

**RS232C/LAN command list**  
**MODEL: FullHD LCD Display TH-32EF1**

2017/05/26  
Panasonic Corporation

TYPE	Function	Control Command		Inquiry Command		Range and kind of parameter Call-back	Explanation
		Transmission Command[:Parameters]	Standby	Transmission Command[:Parameters]	Reply Command[:Parameters]		
Basic Control	Power ON	PON	Avail	-	-	-	
	Power OFF	POF	-	-	-	-	
	Power Status	-	-	QPW	QPW:*	Avail	0 / 1
	Input Change	IMS (:***)	Not avail	QMI	QMI:***	Not avail	Control:(Toggle) HM1 / HM2 / DV1 / PC1 / VD1 / UD1 Inquiry: HM1 / HM2 / DV1 / PC1 / VD1 / UD1
	Audio Volume	AVL:***	Not avail	-	-	-	000 - 100
	Volume Up	AUU	Not avail	-	-	-	-
	Volume Down	AUD	Not avail	-	-	-	-
	Current Audio Volume	-	-	QAV	QAV:***	Not avail	000 - 100
	Audio Mute	AMT (:*)	Not avail	QAM	QAM: *	Not avail	Control:(Toggle) 0 / 1
	Video Mute	VMT (:*)	Not avail	QVM	QVM: *	Not avail	Control:(Toggle) 0 / 1
Aspect Change	DAM:****	Not avail	QAS	QAS:****	Not avail	FULL / NORM / ZOOM / ZOM2	
Picture Mode	VPC:MEN***	Not avail	QPC:MEN	QPC:MEN***	Not avail	STD / DYN / CNM	
Backlight	VPC:BLT***	Not avail	QPC:BLT	QPC:BLT***	Not avail	000 ~ 100 DEF	
Picture Contrast	VPC:PIC***	Not avail	QPC:PIC	QPC:PIC***	Not avail	000 ~ 100 DEF	
Black Level Brightness	VPC:BLK***	Not avail	QPC:BLK	QPC:BLK***	Not avail	000 ~ 100 DEF	
Sharpness	VPC:SHP***	Not avail	QPC:SHP	QPC:SHP***	Not avail	000 ~ 100 DEF	
Color	VPC:COL***	Not avail	QPC:COL	QPC:COL***	Not avail	000 ~ 100 DEF	
Tint	VPC:TIN***	Not avail	QPC:TIN	QPC:TIN***	Not avail	000 ~ 100 DEF	
Color Temperature	VPC:TMP***	Not avail	QPC:TMP	QPC:TMP***	Not avail	032 / 040 / 050 / 065 / 075 / 093 / 107 / NTV / U01 / U02	
Red Gain	VWB:RGN****	Not avail	QWB:RGN	QWB:RGN****	Not avail	0000 ~ 0255	
Green Gain	VWB:GGN****	Not avail	QWB:GGN	QWB:GGN****	Not avail	0000 ~ 0255	
Blue Gain	VWB:BGJ****	Not avail	QWB:BGJ	QWB:BGJ****	Not avail	0000 ~ 0255	
Red Bias	VWB:RBS****	Not avail	QWB:RBS	QWB:RBS****	Not avail	-127 ~ 0000 ~ 0128	
Green Bias	VWB:GBS****	Not avail	QWB:GBS	QWB:GBS****	Not avail	-127 ~ 0000 ~ 0128	
Blue Bias	VWB:BBS****	Not avail	QWB:BBS	QWB:BBS****	Not avail	-127 ~ 0000 ~ 0128	
Gamma	VWB:GMM**	Not avail	QWB:GMM	QWB:GMM**	Not avail	20 / 22 / 24 / 26	
Dynamic Contrast	VPC:DCO**	Not avail	QPC:DCO	QPC:DCO**	Not avail	00 ~ 10	
Color Enhancement	VPC:PAJ*	Not avail	QPC:PAJ	QPC:PAJ*	Not avail	0 / 1	
Memory function	Memory delete	VPF:DEL**	Not avail	-	-	-	01 ~ 06
Memory function	Memory load	VPF:LOD**	Not avail	-	-	-	01 ~ 06

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		Transmission Command[:Parameters]	Standby	Transmission Command[:Parameters]	Reply Command[:Parameters]	Standby			
P i c t u r e	Memory function	Memory name change	VPF:NAM** *...*	Not avail	QPF:NAM**	QPF:NAM** *...*	Not avail	01 ~ 06 space ! " # \$ % & ' ( ) * + , - . / 0 1 2 3 4 5 6 7 8 9 ; : < = > ? @ A B C D E F G H I J K L M N O P Q R S T U V W X Y Z [\ ] ^ _ ` a b c d e f g h i j k l m n o p q r s t u v w x y z { } ~	Memory No.1 - Memory No.6 Memory name(Max 20 Parameters)
		Memory save	VPF:SAV** *...*	Not avail	-	-	-	01 ~ 06 space ! " # \$ % & ' ( ) * + , - . / 0 1 2 3 4 5 6 7 8 9 ; : < = > ? @ A B C D E F G H I J K L M N O P Q R S T U V W X Y Z [\ ] ^ _ ` a b c d e f g h i j k l m n o p q r s t u v w x y z { } ~	Memory No.1 - Memory No.6 Memory name(Max 20 Parameters)
	Memory state	-	-	QPF:STA	QPF:STA*****	Not avail	- / 0 (Memory No.1 - No.06)	Unused / Use	
S o u n d	Sound Adjustment	Output Select	AAC:OUT***	Not avail	QAC:OUT	QAC:OUT***	Not avail	SPO / LNO	SPEAKERS / AUDIO OUT
		Sound Mode	AAC:MEN***	Not avail	QAC:MEN	QAC:MEN***	Not avail	STD(AUT) / DYN / CLR	STANDARD / DYNAMIC / CLEAR Available when Output Select is SPEAKERS.
		Bass	AAC:BAS***	Not avail	QAC:BAS	QAC:BAS***	Not avail	-20 ~ 000 ~ +20(020)	-20 ~ 20 Available when Output Select is SPEAKERS.
		Treble	AAC:TRE***	Not avail	QAC:TRE	QAC:TRE***	Not avail	-20 ~ 000 ~ +20(020)	-20 ~ 20 Available when Output Select is SPEAKERS.
		Balance	AAC:BAL***	Not avail	QAC:BAL	QAC:BAL***	Not avail	-20 ~ 000 ~ +20(020)	-20 ~ 20 Available when Output Select is SPEAKERS.
		Surround	AAC:SUR***	Not avail	QAC:SUR	QAC:SUR***	Not avail	MON / OFF	ON / OFF Available when Output Select is SPEAKERS.
		P o s i t i o n	Position/Size Adjustment	Horizontal Position	DGE:HPO****	Not avail	QGE:HPO	QGE:HPO****	Not avail
Horizontal Size	DGE:HSZ****			Not avail	QGE:HSZ	QGE:HSZ****	Not avail	-100 ~ 0000 ~ +100(0100)	H-Size : -100 - 0000 - +100(0100)
Vertical Position	DGE:VPO****			Not avail	QGE:VPO	QGE:VPO****	Not avail	-100 ~ 0000 ~ +100(0100)	V-Pos : -100 - 0000 - +100(0100)
Vertical Size	DGE:VSZ****			Not avail	QGE:VSZ	QGE:VSZ****	Not avail	-100 ~ 0000 ~ +100(0100)	V-Size : -100 - 0000 - +100(0100)
Clock Phase	DGE:CLK***			Not avail	QGE:CLK	QGE:CLK***	Not avail	00 ~ 30	0 ~ 30
Dot Clock	DGE:DCL***			Not avail	QGE:DCL	QGE:DCL***	Not avail	-5 ~ 00 ~ +5(05)	-5 ~ 5
1:1 Pixel Mode	DGE:DBD*			Not avail	QGE:DBD	QGE:DBD*	Not avail	0 / 1	OFF / ON
Overscan	DGE:OVS*			Not avail	QGE:OVS	QGE:OVS*	Not avail	0 / 1	OFF / ON
Pos./Size Lump Setting	DGE:PSZ**** **** **** ****			Not avail	QGE:PSZ	QGE:PSZ**** **** **** ****	Not avail	-100 ~ 0000 ~ +100(0100), -100 ~ 0000 ~ +100(0100), -100 ~ 0000 ~ +100(0100), -100 ~ 0000 ~ +100(0100)	H-Pos : -100 - 0000 - +100(0100) H-Size : -100 - 0000 - +100(0100) V-Pos : -100 - 0000 - +100(0100) V-Size : -100 - 0000 - +100(0100)
Auto Setup	DGE:ASU *			Not avail	QGE:ASU	QGE:ASU **	Not avail	Control: 1 Inquiry: OK NG OF NW	Control: 1 : Execution start Inquiry: OK : result OK NG : result NG OF : Un-performing or when not effective NW : adjusting
S E T U P	Set up			Wobbling	QSP:WOB*	Not avail	QSU:WOB	QSU:WOB*	Not avail
		OSD Language	SSU:NAO* SSU:LNG***	Not avail Not avail	QSU:NAO QSU:LNG	QSU:NAO* QSU:LNG***	Not avail Not avail	ENG / DEU / FRA / ITL(ITA) / ESP / USA / CHA / JPN / RUS	English (UK) / German / French / Italian / Spanish / English (US) / Chinese/Japanese /Russian
		Power Management Mode	SSU:ECS*	Not avail	QSU:ECS	QSU:ECS*	Not avail	0 / 1	CUSTOM / ON
		No Signal Power Off	SSU:AOF*	Not avail	QSU:AOF	QSU:AOF*	Not avail	0 / 1	OFF / ON
		PC Power Management	SSU:DPM*	Not avail	QSU:DPM	QSU:DPM*	Not avail	0 / 1	OFF / ON
		DVID Power Management	SSU:DPD*	Not avail	QSU:DPD	QSU:DPD*	Not avail	0 / 1	OFF / ON
		DVI-D1 Power Management	SSU:D1V*	Not avail	QSU:D1V	QSU:D1V*	Not avail	0 / 1	OFF / ON
		HDMI1 Power Management	SSU:D1H*	Not avail	QSU:D1H	QSU:D1H*	Not avail	0 / 1	OFF / ON
		HDMI2 Power Management	SSU:D2H*	Not avail	QSU:D2H	QSU:D2H*	Not avail	0 / 1	OFF / ON
		Power Save	SSU:ECO*	Not avail	QSU:ECO	QSU:ECO*	Not avail	0 / 1	OFF / ON
		Display Orientation	SSU:DOR*	Not avail	QSU:DOR	QSU:DOR*	Not avail	0 / 1	Landscape / Portrait

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		Transmission Command[:Parameters]	Standby	Transmission Command[:Parameters]	Reply Command[:Parameters]	Standby			
S E T U P	Set up	Menu Position	SSU:OPS*	Not avail	QSU:OPS	QSU:OPS*	1 / 2 / 3 / 4 / 5 / 6 / 7 / 8 / 9	1:Upper/left 2:Upper/Center 3:Upper/right 4:Center/left 5:Center/Center 6:Center/right 7:Lower/left 8:Lower/Center 9:Lower/right	
		Menu Display Duration	SSU:MDT***	Not avail	QSU:MDT	QSU:MDT***	Not avail	005 ~ 180	Timeout time of a menu display 5 - 180 seconds (5 second unit)
		Menu Transparency	SSU:MTL***	Not avail	QSU:MTL	QSU:MTL***	Not avail	000 ~ 100	Transmissivity of a menu 0 ~ 100% (10% unit)
		Network Setup	SSU:NET*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** * *	Not avail	QSU:NET	QSU:NET*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** 0 / 1	Not avail	000~255 0 / 1	IP address 1st BYTE 000~255 IP address 2nd BYTE 000~255 IP address 3rd BYTE 000~255 IP address 4th BYTE 000~255 SUB NET MASK 1st BYTE 000~255 SUB NET MASK 2nd BYTE 000~255 SUB NET MASK 1st BYTE 000~255 SUB NET MASK 2nd BYTE 000~255 Gateway address 1st BYTE 000~255 Gateway address 2nd BYTE 000~255 Gateway address 3rd BYTE 000~255 Gateway address 4th BYTE 000~255 DHCP OFF/DHCP ON
		Network Setup	SSU:LCP****	Not avail	QSU:LCP	QSU:LCP****	Not avail	01024~65535 (04352, 10000, 20000 and 41794 are excluded.)	Port Number (1024~4351,4353~9999,10001~19999, 20001~41793, 1795~65535)
		Change Display Name	SSU:LDN *...*	Not avail	QSU:LDN	QSU:LDN *...*	Not avail	space ! " # \$ % & ' ( ) * + , - . / 0 1 2 3 4 5 6 7 8 9 ; : < = > ? @ A B C D E F G H I J K L M N O P Q R S T U V W X Y Z [\ ] ^ _ ` a b c d e f g h i j k l m n o p q r s t u v w x y z {   } -	DISPLAY NAME(Max 8 Parameters)
		AMX D.D.	SSU:ADD*	Not avail	QSU:ADD	QSU:ADD*	Not avail	0 / 1	OFF / ON
	Crestron Connected TM Reset	SSU:CRV* SSU:LRT	Not avail Not avail	QSU:CRV -	QSU:CRV* -	Not avail -	0 / 1 -	OFF / ON	
	Signal	3D Y/C Filter	SSG:YCS*	Not avail	QSG:YCS	QSG:YCS*	Not avail	0 / 1	OFF / ON
		Color System	SSG:COS	Not avail	QSG:COS	QSG:COS	Not avail	NTS / PAL / SCM / 4NT / MPA / NPA / AUT	NTSC / PAL / SECAM / NTSC4.43 / PAL-M / PAL-N / AUTO
		Sync Signal Setting	SSG:SNC ***	Not avail	QSG:SNC	QSG:SNC ***	Not avail	HAV / GRN / HVS	Only PC input Auto detection / Sync On Green / Hysync
Cinema Reality 3:2 Pull Down		SSG:DCR*	Not avail	QSG:DCR	QSG:DCR*	Not avail	0 / 1	OFF / ON	
XGA Mode		SSG:XGA*	Not avail	QSG:XGA	QSG:XGA*	Not avail	1 / 3	1024x768 / 1366x768	
Noise Reduction		SSG:NRS***	Not avail	QSG:NRS	QSG:NRS***	Not avail	OFF / AUT / LOW / MID / HIG	OFF / Auto / Low / Middle / High	
MPEG Noise Reduction		SSG:MNR***	Not avail	QSG:MNR	QSG:MNR***	Not avail	OFF / LOW / MID / HIG	OFF / Low / Middle / High	
Signal Range		SSG:HRC***	Not avail	QSG:HRC	QSG:HRC***	Not avail	VID / FUL / AUT	(HDMI input) Video / FULL / Auto (DVI-D input) Video / FULL / Auto (Other input) not avail	
Component/RGB-IN Select		SSU:CMP***	Not avail	QSU:CMP	QSU:CMP***	Not avail	YBR / RGB	YBR Signal / RGB Signal Available when PC1 is selected.	
YUV/RGB-IN Select		SSU:DYR***	Not avail	QSU:DYR	QSU:DYR***	Not avail	YUV / RGB	YUV Signal / RGB Signal Available when HDMI1/HDMI2/DVI-D is selected.	
Screensaver	Input Level	VWB:ILV***	Not avail	QWB:ILV	QWB:ILV***	Not avail	-16 ~ 000 ~ +16(016)	-16 ~ 16	
	Screensaver ON/OFF	OSP:SCR*	Not avail	QSP:SCR	QSP:SCR*	Not avail	0 / 5	0 : stop 5 : operating	

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		Transmission Command[:Parameters]	Standby	Transmission Command[:Parameters]	Reply Command[:Parameters]	Standby			
S E T U P	Screensaver	Screensaver Mode	SSC:MOD*	Not avail	QSC:MOD	QSC:MOD*	Not avail	0 / 1 / 2 / 3 / 4	0:OFF 1:Interval 2:Time Designation 3:ON 4:Standby after Screensaver
		Interval Screensaver	SSC:INT**** ****	Not avail	QSC:INT	QSC:INT**** ****	Not avail	0000 ~ 2359, 0000 ~ 2359	Periodic time Operating time
		Time Designation Screensaver	SSC:TIM**** ****	Not avail	QSC:TIM	QSC:TIM**** ****	Not avail	0000 ~ 2359, 0000 ~ 2359	Start time Finish time
		Standby after Screensaver	SSC:AOF****	Not avail	QSC:AOF	QSC:AOF****	Not avail	0000 ~ 2359	Time of operation(hour:minute)
	Input Label	Set Label for Current Input	SSU:ILA***	Not avail	QSU:ILA	QSU:ILA***	Not avail	INP / PCN / DV1 / DV2 / DV3 / BD1 / BD2 / BD3 / CTV / VCR / STB / SKP	reset input name(Except PC) / reset input name(for PC) DVD1 / DVD2 / DVD3 / Blu-ray1 / Blu-ray2 / Blu-ray3 / CATV / VCR / STB / (Skip)
		Set Label for EACH INPUT	SSU:ILA++++*	Not avail	QSU:ILA+++	QSU:ILA +++ +++	Not avail	+++ HM1/HM2/DV1/PC1/VD1 +++ INP / DV1 / DV2 / DV3 / BD1 / BD2 / BD3 / CTV / VCR / STB / SKP	INPUT HDMI1 / HDMI2 / DVI-D / PC / VIDEO  (reset input name) / DVD1 / DVD2 / DVD3 / Blu-ray1 / Blu-ray2 / Blu-ray3 / CATV / VCR / STB / (Skip)
	Function Button Settings	Function Group	OSP:KGR***	Not avail	QSP:KGR	QSP:KGR***	Not avail	INP / MEM / ACT	INPUT / MEMORY / ACTION & MENU(SHORTCUT)
		Function Button Settings	OSP:KFN* ***	Not avail	QSP:KFN*	QSP:KFN* ***	Not avail	1 - 6 (ACTION & MENU) SIG / SSV / SUT / LNS / ECO / OSH (INPUT) HM1/HM2/DV1/PC1/VD1/UD1	setup to FUNCTION KEY 1 - 6  (ACTION & MENU) SIG : Signal menu SSV : Screensaver menu SUT : Timer setup menu LNS : Network settings menu ECO : Power management settings menu OSH : AV Mute (INPUT) HM1 : HDMI1 HM2 : HDMI2 DV1 : DVI-D PC1 : PC VD1 : VIDEO UD1 : USB
		Function guide Settings	OSP:KFG*	Not avail	QSP:KFG	QSP:KFG*	Not avail	0 / 1	OFF / ON
	Multi Display Setup	Multi Display ON/OFF	MDC:*	Not avail	-	-	-	0 / 1	OFF / ON
		Multi Display Setup Detail	MDC:EXP* ** ** *** *** ***	Not avail	QDC:EXP	QDC:EXP* ** ** *** *** ***	Not avail	0 / 1, 01 ~ 05, 01 ~ 05, 000 ~ 100, 000 ~ 100, 001 ~ 025	OFF / ON, (Horizontal Scale) 1~5, (Vertical Scale) 1~5, (Bezel H Adjustment) 0~100, (Bezel V Adjustment) 0~100, (Location) (A1~E5)
	TimerSetup		TIM:PRG** * *** *** **** ****	Not avail	QIM:PRG** * *** *** **** ****	Not avail	01 ~ 20, 0 / 1,  SUN / MON / TUE / WED / THU / FRI / SAT / EVD, PON / POF, 0000 ~ 2359, HM1/HM2/DV1/PC1/VD1/UD1	Program number : 1~20, Function : OFF / ON, (*A lower parameter is not given when the upper setup is "OFF.") a day of the week : Sunday / Monday / Tuesday / Wednesday / Thursday / Friday / Saturday / Everyday Action type : PON / POF, Time : hour, minute, Start-up input : HDMI1/HDMI2/DVI-D/PC/VIDEO/USB Display	
Day Time	Present Day	-	-	QIM:DAY	QIM:DAY***	Not avail	SUN / MON / TUE / WED / THU / FRI / SAT	(a day of the week): Sunday / Monday / Tuesday / Wednesday / Thursday / Friday / Saturday	

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		Transmission Command[:Parameters]	Standby	Transmission Command[:Parameters]	Reply Command[:Parameters]	Standby		
S E T U P	Day Time	Present Time DAY TIME	-	QIM:NOW	QIM:NOW0****	Not avail	0000 ~ 2359	Present time (hour:minute) (Year) (Month) (Day) (Hour) (Minute) format is "YYYYMMDDhhmm "
		TIM:DAT**** ** ** ** **	Not avail	QIM:DAT	QIM:DAT**** ** ** ** **	Not avail	YYYY : 2016 ~ 2099 MM : 01 ~ 12 DD : 01 ~ 31 hh : 00 ~ 23 mm : 00 ~ 59	
USB media player Setup	USB media player	SUS:UMP*	Not avail	QUS:UMP	QUS:UMP*	Not avail	0 / 1	Disable / Enable
	Resume play	SUS:RSP*	Not avail	QUS:RSP	QUS:RSP*	Not avail	0 / 1	OFF / ON
O p t i o n s	Slide show duration	SUS:SSD***	Not avail	QUS:SSD	QUS:SSD***	Not avail	010 ~ 600	10 - 600 seconds (5 second unit)
	On screen display	OSP:OSD*	Not avail	QSP:OSD	QSP:OSD*	Not avail	0 / 1	OFF / ON
	Initial input	OSP:IIN****	Not avail	QSP:IIN	QSP:IIN****	Not avail	OFF / HM1 / HM2 / DV1 / PC1 / VD1 / UD1	OFF / HDMI1 / HDMI2 / DVI-D / PC / VIDEO / USB Display
	Initial VOL level	OSP:IVL****	Not avail	QSP:IVL	QSP:IVL****	Not avail	0 / 1, 000 ~ 100	function : OFF / ON, volume : 0-100
	Maximum VOL level	OSP:MVL****	Not avail	QSP:MVL	QSP:MVL****	Not avail	0 / 1, 000 ~ 100	function : OFF / ON, volume : 0-100
	Input lock	OSP:INL***	Not avail	QSP:INL	QSP:INL***	Not avail	OFF / HM1 / HM2 / DV1 / PC1 / VD1 / UD1	OFF / HDMI1 / HDMI2 / DVI-D / PC / VIDEO / USB Display
	Button lock	OSP:BTL***	Not avail	QSP:BTL	QSP:BTL***	Not avail	OFF / MENU / ALL	OFF / MENU&ENTER / ON
	Controller User level	OSP:RCM*	Not avail	QSP:RCM	QSP:RCM*	Not avail	0 / 1 / 2 / 3	OFF / User1 / User2 / User3
	PC auto setting	OSP:PAS*	Not avail	QSP:PAS	QSP:PAS*	Not avail	0 / 1	OFF / ON
	Off-timer function	OSP:OFT*	Not avail	QSP:OFT	QSP:OFT*	Not avail	0 / 1	OFF / ON
	Initial Startup	OSP:ISU***	Not avail	QSP:ISU	QSP:ISU***	Not avail	LST PON STB	LST : Last memory(return to a front state) PON : ON STB : STANDBY
	Display ID	-	-	QID:DID	QID:DID***	Not avail	000 ~ 100	Display ID
	Serial ID function	SID:SID*	Not avail	QID:SID	QID:SID*	Not avail	0 / 1	OFF / ON
	Serial ID Setup (Serial ID Function and Display ID)	SIF:***	Not avail	QIF:***	QIF:***	Not avail	0 / 1 000-100	OFF / ON Display ID
	LAN Control Protocol	OSP:LPN***	Not avail	QSP:LPN	QSP:LPN***	Not avail	LP1 / LP2	Protocol1 / Protocol2
	Power ON Screen Delay	OSP:POD**	Not avail	QSP:POD	QSP:POD**	Not avail	AT / 00 ~ 30	AT : Auto 0-30 : 0-30 seconds
	Clock Display	OSP:CLK*	Not avail	QSP:CLK	QSP:CLK*	Not avail	0 / 1	OFF / ON
	Power on message(No activity power off)	OSP:NAP*	Not avail	QSP:NAP	QSP:NAP*	Not avail	0 / 1	OFF / ON
	Power on message(Power management)	OSP:PMM*	Not avail	QSP:PMM	QSP:PMM*	Not avail	0 / 1	OFF / ON
	Input search	Input search	ISH:FNC***	Not avail	QSH:FNC	QSH:FNC***	Not avail	OFF / ALL / PRI
1st search input		ISH:PRI***	Not avail	QSH:PRI	QSH:PRI***	Not avail	NON / HM1 / HM2 / DV1 / PC1 / VD1 / UD1	(none) / HDMI1 / HDMI2 / DVI-D / PC / VIDEO / USB
2nd search input		ISH:SCI***	Not avail	QSH:SCI	QSH:SCI***	Not avail	NON / HM1 / HM2 / DV1 / PC1 / VD1 / UD1	(none) / HDMI1 / HDMI2 / DVI-D / PC / VIDEO / USB
Information Timing	No Signal Warning	SIT:NSW*	Not avail	QIT:NSW	QIT:NSW*	Not avail	0 / 1	0: Off / 1:On On:display sends out the no signal warning.(QST:NSW*)
	No Signal Warning Timing	SIT:SWT**	Not avail	QIT:SWT	QIT:SWT**	Not avail	01 ~ 60	01 ~ 60 (minutes)
	Query status :No Signal Warning Timing	-	Not avail	QST:NSW	QST:NSW*	Not avail	0/1	1: No Signal Warning: 0: No waring for this function.
	Message of No Signal Warning (Auto) While RS-232C controls: message sent on the display automatically.	-	Not avail	-	QST:NSW*	Not avail	0/1	1: No Signal Warning: 0: No waring for this function.
	No Signal Error	SIT:NSE*	Not avail	QIT:NSE	QIT:NSE*	Not avail	0 / 1	0: Off / 1:On On:display sends out the no signal error.(QST:NSE*)
	No Signal Error Timing	SIT:SET**	Not avail	QIT:SET	QIT:SET**	Not avail	01 ~ 90	01 ~ 90 (minutes)
	Query status :No Signal Error Timing	-	Not avail	QST:NSE	QST:NSE*	Not avail	0/1	1: No Signal Error 0: No error for this function.
Message of No Signal Error Timing (Auto) While RS-232C controls: message sent on the display automatically.	-	Not avail	-	QST:NSE*	Not avail	0/1	1: No Signal Error 0: No error for this function.	
O t h e r s	Recall	DDS	Not avail	-	-	-	-	Recall
	Audio Mute	AOC:*	Not avail	-	-	-	0 / 1	MUTE OFF / MUTE ON
	OSD Clear	VDO	Not avail	-	-	-	-	OSD Clear
	digital zoom	DZM:*	Not avail	QDZ	QDZ:*	Not avail	0 / 1, 1 / 2 / 3 / 4, 1 / 2 / 3 / 4 / 5, 1 / 2 / 3 / 4 / 5	OFF / ON, Enlargement factor, display position(Horizontal), display position(Vertical)
	Off Timer	ZOT:**	Not avail	-	-	-	00 ~ 90	0-90(minutes)
USB media player Skip to the next playback file	UMP:NXT	Not avail	-	-	Not avail	-	Play next content Available using USB media player ※Supported by the main software Ver3.10 or later.	

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		Transmission Command[:Parameters]	Standby	Transmission Command[:Parameters]	Reply Command[:Parameters]		
Others	USB media player Skip to the previous playback file	UMP:PRE	Not avail	-	-	Not avail	Play previous content Available using USB media player ※Supported by the main software Ver3.10 or later.
	USB media player Playback again from top of the file	UMP:RPY	Not avail	-	-	Not avail	Play top of the content Available using USB media player ※Supported by the main software Ver3.10 or later.
	Inquiry about Signal Frequency of input signal	-	-	QFR	QFR:H*** ** V***.**	Not avail	000.00 ~ 999.99, 000.00 ~ 999.99 Horizontal frequency Vertical frequency Displayed until the decimal point second place.
	Inquiry about Signal Format of input signal	-	-	QSF	QSF:*****	Not avail	(MAX 20 Characters) Signal format information
	Inquiry about No Signal Warning	-	-	QST:NSW	QST:NSW*	Not avail	0 / 1 0 : Normal 1 : No Signal Warning *Reply "0" when No Signal Warning is set "OFF"
	Inquiry about No Signal Error	-	-	QST:NSE	QST:NSE*	Not avail	0 / 1 0 : Normal 1 : No Signal Error *Reply "0" when No Signal Error is set "OFF".
	Auto Command Send Setting	RCM:* *	Not avail	-	-	-	0 / 1 0 / 1 (1~2 / Number of parameters is 1 to 2.) OFF / ON --- QSS (QSS command) OFF / ON --- QSS:STSERR (QSS:STSERR )
	Inquiry about Model Name	-	-	QMN	QMN: ** * **	Avail	32 F 16 32inch FHD model EF1
	Inquiry about Model	-	-	QID	QID: **. ***.. *..	Not avail	32 EF1 J / E / W 32inch model market
	Software Version Main MCU	-	-	QRV	QRV: *.*.*.* FF1	Avail	*Example 1.0000 FF1 Version model
	Software Version Sub MCU	-	-	QRV:STB	QRV:STB**.*	Avail	*Example 01.00 Version
	Software Version EEPROM	-	-	QRV:EEP	QRV:EEP**.*	Avail	*Example 01.00 Version
	Serial number	-	-	QSN	QSN:*****	Avail	(ASCII 9~15 / 9 to 15 figures of the ASCII characters) (Alphanumeric character)(capital letter of the alphabet)(Blank)- (0x30-0x39,0x41-0x5a,0x20,0x2d)
	SOS History	-	-	QSS	QSS:**. **. **. **. **. **. **.	Avail	00~FF. 00~FF. 00~FF. 00~FF. 00~FF. 00~FF. 00~FF. 00~FF. 00~FF. 00~FF. Number of times First time SOS classification 2nd SOS classification 3n time SOS classification 3n+1st SOS classification 3n+2nd SOS classification  * In the 10th time, it is arranged as follows. First time SOS classification 2nd SOS classification 9th SOS classification 10th SOS classification 8th SOS classification
Inquiry about SOS Status	-	-	QSS:STS	QSS:STS***	Avail	NON / ERR / EXT NON : no SOS history ERR : SOS generating EXT : SOS history exists	

## Protocol

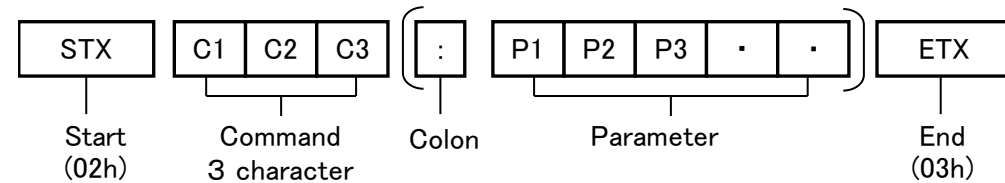
### Communication parameters

Signal level	RS-232C compliant
Synchronization method	Asynchronous
Baudrate	9600 bps
Parity	None
Character length	8 bits
Stop bit	1 bit
Flow control	None

type of cable : straight cable

### Basic format for control data:

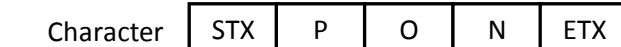
The transmission of control data starts with a STX signal, followed by the command, the parameters, and lastly an ETX signal in that order. If there are no parameters, the colon ":" does not need to be sent.



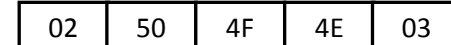
00	10	20	30	40	50	60	70
00	DE	0	@	P	p		
01	SH	D1	!	1	A	Q	a
02	SX	D2	"	2	B	R	b
03	EX	D3	#	3	C	S	c
04	ET	D4	\$	4	D	T	d
05	EQ	NK	%	5	E	U	e
06	AK	SN	&	6	F	V	f
07	BL	EB	'	7	G	W	w
08	BS	CN	(	8	H	X	h
09	HT	EM	)	9	I	Y	y
0A	LF	SB	*	:	J	Z	j
0B	HM	EC	+	:	K	[	k
0C	CL	→	<	L	¥		l
0D	CR	←	=	M	] m		
0E	SO	↑	.	>	N	^	n
0F	SI	↓	/	? O	_	o	

(Example)

Power on



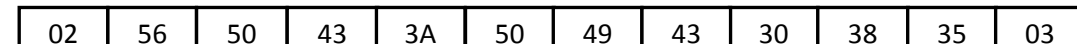
Binary



Picture+85



Binary



### Notes:

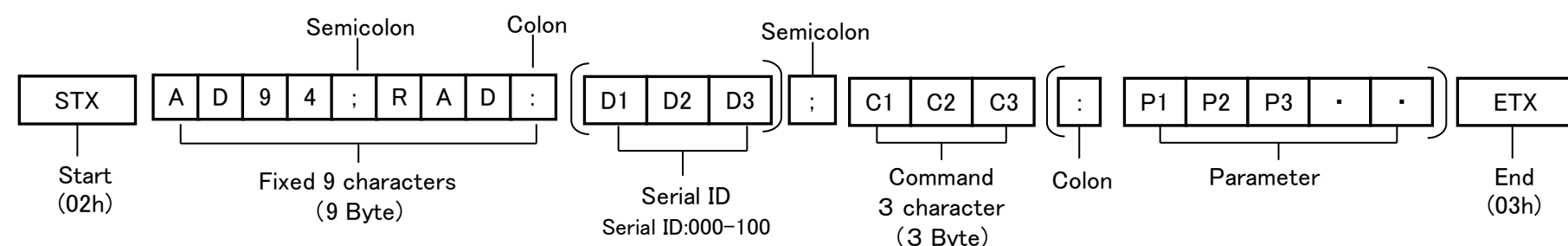
- If an incorrect command is sent, this unit will reply an "ER401" command to the computer.
- If customer send multiple commands, be sure to wait for the response for the first command to come before sending the next command.
- The length of the Parameters are different for each command.
- With the power off (stand-by mode), this display responds to "PON"/"QPW" command only.

### <When sending command with Display ID>

- When sending command with Display ID, set [Options] - [Serial ID function] to "on".
- If Display ID is "0", any ID number in command is acceptable to control.
- If serial ID in command is "000", it is acceptable regardless of Display ID of target display.
- If a command is sent with serial ID, a response will be sent to the computer only in the following cases.
  - When [display ID and serial ID] is not 0: the display ID needs to match the serial ID.

### How to send to add "Serial ID"

Serial ID Format	<STX>AD94:RAD:<NUM1><NUM2><NUM3>:*****<ETX> (Serial Control Only) (ex.) Serial ID = 1 <STX>AD94:RAD:001:PON<ETX>
------------------	---



- AD94:RAD: is fixed characters when sending command with ID.
- Serial ID is 3 characters and specified with Display ID which will be controlled.
  - If Display ID is 1, Serial ID is 001.
  - If Display ID is 15, Serial ID is 015.

## 通信規約

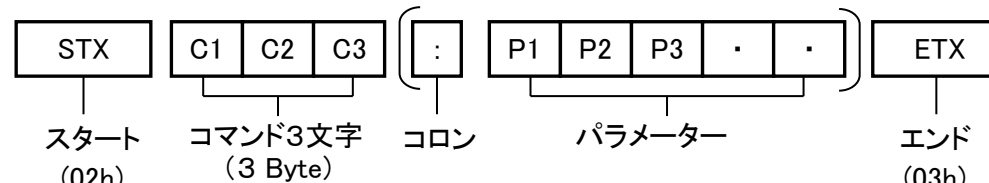
### 通信条件

信号レベル	RS-232C準拠
同期方式	調歩同期 (非同期)
ボーレート	9600 bps
パリティなし	なし
キャラクター長	8 ビット
ストップビット	1 ビット
フロー制御	なし

ケーブル種 : ストレート

### 基本フォーマット:

データは、「STX」、「コマンド」、「パラメーター」、「ETX」の順に送信してください。パラメーターを必要としないコマンドを送信する場合は、コロン (:) を付けしないでください。



00	10	20	30	40	50	60	70
00	DE	0	@	P	p		
01	SH	D1	!	1	A	Q	a
02	SX	D2	"	2	B	R	b
03	EX	D3	#	3	C	S	c
04	ET	D4	\$	4	D	T	d
05	EQ	NK	%	5	E	U	e
06	AK	SN	&	6	F	V	f
07	BL	EB	'	7	G	W	w
08	BS	CN	(	8	H	X	h
09	HT	EM	)	9	I	Y	y
0A	LF	SB	*	:	J	Z	j
0B	HM	EC	+	:	K	[	k
0C	CL	→	<	L	¥		l
0D	CR	←	=	M	] m		
0E	SO	↑	.	>	N	^	n
0F	SI	↓	/	? O	_	o	

(コマンド例)

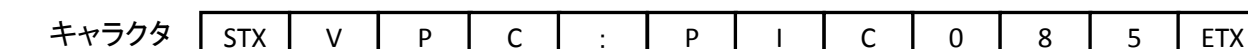
電源オンコマンド



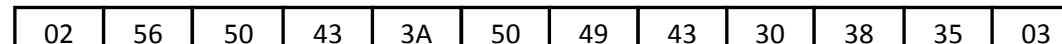
バイナリ



ピクチャー+85設定



バイナリ



### その他

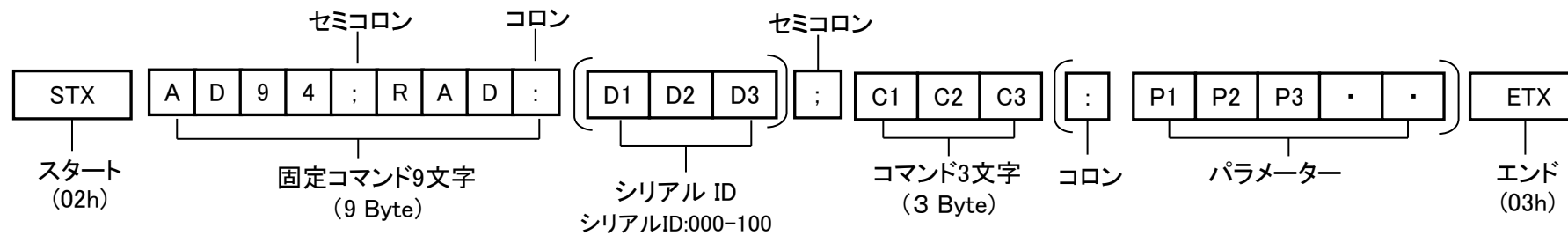
- 間違ったコマンドを受信すると、「ER401」という応答コマンドを返信します。
- 複数コマンドで制御する場合は、送信側が本機の応答を受け取ってから、次のコマンドを送信することを想定しています。
- パラメータの長さはコマンドごとに異なります。
- 電源「スタンバイ」状態 (リモコンで電源「切」) 中は "PON"/"QPW" コマンド以外の動作は保証されません。

### <ID付コマンドで制御する場合>

- シリアルID付で制御する場合は、「Options」メニューの「Serial ID function (シリアルID制御)」をオンに設定してください。
- ディスプレイIDが0の場合、コマンドに付与するIDはどのような数字でもコントロールします。
- 送信するコマンドのシリアルIDを"000"とすると、ディスプレイIDに関係なく制御します。
- ID付コマンドを送信した場合、以下の時のみコンピューターへの応答を返します。
  - ディスプレイID、シリアルID が0以外の場合: ディスプレイIDとシリアルID が一致した時

### ID付コマンドフォーマット

Serial ID Format	<STX>AD94:RAD:<NUM1><NUM2><NUM3>:*****<ETX> (シリアル制御のみ) (例) Serial ID = 1の場合 <STX>AD94:RAD:001:PON<ETX>
------------------	---



- AD94:RAD: は、シリアルID付きコマンドを送る場合に必要固定文字列です。
- シリアルIDには、制御したいディスプレイのディスプレイIDを3文字で指定します。
  - ディスプレイID が 1 の場合、シリアルIDは 001 になります。
  - ディスプレイID が 15 の場合、シリアルIDは 015 になります。

### シリアル入力端子の信号名:

ピン No.	信号名
②	RXD
③	TXD
④	DTR
⑤	GND
⑥	DSR
⑦	↑ (本体側で短絡)
⑧	
⑨	NC

これらの信号名はコンピュータ仕様のものです。