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PDP-425CMX

Plasma Display Panel

RS-232C Commands

COMMAND REFERENCE MANUAL

Manual Version 1.00

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Pioneer Electronics (USA) Inc.
Industrial Solutions Business Group

RS-232C Adjustment

This display has an RS-232C terminal. It is possible to use a PC to make various adjustments and settings.

1.1 About the RS-232C Adjustment

Adjustments using the RS-232C:

- The adjustments are written to the same memory area as for the integrator mode (refer to section 5.4.4, "PICTURE, White Balance and SCREEN Position Adjustment Values Memory Area Tables" pg. 187 in the Technical Manual).

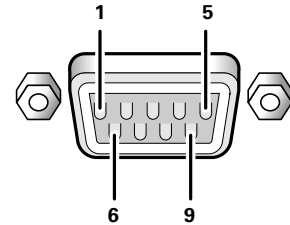
Notes

- (1) **Assign an ID before using the RS-232C adjustment. Include the panel ID in the RS-232C command. Refer to the next section "Interface" for details.**
- (2) Of the adjustment values and setting items set by RS-232C commands, there are some items that are stored in memory and some that are not. For details, refer to section 5.5.5, "List of RS-232C Commands" (pg. 197). Also, when storing values in "last" memory, the conditions described in section 5.1.5, "Last Memory" (pg. 111 in the Technical Manual), must be satisfied.
- (3) <OSDS00>/<OSDS01> (OSD display disable/enable setting)
Regardless of the setting, the following items can be displayed.
 - Menu display (menu mode, integrator mode)
 - Warnings before Auto Power OFF or Power Management operation
 - Warning of high temperature inside the panel
 - Display announcing that the FUNCTIONAL LOCK is set and the FUNCTIONAL LOCK setting display
 - Display call (including holding a button down)
- (4) When using RS-232C commands, control the input signal as well as the power. If the power is ON when there is no signal, the display continues to have a weak discharge. This activity can affect the life of the display.

1.2 Interface

- 1) Connector
D-sub 9 pins (male/straight)
- 2) Pin layout

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



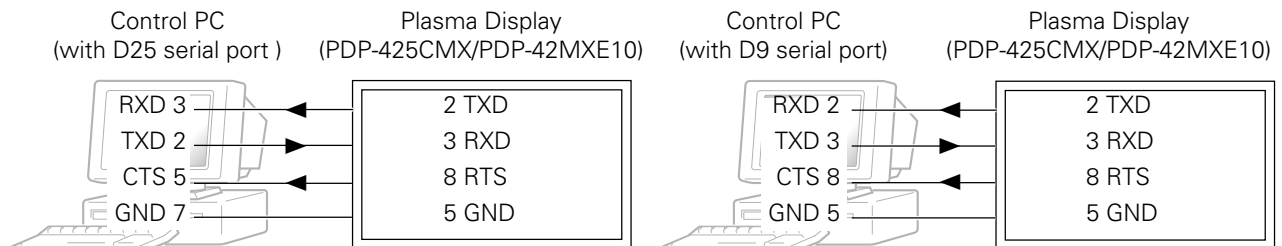
- 3) Baud Rate
9600 bps (standard)
(switch-able to 1200, 2400, 4800, 19200, 38400 bps)

Note

The baud rate of this display should be set to match the baud rate of the PC.
Also, when the RS-232C cable is extended over a long distance, use a slower baud rate.

- 4) Data format
Start bit: 1 bit
Data bit: 8 bit
Parity: no
Stop bit: 1 bit

- 5) Connection



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

- 6) Protocol

From the PC to the display

- (1) Sending one command at a time:

STX (02 hex)	ID (2 Byte)	COMMAND (3 Byte or 6 Byte)	ETX (03 hex)
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- (2) Sending numerical direct commands:

STX (02 hex)	ID (2 Byte)	COMMAND (3 Byte)	ARGUMENT (3 Byte)	ETX (03 hex)
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ID, COMMAND, ARGUMENT are transmitted as ASCII characters.

From the display to a PC

- (1) Echo back (Normal response)

Command received and returned but the ID is not returned.

STX (02 hex)	COMMAND (3 Byte or 6 Byte)	ETX (03 hex)
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Received command is a numerical direct effect command and numerical data is returned:

STX (02 hex)	COMMAND (3 Byte)	ARGUMENT (3 Byte)	ETX (03 hex)
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- (2) Error (Abnormal response)

Received command is a non-corresponding command, 'ERR' is returned:

STX (02 hex)	ERR (3 Byte)	ETX (03 hex)
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Received command cannot be processed (when PON is received when the power is already ON, etc.), 'XXX' is returned:

STX (02 hex)	XXX (3 Byte)	ETX (03 hex)
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RS-232C Adjustment

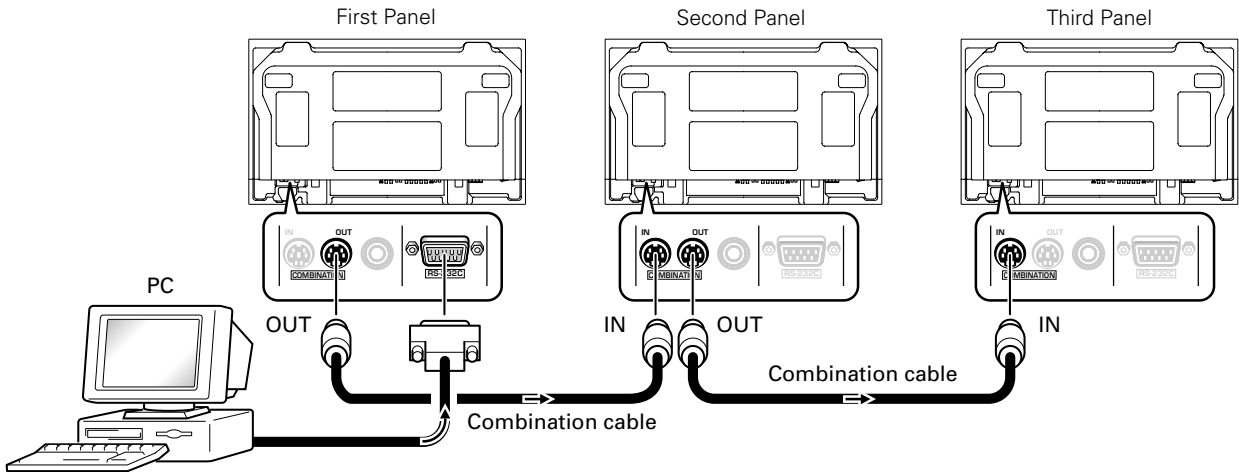
1.3 Combination Connection

When controlling/adjusting panels, it is convenient to connect several displays to one PC.

By performing a combination connection and assigning IDs to the panels, it is possible to control and adjust several displays at the same time or separately.

Connection method:

Connect the panels as shown in the figure below.



Note

Only the combination IN terminal or the RS-232C terminal can be used at the same time. Connecting them at the same time could cause errors. Also, do not pair combination IN terminals or combination OUT terminals. Doing so could cause communication to fail.

It is possible to use a general-purpose mini DIN 6-pin (straight) cable for the combination cable.

Note

To output RS-232C signals from the combination OUT terminal, an ID must be assigned.

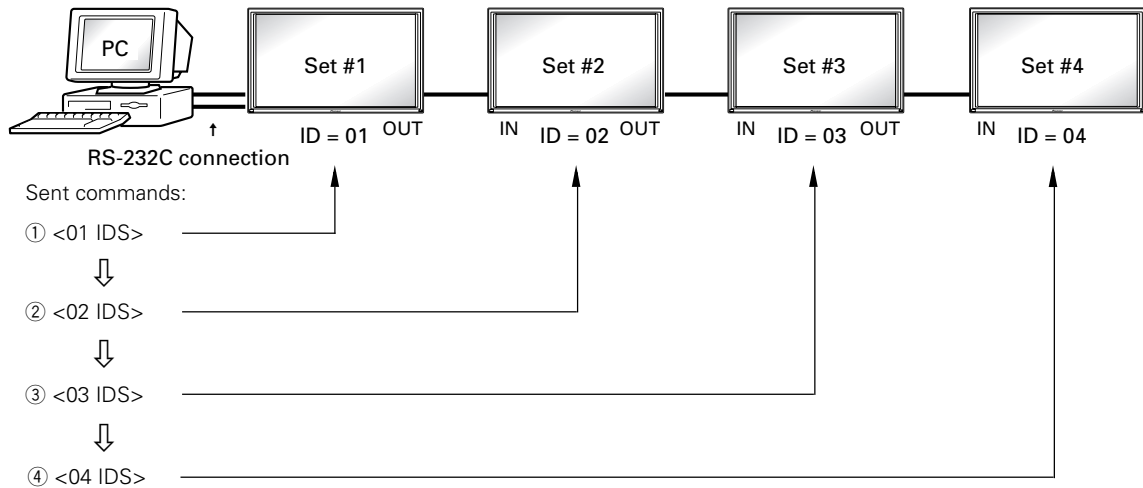
Refer to the next section "ID Assignment" for details.

1.4 ID Assignment

The ID is assigned from the PC.

- Commands: <IDC> (ID CLEAR) Clears the assigned ID
 <IDS> (ID SET) Assigns an ID
 IDS is only effective when an ID is not assigned.
 IDs are assigned starting from the panel closest to the PC.

Example: Case of 4 displays (assigning IDs with the PC for the first time)
 First, connect an RS-232C and combination cables. Refer to section "Combination cables" for details.



By sending RS-232C commands in this order, it is possible to assign an ID for each panel. When a panel has a PC-assigned ID, it can only receive commands containing the ID. Assign an ID before sending a command.

Characters that can be used for an ID include, 0 - 9 and A - F (there is not distinction between upper case and lower case letters).

An * (asterisk) can be used as follows:

- <**IDC>: Clear the IDs assigned for all panels
- <2*IN1>: The input for which the first digit is 2 is set to INPUT1

Precautions when assigning IDs

Panels connected after a display's ID has been cleared cannot be operated with RS-232C commands. When the <**IDC> command is sent, the IDs for all the sets from Set #1 to Set #4 are cleared. Only the first panel, which is directly connected to the PC, can be controlled. Send the command <01 IDS> to control the next panel. Continue setting IDs in this way for the remaining panels to once again control the displays.

Note

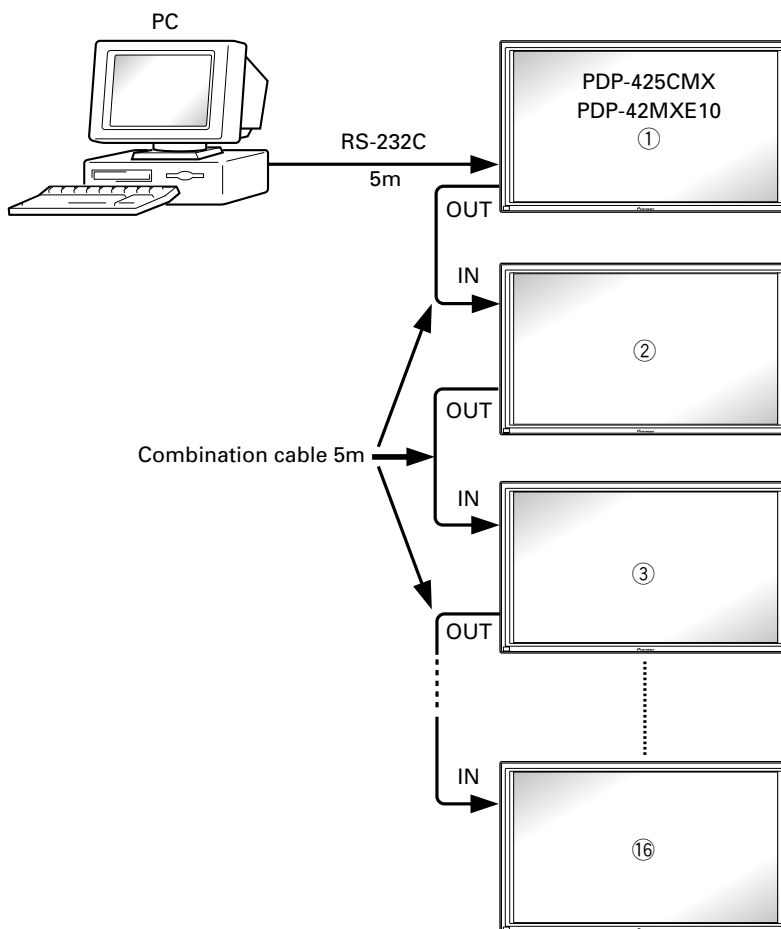
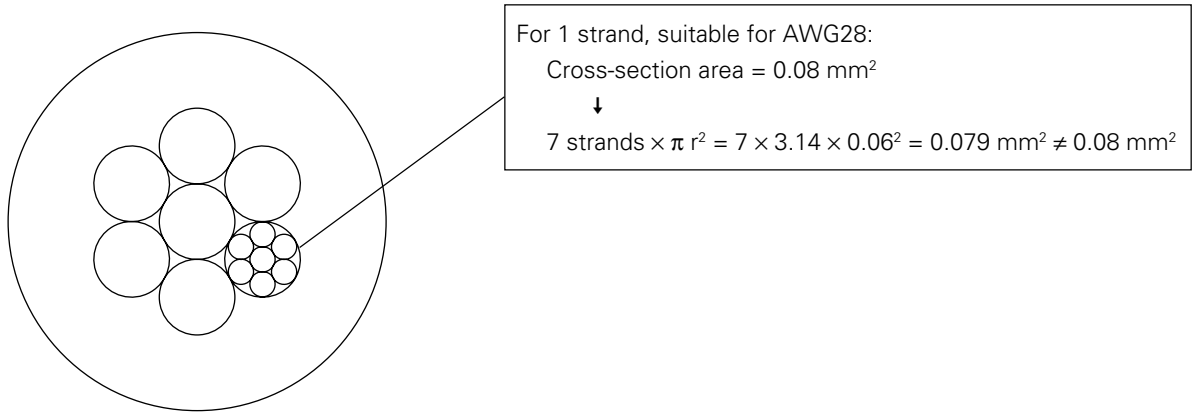
When the IDs are set, when one or both of the IDs before a command is sent from the PC is an *, there is no echo. When sending more commands, wait 6 seconds before sending the next command.

Example) When **000 and *1000 or 1*000 (000 is the command) are sent from the PC, operation is performed but there is no echo.

RS-232C Adjustment

Under the connection conditions shown below, use a combination cable for up to 16 panels.

- Conditions:
- ① Length of RS-232C cable connecting PC to PDP-425CMX/PDP-42MXE10: 5 m
 - ② Combination cable length: 5 m each
 - ③ Wire specifications for linking cable: Mini Din 6-pin straight (7 strand cable)



Note

For details on the number of displays that can be connected in series using the video OUT terminal (INPUT1, 4), refer to section 2.3, "Controls and Connectors" (pg. 10) in the Technical Manual.

1.5 List of RS-232C Commands

■ Normal Operation Related Commands

Command	Function	Number direct			Last memory
		Effective	Minimum	Maximum	
POWER					
POF	Turns the power OFF.				●
PON	Turns the power ON.				●
INPUT SELECT					
INPS01	Switches the main screen to INPUT1.				●
INPS02	Switches the main screen to INPUT2.				●
INPS03	Switches the main screen to INPUT3.				●
INPS04	Switches the main screen to INPUT4.				●
INPS05	Switches the main screen to INPUT5.				●
IN1	Switches the main screen to INPUT1.				●
IN2	Switches the main screen to INPUT2.				●
IN3	Switches the main screen to INPUT3.				●
IN4	Switches the main screen to INPUT4.				●
IN5	Switches the main screen to INPUT5.				●
SSIS01	Switches the sub screen to INPUT1.				●
SSIS02	Switches the sub screen to INPUT2.				●
SSIS03	Switches the sub screen to INPUT3.				●
SSIS04	Switches the sub screen to INPUT4.				●
SSIS05	Switches the sub screen to INPUT5.				●
SWM	Outputs main input to the full screen.				●
SWS	Outputs sub input to the full screen.				●
SCREEN SIZE					
AST	Executes auto-setup.				●
SZMS00	Sets SCREEN SIZE to DOT BY DOT.				●
SZMS01	Sets SCREEN SIZE to 4 :3.				●
SZMS02	Sets SCREEN SIZE to FULL.				●
SZMS03	Sets SCREEN SIZE to ZOOM.				●
SZMS05	Sets SCREEN SIZE to WIDE.				●
SZMS06	Sets SCREEN SIZE to 14:9.				●
SZMS09	Sets SCREEN SIZE to UNDERSCAN.				●
SZMS10	Sets SCREEN SIZE to 2.35:1.				●
VIDEO					
PMTS00	Turns video mute to OFF.				
PMTS01	Turns video mute to ON.				
STLS00	Cancel FREEZE.				
STLS01	Sets FREEZE.				
AUDIO					
VOL	Adjusts audio volume.	●	000	042	●
AMTS00	Turns audio mute to OFF.				
AMTS01	Turns audio mute to ON.				
AUSS01	Sets the audio source to main.				●
AUSS02	Sets the audio source to sub.				●
MULTI SCREEN					
MSCS00	Turns MULTI SCREEN to OFF.				●
MSSS01	Sets the PinP subscreen size to 1.				●
MSSS02	Sets the PinP subscreen size to 2.				●
MSSS03	Sets the PinP subscreen size to 3.				●
MSSS04	Sets the PinP subscreen size to 4.				●
MSTS01	Sets the MULTI SCREEN to 2 SCREEN (side by side 1)				●
MSTS02	Sets the MULTI SCREEN to PinP (lower right).				●
MSTS03	Sets the MULTI SCREEN to PinP (upper right).				●
MSTS04	Sets the MULTI SCREEN to PinP (upper left).				●
MSTS05	Sets the MULTI SCREEN to PinP (lower left).				●
MSTS06	Sets the MULTI SCREEN to PoutP (side by side, 2-L).				●

RS-232C Adjustment

Command	Function	Number direct			Last memory
		Effective	Minimum	Maximum	
MSTS08	Sets MULTI SCREEN to SWAP (switches between main and sub screens).				●
MSTS09	Sets MULTI SCREEN to PoutP (side by side 2-R).				●
MSTS10	Sets MULTI SCREEN to 2-SCREEN (side by side 3).				●
MSTS11	Sets MULTI SCREEN to PoutP (side by side 4-L).				●
MSTS12	Sets MULTI SCREEN to PoutP (side by side 4-R).				●
FUNCTIONAL LOCK					
FCLS00	Cancels FUNCTIONAL LOCK.				●
FCLS01	Prohibits operation of buttons on the display.				●
FCLS02	Prohibits operation of buttons on the remote control.				●
FCLS03	Prohibits operation of buttons on the display/remote control.				●
FCLS04	Sets the memory lock.				●
OSD					
DOF	Turns off the OSD display that is now displayed.				

■ “MENU”-“SET UP” related commands

Command	Function	Number direct			Last memory
		Effective	Minimum	Maximum	
COLOR TEMP.					
CTPS01	Sets the color temperature to LOW.				●
CTPS02	Sets the color temperature to MID LOW.				●
CTPS03	Sets the color temperature to MIDDLE.				●
CTPS04	Sets the color temperature to MID HIGH.				●
CTPS05	Sets the color temperature to HIGH.				●
DNR					
DNRS00	Sets digital NR to OFF.				●
DNRS01	Sets digital NR to LOW.				●
DNRS02	Sets digital NR to MIDDLE.				●
DNRS03	Sets digital NR to HIGH.				●
MPEG NR					
MNRS00	Sets MPEG NR to OFF.				●
MNRS01	Sets MPEG NR to LOW.				●
MNRS02	Sets MPEG NR to MIDDLE.				●
MNRS03	Sets MPEG NR to HIGH.				●
CTI					
CTRS00	Sets CTI to OFF.				●
CTRS01	Sets CTI to ON.				●
PURE CINEMA					
PUCS00	Sets PURE CINEMA to OFF.				●
PUCS01	Sets PURE CINEMA to STANDARD.				●
COLOR DECORding					
MCDS01	Sets COLOR DECORding to RGB (VIDEO).				●
MCDS02	Sets COLOR DECORding to COMPONENT1 (YCbCr).				●
MCDS03	Sets COLOR DECORding to COMPONENT2 (YPbPr).				●
COLOR SYSTEM					
CLSS01	Sets color system to AUTO.				●
CLSS02	Sets color system to NTSC.				●
CLSS03	Sets color system to PAL.				●
CLSS04	Sets color system to SECAM.				●
CLSS05	Sets color system to 4.43NTSC.				●
CLSS06	Sets color system to PAL M.				●
CLSS07	Sets color system to PAL N.				●
SIGNAL FORMAT					
SFTS01	Sets SIGNAL FORMAT to Type1.				●
SFTS02	Sets SIGNAL FORMAT to Type2.				●
SFTS03	Sets SIGNAL FORMAT to Type3.				●
SFTS04	Sets SIGNAL FORMAT to Type4.				●

Command	Function	Number direct			Last memory
		Effective	Minimum	Maximum	
SFTS05	Sets SIGNAL FORMAT to Type5.				●
SFTS06	Sets SIGNAL FORMAT to Type6.				●
SFTS07	Sets SIGNAL FORMAT to Type7.				●
SFTS08	Sets SIGNAL FORMAT to Type8.				●
SFTS10	Sets SIGNAL FORMAT to AUTO.				●
DVI					
DSGS01	Sets the DVI connection signal to PC.				●
DSGS02	Sets the DVI connection signal to STB/DVD.				●
DBLS01	Sets the DVI BLACK LEVEL to LOW.				●
DBLS02	Sets the DVI BLACK LEVEL to HIGH.				●

■ “MENU”-“OPTION” related commands

Command	Function	Number direct			Last memory
		Effective	Minimum	Maximum	
ENERGY SAVE					
ESVS00	Sets ENERGY SAVE to standard.				●
ESVS01	Sets ENERGY SAVE to save energy.				●
ESVS02	Sets ENERGY SAVE to fixed brightness.				●
ESVS03	Sets ENERGY SAVE to mode 3 (long service life).				●
ESVS04	Sets ENERGY SAVE to AUTO.				●
TIMER					
TSMS00	Turns summer time to OFF.				●
TSMS01	Turns summer time to ON.				●
TPH	Sets the hour of the present time.	●	000	023	●
TPM	Sets the minute of the present time.	●	000	059	●
TPW	Sets the day of week of the present time.	●	001	007	●
TPTS00	Sets PROGRAM TIMER to OFF.				●
TPTS01	Sets PROGRAM TIMER to ON.				●
ORBITER					
ORBS00	Sets the ORBITER to OFF.				●
ORBS01	Sets the ORBITER to ON (AUTO1).				●
ORBS02	Sets the ORBITER to ON (AUTO2).				●
ORBS03	Sets the ORBITER to ON (AUTO3).				●
SOFT FOCUS					
SOFS00	Sets SOFT FOCUS to OFF.				●
SOFS01	Sets SOFT FOCUS to 1.				●
SOFS02	Sets SOFT FOCUS to 2.				●
SOFS03	Sets SOFT FOCUS to 3.				●
SOFS04	Sets SOFT FOCUS to 4.				●
SUB SCREEN FREEZE					
SSTS00	Sets SUB SCREEN FREEZE to OFF.				●
SSTS01	Sets SUB SCREEN FREEZE to SIDE BY SIDE.				●
SSTS02	Sets SUB SCREEN FREEZE to PinP.				●

■ “INTEGRATOR”-“PICTURE” related commands

Command	Function	Number direct			Last memory
		Effective	Minimum	Maximum	
VIDEO QUALITY					
CNT	Adjusts the contrast.	●	000	255	●
BRT	Adjusts the brightness.	●	000	255	●
ENH	Adjusts the horizontal enhance.	●	000	015	●
ENV	Adjusts the vertical enhance.	●	000	015	●
COL	Adjusts the color.	●	000	127	●
TNT	Adjusts the tint.	●	000	060	●
SHP	Adjusts the sharpness.	●	000	015	●

RS-232C Adjustment

Command	Function	Number direct			Last memory
		Effective	Minimum	Maximum	
WHITE BALANCE					
RHI	Adjusts R.HIGH of the white balance.	●	000	255	●
GHI	Adjusts G.HIGH of the white balance.	●	000	255	●
BHI	Adjusts B.HIGH of the white balance.	●	000	255	●
GLW	Adjusts G.LOW of the white balance.	●	000	255	●
RLW	Adjusts R.LOW of the white balance.	●	000	255	●
BLW	Adjusts B.LOW of the white balance.	●	000	255	●
COLOR DETAIL					
CGR	Adjusts color detail red.	●	000	060	●
CGY	Adjusts color detail yellow.	●	000	060	●
CGG	Adjusts color detail green.	●	000	060	●
CGC	Adjusts color detail cyan.	●	000	060	●
CGB	Adjusts color detail blue.	●	000	060	●
CGM	Adjusts color detail magenta.	●	000	060	●
GAMMA					
GRAS18	Sets gradation GAMMA 1.8.				●
GRAS19	Sets gradation GAMMA 1.9.				●
GRAS20	Sets gradation GAMMA 2.0.				●
GRAS21	Sets gradation GAMMA 2.1.				●
GRAS22	Sets gradation GAMMA 2.2.				●
GRAS23	Sets gradation GAMMA 2.3.				●
GRAS24	Sets gradation GAMMA 2.4.				●
PRESET					
STD	Restores the PICTURE, W/B adjustment value of the integrator to the initial values.				●

■ "INTEGRATOR" – "SCREEN" related commands

Command	Function	Number direct			Last memory
		Effective	Minimum	Maximum	
POSITION					
HPS	Adjusts the horizontal position.	●	000	255	●
VPS	Adjusts the vertical position.	●	000	255	●
CLOCK/PHASE					
CFR	Adjusts the CLOCK (PLL frequency).	●	000	255	●
CPH	Adjusts the PHASE (PLL phase).	●	000	031	●
SIZE					
HSI	Adjusts the horizontal size.	●	000	064	●
VSI	Adjusts the vertical size.	●	000	064	●
PRESET					
FRP	Restores the SCREEN adjustment value of the integrator to the initial values.				●

■ "INTEGRATOR" – "SET UP" related commands

Command	Function	Number direct			Last memory
		Effective	Minimum	Maximum	
SUB VOLUME					
SVL	Adjusts the SUB VOLUME.	●	000	020	●

■ “INTEGRATOR”-“OPTION” related commands

Command	Function	Number direct			Last memory
		Effective	Minimum	Maximum	
SCREEN MASK					
FMKS00	Sets SCREEN MASK to OFF.				●
FMKS02	Sets SCREEN MASK to inverse (negative – positive reversed).				●
FMKS03	Sets SCREEN MASK to white mask.				●
FMKS04	Sets SCREEN MASK to red mask.				●
FMKS05	Sets SCREEN MASK to green mask.				●
FMKS06	Sets SCREEN MASK to blue mask.				●
FMKS07	Sets SCREEN MASK to yellow mask.				●
SIDE MASK					
RSL	Adjusts side mask RED.	●	000	255	●
GSL	Adjusts side mask GREEN.	●	000	255	●
BSL	Adjusts side mask BLUE.	●	000	255	●
VIDEO WALL					
MGFS00	Sets VIDEO WALL to OFF.				●
MGFS11	Sets VIDEO WALL to DIVIDER:1.				●
MGFS12	Sets VIDEO WALL to DIVIDER:4.				●
MGFS13	Sets VIDEO WALL to DIVIDER:9.				●
MGFS14	Sets VIDEO WALL to DIVIDER:16.				●
MGFS15	Sets VIDEO WALL to DIVIDER:25.				●
MGPSnn	nn=01 to 04: Sets display position during DIVIDER=4 (not accounting for joints).				●
	nn=05 to 08: Sets display position during DIVIDER=4 (accounting for joints).				●
	nn=10 to 18: Sets display position during DIVIDER=9 (not accounting for joints).				●
	nn=20 to 28: Sets display position during DIVIDER=9 (accounting for joints).				●
	nn=30 to 3F: Sets display position during DIVIDER=16 (not accounting for joints).				●
	nn=40 to 4F: Sets display position during DIVIDER=16 (accounting for joints).				●
	nn=50 to 68: Sets display position during DIVIDER=25 (not accounting for joints).				●
	nn=70 to 88: Sets display position during DIVIDER=25 (accounting for joints).				●
IDA	Executes AUTO ID setting.				●
PDES00	Sets POWER ON DELAY mode to OFF.				●
PDES01	Sets POWER ON DELAY mode to ON (other than cases used for a higher than 16 screen system) or mode 1(used for a higher than 16 screen system).				●
PDES02	Sets POWER ON DELAY mode 2 (used for a higher than 16 screen system).				●
LNKS00	Sets ABL link to OFF.				●
LNKS01	Sets ABL link to ON.				●
RS-232C					
BRAS01	Sets the RS-232C baud rate to 1200 bps.				●
BRAS02	Sets the RS-232C baud rate to 2400 bps.				●
BRAS03	Sets the RS-232C baud rate to 4800 bps.				●
BRAS04	Sets the RS-232C baud rate to 9600 bps.				●
BRAS05	Sets the RS-232C baud rate to 19200 bps.				●
BRAS06	Sets the RS-232C baud rate to 38400 bps.				●
ID NUMBER					
IDC	Clears the ID number.				●
IDS	Sets the ID number.				●
FAN					
FCM	Maximizes fan rotation control.				●
FCA	Automates fan rotation control.				●
OSD					
OSDS00	Sets OSD display to OFF.				●
OSDS01	Sets OSD display to ON.				●
OSSS01	Displays expanded OSD.				●
OSSS02	Displays contracted OSD.				●
OSAS01	Sets the OSD display angle to horizontal.				●
OSAS02	Sets the OSD display angle to vertical.				●

RS-232C Adjustment

Command	Function	Number direct			Last memory
		Effective	Minimum	Maximum	
FRONT INDICATOR					
LESS00	Sets the FRONT INDICATOR to OFF.				●
LESS01	Sets the FRONT INDICATOR to ON.				●
COLOR MODE					
CLMS00	Sets the COLOR MODE to NORMAL.				●
CLMS01	Sets the COLOR MODE to STUDIO.				●
UNDER SCAN					
USCS00	Sets the UNDERSCAN setting to OFF.				●
USCS01	Sets the UNDERSCAN setting to ON.				●
IMAGE PROCESS					
IPRS01	Sets the IMAGE PROCESS to NORMAL.				●
IPRS02	Sets the IMAGE PROCESS to PURE.				●
IPRS03	Sets the IMAGE PROCESS to MONOTONE.				●
IPRS04	Sets the IMAGE PROCESS to HIGH CONTRAST.				●
FRC					
FRCS00	Sets the FRC to OFF.				●
FRCS01	Sets the FRC to ON.				●
SEAMLESS INPUT SWITCH					
SLSS00	Sets the SEAMLESS INPUT SWITCH mode to OFF.				●
SLSS01	Sets the SEAMLESS INPUT SWITCH mode to ON.				●
SL1S01	Sets the SEAMLESS SW SELECT 1 to INPUT1.				●
SL1S02	Sets the SEAMLESS SW SELECT 1 to INPUT2.				●
SL1S03	Sets the SEAMLESS SW SELECT 1 to INPUT3.				●
SL1S04	Sets the SEAMLESS SW SELECT 1 to INPUT4.				●
SL1S05	Sets the SEAMLESS SW SELECT 1 to INPUT5.				●
SL2S01	Sets the SEAMLESS SW SELECT 2 to INPUT1.				●
SL2S02	Sets the SEAMLESS SW SELECT 2 to INPUT2.				●
SL2S03	Sets the SEAMLESS SW SELECT 2 to INPUT3.				●
SL2S04	Sets the SEAMLESS SW SELECT 2 to INPUT4.				●
SL2S05	Sets the SEAMLESS SW SELECT 2 to INPUT5.				●
MIRROR					
MIRS00	Sets mirror mode to OFF (normal display).				●
MIRS01	Performs left-right reversal with MIRROR MODE.				●
MIRS02	Performs up-down reversal with MIRROR MODE.				●
MIRS03	Performs up-down left-right reversal with MIRROR MODE.				●
MULTI SCREEN					
PTRS00	Sets sub screen translucence to OFF (0%).				●
PTRS01	Sets sub screen translucence to 10 %.				●
PTRS02	Sets sub screen translucence to 20 %.				●
PTRS03	Sets sub screen translucence to 30 %.				●
PTRS04	Sets sub screen translucence to 40 %.				●
PTRS05	Sets sub screen translucence to 50 %.				●
PTRS06	Sets sub screen translucence to 60 %.				●
PTRS07	Sets sub screen translucence to 70 %.				●
PTRS08	Sets sub screen translucence to 80 %.				●
BPIS01	Sets the BANNER PinP input to INPUT1.				●
BPIS02	Sets the BANNER PinP input to INPUT2.				●
BPPS00	Sets the BANNER PinP setting to OFF.				●
BPPS01	Sets the BANNER PinP setting to TOP.				●
BPPS02	Sets the BANNER PinP setting to MID-HIGH.				●
BPPS03	Sets the BANNER PinP setting to MID-LOW.				●
BPPS04	Sets the BANNER PinP setting to BOTTOM.				●
FUNCTION DEFAULT					
FDT	Executes FUNCTION DEFAULT.				●

■ Other commands

Command	Function	Number direct			Last memory
		Effective	Minimum	Maximum	
DISPLAY CALL					
DITS01	Displays DISPLAY CALL 1.				
DITS02	Displays DISPLAY CALL 2.				
IM0	INFORMATION write-in (1-3 characters).				●
IM1	INFORMATION write-in (4-6 characters).				●
IM2	INFORMATION write-in (7-9 characters).				●
IM3	INFORMATION write-in (10-12 characters).				●
IM4	INFORMATION write-in (13-15 characters).				●
IM5	INFORMATION write-in (16-18 characters).				●
IM6	INFORMATION write-in (19-21 characters).				●
IMD	Clears INFORMATION.				●
AUXILIARY COMMAND					
DW0	Subtracts 10 from the adjustment value.				●
DWF	Minimizes the adjustment value.				●
DWn	Subtracts n from the adjustment value. (n=1-9)				●
UP0	Adds 10 to the adjustment value.				●
UPF	Maximizes the adjustment value.				●
UPn	Adds n to the adjustment value (n = 1 to 9).				●

1.6 QUEST Commands

What are QUEST commands?

- Quest commands output TXD such as adjustment data from the panel's microprocessor to a PC.
- Adjustment and other data is output in ASCII code.

Note Command names are given inside brackets < >.

- Data output format

STX (02hex)	Command (3 Byte)	Data	Data	Checksum (2 Byte)	ETX (03hex)
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Notes

- A QUEST command is invalid when no ID has not been assigned.
- A QUEST command is invalid when a wildcard (*) is used in the ID when sending the command.

■ Quest Command Table

Command	Function
QST	Obtains status information.
QPI	Obtains integrator/PICTURE information.
QWB	Obtains integrator/WHITE BALANCE information.
QPS	Obtains integrator/SCREEN information.
QSS	Obtains SETUP information.
QSO	Obtains Menu Integrator/OPTION information.
QSU	Obtains audio status.
QCI	Obtains time information.
QAP	Obtains various machine names.

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1) Obtaining QST Status Information

Sequence	Data Content	Size	Remarks
1	STX	1 Byte	02hex
2	Command echo-back	3 Byte	QST (fixed)
3	Generation information	1 Byte	5 (fixed)
4	Inch information	1 Byte	4 (fixed)
5	Forwarding	1 Byte	M (fixed)
6	Power source state	1 Byte	S: Standby status P: Power supplied status
7	During standby: Standby cause	1 Byte	N: Normal standby time W: Standby time based on POWER MANAGEMENT S: Standby time based on SD or PD
	During power supply: main screen signal status		N: normal signal input time L: no signal input time O: OUT OF RANGE signal input time
8	During standby or 1 screen display: dummy data	1 Byte	N: normal signal input time L: no signal input time O: OUT OF RANGE signal input time
	During 2-screen display: sub screen signal status		
9	Main input function information	3 Byte	IN1: INPUT1 IN2: INPUT2 IN3: INPUT3 IN4: INPUT4 IN5: INPUT5
10	Sub input function information	3 Byte	IN1: INPUT1 IN2: INPUT2 IN3: INPUT3 IN4: INPUT4 IN5: INPUT5 Note1)
11	Main screen size information	1 Byte	0: DOT BY DOT 1: 4:3 2: FULL 3: ZOOM 5: WIDE 6: 14:9 9: UNDERSCAN A: 2.35:1
12	Two-screen display state	1 Byte	0: OFF (1 screen) 1: SIDE BY SIDE 1 2: PinP (lower right) 3: PinP(upper right) 4: PinP (upper left) 5: PinP(lower left) 6: SIDE BY SIDE 2-L 9: SIDE BY SIDE 2-R A: SIDE BY SIDE 3 B: SIDE BY SIDE 4-L C:SIDE BY SIDE 4-R
13	Functional lock information	1 Byte	0: LOCK OFF 1: BUTTONS LOCK 2: IR LOCK 2: IR LOCK 3: IR&BUTTONS LOCK 4: MEMORY LOCK
14	Temperature information 1 (interior)	3 Byte	Temperature inside the set (Centigrade) Note 2)
15	Temperature information 2 (SLOT)	3 Byte	SLOT temperature (Celsius) Note 2)
16	Temperature information 3 (outside air)	3 Byte	Outside air temperature (Celsius) Note 2)
17	Serial No.	15 Byte	15 digit character string
18	Dummy data	3 Byte	
19	Dummy data	2 Byte	
20	HOUR METER	5 Byte	5 digit number
21	Check sum	2 Byte	
22	ETX	1 Byte	03hex

Note 1) During standby and during a single screen display, the unit outputs the value that is in memory.

Note 2) During standby and immediately after POWER ON, the correct value is not output.

In this case, please obtain the information after waiting a short period of time after POWER ON.

These types of information are output as reference information (these are not guaranteed information).

Normally refer to temperature information 3.

2) <QPI> Obtaining Integrator/PICTURE information

Sequence	Data Content	Size	Remarks
1	STX	1 Byte	02hex
2	Command echo-back	3 Byte	QPI (fixed)
3	CONTRAST	3 Byte	000 to 255 Note 1)
4	BRIGHTNESS	3 Byte	000 to 255 Note 1)
5	C,DETAIL R (RED)	3 Byte	000 to 060 Note 1)
6	C,DETAIL Y (YELLOW)	3 Byte	000 to 060 Note 1)
7	C,DETAIL G (GREEN)	3 Byte	000 to 060 Note 1)
8	C,DETAIL C (CYAN)	3 Byte	000 to 060 Note 1)
9	C,DETAIL B (BLUE)	3 Byte	000 to 060 Note 1)
10	C,DETAIL M (MAGENTA)	3 Byte	000 to 060 Note 1)
11	H.ENHANCE	3 Byte	000 to 015 Note 1), Note 2)
12	V.ENHANCE	3 Byte	000 to 015 Note 1), Note 2)
13	COLOR	3 Byte	000 to 127 Note 1), Note 3)
14	TINT	3 Byte	000 to 060 Note 1), Note 3)
15	SHARPNESS	3 Byte	000 to 015 Note 1), Note 3)
16	Main input function	3 Byte	Same as item 9 of QST commands
17	Main screen size information	1 Byte	Same as item 11 of QST commands
21	Check sum	2 Byte	
22	ETX	1 Byte	03hex

Note 1) If the signal type is not confirmed, dummy data is output.

Note 2) During video signal input, dummy data is output.

Note 3) During PC signal input, dummy data is output.

3) <QWB> Obtaining integrator/WHITE BALANCE information

Sequence	Data Content	Size	Remarks
1	STX	1 Byte	02hex
2	Command echo-back	3 Byte	QWB (fixed)
3	R.HIGH	3 Byte	000 to 255 Note 1)
4	G.HIGH	3 Byte	000 to 255 Note 1)
5	B.HIGH	3 Byte	000 to 255 Note 1)
6	R.LOW	3 Byte	000 to 255 Note 1)
7	G.LOW	3 Byte	000 to 255 Note 1)
8	B.LOW	3 Byte	000 to 255 Note 1)
9	Main input function	3 Byte	Same as item 9 of QST commands
10	Main screen size	1 Byte	Same as item 11 of QST commands
11	Check sum	2 Byte	
12	ETX	1 Byte	03hex

Note 1) If the signal type is not confirmed, dummy data is output.

4) <QPS> Obtaining integrator/SCREEN information

Sequence	Data Content	Size	Remarks
1	STX	1 Byte	02hex
2	Command echo-back	3 Byte	QPS (fixed)
3	H.POSITION	3 Byte	000 to 255 Note 1)
4	V.POSITION	3 Byte	000 to 255 Note 1)
5	H.SIZE	3 Byte	000 to 064 Note 1)
6	V.SIZE	3 Byte	000 to 064 Note 1)
7	CLOCK	3 Byte	000 to 255 Note 1), Note 2)
8	PHASE	3 Byte	000 to 031 Note 1), Note 2)
9	Main input function	3 Byte	Same as item 9 of QST commands
10	Main screen size information	1 Byte	Same as item 11 of QST commands
21	Check sum	2 Byte	
22	ETX	1 Byte	03hex

Note 1) If the signal type is not confirmed, dummy data is output.

Note 2) During DVI or video input, dummy data is output.

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5) <QSS> Obtaining SETUP information

Sequence	Data Content	Size	Remarks
1	STX	1 Byte	02hex
2	Command echo-back	3 Byte	QSS (fixed)
3	COLOR TEMP.	1 Byte	1: LOW 2: MID LOW 3: MIDDLE 4: MID HIGH 5: HIGH Note 1)
4	POWER MGT.	1 Byte	0: OFF 1: ON
5	AUTO POWER OFF	1 Byte	0: DISABLE 1: ENABLE
6	DNR	1 Byte	0: OFF 1: LOW 2: MIDDLE 3: HIGH Note 1)
7	MPEG NR	1 Byte	0: OFF 1: LOW 2: MIDDLE 3: HIGH Note 1)
8	CTI	1 Byte	0: OFF 1: ON Note 1)
9	PURECINEMA	1 Byte	0: OFF 1: ON Note 1)
10	COLOR DECODING	1 Byte	1: RGB 2: COMP1 3: COMP2 Note 1)
11	COLOR SYSTEM	1 Byte	1: AUTO 2: NTSC 3: PAL 4: SECAM 5: 4.43NTSC 6: PAL M 7: PAL N Note 1)
12	DVI SET UP (PLUG/PLAY)	1 Byte	1: PC 2: VIDEO Note 1)
13	DVI SET UP (BLACK LEVEL)	1 Byte	1: LOW 2: HIGH Note 1)
14	BRT.ENHANCE	1 Byte	0: OFF 1: ON Note 1)
15	SUB VOLUME	2 Byte	00 to 20
16	Main input function	3 Byte	Same as item 9 of QST commands
17	Main screen size information	1 Byte	Same as item 11 of QST commands
18	Check sum	2 Byte	
19	ETX	1 Byte	03hex

Note 1) In the case of set data that cannot be output because of the type of input signal, dummy data is output.

6) <QSO> Obtaining menu integrator/OPTION information

Sequence	Data Content	Size	Remarks
1	STX	1 Byte	02hex
2	Command echo-back	3 Byte	QSO (fixed)
3	ENERGY SAVE	1 Byte	1: STANDARD 2: MODE1 3: MODE2 4: MODE3 5: AUTO
4	Program timer	1 Byte	0: OFF 1: ON
5	SCREEN MANAGEMENT (ORBITER)	1 Byte	0: OFF 1: MODE1 2: MODE2 3: MODE3
6	SCREEN MANAGEMENT (SOFT FOCUS)	1 Byte	0: OFF 1: 1 2: 2 3: 3 4: 4
7	AUTO SETUP MODE	1 Byte	0: INACTIVE 1: ACTIVE
8	AUTO FUNCTION	1 Byte	0: OFF 1: INPUT1 2: INPUT4
9	PIP DETECT	1 Byte	0: INACTIVE 1: ACTIVE
10	SPLIT FREEZE	1 Byte	0: OFF 1: SIDE BY SIDE 2: PIP
11	SCREEN MASK	1 Byte	0: OFF 2: INVERSE 3: WHITE 4: RED 5: GREEN 6: BLUE 7: YELLOW
12	SIDE MASK R-LEVEL	3 Byte	000 to 255
13	SIDE MASK G-LEVEL	3 Byte	000 to 255
14	SIDE MASK B-LEVEL	3 Byte	000 to 255
15	VIDEO WALL (MODE)	1 Byte	0: OFF 1: 1 screen 2: 4 screens 3: 9 screens 4: 16 screens 5: 25 screens
16	VIDEO WALL (POSITION)	2 Byte	01 to 56
17	VIDEO WALL (TYPE)	1 Byte	0: NORMAL 1: ADJUSTED
18	VIDEO WALL (POWER ON DELAY)	1 Byte	0: OFF 1: ON 2: MODE1 3: MODE2
19	VIDEO WALL (PLE LINK)	1 Byte	0: OFF 1: ON
20	VIDEO WALL (REPEAT TIMER)	1 Byte	0: OFF 1: ON
21	FAN CONTROL	1 Byte	1: AUTO 2: MAX
22	OSD	1 Byte	0: OFF 1: ON
23	OSD SIZE	1 Byte	0: LARGE 1: SMALL
24	OSD ANGLE	1 Byte	0: H 1: V
25	FRONT INDICATOR	1 Byte	0: OFF 1: ON
26	COLOR MODE	1 Byte	1: NORMAL 2: STUDIO

Sequence	Data Content	Size	Remarks
27	PRO USE UNDERSCAN	1 Byte	0: OFF 1: ON
28	PRO USE IMAGE PROCESS	1 Byte	1: NORMAL 2: PURE 3: MONOTONE 4: HIGH CONTRAST
29	PRO USE SYGNAI TYPE	1 Byte	1: MOTION 2: STILL 3: NONE STD
30	FRC	1 Byte	0: OFF 1: ON
31	POWER ON MODE INPUT	1 Byte	See the figure below.
32	POWER ON MODE MULTI MODE	1 Byte	See the figure below.
33	POWER ON MODE MULTI INPUT 1	1 Byte	1: INPUT 2: INPUT2 3: INPUT3 4: INPUT4 5: INPUT5
34	POWER ON MODE MULTI INPUT 2	1 Byte	1: INPUT 2: INPUT2 3: INPUT3 4: INPUT4 5: INPUT5
35	POWER ON MODE VOLUME	2 Byte	0 to 42: In the case of lost memory, FF
36	SEAMLESS SW	1 Byte	0: OFF 1: ON
37	SEAMLESS SW SELECT1		1: INPUT 2: INPUT2 3: INPUT3 4: INPUT4 5: INPUT5
38	SEAMLESS SW SELECT2	1 Byte	1: INPUT 2: INPUT2 3: INPUT3 4: INPUT4 5: INPUT5
39	MIRROR MODE	1 Byte	0: OFF 1: X 2: Y 3: XY
40	MULTI SCREEN SET (S BY S SIZE)	1 Byte	1: NORMAL 2: FULL
41	MULTI SCREEN SET (S BY S LAYOUT)	1 Byte	1: MODE1 2: MODE2 3: MODE3
42	MULTI SCREEN SET (PIP SIZE)	1 Byte	1: 1 (SMALL) to 4: 4 (LARGE)
43	MULTI SCREEN SET (TRANSLUCENT)	1 Byte	0: OFF 1: 10 % 2: 20 % 3: 30 % 4: 40 % 5: 50 % 6: 60 % 7: 70 % 8: 80 %
44	MULTI SCREEN SET (BANNER PIP)	1 Byte	0: OFF 1: TOP 2: MID HIGH 3: MID LOW 4: BOTTOM
45	MULTI SCREEN SET (BANNER INPUT)	1 Byte	1: INPUT1 2: INPUT2
46	Main input function	3 Byte	Same as item 9 of QST commands
47	Main screen size information	1 Byte	Same as item 11 of QST commands
48	Check sum	2 Byte	
49	ETX	1 Byte	03hex

7) <QSU> obtaining the audio status

Sequence	Data Content	Size	Remarks
1	STX	1 Byte	02hex
2	Command echo-back	3 Byte	QSU (fixed)
3	Main volume	3 Byte	000 to 042
4	Audio mute status	1 Byte	0: OFF 1: ON
5	INPUT1 sub volume	3 Byte	000 to 020
6	INPUT2 sub volume	3 Byte	000 to 020
7	INPUT3 sub volume	3 Byte	000 to 020
8	INPUT4 sub volume	3 Byte	000 to 020
9	INPUT5 sub volume	3 Byte	000 to 020
10	Check sum	2 Byte	
11	ETX	1 Byte	03hex

8) <QCI> Obtaining time information

Sequence	Data Content	Size	Remarks
1	STX	1 Byte	02hex
2	Command echo-back	3 Byte	QCI (fixed)
3	Time information	2 Byte	Hour (24 hour system) 00 to 23 Note 1)
		2 Byte	Minute 00 to 59 Note 1)
		2 Byte	Second 00 to 59 Note 1)
4	Dummy data	8 Byte	
5	Day of week	1 Byte	1: Sunday 2: Monday 3: Tuesday 4: Wednesday 5: Thursday 6: Friday 7: Saturday Note 1)
6	Check sum	2 Byte	
7	ETX	1 Byte	03hex

Note 1) During standby and when this command was initially set, the value at the time that power was finally shut off is transmitted.

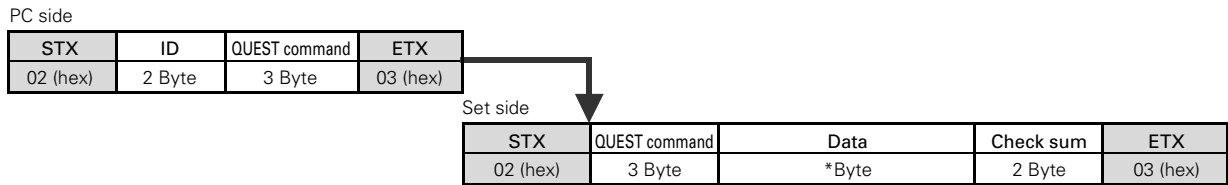
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9) <QAP> Obtaining machine name

Sequence	Data Content	Size	Remarks
1	STX	1 Byte	02hex
2	Command echo-back	3 Byte	QAP (fixed)
3	Machine name information	18 Byte	A/J (North America/domestic model); PDP-425CMX/LUC5***
			G (Europe-general model); PDP-42MXE10/LDFK5*
			CKD (European CKD model); PDP42MXE10/YVXK5*
4	Check sum	2 Byte	
5	ETX	1 Byte	03hex

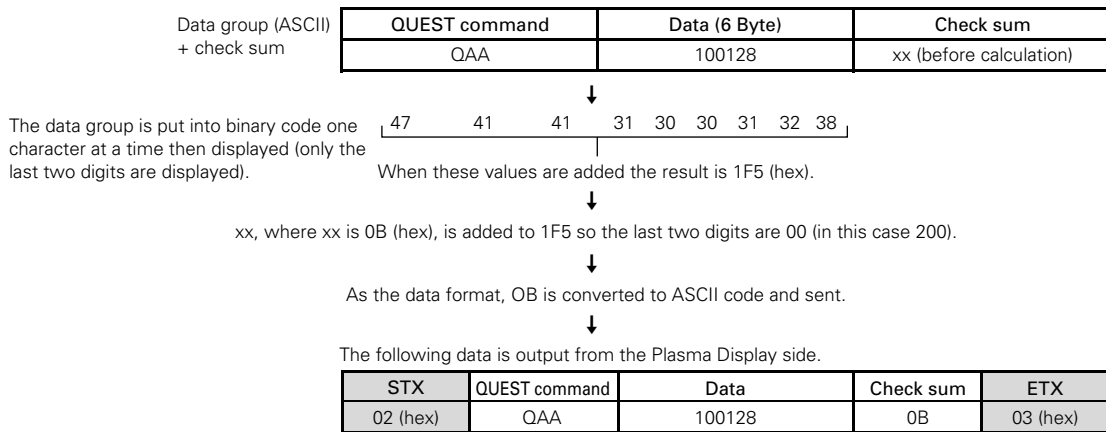
■ Check Sum

This is data to which 2-Byte ASCII code is added to a data group returned by a QUEST command.



A detailed example is given below.

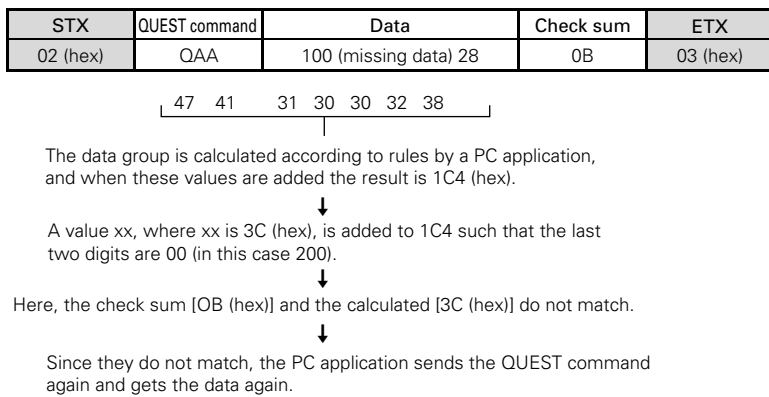
Example) The check sum value that is added when the QUEST command "QAA" returned the following 6-Byte data string.



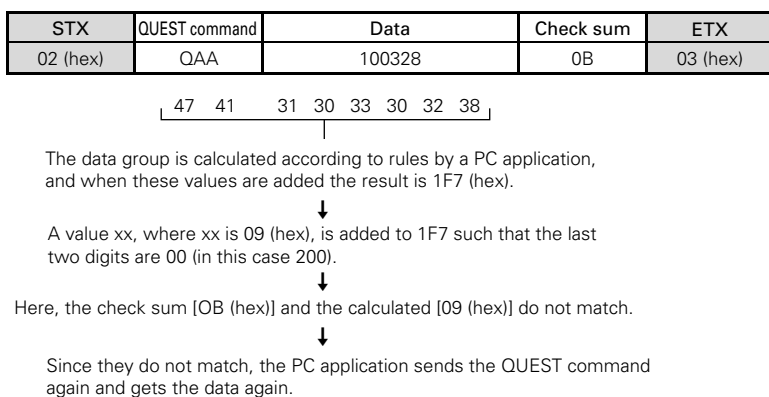
*** The returned data group is in capital letters. Please keep this in mind when introducing it into the binary display.**

■ Examples of check sum applications

Example 1) When the data is missing 1 Byte



Example 2) When 1 Byte of data in the data is unreadable



Screen Burning

2.03.0 Screen Burning

When the same image is reproduced for a long period (still image, telop, etc.), the image is burned into to screen. It may be difficult to remove this image. Burning should be managed by making necessary changes in the video software, projection method, system configuration etc.

This display has a function that reduces this kind of burning.

■ Menu mode

- ① ENERGY SAVE setting: refer to sections 5.3.4, “Adjustment and setting in the Menu Mode 4) Energy Saving Setting” (pg. 119) and 5.3.7, “Adjustment and setting in the Menu Mode 12) Energy Saving Setting” (pg. 143) in the Technical Manual. The screen brightness is controlled according to the input signal and by the brightness of the room.
- ② ORBITER Setting: refer to section 5.3.4, “Adjustment and setting in the Menu Mode 5) Orbiter Setting” (pg. 121) and 5.3.7, “Adjustment and setting in the Menu Mode 13) Orbiter Setting” (pg. 145) in the Technical Manual. This function gradually and randomly moves the image position vertically and/or horizontally after a set amount of time. Or the edges of the images are restricted by setting soft focus in order to soften images edges.

■ Integrator Mode

- ① SCREEN MASK Setting: refer to section 5.4.3, “Adjustment and setting in the Integrator Mode 9) SCREEN MASK Setting” (pg. 164) in the Technical Manual.
An inverse or full mask signal appears on the screen.
When a full mask is prepared beforehand, it becomes more difficult for the screen to become burned.
Using an inverse signal may be an emergency measure when the screen is burned from displaying a still image.
However, completely removing the burn is not possible.
- ② SIDE MASK Setting: refer to section 5.4.3, “Adjustment and setting in the Integrator Mode 10) SIDE MASK Setting” (pg. 165) in the Technical Manual.
This setting adjusts the method of displaying the SIDE MASK signal and adjusts the signal level of the SIDE MASK signal.

■ Menu Mode and Integrator Mode

- ① PROGRAM TIMER Setting: refer to section 5.3.4, “Adjustment and setting in the Menu Mode 11) Program Timer Setting” (pg. 127) and 5.3.7, “Adjustment and setting in the Menu Mode 19) Program Timer Setting” (pg. 151), “5.4.3, “Adjustment and setting in the Integrator Mode 8) Program Timer Setting” (pg. 163) in the Technical Manual.
The display contents change at a predetermined time according to set conditions.

■ Standard Functions (Settings cannot be changed)

- ① Auto Brightness Adjustment (still image detection)
When an image that has little or no motion, such as a photograph or computer screen, is displayed for a long period, the screen may appear dimmer. This feature is part of the screen-protection function, to automatically adjust the brightness and protect the screen when an image with little or no motion is detected. This function activates after an image with little or no motion has been detected for 3 minutes.

Note This function is not found in the menu thus the setting cannot be changed.

Precautions on Connecting Camera Images/Concerning frame delay (lip sync)

3.0 Precautions on Connecting Camera Images

Connecting and using moving images that are nearly still, such as images from a surveillance camera, could damage the panel and reduce the life or be the cause of other issues.

In this situation, it is necessary to set the image quality beforehand.

For instructions on setting the image quality, contact your Pioneer representative.

(Set the 'ENERGY SAVE' function to 'MODE2' or 'MODE3'.)

This setting is not required when just showing a still image from a PC or digital camera.

4.0 Concerning frame delay (lip sync)

The following table shows the approximate time after the video signal is input until it appears on the display.

It is the guideline when considering the audio delay time following the video (lip sync).

The video signal is, in multi-screen mode, delayed by approximately 1 V (there is no delay that exceeds 4 V) in the following cases.

- Right screen of side by side mode (left screen in a case where the same signals are combined)
- Subscreen of picture in picture mode

There is no frame delay with other causes.

(These data are reference values; they cannot be ensured.)

FRC setting	Video input signal			Input vertical frequency (Hz)	Frame delay number (V)
ON	Video signal	Normal time	PAL, SECAM, PAL N, 625i (576i), 1125i (1080i)	50	4
			NTSC, 4.43NTSC, PAL M, 525i (480i), 1125i (1080i)	60	3
			625p (576p), 750p (720p), 1125p (1080p)	50	2
			525p (480p), 750p (720p), 1125p (1080p)	60	1
		When zoom function is used *2	PAL, SECAM, PAL N, 625i (576i), 1125i (1080i)	50	4
			NTSC, 4.43NTSC, PAL M, 525i (480i), 1125i (1080i)	60	4
			625p (576p), 750p (720p), 1125p (1080p)	50	2
			525p (480p), 750p (720p), 1125p (1080p)	60	2
	PC signal		60	2	
			75		
		85			
OFF	Video signal	Normal time	PAL, SECAM, PAL N, 625i (576i), 1125i (1080i)	50	3
			NTSC, 4.43NTSC, PAL M, 525i (480i), 1125i (1080i)	60	
			625p (576p), 750p (720p), 1125p (1080p)	50	1
			525p (480p), 750p (720p), 1125p (1080p)	60	
		When zoom function is used *2	PAL, SECAM, PAL N, 625i (576i), 1125i (1080i)	50	4
			NTSC, 4.43NTSC, PAL M, 525i (480i), 1125i (1080i)	60	
			625p (576p), 750p (720p), 1125p (1080p)	50	2
			525p (480p), 750p (720p), 1125p (1080p)	60	
	PC signal	Normal time	FRC setting object signal *1	50	1
				60	
				72	
			FRC setting non-object signal	60	2
				75	
				85	
When zoom function is used *2	FRC setting object signal *1	50	2		
		60			
		72			
	FRC setting non-object signal	60	2		
		75			
		85			

*1: The FRC object signal in the PC signal is as follows.

640x480@60 Hz VGA, 848x480@60 Hz WVGA, 1280x768@60 Hz WXGA 1024x768@60 Hz XGA, 1280x1024@60 Hz SXGA, 1024x768@50 Hz XGA 1024x768@72 Hz XGA, 640x480@50 Hz VGA (only analog input), 848x480@50 Hz WVGA 1280x768@50 Hz WXGA, 1280x768@72 Hz WXGA, 1400x1050@60 Hz SXGA+

*2: The zoom function indicates the expansion functions based on H size, V size, and video wall in point zoom and integrator modes.

Precautions

5.0 Precautions

- 1) If the power shuts down and stays OFF for a long period, an internal problem has probably occurred (failing part, etc.).
Turn OFF the main power switch on the Plasma Display then wait 1 to 2 minutes and try turning the power ON again.
If the power goes OFF again, the display need to be serviced.
If the display operates normally, the power reset has cleared the issue.
- 2) When an image (still image, telop, etc.) is shown on the screen for a long period, there is a possibility that the image could be burned in. This should be managed by making necessary changes in the imaging software, display method, system configuration etc.
- 3) The following kinds of input signals could cause inferior image quality (When a PDA-5003/PDA-5004 is used).
 - Video signal that has been dubbed (copied) repeatedly
 - Copyright-protected signals
 - Scrambled cable TV signals
 - Signals with a sync signal and video signal that are extremely out of phase
- 4) The fan starts operating when the surrounding temperature is greater than 32 °C (the fan rpm becomes faster as the temperature increases, this is normal).
- 5) Screen-saver function (still image detection)
When an image having little motion such as a photograph or PC screen is displayed continuously, the may appear dimmer. To protect the plasma panel, the screen-saver function detects images with little or no motion and automatically adjusts the brightness. This action is not an indication that the display is failing.
Time until the screen-saver function operates:
 - Normal-operation mode/menu mode: Approximate 3 minutes after the power is turned ON or after the input is switched.

■ Self-diagnosis Function

When there is an operating or connection error, a message appears on the screen.
After reading the contents of the error message, check the condition of the unit.

Error Message	Remedy
CAUTION OUT OF RANGE UNSUPPORTED SIGNAL SIGNAL NG	<ul style="list-style-type: none"> ● The current signal input is not supported by the unit. Check the table of supported input signals on pages 94 - 97 and change the output signal setting.
WARNING THERMAL ALERT SHUT DOWN	<ul style="list-style-type: none"> ● Turn OFF the main power. ● Check whether the surrounding temperature is high. ● If the cooling vents on the display are blocked, remove the obstacles blocking the vents.
WARNING FAN FAILURE SHUT DOWN	<ul style="list-style-type: none"> ● There is a problem with the fan. Immediately turn OFF the power and contact the Pioneer service center or dealer.
ERROR INVALID KEY ENTRY	<ul style="list-style-type: none"> ● An invalid operation was attempted. Check the input signals, connections and settings.
SHUT DOWN	<ul style="list-style-type: none"> ● Turn the main power OFF, wait 1 or 2 minutes and turn the power ON again. If the problem still persists, remove the power plug from the outlet and contact a Pioneer service center or dealer.

Maintenance

1) Be sure to unplug the power cord from the power outlet before performing maintenance.

2) Cabinet and Remote-control Unit

Never use solvents such as benzene or thinner. Using such solvents could cause the cabinet and remote control to degrade and could cause the coating to peel.

Wipe the cabinet and remote control with a soft cloth. If there is heavy soiling, soak a soft cloth in water mixed with a mild detergent. Ring out the water well then clean the panel. Dry the chassis by wiping with a soft, dry cloth.

3) Screen (front protection panel)

The screen (front protection panel) is treated with a special coating to prevent glare and is very delicate. To clean it, remove any dust and then wipe it gently with a soft cloth. Do not clean it with tissue or a rough, textured cloth.

DO NOT use solvents such as benzene or thinner to clean the as this could damage or discolor the display panel.

The following cleaning cloths and cleaning liquid are recommended.

Name	Part Number
Cleaning cloth: Wiping cloth	AED1285
Cleaning cloth: Minimax	GED-009
Cleaning liquid: B4	GEM1004

In the case of light soiling, remove the dust and then gently wipe with a Minimax cloth. If there is heavy soiling, remove the dust then apply a small amount of B4 cleaning liquid to an area of the Minimax cloth. Clean the panel. If any of the cleaning chemical left on the unit may make the surface uneven. After the B4 has dried, wipe it clean with a dry Minimax cloth.

4) Vents

Dust should be removed from the cooling vents on the sides and rear of the unit and in the fan installation area once a month with a vacuum cleaner set on LOW. Also, be sure that the main power switch has been turned OFF before cleaning the vents. Using the unit with accumulated dust causes the internal temperature to rise and could cause fire or other trouble to occur.

5) Readjustment of the White Balance

This unit uses phosphor elements as in a CRT display, and they degrade over time, reducing the brightness. Since, blue phosphor elements degrade faster than red and green.

* Occasional readjustment of the white balance may be beneficial.

Pioneer *sound.vision.soul*

PDP-425CMX

RS-232C Command Reference Manual

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