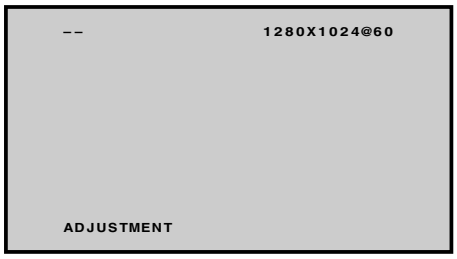
5.5 RS-232C Adjustment Mode

Through the unit's RS-232C terminal. You can use a PC to make various adjustments and settings.

5.5.1 About the RS-232C adjustment mode

1) When carrying out adjustments in the RS-232C adjustment mode
   - The data is written into the same memory area as for integrator mode (refer to 5.4.4 and 5.4.5 'Memory area tables').

2) Screens displayed in the RS-232C Adjustment Mode
   - The display will appear much like the illustration to the right. The ID number of the set of adjustments will be indicated in the upper left corner of the screen, where "––" is shown in the illustration.



CAUTION

(1) Always enter ID before using RS-232C adjustment mode.
In addition, include the ID of the set to be targeted for control/adjustment in the RS-232C command that you transmit. Refer to section 5.5.2, "Interface".

(2) Some RS-232C commands can be used in normal operating mode. Refer to section 5.5.4, "List of RS-232C commands".

(3) The adjustment data and set items from RS-232C adjustment mode include items that are not considered to be items stored in last memory.
For details, see "5.5.4 List of RS-232C commands." A precondition for storing them in last memory is that all conditions in "5.1.5 Last Memory" have been satisfied.
Please take due care.

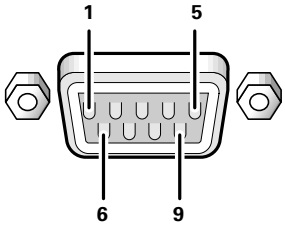
(4) About <DIN>/<DIY> (OSD displays disabled/enabled)
No matter what the settings, the following items may be displayed.
   - Menu display (Menu mode and integrator mode)
   - Warning just before the Auto Power Off or Power Management come on
   - Warning of high internal temperature or other problem
   - Display announcing KEY LOCK is set; also display announcing the setting of KEY LOCK/UNLOCK
   - Display call (including holding a button down)

(5) RS-232C adjustment mode is automatically canceled when the STANDBY/ON, MENU, or KEY LOCK/UNLOCK (main unit operating panel only) are pushed.

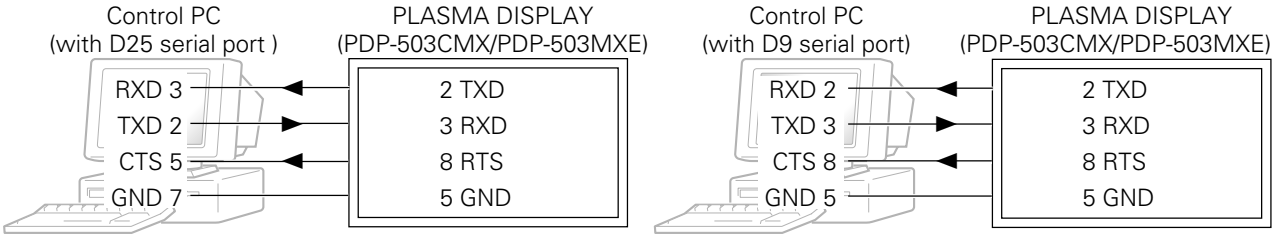
5.5.2 Interface

1) Connector
   D-sub 9 pins
2) Pin layout
(NOTE) Plasma is a DCE device.

Pin No.	Signal
1	NC (not connected)
2	TxD (Transmit Data)
3	RxD (Receive Data)
4	NC (not connected)
5	GND
6	NC (not connected)
7	NC (not connected)
8	RTS (Request To Send)
9	NC (not connected)



3) Baud Rate
   4800 bps (standard)
   (switch-able to 1200, 2400, 9600, 19200, 38400 bps)
   (NOTE) Set the baud rate to match that of the computer presently in use. Moreover, in the case that the RS-232C cable is very long, we recommend that you make the baud rate lower.
4) Data Format
   Start: 1-bit
   Data: 8-bit
   Parity: 0 (no parity)
   Stop: 1-bit
5) Connection



* D-sub 9-pin/D-sub 25-pin conversion tables are now available on the market.

Straight Cable

(NOTE) As computer manufactures may not use the same pin assigments. In case of communication difficalties, please check pin functions not just pin numbers.

6) Protocol
   From computer to plasma display
   (1) When transmitting commands individually

STX (02 hex)	ID (2 Byte)	COMMAND (3 Byte)	ETX (03 hex)

COMMAND 3 Byte (ASCII)
ARGUMENT 3 Byte (ASCII)

   (2) When transmitting commands in batches (up to max. 3 commands) .... (NOTE)

STX (02 hex)	ID (2 Byte)	COMMAND (3 Byte)	COMMAND (3 Byte)	COMMAND (3 Byte)	ETX (03 hex)

   (3) When transmitting direct numeric commands

STX (02 hex)	ID (2 Byte)	COMMAND (3 Byte)	ARGUMENT (3 Byte)	ETX (03 hex)

(Note) Transmit the following commands one at a time.
Transmit the next command after waiting at least the following waiting times

Power ON/OFF commands

Command	Function	Waiting time (seconds)
PON	Perform power standby	6
POD	Perform power ON	6

Function switching command

Command	Function	Waiting time (seconds)
IN1 ~ IN5	Function switching	3

Commands accompanying signal mode switching

Command	Function	Waiting time (seconds)
BBY	Set the input setting to VIDEO:RGB	3
PCY	Set the input setting to PC (VGA or XGA)	3
PWY	Set the input setting to PC (WVGA or WXGA)	3
CP1	Set the input setting toVIDEO:COMPONENT1	3
CP2	Set the input setting toVIDEO:COMPONENT2	3
TVA	Set the color system to AUTO	3
NTS	Set the color system to NTSC	3
PAL	Set the color system to PAL	3
SCM	Set the color system to SECAM	3
NT4	Set the color system to 4.43NTSC	3

GET commands

Command	Function	Waiting time (seconds)
GPS	Output position adjustment data to TXD	2
GWB	Output picture and white balance data to TXD	2
GSS	Output SET UP setting to TXD	2
GSO	Output the OPTION setting to TXD	2

Error Example 1)

STX	ID	**<PON>**	<AJY>	<CNT>	ETX

Error Example 2)

STX	ID	**<POF>**	<PON>	ETX

Error Example 3)

STX	ID	**<IN2>**	<AJY>	<CNT>	ETX

Error Example 4)

STX	ID	**<GWB>**	<CNT>	ETX

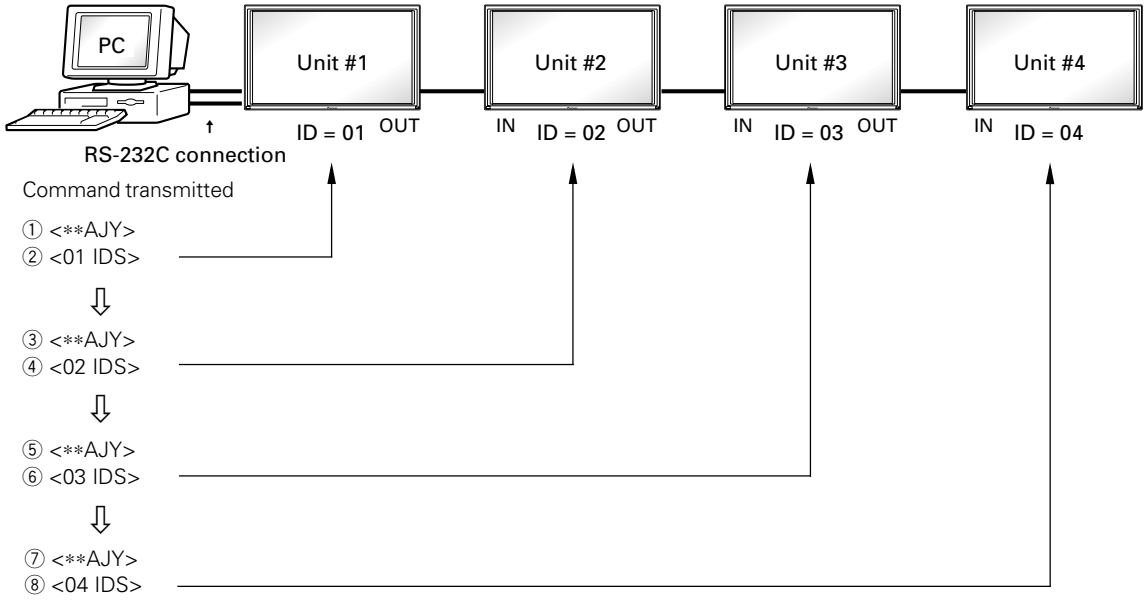
5.5.3 ID assignment

When a connection is made, this feature assigns an ID. ID assignment is performed in the PC.

Commands: <IDC> (ID CLEAR) ..... Clears assigned IDs.
<IDS> (ID SET) ..... Assigns IDs
IDS is only effective when an ID has not been assigned.
It is assigned from a unit close to the PC.

Example: 4 units (At first, the ID is assigned at the PC.)

First of all, following the example in the diagram below, carry out the RS-232C connection and the combination connection (see "5.6 Combination connection").



By sending RS-232C commands in this order, you can assign an ID to each set.
A unit to which an ID has been assigned can only receive commands which have that ID attached. Attach ID to the beginning of commands before transmitting them.

Characters that may be used when assigning IDs are 0~9 and A~F (there is no differentiation between uppercase and lowercase letters).

<**IDC> : Clear assigned ID of all units.
<*1AJY> : Units with 1 as the second digit in their ID will go into adjustment mode.
<2*IN1> : Units with 2 as their first digit will use INPUT 1.

Cautionary notes regarding ID assignment

Units connected to other units from which IDs were cleared will become inoperable by RS-232C.

After making settings as in the diagram above, if you carry out <**AJY> → <**IDC> then the IDs will be cleared for all of the sets #1~#4, and it will become such that you can only control the set connected directly to the PC (set #1).
If you then carry out <**AJY> → <01 IDS>, it will become such that you can only control the second set (set #2).
By setting ID likewise thereafter, the setting of subsequent units will become operable.

5.5.4 List of RS-232C commands

How to read this table

- RS-232C adjustment validity : Shows availability in RS-232C adjustment mode.
- Normal validity : Shows availability in normal operating mode.
  Valid commands can be used even if they do not follow the sending of the AJY command.
- Numerical direct validity : Shows commands that, if transmitted followed by 3-digit numbers, can directly set the adjustment value.
- Up/Down validity : Shows whether or not a command, if transmitted followed by Upn/DWn (with n a number from 0 to 9), can or cannot increase the adjusted value by that number alone.

○ or ● : Valid ×: Invalid

(NOTE) ● = Not put into last memory

	Command Name	Full Name	RS-232C Adjustment Validity	Normal Validity	Numerical Direct Validity	Up/Down Validity	Function
A	AJN	ADJUST NO	●	×	×	×	Terminates RS-232C adjustment mode.
	AJY	ADJUST YES	×	●	×	×	Initiates RS-232C adjustment mode.
	AMN	AUDIO MUTE NO	●	●	×	×	Turns audio mute OFF.
	AMY	AUDIO MUTE YES	●	●	×	×	Turns audio mute ON.
B	BBY	VIDEO RGB YES	○	×	×	×	Sets input setting to VIDEO SIGNAL: RGB.
	BHI	B HIGH	○	×	○	○	Adjusts BLUE HIGH-LIGHT.
	BLW	B LOW	○	×	○	○	Adjusts BLUE LOW-LIGHT.
	BR1	BAUD RATE1	○	×	×	×	Sets RS-232C baud rate to 1200bps.
	BR2	BAUD RATE2	○	×	×	×	Sets RS-232C baud rate to 2400bps.
	BR3	BAUD RATE3	○	×	×	×	Sets RS-232C baud rate to 4800bps.
	BR4	BAUD RATE4	○	×	×	×	Sets RS-232C baud rate to 9600bps.
	BR5	BAUD RATE5	○	×	×	×	Sets RS-232C baud rate to 19200bps.
	BR6	BAUD RATE6	○	×	×	×	Sets RS-232C baud rate to 38400bps.
	BRT	BRIGHTNESS	○	×	○	○	Adjusts brightness.
	BSL	B SIDE MASK LEVEL	○	×	○	○	Adjusts BLUE SIDE MASK LEVEL.
C	CFR	CLOCK FREQUENCY	○	×	○	○	Adjusts clock frequency.
	CL1	CLAMP MODE1	○	×	×	×	Sets clamp position to AUTO.
	CL2	CLAMP MODE2	○	×	×	×	Fixes clamp setting position.
	CM1	COLOR MODE 1	○	○	×	×	Sets COLOR MODE 1.
	CM2	COLOR MODE 2	○	○	×	×	Sets COLOR MODE 2 (retake).
	CNT	CONTRAST	○	×	○	○	Adjusts contrast.
	COL	COLOR	○	×	○	○	Adjusts color.
	CP1	VIDEO COMPONENT1	○	×	×	×	Sets signal format to COMPONENT 1.
	CP2	VIDEO COMPONENT2	○	×	×	×	Sets signal format to COMPONENT 2.
	CPH	CLOCK PHASE	○	×	○	○	Adjusts clock phase.
	CT1	COLOR TEMP.1	○	×	×	×	Sets color temperature to LOW (equal to –3000K).
	CT2	COLOR TEMP.2	○	×	×	×	Sets color temperature to MID LOW (equal to –2000K).
	CT3	COLOR TEMP.3	○	×	×	×	Sets color temperature to MIDDLE (± 0K, standard).
	CT4	COLOR TEMP.4	○	×	×	×	Sets color temperature to MID HIGH (equal to +1000K).
	CT5	COLOR TEMP.5	○	×	×	×	Sets color temperature to HIGH (equal to +2000K).
D	DIN	OSD DISPLAY NO	○	○	×	×	Disables OSD displays.
	DIY	OSD DISPLAY YES	○	○	×	×	Enables OSD displays.
	DOF	DISPLAY OFF	●	●	×	×	Turns current OSD display OFF.
	DS2	DISPLAY2	○	×	×	×	Displays current information.
	DSP	DISPLAY	○	×	×	×	Displays current input signal information.
	DW0	DOWN 10	○	×	–	–	Reduces adjustment value by 10.
	DW n	DOWN n	○	×	–	–	Reduces adjustment value by n.
	DWF	DOWN FULL	○	×	–	–	Reduces adjustment value to minimum.
F	FCA	FAN CONTROL AUTO	○	×	×	×	Puts control of fan's rotation on AUTO.
	FCM	FAN CONTROL MAX	○	×	×	×	Puts control of fan's rotation on MAX.
	FMB	FULL MASK BLUE	○	×	×	×	Turns full mask blue on.
	FMG	FULL MASK GREEN	○	×	×	×	Turns full mask green on.
	FMN	FULL MASK NO	○	×	×	×	Releases full mask.
	FMR	FULL MASK RED	○	×	×	×	Turns full mask red on.
	FMY	FULL MASK YES	○	×	×	×	Turns full mask white on.
	FRP	FRESH POSITION	○	×	×	×	Initializes position adjustment data.
	FXO	FIX OUTPUT	○	×	×	×	Fixes sound output.

	Command Name	Full Name	RS-232C Adjustment Validity	Normal Validity	Numerical Direct Validity	Up/Down Validity	Function
G	GHI	G HIGH	○	×	○	○	Adjusts GREEN HIGH-LIGHT.
	GLW	G LOW	○	×	○	○	Adjusts GREEN LOW-LIGHT.
	GPS	GET POSITION DATA	○	○	×	×	Outputs position data as TxD.
	GSL	G SIDE MASK LEVEL	○	×	○	○	Adjusts GREEN SIDE MASK LEVEL.
	GSO	GET STATUS OPTION	●	●	×	×	Outputs OPTION-related data as TxD.
	GSS	GET STATUS SET UP	●	●	×	×	Outputs SET UP-related data as TxD.
	GWB	GET WHITE BALANCE	●	●	×	×	Outputs image quality and white balance adjustment data as TxD.
H	H35	HDTV MODE 1035i	○	×	×	×	Sets HDTV mode to 1035i.
	H80	HDTV MODE 1080i	○	×	×	×	Sets HDTV mode to 1080i.
	HCN	HIGH CONTRAST NO	○	×	×	×	Turns high-contrast setting OFF.
	HCY	HIGH CONTRAST YES	○	×	×	×	Turns high-contrast setting ON.
	HMD	HOUR METER DISP.	○	×	×	×	Displays hour meter.
	HPS	HORIZONTAL POSITION	○	×	○	○	Adjusts horizontal position.
I	IDC	ID CLEAR	○	×	×	×	Clears ID.
	IDS	ID SET	○	×	○	×	Sets ID.
	IN1	INPUT1	○	○	×	×	Selects INPUT1.
	IN2	INPUT2	○	○	×	×	Selects INPUT2.
	IN3	INPUT3	○	○	×	×	Selects INPUT3.
	IN4	INPUT4	○	○	×	×	Selects INPUT4.
	IN5	INPUT5	○	○	×	×	Selects INPUT5.
K	KLN	KEY LOCK NO	○	×	×	×	Enables unit's keys/remote control.
	KLY	KEY LOCK YES	○	×	×	×	Disables unit's keys/remote control.
M	MCN	MASK CONTROL NO	○	×	×	×	Releases automatic mask position control setting.
	MCY	MASK CONTROL YES	○	×	×	×	Applies automatic mask position control setting.
	MG1	MAGNIFY LEFT UPPER	○	×	×	×	Sets 4-screen magnification setting to LEFT UPPER.
	MG2	MAGNIFY LEFT LOWER	○	×	×	×	Sets 4-screen magnification setting to LEFT LOWER.
	MG3	MAGNIFY RIGHT UPPER	○	×	×	×	Sets 4-screen magnification setting to RIGHT UPPER.
	MG4	MAGNIFY RIGHT LOWER	○	×	×	×	Sets 4-screen magnification setting to RIGHT LOWER.
	MGN	MAGNIFY NO	○	○	×	×	Turns 4-screen magnification OFF.
	MGY	MAGNIFY YES	○	○	×	×	Turns 4-screen magnification ON.
	MMN	MIRROR MODE NO	○	●	×	×	Turns mirror mode OFF (regular display).
	MMX	MIRROR MODE X	○	●	×	×	Displays left and right reversed.
	MMY	MIRROR MODE Y	○	●	×	×	Displays top and bottom reversed.
	MMZ	MIRROR MODE XY	○	●	×	×	Displays top, bottom, left and right reversed.
	MTN	VIDEO MUTE NO	●	●	×	×	Turns video mute OFF.
	MTY	VIDEO MUTE YES	●	●	×	×	Turns video mute ON.
N	NMN	NEGATIVE MODE NO	○	×	×	×	Turns inverse mode (negative-positive reversal) OFF.
	NMY	NEGATIVE MODE YES	○	×	×	×	Turns inverse mode (negative-positive reversal) ON.
	NRH	DIGITAL NR HIGH	○	×	×	×	Sets DIGITAL NR to HIGH.
	NRL	DIGITAL NR LOW	○	×	×	×	Sets DIGITAL NR to LOW.
	NRM	DIGITAL NR MIDDLE	○	×	×	×	Sets DIGITAL NR to MIDDLE.
	NRN	DIGITAL NR OFF	○	×	×	×	Turns DIGITAL NR OFF.
	NT4	COLOR SYSTEM 4.43NTSC	○	×	×	×	Sets COLOR SYSTEM to 4.43NTSC.
	NTS	COLOR SYSTEM NTSC	○	×	×	×	Sets COLOR SYSTEM to NTSC.
O	OMN	ORBITER MODE NO	○	×	×	×	Turns orbiter mode OFF.
	OMY	ORBITER MODE YES	○	×	×	×	Turns orbiter mode ON.
P	PAL	COLOR SYSTEM PAL	○	×	×	×	Sets COLOR SYSTEM to PAL.
	PCN	PC RGB NO	○	×	×	×	Sets input setting to video (SETTING: VIDEO).
	PCY	PC RGB YES	○	×	×	×	Sets input setting to 4.3 (SETTING: VGA or XGA).
	PLN	BRIGHT ENHANCE OFF	○	×	×	×	Turns center-brightness enhancement function OFF.
	PLY	BRIGHT ENHANCE ON	○	×	×	×	Turns center-brightness enhancement function ON.
	POF	POWER OFF	○	○	×	×	Turns power OFF.
	PON	POWER ON	○	○	×	×	Turns power ON.
	PS1	POWER SAVE MODE1	○	×	×	×	Sets AUTO POWER OFF to ON.
	PS2	POWER SAVE MODE2	○	×	×	×	Turns power management setting ON.
	PSN	POWER SAVE OFF	○	×	×	×	Turns AUTO POWER OFF/power management setting OFF.
	PUH	PURECINEMA HQ	○	×	×	×	Sets PURECINEMA to HY (high quality).
	PUN	PURECINEMA OFF	○	×	×	×	Turns PURECINEMA OFF.

RS-232 Adjustment Mode

	Command Name	Full Name	RS-232C Adjustment Validity	Normal Validity	Numerical Direct Validity	Up/Down Validity	Function
P	PUS	PURECINEMA STANDARD	○	×	×	×	Sets PURECINEMA to STANDARD.
	PWL	POWER CONTROL MODE1	○	×	×	×	Sets power control setting to MODE1 (power-saving).
	PWN	POWER CONTROL STANDARD	○	×	×	×	Sets power control setting to STANDARD.
	PWS	POWER CONTROL MODE2	○	×	×	×	Sets power control setting to MODE2 (low deterioration).
	PWY	PC WIDE YES	○	×	×	×	Sets input setting to wide (SETTING: WVGA or WXGA).
R	RHI	R HIGH	○	×	○	○	Adjusts RED HIGH-LIGHT.
	RLW	R LOW	○	×	○	○	Adjusts RED LOW-LIGHT.
	RSL	R SIDE MASK LEVEL	○	×	○	○	Adjusts RED SIDE MASK LEVEL.
S	SCM	COLOR SYSTEM SECAM	○	×	×	×	Sets COLOR SYSTEM setting to SECAM.
	SHP	H.SHARP	○	×	○	○	Adjusts H.SHARP/H.ENHANCE.
	SHV	V.SHARP	○	×	○	○	Adjusts V.SHARP/V.ENHANCE.
	SM0	SCREEN MODE 0	○	○	×	×	Sets screen size to DOT BY DOT.
	SM1	SCREEN MODE 1	○	○	×	×	Sets screen size to 4:3.
	SM2	SCREEN MODE 2	○	○	×	×	Sets screen size to FULL.
	SM3	SCREEN MODE 3	○	○	×	×	Sets screen size to ZOOM/PARTIAL.
	SM5	SCREEN MODE 5	○	○	×	×	Sets screen size to WIDE.
	STD	STANDARD W/B	○	×	×	×	Initializes image quality and white balance adjustment data.
	STN	STILL NO	●	●	×	×	Releases image from stillness.
	STY	STILL YES	●	●	×	×	Makes image still.
	SV1(NOTE)	SUB VOLUME INPUT1	○	×	○	○	Adjusts sub-volume. for INPUT1.
	SV2(NOTE)	SUB VOLUME INPUT2	○	×	○	○	Adjusts sub-volume. for INPUT2.
	SV3(NOTE)	SUB VOLUME INPUT3	○	×	○	○	Adjusts sub-volume. for INPUT3.
	SV4(NOTE)	SUB VOLUME INPUT4	○	×	○	○	Adjusts sub-volume. for INPUT4.
	SV5(NOTE)	SUB VOLUME INPUT5	○	×	○	○	Adjusts sub-volume. for INPUT5.
T	TNT	TINT	○	×	○	○	Adjusts TINT.
	TVA	COLOR SYSTEM AUTO	○	×	×	×	Sets COLOR SYSTEM to AUTO.
U	UP0	UP10	○	×	–	–	Increases adjustment value by 10.
	UP n	UPn	○	×	–	–	Increases adjustment value by n.
	UPF	UP FULL	○	×	–	–	Maximizes adjustment value.
V	VOL	VOLUME	○	○	○	○	Adjusts audio volume.
	VPS	VERTICAL POSITION	○	×	○	○	Adjusts vertical position.
	VRO	VARIABLE OUTPUT	○	×	×	×	Makes sound output variable.
	VSI	VERTICAL SIZE	○	×	○	○	Adjusts vertical size.
Y	YCM	3D Y/C MOTION	○	×	×	×	Sets 3D Y/C to MOTION.
	YCS	3D Y/C STILL	○	×	×	×	Sets 3D Y/C to still.

(NOTE) Make sure to use commands for adjusting sub-volume (SV1~5) after first switching to the prescribed input using the input switching commands (IN1~5).

Data ... Data ETX (03hex)

5.5.5 GET commands

What are GET commands?

- They are commands used for TXD output of adjustment data and the like from the plasma display's built-in microcomputer to a personal computer.
- Adjustment data, etc., is output in ASCII code.
  (NOTE) Command names are given inside brackets < >.
- Data output format

STX (02hex)	Data	Data	....	Data	ETX (03hex)

(NOTE)

1) GET commands will be invalid if sets have not has not been assigned ID Nos.
2) GET commands will be invalid if a wildcard (*) is used in the ID No. when the command is transmitted.

1) <GPS> (GET POSITION DATA) – SCREEN adjustment data will be output as follows.

Order	Data	Size	Remarks
1	H.POSITION	3byte	
2	V.POSITION	3byte	
3	CLOCK	3byte	(NOTE)
4	PHASE	3byte	(NOTE)
5	V.SIZE	3byte	

(NOTE) If the current input signal is a video signal or digital RGB signal, the adjustment data will be output as dummy data.

2) <GWB> (GET W/B DATA) – PICTURE and WHITE BALANCE adjustment data will be output as follows.

Order	Data	Size	Remarks
1	CONTRAST	3byte	
2	Dummy data	3byte	
3	BRIGHT	3byte	
4	Dummy data	3byte	
5	COLOR	3byte	(NOTE)
6	Dummy data	3byte	
7	TINT	3byte	(NOTE)
8	Dummy data	3byte	
9	R HIGH	3byte	
10	Dummy data	3byte	
11	G HIGH	3byte	
12	Dummy data	3byte	
13	B HIGH	3byte	
14	Dummy data	3byte	
15	R LOW	3byte	
16	Dummy data	3byte	
17	G LOW	3byte	
18	Dummy data	3byte	
19	B LOW	3byte	
20	Dummy data	3byte	
21	H.ENHANCE (H.SHARP)	3byte	
22	V.ENHANCE (V.SHARP)	3byte	

(NOTE) If the current input signal is from a personal computer, the adjustment data will be output as dummy data.

3) <GSS> (GET STATUS SET UP) Set data for SET UP will be output as follows.

Order	Data	Size	Output	Remarks
1	COLOR TEMP	1byte	1: COLOR TEMP1 2: COLOR TEMP2 3: COLOR TEMP3 4: COLOR TEMP4 5: COLOR TEMP5	 (NOTE)
2	DIGITAL NR	1byte	0: FOFF 1: FLOW 2: FMIDDLE 3: FHIGH	 (NOTE)
3	HIGH CONTRAST	1byte	0: OFF, 1: ON	
4	PURECINEMA	3byte	Same as RS-232C command	(NOTE)
5	COLOR SYSTEM	3byte	Same as RS-232C command	(NOTE)
6	CLAMP POSITION	1byte	1: AUTO 2: LOCKED	 (NOTE)
7	3D Y/C MODE	1byte	M: MOTION S: STILL	 (NOTE)
8	SETTING/VIDEO SIGNAL	3byte	Same as RS-232C command	(NOTE)
9	2 X 2MODE	1byte	0: OFF 1 to 4: MG to MG4	
10	BRIGHT ENHANCE	1byte	0: OFF, 1: ON	
11	HDTV MODE	3byte	Same as RS-232C command	(NOTE)
12	VIDEO INPUT	1byte	1: COMPONENT1 2: COMPONENT2	 (NOTE)
13	Input functions	3byte	IN*	
14	Screen size	1byte	0: DOT BY DOT 1: 4:3 2: FULL 3: ZOOM/PARTIAL 5: WIDE	
15	SUB VOLUME (INPUT1)	2byte	0 to 60	
16	SUB VOLUME (INPUT2)	2byte	0 to 60	
17	SUB VOLUME (INPUT3)	2byte	0 to 60	(NOTE)
18	SUB VOLUME (INPUT4)	2byte	0 to 60	(NOTE)
19	SUB VOLUME (INPUT5)	2byte	0 to 60	(NOTE)

(NOTE) For set data unrelated to the current input function, input signal and settings, dummy data will be output.

4) <GSO> (GET STATUS OPTION) Set data for OPTION will be output as follows.

Order	Data	Size	Output	Remarks
1	POWER CONTROL	3byte	Same as RS-232C command	
2	OSD display	1byte	0: OSD display disabled 1: OSD display enabled	
3	FULL MASK	3byte	Same as RS-232C command	
4	R SIDE MASK LEVEL	3byte	Adjustment value	
5	G SIDE MASK LEVEL	3byte	Adjustment value	
6	B SIDE MASK LEVEL	3byte	Adjustment value	
7	MASK CONTROL	1byte	0: Fixed, 1: Shifts	
8	ORBITER MODE	1byte	0: OFF, 1: ON	
9	INVERSE MODE	1byte	0: OFF, 1: ON	
10	COLOR MODE	1byte	1: COLOR MODE1 2: COLOR MODE2	
11	MIRROR MODE	1byte	X: Left-right reversal Y: Top-bottom reversal Z: Top-bottom and left-right reversal N: OFF	
12	FAN CONTROL	1byte	A: AUTO M: MAX	
13	MONITOR NAME	12byte		
14	SLOT INPUT	1byte	0: VIDEO (RGB) 1: COMPONENT1 2: COMPONENT2	(NOTE)
15	TEMPERATURE	3byte		
16	HOUR METER	5byte		
17	KEY LOCK	1byte	0: Lock released 1: Lock applied	

(NOTE) Dummy data will be output when the PDA-5002 is connected.

TEMPERATURE (3 bytes) / 2 + 5 Outside air temperature (oC)

(NOTE) Here, "outside air temperature" serves as a rough guideline for when there is a flow of open air around the unit. This term should be distinguished from "ambient temperature" as used in 3., "Installation." In addition, errors in temperature readings may occur.

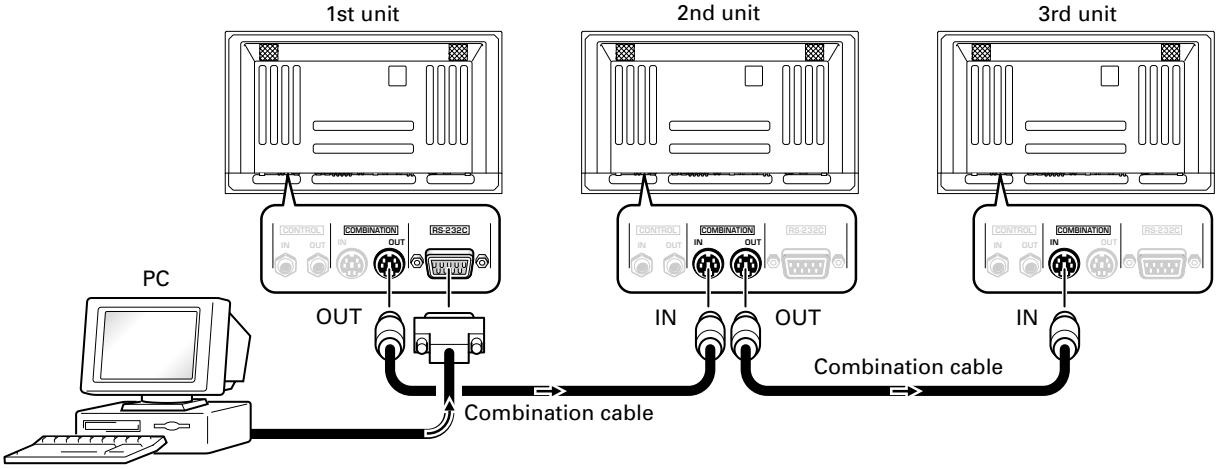
Particularly when the unit has been installed as described in 3.4, "Special Installation," it is important to check the ambient temperature and make sure that all requirements are satisfied.

5.6 Combination Connection

This is useful for controlling/adjusting a number of sets from a single PC.
By carrying out combination connection and then assigning IDs to each of the sets, it becomes possible to control/adjust a number of sets either all at once or individually.

5.6.1 Connections

Carry out connections as shown below. You can then control/adjust the units from the PC.



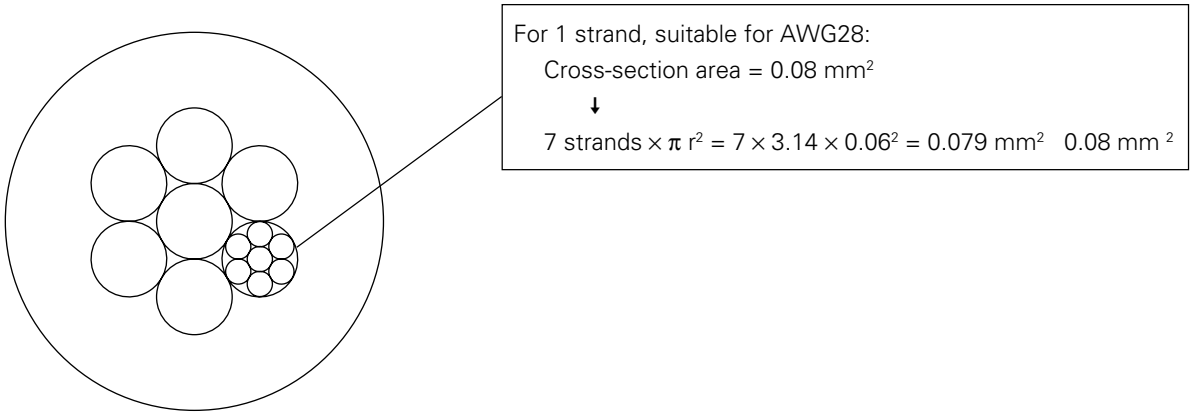
NOTE

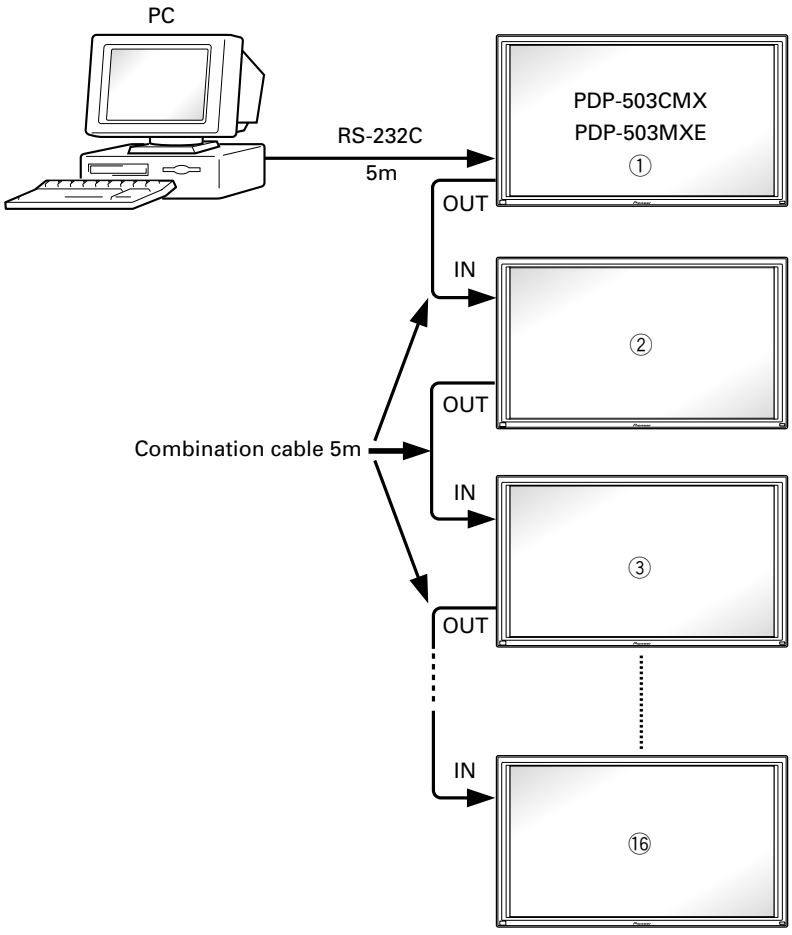
You may use either combination input or control port RS-232C connector, but not both at once. Using both simultaneously will result in malfunction or system breakdown.
Don't connect combination inputs to other combination inputs, or combination outputs to other combination outputs. It may cause a trouble.

General purpose Mini Din 6-pin (straight) cables may be used as combination cables.

If the following connection conditions are observed, extension of operations to as many as 16 units is guaranteed.

Conditions: ① Length of RS-232C cable connecting PC to PDP-503CMX/PDP-503MXE: 5 m
② Combination cable length: 5 m for each
③ Wire specifications for linking cable: Mini Din 6-pin straight (7 strand cable)





(NOTE) Refer to section 2.3, "Controls and Connectors" regarding the number of units that can be connected when series connection is made while using a video output terminal (INPUT 1 or 4).