

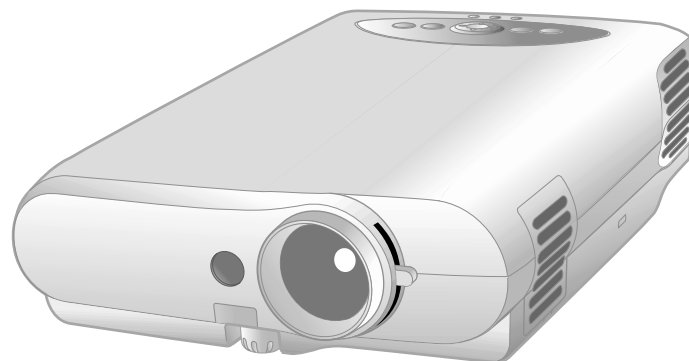
**TOSHIBA**

*OWNER'S MANUAL*

***3LCD DATA PROJECTOR***

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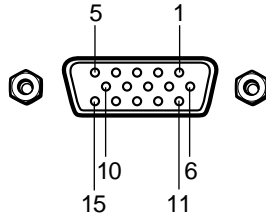
**TLP-B2E**



# Before calling service personal

Check the following points before asking for support service. Refer also to “Trouble indications”. [54](#)

Symptom	Cause	Correction	Page
The power does not come on.	• The power cord is disconnected.	Firmly plug in the power cord.	<a href="#">18</a>
	• The lamp cover is not attached correctly.	Attach the cover correctly.	<a href="#">57</a>
The power turns off while using the projector.	• The ambient temperature of the projection room is too high.	Lower the ambient temperature of the projection room, and turn the power on.	–
No image appears.	• The lens cover is on.	Take off the lens cover.	<a href="#">18</a>
	• The wrong input is selected.	Select the input source correctly.	<a href="#">26</a>
	• The muting mode is on.	Press MUTE to restore the picture.	<a href="#">30</a>
	• The “Brightness” adjustment is at its darkest.	Make the “Brightness” adjustment.	<a href="#">34</a>
	• The source is not correctly connected to the projector.	Connect the source correctly to the projector.	<a href="#">21</a>
No sounds are heard.	• The wrong input is selected.	Select the input source correctly.	<a href="#">26</a>
	• The muting mode is on.	Press MUTE to restore the sound.	<a href="#">30</a>
	• The sound volume is at the minimum.	Adjust the sound volume.	<a href="#">42</a>
	• The source is not correctly connected to the projector.	Connect the source correctly to the projector.	<a href="#">21</a>
The images are blurred. Focusing is uneven.	• The lens is dirty.	Clean the lens. Use a lens cleaner to clean the lens.	<a href="#">56</a>
	• The picture is out of focus.	Focus the picture.	<a href="#">27</a>
	• The projection distance is not appropriate.	Adjust the distance properly.	<a href="#">17</a>
	• The projecting light is not hitting the screen squarely.	Adjust the projecting direction so that the light hits the screen squarely.	<a href="#">17</a>
	• The “Brightness”, “Contrast”, “Sharpness” or “Phase” adjustments are not correct.	Make the “Picture” or “Image” adjustments.	<a href="#">36</a> <a href="#">38</a>
The pictures are dim.	• The “Brightness” or “Contrast” adjustments are not correct.	Make the “Picture” adjustments.	<a href="#">34</a>
	• The lamp life is ending.	Replace the lamp.	<a href="#">57</a>
The colors are faint. The colors are strange.	• The “Color”, “Tint”, “R-Level”, “G-Level” or “B-Level” adjustments are not correct.	Make the “Picture” or “Level” adjustments.	<a href="#">36</a> <a href="#">40</a>
	• The lamp life is ending.	Replace the lamp.	<a href="#">57</a>
The remote control does not work.	• The remote control is not facing the remote sensor.	Face the remote control transmitter toward the remote sensor on the projector.	<a href="#">15</a>
	• The remote control is too far.	Operate within about 5 meters.	<a href="#">15</a>
	• There is an obstruction between the remote control and the remote sensor.	Remove the obstacle.	–
	• The batteries are exhausted.	Replace the batteries.	<a href="#">14</a>



D-SUB 15 pin shrinking terminal

Input Signal

Video signal

Analog 0.7V(p-p) 75Ω

Horizontal synchronizing signal

TTL level (positive/negative polarity)

Vertical synchronizing signal

TTL level (positive/negative polarity)

Composite synchronizing signal

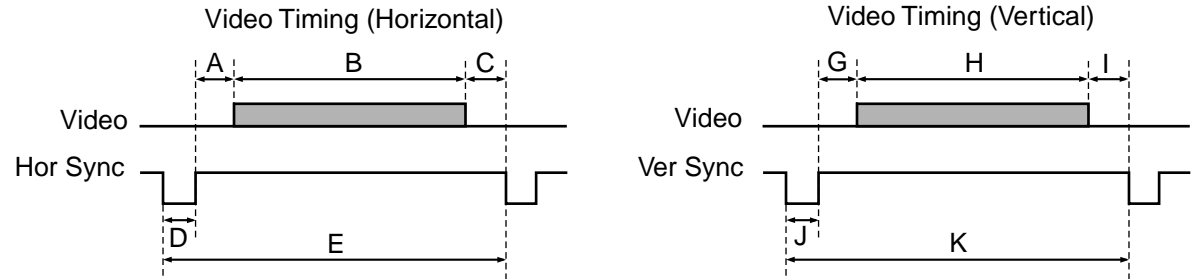
TTL level

## Pin arrangements

Pin No.	
1	Video input (Red)
2	Video input (Green)
3	Video input (Blue)
4	GND
5	GND
6	GND (Red)
7	GND (Green)
8	GND (Blue)
9	N.C
10	GND
11	GND
12	SDA (DDC2B)
13	Horizontal synchronizing/ composite synchronizing signal
14	Vertical synchronizing signal
15	SCL (DDC2B)

# Applicable RGB signal

The unit is applicable to the following signals. However, some computers may have different timings than those in the chart. Make the necessary adjustments if the picture has flickers or is blurred.

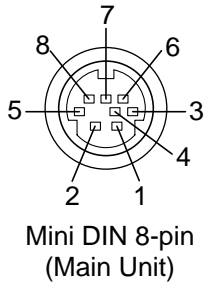


Timing chart

Mode	Resolution	A (Pixels)	B (Pixels)	C (Pixels)	D (Pixels)	E (Pixels)	fh (kHz)	fv (Hz)	Clock (MHz)	G (Lines)	H (Lines)	I (Lines)	J (Lines)	K (Lines)
TEXT70	640 x 350	50	640	14	96	800	31.47	70.09	25.175	59	350	38	2	449
TEXT70	640 x 400	50	640	14	96	800	31.47	70.09	25.175	34	400	13	2	449
TEXT85	640 x 350	96	640	32	64	832	37.86	85.08	31.500	60	350	32	3	445
TEXT85	640 x 400	96	640	32	64	832	37.86	85.08	31.500	41	400	1	3	445
VGA60	640 x 480	48	640	16	96	800	31.47	59.94	25.175	33	480	10	2	525
VGA72	640 x 480	128	640	24	40	832	37.86	72.81	31.500	28	480	9	3	520
VGA75	640 x 480	120	640	16	64	840	37.50	75.00	31.500	16	480	1	3	500
VGA85	640 x 480	80	640	56	56	832	43.27	85.01	36.000	25	480	1	3	509
MAC13	640 x 480	96	640	64	64	864	35.00	66.67	30.240	39	480	3	3	525
SVGA56	800 x 600	128	800	24	72	1024	35.16	56.25	36.000	22	600	1	2	625
SVGA60	800 x 600	88	800	40	128	1056	37.88	60.32	40.000	23	600	1	4	628
SVGA72	800 x 600	64	800	56	120	1040	48.08	72.19	50.000	23	600	37	6	666
SVGA75	800 x 600	160	800	16	80	1056	46.88	75.00	49.500	21	600	1	3	625
SVGA85	800 x 600	152	800	32	64	1048	53.67	85.06	56.250	27	600	1	3	631
MAC16	823 x 624	216	832	40	64	1152	49.72	74.55	57.283	39	632	1	3	667
XGA60	1024 x 768	160	1024	24	136	1344	48.363	60.004	65.000	29	768	3	6	806
XGA70	1024 x 768	144	1024	24	136	1328	56.476	70.069	75.000	29	768	3	6	806
XGA75	1024 x 768	176	1024	16	96	1312	60.023	75.029	78.750	28	768	1	3	800
XGA85	1024 x 768	208	1024	48	96	1376	68.677	84.997	94.500	36	768	1	3	808
MAC19	1024 x 768	180	1024	20	96	1320	60.197	74.872	73.200	30	768	3	3	804

# Controlling the projector by using RS-232C

Conditioning of the Projection Unit can also be done by a computer via the RS-232C, as well as by the remote control.



Pin No.	Signal	Meaning
1	RXD	Receiving data
2	CTS	Consent to send
3	DSR	Data set ready
4	GND	Signal ground
5	RTS	Request to send
6	N.C	No connection
7	TXD	Sending data
8	N.C	No connection

## Interface format

- Communication method**  
 RS-232C  
 9600 bps, No parity, Data length: 8 bit,  
 Stop bit: 1 bit
- Communication format**  

STX (02h)	Command (3Byte)	ETX (03h)
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 One command only can be used in one communication.
- Data format**  
 Command shall be composed of alphanumeric characters of ASCII description. Use only capital letters.
- Return value**  
 Acknowledge 

ACK (06h)
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 Not Acknowledge 

NAK (15h)
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### Note

When commands are transmitted serially, keep more than 100 ms intervals between the commands. However, leave a sufficient time interval for processing which requires time, such as input switching.

## Command list

Classification	Command	Meaning
Remote control/Key	POF	Power (Off)
Remote control/Key	PON	Power (On)
Special	PSD	Power shut down
Key	IN0	Input (Toggle)
Remote control/Key	IN1	Input (RGB)
Remote control/Key	IN2	Input (Reset)
Remote control	RS0	Zoom (Reset)
Remote control	RDP	Zoom (Enlarge)
Remote control	RDW	Zoom (Reduce)
Remote control	PO1	Zoom position (Upward)
Remote control	PO2	Zoom position (Downward)
Remote control	PO3	Zoom position (Leftward)
Remote control	PO4	Zoom position (Rightward)
Remote control	FOF	Freeze (Off)
Remote control	FON	Freeze (On)
Remote control	MOF	Mute (Off)
Remote control	MON	Mute (On)
Remote control	PKA	Auto keystone
Adjustment	ARG	Adjustment value (Increase)
Adjustment	ALF	Adjustment value (Decrease)
Picture adjustment	VCN	Contrast adjustment
Picture adjustment	VBR	Brightness adjustment
Picture adjustment	VCL	Color adjustment
Picture adjustment	VTN	Tint adjustment
Picture adjustment	VSH	Sharpness adjustment

Classification	Command	Meaning
Image adjustment	PKS	Keystone adjustment
Image adjustment	PPH	Phase adjustment
Image adjustment	PHP	Horizontal position adjustment
Image adjustment	PVP	Vertical position adjustment
Image adjustment	PCK	Clock adjustment
Level adjustment	VLR	Red level adjustment
Level adjustment	VLG	Green level adjustment
Level adjustment	VLB	Blue level adjustment
Audio adjustment	VOL	Volume adjustment
Audio adjustment	ACA	Channel select (L+R)
Audio adjustment	ACL	Channel select (L only)
Audio adjustment	ACR	Channel select (R only)
Audio adjustment	AOA	Output select (Always)
Audio adjustment	AOV	Output select (Video only)
Audio adjustment	AOR	Output select (RGB only)
Signal setting	MVB	Picture mode (Brightness priority)
Signal setting	MVP	Picture mode (True color)
Signal setting	KV0	Video mode (Auto)
Signal setting	KV1	Video mode (NTSC) (NTSC/60/3.58)
Signal setting	KV2	Video mode (PAL) (PAL/50/4.43)
Signal setting	KV3	Video mode (SECAM) (PAL/50/SECAM)
Signal setting	KV4	Video mode (PAL-N) (PAL/50/3.58)
Signal setting	KV5	Video mode (PAL-M) (PAL/60/3.58)
Signal setting	KV6	Video mode (PAL60) (PAL/60/4.43)
Signal setting	KV7	Video mode (NTSC4.43) (NTSC/60/4.43)
Signal setting	BG0	No signal background (TOSHIBA logo)
Signal setting	BG1	No signal background (Blue background)
Signal setting	PN0	No signal power off (OFF)
Signal setting	PN1	No signal power off (5 minutes)
Signal setting	MI0	Auto input switching (On)
Signal setting	MI1	Auto input switching (Off)

Classification	Command	Meaning
Display setting	MP1	Menu position (Upper left)
Display setting	MP2	Menu position (Lower left)
Display setting	MP3	Menu position (Upper right)
Display setting	MP4	Menu position (Lower right)
Display setting	MB0	Menu background color (Blue)
Display setting	MB1	Menu background color (Clear)
Display setting	MO0	On screen display (On)
Display setting	MO1	On screen display (Off)
Default setting	LEN	Language (English)
Default setting	LFR	Language (French)
Default setting	LGR	Language (German)
Default setting	LIT	Language (Italian)
Default setting	LSP	Language (Spanish)
Default setting	LPO	Language (Portuguese)
Default setting	LPK	Language (Simplified Chinese)
Default setting	LKT	Language (Traditional Chinese)
Default setting	LKK	Language (Korean)
Default setting	LJP	Language (Japanese)
Default setting	PJ0	Projection mode (Standard)
Default setting	PJ1	Projection mode (Rear)
Default setting	PJ2	Projection mode (Ceiling)
Default setting	PJ3	Projection mode (Rear ceiling)
Default setting	MS0	Start up display (On)
Default setting	MS1	Start up display (Off)
Default setting	AP0	Power on (Manual)
Default setting	AP1	Power on (Auto)
Data setting	DON	Status display (Display)
Data setting	DOF	Status display (Not display)
Data setting	DRS	Factory reset mode
Data setting	PKR	Keystone reset

## Main unit

Power requirements	AC 100 – 240V 50/60Hz
Power consumption	180W
Mass	2.6Kg
Dimensions	232 x 71 x 276 (mm) (W/H/D) (Except the protrusion parts)
Ambient environment	Temperature : 0°C to 35°C Humidity : 30% to 70% RH
Lamp	UHP lamp 120W
Speaker	1W (monaural)
RGB inputs	Mini D-sub 15-pin
S-VIDEO inputs	Mini DIN 4-pin
VIDEO inputs	1V(p-p), 75Ω, pin jack
AUDIO inputs	1V(p-p), more than 22kΩ, ø3.5mm stereo mini jack
CONTROL connector	Mini DIN 8-pin (RS-232C)
Cabinet Material	Polycarbonate & ABS resin

## Liquid crystal display

Projection system	3-panels transmission
Panel size	0.9 inches
Driving system	TFT active matrix
Picture elements	786,432 pixels (1024 x 768 dots) x 3

## Projection lens

Lens	Zooming lens F = 2.3 – 2.6 f = 36 – 43.2mm
Focusing	Manual operation
Zooming	Manual operation

## Accessories

Wireless remote control .....	1
Coin shaped battery (CR2025) (Contained in the remote control).....	1
Power cord .....	2
RGB cable .....	1 (3m)
Adapter for Macintosh computers .....	1
Video cable .....	1 (3m)
Audio cable (Computer) .....	1 (3m)
Audio cable (VCR, DVD) .....	1 (3m)
Control cable .....	1
Soft case .....	1

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