Partner: Bang & Olufsen
Model: Net Remote
Device Type: Device Interface

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GENERAL INFORMATION

SIMPLWINDOWS NAME:	B&O Remote Driver
CATEGORY:	Device Interface
VERSION:	V 1.5
SUMMARY:	The module provides a remote interface via TCP/IP for a B&O device.
GENERAL NOTES:	The module provides a remote interface via TCP/IP for a B&O device. Controls are provided for power, audio, input selection, borrowed sources and transport commands. To Keep the network port always online you must setup the Quick Start Timers on the TV. If this is not done "Wake on LAN" will need to be used to turn on the TV from standby (Reduces power consumption, but adds 25 sec to startup from deep sleep) For simplicity it's recommended to just configure the "Quick Start Timers" on the TV so the TV will turn on with a regular source selection and no "Wake On LAN" functionality is then needed. The setting can be found by pressing "Menu" and selecting Setup -> Power Saving -> Standby -> Quick Start Timers Recommend setting would be: TIMER 1: 03:15 to 3:00 MO TU WE TH FR SA SU TIMER 2: 00:00 to 00:00 In this way the device will go into sleep only for 15 minutes every day. And the risk of the customer wanting to power up the device in that timeframe is minimal. We do not recommend the device is configured so it will never go to deep sleep as some routines are only run when entering this deep sleep mode Make sure that all days of the week are lit up. You will have to scroll down to each of the days to enable them. If you choose to let the TV go to deep sleep mode and will be using WOL for powering up, it has to be enabled in the TV. MENU->SETUP->POWER SAVING -> NETWORK The driver module now supports WOL directly in the module, but you will need to enter the MAC address of either the cabled or wireless network interface in order to use it. Once the WOL package has been sent it takes approximately 20-25 seconds until the TV is ready to accept connections.
CRESTRON HARDWARE REQUIRED:	2/3-series processor
SETUP OF CRESTRON HARDWARE:	Connect the Crestron processor on the same subnet as the B&O device.
VENDOR FIRMWARE:	N/A

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VENDOR SETUP:	Connect the B&O device on the same subnet as the Crestron processor.
CABLE DIAGRAM:	Standard CAT5 cable.

CONTROL:

Connect	D	When high it attempts to connect to the products IP address. When using Quick Start Timers it can be held high all the time. If using WOL enable the module only in the when the TV is not in deep sleep.
Standby	D	Pulse to trigger the standby command..
All_Standby	D	Pulse to trigger a B&O system wide standby
MyButton_SnapShot_[1-3]	D	Press: Activate PROFILE [1-3] on the TV. Hold: Store the current settings of the TV to PROFILE [1-3].
Input_[1-25]	D	Selects the input that has been setup in the parameters corresponding to the same number.
Source	S	Select source by source type, i.e. "DEEZER".Brackets need to be included..
Join	D	Joins an existing experience ongoing on another Bang & Olufsen product connected to the LAN. If several experiences are ongoing, it will toggle in between each experience.
NetworkProduct_1_Name	S	The network friendly name of Product 1 from which to borrow the sources [Not used, if defined in the parameters instead.]
NetworkProduct_1_Source	S	Select borrowed source by source type, i.e. "DEEZER" (Brackets need to be included) [Not used, if defined in the parameters instead.]
NetworkProduct1_Input [1-10]	D	Selects the borrowed source that has been setup in the parameters corresponding to the same number.
NetworkProduct_2_Name	S	The network friendly name of Product 2 from which to borrow the sources [Not used, if defined in the parameters instead.]
NetworkProduct_2_Source	S	Select borrowed source by source type, i.e. "DEEZER" (Brackets need to be included) [Not used, if defined in the parameters instead.]
NetworkProduct2_Input [1-10]	D	Selects the borrowed source that has been setup in the parameters corresponding to the same number.

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Mute_[On/Off]	D	Mute/Unmute the mute state..
Volume Up/Down	D	Pulse to increase/lower the volume.
Volume%	A	Set volume level. Range: 0..65535.
Volume_0-90	A	Set volume level. Range: 0-90.
Speaker	D	Open the "Speaker Group" menu.
Sound_Mode	D	Open the "Sound Mode" menu.
Picture_Format	D	Open the "Picture Format" menu.
Picture_Mode	D	Open the "Picture Mode" menu.
Picture_Size	D	Toggle the Picture Size while in P-in-P.
Picture_Mute	D	Mute the picture with electronic curtains.
Picture_UnMute	D	Unmute the picture with electronic curtains.
Format_2D	D	Change to 2D viewing mode.
Format_3D	D	Change to 3D viewing mode.
Digit_[0-9]	D	Send digit command 0..9.
Menu	D	Open TV menu.
Text	D	Open teletext (if available on TV tuner source)
Cursor_[Up/Down/Left/Right]	D	Navigate [Up/Down/Left/Right].
Select	D	Navigate select.
Exit	D	Exit Menu.
Guide	D	Open TV guide.
Info	D	Show broadcast information.
Back	D	Navigate back one step.
Clear	D	Show broadcast information.

PageUp	D	Scrolls up by a page height (If supported by application).
PageDown	D	Scrolls down by a page height (If supported by application).
Step_Up	D	Channel Up / Next Chapter.
Step_Down	D	Channel Down / Prev Chapter.
Red/Green/Yellow/Blue	D	Red/Green/Yellow/Blue button.
Play	D	Play command.
Pause	D	Pause Command
Stop	D	Stop Command
Rewind	D	Rewind command.
Fast_Forward	D	Fast Forward command.
Next	D	Next Track/Station
Prev	D	Previous Track/Station
Record	D	Start Recording (If supported by TV).
Random	D	Randomize content.
Repeat	D	Repeat content.
Sleep_Timer	D	Toggle sleep timer.
Stand	D	Open the "Stand Positions" menu.
Stand_[Up/Down]	D	Hold to tilt TV upwards/downwards (if supported).
Stand_[Left/Right]	D	Hold to turn TV left/right (if supported).
Stand_[Red/Green/Yellow/Blue]	D	Hold to do secondary functions related to stand (see "Stand Positions" menu if supported).
Keyboard_Done	D	Direct press "Done/Enter" (If supported by application).
Keyboard_Backspace	D	Direct press "Backspace" (If supported by application).
Keyboard_Clear	D	Direct press "Clear" (If supported by application).

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Keyboard_Home	D	Direct press "Home" (If supported by application).
Keyboard_End	D	Direct press "End" (If supported by application).
Keyboard_Previous_Field	D	Selects the previous text field (If supported by application).
Keyboard_Previous_Field	D	Selects the next text field (If supported by application).
Keyboard_Page Up	D	Scrolls up by a page height (If supported by application).
Keyboard_Page_Down	D	Scrolls down by a page height (If supported by application).
Keyboard_Command	S	Send either a single or a series of characters when cursor is in a text input field (If supported by application).
Send_WOL	D	Send a Wake-On-LAN magic package to wake up the product if in deep sleep. After 20-25 seconds the product is ready to accept connections. If the product is in Quick Start Mode then it is not required to use this input. NOTE: Requires that MAC address of the LAN interface has been filled out in order to work.

FEEDBACK:

Connected_FB	D	Once the driver module is connected to the product this output will remain active.
Standby_FB	D	Indicates when the product is in Standby
MyButton_SnapShot_[1-3]_FB	D	Feedback pulses high when PROFILE [1-3] has been stored.
Input_Is_[1-25]	D	Goes high when Source [1..25] is selected.
Friendly_Source_Fb	S	The Friendly name of the currently selected source
Friendly_Product_Fb	S	The Friendly name of the product in which the source is played from
Mute_Is_[On/Off]	D	Product is [Muted/Unmuted].
Volume_Fb%	A	Current volume level of the product. Range: 0..65535
Volume_0-90_Fb	A	Current volume level of the product. Range: 0..90
Track_FB	S	Track number of the currently playing song (If supported by source)
Track_Name_FB	S	Track name of the currently playing song (If supported by source)

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Artist_FB	S	Artist name of the currently playing song (If supported by source)
Artist_Image_URL_FB	S	URL for the artist image (If supported by source)
Album_FB	S	Album name of the currently playing song (If supported by source)
Album_Image_URL_FB	S	URL for the album image (If supported by source)
Playing_Status_FB	S	Displays the playback state of the source (play, pause, stop)
Genre_FB	S	Genre of the currently playing song (If supported by source)
Net_Radio_Name_FB	S	Station name of the currently playing radio station (If supported by source)
Net_Radio_Genre_FB	S	Genre of the currently playing radio station (If supported by source)
Net_Radio_Country_FB	S	Country of the currently playing radio station (If supported by source)
Net_Radio_Language_FB	S	Language of the currently playing radio station (If supported by source)
Net_Radio_Image_URL_FB	S	Channel logo URL of the currently playing radio station (If supported by source)
Net_Radio_Description_FB	S	Description of the currently playing radio station (If supported by source)
Video_Name_FB	S	The name of the currently playing video on HOMEMEDIA (If supported by source)
CH_Number_FB	S	The number of the RADIO station or TV CHANNEL viewed (If supported by source)
CH_Name_FB	S	The name of the RADIO station or TV CHANNEL viewed (If supported by source)

PARAMETERS:

IP_Address	S	The IP address of the product to control
Mac_Address	S	The MAC address of the network interface that should receive the Wake-On-LAN magic package. [OPTIONAL]
Source[1-25]	S	Setup which source to correspond to which number of input. It does not have to match the order in which it is listed in the TV source list.
Default Network Product 1 Name	S	The network name of the product, from which to borrow the below sources from. Can be configured in the products configuration menu.
NetworkProduct1Source[1-10]	S	Setup which sources to borrow from product 1

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Default Network Product 2 Name	S	The network name of the product, from which to borrow the below sources from. Can be configured in the products configuration menu.
NetworkProduct2Source[1-10]	S	Setup which sources to borrow from product 2

TESTING:

OPS USED FOR TESTING:	V1.010.0060
SIMPL WINDOWS USED FOR TESTING:	V 4.02.56
DEVICE DB USED FOR TESTING:	V 63.00.002.00
CRES DB USED FOR TESTING:	V 49.06.005.00
SYMBOL LIBRARY USED FOR TESTING:	927
SAMPLE PROGRAM:	B&O Remote Driver v1.1 MC3 Demo
REVISION HISTORY:	v1.0 – Initial Release

v1.1:
- Fixed bug with the source type selection parameter for an input.
- Added join input in the Sources signal group.
- Removed Input_[1-25]_Name and Input_[1-25]_is_Used from the feedback section in the help file.

v.1.5:

- Added support for borrowed sources from other B&O products

- Added support for audio products and BeoLink Multiroom

- Added metadata, cover art and station logo support for the sources that support it

- Fixed bug that would cause the module not to select a source when selected repeatedly without selecting another source first.

- Added new sources to the module

- Removed the need to enter the type, item and serial number of each product. Now it is only the IP address needed if using the module only for stand-alone product. If using borrowed sources the network friendly name of the products in which the sources are borrowed from is required.

- Built-in Wake-On-LAN in the module if the product is in deep sleep, then it is now possible to wake it and after 20-25 seconds the product will be ready to accept connection from the driver module. If the TV is kept in Quick Start mode this is not applicable.

- Various bug fixes and improvements |

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Certified Module

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