

Partner: Bang & Olufsen
Model: Beosound Theatre
Device Type: Device Interface

GENERAL INFORMATION	
SIMPLWINDOWS NAME:	B&O ControlLink
CATEGORY:	Device Interface
VERSION:	V 1.0.0
SUMMARY:	<p>This module provides TCP/IP control of the latest Bang & Olufsen products including:</p> <p>Supported Audio Products: Beosound Balance Beosound Level Beosound Emerge Beosound 2 3rd Gen Beosound A5 Beosound A9 5th Gen</p> <p>Supported Video Products: Beosound Theatre</p> <p>Supported Speaker Products: Beolab 28</p>
GENERAL NOTES:	<p>The module provides a remote interface via IP for the latest Bang & Olufsen products.</p> <p>Controls are provided for power, audio, input selection, menu navigation and transport commands.</p>
CRESTRON HARDWARE REQUIRED:	3/4-series processor
SETUP OF CRESTRON HARDWARE:	Connect the Crestron processor on the same subnet as the B&O product.
VENDOR FIRMWARE:	V2.3.4
VENDOR SETUP:	Connect the B&O product on the same subnet as the Crestron processor.
CABLE DIAGRAM:	Standard wired/wireless Network.

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CONTROL:

Enable	D	When held high the module will attempt to connect to the products IP address. Enable can be held high all the time while the B&O product is reachable on the network. If enable is low then the module will not attempt to connect to the B&O product and therefore there will be no feedback or control.
Spotify	D	Pulse to select Spotify Connect audio source on B&O product.
Deezer	D	Pulse to select Deezer audio source on B&O product.
Net_Radio	D	Pulse to select B&O Radio source on B&O product.
Line_In	D	Pulse to select Line In audio source on B&O product.
Optical	D	Pulse to select Optical audio source on B&O product.
Bluetooth	D	Pulse to select Bluetooth audio source on B&O product.
DLNA	D	Pulse to select DLNA audio source on B&O product.
Qplay	D	Pulse to select Qplay audio source on B&O product.
BeoLink_TouchToJoin	D	Pule to Join & Play the audio from the last active B&O multiroom enabled product over the Network
eARC	D	Pulse to select eARC source
Live_TV	D	Pulse to select Live_TV source (Tuner on LG Display)
HDMI_A	D	Pulse to select HDMI A input on Sound Bar
HDMI_B	D	Pulse to select HDMI B input on Sound Bar

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HDMI_C	D	Pulse to select HDMI C input on Sound Bar
LG_HDMI_1	D	Pulse to select HDMI 1 input on LG Display
LG_HDMI_3	D	Pulse to select HDMI 3 input on LG Display
LG_HDMI_4	D	Pulse to select HDMI 4 input on LG Display
YouTube	D	Pulse to select App on the LG Display (App needs to be installed on the display)
Netflix	D	Pulse to select App on the LG Display (App needs to be installed on the display)
Amazon_Prime_Video	D	Pulse to select App on the LG Display (App needs to be installed on the display)
Plex	D	Pulse to select App on the LG Display (App needs to be installed on the display)
VUDU	D	Pulse to select App on the LG Display (App needs to be installed on the display)
Spotify_App	D	Pulse to select App on the LG Display (App needs to be installed on the display)
Deezer_App	D	Pulse to select App on the LG Display (App needs to be installed on the display)
ViaPlay	D	Pulse to select App on the LG Display (App needs to be installed on the display)
Hulu	D	Pulse to select App on the LG Display (App needs to be installed on the display)
BBC_iPlayer	D	Pulse to select App on the LG Display (App needs to be installed on the display)
Tital_App	D	Pulse to select App on the LG Display (App needs to be installed on the display)
Disney_Plus	D	Pulse to select App on the LG Display (App needs to be installed on the display)
YouTube_TV	D	Pulse to select App on the LG Display (App needs to be installed on the display)
Apple_TV	D	Pulse to select App on the LG Display (App needs to be installed on the display)
Apple_Music	D	Pulse to select App on the LG Display (App needs to be installed on the display)
HBO_Max	D	Pulse to select App on the LG Display (App needs to be installed on the display)
Starz	D	Pulse to select App on the LG Display (App needs to be installed on the display)
Pluto_TV	D	Pulse to select App on the LG Display (App needs to be installed on the display)
FuboTV	D	Pulse to select App on the LG Display (App needs to be installed on the display)

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Standby	D	Pulse to turn product off
All_Standby	D	Pulse to turn off all B&O products in the BeoLink system over the network
Menu	D	Pulse to open Menu
Guide	D	Pulse to open TV channel Guide
Info	D	Pulse for program Info
Nav_Up	D	Pulse to move or navigate Up
Nav_Down	D	Pulse to move or navigate Down
Nav_Left	D	Pulse to move or navigate Left
Nav_Right	D	Pulse to move or navigate Right
OK	D	Pulse to Select
Back	D	Pulse to move or navigate Back
Exit	D	Pulse to Exit menu
Red	D	Pulse to send key Red
Green	D	Pulse to send key Green
Yellow	D	Pulse to send key Yellow
Blue	D	Pulse to send key Blue
Play	D	Pulse to select Play
Pause	D	Pulse to select Pause
Stop	D	Pulse to select Pause
Record	D	Pulse to select Record
Skip_FF	D	Pulse to select Skip Forward
Skip_Rew	D	Pulse to select Skip Rewind

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FF	D	Pulse to select Fast Forward
Rew	D	Pulse to select Rewind
Digit_0 - Digit_9	D	Pulse to send digit 0 thru 9
CH_Up	D	Pulse to send Channel/Program Up
CH_Down	D	Pulse to send Channel/Program Down
Volume_Up	D	Pulse to step Volume Up by one step (0-100)
Volume_Down	D	Pulse to step Volume Down by one step (0-100)
Volume_Mute	D	Pulse to Mute Volume
Volume_UnMute	D	Pulse to UnMute Volume
Set_Volume	A	Set Volume to specific value. (allowed values are 0d - 100d)
Source_ID\$	S	<p>Serial Input for selecting dynamic sources including direct selection of TV apps. Manually select the source/app on the product and use the "Source_ID\$_FB" to read format/command used for selection of specific source/App</p> <p>Examples could be: deezer spotify tv://hdmi_3 tv://mainTv/Netflix mainTv/com.webos.app.hdmi1</p>
BeoLink_Expand\$	S	<p>Product ID to send current audio source to over the network.</p> <p>Format is: Type.Item.Serial@products.bang-olufsen.com</p> <p>Example could be: 2714.1200304.26451293@products.bang-olufsen.com</p>

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BeoLink_Join\$	S	<p>Product ID to Join current audio source from over the network.</p> <p>Format is: Type.Item.Serial@products.bang-olufsen.com</p> <p>Example could be: 2714.1200304.26451293@products.bang-olufsen.com</p>
Preset\$	S	<p>Serial input for triggering a preset</p> <p>Examples could be: 1 2</p>
Play_URL\$	S	<p>Serial input for playing the audio from a specific URL</p> <p>Example could be: https://www.soundjay.com/free-music/sounds/destination-01.mp3</p>
Overlay_TTS_Message\$	S	<p>Serial input for overlaying the audio from a Text To Speech message</p> <p>Example could be: Dinner is ready</p> <p>Note: limited to 100 unique TTS messages generated a day (generated messages are cached for 24 hours)</p>
Overlay_URL\$	S	<p>Serial input for overlaying a audio sound from a URL</p> <p>Example could be: https://www.soundjay.com/door/sounds/doorbell-2.mp3</p>
Listening_Mode\$	S	<p>Serial input for selecting Listening Mode</p> <p>Examples could be: 1 2</p>
Sound_Directivity\$	S	<p>Serial input for selecting Sound Directivity</p> <p>Examples could be: front</p>

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Listening_Positions\$	S	Serial input for selecting Listening Positions Examples depends on product configuration, the Listening positions are named doing setup and triggered using the individual name given doing the setup process.

FEEDBACK:

Connected_FB	D	Once the driver module is connected to the product this output will remain high.
Spotify_FB	D	Indicates the selected source on the B&O product.
Deezer_FB	D	Indicates the selected source on the B&O product.
Net_Radio_FB	D	Indicates the selected source on the B&O product.
Line_In_FB	D	Indicates the selected source on the B&O product.
Optical_FB	D	Indicates the selected source on the B&O product.
Bluetooth_FB	D	Indicates the selected source on the B&O product.
DLNA_FB	D	Indicates the selected source on the B&O product.
Qplay_FB	D	Indicates the selected source on the B&O product.
eARC_FB	D	Indicates the selected source on the B&O product.
Live_TV_FB	D	Indicates the selected source on the B&O product.
HDMI_A_FB	D	Indicates the selected source on the B&O product.
HDMI_B_FB	D	Indicates the selected source on the B&O product.
HDMI_C_FB	D	Indicates the selected source on the B&O product.
LG_HDMI_1_FB	D	Indicates the selected source on the B&O product.
LG_HDMI_3_FB	D	Indicates the selected source on the B&O product.
LG_HDMI_4_FB	D	Indicates the selected source on the B&O product.
YouTube_FB	D	Indicates the selected source on the B&O product.

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Netflix_FB	D	Indicates the selected source on the B&O product.
Amazon_Prime_Video_FB	D	Indicates the selected source on the B&O product.
Plex_FB	D	Indicates the selected source on the B&O product.
VUDU_FB	D	Indicates the selected source on the B&O product.
Spotify_App_FB	D	Indicates the selected source on the B&O product.
Deezer_App_FB	D	Indicates the selected source on the B&O product.
ViaPlay_FB	D	Indicates the selected source on the B&O product.
Hulu_FB	D	Indicates the selected source on the B&O product.
BBC_iPlayer_FB	D	Indicates the selected source on the B&O product.
Tital_App_FB	D	Indicates the selected source on the B&O product.
Disney_Plus_FB	D	Indicates the selected source on the B&O product.
YouTube_TV_FB	D	Indicates the selected source on the B&O product.
Apple_TV_FB	D	Indicates the selected source on the B&O product.
Apple_Music_FB	D	Indicates the selected source on the B&O product.
HBO_Max_FB	D	Indicates the selected source on the B&O product.
Starz_FB	D	Indicates the selected source on the B&O product.
Pluto_TV_FB	D	Indicates the selected source on the B&O product.
FuboTV_FB	D	Indicates the selected source on the B&O product.
Standby_FB	D	Indicates when the product is in Standby
Mute_FB	D	Indicates when product is muted
Volume_FB	A	Indicates products current volume level. (value between 0d – 100d)
Source_ID\$_FB	S	Shows the currently selected Source ID, this ID can be used to select the Source/App thru the "Source_ID\$" serial input.
Source_Name\$_FB	S	Shows the name of the source/app currently selected
Album\$_FB	S	Shows Album name of currently playing content (only available on some sources)

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Artist\$_FB	S	Shows Artist name of currently playing content (only available on some sources)
Genre\$_FB	S	Shows Genre name of currently playing content (only available on some sources)
Organization\$_FB	S	Shows Station name of currently playing content (only available on some sources)
Title\$_FB	S	Shows Title name of currently playing content (only available on some sources)
Playback_State\$_FB	S	Shows the playback state (only available on some sources)
Cover_Art\$_FB	S	CoverArt URL of currently playing content (only available on some sources)
Button\$_FB	S	Shows button presses (only available on some buttons)
Event\$_FB	S	Shows system events

PARAMETERS:

IP_Address	P	The IP address of the B&O product to control. Format is xxx.xxx.xxx.xxx
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TESTING:

OPS USED FOR TESTING:	v2.8000.00010 (4-Series)
SIMPL WINDOWS USED FOR TESTING:	4.20 (build: 4.2000.00)
DEVICE DB USED FOR TESTING:	200.230 (build: 200.23000.001.00)
CRES DB USED FOR TESTING:	215.00 (build: 215.0000.003.00)
SYMBOL LIBRARY USED FOR TESTING:	1176
SAMPLE PROGRAM:	B&O ControlLink Demo Program
REVISION HISTORY:	
V1.0.0	Initial Release