












User guide, English


OneRemote beeLINK2 controller operates:

LG Flat screen TVs, all models.









Beo4/ Beo5 Translation table.

Daily operations




TV 	Power
 	OK/ enter
 *1 *2	P+
 *1 *2	P-
 *1	Guide
 *1	Return
MENU	Menu
EXIT	Exit
TEXT	TEXT
 1	FAV
 3	info

*1
As the direct function of the coloured function buttons has been assigned to other functions, these have to be preceded with a  to retrieve the actual coloured function.

*2
The up/ down arrow operation can be exchanged with the blue/ yellow buttons. See page.

 	Green function
 	Yellow function
 	Red function
 	Blue function








Playback operations

	Play <i>press 1 sec.</i>
STOP STOP	Stop
 STOP	Pause
  	Rew/ FF

Other operations

 5	List
 8	Simplink
 EXIT	Input

Special/ alternative operations

 0	Play
 4	Netcast
 6	AV-mode
 7	Q-view
 MENU	Q-menu
 9	Power
 2	TV/Radio
STOP 1	Ratio

Congratulations

The beeLINK2 controller from www.oneremote.dk can fully operate your TV using your Bang & Olufsen remote control terminal, via a beeLINK system bus.

Beo4 or Beo5 remote controls can be used. Beolink 1000 can be used with reduced functionality. This guide explains how.

This beeLINK2 controller is ready for use, plug & play. See the opposite page regarding daily operation.

Some operations can be altered, to improve interaction with other controllers or to your convenience. Refer to the installation section further on, if changes are needed.

List of Contents

Beo4/ Beo5 Translation table	page 2
beeLINK basics	page 5
beeLINK2 installation	page 6
beeLINK2 connections	page 8
Operation with OneRemote - <i>OneRemote environment</i>	page 9
Beolink 1000	page 10
Option programming	page 11
Programme zapping option	page 11
Menu button option	page 11
Power off option	page 12
beeLINK2 active option	page 13

beeLINK basics

The IR data emitted from a Bang & Olufsen remote control, is captured with a IR-receiver. If there is already one IR-receiver in the room, this can also be used to feed the BeeLINK bus. There is no need for two IR receivers in the same room.



Data received by the IR-receiver is fed to a OneRemote Link Amplifier with built-in power supply and 5 outputs for beeLINK devices.

If there is more than 5 beeLINK devices in the setup, splitters can be added.

The BeeLINK bus distributes the IR-data, received with the attached IR-receiver from a Beolink 1000, Beo4 or Beo5 to any number of beeLINK controllers. It also supplies the attached controllers with power.

The cable used between the link amplifier and the controllers is simple CAT5 type cable with RJ45 plugs. This type of cable is inexpensive and a standard cable that any installer are familiar with. Also it is well suited for data transmission. Finally many modern house installations use the same connectors, making installation even easier.

Note !

*A BeeLINK bus must ONLY be connected to other beeLINK components.
If connected to LAN or other systems, there is a great risk to damage these systems.*

The BeeLINK bus is a parallel bus type. Passive splitters therefore can be used, to make a network of any shape. If many controllers or very long cables are used, it might be necessary to add more power supplies.

Using this parallel structure each beeLINK controller receives the IR-data simultaneously. Every controller has its own microcomputer, living its own life.

Although some of the controllers can ‘talk’ to each other, most controllers operate fully on their own.

beeLINK2 installation

The beeLINK2 controller gets its power supply and control data, via the CAT5 cable from a beeLINK amplifier. The beeBus.

Once connected to the beeBUS the beeLINK2 controller only needs an IR-emitter to operate the device it has been designed for. The IR-emitter emits the same IR data as the device’s own remote control.

Emitted IR data is in fact only light at a frequency just out of the spectrum that the human eye is able to see. It emits short flashes of light, a bit like when sending Morse codes using a flashlight.

The emitter must be stuck on the device, nearby the Devices IR-receiver. It must be placed so the IR receiver in the device is able to see the emitted light from the IR-emitter.

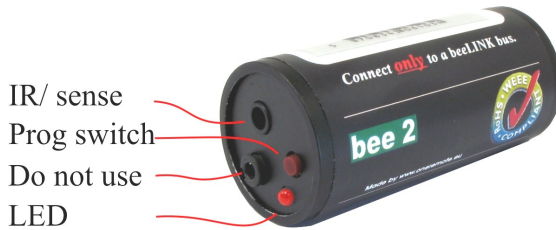
The beeLINK2 controller can be placed by the device or in another room. IR emitters are available in lengths of 1, 5 and 10 meters. Additional extension cords can be used. An IR-emitter can be extended to more than 50 meters.

The IR-emitter can be placed inside the device, if you want to avoid having it on the outside, as long as the IR-receiver is able to see the light from the emitter. This requires that the device is opened and the emitter is placed inside.

A beeBUS CAT5 cable may exceed more than 75 meters without additional amplifiers.



beeLINK2 connections.



The IR/ sense socket is output for the IR-emitter that sends IR to the device to be operated. In some cases this socket is also used for sensing purposes. Sometimes the Bee-LINK2 controller needs to know if the device is powered up or not.

In some cases this socket is used for other serial communications like RS-232 instead of IR control.

Prog switch is a push button that must be activated to initiate a programming sequence, as described in the option programming chapters.

Do not use socket is for firmware updating of the controller, and connection to special adapters. If used for anything else, the controller will be damaged.

LED indicates different operating states:


Red-green flash:	No data has been received since power has been applied
Red flash:	The controller is in option programming mode.
Red:	The controller is active.
Green:	The controller is inactive.
Short off:	When the controller sends data, the LED turns off 1 sec.

Operating with OneRemote - OneRemote environment.




To be able to operate the device optimal with the Beo4 the user has to be familiar with operations with the original remote control as described in the device's user manual.

The beo4 remote control is not equipped with as many keys as most other brands are using. We have designed a 'layout' that works logically, even when shifting between different OneRemote operated devices. To get a common layout for many devices, we therefore needed to redefine a few of the beo4 buttons to other functions:

Coloured function buttons.

To make room for easy access to more important functions, we have moved the coloured buttons, to a lower layer. To send a 'color' command from the device's original RCU, a  must be pressed before the coloured button.


This way we are able to assign other functions to the coloured buttons in direct mode. In a OneRemote environment the coloured buttons are assigned to these operations:

	Guide, EPG or similar.
	Back, Backup, Return or similar.
	Programme zapping. P+/ P- , Channel up/ down or CH+/ CH-.

Programme stepping, up/ down manoeuvring in menus.

Most set top boxes or TV's has 4 arrow buttons for moving up, down, left and right in on screen menus. In addition they have separate programme stepping buttons for zapping through programmes. B&O remote controls does not have separate buttons for programme zapping. We therefore have chosen the blue and the yellow buttons to function as programme stepping buttons, in direct mode. The four up, down, left and right buttons have been assigned for manoeuvring in on screen menus, in our basic setup. It is possible to use the up and down arrow for programme stepping, refer to the option section, page 6.


Go or Stop shifted operation.

Some of the buttons has 2 or three functions. To get to these they have to be preceded with  or **STOP**. The buttons that has been assigned secondary functions on this controller can be seen in the operating table on page 2.

Beolink 1000 and Beo4/ Beo5.

Beolink 1000 and other early Bang & Olufsen remote controls are not equipped with the coloured function buttons that have been added to Beo4 and Beo5. Some operations therefore might be less logical or in some cases not available, when using older remote controls in a beeLINK setup.

Some buttons on the Beolink 1000 remote controls, do actually send the same commands as differently named buttons on a Beo4/ Beo5. Other buttons simply has been renamed, but still sends the same commands.

Beolink 1000	Compares to Beo4/ Beo5
-----	-----
SHIFT <<	
SHIFT >>	
SHIFT ▲	
SHIFT ▼	
GO	PLAY
VTAPE	VMEM
SHIFT VTAPE	VTAPE2 /VMEM2 /DVD2
SAT	DTV
SHIFT SAT	DVD / CDV
SHIFT TV	VAUX
ATAPE	AMEM
SHIFT ATAPE	AMEM2

For compatibility with older remote controls, a typical OneRemote layout uses the following buttons:

Beolink 1000	Typical BeeLINK use
-----	-----
GOTO	Back, Backup e.t.c.
PLAY GOTO	EPG, Guide e.t.c.
STORE	EXIT.
PLAY 5	Menu.
PLAY 9	Manual power.

beeLINK2 TV-source option

The BeeLINK active option sets which source button on the remote control, that makes the BeeLINK2 go active and turns on the TV, as described in the previous chapter.

The BeeLINK source option combines other source buttons on the remote control, with the input sockets on the TV. The source option can force the TV to open a specific input, when an AV source is selected.

LG TVs can have up to 9 selectable sources, as shown in this table:

0 No new source	1: AV1	2: AV2	3: AV3
4: AV4	5: AV5	6: RGB-PC	7: RGB-Multimedia
8: Component	9: DVI/ HDMI		

Source buttons on beo4, like **SAT**, **VMEM**, **DTV**, **PC**, **ATAPE** can be programmed to select one of these inputs. Here are some programming examples:

An option programming sequence is started by pressing the little red switch on the Bee-LINK2 controller, until its LED starts flashing. Then the 3 code option must be entered with the B&O remote control. Here some examples:

Beo4 Source Volume Action

VMEM	1	0	>	VMEM	selects HDMI 1 on the TV. <i>No volume regulation on TV</i>
VMEM	2	0	>	VMEM	selects HDMI 2 on the TV. <i>No volume regulation on TV</i>
VMEM	1	1	>	VMEM	selects HDMI 1 on the TV. <i>Volume regulation on TV</i>
DVD	2	0	>	DVD	selects HDMI 2 on the TV. <i>No volume regulation on TV</i>
DVD	9	0	>	DVD	selects Component on the TV. <i>No volume regulation on TV</i>
PC	1	0	>	PC	selects Input1 on the TV. <i>No volume regulation on TV</i>

beeLINK2 active option.

As all controllers on the beeLINK bus are receiving all the IR-data simultaneously, every controller must know when to go *active* and when to go *inactive*.

Sometimes two or more controllers are active at the same time. A beeLINK2 controller is used to operate a TV, a satellite receiver, a DVD-player, a projector or similar devices.

Each controller is specifically made for one device. Many devices can be operated this way. This is useful when you have more than one device of the same type or simply run out of source buttons.

When the beeLINK2 controller goes active, its LED will turn red to indicate this. When another source is selected, the controller will go inactive and the LED turn green.

As a controller goes active, it will usually turn on the device, if it is not already turned on.



If the HDMI switch in the example is a beeLINK operated type, it will automatically switch to the last chosen source.

