

VP4001

RS-232C Control Specification

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1. Introduction

1-1. Purpose

This document was written as a reference specification of products that are controlled by the host controller.

1-2. Scope

This document would be using by software or hardware engineers for production of the product.

1-3. Abbreviations

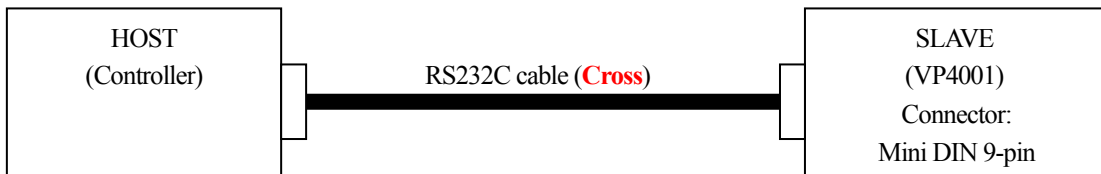
Abbreviation	Description

2. Global Description

2-1. Overview

A Host controller can control or watch out the product as a Slave very easily via the communication cable.

2-2. Block Diagram



- * The product connector is using 9-pin Mini DIN connector.
- * D-SUB to Mini DIN adapter is attached as an accessory.
- * **Cross type** RS232C cable have to be used (D-SUB 9-pin female on product side).

2-3. Interface connection specification of the product

2-3-1. RS-232C Cross Cable

Connector	Pin #	Signal Name	Connection	Signal Name	Pin #	Connector
	1	CD	↔	CD	1	<Adapter connector> D-SUB 9-pin, Male
	2	RD	↔	RD	2	
	3	SD	↔	SD	3	
	4	ER	↔	ER	4	
	5	SG	↔	SG	5	
	6	DR	↔	DR	6	
	7	RS	↔	RS	7	
	8	CS	↔	CS	8	
	9	CI	↔	CI	9	

2-3-2. Signal Discription

Pin #	Signal	Name	I/O	Reference	
1	CD			Not Connected	
2	RD	Receive Data	Input	Connected to Internal Circuit	
3	SD	Send Data	Output	Connected to Internal Circuit	
4	ER				
5	SG	Signal Dround		Connected to Internal Circuit	
6	DR				
7	RS	Request to Send		Connected to Internal Circuit	
8	CS	Clear to Send		Connected to Internal Circuit	
9	CI				

3. Detailed Description

The interface specification between the product and a Host controller is described below.

3-1. Connection format

3-1-1. Physical connection

Baud Rate	: 9600bps or 115200pbs
Data Bits	: 8bit
Parity	: None
Stop bit	: 1bit
Handshaking	: None

3-2. Transmission data format

3-2-1. Transmission data format from Host to Slave

There are two kinds of transmission data form from Host shown below.

3-2-1-1. Form1: Command

Command is a data that requests some status change.

Commands from the Host are sent in the following order: command, parameter, and return code.

After the projector processes the command from the host, it sends a response code to the computer.

Command Format

C1	C2	C3	C4	P1	P2	P3	P4
----	----	----	----	----	----	----	----

Command (4 digits) Parameter (4 digits)

Start character : None

COMMAND : see "Command list"

End character (CR) : 0Dh

0DH

Return Code

Note:

- When controlling the projector by using RS-232C commands, wait for at least 30 seconds after the power has been turned on, and then transmit the commands.
- When more than one code is being sent, send each command only after the response code for the previous command from the projector is verified.

3-2-2. Transmission data format from Slave to Host

There are two kinds of transmission data form from Slave shown below.

3-2-2-1. Form1: OK/ERR

OK is a reply data from Slave when Slave got an acceptable command data from Host.

Command Format



Return Code

Reply: OK

End character (CR): 0Dh

ERR is a reply data from Slave when Slave got an incorrect Command data, Status request data or some other data from Host.

Command Format



Return Code

Reply: NAK

End character (CR): 0Dh

3-2-2-2. Form2: Status answer and Auto status feedback

Status answers are reply data when Slave got an acceptable Request status or Command data from Host. Auto status feedbacks are send to Host data when a Slave's status is changed.

Start character : None

Answer character : see "Status list"

End character (CR) : 0Dh

3-3. The transaction sequences and the regulations

3-3-1. The transaction sequences

There are three kinds of the transaction sequence,

- *A transaction starts from Command from Host and then Slave will return Status answer, OK or ERR.
- *A transaction starts from Status request from Host and then Slave will return Status answer or ERR.
- *A transaction starts by Auto status feedback from Slave when a Slave's status was changed.

3-3-2. The transaction regulations

The transactions have some kinds of regulation.

- * An reply (OK, ERR or Status answer) transmission by Slave has to finish within 500ms when got a Command or a Status request from Host.
- * Host must not transmit an another Command or Status request until "it receives a answer by a previous Command or Status request" or "it passes a term of waiting time from a finishing of previous transmission of a Command or a Status request".
- * Slave has to finish a transaction under 500ms when it sends Auto status feedback data.

4. Definitions of Command and Status

This section explains how to define "Command" and "Status".

4-1. Commands

This chapter will show the commands of this product.

4-1-1. Normal Command for General

Function		Code								Status (Return) code		Comment
		Command				Parameter " " is Space "*" is value				"POWER ON"	"STANDB Y" or "40sec. within Power on"	
		C1	C2	C3	C4	P1	P2	P3	P4			
POWER	POWER ON	P	O	W	R	_	_	_	1	OK or ERR	OK	
	POWER OFF	P	O	W	R	_	_	_	0		OK or ERR	
INPUT	COMP.1	I	V	E	D	_	_	_	1	OK or ERR	ERR	
	COMP.2	I	V	E	D	_	_	_	2			
	S-VIDEO	I	V	E	D	_	_	_	3			
	VIDEO	I	V	E	D	_	_	_	4			
	RGB	I	R	G	B	_	_	_	1			
	HDMI	I	R	G	B	_	_	_	2			
OSD	OSD_DISPLAY : ON	I	M	D	I	_	_	_	1	OK or ERR	ERR	
	OSD_DISPLAY : OFF	I	M	D	I	_	_	_	0			
BACKGROUND COLOR	BACKGROUND : BLUE	I	M	B	G	_	_	_	1	OK or ERR	ERR	
	BACKGROUND : NONE	I	M	B	G	_	_	_	2			
AUTO POWER OFF Mode	Auto Power Off : NO USE	A	P	O	W	_	_	_	0	OK or ERR	ERR	
	Auto Power Off : USE	A	P	O	W	_	_	_	1			
OSD LANGUAGE	LANGUAGE : English	M	E	L	A	_	_	_	1	OK or ERR	ERR	
	LANGUAGE : Deutsch	M	E	L	A	_	_	_	2			
	LANGUAGE : Español	M	E	L	A	_	_	_	3			
	LANGUAGE : Nederlands	M	E	L	A	_	_	_	4			
	LANGUAGE : Français	M	E	L	A	_	_	_	5			
	LANGUAGE : Italiano	M	E	L	A	_	_	_	6			
	LANGUAGE : Svenska	M	E	L	A	_	_	_	7			
	LANGUAGE : 日本語 (Japanese)	M	E	L	A	_	_	_	8			
	LANGUAGE : Português	M	E	L	A	_	_	_	9			
	LANGUAGE : 汉语 (Chinese)	M	E	L	A	_	_	1	0			
	LANGUAGE : 한국어 (Korean)	M	E	L	A	_	_	1	1			
V-KEystone	Keystone Vertical value (-90 ↔ +90)	K	E	Y	V	_	*	*	*	OK or ERR	ERR	The Max. adjustable value : defined by the combination of both H/V adjustment.
H-KEystone	Keystone Horizontal value (-90 ↔ +90)	K	E	Y	H	_	*	*	*	OK or ERR	ERR	The Max. adjustable value : defined by the combination of both H/V adjustment.

Function		Code								Status (Return) code		Comment
		Command				Parameter " " is Space "*" is value				"POWER ON"	"STANDB Y" or "40sec. within Power on"	
		C1	C2	C3	C4	P1	P2	P3	P4			
IMAGE SHIFT	Image Shift value (-24 ↔ +24)	L	N	D	S	-	*	*	*	OK or ERR	ERR	
FREEZE	Freeze: OFF	F	R	E	Z	-	-	-	0	OK or ERR	ERR	
	Freeze: ON	F	R	E	Z	-	-	-	1			
AUTO SYNC. Mode	Auto Sync OFF	A	A	D	J	-	-	-	0	OK or ERR	ERR	
	Auto Sync ON	A	A	D	J	-	-	-	1			
MANUAL AUTO SYNC.	Auto Sync. Adj. Start	A	D	J	S	-	-	-	1	OK or ERR	ERR	This is effective in RGB.
Reset SYNC. ADJUSTMENT	Reset Sync. Adj.	I	A	R	E	-	-	-	1	OK or ERR	ERR	
LAMP Mode	Eco Mode: ON	T	H	M	D	-	-	-	1	OK or ERR	ERR	
	Eco Mode: OFF	T	H	M	D	-	-	-	0			
IRIS Position	Iris: WIDE	I	R	I	S	-	-	-	1	OK or ERR	ERR	
	Iris: MEDIUM	I	R	I	S	-	-	-	2			
	Iris: NARROW	I	R	I	S	-	-	-	3			
Adjust SIGNAL CLOCK	Clock value (-150—+150)	I	N	C	L	*	*	*	*	OK or ERR	ERR	This is effective in RGB.
Adjust SIGNAL PHASE	Phase value (-30—+30)	I	N	P	H	-	*	*	*	OK or ERR	ERR	This is effective in RGB.
Adjust HORIZONTAL POSITION	H-Position value (-150 to +150)	I	A	H	P	*	*	*	*	OK or ERR	ERR	This is effective in COMP.1/2 and VIDEO.
Adjust VERTICAL POSITION	V- position value (-60 to +60)	I	A	V	P	-	*	*	*	OK or ERR	ERR	This is effective in COMP.1/2 and VIDEO.
Set the OVERSCAN	Overscan H value (-30—+30)	O	V	S	H	-	*	*	*	OK or ERR	ERR	
	Overscan V value (-30—+30)	O	V	S	V	-	*	*	*			
Adjust the SUBTITLE Mode	Subtitle value (-30—+30)	S	T	S	Z	-	*	*	*	OK or ERR	ERR	
VIDEO SYSTEM Mode	Video System: AUTO	M	E	S	Y	-	-	-	1	OK or ERR	ERR	This is effective in S-VIDEO and VIDEO.
	Video System: PAL	M	E	S	Y	-	-	-	2			
	Video System: SECAM	M	E	S	Y	-	-	-	3			
	Video System: NTSC4.43	M	E	S	Y	-	-	-	4			
	Video System: NTSC3.58	M	E	S	Y	-	-	-	5			
	Video System: PAL-N	M	E	S	Y	-	-	-	6			
	Video System: PAL-M	M	E	S	Y	-	-	-	7			
	Video System: PAL-60	M	E	S	Y	-	-	-	8			
INSTALLATION Mode (Reverse)	Reverse: OFF (Front)	I	M	R	E	-	-	-	0	OK or ERR	ERR	
	Reverse: ON (Rear)	I	M	R	E	-	-	-	1			
INSTALLATION Mode (Inverse)	Inverse: OFF (Table Top)	I	M	I	N	-	-	-	0	OK or ERR	ERR	
	Inverse: ON (Ceiling)	I	M	I	N	-	-	-	1			

Function		Code								Status (Return) code		Comment
		Command				Parameter " " is Space "*" is value				"POWER ON"	"STANDB Y" or "40sec. within Power on"	
		C1	C2	C3	C4	P1	P2	P3	P4			
SPECIAL DISPLAY Mode *1	Special Mode:1	S	P	M	D	_	_	_	1	OK or ERR	ERR	
	Special Mode:2	S	P	M	D	_	_	_	2			
	Special Mode:3	S	P	M	D	_	_	_	3			
	Special Mode:4	S	P	M	D	_	_	_	4			
	Special Mode:5	S	P	M	D	_	_	_	5			
Check LAMP STATUS	Lamp Status Check	T	L	P	S	_	_	_	1	0:OFF 1:ON 2:Re-try 3:Waiting 4:Lamp Error	0:OFF 4:Lamp Error	
Check PROJECTOR STATUS	Abnormal Status Check	T	A	B	N	_	_	_	1	0:Normal, 1:High Temp., 8: Lamp life: less than 5%, 16: Lamp broken, 32: Failure of turning on the lamp	0: Normal 1: High Temp. 2: Cooling Fan Error 4: Open the lamp cover 8: Lamp Life: less than 5% 16: Lamp broken 32: Failure of turning on the lamp 64: Abnormal high temp.	
Check CURRENT INPUT	Input Check	I	C	H	K	?	?	?	?	1:COMP.1 2:COMP.2 3:S-VIDEO 4:VIDEO 5:RGB 6:HDMI	ERR	Read Only
Check LAMP STATUS	Power Status Check	T	P	O	W	_	_	_	1	1:ON, 2: Under Cooling 3: Under shutdown	0: Standby	
Check LAMP TIME	Lamp Elapsed Time Display	T	L	T	T	_	_	_	1	0~9999 (Integer)	0~9999 (Integer)	
Check LAMP LIFE	Lamp Life (%) Display	T	L	T	L	_	_	_	1	0%~100% (Integer)	0%~100% (Integer)	
Check MODEL NAME	Model Name Check	M	N	R	D	_	_	_	1	VP4001	VP4001	
RESET ALL	All Reset	A	L	R	E	_	_	_	1	OK or ERR	ERR	

4-1-2. Normal Command for COMPONENT 1 Input

Function		Code								Status (Return) code		Comment
		Command				Parameter " " is Space "*" is value				"POWER ON"	"STANDBY" or "40sec. within Power on"	
		C1	C2	C3	C4	P1	P2	P3	P4			
PICTURE Mode	Picture mode: Standard	V	A	P	S	_	_	_	1	OK or ERR	ERR	
	Picture mode: Natural	V	A	P	S	_	_	_	2			
	Picture mode: Dynamic	V	A	P	S	_	_	_	3			
	Picture mode: Theater1	V	A	P	S	_	_	_	4			
	Picture mode: Theater2	V	A	P	S	_	_	_	5			
	Picture mode: Memory	V	A	P	S	_	_	_	0			
Adjust CONTRAST	Contrast value (-30—+30)	V	A	P	I	_	*	*	*	OK or ERR	ERR	
Adjust BRIGHTNESS	Brightness value(-30—+30)	V	A	B	R	_	*	*	*	OK or ERR	ERR	
Adjust COLOR	Color value(-30—+30)	V	A	C	O	_	*	*	*	OK or ERR	ERR	
Adjust TINT	Tint value(-30—+30)	V	A	T	I	_	*	*	*	OK or ERR	ERR	
Adjust SHARPNESS	Sharpness value(-30—+30)	V	A	S	H	_	*	*	*	OK or ERR	ERR	
Adjust RED	Red value(-30—+30)	V	A	R	D	_	*	*	*	OK or ERR	ERR	
Adjust BLUE	Blue value(-30—+30)	V	A	B	E	_	*	*	*	OK or ERR	ERR	
COLOR TEMP.	Color Temp.: 5500K	V	A	C	T	_	0	5	5	OK or ERR	ERR	
	Color Temp.: 6500K	V	A	C	T	_	0	6	5			
	Color Temp.: 7500K	V	A	C	T	_	0	7	5			
	Color Temp.: 8500K	V	A	C	T	_	0	8	5			
	Color Temp.: 9300K	V	A	C	T	_	0	9	3			
	Color Temp.: 10500K	V	A	C	T	_	1	0	5			
BRILLIANT COLOR Mode	Brilliant Color: 0	V	A	W	E	_	_	_	0	OK or ERR	ERR	
	Brilliant Color: 1	V	A	W	E	_	_	_	1			
	Brilliant Color: 2	V	A	W	E	_	_	_	2			
Reset PICTURE SETTING	Picture reset	V	A	R	E	_	_	_	1	OK or ERR	ERR	
ASPECT Mode	Aspect: FULL	R	A	S	V	_	_	_	2	OK or ERR	ERR	
	Aspect: NORMAL	R	A	S	V	_	_	_	7			
	Aspect: ZOOM	R	A	S	V	_	_	_	1			
DNR Position	3D DNR : OFF	V	A	N	R	_	_	_	0	OK or ERR	ERR	
	3D DNR : Level1	V	A	N	R	_	_	_	1			
	3D DNR : Level2	V	A	N	R	_	_	_	2			
	3D DNR : Level3	V	A	N	R	_	_	_	3			
PROGRESSIVE Mode	IP Conversion: 2D Progressive	V	A	I	P	_	_	_	0	OK or ERR	ERR	
	IP Conversion: 3D Progressive	V	A	I	P	_	_	_	1			
	IP Conversion: Film Mode	V	A	I	P	_	_	_	2			

4-1-3. Normal Command for COMPONENT 2 Input

Function		Code								Status (Return) code		Comment
		Command				Parameter " " is Space "*" is value				"POWER ON"	"STANDBY" or "40sec. within Power on"	
		C1	C2	C3	C4	P1	P2	P3	P4			
PICTURE Mode	Picture mode: Standard	V	B	P	S	_	_	_	1	OK or ERR	ERR	
	Picture mode: Natural	V	B	P	S	_	_	_	2			
	Picture mode: Dynamic	V	B	P	S	_	_	_	3			
	Picture mode: Theater1	V	B	P	S	_	_	_	4			
	Picture mode: Theater2	V	B	P	S	_	_	_	5			
	Picture mode: Memory	V	B	P	S	_	_	_	0			
Adjust CONTRAST	Contrast value (-30—+30)	V	B	P	I	_	*	*	*	OK or ERR	ERR	
Adjust BRIGHTNESS	Brightness value(-30—+30)	V	B	B	R	_	*	*	*	OK or ERR	ERR	
Adjust COLOR	Color value(-30—+30)	V	B	C	O	_	*	*	*	OK or ERR	ERR	
Adjust TINT	Tint value(-30—+30)	V	B	T	I	_	*	*	*	OK or ERR	ERR	
Adjust SHARPNESS	Sharpness value(-30—+30)	V	B	S	H	_	*	*	*	OK or ERR	ERR	
Adjust RED	Red value(-30—+30)	V	B	R	D	_	*	*	*	OK or ERR	ERR	
Adjust BLUE	Blue value(-30—+30)	V	B	B	E	_	*	*	*	OK or ERR	ERR	
COLOR TEMP.	Color Temp.: 5500K	V	B	C	T	_	0	5	5	OK or ERR	ERR	
	Color Temp.: 6500K	V	B	C	T	_	0	6	5			
	Color Temp.: 7500K	V	B	C	T	_	0	7	5			
	Color Temp.: 8500K	V	B	C	T	_	0	8	5			
	Color Temp.: 9300K	V	B	C	T	_	0	9	3			
	Color Temp.: 10500K	V	B	C	T	_	1	0	5			
BRILLIANT COLOR Mode	Brilliant Color: 0	V	B	W	E	_	_	_	0	OK or ERR	ERR	
	Brilliant Color: 1	V	B	W	E	_	_	_	1			
	Brilliant Color: 2	V	B	W	E	_	_	_	2			
Reset PICTURE SETTING	Picture reset	V	B	R	E	_	_	_	1	OK or ERR	ERR	
ASPECT Mode	Aspect: FULL	R	B	S	V	_	_	_	2	OK or ERR	ERR	
	Aspect: NORMAL	R	B	S	V	_	_	_	7			
	Aspect: ZOOM	R	B	S	V	_	_	_	1			
DNR Position	3D DNR : OFF	V	B	N	R	_	_	_	0	OK or ERR	ERR	
	3D DNR : Level1	V	B	N	R	_	_	_	1			
	3D DNR : Level2	V	B	N	R	_	_	_	2			
	3D DNR : Level3	V	B	N	R	_	_	_	3			
PROGRESSIVE Mode	IP Conversion: 2D Progressive	V	B	I	P	_	_	_	0	OK or ERR	ERR	
	IP Conversion: 3D Progressive	V	B	I	P	_	_	_	1			
	IP Conversion: Film Mode	V	B	I	P	_	_	_	2			

4-1-4. Normal Command for S-VIDEO Input

Function		Code								Status (Return) code		Comment
		Command				Parameter " " is Space "*" is value				"POWER ON"	"STANDBY" or "40sec. within Power on"	
		C1	C2	C3	C4	P1	P2	P3	P4			
PICTURE Mode	Picture mode: Standard	V	C	P	S	_	_	_	1	OK or ERR	ERR	
	Picture mode: Natural	V	C	P	S	_	_	_	2			
	Picture mode: Dynamic	V	C	P	S	_	_	_	3			
	Picture mode: Theater1	V	C	P	S	_	_	_	4			
	Picture mode: Theater2	V	C	P	S	_	_	_	5			
	Picture mode: Memory	V	C	P	S	_	_	_	0			
Adjust CONTRAST	Contrast value (-30—+30)	V	C	P	I	_	*	*	*	OK or ERR	ERR	
Adjust BRIGHTNESS	Brightness value(-30—+30)	V	C	B	R	_	*	*	*	OK or ERR	ERR	
Adjust COLOR	Color value(-30—+30)	V	C	C	O	_	*	*	*	OK or ERR	ERR	
Adjust TINT	Tint value(-30—+30)	V	C	T	I	_	*	*	*	OK or ERR	ERR	
Adjust SHARPNESS	Sharpness value(-30—+30)	V	C	S	H	_	*	*	*	OK or ERR	ERR	
Adjust RED	Red value(-30—+30)	V	C	R	D	_	*	*	*	OK or ERR	ERR	
Adjust BLUE	Blue value(-30—+30)	V	C	B	E	_	*	*	*	OK or ERR	ERR	
COLOR TEMP.	Color Temp.: 5500K	V	C	C	T	_	0	5	5	OK or ERR	ERR	
	Color Temp.: 6500K	V	C	C	T	_	0	6	5			
	Color Temp.: 7500K	V	C	C	T	_	0	7	5			
	Color Temp.: 8500K	V	C	C	T	_	0	8	5			
	Color Temp.: 9300K	V	C	C	T	_	0	9	3			
	Color Temp.: 10500K	V	C	C	T	_	1	0	5			
BRILLIANT COLOR Mode	Brilliant Color: 0	V	C	W	E	_	_	_	0	OK or ERR	ERR	
	Brilliant Color: 1	V	C	W	E	_	_	_	1			
	Brilliant Color: 2	V	C	W	E	_	_	_	2			
Reset PICTURE SETTING	Picture reset	V	C	R	E	_	_	_	1	OK or ERR	ERR	
ASPECT Mode	Aspect: FULL	R	C	S	V	_	_	_	2	OK or ERR	ERR	
	Aspect: NORMAL	R	C	S	V	_	_	_	7			
	Aspect: ZOOM	R	C	S	V	_	_	_	1			
DNR Position	3D DNR : OFF	V	C	N	R	_	_	_	0	OK or ERR	ERR	
	3D DNR : Level1	V	C	N	R	_	_	_	1			
	3D DNR : Level2	V	C	N	R	_	_	_	2			
	3D DNR : Level3	V	C	N	R	_	_	_	3			
PROGRESSIVE Mode	IP Conversion: 2D Progressive	V	C	I	P	_	_	_	0	OK or ERR	ERR	
	IP Conversion: 3D Progressive	V	C	I	P	_	_	_	1			
	IP Conversion: Film Mode	V	C	I	P	_	_	_	2			

4-1-5. Normal Command for VIDEO Input

Function		Code								Status (Return) code		Comment
		Command				Parameter " " is Space "*" is value				"POWER ON"	"STANDBY" or "40sec. within Power on"	
		C1	C2	C3	C4	P1	P2	P3	P4			
PICTURE Mode	Picture mode: Standard	V	D	P	S	_	_	_	1	OK or ERR	ERR	
	Picture mode: Natural	V	D	P	S	_	_	_	2			
	Picture mode: Dynamic	V	D	P	S	_	_	_	3			
	Picture mode: Theater1	V	D	P	S	_	_	_	4			
	Picture mode: Theater2	V	D	P	S	_	_	_	5			
	Picture mode: Memory	V	D	P	S	_	_	_	0			
Adjust CONTRAST	Contrast value (-30—+30)	V	D	P	I	_	*	*	*	OK or ERR	ERR	
Adjust BRIGHTNESS	Brightness value(-30—+30)	V	D	B	R	_	*	*	*	OK or ERR	ERR	
Adjust COLOR	Color value(-30—+30)	V	D	C	O	_	*	*	*	OK or ERR	ERR	
Adjust TINT	Tint value(-30—+30)	V	D	T	I	_	*	*	*	OK or ERR	ERR	
Adjust SHARPNESS	Sharpness value(-30—+30)	V	D	S	H	_	*	*	*	OK or ERR	ERR	
Adjust RED	Red value(-30—+30)	V	D	R	D	_	*	*	*	OK or ERR	ERR	
Adjust BLUE	Blue value(-30—+30)	V	D	B	E	_	*	*	*	OK or ERR	ERR	
COLOR TEMP.	Color Temp.: 5500K	V	D	C	T	_	0	5	5	OK or ERR	ERR	
	Color Temp.: 6500K	V	D	C	T	_	0	6	5			
	Color Temp.: 7500K	V	D	C	T	_	0	7	5			
	Color Temp.: 8500K	V	D	C	T	_	0	8	5			
	Color Temp.: 9300K	V	D	C	T	_	0	9	3			
	Color Temp.: 10500K	V	D	C	T	_	1	0	5			
BRILLIANT COLOR Mode	Brilliant Color: 0	V	D	W	E	_	_	_	0	OK or ERR	ERR	
	Brilliant Color: 1	V	D	W	E	_	_	_	1			
	Brilliant Color: 2	V	D	W	E	_	_	_	2			
Reset PICTURE SETTING	Picture reset	V	D	R	E	_	_	_	1	OK or ERR	ERR	
ASPECT Mode	Aspect: FULL	R	D	S	V	_	_	_	2	OK or ERR	ERR	
	Aspect: NORMAL	R	D	S	V	_	_	_	7			
	Aspect: ZOOM	R	D	S	V	_	_	_	1			
DNR Position	3D DNR : OFF	V	D	N	R	_	_	_	0	OK or ERR	ERR	
	3D DNR : Level1	V	D	N	R	_	_	_	1			
	3D DNR : Level2	V	D	N	R	_	_	_	2			
	3D DNR : Level3	V	D	N	R	_	_	_	3			
PROGRESSIVE Mode	IP Conversion: 2D Progressive	V	D	I	P	_	_	_	0	OK or ERR	ERR	
	IP Conversion: 3D Progressive	V	D	I	P	_	_	_	1			
	IP Conversion: Film Mode	V	D	I	P	_	_	_	2			

4-1-6. Normal Command for RGB Input

Function		Code								Status (Return) code		Comment
		Command				Parameter " " is Space "*" is value				"POWER ON"	"STANDBY" or "40sec. within Power on"	
		C1	C2	C3	C4	P1	P2	P3	P4			
PICTURE Mode	Picture mode: Standard	R	A	P	S	_	_	_	1	OK or ERR	ERR	
	Picture mode: Natural	R	A	P	S	_	_	_	2			
	Picture mode: Dynamic	R	A	P	S	_	_	_	3			
	Picture mode: Theater1	R	A	P	S	_	_	_	4			
	Picture mode: Theater2	R	A	P	S	_	_	_	5			
	Picture mode: Memory	R	A	P	S	_	_	_	0			
Adjust CONTRAST	Contrast value (-30—+30)	R	A	P	I	_	*	*	*	OK or ERR	ERR	
Adjust BRIGHTNESS	Brightness value(-30—+30)	R	A	B	R	_	*	*	*	OK or ERR	ERR	
Adjust COLOR	Color value(-30—+30)	R	A	C	O	_	*	*	*	OK or ERR	ERR	
Adjust TINT	Tint value(-30—+30)	R	A	T	I	_	*	*	*	OK or ERR	ERR	
Adjust SHARPNESS	Sharpness value(-30—+30)	R	A	S	H	_	*	*	*	OK or ERR	ERR	
Adjust RED	Red value(-30—+30)	R	A	R	D	_	*	*	*	OK or ERR	ERR	
Adjust BLUE	Blue value(-30—+30)	R	A	B	E	_	*	*	*	OK or ERR	ERR	
COLOR TEMP.	Color Temp.: 5500K	R	A	C	T	_	0	5	5	OK or ERR	ERR	
	Color Temp.: 6500K	R	A	C	T	_	0	6	5			
	Color Temp.: 7500K	R	A	C	T	_	0	7	5			
	Color Temp.: 8500K	R	A	C	T	_	0	8	5			
	Color Temp.: 9300K	R	A	C	T	_	0	9	3			
	Color Temp.: 10500K	R	A	C	T	_	1	0	5			
BRILLIANT COLOR Mode	Brilliant Color: 0	R	A	W	E	_	_	_	0	OK or ERR	ERR	
	Brilliant Color: 1	R	A	W	E	_	_	_	1			
	Brilliant Color: 2	R	A	W	E	_	_	_	2			
Reset PICTURE SETTING	Picture reset	R	A	R	E	_	_	_	1	OK or ERR	ERR	
ASPECT Mode	Aspect: FULL	R	A	S	R	_	_	_	2	OK or ERR	ERR	
	Aspect: NORMAL	R	A	S	R	_	_	_	7			
	Aspect: ZOOM	R	A	S	R	_	_	_	1			
	Aspect: THROUGH	R	A	S	R	_	_	_	3			
DNR Position	3D DNR : OFF	R	A	N	R	_	_	_	0	OK or ERR	ERR	
	3D DNR : Level1	R	A	N	R	_	_	_	1			
	3D DNR : Level2	R	A	N	R	_	_	_	2			
	3D DNR : Level3	R	A	N	R	_	_	_	3			
PROGRESSIVE Mode	IP Conversion: 2D Progressive	R	A	I	P	_	_	_	0	OK or ERR	ERR	
	IP Conversion: 3D Progressive	R	A	I	P	_	_	_	1			
	IP Conversion: Film Mode	R	A	I	P	_	_	_	2			
SIGNAL TYPE	Input Signal: Auto	I	A	S	I	_	_	_	0	OK or ERR	ERR	Common setting for RGB&HDMI input
	Input Signal: RGB	I	A	S	I	_	_	_	1			
	Input Signal: Component	I	A	S	I	_	_	_	2			

4-1-7. Normal Command for HDMI Input

PICTURE Mode	Picture mode: Standard	R	B	P	S	_	_	_	1	OK or ERR	ERR	
	Picture mode: Natural	R	B	P	S	_	_	_	2			
	Picture mode: Dynamic	R	B	P	S	_	_	_	3			
	Picture mode: Theater1	R	B	P	S	_	_	_	4			
	Picture mode: Theater2	R	B	P	S	_	_	_	5			
	Picture mode: Memory	R	B	P	S	_	_	_	0			
Adjust CONTRAST	Contrast value (-30—+30)	R	B	P	I	_	*	*	*	OK or ERR	ERR	
Adjust BRIGHTNESS	Brightness value(-30—+30)	R	B	B	R	_	*	*	*	OK or ERR	ERR	
Adjust COLOR	Color value(-30—+30)	R	B	C	O	_	*	*	*	OK or ERR	ERR	
Adjust TINT	Tint value(-30—+30)	R	B	T	I	_	*	*	*	OK or ERR	ERR	
Adjust SHARPNESS	Sharpness value(-30—+30)	R	B	S	H	_	*	*	*	OK or ERR	ERR	
Adjust RED	Red value(-30—+30)	R	B	R	D	_	*	*	*	OK or ERR	ERR	
Adjust BLUE	Blue value(-30—+30)	R	B	B	E	_	*	*	*	OK or ERR	ERR	
COLOR TEMP.	Color Temp.: 5500K	R	B	C	T	_	0	5	5	OK or ERR	ERR	
	Color Temp.: 6500K	R	B	C	T	_	0	6	5			
	Color Temp.: 7500K	R	B	C	T	_	0	7	5			
	Color Temp.: 8500K	R	B	C	T	_	0	8	5			
	Color Temp.: 9300K	R	B	C	T	_	0	9	3			
	Color Temp.: 10500K	R	B	C	T	_	1	0	5			
BRILLIANT COLOR Mode	Brilliant Color: 0	R	B	W	E	_	_	_	0	OK or ERR	ERR	
	Brilliant Color: 1	R	B	W	E	_	_	_	1			
	Brilliant Color: 2	R	B	W	E	_	_	_	2			
Reset PICTURE SETTING	Picture reset	R	B	R	E	_	_	_	1	OK or ERR	ERR	
ASPECT Mode	Aspect: FULL	R	B	S	R	_	_	_	2	OK or ERR	ERR	
	Aspect: NORMAL	R	B	S	R	_	_	_	7			
	Aspect: ZOOM	R	B	S	R	_	_	_	1			
	Aspect: THROUGH	R	B	S	R	_	_	_	3			
DNR Position	3D DNR : OFF	R	B	N	R	_	_	_	0	OK or ERR	ERR	
	3D DNR : Level1	R	B	N	R	_	_	_	1			
	3D DNR : Level2	R	B	N	R	_	_	_	2			
	3D DNR : Level3	R	B	N	R	_	_	_	3			
PROGRESSIVE Mode	IP Conversion: 2D Progressive	R	B	I	P	_	_	_	0	OK or ERR	ERR	
	IP Conversion: 3D Progressive	R	B	I	P	_	_	_	1			
	IP Conversion: Film Mode	R	B	I	P	_	_	_	2			
SIGNAL TYPE	Input Signal: Auto	I	B	S	I	_	_	_	0	OK or ERR	ERR	Common setting for RGB&HDMI input
	Input Signal: RGB	I	B	S	I	_	_	_	1			
	Input Signal: Component	I	B	S	I	_	_	_	2			
HDMI Setting	HDMI_Setting : Normal	H	M	B	D	_	_	_	1	OK or ERR	ERR	
	HDMI_Setting : Expand	H	M	B	D	_	_	_	2			

5. Revision history

Ver.	Date	Owner	Change description
1.0	10/07/06	Marantz America, Inc.	Issued Revision1.0