DIGITAL PROJECTION

HL12000HD HL10000HD

Super High Brightness Digital Video Projector

User's Manual

104-744A

Declaration of Conformity

Directives covered by this Declaration

89/336/EEC Electromagnetic Compatibility Directive, amended by 92/31/EEC & 93/68/EEC.

73/23/EEC Low Voltage Equipment Directive, amended by 93/68/EEC.

Products covered by this Directive

Large Screen Projector type **HL12000HD**
HL10000HD

Basis on which Conformity is being declared
The products identified above comply with the protection requirements of the above EU directives, and the manufacturer has applied the following standards:-

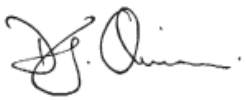
EN55022:1998 - Limits and Methods of Measurements of Radio Disturbance Characteristics of Information Technology Equipment.

EN 55024:1998 - Limits and Methods of Immunity Characteristics of Information Technology Equipment.

EN 61000-3-2:2000 - Harmonic Current Emissions.

EN 61000-3-3:1995 - Immunity to Voltage Fluctuations and Flicker.

The technical documentation required to demonstrate that the products meet the requirements of the Low Voltage directive has been compiled by the signatory below and is available for inspection by the relevant enforcement authorities. The CE mark was first applied in March 2005.

Signed: 

Authority: D.J. Quinn, Director - Product Development

Date: 3rd March 2005

Attention!
The attention of the specifier, purchaser, installer, or user is drawn to special measures and limitations to use which must be observed when these products are taken into service to maintain compliance with the above directives. Details of these special measures are available on request, and are also contained in the product manuals.

Important Information

CAUTION: To turn off the main power, be sure to remove the plug from power outlet. The power outlet socket should be installed as near to the equipment as possible, and should be easily accessible.

Precautions: Please read this manual carefully before using your Projector and keep the manual handy for future reference.

3. GSGV Acoustic Noise Information Ordinance:

The sound pressure level is less than 70 dB(A) according to ISO 3744 or ISO 7779.

WARNING

This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

WARNING

TO PREVENT FIRE OR SHOCK HAZARDS, DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE. ALSO DO NOT USE THIS UNIT'S POLARIZED PLUG WITH AN EXTENSION CORD RECEPTACLE OR OTHER OUTLETS, UNLESS THE PRONGS CAN BE FULLY INSERTED. REFRAIN FROM OPENING THE CABINET AS THERE ARE HIGH-VOLTAGE COMPONENTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

AVERTISSEMENT

POUR EVITER UN FEU OU UN RISQUE D'ELECTROCUTION NE PAS EXPOSER CET ENSEMBLE A LA PLUIE OU A L'HUMIDITE; DE MEME, NE PAS BRANCHER LA PRISE POLAIRE AVEC UNE RALLONGE A MOINS QUE LES DENTS DE LA PREMIERE NE S'Y INSERENT PLEINEMENT. EVITER D'OUVRIR LE COFFRET CAR IL Y A, A L'INTERIEUR, DES COMPOSANTS SOUMIS A UNE HAUTE-TENSION; POUR LES REPARATIONS, S'ADRESSER A UN PERSONNEL QUALIFIE.

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT OPEN COVER. NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

ATTENTION: POUR EVITER LES RISQUES D'ELECTROCUTION, NE PAS OUVRIR LE COUVERCLE. AUCUN DES ELEMENTS INTERNES NE DOIT ETRE REPARE PAR L'UTILISATEUR. NE CONFIER L'ENTRETIEN QU'A UN PERSONNEL QUALIFIE.

This symbol warns the user that uninsulated voltage within the unit may have sufficient magnitude to cause electric shock. Therefore, it is dangerous to make any kind of contact with any part inside of this unit.

L'éclair fléché dans un triangle équilatéral est destiné à avertir l'utilisateur de la présence, dans l'appareil, d'une zone non-isolée soumise à une haute-tension dont l'intensité est suffisante pour constituer un risque d'electrocution.

This symbol alerts the user that important literature concerning the operation and maintenance of this unit has been included. Therefore, it should be read carefully in order to avoid any problems.

Le point d'exclamation dans un triangle équilatéral est destiné à attirer l'attention de l'utilisateur sur la présence d'informations de fonctionnement et d'entretien importantes dans la brochure dccompagnant l'appareil.

DOC compliance Notice

This Class A digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

DOC avis de conformation

Cet appareil numérique de la classe A respecte toutes les exigences du Réglement sur le Matériel D'interférence du Canada.

CAUTION

* In order to reduce any interference with radio and television reception use a signal cable with ferrite core attached.Use of signal cables without a ferrite core attached may cause interference with radio and television reception.
* This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the installation manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Important Safeguards

These safety instructions are to ensure the long life of your projector and to prevent fire and shock. Please read them carefully and heed all warnings.

Installation

1. Place the projector on a flat, level surface in a dry area away from dust and moisture. Tilting the front of the projector up or down from level could reduce lamp life. Do not put the projector on its side when the lamp is on.
   Doing so may cause damage to the projector.
2. Do not place the projector in direct sunlight, near heaters or heat radiating appliances.
3. Exposure to direct sunlight, smoke or steam could harm internal components.
4. Handle your projector carefully. Dropping or jarring your projector could damage internal components.
5. Do not place heavy objects on top of the projector.
6. If you wish to have the projector installed on the ceiling:
   a Do not attempt to install the projector yourself.
   b The projector must be installed by qualified technicians in order to ensure proper operation and reduce the risk of bodily injury.
   c In addition, the ceiling must be strong enough to support the projector and the installation must be in accordance with any local building codes.
   d Please consult your dealer for more information.
   e Do not attempt to stack projectors on the ceiling.

To Dealer or Installer:

To prevent the projector from falling, install it in a place and fasten it in a way with sufficient strength to support the combined weight (94 kg/ 207.3 lb) of the projector (84 kg/185.3 lb) and the lens (10 kg/22 lb) for an extended period of time as well as to withstand earthquakes.

Power Supply

1. The projector is designed to operate on a power supply of 2.6 KW AC200-240V 50/60Hz. Ensure that your power supply fits this requirement before attempting to use your projector.
2. Handle the power cable carefully and avoid excessive bending. A damaged cord can cause electric shock or fire.
3. If the projector will not be used for an extended period of time, disconnect the plug from the power outlet.
4. Do not touch the power plug with wet hand. Doing so can cause electrical shock or fire.
5. Do not touch the power plug during a thunder storm. Doing so can cause electrical shock or fire.

Cleaning

1. Unplug the projector before cleaning.
2. Clean the cabinet periodically with a damp cloth. If heavily soiled, use a mild detergent. Never use strong detergents or solvents such as alcohol or thinner.
3. Use a blower or lens paper to clean the lens, and be careful not to scratch or mar the lens.

Fire and Shock Precautions

1. Ensure that there is sufficient ventilation and that vents are unobstructed to prevent potentially dangerous concentrations of ozone and the build-up of heat inside your projector. Allow at least 8 inches (20cm) of space between your projector and a wall. Allow at least 20 inches (50 cm) of space between the ventilation outlet and object.
2. Prevent foreign objects such as paper clips and bits of paper from falling into your projector. Do not attempt to retrieve any objects that might fall into your projector. Do not insert any metal objects such as a wire or screwdriver into your projector. If something should fall into your projector, disconnect it immediately and have the object removed by a qualified your service person.
3. Do not place any liquids on top of your projector.
4. When using a LAN cable:
   For safety, do not connect to the connector for peripheral device wiring that might have excessive Voltage.
5. Remote Control Precautions
   Handle the remote control carefully.
   If the remote control gets wet, wipe it dry immediately.
   Avoid excessive heat and humidity.
   if you will not be using the remote control for a long time, remove the batteries.
   Do not use new and old batteries together, or use different types of batteries together.
   Dispose of used batteries according to your local regulations.

CAUTION: High Pressure Lamp May Explode if Improperly Handled. Refer Servicing to Qualified Service Personnel.

Lamp Caution: Please read before operation

Due to the lamp being sealed in a pressurized environment, there is a small risk of explosion, if not operated correctly. There is minimal risk involved, if the unit is in proper working order, but if damaged or operated beyond the recommended 1000 hours, the risk of explosion increases.

Please note that there is a warning system built in, that displays the following message when you reach 1000 hours of operation **"The lamp has reached the end of its usable life. Please replace the lamp"** When you see this message please contact your Dealer for a replacement.

If the lamp does explode, smoke will be discharged from the vents located on the side of the unit. This smoke is comprised of glass in particulate form and Xenon gas, and will not cause harm if kept out of your eyes. If your eyes have been exposed to this gas, please flush your eyes out with water immediately and seek immediate medical attention. **Do not rub your eyes! This could cause serious injury.**

WARNING:

- Do not look into the lens while the projector is on. Serious damage to your eyes could result.
- When main body is damaged, cooling fluids may come out of internal part.
  Please do not touch and drink the cooling fluid.
  When the cooling fluids are swallowed or contacted with your eyes, please consult with doctors immediately.

CAUTION

Do not unplug the power cable from the wall outlet under any one of the following circumstances. Doing so can cause damage to the projector:

- While the message "Please wait a moment" appears. This message will be displayed after the projector is turned off.
- Immediately after the power cable is plugged into the wall outlet (the POWER indicator has not changed to a steady orange glow).
- Immediately after the cooling fan stops working (After the projector is turned off with the POWER OFF button the cooling fan continues to work for 3 minutes while the Two Digit INDICATOR "—" flashes).

Recommandations importantes

Ces instructions de sécurité ont pour but d'assurer une longue vie à votre projecteur et d'éviter un incendie ou une décharge électrique. Prière de les lire avec attention et de tenir compte de tous les avertissements.

Installation

1. Placer le projecteur sur une surface plane et de niveau dans un endroit sec et à l'abri de la poussière et des moisissures. Le fait d'incliner l'avant du projecteur vers le haut ou le bas peut réduire la durée de vie de la lampe. Ne pas placer le projecteur sur le côté lorsque la lampe est allumée.
   Cela pourrait endommager le projecteur.
2. Ne pas exposer le projecteur aux rayons directs du soleil, ni le placer près d'un chauffage ou de dispositifs de radiation de chaleur.
3. L'exposition aux rayons directs du soleil, à la fumée ou à la vapeur pourrait endommager des composants internes.
4. Manipuler le projecteur avec précautions. Laisser tomber le projecteur ou lui donner des chocs pourrait endommager des composants internes.
5. Ne pas poser d'objets lourds sur le dessus du projecteur.
6. Si vous voulez installer le projecteur au plafond:
   a. N'essayez pas d'installer le projecteur vous-même.
   b. Le projecteur doit être installé par un technicien qualifié pour garantir une installation réussie et réduire le risque d'éventuelles blessures corporelles.
   c. De plus le plafond doit être suffisamment solide pour supporter le projecteur et l'installation doit être conforme aux réglementations locales de construction.
   d. Veuillez consulter votre revendeur pour de plus amples informations.
   e. Ne pas superposer les projecteurs accrochés au plafond.

A l'attention du revendeur ou de l'installateur:

Afin d'empêcher une chute éventuelle du projecteur, veuillez prendre en compte lors de son placement et de sa fixation de la force nécessaire pour supporter le poids total (94 kg), celui du projecteur (84 kg) et de l'objectif (10 kg), pour de longues périodes et de façon à lui permettre de résister aux tremblements de terre.

Alimentation

1. Le projecteur est conçu pour fonctionner sous une tension d'alimentation de 2,6 KW CA 200-240 V 50/60 Hz. S'assurer que la tension du secteur soit conforme à ces caractéristiques avant d'utiliser le projecteur.
2. Manipuler le cordon d'alimentation avec précautions et éviter des flexions excessives. Un cordon endommagé peut occasionner une décharge électrique ou un incendie.
3. Si le projecteur ne doit pas être utilisé pendant une longue période, débrancher la fiche de la prise de courant.
4. Ne touchez pas la prise d'alimentation avec les mains mouillées. Ceci peut causer une électrocution ou un incendie.
5. Ne touchez pas la prise d'alimentation pendant les orages. Ceci peut causer une électrocution ou un incendie.

Nettoyage

1. Débrancher le projecteur avant de le nettoyer.
2. Nettoyer régulièrement le boîtier extérieur avec un chiffon humide. S'il est très sale, utiliser un détergent doux. Ne jamais utiliser de détergent forts ou de solvants tels que de l'alcool ou du diluant.
3. Utiliser un souffleur ou du papier pour objectif pour nettoyer l'objectif, et faire attention de ne pas griffer ou endommager l'objectif.

Précautions contre l'incendie ou la décharge

1. S'assurer qu'il y ait une ventilation suffisante et que les ouvertures ne soient pas obstruées afin d'éviter des concentrations potentiellement dangereuses d'ozone et l'accumulation de chaleur à l'intérieur du projecteur. Laisser au moins 20 cm d'espace entre le projecteur et un mur. Veuillez laisser un espace libre d'au moins 50 cm (20 pouces) entre les orifices de ventilation et l'objet.
2. Empêcher tous objets étrangers tels que des attaches trombones ou des morceaux de papier de tomber à l'intérieur du projecteur. Ne pas essayer de récupérer des objets qui seraient tombés dans le projecteur. Ne pas introduire d'objets métalliques tels qu'un fil ou un tournevis dans le projecteur. Si quelque-chose doit tomber dans le projecteur, le débrancher immédiatement et faire enlever l'objet par un technicien agréé.
3. Ne pas poser de liquides sur le dessus du projecteur.
4. Lors de l'utilisation d'un câble LAN:
   Pour votre sécurité, ne raccordez pas au connecteur pour périphérique externe de câble pouvant avoir une tension excessive.
5. Précautions se rapportant à la télécommande
   Manipuler la télécommande avec précaution.
   Si la télécommande est mouillée, l'essuyer immédiatement.
   Eviter toute chaleur excessive et l'humidité.
   Si la télécommande n'est pas utilisée pendant une longue période, retirer les piles.
   Ne pas mettre les piles à l'envers.
   Ne pas utiliser des piles neuves et des piles usagées en même temps et ne pas utiliser des piles de différents types en même temps.
   Mettre les piles usagées au rebut d'parés la réglementation locales.

ATTENTION: La lampe à haute pression peut exploser si elle est manipulée incorrectement. Confier l'entretien à du personnel d'entretien qualifié.

Précautions avec la lampe : lire avant l'utilisation

La lampe a été scellée dans un environnement sous pression, et il y a donc un petit risque d'explosion, si elle n'est pas utilisée correctement. Le risque est minime si l'appareil est en bon ordre de marche, mais s'il est endommagé ou utilisé au-delà des 1000 heures recommandées, le risque d'explosion augmente alors.

Il est à noter l'existence d'un système d'avertissement intégré, lequel affiche le message **"La lampe a atteint sa durée de vie maximum, prière de la remplacer."** lorsque les 1000 heures de fonctionnement sont atteintes. Lorsque ce message apparaît, prière de contacter son revendeur pour un remplacement.

Si la lampe explose, de la fumée peut être produite par les fentes d'aération situées sur le côté de l'appareil. Cette fumée est composée de verre sous forme de particules et de gaz de Xenon, et n'est pas nuisible si elle est maintenue à distance des yeux. Si les yeux sont exposés à ce gaz, les rincer immédiatement à l'eau courante et consulter tout de suite un médecin. **Ne pas frotter les yeux ! Cela pourrait provoquer une grave blessure.**

AVERTISSEMENT:

- Ne pas regarder dans l'objectif lorsque le projecteur est allumé. De sérieux dommages aux yeux pourraient en résulter.
- Lorsque le corps principal est endommagé, du liquide de refroidissement peut s'échapper des pièces internes. Veuillez ne pas toucher ni boire le liquide de refroidissement. Si le liquide de refroidissement est ingéré ou qu'il rentre en contact avec vos yeux, consultez immédiatement un médecin.

ATTENTION

Ne pas débrancher le câble d'alimentation de la prise du secteur dans les circonstances suivantes car cela risque d'endommager le projecteur:

- Lorsque le message "Veuillez patientez un instant" apparaît. Ce message sera affiché après que le projecteur soit éteint.
- Immédiatement après que le cordon d'alimentation électrique ait été branché sur la prise du mur (l'indicateur POWER n'est pas encore devenu orange).
- Immédiatement après que le ventilateur de refroidissement de soit arrêté de fonctionner. (Après que le projecteur ait été mis hors tension à l'aide du bouton POWER OFF, le ventilateur d'aération continue à tourner durant 3 minutes tandis que le INDICATOR à deux chiffres "—" clignote).

Achtung: Um die Netzspannung komplett abzuschalten, stellen Sie sicher, daß der Netzstecker aus der Netzsteckdose gezogen wurde. Die Netzsteckdose sollte so nahe als möglich vom Gerät entfernt und leicht zugänglich sein.

3. GSGV Bestimmungen bzgl. der Geräuschabgabe

Der Schalldruckpegel entsprechend den Normen ISO 3744 oder ISO 7779 beträgt weniger als 70 dB (A).

WARNUNG

ZUR VERMEIDUNG VON FEUER UND ELEKTRISCHEN SCHLÄGEN DARF DAS GERÄT WEDER REGEN NOCH FEUCHTIGKEIT AUSGESETZT WERDEN. DER POLARISIERTE STECKER DIESES GERÄTES DARF NUR DANN IN EIN VERLÄNGERUNGSKABEL ODER IN EINE STECKDOSE EINGESTECKT WERDEN, WENN DIE STECKKONTAKTE VOLLSTÄNDIG EINGESTECKT WERDEN KÖNNEN. UNTERLASSEN SIE, DAS GERÄT ZU ÖFFNEN, DA DADURCH IM GERÄT FREILIEGENDE HOCHSPANNUNGSFÜHRENDE TEILE BERÜHRT WERDEN KÖNNEN. LASSEN SIE DEN KUNDENDIENST NUR VON HIERFÜR QUALIFIZIERTEN PERSONEN DURCHFÜHREN.

ACHTUNG

GEFAHR DURCH ELEKTRISCHEN SCHLAG NICHT ÖFFNEN

ACHTUNG: ZUR VERMEIDUNG EINES ELEKTRISCHEN SCHLAGES ÖFFNEN SIE NICHT DAS GEHÄUSE. INNERHALB DES GEHÄUSES BEFINDEN SICH KEINE FÜR DIE BEDIENUNG DES GERÄTES ERFORDERLICHEN TEILE. LASSEN SIE DEN KUNDENDIENST NUR VON HIERFÜR QUALIFIZIERTEN PERSONEN DURCHFÜHREN.

DIESES SYMBOL WARNT DEN BEDIENER, DASS INNERHALB DES GERÄTES UNISOLIERTE TEILE VORHANDEN SIND, DIE HOCHSPANNUNG FÜHREN UND DEREN BERÜHRUNG EINEN ELEKTRISCHEN SCHLAG VERURSACHEN KANN.

DIESES SYMBOL MACHT DEN BEDIENER DARAUF AUFMERKSAM, DASS WICHTIGE, DEN BETRIEB UND DIE WARTUNG DES GERÄTES BETREFFENDE SCHRIFTEN BEIGEFÜGT SIND. UM IRGENDWELCHE PROBLEME ZU VERMEIDEN, SOLLTEN DIESE BESCHREIBUNGEN SORGFÄLTIG GELESEN WERDEN.

WARNUNG!

Dies ist eine Einrichtung der Klasse A. Diese Einrichtung kann im Wohnbereich Funkstörungen verursachen: in diesem Fall kann vom Betreiber veriangt werden, angemessene Maßnahmen durchzuführen und dafür aufzukommen.

Wichtige Sicherheitshinweise

Diese Sicherheitshinweise sollen eine lange Lebensdauer Ihres Projektors sicherstellen und vor Feuer und elektrischen Schlägen schützen. Lesen Sie diese Hinweise sorgfältig durch und beachten Sie alle Warnungen.

Installation

1. Stellen Sie den Projektor auf eine flache, waagerechte Oberfläche in einer trockenen Umgebung, frei von Staub und Feuchtigkeit. Das Ankippen des vorderen Teils des Projektors kann die Lebensdauer der Lampe verkürzen. Den Projektor bei eingeschalteter Lampe nicht auf die Seite legen.
   Dies könnte den Projektor beschädigen.
2. Stellen Sie den Projektor weder in direktes Sonnenlicht noch in die Nähe einer Heizung oder sonstiger Hitze abstrahlender Einrichtungen.
3. Wenn das Gerät direktem Sonnenlicht, Rauch oder Dampf ausgesetzt wird, können interne Komponenten beschädigt werden.
4. Behandeln Sie Ihren Projektor vorsichtig. Fallenlassen oder starkes Schütteln kann interne Komponenten beschädigen.
5. Legen Sie keine schweren Gegenstände auf den Projektor.
6. Wenn der Projektor an der Decke installiert werden soll:
   a Versuchen Sie nicht, den Projektor selbst zu installieren.
   b Der Projektor muss von qualifizierten Technikern installiert werden, um einen ordnungsgemäßen Betrieb sicherzustellen und die Verletzungsgefahr zu reduzieren.
   c Die Decke muss für das Gewicht des Projektors ausreichende Festigkeit aufweisen, und die Installation muss entsprechend den örtlichen Bauvorschriften ausgeführt werden.
   d Weitere Informationen erhalten Sie von Ihrem Fachhändler.
   e Versuchen Sie nicht, mehrere Projektoren an der Decke übereinander zu stapeln.

Für den Händler oder Techniker:

Um ein Fallen des Projektors zu verhindern, installieren Sie den Projektor an einem sicheren Ort und befestigen Sie ihn auf eine geeignete Weise, damit das Gesamtgewicht (94kg) des Projektors (84kg), der Linse (10 kg) für einen langen Zeitraum sowie im Falle eines Erdbebens getragen werden kann.

Spannungsversorgung

1. Der Projektor wurde für eine Netzspannung von 2,6KW 200-240 V Wechselstrom/50/60 Hz konzipiert. Stellen Sie sicher, dass die vorhandene Spannungsversorgung diesen Vorgaben entspricht, bevor Sie versuchen, Ihren Projektor zu betreiben.
2. Behandeln Sie das Netzkabel vorsichtig und vermeiden Sie Knicke. Ein beschädigtes Netzkabel kann elektrische Schläge oder einen Brand verursachen.
3. Wenn der Projektor über eine längere Zeit nicht benutzt wird, ziehen Sie den Stecker aus der Netzsteckdose.
4. Berühren Sie nicht den Netzstecker mit feuchten Händen. Die Nichtbeachtung dessen könnte einen Stromschlag oder einen Brand zur Folge haben.
5. Berühren Sie den Netzstecker nicht während eines Gewitters. Die Nichtbeachtung dessen könnte einen Stromschlag oder einen Brend zur Folge haben.

Reinigung

1. Trennen Sie den Projektor vor der Reinigung von der Netzsteckdose ab.
2. Reinigen Sie das Gehäuse regelmäßig mit einem feuchten Tuch. Bei starker Verschmutzung verwenden Sie ein mildes Reinigungsmittel. Reinigen Sie das Gerät niemals mit starken Reinigungs- oder Lösungsmitteln wie z.B. Alkohol oder Verdünner.
3. Reinigen Sie die Linse mit einer Blaseinrichtung oder einem Linsentuch. Beachten Sie dabei, dass die Linsenoberfläche weder zerkratzt noch auf andere Weise beschädigt wird.

Vorsichtsmaßnahmen zur Vermeidung von Bränden und elektrischen Schlägen

1. Sorgen Sie für ausreichende Belüftung und stellen Sie außerdem sicher, dass die Lüftungsschlitze frei bleiben, damit sich innerhalb des Projektors kein Hitzestau bilden kann. Lassen Sie mindestens 20 cm Abstand zwischen Ihrem Projektor und der Wand. Der Abstand zwischen den Belüftung und anderen Gegenständen sollte mindestens 50 cm betragen.
2. Vermeiden Sie, dass Fremdgegenstände wie Büroklammern und Papierschnipsel in den Projektor fallen. Versuchen Sie nicht, in den Projektor gefallene Gegenstände selbst zu entfernen. Stecken Sie keine Metallgegenstände wie einen Draht oder Schraubendreher in Ihren Projektor. Wenn etwas in den Projektor gefallen ist, müssen Sie sofort den Netzstecker ziehen und den Gegenstand von qualifiziertem Servicepersonal entfernen lassen.
3. Stellen Sie keine mit Flüssigkeit gefüllten Gefäße auf Ihren Projektor.
4. Wenn ein LAN-Kabel verwendet wird:
   Schließen Sie es aus Sicherheitsgründen nicht an den Anschluss der Peripheriegeräte-Verbindung an, das sie eine zu hohe Spannung führen könnte.
5. Vorsichtsmaßnahmen für die Fernbedienung
   Behandeln Sie die Fernbedienung mi Sorgfalt.
   Wischen Sie die Fernbedienung sofort trocken, wenn sie einmal nass geworden sein sollte.
   Vermeiden Sie übermäßige Hitze und Feuchtigkeit.
   Nehmen Sie die Batterien heraus, wenn Sie beabsichtigen, die Fernbedienung über einen längeren Zeitraum hinweg nicht zu benutzen.
   Legen Sie die Batterien nicht verkehrt herum ein.
   Verwenden Sie niemals verschiedene Batterietypen oder neue und alte Batterien zusammen.
   Entsorgen Sie leere Batterien entsprechen den an Ihrem Wohnort geltenden Bestimmungen.

VORSICHT: Bei unsachgemäßer Handhabung kann die Hochdrucklampe explodieren. Überlassen Sie die Reparatur ausschließlich qualifiziertem Servicepersonal.

Vorsichtsmaßnahmen bezüglich der Lampe: Bitte vor dem Betrieb durchlesen

Aufgrund der unter Druck luftdicht verschlossenen Lampe besteht bei falscher Handhabung eine geringe Explosionsgefahr. Wenn sich das Gerät in einwandfreiem Zustand befindet, ist dieses Risiko minimal; es erhöht sich jedoch im Falle einer Beschädigung oder bei einer Benutzung über die empfohlenen 1000 Betriebsstunden hinaus. Beachten Sie bitte, dass im Gerät ein Warnsystem integriert ist, das bei Erreichen der 1000 Betriebsstunden die nachfolgende Meldung anzeigt: **"Das Ende der Lampenlebensdauer ist erreicht. Bitte ersetzen Sie die Lampe"**. Beauftragen Sie Ihren Händler, sofern diese Meldung auf dem Display erscheint.

Im Falle einer Lampenexplosion tritt aus den seitlichen Lüftungsschlitzen des Gerätes Rauch aus. Dieser Rauch besteht aus einer ganz besonderen Form von Glas und aus Xenon-Gas. Solange dieser Rauch nicht in die Augen gelangt, bestehen keinerlei gesundheitliche Risiken.

Wenn Ihre Augen dem Gas ausgesetzt worden sind, spülen Sie die Augen bitte sofort mit Wasser aus und konsultieren Sie einen Arzt.

Reiben Sie die Augen nicht!
Dies könnte ernsthafte Verletzungen zur Folge haben.

WARNUNG:

- Schauen Sie nicht in die Linse, wenn der Projektor eingeschaltet ist. Dies könnte schwere Augenverletzungen zur Folge haben.
- Wenn die Haupteinheit beschädigt ist, kann Kühlflüssigkeit aus internen Komponenten austreten.
  Die Kühlflüssigkeit nicht berühren oder trinken.
  Wenn Kühlflüssigkeit geschluckt wird oder in Kontakt mit Ihren Augen kommt, konsultieren Sie bitte umgehend einen Arzt.

VORSICHT

Unter den nachfolgend aufgeführten Umständen darf das Netzkabel nicht von der Netzsteckdose abgetrennt werden, da dies Beschädigungen des Projektors verursachen könnte:

- Während die Meldung "Bitte warten Sie einen Augenblick" erscheint. Diese Meldung erscheint nach dem Ausschalten des Projektors.
- Direkt nach dem Anschließen des Netzkabels an eine Netzsteckdose (die POWER-Anzeige leuchtet nicht ständig orange).
- Direkt nach dem Anhalten des Lüfters. (Nach dem Ausschalten des Projektors mit der POWER OFF-Taste läuft der Lüfter noch ca. 3 Minuten weiter, während die zweistellige Anzeige INDICATOR"—" blinkt).

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1

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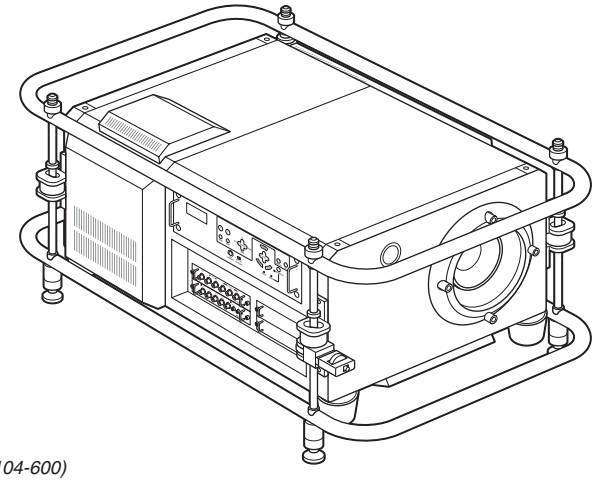
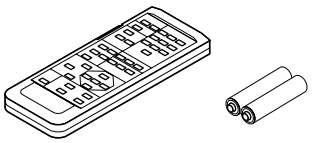
1 What's in the Box?

Make sure your box contains everything listed. If any pieces are missing, contact your dealer.
Please save the original box and packing materials if you ever need to ship your Projector.

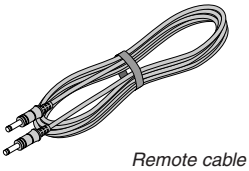


HL12000HD Projector
(USA model 104-690, ROW model 104-600)
HL10000HD Projector
(USA model 104-599, ROW model 104-599)

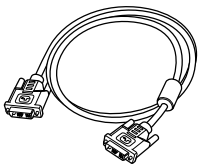
NOTE: The frame is not included on HL10000HD.
Note: USA model is fitted with Hubbel type power cable ROW model is fitted with a CEE-Form cable.



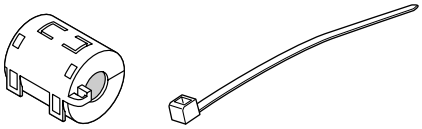
Remote control (102-161) *and batteries (AA × 2)*



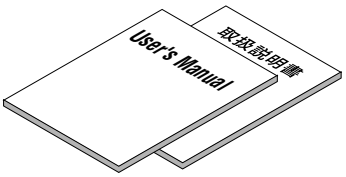
Remote cable 102-162



DVI-D signal cable (102-166)



Ferrite clamp core with Band x8



User's Manual CD (104-745)
Important Information printed (104-019C)

2 Features

- **HDTV support, suited to 3D movement and telecine, with I/P conversion**
  I/P conversion processing using an interpolation circuit suited to 3D movement that supports HDTV and SDTV signal input as well as telecine signals permits reproduction of images having impressive definition.

- **Full 10 bit image processing circuit**
  The image processing circuit features 10 bits for each color. As a result, there is complete 10 bit processing when the signal is input from the optional SDI interface slot which will provide image quality having a high tonal quality.

- **Equipped with 4 slots which can accommodate 4 types of interface boards**
  This Projector is equipped with 4 slots which permit the insertion of the following 4 types of optional interface boards. Multiple interface boards of the same type can also be inserted.

Connectors of the Various Boards	
MM-VIDEO*	CVBS input connector (BNC), S-Video input connector (BNC 2 conductors), Component video input connector (BNC 3 conductors)
MM-RGB*	RGB input connector (BNC 5 conductors)
MM-DVI	DVI-D input connector (DVI-D 24 pin)
MM-SDI	SDI input connector (BNC) × 2, monitor output connector (BNC)

  * When shipped from the factory this Projector is loaded with one MM-VIDEO board and one MM-RGB board.

- **High contrast images with DigiView - SweetVision™ function**
  This Projector is equipped with the DigiView - SweetVision™ function which utilizes the characteristics of the human eye to provide an image quality with a sense of contrast.

- **LAN port is standard equipment and wireless LAN is supported**
  Connection of a commercially available LAN cable (Ethernet cable) to the LAN port (RJ-45) permits control of this Projector from the personal computer via the LAN.

- **Seamless Switching Function**
  Mounting of the MM-IMG2K and MM-SCALING options permits the switching of signals between two input interface boards. Alpha Blending, Wipe, and Box In/Out image effects can be selected at the time of switching.

- **DigiBlend - Edge Blending Function**
  When two or more projectors are used to project images lined up horizontally or vertically, a blending adjustment can be performed to make the borders of the adjacent images less conspicuous.
  The gamma curve that is adjusted to the input source can be set between 1.0 and 3.0, and 256 gradations can be expressed.

- **DigiWarp - Geometric Warp Correction Function**
  In the case pictures are projected on particular shaped screens (cylindrical or spherical), geometric warp can be corrected by implementing MM-WARP (optional).

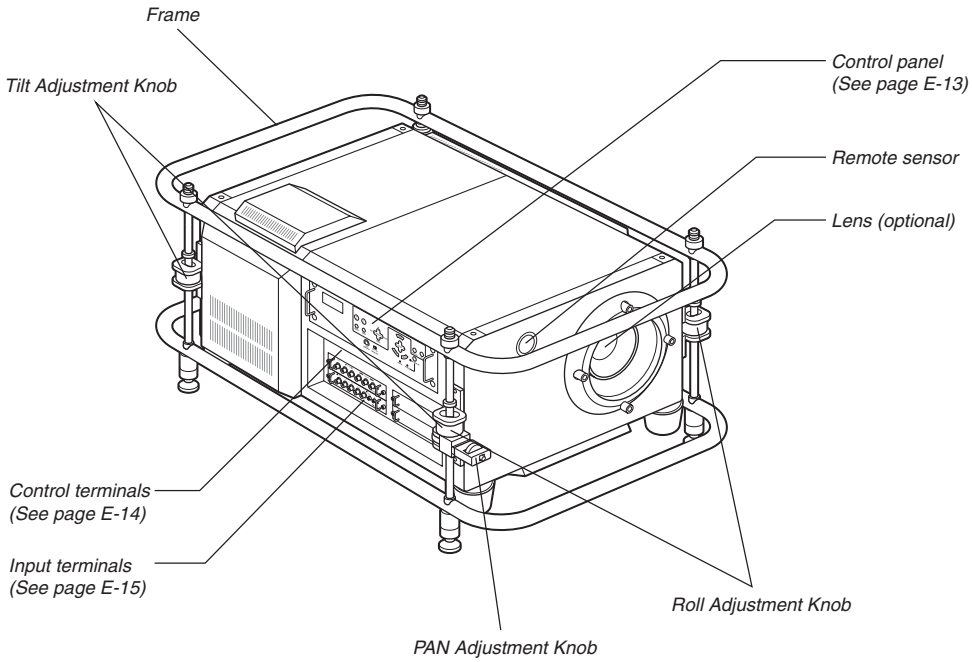
- **Dust Control of DMD**
  Contamination of the DMD is prevented using a dust control system to stop the ingress of dust, oil and smoke particles in the air getting onto the DMD surface which can affect the quality of the projected image.

- **Fluid Cooled DMD**
  The DMD temperature is controlled more efficiently by the use of fluid a cooling system.

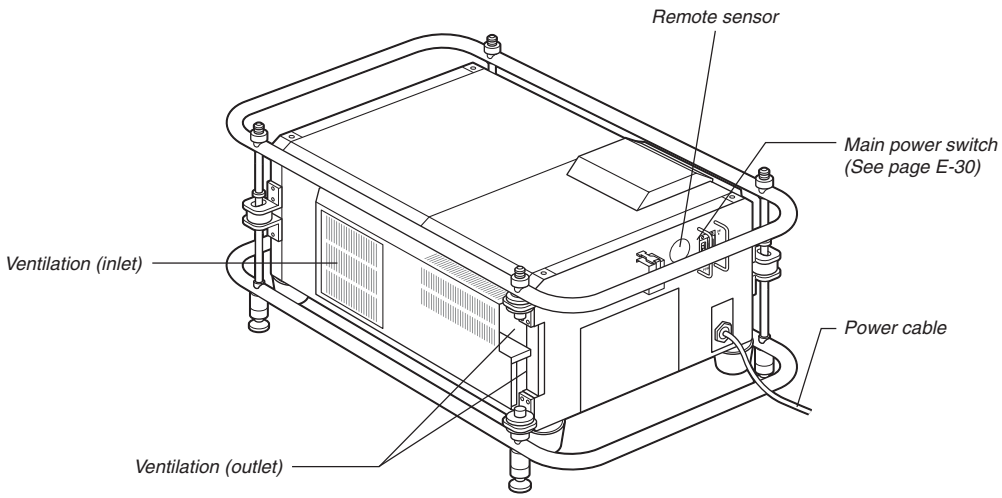
- **Tilt and PAN Function with Stacking frame**
  Projectors can be stacked vertically upto two high by built-in frame interface connectors.
  When projectors are stacked, image alignment can be adjusted for up/down tilt, left/right tilt and fine adjustment of PAN (left to right rotation).

NOTE: The frame is not included on HL 10000HD.

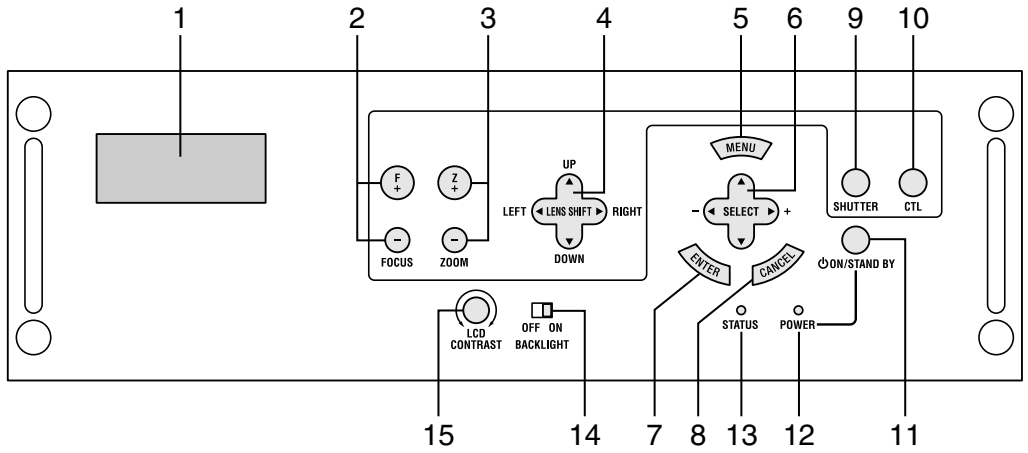
3 Getting to Know Your Projector



NOTE: The frame is not included on HL10000HD.



Control Panel



1. LCD Screen
   The liquid crystal display screen shows the condition or the error message of the Projector.

2. FOCUS (+/-) Button
   While pressing and holding CTL Button, pressing this button allows you to adjust the lens focus.

3. ZOOM (+/-) Button
   While pressing and holding CTL Button, pressing this button allows you to zoom the lens in and out.

4. LENS SHIFT ▲▼◄►
   While pressing and holding CTL Button, pressing this button allows you to adjust the lens offset by shifting the projected image position horizontally and / or vertically.

5. MENU Button
   Displays the menu.

6. SELECT ▲▼◄► (+) (–)
   ▲▼ : Use these buttons to select the menu of the item you wish to adjust.
   ◄► : Use these buttons to change the level of a selected menu item. A press of the ► button executes the selection.

7. ENTER Button
   Executes your menu selection and activates items selected from the menu.

8. CANCEL Button
   Press this button to exit "Menus". Press this button to return the adjustments to the last condition while you are in the adjustment or setting menu.

9. SHUTTER Button
   While pressing and holding CTL Button, pressing this button shuts off the light completely.

10. CTL Button
    Press the CTL Button together with the FOCUS (+/-) Button, ZOOM (+/-) Button, LENS SHIFT ▲▼◄► and SHUTTER Button.

    The FOCUS (+/-), ZOOM (+/-), LENS SHIFT ▲▼◄► and SHUTTER Buttons do not function when pressed alone.

11. POWER Button (ON / STAND BY)(⏻)
    Use this button to turn the power on and off when the main power is supplied and the Projector is in standby mode.

    NOTE: To turn on or off the Projector, press and hold this button for a minimum of 1 second.

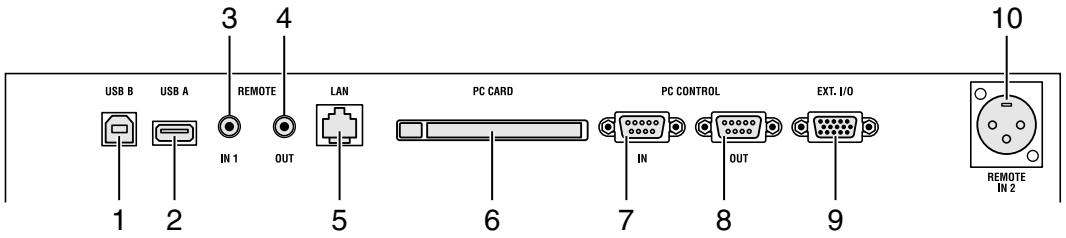
12. POWER Indicator
    When this indicator is green, the Projector is on; when this indicator is orange, it is in standby mode.

13. STATUS Indicator
    This indicates the status of the Projector during standby.
    The indicator will be lit in green at time of normal operation.
    When there is a fault, the indicator will be a flashing or steadily lit red.
    Please check the display information of the LCD screen when there is a fault.

14. BACK LIGHT Switch
    Use this switch to turn on the back light of the LCD screen.

15. LCD CONTRAST Adjustment Dial
    Use this dial to adjust the contrast of the LCD screen.

Control Terminals



1. USB Port (USB B)(Type B)
   Connect this port to the USB port (type A) of your PC using a USB cable.
   When USB cable is connected to this port, ferrite core, which attached to this equipment, is assembled to USB cable (near side of this equipment).

2. USB Port (USB A)(Type A)
   When working on “menu”, commercially available USB mouse is connected and used. See page E-45.

3. REMOTE IN 1 (Mini Jack)
   Wired remote control input. See Page E-20.
   Ferrite core supplied should be fitted to the projector end of the Remote cable.

4. REMOTE OUT (Mini Jack)
   For Daisy-chaining multiple projectors and operating them with the same remote control. To do so, connect to a second projector’s IN terminal to relay the input at the IN terminal of the first projector until all the projectors are connected.
   When Remote Control Cable is connected to this port, ferrite core, which attached to this equipment, is assembled to Remote Control Cable (near side of this equipment).

5. LAN Port (RJ-45)
   This port is typically used for UTP Ethernet/Fast Ethernet. Use this connector to control the Projector on a LAN. See page E-26.
   Ferrite core supplied should be fitted to the projector end of the Remote cable.

6. PC CARD Slot
   Insert a PC card, commercially available flash memory card or optional wireless LAN card here.

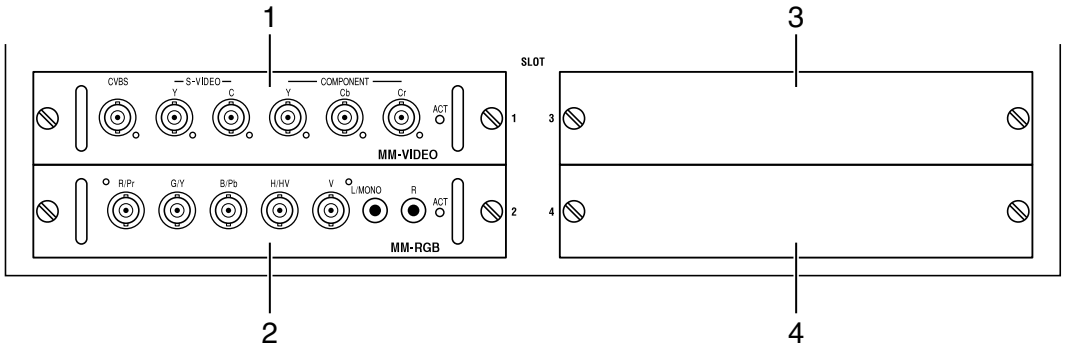
7. PC CONTROL IN (D-Sub 9 Pin)
   Connect to the external equipment such as a PC or control system.
   See page E-89 for information about the pin assignment of this connector.

8. PC CONTROL OUT (D-Sub 9 Pin)
   This connector is for future extension.

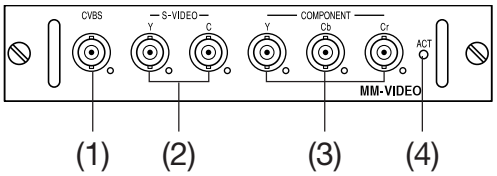
9. EXT. I/O (Mini D-Sub 15 Pin)
   It is used when controlling the Projector from the external device equipped with a parallel interface.
   See Page E-89 for information about the functions and logic table of the various pins.

10. REMOTE IN 2 (XLR connector)
    Using an extension cable such as an audio cable, permits remote control input.
    See page E-89 for information about the pin assignment of this connector.

Input Terminals



1. SLOT 1 (MM-VIDEO)
   MM-VIDEO interface board is standard equipment.



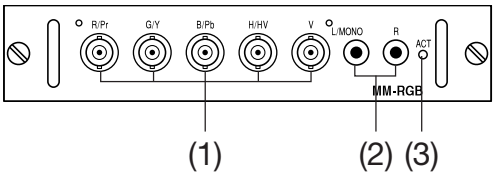
(1) CVBS Input Connector (BNC Type)
Use a 75 Ω coaxial cable and connect it to the Composite Video output connector of a DVD player, or to other equipment.

(2) S-VIDEO Input Connectors (2 BNC Type)
Use a 75 Ω coaxial cable (2-conductor type) and connect it to the S-Video output connector of a DVD player, or to other equipment.

(3) COMPONENT Input Connectors (3 BNC Type)
Use a 75 Ω coaxial cable (3-conductor type) and connect it to the Component output connector of a DVD player, or to other equipment. Standard definition only (525/60i, 625/50i).

(4) ACT Indicator
Steady green light ..... Shows that this board is selected.

2. SLOT 2 (MM-RGB)
   MM-RGB interface board is standard equipment.



(1) RGB Input Connectors (5 BNC Type)
Use a 75 Ω coaxial cable (5-conductor type) and connect it to the display output connector of a personal computer, the colour difference output connector of a Analog HDTV player, or to other equipment.
When cable is connected to this port, ferrite core, which attached to this equipment, is assembled to the both sides of cable.

(2) Audio Input Jacks (RCA-Phono)
These Jacks have no function with the Switcher.

(3) ACT Indicator
Steady green light ..... Shows that this board is selected.

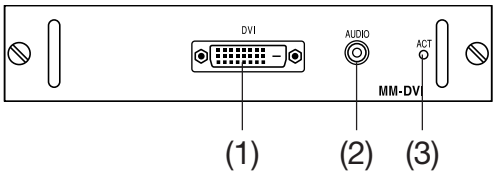
3. SLOT 3
   Use to extend the input terminal. See page E-25.

4. SLOT 4
   Use to extend the input terminal. See page E-25.

NOTE: MM-VIDEO interface board and MM-RGB interface board are also available as an option.

Input Board (Options)

MM-DVI Interface Board
The DVI digital signal input board is available as an option.



(1) DVI-D Input Connector (DVI-D 24 Pin)
Use a DVI-D Signal cable and connect it to the DVI output connector of a computer.
When cable is connected to this port, ferrite core, which attached to this equipment is assembled to the cable (the side ferrite core is not attached).

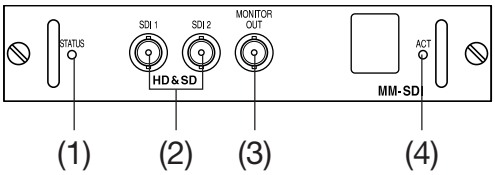
(2) AUDIO Input Connector (Stereo Mini Jack)
This jack has no function with the Projector.

(3) ACT Indicator
Steady green light ..... Shows that this board is selected.

When Viewing a DVI Digital Signal:
To project a DVI digital signal, be sure to connect the PC and the Projector using a DVI-D signal cable before turning on your PC or Projector. Turn on the Projector first and select DVI (DIGITAL) from the source menu before turning on your PC.
Failure to do so may not activate the digital output of the graphics card resulting in no picture being displayed. Should this happen, restart your PC.
Do not disconnect the DVI-D signal cable while the Projector is running. If the signal cable has been disconnected and then re-connected, an image may not be correctly displayed. Should this happen, restart your PC.

NOTE:
- *Use the DVI-D signal cable compliant with DDWG (Digital Display Working Group) DVI (Digital Visual Interface) revision 1.0 standard. The DVI-D cable should be within 5 m (196") long.*
- *For details about the compatible input signals, see page E-87.*

MM-SDI Interface Board
The SDI signal input board is available as an option.



(1) STATUS Indicator
Steady green light ... Shows that a signal is present.
Steady red light ..... Shows that there is no signal or an error occurs.

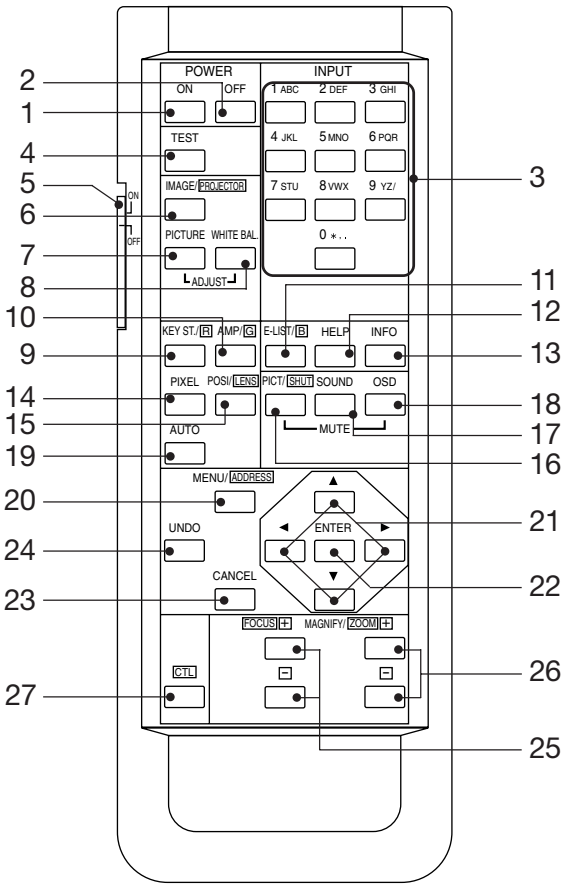
(2) SDI 1 and SDI 2 Input Connectors (BNC type)
Use a 75 Ω coaxial cable and connect it to a video server or video equipment.

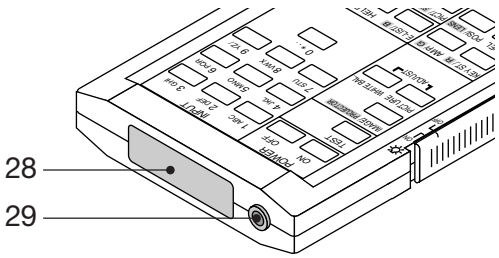
(3) MONITOR OUT Connector (BNC type)
Outputs the signal from the SDI 1 or SDI 2 input you currently select.
Connect this with a dedicated monitor and use it for checking the input signal.
Use a 75 Ω coaxial cable.

(4) ACT Indicator
Steady green light ..... Shows that this board is selected.

NOTE:
- *Use the 75 Ω coaxial (5C-2V) cable or equivalent. Higher quality recommended. Using a thinner cable than the above can degrade image quality or cause no image.*
- *For details about the compatible input signals, see page E-87.*

4 Remote Control Features





1. POWER ON
   Press and hold this button for a minimum of 1 second to turn on the Projector when the main power is supplied and the Projector is in standby mode.

2. POWER OFF
   Press and hold this button for a minimum of 1 second to turn off the Projector.

3. Source / Input
   Press to select input or to name a signal.

   1 Selects the input connector of Slot 1 (MM-VIDEO at time of factory shipping).
   Each press of "1" button switches the input connector one step in the sequence of CVBS → S-Video → Component → CVBS → ...
   2 Selects the input connector of Slot 2 (MM-RGB at time of factory shipping).
   3 Selects the input connector of Slot 3. Becomes valid when an option board has been inserted.
   4 Selects the input connector of Slot 4. Becomes valid when an option board has been inserted.
   ** The aforementioned operation is for the Projector in the factory shipping condition. The operation will differ depending on the insertion of interface boards.*
   ** When multiple input connectors are available for a single slot, pressing the number buttons that correspond to that slot will switch the input connectors within that board.*

   NOTE: While pressing and holding CTL, pressing this button switches to the selected signal found in the Entry List.

4. TEST
   Press to display the test pattern. Pressing this button sequentially selects test patterns.

5. Backlight Switch
   When using the remote control wirelessly:
   Tums the backlight on and off. If no button operation is made within 30 seconds with the Backlight ON, the Backlight will turn off to conserve battery life.
   When using as the wired remote control:
   The light stays on in standby and power-on.

6. IMAGE/PROJECTOR
   Press to display the Image Option screen. Pressing this button sequentially selects Image Options screens.
   While pressing and holding CTL, pressing this button rotates Projector Options screens.

7. ADJUST PICTURE
   Press to display the Picture adjustment screen. Pressing this button sequentially selects adjustment screens.

8. ADJUST WHITE BAL.
   Press to display the Color Management screen.

9. KEYSTONE
   - 3D Reform adjustment screen is shown. See page E-55
   - When optional MM-WARP is used, KEYSTONE screen and Cornerstone screen will be switched one another each time KEYSTONE button is pressed.
   - When KEYSTONE button is pressed for more than 2 seconds, 3D Reform's adjustment value will be bach to factory default setting.

10. AMPLITUDE
    Service personnel only.

11. ENTRY LIST
Press to display the Entry List screen.
Pressing and holding CTL and then ENTRY LIST buttons simultaneously, enters a signal in the Entry List.

12. HELP
Provides online help.

13. INFO
Displays the "Source Information" or "Projector Information" window. This button toggles between these two windows.

14. PIXEL
Displays the Position/Clock screen to adjust the clock and phase.

15. POSITION
Press to display the Position screen; press again to display the Blanking screen.
While pressing and holding CTL, press this button to adjust lens shift.

16. MUTE PICTURE
Press to turn off the picture for a short period of time. Press again to restore the picture.

17. MUTE SOUND
This button has no function with the Projector.

18. MUTE OSD
Press to turn off the on-screen display. Press again to restore the on-screen display.

NOTE: You can also turn off the on-screen display forcibly by pressing and holding CTL and then pressing MUTE OSD (Forced On-Screen Mute Mode) ; doing this again restores it. In this case any adjustment will still change the Projector's memory settings. This mode is available even when input is switched to another or the power is turned off the main power.

19. AUTO (RGB only)
Press to adjust Position-H/V and Pixel Clock for an optimal picture.

20. MENU
Press to display the main menu.
While pressing and holding CTL, press this button to display the Remote Control ID dialog box to specify the remote control ID. See page E-62.

21. Select (Up/Down/Left/Right)
▲▼: Use these buttons to select the menu of the item you wish to adjust.

◄►: Use these buttons to change the level of a selected menu item.
A press of the ► button executes the selection.

Pressing and holding CTL, then pressing ◄ button works as a Back Space key in the entry screen.
Pressing and holding CTL, then pressing this button moves the menu or dialog box.

22. ENTER
Executes the menu selection and activates items selected from the menu. When the slider or dialog box is displayed:
Pressing this button confirms adjustments/setting and returns to the previous menu display.
In seamless switching functions in which an optional interface boards have been fitted, press the ENTER button after the input signal switching preparation has been completed to finalize the switching.
See Page E-66 for information about the seamless switching function.

23. CANCEL
Press to exit the menu.
Press this button with CTL to return to the previous menu without closing adjustment/setting screen while the menus appear. This feature allows you to adjust or set several items concurrently.

24. UNDO
Press to return the adjustments and settings to the previous condition. While pressing and holding CTL, pressing this button clears the entire menus or adjustment/setting screen. At this time the adjustments/settings are stored in memory except the items on the setting screen with "OK" and "Cancel" buttons such as the Menu and the Setup screen.

25. FOCUS (+/–)
While pressing and holding CTL, pressing this button allows you to adjust the lens focus.

26. MAGNIFY/ZOOM (+/–)
While pressing and holding CTL, pressing this button allows you to zoom the lens in and out.

27. CTL
Used in conjunction with other buttons, similar to a shift key on a computer.

28. Infrared Transmitter
Direct the remote control toward the remote sensor on the Projector cabinet.

29. Remote Jack
Connect your remote cable here for wired operation.

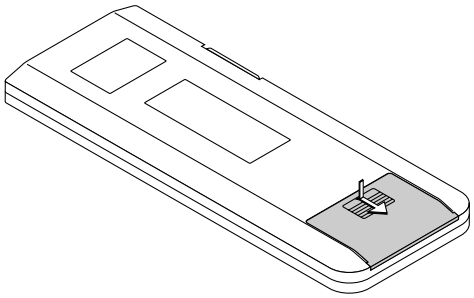
Remote Control Precautions

- The remote control system may not function when direct sunlight or strong illumination strikes the remote control sensor of the main unit, or when there is an obstacle in the path.
- When remote control buttons are pressed and held, Projector's function keys may not operate.
- Do not subject to strong shock.
- Do not allow water or other liquid to splash on the remote control. If the remote control gets wet, wipe it dry immediately.
- Avoid exposure to heat and steam.
- Remove the batteries from the remote control when the remote control is not going to be used for a long period.

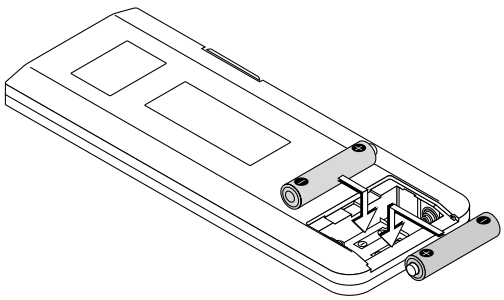
Remote Control Battery Installation

Installing the Remote Control Batteries
When it comes time to replace the batteries, two "AA" type will be required.

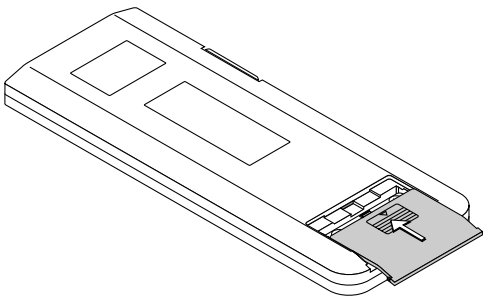
1. Press and open the cover.



2. Align and insert the batteries according to the (+) and (-) indications inside the case.

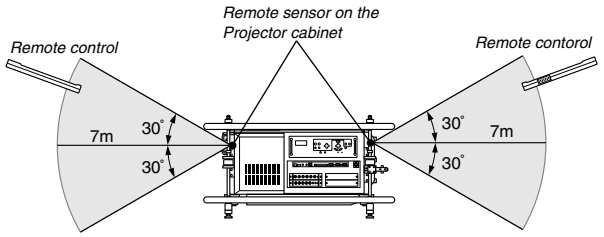


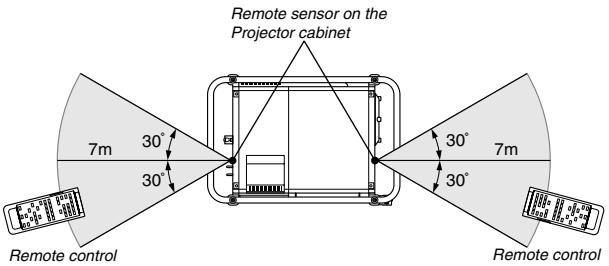
3. Replace the cover.



Operating Range for Wireless Remote Control

The infrared signal operates by line-of-sight up to a distance of approximately 7m (20 feet) and a 60 degree angle of the remote sensor.
The Projector will not function if there are objects between the remote sensor and the remote control or if strong light falls on the remote sensor. Weak batteries will also prevent the Projector from operating properly.



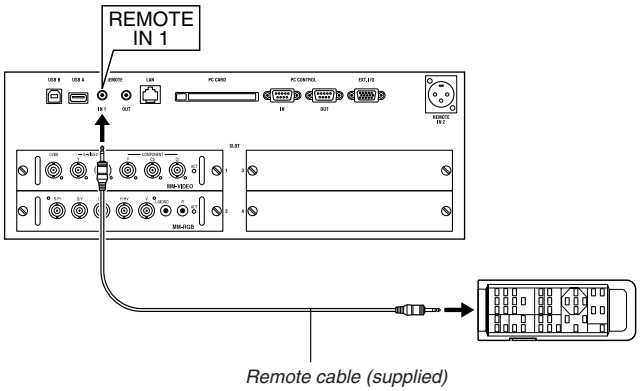


NOTE: You cannot operate the Projector using the remote control if:
• The remote control ID is not set to "None".
• The remote control ID is not the same as the Projector ID.
See page E-62 for setting remote control ID and Projector ID.

Using the Remote Control in Wired Operation

Connect one end of the supplied remote cable to the REMOTE IN 1 mini jack and the other end to the remote jack on the remote control.

NOTE:
Do not use this jack for anything other than intended use.
For HL12000HD and HL10000HD, conect a ferrite core supplied to the projector end of the remote cntrol cable. For fitting instructions for Ferrite cores, see page 28.



Remote cable (supplied)

2

Installation

1 Setting Up Your Projector E-22

Screen Size and Projection Distance E-22

Table of Throw Distances and Image Sizes for Optional Lenses E-22

2 Lens Shift Adjustable Range E-23

Lens options L2K-12ZHB/L2K-14ZHB/L2K-18ZHB/L2K-22ZHB/ E-23

L2K-30ZHB

3 Making Connections E-24

Connecting to the Image Input Terminals E-24

Installing the Option Boards and Expand the Image Input Terminals E-25

Connecting to a Network E-26

Connecting the Power Cable E-27

Inserting and Removing a PC Card E-28

4 USB Memory Device or USB Memory Card Reader Support .. E-28

This section describes how to set up your projector and how to connect video and audio sources.

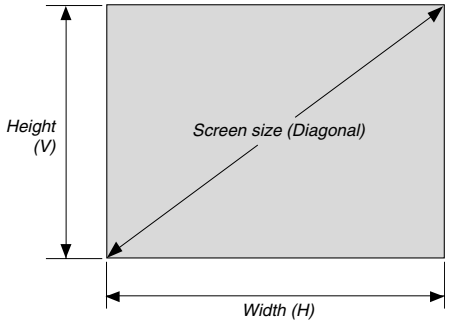
1 Setting Up Your Projector

Your Projector is simple to set up and use. But before you get started, you must first:

1. *Determine the image size*
2. *Set up a screen or select a non-glossy white wall onto which you can project your image.*
3. *Install the optional lens to the projector.*
   NOTE: The lens must be installed by service personnel only.
4. *Connect a PC, VCR, DVD player, or other equipment.*
5. *Connect the supplied power cable.*
6. *Set up the projector.*
7. *Make settings or adjustments on the projector.*

Screen Size and Projection Distance

Applicable lens and throw distance/ List of screen sizes



Separately sold Lenses and their projection distance (reference)

Lens Unit which can be used on this equipment as standard condition.

Model Number	Product Code	Magnifications			Remarks
		WIDE	TELE	Fixing	
L2K-12ZHB	104-700	1.25	1.45	–	Zoom Lens
L2K-14ZHB	104-701	1.45	1.8	–	Zoom Lens
L2K-18ZHB	104-702	1.8	2.4	–	Zoom Lens
L2K-22ZHB	104-703	2.2	3.0	–	Zoom Lens
L2K-30ZHB	104-704	3.0	4.3	–	Zoom Lens
L2K-10F	103-350	–	–	1.0	Fixed Focus Lens

Calculation Method for Projection Distance & Screen Size

Projection Distance is calculated by the following method.

Projection Distance (m) = Screen Width H (m) × Lens Magnification

When zoom lens is used, the magnification differs according to the zoom condition.

When L2K-12ZHB Lens (Magnification ratio 1.25-1.45 : 1) is used to project on a 300" screen with an aspect ratio of 1.896:1 (full projector resolution), the projection distance will be the following.

H (the screen width (m)) = Screen Size (model) × 1.896/2.114 × 0.0254 = 6.739m

Because L2K-12ZHB Lens (Magnification ratio 1.25-1.45 : 1) is zoom lens, there are WIDE and TELE.

Projection Distance of WIDE = 6.739 × 1.25 = 8.424m

Projection Distance of TELE = 6.739 × 1.45 = 9.772m

Therefore, 300" screen can be projected around the projection distance of 8.43m-9.78m with L2K-12ZHB Lens.

Projection Distance for Screen Size and Each Lens

Unit : m (inch)

Screen Size / Lens	80"	100"	150"	200"	250"	300"	400"	500"
L2K-12ZHB	2.25~2.61 (88.6~102.8)	2.81~3.26 (110.6~128.3)	4.22~4.89 (166.1~192.5)	5.62~6.52 (221.3~256.7)	7.02~8.15 (276.4~320.9)	8.43~9.77 (331.9~384.6)	11.23~13.03 (442.1~513)	14.04~16.29 (552.8~641.3)
L2K-14ZHB	2.61~3.24 (102.7~127.6)	3.26~4.04 (128.3~159.1)	4.89~6.07 (192.5~239.0)	6.52~8.09 (256.7~318.5)	8.15~10.11 (320.9~398.0)	9.77~12.13 (384.6~477.6)	13.03~16.18 (513.0~637.0)	16.29~20.22 (641.3~796.1)
L2K-18ZHB	3.24~4.32 (127.6~170.1)	4.04~5.39 (159.1~212.0)	6.07~8.09 (239.0~318.5)	8.09~10.79 (318.5~424.8)	10.11~13.48 (398.0~530.7)	12.13~16.18 (477.6~637.0)	16.18~21.57 (637.0~849.2)	20.22~26.96 (796.1~1061.0)
L2K-22ZHB	3.96~5.39 (155.9~212.2)	4.94~6.74 (194.5~265.0)	7.42~10.11 (292.1~398.0)	9.89~13.48 (389.0~530.7)	12.36~16.85 (486.6~663.4)	14.83~20.22 (583.9~796.1)	19.77~26.96 (778.3~1061.4)	24.71~33.70 (972.8~1326.8)
L2K-30ZHB	5.39~7.73 (212.2~304.3)	6.74~9.66 (265.4~380.3)	10.11~14.49 (398.0~570.5)	13.48~19.32 (530.7~760.6)	16.85~24.15 (663.4~950.8)	20.22~28.98 (796.1~1140.9)	26.96~38.64 (1061.0~1521.3)	33.70~48.30 (1326.8~1901.6)
L2K-10F	1.80 (70.9)	2.25 (88.6)	3.37 (132.7)	4.50 (177.2)	5.62 (221.3)	6.74 (265.4)	8.99 (353.9)	11.23 (442.1)

CAUTION: Distance tolerance ±5%.

2 Lens Shift Adjustable Range

Lens Shift Adjustable Range for Desktop and Ceiling Mount Application The diagram below shows the location of the image position in the lens. The lens can be shifted within the shaded area as shown using the normal projection position as a starting point.

Maximum Possible Range for L2K-12ZHB / L2K-14ZHB / L2K-18ZHB / L2K-22ZHB / L2K-30ZHB

Parenthesized values for the ceiling mount application

Up: 0.26 V (0.14 V) *Right: 0.0 H (0.0 H)*

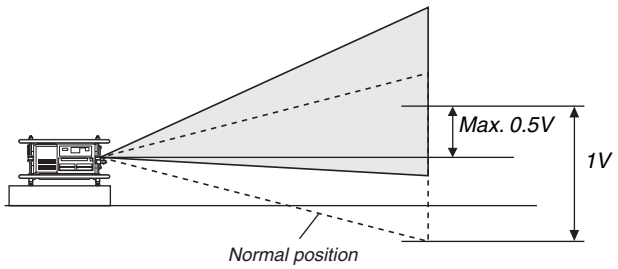
Down: 0.14 V (0.26V) *Left: 0.0 H (0.0 H)*

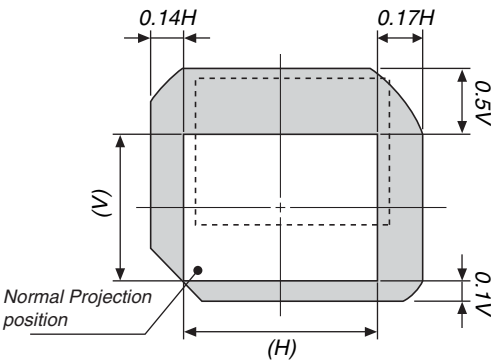
(H: width of projected image, V: height of projected image)

For L2K-10F

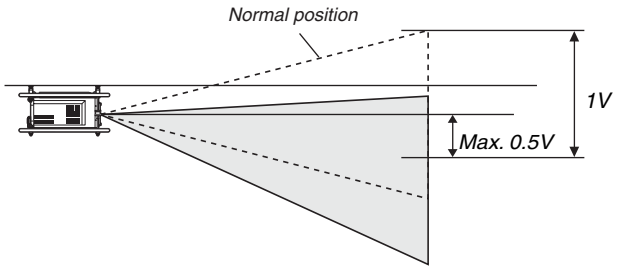
No shift available.

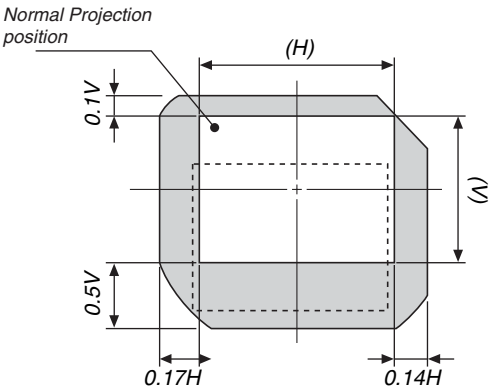
Desktop / Front Vertical



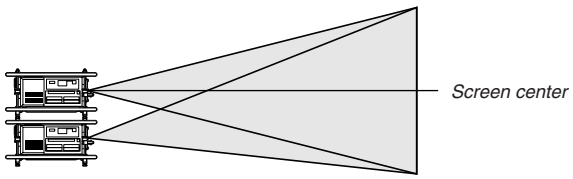


Ceiling / Front Vertical





Example for Stack



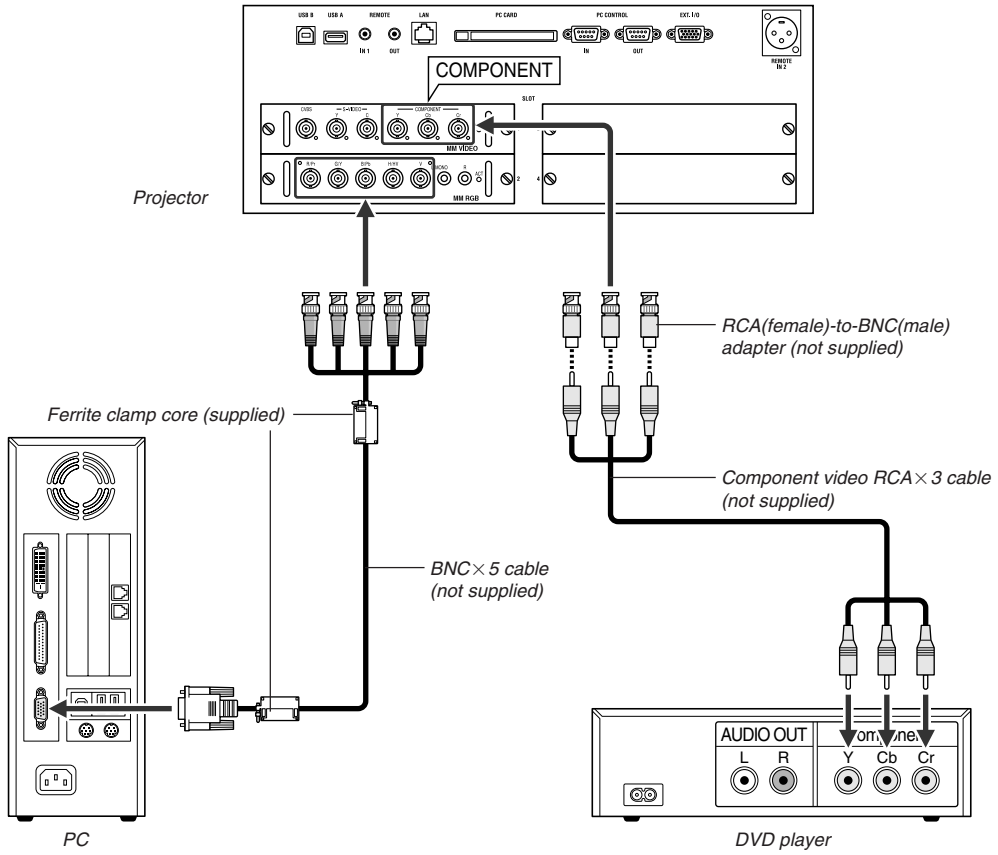
Note: Shift limit diagrams above show maximum limits of lens mount not the specific cababilities of lenses.

Note: For TL lenses there is a reduced shift. See ranges above.

3 Making Connections

Connecting to the Image Input Terminals

This Projector has two interface boards, MM-VIDEO and MM-RGB as standard equipment. See page E-11. Connect required video signals.
Four interface boards can be inserted in the Projector at the same time. See Page E-25.



Information for Reducing Radiation of Electromagnetic Waves

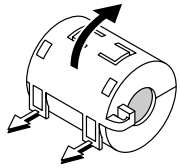
To reduce unnecessary radiation of electromagnetic waves, use the supplied ferrite clamp core.

- When cable is for RGB signal, ferrite core is assembled to the both side of the cable.
- When cable is for DVI-D signal, ferrite core is assembled to the side where ferrite core is not attached.
- When cable is for USB Remote Control, Used to connect the remote controller input 1 port (REMOTE IN 1) and the remote controller output port (REMOTE OUT) on HL12000HD/ HL10000HD. Or Ethernet For HL12000HD/10000HD - ferrite core is assembled to the near side of this equipment.

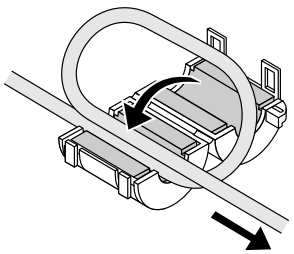
Installation Instructions

1. Open the ferrite clamp core and attach it to the cable as close as possible to end that goes to the Projector.
** Push the catch to open the ferrite clamp core.*
** Loop the cable once around the ferrite clamp core.*

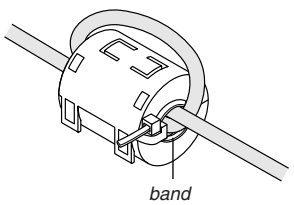
NOTE: When cable is thick, ferrite core is assembled without making a ring.



2. Close the ferrite clamp core tightly.



3. Fix the supplied band to the Ethernet cable as a stopper.
** Pull the end of the band to tighten it. Cut off the surplus of the band.*



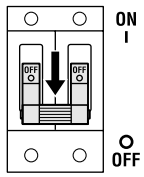
Installing Additional Interface Boards

Four types of Interface boards are available for the Projector. Please purchase as required.

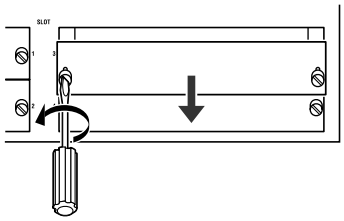
Warning

Ensure main power is disconnected or by turning off the main power switch before installing or removing the board from the Projector. Failing to do so could result in electrical shock.

1. Turn off the main power switch of the Projector.

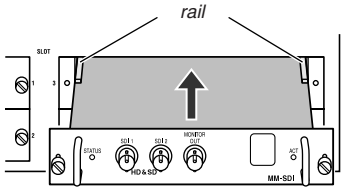


2. Use a flat-bladed screwdriver to loosen the 2 screws of the slot panel located at the input terminals portion of the Projector, then remove the screws and panel.



NOTE:
- *Keep the removed screws and panel in a safe place.*
- *Please do not use the Projector while the panel is disengaged. Foreign matter could enter the interior and cause breakdown.*

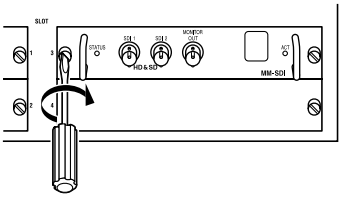
3. Insert the board into the slot.



The example shown in the drawing is the MM-SDI board.

NOTE: When inserting the board into the slot, insert it so that it moves along the rails located at the right and left of the slot. If the board is not positioned between the rails the connector will not be engaged and the board will not be operational.

4. Tighten the 2 screws located at right and left of the board and fasten securely.

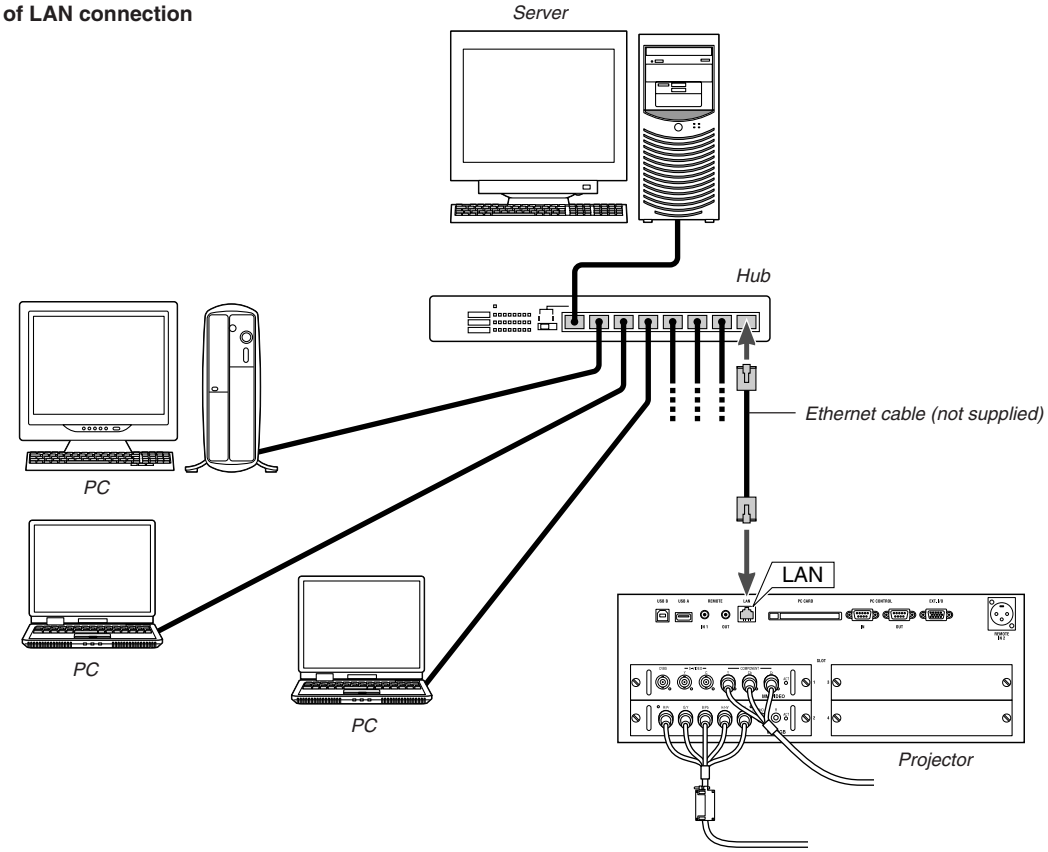


NOTE: The following 4 types of interface boards can be inserted in the Projector. Multiple interface boards of the same model can also be inserted.
- ** MM-VIDEO(See page E-15)*
- ** MM-RGB(See page E-15)*
- ** MM-DVI(See page E-16)*
- ** MM-SDI(See page E-16)*

Connecting to a Network

With the LAN connection, you can control the Projector over the network using a computer to turn the Projector on/off, select the input and others.

Example of LAN connection



Using the HTTP Server function

1. Configure your LAN settings such as IP address on the Projector. (See "LAN Mode" on page E-63)

Note

For the HL12000HD/10000HD, connect a ferrite core to the LAN cable on the near side of the equipment. For how to install the cerrite core see page E-24.

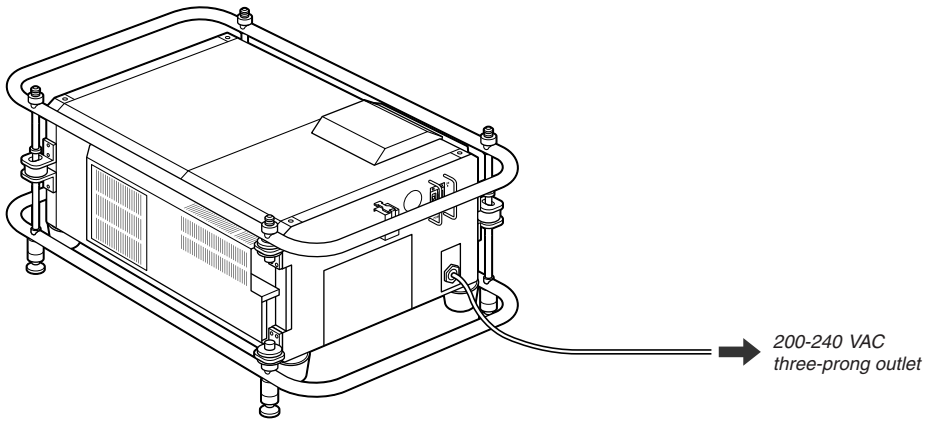
2. Start the Web browser on the computer connected to the network and execute HTTP server functions. (See "Operation Using an HTTP Browser" on page E-91)

Connnecting the Power Cable

After making certain that the main power switch of your projector is OFF, connect the power cable to a 200 to 240 VAC three-prong outlet (grounded).
Two versions of the projector are available: USA models are supplied with a Hubbel type connector, for Rest of World a CEE-Form connector is supplied.

CAUTION

- **Please contact your dealer / distributor to perform the wiring for connection of the power cable to your projector.**
- **Be sure to ground the equipment to ensure safety.**



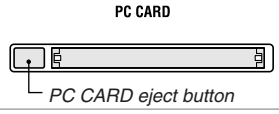
To avoid electric shocks, request a professional to carry out the grounding.
Be sure to perform earth connection before inserting the power plug into the wall outlet.

NOTE:

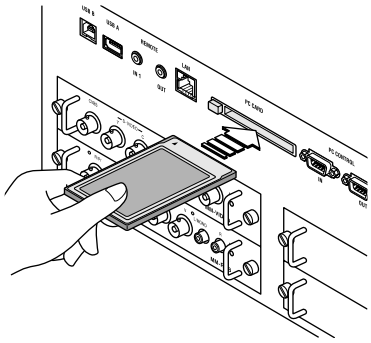
- *When disconnecting the power plug, first set the projector to the standby mode, and then turn off the main power switch before disconnecting the power plug. Disconnecting the power plug or turning off the main power switch without first setting the projector to the standby mode may result in the values that were set with the on-screen menu and other settings not being stored within the projector.*
- *Do not disconnect the power plug from the outlet in circumstances such as the following:*
  - ** While the hourglass icon is displayed.*
  - ** While a message to the effect of "Please wait a while" is displayed. (This message will be displayed if the power has been switched off.)*
  - ** Immediately after the main power switch has been turned ON. (When the POWER indicator is not lit in orange, and before "Stand by" is displayed on the liquid crystal display screen.)*
  - ** Immediately after the end of the cooling down period (during which the fan is running for 3 minutes after the POWER button has been switched OFF, and before "Stand by" is displayed on the liquid crystal display screen).*

Inserting and Removing a PC Card

NOTE:
- *Do not try to force the PC card into the slot.*

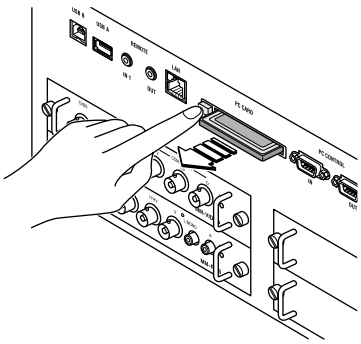


Inserting the PC Card
- *Hold the PC card horizontally and insert it slowly into PC card slot with its top facing up.*



Removing the PC Card

Press the eject button slowly. The eject button card pops out a little. Press the eject button slowly again. Grasp the edges of the PC card and pull it out. Push and insert the eject button fully until it stops.



NOTE: Do not eject the PC card while its data is being accessed.

CAUTION: Make sure that the PC card or wireless LAN card is removed during Standby mode or with the main power off.Failure to do so may cause damage to the data on your PC card or wireless LAN card, or may cause the projector to malfunction.Should a malfunction occur, turn off the main power and turn it back on.

Direction for Inserting the PC Card

The PC card has a top and bottom and must be inserted into the PC card slot in a specific direction. It cannot be inserted backwards or upside-down. Attempting to force it into the slot in the wrong direction may break the internal pin and damage the card slot. Refer to the PC card's operating instructions for the proper direction of insertion.

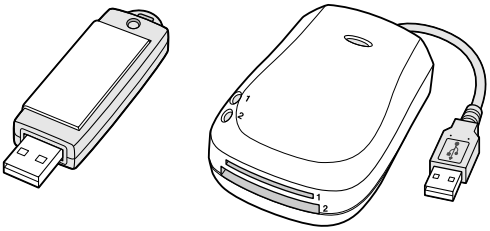
PC Card Type

The PC Card slot accepts PCMCIA Type II only.

NOTE: The projector does not support FAT32 or NTFS formatted flash memory card or USB memory device.
Be sure to use a flash memory card or USB memory device formatted with the FAT16 or FAT file system.
To format your flash memory card or USB memory device in your comouter, refer to the document or help file that comes with your Windows.

4 USB Memory Device or USB Memory Card Reader Support

The projector is compatible with either a USB memory device or USB memory card reader which supports the security features.
- To use a USB memory device or USB memory card reader, connect the device to the USB port (type A).
- To use a USB memory device as a Protect key for Security function, select one from the Drive icons in the Security setting screen.



NOTE:
- *Some USB memory devices (brands) or USB memory card readers may not work.*
- *You cannot use USB memory device and a USB memory card reader when connecting a USB mouse to the projector. Using a USB HUB that allows multiple USB memory devices or card readers is not supported either.*
- *Do not do the following while the USB memory device or USB memory card reader's access indicator is lit or flashing (while data is being accessed.) Doing so can damage your USB memory device or USB memory card in the reader. Back up your data in case it will need to be restored.*
  - ** Pulling out the USB memory device or USB memory card reader from the USB port of the projector.*
  - ** Pulling out the memory card from the USB memory card reader.*
  - ** Turning off the main power switch or unplugging the power cable.*
- *The drive for "USB 1-4" is displayed only when the USB memory device or USB memory card reader is connected to the projector. The drive for "USB 1-4" may be displayed differently from the one in the USB memory card reader.*
- *Some USB memory devices (brands) or USB memory cards cannot be used as Protect key for the projector's Security function.*

3

Projecting an Image
(Basic Operation)

1 Turning on the Projector E-30

2 Selecting a Source E-31

3 Adjusting the Picture Size and Position E-31

4 Optimizing RGB Picture Automatically E-33

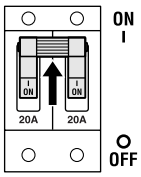
5 Turning off the Projector E-33

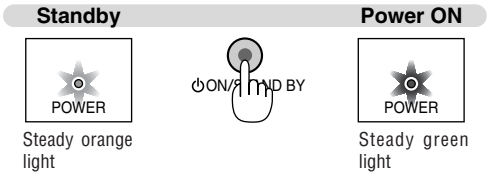
This chapter describes how to turn on the Projector and to project a picture onto the screen.

1 Turning on the Projector

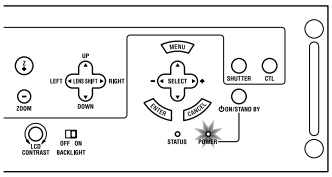
NOTE:
- *When plugging in or unplugging the supplied power cable, make sure that the main power switch is pushed to the off[O] position. Failure to do so may cause damage to the Projector.*
- *The Projector has two power switches: main power switch and POWER button (POWER ON and OFF on the remote control)*

To turn on the main power to the Projector, press the Main Power switch to the ON position (I).





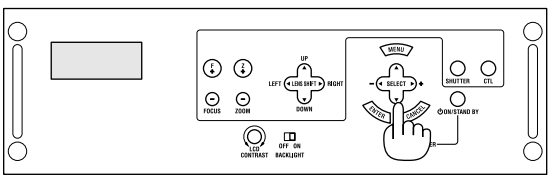
Before you turn on your Projector, ensure that the computer or video source is turned on.
Only after you press the ON/STAND BY button on the Projector cabinet or POWER ON button on the remote control for a minimum of 1 second will the power indicator turn to green and the Projector become ready to use.



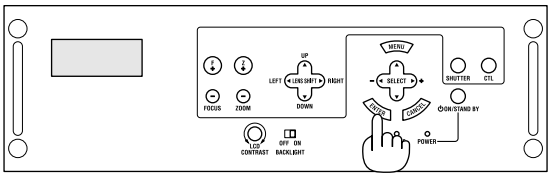
Note on Startup screen (Menu Language Select screen)

When you first turn on the Projector, you will get the Startup screen. This screen gives you the opportunity to select one of the seven menu languages: English, German, French, Italian, Spanish, Swedish and Japanese.
To select a menu language, follow these steps:

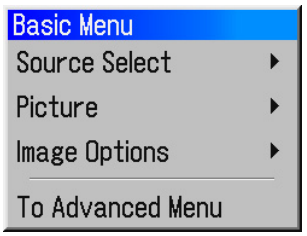
1. *Use the SELECT ▲ or ▼ button to select one of the seven languages for the menu.*



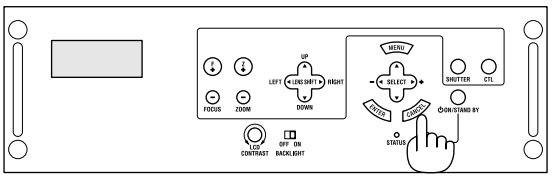
2. *Press the ENTER button to execute the selection.*



3. *The Basic menu will be displayed in the language you have selected.*



To close the menu, press the CANCEL button.



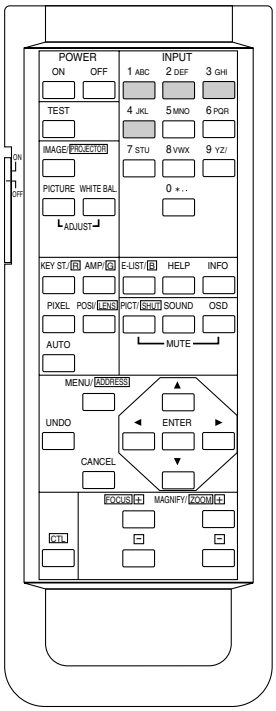
After this has been done, you can proceed to the advanced menu operation.
If you want, you can select the menu language later. See "Language" on page E-60.

NOTE: To turn the Projector on by plugging in the power cable, first turn on the Main Power switch to ON and use the menu and enable the "Auto Start" feature. (See page E-62.)

2 Selecting a Source

Selecting the computer or video source

Using the Remote Control



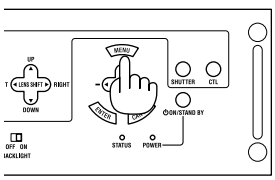
Press the Source/Input button (1-4) to select input.

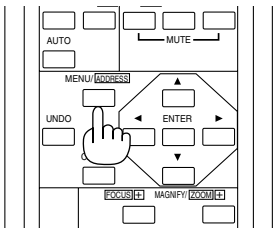
1 ..... Slot 1
2 ..... Slot 2
3 ..... Slot 3
4 ..... Slot 4

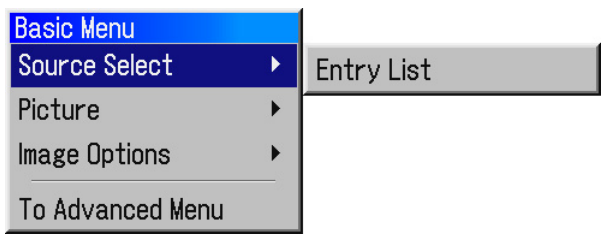
NOTE: If no input signal is available, the Projector will display a blue background (factory preset).

Using the menu

You can also select the computer or video source using the menu.

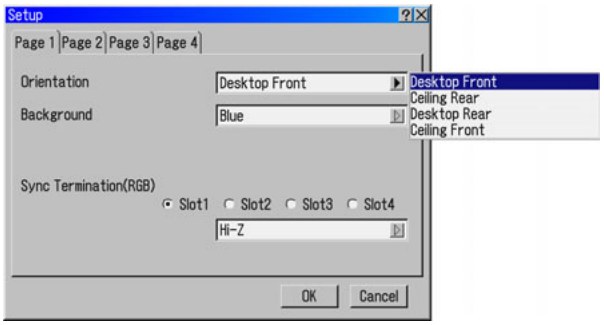




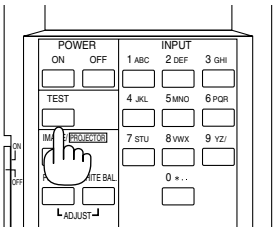


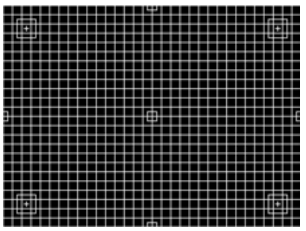
3 Adjusting the Picture Size and Position

1. *Turn on the projector*
2. *Select your type of projector orientation.*
   Desktop front, ceiling rear, desktop rear, and ceiling front.



3. *Display the test pattern by pressing the TEST button on the remote control or using the menu.*



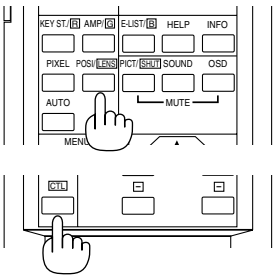


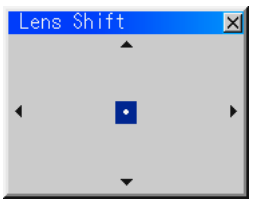
4. *Adjust the image position and the image size.*

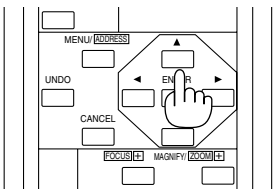
   (1) *Press and hold the CTL button and press the POSITION button to display the Lens Shift adjustment screen.*

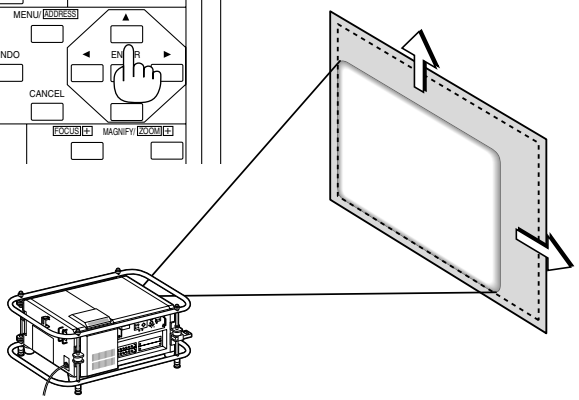
   Use the SELECT button on the remote control or the LENS SHIFT button on the projector cabinet to move the image horizontally and vertically.

   To close the Lens Shift adjustment screen, press the CANCEL button. See page E-23 for "Lens Shift Adjustable Range".

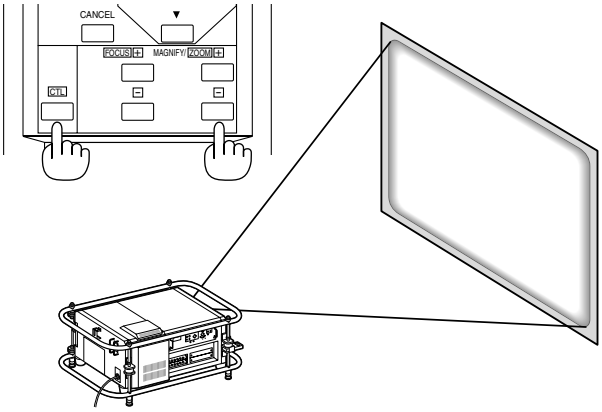




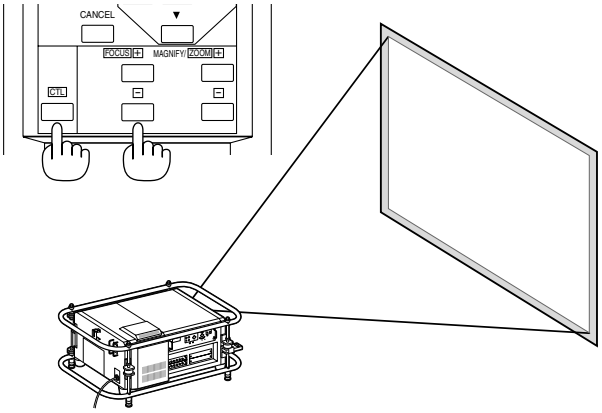




(2) Press and hold the CTL and press the ZOOM + or - button to adjust the image size. You can also adjust the image size by using the CTR button and the ZOOM + or - button on the projector cabinet.



(3) Press and hold the CTL button and press the FOCUS + or - button to obtain the best focus. You can also adjust the focus by using the CTR button and the FOCUS + or - button on the projector cabinet.

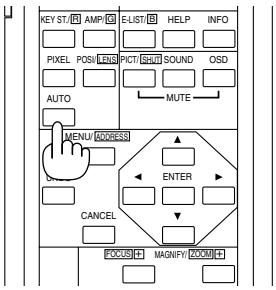


Geometric Correction Tool
If you use a special shaped screen such as a cylindrical or spherical screen, a downloadable program, Geometric Correction Tool is available. This program (Geometric Correction Tool) enables the geometrical distortion correction of an image when projected onto a special shaped screen with the projector. Additionally, this program allows control of the projector via a computer.
For additional information contact your dealer or Digital Projection:
US : powerinfo@digitalprojection.com
Europe : service@digitalprojection.co.uk
Global : service@digitalprojection.co.uk

4 Optimizing RGB Picture Automatically

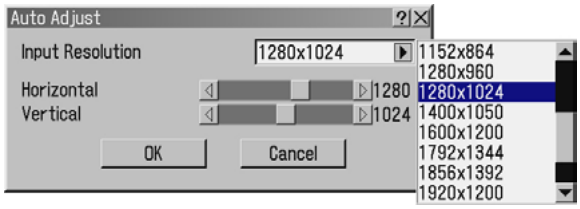
Adjusting the Image Using Auto Adjust
Optimizing RGB image automatically

1. *Press the AUTO button on the remote control to optimize an RGB image automatically.*



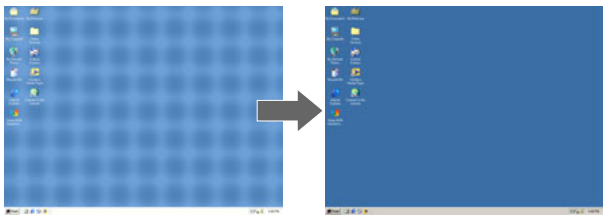
The Auto Adjust menu is displayed.

2. *Select "Input Resolution" and change the "Horizontal" number of pixels and number of "Vertical" lines as required.*



3. *Align the cursor with "OK" and press the ENTER button.*

[Poor picture] *[Normal picture]*



Press the AUTO button to fine-tune the computer image or to remove any vertical banding that might appear and to reduce video noise, dot interference or cross talk (this is evident when part of your image appears to be shimmering). This function adjusts the clock frequencies that eliminate the horizontal banding in the image. This function also adjusts the clock phase to reduce video noise, dot interference or cross talk. (This is evident when part of your image appears to be shimmering.)
This adjustment may be necessary when you connect your computer for the first time.

NOTE:
- *Some signals may not be displayed correctly or take time.*
- *The Auto Adjust function does not work for component and video signal.*
- *If the Auto Adjust operation cannot optimize the RGB signal, try to adjust Clock and Phase manually. See Image Options page E-53.*

NOTE:
- *The Auto Adjust operation alone does not automatically store the adjusted values in memory. To store the adjustments, use the operations of the Entry List. For details, see "6-3 Source Select, Entry Edi Command" on page E-50.*

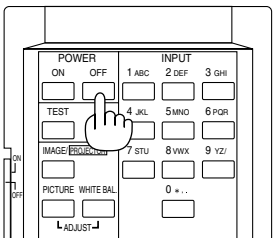
5 Turning off the Projector

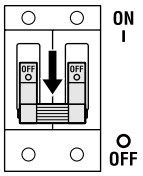
To turn off the Projector:

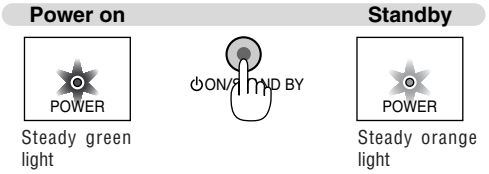
First press the POWER (ON/STAND BY) button on the Projector cabinet or the POWER OFF button on the remote control for a minimum of 1 second. The POWER indicator will glow orange.

Second, turn off the Main Power switch. The power indicator will go out.

Last unplug the power cable.







CAUTION
- **When switching off the Main Power switch, set the Projector to the standby mode beforehand. Values that have been set with the on-screen menu or by other means might not be stored in the main unit if the Projector power supply is on when the Main Power switch is switched off.**
- **Do not unplug the power cable from the wall outlet or do not turn off the main power under any one of the following circumstances. Doing so can cause damage to the Projector:**
  - *** While the Hour Glass icon appears.**
  - *** While the message "Please wait a moment." appears. This message will be displayed after the Projector is turned off.**
  - *** Immediately after the main power switch has been turned ON. (When the POWER indicator is not lit in orange, and before "Stand by" is displayed on the liquid crystal display screen.)**
  - *** Immediately after the end of the cooling down period (during which the fan is running for 3 minutes after the POWER button has been switched OFF, and before "Stand by" is displayed on the liquid crystal display screen).**

4

Convenient Features

1 Turning Off the Image E-36

2 Getting the On-line Help and Information E-36

3 Lens Memory E-36

1 Turning Off the Image

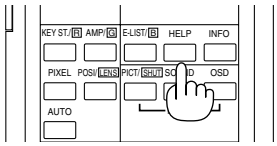
Press the MUTE PICTURE button to turn off the image for a short period of time. Press again to restore the image.

Press the MUTE OSD button to turn off the on-screen display. Press again to restore the on-screen display.

NOTE: You can also turn off the on-screen display forcibly by pressing and holding CTL and then pressing MUTE OSD (Forced On-Screen Mute Mode) ; doing this again restores it. In this case any adjustment will still change the projector's memory settings. This mode is available even when input is switched to another or the main power is turned off.

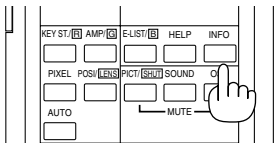
2 Getting the On-line Help and Information

You get the contents about Help.



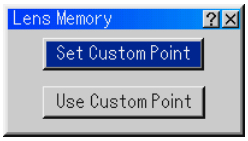
Display Help

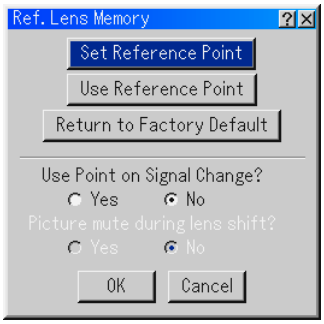
You get the source and projector information.



Press this button once to display “Source Information” and press twice to display “Projector Information”.
Press third time to close it.

3 Lens Memory





This function serves to store the adjusted value when using the Shift, Focus, and Zoom buttons of the projector or the remote control.

Reference memory:

Reference Point ..... Adjusted settings are stored in memory as a reference common to all the input sources. If no setting is stored in Custom Point, the adjusted settings in Reference Point will be applied.

Custom memory:

Custom Point ..... Adjusted settings are stored in memory for each input signal.

Usage Example
When you wish to display on a screen having a 4:3 aspect ratio an NTSC or other 4:3 aspect ratio signal and an SXGA or other 5:4 aspect ratio signal:

Perform shift, focus, and zoom adjustments to set the vertical screen size of the vertically tall 5:4 aspect ratio signal to standard.
Both 4:3 apsect ratio signals and 5:4 aspect ratio signals can now be displayed.
Note that with these shift, focus, and zoom adjustments, the 4:3 aspect ratio signal will become smaller on the screen.
To eliminate this size reduction, adjust the shift, focus and zoom to the optimum condition for each of the 4:3 aspect ratio signal and the 5:4 aspect ratio signal. Memory (storage) of each of these values will permit projection at an optimum condition upon signal switching.

1. Perform Zoom, Focus and Lens Shift adjustments and store them in memory using “Set Custom Point”.
   Another way to store your adjustments is to use the CTL and INFO buttons on the remote control.

2. When “Yes” is selected for “Use Point on Signal Change”, the adjustment is applied to the signal you switched.

3. Select “OK” and press the ENTER button for the change to take effect.

Picture Mute during Lens Shift?
To turn off the image during lens shift, select "Yes".

NOTE: This option is only available when "Yes" is selected for "Use Point on Signal Change?".

5

Setting Up for Double Stacking

1 Stacking and Connecting the Projectors E-38

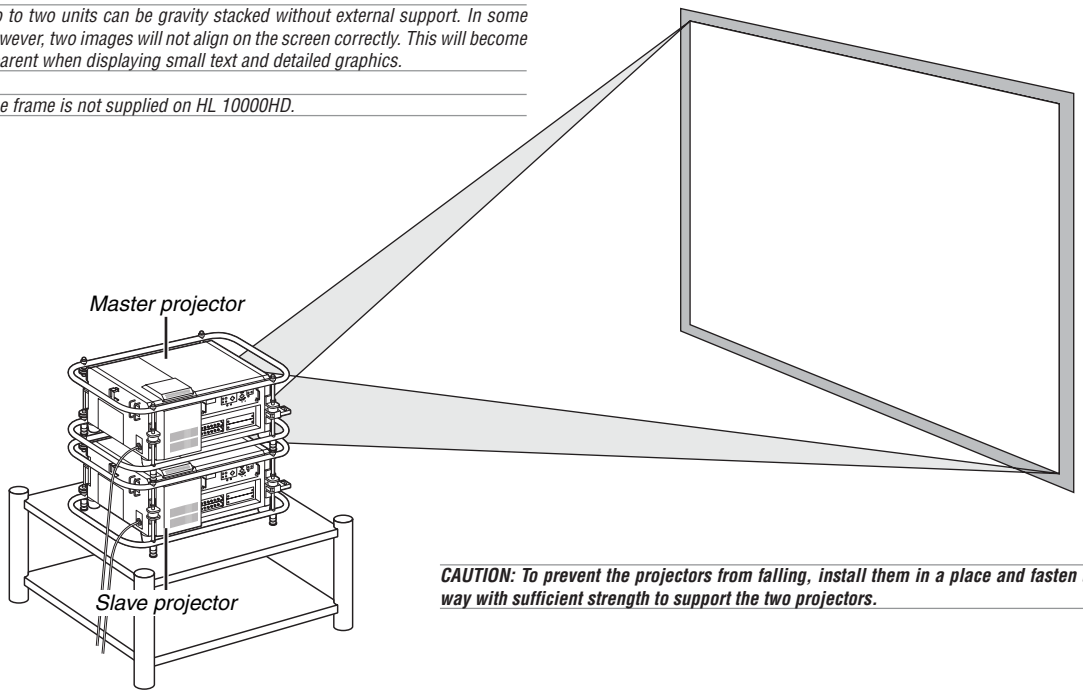
2 Adjusting and Registering Signals to Be Projected E-42

3 Adjusting the Lens Shift, Zoom and Focus
to Clearly Display all projected patterns E-42

1 Stacking and Connecting the Projectors

NOTE: Up to two units can be gravity stacked without external support. In some cases, however, two images will not align on the screen correctly. This will become more apparent when displaying small text and detailed graphics.

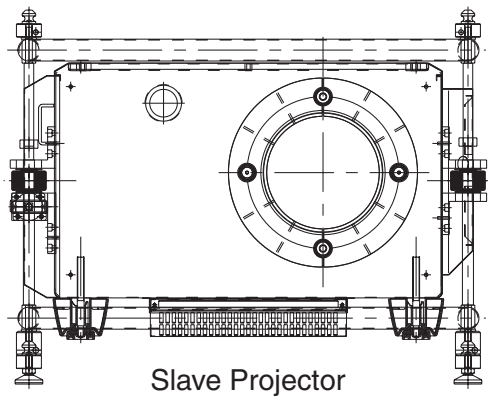
NOTE: The frame is not supplied on HL 10000HD.

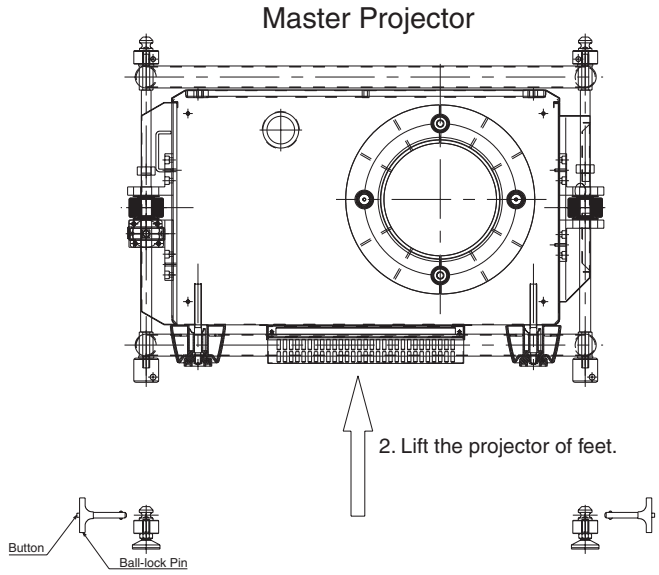


CAUTION: To prevent the projectors from falling, install them in a place and fasten them in a way with sufficient strength to support the two projectors.

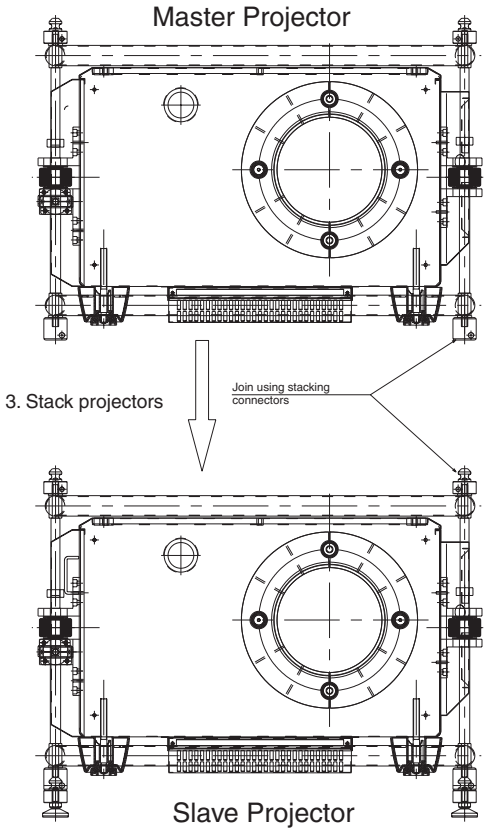
1-1. Frame Connection (HL12000HD)

Remove feet from projector to be mounted on top of stack.



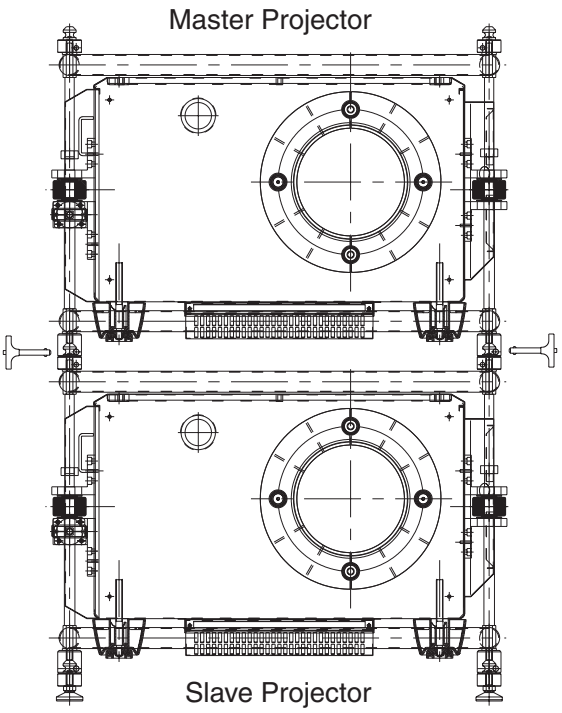


Place projectors together.

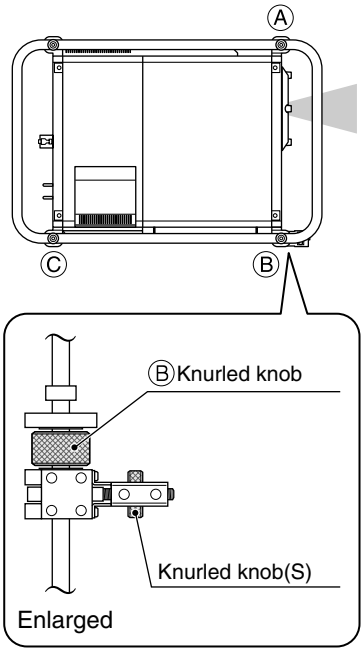


Connect projectors using Ball-lock Pins.

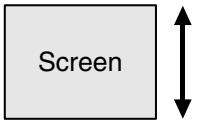
4. Insert all four Ball-lock Pins back into stacking connectors



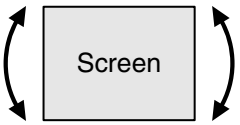
1-2. Frame Adjustment (HL12000HD)



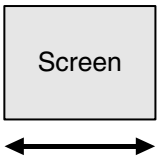
- Tilt Angle Adjustment
  Knurled knobs (A, B on the picture at the left) are turned to the same direction. (note 1)



- Roll Angle Adjustment
  Knurled knobs (B, C on the picture at the left) are turned to the same direction. (note 1)



- PAN Angle Adjustment
  Knurled knob (S) (Enlarged picture at the left) is turned.

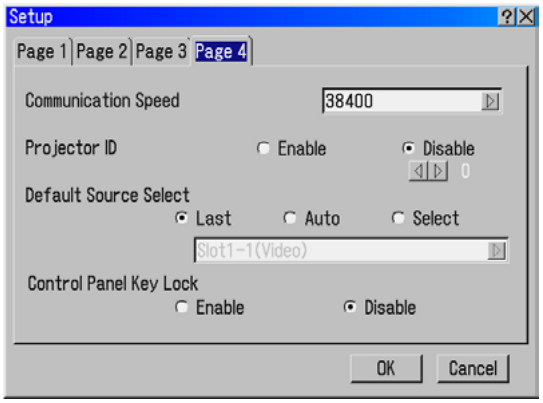


note 1: when Knurled knobs at two locations are turned, the same charge should be turned.

1-3. Assigning Projector IDs

You can operate multiple projectors with the same remote control.
To do so:

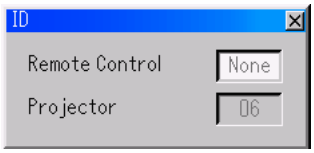
13-1. Select “Projector Options” → “Setup” → “Page4” → “Projector ID” and assign an ID number to each projector. See also page 8-18.



1-3-2. Select the same communication speed for both the projector.

NOTE: Do not turn on [Master] or [Slave] at this time.

1-3-3. On the remote control specify the ID number of the projector to be adjusted. Press and hold the CTL and press MENU (ADDRESS) button to enter the ID number.
You can operate the projector assigned the same ID number as the remote control.



NOTE: Specifying "None" for projector ID allows you to operate multiple projectors concurrently. However, some projectors may not synchronize to the other projectors.

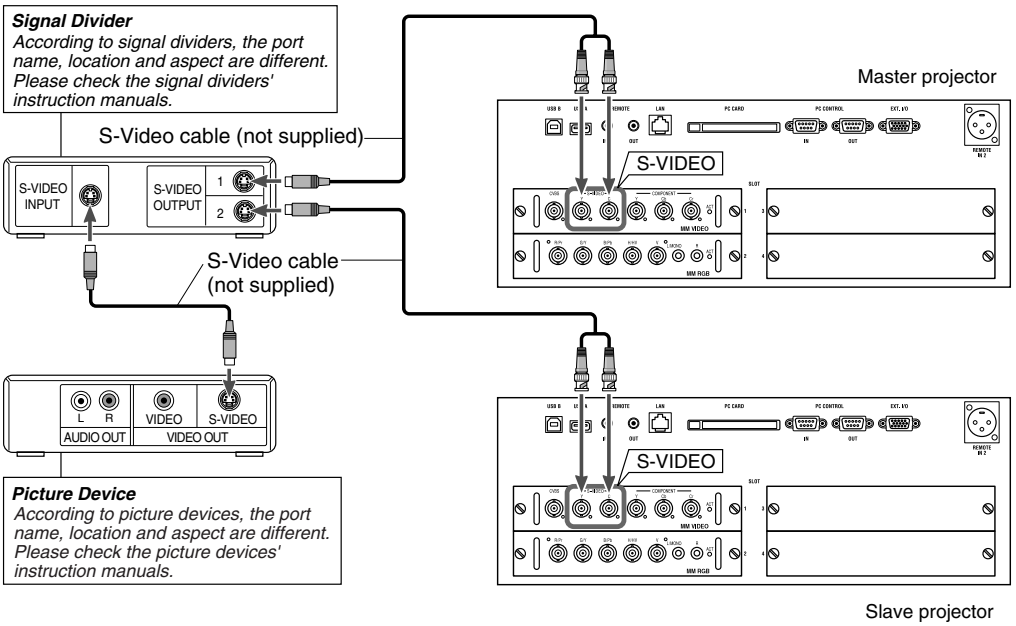
1-4. Stacking the Projectors

Place the projectors at the proper height for best screen to projector relationship. Make sure that all projectors have the same display orientation.

1-5. Cable Connection

Example on Video Signal

Picture signal is divided by commercial signal divider, and connected to both master projector’s and slave projector’s input ports.



1-6. Control Cable Connection

Example of Remote Controllers Control

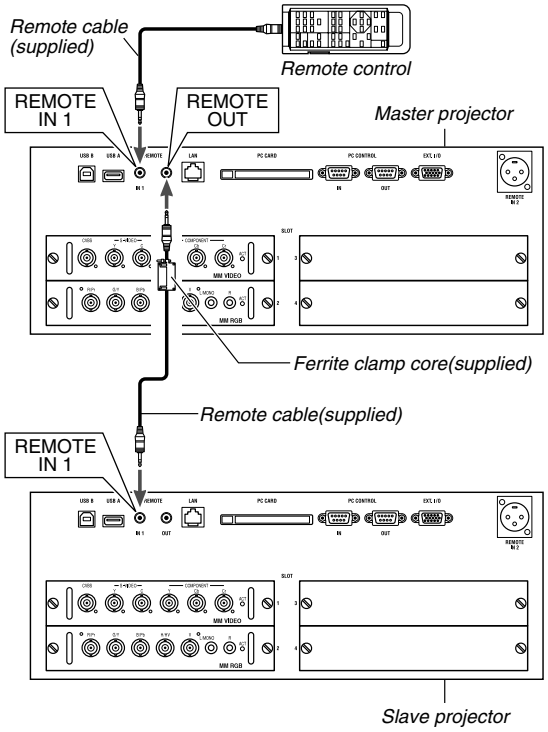
Remote controller and master projector's remote controller input 1 port (REMOTE1 IN 1)are connected by remote cable. Master projector's remote output port (REMOTE OUT) and slave projector's remote controller input 1 port (REMOTE IN 1) are connected by remote cable.

NOTE:

•When ID is not setup for the projector and remote controller, two projectors are controlled at the same time with one remote controllers. To control two projectors indivisually, setup IDs for each projector and each remote controller.

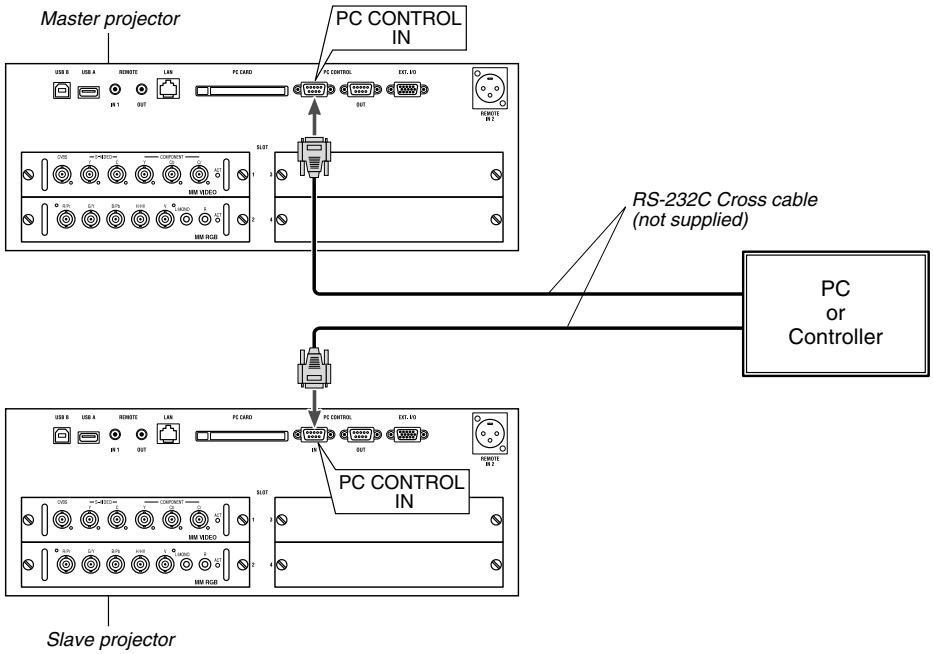
NOTE:

• For HL12000HD/HL10000HD, connect a ferrite core to the remote cable, at the end nearest the projector. For how to install see page E-24.



Example of RS-232C Control

The controller with RS-232C interface and each projector's PC control-in port (PC CONTROL IN) are connected by cross cable and the individuals are controlled by serial-control-command.
Please ask delivery outlets for serial-control-command.



2 Adjusting and Registering Signals to Be Projected

2-1. Making Adjustments to the Master Projector

2-1-1. Display a desired input signal on the master projector.

2-1-2. Make adjustment to the signal, then save (register) adjustments on the master projector by pressing and holding CTL and pressing ENTRY LIST button on the remote control.

2-1-3. Repeat steps 2-1-1 and 2-1-2 for all signals you want to project.
Display all the signals you registered and check. To check, select “Source Select” → “Entry List”.

2-2. Making Adjustments to the Slave Projector

2-2-1. Display a desired input signal on the slave projector.

2-2-2. Make adjustment to the signal, then save (register) adjustments on the slave projector by pressing and holding CTL and pressing ENTRY LIST button on the remote control.

2-2-3. Repeat steps 2-1-2 and 2-1-2 for all signals you want to project.
Display all the signals you registered and check. To check, select “Source Select” → “Entry List”.

3 Adjusting the Lens Shift, Zoom and Focus to Clearly Display all projected patterns

3-1. Display the internal crosshatch test pattern.

NOTE: Use a different single colour for each projector. Example: Turn on Green of master projctor, then Red of the slave projector.

3-2. Adjust the Lens Shift by pressing and holding CTL and pressing the POSITION button on the remote control.
For lens shift adjustable range, see page E-23. Lens Shift Adjustable Range.

3-3. Zoom the lens in and out by pressing and holding CTL and pressing the MAGNIFY(ZOOM)+/- button on the remote control.

3-4. Adjust the lens focus by pressing and holding CTL and pressing the FOCUS +/- button on the remote control.

NOTE: If the physical (vertical) alignment of the projector is not correct, adjust the height of the feet. If there is any keystone distortion, use 3D-Reform (Keystone) adjustment to correct and save the settings on each projector. See page E-55 for 3D-Reform.

6

Using On-Screen Menu

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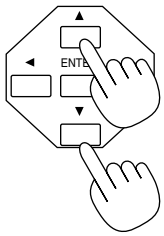
1 Basic Menu Operation

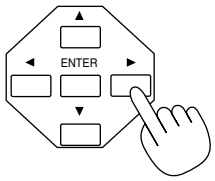
Using the Menus

1. *Press the MENU button on the remote control or the Projector cabinet to display the Basic, Advanced or Custom Menu.*

2. *Press the SELECT ▲▼ buttons on the remote control or the Projector cabinet to highlight the menu for the item you want to adjust or set.*

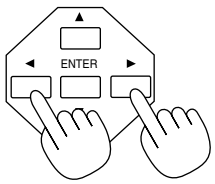


3. *Press the SELECT ► button or the ENTER button on the remote control or the Projector cabinet to select a submenu or item.*

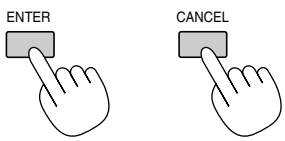


4. *Adjust the level or turn the selected item on or off by using SELECT ◄ or ► buttons on the remote control or the Projector cabinet.*

   The on-screen slide bar will show you the amount of increase or decrease.



5. *Changes are stored until you adjust it again.*



ENTER ..... Stores the setting or adjustments.
CANCEL ..... Return to the previous screen without storing settings or adjustments.

6. *Repeat steps 2-5 to adjust an additional item, or press the CANCEL button on the Projector cabinet or the remote control to quit the menu display.*

Customizing the Menu

The Custom menu can be customized to meet your requirements. Selecting a menu item from the "Custom Menu Edit" list, allows you to custom tailor the menu items to your needs.

1. *Select "Custom Menu Edit" to display the "Custom Menu Edit" screen.*
2. *Use the SELECT ▲ or ▼ buttons to highlight your selection and press the ENTER button to place a check mark next to an option.*

   This action enables that feature. Press the ENTER button again to clear the check box.

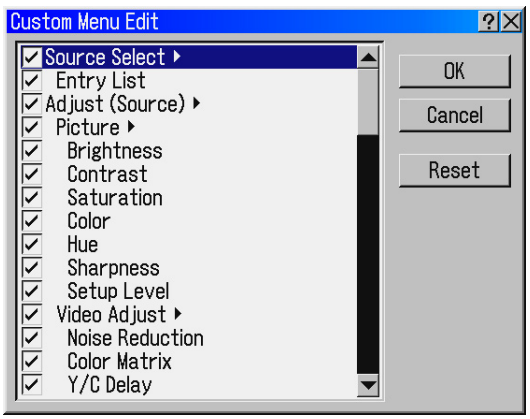
   If you select an item with a solid triangle ► and press the ENTER button on the remote control or the Switcher cabinet, you can enable all the items within that submenu. Also you can turn on an item within the submenu without placing a check mark on the main menu item.

   NOTE: Up to 12 main menu items (within Custom Menu Edit, not including submenu items) can be selected.
3. *In order for the changes to take effect, use the SELECT ◄ or ► button on the remote control or the Switcher cabinet to highlight "OK", then press the ENTER button. To cancel the changes, use the SELECT ▲ or ▼ buttons to highlight "Cancel" and press the ENTER button.*
   To return to the factory default, select "Reset" then press the ENTER button.

NOTE: Once you have selected OK on the Custom Menu Edit screen, you cannot cancel the changes on the Menu screen. However, you can reedit the menu items over again as described in the steps above.

NOTE: If the "Advanced Menu" item has been selected on the Menu mode, you get the "Change Custom menu now?" upon completion of "Custom Menu" editing. In this case, selecting "Yes" then "ENTER" will close all the menus and apply the changes from the Advanced menu to the Custom Menu. If you select "No" then "ENTER" functions, then all menu items will return to the Advanced menu, but your changes will still be available within the "Custom Menu" selection. To display the previously tailored Custom Menu, select "Custom Menu" from the "Menu Mode".

An item "To Advanced Menu" will be added to the bottom of the Custom Menu.
Selecting this item and pressing the ENTER button will display the "Advanced Menu" features.

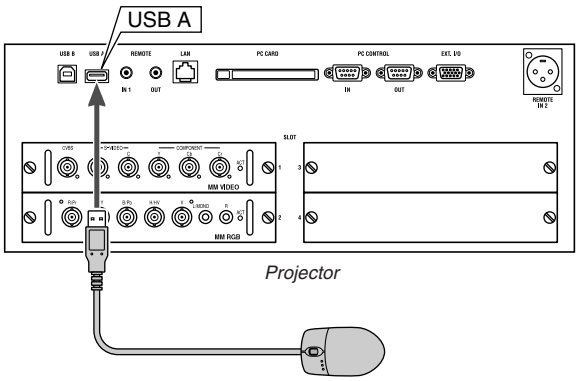


2 List of Direct Button Combinations

CTL+ Input (1-10)	Switches to any selected signal found in the Entry List. To enable this combination, you must first assign specific remote buttons for direct input selection in the Entry Edit window.
CTL+ ENTER (While displaying Entry list)	Displays the selected signal.
CTL+ CANCEL	Returns to the previous menu without closing the slidebar or dialog.
CTL+ UNDO	Clears all menus or adjustment/setting screens. All adjustments are saved automatically.
CTL+ ▲▼◄►	Moves the slidebar or dialog box horizontally or vertically.
CTL+ ◄ (BS)	Deletes one letter or numeral in the entry screen.
CTL+ MUTE OSD	Turns off the on-screen display forcibly.
CTL+ MENU (ADDRESS)	Displays the remote ID entry window.
CTL+ IMAGE (PROJECTOR)	Sequentially selects the Projector Options sub menu.
CTL+ KEYSTONE	This button has no function with the Projector.
CTL+ AMPLITUDE	Service personnel only.
CTL+ ENTRY LIST	Stores a signal in the Entry List.

3 Using the USB Mouse

Using a commercially available USB mouse gives you smooth operation.



Projector

NOTE: There may be some brands of USB mouse that the projector does not support.

Operate the Menus using the USB mouse

Mouse Cursor

When connecting a USB mouse to the projector, you get a mouse cursor on the screen.

Unless you use your USB mouse within 10 seconds, the mouse cursor disappears.

Menu Display

Clicking with a mouse button displays the menu.

Clicking ► displays the pull-down menu. To close the menu, click anywhere in the background.

Adjusting and Setting Display

You can select a menu item and click with a mouse button to make adjustments and setting.

Examples

Click (or press and hold) the mouse button ◄ or ► to adjust the brightness. Or click and drag the mouse button on the slide bar horizontally to adjust it.

To save the adjustments, click ✕. This closes the menu. If you click anywhere in the background while displaying an adjustment and setting menu or dialog box, you will go to the main menu after clicking with the mouse.

Clicking ? displays help.

4 Menu Tree

NOTE: The shaded item indicates the default setting.

- Advanced Menu
  - Source Select ▸
  - Adjust (Source) ▸
  - Ref. Adjust ▸
  - Factory Default
  - Projector Options ▸
  - Tools ▸
  - Help ▸
  - Test Pattern

S1: Video	* When the interface boards are installed at the factory.
S1: S-Video	
S1: Component	
S2: RGB	
S3: None	
S4: None	
Entry List	Load / Store / Cut / Copy / Paste / Edit / All Delete

Picture	Brightness / Contrast / Saturation / Colour / Hue /Sharpness /Setup Level		
Video Adjust	Noise Reduction	Off / Low / Medium / High	
	Colour Matrix	Select Colour Matrix	HDTV / SDTV
		Select Colour Matrix Type	B-Y/R-Y / U/V / Cb/Cr / Pb/Pr / IVX
	Y/C Delay	-15 to 15	
	YTR Adjustment	0 to 31	
	CTR Adjustment	0 to 31	
	SweetVision	0 to 63	
	Telecine	Auto / 2:2 Off / Off	
	3D Y/C Separation	Off / On	
	Vertical Detail		
Colour Management	Colour Correction	Red / Green / Blue / Yellow / Magenta / Cyan / Colour Gain	
	Colour Temperature	Low ←→ High	
	White Balance	Brightness R / Brightness G / Brightness B / Contrast R / Contrast G / Contrast B	
	Return to Reference	Ok / Cancel	
	Set Custom / Set Reference / Cancel		
Gamma Correction	Graphics Enhanced / Graphics / NTSC / NTSC Enhanced / PAL / SECAM2.8 / PAL / SECAM Enhanced / Gamma1.0-3.0		
Image Options	Pixel Adjust	Clock / Phase	
	Position	Horizontal / Vertical	
	Aspect Ratio	1.25:1(5:4) / 1.33:1(4:3) / 1.78:1(16:9) / 1.85:1 / 2.35:1	
	Resolution	Auto / Native	
	Overscan	0% / 5% / 8% / 10%	
	Synchronize	Off / On / Adjust	
	Video Filter	Off / Less / More	
	Blanking	On / Off / Top / Bottom / Left / Right	
	Input Resolution	Horizontal / Vertical	
	Input Position	Horizontal / Vertical	
	Output Position	Horizontal / Vertical	
Option Adjust	Clamp Timing	Mode 0-4 / Adjust	
	Sync Protection	Upper / Lower	
	VD Delay	Adjustment / Field Invert (On/Off)	
	Signal Level	Red / Green / Blue	
Lens Memory	Set Custom Point / Use Custom Point		
Signal Type	RGB / Component		

NOTE: The shaded item indicates the default setting.

- Advanced Menu
- Source Select ▸
- Adjust (Source) ▸
- Ref. Adjust ▸
- Factory Default
- Projector Options ▸
- Tools ▸
- Help ▸
- Test Pattern

3D Reform	Cornerstone	8 direction / close
	Keystone	decrease ¨Æ increase (When MM-WARP (optional) is inserted, horizontal / vertical)
Screen	Screen Type	1.25:1(5:4) / 1.33:1(4:3) / 1.78:1(16:9) / 1.85:1 / 2.35:1
	Position	-64 to 64
Ref. Lens Memory	Set Reference Point / Use Reference Point / Return to Factory Default	
Edge Blending	On / Off	
	▲/▼/</>/Exit	
	Gamma	Black Level (0-255)
	Signal Adjust	Black Level only (Off/On)
		Input Resolution (Horizontal / Vertical)
		Input Position (Horizontal / Vertical)
Lamp Mode	Adjust 65%~100% / Auto Off / On	

All Data (Including Entry List) / Current Signal

Menu	Page 1	Language	English / Deutsch / Français / Italiano / Español / Svenska / 日本語
		Menu Mode	Basic / Custom Menu / Advanced Menu / Service Menu
		Custom Menu Edit	
		Menu Display Time	Manual / Auto 5 sec / Auto 15 sec / Auto 45 sec
		Date Format	MM/DD/YYYY / MM/DD/YYYY ddd / DD/MM/YYYY / DD/MM/YYYY ddd / YYYY/MM/DD / YYYY/MM/DD ddd / Month DD, YYYY / Month DD, YYYY ddd
		Date, Time Preset	Date (MM/DD/YYYY (ddd)) / Time (HH:MM)
	Page 2	Display Select	Date / Time / Input Terminal / Source Name / Projector ID / Message
	Page 3	Menu Colour	Colour / Monochrome
Setup	Page 1	Orientation	Desktop Front / Ceiling Rear / Desktop Rear / Ceiling Front
		Background	Blue / Black / Logo
		Sync Termination (RGB)	Hi-Z / 75 [Ω]
	Page 2	Signal Select	RGB (RGB/Component / RGB / Component)
			Video (Auto/NTSC3.58/NTSC4.43/PAL/PAL-M/PAL-N/PAL60/SECAM)
			S-Video (Auto/NTSC3.58/NTSC4.43/PAL/PAL-M/PAL-N/PAL60/SECAM)
	Page 3	Auto Adjust	On / Off
		Auto Start	On / Off
		Power Off Confirmation	On / Off
		WARP Correction	On / Off (When optional MM-WARP is used, it can choose.)
		Last Memory	On / Off
		Lens shutter on during signal switching	On / Off
	Page 4	Communication Speed	4800 / 9600 / 19200 / 38400
		Projector ID	Enable (1 to 64) / Disable
		Default Source Select	Last / Auto / Select Select: Slot1-1(Video) / Slot1-2(S-Video) / Slot1-3(Component) / Slot2-1(RGB) / Slot3-1(None) / Slot4-1(None) * When the interface boards are installed at the factory.
		Control Panel Key Lock	Enable / Disable

NOTE: The shaded item indicates the default setting.

- Advanced Menu
  - Source Select ▸
  - Adjust (Source) ▸
  - Ref. Adjust ▸
  - Factory Default
  - Projector Options ▸
  - Tools ▸
  - Help ▸
  - Test Pattern

LAN Mode	Status	LAN Card			Build-in / PC Card
		Projector Name			
		IP Address			
		Subnet Mask			
		Gateway			
		MAC Address			
		Advanced	IP Address		Automatic / Manual
					IP Address
					Subnet Mask
					Gateway
					DNS Configuration
					Domain Name
			Network Type	Mode	Infrastructure / 802.11 Ad Hoc / Ad Hoc
					SSID
				Channel	1 to 14
				TX Rate	Automatic / 11M / 5.5M / 2M / 1M / 1M-2M-Automatic
			WEP	WEP	Disable / 64 bit / 128 bit
				Key Select	Key 1 to 4
				Key 1 to 4	
			DHCP	Host Name option	None / Request / Discover/Request
				Host Name	
				Client-Identifer option	None / Request / Discover/Request
				Use Mac Address	On / Off
				Client-Identifer	
		Recconect			
	Mail	Alert Mail			On/Off
		Sender's Address			
		SMTP Server Name			
		Recipient's Adderss 1 to 3			
		Test Mail			
Image Mode		Seamless / 2 Images / Off			
		Effect			None / Wipe Down / Wipe Left / Wipe Up / Wipe Right / Box In / Box Out / Alpha Blending
		Speed			Fast / Medium / Slow
		Mode			Side by Side / Picture in Picture
Password		Menu			Entry / Delete
		Logo			Entry / Delete
Security		Enable / Disable			
		Keyword			
		Use Protect key / Read / Register / Delete			
Timer		On / Off Timer			Active / Inactive / Edit / Delete
		Sleep Timer			Remaining Time / Preset Time
PC Card Files		Execute / Exit / Logo			

- Advanced Menu
- Source Select ▸
- Adjust (Source) ▸
- Ref. Adjust ▸
- Factory Default
- Projector Options ▸
- Tools ▸
- Help ▸
- Test Pattern

Contents		
Source Information	Page 1	Source Name / Input Terminal / Entry No. / Horizontal Frequency / Vertical Frequency / Sync Polarity
	Page 2	Signal Type / Video Type / Sync Type / Interlace / Direct Key
Projector Information	Page 1	Serial Number / Remaining Lamp Time / Lamp Hour Meter / Projector Usage / Projector ID
	Page 2	Version (BIOS / Firmware / Data / FPGA)
	Page 3	Version (Formatter Red) (Boot App / Config / Degamma / Main App / Sequences)
	Page 4	Version (Formatter Green) (Boot App / Config / Degamma / Main App / Sequences)
	Page 5	Version (Formatter Blue) (Boot App / Config / Degamma / Main App / Sequences)

Cross Hatch / Cross Hatch(Inv) / Alignment / Alignment(Inv) / Horizontal Gray Scale / Horizontal Gray Scale(Inv) / Vertical Gray Scale / Vertical Gray Scale(Inv) / Horizontal RAMP / Horizontal RAMP(Inv) / Vertical RAMP / Vertical RAMP(Inv) / Raster(0%) / Raster(25%) / Raster(50%) / Raster(75%) / Raster(100%)	
Red	On / Off
Green	On / Off
Blue	On / Off

Entering Alphanumeric Characters by Using the Menu

Alphabet or numeric characters are used for your IP address or Projector name. To enter IP Address or Projector name, use the software keyboard.
For using the software keyboard, see page E-90.

Entering Alphanumeric Characters by Using the Remote Control Numeric Buttons

Input alphanumeric characters by selecting one character at a time with the numeric (Source/Input) buttons 1through 10(0) and by moving the cursor with the SELECT ► button. After finishing the selection of the characters, press the ENTER button.
Whenever one of the Source/Input buttons on the remote control is pressed, characters will be rotated.

For example: A → B → C → 1 → A → ...

NOTE: When holding and pressing the CTL button and pressing one of the Source/Input buttons, another group of characters will be rotated.
For example: *a → b → c → ! → a → ...*

The alphanumeric characters corresponding to these Source/Input buttons are as follows:

Numeric buttons	Press	Press with CTL
1	A → B → C → 1	a → b → c → !
2	D → E → F → 2	d → e → f → "
3	G → H → I → 3	g → h → i → #
4	J → K → L → 4	j → k → l → $
5	M → N → O → 5	m → n → o → %
6	P → Q → R → 6	p → q → r → &
7	S → T → U → 7	s → t → u → '
8	V → W → X → 8	v → w → x → (
9	Y → Z → / → 9	y → z → ? →)
0	* → , → . → 0	; → : → + → -

* If you have made an error in the input of a character, use the SELECT ◄ button and enter the correct letter or number.

NOTE: Only numbers can be entered when you use the remote control Source/Input buttons while displaying the Software Keyboard.

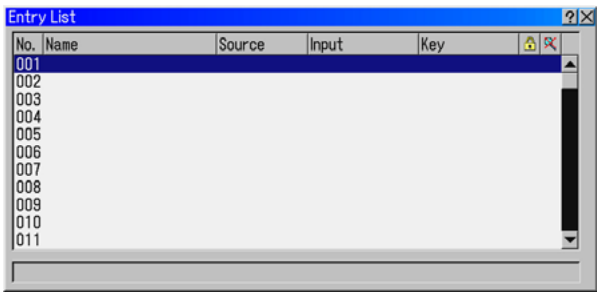
5 Menu Descriptions & Functions

Source Select

Enables you to select a video source such as a VCR, DVD player or PC, etc. depending on what is connected to your inputs.
Press the SELECT ▲▼ buttons on your remote control or the Projector cabinet to highlight the menu for the item you want to project.

NOTE: When switching the signal with the "Seamless Switch" set to "On" and the optional MM-IMGPRO/MM-IMG2K and MM-Scaler board mounted, a little while after the signal has been switched "Transition Ready" will be displayed on the LCD screen of the Projector. Please press the ENTER button at this time. The seamless switching function will be activated.
Please see Page E-66 for information about the image mode function.

Entry List



Displays the list of the entry signals. Use the SELECT ▲▼ buttons on your remote control or the Projector cabinet to select the signal and press the ENTER button on the remote control or the Projector cabinet to display the Entry Edit Command screen.

Using the Entry List

Making any adjustments to the current picture will automatically register its adjustments to the Entry List. The registered signal can be loaded any time from the Entry List.

NOTE: Up to 100 presets can be registered.

Entry Edit Command

You can edit signals on the Entry List.

Load ..... Enables you to select a signal from the list.

NOTE: This can be done by pressing CTL and ENTER buttons.

Store ..... Enables you to store the currently projected signal.

NOTE: This can be done by pressing CTL and ENTRY LIST buttons.

Cut ..... Enables you to remove a selected signal from the list and place it on the "clipboard" in the Projector.

Copy ..... Enables you to copy a selected signal from the list and place it on the "clipboard" in the Projector.

Paste ..... Enables you to paste the signal placed on the "clipboard" to any other line of the list. To do this, select "Paste" and then select the line number you want to paste to. Last press ENTER.

Edit ..... Enables you to change source names or assign the direct key.

Source Name

Enter a signal name. Up to 18 alphanumeric characters can be used.

Input Terminal

Change the input terminal.

Direct key

You can assign specific remote keys for direct signal input selection.

Lock

Set so that the selected signal cannot be deleted when "All Delete" is executed. The changes cannot be saved.

Skip

Set so that the selected signal will be skipped during auto search.

When complete, select OK and press ENTER. To exit without storing setting, select Cancel. Select "Source Name" and press ENTER to display the Source Name Edit window. You can change source name on this window. Press [▼] to display the software keyboard, which you can enter alphanumeric characters. See page E-90 for the key function of the software keyboard.

All Delete ..... This feature enables you to delete all the registered signals in the Entry List.

The following buttons are not available for the currently projecting signals:

1) The Cut and Paste buttons on the Entry Edit Command screen

2) The Input Terminal button on the Entry Edit screen

Adjust (Source)

Picture

Brightness

Adjusts the brightness level or the back raster intensity.

Contrast

Adjusts the intensity of the image according to the incoming signal.

Saturation

Adjust saturation at the white peak.

Colour

Increases or decreases the colour saturation level (not available for RGB).

Hue

Varies the colour level from +/- green to +/-blue. The red level is used as reference. This adjustment is only valid for Video and Component inputs (not available for RGB).

Sharpness

Controls the detail of the image for Video (not available for RGB).

Setup Level

"7.5 IRE" must be chosen to project products manufactured in USA.

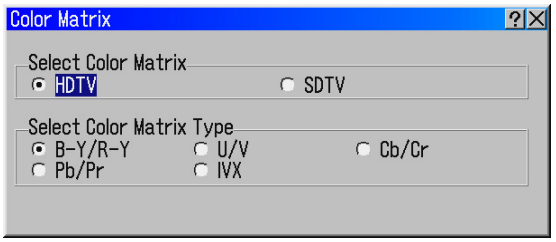
Video Adjust (not available for RGB)

Noise Reduction

Select one of the three levels for reducing video noise: Low, Medium or High.

NOTE: The lower the Noise Reduction level, the better the image quality by way of higher video bandwidth.

Colour Matrix



Select an appropriate colour matrix for your input signal, either HDTV or SDTV.

Y/C Delay

Adjusts Y/C delay level.

YTR Adjustment

Adjusts luminance transient time.

CTR Adjustment

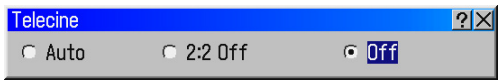
Adjusts chroma transient time.

DigiView - SweetVision

The SweetVision feature provides improvement of contrast using a proprietary detail enhancement technology.
This is valid when there is signal input to MM-VIDEO and to the MM-SDI (option).

NOTE: This feature is not available for 480p, 576p and HDTV signals.

Telecine



Use 3:2 pull down correction to eliminate jitter and artifacts in video.

Auto ..... For film source such as a DVD player

2:2 Off ..... The telecine signal detection and compensation will be performed automatically only when the 2:3 pull-down signal is input. Select this when entrance is not desired to the 2:2 pull-down signal detection mode.

Off ..... For signals other than film sources

NOTE: This feature is not available for 480p and 576p signals.

3D Y/C Separation

This option turns on or off the 3 dimension separation feature.

NOTE: This feature is available for NTSC3.58 of Video signal only.

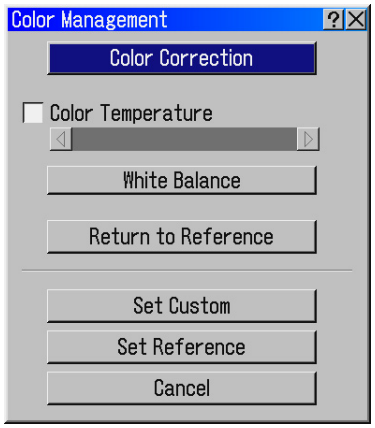
Vertical Detail Correction

Horizontal line on picture signal can be sharpened by increasing setting value.

NOTE: This feature is not available for RGB signal.

Colour Management

Colour Management



Setup relating to picture colour will be done.
Vivid palette, pastel vision, colour temprature and white balance can be adjusted as your choice.
Each set value is saved as exclusive use of projected signal set value, and also those can be saved as default value for this equipment.

Colour Correction (Item relating to colour adjustment)
Adjusts red, green, blue, yellow, magenta, cyan and colour gain each independently to correct the tint on whole screen.

Colour Temperature (Item relating to colour adjustment)
This feature adjusts the colour temperature using the slide bar. Checking "Colour Temperature" enables the colour temperature slide bar.

White Balance (Item relating to colour adjustment)
Press the White Balance button to access the Contrast/Brightness adjustment for each R, G, and B.

Return to Reference (Item relating to colour adjustment)
- Each set value of colour correction, colour temperature and white balance is reset. (Set back to this equipment's default value)
- Point the cursor to "Reset" and ENTER button is pressed, confirmation screen shows up. Point the cursor to "Confirm" and ENTER button is pressed, the set value is set back.

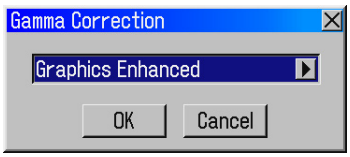
NOTE:
- *Once the RESET is excuted, undo can't be done even CANCEL on colour management screen is excuted.*

Set Custom (Item relating to set value memory)
Each set value for colour correction, colour temperature and white balance can be saved to memory as exclusive use of currently projected signal set value. The screen is shut down after saving.

Set Reference (Item relating to set value memory)
Each set value for colour correction, colour temperature and white balance can be saved to memory as this equipment's default value (the value set when reset). The screen is shut down after saving.

Cancel (Item relating to set value memory)
Each set value for colour correction, colour temperature and white balance screen is shut down without saving set value to memory. Each set up is set back to status before colour management screen is opened.

Gamma Correction



Gradation of picture is selected. By doing this, dark parts can be expressed clearly.

Graphics Enhanced ..... Correction fit to graphic signals is done.

Graphics/NTSC ..... Corrections fit to graphic signals and NTSC signals are done.

NTSC Enhanced ..... Correction fit to NTSC signals is done.

PAL/SECAM2.8 ..... Gamma correction value 2.8 is corrected.

PAL/SECAM Enhanced ..... Correction fit to PAL signals and SECAM signals are done.

Gamma 1.0 - 3.0 ..... Gamma value is set by 0.1 step.

Note:
If [Edge Blending] is “On”, [Gamma Correction] is not available and greyed out. At this time, the gamma correction value is fixed to the value set in [Gamma] on [Edge Blending] screen.

Image Options

Pixel Adjust

Displays the Clock and Phase adjustments.

Clock ..... Use this item to fine tune the computer image or to remove any vertical banding that might appear.

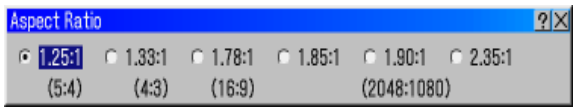
Phase ..... Use this item to adjust the clock phase or to reduce video noise, dot interference or cross talk. (This is evident when part of your image appears to be shimmering.) Use the SELECT ◄ and ► buttons to adjust the image.

Use "Phase" only after the "Clock" is complete.

Position

Adjusts the image location horizontally and vertically using the SELECT ◄ and ► buttons.

Aspect Ratio



You can select the aspect ratio for input signal.
Select the appropriate aspect ratio using the SELECT ◄ or ► button.

NOTE:
• When "Resolution" is set to "Native", this feature is not available, and the aspect ratio is set to “1.33:1 (4:3)”.

Resolution

This allows you to activate or deactivate the Advanced AccuBlend feature.

Auto ..... Turns on the Advanced AccuBlend feature. The projector automatically reduces or enlarges the current image to fit the full screen.

Native ..... Turns off the Advanced AccuBlend feature. The projector displays the current image in its true resolution.

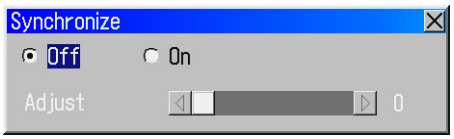
NOTE:
** When "Resolution" is set to "Native", "Aspect Ratio", "Screen" and "Overscan" are not available.*

Overscan

Select overscan percentage (0%, 5%, 8% and 10%) for signal.

NOTE: When "Resolution" is set to "Native", this feature is not available, and the stored settings and adjustments are invalid.

Synchronize



Sets display vertical frequency to be synchronized with input signal. RGB signals only.

OFF ..... Display vertical frequency - is independent of input signal - displayed picture is fixed at 60Hz.

ON ..... Display vertical frequency - is synchronised with input signal.
Frequency range of synchronization is from 24Hz to 60Hz. If vertical frequency is outside of the range 24Hz to 60Hz, set “OFF”.
When a horizontal line (the edge of picture) is displayed on the screen, perform “Adjust”.
If “ON” is set for (Synchronize) when the optional MM-WARP is used and the vertical frequency of input signal ranges from 76Hz to 96Hz, no images can be displayed in the native resolution, but they must be resized.

ADJUST ..... When a horizontal line (the edge of picture) is displayed on the screen while Synchronize is “ON” it can be removed using SELECT ◄ ► button on the remote controller.

Note: Default is Synchronize ON for SDTV, HDTV, RGB 50Hz, 60Hz signals.

Video Filter

This function reduces video noise.

Off ..... The filter is removed.

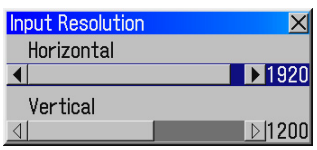
Less ..... The low-pass filter is applied partially.

More ..... The low-pass filter is applied fully.

Blanking

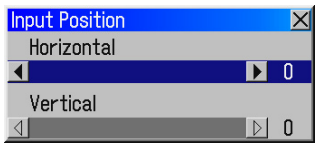
This feature allows you to mask any unwanted area of the screen image.
Adjust the Top, Bottom, Left or Right blanking with the SELECT ◄ or ► button.

Input Resolution



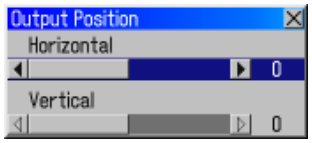
This adjusts the resolution of the video area of the signal that is input to the resolution conversion processing section. When the resolution of the input signal cannot be detected properly with Auto Adjust, this function can be used to manually set the correct resolution.

Input Position



This adjusts the position of the video that is input to the resolution conversion processing section.
It is the same function as “Input Position” within the “Edge Blending” screen.

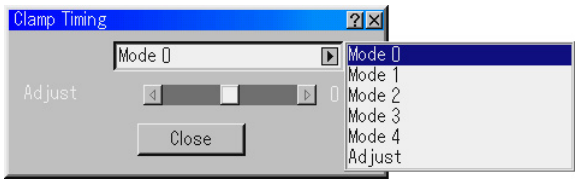
Output Position



This adjusts the image output position on the display panel. If the image is displayed smaller than the allowable image area of the projector (such as native resolution), this output can be adjusted as needed.

Option Adjust

Clamp Timing



According to the signal, this function sets the detection position (i.e., clamp position) of the black level reproduction of the analog input signal. Normally this is not used.

Mode 0-4 ..... Select the appropriate one.

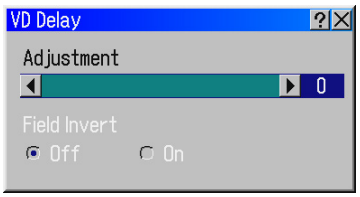
Adjust ..... This permits the video clamp position for each signal to be set. Use "Adjust" when a clamp timing error occurs at the time of special analog signal reception such as 1080P. Note that "Adjust" is not valid for doubler signals such as NTSC and PAL.

To delete the "Clamp Timing" setting screen, select the SELECT ▼ button and press the ENTER button, or press the remote control CANCEL button.

Sync Protection

When a VCR, DVD, or some other equipment that supports Copyguard (a copy prevention system) is played back, the screen may be displayed in a curved manner. Adjustments are made in such circumstances. Use the SELECT ◄ or ► button to adjust the VD level.

VD Delay

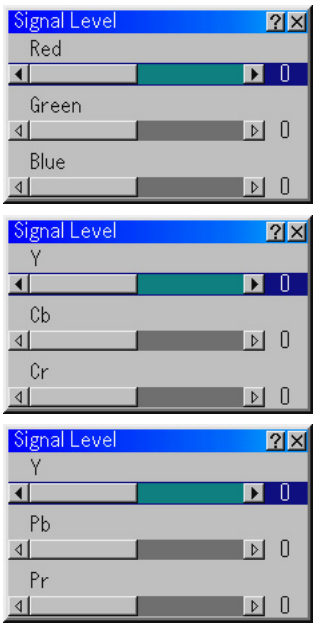


Adjustment:
This feature is used to correct vertical jitter of a signal.

NOTE: When connecting with a scan converter:
If an image from the scan converter is not correctly displayed, adjust to select the best level point so that the image is displayed correctly.

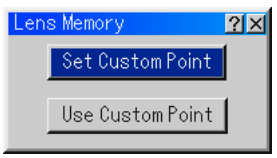
Field Invert: (Upgrade support scheduled)
This feature is used to correct diagonal lines of a non-standard interlaced signal when they appear jaggy.
Invert the odd or even field of a video signal.

Signal Level



R/G/B, Y/Cb/Cr or Y/Pb/Pr Gain:
Adjust RGB, Component or HDTV Gain to match multiple projector colour uniformity.

Lens Memory



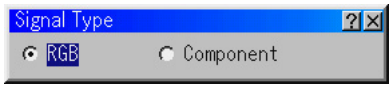
This function serves to store or apply the adjusted value when using the Shift, Focus and Zoom buttons on the projector or the remote control.

Set Custom Point ..... Store the current adjusted values in memory.

Use Custom Point ..... Apply the adjusted values to the current signal.

NOTE:
- *To enable the Lens Memory feature, select [Ref. Adjust] → [Ref. Lens Memory] and place a check mark next to "Yes" for [Use Point on Signal Change?].*
- *To store adjusted values common to all the input sources, use the Ref. Lens Memory. See page E-56.*

Signal Type



Select either the RGB signal type or the Component signal type.

RGB ..... RGB signal

Component .. Component signals such as Y/Cb/Cr, Y/Pb/Pr

NOTE: This feature is available on RGB only. If you do not get a better picture even when you set "Signal Select" to "Component" in Setup, set this to "Component".

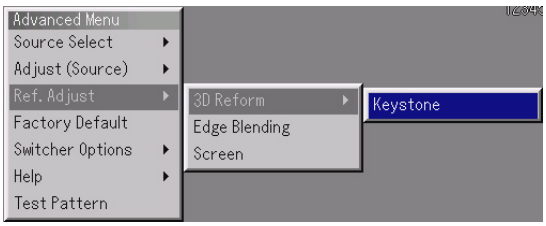
Ref. Adjust

3D Reform

This feature corrects trapezoidal distortion so that the projected image is rectangular.
Operation of 3D Reform is available whether MM-WARP (optional) is used or not.

MM-WARP- not installed or not active
When MM-WARP is not installed (optional) or installed but not active only vertical adjustment in Keystone Correction is possible.
(For de-activation set no check mark on "Projector Options" → "Setup" → "page 3" → "WARP Correction".)

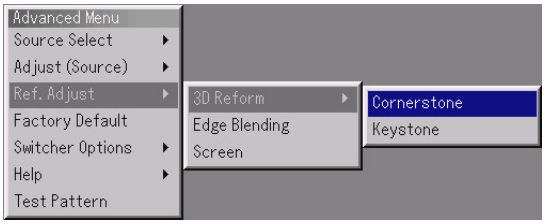
Keystone Correction

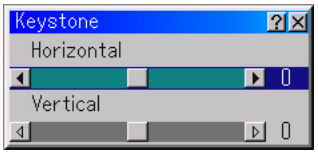


1. *Press SELECT Button - Adjust screen size in vertial direction.*
2. *Press ENTER Button after adjusting screen size - Return to the menu.*

MM-WARP - active
When MM-WARP (optional) is installed and active both vertical and horizontal adjustment in Keystone Correction is possible.
(To activate set check mark on "Projector Options" → "Setup" → "page 3" → "WARP Correction".)

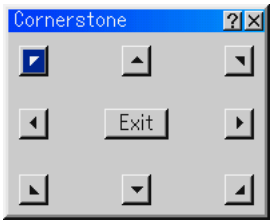
Keystone Correction



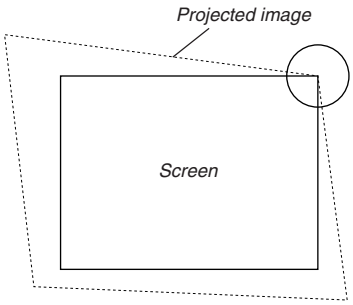


1. *Press SELECT Button - Adjust screen size in horizontal direction.*
2. *Press SELECT Button - Choose "Vertical".*
3. *Press SELECT Button - Adjust screen size in vertical direction.*
4. *Press ENTER after adjusting screen size. - Return to the menu.*

Cornerstone

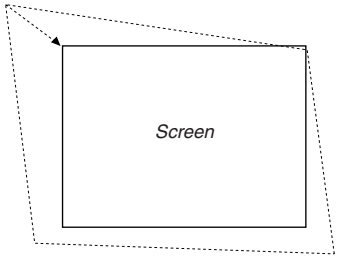


1. *Project an image so that the screen is smaller than the area of the raster.*
2. *Pick up any one of the corners and align the corner of the screen with the one of the image.*

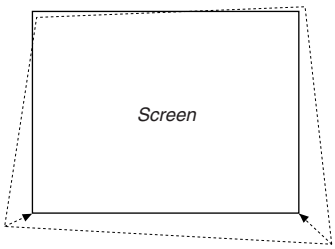


(The drawing shows the upper right corner.)

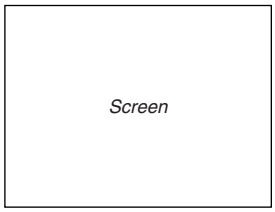
3. *Use the SELECT ▲▼◄► button to select one icon which points in the direction you wish to move the projected image frame.*



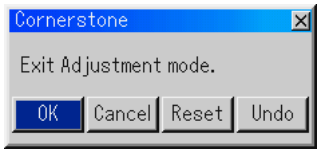
4. *Press the ENTER button.*
5. *Use the SELECT ▲▼◄► button to move the projected image frame as shown on the example.*
6. *Press the ENTER button.*



7. *Use the SELECT ▲▼◄► button to select another icon which points in the direction.*



8. *Repeat 4-7.*
9. *On the Cornerstone adjustment screen, select "Exit" and then press the ENTER button.*
   The confirmation screen is displayed.

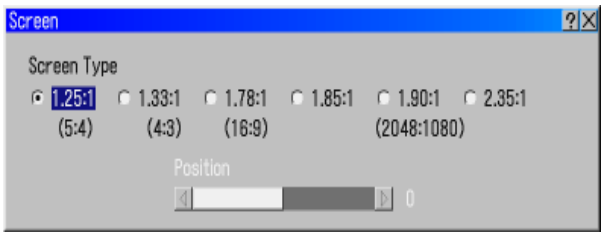


10. *Press the SELECT ◄ or ► button to highlight the [OK] and press the ENTER button.*
    This completes the keystone correction.
    Selecting "Cancel" will return to the adjustment screen without saving changes (Step 3).
    Selecting "Reset" will return to the factory default.
    Selecting "Undo" will exit without saving changes.

NOTE:
- *In the case "Resolution" is set as "Real", "3D Reform" can't be chosen.*
- *In the case keystone warp is adjusted by "3D Reform", "Aspect" or "Screen Setup" can't be changed in some case. In such a situation, "3D Reform" adjusting value must be reset first and each setup must be changed. After that keystone warp should be changed again.*
- *In the case using MM-WARP (optional), some internal part of picture signal will be 8 bit process.*
- *Ask the shop this equipment was purchased when MM-WARP (optional) implementation is necessary.*
- *In the case Keystone Correction's vertical setup value is adjusted when MM-WARP is not in use, the data will be reflected when MM-WARP is used, however, adjustment content will be different. Re-adjust setup value as circumstance demand.*
- *When 3D Reform is done, picture quality is degradated comparing to no adjustment done.*
  Also, when screen is warped in a large scale, the noises occasionaly show up on the screen.

NOTE:
- *"3D Reform"'s adjustment value is saved even this equipment is OFF. To restore the adjustment value to factory default setting, press "Keystone Button" on the remote controller for more than 2 seconds.*
- *Press the remote controller's "Keyston Button" while "3D Reform" screen is activated. Each time the button is pressed, [Cornerstone] screen and [Keystone] screen are shown one after another.*
- *The indicated adjustment ranges are following;*
  Horizontal direction .... ± 30 degrees (maximum)
  Vertical direction ..... ± 40 degrees (maximum)
  • When horizontal and vertical adjustment is occured at a time, the adjustment range will be narrower.
- *Curved Line Warp Correction*
  Only linear screen warp is adjusted by Cornerstone Correction. Curved screen adjustment to correct for lenses or screens (cylindical or spherical) can be adjusted by an application software, Geometric Correction Tool.
  The Geometric Correction Tool is available from Digital Projection please contact your dealer. Geometric Correction Tool version 3.0 or higher is recommended.

Screen



Screen Type

Select the correct aspect ratio for the screen to be used.
See also "Aspect Ratio" on page E-53.

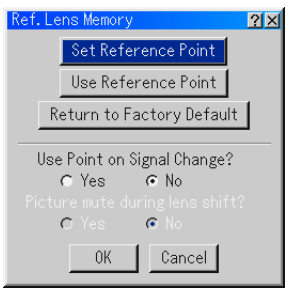
NOTE:
- *When "Resolution" is set to "Native", this selection is inactive.*

Position

This feature adjusts the vertical position of the image when viewing video with an aspect ratio selected.
When some aspect ratios are selected in Image Options, the image is displayed with black borders on the top and bottom. You can adjust the vertical position between top and bottom.

NOTE: This option is available only when "1.78:1 (16:9)", "1.85:1" and "2.35:1 " are selected in Screen Type and Aspect Ratio.

Ref. Lens Memory



This function serves to store the adjusted value common to all input sources when using the Shift, Focus, and Zoom buttons of the main unit or the remote control.

Set Reference Point	Stores the current adjusted values in memory as a reference.
Use Reference Point	Applies the adjusted values stored in Set Reference Point to the current signal.
Return to Factory Default	Returns the adjusted values to the factory default setting.
Use Point on Signal Change?	For change to take effect at the time of source selection, select "Yes".
Picture Mute during Lens Shift? ...	To turn off the image and sound during lens shift, select "Yes".

NOTE: This option is only available when "Yes" is selected for "Use Point on Signal Change?".

Even if “CANCEL” is executed, changes to “Set Reference Point”, “Use Reference Point” and “Return to Factory Default” will not be canceled.

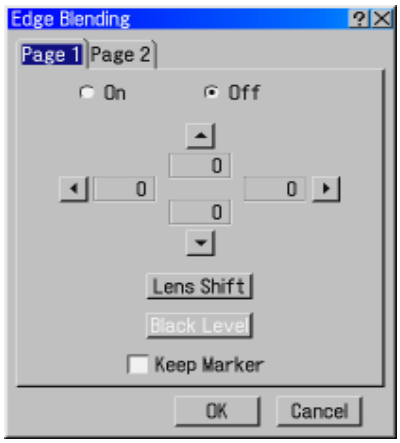
* See "Tips on Adjusting Focus" on page E-31 for more information.

NOTE:
- *Adjusted values in Ref. Lens Memory will not be returned to default by using the Factory Default.*
- *To store adjusted values for each input source, use the Lens Memory.*

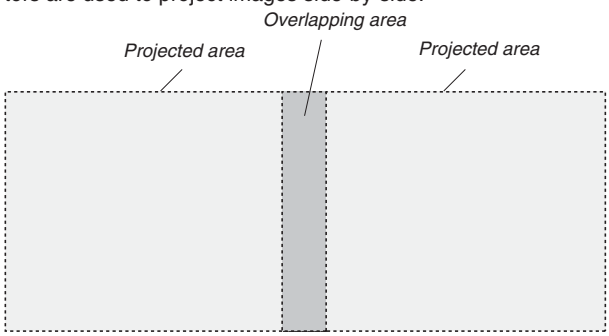
NOTE: In the Link mode the Lens Memory feature is not available.

Edge Blending

When two or more projectors are used to project images lined up horizontally or vertically, a blending adjustment can be performed to make the borders of the adjacent images less conspicuous.



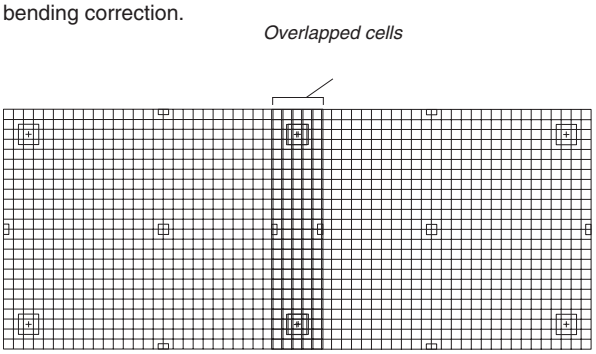
This description is of an adjustment example in which 2 Projectors are used to project images side-by-side.



Preparation:
Set the lens position of each projector as close to centre as possible. If projection is not central in the lens then some image distortion may occur and images from two projectors may not be successfully superimposed.

Making the image quality of each projector as uniform as possible will allow the screen edges (boundaries) to be less conspicious.

- Installing the projector
Using the test pattern “Cross Hatch” in the projector, superimpose the images so that the height of the two projected images is the same and distortion does not appear. If the number of pixels in the superimposed area has been determined in advance, the blending correction range can be easily adjusted in the following bending correction.



- Adjusting the range of the superimposed area (blending correction range)
This adjustment is saved as Ref. Adjust data for the projector.

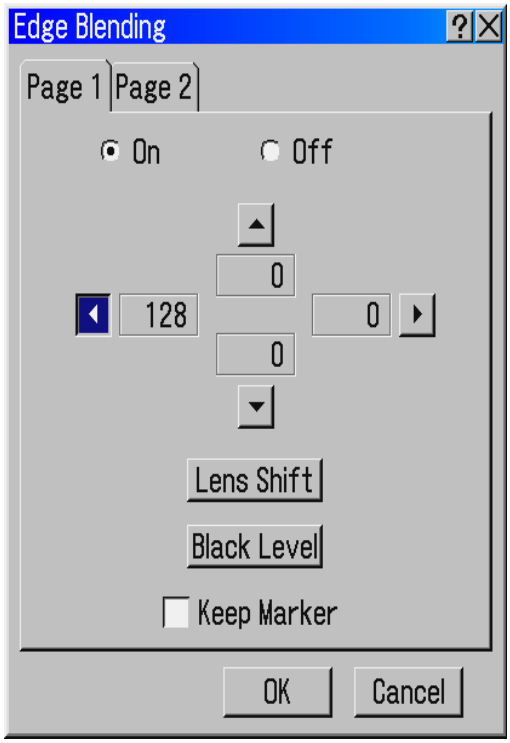
(1) Select “ON” in the [Edge Blending] - [Page 1] screen.

(2) From among the 4 location of ▲ marks on the [Edge Blending] - [Page 1] screen, move the cursor to the ▲ mark that is the same direction as the side on which you would like to perform blending correction of the projector’s projection screen.

- In the example above, select the ► mark in the left projector to adjust the right side of projected image, and select ◄ mark in the right projector to perform blending correction on the left side of the right projector. Next press ENTER button.

(3) Perform blending correction for the left hand edge of the Right projector.
Use ◄ to adjust the blend of the Right projector and press ENTER.

- To change the number of pixels in the superimposed area, input a new value using the Remote Control numeric buttons, then press ENTER.
If this value is not certain, align the marker on the projected image to determine the blending range and press ENTER.



(4) Perform blending correction for the Right hand edge of the Left projector.
Use ► to adjust the blend of the left projector and press ENTER.

- To change the number of pixels in the superimposed area, input the same value as used in (3) above using the Remote Control numeric buttons, then press ENTER.
This value can also be adjusted using ◄ *or* ►, on the remote control.

- Adjusting the lens shift
Fine position adjustment of the images projected is allowed. This adjustment is saved as Ref. Adjust data.

1. On the [Edge blending] - [Page 1] screen, select "Lens Shift".
- [Lens Shift] screen appears.

2. Using the SELECT button on the remote control, adjust the positions of the projected images.
- Set the adjustment value to a minimum. A larger value may warp images, and the superimposed area may not be correctly adjusted.

3. After the lens shift adjustment is completed, press the CANCEL button.
- The screen goes back to [Edge Blending] - [Page 1] screen.

- Adjusting the black level
If two projectors are used for projection, the superimposed areas can appear brighter with no input signal.
Adjust the black level of the non-superimposed area to be as bright as the superimposed area, so that even with no signal input, the brightness of the whole screen is the same.
This adjustment is saved as reference setting data in the projector.

(1) Select "Black Level" in the [Edge Blending] - [Page 1] screen.
Image disappears, and the adjustment bar is displayed.

(2) Adjust the screen brightness evenly using the ▲ ▼◄ ► buttons on the remote controller.

▲ ▼ buttons: Increases/Decreases the correction value in steps of 10.
◄ ►buttons: Increases/Decreases the correction value in steps of 1.

Adjust the brightness of the dark part (non-superimposed area) and that of the bright area (superimposed area) so that the whole screen brightness is even. Before this adjustment, perform (1) for each projector.
To perform edge blending when two or more projectors are used, adjust the brightness in the same way so that the brightest superimposed area is as bright as the non-superimposd area.

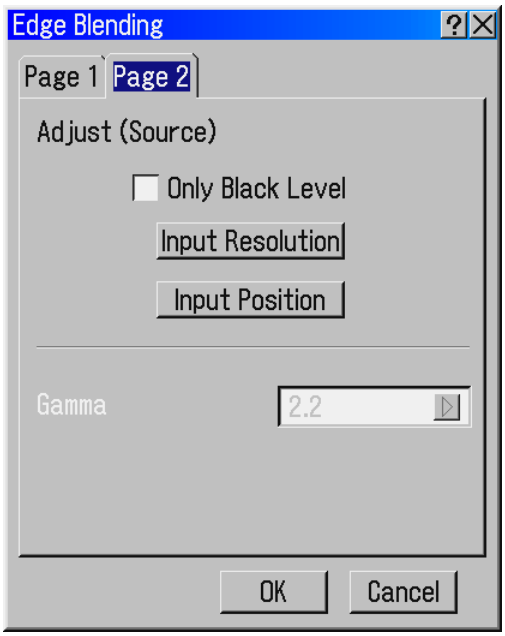
(3) Press the ENTER button when the adjustment of black level has been completed.
[Edge Blending] - [Page 1] screen reappears.

- Setting the "Keep Marker" check box
Check this box to display the marker even after the [Edge Blending] screen is exited.

1. On the [Edge Blending] - [Page 1] screen, check the "Keep Marker" check box, and press the ENTER button.
- The check box is checked.
- The marker is displayed even after the [Edge Blending] screen is exited.
- If the projector is placed on standby, the check box is automatically unchecked.

- Adjusting the image output range and position
Adjust the output range and position of images projected by each projector when two projectors are used to display one combined-image. Connect the desired video signals to two projectors, and adjust the following while projecting the images. This adjustment is possible per signal.

(1) In "Input Resolution" on the [Edge Blending] - [Page 2] screen, adjust the area for each projector to display.
In the example, two projectors display the left and right half respectively. Enlarge each half using the horizontal adjustment bar.



(2) In [Input Resolution] on the [Edge Blending] - [Page 2] screen, adjust the output position of images to be enlarged through each projector.

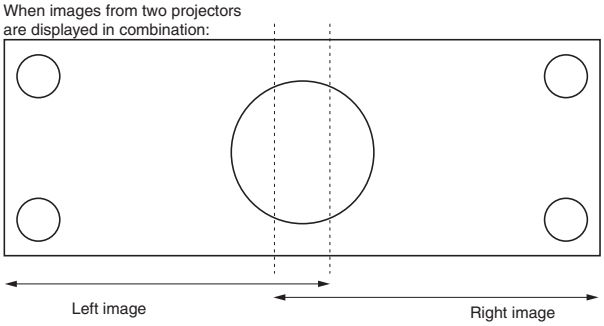
(3) Adjust the settings in (1) and (2) so that images on the screen are superimposed.

(4) Select “Adjust (Source)” → “Image Options” → “Blanking” of the Advanced Menu and hide the left and right unrequired portions of the screen as required.

- Checking the “Black Label Only” check box
  If images are displayed by two or more projectors together, blending correction is necessary. On the other hand, if images are separately displayed by each projector, blending correction must be set to “OFF”.

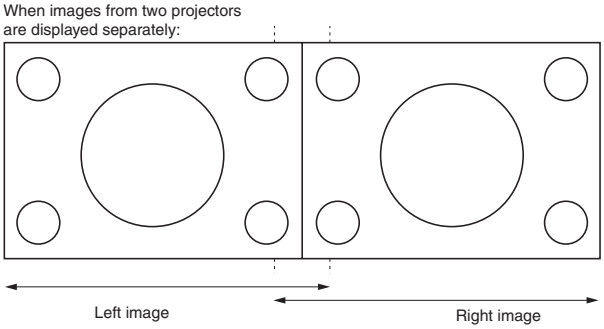
Blending area
Blending correction is necessary
Black level correction is necessary

When images from two projectors are displayed in combination:



Blending area
Blending correction is unnecessary
Black level correction is necessary

When images from two projectors are displayed separately:



Adjust the image size and position by setting [Resolution], [Input Position] and [Output position] in Image Options.

Checking the [Black Level Only] check box in the [Edge Blending] - [Page 2] screen is assumed that blending correction is off and only the black level correction is allowed. This adjustment is possible per signal.

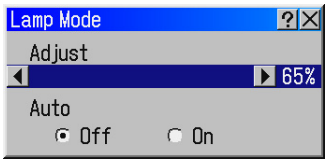
Note:
In edge blending, when the projector displays images in full size on the screen, the four edge lines of the screen are the standard (correction range value is 0) position to fix the blending correction range.

Blending correction can’t provide the optimal images when projected image is smaller than full size screen according to setting of the Screen Setup (Page 83) and Aspect setup (Page 76).

If blending correction is “ON”, “Gamma” of images is fixed to the gamma value displayed on the [Edge Blending] screen.

HL12000HD and HL10000HD projectors enable the edge blending functions only when selecting an advanced menu, [Ref. Adjust] → [Screen], and “1.90:1” as the screen type.
Set “16:9” as the screen type in [Screen] when MM-WARP option is used.

Lamp Mode



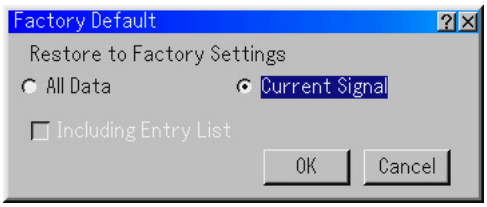
Lamp brightness can be adjusted to 8 levels or automatically adjusted.

Adjust ..... Choices of levels: 65%, 70%, 80%, 85%, 90%, 95%, 100%

Auto ..... Automatic adjustment is made when “ON” is selected.

Auto maintains same power after a power cycle.

Factory Default



All Data /Current Signal
The Factory Default feature allows you to change adjustments and setting to the factory preset for source.

All Data ..... Reset all the adjustments and settings for all the signals to the factory preset except Language, Background, Communication Speed, Projector ID, LAN Mode, Password and Security.

Including Entry List:

Also deletes all the signals in the Entry List and returns to the factory preset.

NOTE: Locked signals in Entry List cannot be deleted.

Current Signal
..... Resets the adjustments for the current signal to the factory preset levels.

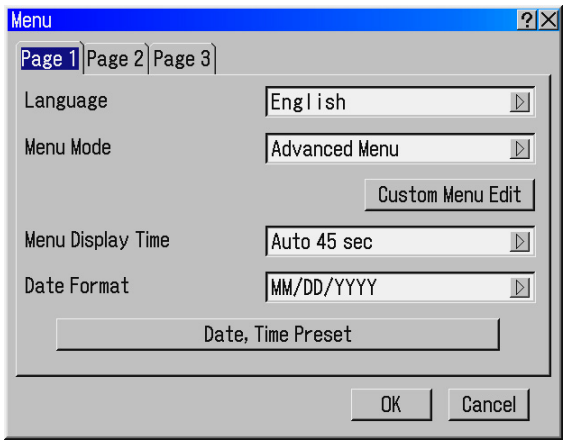
All the items in "Adjust (Source)" can be reset.

NOTE: Locked signals in Entry List cannot be reset.

Projector Options

Menu

[Page 1]



Selecting Menu Language [Language]
You can choose one of seven languages for on-screen instructions. The options are: English, German, French, Italian, Spanish, Swedish and Japanese.

Selecting Menu Mode [Menu Mode]
This feature allows you to select 4 menu modes: Advanced, Custom, Basic and Service Menu.

Advanced Menu ..... This is the menu that contains all the available menus and commands.
Basic Menu ..... This is the basic menu that contains minimum essentials of menus and commands.
Custom Menu ..... This is the menu that you can customize using the Custom Menu Edit to fit your needs.
Service Menu ..... For service personnel only.

Customizing the Menu [Custom Menu Edit]
See page E-44 for instructions about how to customize the Menu.

Selecting Menu Display Time
This option allows you to select how long the Projector waits after the last touch of a button to turn off the menu.
The preset choices are "Manual", "Auto 5 sec", "Auto 15 sec", and "Auto 45 sec". The "Auto 45 sec" is the factory preset.

Manual ..... The menu can be turned off manually.
Auto 5 sec ... The menu will automatically be turned off in 5 seconds if no buttons are pressed within 5 seconds.
Auto 15 sec . The menu will automatically be turned off in 15 seconds if no buttons are pressed within 15 seconds.
Auto 45 sec . The menu will automatically be turned off in 45 seconds if no buttons are pressed within 45 seconds.

Selecting Date Format
Eight display formats can be selected. This date format sets the current date that appears on the upper left corner of the screen.

Setting the Current Date and Time [Date, Time Preset]
You can set the current time, month, date, and year.

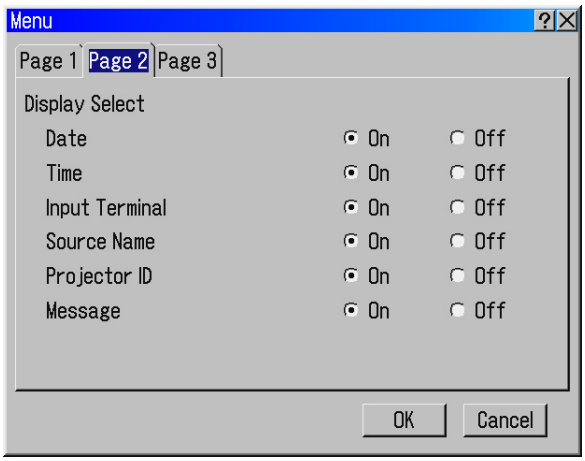
1. Type in date.
Enter month, date and year in this order using Source/Input buttons on the remote control.
Month and date must be entered in two digits. For example, to display "February", press "0" and "2".

2. Type in time.
Time is expressed in the 24-hour format. For example, 6:00 p.m. is entered as 18:00.

3. Select "OK" and press ENTER.
Closing the window allows the clock to start.
The current year, month, date and time are displayed on the top of the screen.

NOTE: The Projector has a built-in clock. The clock will keep working for about 3 days after the main power is turned off. If the main power is off for 3 days or more, the built-in clock will cease. If the built-in clock ceases, set the date and time again. The built-in clock will not cease while in the standby condition.

[Page 2]

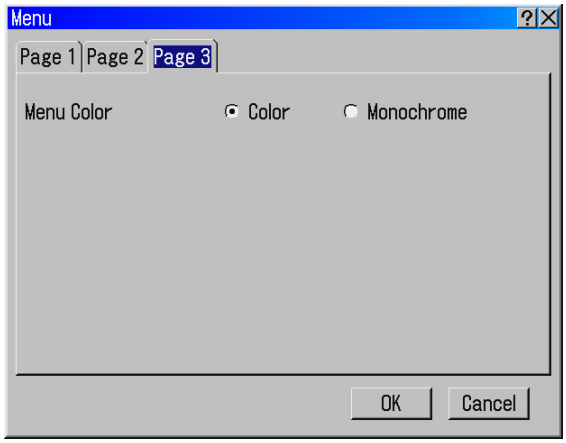


Display Select
You can choose the desired status information to be displayed on the screen.

The information selections are:
Date, Time, Input Terminal, Source Name, Projector ID and Message.

The Message selections are:
“Wait a moment”.

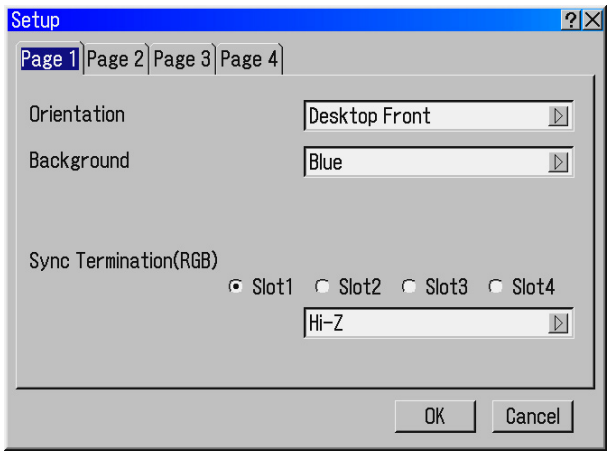
[Page 3]



Selecting Menu Colour [Menu Colour]
You can choose between two colour modes for menu colour: colour and monochrome.

Setup

[Page 1]



Selecting Projector Orientation [Orientation]
This reorients your image for your type of projection.
The options are : desktop front projection, ceiling rear projection, desktop rear projection, and ceiling front projection.

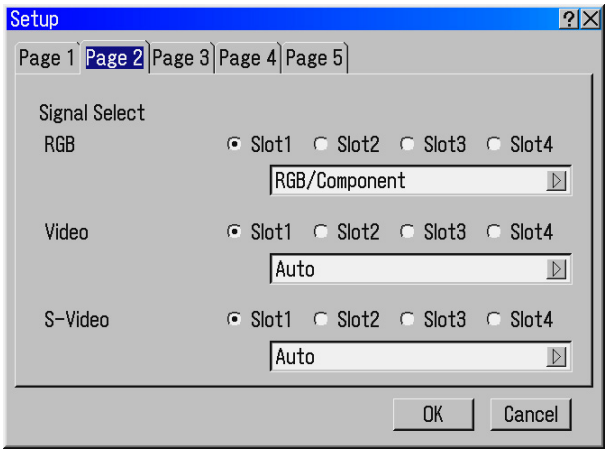
Selecting a Colour or Logo for Background [Background]
Use this feature to display a blue/ black screen or logo when no signal is available. The default background is "Blue".

NOTE:
- *When "Logo" is selected, the "DIGITAL PROJECTION" logo is displayed.*
- *The background will not change when the Factory Default is performed.*

Sync Termination (RGB)
This function is used to select the impedance of the sync signal.
Select "75Ω" or "Hi-Z".

NOTE: This should be "75Ω" for normal use. Select the "Hi-Z" when inputting a TTL signal.

[Page 2]



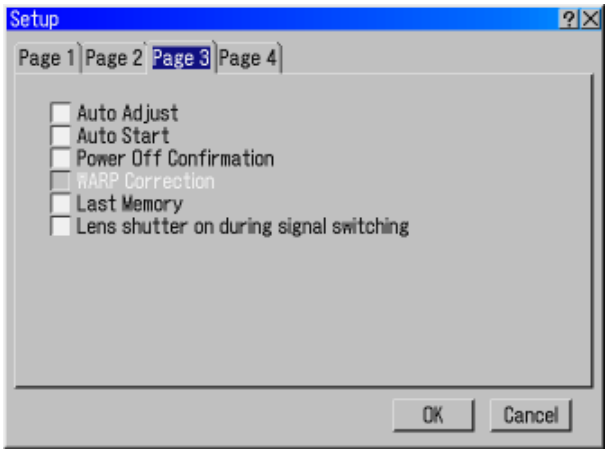
Selecting Signal Format [Signal Select]

RGB
Allows you to choose "RGB" for an RGB source such as a computer, or "Component" for a component video source such as a DVD player.
Normally select "RGB/Component" and the Projector automatically detects an either incoming signal. However there may be some component signals that the Projector is unable to detect. If this is the case, select "Component".

Video, S-Video
This feature enables you to select composite video standards manually.
Normally select "Auto". Select the video standard from the pulldown menu.
Composite video standards are as follows:

NTSC ..... U.S. TV standard for video in U.S. and Canada.
NTSC4.43 ... TV standard used in Middle East countries.
PAL ..... TV standard used in Western Europe.
PAL-M ..... TV standard used in Brazil.
PAL-N ..... TV standard used in Argentine, Paraguay and Uruguay.
PAL60 ..... TV standard used for NTSC playback on PAL TVs.
SECAM ..... TV standard used in France and Eastern Europe.

[Page 3]



Enabling Auto Adjust [Auto Adjust]

When "Auto Adjust" is set to "On", the Projector automatically determines the best resolution for the current RGB input signal to project an image.

The image can be automatically adjusted for position and stability; "Horizontal Position", "Vertical Position", "Clock", "Phase" and "Resolution".

On ..... Automatically adjusts image "Horizontal Position", "Vertical Position", "Clock", "Phase" and "Resolution".

Off ..... User can adjust the image display functions ("Horizontal Position", "Vertical Position", "Clock", "Phase" and "Resolution") manually.

Enabling Auto Start [Auto Start]

Turns the Projector on automatically when the power cable is inserted into an active power outlet and the main power switch is turned on.

This eliminates the need to always use the "Power" button on the remote control or the Projector cabinet.

Enabling Power Off Confirmation [Power Off Confirmation]

This option determines whether a confirmation dialog for turning off the Projector will appear or not.

WARP Correction

This check box is valid when MM-WARP (optional) is installed. When check box is checked, more “3D Reform” functions will be able to be used as following.

- Cornerstone Correction
- Keystone Correction adjustment in horizontal direction
- Curved Warp Correction by Geometric Correction Tool

Enabling Last Memory [Last Memory]

The Projector stores the last signal data in memory for each input (Slot 1, Slot 2, Slot 3, Slot 4).

This feature will reduce switching time between sources. If a commercially available switcher is connected, turning on this feature may cause the image to appear incorrectly.

Should this happen, turn this feature off to mute the screen during switching.

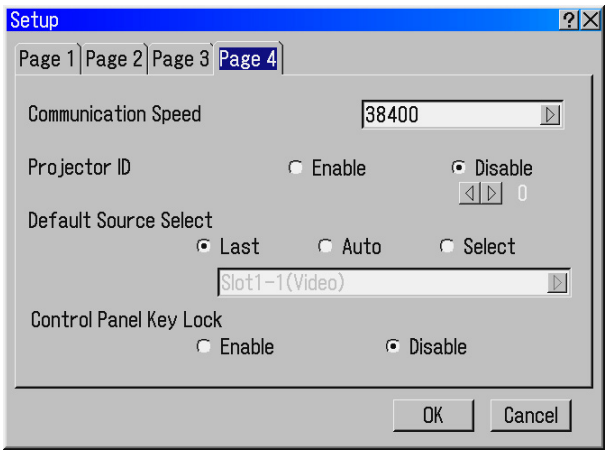
Lens Shutter on During Signal Switching

While switching the signals (screen image is muted), the light can be absolutely shut out from the lens simultaneously with shutter.

With Check Mark ..... While switching the signals and muting the images, shutter is simultaneously activated.

Without Check Mark ..... While switching the signals and muting the images, shutter is deactivated.

[Page 4]



Selecting Communication Speed [Communication Speed]

This feature sets the baud rate of the PC CONTROL port (D-Sub 9 Pin). It supports data rates from 4800 to 38400 bps. The default is 38400 bps. Select the appropriate baud rate for your equipment to be connected (depending on the equipment, a lower baud rate may be recommended for long cable runs).

Enabling and Disabling Projector ID

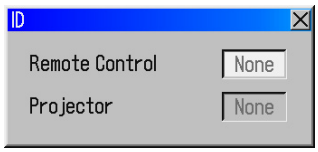
Each Projector needs its own unique addresses when used in serial communication mode. You can choose one of 64 unique address using the spin box. First select Enable. Keep pressing ► button increases the number. To make your setting available, select OK.

Assigning Projector IDs

You can operate multiple projectors with the same remote control.

To do so:

1. Select “Projector ID” and assign an ID number to each projector.
2. Select the same communication speed for both the projector.
3. On the remote control specify the ID number of the projector to be adjusted. Press and hold the CTL and press MENU (ADDRESS) button to enter the ID number.
   You can operate the switcher assigned the same ID number as the remote control.



NOTE: Specifying "None" for Projector ID allows you to operate multiple projectors concurrently. However, some projectors may not synchronize to the other projectors.

Selecting Default Source [Default Source Select]

You can set the Projector to default to any one of its inputs each time the Projector is turned on.

Last ..... Sets the Projector to default to the previous or last active input each time the Projector is turned on.

Auto ..... Searches for an active source in order of Slot 1 → Slot 2 → Slot 3 → Slot 4 → Slot 1 and displays the first found source.

Select ..... Displays the selected source input every time the Projector is started up. Select an input from the pull-down menu.

Disabling the Cabinet Buttons [Control Panel Key Lock]

This option turns on or off the Control Panel Key Lock function.

NOTE:
- *This Control Panel Key Lock does not affect the remote control functions.*
- *When the cabinet buttons are disabled, pressing and holding the CANCEL button for about 10 seconds will change the setting to enable.*

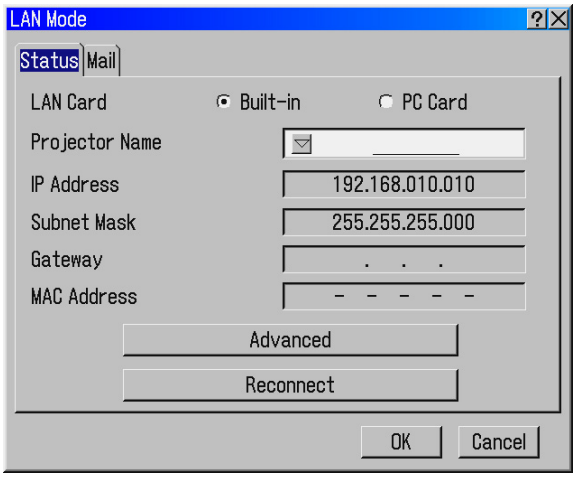
LAN Mode

This feature allows you to set various setting items when the Projector is used on your network.
Consult with your network administrator about these settings.

NOTE:
- *Connect an Ethernet LAN cable to the LAN port (RJ-45) of the Projector for network connection.*
  Optional wireless LAN card is available.
- *The standard built-in LAN feature and a commercially LAN card are available for network connection, but only one can be used at a time (mutual exclusion).*

CAUTION: Make sure that the LAN card is removed with the main power off. Failure to do so may cause damage to the LAN card, or may cause the Projector to malfunction. Should a malfunction occur, turn off the main power and turn it back on.

Status



LAN Card

This option selects to use either LAN feature between the standard LAN port (RJ-45) and an optional LAN card inserted in the PC CARD slot.

Projector Name

Specify a unique Projector name. Press ▼ to display the software keyboard and type in. Up to 16 alphanumeric characters can be used.

IP Address ..... Indicates the IP address of the Projector.

Subnet Mask ..... Indicates the subnet mask of the Projector.

Gateway ..... Indicates the gateway of network connected to the Projector.

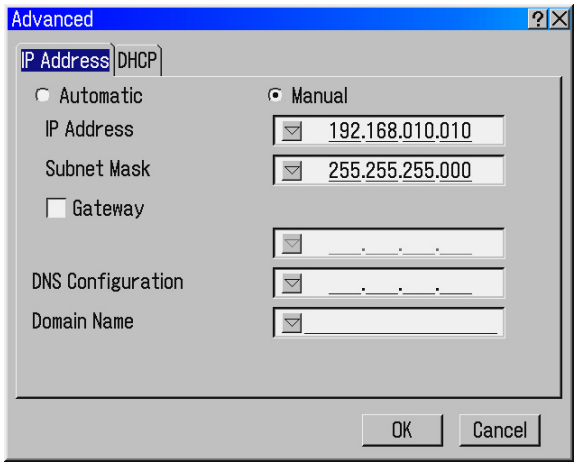
MAC Address ..... Indicates the MAC address of the LAN card.

Advanced ..... Displays the IP Address setting window.

Reconnect ..... Use this button to connect the Projector to a network.

NOTE: Once you have selected "OK" on the Advanced screen, you cannot cancel the changes using "Cancel" on the LAN Mode screen.

Advanced



IP Address

An IP address can be automatically assigned to this Projector by your DHCP server. If your network does not automatically assign IP address, ask your network administrator for an address, and then register it manually.

Automatic .... Automatically assigns an IP address to the Projector from a DHCP server.

Manual ..... Provides a space for you to register the IP address or subnet mask number obtained from your network administrator.

IP Address ... Set your IP address. Press ▼ to display the software keyboard and type in 12 numeric characters.

Subnet Mask Set your subnet mask number. Press ▼ to display the software keyboard and type in 12 numeric characters.

Gateway ..... Set the default gateway of the network connected to the Projector. Press ▼ to display the software keyboard and type in 12 numeric characters.

Checking this box will make the set default route valid.

When data is sent from the LAN card, the transfer location will be searched according to the previously set routing information; however, when the transfer location has not been found as a result of the search, the data will be sent to the device that holds the IP address set here. The IP address that is set here must be one that can be identified by a search of the routing information.

DNS Configuration

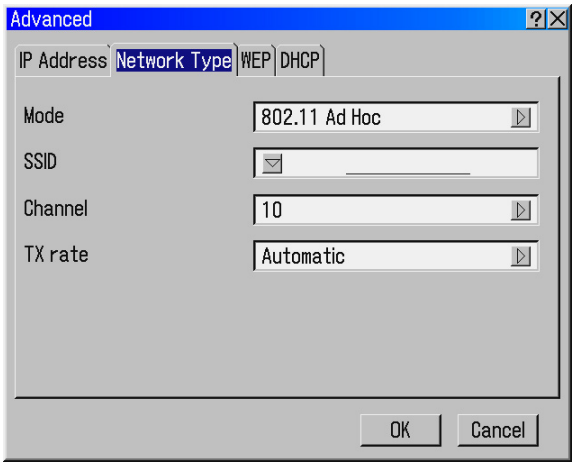
..... Type in the IP address of DNS server on the network connected to the Projector.

12 numeric characters are used.

Domain Name

..... Type in domain name of the network connected to the Projector. Up to 60 alphanumeric characters can be used.

Network Type (required for wireless only)



Mode:

Select communication method when using wireless LAN.

Infrastructure

..... Select this option when communicating with one or more equipment connected to the wireless or wired LAN network via an access point.

802.11 Ad Hoc

..... Select this option when using the wireless LAN to communicate with a computer in a one-to-one correspondence. This is a method that meets the IEEE802.11 wireless standard.

Ad Hoc ..... Select this option when using the wireless LAN to communicate with a computer in a one-to-one correspondence.

SSID (Network name):

Enter an identifier (SSID) for wireless LAN. Communication can be done only with equipment whose SSID matches SSID for your wireless LAN. Up to 32 alphanumeric characters can be used (Case sensitive).

NOTE: To disable SSID, select a space (null) or "ANY"(All caps).

Channel:

Set this option when selecting [802.11 Ad Hoc] or [Ad Hoc] in [Mode].

Select a channel number from the pull-down list. The channel must match for all wireless devices communicating on your wireless LAN.

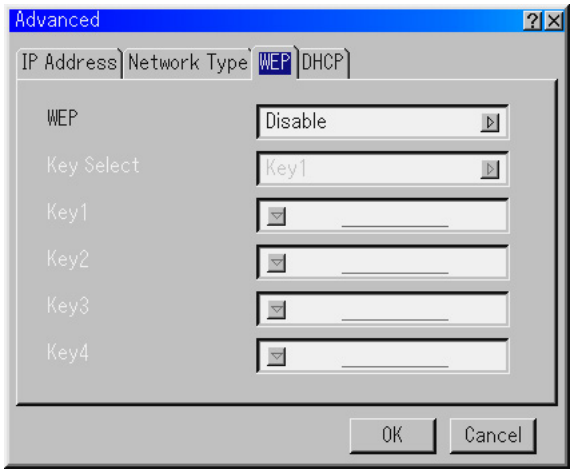
NOTE: Channels in the pull-down list are different depending on which country you live in.

TX rate:

Select a wireless transmission speed. Normally leave it as Automatic.

Try another transmission speed when the connection fails.

WEP (required for Wireless only)



Select this option whether using the WEP (Wired Equivalent Privacy) key for encryption or not. To use encryption, specify WEP key.

Disable ..... Will not turn on the encryption feature. Your communications may be monitored by someone.

64bit ..... Uses 64-bit datalength for secure transmission.

128bit ..... Uses 128-bit datalength for secure transmission. This option will increase privacy and security when compared to use of 64bit datalength encryption.

NOTE: The WEP settings must be the same as communication devices such as PC or access point in your wireless network. When you use WEP, your image transmission speed will slow down.

Key Select:

Selects one key from the four keys below when selecting [64bit] or [128bit] in [WEP].

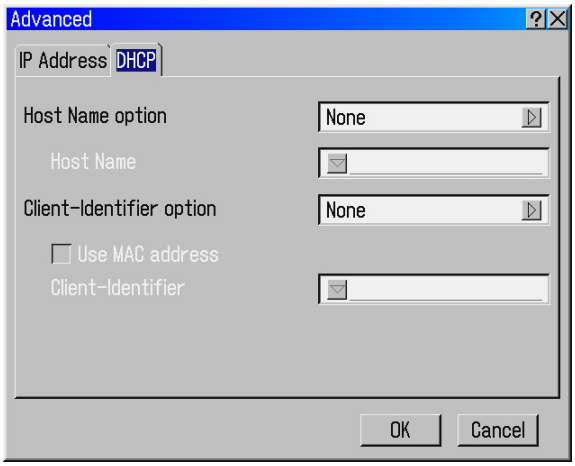
Key1-4:

Enter encryption key when selecting [64bit] or [128bit] in [WEP]. Up to 5 characters can be set in 64 bit and up to 13 characters in 128 bit. Press the “HEX” button to change to “ASCII” to set the key in ASCII digit. You can toggle this button between “ASCII” and “HEX”.

The key can also be set in hexadecimal digit.
* Hexadecimal uses 0 to 9 and A to F.
* Up to 10 characters can be set in 64 bit and up to 26 characters in 128 bit.

NOTE: Only numbers can be entered when you use the remote control Source/Input buttons.

DHCP



Depending on your network environment, acquiring an IP address from a DHCP server may not be possible.
Should this happen, consult your network administrator to make changes to the following settings.

Host Name option

Select whether or not to add option hostname for DHCP.

None ..... Not add

Request ..... Add at the time of DHCP_REQUEST.

Discover/Request .... Add at the time of DHCP_DISCOVER and DHCP_REQUEST.

Host Name

Type in a hostname. This field is available only when “Request” or “Discover/Request.”

Client-identifier option

Select whether or not to add option client identifier for DHCP.

None ..... Not add

Request ..... Add at the time of DHCP_REQUEST.

Discover/Request .... Add at the time of DHCP_DISCOVER and DHCP_REQUEST.

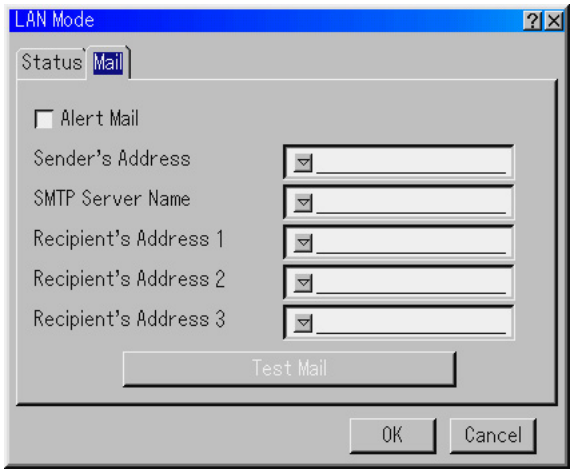
Use MAC address

Turn on to use MAC address for Client-identifier.

Client-identifier

Type in a client identifier.

Mail



NOTE: To the Alert Mail feature on wireless LAN connection, select "Infrastructure" for "Mode" in "Network Type".

Alert Mail:
Checking this box enables Alert Mail feature.
This option notifies your computer of an error message via e-mail when using wireless or wired LAN.

Sender's Address:
Specify the senders address. Use the Software keyboard. Up to 60 alphanumeric and symbols characters can be used. See "Using Software Keyboard" in Appendix for more details.

SMTP Server Name:
Type in the SMTP server name to be connected to the Switcher. Up to 60 alphanumeric characters can be used.

Recipient's Address 1 to 3:
Type in your recipient's address. Up to 60 alphanumeric and symbols characters can be used.

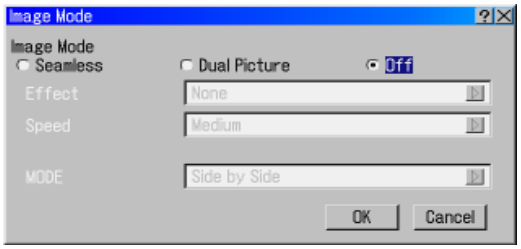
Test Mail:
Send a test mail to check if your settings are correct.

NOTE: If you entered an incorrect address in a test, you may not receive an Alert mail. Should this happen, check if the Recipient's Address is correctly set.

NOTE: Unless any one of the "Sender's Address", "SMTP Server Name" or "Recipient's Address 1-3" is selected, "Test Mail" is not available.

NOTE: Be sure to highlight "OK" and press the ENTER button before executing "Test Mail".

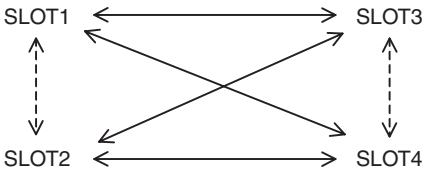
Image Mode



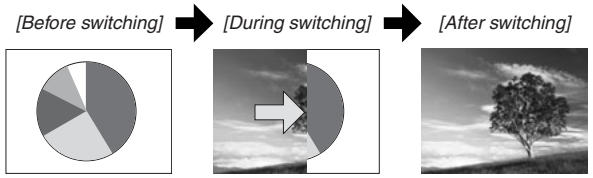
Seamless

Installation of the MM-IMG2K and MM-SCALING options permits the instantaneous switching of signals between two input interface boards when "Seamless" of the "Image Mode" is selected.

- Seamless Mode - active
  - Select an input
  - Wait for "Transition Ready" to be displayed on the LCD screen
  - Press the ENTER button to display the input.
  - Next input appears immediately.
- Seamless operates between left and right input slots. The solid lines in the following diagram are seamless switching and the dotted lines are regular switching.
- Switching between slots on the same side is the same as Image Mode set to off.



- Alpha Blending, Wipe, and Box In/Out image effects can be selected at the time of switching. When an effect is selected it is initiated on pressing ENTER as above.



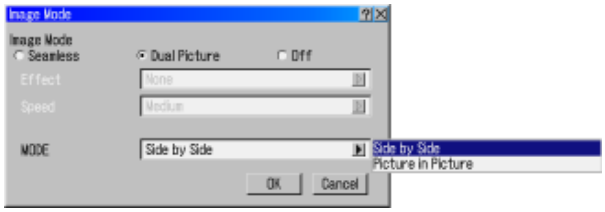
• The drawings show an example of how "Effect-Wipe Right" works.

NOTE: Please request installation of the MM-IMG2K and MM-SCALING options from your dealer or service person. The customer should never open the cabinet under any circumstances.

- 2 Images *(Picture in Picture)*
Just like the seamless switching function, installation of the optional MM-IMG2K and MM-SCALER boards, input of video signal to the left and right slots and the mode setting below allow display of two images simultaneously.

- Mode setting

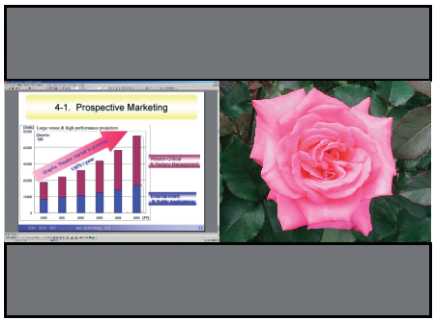
When [Image Mode] is selected from [Projector Options], the choices [Seamless / 2 Images / Off] are displayed. Selecting [2 Images] enables mode choice, and therefore select [Side-by-side] or [Picture-in-Picture]. After selecting the desired mode, click [OK]. Switching input video signals between left and right slots will display two images.



If “2 Images” is selected, the lens memory feature becomes disabled.

- Display modes

The following examples are display modes. the main image referred to as in the explanation below is the one for which input signlas are selected.



Side-by-side mode
The left is the main image and right is the sub-image.

Picture-in-Picture mode
The large image is the main image and the small image is the sub-image.

- Source Select

In [2 Images] mode, input signals only for the main image can be switched. By selecting the input slot through which the sub-image is displayed, the main image and sub-image are transposed.

The function that identifies signals does not apply to the sub-image, and therefore when the signal format of the sub-image is changed, the image will be distorted. To normally display the sub-image again, display the relevant signal as the main image once, and then sisplay it as the sub-image.

Selection of any terminal without input signal causes background display in full screen. After power on, the display of “2 Images” is not achieved until images from both the left and right slots are displayed.

<Operation example>

(1) When turning on the power
Signal from slot 1 is displayed in full screen (from last memory).
(2) Set a desired mode.
(3) When selecting slot 3
Main image: slot 3, Sub-image: slot 1 (Signal from the selected slot is displayed as the main image.)
(4) When selecting slot 2
Main image: slot 2, Sub-Image: slot 3 (The main im age and sub-image are transposed.)
(5) When selecting slot 1
Main image: slot 1, Sub-image: slot 3 (The main im age and sub-image remain in their respective posi tions.)
(6) When restarting the projector
The state goes back to (1).

- Display timing

The display timing such as the refresh rate of images projected by the projector is determined by the signal setting conditions for the main image.

- Last Memory

Although “2 Images” mode setting has been saved, when the projector is restarted, the main image is displayed in full-screen, and therefore reselect the signal for the sub-image as needed.

- Resolution

Only when the main image is switched to the sub-image in [Picture-in-Picture] mode at the native resolution, the sub-image is reduced.

NOTE:

• Please request installation of the optional MM-IMG2K and MM-SCALER boards from your dealer or service person. The customer should never open the cabinet under any circumstances.

How to reflect each adjustment function on the main image and sub-image

- Functions that simultaneously reflect on the main image and sub-image together (Only the display functions are reflected, and the signal registration functions are reflected only on the main image.)
Eg. contrast, brightness, white balance, video mute (remote control operation)

- Functions that reflect on the main image only (both the display functions and the signal registration functions)
Eg. aspect, input signal information (including LCD screen), and the functions other than the above.

• Since horizontal lines may be displayed on animations in the following cases, still images are recommended. This problem does not mean projector failure.

- Sub-image: The projector displayed in synchronisation with the actual refresh rate of the signal input.

- Main image whose aspect setting was changed

• After the test pattern is displayed, images are displayed in “1 image” maod. For change to “2 Images” mode, select the signals for both the main image and sub-image.

• The seamless switching function is unavailable in “2 Images” mode.

- Off
Set when neither [Seamless] nor [2 Images] is used.

Setting a Password

A password can be set for your Projector to avoid operation by an unauthorized person.

There are two password options: one for menu and the other for logo.
When a password is set, doing any one of the following operations will display the Password input screen.

For Menu:
* *Changing the menu to Advanced*
* *Editing the custom menu*

For Logo:
* *Changing the background*

Procedures for Password setting apply to both Menu and Logo.
Entry

To assign your password:

NOTE:
- *Up to 15 alphanumeric characters can be assigned.*
- *Only numbers can be entered when you use the remote control Source/Input buttons.*

1. *Type a password.*
   Highlight “Entry” and press the ENTER button.
   The “Enter the Password” screen will be displayed.

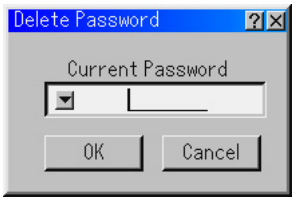
   Make sure that "▼" is highlighted and then press the ENTER button. The Software keyboard appears. Use the Software keyboard to type a password and then highlight “OK” on the “Enter the Password” screen and press the ENTER button.
   The “Confirm Password” screen will be displayed.

2. *Type the same password again. Highlight “OK” on the “Confirm Password” screen and press the ENTER button.*

Your password will be assigned.

Delete
To delete your password:

1. *Highlight “Delete” and press the ENTER button.*
   The “Current Password” screen will be displayed.



2. *Use the Software keyboard to type your password. Highlight “OK” on the “Current Password” screen and then press the ENTER button.*

Your password will be deleted.

In case you forget your password, follow the steps below to delete it.

1. *Select the Advanced menu from the Basic menu.*
   The “Password” entry screen will be displayed.

2. *Use the Software keyboard to type “1111”.*
   Highlight “OK” on the “Password” entry screen and then press the ENTER button.
   The “Password Warning!!” message will be displayed.

3. *Use the Software keyboard to type “3333”.*
   Highlight “OK” on the “Password” entry screen and then press the ENTER button.
   The “Password Warning!!” message will be displayed.

4. *Use the Software keyboard to type “5555”.*
   Highlight “OK” on the “Password” entry screen and then press the ENTER button.
   The “Delete Password. Are you sure? Yes/No” dialog box will be displayed.

5. *Use the SELECT◄ or► button to highlight “Yes” and press the ENTER button.*

Your password will be deleted.

Security

The Security function enables you to protect your projector so that the projector will not project a signal unless you enter a keyword. There is also an option to lock the projector by using a registered PC card as a protect key. Once you have registered your PC card as a protect key, you are required to insert the registered PC card into the PC card slot of the projector each time you turn on the projector. You can enable the Security function by using a keyword only.

Enable/Disable ..... This turns the Security function on or off.

Keyword ..... Enter an appropriate keyword when you use the Security function.

(Up to 10 characters can be used.)

The Security function is available only when your keyword is entered.

Use Protect key ..... Check this box to lock your projector when using a PC card. To use a keyword without a PC card, do not check this box.

Drive ..... Switches between PC Card slots.

Read ..... Reads data of a PC card.

Register ..... Registers data of the PC card.

The Security function is not available unless at least one PC card is registered. (if the "Use Protect key" check box is selected)

Up to 5 PC cards can be registered.

Delete ..... Deletes data of a registered PC card.

To set up a keyword to enable the Security function without using a registered PC card.

NOTE: Only numbers can be entered when you use the remote control Source/ Input buttons.

1. *Use the SELECT ▲▼ button to select "Keyword" and use the software keyboard to enter a keyword.*

   NOTE: Please make a note of your keyword.

2. *Use the SELECT ▲▼ button to select "Enable" and use the SELECT ▲▼ button to select "OK", then the Security function will be enabled. An "Are you sure?" message will appear. Use the SELECT ◄► button and press the ENTER button.*
   The Security function takes effect.

To register a PC card as a protect key.

1. *Insert a PC card into the PC card slot of the projector.*
2. *Use the SELECT ▲▼ button to select "Use Protect key" and press the ENTER button. A check mark will be placed.*
3. *Use the SELECT ▲▼ button to select "Read" and press the ENTER button.*

   Data of the PC card will be read into the projector.
4. *Use the SELECT ▲▼ button to select "Register" and press the ENTER button.*

   Downloaded data will be registered and be displayed in the list window.
5. *Use the SELECT ▲▼ button to select "Keyword" and use the software keyboard to enter a keyword.*

   NOTE: To use a PC card as a protect key, you must also set up a keyword. Please make a note of your keyword.

This completes registration of your PC card.

To enable Security, use the SELECT ▲▼ button to select "Enable" and use the SELECT ▲▼ button to select "OK" and "Security function will be enabled. An "Are you sure?" message will appear. Use the SELECT ◄► button and press the ENTER button.
The Security function takes effect.

To turn on the projector when Security is enabled (when using your keyword only).

NOTE: Only numbers can be entered when you use the remote control Source/ Input buttons.

1. *Press and hold the POWER button for a minimum of two seconds.*

   The projector will be turned on and display a message to the effect that the projector is security-protected.
2. *Select [Projector Options] → [Security] from the menu and press the ENTER button.*

   The Release Code input screen will be displayed.
3. *Enter your keyword in the Release Code input screen.*
   You can view the projected image.

   NOTE: Do not forget your keyword. However, if you forget your keyword, your dealer will provide you with your Release Code. See more information at the end of this section.

To turn on the projector when Security is enabled (when using a PC card as a protect key).

NOTE: The projector does not support FAT32 or NTFS formatted flash memory card or USB memory device.
Be sure to use a flash memory card or USB memory device formatted with the FAT16 or FAT file system.

To format your flash memory card or USB memory device in your computer, refer to the document or help file that comes with your Windows.

1. *Insert your registered PC card into the PC card slot.*
2. *Press and hold the POWER button for a minimum of two seconds. The projector will turn on and then recognize the PC card. Once the image has been projected, it will stay on without the PC card.*

- The security disable mode is maintained until the main power is turned off (by setting the main power switch to "O" or unplugging the power cable).

  In the following cases you will be asked to check the protect key or input the keyword:

  (1) When "OK" is selected at an image for which security is set and the power is turned off then back on

  (2) When the main power is turned off then back on while the security function is enabled

  (3) When you attempt to display an image for which security is set while the security function is enabled

- Blanks (spaces) cannot be used in the Keyword section.

To delete PC card data you registered.

1. *Use the SELECT ▲▼ button to select "Delete" and use the SELECT ◄ button to select the list window.*
2. *Use the SELECT ▲▼ button to select the PC card data you wish to delete.*
3. *Press the SELECT ► button to select "Delete" and press the ENTER button.*

   The PC card data will be deleted.

If you've lost your registered PC card, proceed as follows:

NOTE: your dealer will provide you with your Release Code in exchange for your registered keyword and Request Code. See URLs at the end of this section.

1. *Press and hold the POWER button for a minimum of two seconds.*

   The projector will be turned on and display a message to the effect that the projector is security-protected.
2. *Select [Projector Options] → [Security] from the menu and press hte ENTER button.*

   The Release Code input screen will be displayed as well as your Request Code (24 alphanumeric characters).
3. *Enter your Release Code in the Release Code Input screen.*

* If the projector is turned on by entering the Release Code, your Security will be disabled.

NOTE:
** Some types of PC cards cannot be registered as your protect key.*
** It is recommended that you register two or more PC cards in case you lose or damage your registered PC card.*
** Formatting your registered PC card will disable your protect key function.*

NOTE:
For additional information contact your dealer or Digital Projection

Tools

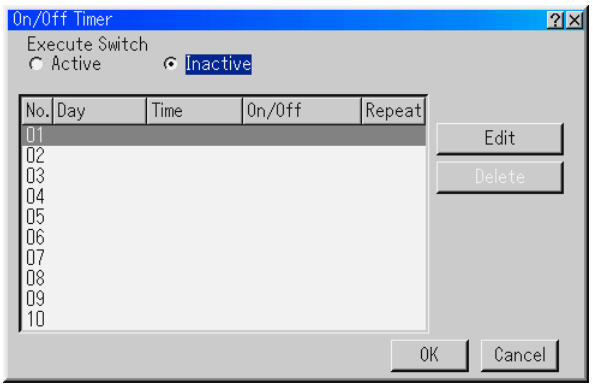
Provides tools for setting On/Off timer, sleep timer, capturing images, displaying files or changing your background logo in a PC Card and drawing.

Timer

Enables you to turn on or off your projector automatically at a specified time. Two timer functions are available: On/Off Timer and Sleep Timer.

NOTE: The projector has a built-in clock. The clock will keep working for about three days after the main power is turned off. If the main power is not supplied to the projector for three days or more, the built-in clock stops working.

On/Off Timer

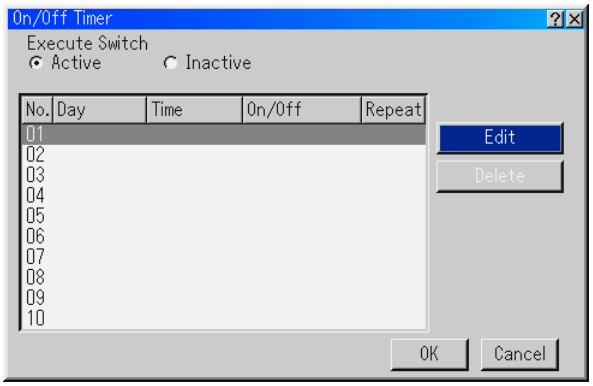


Up to 10 settings can be programmed.

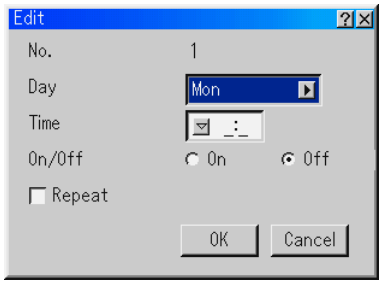
- Before setting On/Off Timer, make sure that Date, Time Preset feature is set.
- Even after setting On/Off Timer, turning the projector on or off with the remote control is possible.

Setting the On or Off Timer

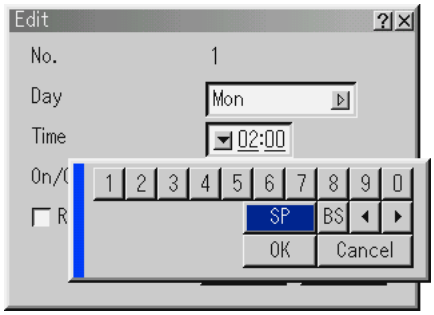
1. *Open the On/Off Timer window.*



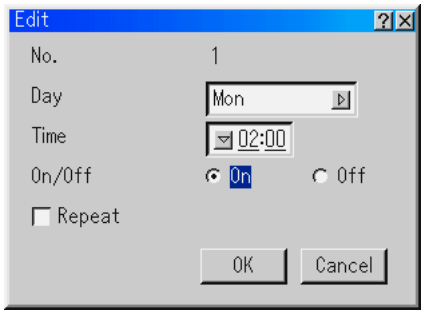
2. *Select a program number (No. 1 to 10) by using the SELECT ▲ or ▼ button.*
3. *Select "Edit" and press the ENTER button to open the Edit window.*



4. *Set the Day, Time (24 hours format), On-Time and Off-Time using the SELECT buttons and the Software keyboard (1 thru 10).*



5. *Select On Timer or Off Timer*



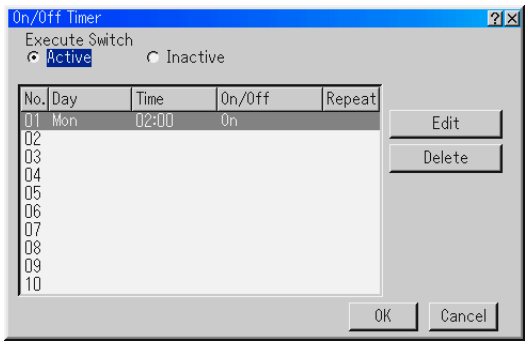
6. *Repeat the Timer*
   To repeat the On Timer or Off Timer program every week, place a check mark in "Repeat".

7. *Select "OK" and press the ENTER button on the remote control to complete the setting. To cancel this and return to its previous screen, select "Cancel".*

NOTE: If there is no operation for 4 hours or more after the projector is turned on with On-Timer function, the projector will enter the standby or idle mode.

Enabling the On or Off Timer

1. *To execute the setting, select "Active" .*



2. *Select "OK" and press the ENTER button.*

NOTE: When one program or more are specified, all the settings are active.

NOTE: The settings will be executed in numerical order. Finished settings will be automatically deleted.

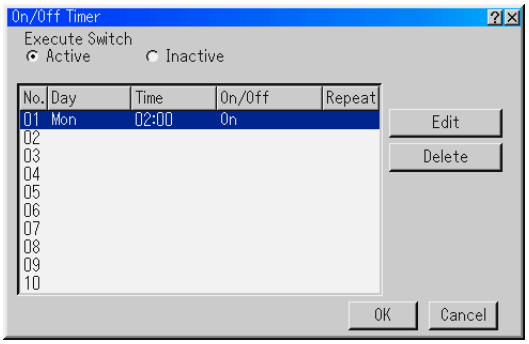
NOTE: The On/Off Timer will not work while the cooling fans are running or an error message appears. Do not turn off the main power switch in this condition.

Disabling the On or Off Timer

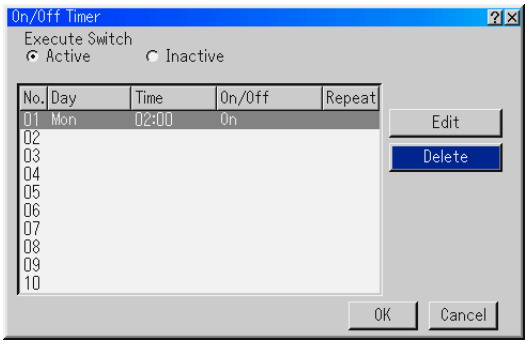
To disable the setting, select "Inactive". Select "OK" and press the ENTER button.

Deleting the On or Off Timer settings

1. *Select the setting you want to delete.*



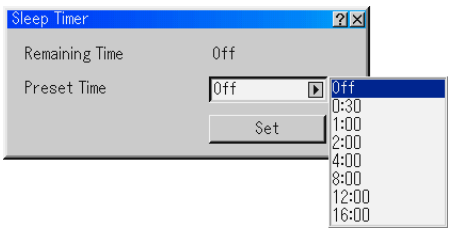
2. *Select "Delete" and press the ENTER button.*



3. *Select "OK" and press the ENTER button to complete the deletion.*

4. *Select "Delete" again and press the ENTER button to return to the previous screen.*

Enabling Sleep Timer



1. *Select your desired time between 30 minutes and 16 hours: Off, 0:30, 1:00, 2:00, 4:00, 8:00, 12:00, 16:00.*

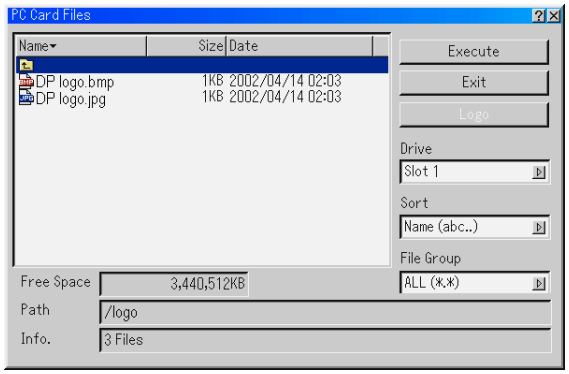
2. *Select "Set" and press the ENTER button on the remote control.*

3. *The remaining time starts counting down.*

4. The projector will turn off after the countdown is complete.

NOTE:
- *To cancel the preset time, set "Off" for the preset time or turn off the power.*
- *When the remaining time reaches 3 minutes before the projector is turned off, the "Projector will turn off in 3 minutes" message will be displayed on the bottom of the screen.*

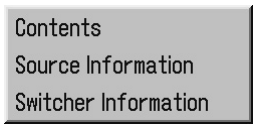
PC Card Files



The PC Card Files feature allows you to display a list of all the files stored in the PC card so that you can select a file you want to display. You can also sort files by file name or date, or display the file. See page E-28.
Changing Background Logo:
You can change the default background logo using the PC Card Files feature. See page E-28.

NOTE: File size must be 256KB or less. Other file formats than JPEG and BMP are not available. See page E-28.

Help



Contents

Provides an online help about how to use the menus. An underlined link means that you can move to an adjustment item directly.
Selecting the underlined link and pressing ENTER button moves to the corresponding adjustment item.

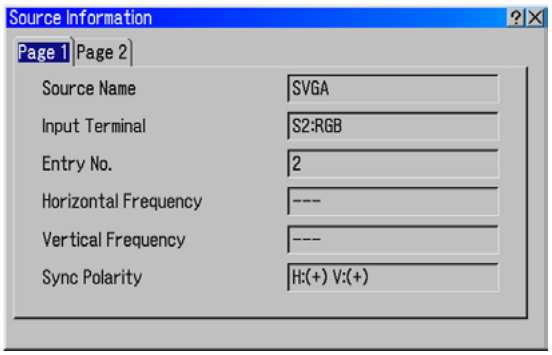
NOTE: The Help menu may not be displayed correctly when an image is overscanned.

Source Information

Information

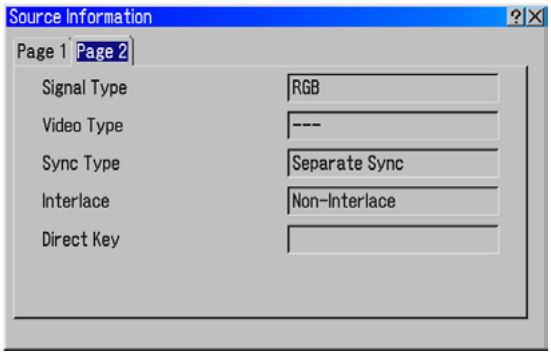
Displays the status of the current signal. This dialog box has two pages.

Page 1



Source Name, Input Terminal, Entry No., Horizontal Frequency, Vertical Frequency, Sync Polarity

Page 2

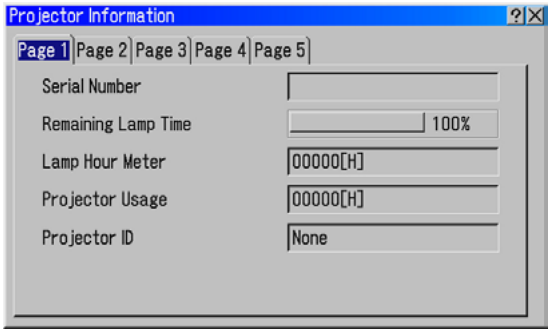


Signal Type, Video Type, Sync Type, Interlace, Direct Key

Projector Information

Displays the information for your Projector such as Remaining Lamp Time, Lamp Hour Meter, Projector Usage, Projector ID, version number and others. This dialog box has five pages.

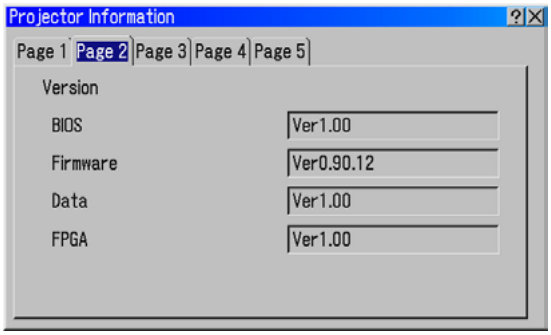
Page 1



Remaining Lamp Time, Lamp Hour Meter, Projector Usage, Projector ID

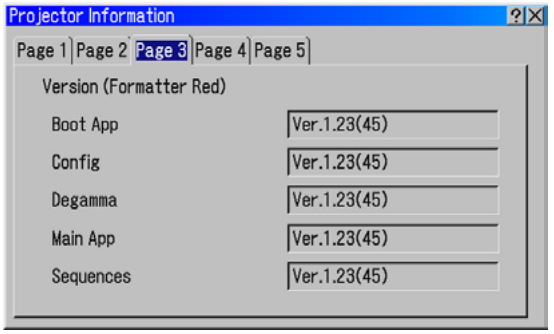
NOTE: Nothing is displayed on the item, "Serial Number". Please confirm the serial number on label attached on the projector itself.

Page 2



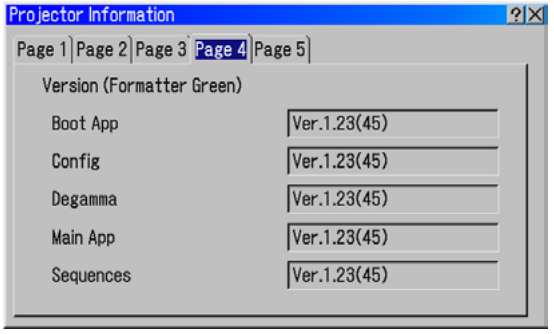
Version (BIOS/Firmware/Data/FPGA)

Page 3



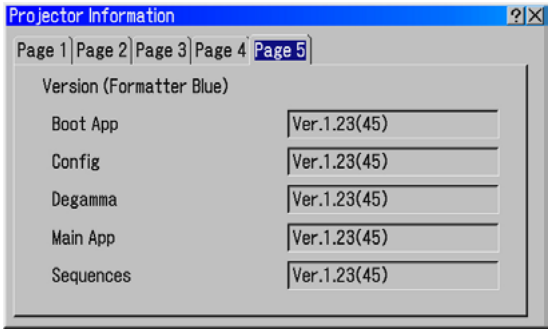
Version (Formatter Red)
(Boot App / Config / Degamma / Main App / Sequences)

Page 4



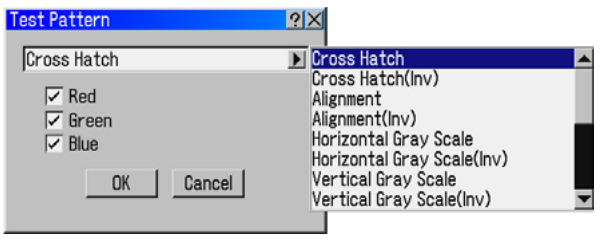
Version (Formatter Green)
(Boot App / Config / Degamma / Main App / Sequences)

Page 5



Version (Formatter Blue)
(Boot App / Config / Degamma / Main App / Sequences)

Test Pattern



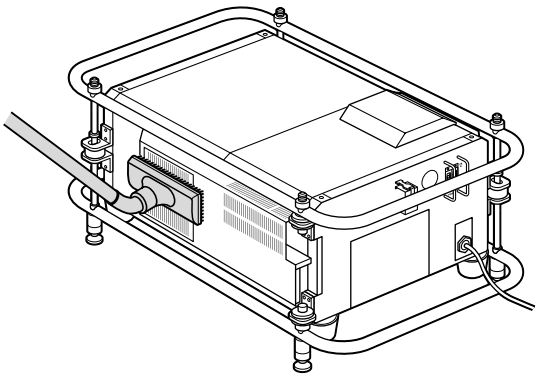
Press to display the test pattern. Pressing this button sequentially selects 17 test patterns for each red, green and blue.

7

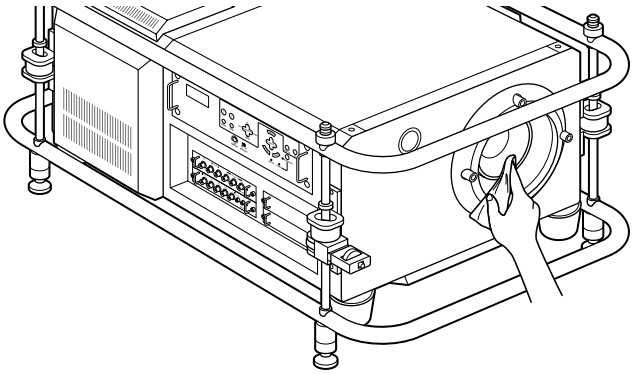
Maintenance

1 Cleaning the Cabinet and the Lens E-76

1 Cleaning the Cabinet and the Lens



1. *Turn off the Projector before cleaning.*
2. *Clean the cabinet periodically with a damp cloth. If heavily soiled, use a mild detergent. Never use strong detergents or solvents such as alcohol or thinner.*
3. *Use a blower or lens paper to clean the lens, and be careful not to scratch or mark the lens.*



8

Appendix

1 Troubleshooting E-78

2 Specifications E-80

3 Cabinet Dimensions E-85

4 Compatible Input Signal List E-87

5 Pin Assignment of PC CONTROL IN Connector (D-Sub 9 Pin) E-89

6 Pin Assignment of REMOTE IN 3 Connector (XLR connector) E-89

7 Pin Assignment of EXT. I/O Connector (Mini D-Sub 15 Pin) E-89

8 Using Software Keyboard E-90

9 Operation Using an HTTP Browser E-90

INDEX E-92

1 Troubleshooting

This section helps you resolve problems you may encounter while setting up or using the projector.

Power Indicator

Indicator Condition			Projector Condition	Note
Off			The main power is off	–
Blinking light	Green blinking	0.5 sec ON, 0.5 sec OFF	The projector is getting ready to turn on. The lens shutter is closed.	Wait for a moment.
		2.5 sec ON, 0.5 sec OFF	Off Timer or Sleep Timer is active.	–
	Orange blinking	0.5 sec ON, 0.5 sec OFF	The projector is cooling down.	Wait for a moment.
		2.5 sec ON, 0.5 sec OFF	On Timer is active.	–
Steady light	Green		The projector is turned on.	–
	Orange		The projector is in Standby.	–

Status Indicator

Indicator Condition			Projector Condition	Note
Off			Normal	–
Blinking light	Red blinking	1 cycle (0.5 sec ON, 2.5 sec OFF)	Lens hood or lamp cover error	Replace the lens hood or the lamp cover correctly.
		2 cycle (0.5 sec ON, 0.5 sec OFF)	Temperature error	The projector is overheated. Move the projector to a cooler location.
		3 cycle (0.5 sec ON, 0.5 sec OFF)	Power error	Power unit will not work correctly.
		4 cycle (0.5 sec ON, 0.5 sec OFF)	Fan error	Cooling fan has stopped. Contact your dealer.
		6 cycle (0.5 sec ON, 0.5 sec OFF)	Lamp error	Lamp fails to light. Wait 3 minutes and then turn on again.
Steady light	Red		Circuit error	An error occurs in the circuit. Consult your dealer.
	Orange		Control key locked	You have pressed control panel key when Control Key Lock is enabled.
	Green		Idle condition	–

Please ask your delivery outlets to handle the error codes.

Error No.	Error Messages	Description
0001	Cover Open	Cover open or TIMER PWB contact failure
0002	Lamp Data	Malfunction on lamp data
0003	Lamp Time Over	Lamp time over (power-off)
0004	FPGA JOE2P	FPGA configuration error
	FPGA JOE2S	
	FPGA DVIOUT	
	FPGA WARPSEL	
	FPGA WARP	
	FPGA DVI1	
	FPGA DVI2	
	FPGA DVI3	
	FPGA DVI4	
	FPGA SDI1	
	FPGA SDI2	
	FPGA SDI3	
	FPGA SDI4	
	FPGA SLOTSEL	
	FPGA OSD	

Error No.	Error Messages	Description
0005	Set Temp.	Temprature malfunction in internal set
0006	Fan Stop	Fan stop
0007	Lamp PS Temp.	Temprature malfunction on Lamp PS
0008	Lamp Temp.	Temprature malfunction on Lamp
0009	Lamp Off	No lamp lighting
0010	DMD Status	DMD malfunction
0011	DMD Temp.	DMD temprature malfunction
0012	Lamp Fan Stop	Lamp fan stop
0013	Pump Stop	Pump stop malfunction
0014	Power Supply	Power supply mulfunction
0015	Lamp Time Warn	Lamp time over (warning)

Common Problems & Solutions

Problem	Check These Items
Does not turn on	• Check that the power cable is plugged in and that the main power switch on the projector is on. See pages E-27 and E-30. • Ensure that the lamp cover is installed correctly. • Check to see if the projector has overheated or the lamp has reached the end of its usable life. If there is insufficient ventilation around the projector or if the room where you're presenting is particularly warm, move the projector to a cooler location. • The lamp may fail to light. Wait a full minute and then turn on the power again. • The lamp has reached the end of its usable life. Replace the lamp.
Will turn off	• Ensure that the off Timer is off. See page E-70.
No picture	• Use the menu or Source/Input button to select your source. See page E-31 or E-50. • Ensure your cables are connected properly. • Use menus to adjust the brightness and contrast. See page E-51. • Select correct option in the Signal Select for current signal. See page E-61. • Select RGB/Component when connecting DVD player to RGB connector of the projector. See page E-61. • Apply a standard RGB signal when using RGB connector. • Adjust picture for RGB signal. • Make sure each setting is correct. • If the problem still persists, reset the settings or adjustments to factory preset levels using the Factory Default in the Adjustment Menu. See page E-59. • If Security is enabled, a keyword or PC card as a protect key is required. • Remove the lens cap. • When using with a notebook PC, be sure to connect between the projector and the notebook PC before turning on the power to the notebook PC. In most cases signal cannot be output from RGB output unless the notebook PC is turned on after connecting with the projector. * If the screen goes blank while using your remote control, it may be the result of the computer's screen-saver or power management software.
Image isn't square to the screen	• Reposition the projector to improve its angle to the screen. See page E-31. • Use the 3DReform function to correct the trapezoid distortion. See page E-55.
Picture is blurred	• Adjust the focus. See page E-32. • Reposition the projector to improve its angle to the screen. See page E-31. • Ensure that the distance between the projector and screen is within the adjustment range of the lens. See page E-22. • Condensation may form on the lens if the projector is cold, brought into a warm place and is then turned on. Should this happen, let the projector stand until there is no condensation on the lens.
Image is scrolling vertically, horizontally or both	• Use the menus or Source/Input button on the remote control or the cabinet to select the source you want to input. See page E-31 or E-50.
Remote control does not work	• Install new batteries. See page E-19. • Make sure there are no obstacles between you and the projector. See page E-19. • Stand within 22 feet (7 m) of the projector. See page E-19. • If the remote control cable plug is inserted into the REMOTE 1 IN jack, the remote control does not function wirelessly. See page E-20. • Make sure that the remote control's ID corresponds with the projector's ID. See page E-62.
Indicator is lit or blinking	• See the Power/Status Indicator on page E-78.
Cross color in RGB mode	• If Auto Adjust is off, turn it on or adjust the image manually with the Position/Clock in the Image Options. See page E-53.
USB mouse does not work	• Make sure that your USB mouse is properly connected to the projector. The projector may not support some brands of a USB mouse.
No on-screen menu	• Press MUTE OSD if the image is muted. Or press and hold CTL and press MUTE OSD button. See page E-36.

2 Specifications

Model Number	**HL 12000HD / HL 10000HD**		
Panel*1	DMD™ 1.25"×3		
Output Resolution	2048×1080 native resolution		
Lamp	2.0kW Bulb Type Short Arc Xenon Built in: Overheat Protection Lamp Over-Usage Protection		
Light Output	12,000 Lumens (HL 12000HD) 9000 Lumens (HL 10000HD) Full Light Output at 200 - 240V		
Brightness Uniformity	>80% corner to center		
Contrast Ratio	1600 : 1 Full On / Off (HL 12000HD) 1800 : 1 Full On / Off (HL 10000HD)		
Lens Movement	Motorized Horizontal and Vertical Lens Shift Motorized Zoom and Focus Built in Lens Shutter		
Lens Options*2	L2K-12ZHB	104-700	1.25 – 1.45 : 1 (Zoom lens)
	L2K-14ZHB	104-701	1.45 – 1.8 : 1 (Zoom lens)
	L2K-18ZHB	104-702	1.8 – 2.4 : 1 (Zoom lens)
	L2K-22ZHB	104-703	2.2 – 3.0 : 1 (Zoom lens)
	L2K-30ZHB	104-704	3.0 – 4.3 : 1 (Zoom lens)
	L2K-10F	103-350	1.0 : 1 (Fixed lens)
Image Size	80 - 500" diagonal at 4:3		
Installation	Orientation: Desktop / Front, Desktop / Rear, Ceiling / Front, Ceiling / Rear Stacking: Up to 3 projectors can be gravity stacked		
Scan Rate	Horizontal:	15 – 107kHz (RGB: 31kHz or over)	
	Vertical:	24 – 120Hz (Synchronous Input / Output mode : 24 – 60Hz)	
Input Signal			
MM-VIDEO (Built-in)	Composite Video	75ohms 1.0Vp-p (with Sync)	
	S-Video	Y : 75ohms 1.0Vp-p (with Sync)	
		C : 75ohms 286 – 300mVp-p	
	Component Video	Y : 75ohms 1.0Vp-p (with Sync)	
		Cr,Cb : 75ohms +/-0.35Vp-p	
		(Standard Definition (15kHz) only)	
MM-RGB (Built-in)	R,G,B,H,V	R,G,B : 75chms 0.7Vp-p positive polarity	
		Y : 75ohms 1.0Vp-p positive polarity (with Sync)	
		Cr,Cb : 75ohms +/-0.35Vp-p positive polarity	
		(Component accepts HDTV and >31kHz interlaced and progressive inc 1080i/60, 1080i50, 24sF, 25p, 24p 23.98p/sF, 720p/60 but not 60p, RGsB, RGBS, RGBHV accepts HD progressive and progressive computer)	
		H/V Sync : 1k ohms / 75ohms (Selectable) 0.7 – 4.0Vp-p / TTL positive / negative polarity Duty N/A	
		Composite Sync : 1kohms / 75ohms (Selectable) 0.7 - 4.0Vp-p / TTL Positive / negative polarity Duty N/A	
		Sync on Green : 75ohms 1.0Vp-p (including sync signal component of 0.3Vp-p)	
MM-DVI (Optional Board)	Digital RGB	Single Link : Pixel Clock Frequency 165MHz Max	
		Dual Link : Pixel Clock Frequency 202.5MHz Max	
MM-SDI (Optional Board)	SDI	SDTV : SMPTE 259M Level-C	
		HDTV : SMPTE 292M (include 24sF,24p)	
		(includes 1080i/60, 1080i50, 24sF, 25p, 24p 23.98p/sF, 720p/60 but not 60p)	

Input / Output Terminal			
Input Slot	4 slots (One board each for the VIDEO board and analog RGB input board are standard equipment; 2 slots are for expansion.)		
MM-VIDEO (Built in)	Video	Input	BNC×1 (Composite Video)
		Input	BNC×2 (S-Video)
		Input	BNC×3 (DVD Component)
MM-RGB (Built in)	Analog RGB	Input	BNC×5 (shared with the component input connectors)
	Audio	Input	RCA (L/MONO,R)×1 (No Function)
MM-DVI (Optional Board)	Digital RGB	Input	DVI-D×1
	Audio	Input	Stereo Mini Jack×1 (No Function)
MM-SDI (Optional Board)	SDI	Input	BNC×2
	SDI	Output	BNC×1
USB Port	A Type×1, B Type×1		
LAN Port	RJ-45×1		
Remote Control	In	Stereo Mini Jack×1, XLR Connector×1	
	Out	Stereo Mini Jack×1	
PC Control	In	D-Sub 9pin×1	
	Out	D-Sub 9pin*3×1	
PC Card	TypeII×1		
Ex. Control	Mini D-Sub15pin×1		
Power Requirement	200 - 240VAC, 50 / 60Hz		
Power Consumption	3.0KW		
Input Current	15A		
Dimensions	HL 12000HD	: 27.2" (W)×40.1" (D)×20.4" (H) 690mm (W)×1018mm (D)×547mm (H)	
	HL 10000HD	: 26.4" (W)×36.5" (D)×16.8" (H) 670mm (W)×926mm (D)×425mm (H)	
Net Weight	HL 12000HD	: 194.7lbs (88.3kg) (without lens)	
	HL 10000HD	: 164.5lbs (74.6kg) (without lens)	
Environment	Operational Temperature: 50° - 95°F (10° - 35°C) Humidity: 20 – 80% non-condensing Storage Temperature: 14° - 122°F (-10° - 50°C) Humidity: 20 – 80% non-condensing		

Regulations	USA	UL60950	FCC Class A
	Canada	CSA60950	ICES-003 Class A
	Europe	EN60950	EN55022 Class A
			EN55024
			EN61000-3-2
			EN61000-3-3
	Japan	J60950	VCCI Class A
	Asia	IEC60950	CISPR.22 Class A

*1: Permissible deviation for RGB convergence (Pixel deviation) is 1/2 pixel or less at center; 1 pixel or less around the perimeter (when projection upward angle is 0°).

*2: When using the zoom lens, it must be keep that the projector is positioned at an angle of from -15 to +15 degrees from the horizontal.

*3: These connectors are for future extension.

Specifications are subject to change without notice.

Digital Light Processing, DLP, Digital Micromirror Device and DMD are trademarks of Texas Instruments.

Technische Daten

Modellnummern	**HL 12000HD / HL 10000HD**
Bedienfeld*1	DMD™ 1,25” x 3 (HL 12000HD / HL 10000HD)
Ausgangsauflösung	2048 x 1080 natürliche Auflösung (HL 12000HD / HL 10000HD)
Lampe	2,0 kW Blasen-Kurzbogen-Xenon Integriert: Überhitzungsschutz
Lichtausgang	Lampenverwendungsschutz bei überschrittenen Betriebsstunden 12.000 ANSI Lumen (HL 12000HD) 9.000 ANSI Lumen (HL 10000HD) Voller Lichtausgang bei 200 - 240V
Helligkeitsgleichmäßigkeit	> 80% Ecke zu Mitte
Kontrastverhältnis	1600 : 1 V oll Ein/Aus (HL 12000HD) 1800 : 1 V oll Ein/Aus (HL 10000HD)
Linsenverschiebung	Mit Motor angetriebener horizontaler und vertikaler Linsenversatz Mit Motor angetriebener Zoom und Fokus Im Objektivverschluß integriert

Linsen-Optionen*2			
	L2K-12ZHB	104-700	1.25 – 1.45 : 1 (Zoom Linse)
	L2K-14ZHB	104-701	1.45 – 1.8 : 1 (Zoom Linse)
	L2K-18ZHB	104-702	1.8 – 2.4 : 1 (Zoom Linse)
	L2K-22ZHB	104-703	2.2 – 3.0 : 1 (Zoom Linse)
	L2K-30ZHB	104-704	3.0 – 4.3 : 1 (Zoom Linse)
	L2K-10F	103-350	1.0 : 1 (Feste Linse)

Bildformat	80” (2,03 m) – 500” (12,7 m) diagonal bei 4 : 3
Installation	Ausrichtung: Boden/vorne, Boden/hinten, Decke/vorne, Decke/hinten Stapeln: bis zu 3 Projektoren können aufeinander gestapelt werden
Abtastrate	Horizontal: 15 – 107 kHz (RGB: 31 kHz oder mehr) Vertikal: 24 - 120 Hz (bei synchronem Input / Output: 24 - 60 Hz) (HL 12000HD / HL 10000HD)

Eingangssignal

MM-VIDEO (integriert)	Composite-Video		75 Ohm 1,0 Vp-p (mit Synch.)
	S-Video	Y	75 Ohm 1,0 Vp-p (mit Synch.)
		C	75 Ohm 286-300 mVp-p
	Komponentenvideo	Y	75 Ohm 1,0 Vp-p (mit Synch.)
		Cr, Cb	75 Ohm +/- 0,35 Vp-p
		(Nur Standard Definition (15kHz))	
MM-RGB (integriert)	R, G, B, H, V	R, G, B	75 Ohm 0,7 Vp-p positive Polarität
		Y	75 Ohm 1,0 Vp-p positive Polarität (mit Synch.)
		Cr, Cb	75 Ohm +/- 0,35 Vp-p positive Polarität
		(Komponent unterstützt HDTV and >31kHz interlaced und progressiv einschl. 1080i/60,1080i50, 24sF, 25p, 24p 23.98p/sF, 720p/60, aber nicht 60p, RGsB, RGBS, RGBHV unterstützt HD progressiv und PC progressiv)	
		H/V-Synch.	1 kOhm / 75 Ohm (wählbar) 0,7 - 4,0 Vp-p / TTL positive/negative Polarität Beanspruchung N/A
		Composite-Synch.	1 kOhm / 75 Ohm (wählbar) 0,7 - 4,0 Vp-p / TTL positive/negative Polarität Beanspruchung N/A
		Synch. auf Grün	75 Ohm 1,0 Vp-p (einschließlich Synch.-Signalkomponente von 0,3 Vp-p)

MM-DVI	Einfach-Link	Pixel - Taktfrequenz 165 MHz max.	
(Zusatzplatine)	Dual-Link	Pixel - Taktfrequenz 202,5 MHz max.	
MM-SDI	SDHV	SMPTE 259M Pegel C	
(Zusatzplatine)	HDTV	SMPTE 292M (einschließlich 24sF, 24p)	

Eingangs-/ Ausgangsanschluss

Eingangsschlitz 4 Schlitze (eine Platine für die VIDEO-Platine und die analoge RGB-Eingangsplatine gehören zur Grundausstattung; 2 Schlitze sind für eine Erweiterung vorgesehen)

MM-VIDEO	Video	Eingang	BNC x 1 (Composite-Video)
(integriert)		Eingang	BNC x 2 (S-Video)
		Eingang	BNC x 3 (DVD-Komponente)
MM-RGB	Analog RGB	Eingang	BNC x 5
(integriert)			(mit den Komponenten-Eingangsanschlüssen geteilt)
	Audio	Eingang	RCA (L / MONO, R) x 1 (ohne Funktion)
MM-DVI	Digital RGB	Eingang	DVI-D x 1
(Zusatzplatine	Audio	Eingang	Stereo-Minibuchse x 1 (ohne Funktion)
MM-SDI	SDI	Eingang	BNC x 2
(Zusatzplatine)	SDI	Ausgang	BNC x 1

USB Port	A Typ x 1, B Typ x 1	
LAN Port	RJ-45 x1	
Fernbedienung	In (Ein)	Stereo-Minibuchse x 1, XLR-Anschluss x 1
	Out (Aus)	Stereo-Minibuchse x 1
PC-Steuerung	In (Ein)	D-Sub 9-polig x 1
	Out (Aus)	D-Sub 9-polig*3 x 1
PC-Karten	Typ II x 1	
Ex. Steuerung	Mini D-Sub 15-polig x 1	

Leistungsanforderung	200 - 240V Wechselstrom, 50/60Hz	
Leistungsaufnahme	HL 12000HD / HL 10000HD:	3,0 KW
Eingangsstrom	HL 12000HD / HL 10000HD:	15 A
Abmessungen	HL 12000HD:	690mm (W) x 1018mm (T) x 542mm (H) 27,2" (W) x 40,1" (T) x 20,4" (H)
	HL 10000HD:	670mm (W) x 926mm (T) x 425mm (H) 26,4" (W) x 36,5" (T) x 16,8" (H)
Gewicht, netto	HL 12000HD:	88,3kg / 194,7lbs (ohne Objectiv)
	HL 10000HD:	74,6kg / 164,5lbs (ohne Objectiv)

Umgebung
Betriebstemperatur: 50˚ bis 95˚F (10˚ bis 35˚C)
Feuchtigkeit: 20 bis 80% nicht-kondensierend
Lagertemperatur: 14˚ bis 122˚F (-10˚ bis 50˚C)
Feuchtigkeit: 20 bis 80% nicht-kondensierend

Verordnungen	USA	UL60950	FCC Klasse A
	Kanada	CSA60950	ICES-003 Klasse A
	Europa	EN60950	EN55022 Klasse A
			EN55024
			EN61000-3-2
			EN61000-3-3
	Japan	J60950	VCCI Klasse A

*1:Die zulässige Abweichung für RGB-Konvergenz (Bildpunkt-Abweichung) beträgt in der Mitte 1/2 Pixel; 3/4 Pixel oder weniger im Umfang (wenn sich der Projektions-Aufwärtswinkel auf 0˚ beläuft).

*2:Bei Benutzung des Zoom-Objektives ist es empfehlenswert, den Projektor in einem Winkel von -15 bis +15 Grad von der Horizontale ausaufzustellen.

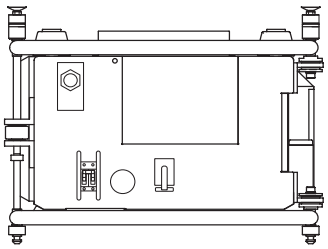
*3:Diese Anschlüsse sind für eine künftige Erweiterung vorgesehen.

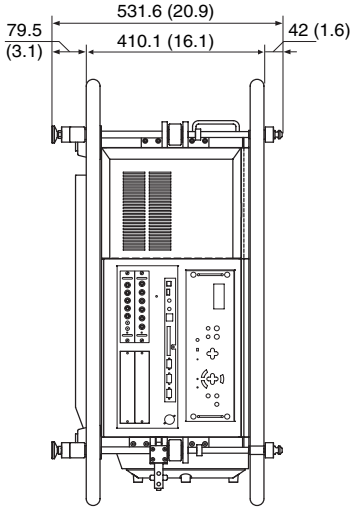
Technische Daten können ohne vorherige Benachrichtigung geändert werden.

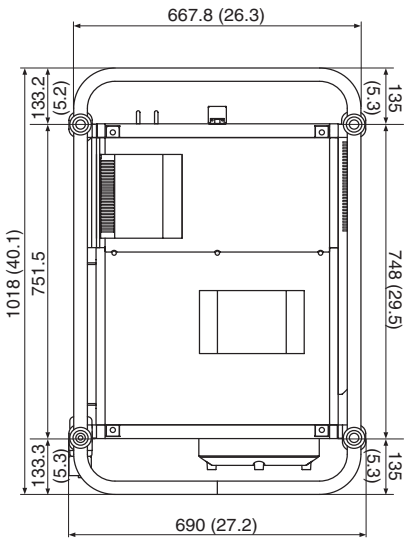
Digital Light Processing, DLP, Digital Micromirror Device und DMD sind Warenzeichen von Texas Instruments.

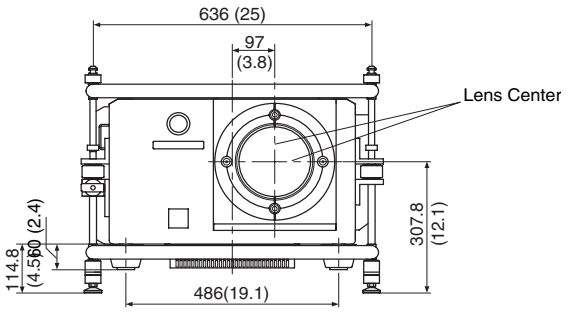
3 Cabinet Dimensions

HL 12000HD



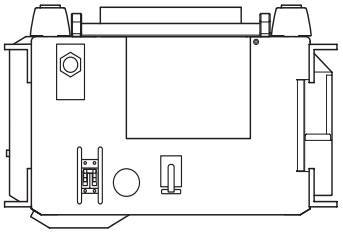


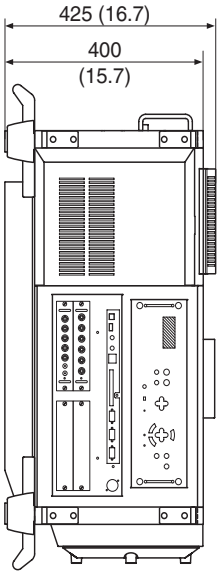


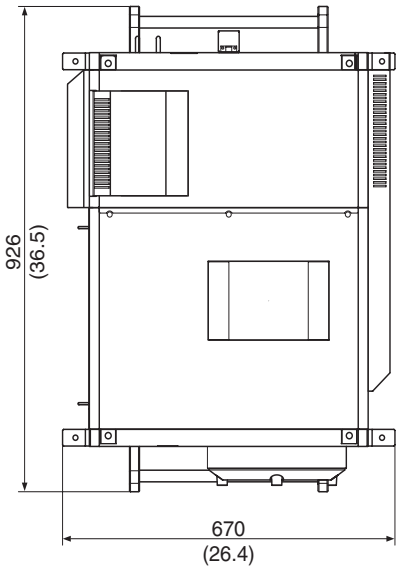


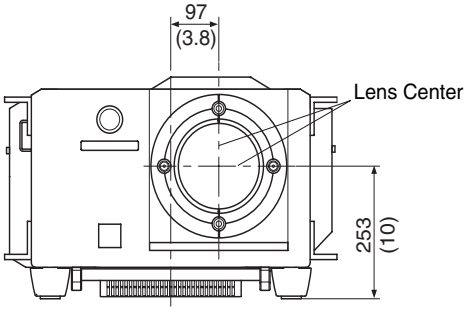
Unit = mm (inch)

HIGHlite 10000HD









Unit = mm (inch)

4 Compatible Input Signal List

Signal		Resolution (Dots)	Frequency H. (kHz)	Refresh Rate (Hz)	MM-VIDEO	MM-RGB RGsB	MM-RGB RGBS	MM-RGB RGBHV	MM-RGB YCrCb	MM-SDI	MM-DVI
VIDEO	NTSC	–	15.7	60.0	A	×	×	×	×	×	×
(Composite	PAL/SECAM	–	15.6	50.0	A	×	×	×	×	×	×
S-Video)	PAL60	–	15.7	60.0	A	×	×	×	×	×	×
SDTV	480i	720 × 483	15.7	60.0	A	×	×	×	×	×	×
(Colour²)	575i	720 × 575	15.6	50.0	A	×	×	×	×	×	×
	480p	720 × 483	31.5	60.0	×	F	U	U	A	×	U¹
	575p	–	31.3	50.0	×	F	U	U	A	×	U¹
HDTV	1080i60	1920 ×1080	33.8	60.0	×	F	×	×	A	×	A
Analogue	1080i50	1920 ×1080	28.1	50.0	×	F	×	×	A	×	A
or	1080sF24	1920 ×1080	27.0	48.0	×	F	×	×	A	×	×
via DVI	720p60	1280 × 720	45.0	60.0	×	F	U	U	A	×	U¹
	1080p30	1920 ×1080	33.8	30.0	×	F	U	U	A	×	U¹
(Colour²)	1080p25	1920 ×1080	28.1	25.0	×	F	U	U	A	×	U¹
	1080p24	1920 ×1080	27.0	25.0	×	F	U	U	A	×	U¹
SD-SDI *	480i	720 × 483	15.7	60.0	×	×	×	×	×	A	×
	575i	720 × 575	15.6	50.0	×	×	×	×	×	A	×
HD-SDI *	1080i60	1920 ×1080	33.8	60.0	×	×	×	×	×	A	×
	1080i50	1920 ×1080	28.1	50.0	×	×	×	×	×	A	×
	1080sF24	1920 ×1080	27.0	48.0	×	×	×	×	×	A	×
	720p60	1280 × 720	45.0	60.0	×	×	×	×	×	A	×
	1080p30	1920 ×1080	33.8	30.0	×	×	×	×	×	A	×
	1080p25	1920 ×1080	28.1	25.0	×	×	×	×	×	A	×
	1080p24	1920 ×1080	27.0	24.0	×	×	×	×	×	A	×
RGB		640 × 480	31.5	60.0	×	A	A	A	F	×	A
(Analogue and DVI)		640 × 480	37.9	72.8	×	A	A	A	F	×	A
		640 × 480	37.5	75.0	×	A	A	A	F	×	A
		640 × 480	43.3	85.0	×	A	A	A	F	×	A
		800 × 600	31.25	50.0	×	A	A	A	F	×	A
		800 × 600	35.2	56.3	×	A	A	A	F	×	A
		800 × 600	37.9	60.3	×	A	A	A	F	×	A
		800 × 600	48.1	72.2	×	A	A	A	F	×	A
		800 × 600	46.9	75.0	×	A	A	A	F	×	A
		800 × 600	53.7	85.1	×	A	A	A	F	×	A
		1024 × 768	40.0	50.0	×	A	A	A	F	×	A
		1024 × 768	48.4	60.0	×	A	A	A	F	×	A
		1024 × 768	56.5	70.1	×	A	A	A	F	×	A
		1024 × 768	60.0	75.0	×	A	A	A	F	×	A
		1024 × 768	68.7	85.0	×	A	A	A	F	×	A
		1152 × 864	67.5	75.0	×	A	A	A	F	×	A
		1280 × 960	50.0	50.0	×	A	A	A	F	×	A
		1280 × 960	60.0	60.0	×	A	A	A	F	×	A
		1280 × 960	85.9	85.0	×	A	A	A	F	×	A
		1280 ×1024	52.8	50.0	×	A	A	A	F	×	A
		1280 ×1024	64.0	60.0	×	A	A	A	F	×	A
		1280 ×1024	80.0	75.0	×	A	A	A	F	×	A
		1280 ×1024	91.1	85.0	×	A	A	A	F	×	A
		1400 ×1050	54.5	50.0	×	A	A	A	F	×	A
		1400 ×1050	65.2	60.0	×	A	A	A	F	×	A
		1400 ×1050	64.0	60.0	×	A	A	A	F	×	A
		1400 ×1050	82.2	75.0	×	A	A	A	F	×	A
		1400 ×1050	93.6	85.0	×	A	A	A	F	×	A
		1600 ×1200	62.5	50.0	×	A	A	A	F	×	A
		1600 ×1200	75.0	60.0	×	A	A	A	F	×	A
		1920 ×1080	56.25	50.0	×	A	A	A	F	×	A

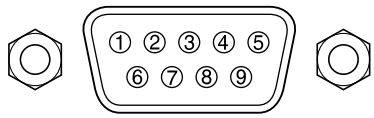
Code: A - Auto, projector detects and dsiplays correctly
F - Format change required see Projector “Adjust (source)/Signal Type (page E55)
U - User setup required see Optimising RGB picture Automatically (Page E33), (U¹ also requires separate syncs)
× - Not Supported

[2] Colour space for SDTV and HDTV via DVI will be RGB colour space - can be changed using Colour Matrix function.

* SD-SDI and HD-SDI signals can be input when the optional MM-SDI has been installed.

- At the time of shipping, adjustment is made to the standard signal of the display resolution/frequency; however, adjustment may be required depending on the type of personal computer.
- SDTV and HDTV signals also support a vertical frequency of fV/1.001.
- RGB signals support analog and DVI.
- Please contact your dealer about details concerning the connection of signals other than the aforementioned.
- Composite sync and other signals might not be displayed properly.
- When the resolution has been converted for the display (and is not the real resolution of the display), the thickness and other aspects of the characters and ruled lines might not be uniform.

5 Pin Assignment of PC CONTROL IN Connector (D-Sub 9 Pin)



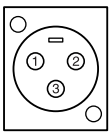
Using RS-232C

Pin #	Signal Name	Function	I/O
1	NC	Not used	–
2	RxD	Reception data	Input
3	TxD	Transmission data	Output
4	NC	Not used	–
5	GND	Ground potential	GND
6	NC	Not used	–
7	RTS	Transmission request	Output
8	CTS	Transmission permission	Input
9	NC	Not used	–

Using RS-422

Pin #	Signal Name	Function	I/O
1	NC	Not used	–
2	RxD-	Reception data -	Input
3	TxD+	Transmission data +	Output
4	NC	Not used	–
5	GND	Ground potential	GND
6	NC	Not used	–
7	RxD+	Reception data +	Input
8	TxD-	Transmission data -	Output
9	NC	Not used	–

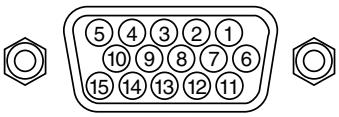
6 Pin Assignment of REMOTE IN 3 Connector (XLR connector)



Pin #	Function	I/O
1	Ground potentiul	GND
2	DC+3.3V	PWR
3	Remote Control Input	I

7 Pin Assignment of EXT. I/O Connector (Mini D-Sub 15 Pin)

The various control and switching operations are enabled by either opening (OPEN) or short circuiting (SHORT) the pin number 15 (GND) of the external control connector (EXT. I/O) with the various pins listed in the table below.



• Control Functions

Pin #	OPEN	SHORT
14	EXT CTL OFF	EXT CTL ON
5	POWER OFF	POWER ON
10	PICTURE MUTE OFF	PICTURE MUTE ON

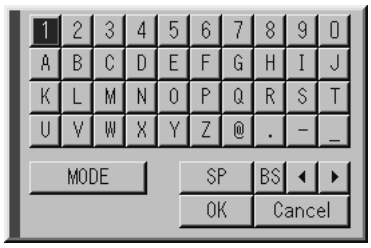
• Input Switching (0 = SHORT, 1 = OPEN)

Pin # (Bit)				SLOT	Factory Default
11 (b3)	12 (b2)	8 (b1)	4 (b0)		
0	0	0	0	1-1	VIDEO1 (CV)
0	0	0	1	1-2	VIDEO2 (S-Vid)
0	0	1	0	1-3	VIDEO3 (CMP)
0	1	0	0	2-1	RGB
0	1	0	1	2-2	None
0	1	1	0	2-3	None
1	0	0	0	3-1	None
1	0	0	1	3-2	None
1	0	1	0	3-3	None
1	1	0	0	4-1	None
1	1	0	1	4-2	None
1	1	1	0	4-3	None

* When there is no supported input channel, “None” is displayed on the LCD screen of the projector.

NOTE: When using the external control connector (EXT. I/O) to control the Projector, short circuit pin number 14 (EXT CTL ON/OFF) and pin number 15 (GND), and operate according to the above table with the external control (EXT CTL) set to ON.

8 Using Software Keyboard



1 to 0 and Characters
..... Use to type in IP address or projector name

MODE ..... Selects one of three modes for alphabet and special characters.

SP ..... Inserts a space

BS ..... Deletes one character backward

◄ ..... Returns to the previous

► ..... Advances to the next

OK ..... Executes the selection

Cancel ..... Cancels the selection

9 Operation Using an HTTP Browser

Overview

The use of HTTP server functions will allow control of the Projector from a web browser without the installation of special software. Please be sure to use "Microsoft Internet Explorer 4.x" or a higher version for the web browser. (This device uses "JavaScript" and "Cookies" and the browser should be set to accept these functions. The setting method will vary depending on the version of browser. Please refer to the help files and the other information provided in your software.)

NOTE:

** The use of HTTP server functions is not available during Standby mode.*

** The display's or button's response can be slowed down or operation may not be accepted depending the settings of your network. Should this happen, consult your network administrator.*

** The Projector may not respond if its buttons are repeatedly pressed in rapid intervals. Should this happen, wait a moment and repeat. If you still can't get any response, pull out and then re-insert the LAN card.*

Access is gained to the HTTP server functions by specifying
http:// <the Projector's IP address> /index.html
in the entry column of the URL.

Preparation Before Use

Make network connections and set up the Projector and confirm that it is complete before engaging in browser operations. (See "LAN Mode" on page E-63.)

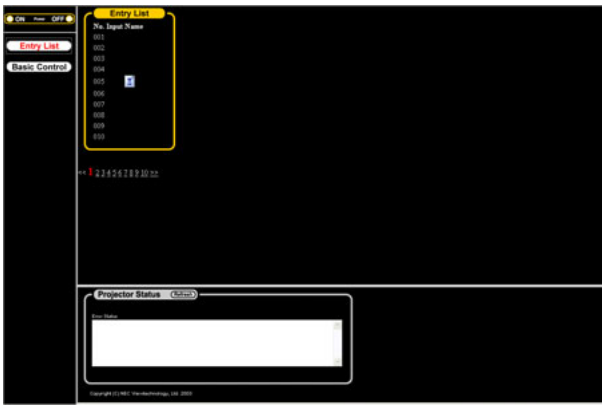
Operation with a browser that uses a proxy server may not be possible depending on the type of proxy server and the setting method. Although the type of proxy server will be a factor, it is possible that items that have actually been set will not be displayed depending on the effectiveness of the cache, and the contents set from the browser may not be reflected in operation. It is recommended that a proxy server not be used unless it is unavoidable.

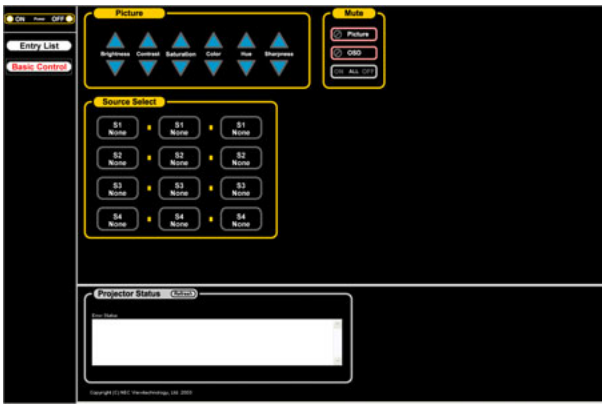
Handling of the Address for Operation via a Browser

Regarding the actual address that is entered for the address or entered to the URL column when operation of the Projector is via a browser, the host name can be used as it is when the host name corresponding to the IP address of the Projector has been registered to the domain name server by a network administrator, or the host name corresponding to the IP address of the Projector has been set in the "HOSTS" file of the computer being used.

Example: When the IP address of the Projector is "192.168.73.1", access is gained to the HTTP server functions by specifying http://192.168.73.1/index.html for the address or the entry column of the URL.

Structure of the HTTP Server





Power: This controls the power of the Projector.
- On ..... Power is switched on.
- Off ..... Power is switched off.

Mute: This controls the mute function of the Projector.
- All On ..... Mutes each of the video and on-screen display functions.
- All Off ..... Cancels the muting of each of the video and on-screen display functions.
- Picture On ... Mutes the video.
- Picture Off ... Cancels the video muting.
- OSD On ..... Mutes the on-screen display.
- OSD Off ..... Cancels the muting of the on-screen display.

Picture: Controls the video adjustment of the Projector.
- Brightness ▲ Increments the brightness adjustment value.
- Brightness ▼ Decrements the brightness adjustment value.
- Contrast ▲ ... Increments the contrast adjustment value.
- Contrast ▼ ... Decrements the contrast adjustment value.
- Saturation ▲ Increments the saturation adjustment value.
- Saturation ▼ Decrements the saturation adjustment value.
- Color ▲ ..... Increments the color adjustment value.
- Color ▼ ..... Decrements the color adjustment value.
- Hue ▲ ..... Increments the hue adjustment value.
- Hue ▼ ..... Decrements the hue adjustment value.
- Sharpness ▲ Increments the sharpness adjustment value.
- Sharpness ▼ Decrements the sharpness adjustment value.

* The functions that can be controlled will vary depending on the signal being input to the Projector.

Source Select: This switches the input connector of the Projector.

Note: The operations that follow represent the Projector in the factory shipping condition. The operation will change depending on the insertion of interface boards.

S1	Video	Selects the CVBS input connector of Slot 1.
S1	S-Video	Selects the S-Video input connector of Slot 1.
S1	Component	Selects the Component video input connector of Slot 1.
S2	RGB	Selects the RGB input connector of Slot 2.
S2	None	No operation.
S2	None	No operation.
S3	None	No operation.
S3	None	No operation.
S3	None	No operation.
S4	None	No operation.
S4	None	No operation.
S4	None	No operation.

Switcher Status: This displays the condition of the Projector.
- Error Status ..... Displays the status of errors occurring within the Projector.
- Refresh ..... Updates the display of the following conditions.

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Y/C Delay E-51
YTR Adjustment E-51