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LCD Projector ED-S3170AT/ED-X3250AT/ED-X3280AT

USER'S MANUAL Vol.2 (Extended)

ENGLISH

Thank you for purchasing this projector.

WARNING • Please read the accompanying manual "SAFETY INSTRUCTIONS" and this "USER'S MANUAL" thoroughly to ensure correct usage through understanding. After reading, store this instruction manual in a safe place for future reference.

NOTE • The information in this manual is subject to change without notice.
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MULTIFUNCTIONAL SETTINGS

This device has 6 separate menus: MAIN, PICTURE 1, PICTURE 2, INPUT, SCREEN, OPTION. Each of these menus is operated using the same methods. The basic operations of these menus are as follows.

Menu screen display : Press the "MENU" button.

Menu selection : Choose a menu name using the ▲/▼ button, and press the ► button or the ENTER button.

Item selection : Choose an item using the ▲/▼ button, and press the ► button or the ENTER button.

Return menu to last previous screen: Press the ◄ button or the ESC button.

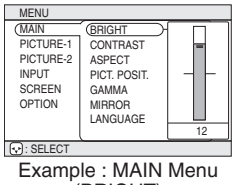
Execution of settings and/or adjustments: Operate by using the ▲/▼ button. (For further details, read the explanation for each separate menu.)

Initialization of settings and/or adjustments: During operation, press the RESET button. (Note that items whose functions are performed simultaneously with the operation of clock phase, language selection, automatic adjustment, etc., cannot be initialized.)

End menu operations: Press the MENU button, or do not perform any operation for several seconds.

MAIN Menu

With the MAIN menu, the seven items shown in the Table below can be performed.
Perform each operation in accordance with the instructions in the Table.



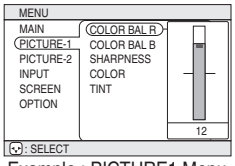
Example : MAIN Menu (BRIGHT)

MAIN Menu

Item	Description
BRIGHT	**Adjust Brightness:** Light ▲ ⇔ ▼ Dark
CONTRAST	**Adjust Contrast:** Strong ▲ ⇔ ▼ Weak
ASPECT	**Select Aspect Ratio:** At RGB Input: 4:3 ▼ ⇔ ▲ 16:9 At VIDEO Input, S-VIDEO Input: 4:3 ▼ ⇔ ▲ 16:9 ▼ ⇔ ▲ SMALL • The SMALL picture may not be displayed correctly with certain input signals.
PICT.POSIT.	**Select Picture Position (for 16:9/SMALL Picture):** TOP ▼ ⇔ ▲ CENTER ▼ ⇔ ▲ BOTTOM
GAMMA	**Select Gamma Mode:** NORMAL ▼ ⇔ ▲ CINEMA ▼ ⇔ ▲ DYNAMIC
MIRROR	**Select Mirror Status:** NORMAL ▼ ⇔ ▲ H:INVERT ▼ ⇔ ▲ V:INVERT ▼ ⇔ ▲ H&V:INVERT
LANGUAGE	**Select Menu Language:** ENGLISH ▼ ⇔ ▲ FRANÇAIS ▼ ⇔ ▲ DEUTSCH ▼ ⇔ ▲ ESPAÑOL ▼ ⇔ ▲ ITALIANO ▼ ⇔ ▲ NORSK ▼ ⇔ ▲ NEDERLANDS ▼ ⇔ ▲ 日本語 ▲ ⇔ ▼ POTUGUÊS ▼ ⇔ ▲ 中文 ▼ ⇔ ▲ 한글

PICTURE 1 Menu

With the PICTURE 1 menu, the five items shown in the Table below can be performed.
Perform each operation in accordance with the instructions in the Table.



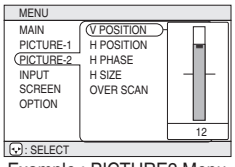
Example : PICTURE1 Menu (COLOR BAL R)

PICTURE1 Menu

Item	Description
COLOR BAL R	**Adjust Red Color Balance:** Dark ▲ ⇔ ▼ Light
COLOR BAL B	**Adjust Blue Color Balance:** Dark ▲ ⇔ ▼ Light
SHARPNESS	**Adjust Sharpness (for VIDEO/S-VIDEO):** Clear ▲ ⇔ ▼ Soft
COLOR	**Adjust COLOR (for VIDEO/S-VIDEO):** Dark ▲ ⇔ ▼ Light
TINT	**Adjust Tint (for VIDEO/S-VIDEO):** Green ▲ ⇔ ▼ Red

PICTURE 2 Menu

With the PICTURE 2 menu, the five items shown in the Table below can be performed.
Perform each operation in accordance with the instructions in the Table.



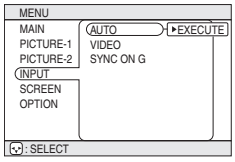
Example : PICTURE2 Menu (V POSITION)

PICTURE2 Menu

Item	Description
V POSITION	**Adjust Vertical Position (for RGB):** Up ▲ ⇔ ▼ Down
H POSITION	**Adjust Horizontal Position (for RGB):** Left ▲ ⇔ ▼ Right
H PHASE	**Adjust Horizontal Phase (for RGB):** Right ▲ ⇔ ▼ Left • Adjust to eliminate flicker.
H SIZE	**Adjust Horizontal Size (for RGB):** Large ▲ ⇔ ▼ Small • If the horizontal size adjustment is excessive, the image may not be displayed correctly. In such a case, initialize H SIZE with the RESET button.
OVER SCAN	**Select Over-scan Ratio (for VIDEO/S-VIDEO):** LARGE ▼ ⇔ ▲ MIDDLE ▼ ⇔ ▲ SMALL • It is recommended to select SMALL to avoid flicker at the lower part of the picture.

MULTIFUNCTIONAL SETTINGS (continued)

INPUT Menu



Example : INPUT Menu (AUTO)

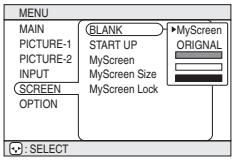
With the INPUT menu, the four items shown in the Table below can be performed. With inputting of RGB IN 1 and RGB IN 2 signals, the horizontal and vertical frequencies of the signals will be displayed on the initial screen of the INPUT menu.
Perform each operation in accordance with the instructions in the Table.

INPUT Menu

Item	Description
AUTO	**Auto Adjust (for RGB):** Automatically adjusts H POSITION, V POSITION, H PHASE, and H SIZE. Use this function with the maximum window size. **Auto Adjust (for VIDEO/S-VIDEO):** Automatically selects the proper VIDEO mode for the current input signal. This function is active only when the AUTO mode is selected for the item VIDEO. Refer to the description for the item VIDEO below. • This function may not be available with a PAL60 signal and certain other signals. • The AUTO mode operation requires approximately 10 seconds.
VIDEO	**Select Mode of Signal Type (for VIDEO/S-VIDEO):** AUTO ▼ ⇔ ▲ NTSC ▼ ⇔ ▲ PAL ▼ ⇔ ▲ SECAM ▼ ⇔ ▲ NTSC4.43 ▼ ⇔ ▲ M-PAL ▼ ⇔ ▲ N-PAL Selecting AUTO mode activates and performs the AUTO function for VIDEO/S-VIDEO. It automatically selects the proper mode from among those above. Use this function if the image becomes unstable with VIDEO/S-VIDEO. (e.g. The image becomes irregular, or lacks color.) • AUTO mode may not function correctly with a PAL60 signal and certain other signals. • The AUTO mode operation requires approximately 10 seconds.
SYNC ON G	**On/Off SYNC ON G Mode:** TURN ON ▼ ⇔ ▲ TURN OFF Selecting TURN ON turns on the SYNC ON G mode. The SYNC ON G mode allows reception of SYNC on G. • In the SYNC ON G mode, the picture may be distorted with certain input signals. In such a case, remove the signal connector so that no signal is received and turn SYNC ON G off, and then reconnect the signal.

SCREEN Menu

With the SCREEN menu, the five items shown in the Table below can be performed. Please perform each operation in accordance with the instructions in the Table.



Example : SCREEN Menu (BLANK)

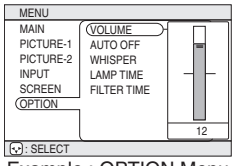
SCREEN Menu

Item	Description
BLANK	**Selection of BLANK Screen:** MyScreen ▼ ⇔ ▲ ORIGINAL ▼ ⇔ ▲ , ▼ ⇔ ▲ , ▼ ⇔ ▲ . The BLANK Screen may be voluntarily selected. The BLANK Screen is displayed when the screen has been erased (i.e., made to vanish) by manipulating the BLANK button (please refer to the "Temporarily Blanking the Screen" section of the separate booklet, Vol. 1 (Basic)). **MyScreen:** Using the MyScreen category (see this Table, below), one can register a desired screen (or screens). At the time of factory shipment, this is set as a non-patterned (plain) blue color screen. **ORIGINAL:** Existing standard screens. Please make confirmation using the actual screen(s). **Option screens:** Various colored non-patterned (plain) screens displayed within the Menus. • The MyScreen and the ORIGINAL Screen will each change to a non-patterned (plain) black color screen several minutes after being displayed.
START UP	**Selection of START UP Screen:** MyScreen ▼ ⇔ ▲ ORIGINAL ▼ ⇔ ▲ TURN OFF The START UP Screen may be voluntarily selected. The START UP Screen is displayed when no signal has been inputted, or when spec signals are being inputted. **MyScreen:** Using the MyScreen category (see this Table, below), one can register a desired screen (or screens). At the time of factory shipment, this is set as a non-patterned (plain) blue color screen. **ORIGINAL:** Existing standard screens. Please make confirmation using the actual screen(s). **TURN OFF:** A non-patterned (plain) blue color screen. • The MyScreen and ORIGINAL screens will switch to the BLANK screen (see above in this table) a few minutes after being displayed. If the BLANK screen is the MyScreen or ORIGINAL screen, it will turn immediately to a solid black screen.
MyScreen	**Registration of MyScreen:** When this item is executed, the MyScreen Menu for registration of MyScreen for the BLANK Screen and the START UP Screen is displayed. When operations are performed in accordance with this Menu, one can "cut" and register desired screens from among the received images within the display. 1. After the "Do you start capturing this picture?" message has been displayed, pressing the ESC (or RESET) button interrupts execution of the MyScreen. When the ENTER button is pressed, the picture becomes static (no longer moves), and a frame for picture cutting, as well as the message that follows below, appear. Please press the button when the screen you want to register is currently being displayed. 2. When the "Move the capture area as you want." message has been displayed, pressing the ESC (or RESET) button will eliminate the static state of the picture, and operations can be performed again from operation 1. The frame can be moved using the ◄ , ► , ▲ , ▼ buttons. After designating the screen you want to register, pressing the ENTER button will initiate screen registration. The registration process takes approximately 1 minute to complete. 3. When the registration has been completed, the screen of the registered MyScreen, plus the message, "MyScreen registration is finished," will be displayed for several seconds, after which the operation is terminated.
MyScreen Size	**Selection of MyScreen display size:** x1 ▼ ⇔ ▲ FULL
MyScreen Lock	**Invalidation of MyScreen registration function:** TURN ON ▼ ⇔ ▲ TURN OFF When TURN ON is selected, the MyScreen category (see this Table, above) cannot be executed; in this way, one can prohibit rewrites ("writeovers") of the MyScreen.

MULTIFUNCTIONAL SETTINGS (continued)

OPTION Menu

With the OPTION menu, the five items shown in the Table below can be performed.
Please perform each operation in accordance with the instructions in the Table.



Example : OPTION Menu (VOLUME)

OPTION Menu

Item	Description
VOLUME	**Adjust Volume:** High ▲ ⇔ ▼ Low
AUTO OFF	**Adjust AUTO OFF Time:** Long (MAX. 99 min.) ▼ ⇔ ▲ Short (Min. 1 min.) ▼ ⇔ ▲ (DISABLE: 0 min.) The system automatically enters the standby mode if no signal is received within the set time. This function is inactive when DISABLE (0 min.) is selected.
WHISPER	**Select WHISPER Mode:** NORMAL ▼ ⇔ ▲ WHISPER When WHISPER is selected the WHISPER mode is activated. In the WHISPER mode, acoustic noise and screen brightness are reduced.
LAMP TIME	**Refer to LAMP TIME:** When set, this function displays the total time the projector lamp has been used since new. **Reset LAMP TIME [Use this function only when the lamp has been replaced!]:** Depress the RESET button for at least 3 seconds while lamp time is being displayed. The reset menu will then appear. After you replace the lamp with a new lamp, select RESET on the menu with the ▲ button. • Do not reset the lamp time unless you have replaced the lamp. And, always reset the lamp time when replacing the lamp. The message functions will not operate properly if the lamp time is not reset correctly. • Before replacing the lamp, carefully read the descriptions headed "THE LAMP".
FILTER TIME	**Refer to FILTER TIME:** This function displays the total time the air-filter has been used since new. **Reset FILTER TIME [Use this function only when the filter is cleaned or replaced!]:** Depress the RESET button for at least 3 seconds while filter time is being displayed. The reset menu will then appear. After you replace the filter, select RESET on the menu with the ▲ button. • Do not reset the filter time unless you have cleaned or replaced the filter. And, always reset the filter time when cleaning or replacing the filter. The message functions will not operate properly if the filter time is not reset correctly. • Before cleaning or replacing the filter, carefully read the descriptions headed "THE AIR FILTER".

WHAT TO DO WHEN YOU THINK A MACHINE DEFECT HAS OCCURRED

Related Messages

When the unit's power is ON, messages such as those shown below may be displayed. When any such message is displayed on the screen, please respond as described below.

Message	Description
CHANGE THE LAMP **AFTER REPLACING LAMP, RESET THE LAMP TIMER.** (Note 1)	Lamp usage time is approaching 2,000 hours. (Note 2) Preparation of a new lamp, and an early lamp change, is recommended. After you have changed the lamp, please be sure to reset the lamp timer.
CHANGE THE LAMP **AFTER REPLACING LAMP, RESET THE LAMP TIMER.** **THE POWER WILL TURN OFF AFTER ＊＊ hr.** (Note 1)	Lamp usage time is approaching 2,000 hours. A lamp change within ＊＊ hours is recommended. (Note 2) When lamp usage reaches 2,000 hours, the power will automatically be turned OFF. Please change the lamp by referring to “THE LAMP” in Vol.1 (Basic). After you have changed the lamp, please be sure to reset the lamp timer.
CHANGE THE LAMP **AFTER REPLACING LAMP, RESET THE LAMP TIMER.** **THE POWER WILL TURN OFF AFTER 0 hr.**	As lamp use has reached 2,000 hours, the power will soon be automatically turned OFF. (Note 2) Please immediately turn the power OFF, and follow the instructions in the “THE LAMP” section of the separate booklet, Vol.1 (Basic). After you have changed the lamp, please be sure to reset the lamp timer.
CLEAN THE AIR FILTER **AFTER CLEANING AIR FILTER, RESET THE FILTER TIMER.**	A note of precaution when cleaning the air filter. After cleaning the filter, operate FILTER TIME of the OPTION Menu, and perform reset of the filter timer.
NO INPUT IS DETECTED **ON ＊＊＊**	There is no input signal. Please confirm the signal input connection, and the status of the signal source.
SYNC IS OUT OF RANGE **ON ＊＊＊ fH ＊＊＊＊＊kHz fV ＊＊＊＊＊Hz**	The horizontal or vertical wavelength of the inputted signal is outside of the response parameters of this unit. Please confirm the specs for this unit or the signal source specs.
CHECK THE AIR FLOW	The internal portion temperature is rising. Please turn the power OFF, and allow the unit to cool down for approximately 20 minutes. After having confirmed the following items, then please resent the power to ON. • Is there blockage of the air passage aperture? • Is the air filter dirty? • Does the peripheral temperature exceed 35°C?

NOTES

Note 1: Although this message will be automatically disappeared after around 3 minutes, it will be reappeared every time the power is turned ON.

Note 2: Lamps have a finite product life. Lamps are characterized by the fact that, after long hours of usage, a lamp will no longer light up, or the lamp will break or burst, etc. This unit is equipped with an automatic shut-down function, such that the power will automatically be turned OFF when lamp usage time has reached 2,000 hours. Please be aware, however, that among lamp types, there are major differences in product lifetimes; a lamp may thus fail to light even prior to the functioning of the automatic shut-down function of this unit.

Regarding the Indicator Lamps

Lighting and flashing of the POWER indicator, the LAMP indicator, and the TEMP indicator have the meanings as described in the Table below. Please respond in accordance with the instructions within the Table.

POWER indicator	LAMP indicator	TEMP indicator	Description
The orange lamp is lighted	Turned OFF (Not lighted)	Turned OFF (Not lighted)	The STANDBY mode is set
Flashing of the green lamp	Turned OFF	Turned OFF	The unit is warming up. Please wait.
The green lamp is lighted	Turned OFF	Turned OFF	The unit is in an ON state. Ordinary operations may be performed.
Flashing of the orange lamp	Turned OFF	Turned OFF	The unit is cooling down. Please wait.
Blinking of the red lamp	-	-	The unit is cooling down. Please wait. A certain error has been detected. Wait until the POWER indicator lamp has finished flashing, and then perform the proper response measure using the item descriptions below as reference.
The red lamp is lighted, or blinks	The red lamp is lighted	Turned OFF	The lamp does not light. There is a possibility that the interior portion has become heated. Turn the power OFF and wait approximately 20 minutes. After the main unit has cooled down, please confirm whether or not there is blockage of the air passage aperture, whether or not the filter is dirty, and/or whether or not the peripheral temperature exceeds 35°C, etc. After performing any needed maintenance, turn the power ON again; if the same display is displayed, then please change the lamp.
The red lamp is lighted, or blinks	Blinking of the red lamp	Turned OFF	Either there is no lamp and/or lamp cover, or either of these has not been properly fixed (attached). Turn the power OFF and wait approximately 45 minutes. After the main unit has sufficiently cooled down, please make confirmation of the attachment state of the lamp and lamp cover. After performing any needed maintenance, turn the power ON again; if the same display is displayed, then please contact a sales store or a service company.
The red lamp is lighted, or blinks	Turned OFF	Blinking of the red lamp	The cooling fan is not operating. Turn the power OFF and wait approximately 20 minutes. After the main unit has cooled down, please make confirmation that no foreign matter has become caught in the fan, etc. After performing any needed maintenance, turn the power ON again; if the same display is displayed, then please contact a sales store or a service company.
The red lamp is lighted, or blinks	Turned OFF	The red lamp is lighted	There is a possibility that the interior portion has become heated. Turn the power OFF and wait approximately 20 minutes. After the main unit has cooled down, please confirm whether or not there is blockage of the air passage aperture, whether or not the filter is dirty, and/or whether or not the peripheral temperature exceeds 35°C, etc. After performing any needed maintenance, turn the power ON again; if the same display is displayed, then please contact a sales store or a service company.
The green lamp is lighted	Alternative blinking with the red lamp		There is a possibility that the interior portion has become overcooled. Please use the unit within the usage temperature parameters (0°C to 35°C). After performing any needed maintenance, turn the power ON again; if the same display is displayed, then please contact a sales store or a service company.
The green lamp is lighted	Simultaneous blinking with the red lamp		This is a notification that it is time to clean the filter. After cleaning the filter, operate the FILTER TIME portion of the OPTION Menu, and perform reset of the FILTER TIME.

NOTE

When the interior portion has become overheated, for safety purposes, the power source is automatically turned OFF, and the indicator lamps may also be turned OFF. Press the "◯" (power OFF) side of the main power switch, and wait for approximately 20 minutes. Please then use the unit only after having first confirmed that the unit has sufficiently cooled down.

Phenomena That May Easily Be Mistaken for Machine Defects

Before requesting repair, check in accordance with the following chart.
If the situation cannot be corrected, then contact your dealer.

Phenomenon	Cases not involving a machine defect	Items to be confirmed	Reference Page(s)
Power does not come ON	The main power source is not ON.	Turn on the main power.	Vol.1-3, 14
	The electrical power cord is not plugged in.	Correctly connect the power cord.	
	The main power source has been interrupted during operation, such as by a power outage (blackout), etc.	Be sure to press the "O" (power OFF) side of the main power switch, and leave this OFF for approximately 20 minutes. After the unit has sufficiently cooled down, turn ON the power source.	Vol.1-14
No sound or pictures are outputted	The input changeover settings are mismatched.	Select the input signal, and correct the settings.	Vol.1-15
	No signal is being inputted.	Correctly connect the connection cord.	Vol.1-10, 11
Pictures are displayed, but no sounds are heard	The electrical wiring to this unit is not correctly connected.	Correctly connect the connection cord.	Vol.1-10, 11
	The volume setting has been set at (or adjusted to) an extremely low level.	Adjust the VOLUME setting to a higher level.	Vol.1-17
	The MUTE mode is the current setting.	Press the MUTE button to release (change) the MUTE mode setting.	Vol.1-17
Sounds are heard, but no pictures are displayed	The electrical wiring to this unit is not correctly connected.	Correctly connect the connection cord.	Vol.1-10, 11
	The brightness setting has been set at (or adjusted to) an extremely low level.	Adjust the BRIGHT setting to a brighter level.	Vol.2-2
	The lens cap has not been removed.	Remove the lens cap.	Vol.1-14
Colors have a faded-out appearance Color tone is poor	Color depth setting or color tone setting	Perform picture adjustments by changing the COLOR BAL R, the COLOR BAL B, and/or the TINT settings, etc.	Vol.2-3
Pictures appear dark	The brightness setting and/or contrast setting has not been properly adjusted.	Perform picture adjustments by changing the BRIGHT and/or CONTRAST settings, etc.	Vol.2-2
	The WHISPER mode is the current setting.	Change (by releasing) from the WHISPER mode.	Vol.2-6
	Lamp is approaching the end of its product lifetime.	Exchange the old lamp with a new lamp.	Vol.1-25, 26
Pictures appear blurry	Either the FOCUS setting or the H PHASE is not properly adjusted.	Adjust the FOCUS and H PHASE settings.	Vol.1-15 Vol.2-3

NOTE

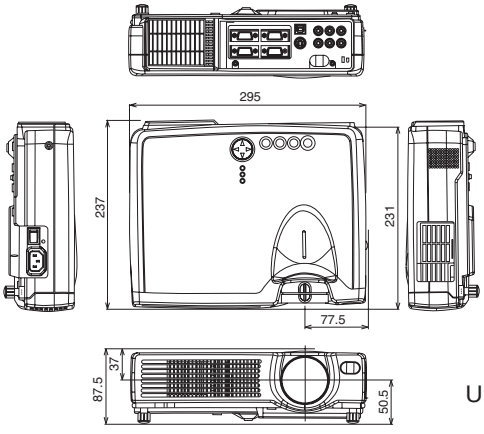
Although bright spots or dark spots may appear on the screen, this is a unique characteristic of liquid crystal displays, and such do not constitute or imply a machine defect.

SPECIFICATIONS

NOTE • This specifications are subject to change without notice.

Item		Specification
Product name		Liquid crystal projector
Liquid crystal panel	Panel size	1.8 cm (0.7 type)
	Drive system	TFT active matrix
	Pixels	ED-S3170AT：480,000 pixels (800 horizontal x600 vertical) ED-X3250AT/ED-X3280AT：786,432 pixels (1024 horizontal x768 vertical)
Lens		Zoom lens F=1.7 ~ 1.9 f=21.7 ~ 26.1 mm
Lamp		150 W UHB
Speaker		1.0W
Power supply		AC100 ~ 120V, 2.7A / AC220 ~ 240V, 1.3A
Power consumption		240W
Temperature range		0 ~ 35°C (Operating)
Size		295 (W) x 87.5 (H) x237 (D) mm
Weight (mass)		2.7 kg
Ports		**RGB Ports** RGB IN(1, 2) .....2 **VIDEO Ports** VIDEO IN .....1 S-VIDEO IN .....1 **AUDIO Ports** AUDIO IN(1,2) .....2 AUDIO IN(R, L) .....1 **RGB OUT Ports** RGB OUT.....1 **AUDIO OUT Ports** AUDIO OUT.....1 **CONTROL Ports** CONTROL .....1 USB 1
Optional Parts		Lamp: ED-S3170AT/ED-X3280AT=DT00511 ED-X3250AT=DT00521 Air Filter: MU01691 * For others, consult your dealer.

Dimension Diagram



Unit : mm

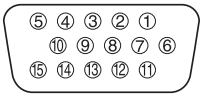
WARRANTY AND AFTER-SERVICE

If a problem occurs with the equipment, first refer to the 7 "WHAT TO DO WHEN YOU THINK A MACHINE DEFECT HAS OCCURRED" section and run through the suggested checks. If this does not resolve the problem contact your dealer or service company. They will tell you what warranty condition is applied.

TECHNICAL

SIGNAL CONNECTOR PIN ASSIGNMENT

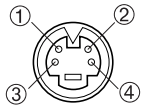
RGB IN [1]/[2]
RGB OUT



D-sub 15-pin Shrink

Pin No	Signal	Pin No	Signal
1	Video input Red	9	-
2	Video input Green	10	Ground
3	Video input Blue	11	-
4	-	12	RGB IN [1]: SDA (DDC)
5	Ground		RGB IN [2]: -
6	Ground Red		RGB OUT : -
7	Ground Green	13	H. sync./ Composite sync.
8	Ground Blue	14	Vertical sync
		15	RGB IN [1]: SCL (DDC)
			RGB IN [2]: -
			RGB OUT : -

S-VIDEO



Mini Din 4-pin

Mini Din 4-pin	
Pin No	Signal
1	Color: 0.286Vp-p (NTSC, burst signal), 75Ω terminator 0.3Vp-p (PAL/SECAM, burst signal), 75Ω terminator
2	Brightness: 1.0Vp-p, 75Ω terminator
3	Ground
4	Ground

signal	Terminal	Specification
RGB signal input	RGB IN（1、2）	Video: Analog 0.7Vp-p, 75Ω terminator (positive) H/V. sync.: TTL level (positive/negative) Composite sync.: TTL level D-sub 15-pin shrink jack
	AUDIO IN 1	200mVrms,50kΩ (max.3.Ovp-p) Stereo mini jack
	AUDIO IN 2	
Video signal input	VIDEO IN	1.0Vp-p, 75Ω terminator, RCA jack
	S-VIDEO IN	Brightness signal: 1.0Vp-p, 75Ω terminator Color signal: 0.286Vp-p (NTSC, burst signal),75Ω terminator 0.300Vp-p (PAL/SECAM, burst signal),75Ω terminator Mini DIN 4-pin jack
	AUDIO IN（R、L）	200mVrms, 50 kΩ (max. 3.0Vp-p) RCA jack
Signal output	RGB OUT	Video: Analog 0.7Vp-p, 75Ω output impedance (positive) H/V. sync.: TTL level (positive/negative) Composite sync.: TTL level D-sub 15-pin shrink jack
	AUDIO OUT	200mVrms, out put impedance1kΩ (max.3.Ovp-p) Stereo mini jack

EXAMPLE OF COMPUTER SIGNAL

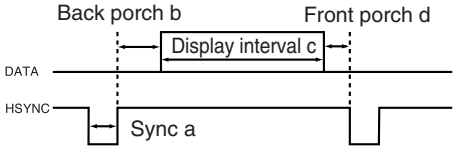
Resolution H × V	fH (kHz)	fV (Hz)	Rating	Signal mode	Display mode	
					ED-S3170AT	ED-X3250AT ED-X3280AT
720 × 400	37.9	85.0	VESA	TEXT	Zoom in	Zoom in
640 × 480	31.5	59.9	VESA	VGA (60Hz)	Zoom in	Zoom in
640 × 480	35.0	66.7		Mac13"mode	Zoom in	Zoom in
640 × 480	37.9	72.8	VESA	VGA (72Hz)	Zoom in	Zoom in
640 × 480	37.5	75.0	VESA	VGA (75Hz)	Zoom in	Zoom in
640 × 480	43.3	85.0	VESA	VGA (85Hz)	Zoom in	Zoom in
800 × 600	35.2	56.3	VESA	SVGA (56Hz)		Zoom in
800 × 600	37.9	60.3	VESA	SVGA (60Hz)		Zoom in
800 × 600	48.1	72.2	VESA	SVGA (72Hz)		Zoom in
800 × 600	46.9	75.0	VESA	SVGA (75Hz)		Zoom in
800 × 600	53.7	85.1	VESA	SVGA (85Hz)		Zoom in
832 × 624	49.7	74.5		Mac16"mode	Zoom out	Zoom in
1024 × 768	48.4	60.0	VESA	XGA (60Hz)	Zoom out	
1024 × 768	56.5	70.1	VESA	XGA (70Hz)	Zoom out	
1024 × 768	60.0	75.0	VESA	XGA (75Hz)	Zoom out	
1024 × 768	68.7	85.0	VESA	XGA (85Hz)	Zoom out	
1152 × 864	67.5	75.0	VESA	SXGA (75Hz)	Zoom out	Zoom out
1280 × 960	60.0	60.0	VESA	SXGA (60Hz)	Zoom out	Zoom out
1280 × 1024	64.0	60.0	VESA	SXGA (60Hz)	Zoom out	Zoom out
1280 × 1024	80.0	75.0	VESA	SXGA (75Hz)	Zoom out	Zoom out
1280 × 1024	91.2	85.0	VESA	SXGA (85Hz)	Zoom out	Zoom out
1600 × 1200	75.0	60.0	VESA	UXGA (60Hz)	Zoom out	Zoom out

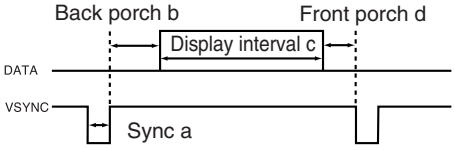
NOTE • Some computers may have multiple display screen modes. Use of some of these modes will not be possible with this projector.

- Be sure to check jack type, signal level, timing and resolution before connecting this projector to a computer.
- Depending on the input signal, full-size display may not be possible in some cases. Refer to the number of display pixels above.
- This projector will display up to UXGA (1600X1200) resolution signals but the image will be rescaled to the native resolution of the projector. Best display performance is achieved when the signal input resolution is the same as the native resolution of the projector.
- The image may not be displayed correctly when the input sync. signal is “Composite Sync.” or “Sync. on G”.

INITIAL SET SIGNALS

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





Computer / Signal	Horizontal signal timing (µs)			
	a	b	c	d
TEXT	2.0	3.0	20.3	1.0
VGA (60Hz)	3.8	1.9	25.4	0.6
Mac 13"mode	2.1	3.2	21.2	2.1
VGA (72Hz)	1.3	3.8	20.3	1.0
VGA (75Hz)	2.0	3.8	20.3	0.5
VGA (85Hz)	1.6	2.2	17.8	1.6
SVGA (56Hz)	2.0	3.6	22.2	0.7
SVGA (60Hz)	3.2	2.2	20.0	1.0
SVGA (72Hz)	2.4	1.3	16.0	1.1
SVGA (75Hz)	1.6	3.2	16.2	0.3
SVGA (85Hz)	1.1	2.7	14.2	0.6
Mac 16"mode	1.1	3.9	14.5	0.6
XGA (60Hz)	2.1	2.5	15.8	0.4
XGA (70Hz)	1.8	1.9	13.7	0.3
XGA (75Hz)	1.2	2.2	13.0	0.2
XGA (85Hz)	1.0	2.2	10.8	0.5
1152×864 (75Hz)	1.2	2.4	10.7	0.6
1280×960 (60Hz)	1.0	2.9	11.9	0.9
1280×1024 (60Hz)	1.0	2.3	11.9	0.4
1280×1024 (75Hz)	1.1	1.8	9.5	0.2
1280×1024 (85Hz)	1.0	1.4	8.1	0.4
1600×1200 (60Hz)	1.2	1.9	9.9	0.4

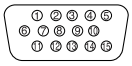
Computer / Signal	Vertical signal timimg (lines)			
	a	b	c	d
TEXT	3	42	400	1
VGA (60Hz)	2	33	480	10
Mac 13"mode	3	39	480	3
VGA (72Hz)	3	28	480	9
VGA (75Hz)	3	16	480	1
VGA (85Hz)	3	25	480	1
SVGA (56Hz)	2	22	600	1
SVGA (60Hz)	4	23	600	1
SVGA (72Hz)	6	23	600	37
SVGA (75Hz)	3	21	600	1
SVGA (85Hz)	3	27	600	1
Mac 16"mode	3	39	624	1
XGA (60Hz)	6	29	768	3
XGA (70Hz)	6	29	768	3
XGA (75Hz)	3	28	768	1
XGA (85Hz)	3	36	768	1
1152×864 (75Hz)	3	32	864	1
1280×960 (60Hz)	3	36	960	1
1280×1024 (60Hz)	3	38	1024	1
1280×1024 (75Hz)	3	37	1024	2
1280×1024 (85Hz)	3	44	1024	1
1600×1200 (60Hz)	3	46	1200	1

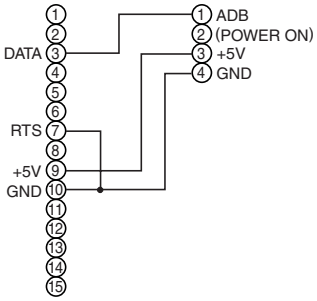
CONNECTION TO THE MOUSE CONTROL

ADB Mouse

CONTROL Terminal

D-sub 15-pin shrink jack



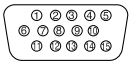


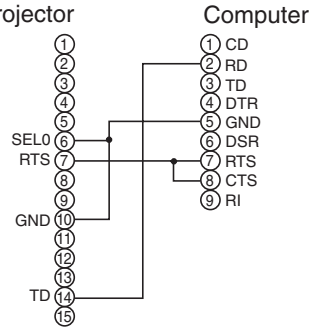
Mouse jack
Mini DIN 4-pin

Serial Mouse

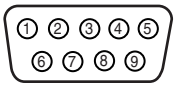
CONTROL Terminal

D-sub 15-pin shrink jack



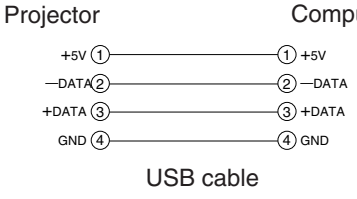


Mouse jack
D-sub 9-pin



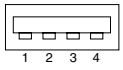
USB Mouse

USB jack
(B type)



USB cable

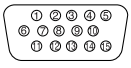
USB jack
(A type)

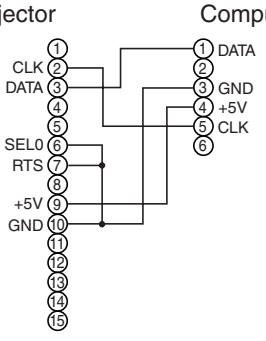


PS/2 Mouse

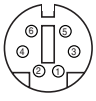
CONTROL Terminal

D-sub 15-pin shrink jack



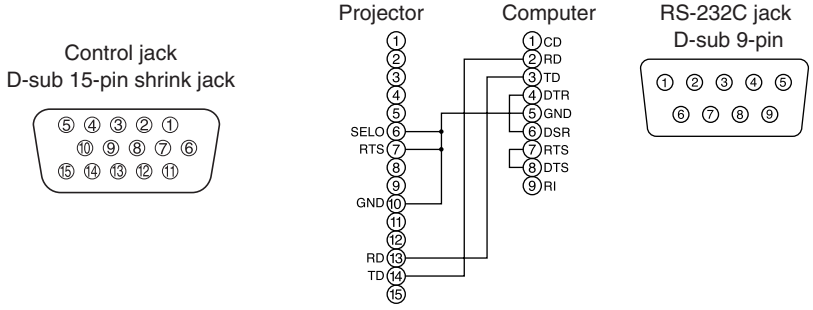


Mouse jack
Mini DIN 6-pin



RS-232C COMMUNICATION

(1) Turn off the projector and computer power supplies and connect with the RS-232C cable.
(2) Turn on the computer power supply and after the computer has started up, turn on the projector power supply.



Communications setting

19200bps, 8N1

1 Protocol

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

2 Header

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

3 Command data

Command data chart

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

Action (byte_0 - 1)

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

RS-232C COMMUNICATION (continued)

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

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

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

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

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

When a command sent by the projector cannot be understood by the computer
When the command sent by the projector cannot be understood, the error command '15H' is returned by the computer. Some times, the projector ignores RS-232C commands during other works. If the error command '15H' is returned, please send the same command again.

When data sent by the projector cannot be practice
When the command sent by the projector cannot be practiced, the the error code '1cH' +'xxxxH' is returned.
When the data length is greater than indicated by the data length code, the projector will ignore the excess data code.
Conversely, when the data length is shorter than indicated by the data length code, an error code will be returned to the projector.

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

Command data chart

Names	Operation type		Header	CRC	Command data		
					Action	Type	Setting code
Blank Color	Set	Blue	BE EF 03 06 00	CB D3	01 00	00 30	03 00
		White	BE EF 03 06 00	6B D0	01 00	00 30	05 00
		Black	BE EF 03 06 00	9B D0	01 00	00 30	06 00
		MyScreen	BE EF 03 06 00	FB CA	01 00	00 30	20 00
		ORIGNAL	BE EF 03 06 00	FB E2	01 00	00 30	40 00
	Get		BE EF 03 06 00	08 D3	02 00	00 30	00 00
Mirror	Set	Normal	BE EF 03 06 00	C7 D2	01 00	01 30	00 00
		H Inverse	BE EF 03 06 00	57 D3	01 00	01 30	01 00
		V Inverse	BE EF 03 06 00	A7 D3	01 00	01 30	02 00
		H&V Inverse	BE EF 03 06 00	37 D2	01 00	01 30	03 00
	Get		BE EF 03 06 00	F4 D2	02 00	01 30	00 00
Freeze	Set	Normal	BE EF 03 06 00	83 D2	01 00	02 30	00 00
		Freeze	BE EF 03 06 00	13 D3	01 00	02 30	01 00
	Get		BE EF 03 06 00	B0 D2	02 00	02 30	00 00
Startup	Set	ORIGNAL	BE EF 03 06 00	0B D2	01 00	04 30	00 00
		OFF	BE EF 03 06 00	9B D3	01 00	04 30	01 00
		MyScreen	BE EF 03 06 00	CB CB	01 00	04 30	20 00
	Get		BE EF 03 06 00	38 D2	02 00	04 30	00 00
Language	Set	English	BE EF 03 06 00	F7 D3	01 00	05 30	00 00
		Français	BE EF 03 06 00	67 D2	01 00	05 30	01 00
		Deutsch	BE EF 03 06 00	97 D2	01 00	05 30	02 00
		Español	BE EF 03 06 00	07 D3	01 00	05 30	03 00
		Italiano	BE EF 03 06 00	37 D1	01 00	05 30	04 00
		Norsk	BE EF 03 06 00	A7 D0	01 00	05 30	05 00
		Nederlands	BE EF 03 06 00	57 D0	01 00	05 30	06 00
		Português	BE EF 03 06 00	C7 D1	01 00	05 30	07 00
		日本語	BE EF 03 06 00	37 D4	01 00	05 30	08 00
		中文	BE EF 03 06 00	A7 D5	01 00	05 30	09 00
		한글	BE EF 03 06 00	57 D5	01 00	05 30	0A 00
	Get		BE EF 03 06 00	C4 D3	02 00	05 30	00 00
Magnify	Get		BE EF 03 06 00	7C D2	02 00	07 30	00 00
	Increment		BE EF 03 06 00	1A D2	04 00	07 30	00 00
	Decrement		BE EF 03 06 00	CB D3	05 00	07 30	00 00
Auto off	Get		BE EF 03 06 00	08 86	02 00	10 31	00 00
	Increment		BE EF 03 06 00	6E 86	04 00	10 31	00 00
	Decrement		BE EF 03 06 00	BF 87	05 00	10 31	00 00
Brightness Reset	Execute		BE EF 03 06 00	58 D3	06 00	00 70	00 00
Contrast Reset	Execute		BE EF 03 06 00	A4 D2	06 00	01 70	00 00
V.Position Reset	Execute		BE EF 03 06 00	E0 D2	06 00	02 70	00 00

Command data chart (continued)

Names	Operation type		Header	CRC	Command data		
					Action	Type	Setting code
H.Position Reset	Execute		BE EF 03 06 00	IC D3	06 00	03 70	00 00
H.Size Reset	Execute		BE EF 03 06 00	68 D2	06 00	04 70	00 00
Color Balance R Reset	Execute		BE EF 03 06 00	94 D3	06 00	05 70	00 00
Color Balance B Reset	Execute		BE EF 03 06 00	D0 D3	06 00	06 70	00 00
Sharpness Reset	Execute		BE EF 03 06 00	C4 D0	06 00	09 70	00 00
Color Reset	Execute		BE EF 03 06 00	80 D0	06 00	0A 70	00 00
Tint Reset	Execute		BE EF 03 06 00	7C D1	06 00	0B 70	00 00
Keystone_V Reset	Execute		BE EF 03 06 00	08 D0	06 00	0C 70	00 00
Keystone_H Reset	Execute		BE EF 03 06 00	98 D8	06 00	20 70	00 00
Auto Adjust	Execute		BE EF 03 06 00	91 D0	06 00	0A 20	00 00
Lamp Time Reset	Execute		BE EF 03 06 00	58 DC	06 00	30 70	00 00
Filter Time Reset	Execute		BE EF 03 06 00	98 C6	06 00	40 70	00 00
Blank on/off	Set	off	BE EF 03 06 00	FB D8	01 00	20 30	00 00
	Set	on	BE EF 03 06 00	6B D9	01 00	20 30	01 00
	Get		BE EF 03 06 00	C8 D8	02 00	20 30	00 00
Error Status	Get		BE EF 03 06 00	D9 D8	02 00	20 60	00 00
			(Example of Return) 00 00 (Normal) 01 00 (Cover-error) 02 00 (Fan-error) 03 00 (Lamp-error) 04 00 (Temp-error) 05 00 (Air flow-error) 06 00 (Lamp-Time-over) 07 00 (Cool-error) 08 00 (Filter-Error)				
Power	Set	OFF	BE EF 03 06 00	2A D3	01 00	00 60	00 00
	Set	ON	BE EF 03 06 00	BA D2	01 00	00 60	01 00
	Get		BE EF 03 06 00	19 D3	02 00	00 60	00 00
Input Source	Set	RGB1	BE EF 03 06 00	FE D2	01 00	00 20	00 00
	Set	RGB2	BE EF 03 06 00	3E D0	01 00	00 20	04 00
	Set	Video	BE EF 03 06 00	6E D3	01 00	00 20	01 00
	Set	SVideo	BE EF 03 06 00	9E D3	01 00	00 20	02 00
	Get		BE EF 03 06 00	CD D2	02 00	00 20	00 00
Volume	Get		BE EF 03 06 00	31 D3	02 00	01 20	00 00
	Increment		BE EF 03 06 00	57 D3	04 00	01 20	00 00
	Decrement		BE EF 03 06 00	86 D2	05 00	01 20	00 00
Mute	Set	Normal	BE EF 03 06 00	46 D3	01 00	02 20	00 00
	Set	Mute	BE EF 03 06 00	D6 D2	01 00	02 20	01 00
	Get		BE EF 03 06 00	75 D3	02 00	02 20	00 00
Brightness	Get		BE EF 03 06 00	89 D2	02 00	03 20	00 00
	Increment		BE EF 03 06 00	EF D2	04 00	03 20	00 00
	Decrement		BE EF 03 06 00	3E D3	05 00	03 20	00 00

Names	Operation type		Header	CRC	Command data		
					Action	Type	Setting code
Contrast	Get		BE EF 03 06 00	FD D3	02 00	04 20	00 00
	Increment		BE EF 03 06 00	9B D3	04 00	04 20	00 00
	Decrement		BE EF 03 06 00	4A D2	05 00	04 20	00 00
Color Balance R	Get		BE EF 03 06 00	01 D2	02 00	05 20	00 00
	Increment		BE EF 03 06 00	67 D2	04 00	05 20	00 00
	Decrement		BE EF 03 06 00	B6 D3	05 00	05 20	00 00
Color Balance B	Get		BE EF 03 06 00	45 D2	02 00	06 20	00 00
	Increment		BE EF 03 06 00	23 D2	04 00	06 20	00 00
	Decrement		BE EF 03 06 00	F2 D3	05 00	06 20	00 00
Keystone_V	Get		BE EF 03 06 00	B9 D3	02 00	07 20	00 00
	Increment		BE EF 03 06 00	DF D3	04 00	07 20	00 00
	Decrement		BE EF 03 06 00	0E D2	05 00	07 20	00 00
Keystone_H	Get		BE EF 03 06 00	E9 D0	02 00	0B 20	00 00
	Increment		BE EF 03 06 00	8F D0	04 00	0B 20	00 00
	Decrement		BE EF 03 06 00	5E D1	05 00	0B 20	00 00
Aspect	Set	4:3	BE EF 03 06 00	9E D0	01 00	08 20	00 00
		16:9	BE EF 03 06 00	0E D1	01 00	08 20	01 00
		Small	BE EF 03 06 00	FE D1	01 00	08 20	02 00
	Get		BE EF 03 06 00	AD D0	02 00	08 20	00 00
Picture Position at 16 : 9 or Small	Set	Default	BE EF 03 06 00	62 D1	01 00	09 20	00 00
		Bottom	BE EF 03 06 00	F2 D0	01 00	09 20	01 00
		Top	BE EF 03 06 00	02 D0	01 00	09 20	02 00
	Get		BE EF 03 06 00	51 D1	02 00	09 20	00 00
V.Position	Get		BE EF 03 06 00	0D 83	02 00	00 21	00 00
	Increment		BE EF 03 06 00	6B 83	04 00	00 21	00 00
	Decrement		BE EF 03 06 00	BA 82	05 00	00 21	00 00
H.Position	Get		BE EF 03 06 00	F1 82	02 00	01 21	00 00
	Increment		BE EF 03 06 00	97 82	04 00	01 21	00 00
	Decrement		BE EF 03 06 00	46 83	05 00	01 21	00 00
H.Size	Get		BE EF 03 06 00	B5 82	02 00	02 21	00 00
	Increment		BE EF 03 06 00	D3 82	04 00	02 21	00 00
	Decrement		BE EF 03 06 00	02 83	05 00	02 21	00 00
H.Phase	Get		BE EF 03 06 00	49 83	02 00	03 21	00 00
	Increment		BE EF 03 06 00	2F 83	04 00	03 21	00 00
	Decrement		BE EF 03 06 00	FE 82	05 00	03 21	00 00
Sharpness	Get		BE EF 03 06 00	F1 72	02 00	01 22	00 00
	Increment		BE EF 03 06 00	97 72	04 00	01 22	00 00
	Decrement		BE EF 03 06 00	46 73	05 00	01 22	00 00
Color	Get		BE EF 03 06 00	B5 72	02 00	02 22	00 00
	Increment		BE EF 03 06 00	D3 72	04 00	02 22	00 00
	Decrement		BE EF 03 06 00	02 73	05 00	02 22	00 00

Command data chart (continued)

Names	Operation type		Header	CRC	Command data		
					Action	Type	Setting code
Tint	Get		BE EF 03 06 00	49 73	02 00	03 22	00 00
	Increment		BE EF 03 06 00	2F 73	04 00	03 22	00 00
	Decrement		BE EF 03 06 00	FE 72	05 00	03 22	00 00
Video Format	Set	Auto	BE EF 03 06 00	9E 75	01 00	00 22	0A 00
		NTSC	BE EF 03 06 00	FE 71	01 00	00 22	04 00
		PAL	BE EF 03 06 00	6E 70	01 00	00 22	05 00
		SECAM	BE EF 03 06 00	6E 75	01 00	00 22	09 00
		NTSC 4.43	BE EF 03 06 00	5E 72	01 00	00 22	02 00
		M-PAL	BE EF 03 06 00	FE 74	01 00	00 22	08 00
		N-PAL	BE EF 03 06 00	0E 71	01 00	00 22	07 00
	Get		BE EF 03 06 00	0D 73	02 00	00 22	00 00
Sync on G	Set	off	BE EF 03 06 00	CB D0	01 00	08 30	01 00
		on	BE EF 03 06 00	5B D1	01 00	08 30	00 00
	Get		BE EF 03 06 00	68 D1	02 00	08 30	00 00
WHISPER	Set	NORMAL	BE EF 03 06 00	3B 23	01 00	00 33	00 00
		WHISPER	BE EF 03 06 00	AB 22	01 00	00 33	01 00
	Get		BE EF 03 06 00	08 23	02 00	00 33	00 00
GAMMA	Set	NORMAL	BE EF 03 06 00	C7 F0	01 00	A1 30	00 00
		CINEMA	BE EF 03 06 00	57 F1	01 00	A1 30	01 00
		DYNAMIC	BE EF 03 06 00	A7 F1	01 00	A1 30	02 00
	Get		BE EF 03 06 00	F4 F0	02 00	A1 30	00 00
Over Scan	Set	Large	BE EF 03 06 00	C2 71	01 00	09 22	02 00
		Middle	BE EF 03 06 00	32 71	01 00	09 22	01 00
		Small	BE EF 03 06 00	A2 70	01 00	09 22	00 00
	Get		BE EF 03 06 00	91 70	02 00	09 22	00 00
MyScreen Size	Set	Full	BE EF 03 06 00	43 D6	01 00	12 30	00 00
		X1	BE EF 03 06 00	D3 D7	01 00	12 30	01 00
	Get		BE EF 03 06 00	70 D6	02 00	12 30	03 00
MyScreen Lock	Set	off	BE EF 03 06 00	3B EF	01 00	C0 30	00 00
		on	BE EF 03 06 00	AB EE	01 00	C0 30	01 00
	Get		BE EF 03 06 00	08 EF	02 00	C0 30	00 00
Lamp Time	Get		BE EF 03 06 00	C2 FF	02 00	90 10	00 00
Filter Time	Get		BE EF 03 06 00	C2 F0	02 00	A0 10	00 00