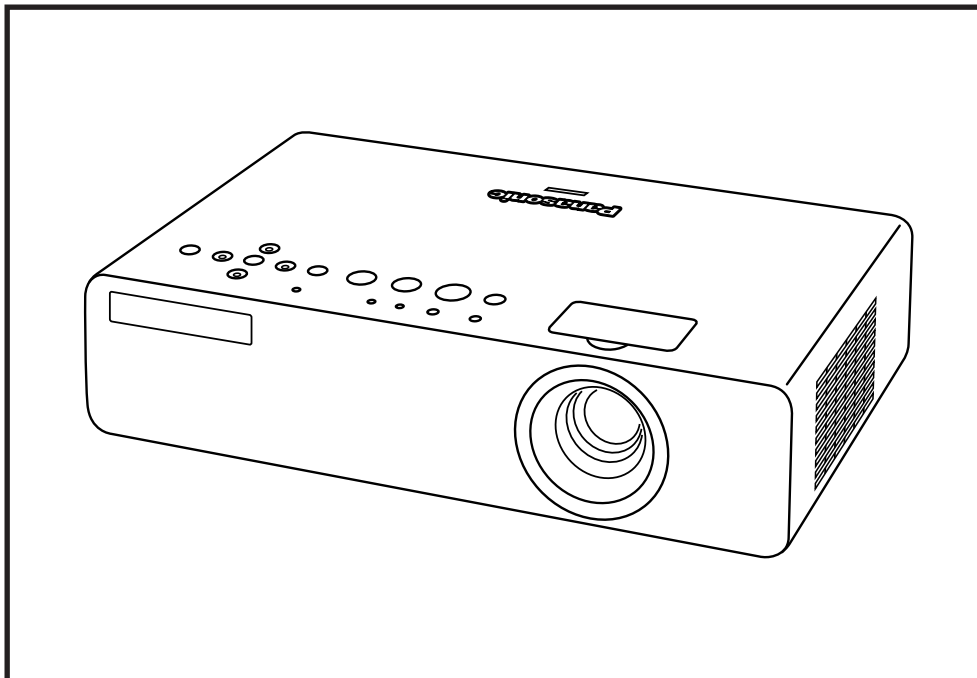

S P E C F I L E



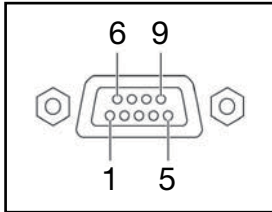
Product Number : **PT-LB90NT**

Product Name : LCD Projector

Serial connector

The serial connector complies with RS-232C. To control the projector from a personal computer, commands must be input through communication software, based on the format and satisfying the communication conditions shown below.

Pin assignments and signal names



D-sub HD 9-pin, female

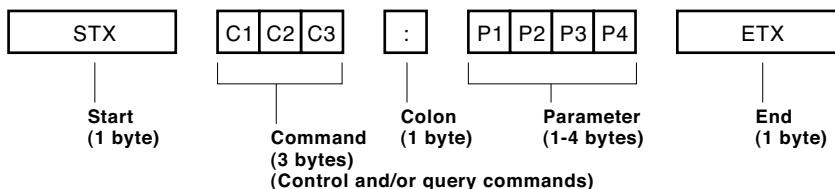
No.	Signal name	Description	No.	Signal name	Signal name
1	-	NC	6	-	NC
2	TXD	Send data	7	CTS	Connected internally
3	RXD	Receive data	8	RTS	Connected internally
4	-	Connected internally	9	-	NC
5	GND	Ground			

Communication conditions (factory setting)

Signal level	RS-232C-compliant
Synchronization method	Start-stop synchronization
Baud rate	9,600 bps
Parity	None
Character length	8 bits
Stop bit	1 bit
X parameter	None
S parameter	None

Basic format

Transmission from the computer begins with STX, then the ID, command, parameter, and ETX are sent in this order. Add parameters according to the details of control.



CAUTION

It may not be possible to send or receive commands for about 10 to 60 seconds when the lamp is first turned on. If this occurs, wait for 60 seconds, then try sending or receiving again. When sending multiple commands, be sure to wait for at least 0.5 second after receiving a response from the projector before sending the next command. Additional time is sometimes required for response due to processing inside the projector. Set the time-out period for command response to 10 seconds or more.

NOTE:

If a wrong command is received, the projector will send an ER401 command to the computer. When sending commands without parameters, a colon (:) is not necessary.

Cable specifications

Projector		PC (DTE)	
1	NC	NC	1
2			2
3			3
4	NC	NC	4
5			5
6	DSR	NC	6
7			7
8			8
9	NC	NC	9

Control commands

Command: <Parameter>	Function	Callback: <Parameter>	Parameter value	
			Min	Max
PON*1/*2	Power on (standby mode on)	PON*1/*2	-	-
POF*1/*2	Power off (standby mode off)	POF*1/*2	-	-
AVL:<p1>	Volume control	AVL:<p1>	0	63
IIS:<input signal>	Input signal selection	IIS:<input signal>	-	-
OST	The same function as "default" button	OST	-	-
OFZ:<off on>	Freeze	OFZ:<off on>	0	1
OEN	Enter	OEN	-	-
OXG:0	Wide mode: Off	OXG:0	-	-
OXG:1	Wide mode: On	OXG:1	-	-
OXG:2	Wide mode: Auto	OXG:2	-	-
VPM:<NAT>	Picture mode: Natural	VPM:<NAT>	-	-
VPM:<STD>	Picture mode: Standard	VPM:<STD>	-	-
VPM:<DYN>	Picture mode: Dynamic	VPM:<DYN>	-	-
VPM:<BBD>	Picture mode: Blackboard	VPM:<BBD>	-	-
VPM:<WBD>	Picture mode: Whiteboard	VPM:<WBD>	-	-
VXX:DLVI0=<+00000>	Daylight View: Off	VXX:DLVI0=<+00000>	-	-
VXX:DLVI0=<+00001>	Daylight View: Auto	VXX:DLVI0=<+00001>	-	-
VXX:DLVI0=<+00002>	Daylight View: On	VXX:DLVI0=<+00002>	-	-
AUU	Volume up	AUU	-	-
AUD	Volume down	AUD	-	-
OMN	Menu	OMN	-	-
OCU	Cursor up	OCU	-	-
OCD	Cursor down	OCD	-	-
OCL	Cursor left	OCL	-	-
OCR	Cursor right	OCR	-	-
OAS	Auto setup	OAS	-	-
OSH*1	AV mute	OSH*1	-	-
OIX	Index window	OIX	-	-
DZU	Digital zoom: Enlargement	DZU	-	-
DZD	Digital zoom: Reduction	DZD	-	-

*1 Do not send PON, POF, or OSH commands continuously in a short period of time. Doing so may burst the lamp or shorten the lamp replacement cycle.

*2 When a command other than OSH is sent while the shutter function is operating, the projector will send an ER401 command in reply and release the shutter function.

Status asking commands

Command	Description	Callback <Parameter>
QPW	Standby power status	<power condition>
QSS	Lamp status	<lamp condition>
QIN	Input signal status	<input signal>
QAV	Volume adjustment value	<p1>
QVC	Color adjustment value	<p1>
QVT	Tint adjustent value	<p1>
QVB	Brightness adjustment value	<p1>
QVR	Contrast adjustment value	<p1>
QVS	Sharpness adjustment value	<p1>
QWR	White balance: R adjustment value	<p1>
QWG	White balance: G adjustment value	<p1>
QWB	White balance: B adjustment value	<p1>
QHP	Horizontal position adjustment value	<p1>
QVP	Vertical position adjustment value	<p1>
QCP	Clock phase adjustment value	<p1>
QDC	Dot clock adjustment value	<p1>
QSP	Projection method status	<p1>
QLG	On-screen menu language	<p1>
QXG	Wide mode status	Off <0> On <1> Auto <2>
QVX:DLVIO	Daylight View status	Off <+00000> Auto <+00001> On <+00002>
QPM	Picture mode status	Natural <NAT> Standard <STD> Dynamic <DYN> Blackboard <BBD> Whiteboard <WBD>
QFZ	Freeze status	<off_on>
QSL	Lamp run time	<acctch>
QSH	Shutter function status	<off_on>
QKS	Keystone correction status	<p1>
QTE	Color temperature adjustment status	<color temp>

Parameter format

Parameter format	Size (Byte)	Definition
<p1>	3 (1 or 2 bytes also possible when under control)	Decimal without signs: 0 to 999 (000, 001, 002...999) Decimal with signs: -99 to +99 (-99...-01, +00, +01, +02...+99) Callback from the projector is 3 Byte.
<off on>	1	0 = off, 1 = on
<input signal>	3	RG1 = computer 1, RG2 = computer 2, NWP = network, VID = video, SVD = S-Video
<installation>	1	0 = front, 1 = rear, 2 = ceiling and front, 3 = ceiling and rear
<language>	3	ENG = English, DEU = German, FRA = French, ESP = Spanish, ITL = Italian, JPN = Japanese, CHI = Chinese, POR = Portuguese, SVE = Swedish, NOR = Norwegian, DAN = Danish, POL = Polish, CES = Czech, MAG = Hungarian, RUS = Russian, THA = Thai, KOR = Korean
<power condition>	3	000 = power off (standby mode off), 001 = power on (standby mode on)
<lamp condition>	1	0 = standby, 1 = lamp on under control, 2 = lamp off, 3 = lamp off under control
<acctch>	4	Decimal without signs: 0000-9999 hours
<color temp>	1	0 = economy, 1 = normal, 2 = high
<date>	8	y1y2y3y4m1m2d1d2w = year (y) month (m) day (d) day of week (w) Day of week: Monday = 1, Tuesday = 2, ... Sunday = 7
<time>	6	h1h2m1m2s1s2 = hour (h) minute (m) second (s)

NOTE: If a wrong command is received, the projector will send an ER401 command to the computer.

Command example

To set the volume to +30, send the command as shown right.



NOTE: When sending commands without parameters, a colon (:) is not necessary.