DBT3313UD Serial Interface control protocol (ASCII based)

Application model : DBT3313UD
Application terminal: RS-232C
Rev 1.00

Connector specification

RS-232C

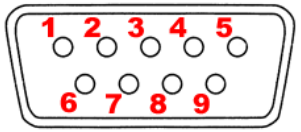
Connector type: DB-9pin female type, slave straight connection (DCE type)
(1pin : GND , 2pin : TxD , 3pin : RxD , 5pin : Common(GND) , 4,6,7,8,9pin : NC)

Communication format:

Synchronous system	: Tone step synchronization
Communication system	: A half duplex
Communication speed	: 9600bps
Character length	: 8 bits
Parity control	: None
Start bit	: 1 bit
Stop bit	: 1 bit

Interface connection specification of the product

uP Interface	Signal name	Connection device	D-Sub Pin	Connecter
-	N.C.	-	1	<The product connector> RS232C D-SUB (9pin,**male)**
UART	TxD (output)	RS232C Level shift driver	2	
	RxD (input)		3	
-	N.C.	-	4	
-	GND	GND	5	
-	N.C.	-	6	
-	N.C.	-	7	
-	N.C.	-	8	
-	N.C.	-	9	



Version	Date	Contents	Page
1.00	July 17, 201	1st Release	

Approval	Review	Creation

COMMAND and PARAMETER list

RS232C→System μCom Command(Key & SETUP Direct Change)

COMMAND	*PARAMETER*	Function	example
KY	PW ON	POWER ON	KYPW ON<CR>
	PW OF	POWER OFF	KYPW OF<CR>
	CR UP	Cursor UP	KYCR UP<CR>
	CR DW	Cursor DOWN	KYCR DW<CR>
	CR LT	Cursor LEFT	KYCR LT<CR>
	CR RT	Cursor RIGHT	KYCR RT<CR>
	TY EJ	Tray OPEN/CLOSE	KYTY EJ<CR>
	DC ****	Direct Search Track/chapter/file ****:0 to 9 by ASCII, 0001=Track/chapter/file No1 9999=Track/chapter/file No9999	KYDC 0001<CR> KYDC 9999<CR>
	DT ***	Direct Search Group/Title ***:0 to 9 by ASCII, 001=Track/chapter/file No1 999=Track/chapter/file No999	KYDT 001<CR> KYDT 999<CR>
	DTM ******	Direct Time Search ******:30 to 39 by ASCII, 000001= 00:00:01 011550=01:15:50	KYDTM 000001<CR> KYDTM 011550<CR>
	SRHMD	Select title/chapter/time search mode	KYSRHMD<CR>
	PLAY	PLAY change	KYPLAY<CR>
	PAUS	PAUSE change	KYPAUS<CR>
	STOP	STOP change	KYSTOP<CR>
	SK FW	This selects previous track or next track. Fwd	KYSK FW<CR>
	SK RV	This selects previous track or next track. Rev	KYSK RV<CR>
	SE FW	First / Slow search forward.	KYSE FW<CR>
	SE RV	First / Slow search Reverse.	KYSE RV<CR>

COMMAND	***PARAMETER***	Function	example
KY	PAUD UP	Primary Audio change	KYPAUD UP<CR>
	SAUD UP	Secondary Audio change	KYSAUD UP<CR>
	PSUB UP	Primary Subtitle change	KYPSUB UP<CR>
	SSUB UP	Secondary Subtitle change	KYSSUB UP<CR>
	STYL UP	Subtitle Style change	KYSTYL UP<CR>
	ANGL UP	Angle change	KYANGL UP<CR>
	DIMMER	FL Display Dimmer change	KYDIMMER<CR>
	RPT AB	A-B Repeat change	KYRPT AB<CR>
	RPT CH	Repeat Mode change	KYRPT CH<CR>
	RAND CH	Random Mode change	KYRAND CH<CR>
	PRGNML	Program Mode change	KYPRGNML<CR>
	CALL	displayed Programmed tracks on FL Display	KYCALL<CR>
	CLEAR	erase the programmed tracks	KYCLEAR<CR>
	ENTER	This decides selected item in the setup menu etc..	KYENTER<CR>
	RETURN	This returns previous setup menu screen	KYRETURN<CR>
	TMENU	Playback Title Menu	KYTMENU<CR>
	PMENU	Popup Menu display	KYPMENU<CR>
	HOME	Home Menu display On/Off	KYHOME<CR>
	SETUP	This operation the initial setting	KYSETUP<CR>

COMMAND	***PARAMETER***	Function	example
KY	MODE CH	OPTION Menu Display On/Off	KYMODE CH<CR>
	MODE ***[1]/***[2]	call various functions ****:"/" or (0 to 9) or (A to Z) by ASCII [1] = Setting Item BDA = BD Audio Mode Setting, SEC = Secondary Video Setting [2] = Set Value HDA = HD Audio Output([1] = BDA only), MXA = Mix Audio Output([1] = BDA only), OFF = OFF([1] = SEC only), 001～009 = Secondary Video Setting 1～9([1] = SEC only)	KYMODE BDA/HDA<CR> KYMODE SEC/001<CR>
	DISP	information on screen display	KYDISP<CR>
	C RED	carry out a function peculiar to a disk	KYC RED<CR>
	C GRN	carry out a function peculiar to a disk	KYC GRN<CR>
	C BLU	carry out a function peculiar to a disk	KYC BLU<CR>
	C YEL	carry out a function peculiar to a disk	KYC YEL<CR>
	PAGE	change the picture of DVD-Audio	KYPAGE<CR>
	HDMIRES CH	Resolution change	KYHDMIRES CH<CR>
	PURDRCT CH	Pure Direct mode Select change	KYPURDRCT CH<CR>
	PICTADJ CH	picture adjust mode Select	KYPICTADJ CH<CR>
	DSCLYR CH	selects the layer of SACD/DVD-AUDIO/BD change	KYDSCLYR CH<CR>
	AUTRMD ***	Auto Transfer mode ***:A to Z by ASCII OTM = One Time AUT =Auto	KYAUTRMD OTM<CR> KYAUTRMD AUT<CR>
	NUM *	Ten key select *:(0 to 9) or (A to Z) by ASCII 0 = 0, 1 = 1, 2 = 2, 3 = 3, 4 = 4, 5 = 5, 6 = 6, 7 = 7, 8 = 8, 9 = 9, P = +10	KYNUM 0<CR> KYNUM P<CR>
	NET *	Network service select ***:A to Z by ASCII YT = YouTube, NE = Netfilx , VU = Vudu	KYNET YT<CR> KYNET NE<CR> KYNET VU<CR>
SU	VIASP ****	TV Aspect Setting Direct Change ****:":" or (0 to 9) or (A to Z) by ASCII 16 : 9 = 16 : 9 Squeeze, WIDE = WIDE(16 : 9),	SUVIASP 16 : 9<CR> SUVIASP WIDE<CR>
	VIPGM ****	Progressive Mode Setting Direct Change ****:(0 to 9) or (A to Z) by ASCII AUTO = Auto, VID1 = Video, VID2 = FILM	SUVIPGM AUTO<CR> SUVIPGM VID1<CR> SUVIPGM VID2<CR>

RS-232C⇔System μCom Command(Request Player Status)

COMMAND	***Answer***	Function	example
PW?<CR>	PW ON	Power ON Status	
	PW OFF	Power OFF Status	
PS?<CR>	PS ****[1]/****[2]/ ****[3]/**[4]/**[5]/ **[6]	Return Play Status **** : (0 to 9) or (A to Z) by ASCII ****[1] = Media Type CDDA = CD-DA, CDRM = CD-ROM, DVDV = DVD-VIDEO, DVDA = DVD-AUDIO, DVVR = DVD-VR, SACD = Super Audio CD, DLNA = DNLA, AVCR = AVCREC, AVCH = AVCHD, WEBS = Web Stream ,EXTM = External Memory, BDMV = BDMV, BDAV = BDAV, NODC = NO DISC or Unknown disc ****[2] = Play Status PLAY = Play, PAUS = Pause, STOP = Stop, FFFW = Fast Search FWD, FFRV = Fast Search REV, SLFW = Slow Search FWD, SLRV = Slow Search REV, STUP = Setup, OPEN = OPEN, CLOS = CLOSE,HOME = Home Menu LOAD = Disc Loading, MENU = Disc Menu、RESM = Resume Stop ****[3] = HDMI Resolution 480I = 480i, 576I = 576i, 480P = 480p, 576P = 576p, 720P = 720p, 108I= 1080i,108P = 1080P, 1024 = 1080 24P ,NONE = HDMI OFF **[4] = Random ON/OFF Mode ON = ON, OF = OFF **[5] = Repeat Mode ON = REPEAT ONE, AL = ALL REPEAT, OF = OFF **[6] = Program Mode ON = ON, OF = OFF	PS CDDA/PLAY/1024/OF/AL/OF<CR>

COMMAND	***Answer***	Function	example
TMS?<CR>	TMS ***[1]/****[2]/ **[3]/**[4]/**[5]/ ****[6]	Return Time Status **, **** : (0 to 9) or (A to Z) by ASCII ***[1] = Title/Group Data(1～999) ****[2] = Chapter/Track Data(1～9999) **[3] = Time Data(hour : 0～99) **[4]= Time Data(minute : 0～59) **[5] = Time Data(second : 0～59) ****[6] = Time Mode SGEL = SINGLE ELAPSED, SGRE = SINGLE REMAIN, TLEL = TOTAL ELAPSED, TLRE = TOTAL REMAIN, TTEL = TITLE ELAPSED, TTRE = TITLE REMAIN, CHEL = CHAPTER ELAPSED, CHRE = CHAPTER REMAIN, GREL = GROUP ELAPSED, GRRE = GROUP REMAIN, TREL = TRACK ELAPSED, TRRE = TRACK REMAIN	TMS 001/0022/01/23/55/TLEL<CR>
PI?<CR>	PI *[1]/*[2]	Secondary Video Number * : 0 to 9 by ASCII *[1] = Current Secondary Video Number0～9(0 = OFF) *[2] = Total Secondary Video Number0～9 (0 = No Secondary Video)	PI 1/5<CR>

COMMAND	***Answer***	Function	example
AUDSP?<CR>	AUDSP **[1]/**[2]/**[3]/ **[4]/**[5]	Audio Information *, **, ***, ****：”+”, (0 to 9) or (A to Z) by ASCII **[1] = Current Primary Audio Number **[2] = Total Primary Audio Number **[3]= Current Primary Audio Stream DD = Dolby Digital, MP = MPEG, LP = LPCM, DT = DTS, D+ = Dolby Digital PLUS, DH = DTS-HD, TU = Dolby True HD, M3 = MP3, WM = WMA, AC = AAC, DS = DSD、PP = PPCM、NO = No or Unknown Audio **[4] = Current Primary Audio Channel 10 = 1.0ch, 11 = 1.1ch, 20 = 2.0ch, 21 = 2.1ch, 30 = 3.0ch, 31 = 3.1ch, 40 = 4.0ch, 41 = 4.1ch, 50 = 5.0ch, 51 = 5.1ch, 60 = 6.0ch, 61 = 6.1ch, 70 = 7.0ch, 71 = 7.1ch, 80 = 8.0ch、NO = No or Unknown Channel **[5] = Current Primary Audio Language JP = Japanese, EN = English, FR = French, DE = German, IT = Italian, ES = Spanish, NI = Dutch, ZH = Chinese, RU = Russian, KO = Korean, OH = Others	AUDSP 07/16/D+/71/JP<CR>

COMMAND	***Answer***	Function	example
CV?<CR>	CV ****[1]/****[2]/****[3]	Request CPU Version *：0 to 9 by ASCII ****[1] = MCU Version ****[2]= B/E Version ****[3] = F/E Version	CV 0042/9090/0201<CR>
RS?<CR>	RS **[1]/***[2]/***[3]/*[4]/*[5]/***[6]	Request System Status *：(0 to 9) or (A to Z) symbol by ASCII **[1] = Subtitle code JP = Japanese, EN = English, FR = French, DE = German, IT = Italian, ES = Spanish, NI = Dutch, ZH = Chinese, RU = Russian, KO = Korean, OH = Others ***[2] = Current Subtitle Number ***[3] = Total Subtitle Number *[4] = Current Angle code 1 = 1, 2 = 2, 3 = 3, 4 = 4, 5 = 5, 6 = 6, 7 = 7,8 = 8, 9 = 9 *[5] = Total Angle code 1 = 1, 2 = 2, 3 = 3, 4 = 4, 5 = 5, 6 = 6, 7 = 7, 8 = 8, 9 = 9 ***[6] = Search speed NOR = NORMAL、 FF1 = FF×2、FF2 = FF×4、FF3 = FF×8、FF4 = FF×16、FF5 = FF×32、 FR1 = FR×2、 FR2 = FR×4、 FR3 = FR×8、 FR4 = FR×16、FR5 = FR×32、 SF1 =SF×1/16、SF2 = SF×1/8、SF3 = SF×1/4、SF4 = SF×1/2、 SR1 =SR×1/16、SR2 = SR×1/8、SR3 = SR×1/4、SR4 = SR×1/2	RS OH/001/002/1/1/FF1<CR>
MN?<CR>	MN DBT-3313UD		
FIRMUP<CR>		Request Firmware Update Start	
UPDATE?<CR>	UPDATE **	Return Update Information **:"-", (0 to 9) or (A to Z) by ASCII 00～99 = Update Remain Time DE = Download Error() CE = Connection Error SE = Server Error NO = Latest Version NG = Impossible Update(Example: disk inserted) -- = Now Checking	UPDATE 10<CR> UPDATE DE<CR> UPDATE CE<CR> UPDATE SE<CR> UPDATE NO<CR> UPDATE NG<CR> UPDATE --<CR>