P mode.(📖27) • LENS MEMORY-1: Loads the LENSMEMORY-1 • LENS MEMORY-2: Loads the LENSMEMORY-2 • LENS MEMORY-3: Loads the LENSMEMORY-3 It shifts the lens position in accordance with the memory saved for the type of the present lens unit. When there is no memory for the lens type, this function is ignored. • MY IMAGE: Displays the MY IMAGE menu (📖59).
MY SOURCE	This item is to assign an input signals to MY SOURCE button on the remote control (📖22). Using the ▲/▼ buttons sets one of the input signal. 

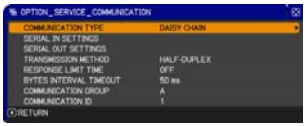
(continued on next page)

Item	Description
SERVICE	Selecting this item displays the SERVICE menu. Select an item using the ▲/▼ buttons, and press the ► button or the ENTER button on the remote control to execute the item. **FAN SPEED** Using the ▲/▼ buttons switches the rotation speed of the cooling fans. The HIGH is the mode for use at highlands etc. Note that the projector is noisier when the HIGH is selected. HIGH ⇔ NORMAL  **AUTO ADJUST** Using the ▲/▼ buttons to select one of the mode. When the DISABLE is selected, the automatic adjustment feature is disabled. FINE ⇔ FAST ⇔ DISABLE  FINE: Finer tuning including H.SIZE adjustment. FAST: Faster tuning, setting H.SIZE to prearranged data for the input signal. • Depending on conditions, such as input image, signal cable to the projector, environment around the projector, etc., the automatic adjustment may not work correctly. In such a case, please choose DISABLE to disable the automatic adjustment, and make adjustment manually. **GHOST** 1. Select a color element of ghost using the ◄/► buttons. 2. Adjust the selected element using the ▲/▼ buttons to disappear ghost.  **FILTER MESSAGE** Use the ▲/▼ button to set the timer for notifying by the message when to replace the filter unit 2000h ⇔ 5000h ⇔ 10000h ⇔ OFF  After choosing an item except OFF, the message "REMINDER *** HRS PASSED AFTER THE LAST FILTER CHANGE" will appear after the timer reaches the interval time set by this feature (📖*71*). When the OFF is chosen, the message will not appear. Utilize this feature to keep the air filter clean, setting the suitable time according to your environment of this projector. Refer to the following criterion. 2000h: recommended for use in an indoor environment in a so dusty area, such as a desert or an area in which yellow sands float. 5000h: recommended for use in an indoor environment, such as a place by a window, near a passage. 10000h: recommended for use in a general indoor environment. • Please take care of the filter unit periodically, even if there is no message. If the air filter becomes to be blocked by dust or other matter, the internal temperature will rise, which could cause malfunction, or reduce the lifetime of the projector. • Please be careful with the operating environment of the projector and the condition of the filter unit.

(continued on next page)

Item	Description
SERVICE (continued)	**LENS TYPE** Select the lens type currently used using the ▲/▼ buttons. 1:USL-801 ⇔ 2:SL-802 ⇔ 3:SL-803 ⇔ 4:SD-804 ⇔ 7:AUTO ⇔ 6:UL-806 ⇔ 5:LL-805 Please select one of them referring to the following. 1: for an ultra short throw lens (USL-801) 2: for a short throw lens (SL-802) 3: for a short throw lens (SL-803) 4: for a standard lens (SD-804) 5: for a long throw lens (LL-805) 6: for an ultra long throw lens (UL-806) 7:AUTO  • Selecting the lens type will shift the lens to center. While the lens is shifting, the menu will disappears and the icon of hourglass will appears on screen. Shifting may takes some time. • This setting has an influence on the keystone distortion etc. • About the optional lens, ask your dealer. **LENS LOCK** Using the ▲/▼ buttons turns on/off the key lock feature. When ON is selected, the buttons (ZOOM, FOCUS, LENS SHIFT, LENS MEMORY (MY BUTTON)) are locked. ON ⇔ OFF **KEY LOCK** Using the ▲/▼ buttons turns on/off the lens lock feature. When ON is selected, the buttons on the projector except the STANDBY/ON button are locked. ON ⇔ OFF • Please use this function to prevent tampering or accidental operation. This function does not have any effect on the remote control. **REMOTE RECEIV.** (1) Select a remote sensor using the ◄/► button. 1:FRONT ⇔ 2:TOP ⇔ 3:REAR  (2) Switch it using the ◄/► button. ON ⇔ OFF • A sensor cannot be turned off when the other two are off. Always at least one sensor is on. **REMOTE FREQ.** (1) Use the ▲/▼ button to change the projector's remote sensor frequency setting (🕮*17*). 1:NORMAL ⇔ 2:HIGH  (2) Use the ◄/► button to change the projector's remote sensor on or off. ON ⇔ OFF The factory default setting is for both 1:NORMAL and 2:HIGH to be on. If the remote control does not function correctly, set the this to either only 1 or only 2 as described in Remote Control Settings (🕮*17*). Neither can be turned off at the same time.

(continued on next page)

<table>
<tr><th>Item</th><th colspan="2">Description</th></tr>
<tr><td rowspan="2">SERVICE
(continued)</td><td colspan="2">REMOTE ID
Use the ▲/▼ buttons on the REMOTE ID menu to select ID and press the ► button.
ALL ⇔ 1 ⇔ 2 ⇔ 3 ⇔ 4
The projector is controlled by the remote control whose ID button is set the same number as this number. When the ALL is selected, the projector is controlled by a remote control irrespective of the ID setting.</td></tr>
<tr><td>COMMUNICATION</td><td>Selecting this item displays COMMUNICATION menu. In this menu, you can configure the communication settings of the CONTROL IN and the CONTROL OUT ports.


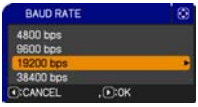
COMMUNICATION TYPE ⇔ SERIAL IN SETTING
⇕ ⇕
COMMUNICATION ID ⇕ SERIAL OUT SETTING
⇕ ⇕
COMMUNICATION GROUP ⇕ TRANSMISSION METHOD
⇕ ⇕
BYTES INTERVAL TIMEOUT ⇔ RESPONSE LIMIT TIME
• Select an item using the cursor buttons ▲/▼. Then pressing the ► button opens the submenu for the setting item you selected.Or, pressing the ◄ button instead of the ► button makes the menu back to the previous one without changing the setup.
Each submenu can be operated as described above.
NOTE • The selectable items on the COMMUNICATION menu are varied according to the setup of the COMMUNICATION TYPE.
• For the function of serial communication, refer to the Network Guide (🕮Network Guide - 3.7, 3.8).

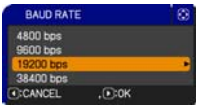
COMMUNICATION TYPE
In this menu, you can select the communication type for transmission from the CONTROL OUT port.


NETWORK BRIDGE ⇔ DAISY CHAIN ⇔ OFF

NETWORK BRIDGE: Select this type, if it is required to control an external devise as a network terminal, via this projector from the computer. (🕮Network Guide - 3.7 Controlling the external equipment via the projector (using the NETWORK BRIDGE function))</td></tr>
</table>

<table>
<tr><th>Item</th><th colspan="2">Description</th></tr>
<tr><td rowspan="2">SERVICE
(continued)</td><td rowspan="2">COMMUNICATION
(continued)</td><td>
DAISY CHAIN: Select this type, if it is required to connect multiple projectors using a shared RS-232C communication bus, from the computer. (Network Guide - 3.8 Multi-controlling the plural projectors (using DAISY CHAIN function))
OFF: Select this mode if you want to output no data from the CONTROL OUT port.
NOTE • OFF is selected as the default setting.
• When you select the NETWORK BRIDGE, check the item, TRANSMISSTION METHOD.

SERIAL IN SETTING/SERIAL OUT SETTING
In these menus, you can select the communication condition for each of the CONTROL IN and CONTROL OUT ports.


BAUD RATE
4800 bps ⇔ 9600 bps
⇕ ⇕
38400 bps ⇔ 19200 bps


PARITY
NONE ⇔ ODD ⇔ EVEN
⇧ ⇧
TRANSMISSION METHOD
This menu is available only when the NETWORK BRIDGE is selected for the COMMUNICATION TYPE. Select the transmission method for communication by the NETWORK BRIDGE from the CONTROL OUT port.
HALF-DUPLEX ⇔ FULL-DUPLEX
HALF-DUPLEX: This method lets the projector make two way communication, but only one direction, either transmitting or receiving data, is allowed at a time.
FULL-DUPLEX: This method lets the projector make two way communication, transmitting and receiving data at the same time.
NOTE • HALF-DUPLEX is selected as the default setting.
• When you select HALF-DUPLEX, check the items, RESPONSE LIMIT TIME and BYTES INTERVAL TIMEOUT.
</td></tr>
</table>

Item		Description
SERVICE (continued)	COMMUNICATION (continued)	**RESPONSE LIMIT TIME** This menu is available only when the NETWORK BRIDGE is selected for the COMMUNICATION TYPE and the HALF-DUPLEX is selected for the TRANSMISSION METHOD. Select the time period to wait for receiving response data from other devise communicating by the NETWORK BRIDGE and the HALF-DUPLEX through the CONTROL OUT port. OFF ⇔ 1s ⇔ 2s ⇔ 3s OFF: Select this mode if it is not required to check the responses from the devise that the projector sends data to. In this mode, the projector can send out data from the computer continuously. 1s/2s/3s: Select the time period to keep the projector waiting for response from the device that the projector sends data to. While waiting the response, the projector does not send out any data from the CONTROL OUT port. **NOTE** • OFF is selected as the default setting. **BYTES INTERVAL TIMEOUT** This menu is available only when NETWORK BRIDGE is selected for the COMMUNICATION TYPE and HALF-DUPLEX is selected for the TRANSMISSION METHOD. Select the blank time length to judge that the response data has finished in the communicating in the condition of the NETWORK BRIDGE and the HALF-DUPLEX through the CONTROL OUT port. 50ms ⇔ 100ms ⇔ 150ms ⇔ 200ms **NOTE** • 50ms is selected as the default setting.

<table>
<tr><th>Item</th><th colspan="2">Description</th></tr>
<tr><td rowspan="2">SERVICE
(continued)</td><td>COMMUNICATION
(continued)</td><td>COMMUNICATION GROUP / COMMUNICATION ID
This menu is available only when DAISY CHAIN is selected for the COMMUNICATION TYPE.
In simultaneous control of multiple projectors by a daisy chain, you can give the projectors the communication group identification and the ID number to identify projectors connected in the same bus.
COMMUNICATION GROUP:
A ⇔ B ⇔ C … O ⇔ P
COMMUNICATION ID:
1 ⇔ 2 ⇔ 3 … 63 ⇔ 64

NOTE • The A is selected for the COMMUNICATION GROUP, and 1 is selected for the COMMUNICATION ID as the default settings.</td></tr>
<tr><td colspan="2">INFORMATION
Selecting this item displays a dialog titled “INPUT-INFORMATION-”. It shows the information about the current input.

• The “FRAME LOCK” message on the dialog means the frame lock function is working.
• The “SCART RGB” message means the Component port is working as a SCART RGB input port. Please refer to the COMPONENT item in INPUT menu (📖37).
• This item can't be selected for no signal and sync out.
• When the MY TEXT DISPLAY is set to ON, the MY TEXT is displayed together with the input information in the INPUT-INFORMATION- box (📖66).
FACTORY RESET
Selecting OK using ► the button performs this function. By this function, all the items in all of menus will collectively return to the initial setting. Note that the items LAMP TIME, FILTER TIME, LANGUAGE, SECURITY and NETWORK settings are not reset.
CANCEL ⇨ OK</td></tr>
</table>

NETWORK menu



Remember that incorrect network settings on this projector may cause trouble on the network. Be sure to consult with your network administrator before connecting to an existing access point on your network.
Select “NETWORK” from the main menu to access the following functions.
Select an item using the ▲/▼ cursor buttons on the projector or remote control, and press the ► cursor button on the projector or remote control, or ENTER button on the remote control to execute the item. Then perform it according to the following table.
See the User’s Manual - Network Guide for details of NETWORK operation.

NOTE • If you are not utilizing SNTP (**Date/Time Settings of the User’s Manual - Network Guide)**, then you must set the DATE AND TIME during the initial installation.

Item	Description	
SETUP	Selecting this item displays the SETUP Menu for the network. Use the ▲/▼ buttons to select an item, and the ► or ENTER button on the remote control to perform the item. 	
	DHCP (Dynamic Host Configuration Protocol)	Use the ▲/▼ buttons to turn DHCP on/off. ON ⇔ OFF  Select OFF when the network does not have DHCP enabled. • When the “DHCP” setting changes to “ON”, it takes a little time to obtain IP address from DHCP server. • Auto IP function will be assigned an IP address if the projector could not obtain an IP address from server even if DHCP is “ON”.

(continued on next page)

Item		Description
SETUP (continued)	**IP ADDRESS**	Use the ▲/▼/◄/► buttons to enter the IP ADDRESS.  This function can only be used when DHCP is set to OFF. • The IP ADDRESS is the number that identifies this projector on the network. You cannot have two devices with the same IP ADDRESS on the same network. • The IP ADDRESS “0.0.0.0” is prohibited.
	SUBNET MASK	Use the ▲/▼/◄/► buttons to enter the same SUBNET MASK used by your PC.  This function can only be used when DHCP is set to OFF. • The SUBNET MASK ”0.0.0.0” is prohibited.
	DEFAULT GATEWAY	Use the ▲/▼/◄/► buttons to enter the DEFAULT GATEWAY (a node on a computer network that serves as an access point to another network) address.  This function can only be used when DHCP is set to OFF.
	DNS SERVER	Use the ▲/▼/◄/► buttons to input the DNS server address.  The DNS server is a system to control domain names and IP addresses on the Network.
	TIME DIFFERENCE	Use the ▲/▼ buttons to enter the TIME DIFFERENCE. Set the same TIME DIFFERENCE as the one set on your PC. If unsure, consult your IT manager. Use the ► button to return to the menu after setting the TIME DIFFERENCE. 
	DATE AND TIME	Use the ▲/▼/◄/► buttons to enter the Year (last two digits), Month, Date, Hour and Minute.  • The projector will override this setting and retrieve DATE AND TIME information from the Time server when SNTP is enabled. (🕮 **Date/Time Settings of the User’s Manual - Network Guide)**

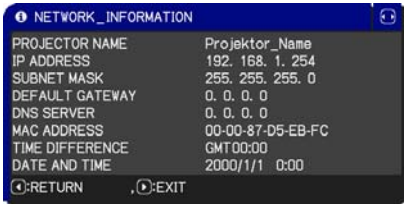
(continued on next page)

Item	Description
PROJECTOR NAME	(1) Use the ▲/▼ buttons on the NETWORK menu to select the PROJECTOR NAME menu and press the ► button. The PROJECTOR NAME dialog will be displayed.  (2) The current PROJECTOR NAME will be displayed on the first 3 lines. If not yet written, the lines will be blank. Use the ▲/▼/◄/► buttons and the ENTER or VIDEO button to select and enter characters. The RESET or COMPUTER button can be used to erase 1 character at a time. Also if you move the cursor to DELETE or ALL CLEAR on screen and push the ENTER or VIDEO button, 1 character or all characters will be erased.The PROJECTOR NAME can be input up to 64 characters. (3) To change an already inserted character, press the ▲/▼ button to move the cursor to one of the first 3 lines, and use the ◄/► buttons to move the cursor on the character to be changed. After pressing the ENTER or VIDEO button, the character is selected. Then, follow the same procedure as described at the item (2) above.   (4) To finish entering text, move the cursor to the OK on screen and press the ►, ENTER or VIDEO button. To revert to the previous PROJECTOR NAME without saving changes, move the cursor to the CANCEL on screen and press the ◄, ENTER or VIDEO button.

(continued on next page)

Item	Description
MY IMAGE	Selecting this item displays the MY IMAGE menu. The application software “PJImage” is required to store image(s) into the projector.  Use the ▲/▼ buttons to select an item which is a still image by the MY IMAGE (🕮 **MY IMAGE (Still Image Transfer) Display of the User’s Manual - Network Guide)** and the ► or ENTER button to display the image. • The item without image stored cannot be selected. • The image names are each displayed in 16 characters or less. **To switch the image displayed** Use the ▲/▼ buttons. **To return to the menu** Press the ◄ button on the remote control. **To erase the image displayed and its source file in the projector.** (1) Press the RESET button on the remote control while displaying an image to display the MY IMAGE DELETE menu.  (2) Press the ► button to perform to erase. To stop erasing, press the ◄ button.

(continued on next page)

Item	Description
INFORMATION	Selecting this item displays the NETWORK -INFORMATION- dialog for confirming the network settings.  • Only the first 16 characters of the projector neme are displayed. • Nothing (blank) is shown in the “PROJECTOR NAME” field until you setup the item (58). • When the voltage level of the battery for the built in clock decreases, the set time may become incorrect even though accurate date and time are input. Replace the battery suitably (70). • IP ADDRESS, SUBNET MASK and DEFAULT GATEWAY indicate “0.0.0.0” when DHCP is ON and the projector has not gotten address from DHCP server.
SERVICE	Executing this item restarts and initializes the network functions. Choose the RESTART EXECUTE using the button ►.  Then use the button ► to execute.  Network will be once cut off when choose restart. If DHCP is selected on, IP address may be changed. After selecting RESTART EXECUTE, NETWORK menu may not be controlled approx. 30 seconds.

SECURITY menu



This projector is equipped with security functions.
From the SECURITY menu, items shown in the table below can be performed.
To use SECURITY menu: User registration is required before using the security functions.

Enter the SECURITY menu

1. Use the ▲/▼ buttons on the SECURITY menu to select ENTER PASSWORD and press the ► button. The ENTER PASSWORD box will be displayed.

If you have forgotten your password

1. While the ENTER PASSWORD box is displayed, press and hold the RESET button on the remote control for about 3 seconds or press and hold the COMPUTER button for 3 seconds while pressing the ► button on the projector.
2. The 10 digit Inquiring Code will be displayed. Contact your dealer with the 10 digit Inquiring Code. Your password will be sent after your user registration information is confirmed.





• If there is no key input for about 55 seconds while the Inquiring Code is displayed, the menu will close. If necessary, repeat the process from 1.

2. Use the ▲/▼/◄/► buttons to enter the registered password. The factory default password is **9630**. This password can be changed (🕮 SECURITY PASSWORD CHANGE). Move the cursor to the right side of the ENTER PASSWORD box and press the ► button to display the SECURITY menu.



• It is strongly recommended the factory default password to be changed as soon as possible.
• If an incorrect password is input, the ENTER PASSWORD box will be displayed again. If incorrect password is input 3 times, the projector will turn off. Afterwards the projector will turn off every time an incorrect password is input.



3. Items shown in the table below can be performed.

Item	Description
SECURITY PASSWORD CHANGE	1 Use the ▲/▼ buttons on the SECURITY menu to select SECURITY PASSWORD CHANGE and press the ► button to display the ENTER NEW PASSWORD box. 2 Use the ▲/▼/◄/► buttons to enter the new password. 3 Move the cursor to the right side of the ENTER NEW PASSWORD box and press the ► button to display the NEW PASSWORD AGAIN box, enter the same password again. 4 Move the cursor to the right side of the NEW PASSWORD AGAIN box and press the ► button and the NOTE NEW PASSWORD box will be displayed for about 20 seconds, please make note of the password during this time. Pressing the ENTER button on the remote control or VIDEO button on the projector will close the NOTE NEW PASSWORD box. • Please do not forget your password.



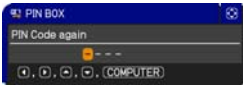




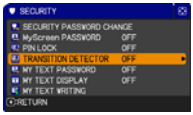
(continued on next page)

Item	Description
MyScreen PASSWORD	The MyScreen PASSWORD function can be used to prohibit access to the MyScreen function and prevent the currently registered MyScreen image from being overwritten.  **1 Turning on the MyScreen PASSWORD** 1-1 Use the ▲/▼ buttons on the SECURITY menu to select MyScreen PASSWORD and press the ► button to display the MyScreen PASSWORD on/off menu.  1-2 Display the MyScreen password on/off menu using the procedure in 2.1-1. 1-3 Use the ▲/▼ buttons on the MyScreen PASSWORD on/off menu to select ON. The ENTER PASSWORD box (small) will be displayed.  ENTER PASSWORD box (small) 1-4 Use the ▲/▼/◄/► buttons to enter the password. Move the cursor to the right side of the ENTER PASSWORD box (small) and press the ► button to display the PASSWORD AGAIN box, enter the same PASSWORD again.  1-5 Move the cursor to the right side of the PASSWORD AGAIN box and press the ► button to display the NOTE PASSWORD box for about 20 seconds, please make note of the password during this time.  Pressing the ENTER button on the remote control or VIDEO button on the projector will return to MyScreen PASSWORD on/off menu. When a password is set for MyScreen: • The MyScreen registration function (and menu) will be unavailable. • The MyScreen Lock menu will be unavailable. • The START UP setting will be locked on MyScreen (and the menu will be unavailable). Turning the MyScreen PASSWORD off will allow normal operation of these functions. • Please do not forget your MyScreen PASSWORD. **2 Turning off the MyScreen PASSWORD** 2-1 Follow the procedure in 1-1 to display the MyScreen PASSWORD on/off menu. 2-2 Select OFF to display the ENTER PASSWORD box (large). Enter the registered password and the screen will return to the MyScreen on/off menu. If an incorrect PASSWORD is input, the menu will close. If necessary, repeat the process from 2-1. **3 If you have forgotten your password** 3-1 Follow the procedure in 1-1 to display the MyScreen PASSWORD on/off menu.  ENTER PASSWORD box (large) 3-2 Select OFF to display the ENTER PASSWORD box (large). The 10 digit Inquiring Code will be displayed inside the box. 3-3 Contact your dealer with the 10 digit Inquiring Code. Your password will be sent after your user registration information is confirmed.

(continued on next page)

Item	Description
PIN LOCK	PIN LOCK is a function which prevents the projector from being used unless a registered Code is input. **1 Turning on the PIN LOCK** 1-1 Use the ▲/▼ buttons on the SECURITY menu to select PIN LOCK and press the ► button or the ENTER button to display the PIN LOCK on/off menu.  1-2 Use the ▲/▼ buttons on the PIN LOCK on/off menu to select ON and the Enter PIN Code box will be displayed.  1-3 Input a 4 part PIN code using the ▲/▼/◄/►, COMPUTER button. The PIN Code again box will appear. Reenter the same PIN code. This will complete the PIN code registration.  • If there is no key input for about 55 seconds while the Enter PIN Code box or the PIN Code again box is displayed, the menu will close. If necessary, repeat the process from 1-1. Afterwards, anytime the projector is restarted after the power switch is turned off the Enter PIN Code box will be displayed. Enter the registered PIN code. The projector can be used after entering the registered PIN code. If an incorrect PIN code is input, the Enter PIN code box will be displayed again.  If an incorrect PIN Code is input 3 times, the projector will turn off. Afterwards the projector will turn off every time an incorrect PIN code is input. The projector will also turn off if there is no key input for about 5 minutes while the PIN BOX is displayed. This function will activate only when the projector is started after the power switch was turned off. • Please do not forget your PIN code. **2 Turning off the PIN LOCK** 2-1 Follow the procedure in 1-1 to display the PIN LOCK on/off menu. Use the ▲/▼ buttons to select OFF and the Enter PIN Code box will be displayed. Enter the registered PIN code to turn the PIN LOCK function off. If an incorrect password is input 3 times, the menu will close. **3 If you have forgotten your PIN Code** 3-1 While the Enter PIN Code box is displayed, press and hold the RESET button for three seconds or press and hold the COMPUTER button for 3 seconds while pressing the ► button on the projector. The 10 digit Inquiring Code will be displayed.  • If there is no key input for about 5 minutes while the Inquiring Code is displayed, the projector will turn off. 3-2 Contact your dealer with the 10 digit Inquiring Code. Your password will be sent after your user registration information is confirmed.

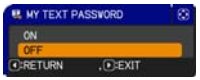
(continued on next page)

Item	Description
TRANSITION DETECTOR	If this function is set to ON when the vertical angle of the projector or mirror setting at which the projector is turned on is different than the previously recorded, the TRANSITION DETECTOR ON alarm will be displayed and the projector will not display the input signal.  • To display the signal again, set this function OFF. • After about 5 minutes of displaying the TRANSITION DETECTOR ON alarm, the lamp will turn off. • Keystone adjustment feature has been prohibited as long as the Transition Detector function is on. **1 Turning on the TRANSITION DETECTOR**  1-1 Use the ▲/▼ buttons on the SECURITY menu to select TRANSITION DETECTOR and press the ► or the ENTER button to display the TRANSITION DETECTOR on/off menu. Select ON and the current angle and mirror setting will be recorded. 1-2 Use the ▲/▼ buttons on the SECURITY menu to select Transition Detector and press the ► or the ENTER button to display the Transition Detector on/off menu.  1-3 Use the ▲/▼ buttons on the TRANSITION DETECTOR on/off menu to select ON. The ENTER PASSWORD box (small) will be displayed.  ENTER PASSWORD box (small) 1-4 Use the ▲/▼/◄/► buttons to enter a password. Move the cursor to the right side of the ENTER PASSWORD box (small) and press the ► button to display the PASSWORD AGAIN box, enter the same password again.  1-5 Move the cursor to the right side of the PASSWORD AGAIN box and press the ► button to display the NOTE PASSWORD box for about 20 seconds, please make note of the password during this time.  • Pressing the ENTER button on the remote control or the VIDEO button on the projector will return to the TRANSITION DETECTOR on/off menu. • Please do not forget your TRANSITION DETECTOR password. • This function will activate only when the projector is started after the power switch was turned off. • This feature may not function properly if the projector is not in a stable position when ON is selected. **2 Turning off the TRANSITION DETECTOR** 2-1 Follow the procedure in 1-1 to display the Transition Detector on/off menu. 2-2 Select OFF to display the ENTER PASSWORD box (large). Enter the registered password and the screen will return to the TRANSITION DETECTOR on/off menu. If an incorrect password is input, the menu will close. If necessary, repeat the process from 3-1. **3 If you have forgotten your password** 3-1 Follow the procedure in 1-1 to display the Transition Detector on/off menu. 3-2 Select OFF to display the ENTER PASSWORD box (large). The 10 digit Inquiring Code will be displayed inside the box.  ENTER PASSWORD box (large) 3-3 Contact your dealer with the 10 digit Inquiring Code. Your password will be sent after your user registration information is confirmed.

 (continued on next page)

Item	Description
MY TEXT PASSWORD	The MY TEXT PASSWORD function can prevent the MY TEXT from being overwritten. • The MY TEXT DISPLAY menu will be unavailable, which can prohibit changing the DISPLAY setting. • The MY TEXT WRITING menu will be unavailable, which can prevent the MY TEXT from being overwritten. **1 Turning on the MY TEXT PASSWORD** 1-1 Use the ▲/▼ buttons on the SECURITY menu to select the MY TEXT PASSWORD menu and press the ► button to display the MY TEXT PASSWORD on/off menu. 1-2 Display the MY TEXT PASSWORD on/off menu using the procedure in 1-1 1-3 Use the ▲/▼ buttons on the MY TEXT PASSWORD menu to select ON. The ENTER PASSWORD box (small) will be displayed. 1-4 Use the ▲/▼/◄/► buttons to enter the password. Move the cursor to the right side of the ENTER PASSWORD box (small) and press the ► button to display the PASSWORD AGAIN box, and then enter the same password again. 1-5 Move the cursor to the right side of the PASSWORD AGAIN box and press ► button to display the NOTE PASSWORD box for about 20 seconds, then please make note of the password during this time. Pressing the ENTER button on the remote control or VIDEO button on the projector will return to the MY TEXT PASSWORD on/off menu. When the password is set for the MY TEXT; **2 Turning off the MY TEXT PASSWORD** 2-1 Follow the procedure in 1-1 to display the MY TEXT PASSWORD on/off menu. 2-2 Select OFF to display the ENTER PASSWORD box (large). Enter the registered password and the screen will return to the MY TEXT PASSWORD on/off menu. If an incorrect password is input, the menu will close. If necessary, repeat the process from 2-1 **3 If you have forgotten your password** 3-1 Follow the procedure in 1-1 to display the MY TEXT PASSWORD on/off menu. 3-2 Select OFF to display the ENTER PASSWORD box (large). The 10 digit inquiring code will be displayed inside the box. 3-3 Contact your dealer with the 10 digit inquiring code. Your password will be sent after your user registration information is confirmed.







ENTER PASSWORD BOX (small)

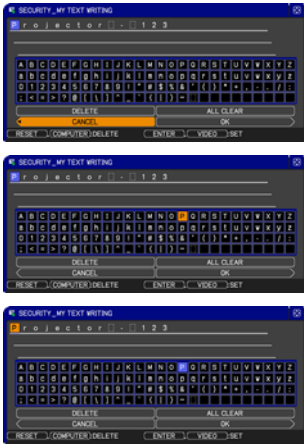






ENTER PASSWORD BOX (large)

(continued on next page)

Item	Description
MY TEXT DISPLAY	1 Use the ▲/▼ buttons on the SECURITY menu to select the MY TEXT DISPLAY menu and press the ► button to display the MY TEXT DISPLAY on/off menu. 2 Use the ▲/▼ buttons on the MY TEXT DISPLAY on/off menu to select on or off. ON ⇔ OFF When it is set ON, the MY TEXT will be displayed on the START UP screen and the INPUT-INFORMATION- when the INFORMATION on the SERVICE menu is chosen. • This function is available only when the MY TEXT PASSWORD function is set to the OFF. 
MY TEXT WRITING	1 Use the ▲/▼ buttons on the SECURITY menu to select the MY TEXT WRITING menu and press the ► button. The MY TEXT WRITING dialog will be displayed. 2 The current MY TEXT will be displayed on the first 3 lines. If not yet written, the lines will be blank. Use the ▲/▼/◄/► buttons and the ENTER or VIDEO button to select and enter characters. The RESET button can be used to erase 1 character at a time. Also if you move the cursor to DELETE or ALL CLEAR on screen and push the ENTER or VIDEO button, 1 character or all characters will be erased. The MY TEXT can be input up to 24 characters on each line. 3 To change an already inserted character, press the ▲/▼ button to move the cursor to one of the first 3 lines, and use the ◄/► buttons to move the cursor on the character to be changed. After pressing the ENTER or VIDEO button, the character is selected. Then, follow the same procedure as described at the item (2) above. 4 To finish entering text, move the cursor to the OK on screen and press the ENTER or VIDEO button. To revert to the previous MY TEXT without saving changes, move the cursor to the CANCEL on screen and press the ENTER or VIDEO button. • The MY TEXT WRITING function is available only when the MY TEXT PASSWORD function is set to OFF.  

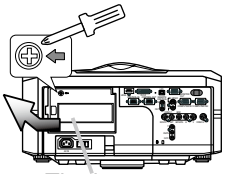
Maintenance

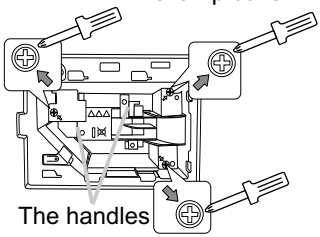
Lamp unit

A worn out lamp bulb could burn or burst. It is recommended to keep a spare lamp unit on hand and to replace the lamp unit when the projected image darkens or color reproduction becomes poor.
To prepare the spare, contact your dealer and tell the following type number.

Type number of the optional lamp unit: DT01001

If the projector is installed in a special state such as ceiling mount, or if the lamp bulb has broken, also ask the dealer to replace the lamp unit. Otherwise, follow the procedure shown below to replace the lamp.


The lamp cover


The handles

1. Make sure that the projector is unplugged and cooled down.
2. Loosen the screw (marked by arrow) of the lamp cover. Then slide and take it off.
3. Loosen the 3 screws (marked by arrow) of the lamp unit. Then picking the handles of the unit, gently take it from the projector.
4. Gently set the new lamp unit into place. Then retighten the screws of the lamp unit.
5. Put the lamp cover back into place, and retighten the screw of the lamp cover.
6. Reset the LAMP TIME value.
   (1) Turn the projector on.
   (2) To display the **ADVANCED MENU**, press the MENU button (on the control panel or the remote control). On the **EASY MENU**, select the "**ADVANCED MENU**" using the ▲/▼ cursor buttons, then press the ► cursor button.
   (3) To select the **OPTION** menu, select the "**OPTION**" using the ▲/▼ cursor buttons in the left column, then press the ► cursor button.
   (4) To display the **LAMP TIME** dialog, select the "**LAMP TIME**" using the ▲/▼ cursor buttons in the right column, then press the ► cursor button.
   (5) Use the ► cursor button according to the dialog, Selecting "**OK**" resets the **LAMP TIME** value.



NOTE •The value shown on the OPTION menu as the LAMP TIME is the use time that is counted since the last time the LAMP TIME was reset. Refer to the value for proper maintenance.

NOTICE ►Be sure to reset the LAMP TIME only when you have replaced the lamp unit.

Lamp warning

HIGH VOLTAGE HIGH TEMPERATURE HIGH PRESSURE

⚠**WARNING** ►The projector uses a high-pressure mercury glass lamp. The lamp can break with a loud bang, or burn out, if jolted or scratched, handled while hot, or worn over time. Note that each lamp has a different lifetime, and some may burst or burn out soon after you start using them. In addition, when the bulb bursts, it is possible for shards of glass to fly into the lamp housing, and for gas containing mercury to escape from the projector's vent holes.
►**About disposal of a lamp:** This product contains a mercury lamp; do not put it in a trash. Dispose of it in accordance with environmental laws.
• For lamp recycling, go to www.lamprecycle.org (in the US).
• For product disposal, contact your local government agency or www.eiae.org (in the US) or www.epsc.ca (in Canada).
For more information, call your dealer.

 Disconnect the plug from the power outlet	• If the lamp should break (it will make a loud bang when it does), unplug the power cord from the outlet, and make sure to request a replacement lamp from your local dealer. Note that shards of glass could damage the projector's internals, or cause injury during handling, so please do not try to clean the projector or replace the lamp yourself. • If the lamp should break (it will make a loud bang when it does), ventilate the room well, and make sure not to breathe the gas that comes out of the projector vents, or get it in your eyes or mouth. • Before replacing the lamp, turn the projector off and unplug the power cord, then wait at least 45 minutes for the lamp to cool sufficiently. Handling the lamp while hot can cause burns, as well as damaging the lamp.
	• Never unscrew except the appointed (marked by an arrow) screws. • Do not open the lamp cover while the projector is suspended from a ceiling. This is dangerous, since if the lamp's bulb has broken, the shards will fall out when the cover is opened. In addition, working in high places is dangerous, so ask your local dealer to have the lamp replaced even if the bulb is not broken. • Do not use the projector with the lamp cover removed. At the lamp replacing, make sure that the screws are screwed in firmly. Loose screws could result in damage or injury.
	• Use only the lamp of the specified type. • If the lamp breaks soon after the first time it is used, it is possible that there are electrical problems elsewhere besides the lamp. If this happens, contact your local dealer or a service representative. • Handle with care: jolting or scratching could cause the lamp bulb to burst during use. • Using the lamp for long periods of time, could cause it to darken, not to light up or to burst. When the pictures appear dark, or when the color tone is poor, please replace the lamp as soon as possible. Do not use old (used) lamps; this is a cause of breakage.

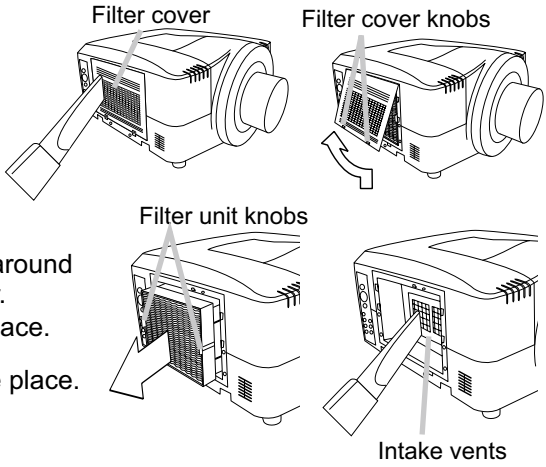
Filter unit

To keep inside ventilation normal, keep a spare and replace the filter unit periodically, although frequent replacement is not needed for this product.
To prepare the spare, contact your dealer and tell the following type number.

Type number of the optional filter unit: MU06351

The following walks you through the steps to replace the filter unit.

1. Make sure that the projector is unplugged and cooled down.
2. Use a vacuum cleaner on and around the filter cover.
3. Pick and pull up the filter cover knobs to take it off.
4. Pinch and pull out the filter unit knob to take it off.
5. Use a vacuum cleaner on and around the intake vents of the projector.
6. Set the new filter unit into the place.
7. Put the filter cover back into the place.
8. Reset the FILTER TIME value.
   (1) Turn the projector on.
   (2) To display the EASY MENU, press the MENU button (on the control panel or the remote control). On the ADVANCED MENU, select the “EASY MENU” using the ▲/▼ cursor buttons in the left column, then press the ► cursor button.
   (3) To display the FILTER TIME dialog, select the “FILTER TIME” using the ▲/▼ cursor buttons, then press the ► cursor button.
   (4) Use the ► cursor button according to the dialog, Selecting “OK” resets the FILTER TIME value.





NOTE • The value shown on the EASY menu as the FILTER TIME is the use time that is counted since the last time the FILTER TIME was reset. Refer to the value for proper maintenance.
• You can utilize the message function, which is set up by the item FILTER TIME of the OPTION menu, to notify you when to replace the lamp.

⚠**WARNING** ►Before checking or replacing the filter unit, turn off, unplug, and cool down the projector.
►To keep inside ventilation normal, check and replace the filter unit periodically.
►Use only the manufacturer specified type of the filter unit.
NOTICE ►Be sure to reset the FILTER TIME only when you have replaced the filter unit.

Internal clock battery

This projector is being loaded with a battery for the internal clock that the network function needs. When the clock does not work correctly, request your dealer to check the battery and to replace if needed. For replacement, prepare a new battery of the following type. You can buy it at the store or order it from your dealer.

HITACHI MAXELL, part number CR2032 or CR2032H

⚠**WARNING** ►Be careful of handling battery, since a battery can cause explosion, cracking or leakage that could result in a fire, an injury, and environment pollution.
• Use only the specified battery.
• When replacing the battery, replace it with a new battery.
• Do not use a battery with damage, such as scratches, dents, rust or leakage.
• Do not work on a battery; for example recharging or soldering.
• Keep a battery in a dark, cool and dry place. Never expose a battery to a fire or water.
• Keep a battery away from children and pets. Be careful for them not to swallow a battery.
• When a battery leaked, wipe the leakage out well with a waste cloth. If the leakage adhered to your body, immediately rinse it well with water. When a battery leaked in the battery holder, replace the batteries after wiping the leakage out.
• Obey the local laws on disposing a battery.

Others

For the lens

Be careful not to scratch, crack, dirty, or fog the lens surface, since it affects the image quality. When the lens surface is fogged or dirty, gently wipe it only with the commercial cloth or paper lens cleaner.

For the inside of the projector

In order to ensure the safe use of your projector, please have it cleaned and inspected by your dealer about once every year.

For the cabinet of the projector and remote control

For the dirty cabinet of the projector or remote control, use soft cloth. Dip a soft cloth in water or a neutral cleaner diluted in water, and wipe the cabinet lightly after wringing it well. Then, wipe again lightly with a soft and dry cloth.

⚠**WARNING** ►Before checking or cleaning the lens, turn off, unplug, and cool down the projector.
►Do not scratch the projector and knock it against something. Use special caution for the lens surface.
►Do not wet the product. Do not let any liquids enter to the inside. Do not use a spray.
NOTICE ►Do not directly touch the lens surface with hands.
►Do not use cleaners or chemicals other than those specified in this manual.

Troubleshooting

Related messages

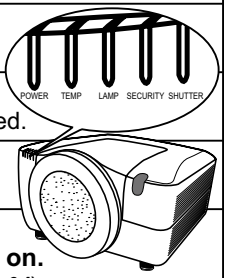
When the unit's power is on, messages such as those shown below may be displayed. When any such message is displayed on the screen, please follow the instructions described below. If the same message is displayed after the remedy, or if a message other than the following appears, please contact your dealer or service company.
Although these messages will automatically disappear after several minutes, they will be displayed again when the power is turned on.

Message	Description
	**There is no input signal.** Please confirm the signal input connection, and the status of the signal source.
	**The horizontal or vertical frequency of the input signal is not within the specified range.** Please confirm the specs for your projector or the signal source specs.
	**An improper signal is input.** Please confirm the specs for your projector or the signal source specs.
	**The internal temperature is rising too much.** Turn the projector off (📖*20*) soon, and allow it to cool down for 20 minutes or more. After cooling, perform the following check. - Are there any obstacles to ventilation around the projector? - Does the temperature around the projector exceed the limit specified? (📖*77*) When this message is displayed without the obstacles mentioned above, replacement of the filter unit is required. Replace the filter unit soon according to the procedure directed in the paragraph "Filter unit" in the chapter "Maintenance" (📖*69*). Remember resetting the FILTER TIME is needed soon after replacement of the filter unit.
	**Replacement of the filter unit is required.** The value of the timer of the FILTER TIME reached the preset value of the FILTER MESSAGE on the SERVICE menu under the OPTION menu (📖*50*). Replace the filter unit soon according to the procedure directed in the paragraph "Filter unit" in the chapter "Maintenance" (📖*69*). Remember resetting the FILTER TIME is needed soon after replacement of the filter unit.
	**The button operation is not available with following condition.** - While the lens is moving, button operation from the control panel or the remote control might be ignored. Wait for the LENS SHIFT indicator stopping blinking. - Pressing the one of buttons to call a signal input might be ignored, when all the input ports belonging to the category the button's name shows are set to the "SKIP" by the item SOURCE SKIP of the OPTION menu.

Regarding the indicator lamps

Lighting and blinking of the POWER indicator, the TEMP indicator, the LAMP indicator, the SECURITY indicator and the SHUTTER indicator have the meanings as described in the table below. Please follow the instructions within the table. If the same indication is displayed after the remedy, or if an indication other than the following is displayed, please contact your dealer or service company.

POWER	TEMP	LAMP	SECURITY	SHUTTER	Description
Lighting In Orange	Turned off	Turned off	Turned off	Turned off	**The projector is in a standby state.** Please refer to the section “Turning on/off”.
Blinking In Green	Turned off	Turned off	Turned off	Turned off	**The projector is warming up.** Please wait.
Lighting In Green	Turned off	Turned off	Turned off	Turned off	**The projector is in an on state.** Ordinary operations may be performed.
Blinking In Orange	Turned off	Turned off	Turned off	Turned off	**The projector is cooling down.** Please wait.
Turned off	Turned off	Turned off	*Blinking In Red*	Turned off	**The PIN Lock or (and) TRANSITION DETECTOR is (are) on.** Please refer to the description (63,64).
Turned off	Turned off	Turned off	Turned off	*Blinking In Yellow*	**The SHUTTER is closed.** Please refer to the description (26).
Blinking In Red	(discre-tionary)	(discre-tionary)	Turned off	Turned off	**The projector is cooling down. A certain error has been detected.** Please wait until the POWER indicator finishes blinking, and then perform the proper measure using the item descriptions below.
Blinking In Red or Lighting In Red	Turned off	Lighting In Red	Turned off	Turned off	**The lamp does not light, and there is a possibility that interior portion has become heated.** Please turn the power off, and allow the projector to cool down at least 20 minutes. After the projector has sufficiently cooled down, please make confirmation of the following items, and then turn the power on again. • Is there blockage of the air passage aperture? • Is the air filter dirty? • Does the peripheral temperature exceed 35°C? If the same indication is displayed after the remedy, please change the lamp referring to the section “Lamp unit”.
Blinking In Red or Lighting In Red	Turned off	*Blinking In Red*	Turned off	Turned off	**The lamp cover has not been properly fixed.** Please turn the power off, and allow the projector to cool down at least 45 minutes. After the projector has sufficiently cooled down, please make confirmation of the attachment state of the lamp cover. After performing any needed maintenance, turn the power on again. If the same indication is displayed after the remedy, please contact your dealer or service company.



 (Continued on next page)

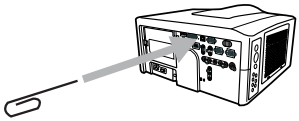
POWER	TEMP	LAMP	SECURITY	SHUTTER	Description
Blinking In Red or Lighting In Red	*Blinking In Red*	Turned **off**	Turned **off**	Turned **off**	**The cooling fan is not operating.** Please turn the power off, and allow the projector to cool down at least 20 minutes. After the projector has sufficiently cooled down, please make confirmation that no foreign matter has become caught in the fan, etc., and then turn the power on again. If the same indication is displayed after the remedy, please contact your dealer or service company.
Blinking In Red or Lighting In Red	Lighting In Red	Turned **off**	Turned **off**	Turned **off**	**The internal temperature is rising too much.** Turn the projector off (📖*20*) soon, and allow it to cool down for 20 minutes or more. After cooling, perform the following check. - Are there any obstacles to ventilation around the projector? - Does the temperature around the projector exceed the limit specified? (📖*77*) When this message is displayed without the obstacles mentioned above, replacement of the filter unit is required. Replace the filter unit soon according to the procedure directed in the paragraph "Filter unit" in the chapter "Maintenance" (📖*69*). Remember resetting the FILTER TIME is needed soon after replacement of the filter unit.
Lighting In Green	Simultaneous *blinking in Red*		Turned **off**	Turned **off**	**Replacement of the filter unit is required.** The value of the timer of the FILTER TIME reached the preset value of the FILTER MESSAGE on the SERVICE menu under the OPTION menu (📖*50*). Replace the filter unit soon according to the procedure directed in the paragraph "Filter unit" in the chapter "Maintenance" (📖*69*). Remember resetting the FILTER TIME is needed soon after replacement of the filter unit.
Lighting In Green	Alternative *blinking in Red*		Turned **off**	Turned **off**	**There is a possibility that the interior portion has become overcooled.** Please use the unit within the usage temperature parameters (5°C to 35°C). After the treatment, reset the power to on.
Blinking in Green for approx. 3 seconds	Turned **off**	Turned **off**	Turned **off**	Turned **off**	**At least 1 "Power ON" schedule is saved to the projector.** (Please refer to the 📖User's Manual - Network Guide: Schedule Settings for more information.)

NOTE • When the interior portion has become overheated, for safety purposes, the power source is automatically turned off, and the indicator lamps may also be turned off. In such a case, press the "O" (off) side of the power switch, and wait at least 45 minutes. After the projector has sufficiently cooled down, please make confirmation of the attachment state of the lamp and lamp cover, and then turn the power on again.

Phenomena that may be easily mistaken for machine defects

⚠**WARNING** ►Never use the projector if abnormal operations such as smoke, strange odor, excessive sound, damaged casing or elements or cables, penetration of liquids or foreign matter, etc. should occur. In such cases, immediately turn off the power switch and then disconnect the power plug from the power outlet. After making sure that the smoke or odor has stopped, contact your dealer or service company.

Before requesting repair, please check in accordance with the following chart. This operation sometimes resolves your problem.



If the situation cannot be corrected;

- The projector's microprocessor may need to be reset. Please push the Shutdown switch by using a pin or similar and the projector will be turned off immediately. Before turning it again, wait at least 10 minutes to make the projector cool down enough.
- Some setting may be wrong. Please use the FACTORY RESET function of the SERVICE item in the OPTION menu (📖55) to reset all settings to factory default. Then, if the problem is not removed after the remedy, please contact your dealer or service company.

Phenomenon	Cases not involving a machine defect	Reference page
Power does not come on.	**The electrical power cord is not plugged in.** Correctly connect the power cord.	15
	The power switch is not set to the on position. Set the power switch to [|] (on).	19
	The main power source has been interrupted during operation such as by a power outage (blackout), etc. Please turn the power off, and allow the projector to cool down at least 2 minutes, then turn the power on again.	19, 20
	Either there is no lamp and/or lamp cover, or either of these has not been properly fixed. Please turn the power off, and allow the projector to cool down at least 45 minutes. After the projector has sufficiently cooled down, please make confirmation of the attachment state of the lamp and lamp cover, and then turn the power on again.	67

(Continued on next page)

Phenomenon	Cases not involving a machine defect	Reference page
No picture is displayed.	**The signal cables are not correctly connected.** Correctly connect the connection cables.	11
	The brightness is adjusted to an extremely low level. Adjust BRIGHTNESS to a higher level using the menu function or the remote control.	31
	The computer cannot detect the projector as a plug and play monitor. Make sure that the computer can detect a plug and play monitor using another plug and play monitor.	14
	The BLANK screen is displayed. Press the BLANK button on the remote control.	26
	The shutter is closed. Press the SHUTTER button.	26
No pictures or disturbed pictures are displayed on HDMI input.	**The HDMI cable is not correctly connected.** Correctly connect the HDMI cable.	11
	Your HDMI equipment is not compatible with the projector This projector can be connected with another equipment that has HDMI or DVI connector, but with some equipment the projector may not work properly.	14
	Your HDMI equipment and the projector are not harmonized. Turn off the both equipment, and turn on them again	–
	The signal format on the HDMI is not supported. Check the video setting on your HDMI equipment.	14

(Continued on next page)

Phenomenon	Cases not involving a machine defect	Reference page
Video screen display freezes.	**The FREEZE function is working.** Press the FREEZE button to restore the screen to normal.	25
Colors have a faded- out appearance, or Color tone is poor.	**Color settings are not correctly adjusted.** Perform picture adjustments by changing the COLOR TEMP, COLOR, TINT and/or COLOR SPACE settings, using the menu functions.	32, 36
	COLOR SPACE setting is not suitable. Change the COLOR SPACE setting to AUTO, RGB, SMPTE240, REC709 or REC601.	36
Pictures appear dark.	**The brightness and/or contrast are adjusted to an extremely low level.** Adjust BRIGHTNESS and/or CONTRAST settings to a higher level using the menu function.	31
	The ECO MODE function is working. Select NORMAL for the ECO MODE item in the SETUP menu.	30, 41
	The lamp is approaching the end of its product lifetime. Replace the lamp.	67, 68
Pictures appear blurry.	**Either the focus and/or horizontal phase settings are not properly adjusted.** Adjust the focus using the FOCUS button, and/or H PHASE using the menu function.	21
	The lens is dirty or misty. Clean the lens referring to the section “For the lens” in "Others".	70
Pictures are trembling.	**The exhaust ventilation holes at front is blocked by some objects.** Remove any objects from front side of the projector.	10

NOTE • Although bright spots or dark spots may appear on the screen, this is a unique characteristic of liquid crystal displays, and it does not constitute or imply a machine defect.

Warranty and after-service

If a problem occurs with the equipment, first refer to the “Troubleshooting” and run through the suggested checks. If this does not resolve the problem, please contact your dealer or service company. They will tell you what warranty condition is applied.

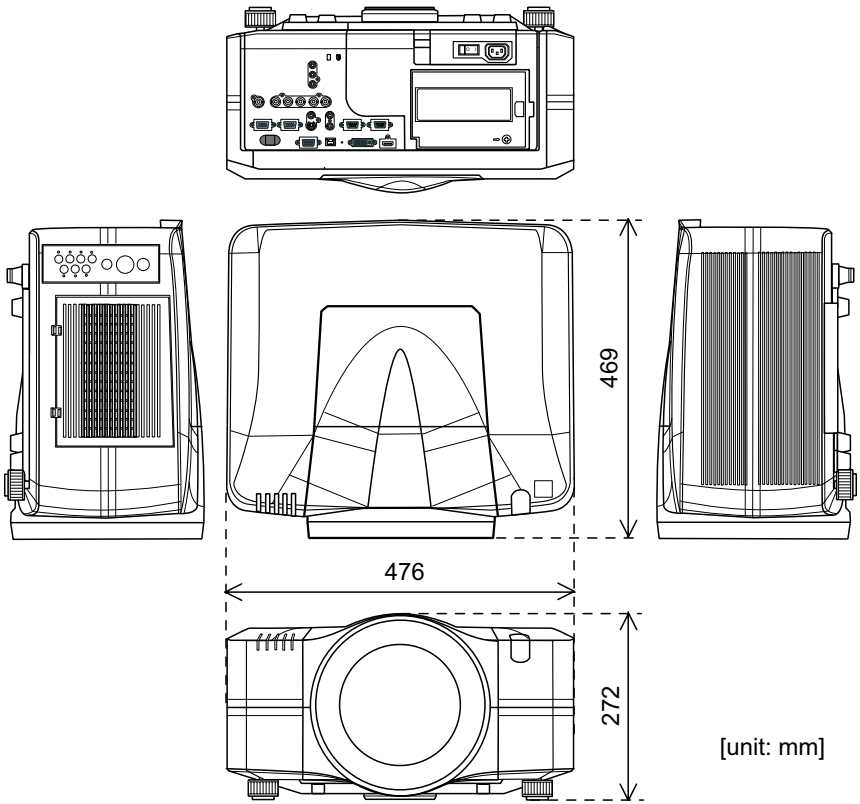
Specifications

Item	Specifications
Product name	Liquid crystal projector
Liquid Crystal Panel	CP-X10000: 1024 horizontal x 768 vertical CP-WX11000: 1366 horizontal x 800 vertical CP-SX12000: 1400 horizontal x 1050 vertical
Lens	* See the manual of the optional lens.
Lamp	350W UHB
Power supply	AC 110-120V/6.0A, AC220-240V/3.1A
Power consumption	540W
Temperature range	5 to 35°C (Operating)
Weight (mass)	13.1kg (approx.)
Ports	HDMI .....HDMI jack x 1 DVI-D ..... DVI-D jack x 1 LAN .....RJ45 jack x 1 MONITOR OUT ..... D-sub 15 pin mini jack x 1 CONTROL IN ..... D-sub 9 pin pulg x 1 CONTROL OUT ..... D-sub 9 pin pulg x 1 REMOTE CONTROL IN ..... 3.5 stereo mini jack x 1 REMOTE CONTROL OUT ..... 3.5 stereo mini jack x 1 S-VIDEO ..... DIN 4 pin mini jack x 1 VIDEO 1 .....RCA jack x 1 VIDEO 2 ..... BNC jack x 1 COMPUTER IN1 ..... D-sub 15 pin mini jack x 1 COMPUTER IN2 ..... D-sub 15 pin mini jack x 1 BNC (G/Y, B/Cb/Pb, R/Cr/Pr, H, V)..... BNC jack x 5 Component (Y, Cb/Pb, Cr/Pr) .....RCA jack x 3
Optional parts	**Lens unit:** **USL-801 (Ultra short throw lens)** **SL-802 (Short throw lens)** **SL-803 (Short throw lens)** **SD-804(Standard lens)** **LL-805 (Long throw lens)** **UL-806 (Ultra long throw lens)** **Lamp:** DT01001 **Filter unit:** MU06351 **Cable cover:** CC10000 **Lens adapter unit:** KU00041 **Mounting accessary:** **HAS-10000 (Bracket for ceiling mount)** **HAS-204L (Fixing adaptor for low ceilings)** **HAS-304H (Fixing adaptor for high ceilings)** * For further information, check our web site (see below), or ask your dealer.

NOTE • These specifications are subject to change without notice. The latest information is in web site as below.
http://www.hitachi.us/digitalmedia or http://www.hitachidigitalmedia.com

(Continued on next page)

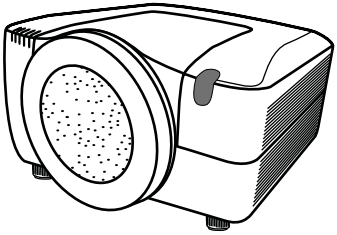
Specifications (continued)



Projector

CP-X10000/CP-WX11000/CP-SX12000

User's Manual (detailed)
Network Guide



Thank you for purchasing this projector.
This projector has the network function that brings you the following main features.

- ✓ **Web control**
  The projector can be controlled and monitored by a web browser software on your PC, which can help you to setup and maintain the projector.
- ✓ **MY IMAGE (Still Image Transfer) Display**
  The projector can display still images that are transferred via the network.

This manual is only intended to explain Network function only.
For safety, operations or any other issues, refer to the Safety Guide and User's Manual (concise and detailed).

⚠**WARNING** ►Before using this product, be sure to read all manuals for this product.
After reading them, store them in a safe place for future reference.

NOTE • The information in this manual is subject to change without notice.
• The manufacturer assumes no responsibility for any errors that may appear in this manual.
• The reproduction, transfer or copy of all or any part of this document is not permitted without express written consent.

Trademark acknowledgment
- Microsoft® and Internet Explorer®, Windows®, Windows Vista® are registered trademark of Microsoft Corporation in the U.S. and/or other countries.
- JavaScript® is a registered trademark of Sun microsystems, Inc.
- DVI is a trademark of Digital Display Working Group.
- HDMI, the HDMI logo and High-Definition Multimedia Interface are trademarks or registered trademarks of HDMI Licensing LLC.
- Trademark PJLink is a trademark applied for trademark rights in Japan, the United States of America and other countries and areas.

All other trademarks are the properties of their respective owners.

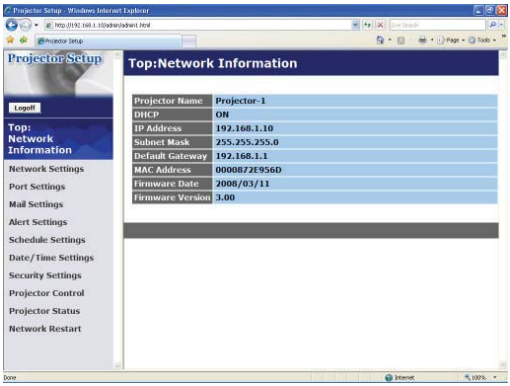
Content

Content 2
1. Main functions 3
1.1 Configuring and controlling via a web browser 3
1.2 MY IMAGE (Still image Transfer) Display 3
2. Equipment connection and network setting..... 4
2.1 Required equipment preparation 4
2.2 Manual network connection setting..... 5
2.2.1 Equipments connection 5
2.2.2 Network settings..... 5
2.2.3 “Internet Option” setting..... 8
2.2.4 Check connection..... 9
3. Management with Web browser software 10
3.1 Configuring and controlling the projector via a web browser 11
3.1.1 Logon 13
3.1.2 Network Information 14
3.1.3 Network Settings 15
3.1.4 Port Settings..... 16
3.1.5 Mail Settings..... 18
3.1.6 Alert Settings 19
3.1.7 Schedule Settings 21
3.1.8 Date/Time Settings..... 23
3.1.9 Security Settings 25
3.1.10 Projector Control 27
3.1.11 Projector Status 31
3.1.12 Network Restart..... 32
3.1.13 Logoff 32
3.2 E-mail Alerts..... 33
3.3 Projector Management using SNMP..... 35
3.4 Event Scheduling..... 36
3.5 MY IMAGE (Still Image Transfer) Display..... 39
3.6 Command Control via the Network..... 41
3.7 Controlling the external devise via the projector
(using the NETWORK BRIDGE function) 46
3.8 Batch-controlling multiple projectors (using the DAISY CHAIN function).... 50

1. Main functions

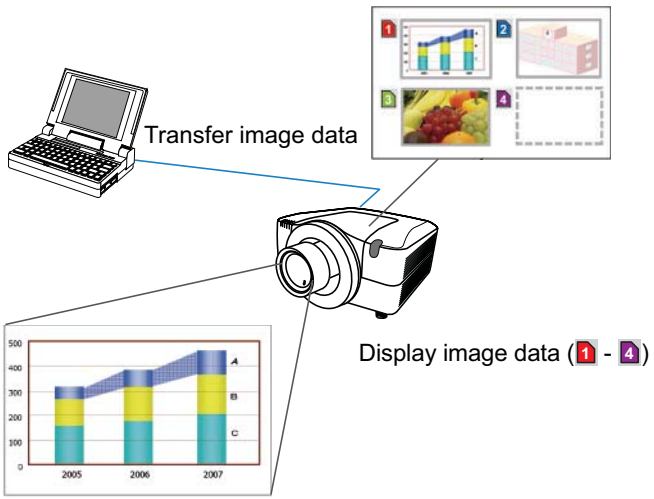
1.1 Configuring and controlling via a web browser

You can adjust or control the projector via a network from a web browser on a PC that is connected to the same network.
Logon the network from the web browser and it offers the menus to configure the network settings, monitor the projector and so on.



1.2 MY IMAGE (Still image Transfer) Display

Image files can be sent via the network, and up to 4 image data can be stored in the projector and displayed on screen one by one. (📖39)



2. Equipment connection and network setting

2.1 Required equipment preparation

The following equipments are required to connect the projector to your PC through the network.

PC : 1) equipped with the network feature
2) installed a web browser software (📖*11*)

LAN cable : CAT-5 or greater

NOTE • The system for using the network function of the projector requires communication environment conforming 100Base-TX or 10Base-T.

2.2 Manual network connection setting

2.2.1 Equipments connection

Connect the projector and PC with a LAN cable.
* Before connecting with an existing network, contact the network administrator.

Next, please check the PC setting as explained below.

2.2.2 Network settings

This is the explanation of network connection settings for Windows® XP and Internet Explorer®.
1) Log on to Windows® XP as administrator authority. (*)
2) Open “Control Panel” from “Start” menu.
3) Open “Network and Internet Connections” in “Control Panel”. (Fig. 2.2.2.a)
* Administrator authority is the account, which can access to all functions.

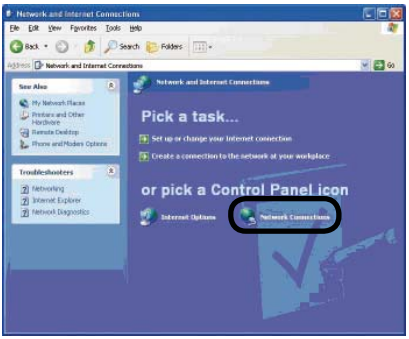


Fig. 2.2.2.a “Network and Internet Connections” window

4) Open “Network Connections”. (Fig.2.2.2.b)

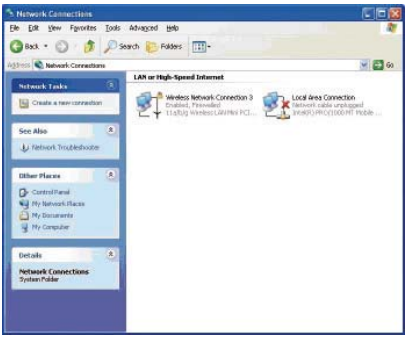


Fig. 2.2.2.b “Network Connections” window

2.2 Manual network connection setting (continued)

5) Open “Local Area Connection Properties” window you use for network device. (Fig. 2.2.2.c)

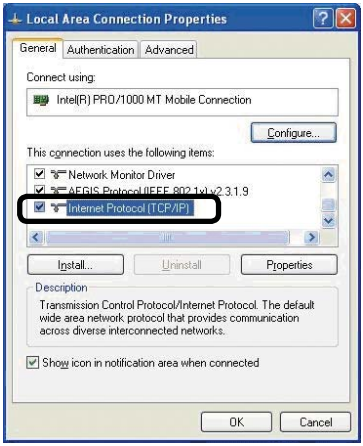


Fig. 2.2.2.c “Local Area Connection Properties” window

6) Set used protocol as “TCP/IP” and open “Internet Protocol (TCP/IP) Properties” window.

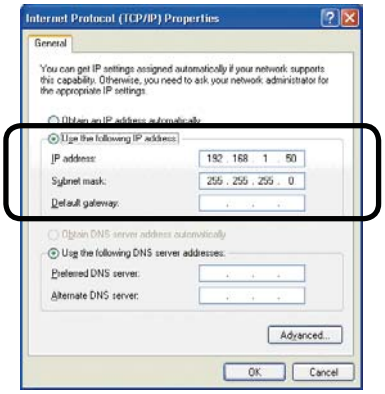


Fig. 2.2.2.d “Internet Protocol (TCP/IP) Properties” window

7) Set IP address, subnet mask and default gateway for PC.

2.2 Manual network connection setting (continued)

[About IP address]

■ Setting manually

The Network address portion included in the IP address set into your PC should be common with projector's one. And the entire IP address in the PC should not be overlapped with other equipments in the same network, including the projector.

For example

The projector's initial settings are as follows.

IP address: 192.168.1.10
Subnet mask: 255.255.255.0
(Network address: 192.168.1 in this case)

Therefore, specify PC's IP address as follows.

IP address: 192.168.1.xxx (xxx shows decimal number.)
Subnet mask: 255.255.255.0
(Network address: 192.168.1 in this case)

Select from 1 to 254 for "xxx" not duplicating with any other equipments. In this case, projector has "192.168.1.10" IP address, specify from 1 to 254 except 10 for PC.

NOTE • "0.0.0.0" cannot be set to the IP address.
• The projector's IP address can be changed by using the configuration utility via a web browser. (📖*11*)
• If the projector and PC exist in the same network (i.e. network address is common), default gateway can be blank.
• When the projector and PC exist in different networks, default gateway setting is necessary. Contact the network administrator in detail.

■ Setting automatically

When DHCP server exists in network, it is possible to assign IP address to the projector and PC automatically.

* DHCP is abbreviation for "Dynamic Host Configuration Protocol" and has the function to provide necessary setting for network like IP address from server to client. A server that has DHCP function is called DHCP server.

2.2 Manual network connection setting (continued)

2.2.3 “Internet Option” setting

1) Click “Internet Options” in “Network and Internet Connections” window (Fig. 2.2.3.a) to open “Internet Properties” window. (Fig.2.2.3.b)

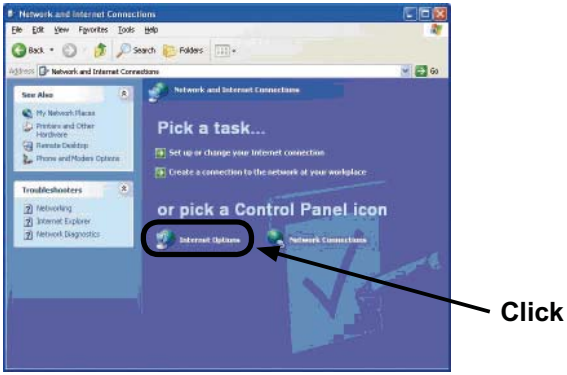


Fig. 2.2.3.a “Network and Internet Connections” window

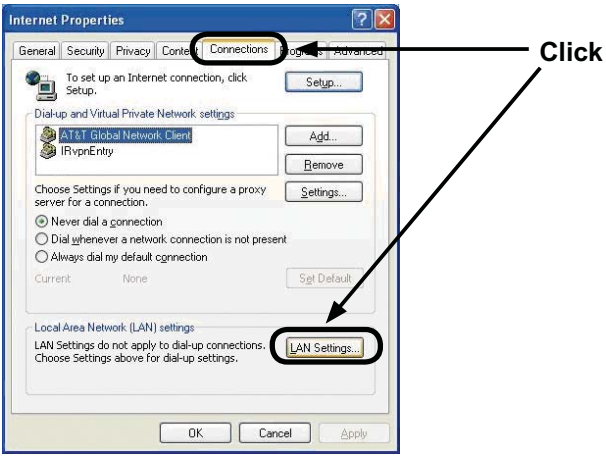


Fig. 2.2.3.b “Internet Properties” window

2) Click “Connections” tab and then click [LAN Settings] button to open “Local Area Network (LAN) settings”. (Fig. 2.2.3.c)

2.2 Manual network connection setting (continued)

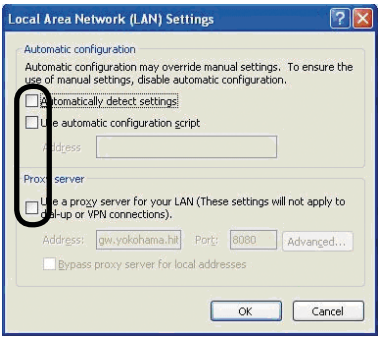


Fig. 2.2.3.c “Local Area Network (LAN) Settings” window

3) Uncheck all boxes in “Local Area Network (LAN) Settings” window. (Fig. 2.2.3.c)

2.2.4 Check connection

Check PC and projector are connected properly here. If it is not connected, check cable connections and settings are properly or not.

1) Start browser in PC and specify following URL, then click “→” button.

URL: http:///(Projector IP address)/

For example, if projector IP address is 192.168.1.10, specify

URL: http://192.168.1.10/

2) If Fig. 2.2.4 appears, it succeeds.



Fig. 2.2.4 “Logon Menu”

3. Management with Web browser software

This projector is equipped with the following network functions by using a web browser software.

3.1 Configuring and Controlling the Projector via a Web Browser

You can change the settings of or control the projector via a network by using a web browser from a PC that is connected to the same network.
(📖11)

3.2 E-mail Alerts

The projector can automatically send an alert to specified e-mail addresses when the projector requires maintenance or has encountered an error.
(📖33)

3.3 Projector Management using SNMP

This projector is SNMP (Simple Network Management Protocol) compliant, allowing you to monitor it from a remote location using SNMP software. In addition, the projector is able to send failure & warning alerts to a specified PC.
(📖35)

3.4 Event Scheduling

You can schedule the projector to perform various functions according to the date and time.
(📖36)

3.5 MY IMAGE (Still Image Transfer) Display

The projector can display still images that are transferred via the network.
(📖39)

3.6 Command Control via the Network

The projector can be controlled using RS-232C commands over a network.
(📖41)

3.7 Controlling the external devise via the projector (using the NETWORK BRIDGE function)

Using the NETWORK BRIDGE function can control an external devise as a network terminal, via this projector from the computer. (📖46)

3.8 Batch-controlling multiple projectors (using the DAISY CHAIN function)

Using the DAISY CHAIN function can simultaneously control multiple projectors connected to a shared RS-232C bus, from the computer. (📖50)

3.1 Configuring and controlling the projector via a web browser

You can adjust or control the projector via a network from a web browser on a PC that is connected to the same network.

NOTE • Internet Explorer® 5.5 or later is required.
• If JavaScript® is disabled in your web browser configuration, you must enable JavaScript® in order to use the projector web pages properly. See the Help files for your web browser for details on how to enable JavaScript®.
• You can communicate using SSL (Secure Socket Layer) if you are using Windows® XP Service Pack 2 or earlier versions of Microsoft® Windows®. Please specify “https://” when you enter the IP address of the projector on the web browser. You can't communicate the projector using SSL on Windows Vista®.
• It is recommended that all web browser updates are installed. It is especially recommended that all users running Internet Explorer® on a Microsoft® Windows® version prior to Windows® XP Service Pack 2 install security update Q832894 (MS04-004) or the web browser interface may not be displayed correctly. And when using an earlier version of Internet Explorer®, during operations the browser will log out after 50 seconds.

3.1 Configuring and controlling the projector via a web browser (continued)

When configuring or controlling the projector via a web browser, an ID and password are required. There are two types of IDs, Administrator ID and User ID. The following chart describes the differences between Administrator and User IDs.

Item	Description	Administrator	User
Network Information	Displays the projector's current network configuration settings.	√	√
Network Settings	Displays and configures network settings.	√	N/A
Port Settings	Displays and configures communication port settings.	√	N/A
Mail Settings	Displays and configures e-mail addressing settings.	√	N/A
Alert Settings	Displays and configures failure & warning alerts.	√	N/A
Schedule Settings	Displays and configures schedule settings.	√	N/A
Date/Time Settings	Displays and configures the date and time settings.	√	N/A
Security Settings	Displays and configures passwords and other security settings.	√	N/A
Projector Control	Controls the projector.	√	√
Projector Status	Displays the current projector status.	√	√
Network Restart	Restarts the projector's network connection.	√	N/A

3.1 Configuring and controlling the projector via a web browser (continued)

3.1.1 Logon

Refer to the following for configuring or controlling the projector via a web browser.

Example: If the IP address of the projector is set to **192.168.1.10:**

1) Enter **"http://192.168.1.10/"** into the address bar of the web browser and press "Enter" key or click "→" button. The screen in Fig. 3.1.1a will be displayed.

2) Enter your ID and password and click **[Logon]**.



Fig. 3.1.1 a "Logon Menu"

Below are the factory default settings for Administrator ID, User ID and passwords.

Item	ID	Password
Administrator	Administrator	<blank>
User	User	<blank>

If the logon is successful, either the Fig. 3.1.1 b or Fig. 3.1.1 c screen will be displayed.

Main menu

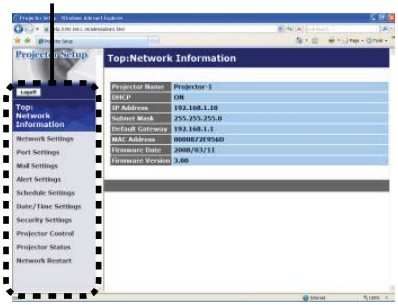


Fig. 3.1.1 b "Logon with Administrator ID"

Main menu

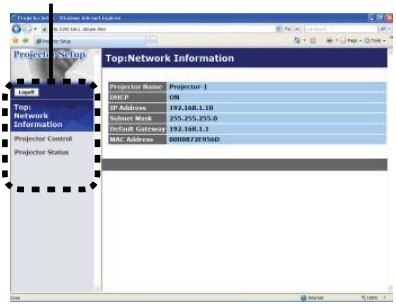


Fig. 3.1.1 c "Logon with User ID"

3) Click the desired operation or configuration item on the main menu located on the left-hand side of the screen.

3.1 Configuring and controlling the projector via a web browser (continued)

3.1.2 Network Information



All screen drawings in this manual are shown when you logon with the Administrator ID. Any functions that are available only for the Administrator will not be shown when you logon with the User ID. Refer to the table. (🕮*12,13*)

Displays the projector's current network configuration settings.

Item	Description
Projector Name	Displays the projector name settings.
DHCP	Displays the DHCP configuration settings.
IP Address	Displays the current IP address.
Subnet Mask	Displays the subnet mask.
Default Gateway	Displays the default gateway.
MAC Address	Displays the ethernet MAC address.
Firmware Date	Displays the network firmware time stamp. This information is only displayed when logged on using an Administrator ID.
Firmware Version	Displays the network firmware version number. This information is only displayed when logged on using an Administrator ID.

3.1 Configuring and controlling the projector via a web browser (continued)

3.1.3 Network Settings



Displays and configures network settings.

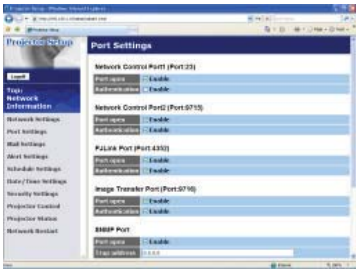
Item	Description
IP Configuration	Configures network settings.
DHCP ON	Enables DHCP.
DHCP OFF	Disables DHCP.
IP Address	Configures the IP address when DHCP is disabled.
Subnet Mask	Configures the subnet mask when DHCP is disabled.
Default Gateway	Configures the default gateway when DHCP is disabled.
Projector Name	Configures the name of the projector. The length of the Projector Name can be up to 64 alphanumeric characters. Only alphabets, numbers and following symbols can be used. !"#$%&'()*+,-./:;<=>?@ [\]^_`{|}~ and space
sysLocation (SNMP)	Configures the location to be referred to when using SNMP. The length of the sysLocation can be up to 255 alphanumeric characters. Only numbers '0-9' and alphabet 'a-z', 'A-Z' can be used.
sysContact (SNMP)	Configures the contact information to be referred to when using SNMP. The length of the sysContact can be up to 255 alphanumeric characters. Only numbers '0-9' and alphabet 'a-z', 'A-Z' can be used.
DNS Server Address	Configures the DNS server address.

Click **[Apply]** button to save the settings.

NOTE • The new configuration settings are activated after restarting the network connection. When the configuration settings are changed, you must restart the network connection. You can restart the network connection by clicking **[Network Restart]** on the main menu.
• If you connect the projector to an existing network, consult a network administrator before setting server addresses.

3.1 Configuring and controlling the projector via a web browser (continued)

3.1.4 Port Settings



Displays and configures communication port settings.

Item		Description
Network Control Port1 (Port:23)		Configures command control port 1 (Port:23).
	Port open	Click the **[Enable]** check box to use port 23.
	Authentication	Click the **[Enable]** check box when authentication is required for this port.
Network Control Port2 (Port:9715)		Configures command control port 2 (Port:9715).
	Port open	Click the **[Enable]** check box to use port 9715.
	Authentication	Click the **[Enable]** check box when authentication is required for this port.
PJLink ™ Port (Port:4352)		Configures the PJLink ™ port (Port:4352).
	Port open	Click the **[Enable]** check box to use port 4352.
	Authentication	Click the **[Enable]** check box when authentication is required for this port.
Image Transfer Port (Port:9716)		Configures the image transfer port (Port:9716).
	Port open	Click the **[Enable]** check box to use port 9716.
	Authentication	Click the **[Enable]** check box when authentication is required for this port.

3.1 Configuring and controlling the projector via a web browser (continued)

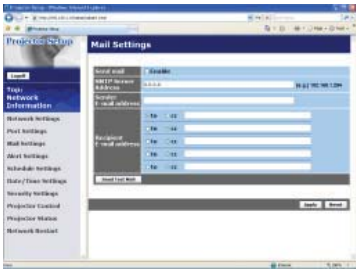
Item		Description
SNMP Port		Configures the SNMP port.
	Port open	Click the **[Enable]** check box to use SNMP.
	Trap address	Configures the destination of the SNMP Trap in IP format. • The address allows not only IP address but also domain name if the valid DNS server is setup in the **Network Settings**. The maximum length of host or domain name is up to 255 characters.
SMTP Port		Configures the SMTP port.
	Port open	Click the **[Enable]** check box to use the e-mail function.
Network Bridge Port		Configures the Bridge port number.
	Port Number	Input the port number. Any number between 1024 and 65535 can be set up. It is set to 9717 as the default setting.
Daisy Chain Port		Configures the Daisy Chain port number.
	Port Number	Input the port number. Any number between 1024 and 65535 can be set up. It is set to 9718 as the default setting.

Click **[Apply]** button to save the settings.

NOTE • The new configuration settings are activated after restarting the network connection. When the configuration settings are changed, you must restart the network connection. You can restart the network connection by clicking **[Network Restart]** on the main menu.

3.1 Configuring and controlling the projector via a web browser (continued)

3.1.5 Mail Settings



Displays and configures e-mail addressing settings.

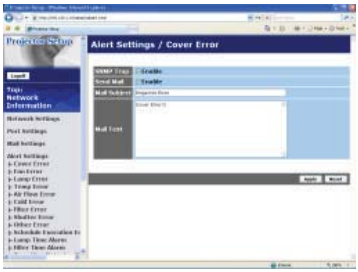
Item	Description
Send mail	Click **[Enable]** check box to use the e-mail function. Configure the conditions for sending e-mail under the Alert Settings.
SMTP Server Address	Configures the address of the mail server in IP format. • The address allows not only IP address but also domain name if the valid DNS server is setup in the **Network Settings**. The maximum length of host or domain name is up to 255 characters.
Sender E-mail address	Configures the sender e-mail address. The length of the sender e-mail address can be up to 255 alphanumeric characters.
Recipient E-mail address	Configures the e-mail address of up to five recipients. You can also specify **[TO]** or **[CC]** for each address. The length of the recipient e-mail address can be up to 255 alphanumeric characters.

Click **[Apply]** button to save the settings.

NOTE • You can confirm whether the mail settings work correctly using **[Send Test Mail]** button. Please enable Send mail setting before clicking **[Send Test Mail]**.
• If you connect the projector to an existing network, consult a network administrator before setting server addresses.

3.1 Configuring and controlling the projector via a web browser (continued)

3.1.6 Alert Settings



Displays and configures failure & alert settings.

Alert Item	Description
Cover Error	The lamp cover has not been properly fixed.
Fan Error	The cooling fan is not operating.
Lamp Error	The lamp does not light, and there is a possibility that interior portion has become heated.
Temp Error	There is a possibility that the interior portion has become heated.
Air Flow Error	The internal temperature is rising.
Cold Error	There is a possibility that the interior portion has become overcooled.
Filter Error	Filter time over.
Shutter Error	The shutter does not work crrectly.
Other Error	Other error. If displaying this error, please contact your dealer.
Schedule Execution Error	Schedule Execution error. (📖***21***)
Lamp Time Alarm	Lamp time over Alarm Time setting.
Filter Time Alarm	Filter time over Alarm Time setting.
Transition Detector Alarm	Transition Detector Alarm. (📖***OPTION menu in the User's Manual (detailed) – Operating Guide***)
Cold Start	The Power switch is turned on. (Off → standby mode)
Authentication Failure	The SNMP access is detected from the invalid SNMP community.

Refer to 📖***"Troubleshooting" in the User's Manual (detailed) – Operating Guide*** for further detailed explanation of Error except Other Error and Schedule Execution Error.

3.1 Configuring and controlling the projector via a web browser (continued)

The Alert Items are shown below.

Setting Item	Description
Alarm Time	Configures the time to alert. (Only **Lamp Time Alarm** and **Filter Time Alarm**.)
SNMP Trap	Click **[Enable]** check box to enable SNMP Trap alerts.
Send Mail	Click **[Enable]** check box to enable e-mail alerts. (Except **Cold Start** and **Authentication Failure**.)
Mail Subject	Configures the subject line of the e-mail to be sent. The length of the subject line can be up to 100 alphanumeric characters. (Except **Cold Start** and **Authentication Failure**.)
Mail Text	Configures the text of the e-mail to be sent. The length of the text can be up to 1024 alphanumeric characters. (Except **Cold Start** and **Authentication Failure**.)

Click **[Apply]** button to save the settings.

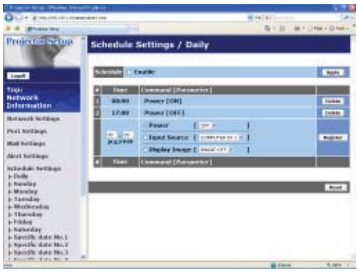
NOTE • The trigger of **Filter Error** e-mail is depending on the FILTER MESSAGE setting in the SERVICE item of the OPTION menu which defines the period until the filter message is displayed on the projector screen. The e-mail will be sent when the filter timer exceeds 2000, 5000 or 10000 hours based on the configuration. No notification e-mail will be sent if the FILTER MESSAGE is set to OFF. (📖***OPTION menu in the User's Manual (detailed) – Operating Guide***)

• **Lamp Time Alarm** is defined as a threshold for e-mail notification (reminder) of the lamp timer. When the lamp hour exceeds this threshold that is configured through the Web page, the e-mail will be sent out.

• **Filter Time Alarm** is defined as a threshold for e-mail notification (reminder) of the filter timer. When the filter hour exceeds this threshold, the e-mail will be sent out.

3.1 Configuring and controlling the projector via a web browser (continued)

3.1.7 Schedule Settings



Displays and configures schedule settings.

Item	Description
Daily	Configures the daily schedule.
Sunday	Configures the Sunday schedule.
Monday	Configures the Monday schedule.
Tuesday	Configures the Tuesday schedule.
Wednesday	Configures the Wednesday schedule.
Thursday	Configures the Thursday schedule.
Friday	Configures the Friday schedule.
Saturday	Configures the Saturday schedule.
Specific date No.1	Configures the specific date (No.1) schedule.
Specific date No.2	Configures the specific date (No.2) schedule.
Specific date No.3	Configures the specific date (No.3) schedule.
Specific date No.4	Configures the specific date (No.4) schedule.
Specific date No.5	Configures the specific date (No.5) schedule.

3.1 Configuring and controlling the projector via a web browser (continued)

The schedule settings are shown below.

Item	Description
Schedule	Click **[Enable]** check box to enable the schedule.
Date (Month/Day)	Configures the month and date. This item appears only when Specific date (No. 1-5) is selected.

Click **[Apply]** button to save the settings.

The current event settings are displayed on the schedule list. To add additional functions and events, set the following items.

Item		Description
Time		Configures the time to execute commands.
Command [Parameter]		Configures the commands to be executed.
	Power	Configures the parameters for power control.
	Input Source	Configures the parameters for input switching.
	Display Image	Configures the parameters for display of transfered image data (📖39).

Click **[Register]** button to add new commands to the schedule list.

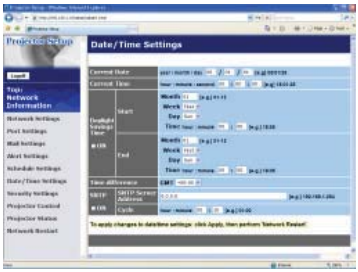
Click **[Delete]** button to delete commands from the schedule list.

Click **[Reset]** button to delete all commands and reset the schedule settings from the schedule list.

NOTE • After the projector is moved, check the date and time set for the projector before configuring the schedules. Strong shock may make the date and time settings (📖23) get out of tune.

3.1 Configuring and controlling the projector via a web browser (continued)

3.1.8 Date/Time Settings



Displays and configures the date and time settings.

Item			Description
Current Date			Configures the current date in **year/month/day** format.
Current Time			Configures the current time in **hour:minute:second** format.
Daylight Savings Time			Click **[ON]** check box to enable daylight savings time and set the following items.
	Start		Configures the date and time daylight savings time begins.
		Month	Configures the month daylight savings time begins (1~12).
		Week	Configures the week of the month daylight savings time begins (First, 2, 3, 4, Last).
		Day	Configures the day of the week daylight savings time begins (Sun, Mon, Tue, Wed, Thu, Fri, Sat).
		Time **hour**	Configures the hour daylight savings time begins (0 ~ 23).
		Time **minute**	Configures the minute daylight savings time begins (0 ~ 59).
	End		Configures the date and time daylight savings time ends.
		Month	Configures the month daylight savings time ends (1 ~ 12).
		Week	Configures the week of the month daylight savings time ends (First, 2, 3, 4, Last).
		Day	Configures the day of the week daylight savings time ends (Sun, Mon, Tue, Wed, Thu, Fri, Sat).
		Time **hour**	Configures the hour daylight savings time ends (0 ~ 23).
		Time **minute**	Configures the minute daylight savings time ends (0 ~ 59).

3.1 Configuring and controlling the projector via a web browser (continued)

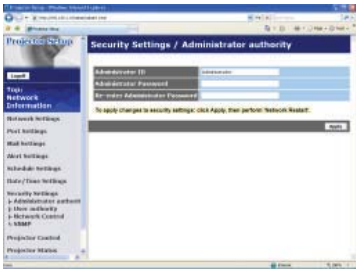
Item		Description
Time difference		Configures the time difference. Set the same time difference as the one set on your PC. If unsure, consult your IT manager.
SNTP		Click the **[ON]** check box to retrieve Date and Time information from the SNTP server and set the following items.
	SNTP Server Address	Configures the SNTP server address in IP format. • The address allows not only IP address but also domain name if the valid DNS server is setup in the **Network Settings**. The maximum length of host or domain name is up to 255 characters.
	Cycle	Configures the interval at which to retrieve Date and Time information from the SNTP server (**hour:minute**).

Click **[Apply]** button to save the settings.

NOTE • The new configuration settings are activated after restarting the network connection. When the configuration settings are changed, you must restart the network connection. You can restart the network connection by clicking **[Network Restart]** on the main menu.
• If you connect the projector to an existing network, consult a network administrator before setting server addresses.
• To enable the SNTP function, the time difference must be set.
• The projector will retrieve Date and Time information from the time server and override time settings when SNTP is enabled.
• The internal clock's time may not remain accurate. Using SNTP is recommended to maintain accurate time.

3.1 Configuring and controlling the projector via a web browser (continued)

3.1.9 Security Settings



Displays and configures passwords and other security settings.

Item		Description
Administrator authority		Configures the Administrator ID and password.
	Administrator ID	Configures the Administrator ID. The length of the text can be up to 32 alphanumeric characters.
	Administrator Password	Configures the Administrator password. The length of the text can be up to 255 alphanumeric characters.
	Re-enter Administrator Password	Reenter the above password for verification.
User authority		Configures the User ID and password.
	User ID	Configures the User ID. The length of the text can be up to 32 alphanumeric characters.
	User Password	Configures the User password. The length of the text can be up to 255 alphanumeric characters.
	Re-enter User Password	Reenter the above password for verification.

3.1 Configuring and controlling the projector via a web browser (continued)

Item		Description
Network Control		Configures the Authentication password for the command control.
	Authentication Password	Configures the Authentication password. The length of the text can be up to 32 alphanumeric characters.
	Re-enter Authentication Password	Reenter the above password for verification.
SNMP		Configures the community name if SNMP is used.
	Community name	Configures the community name. The length of the text can be up to 64 alphanumeric characters.

Click **[Apply**] button to save the settings.

NOTE • The new configuration settings are activated after restarting the network connection. When the configuration settings are changed, you must restart the network connection. You can restart the network connection by clicking **[Network Restart]** on the main menu.
• Only numbers '0-9' and alphabet 'a-z', 'A-Z' can be used.

3.1 Configuring and controlling the projector via a web browser (continued)

3.1.10 Projector Control



The items shown in the table below can be performed using the Projector Control menu. Select an item using the up and down arrow keys on the PC.
Most of the items have a submenu. Refer to the table below for details.

NOTE • The setting value may not match with the actual value if the user changes the value manually. In that case, please refresh the page by clicking **[Refresh]** button.

Controls the projector.

Item		Description
Main		
	Power	Turns the power on/off.
	Input Source	Selects the input source.
	Picture Mode	Selects the picture mode setting.
	Blank On/Off	Turns Blank on/off.
	Freeze	Turns Freeze on/off.
	Magnify	Controls the magnify setting. In some input signal sources, it might stop “Magnify” even though it does not reach to maximum setting value.
	Template	Turns template on/off.
	Shutter	Open / close the shutter.
	Zoom	Adjusts the zoom setting.
	Focus	Adjusts the focus setting.
	Lens Shift V	Adjusts the vertical lens shift.
	Lens Shift H	Adjusts the horizontal lens shift.
	Lens Memory	Saves / Loads the Lens Memory data.
	P by P	Turns the P by P on / off.
	P by P Left Source	Selects the P by P Left Source setting.
	P by P Right Source	Selects the P by P Right Source setting.
	P by P Main Area	Selects the P by P Main Area Source setting.
	MY Image	Select MY IMAGE data.
	MY Image Delete	Delete MY IMAGE data.
Picture		
	Brightness	Adjusts the brightness setting.
	Contrast	Adjusts the contrast setting.

3.1 Configuring and controlling the projector via a web browser (continued)

Item		Description
Picture (continue)		
	Gamma	Selects the gamma setting.
	Color Temp	Selects the color temperature setting.
	Color	Adjusts the color setting.
	Tint	Adjusts the tint setting.
	Sharpness	Adjusts the sharpness setting.
	Active Iris	Selects the active iris setting.
	Active Iris - Manual	Adjusts the active iris - manual setting.
	MyMemory Save	Saves the MyMemory data.
	MyMemory Recall	Recalls the MyMemory data.
Image		
	Aspect	Selects the aspect setting.
	Over Scan	Adjusts the over scan setting.
	V Position	Adjusts the vertical position.
	H Position	Adjusts the horizontal position.
	H Phase	Adjusts the horizontal phase.
	H Size	Adjusts the horizontal size.
	Auto Adjust Execute	Performs the automatic adjustment.
Input		
	Progressive	Selects the progressive setting.
	Video NR	Selects the video noise reduction setting.
	3D-YCS	Selects the 3D-YCS setting.
	Color Space	Selects the color space.
	Component	Selects the Component port setting.
	Video 1 Format	Selects the video 1 format setting.
	Video 2 Format	Selects the video 2 format setting.
	S-Video Format	Selects the s-video format setting.
	HDMI Format	Selects the HDMI format setting.
	DVI-D Format	Selects the DVI-D format setting.
	HDMI Range	Selects the HDMI range setting.
	DVI-D Range	Selects the DVI-D range setting.
	Computer in 1	Selects the Computer in 1 input signal type.
	Computer in 2	Selects the Computer in 2 input signal type.
	BNC	Selects the BNC input signal type.
	Frame Lock-Computer in 1	Turns the FRAME LOCK-COMPUTER IN1 function on/off.
	Frame Lock-Computer in 2	Turns the FRAME LOCK-COMPUTER IN2 function on/off.
	Frame Lock-BNC	Turns the FRAME LOCK-BNC function on/off.
	Frame Lock-HDMI	Turns the FRAME LOCK-HDMI function on/off.
	Frame Lock-DVI-D	Turns the FRAME LOCK-DVI-D function on/off.

3.1 Configuring and controlling the projector via a web browser (continued)

Item		Description
Setup		
	Auto Keystone Execute	Performs the automatic keystone distortion setting.
	Keystone V	Adjusts the vertical keystone distortion setting.
	Keystone H	Adjusts the horizontal keystone distortion setting.
	Eco Mode	Selects the eco mode.
	Mirror	Selects the mirror status.
	Monitor Out - Computer in 1	Assigns the MONITOR OUT when the COMPUTER IN1 input port is selected.
	Monitor Out - Computer in 2	Assigns the MONITOR OUT when the COMPUTER IN2 input port is selected.
	Monitor Out - BNC	Assigns the MONITOR OUT when the BNC input port is selected.
	Monitor Out - HDMI	Assigns the MONITOR OUT when the HDMI input port is selected.
	Monitor Out - DVI-D	Assigns the MONITOR OUT when the DVI-D input port is selected.
	Monitor Out - Component	Assigns the MONITOR OUT when the Component input port is selected.
	Monitor Out - S-Video	Assigns the MONITOR OUT when the S-VIDEO input port is selected.
	Monitor Out - Video 1	Assigns the MONITOR OUT when the VIDEO 1 input port is selected.
	Monitor Out - Video 2	Assigns the MONITOR OUT when the VIDEO 2 input port is selected.
	Monitor Out - Standby	Assigns the MONITOR OUT in the standby mode.
Screen		
	Language	Selects the language for the OSD.
	Menu Position V	Adjusts the vertical Menu position.
	Menu Position H	Adjusts the horizontal Menu position.
	Blank	Selects the Blank mode.
	Startup	Selects the startup screen mode.
	MyScreen Lock	Turns MyScreen lock function on/off.
	Message	Turns the message function on/off.
	Template	Selects the template setting.
	C.C. - Display	Selects Closed Caption DISPLAY setting.
	C.C. - Mode	Selects Closed Caption MODE setting.
	C.C. - Channel	Selects Closed Caption CHANNEL setting.

3.1 Configuring and controlling the projector via a web browser (continued)

Item		Description
Option		
	Source Skip - Computer in1	Selects the Source Skip - COMPUTER IN1 setting.
	Source Skip - Computer in2	Selects the Source Skip - COMPUTER IN2 setting.
	Source Skip - BNC	Selects the Source Skip - BNC setting.
	Source Skip - HDMI	Selects the Source Skip - HDMI setting.
	Source Skip - DVI-D	Selects the Source Skip - DVI-D setting.
	Source Skip - Component	Selects the Source Skip - COMPONENT setting.
	Source Skip - S-Video	Selects the Source Skip - S-VIDEO setting.
	Source Skip - Video 1	Selects the Source Skip - VIDEO 1 setting.
	Source Skip - Video 2	Selects the Source Skip - VIDEO 2 setting.
	Auto Keystone	Turns the automatic keystone distortion correction function on/off.
	Direct On	Turns the direct on function on/off.
	Auto Off	Configures the timer to shut off the projector when no signal is detected.
	Shutter Timer	Selects the shutter timer setting.
	My Button-1	Assigns the functions for the MY BUTTON1 button on the included remote control.
	My Button-2	Assigns the functions for the MY BUTTON2 button on the included remote control.
	My Button-3	Assigns the functions for the MY BUTTON3 button on the included remote control.
	My Button-4	Assigns the functions for the MY BUTTON4 button on the included remote control.
	My Source	Selects the My Source setting.
	Remote Receiv. Front	Turns the remote receiv. front function on/off.
	Remote Receiv. Rear	Turns the remote receiv. rear function on/off.
	Remote Receiv. Top	Turns the remote receiv. top function on/off.
	Remote Freq. Normal	Turns the remote control signal frequency nomal function on/off.
	Remote Freq. High	Turns the remote control signal frequency high function on/off.
	Remote ID	Selects Remote ID setting.

3.1 Configuring and controlling the projector via a web browser (continued)

3.1.11 Projector Status



Displays the current projector status.

Item	Description
Error Status	Displays the current error status
Lamp Time	Displays the usage time for the current lamp.
Filter Time	Displays the usage time for the current filter.
Power Status	Displays the current power status.
Input Status	Displays the current input signal source.
Blank On/Off	Displays the current Blank on/off status.
Freeze	Displays the current Freeze status.
Shutter	Displays the current Shutter status.

3.1 Configuring and controlling the projector via a web browser (continued)

3.1.12 Network Restart



Restarts the projector's network connection.

Item	Description
Restart	Restarts the projector's network connection in order to activate new configuration settings.

NOTE • Restarting requires you to re-log on in order to further control or configure the projector via a web browser. Wait 1 minute or more after clicking **[Restart]** button to log on again.
• The Logon menu (📖*13*) is displayed after restarting the projector's network connection if the DHCP is set to ON.

3.1.13 Logoff

When **[Logoff]** is clicked, the Logon menu is displayed. (📖*13*)

3.2 E-mail Alerts

The projector can automatically send an alert message to the specified e-mail addresses when the projector detects a certain condition that is requiring maintenance or detected an error.

NOTE • Up to five e-mail addresses can be specified.
• The projector may be not able to send e-mail if the projector suddenly loses power.

Mail Settings (📖*18*)

To use the projector's e-mail alert function, please configure the following items through a web browser.

Example: If the IP address of the projector is set to **192.168.1.10:**
1) Enter **"http://192.168.1.10/"** into the address bar of the web browser.
2) Enter the Administrator ID and password and click **[Logon]**.
3) Click **[Port Settings]** on the main menu.
4) Click **[Enable]** check box to open the SMTP Port.
5) Click **[Apply]** button to save the settings.

NOTE • A Network Restart is required after the **SMTP Port** configuration settings have changed. Click **[Network Restart]** and configure the following items.

6) Click **[Mail Settings]** and configure each item. Refer to the item **3.1.5 Mail Settings** (📖*18*) for further information.
7) Click **[Apply]** button to save the settings.

NOTE • Click **[Send Test Mail]** button in **[Mail Settings]** to confirm that the e-mail settings are correct. The following mail will be delivered to the specified addresses.

Subject line	:Test Mail	<Projector name>
Text	:Send Test Mail	
	Date	<Testing date>
	Time	<Testing time>
	IP Address	<Projector IP address>
	MAC Address	<Projector MAC address>

3.2 E-mail Alerts (continued)

8) Click **[Alert Settings]** on the main menu to configure the E-mail Alerts settings.
9) Select and configure each alert item. Refer to the item **3.1.6 Alert Settings** (📖*19*) for further information.
10) Click **[Apply]** button to save the settings.

Failure/Warning e-mails are formatted as follows:

Subject line	: <Mail title>	<Projector name>
Text	: <Mail text>	
	Date	<Failure/Warning date>
	Time	<Failure/Warning time>
	IP Address	<Projector IP address>
	MAC Address	<Projector MAC address>

3.3 Projector Management using SNMP

The SNMP (Simple Network Management Protocol) enables to manage the projector information, which is a failure or warning status, from the computer on the network. The SNMP management software will be required on the computer to use this function.

NOTE • It is recommended that SNMP functions be carried out by a network administrator.
• SNMP management software must be installed on the computer to monitor the projector via SNMP.

SNMP Settings (📖16)

Configure the following items via a web browser to use SNMP.

Example: If the IP address of the projector is set to **192.168.1.10:**
1) Enter **"http://192.168.1.10/"** into the address bar of the web browser.
2) Enter the Administrator ID and Password and click **[Logon]**.
3) Click **[Port Settings]** on the main menu.
4) Click **[Enable]** check box to open the **SNMP Port**. Set the IP address to send the SNMP trap to when a Failure/Warning occurs.

NOTE • A Network Restart is required after the **SNMP Port** configuration settings have been changed. Click **[Network Restart]** and configure the following items.

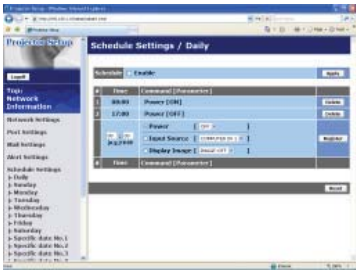
5) Click **[Security Settings]** on the main menu.
6) Click **[SNMP]** and set the community name on the screen that is displayed.

NOTE • A Network Restart is required after the **Community name** has been changed. Click **[Network Restart]** and configure the following items.

7) Configure the settings for Trap transmission of Failures/Warnings. Click **[Alert Settings]** on the main menu and select the Failure/Warning item to be configured.
8) Click **[Enable]** check box to send out the SNMP trap for Failures/Warnings. Clear **[Enable]** check box when SNMP trap transmission is not required.
9) Click **[Apply]** button to save the settings.

3.4 Event Scheduling

The scheduling function enables to setup scheduled events including power on / power off. It enables to be “self-management” projector.



NOTE • You can schedule the following control events: Power ON/OFF, Input Source and Transferred Image Display.
• The power on / off event has the lowest priority among the all events that are defined at the same time.
• There are 3 types of Scheduling, 1) daily 2) weekly 3) specific date. (📖21)
• The priority for scheduled events is as follows 1) specific date 2) weekly 3) daily.
• Up to five specific dates are available for scheduled events. Priority is given to those with the lower numbers when more than one event has been scheduled for the same date and time (e.g., ‘Specific date No. 1’ has priority over ‘Specific date No. 2’ and so on.
• Be sure to set the date and time before enabling scheduled events. (📖23)

3.4 Event Scheduling (continued)

Schedule Settings (📖21)

Schedule settings can be configured from a web browser.

Example: If the IP address of the projector is set to **192.168.1.10:**
1) Enter **"http://192.168.1.10/"** into the address bar of the web browser.
2) Enter the Administrator ID and password and click **[Logon]**.
3) Click **[Schedule Settings]** on the main menu and select the required schedule item. For example, if you want to perform the command every Sunday, please select **[Sunday]**.
4) Click **[Enable]** check box to enable scheduling.
5) Enter the date (month/day) for specific date scheduling.
6) Click **[Apply]** button to save the settings.
7) After configure the time, command and parameters, click **[Register]** to add the new event.
8) Click **[Delete]** button when you want to delete a schedule.

There are three types of scheduling.
1) Daily: Perform the specified operation at a specified time every day.
2) Sunday ~ Saturday: Perform the specified operation at the specified time on a specified day of the week.
3) Specific date: Perform the specified operation on the specified date and time.

NOTE • In Standby mode the power indicator will flash green for approx. 3 seconds when at least 1 "Power ON" schedule is saved.
• When the schedule function is used, the power cord must be connected to the projector and the outlet and the power switch must be turned on, [|]. The schedule function does not work when the power switch is turned off, [O] or the breaker in a room is tripped. The power indicator will lights orange or green when the projector gets is receiving the power.

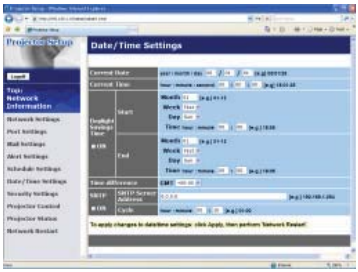
3.4 Event Scheduling (continued)

Date/Time Settings (📖23)

The Date/Time setting can be adjusted via a web browser.

Example: If the IP address of the projector is set to **192.168.1.10:**

1) Enter **"http://192.168.1.10/"** into the address bar of the web browser. Enter the Administrator ID and Password and click **[Logon]**.
2) Click **[Date/Time Settings]** on the main menu and configure each item. Refer to the item **3.1.8 Data/Time Settings** for further information.
3) Click **[Apply]** button to save the settings.



NOTE • A Network Restart is required after the **Daylight Savings Time** or **SNTP** configuration settings have been changed.
• The battery for the built in clock may be dead if the clock loses time even when the date and time have been set correctly. Replace the battery by following ***"Internal clock battery" section of the User's Manual (concise)***.
• The internal clock's time may not remain accurate. Using SNTP is recommended to maintain accurate time.

3.5 MY IMAGE (Still Image Transfer) Display

The projector can display still images that are transferred via the network.

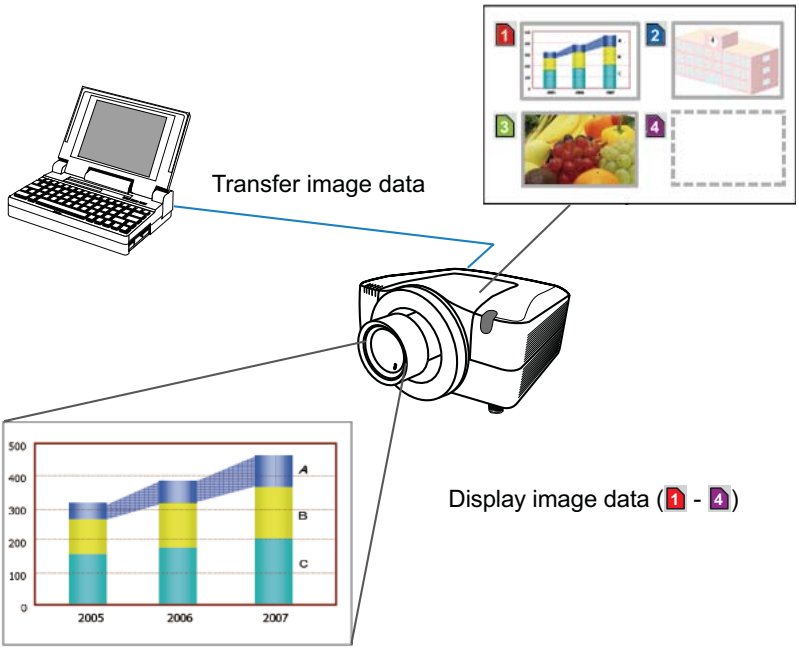


Fig. 3.5 Still Image Transfer

MY IMAGE transmission requires an exclusive application for your PC. You can download it from the Hitachi web site (http://hitachi.us/digitalmedia or http://www.hitachidigitalmedia.com). Refer to the manual for the application for instructions.

To display the transferred image, select the MY IMAGE item in the NETWORK menu. For more information, please see the description of the MY IMAGE item of the NETWORK menu. (📖 ***NETWORK menu in User's Manual (detailed) – Operating Guide***)

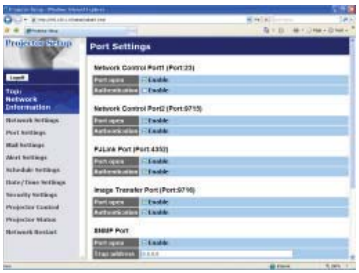
NOTE • It is possible to allocate the image file up to 4 in the maximum.
• The image file also can be displayed by using schedule function from the web browser. Refer to the item ***3.4 Event Scheduling*** (📖***36***) in detail.

3.5 MY IMAGE (Still Image Transfer) Display (continued)

Configure the following items from a web browser when MY IMAGE is used.

Example: If the IP address of the projector is set to **192.168.1.10:**

1) Enter **"http://192.168.1.10/"** into the address bar of the web browser.
2) Enter the Administrator ID and password and click **[Logon]**.
3) Click **[Port Settings]** on the main menu.
4) Click the **[Enable]** check box to open the **Image Transfer Port (Port: 9716)**. Click the **[Enable]** check box for the **[Authentication]** setting when authentication is required, otherwise clear the check box.
5) Click the **[Apply]** button to save the settings.



When the authentication setting is enabled, the following settings are required.

6) Click **[Security Settings]** on the main menu.
7) Select **[Network Control]** and enter the desired authentication password.
8) Click the **[Apply]** button to save the settings.

NOTE • The Authentication Password will be the same for **Network Control Port1 (Port: 23)**, **Network Control Port2 (Port: 9715)**, and **Image Transfer Port (Port: 9716)**.

• The new configuration settings are activated after restarting the network connection. When the configuration settings are changed, you must restart the network connection. You can restart the network connection by clicking **[Network Restart]** on the main menu.

3.6 Command Control via the Network

You can configure and control the projector via the network using RS-232C commands.

Communication Port

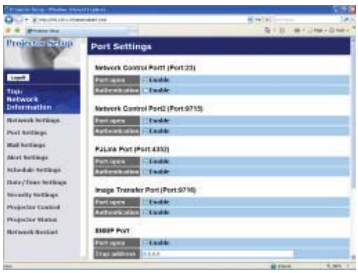
The following two ports are assigned for the command control.
TCP #23
TCP #9715

NOTE • Command control is not available via communication port (TCP #9716) (📖16) that is used for the MY IMAGE transmission function.

Command Control Settings (📖16)

Configure the following items from a web browser when command control is used.

Example: If the IP address of the projector is set to **192.168.1.10:**
1) Enter **"http://192.168.1.10/"** into the address bar of the web browser.
2) Enter the Administrator ID and password and click **[Logon]**.
3) Click **[Port Settings]** on the main menu.



4) Click **[Enable]** check box to open **Network Control Port1 (Port: 23)** to use TCP #23. Click **[Enable]** check box for **[Authentication]** setting when authentication is required, otherwise clear the check box.
5) Click **[Enable]** check box to open **Network Control Port2 (Port: 9715)** to use TCP #9715. Click **[Enable]** check box for **[Authentication]** setting when authentication is required, otherwise clear the check box.
6) Click **[Apply]** button to save the settings.

3.6 Command Control via the Network (continued)

When the authentication setting is enabled, the following settings are required. (📖*25*)

7) Click **[Security Settings]** on the main menu.
8) Click **[Network Control]** and enter the desired authentication password.
   * See NOTE.
9) Click **[Apply]** button to save the settings.

NOTE • The Authentication Password will be the same for **Network Control Port1 (Port: 23), Network Control Port2 (Port: 9715)**, and **Image Transfer Port (Port: 9716)**.
• The new configuration settings are activated after restarting the network connection. When the configuration settings are changed, you must restart the network connection. You can restart the network connection by clicking **[Network Restart]** on the main menu.

3.6 Command Control via the Network (continued)

Command Format

Command formats differ among the different communication ports.

- TCP #23
  You can use the RS-232C commands without any changes. The reply data format is the same as the RS-232C commands. However, the following reply will be sent back in the event of authentication failure when authentication is enabled.

  <Reply in the event of an authentication error>

Reply	Error code	
0x1F	0x04	0x00

- TCP #9715
  Send Data format
  The following formatting is added to the header (0x02), Data length (0x0D), Checksum (1byte) and Connection ID (1 byte) of the RS-232C commands.

Header	Data length	RS-232C command	Check Sum	Connection ID
0x02	0x0D	13 bytes	1 byte	1 byte

Header → 0x02, Fixed
Data length → RS-232C commands byte length (0x0D, Fixed)
RS-232C commands → RS-232C commands that start with 0xBE 0xEF (13 bytes)
Check Sum → This is the value to make zero on the addition of the lower 8 bits from the header to the checksum.
Connection ID → Random value from 0 to 255 (This value is attached to the reply data)

3.6 Command Control via the Network (continued)

Reply Data format

The connection ID (the data is same as the connection ID data on the sending data format) is attached to the RS-232C commands reply data.

<ACK reply>

Reply	Connection ID
0x06	1 byte

<NAK reply>

Reply	Connection ID
0x15	1 byte

<Error reply>

Reply	Error code	Connection ID
0x1C	2 bytes	1 byte

<Data reply>

Reply	Data	Connection ID
0x1D	2 bytes	1 byte

<Projector busy reply>

Reply	Status code	Connection ID
0x1F	2 bytes	1 byte

<Authentication error reply>

Reply	Authentication Error code		Connection ID
0x1F	0x04	0x00	1 byte

3.6 Command Control via the Network (continued)

Automatic Connection Break

The TCP connection will be automatically disconnected after there is no communication for 30 seconds after being established.

Authentication

The projector does not accept commands without authentication success when authentication is enabled. The projector uses a challenge response type authentication with an MD5 (Message Digest 5) algorithm.
When the projector is using a LAN, a random 8 bytes will be returned if authentication is enabled. Bind this received 8 bytes and the Authentication Password and digest this data with the MD5 algorithm and add this in front of the commands to send.

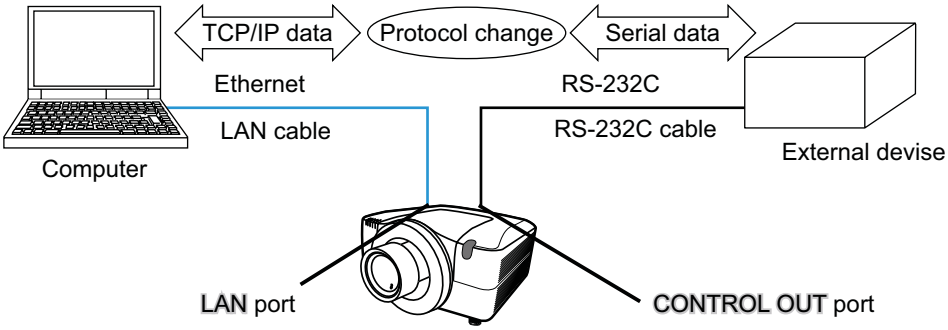
Following is a sample if the Authentication Password is set to “password” and the random 8 bytes are “a572f60c”.

1) Select the projector.
2) Receive the random 8 bytes “a572f60c” from the projector.
3) Bind the random 8 bytes “a572f60c” and the Authentication Password “password” and it becomes “a572f60cpassword”.
4) Digest this bind “a572f60cpassword” with MD5 algorithm.
   It will be “e3d97429adffa11bce1f7275813d4bde”.
5) Add this “e3d97429adffa11bce1f7275813d4bde” in front of the commands and send the data.
   Send “e3d97429adffa11bce1f7275813d4bde”+command.
6) When the sending data is correct, the command will be performed and the reply data will be returned. Otherwise, an authentication error will be returned.

NOTE • As for the transmission of the second or subsequent commands, the authentication data can be omitted when the same connection.

3.7 Controlling the external devise via the projector (using the NETWORK BRIDGE function)

This projector is equipped with the **NETWORK BRIDGE** function to perform mutual conversion of a network protocol and a serial interface.
Using the **NETWORK BRIDGE** function, a computer that is connected with this projector by Ethernet communication can control an external devise that is connected with this projector by RS-232C communication as a network terminal.



3.7.1 Connecting devices

1) Connect the projector's LAN port and the computer's LAN port with a LAN cable, for Ethernet communication.
2) Connect the projector's CONTROL OUT port and the device's RS-232C port with an RS-232C cable, for RS-232C communication.

NOTE • Before connecting the devices, read the manuals for the devices to ensure the connection.
For RS-232C connection, check the specifications of each port and use the suitable cable. (📖***Operating Guide - Technical - Connection to the ports***)

3.7.2 Communication setup

1) Using the SERIAL OUT SETTING menu, select the proper baud rate and parity for the CONTROL OUT port, according to the specification of the RS-232C port of the connected device. (📖***Operating Guide - OPTION menu - SERVICE – COMMUNICATION – SERIAL IN SETTING/SERIAL OUT SETTING***)

Item	Condition
BAUD RATE	4800bps/9600bps/19200bps/38400bps
PARITY	NONE/ODD/EVEN
Data length	8 bit (fixed)
Start bit	1 bit (fixed)
Stop bit	1 bit (fixed)

2) Using the COMMUNICATION TYPE menu, select the NETWORK BRIDGE for the CONTROL OUT port. (📖***Operating Guide - OPTION menu - SERVICE – COMMUNICATION – COMMUNICATION TYPE***)
3) Using the COMMNICATION METHOD menu set up the proper method for the CONTROL OUT port, according to your use. (📖***Operating Guide - OPTION menu - SERVICE – COMMUNICATION – COMMUNICATION METHOD***)

NOTE • The OFF is selected for the COMMUNICATION TYPE as the default setting.
• Using the COMMUNICATION menu, set up the communication. Remember that an unsuitable setup could cause malfunction of communication.

3.7.3 Communication port

For the NETWORK BRIDGE function, send the data from the computer to the projector with using the Network Bridge Port that is configured in the “Port Settings” of web browser. (📖***3.1.4 Port settings – Network Bridge Port***)

NOTE • Any number between 1024 and 65535 can be set up as the Network Bridge port number. It is set to 9717 as the default setting.

3.7.4 Communication method

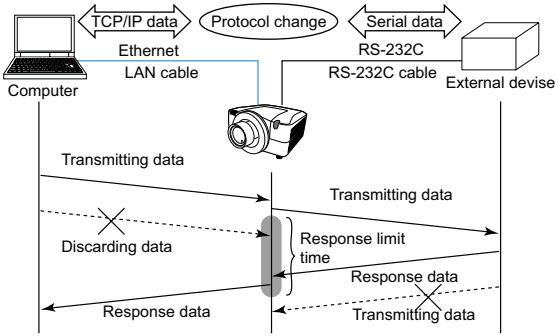
The communication method can be selected from the menus, only when the NETWORK BRIDGE is selected for the COMMUNICATION TYPE.
(📖***Operating Guide - OPTION menu - SERVICE – COMMUNICATION – TRANSMISSION METHOD***)

HALF-DUPLEX ↔ FULL-DUPLEX

3.7.4.1 HALF-DUPLEX

This method lets the projector make two way communication, but only one direction, either transmitting or receiving data, is allowed at a time.
The method does not allow the projector to receive the data from the computer while waiting for response data from an external devise. After the projector receives the response data from an external devise or the response limit time is past, the projector can receive the data from the computer.
That means that the projector controls transmitting and receiving the data to synchronize the communication.

To use the HALF-DUPLEX method, set up the RESPONSE LIMIT TIME and BYTES INTERVAL TIMEOUT, following the instruction below.

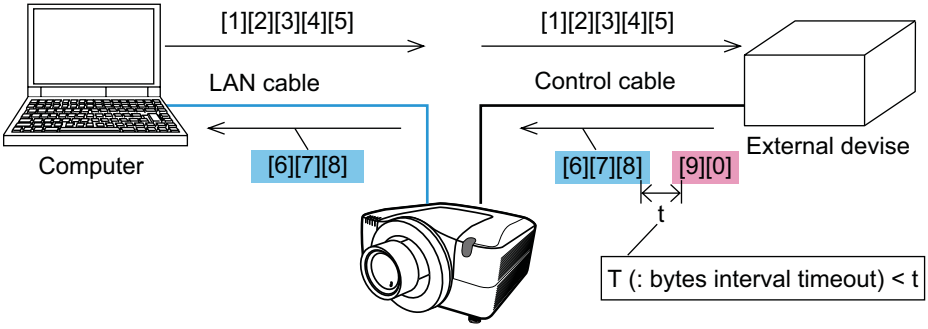


1) Using the RESPONSE LIMIT TIME menu, set the waiting time for response data from an external devise. (📖***Operating Guide - OPTION menu - SERVICE – COMMUNICATION – RESPONSE LIMIT TIME***)

   OFF ↔ 1s ↔ 2s ↔ 3s (↔ OFF)

2) If the response data from an external devise is blank in a certain time period (BYTES INTERVAL TIMEOUT), the projector judges that the response data is finished, and starts to send data again.
   If a blank time in the response data is longer than the BYTES INTERVAL TIMEOUT, the projector cannot receive all data, then the computer may not be able to control an external devise well.
   Using the BYTES INTERVAL TIMEOUT menu, set the waiting time for response data to match your system. (📖***Operating Guide - OPTION menu - SERVICE – COMMUNICATION – BYTES INTERVAL TIMEOUT***)

   50ms ↔ 100ms ↔ 150ms ↔ 200ms (↔ 50ms)



NOTE • With using the HALF-DUPLEX method, the projector can send out 254 byte data as maximum at once.
• If it is not required to monitor the response data from an external devise and the RESPONSE LIMIT TIME is set to OFF, the projector can receive the data from the computer and send it out to an external devise continuously.
The OFF is selected as the default setting.

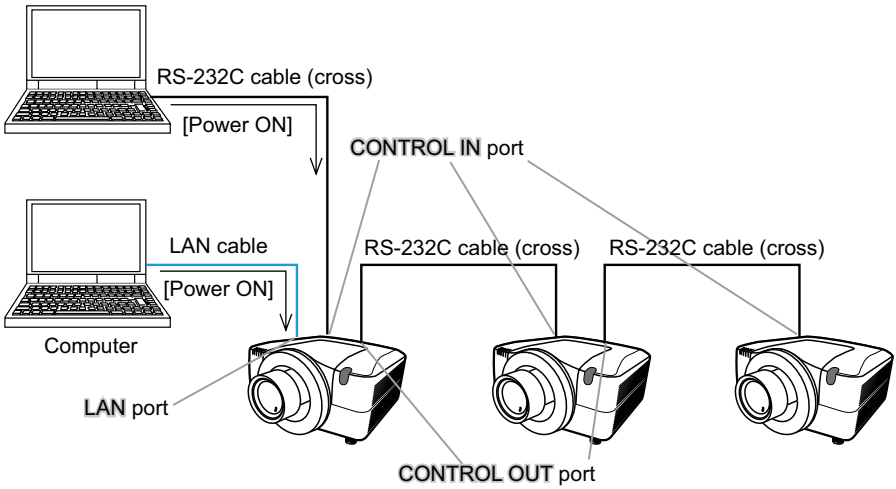
3.7.4.2 FULL-DUPLEX

This method lets the projector make two way communication, transmitting and receiving data at the same time, without monitoring response data from an external devise.
With using this method, the computer and an external devise will send the data out of synchronization. If it is requited to synchronize them, set the computer to make the synchronization.

NOTE • In case that the computer controls to synchronize transmitting and receiving the data, it may not be able to control an external devise well depending on the processing status of the projector.

3.8 Batch-controlling multiple projectors (using the DAISY CHAIN function)

This model and its family models (ask your dealer for details) are equipped with the DAISY CHAIN function.
Using the DAISY CHAIN function can simultaneously control multiple projectors connected to a shared RS-232C bus, from a computer.



3.8.1 Connecting devices

1) Connect one of the projectors to be controlled to the computer.
   Connect the projector's LAN port and the computer's LAN port with a LAN cable, for Ethernet communication.
   Connect the projector's CONTROL IN port and the computer's RS-232C port with an RS-232C cable, for RS-232C communication.
2) Connect the CONTROL OUT port of the projector connected to the computer and the CONTROL IN port of the 2nd projector, with an RS-232C cable.
   Then connect the CONTROL OUT port of the 2nd projector and CONTROL IN port of the 3rd projector.
   Connect all projectors in turn, in the same way.

NOTE • Turn off (the power switch of) both the projector and other devices and unplug, before connecting them.
• Do not apply the DAISY CHAIN function to the system that uses a RS-232C bus distributor.

3.8.2 Communication setup

1) Set up the communication condition of the CONTROL IN port of the projector to be connected to the computer by RS-232C communication, according to the specifications of the computer's RS-232C port.
   Using the SERIAL IN SETTING menu, select the proper baud rate and parity. (📖***Operating Guide - OPTION menu - SERVICE – COMMUNICATION – SERIAL IN SETTING/SERIAL OUT SETTING)***
2) Set up the same condition of the CONTROL IN port and the CONTROL OUT port connected each other with the same RS-232C cable.
   Use the SERIAL IN SETTING menu for the CONTROL IN ports, and the SERIAL OUT SETTING menu for the CONTROL OUT ports, to set up the baud rate and parity. (📖***Operating Guide - OPTION menu - SERVICE – COMMUNICATION – SERIAL IN SETTING/SERIAL OUT SETTING)***

Communication condition

Item	Condition
BAUD RATE	4800bps/9600bps/19200bps/38400bps
PARITY	NONE/ODD/EVEN
Data length	8 bit (fixed)
Start bit	1 bit (fixed)
Stop bit	1 bit (fixed)

3) Using the COMMUNICATION TYPE menu, select the DAISY CHAIN for each projector. (📖***Operating Guide - OPTION menu - SERVICE – COMMUNICATION – COMMUNICATION TYPE)***

NOTE • The baud rate and parity of the CONTROL IN port do not need to be set up when connecting the projector to the computer by Ethernet.
• An unsuitable setup may cause the malfunction of communication with an external devise.

3.8.3 Communication port

When connecting the projector to the computer by Ethernet, send the data from the computer to the projector with using the TCP # 9718 port.

3.8.4 COMMUNICATION GROUP / COMMUNICATION ID

When controlling some projectors in the DAISY CHAIN, to control a projector individually or some projectors in a group simultaneously, set up the COMMUNICATION GROUP and COMMUNICATION ID for each projector. Use the COMMUNICATION GROUP menu and COMMUNICATION ID menu to set up them. (📖***Operating Guide - OPTION menu - SERVICE – COMMUNICATION – COMMUNICATION GROUP / COMMUNICATION ID)***

NOTE • The COMMUNICATION GROUP is set to A, and the COMMUNICATION ID is set to the 1, as the default settings.
• To control some projectors individually, do not set up the same COMMUNICATION ID to these projectors.
Alternatively, setting up the same COMMUNICATION ID to two or more projectors intentionally realizes simultaneous control for these projectors, like the coincident control with the COMMUNICATON GROUP.

3.8.5 Command for Daisy Chain control

For the command control of the DAISY CHAIN function, see the Technical part of the Operating Guide. (📖***Operating Guide - Technical – Daisy Chain Communication)***

Projector

CP-X10000/CP-WX11000/CP-SX12000

User's Manual – Operating Guide

Technical

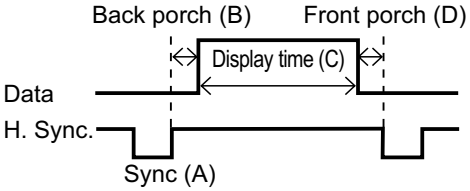
Example of computer signal

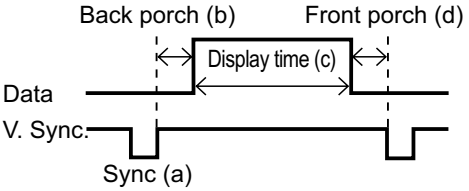
Resolution (H x V)	H. frequency (kHz)	V. frequency (Hz)	Rating	Signal mode
720 x 400	37.9	85.0	VESA	TEXT
640 x 480	31.5	59.9	VESA	VGA (60Hz)
640 x 480	37.9	72.8	VESA	VGA (72Hz)
640 x 480	37.5	75.0	VESA	VGA (75Hz)
640 x 480	43.3	85.0	VESA	VGA (85Hz)
800 x 600	35.2	56.3	VESA	SVGA (56Hz)
800 x 600	37.9	60.3	VESA	SVGA (60Hz)
800 x 600	48.1	72.2	VESA	SVGA (72Hz)
800 x 600	46.9	75.0	VESA	SVGA (75Hz)
800 x 600	53.7	85.1	VESA	SVGA (85Hz)
832 x 624	49.7	74.5		Mac 16” mode
1024 x 768	48.4	60.0	VESA	XGA (60Hz)
1024 x 768	56.5	70.1	VESA	XGA (70Hz)
1024 x 768	60.0	75.0	VESA	XGA (75Hz)
1024 x 768	68.7	85.0	VESA	XGA (85Hz)
1152 x 864	67.5	75.0	VESA	1152 x 864 (75Hz)
1280 x 960	60.0	60.0	VESA	1280 x 960 (60Hz)
1280 x 1024	64.0	60.0	VESA	SXGA (60Hz)
1280 x 1024	80.0	75.0	VESA	SXGA (75Hz)
*1280 x 1024	91.2	85.0	VESA	SXGA (85Hz)
*1600 x 1200	75.0	60.0	VESA	UXGA (60Hz)
1280 x 768	47.7	60.0	VESA	W-XGA (60Hz)
1400 x 1050	65.3	60.0	VESA	SXGA+ (60Hz)
1280 x800	49.7	60.0	VESA	1280 x 800 (60Hz)

NOTE • Be sure to check jack type, signal level, timing and resolution before connecting this projector to a computer.
• Some computers may have multiple display screen modes. Use of some of these modes will not be possible with this projector.
• Depending on the input signal, full-size display may not be possible in some cases. Refer to the number of display pixels above.
• Although the projector can display signals with resolution up to UXGA (1600x1200), the signal will be converted to the projector’s panel resolution before being displayed. The best display performance will be achieved if the resolutions of the input signal and projector panel are identical.
• Automatic adjustment may not function correctly with some input signals.
• The image may not be displayed correctly when the input sync signal is a composite sync or a sync on G.
• The HDMI input does not support the signals marked with *.

Initial set signals

The following signals are used for the initial settings. The signal timing of some computer models may be different. In such case, adjust the items V POSITION and H POSITION in the IMAGE menu.

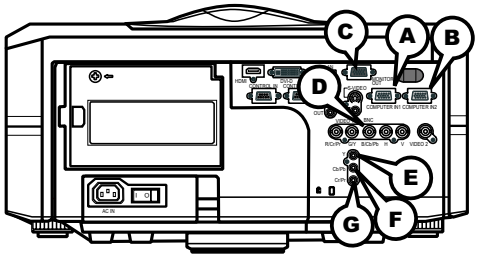




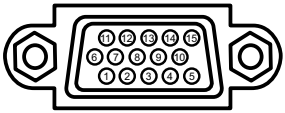
Computer/ Signal	Horizontal signal timing (µs)			
	(A)	(B)	(C)	(D)
TEXT	2.0	3.0	20.3	1.0
VGA (60Hz)	3.8	1.9	25.4	0.6
VGA (72Hz)	1.3	4.1	20.3	0.8
VGA (75Hz)	2.0	3.8	20.3	0.5
VGA (85Hz)	1.6	2.2	17.8	1.6
SVGA (56Hz)	2.0	3.6	22.2	0.7
SVGA (60Hz)	3.2	2.2	20.0	1.0
SVGA (72Hz)	2.4	1.3	16.0	1.1
SVGA (75Hz)	1.6	3.2	16.2	0.3
SVGA (85Hz)	1.1	2.7	14.2	0.6
Mac 16" mode	1.1	3.9	14.5	0.6
XGA (60Hz)	2.1	2.5	15.8	0.4
XGA (70Hz)	1.8	1.9	13.7	0.3
XGA (75Hz)	1.2	2.2	13.0	0.2
XGA (85Hz)	1.0	2.2	10.8	0.5
1152 x 864 (75Hz)	1.2	2.4	10.7	0.6
1280 x 960 (60Hz)	1.0	2.9	11.9	0.9
SXGA (60Hz)	1.0	2.3	11.9	0.4
SXGA (75Hz)	1.1	1.8	9.5	0.1
SXGA (85Hz)	1.0	1.4	8.1	0.4
UXGA (60Hz)	1.2	1.9	9.9	0.4
W-XGA (60Hz)	1.7	2.5	16.0	0.8
SXGA+ (60Hz)	1.2	1.9	11.5	0.7
1280 x 800(60Hz)	1.6	2.4	15.3	0.8

Computer/ Signal	Vertical signal timing (lines)			
	(a)	(b)	(c)	(d)
TEXT	3	42	400	1
VGA (60Hz)	2	33	480	10
VGA (72Hz)	3	28	480	9
VGA (75Hz)	3	16	480	1
VGA (85Hz)	3	25	480	1
SVGA (56Hz)	2	22	600	1
SVGA (60Hz)	4	23	600	1
SVGA (72Hz)	6	23	600	37
SVGA (75Hz)	3	21	600	1
SVGA (85Hz)	3	27	600	1
Mac 16" mode	3	39	624	1
XGA (60Hz)	6	29	768	3
XGA (70Hz)	6	29	768	3
XGA (75Hz)	3	28	768	1
XGA (85Hz)	3	36	768	1
1152 x 864 (75Hz)	3	32	864	1
1280 x 960 (60Hz)	3	36	960	1
SXGA(60Hz)	3	38	1024	1
SXGA (75Hz)	3	38	1024	1
SXGA (85Hz)	3	44	1024	1
UXGA (60Hz)	3	46	1200	1
W-XGA (60Hz)	3	23	768	1
SXGA+ (60Hz)	4	32	1050	3
1280 x 800(60Hz)	3	24	800	1

Connection to the ports



ⒶCOMPUTER IN1, ⒷCOMPUTER IN2, ⒸMONITOR OUT



D-sub 15pin mini shrink jack
• Video signal: RGB separate, Analog, 0.7Vp-p, 75Ω terminated (positive)
• H/V. sync. signal: TTL level (positive/negative)
• Composite sync. signal: TTL level

At RGB signal

Pin	Signal	Pin	Signal
1	Video Red	9	(No connection)
2	Video Green	10	Ground
3	Video Blue	11	(No connection)
4	(No connection)	12	Ⓐ,Ⓑ: SDA (DDC data), Ⓒ : (No connection)
5	Ground	13	H. sync / Composite sync.
6	Ground Red	14	V. sync.
7	Ground Green	15	Ⓐ,Ⓑ: SCL (DDC clock), Ⓒ : (No connection)
8	Ground Blue		

ⒹBNC (G/Y, B/Cb/Pb, R/Cr/Pr, H, V)

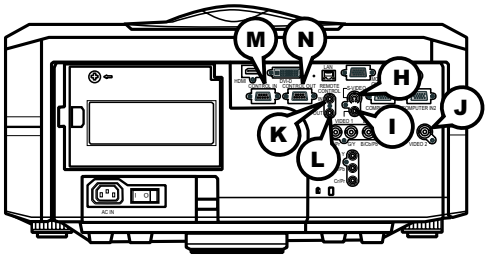
• BNC jack x 5
• Video : Analog 0.7Vp-p, 75Ω terminator
• H/V, sync, : TTL level (positive/negative)
• Composite sync, : TTL level

COMPONENT VIDEO ⒺY, ⒻCb/Pb, ⒼCr/Pr

RCA jack x3

• System: 480i@60, 480p@60, 576i@50, 576p@50, 720p@50/60, 1080i@50/60, 1080p@50/60

Port	Signal
Y	Component video Y, 1.0±0.1Vp-p, 75Ω terminator with composite sync
Cb/Pb	Component video Cb/Pb, 0.7±0.1Vp-p, 75Ω terminator
Cr/Pr	Component video Cr/Pr, 0.7±0.1Vp-p, 75Ω terminator



ⓗS-VIDEO

Mini DIN 4pin jack



Pin	Signal
1	Color signal 0.286Vp-p (NTSC, burst), 75Ω terminator Color signal 0.300Vp-p (PAL/SECAM, burst) 75Ω terminator
2	Brightness signal, 1.0Vp-p, 75Ω terminator
3	Ground
4	Ground

ⓘVIDEO 1

RCA jack

• System: NTSC, PAL, SECAM, PAL-M, PAL-N, NTSC4.43

• 1.0±0.1Vp-p, 75Ω terminator

ⓙVIDEO 2

BNC jack

• System: NTSC, PAL, SECAM, PAL-M, PAL-N, NTSC4.43

• 1.0±0.1Vp-p, 75Ω terminator

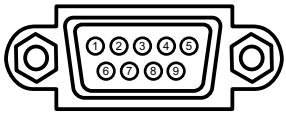
REMOTE CONTROL ⓚIN ⓛOUT

Ø3.5 stereo mini jack

• To be connected with the remote control that came with the projector.

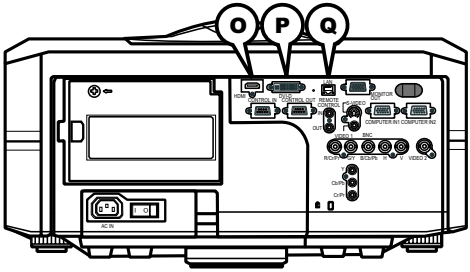
CONTROL ⓜIN ⓝOUT

D-sub 9pin plug



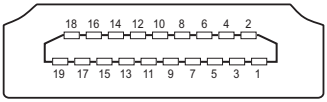
• About the details of RS-232C communication, please refer to the following RS-232C Communication in this manual.

Pin	Signal	Pin	Signal	Pin	Signal
1	(No connection)	4	(No connection)	7	RTS
2	RD	5	Ground	8	CTS
3	TD	6	(No connection)	9	(No connection)



ⓄHDMI

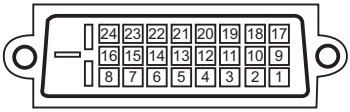
• Type :Digital video connector



Pin	Signal	Pin	Signal	Pin	Signal
1	T.M.D.S. Data2 +	8	T.M.D.S. Data0 Shield	15	SCL
2	T.M.D.S. Data2 Shield	9	T.M.D.S. Data0 -	16	SDA
3	T.M.D.S. Data2 -	10	T.M.D.S. Clock +	17	DDC/CEC Ground
4	T.M.D.S. Data1 +	11	T.M.D.S. Clock Shield	18	+5V Power
5	T.M.D.S. Data1 Shield	12	T.M.D.S. Clock -	19	Hot Plug Detect
6	T.M.D.S. Data1 -	13	CEC		
7	T.M.D.S. Data0 +	14	Reserved(N.C. on device)		

ⓅDVI-D

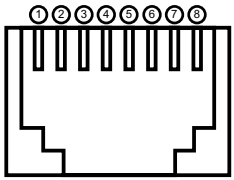
DVI-D jack (digital to digital)



Pin	Signal	Pin	Signal	Pin	Signal
1	T.M.D.S. Data2 -	9	T.M.D.S. Data1 -	17	T.M.D.S. Data0 -
2	T.M.D.S. Data2 +	10	T.M.D.S. Data1 +	18	T.M.D.S. Data0 +
3	T.M.D.S. Data2/4 Shield	11	T.M.D.S. Data1/3 Shield	19	T.M.D.S. Data0/5 Shield
4	-	12	-	20	-
5	-	13	-	21	-
6	DDC Clock	14	+5V Power	22	T.M.D.S. Clock Shield
7	DDC Data	15	Ground (for +5V)	23	T.M.D.S. Clock +
8	-	16	Hot Plug Detect	24	T.M.D.S. Clock -

ⓆLAN

RJ-45 jack



Pin	Signal	Pin	Signal	Pin	Signal
1	TX+	4	-	7	-
2	TX-	5	-	8	-
3	RX+	6	RX-		

PJLink command

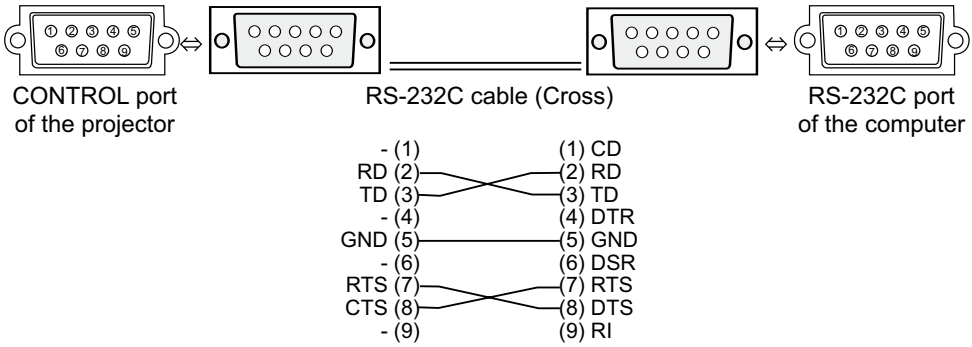
This projector is equipped with the PJLink™ Class 1.
See the following table for the commands for controlling the projector using the PJLink™ protocol are as given in the table below.

Commands	Control Description	Parameter or Response
POWR	Power Contorol	0 = Standby 1 = Power On
POWR ?	Power Status inquiry	0 = Standby 1 = Power On 2 = Cool Down
INPT	Input Source selection	11 = COMPUTER IN 1 12 = COMPUTER IN 2 13 = BNC 21 = COMPONENT 22 = S-VIDEO 23 = VIDEO 1 24 = VIDEO 2 31 = HDMI 32 = DVI-D
INPT ?	Input Source inquiry	11 = COMPUTER IN 1 12 = COMPUTER IN 2 13 = BNC 21 = COMPONENT 22 = S-VIDEO 23 = VIDEO 1 24 = VIDEO 2 31 = HDMI 32 = DVI-D
AVMT	AV Mute	30 = BLANK off 31 = BLANK on
AVMT ?	AV Mute inquiry	30 = BLANK off 31 = BLANK on
ERST ?	Error Status inquiry	1st byte: Refers to Fan error; one of 0 to 2 2nd byte: Refers to Lamp error; one of 0 to 2 3rd byte: Refers to Temptrature error; one of 0 to 2 4th byte: Refers to Cover error; one of 0 to 2 5th byte: Refers to Filter error; one of 0 to 2 6th byte: Refers to Other error; one of 0 to 2 The mearning of 0 to 2 is as given below 0 = Error is not detected; 1 = Warning; 2 = Error

Commands	Control Description	Parameter or Response
LAMP ?	Lamp Status inquiry	1st number (digits 1 to 5): Lamp Time 2nd number : 0 = Lamp off, 1 = Lamp on
INST ?	Input Source List inquiry	11 12 13 21 22 23 24 31 32
NAME ?	Projector Name inquiry	Responds with the name set in "PROJECTOR NAME" of "NETWORK"
INF1 ?	Manufucturer's Name inquiry	HITACHI
INF2 ?	Model Name inquiry	CP-X10000 (XGA model) CP-WX11000 (WXGA model) CP-SX12000 (SXGA+ model)
INFO ?	Other Information inquiry	Responds with the factory information and so on
CLSS ?	Class Information inquiry	1

NOTE • The password used in PJLink™ is the same as the password set in the Web Brouwser Comtrol. To use PJLink™ without authentication, do not set any password in Web Browser Control.
• For specifications of PJLink™, see the web site of the Japan Business Machine and Information System Industries Association.
URL: http://pjlink.jbmia.or.jp/

RS-232C Communication



Connecting the cable

1. Turn off the projector and the computer.
2. Connect the CONTROL port of the projector with a RS-232C port of the computer by a RS-232C cable (cross). Use the cable that fulfills the specification shown in the previous page.
3. Turn the computer on, and after the computer has started up turn the projector on.

Communications setting

19200bps, 8N1

1. Protocol

Consist of header (7 bytes) + command data (6 bytes).

2. Header

BE + EF + 03 + 06 + 00 + CRC_low + CRC_high
CRC_low : Lower byte of CRC flag for command data
CRC_high : Upper byte of CRC flag for command data

3. Command data

Command data chart

byte_0	byte_1	byte_2	byte_3	byte_4	byte_5
Action		Type		Setting code	
low	high	low	high	low	high

Action (byte_0 - 1)

Action	Classification	Content
1	SET	Change setting to desired value.
2	GET	Read projector internal setup value.
4	INCREMENT	Increment setup value by 1.
5	DECREMENT	Decrement setup value by 1.
6	EXECUTE	Run a command.

Requesting projector status (Get command)

(1) Send the request code Header + Command data ('02H'+'00H'+ type (2 bytes)+'00H' +'00H') from the computer to the projector.
(2) The projector returns the response code '1DH'+ data (2 bytes) to the computer.

Changing the projector settings (Set command)

(1) Send the setting code Header + Command data ('01H'+'00H'+ type (2 bytes) + setting code (2 bytes)) from the computer to the projector.
(2) The projector changes the setting based on the above setting code.
(3) The projector returns the response code '06H' to the computer.

Using the projector default settings (Reset Command)

(1) The computer sends the default setting code Header + Command data ('06H'+'00H' + type (2 bytes) +'00H'+'00H') to the projector.
(2) The projector changes the specified setting to the default value.
(3) The projector returns the response code '06H' to the computer.

Increasing the projector setting value (Increment command)

(1) The computer sends the increment code Header + Command data ('04H'+'00H'+ type (2 bytes) +'00H'+'00H') to the projector.
(2) The projector in creases the setting value on the above setting code.
(3) The projector returns the response code '06H' to the computer.

Decreasing the projector setting value (Decrement command)

(1) The computer sends the decrement code Header + Command data ('05H'+'00H'+ type (2 bytes) +'00H' + '00H') to the projector.
(2) The projector decreases the setting value on the above setting code.
(3) The projector returns the response code '06H' to the computer.

When the projector cannot understand the received command

When the projector cannot understand the received command, the error code '15H' is sent back to the computer.
Sometimes the projector cannot properly receive the command. In such a case, the command is not executed and the error code '15H' is sent back to the computer. If this error code is returned, send the same command again.

When the projector cannot execute the received command.

When the projector cannot execute the received command, the error code '1CH' + 'xxxxH' is sent back to the computer. When the data length is greater than indicated by the data length code, the projector ignore the excess data code.
Conversely when the data length is shorter than indicated by the data length code, an error code will be returned to the computer.

NOTE • Operation cannot be guaranteed when the projector receives an undefined command or data.
• Provide an interval of at least 40ms between the response code and any other code.
• The projector outputs test data when the power supply is switched ON, and when the lamp is lit. Ignore this data.
• Commands are not accepted during warm-up.

Command Control via the Network

Communication Port

The following two ports are assigned for the command control.

TCP #23

TCP #9715

Command Control Settings

Configure the following items form a web browser when command control is used.

Port Settings			
	Network Control Port1 (Port: 23)	Port open	Click the **[Enable]** check box to open **[Network Control Port1 (Port: 23)]** to use TCP #23. Default setting is “Enable”.
		Authentication	Click the **[Enable]** check box for the **[Authentication]** setting when authentication is required. Default setting is “Disable”.
	Network Control Port2 (Port: 9715)	Port open	Click the **[Enable]** check box to open **[Network Control Port2 (Port: 9715)]** to use TCP #9715. Default setting is “Enable”.
		Authentication	Click the **[Enable]** check box for the **[Authentication]** setting when authentication is required. Default setting is “Enable”.

When the authentication setting is enabled, the following settings are required.

Security Settings			
	Network Control	Authentication Password	Enter the desired authentication password. This setting will be the same for **[Network Control Port1 (Port: 23)]** and **[Network Control Port2 (Port: 9715)]**. Default setting is blank.
		Re-enter Authentication Password	

Command Format

[TCP #23]

1. Protocol

Consist of header (7 bytes) + command data (6 bytes)

2. Header

BE + EF + 03 + 06 + 00 + CRC_low + CRC_high
CRC_low: Lower byte of CRC flag for command data
CRC_high: Upper byte of CRC flag for command data

3. Command data

Command data chart

byte_0	byte_1	byte_2	byte_3	byte_4	byte_5
Action		Type		Setting code	
low	high	low	high	low	high

Action (byte_0 - 1)

Action	Classification	Content
1	Set	Change setting to desired value.
2	Get	Read projector internal setup value.
4	Increment	Increment setup value by 1.
5	Decrement	Decrement setup value by 1.
6	Execute	Run a command.

Requesting projector status (Get command)

(1) Send the following request code from the PC to the projector.
Header + Command data ('02H' + '00H' + type (2 bytes) + '00H' + '00H')
(2) The projector returns the response code *'1DH' + data (2 bytes)* to the PC.

Changing the projector settings (Set command)

(1) Send the following setting code from the PC to the projector.
Header + Command data ('01H' + '00H' + type (2 bytes) + setting code (2 bytes))
(2) The projector changes the setting based on the above setting code.
(3) The projector returns the response code *'06H'* to the PC.

Using the projector default settings (Reset Command)

(1) The PC sends the following default setting code to the projector.
Header + Command data ('06H' + '00H' + type (2 bytes) + '00H' + '00H')
(2) The projector changes the specified setting to the default value.
(3) The projector returns the response code *'06H'* to the PC.

Increasing the projector setting value (Increment command)

(1) The PC sends the following increment code to the projector.
Header + Command data ('04H' + '00H' + type (2 bytes) + '00H' + '00H')
(2) The projector increases the setting value on the above setting code.
(3) The projector returns the response code *'06H'* to the PC.

Decreasing the projector setting value (Decrement command)
(1) The PC sends the following decrement code to the projector.
Header + Command data ('05H' + '00H' + type (2 bytes) + '00H' + '00H')
(2) The projector decreases the setting value on the above setting code.
(3) The projector returns the response code *'06H'* to the PC.

When the projector cannot understand the received command
When the projector cannot understand the received command, the error code *'15H'* is sent back to the PC.
Sometimes the projector cannot properly receive the command. In such a case, the command is not executed and the error code *'15H'* is sent back to the PC. If this error code is returned, send the same command again.

When the projector cannot execute the received command.
When the projector cannot execute the received command, the error code *'1CH'* + *'xxxxH'* is sent back to the PC.
When the data length is greater than indicated by the data length code, the projector ignore the excess data code. Conversely when the data length is shorter than indicated by the data length code, an error code will be returned to the PC.

When authentication error occurred.
When authentication error occurred, the error code the *'1FH'* + *'0400H'* is sent back to the PC.

NOTE • Operation cannot be guaranteed when the projector receives an undefined command or data.
• Provide an interval of at least 40ms between the response code and any other code.
• Commands are not accepted during warm-up.

[TCP #9715]

1. Protocol
Consist of header (1 byte) + data length (1 byte) + command data (13 bytes) + check sum (1 bytes) + connection ID (1 byte).

2. Header
02, Fixed

3. Data Length
Network control commands byte length (0D, Fixed)

4. Command data
Network control commands that start with BE EF (13bytes).

5. Check Sum
This is the value to make zero on the addition of the lower 8 bits from the header to the checksum.

6. Connection ID
Random value from 0 to 255 (This value is attached to the reply data).

7. Reply Data

The connection ID (the data is same as the connection ID data on the sending data format) is attached to the Network control commands reply data.

ACK reply: *'06H'* + *'xxH'*
NAK reply: *'15H'* + *'xxH'*
Error reply: *'1CH'* + *'xxxxH'* + *'xxH'*
Data reply: *'1DH'* + *'xxxxH'* + *'xxH'*
Projector busy reply: *'1FH'* + *'xxxxH'* + *'xxH'*
Authentication error reply: *'1FH'* + *'0400H'* + *'xxH'*
(*'xxH'* : connection ID)

Automatic Connection Break

The TCP connection will be automatically disconnected after there is no communication for 30 seconds after being established.

Authentication

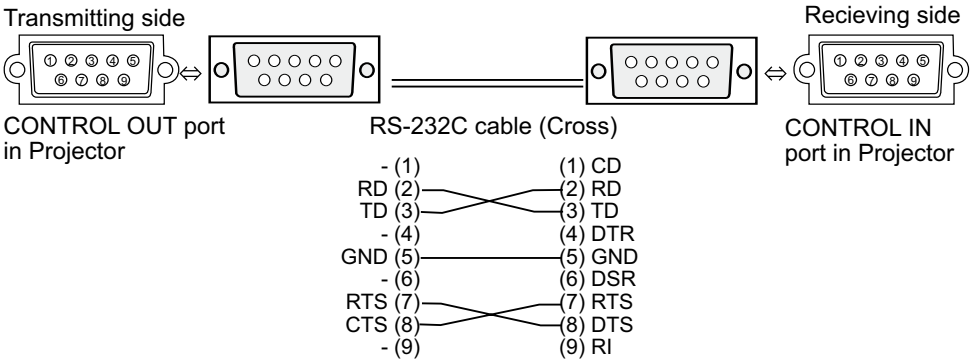
The projector does not accept commands without authentication success when authentication is enabled. The projector uses a challenge response type authentication with an MD5 (Message Digest 5) algorithm. When the projector is using a LAN, a random 8 bytes will be returned if authentication is enabled. Bind this received 8 bytes and the authentication password and digest this data with the MD5 algorithm and add this in front of the commands to send.

Following is a sample if the authentication password is set to “password” and the random 8 bytes are “a572f60c”.

1) Select the projector.
2) Receive the random 8 bytes “a572f60c” from the projector.
3) Bind the random 8 bytes “a572f60c” and the authentication password “password” and it becomes “a572f60cpassword”.
4) Digest this bind “a572f60cpassword” with MD5 algorithm.
   It will be “e3d97429adffa11bce1f7275813d4bde”.
5) Add this “e3d97429adffa11bce1f7275813d4bde” in front of the commands and send the data.
   Send “e3d97429adffa11bce1f7275813d4bde”+command.
6) When the sending data is correct, the command will be performed and the reply data will be returned. Otherwise, an authentication error will be returned.

NOTE • As for the transmission of the second or subsequent commands, the authentication data can be omitted when the same connection.

Daisy Chain Communication



1.Communications setting

Set the same communication settings (selecting from options below) on the CONTROL terminal for transmitting and receiving side connected with a RS-232C cable.

Baud rate: 4800 / 9600 / 19200 / 38400 bps
Parity NONE / ODD / EVEN
Data bit: 8 bit (fixed)
Start bit: 1 bit (fixed)
Stop bit: 1 bit (fixed)

2.Commans available only for daisy chain communication

The projector supports the following commands only for daisy chain.
(1) Control the projector (Set/Increment/Decrement/Execute)
(2) Get the projector's status (Get)
(3) Get the number of connected projectors
(4) Set the communication Group identification and Communication ID.
(5) Get the communication Group identification and Communication ID.

3.Command format

Protocol

Consist of header data (7 bytes) + command data (6 bytes)

Header

BE + EF + Packet_Type + 06 + Group + ID + Checksum
Data chart

Support Command	Packet_Type	Group	ID
Control the projector	'83H'	0~16	0~64
Get the projector's status	'83H'	1~16	1~64
Get the number of connected projectors	'84H'	0	0
Set the communication Group identification and Communication ID	'85H'	1~16	1~64
Get the communication Group identification and Communication ID	'86H'	0	0

Calculation of Checksum

Sum up all of 12 bytes except the Checksum, then make the bit inversion of the lowest byte of the total, and add 1 to the inverted byte. The calculated result is the Checksum data.

Exp. Communication Group: A / Communication ID: 1

Header data (7 bytes)						Command data (6 bytes)		
Header	Packet Type	Data Size	Group	ID	Checksum	Action	Type	Setting Code
BE EF	83	06	01	01	66	01 00	00 60	01 00

BE + EF + 83 + 06 + 01 + 01 + 01 + 00 + 00 + 60 + 01 + 00 = '029AH'

The lowest byte of '029AH' is '9AH' (1001 1010). Making the bit inversion of the '9AH' gets '65H' (0110 0101), then, add 1. The calculated checksum is '66H'.

Group and ID Settings

This daisy chain command can adjust the control range by using the Group identification and ID.

Group	ID	Direction	note
1~16	1~64	Individual control	The command is available to the projectors having the same Group identification and ID numbers with command setting.
1~16	0	Designated control according to the Group identification	The command is available to the projectors having the same Group identification with command setting.
0	1~64	Designated control according to the ID	The command is available to the projectors having the same ID number with command setting.
0	0	Unlimited.	The command is available to the all projectors.

Command data

① Control the projector

byte_0	byte_1	byte_2	byte_3	byte_4	byte_5
Action		Type		Setting Code	
low	high	low	high	low	high

Action (byte_0-1)

Action	Classification	Content
1	Set	Change setting to desired value.
4	Increment	Increment setup value by 1.
5	Decrement	Decrement setup value by 1.
6	Execute	Run a command.

Note: For the Type and Setting Code, see the RS-232C communication/ Network command table (📖***20***).

② Get the projector's status

byte_0	byte_1	byte_2	byte_3	byte_4	byte_5
Action		Type		Connection ID	
low	high	low	high	low	high

Action (byte_0-1)

Action	Classification	Content
2	Get	Read projector internal setup value.

Connection ID (byte_4-5)

Connection ID	Content
0~255	This value is attached to the reply data.

③ Other commands

byte_0	byte_1	byte_2	byte_3	byte_4	byte_5
Action		Target Number		Connection ID	
low	high	low	high	low	high

Support Command	Action	Target Number	Connection ID
Get the number of connected projectors	2	0	0~255
Set the communication Group identification and Communication ID	1	0~65535	0~255
Get the communication Group identification and Communication ID	2	0~65535	0~255

Command data

Requesting projector status (Get command)
(1) Send the following request code from the PC to the projector.
Header + Command data (‘02H’ + ‘00H’ + type (2 bytes) + connection ID (2 bytes))
(2) The projector returns the response code to the PC.
‘9DH’ + ‘02H’ + connection ID (2 bytes) + data (2 bytes)
When the projector cannot understand the received command, the error code is sent back to the PC.
‘95H’ + ‘02H’ + connection ID (2 bytes) + ‘00H’ + ‘00H’
When the projector cannot execute the received command, the error code is sent back to the PC.
‘9CH’ + ‘02H’ + connection ID (2 bytes) + error code (2 bytes)
Action (byte_0-1)

Error Code

Error Code	Content
0	The command was not accepted, since the projector connected to PC was busy.
1	Communication error is happened between projectors.
2	The command was not accepted, since the designated projector was not found.

Changing the projector settings (Set command)

Requesting projector status (Get command)
(1) Send the following request code from the PC to the projector.
Header + Command data (‘01H’ + ‘00H’ + type (2 bytes) + setting code (2 bytes))
(2) The projector changes the setting based on the above setting code.
(3) Projector does not send out the response data.

Using the projector default settings (Reset Command)
(1) The PC sends the following default setting code to the projector.
Header + Command data (‘06H’ + ‘00H’ + type (2 bytes) + ‘00H’ + ‘00H’)
(2) The projector changes the specified setting to the default value.
(3) Projector does not send out the response data.

Increasing the projector setting value (Increment command)
(1) The PC sends the following increment code to the projector.
Header + Command data (‘04H’ + ‘00H’ + type (2 bytes) + ‘00H’ + ‘00H’)
(2) The projector increases the setting value on the above setting code.
(3) Projector does not send out the response data.

Decreasing the projector setting value (Decrement command)
(1) The PC sends the following decrement code to the projector.
Header + Command data (‘05H’ + ‘00H’ + type (2 bytes) + ‘00H’ + ‘00H’)
(2) The projector decreases the setting value on the above setting code.
(3) Projector does not send out the response data.

Get the number of connected projectors

(1) Send the following request code from the PC to the projector.
Header + Command data (‘02H’ + ‘00H’ + ‘00H’ + ‘00H’ + connection ID (2 bytes))
(2) The projector returns the response code to the PC.
‘9EH’ + ‘04H’ + connection ID (2 bytes) + number of projectors (2 bytes) + group (1 byte) + ID (1 byte)
When the projector cannot understand the received command, the error code is sent back to the PC.
‘96H’ + ‘04H’ + connection ID (2 bytes) + ‘00H’ + ‘00H’ + ‘00H’ + ‘00H’
When the projector cannot execute the received command, the error code is sent back to the PC.
‘9FH’ + ‘06H’ + connection ID (2 bytes) + position number of projector having an error* (2 bytes) + group (1 byte) + ID (1 byte) + error code (2 bytes)
*The position number is counted from the projector connected to PC directly, which has No.1 as position number. Then, the next one is No.2 and so on.
Error Code

Error Code	Content
0	The command was not accepted, since the projector connected to PC was busy.
1	Communication error is happened between projectors.

Set the communication Group identification and Communication ID

Header + Command data (‘02H’ + ‘00H’ + ‘00H’ + ‘00H’ + connection ID (2 bytes))
(1) Send the following setting code from the PC to the projector.
Header + Command data (‘01H’ + ‘00H’ + target number (2 bytes) + connection ID (2 bytes))
(2) The projector changes the group and ID setting based on the above setting code.
(3) Projector does not send out the response data.

The command was not accepted, since the designated projector was not found

(1) Send the following request code from the PC to the projector.
Header + Command data (‘02H’ + ‘00H’ + target number (2 bytes) + connection ID (2 bytes))
(2) The projector returns the response code to the PC.
‘90H’ + ‘04H’ + connection ID (2 bytes) + target number (2 bytes) + group (1 byte) + ID (1 byte)
When the projector cannot understand the received command, the error code is sent back to the PC.
‘97H’ + ‘04H’ + connection ID (2 bytes) + ‘00H’ + ‘00H’ + ‘00H’ + ‘00H’
When the projector cannot execute the received command, the error code is sent back to the PC.
‘91H’ + ‘06H’ + connection ID (2 bytes) + position number of projector having an error* (2 bytes) + group (1 byte) + ID (1 byte) + error code (2 bytes)
* The position number is counted from the projector connected to PC directly, which has No.1 as position number. Then, the next one is No.2 and so on.
Error Code

Error Code	Content
0	The command was not accepted, since the projector connected to PC was busy.
1	Communication error is happened between projectors.
2	The command was not accepted, since the designated projector was not found.

NOTE • As for the transmission of the second or subsequent commands, the authentication data can be omitted when the same connection.
• Commands are not accepted during warm-up.
•To use the daisy chain communication, set the DAISY CHAIN of the COMMUNICATIONTYPE item in the OPTION menu on the OSD (On Screen Display) (📖***User's Manual (detailed) - Operating Guide***)

RS-232C Communication / Network command table

Names	Operation Type		Header			CRC	Command Data		
							Action	Type	Setting Code
Power	Set	OFF	BE EF	03	06 00	2A D3	01 00	00 60	00 00
		ON	BE EF	03	06 00	BA D2	01 00	00 60	01 00
	Get		BE EF	03	06 00	19 D3	02 00	00 60	00 00
			(Example Return) 00 00 (Off) 01 00 (On) 02 00 (Cool Down)						
Input Source	Set	COMPUTER IN 1	BE EF	03	06 00	FE D2	01 00	00 20	00 00
		COMPUTER IN 2	BE EF	03	06 00	3E D0	01 00	00 20	04 00
		HDMI	BE EF	03	06 00	0E D2	01 00	00 20	03 00
		VIDEO 1	BE EF	03	06 00	6E D3	01 00	00 20	01 00
		S-VIDEO	BE EF	03	06 00	9E D3	01 00	00 20	02 00
		COMPONENT	BE EF	03	06 00	AE D1	01 00	00 20	05 00
		BNC	BE EF	03	06 00	CE D0	01 00	00 20	07 00
		DVI-D	BE EF	03	06 00	AE D4	01 00	00 20	09 00
		VIDEO 2	BE EF	03	06 00	5E D4	01 00	00 20	0A 00
	Get		BE EF	03	06 00	CD D2	02 00	00 20	00 00
Error Status	Get		BE EF	03	06 00	D9 D8	02 00	20 60	00 00
			(Example Return) 00 00 (Normal) 01 00 (Cover error) 02 00 (Fan error) 03 00 (Lamp error) 04 00 (Temp error) 05 00 (Air flow error) 07 00 (Cold error) 08 00 (Filter error) 0F 00 (Shutter error) 10 00 (Lens Shift error)						
BRIGHTNESS	Get		BE EF	03	06 00	89 D2	02 00	03 20	00 00
	Increment		BE EF	03	06 00	EF D2	04 00	03 20	00 00
	Decrement		BE EF	03	06 00	3E D3	05 00	03 20	00 00
CONTRAST	Get		BE EF	03	06 00	FD D3	02 00	04 20	00 00
	Increment		BE EF	03	06 00	9B D3	04 00	04 20	00 00
	Decrement		BE EF	03	06 00	4A D2	05 00	04 20	00 00
PICTURE MODE	Set	NORMAL	BE EF	03	06 00	23 F6	01 00	BA 30	00 00
		CINEMA	BE EF	03	06 00	B3 F7	01 00	BA 30	01 00
		DYNAMIC	BE EF	03	06 00	E3 F4	01 00	BA 30	04 00
		BOARD (BLACK)	BE EF	03	06 00	E3 EF	01 00	BA 30	20 00
		BOARD (GREEN)	BE EF	03	06 00	73 EE	01 00	BA 30	21 00
		WHITE BOARD	BE EF	03	06 00	83 EE	01 00	BA 30	22 00
		DAY TIME	BE EF	03	06 00	E3 C7	01 00	BA 30	40 00
		CUSTOM	BE EF	03	06 00	E3 FB	01 00	BA 30	10 00
	Get		BE EF	03	06 00	10 F6	02 00	BA 30	00 00
GAMMA	Set	1 DEFAULT	BE EF	03	06 00	07 E9	01 00	A1 30	20 00
		2 DEFAULT	BE EF	03	06 00	97 E8	01 00	A1 30	21 00
		3 DEFAULT	BE EF	03	06 00	67 E8	01 00	A1 30	22 00
		4 DEFAULT	BE EF	03	06 00	F7 E9	01 00	A1 30	23 00
		5 DEFAULT	BE EF	03	06 00	C7 EB	01 00	A1 30	24 00
		6 DEFAULT	BE EF	03	06 00	57 EA	01 00	A1 30	25 00
		1 CUSTOM	BE EF	03	06 00	07 FD	01 00	A1 30	10 00
		2 CUSTOM	BE EF	03	06 00	97 FC	01 00	A1 30	11 00
		3 CUSTOM	BE EF	03	06 00	67 FC	01 00	A1 30	12 00
		4 CUSTOM	BE EF	03	06 00	F7 FD	01 00	A1 30	13 00

Names	Operation Type		Header			CRC	Command Data		
							Action	Type	Setting Code
GAMMA	Set	5 CUSTOM	BE EF	03	06 00	C7 FF	01 00	A1 30	14 00
		6 CUSTOM	BE EF	03	06 00	57 FE	01 00	A1 30	15 00
	Get		BE EF	03	06 00	F4 F0	02 00	A1 30	00 00
User Gamma Pattern	Set	Off	BE EF	03	06 00	FB FA	01 00	80 30	00 00
		9step Gray Scale	BE EF	03	06 00	6B FB	01 00	80 30	01 00
		15step Gray Scale	BE EF	03	06 00	9B FB	01 00	80 30	02 00
		Ramp	BE EF	03	06 00	0B FA	01 00	80 30	03 00
	Get		BE EF	03	06 00	C8 FA	02 00	80 30	00 00
User Gamma Point 1	Get		BE EF	03	06 00	08 FE	02 00	90 30	00 00
	Increment		BE EF	03	06 00	6E FE	04 00	90 30	00 00
	Decrement		BE EF	03	06 00	BF FF	05 00	90 30	00 00
User Gamma Point 2	Get		BE EF	03	06 00	F4 FF	02 00	91 30	00 00
	Increment		BE EF	03	06 00	92 FF	04 00	91 30	00 00
	Decrement		BE EF	03	06 00	43 FE	05 00	91 30	00 00
User Gamma Point 3	Get		BE EF	03	06 00	B0 FF	02 00	92 30	00 00
	Increment		BE EF	03	06 00	D6 FF	04 00	92 30	00 00
	Decrement		BE EF	03	06 00	07 FE	05 00	92 30	00 00
User Gamma Point 4	Get		BE EF	03	06 00	4C FE	02 00	93 30	00 00
	Increment		BE EF	03	06 00	2A FE	04 00	93 30	00 00
	Decrement		BE EF	03	06 00	FB FF	05 00	93 30	00 00
User Gamma Point 5	Get		BE EF	03	06 00	38 FF	02 00	94 30	00 00
	Increment		BE EF	03	06 00	5E FF	04 00	94 30	00 00
	Decrement		BE EF	03	06 00	8F FE	05 00	94 30	00 00
User Gamma Point 6	Get		BE EF	03	06 00	C4 FE	02 00	95 30	00 00
	Increment		BE EF	03	06 00	A2 FE	04 00	95 30	00 00
	Decrement		BE EF	03	06 00	73 FF	05 00	95 30	00 00
User Gamma Point 7	Get		BE EF	03	06 00	80 FE	02 00	96 30	00 00
	Increment		BE EF	03	06 00	E6 FE	04 00	96 30	00 00
	Decrement		BE EF	03	06 00	37 FF	05 00	96 30	00 00
User Gamma Point 8	Get		BE EF	03	06 00	7C FF	02 00	97 30	00 00
	Increment		BE EF	03	06 00	1A FF	04 00	97 30	00 00
	Decrement		BE EF	03	06 00	CB FE	05 00	97 30	00 00
COLOR TEMP	Set	1 HIGH	BE EF	03	06 00	0B F5	01 00	B0 30	03 00
		2 MID	BE EF	03	06 00	9B F4	01 00	B0 30	02 00
		3 LOW	BE EF	03	06 00	6B F4	01 00	B0 30	01 00
		4 Hi-BRIGHT-1	BE EF	03	06 00	3B F2	01 00	B0 30	08 00
		5 Hi-BRIGHT-2	BE EF	03	06 00	AB F3	01 00	B0 30	09 00
		6 Hi-BRIGHT-3	BE EF	03	06 00	5B F3	01 00	B0 30	0A 00
		1 CUSTOM (HIGH)	BE EF	03	06 00	CB F8	01 00	B0 30	13 00
		2 CUSTOM (MID)	BE EF	03	06 00	5B F9	01 00	B0 30	12 00
		3 CUSTOM (LOW)	BE EF	03	06 00	AB F9	01 00	B0 30	11 00
		4 CUSTOM (Hi-BRIGHT-1)	BE EF	03	06 00	FB FF	01 00	B0 30	18 00
		5 CUSTOM (Hi-BRIGHT-2)	BE EF	03	06 00	6B FE	01 00	B0 30	19 00
		6 CUSTOM (Hi-BRIGHT-3)	BE EF	03	06 00	9B FE	01 00	B0 30	1A 00
	Get		BE EF	03	06 00	C8 F5	02 00	B0 30	00 00

Names	Operation Type		Header			CRC	Command Data		
							Action	Type	Setting Code
COLOR TEMP GAIN R	Get		BE EF	03	06 00	34 F4	02 00	B1 30	00 00
	Increment		BE EF	03	06 00	52 F4	04 00	B1 30	00 00
	Decrement		BE EF	03	06 00	83 F5	05 00	B1 30	00 00
COLOR TEMP GAIN G	Get		BE EF	03	06 00	70 F4	02 00	B2 30	00 00
	Increment		BE EF	03	06 00	16 F4	04 00	B2 30	00 00
	Decrement		BE EF	03	06 00	C7 F5	05 00	B2 30	00 00
COLOR TEMP GAIN B	Get		BE EF	03	06 00	8C F5	02 00	B3 30	00 00
	Increment		BE EF	03	06 00	EA F5	04 00	B3 30	00 00
	Decrement		BE EF	03	06 00	3B F4	05 00	B3 30	00 00
COLOR TEMP OFFSET R	Get		BE EF	03	06 00	04 F5	02 00	B5 30	00 00
	Increment		BE EF	03	06 00	62 F5	04 00	B5 30	00 00
	Decrement		BE EF	03	06 00	B3 F4	05 00	B5 30	00 00
COLOR TEMP OFFSET G	Get		BE EF	03	06 00	40 F5	02 00	B6 30	00 00
	Increment		BE EF	03	06 00	26 F5	04 00	B6 30	00 00
	Decrement		BE EF	03	06 00	F7 F4	05 00	B6 30	00 00
COLOR TEMP OFFSET B	Get		BE EF	03	06 00	BC F4	02 00	B7 30	00 00
	Increment		BE EF	03	06 00	DA F4	04 00	B7 30	00 00
	Decrement		BE EF	03	06 00	0B F5	05 00	B7 30	00 00
COLOR	Get		BE EF	03	06 00	B5 72	02 00	02 22	00 00
	Increment		BE EF	03	06 00	D3 72	04 00	02 22	00 00
	Decrement		BE EF	03	06 00	02 73	05 00	02 22	00 00
COLOR Reset	Execute		BE EF	03	06 00	80 D0	06 00	0A 70	00 00
TINT	Get		BE EF	03	06 00	49 73	02 00	03 22	00 00
	Increment		BE EF	03	06 00	2F 73	04 00	03 22	00 00
	Decrement		BE EF	03	06 00	FE 72	05 00	03 22	00 00
TINT Reset	Execute		BE EF	03	06 00	7C D1	06 00	0B 70	00 00
SHARPNESS	Get		BE EF	03	06 00	F1 72	02 00	01 22	00 00
	Increment		BE EF	03	06 00	97 72	04 00	01 22	00 00
	Decrement		BE EF	03	06 00	46 73	05 00	01 22	00 00
SHARPNESS Reset	Execute		BE EF	03	06 00	C4 D0	06 00	09 70	00 00
ACTIVE IRIS	Set	PRESENTATION	BE EF	03	06 00	5B 2E	01 00	04 33	11 00
		THEATER	BE EF	03	06 00	CB 2F	01 00	04 33	10 00
		MANUAL	BE EF	03	06 00	CB 3B	01 00	04 33	20 00
	Get		BE EF	03	06 00	38 22	02 00	04 33	00 00
MANUAL IRIS	Get		BE EF	03	06 00	B0 22	02 00	02 33	00 00
	Increment		BE EF	03	06 00	D6 22	04 00	02 33	00 00
	Decrement		BE EF	03	06 00	07 23	05 00	02 33	00 00
MY MEMORY Load	Set	1	BE EF	03	06 00	0E D7	01 00	14 20	00 00
		2	BE EF	03	06 00	9E D6	01 00	14 20	01 00
		3	BE EF	03	06 00	6E D6	01 00	14 20	02 00
		4	BE EF	03	06 00	FE D7	01 00	14 20	03 00
MY MEMORY Save	Set	1	BE EF	03	06 00	F2 D6	01 00	15 20	00 00
		2	BE EF	03	06 00	62 D7	01 00	15 20	01 00
		3	BE EF	03	06 00	92 D7	01 00	15 20	02 00
		4	BE EF	03	06 00	02 D6	01 00	15 20	03 00
PROGRESSIVE	Set	OFF	BE EF	03	06 00	4A 72	01 00	07 22	00 00
		TV	BE EF	03	06 00	DA 73	01 00	07 22	01 00
		FILM	BE EF	03	06 00	2A 73	01 00	07 22	02 00
	Get		BE EF	03	06 00	79 72	02 00	07 22	00 00

Names	Operation Type		Header			CRC	Command Data		
							Action	Type	Setting Code
3D-YCS	Set	OFF	BE EF	03	06 00	E6 70	01 00	0A 22	00 00
		MOVIE	BE EF	03	06 00	76 71	01 00	0A 22	01 00
		STILL IMAGE	BE EF	03	06 00	86 71	01 00	0A 22	02 00
	Get		BE EF	03	06 00	D5 70	02 00	0A 22	00 00
VIDEO NR	Set	LOW	BE EF	03	06 00	26 72	01 00	06 22	01 00
		MID	BE EF	03	06 00	D6 72	01 00	06 22	02 00
		HIGH	BE EF	03	06 00	46 73	01 00	06 22	03 00
	Get		BE EF	03	06 00	85 73	02 00	06 22	00 00
ASPECT	Set	NORMAL	BE EF	03	06 00	5E DD	01 00	08 20	10 00
		4:3	BE EF	03	06 00	9E D0	01 00	08 20	00 00
		16:9	BE EF	03	06 00	0E D1	01 00	08 20	01 00
		16:10 *3	BE EF	03	06 00	3E D6	01 00	08 20	0A 00
		14:9	BE EF	03	06 00	CE D6	01 00	08 20	09 00
		SMALL *1	BE EF	03	06 00	FE D1	01 00	08 20	02 00
		NATIVE *2	BE EF	03	06 00	5E D7	01 00	08 20	08 00
		FULL *3	BE EF	03	06 00	5E C9	01 00	08 20	20 00
	Get		BE EF	03	06 00	AD D0	02 00	08 20	00 00
OVER SCAN	Get		BE EF	03	06 00	91 70	02 00	09 22	00 00
	Increment		BE EF	03	06 00	F7 70	04 00	09 22	00 00
	Decrement		BE EF	03	06 00	26 71	05 00	09 22	00 00
OVER SCAN Reset	Execute		BE EF	03	06 00	EC D9	06 00	27 70	00 00
V POSITION	Get		BE EF	03	06 00	0D 83	02 00	00 21	00 00
	Increment		BE EF	03	06 00	6B 83	04 00	00 21	00 00
	Decrement		BE EF	03	06 00	BA 82	05 00	00 21	00 00
V POSITION Reset	Execute		BE EF	03	06 00	E0 D2	06 00	02 70	00 00
H POSITION	Get		BE EF	03	06 00	F1 82	02 00	01 21	00 00
	Increment		BE EF	03	06 00	97 82	04 00	01 21	00 00
	Decrement		BE EF	03	06 00	46 83	05 00	01 21	00 00
H POSITION Reset	Execute		BE EF	03	06 00	1C D3	06 00	03 70	00 00
H PHASE	Get		BE EF	03	06 00	49 83	02 00	03 21	00 00
	Increment		BE EF	03	06 00	2F 83	04 00	03 21	00 00
	Decrement		BE EF	03	06 00	FE 82	05 00	03 21	00 00
H SIZE	Get		BE EF	03	06 00	B5 82	02 00	02 21	00 00
	Increment		BE EF	03	06 00	D3 82	04 00	02 21	00 00
	Decrement		BE EF	03	06 00	02 83	05 00	02 21	00 00
H SIZE Reset	Execute		BE EF	03	06 00	68 D2	06 00	04 70	00 00
AUTO ADJUST	Execute		BE EF	03	06 00	91 D0	06 00	0A 20	00 00
COLOR SPACE	Set	AUTO	BE EF	03	06 00	0E 72	01 00	04 22	00 00
		RGB	BE EF	03	06 00	9E 73	01 00	04 22	01 00
		SMPTE240	BE EF	03	06 00	6E 73	01 00	04 22	02 00
		REC709	BE EF	03	06 00	FE 72	01 00	04 22	03 00
		REC601	BE EF	03	06 00	CE 70	01 00	04 22	04 00
	Get		BE EF	03	06 00	3D 72	02 00	04 22	00 00
COMPONENT	Set	COMPONENT	BE EF	03	06 00	4A D7	01 00	17 20	00 00
		SCART RGB	BE EF	03	06 00	DA D6	01 00	17 20	01 00
	Get		BE EF	03	06 00	79 D7	02 00	17 20	00 00

*1 CP-X10000, CP-SX12000 only. *2 CP-WX11000, CP-SX12000 only.
*3 CP-WX11000 only.

Names	Operation Type		Header			CRC	Command Data		
							Action	Type	Setting Code
S-VIDEO FORMAT	Set	AUTO	BE EF	03	06 00	E6 70	01 00	12 22	0A 00
		NTSC	BE EF	03	06 00	86 74	01 00	12 22	04 00
		PAL	BE EF	03	06 00	16 75	01 00	12 22	05 00
		SECAM	BE EF	03	06 00	16 70	01 00	12 22	09 00
		NTSC4.43	BE EF	03	06 00	26 77	01 00	12 22	02 00
		M-PAL	BE EF	03	06 00	86 71	01 00	12 22	08 00
		N-PAL	BE EF	03	06 00	76 74	01 00	12 22	07 00
	Get		BE EF	03	06 00	75 76	02 00	12 22	00 00
VIDEO 1 FORMAT	Set	AUTO	BE EF	03	06 00	A2 70	01 00	11 22	0A 00
		NTSC	BE EF	03	06 00	C2 74	01 00	11 22	04 00
		PAL	BE EF	03	06 00	52 75	01 00	11 22	05 00
		SECAM	BE EF	03	06 00	52 70	01 00	11 22	09 00
		NTSC4.43	BE EF	03	06 00	62 77	01 00	11 22	02 00
		M-PAL	BE EF	03	06 00	C2 71	01 00	11 22	08 00
		N-PAL	BE EF	03	06 00	32 74	01 00	11 22	07 00
	Get		BE EF	03	06 00	31 76	02 00	11 22	00 00
VIDEO 2 FORMAT	Set	AUTO	BE EF	03	06 00	86 72	01 00	1A 22	0A 00
		NTSC	BE EF	03	06 00	E6 76	01 00	1A 22	04 00
		PAL	BE EF	03	06 00	76 77	01 00	1A 22	05 00
		SECAM	BE EF	03	06 00	76 72	01 00	1A 22	09 00
		NTSC4.43	BE EF	03	06 00	46 75	01 00	1A 22	02 00
		M-PAL	BE EF	03	06 00	E6 73	01 00	1A 22	08 00
		N-PAL	BE EF	03	06 00	16 76	01 00	1A 22	07 00
	Get		BE EF	03	06 00	15 74	02 00	1A 22	00 00
HDMI FORMAT	Set	AUTO	BE EF	03	06 00	BA 77	01 00	13 22	00 00
		VIDEO	BE EF	03	06 00	2A 76	01 00	13 22	01 00
		COMPUTER	BE EF	03	06 00	DA 76	01 00	13 22	02 00
	Get		BE EF	03	06 00	89 77	02 00	13 22	00 00
DVI-D FORMAT	Set	AUTO	BE EF	03	06 00	62 74	01 00	19 22	00 00
		VIDEO	BE EF	03	06 00	F2 75	01 00	19 22	01 00
		COMPUTER	BE EF	03	06 00	02 75	01 00	19 22	02 00
	Get		BE EF	03	06 00	51 74	02 00	19 22	00 00
HDMI RANGE	Set	AUTO	BE EF	03	06 00	86 D8	01 00	22 20	00 00
		NORMAL	BE EF	03	06 00	16 D9	01 00	22 20	01 00
		ENHANCED	BE EF	03	06 00	E6 D9	01 00	22 20	02 00
	Get		BE EF	03	06 00	B5 D8	02 00	22 20	00 00
DVI-D RANGE	Set	AUTO	BE EF	03	06 00	FE D4	01 00	20 20	10 00
		NORMAL	BE EF	03	06 00	3E D9	01 00	20 20	00 00
		ENHANCED	BE EF	03	06 00	AE D8	01 00	20 20	01 00
	Get		BE EF	03	06 00	0D D9	02 00	20 20	00 00
COMPUTER IN 1	Set	SYNC ON G OFF	BE EF	03	06 00	5E D7	01 00	10 20	02 00
		AUTO	BE EF	03	06 00	CE D6	01 00	10 20	03 00
	Get		BE EF	03	06 00	0D D6	02 00	10 20	00 00
COMPUTER IN 2	Set	SYNC ON G OFF	BE EF	03	06 00	A2 D6	01 00	11 20	02 00
		AUTO	BE EF	03	06 00	32 D7	01 00	11 20	03 00
	Get		BE EF	03	06 00	F1 D7	02 00	11 20	00 00
BNC	Set	SYNC ON G OFF	BE EF	03	06 00	86 D4	01 00	1A 20	02 00
		AUTO	BE EF	03	06 00	16 D5	01 00	1A 20	03 00
	Get		BE EF	03	06 00	D5 D5	02 00	1A 20	00 00

Names	Operation Type		Header			CRC	Command Data		
							Action	Type	Setting Code
FRAME LOCK - COMPUTER IN 1	Set	OFF	BE EF	03	06 00	3B C2	01 00	50 30	00 00
		ON	BE EF	03	06 00	AB C3	01 00	50 30	01 00
	Get		BE EF	03	06 00	08 C2	02 00	50 30	00 00
FRAME LOCK - COMPUTER IN 2	Set	OFF	BE EF	03	06 00	0B C3	01 00	54 30	00 00
		ON	BE EF	03	06 00	9B C2	01 00	54 30	00 00
	Get		BE EF	03	06 00	38 C3	02 00	54 30	00 00
FRAME LOCK - BNC	Set	OFF	BE EF	03	06 00	4F C3	01 00	57 30	00 00
		ON	BE EF	03	06 00	DF C2	01 00	57 30	01 00
	Get		BE EF	03	06 00	7C C3	02 00	57 30	00 00
FRAME LOCK - HDMI	Set	OFF	BE EF	03	06 00	7F C2	01 00	53 30	00 00
		ON	BE EF	03	06 00	EF C3	01 00	53 30	01 00
	Get		BE EF	03	06 00	4C C2	02 00	53 30	00 00
FRAME LOCK - DVI-D	Set	OFF	BE EF	03	06 00	A7 C1	01 00	59 30	00 00
		ON	BE EF	03	06 00	37 C0	01 00	59 30	01 00
	Get		BE EF	03	06 00	94 C1	02 00	59 30	00 00
KEYSTONE V	Get		BE EF	03	06 00	B9 D3	02 00	07 20	00 00
	Increment		BE EF	03	06 00	DF D3	04 00	07 20	00 00
	Decrement		BE EF	03	06 00	0E D2	05 00	07 20	00 00
KEYSTONE V Reset	Execute		BE EF	03	06 00	08 D0	06 00	0C 70	00 00
AUTO KEYSTONE V EXECUTE	Execute		BE EF	03	06 00	E5 D1	06 00	0D 20	00 00
AUTO KEYSTONE V	Set	OFF	BE EF	03	06 00	EA D1	01 00	0F 20	00 00
		ON	BE EF	03	06 00	7A D0	01 00	0F 20	01 00
	Get		BE EF	03	06 00	D9 D1	02 00	0F 20	00 00
KEYSTONE H	Get		BE EF	03	06 00	E9 D0	02 00	0B 20	00 00
	Increment		BE EF	03	06 00	8F D0	04 00	0B 20	00 00
	Decrement		BE EF	03	06 00	5E D1	05 00	0B 20	00 00
KEYSTONE H Reset	Execute		BE EF	03	06 00	98 D8	06 00	20 70	00 00
ECO MODE	Set	NORMAL	BE EF	03	06 00	3B 23	01 00	00 33	00 00
		ECO	BE EF	03	06 00	AB 22	01 00	00 33	01 00
	Get		BE EF	03	06 00	08 23	02 00	00 33	00 00
MIRROR	Set	NORMAL	BE EF	03	06 00	C7 D2	01 00	01 30	00 00
		H:INVERT	BE EF	03	06 00	57 D3	01 00	01 30	01 00
		V:INVERT	BE EF	03	06 00	A7 D3	01 00	01 30	02 00
		H&V:INVERT	BE EF	03	06 00	37 D2	01 00	01 30	03 00
	Get		BE EF	03	06 00	F4 D2	02 00	01 30	00 00
MONITOR OUT - COMPUTER IN 1	Set	COMPUTER IN 1	BE EF	03	06 00	3E F4	01 00	B0 20	00 00
		COMPUTER IN 2	BE EF	03	06 00	FE F6	01 00	B0 20	04 00
		BNC	BE EF	03	06 00	0E F6	01 00	B0 20	07 00
		OFF	BE EF	03	06 00	CE B5	01 00	B0 20	FF 00
	Get		BE EF	03	06 00	0D F4	02 00	B0 20	00 00
MONITOR OUT - COMPUTER IN 2	Set	COMPUTER IN 1	BE EF	03	06 00	0E F5	01 00	B4 20	00 00
		COMPUTER IN 2	BE EF	03	06 00	CE F7	01 00	B4 20	04 00
		BNC	BE EF	03	06 00	3E F7	01 00	B4 20	07 00
		OFF	BE EF	03	06 00	FE B4	01 00	B4 20	FF 00
	Get		BE EF	03	06 00	3D F5	02 00	B4 20	00 00
MONITOR OUT - BNC	Set	COMPUTER IN 1	BE EF	03	06 00	4A F5	01 00	B7 20	00 00
		COMPUTER IN 2	BE EF	03	06 00	8A F7	01 00	B7 20	04 00
		BNC	BE EF	03	06 00	7A F7	01 00	B7 20	07 00
		OFF	BE EF	03	06 00	BA B4	01 00	B7 20	FF 00
	Get		BE EF	03	06 00	79 F5	02 00	B7 20	00 00

Names	Operation Type		Header			CRC	Command Data		
							Action	Type	Setting Code
MONITOR OUT - HDMI	Set	COMPUTER IN 1	BE EF	03	06 00	7A F4	01 00	B3 20	00 00
		COMPUTER IN 2	BE EF	03	06 00	BA F6	01 00	B3 20	04 00
		BNC	BE EF	03	06 00	4A F6	01 00	B3 20	07 00
		OFF	BE EF	03	06 00	8A B5	01 00	B3 20	FF 00
	Get		BE EF	03	06 00	49 F4	02 00	B3 20	00 00
MONITOR OUT - DVI-D	Set	COMPUTER IN 1	BE EF	03	06 00	A2 F7	01 00	B9 20	00 00
		COMPUTER IN 2	BE EF	03	06 00	62 F5	01 00	B9 20	04 00
		BNC	BE EF	03	06 00	92 F5	01 00	B9 20	07 00
		OFF	BE EF	03	06 00	52 B6	01 00	B9 20	FF 00
	Get		BE EF	03	06 00	91 F7	02 00	B9 20	00 00
MONITOR OUT - COMPONENT	Set	COMPUTER IN 1	BE EF	03	06 00	F2 F4	01 00	B5 20	00 00
		COMPUTER IN 2	BE EF	03	06 00	32 F6	01 00	B5 20	04 00
		BNC	BE EF	03	06 00	C2 F6	01 00	B5 20	07 00
		OFF	BE EF	03	06 00	02 B5	01 00	B5 20	FF 00
	Get		BE EF	03	06 00	C1 F4	02 00	B5 20	00 00
MONITOR OUT - S-VIDEO	Set	COMPUTER IN 1	BE EF	03	06 00	86 F5	01 00	B2 20	00 00
		COMPUTER IN 2	BE EF	03	06 00	46 F7	01 00	B2 20	04 00
		BNC	BE EF	03	06 00	B6 F7	01 00	B2 20	07 00
		OFF	BE EF	03	06 00	76 B4	01 00	B2 20	FF 00
	Get		BE EF	03	06 00	B5 F5	02 00	B2 20	00 00
MONITOR OUT - VIDEO 1	Set	COMPUTER IN 1	BE EF	03	06 00	C2 F5	01 00	B1 20	00 00
		COMPUTER IN 2	BE EF	03	06 00	02 F7	01 00	B1 20	04 00
		BNC	BE EF	03	06 00	F2 F7	01 00	B1 20	07 00
		OFF	BE EF	03	06 00	32 B4	01 00	B1 20	FF 00
	Get		BE EF	03	06 00	F1 F5	02 00	B1 20	00 00
MONITOR OUT - VIDEO 2	Set	COMPUTER IN 1	BE EF	03	06 00	E6 F7	01 00	BA 20	00 00
		COMPUTER IN 2	BE EF	03	06 00	26 F5	01 00	BA 20	04 00
		BNC	BE EF	03	06 00	D6 F5	01 00	BA 20	07 00
		OFF	BE EF	03	06 00	16 B6	01 00	BA 20	FF 00
	Get		BE EF	03	06 00	D5 F7	02 00	BA 20	00 00
MONITOR OUT - STANDBY	Set	COMPUTER IN 1	BE EF	03	06 00	2A F7	01 00	BF 20	00 00
		COMPUTER IN 2	BE EF	03	06 00	EA F5	01 00	BF 20	04 00
		BNC	BE EF	03	06 00	1A F5	01 00	BF 20	07 00
		OFF	BE EF	03	06 00	DA B6	01 00	BF 20	FF 00
	Get		BE EF	03	06 00	19 F7	02 00	BF 20	00 00
LANGUAGE	Set	ENGLISH	BE EF	03	06 00	F7 D3	01 00	05 30	00 00
		FRANÇAIS	BE EF	03	06 00	67 D2	01 00	05 30	01 00
		DEUTSCH	BE EF	03	06 00	97 D2	01 00	05 30	02 00
		ESPAÑOL	BE EF	03	06 00	07 D3	01 00	05 30	03 00
		ITALIANO	BE EF	03	06 00	37 D1	01 00	05 30	04 00
		NORSK	BE EF	03	06 00	A7 D0	01 00	05 30	05 00
		NEDERLANDS	BE EF	03	06 00	57 D0	01 00	05 30	06 00
		PORTUGUÊS	BE EF	03	06 00	C7 D1	01 00	05 30	07 00
		日本語	BE EF	03	06 00	37 D4	01 00	05 30	08 00
		简体中文	BE EF	03	06 00	A7 D5	01 00	05 30	09 00
		繁體中文	BE EF	03	06 00	37 DE	01 00	05 30	10 00
		한글	BE EF	03	06 00	57 D5	01 00	05 30	0A 00
		SVENSKA	BE EF	03	06 00	C7 D4	01 00	05 30	0B 00
		PYCCKNN	BE EF	03	06 00	F7 D6	01 00	05 30	0C 00
		SUOMI	BE EF	03	06 00	67 D7	01 00	05 30	0D 00

Names	Operation Type		Header			CRC	Command Data		
							Action	Type	Setting Code
LANGUAGE	Set	POLSKI	BE EF	03	06 00	97 D7	01 00	05 30	0E 00
		TÜRKÇE	BE EF	03	06 00	07 D6	01 00	05 30	0F 00
		DANSK	BE EF	03	06 00	A7 DF	01 00	05 30	11 00
		ČEŠTINA	BE EF	03	06 00	57 DF	01 00	05 30	12 00
		اللغة العربية	BE EF	03	06 00	37 DB	01 00	05 30	1C 00
		فارسی	BE EF	03	06 00	A7 DA	01 00	05 30	1D 00
	Get		BE EF	03	06 00	C4 D3	02 00	05 30	00 00
MENU POSITION V	Get		BE EF	03	06 00	40 D7	02 00	16 30	00 00
	Increment		BE EF	03	06 00	26 D7	04 00	16 30	00 00
	Decrement		BE EF	03	06 00	F7 D6	05 00	16 30	00 00
MENU POSITION V Reset	Execute		BE EF	03	06 00	A8 C7	06 00	44 70	00 00
MENU POSITION H	Get		BE EF	03	06 00	04 D7	02 00	15 30	00 00
	Increment		BE EF	03	06 00	62 D7	04 00	15 30	00 00
	Decrement		BE EF	03	06 00	B3 D6	05 00	15 30	00 00
MENU POSITION H Reset	Execute		BE EF	03	06 00	DC C6	06 00	43 70	00 00
BLANK	Set	MyScreen	BE EF	03	06 00	FB CA	01 00	00 30	20 00
		ORIGINAL	BE EF	03	06 00	FB E2	01 00	00 30	40 00
		BLUE	BE EF	03	06 00	CB D3	01 00	00 30	03 00
		WHITE	BE EF	03	06 00	6B D0	01 00	00 30	05 00
		BLACK	BE EF	03	06 00	9B D0	01 00	00 30	06 00
	Get		BE EF	03	06 00	08 D3	02 00	00 30	00 00
BLANK On/Off	Set	OFF	BE EF	03	06 00	FB D8	01 00	20 30	00 00
		ON	BE EF	03	06 00	6B D9	01 00	20 30	01 00
	Get		BE EF	03	06 00	C8 D8	02 00	20 30	00 00
START UP	Set	MyScreen	BE EF	03	06 00	CB CB	01 00	04 30	20 00
		ORIGINAL	BE EF	03	06 00	0B D2	01 00	04 30	00 00
		OFF	BE EF	03	06 00	9B D3	01 00	04 30	01 00
	Get		BE EF	03	06 00	38 D2	02 00	04 30	00 00
MyScreen LOCK	Set	OFF	BE EF	03	06 00	3B EF	01 00	C0 30	00 00
		ON	BE EF	03	06 00	AB EE	01 00	C0 30	01 00
	Get		BE EF	03	06 00	08 EF	02 00	C0 30	00 00
MESSAGE	Set	OFF	BE EF	03	06 00	8F D6	01 00	17 30	00 00
		ON	BE EF	03	06 00	1F D7	01 00	17 30	01 00
	Get		BE EF	03	06 00	BC D6	02 00	17 30	00 00
TEMPLATE	Set	TEST PATTERN	BE EF	03	06 00	43 D9	01 00	22 30	00 00
		DOT-LINE 1	BE EF	03	06 00	D3 D8	01 00	22 30	01 00
		DOT-LINE 2	BE EF	03	06 00	23 D8	01 00	22 30	02 00
		DOT-LINE 3	BE EF	03	06 00	B3 D9	01 00	22 30	03 00
		DOT-LINE 4	BE EF	03	06 00	83 DB	01 00	22 30	04 00
	Get		BE EF	03	06 00	70 D9	02 00	22 30	00 00
TEMPLATE On/Off	Set	OFF	BE EF	03	06 00	BF D8	01 00	23 30	00 00
		ON	BE EF	03	06 00	2F D9	01 00	23 30	01 00
	Get		BE EF	03	06 00	8C D8	02 00	23 30	00 00
CLOSED CAPTION DISPLAY	Set	OFF	BE EF	03	06 00	FA 62	01 00	00 37	00 00
		ON	BE EF	03	06 00	6A 63	01 00	00 37	01 00
	Get		BE EF	03	06 00	C9 62	02 00	00 37	00 00
CLOSED CAPTION MODE	Set	CAPTIONS	BE EF	03	06 00	06 63	01 00	01 37	00 00
		TEXT	BE EF	03	06 00	96 62	01 00	01 37	01 00
	Get		BE EF	03	06 00	35 63	02 00	01 37	00 00

Names	Operation Type		Header			CRC	Command Data		
							Action	Type	Setting Code
CLOSED CAPTION CHANNEL	Set	1	BE EF	03	06 00	D2 62	01 00	02 37	01 00
		2	BE EF	03	06 00	22 62	01 00	02 37	02 00
		3	BE EF	03	06 00	B2 63	01 00	02 37	03 00
		4	BE EF	03	06 00	82 61	01 00	02 37	04 00
	Get		BE EF	03	06 00	71 63	02 00	02 37	00 00
SOURCE SKIP COMPUTER IN 1	Set	NORMAL	BE EF	03	06 00	FE 78	01 00	20 22	00 00
		SKIP	BE EF	03	06 00	6E 79	01 00	20 22	01 00
	Get		BE EF	03	06 00	CD 78	02 00	20 22	00 00
SOURCE SKIP COMPUTER IN 2	Set	NORMAL	BE EF	03	06 00	CE 79	01 00	24 22	00 00
		SKIP	BE EF	03	06 00	5E 78	01 00	24 22	01 00
	Get		BE EF	03	06 00	FD 79	02 00	24 22	00 00
SOURCE SKIP BNC	Set	NORMAL	BE EF	03	06 00	8A 79	01 00	27 22	00 00
		SKIP	BE EF	03	06 00	1A 78	01 00	27 22	01 00
	Get		BE EF	03	06 00	B9 79	02 00	27 22	00 00
SOURCE SKIP HDMI	Set	NORMAL	BE EF	03	06 00	BA 78	01 00	23 22	00 00
		SKIP	BE EF	03	06 00	2A 79	01 00	23 22	01 00
	Get		BE EF	03	06 00	89 78	02 00	23 22	00 00
SOURCE SKIP DVI-D	Set	NORMAL	BE EF	03	06 00	62 7B	01 00	29 22	00 00
		SKIP	BE EF	03	06 00	F2 7A	01 00	29 22	01 00
	Get		BE EF	03	06 00	51 7B	02 00	29 22	00 00
SOURCE SKIP COMPONENT	Set	NORMAL	BE EF	03	06 00	32 78	01 00	25 22	00 00
		SKIP	BE EF	03	06 00	A2 79	01 00	25 22	01 00
	Get		BE EF	03	06 00	01 78	02 00	25 22	00 00
SOURCE SKIP S-VIDEO	Set	NORMAL	BE EF	03	06 00	46 79	01 00	22 22	00 00
		SKIP	BE EF	03	06 00	D6 78	01 00	22 22	01 00
	Get		BE EF	03	06 00	75 79	02 00	22 22	00 00
SOURCE SKIP VIDEO 1	Set	NORMAL	BE EF	03	06 00	02 79	01 00	21 22	00 00
		SKIP	BE EF	03	06 00	92 78	01 00	21 22	01 00
	Get		BE EF	03	06 00	31 79	02 00	21 22	00 00
SOURCE SKIP VIDEO 2	Set	NORMAL	BE EF	03	06 00	26 7B	01 00	2A 22	00 00
		SKIP	BE EF	03	06 00	B6 7A	01 00	2A 22	01 00
	Get		BE EF	03	06 00	15 7B	02 00	2A 22	00 00
AUTO SEARCH	Set	OFF	BE EF	03	06 00	B6 D6	01 00	16 20	00 00
		ON	BE EF	03	06 00	26 D7	01 00	16 20	01 00
	Get		BE EF	03	06 00	85 D6	02 00	16 20	00 00
DIRECT ON	Set	OFF	BE EF	03	06 00	3B 89	01 00	20 31	00 00
		ON	BE EF	03	06 00	AB 88	01 00	20 31	01 00
	Get		BE EF	03	06 00	08 89	02 00	20 31	00 00
AUTO OFF	Get		BE EF	03	06 00	08 86	02 00	10 31	00 00
	Increment		BE EF	03	06 00	6E 86	04 00	10 31	00 00
	Decrement		BE EF	03	06 00	BF 87	05 00	10 31	00 00
SHUTTER TIMER	Set	1h	BE EF	03	06 00	27 92	01 00	06 24	01 00
		3h	BE EF	03	06 00	47 93	01 00	06 24	03 00
		6h	BE EF	03	06 00	17 90	01 00	06 24	06 00
	Get		BE EF	03	06 00	84 93	02 00	06 24	00 00
LAMP TIME LOW	Get		BE EF	03	06 00	C2 FF	02 00	90 10	00 00
LAMP TIME HIIGH	Get		BE EF	03	06 00	2A FD	02 00	9E 10	00 00
LAMP TIME Reset	Execute		BE EF	03	06 00	58 DC	06 00	30 70	00 00
FILTER TIME LOW	Get		BE EF	03	06 00	C2 F0	02 00	A0 10	00 00
FILTER TIME HIGH	Get		BE EF	03	06 00	D6 FC	02 00	9F 10	00 00
FILTER TIME Reset	Execute		BE EF	03	06 00	98 C6	06 00	40 70	00 00

Names	Operation Type		Header			CRC	Command Data		
							Action	Type	Setting Code
MY BUTTON-1	Set	COMPUTER IN 1	BE EF	03	06 00	3A 33	01 00	00 36	00 00
		COMPUTER IN 2	BE EF	03	06 00	FA 31	01 00	00 36	04 00
		BNC	BE EF	03	06 00	0A 31	01 00	00 36	07 00
		HDMI	BE EF	03	06 00	CA 33	01 00	00 36	03 00
		DVI-D	BE EF	03	06 00	6A 35	01 00	00 36	09 00
		COMPONENT	BE EF	03	06 00	6A 30	01 00	00 36	05 00
		S-VIDEO	BE EF	03	06 00	5A 32	01 00	00 36	02 00
		VIDEO 1	BE EF	03	06 00	AA 32	01 00	00 36	01 00
		VIDEO 2	BE EF	03	06 00	9A 35	01 00	00 36	0A 00
		INFORMATION	BE EF	03	06 00	FA 3E	01 00	00 36	10 00
		AUTO KEYSTONE EXECUTE	BE EF	03	06 00	6A 3F	01 00	00 36	11 00
		MY MEMORY	BE EF	03	06 00	9A 3F	01 00	00 36	12 00
		ACTIVE IRIS	BE EF	03	06 00	AA 3D	01 00	00 36	15 00
		PICTURE MODE	BE EF	03	06 00	0A 3E	01 00	00 36	13 00
		FILTER RESET	BE EF	03	06 00	3A 3C	01 00	00 36	14 00
		TEMPLATE	BE EF	03	06 00	CA 39	01 00	00 36	1B 00
		PbyP SWAP	BE EF	03	06 00	5A 38	01 00	00 36	1A 00
		LENS MEMORY-1	BE EF	03	06 00	CA 27	01 00	00 36	33 00
		LENS MEMORY-2	BE EF	03	06 00	FA 25	01 00	00 36	34 00
		LENS MEMORY-3	BE EF	03	06 00	6A 24	01 00	00 36	35 00
		MY IMAGE	BE EF	03	06 00	5A 3D	01 00	00 36	16 00
	Get		BE EF	03	06 00	09 33	02 00	00 36	00 00
MY BUTTON-2	Set	COMPUTER IN 1	BE EF	03	06 00	C6 32	01 00	01 36	00 00
		COMPUTER IN 2	BE EF	03	06 00	06 30	01 00	01 36	04 00
		BNC	BE EF	03	06 00	F6 30	01 00	01 36	07 00
		HDMI	BE EF	03	06 00	36 32	01 00	01 36	03 00
		DVI-D	BE EF	03	06 00	96 34	01 00	01 36	09 00
		COMPONENT	BE EF	03	06 00	96 31	01 00	01 36	05 00
		S-VIDEO	BE EF	03	06 00	A6 33	01 00	01 36	02 00
		VIDEO 1	BE EF	03	06 00	56 33	01 00	01 36	01 00
		VIDEO 2	BE EF	03	06 00	66 34	01 00	01 36	0A 00
		INFORMATION	BE EF	03	06 00	06 3F	01 00	01 36	10 00
		AUTO KEYSTONE EXECUTE	BE EF	03	06 00	96 3E	01 00	01 36	11 00
		MY MEMORY	BE EF	03	06 00	66 3E	01 00	01 36	12 00
		ACTIVE IRIS	BE EF	03	06 00	56 3C	01 00	01 36	15 00
		PICTURE MODE	BE EF	03	06 00	F6 3F	01 00	01 36	13 00
		FILTER RESET	BE EF	03	06 00	C6 3D	01 00	01 36	14 00
		TEMPLATE	BE EF	03	06 00	36 38	01 00	01 36	1B 00
		PbyP SWAP	BE EF	03	06 00	A6 39	01 00	01 36	1A 00
		LENS MEMORY-1	BE EF	03	06 00	36 26	01 00	01 36	33 00
		LENS MEMORY-2	BE EF	03	06 00	06 24	01 00	01 36	34 00
		LENS MEMORY-3	BE EF	03	06 00	96 25	01 00	01 36	35 00
		MY IMAGE	BE EF	03	06 00	A6 3C	01 00	01 36	16 00
	Get		BE EF	03	06 00	F5 32	02 00	01 36	00 00
MY BUTTON-3	Set	COMPUTER IN 1	BE EF	03	06 00	82 32	01 00	02 36	00 00
		COMPUTER IN 2	BE EF	03	06 00	42 30	01 00	02 36	04 00
		BNC	BE EF	03	06 00	B2 30	01 00	02 36	07 00
		HDMI	BE EF	03	06 00	72 32	01 00	02 36	03 00

Names	Operation Type		Header			CRC	Command Data		
							Action	Type	Setting Code
MY BUTTON-3	Set	DVI-D	BE EF	03	06 00	D2 34	01 00	02 36	09 00
		COMPONENT	BE EF	03	06 00	D2 31	01 00	02 36	05 00
		S-VIDEO	BE EF	03	06 00	E2 33	01 00	02 36	02 00
		VIDEO 1	BE EF	03	06 00	12 33	01 00	02 36	01 00
		VIDEO 2	BE EF	03	06 00	22 34	01 00	02 36	0A 00
		INFORMATION	BE EF	03	06 00	42 3F	01 00	02 36	10 00
		AUTO KEYSTONE EXECUTE	BE EF	03	06 00	D2 3E	01 00	02 36	11 00
		MY MEMORY	BE EF	03	06 00	22 3E	01 00	02 36	12 00
		ACTIVE IRIS	BE EF	03	06 00	12 3C	01 00	02 36	15 00
		PICTURE MODE	BE EF	03	06 00	B2 3F	01 00	02 36	13 00
		FILTER RESET	BE EF	03	06 00	82 3D	01 00	02 36	14 00
		TEMPLATE	BE EF	03	06 00	72 38	01 00	02 36	1B 00
		PbyP SWAP	BE EF	03	06 00	E2 39	01 00	02 36	1A 00
		LENS MEMORY-1	BE EF	03	06 00	72 26	01 00	02 36	33 00
		LENS MEMORY-2	BE EF	03	06 00	42 24	01 00	02 36	34 00
		LENS MEMORY-3	BE EF	03	06 00	D2 25	01 00	02 36	35 00
		MY IMAGE	BE EF	03	06 00	E2 3C	01 00	02 36	16 00
	Get		BE EF	03	06 00	B1 32	02 00	02 36	00 00
MY BUTTON-4	Set	COMPUTER IN 1	BE EF	03	06 00	7E 33	01 00	03 36	00 00
		COMPUTER IN 2	BE EF	03	06 00	BE 31	01 00	03 36	04 00
		BNC	BE EF	03	06 00	4E 31	01 00	03 36	07 00
		HDMI	BE EF	03	06 00	8E 33	01 00	03 36	03 00
		DVI-D	BE EF	03	06 00	2E 35	01 00	03 36	09 00
		COMPONENT	BE EF	03	06 00	2E 30	01 00	03 36	05 00
		S-VIDEO	BE EF	03	06 00	1E 32	01 00	03 36	02 00
		VIDEO 1	BE EF	03	06 00	EE 32	01 00	03 36	01 00
		VIDEO 2	BE EF	03	06 00	DE 35	01 00	03 36	0A 00
		INFORMATION	BE EF	03	06 00	BE 3E	01 00	03 36	10 00
		AUTO KEYSTONE EXECUTE	BE EF	03	06 00	2E 3F	01 00	03 36	11 00
		MY MEMORY	BE EF	03	06 00	DE 3F	01 00	03 36	12 00
		ACTIVE IRIS	BE EF	03	06 00	EE 3D	01 00	03 36	15 00
		PICTURE MODE	BE EF	03	06 00	4E 3E	01 00	03 36	13 00
		FILTER RESET	BE EF	03	06 00	7E 3C	01 00	03 36	14 00
		TEMPLATE	BE EF	03	06 00	8E 39	01 00	03 36	1B 00
		PbyP SWAP	BE EF	03	06 00	1E 38	01 00	03 36	1A 00
		LENS MEMORY-1	BE EF	03	06 00	8E 27	01 00	03 36	33 00
		LENS MEMORY-2	BE EF	03	06 00	BE 25	01 00	03 36	34 00
		LENS MEMORY-3	BE EF	03	06 00	2E 24	01 00	03 36	35 00
		MY IMAGE	BE EF	03	06 00	1E 3D	01 00	03 36	16 00
	Get		BE EF	03	06 00	4D 33	02 00	03 36	00 00
MY SOURCE	Set	COMPUTER IN 1	BE EF	03	06 00	FA 38	01 00	20 36	00 00
		COMPUTER IN 2	BE EF	03	06 00	3A 3A	01 00	20 36	04 00
		BNC	BE EF	03	06 00	CA 3A	01 00	20 36	07 00
		HDMI	BE EF	03	06 00	0A 38	01 00	20 36	03 00
		DVI-D	BE EF	03	06 00	AA 3E	01 00	20 36	09 00
		COMPONENT	BE EF	03	06 00	AA 3B	01 00	20 36	05 00
		S-VIDEO	BE EF	03	06 00	9A 39	01 00	20 36	02 00
		VIDEO 1	BE EF	03	06 00	6A 39	01 00	20 36	01 00
		VIDEO 2	BE EF	03	06 00	5A 3E	01 00	20 36	0A 00

Names	Operation Type		Header			CRC	Command Data		
							Action	Type	Setting Code
MY SOURCE	Get		BE EF	03	06 00	C9 38	02 00	20 36	00 00
MY IMAGE	Set	OFF	BE EF	03	06 00	3A C3	01 00	00 35	00 00
		IMAGE-1	BE EF	03	06 00	AA C2	01 00	00 35	01 00
		IMAGE-2	BE EF	03	06 00	5A C2	01 00	00 35	02 00
		IMAGE-3	BE EF	03	06 00	CA C3	01 00	00 35	03 00
		IMAGE-4	BE EF	03	06 00	FA C1	01 00	00 35	04 00
	Get		BE EF	03	06 00	09 C3	02 00	00 35	00 00
MY IMAGE IMAGE-1 Delete	Execute		BE EF	03	06 00	71 C3	06 00	01 35	00 00
MY IMAGE IMAGE-2 Delete	Execute		BE EF	03	06 00	35 C3	06 00	02 35	00 00
MY IMAGE IMAGE-3 Delete	Execute		BE EF	03	06 00	C9 C2	06 00	03 35	00 00
MY IMAGE IMAGE-4 Delete	Execute		BE EF	03	06 00	BD C3	06 00	04 35	00 00
REMOTE FRONT	Set	Off	BE EF	03	06 00	FF 32	01 00	00 26	00 00
		On	BE EF	03	06 00	6F 33	01 00	00 26	01 00
	Get		BE EF	03	06 00	CC 32	02 00	00 26	00 00
REMOTE REAR	Set	Off	BE EF	03	06 00	03 33	01 00	01 26	00 00
		On	BE EF	03	06 00	93 32	01 00	01 26	01 00
	Get		BE EF	03	06 00	30 33	02 00	01 26	00 00
REMOTE TOP	Set	Off	BE EF	03	06 00	47 33	01 00	02 26	00 00
		On	BE EF	03	06 00	D7 32	01 00	02 26	01 00
	Get		BE EF	03	06 00	74 33	02 00	02 26	00 00
REMOTE ID	Set	ALL	BE EF	03	06 00	9F 30	01 00	08 26	00 00
		1	BE EF	03	06 00	0F 31	01 00	08 26	01 00
		2	BE EF	03	06 00	FF 31	01 00	08 26	02 00
		3	BE EF	03	06 00	6F 30	01 00	08 26	03 00
		4	BE EF	03	06 00	5F 32	01 00	08 26	04 00
	Get		BE EF	03	06 00	AC 30	02 00	08 26	00 00
REMOTE FREQUENCY NORMAL	Set	Disable	BE EF	03	06 00	FF 3D	01 00	30 26	00 00
		Enable	BE EF	03	06 00	6F 3C	01 00	30 26	01 00
	Get		BE EF	03	06 00	CC 3D	02 00	30 26	00 00
REMOTE FREQUENCY HIGH	Set	Disable	BE EF	03	06 00	03 3C	01 00	31 26	00 00
		Enable	BE EF	03	06 00	93 3D	01 00	31 26	01 00
	Get		BE EF	03	06 00	30 3C	02 00	31 26	00 00
FOCUS	Increment		BE EF	03	06 00	6A 93	04 00	00 24	00 00
	Decrement		BE EF	03	06 00	BB 92	05 00	00 24	00 00
ZOOM	Increment		BE EF	03	06 00	96 92	04 00	01 24	00 00
	Decrement		BE EF	03	06 00	47 93	05 00	01 24	00 00
LENS SHIFT -V	Increment		BE EF	03	06 00	D2 92	04 00	02 24	00 00
	Decrement		BE EF	03	06 00	03 93	05 00	02 24	00 00
LENS SHIFT -H	Increment		BE EF	03	06 00	2E 93	04 00	03 24	00 00
	Decrement		BE EF	03	06 00	FF 92	05 00	03 24	00 00
LENS SHIFT CENTERING	Execute		BE EF	03	06 00	B8 93	06 00	04 24	00 00

Names	Operation Type		Header			CRC	Command Data		
							Action	Type	Setting Code
LENS MEMORY INDEX	Set	1	BE EF	03	06 00	4B 92	01 00	07 24	00 00
		2	BE EF	03	06 00	DB 93	01 00	07 24	01 00
		3	BE EF	03	06 00	2B 93	01 00	07 24	02 00
	Get		BE EF	03	06 00	78 92	02 00	07 24	00 00
LENS MEMORY LOAD	Execute		BE EF	03	06 00	E8 90	06 00	08 24	00 00
LENS MEMORY SAVE	Execute		BE EF	03	06 00	14 91	06 00	09 24	00 00
LENS MEMORY CLEAR	Execute		BE EF	03	06 00	50 91	06 00	0A 24	00 00
LENS MEMORY FOCUS	Get		BE EF	03	06 00	28 91	02 00	0B 24	00 00
LENS MEMORY ZOOM	Get		BE EF	03	06 00	5C 90	02 00	0C 24	00 00
LENS MEMORY LENS SHIFT -V	Get		BE EF	03	06 00	A0 91	02 00	0D 24	00 00
LENS MEMORY LENS SHIFT -H	Get		BE EF	03	06 00	E4 91	02 00	0E 24	00 00
LENS MEMORY LENS TYPE	Get		BE EF	03	06 00	18 90	02 00	0F 24	00 00
MAGNIFY	Get		BE EF	03	06 00	7C D2	02 00	07 30	00 00
	Increment		BE EF	03	06 00	1A D2	04 00	07 30	00 00
	Decrement		BE EF	03	06 00	CB D3	05 00	07 30	00 00
FREEZE	Set	NORMAL	BE EF	03	06 00	83 D2	01 00	02 30	00 00
		FREEZE	BE EF	03	06 00	13 D3	01 00	02 30	01 00
	Get		BE EF	03	06 00	B0 D2	02 00	02 30	00 00
SHUTTER	Set	OFF	BE EF	03	06 00	F3 93	01 00	05 24	00 00
		ON	BE EF	03	06 00	63 92	01 00	05 24	01 00
	Get		BE EF	03	06 00	C0 93	02 00	05 24	00 00
PbyP	Set	OFF	BE EF	03	06 00	3E 26	01 00	10 23	00 00
		ON	BE EF	03	06 00	AE 27	01 00	10 23	01 00
	Get		BE EF	03	06 00	0D 26	02 00	10 23	00 00
PbyP RIGHT SOURCE	Set	COMPUTER IN 1	BE EF	03	06 00	86 27	01 00	12 23	00 00
		COMPUTER IN 2	BE EF	03	06 00	46 25	01 00	12 23	04 00
		BNC	BE EF	03	06 00	B6 25	01 00	12 23	07 00
		HDMI	BE EF	03	06 00	76 27	01 00	12 23	03 00
		DVI-D	BE EF	03	06 00	D6 21	01 00	12 23	09 00
		COMPONENT	BE EF	03	06 00	D6 24	01 00	12 23	05 00
		S-VIDEO	BE EF	03	06 00	E6 26	01 00	12 23	02 00
		VIDEO 1	BE EF	03	06 00	16 26	01 00	12 23	01 00
		VIDEO 2	BE EF	03	06 00	26 21	01 00	12 23	0A 00
	Get		BE EF	03	06 00	B5 27	02 00	12 23	00 00
PbyP MAIN AREA	Set	LEFT	BE EF	03	06 00	7A 26	01 00	13 23	00 00
		RIGHT	BE EF	03	06 00	EA 27	01 00	13 23	01 00
	Get		BE EF	03	06 00	49 26	02 00	13 23	00 00
PbyP LEFT SOURCE	Set	COMPUTER IN 1	BE EF	03	06 00	F2 26	01 00	15 23	00 00
		COMPUTER IN 2	BE EF	03	06 00	32 24	01 00	15 23	04 00
		BNC	BE EF	03	06 00	C2 24	01 00	15 23	07 00
		HDMI	BE EF	03	06 00	02 26	01 00	15 23	03 00
		DVI-D	BE EF	03	06 00	A2 20	01 00	15 23	09 00
		COMPONENT	BE EF	03	06 00	A2 25	01 00	15 23	05 00
		S-VIDEO	BE EF	03	06 00	92 27	01 00	15 23	02 00
		VIDEO 1	BE EF	03	06 00	62 27	01 00	15 23	01 00
		VIDEO 2	BE EF	03	06 00	52 20	01 00	15 23	0A 00
	Get		BE EF	03	06 00	C1 26	02 00	15 23	00 00
PbyP SWAP	Execute		BE EF	03	06 00	01 27	06 00	16 23	00 00

HITACHI

Inspire the Next

Hitachi, Ltd. Japan
292 Yoshida-cho
Totsuka-ku, Yokohama-city
Kanagawa 244-0817

HITACHI EUROPE LTD.
Consumer Affairs Department
PO Box 3007
Maidenhead
SL6 8ZE
UNITED KINGDOM
Tel: 0870 405 4405
Email: consumer.mail@Hitachi-eu.com

HITACHI EUROPE GmbH
Munich Office
Dornacher Strasse 3
D-85622 Feldkirchen bei München
GERMANY
Tel: +49 -89-991 80-0
Fax: +49 - 89 - 991 80 -224
Hotline: +49 - 180 - 551 25 51 (12ct/min.)
Email: HSE-DUS.Service@Hitachi-eu.com

HITACHI EUROPE SRL
Via T. Gulli n.39
20147 MILAN
ITALY
Tel: 02 487861
Fax: 02 48786381
Servizio Clienti
Tel. 02 38073415
Email: customerservice.italy@hitachi-eu.com

HITACHI EUROPE S.A.S
Lyon Office
B.P.45, 4 Allée des Sorbiers 69671 Bron Cedex
FRANCE
Tel: 04 72 14 29 70
Fax: 04 72 14 29 99
Email: france.consommateur@hitachi-eu.com

HITACHI EUROPE S.A.
364, Kifissias Ave. & 1, Delfon Str.
152 33 Chalandri
Athens
GREECE
Tel: 1-6837200
Fax: 1-6835694
Email: service.hellas@hitachi-eu.com

HITACHI EUROPE S.A.
Gran Via Carlos III
86 Planta 5a Edificios
Trade - Torre Este
08028 Barcelona
SPAIN
Tel: 93 409 2550
Fax: 93 491 3513
Email: atencion.cliente@hitachi-eu.com

HITACHI EUROPE AB
Box 77
S-164 94 KISTA
SWEDEN
Tel: 08 562 711 00
Fax: 08 562 711 11
Email: csgswe@hitachi-eu.com

HITACHI EUROPE LTD.
Norwegian Branch Office
Strandveien 18
1366 Lysaker
NORWAY
Tel: 02205 9060
Fax: 02205 9061
Email: csgnor@hitachi-eu.com

HITACHI EUROPE LTD.
BENELUX BRANCHE OFFICE
BERGENSESTEENWEG 421
1600 SINT-PIETERS-LEEUW
BELGIUM
Tel:0032/2 363 99 01
Fax:0032/2 363 99 00
Email:info@hitachi.be

www.hitachidigitalmedia.com