

# LinTronic

<http://www.lintronic.dk>

## TT455-RT-238

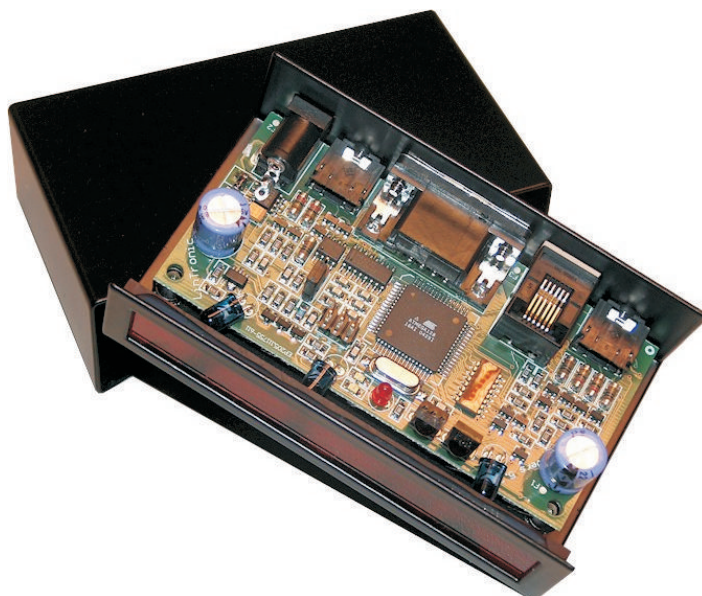
control a BEOSYSTEM by computer or B&O remote  
a projector/screen by IR and a computer by RS232

or

control a BEOSYSTEM by B&O remote  
a projector/screen by RS232  
and audio/video products by IR

## TT455-RX-002

control a BEOSYSTEM and a Lutron Light System



# TT455-RT-238

## IMPORTANT

- Your TT455-RT-238 must be firmware updated to version 001.034.032 or later.
- If you want to control the BeoSystem, then the pull-up resistor of digital output 2 must be removed. See our web-site: Support | Documentation/ApplicationNotes
- The default communication of the TT455-RT-238 is: 19200 bps, N, 8, 1.
- Relevant documentation:  
See our web-site: Support | Documentation/ApplicationNotes
  - Open-source communication protocol (pdf) - RS232/RS485
  - Command 039 (pdf) - Controlling TT455-RT-238 from a computer
  - CodeSet 701, Bang&Olufsen (pdf), InfraRed, digital and link commands

## OPERATION

When receiving B&O infrared pulses from the internal or external IR receiver, the TT455-RT-238 copies the pulses onto the Digital Output 2. This happens instantly and without delay. The operation of the BEOSYSTEM is seamless:

### NOTE

If you want the remote control signals copied to the digital output 2, then use the Configurator program, to set the Digital Output 2 to: 5 = BEOSYSTEM

If you do **NOT** want the remote control signals to be copied to the digital output, but only want the computer to be able to control the BEOSYSTEM on the digital output 2, then use the Configurator program, to set the Digital Output 2 to: 1 = STANDARD

Upon detection of a B&O signal, a Command 801 holding the detected signal, is send to the computer, allowing the computer to keep track of the operation. This also allows you to control your own computerprogram with the B&O remote.

### NOTE

Command 801 is transmitted to the computer as standard. You can prevent this command from being send to the computer by turning off "Send TriggerCommand to bus" in the TT455-RT-238's Memory Map of the Configurator program.

The computer may send a Command 039 (ControlAction) with the required CodeSet 701 and parameters (B&O code) to the TT455-RT-238, which will generate the wanted B&O signal.

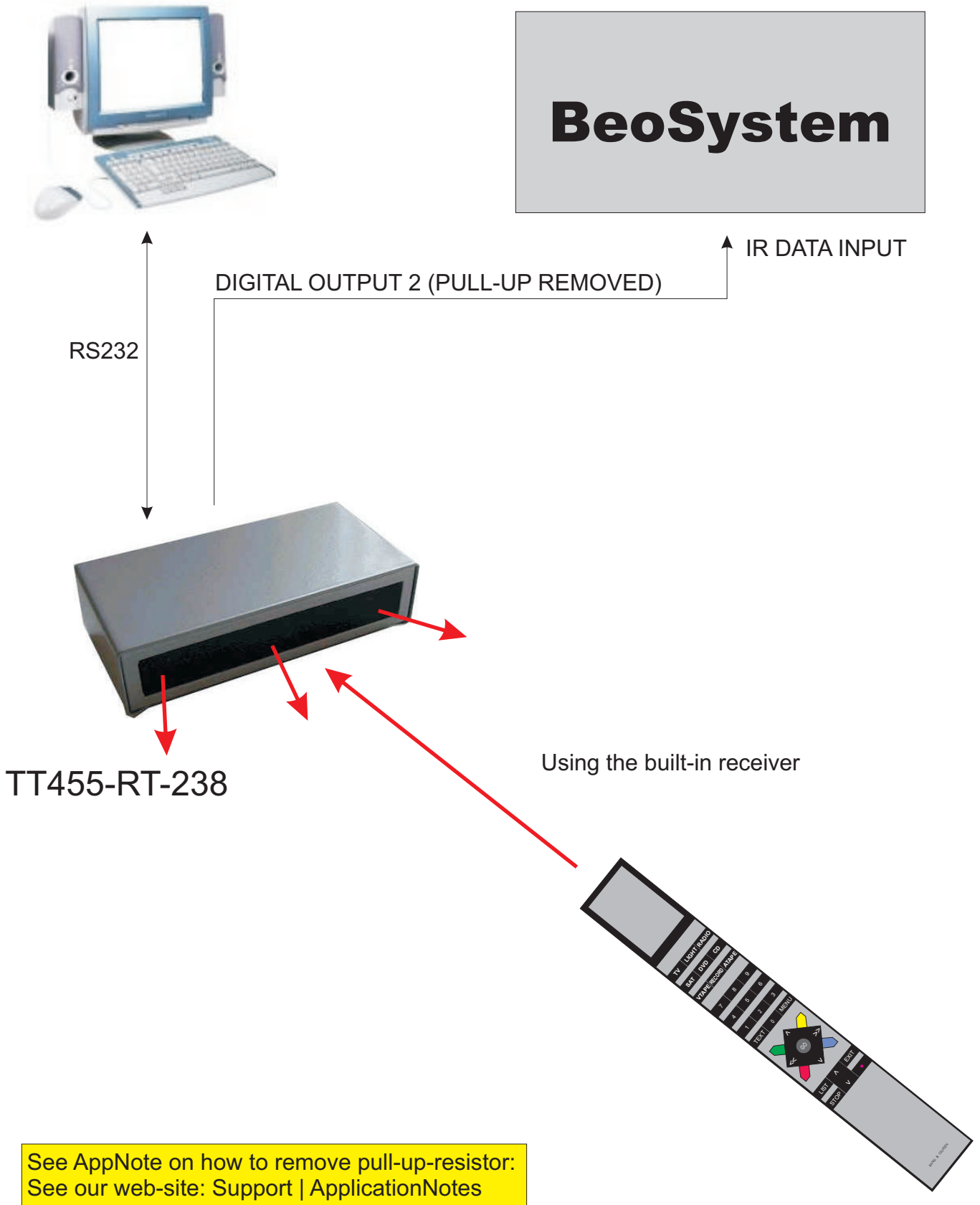
Digital Output 2 is recommend to control the main BEOSYSTEM as the received pulse from the IR receiver is optionally copied only to Digital Output 2.  
Digital Output 1 can be used to control a second BEOSYSTEM.

When the computer request the TT455-RT-238 to send a B&O signal, the IR reception in the TT455-RT-238 is stopped and the computer will have priority untill the signal is transmitted.

Furthermore you can ofcourse convert the received B&O IR codes into non-B&O codes controlling your non-B&O audio/video products, curtains, projector, etc.

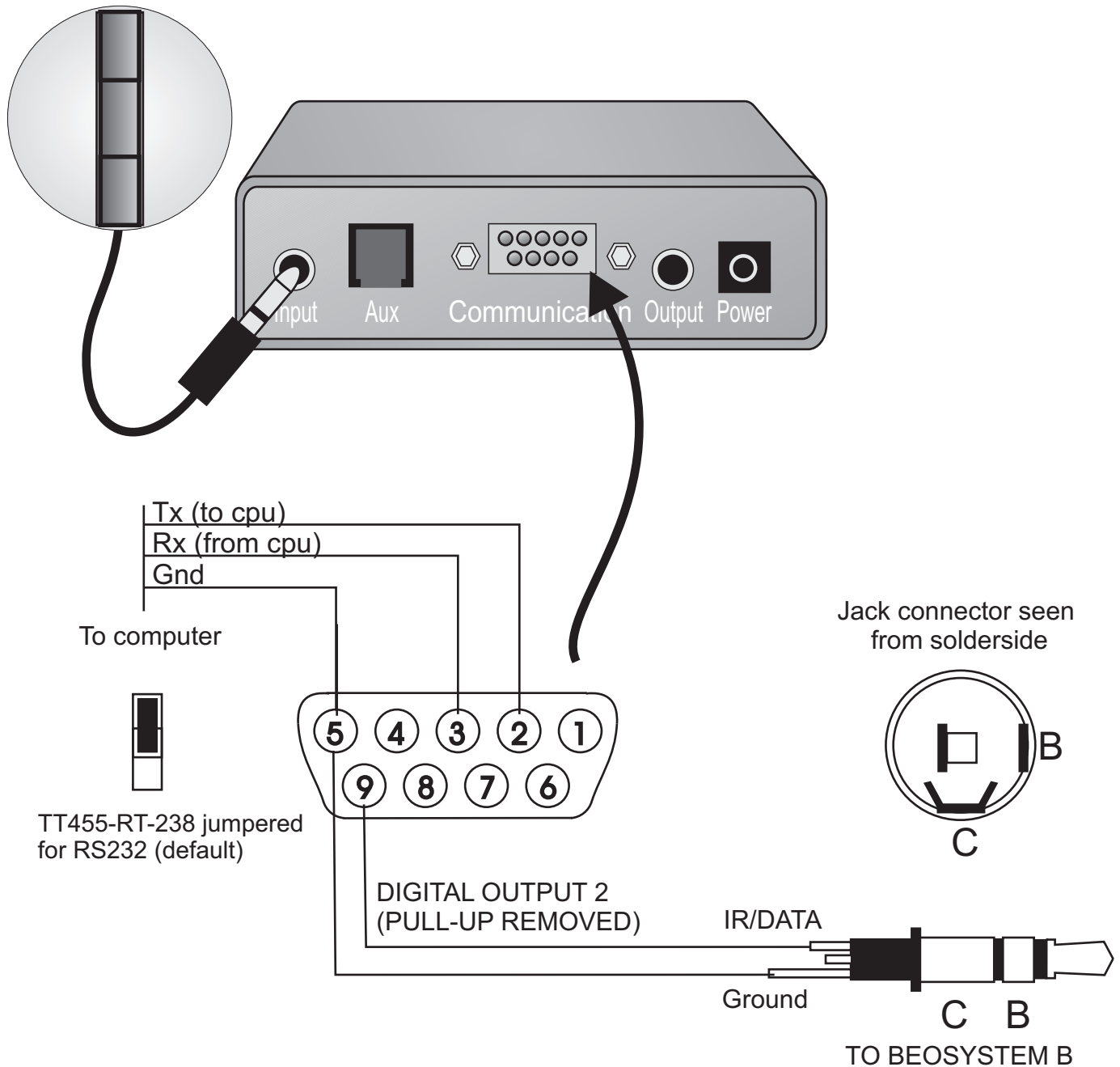


**Controlling BEOSYSTEM by a B&O remote or by computer**



# Pin-out of the TT455-RT-238's RS232 connector

Optional  
External receiver



TT455-RT-238 jumpered for RS232 (default)

See AppNote on how to remove pull-up-resistor:  
See our web-site: Support | ApplicationNotes

# TT455-RX-002

## IMPORTANT

- Your TT455-RX-002 must be firmware updated to version 001.034.029 or later.
- Controlling the BEOSYSTEM on the digital output 2 is a fixed feature which cannot be turned off.
- The default communication of the TT455-RX-002 is: 19200 bps, N, 8, 1.
- Commands to the Lutron system is send out at: 9600 bps, N, 8, 1.
- If you want to control the BeoSystem, then the pull-up resistor of digital output 2 must be removed. See our web-site: Support | Documentation/ApplicationNotes

## OPERATION

When receiving B&O infrared pulses from the internal or external IR receiver, the TT455-RX-002 copies the pulses onto the Digital Output 2. This happens instantly and without delay. The operation of the BEOSYSTEM is seamless.

Upon detection of a B&O LIGHT commands, the Lutron Light system will be controlled on the RS232 interface.

B&O	Lutron RS232
LIGHT 1	BP,1,TOG
LIGHT 2	BP,2,TOG
LIGHT 3	BP,3,TOG
LIGHT 4	BP,4,TOG
LIGHT 5	BP,5,TOG
LIGHT 6	BP,6,TOG
LIGHT 7	BP,7,TOG
LIGHT 8	BP,8,TOG
LIGHT 9	BP,9,TOG
LIGHT 0	BP,10,TOG
LIGHT Green	BP,16,ON
LIGHT Red	BP,17,ON
LIGHT Yellow	RAISE,<scene>
LIGHT Blue	LOWER,<scene>
LIGHT Yellow Off	STOPRL
LIGHT Blue Off	STOPRL


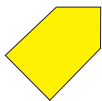

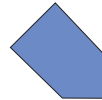
# TT455-RX-002

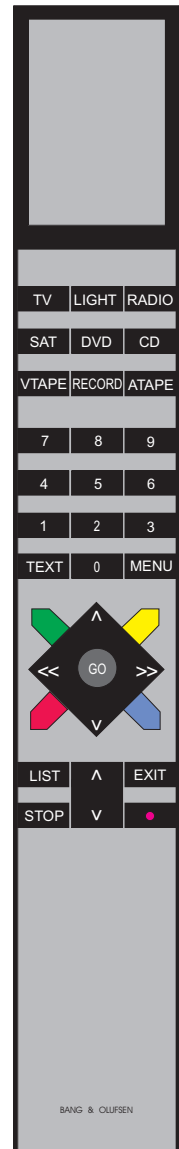


Lutron access → LIGHT

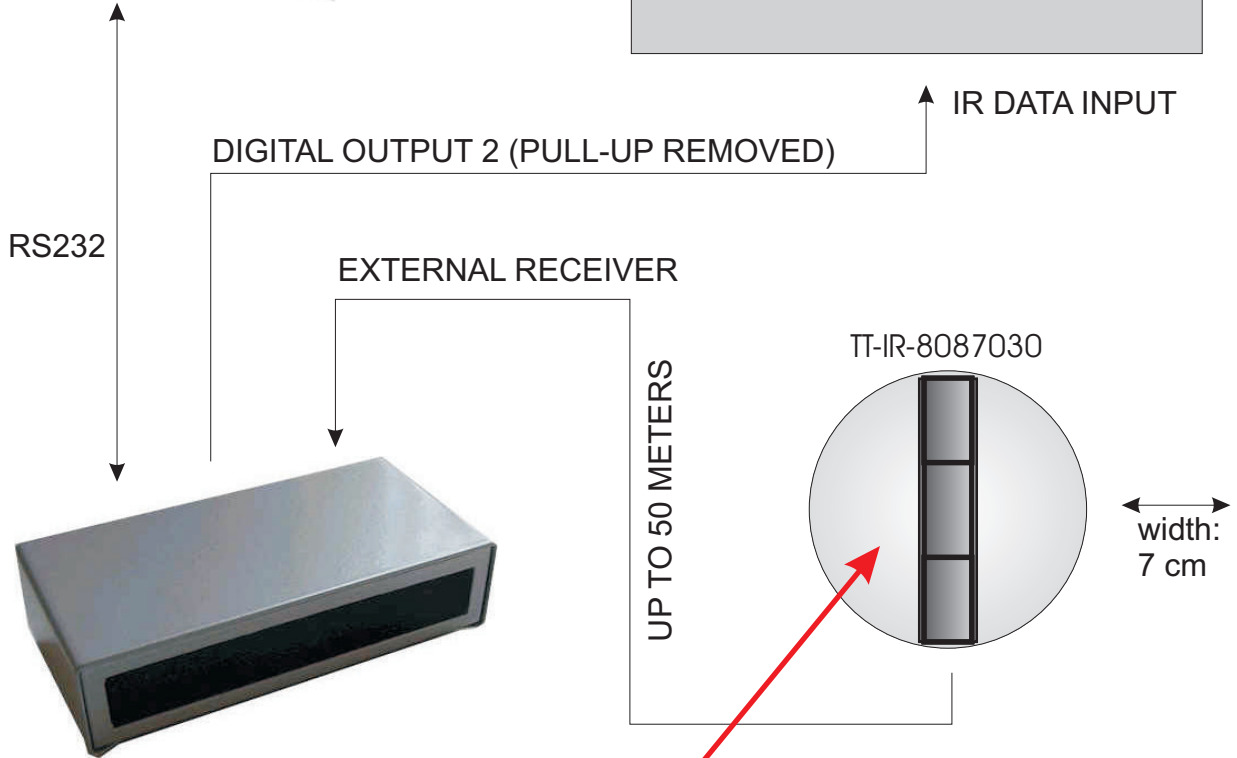
Scene selection → 0 - 9  
0=10

Light level →

ALL ON	RAISE
	
	
ALL OFF	LOWER



**Controlling BEOSYSTEM by a B&O remote or by computer**

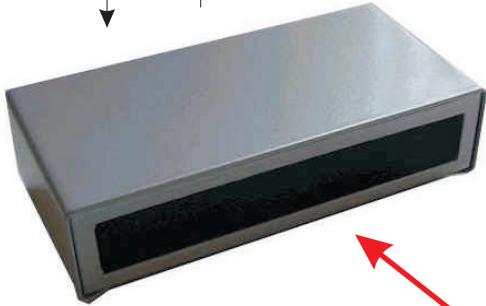
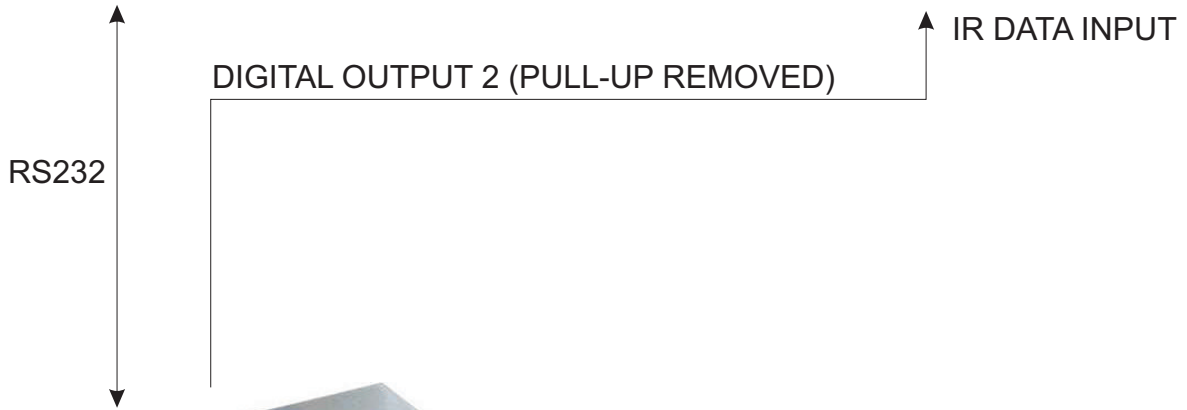


TT455-RX-002

LinTronic  
recommended  
solution.

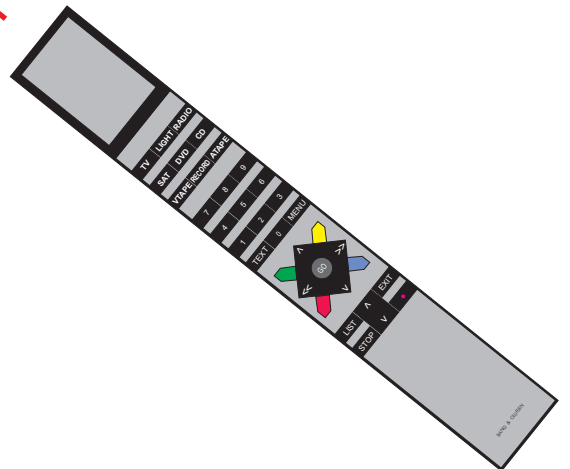
See AppNote on how to remove pull-up-resistor:  
See our web-site: Support | ApplicationNotes

# Controlling BEOSYSTEM by a B&O remote or by computer



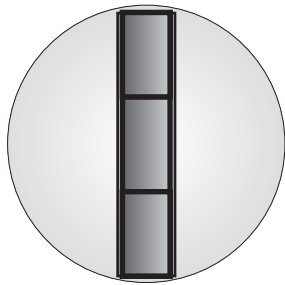
TT455-RX-002

Using the built-in receiver

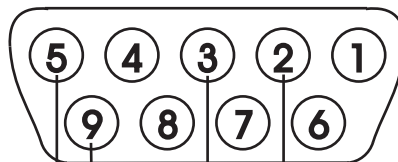
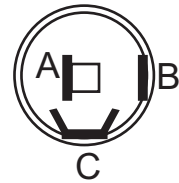


See AppNote on how to remove pull-up-resistor:  
See our web-site: Support | ApplicationNotes

# TT455-RX-002



Jack connector seen from solderside

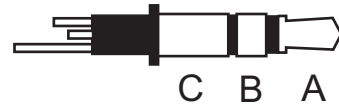


Digital Output 2 (B)

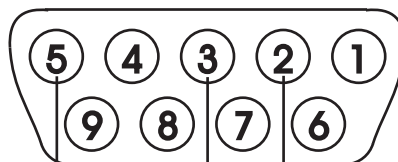
To BeoSystem

Gnd  
Data In (Rx)  
Data Out (Tx)

Gnd (C)



# LUTRON RADIO RA



Handshake must be disabled

Gnd  
Data In (Rx)  
Data Out (Tx)