AG-HMX100
RS-232C Protocol

Panasonic Corporation

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1. <u>Remote Control</u>

Communication Conditions

BAUD RATE　　　　　: 9600 bps (MENU Setting)
PARITY　　　　　　　: None (MENU Setting)
STOP BIT　　　　　　: 1 bit
WORD LENGTH　　　: 8 bit (MENU Setting)

Above MENU : set in the "SETUP"→ "B.RATE/DATA L/PARITY" in "RS232C"

・Connections
　　　1　SPARE
　　　2　RXD
　　　3　TXD
　　　4　DTR
　　　5　SIGNAL GROUND
　　　6　DSR
　　　9　SPARE
　　*Please use 9pin straight cable (Male - Female) for connecting with PC.

Communication Procedure

1) Command Start and End
　　Start : STX (0x02), End : ETX (0x03)

STX (0x02)	COMMAND (C1, C2, C3)	: (COLON)	PARAMETER	ETX (0x03)

2) Reply to Command
　　Receiving Command except QLE, QAM, QCL, QPO and QFV.

　・　Receiving Command except QLE, QAM, QCL, QPO and QVF
　　　　　Receiving Normal　　- ACK (0x06)
　　　　　Receiving Error　　 - NAK (0x15)

　・　Receiving Command QLE, QAM, QCL, QPO and QVF
　　　　　Receiving Normal　　- Q**: ####
　　　　　　　　　　　　　　　(** : Command, ##### : data)
　　　　　Receiving Error　　 - NAK (0x15)

Command List

	Command	Function
1	VBC	Back Color Select
2	VBG	Setting the gradation of Back Color
3	VBM	Setting for the coloring and color strength/tone of Back Color (Custom1)
4	VBW	Setting for the coloring and color strength/tone of Wash Color (Custom1)
5	VCC	Setting for the coloring of the selected source
6	VCG	Setting for the color strength/tone of the selected source
7	VCY	Setting for the coloring brightness of the selected source
8	VDE	Setting for the digital effect of the selected source
9	VDM	Setting for the multi strobe(=digital effect) of the selected source
10	VCP	Select the source for A bus, B bus
11	VFD	Mode Selection of Fade
12	VFA	Execute the setting of Auto Fade Duration
13	VFM	Fade Level Setting
14	VWP	Wipe Pattern Setting
15	VWN	Wipe Number Direct Setting
16	VWD	Wipe Direction Select
17	VWB	Wipe Edge Select
18	VWS	Aspect Ratio Setting for Square Wipe Pattern
19	VWX	Transition Effect Setting
20	VML	Setting for Audio Link of MIX, WIPE
21	VMA	Execute Auto Take Speed Setting
22	VMM	Setting for WIPE/MIX Joy Stick Position Data
23	VMP	Setting for WIPE/MIX Joy Stick and Positional Data
24	VMW	Memory Read of Video for Program Output
25	VPS	Setting for Hold ON/OFF and position data of positioner
26	VPC	Center ON/OFF Setting for positioner
27	VSB	ON/OFF Setting for Scene Grab
28	VSD	Key Level Setting for DSK
29	VAS	Setting for Execute of Auto Take, Auto Fade and Program Memory
30	VPG	Execute and Register for 99 Event Memory
31	VEA	ON/OFF Setting for Video Effect
32	VKS	Slice and Slope Setting for KEY
33	VKL	KEY Level Setting
34	VKC	KEY Crop Setting
35	VKX	KEY Effect Setting

36	VKR	RGB Setting for Chroma Key
37	VDR	Setting for Write and Preview to DSK
38	VDI	DSK ON/OFF Setting
39	VDK	DSK Execute
40	VDX	DSK Effect Setting
41	VDA	DSK Effect ON/OFF Setting
42	VDS	Slice and Slope setting for DSK
43	VDL	DSK Key Level Setting
44	AFD	Fade Level Setting for Audio
45	AEA	ON/OFF Setting for Audio Effect
46	VSL	Video Input Select
47	ASL	Audio Input Select
48	ZLP	Setting for Screen Save of LCD Panel
49	QLE	Status Check of Current Joy Stick Position
50	QAM	Status Check of Current Audio Meter Data
51	QCL	Status Check of Current Chroma Key Color Data
52	QPO	Status Check of Current Position Data
53	VHC	Color Cancel Setting for Chroma Key

Command Detail

VBC

Name	Back Color
Format	VBC：a1a2b1b2
Function	Please refer to "Command List" on Page 4-5

Parameter	a1a2 = Back Color Type
	  CB ：COLOR BAR
	  WH ：WHITE
	  YL ：YELLOW
	  CY ：CYAN
	  GR ：GREEN
	  MG ：MAGENTA
	  RD ：RED
	  BU ：BLUE
	  BL ：BLACK
	
	b1b2 = 00 ~ FF ：Back Color Gain Data (Hexadecimal)

*N/A when 3D mode

VBG

Name	Back Color Gradation
Format	VBG：a[b1b2][c1c2]
Function	Please refer to "Command List" on Page 4-5

Parameter	a = F ：Back Color Gradation OFF
	      N ：Back Color Gradation ON
	
	b1b2 = Gradation Direction
	  H1 ：H 1
	  H2 ：H 2
	  H3 ：H 3
	  V1 ：V 1
	  V2 ：V 2
	  V3 ：V 3
	  D1 ：Diag 1
	  D2 ：Diag 2
	
	c1c2 = 00 ~ FF
	             ：Grade data (Hexadecimal)

*N/A when 3D mode

VBM

Name	Back Color Manual
Format	VBM：a1a2b1b2c1c2
Function	Please refer to "Command List" on Page 4-5
Parameter	a1a2 = 10 ~ EB ：Back Color Y data (Hexadecimal) b1b2 = 00 ~ FF ：Back Color P_B data (Hexadecimal) c1c2 = 00 ~ FF ：Back Color P_R data (Hexadecimal)
Note	BackM

*N/A when 3D mode

VBW

Name	Back Color Wash
Format	VBW：a1a2b1b2c1c2
Function	Please refer to "Command List" on Page 4-5
Parameter	a1a2 = 10 ~ EB ：Wash Color Y data (Hexadecimal) b1b2 = 00 ~ FF ：Wash Color P_B data (Hexadecimal) c1c2 = 00 ~ FF ：Wash Color P_R data(Hexadecimal)
Note	Wash

*N/A when 3D mode

VCC

Name	Color Corrector
Format	VCC：ab1b2c1c2
Function	Please refer to "Command List" on Page 4-5
Parameter	a = A　　　　　　　：Color Corrector A 　　B　　　　　　　：Color Corrector B 　　T　　　　　　　：Color Corrector A + Color Corrector B b1b2 　　= OF　　　　　　：Color Corrector P_R data 　　= 00 ~ FF　　　：OFF 　　　　　　　　　：P_R data (Hexadecimal) c1c2 = 00 ~ FF 　　　　　　　　　：Color Corrector P_B data (Hexadecimal)

*N/A when 3D mode

VCG

Name	Color Corrector Gain
Format	VCG：ab1b2
Function	Please refer to "Command List" on Page 4-5
Parameter	a = A　　　　　　　：Color Corrector A 　　B　　　　　　　：Color Corrector B 　　T　　　　　　　：Color Corrector A + Color Corrector B b1b2 = 00 ~ FF　　：Color Corrector Gain data (Hexadecimal)

*N/A when 3D mode

VCY

Name	Color Corrector Y
Format	VCY：ab1b2c1c2
Function	Please refer to "Command List" on Page 4-5
Parameter	a = A　　　　　　　：Color Corrector A 　　B　　　　　　　：Color Corrector B 　　T　　　　　　　：Color Corrector A + Color Corrector B b1b2 = 00 ~ FF　　：Color Corrector Y Setup data (Hexadecimal) c1c2 = 00 ~ FF　　：Color Corrector Y Gain data (Hexadecimal)

*N/A when 3D mode

VDE

Name	Digital Effect
Format	VDE：ab1b2[c1[c2]][d1[d2]][e1[e2]]
Function	Please refer to "Command List" on Page 4-5
Parameter	a = A : Digital Effect A B : Digital Effect B

b1b2=Effect type	[c1[c2]]		
MS：MOSAIC	c1c2 =	OF	：MOSAIC OFF
		00 ~ 1E	：MOSAIC data
PN：PAINT	c1 =	F	：PAINT OFF
		0 ~ 7	：PAINT data
DF：DEFOCUS	c1 =	F	：DEFOCUS OFF
		0 ~ 7	：DEFOCUS data
NG：NEGA	c1 =	F	：Y OFF
		N	：Y ON
	d1 =	F	：C OFF
		N	：C ON
MN：MONO	c1 =	F	：MONO OFF
		N	：MONO ON
SR：STROBE	c1c2 =	OF	：STROBE OFF
		00 ~ 3E	：STROBE data
SL：STILL	c1 =	F	：STILL OFF
		L	：FIELD
		M	：FRAME
DC：DECAY	c1c2 =	OF	：DECAY OFF
		00 ~ 20	：DECAY data
MH：MOSAIC H MV：MOSAIC V MW：MOSAIC HV	c1c2 =	OF	：MOSAIC OFF
		00 ~ 1E	：MOSAIC data
RH：MIRROR H RV：MIRROR V	c1 =	F	：MIRROR OFF
		N	：MIRROR ON
OF：Digital Effect OFF			
ON：Digital Effect ON			

Note	*N/A when 3D mode Select PVW of selected CH

VDM

Name	Digital Effect Multi
Format	VDM：abcd1d2
Function	Please refer to "Command List" on Page 4-5
Parameter	a = A　　　　　　　：Digital Effect A 　　B　　　　　　　：Digital Effect B b = F　　　　　　　：Multi OFF　　Screen1display setting 　　1　　　　　　　：Multi 1　　　4display　(Ror@：c) 　　2　　　　　　　：Multi 2　　　9display　(Ror@：c) 　　3　　　　　　　：Multi 3　　　16display　(Ror@：c) 　　　　※Not valid in case b=Manual. (current setting 　　　　　is maintained) c = N 　　R 　　M　　　　　　　：Once　　　Selection of @ 　　　　　　　　　　：Repeat　　Selection of R* 　　　　　　　　　　：Manual　*　current Screen setting is maintained. 　　　　※In case b=F(Multi Off), R.N setting has no 　　　　　meaning d1d2 = 00 ~ 3E 　　　　　　　　　　：Step interval for multi operation (Hexadecimal) 　　　　　　　　　　Not valid in case c=M (Manual). 　　　　　　　　　　x2 magnification. (in case 0x3E, actual display 　　　　　　　　　　will be 62*2=124) 　　　　　　　　　　00 for manual setting.

*N/A when 3D mode

VCP

Name	Cross Point
Format	VCP：ab[c1c2][d]
Function	Please refer to "Command List" on Page 4-5

Parameter	a =
	  A
	  B
	
	b =
	  1 ~ 8
	
	  B
	  C
	  M
	
	c1c2 =
	  1 ~ x
	
	d =
	
	  1
	
	  2
		Bus Select
		：bus A
		：bus B
		
		Source Select
		：Source 1 ~ Source 8
		
		：INT(Back Color)
		：INT(Color Bar)
		：INT(Memory)
		
		In case Source = INT(Memory)
		： Page number(decimal)
		   x：『The value set in 「SETUP」-「MEMORY」-
		「INT V」』
		    480i/576i : max 30
		    720P : max 14, 1080i : max 06
		
		Depends on Memory setting in SETUP
		In case Source=INT(Memory)
		：Field　　(Selected page is Still)
		：Repeat (Selected page is Movie)
		：Frame　 (Selected page is Still)
		：Once　　(Selected page is Movie)

*N/A when 3D mode

VFD

Name	Fade
Format	VFD：abcd
Function	Please refer to "Command List" on Page 4-5
Parameter	a　=　　　　　　　　　Fade Type 　　W　　　　　　　　：FADE WHITE 　　L　　　　　　　　：FADE BLACK 　　U　　　　　　　　：FADE BLUE b　=　X　　　　　　　Video(any data) c　=　X　　　　　　　Title(any data) d　=　　　　　　　　Audio 　　A　　　　　　　：FADE AUDIO ON 　　F　　　　　　　：FADE AUDIO OFF

*N/A when 3D mode

VFA

Name	Fade Auto
Format	VFA：a1a2a3
Function	Please refer to "Command List" on Page 4-5
Parameter	a1a2a3 = 000 ~ 999　　　：Auto Fade Speed Data(decimal) number of frames

*N/A when 3D mode

VFM

Name	Fade Manual
Format	VFM：a1a2
Function	Please refer to "Command List" on Page 4-5
Parameter	a1a2 = 00 ~ FF　　　：Fade Control data (Hexadecimal)

*N/A when 3D mode

VWP

Name	Wipe Pattern
Format	VWP：a1a2b1b2c
Function	Please refer to "Command List" on Page 4-5
Parameter	a1a2 = 00 ~ 26　　Wipe No.(decimal)

b1b2=Effect type	c			
ZM：Paint	c	=	F	AB PAINT OFF
			0 ~ 7	AB PAINT Level (MENU)
SC：Nega	c	=	F	AB NEGA YCOFF
			1,2	AB NEGA YCON
MP：Mono	c	=	F	AB MONO OFF
			1 ~ 6	AB MONO ON

Note	Effect setting will be stored. The setting will be effective with VIDEO EFFECT LED on.

*N/A when 3D mode

VWN

Name	Wipe Number
Format	VWN：a1a2a3a4
Function	Please refer to "Command List" on Page 4-5
Parameter	a1a2a3a4 = ：Wipe Number (decimal) 0000 ~ 9999

*N/A when 3D mode

VWD

Name	Wipe Direction
Format	VWD：ab
Function	Please refer to "Command List" on Page 4-5
Parameter	a = N ：Reverse ON F ：Reverse OFF X ：Reverse don't care b = N ：One-Way ON F ：One-Way OFF X ：One-Way don't care

*N/A when 3D mode

VWB

Name	Wipe Border
Format	VWB：a1a2b1b2c1c2
Function	Please refer to "Command List" on Page 4-5
Parameter	a1a2 = S1 ：SOFT 　　　 S2 ：SOFT 　　　 B1 ：BORDER 　　　 B2 ：BORDER 　　　 SB ：SOFT BORDER 　　　 OF ：HARD WIPE b1b2 = 01 ~ FF ：BORDER WIDTH (Hexadecimal) c1c2 =WH ： WHITE 　　　 YL ： YELLOW 　　　 CY ： CYAN 　　　 GR ： GREEN 　　　 MG ： MAGENTA 　　　 RD ： RED 　　　 BU ： BLUE 　　　 BL ： BLACK 　　　 C1 ： Custom1 　　　 C2 ： Custom2

*N/A when 3D mode

VWS

Name	Wipe Aspect
Format	VWS：ab1b2
Function	Please refer to "Command List" on Page 4-5
Parameter	a = N ：Aspect ON 　　 F ：Aspect OFF b1b2 = 00 ~ FF ：Aspect data (Hexadecimal)

*N/A when 3D mode

VWX

Name	Wipe Effect
Format	VWX：abcd1d2
Function	Please refer to "Command List" on Page 4-5
Parameter	a = F ：OFF 　　S ：Shadow 　　T ：Trail b = 　X ：don't care c = 　0 ： Self 　　1 ： Self Spark 　　2 ： Border Matte 　　3 ： Border Matte Spark 　　※Effective only when "a=Trail" d1d2 = ：Time setting (decimal) 　01 ~ 32 ※Effective only when "a=Trail"

*N/A when 3D mode

VML

Name	Mix Audio Level
Format	VML：a
Function	Please refer to "Command List" on Page 4-5
Parameter	a　=　N ：Audio Link ON 　　　F ：Audio Link OFF

*N/A when 3D mode

VMA

Name	Mix Auto Take
Format	VMA：a1a2a3
Function	Please refer to "Command List" on Page 4-5
Parameter	a1a2a3 = ：Auto Take Speed data (decimal) 　000 ~ 999 　The values on LCD display changes. 　※Not valid when the Auto Take function is under operation.

*N/A when 3D mode

VMM

Name	Mix Level Setting
Format	VMM：a1a2
Function	Please refer to "Command List" on Page 4-5
Parameter	a1a2 = 00 ~ FF　　：Wipe Mix Joy Stick A/D data (Hexadecimal)

*N/A when 3D mode

VMP

Name	Mix/Positioner
Format	VMP：a1a2b1b2c1c2d1d2d3
Function	Please refer to "Command List" on Page 4-5
Parameter	a1a2 = 00 ~ FF　　　　：Wipe Mix Joy Stick data (Hexadecimal)
	b1b2 = 00 ~ FF　　　　：Positioner Y data(Hexadecimal)
	c1c2 = 00 ~ FF　　　　：Positioner X data(Hexadecimal)
	d1d2d3 = 000 ~ 3FF　：Z data　(Hexadecimal)

*N/A when 3D mode

VMW

Name	Memory Write
Format	VMW：a1a2b1b2
Function	Please refer to "Command List" on Page 4-5
Parameter	a1a2 = 01 ~ x ： Start memory number(decimal) 　　x: 『The value set in 「SETUP」-「MEMORY」- 　　　「INT V」』 　　480i/576i : max 30 　　720P : max 14,　1080i : max 06
	b1b2 = 01 ~ y ：Number of frames to be written 　01 for Still, 02 for Movie (decimal) 　　y: 『The value set in 「SETUP」-「MEMORY」- 　　　「INT V」』 - a1a2

*N/A when 3D mode

VPS

Name	Positioner
Format	VPS：ab1b2c1c2d1d2d3
Function	Please refer to "Command List" on Page 4-5
Parameter	a ＝ N ：Hold OFF 　　　L ：Hold ON
	b1b2 = 00 ~ FF ：Positioner Y data(Hexadecimal)
	c1c2 = 00 ~ FF ：Positioner　X data(Hexadecimal)
	d1d2d3 = 000 ~ 3FF ：Z data　(Hexadecimal)

　*N/A when 3D mode

VPC

Name	Positioner Center
Format	VPC：a
Function	Please refer to "Command List" on Page 4-5
Parameter	a ＝ N ：Center ON 　　　F ：Center OFF
Note	

　*N/A when 3D mode

VSB

Name	Scene Graber
Format	VSB：a
Function	Please refer to "Command List" on Page 4-5
Parameter	a ＝ N ：Scene Grab　ON 　　　F ：Scene Grab　OFF

　*N/A when 3D mode

VSD

Name	Super Impose Data
Format	VSD：a1a2b1b2
Function	Please refer to "Command List" on Page 4-5
Parameter	a = 00 ~ FF ：Key Level (Hexadecimal) b = 00 ~ FF ：any data (Don't Care)

　*N/A when 3D mode

VAS

Name	All Stop
Format	VAS
Function	Please refer to "Command List" on Page 4-5
Parameter	NO

*N/A when 3D mode

VPG

Name	Program
Format	VPG：ab1b2
Function	Please refer to "Command List" on Page 4-5
Parameter	a = E : Execute 　　M : Memory(No.1 ~ 99) ※Except for that parameter, the command is ignored. (No action) b1b2 = 00 ~ 99 ：Program No. (decimal) ※In case of 99, Program Execution mode is canceled.

*N/A when 3D mode

VEA

Name	Video Effect Action
Format	VEE：ab1b2c
Function	Please refer to "Command List" on Page 4-5
Parameter	a = A : A bus 　　B : B bus b1b2 = Effect Type 　ST ：STILL 　SB ：STROBE 　VE ：VIDEO EFFECTS 　CE ：COLOR EFFECTS c = N : ON 　　F : OFF

*N/A when 3D mode

VKS

Name	Key Slice、Slope
Format	VKS：a1a2b
Function	Please refer to "Command List" on Page 4-5
Parameter	a1a2 = 00 ~ FF ：Key Slice(Hexadecimal)
	b = 0 ~ F ：Key Slope(Hexadecimal)
Note	

*N/A when 3D mode

VKL

Name	Key Level
Format	VKL：a1a2
Function	Please refer to "Command List" on Page 4-5
Parameter	a1a2 = 00 ~ FF ：Key Level(Hexadecimal)
Note	

*N/A when 3D mode

VKC

Name	KEY Crop
Format	VKC：a1a2a3b1b2b3c1c2c3c4d1d2d3d4
Function	Please refer to "Command List" on Page 4-5
Parameter	a1a2a3 = 480i: 　000-243 576i: 　000-288 720p: 　000-720 1080i: 　000-540	：Top value (decimal) 　TOP/Bottom value can not be inversed.
	b1b2b3 = 480i: 　000-243 576i: 　000-288 720p: 　000-720 1080i: 　000-540	：Bottom value (decimal) 　TOP/Bottom value can not be inversed.
	c1c2c3c4 = 480i: 　0000-0720 576i: 　0000-0720 720p: 　0000-1280 1080i: 　0000-1920	：Left value (decimal) 　Left/Right value can not be inversed.
	d1d2d3d4 = 480i: 　0000-0720 576i: 　0000-0720 720p: 　0000-1280 1080i: 　0000-1920	：Right value (decimal) 　Left/Right value can not be inversed.

*N/A when 3D mode

VKX

Name	Key Effect
Format	VKX：abcd1d2
Function	Please refer to "Command List" on Page 4-5
Parameter	a = F　　　　　：OFF 　　 S　　　　　：Shadow 　　 T　　　　　：Trail b =　X　　　　　：Don't care c =　　0　　　　：Self 　　　 1　　　　：Self Spark 　　　 2　　　　：Border Matte 　　　 3　　　　：Border Matte Spark 　　　　　　　※Effective only when "a=Trail" d1d2 =　　　　：Time Setting 　　01 ~ 32　　※Effective only when "a=Trail"

*N/A when 3D mode

VKR

Name	Chroma Key Color
Format	VKR：a1a2b1b2c1c2d
Function	Please refer to "Command List" on Page 4-5
Parameter	a1a2 = 00 ~ FF　　：R factor (Hexadecimal)
	b1b2 = 00 ~ FF　　：G factor (Hexadecimal)
	c1c2 = 00 ~ FF　　：B factor (Hexadecimal)
	d　=　1 ~ 3　　　：color number
Note	

*N/A when 3D mode

VDR

Name	DSK Source
Format	VDR：abc1c2de
Function	Please refer to "Command List" on Page 4-5
Parameter	**Key Select** a = 　T　　　：Title 　S　　　：SDI1 　U　　　：SDI2 　W　　　：SDI3 　X　　　：SDI4 　H　　　：HDMI1(HD) 　I　　　：HDMI2(HD) 　V　　　：VIDEO1(SD) 　Y　　　：VIDEO2(SD) 　D　　　：DVI-I **Fill Select** b = 　T　　　：Title 　B　　　：Border Matte 　S　　　：SDI1 　U　　　：SDI2 　W　　　：SDI3 　X　　　：SDI4 　H　　　：HDMI1(HD) 　I　　　：HDMI2(HD) 　V　　　：VIDEO1(SD) 　Y　　　：VIDEO2(SD) 　D　　　：DVI-I c1c2 = 01 ~ x　：Memory Page selection (decimal) 　x:『value set in 「SETUP」-「MEMORY」-「INT V」』 　480i/576i : max 30 　720P : max 14, 1080i : max 06 d=X　don't care 　※No page partition for AG-HMX100 e =　W　：Write 　　　P　：Preview
Note	

*N/A when 3D mode

VDI

Name	DSK ON/OFF
Format	VDI：abcd1d2
Function	Please refer to "Command List" on Page 4-5
Parameter	a = F　　ME Trig Setting 　　　　：OFF 　　N　　：ON b =　F　　Slide In Setting 　　　　：OFF 　　R　　：To Right 　　L　　：To Left 　　T　　：To Top 　　B　　：To Bottom b =　F　　Slide Out Setting 　　　　：OFF 　　R　　：To Right 　　L　　：To Left 　　T　　：To Top 　　B　　：To Bottom d = 02 ~ 64　：Speed Setting (decimal)

*N/A when 3D mode

VDK

Name	DSK
Format	VDK
Function	Please refer to "Command List" on Page 4-5
Parameter	NO
Note	

*N/A when 3D mode

VDX

Name	DSK Effect
Format	VDX：abcd1d2
Function	Please refer to "Command List" on Page 4-5
Parameter	a = F　　　　　：OFF 　　S　　　　　：Shadow 　　T　　　　　：Trail b =　　X　　　：don't care c =　0　　　　：　Self 　　1　　　　：　Self Spark 　　2　　　　：　Border Matte 　　3　　　　：　Border Matte Spark 　　　　　　　※Effective only when "a=Trail" d1d2 =　　　　：Time setting (decimal) 　01 ~ 32　　※Effective only when "a=Trail"

*N/A when 3D mode

VDA

Name	DSK Effect Action
Format	VDA：a
Function	Please refer to "Command List" on Page 4-5
Parameter	a　=　N　　：　ON 　　　　F　　：　OFF

*N/A when 3D mode

VDS

Name	DSK Key Slice,Slope
Format	VDS：a1a2b
Function	Please refer to "Command List" on Page 4-5
Parameter	a1a2 = 00 ~ FF ：Slice Setting (Hexadecimal)
	b = 0 ~ F ：Slope Setting (Hexadecimal)
Note	

　*N/A when 3D mode

VDL

Name	DSK Key Level
Format	VDL：a1a2
Function	Please refer to "Command List" on Page 4-5
Parameter	a1a2 = 00 ~ FF ：Key Level (Hexadecimal)

　*N/A when 3D mode

AFD

Name	Fade
Format	AFD：ab1b2
Function	Please refer to "Command List" on Page 4-5

Parameter	a = 1 ~ 8 A B C D E F M H	The target follows SETUP setting ([Audio Fader]->[Source]) ・CP Pair 　1 ~ 8 ：Source 1 ~ 8 LRch 　A ：Source LR channel selected for A bus 　B ：Source LR channel selected for B bus ・Bus Sepa 　1 ：A/Prog bus L channel 　2 ：A/Prog bus R channel 　3 ：B/Preset bus L channel 　4 ：B/Preset bus R channel 　5 ~ 8, A, B ：No Function ・12 Pair 　1 ：Source1 LR channel 　2 ：Source2 LR channel 　3 ~ 8, A, B ：No Function ・12 Sepa 　1 ：Source1 L channel 　2 ：Source1 R channel 　3 ：Source2 L channel 　4 ：Source2 R channel 　5 ~ 8, A, B ：No Function The target follows SETUP setting ([Audio Fader] -> [AUX/MIC]) ・Pair 　C ：AUX LR channel 　D ：MIC LR channel 　E,F ：No Function ・Sepa 　C ：AUX L channel 　D ：AUX R channel 　E ：MIC L channel 　F ：MIC R channel ： Master ： Head Phones
	b1b2 = 00 ~ FF	：Audio Level data (Hexadecimal)

*N/A when 3D mode

AEA

Name	Audio Effect Action
Format	AEA：a
Function	Please refer to "Command List" on Page 4-5
Parameter	a　=　N 　　　 ： ON 　　　　F 　　　 ： OFF

*N/A when 3D mode

VSL

Name	Video Select
Format	VSL:ab1b2c
Function	Please refer to "Command List" on Page 4-5
Parameter	a = 1 ~ 8　　　　　　：Cross Point to be set
	b1b2 = V1　　　：Composite 　　　　V4　　　：SDI 　　　　V5　　　：HDMI 　　　　V6　　　：DVI-I
	c = 1 ~ 4　　　　：Input signal selection 　　　　　　　　SDI：1-4 　　　　　　　　Composite：1-2 　　　　　　　　HDMI：1-2 　　　　　　　　DVI-I：1

*N/A when 3D mode

ASL

Name	Audio Select
Format	ASL:ab1b2c
Function	Please refer to "Command List" on Page 4-5
Parameter	a = 1 ~ 8　　　　　　：Cross Point to be set
	b1b2 = AN　　　：ANALOG 　　　　SD　　　：SDI 　　　　HD　　　：HDMI
	c = 1 ~ 4　　　　：Input signal selection 　　　　　　　　SDI：1-4 　　　　　　　　HDMI：1-2 　　　　　　　　ANALOG:1-4

*N/A when 3D mode

ZLP

Name	LCD Power
Format	ZLP：a
Function	Please refer to "Command List" on Page 4-5
Parameter	a = F　　　 ：OFF 1　　　 ：10 minutes 2　　　 ：20 minutes 3　　　 ：30 minutes 4　　　 ：40 minutes 5　　　 ：50 minutes 6　　　 ：60 minutes

*N/A when 3D mode

QLE

Name	Lever Status
Format	QLE
Function	Please refer to "Command List" on Page 4-5
Reply	QLE：data	Lever Condition 00 ~ FF Reply Value (Hexadecimal)

*N/A when 3D mode

QAM

Name	Audio Meter
Format	QAM
Function	Please refer to "Command List" on Page 4-5
Reply	QAM： data1data2	data1：Audio Meter data 00 ~ 0x11 Reply Value data2：Audio Meter data 00 ~ 0x11 Reply Value

*N/A when 3D mode

QCL

Name	Color Status
Format	QCL
Function	Please refer to "Command List" on Page 4-5
Reply	QCL： data1data2data3 data1：Red data 00 ~ FF data2：Green data 00 ~ FF data3：Blue data 00 ~ FF Reply Value 　(Hexadecimal)

　*N/A when 3D mode

QPO

Name	Position Status
Format	QPO
Function	Please refer to "Command List" on Page 4-5
Reply	QPO： data1data2data3 data1：X data 00 ~ FF data2：Y data 00 ~ FF data3：Z data 000 ~ 3FF Reply Value 　(Hexadecimal)

　*N/A when 3D mode

VHC

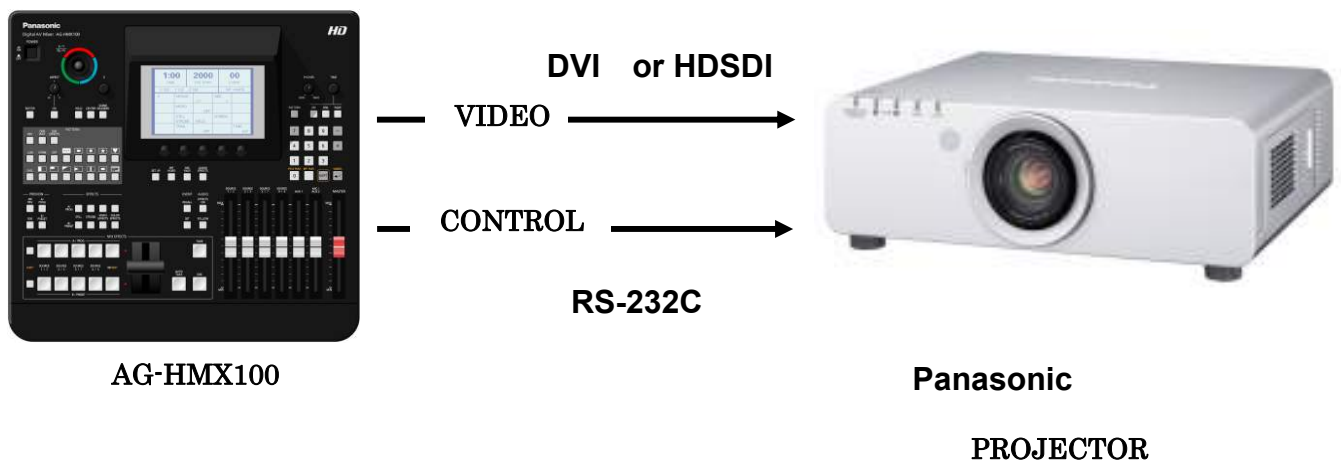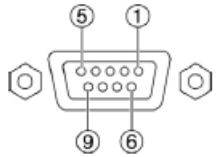| Name	Chroma Key Cancel
Format	VHC：a
Function	Please refer to "Command List" on Page 4-5
Parameter	a = 1 ~ 3 Color number for cancellation
Note	

　*N/A when 3D mode

2. Projector Control

Connection Image

DVI   or HDSDI

VIDEO

CONTROL

RS-232C

AG-HMX100

Panasonic

PROJECTOR

Communication Condition

Connectors and Signals

● Serial Interface

Pin number	Signal	Description
1	N.C.	Not connected
2	TXD	Transmission data
3	RXD	Reception data
4	DSR	Connected inside
5	GND	Ground
6	DTR	Connected inside
7	CTS	Connected inside
8	RTS	Connected inside
9	N.C.	Not connected

D-Sub 9P   female

Please use cross cable between AG-HMX100 and Projector which is made by Panasonic.

AG-HMX100 controls both Power and Shutter of Projector with RS-232C.

AG-HMX100 has SDI (HD-SDI and SD-SDI) Output and DVI-D Output.

Factory Default

Signal Level	RS-232C Compliant
Synchro System	Asynchronous
Baud Rate	9600 bps
Parity	none
Data Length	8 bit
Stop Bit	1 bit
X Parameter	none
Y Parameter	none

Basic Format

Command from PC shall be obeyed by the following format.
Parameter may be added up to control command.
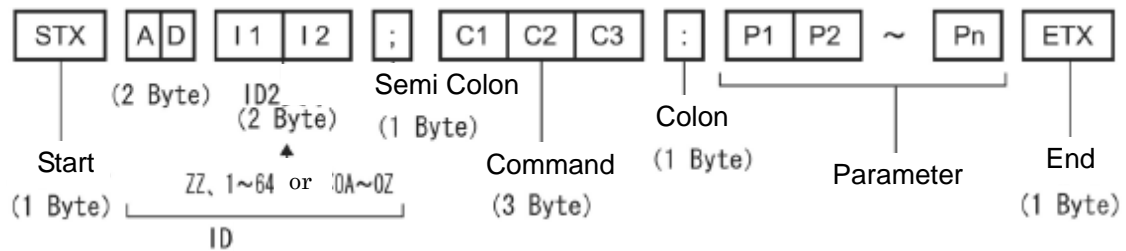
- When Projector Lamp is ON, Projector doesn't reply around 60 seconds.
  Therefore Command shall be transferred after 60 second later.

- When several Command are transferred, next Command shall wait for 0.5 second after receiving Reply Command from Projector.

- On the ground of internal process in the Projector, it may happen to take a time of response against Reply Command.
  Therefore Time out until Command reply shall be more than 10 seconds.

- When the command which doesn't need Parameter is transferred, colon (:) is not required.

- ID is 「ZZ」 only. (AG-HMX100 supports ID=ZZ only.)

Command List

Command	Function
PON	Stand-by ON
POF	Stand-by OFF
OSH	Shutter Control
QPW	Query of Stand-by Condition
WSH	Query of Shutter Function

Command Detail

PON

Name	Stand-by ON
Format	PON
Function	Turn ON the Stand-by Power
Reply	PON

POF

Name	Stand-by OFF
Format	POF
Function	Turn OFF the Stand-by Power
Reply	POF

OSH

Name	Shutter Function
Format	OSH : a a = 0 : OFF 1 : ON
Function	Control Shutter
Reply	OSH : 0 OFF OSH : 1 ON

QPW

Name	Query of Stand-by Condition
Format	QPW
Function	Ask Stand-by Condition
Reply	001 ON 000 OFF

QSH

Name	Query of Shutter Function
Format	QSH
Function	Ask Shutter Function Condition
Reply	1 ON 0 OFF