

DBT3313UD Serial Interface control protocol (ASCII based)

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

Connector specification

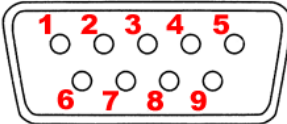
RS-232C

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	Connector
-	N.C.	-	1	<The product connector> RS232C D-SUB (9pin,male) 
UART	TxD (output)	RS232C	2	
	RxD (input)	Level shift driver	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, 2012	1st Release	
1.10	Oct 9, 2012	ΔRev1.10 Add a Function to connect to Hulu.	

Approval	Review	Creation

COMMAND and PARAMETER list

RS232C→System μ Com 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>

<i>COMMAND</i>	<i>PARAMETER</i>	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 HU = Hulu△Rev1.10	KYNET YT<CR> KYNET NE<CR> KYNET VU<CR> KYNET HU<CR>△Rev1.10
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 μ Com Command(Request Player Status)

COMMAND	Answer	Function	example
PW?<CR>	PW ON PW OFF	Power ON Status 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 **** ² / ³ **** 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 **** ² / ³ **** ³ / ⁴ / ⁵ **** ⁵ / ⁶ **** 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>