# FILM-TECH

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### **DLP Cinema<sup>™</sup> Projector Installation manual**

# NC1500C

#### 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.



#### CAUTION

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



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.

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.

**Precautions:** Please read this prior to setup to use your **NC1500C** safely. To use this projector safely, always observe the following precautions when setting up the projector. There is the possibility of serious accidents that can lead to death or serious injuries if the projector is handled improperly because these precautions were ignored. Handle this projector only after you completely understand these precautions.

#### **DOC compliance Notice**

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

#### 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.

#### 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.

#### Warning

### Always connect to a ground prior to connecting to the AC power supply.

• A very high, leaked current will flow to the projector. Therefore, always connect to a ground prior to connecting to the AC power supply.

## Connect the projector to exhaust equipment.

• Use a duct, etc., to connect the projector's air outlet to exhaust equipment that can handle flow amounts of at least 16 m<sup>3</sup>/min. See section "Mounting Exhaust Equipment " in this manual to mount it correctly.

#### Equipment Installation and Transport

• Be very careful not to allow the projector head to be shocked or excessively shaken when installing or transporting the projector. The internal components of the projector head can be damaged if they are excessively shocked or shaken.

#### When opening the lamp door

• There is a high voltage lamp inside the projector. There is the danger of cracking the lamp, so never open this door unless absolutely necessary. Also, when opening the lamp door, use the prescribed procedures to ensure that you do it safely.

#### 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.
- To carry the projector, a minimum of six persons are required. Do not hold the lens part and the anamorphic lens parts with your hand. Otherwise the projector may tumble or drop, causing personal injury.
- 6. Do not place heavy objects on top of the projector.

#### **Power Supply**

- 1. The projector is so designed that it operates with the power supply voltage described below.
  - AC200-240V 50/60Hz

Ensure that your power supply fits this requirement before attempting to use your projector.

- 2. Consult your dealer for installing the power cord to the projector. DO NOT install the power cord by yourself. Doing so may cause a fire or electric shock.
- 3. Handle the power cord carefully and avoid excessive bending. Do not place any heavy objects on the power cord. A damaged cord can cause electric shock or fire.
- 4. If the projector will not be used for an extended period of time, shut down AC power.
- 5. Placing the power cord and the signal cable closely to each other can cause beat noise. If this happens, keep the two separated so that beat noise is not generated. Beat noise is corruption of the picture often seen as a rolling band moving through the image.
- 6. Do not touch the projector during a thunder storm. Doing so can cause electrical shock or fire.

#### Cleaning

- 1. Shut down AC power to the projection head 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. Connect the projector exhaust outlet with the exhaust equipment having a capacity of 16m<sup>3</sup>/min or more.
- 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 service person.
- 3. Do not place any liquids on top of your projector. Refer servicing to qualified service personnel if liquid has been spilled.
- 4. Keep any items such as magnifying glass out of the light path of the projector. The light being projected from the lens is extensive, therefore any kind of abnormal objects that can redirect light coming out of the lens, can cause unpredictable outcome such as fire or injury to the eyes.
- 5. Do not cover the lens with the supplied lens cap or equivalent while the projector is on. Doing so can lead to melting of the cap and possibly burning your hands due to the heat emitted from the light output.

6. When using a LAN cable: For safety, do not connect to the connector for peripheral device wiring that might have excessive Voltage.

**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 hours, the risk of explosion increases. Please note that there is a warning system built in, that displays following message when you reach a preset operating time "Bulb Over Time". 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 back of the unit. Do not stand in front of the vents during the operation. 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:

- 1. Do not look into the lens while the projector is on. Serious damage to your eyes could result.
- 2. When main body is damaged, cooling fluids may come out of internal part. 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

Never unplug the projection head power plug from the outlet under the following conditions. Doing so can cause damage to the projector:

- While projecting image
- While cooling after the lamp has been turned off. (The POWER indicator blinks in orange while the fan is rotating, and the LCD screen is displaying "cooling...". The cooling fun continues to work for 5 minutes).



Disposing of your used product EU-wide legislation as implemented in each Member State requires that used electrical and electronic products carrying the mark (left) must be disposed of separately from normal household waste. This includes projectors and their electrical accessories or lamps. When you dispose of such products, please follow the quidance of your local authority and/or ask the shop where you purchased the product. After collecting the used products, they are reused and recycled in a proper way. This effort will help us reduce the wastes as well as the negative impact to the human health and the environment at the minimum level. The mark on the electrical and electronic products only applies to the current European Union Member States.

## For questions relating to unclear points or repairs

Contact your dealer or the following support branches for questions relating to unclear points, malfunctions and repairs of the product.

#### In Europe

NEC Europe, Ltd. / European Technical Centre Address: Unit G, Stafford Park 12, Telford TF3 3BJ, U.K. Telephone: +44 1952 237000 Fax Line: +44 1952 237006

#### **In North America**

NEC Solutions America, Inc. Address: 10850 Gold Center Drive, Suite 200 Rancho Cordova, CA 95670 Telephone: +01 866 632 6431

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# 1.

# **Before Setting Up Your Projector**

#### 1.1 Exhaust equipment specifications

It is necessary to connect the air outlet of the projector to the exhaust equipment. The accessory protective sheet should also be mounted because the area around the air outlet can become very hot. For Exhaust equipment Installation, see "2.7. Mounting the exhaust equipment" (Page D-27).

Exhaust		16m <sup>3</sup> /min. or more
Air outlet size	(external diameter)	about 200mm



#### **1.2 Selecting Primary/Anamorphic Lenses for Your Projector**

This section provides guideline information on how to select a screen size and projector mounting position appropriate for your presentation purposes and about selection of types of lenses as well. Select primary/anamorphic lenses for your projector according to the environment in which it is installed.

Note that all descriptions given in this manual suppose that the angle of projection is zero degree. Therefore, you need to calculate the projector tilt/pan angle so that it can be minimized during projection when you project slides downward or from a side.

#### 1.2.1 Screen Type

The following two types of screen masks can be used for the DLP Cinema Projector. Check the screen mask for your projector for its type before selecting lenses because types of primary/anamorphic lenses to be used on the projector and its settings depend upon the type of screen mask you use.

#### Horizontal moving screen mask

Screen masks move horizontally to adjust the screen.



Vertical moving screen mask

Screen masks move vertically to adjust the screen.



#### 1.2.2 Selection of Anamorphic Lens

An anamorphic lens is required when you use a wide screen for projection. Because a different type of anamorphic lens should be used according to the type of projector and screen, determine an appropriate anamorphic lens in consultation with the end user, considering its application purpose. See the table below for available anamorphic lenses.

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Memo

#### Available Anamorphic Lenses

Screen mask type	Screen Type	Anamorphic lens	Remarks
Horizontal moving	SCOPE	×1.25	
	VISTA	-	
	HDTV	-	
Vertical moving	SCOPE	×1.25 or None	No anamorphic lens should be used if the zooming power of the primary lens is insufficient.
	VISTA	-	
	HDTV	-	

Some settings for screen presentation may be required when vertical moving screen masks.

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#### 1.2.3 Selection of Primary Lens



#### **Option lenses**

MODEL	Magnifying
L2K-14ZM	1.45 - 1.8
L2K-18ZM	1.8 - 2.4
L2K-22ZM	2.2 - 3.0
L2K-30ZM	3.0 - 4.3

#### Projected Images

The anamorphic lens works to magnify projected images horizontally when you use a wide screen for projection (SCOPE).

Area magnified by anamorphic lens	
HDTV Projected area, 1920 × 1080 ——	
VISTA Projected area, 1998 × 1080 —	
Projected area, 2048 × 1080 ———	Screen

#### How to Calculate the Magnification of Primary Lens

#### SCOPE projection:

Primary lens magnification = Length of projection (L) Screen width (W) ÷Anamorphic lens magnification

Use 1x for anamorphic lens magnification if this lens is not in use.

#### VISTA/HDTV projection:

Primary lens magnification = Length of projection (L) Screen width (W) ÷(2048 ÷ Number of pixels per horizontal line)

\* Number of pixels per horizontal line: 1998 for VISTA; 1920 for HDTV

\* Select a lens that meets the magnification requirement for both SCOPE and VISTA/HDTV screen types.

#### **1.3 Removing the projector covers**

You can remove covers of the projector by opening hexagonal fasteners. As shown below, a projector has 9 covers:



#### Remarks for cover mounting and removal

- You cannot remove the top rear cover (B) without removing the top front cover (A) first.
- A key for the lamp doors is necessary to open and close the "A: Top surface front cover," "J: Lamp replacement door."
- To the top rear cover (B), the cables for rear status indicator are connected. When removing the top rear cover, it is necessary to remove the cables for rear status indicator, too. Refer to "1.3.1. Top rear cover removal procedure (Page.D-13)" for the procedure.
- When mounting the top front cover (A) and the top rear cover (B), connect the cables for rear status indicator and then mount the top rear cover (B) first. Refer to "1.3.2. Top cover mounting procedure (Page.D-14)" for the procedure.

Step	Cover	∵s (*:th	e cover	s which	need t	o be re	moved	at each	step)
	А	В	С	D	E	F	G	H1	H2
Connecting the AC power cord						*			
Connecting the Touch Panel (optional)	*	*							
Mounting the Primary lens					*				
Mounting the Turret								*	*
Mounting the Small iris							*		
Mounting the MMS (optional)	*		*						
Mounting the Exhaust equipment									

The table below shows the covers which need to be removed at each step.

#### **1.3.1** Top rear cover removal procedure

J

200

# [1] Remove the top front cover of the projector.

To remove the top front cover, an exclusive key is required. Cancel the locking with the exclusive key and remove the hexagonal fasteners (at 4 places) at the top to remove the cover.



[2] Open the top rear cover of the projector and place it on the top of the projector once.

Remove the hexagonal fasteners (2 places) on the top.

# [3] Remove the cables for rear status indicator.

To the top rear cover, the cables from rear status indicators are connected (2 places). Before removing the cover, remove the cables as follows:

- <1> Remove the cables from the board (Connector name: POSTA).
- <2> Lift up the cover for about 5 cm.
- <3> Remove the cables from the clamp in front of you.







#### [4] Remove the top rear cover.



#### **1.3.2** Top cover mounting procedure

[1] Place the top rear cover of the projector once on the top of the projector.

Place it at a position where the cables from rear status indicators can be connected.

## [2] Connect the cables for rear status indicator.

Before mounting the top rear cover, it is necessary to connect the cables.

- <1> Pass the cables through the clamp of the projector.
- <2> Connect the cables to the connector of the board (Connector name: POSTA).

#### [3] Mount the top rear cover.

Close the hexagonal fasteners (2 places) at the top and remove the cover.

#### [4] Mount the top front cover.

Close the hexagonal fasteners (4 places) at the top and lock them with the exclusive key.







#### 1.3.3 Side cover removal & mounting

#### Side cover removal procedure

Remove the side rear cover and lens side cover by removing the hexagonal fasteners (2 places) at the bottom of covers and pulling down the covers.

Connection terminals are fastened to the side front cover by four screws. Use the following procedures to remove this cover.

- <1> Remove the four fixing screws of the connection terminals.
- <2> Open the hexagonal fasteners (2 places) at the cover bottom.
- <3> Lower the cover to remove it.



#### Side cover mounting procedure

Insert the covers to the top of the cover mounting positions and mount them using hexagonal fasteners (2 places) at the bottom of covers.

For mounting the side front cover, it is necessary to fasten the connection terminal section using the screws (4 places) that were removed. Mount the cover according to the procedure below.

- <1> Insert the claws at the cover top (2 places) into the cover mounting holes of the projector.
- <2> Close the hexagonal fasteners (2 places) at the cover bottom.
- <3> Mount the fixing screws (4 places) of the connection terminal section.



# 2.

# Setting Up Your Projector

#### 2.1 Setup procedure

Set up the projector according to the procedure below. This chapter describes the installation procedure until turning on of the power.

- STEP1 Projector installation (See page D-17) - STEP 2 Connecting the power cord (See page D-18) - STEP3 Mounting the primary lens (See page D-21) - STEP4 Mounting the anamorphic lens motorized turret (See page D-23) - STEP5 Installation of Small Iris (Information for Service Personnel) (See page D-25) - STEP6 Mounting Exhaust equipment (See page D-27) - STEP7 Mounting the lamp bulb (See page D-27) - STEP8 Mount the following optional parts as required. Install a touch panel (See "Touch Panel Section"). Install a multimedia switcher (See "MM2000B Section")

#### 2.2 Projector installation

Move the projector to the projection position and install it corresponding to the screen and projection conditions.

To correct the inclination to the right or left of the projector, use the level adjusters at 4 positions. You can extend the level adjuster to 10 mm at the maximum (Rotate it counterclockwise for extension).





#### 2.3 Connecting the power cord

Connect the power cords of the lamp power supply unit and the projector. The AC power cord is not attached as an accessory. Consult with your dealer/distributor for the cord.

<b>U</b> connect the cords according to the proper procedure. Inappropriate handling may cause fatal, serious or other bodily injuries due to fire or electric shock.
--

<ul> <li>Before connecting the power cords, check that the main power switches projector and the lamp power supply unit are turned off. Implement the connection with AC power shut off.</li> <li>Entrust a specialist to carry out the power supply work from the power equipment of the building to the place of projector installation.</li> </ul>	he
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# [1] Remove the front cover of the projector.

Remove the hexagonal fasteners at the top (at 3 places) and remove the front cover.



# [2] Remove the mounting bracket A.

Remove the two screws, then remove the mounting bracket A mounted other main unit.

Mount the removed mounting bracket A after connecting the power cord using Step [5].



# [3] Mount the mounting bracket B.

Mount the mounting bracket B to the power cord kit using the mounting screws (4 pieces).

# [4] Connect the power cord to the noise filter terminal.

Japan; black, Euro/USA; Brown
 Japan; White, Euro/USA; Blue
 GND; Green/Yellow

The screws for the terminals (1) and (2) do not come off. (They have a jump-up structure.)

Upon connection completion, close the terminal cover of the noise filter terminal.

#### [5] Mount the parts A.

Mount the parts A at the projector (at 2 places).









at the top.

This completes the connection of the power cord. Next, mount a primary lens.

#### 2.4 Mounting the primary lens

Mount the attached lens holder (NC-PH01) before mounting the primary lens to the projector.

[1] Remove the lens holder mounting screws (4 pieces).

The lens holder is separated into two parts.

- [2] Mount the lower part of the lens holder along the lens insertion guide.
- [3] Mount the lens holder insertion guide (slit) according to the lens insertion guide notch.
- [4] Mount the upper part of the lens holder and fix it with mounting screws (4 screws).
- [5] Remove the front cover (top) of the projector.









[6] Hold the primary lens unit with its guide notch faced upward and insert it into the projector until it cannot go further.

> Insert the holder into the fixing hole of the lens ring and mount it with rotating it clockwise.

- [7] Tighten the fixing screws (2 screws) for the lens holder. The lens is fixed.
- [8] Connect the control signal cable.



[9] Mount the front covers (top and bottom) of the projector.

Mount the sponge attached to the lens after screen ratio adjustment.

#### 2.5 Mounting the anamorphic lens motorized turret

Use an optional anamorphic lens for projection of cinemascope size.

Anamorphic lens motorized turret (separately sold: NC-AT01) is required for mounting of the anamorphic lens.

#### 2.5.1 List of accessories attached to turret



#### 2.5.2 Descriptions of the parts in turret



#### 2.5.3 Mount the turret

#### [1] Remove the anamorphic lens mounting covers (2 places) of the projector.

You will find fixing holes on the right and left of the front cover (bottom). On the opposite side of the lens, you will see a socket for the control cable.

#### [2] Mount the slide poles for the anamorphic lens motorized turret.

As shown in the figure, fix the slide poles with two screws using two of four screw holes. In addition, arrange the slide poles on the right and left so that they are horizontal.

#### [3] Mount the lens carriage.

Move the lens holder to the opposite side of the primary lens before mounting the lens carriage to the slide poles.

Insert the lens carriage to a position where the slide poles get out of the carriage. Pay attention so that the lens holder does not contact the primary lens. It may damage the lens.

#### [4] Mount the cross balance. Mount a cross balance with screws (2 screws).

[5] Fix the slide clamp. Until the primary lens adjustment is completed, fix the slide clamp at a position where the lens holder does not contact the primary lens. Connect the control cable in the screen ratio

adjustment of the anamorphic lens.

This completes the mounting of the anamorphic lens motorized turret. Mount the anamorphic lens after completion of the primary lens adjustment.

#### 2.6 Installation of Small Iris (Information for Service Personnel)

If it is requested by the customer to reduce the projector's lamp luminance because it is too bright even when set to the minimum level, you may reduce it as follows. This operation will also improve the contrast ratio.

#### Preparatory operation:

- Make sure that the main power switch of the customer's projector is turned off.
- Get the supplied small iris ready. (Included in the standard set of accessories)

#### Installation step

[1] Remove the lens side cover. Remove the hexagonal fasteners (2 places) on the side and remove the cover with lifting it a little.

# [2] Remove the iris plate of the engine block.

Untighten the four clamping screws to remove the iris plate.

[3] Remove the iris screws. Iris plate is provided with a default iris. Remove 3 screws from the iris.

#### [4] Mount the small iris.

Use 3 screws you have removed at Step [3] to mount the small iris among accessories with overlapping it over the iris.







# [5] Remount the iris plate now attached with the small iris to the engine block.

Use 4 screws you have removed at Step 2 to mount the iris plate.

[6] Mount the lens side cover to the projector.





#### 2.7 Mounting the exhaust equipment

It is necessary to connect the air outlet of the projector to the exhaust equipment. The accessory protective sheet should also be mounted because the area around the air outlet can become very hot.

[1] Mount an exhaust hose to the air outlet. Mount the hose for connection to the exhaust equipment to the air outlet.
[2] Wrap the protective sheet around the exhaust hose. Wrap the protective sheet to cover the connection of the air outlet and hose.
[3] Use the accessory protective sheet bands (4 bands) to fasten the protective sheet.

#### 2.8 Mounting the lamp bulb

Mount the lamp bulb to the projector here. Ask a service personnel to mount the lamp bulb.



• It is concerned that the lamp bulb would burst under shock or vibration. Make sure to move the projector to the installation position before mounting the bulb. In addition, make sure to remove the lamp bulb before moving the projector to another place.

# 3.

# **Projector Adjustment and Connecting**

#### 3.1 Flow of Adjustment and Connecting

Adjustment and Connecting of the projector accord to the procedure below.

- STEP1

Turning your projector on (See page D-29)

- STEP2

Setting the projector projection method (See page D-30)

- STEP3

Adjusting the primary lens (See page D-31)

Display the test pattern to adjust the screen size, screen ratio and focus.

- STEP4

Mounting and adjusting the anamorphic (See page D-33)

- STEP5

Connecting the image input (See page D-36)

- STEP6

Connecting the various control terminal (See page D-37)

Steps 1 to 6 complete the adjustment and connection of the projector. Next, set up the projector from the touch panel. Refer to the "Touch Panel Section" for the procedure.

#### 3.2 Turning your projector on

The power to this projector is separated to the power to the projector head and power to the lamp. To project an image, it is necessary for both power supplies to be on.

**Note** • While your projector is on, be sure to have the lens cap removed from the lens. Otherwise, the lens cap may get deformed due to a heat buildup.

- In the following instances, the power to your projector cannot be turned on even if you press the POWER button.
  - When the inside temperature is abnormally high. The protective function prevents power from turning on. Wait some time (until the projector inside cools down) and then turn on the power.
  - When the STATUS indicator is blinking without the lamp lighting up after power-on. Your projector may be in trouble. Check the error display on the LCD screen and contact your dealer/distributor for instructions.
- Note that the image may sometimes flicker until the lamp has stabilized (5 to 10 minutes) after power-on. This is due to the characteristics of the lamp and is not trouble of your projector.

Preparation: Supply AC power to the projector head and to the lamp power supply unit.

- [1] Remove the lens cap.
- [2] Turn the main power switch on the front of your projector head to on.

A buzzer will ring on the projector. The POWER indicator and rear STATUS indicator light up orange (standby state)



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POWER STATUS

[3] Press the POWER button on the control panel of your projector three seconds or longer.

Your projector is turn on, and the screen glows light about 30 seconds later. The POWER indicator of the projector lights up green.

When controlling with the remote control, press the POWER ON button three seconds or longer.

#### 3.3 Setting the projector projection method

When the projector is shipped from the factory, the projection method is set to the front mode (projection from the front of the screen with the projector installed on the pedestal). It is necessary to use the remote controller for change of the projection method. Refer to the operation manual for remote controller operation

[1] Press the "TEST" button while holding down the "CTL" button on the remote control panel.

The Passcode input screen appears on the LC display located on the projector's side panel.

[2] Enter your passcode using the numeric character keys of the remote control.

After authentication of your passcode, the Configuration menu will become active.

- **[3]** Use the arrow buttons "< / >" to select "Configuration".
- [4] Use the arrow buttons "< / >" to select "Installation".
- [5] Check that "Image Orient" is selected and press the ▼ button. If "Image Orient" is not selected, press the < / > buttons to select it
- [6] Press the "< / >" buttons to select the projection method (Image Orientation).

When shipped from the factory, it is set to [Normal-F].

- Normal-F Front projection. With the projector installed on the pedestal, projection is executed from the front of the screen.

- Normal-R Rear projection. With the projector installed on the pedestal, projection is executed from the back of the screen.

#### [7] Press the "ENTER" button. several times

An (\*) will be put on the selected projection method (Image Orientation).

#### [8] Press the "EXIT" button several times.

The projector exits the menu and goes back to the regular screen.

#### 3.4 Adjusting the primary lens

Display the test pattern and adjust the screen size, focus and screen position with the primary lens.

#### 3.4.1 Display the test pattern

- [1] Press the MENU button of the remote controller. "TITLE SELECT" is displayed on the LCD screen at the projector side.
- [2] Press ▼ button.
- [3] Press the < / > buttons to select "TEST PATTERN".
- [4] Press the < / > buttons to select "Cross Hatch".
- **[5]** Press ▼ button.
- [6] Press "ENTER" button.

An (\*) will be put on the selected test pattern.

#### 3.4.2 Adjusting the screen ratio

Adjust the screen ratio of the primary lens here. Adjust the screen ratio of the anamorphic lens after adjusting the primary lens screen ratio and mounting the anamorphic lens (See D-33).

When an anamorphic lens is used, distortions will be produced on the projection screen. To prevent the image from being cut off due to these distortions, the image size should be made larger than the screen size beforehand.

To minimize potential distortions of the anamorphic lens, it is recommended that the lens shift not be used as much as you can and that projection be kept at lens center.

Memo	How to Call the Lens Center
riemo	[1]Press the "MENU" button on the remote control panel.
	"Title SELECT" appears on the projector's LC display.
	[2]the Configuration menu using the arrow buttons "< / >".
	[3]Press the "▼" button.
	[4]Select "Installation" using the " $<>$ " buttons.
	[5]Press the "▼" button.
	[6 Select "Lens Center" using the " $$ " buttons.
	[7]Press the "▼" button.
	[8]When "Move" appears on the display, press the "ENTER" button.
	The lens will begin to move.

- [1] Press the "ZOOM+-" buttons on the remote control panel or of the projector to roughly adjust the screen size so that the screen height and the image height are the same.
- [2] Press the "FOCUS+-" buttons of the remote control or the projector to roughly adjust the focus.
- [3] Adjust the surface on which the projector is set up and the tilt foot of the projector to adjust the setup position, height, and tile (front-back and left right) of the projector so that the projected image is level at the screen center.
- [4] Use the "ZOOM+-" buttons again to adjust the screen size so that the projected image is kept 0.5 to 1 crosshatch cell portions higher than the top edge of the screen.
- [5] Finally adjust the focus using the "FOCUS+-" buttons either of the remote control or the projector.





If you use the lens memory for adjustment of the focus, first move the ▼ key (Focus Down) almost to the limit and then make adjustments so that you can finish the adjustment on the ▲ (Focus Up) side.

#### 3.5 Mounting and adjusting the anamorphic

Mount the anamorphic lens to the anamorphic lens, adjust the anamorphic lens position.

#### 3.5.1 Mounting the anamorphic

Mount the anamorphic lens to the anamorphic lens motorized turret mounted in 2-5.

[1] Loosen the lens clamps (2 places) and slide the lens carriage on the slide poles.

Adjust the lens carriage position.

Lens clamps

Support pole

[2] Mount the cross balance to the end of the support pole.

- [3] Connect the control cable for the anamorphic lens motorized turret.
- [4] Mount the anamorphic lens to the lens holder and loosely fix it with lens clamp screws (2 places).



#### 3.5.2 Adjusting the anamorphic lens position

Adjust the anamorphic lens position so that it becomes parallel with the primary lens in horizontal and vertical directions. In addition, rotate the lens to adjust it so that the enlarged projection screen becomes horizontal.



#### [1] Adjust the vertical face.

Use the vertical face adjusting screws (2 places) to adjust the face so that it contacts with the vertical support.

#### [2] Adjust the horizontal face.

Loosen the horizontal face adjusting lock screws and rotate two bearings so that both of them contact the horizontal support.

#### [3] Adjust the vertical position.

Use the vertical position adjusting screws (2 places) to adjust the position so that both screws are connected with the lens holder.

#### [4] Adjust the horizontal position.

Use two micro switches at the ends of the lens carriage to move the lens to the position nearest to the projector. When the lens moves to the predetermined position, the bracket at the center determines the horizontal position of the lens. Adjust the position of the micro switch bracket at the center.

#### 3.5.3 Adjusting the anamorphic lens inclination

# [1] Rotate the lens to set the projection screen horizontally and vertically.

Loosen the lens clamp and rotate the lens in the lens holder so that the vertical and horizontal lines at the center of the projection screen become horizontal and vertical respectively.

Loosen the lens clamp after the adjustment and check that the projection image is substantially at the center of the anamorphic lens and that the 4 corners are not rejected within the anamorphic lens.

If rejected, repeat Steps [1] to [4] for adjustment.


#### 3.6 Connecting the image input

Your projector has four image input terminals, namely, the HDSDI A input terminal, the HDSDI B input terminal, the DVI-D A input terminal, and the DVI-D B input terminal.

HDSDI A/B input terminal	Inputs serial digital images from a Video Server or Video
(SDI A/SDI B)	source.
DVI-D A/B input terminal	Inputs digital RGB signals from a PC.
(DVI A/DVI B)	



#### Information for Reducing Radiation of Electromagnetic Waves

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

#### Mounting the ferrite clamp core

[1] Open the accessory ferrite clamp core and attach it to the DVI-D signal cable.

When doing so, attach this as close as possible to the end that goes to the projector.

 $\ast$  Push the catch to open the ferrite clamp core.

- [2] Close the ferrite clamp core tightly.
- [3] Fix the supplied band to the signal cable as a stopper.

\* Pull the end of the band to tighten it. Cut off the surplus of the band.



• Be sure to use the ferrite clamp core at the end of the DVI-D signal cable.

Note

#### 3.7 Connecting the various control terminal

For control, your projector comes with such ports as the PC control terminal and the Ethernet port (RJ-45).

PC control terminal	Use this terminal when controlling the projector in serial
(PC CONTROL)	connection from a PC.
Ethernet port	Use this port when controlling the projector in LAN connection
(LAN-A/LAN-B)	from a PC.



This completes the adjustment and connection of the projector. Next, set up the projector from the touch panel. Refer to the "Touch Panel Section" for the procedure.

#### 3.8 Controlling Your Projector Using a Wireless LAN Card

When using a wireless LAN to control the projector, please insert a wireless LAN card (available separately) into the Connection terminal PC Card slot located at the projector side.



- Although the built-in Ethernet ports (LAN-A/LAN-B) cannot be used to control your projector Model iS10 when a wireless LAN card is set, you can access the "NC1500C" through these ports even when a wireless LAN card is set.
  - Be sure to set or remove your wireless LAN card only when the power to your projector is off. Insertion or removal of a wireless LAN card when power to your projector is on may result in a destruction of the wireless LAN card.

## **4.** LCD Menu

This chapter describes the menus displayed in the LCD screen on the projector's control panel and their functions. For basic operations of menus, refer to the operation manual.

#### 4.1 List of menu

Menus in parentheses are menus for our service personnel. Normally, these menus cannot be used.

Main menu	S	ubmenu	Description	Ref.
				page
Title Select	"Title Memory r	name"	Selects the title of the signal to be projected.	D-41
	TEST Pattern		Selects the test pattern to be projected.	D-41
Configuration	Lamp Setup	Adjust	Adjusts lamp brightness.	D-42
		Feedback	Sets the lamp brightness constant mode that uses a brightness sensor.	
	(Setup)	Douser Mode	Selects whether to use the douser (screen mute) when switching signals.	D-42
		Turret	Controls the turret mounted with an anamorphic lens.	
		Ext. MMS Link	Sets whether to connect an external multi-media switcher (MMS).	
		Panel Key Lock	Locks the buttons on the projector's control panel so that they cannot be operated.	
		GPIO Port	Selects the target of GPIO port control.	
		FactoryDefault	Returns the settings to their default values (only macro keys and titles, or all settings).	
	(Installation)	Image Orient	Selects the projection method (front/rear).	D-45
		Lens Center	Moves the lens shift position to the center.	
		MMS Select	Selects the multi-media switcher (MMS) to connect.	
		Baudrate	Sets the PC control connector (RS-232C) data transmission speed (bps).	
		Date/Time	Sets the date and time on the projector.	
		New Bulb	Resets the lamp bulb usage time and selects or edits new entries (only when the projector is in standby mode).	

		Bulb Warning	Sets the lamp bulb warning time (only when the	1
		5	projector is in standby mode).	
		New Lamp House	Resets the lamp house usage time, and makes settings or selects modes (only when the	
			projector is in standby mode).	
		Bulb Alignment	Sets the lamp bulb alignment.	
	(Memory)	Lamp	Saves the current lamp setting.	D-48
		Lens	Saves the current lens setting.	
(Title Setup)	Macro Key	Macro Key No.1-8	Sets the titles to be assigned to the macro keys of 1 to 8.	D-49
Information	Lamp	Output	Displays the lamp output setting.	D-50
		Bulb Type [A]	Displays the registered name and the maximum/minimum current setting of the currently used lamp bulb.	
		Bulb Type [W]	Displays the registered name and the lamp rated output (kW) of the currently used lamp bulb.	
		Bulb Type [H]	Displays the registered name and the lamp bulb warning time (Bulb Warning Time) setting of the currently used lamp bulb.	
	Macro Key	Macro Key No.1-8	Displays the titles assigned to the macro keys of 1 to 8.	D-51
	Usage		Displays the usage times of the projector, lamp bulb, lamp house and bulb warning.	D-51
	Error Code		Displays the currently occurring error.	D-51
	Version	System	Displays the version of the projector head. (BIOS, Firmware, Data, and Serial No.)	D-52
		MMS (Built-in)	Displays the version of the built-in multi-media switcher (MMS). (BIOS, Firmware, Data, FPGA, and Serial No.)	D-53
	IP Address	System	Displays the SYSTEM IP address.	D-53
		Cinema	Displays the CINEMA IP address.	]
		System (Unwire)	Display the IP address for wireless LAN (when wireless LAN card is inserted).	
	MMS Status		Displays the status information of the connected multi-media switcher (MMS).	D-53

#### 4.1.1 When you use the service personnel menu

To use the menu for service personnel, you need to input the pass code from the remote controller.

[1] Press the TEST button while holding down the CTL button of the remote controller.

The pass code input screen will be displayed on the LCD screen at the projector's control panel.

[2] Enter your pass code (See Note) using the numeric character keys of the remote controller.

After authentication of your pass code, the service personnel menu will become active.

#### 4.2 Title Select

#### 4.2.1 Title select (Title Memory)

Select the title of the signal to be projected.

You can register up to 99 titles. You can also assign registered titles to the macro keys 1 to 8 on the projector's control panel and call them up directly using those buttons.



- $\leftarrow$  Displays the currently selected item with asterisk (\*).
- $\leftarrow$  Selects the title to be projected.

#### 4.2.2 Test Pattern

Selects the test pattern to be projected.



← Displays the currently selected item with asterisk (\*).

 $\leftarrow$  Selects the test pattern to be projected.

OFF, Alignment, Cross Hatch, Convergence, Red, Green, Blue, White, Black, 50% White[IRF], H-Ramp, Logo

#### 4.3 Configuration

#### 4.3.1 Lamp Setup

#### Adjust

Adjusts the lamp output (brightness). Control the output at 10W increments.



- $\leftarrow$  Displays the lamp output (%) with regard to the setting.
- $\leftarrow$  Adjusts the lamp brightness.



• Lamp output below 70% will cause an error. Arrange the setting so that the lamp output becomes 70% at least.

#### Feedback

Sets the lamp brightness constant mode that uses a brightness sensor.

Lame Setue Feedback Disable	(*)▲ ← c
Disable	Disables the la
Enable	Enables the la

← Displays the currently selected item with asterisk (\*).
 ← Displays the setting.

 Disable	Disables the lamp brightness constant mode.
Enable	Enables the lamp brightness constant mode.

#### 4.3.2 Setup

This menu is for service personnel. For the procedure to use it, refer to "4.1.1. When you use the service personnel menu" (page D-40).

#### Douser Mode

The douser function will be activated when signals are switched. Request your dealer/distributor to perform the setting.



 $\leftarrow$  Displays the currently selected item with asterisk (\*).

← Displays the setting

 Disable	Disables the douser mode.
Enable	Enables the douser mode.

#### Turret

Controls the turret on which the anamorphic lens is mounted.

Turret Manual A Ulith Anar	<ul> <li>Displays the control item</li> <li>Displays the currently selected item with asterisk (*).</li> <li>Displays the setting</li> </ul>
Manual	Manually control the turret. - Without Anomo: Disables anamorphic lens. - With Anamo: Enables anamorphic lens.
Auto	<ul> <li>The anamorphic lens selected at Title switches automatically when the title is switched.</li> <li>Disable : Lens switching does not take place in conjunction with the title.</li> <li>Enable : Lens switching takes place in conjunction with the title.</li> </ul>
Ref.Select	Specify whether to enable or disable the anamorphic lens for the selected title. - Without Anomo: Disables anamorphic lens. - With Anamo: Enables anamorphic lens.

#### Ext. MMS Link

Connect an external multimedia switcher (MMS) to control the input signal. If an MMS is incorporated, this menu item is not displayed.

.setu ∢(Ex1	4P 2. MMS L	← Displays the currently selected item with asterisk (*). ← Displays the setting
Connect		To enable connection with external MMS
Disconn	ect	To disable connection with external MMS

#### Panel Key Lock

The control buttons on your projector are locked to be inoperative.

	etu	P					
P	ane	1	Ke	Чļ	_0	ck	
-					(	*)	
		Un	10	ckl			Þ

 $\leftarrow$  Displays the currently selected item with asterisk (\*).

 $\leftarrow$  Displays the setting

 Lock	Enable a lock on the control buttons on your projector.
Unlock	Disable the lock on the control buttons.

- **Note** Even if the buttons on the projector's control panel are locked, remote controller buttons are available.
  - When the buttons on the projector's control panel are locked, press the CANCEL button on the projector for about 10 sec. to unlock them (The key lock setting on the projector becomes Unlock).

#### **GPIO Port**

When controlling the projector from the external control terminal (GPI/O), select the subject of GPI/O port control. With the control subject set to "Cinema Only", the projector does not accept commands issued using the control panel buttons, remote controller or personal computer.



 $\leftarrow$  Displays the currently selected item with asterisk (\*).

 $\leftarrow$  Displays the setting

_	Cinema Only	To restrict the subject of control from the external control terminal
		(GPI/O) to the Cinema board only
	System/Cinema	To restrict the subject of control from the external control terminal
		(GPI/O) to the System board and the Cinema board

#### FactoryDefault

Used to select factory default values for the projector settings.

HactoryDefault	
M Key & Title	
· · · · · · · · · · · · · · · · · · ·	-
K Execute > -	-

 $\leftarrow$  Select the item to be reset.

 $\leftarrow$  Press the ENTER button to execute resetting.

	M Kev & Title	Titles are set to factory default ones. (Tiles you have created are	
deleted, but files are not.)			
All All the settings of your projector are set to factory de		All the settings of your projector are set to factory default values except	
		for files.	

Note

• Files previously deleted or rewritten cannot be restored.

#### 4.3.3 Installation

#### **Image Orient**

Make a selection according to the setup position of your projector and screen.



#### Lens Center

To move the lens shift to the center position. The center position may slightly shift depending upon mounting conditions of the lens.



 $\leftarrow$  Press the ENTER button to execute moving.

#### MMS Select

Select the MMS for operation when you use a multimedia switcher (MMS) separately sold. You can connect only one MMS.



- $\leftarrow$  Displays the currently selected item with asterisk (\*).
- $\leftarrow$  Displays the setting

 Built-in	To use the incorporated MMS (optional)
External	To use the externally connected MMS (optional)
Not Use	Not to use MMS

#### Baudrate

To select the transmission speed (bps) for your projector (SYSTEM) and a PC when they are connected by a commercially available RS-232C straight cable. Select one from 4800, 9600, 192000 and 38400. Select the transfer speed corresponding to the speed of the connected devices.



- $\leftarrow$  Displays the currently selected item with asterisk (\*).
- $\leftarrow$  Displays the setting

#### Date/Time

Use this to set the date and time on the projector.



Use the remote controller to input numeric values. For the procedure to input alphanumeric characters, refer to "Users Manual".

Use the SELECT <Left/Right> buttons to move the cursor (under bar).

Date	Set the date here (Year, month, day).
Time	Set the time here (Hour, minute, second).

#### New Bulb

When the lamp bulb is replaced, reset the lamp time and select the lamp bulb type. This menu is active in standby mode only.



#### Bulb Warning

To set the time for display of lamp bulb warning. This menu is active in standby mode only.



- $\leftarrow$  Displays the currently selected item with asterisk (\*).
- ← Displays the setting

Manual	Manually specify the warning time (H). Press the SELECT $\blacktriangle$ key to
	display the numeric input line (input the value using the remote controller).
Use Bulb Entry	Warning time set by BulbEntry is used.

#### New Lamp house

When the lamp house is replaced, reset the lamp house time and select the lamp house. This menu is active in standby mode only.

New Lamp Usa9e Cle House	<ul> <li>← Displays the currently selected item with asterisk (*).</li> <li>← Displays the setting</li> <li>← Select the items for which the usage times are cleared.</li> </ul>
New Lamp   Usa9e Mod 4 Multi	<ul> <li>← Displays the currently selected item with asterisk (*).</li> <li>← Displays the setting</li> <li>← Select the mode for lamp house usage time.</li> </ul>
Single	To set the mode in which lamp house is not replaced (Single mode)
Multi	To set the mode in which the lamp houses are alternately replaced f use (Multi-mode). - Lamp house 1: To use the lamp house 1 - Lamp house 2: To use the lamp house 2
House	To set the mode in which lamp house is not replaced (Single mode)
House1	When multi-mode lamp 1 is used
House2	When multi-mode lamp 2 is used
Lisago Cloar	Reset the lamp house usage time

Usage Clear	Reset the lamp house usage time.
Usage Mode	Set the mode for lamp house usage time.

#### **Bulb Alignment**

Use this for lamp bulb alignment adjustment. Press [LAMP-] in [LAMP CTL] to clear the maximum value of Peakhold.



 $\leftarrow \mbox{Display}$  the maximum value of the lamp light quantity input.

←Display the current input for lamp light quantity.

#### 4.3.4 Memory

This menu is the service personnel menu. For the using service personnel menu, refer to "4.1.1. When you use the service personnel menu" (Page D-40).

Save the current status of lamp and lens to the memory in the projector (lens memory function and lamp memory function).

The saved contents are assigned to the titles for use.



- [	Lamp	To save the current lamp status
	Lens	To save the current lens status

#### 4.4 Title Setup

This menu is the service personnel menu. For the using service personnel menu, refer to "4.1.1. When you use the service personnel menu" (Page D-40).

#### 4.4.1 Macro Key

Use this key to set the titles to be assigned to the macro keys.

You cannot assign the same title to several macro keys. If you want to assign any title to another number, cancel the assignment once and then set it to any key again.



← Select the macro key number (1 to 8)
 ← Display the selected number of the title
 ← Select the titles to be assigned to the macro keys

Select the titles from those registered in advance. To clear assignment to macro keys, select "---".

#### 4.5 Information

Displays the hours of lamp bulb use, the version information and error codes.

#### 4.5.1 Lamp

Displays information relating to the lamp. (Such as lamp output and the type of lamp bulb.)

#### Output

Displays the lamp brightness (output) setting.



← Displays the set current (A).
 ← Displays the power consumption (kW).

#### Bulb Type [A]

Displays the hours of lamp bulb use, the version information and error codes.



← Displays Bulb Entry registered name.

← Displays Bulb Entry maximum/minimum currents (A).

#### Bulb Type [W]

Displays the registered name and the lamp rated output (kW) of the currently used lamp bulb.



← Displays Bulb Entry registered name.

 $\leftarrow$  Displays Bulb Entry lamp rated output (kW).

#### Bulb Type [H]

Displays the registered name and the lamp bulb warning time (Bulb Warning Time) and setting of the currently used lamp bulb.



← Displays Bulb Entry registered name.

← Displays Bulb Warning Time setting (H).

#### 4.5.2 Macro Key

Displays the titles assigned to the macro keys of 1 to 8 on the projector's control panel.



- $\leftarrow \! \mathsf{Selects}$  the macro key whose contents you want to display.
- ←Displays the assigned title numbers.
- $\leftarrow \mbox{Displays}$  the registered names of the assigned titles.

#### 4.5.3 Usage

Displays the hours of projector head, lamp, and lamp house usage, and warning display time of the lamp bulb.

▲Usa9e ∢Projector < 0 [H]	←Selects the item to display. ←Displays the hours of use (H).
Projector	Displays the hours of projector head use.
Bulb	Displays the hours of use of the current lamp bulb.
Lamphouse	Displays the hours of use of the current lamp house.
BulbWarning	Displays the currently enabled warning time. The following is
	displayed depending on the item set by the Bulb Warning setting.
	- When Use Bulb Entry is enabled: Displays the Bulb Entry value.
	- When in Manual setting: Displays the value set using Manual.

#### 4.5.4 Error Code

Displays the error code when an error occurs. See the "Error Code List" in the Appendix for details on error codes.



 $\leftarrow \mbox{Displays}$  the code of the error currently occurring.

←Displays the name of the error currently occurring.

When multiple errors occur, you can display them by pressing the [MENU CTL] LEFT/RIGHT buttons.

#### 4.5.5 Version

Displays the versions of the projector head, and the multi-media switcher (MMS) (optional). $_{\circ}$ 

#### System

Displays the version information of the projector head.



#### MMS (Built-in)

Displays the version of the multi-media switcher (MMS) connected to the projector head.



 $\leftarrow \mbox{Selects}$  the item to display.

 $\leftarrow \mbox{Displays}$  the version information.

BIOS	Displays the BIOS version of the built-in MMS.
Firmware	Displays the firmware version of the built-in MMS.
Data	Displays the data version of the built-in MMS.
FPGA	Displays the FPGA version of the built-in MMS.
Serial No.	Displays the serial number of the built-in MMS.

#### 4.5.6 IP Address

Displays the IP address set in the projector head.

(Projector	←Selects the item to display the IP address.
. 0.0.0.0	Displays the ID address
	←Displays the IP address.
System	Displays the IP address set for the projector head (System).

#### 4.5.7 MMS Status

Indicates the status of the multi-media switcher (MMS) connected to your projector.

Information MMS Status •Built-in (	<ul> <li>← Displays the status information of MMS linked operations.</li> <li>← Displays the IP address of MMS.</li> </ul>
Built-in	Built-in multi-media switcher (MMS) is linked.
External	External multi-media switcher (MMS) is linked.
Not Use	There is no link established.

# **5.** Appendix

#### 5.1 Trouble shooting

[T.B.D]

5.1.1 List of Error code

[T.B.D]

### 5.2 List of registered titles (when shipped from the factory)

The data listed below have been cataloged in your projector before shipping from our factory. When projecting an image source covered by these data, you do not need to change the settings of your projector.

Macro	TITLE	Input	FILE	S	sourc	е	TCGD	Anamorphic
Key No.			PCF	SCREEN	active	aspect		Lens
1	CS-SCOPE	SDI-A	CS-SCOPE	Anamo1.25	1920x1080	2.35	P7v2	1.25
	1920		1920x1080	SCOPE			theatre	
2	VV-FLAT	SDI-B	VV-FLAT	DC2K VISTA	1920x1080	1.85	P7v2	none
	1920		1920x1080				theatre	
3	HDTV	SDI-A	HDTV	DC2K HDTV	1920x1080	0	Rec 709	none
			1920x1080					
4	SDI-DUAL-	SDI-A,B	SDI DUAL RGB	2048x1080	1920x1080	0	P7v2	none
	RGB		1920x1080	No Crop			theatre	
5	DVI-A	DVI-A	DVI	DC2K DVI	2048x1080	0	P7v2	none
			2048x1080				theatre	
6	DVI-B	DVI-B	DVI	DC2K DVI	2048x1080	0	P7v2	none
			2048x1080				theatre	
7	DVI-TWIN	DVI-A,B	DVI	DC2K DVI	2048x1080	0	P7v2	none
			2048x1080				theatre	

#### List of default Titles

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