903.211 Transmitter – Set
Included in Set:
Transmitter 903.200 (Rextron EVBMV-1371LA1)
Control 903.202 (EVN snapLight-BA04)

BACH MANN

Rextron

Description

• easy installation of all components: Plug-and-Play - No programming needed!
• Combination of diverse input and output signals:
  - 1 input VGA + Audio
  - 2 inputs HDMI
• Outputs optionally allocatable:
  - 1 local output via HDMI for display / beamer
  - 1 output via HDBaseT (network line min. CAT5e STP shielded cables) for transmissions up to max.
    70m to connect to receiver

• Complementary products:
  1. Receiver 903.201 (Rextron EVBM-107R)
  2. Mounting brackets 903.203
  3. Custom Modules for power socket 903.204 - 903.206
  4. Custom Module with 4 switches 917.198

Note: Please use only certfied HDMI cable

Introduction

The 4K2K HDMI / VGA HDBaseT Transmitter transmits full uncompressed 4K2K video and HD audio over CATx cable of up to 70 meters. It not only supports resolutions up to Full HD 1080p and 4K2K, but supports Deep Color and HD Audio formats as well.

The advanced HDBaseT all-in-one connectivity technology uses standard CATx cables and is perfect for situations like hospitality (hotels, conference rooms) and digital signage (airports, shopping malls), etc.

Features

• Uses HDBaseT technology*
• Transmits HDMI / VGA+audio signal over CATx cable of up to 70 meters
• Standard CAT5e/6 LAN cable; advanced and inexpensive all-in-one connectivity technology
• HDTV, 3D HDTV compatible, HDCP compliant and Blu-ray ready
• Input source selectable
• Supports resolution up to Full HD (1920x1080) / UHD (3840x2160) (depends on transmission line)
• Supports Deep Color and HD Audio formats.
• Plug-n-Play system without any drivers or software installation
• Ideal for hospitality (hotels, conference rooms) digital signage (shopping malls, airports), surveillance cameras, whole-home networking and point-to-point consumer applications
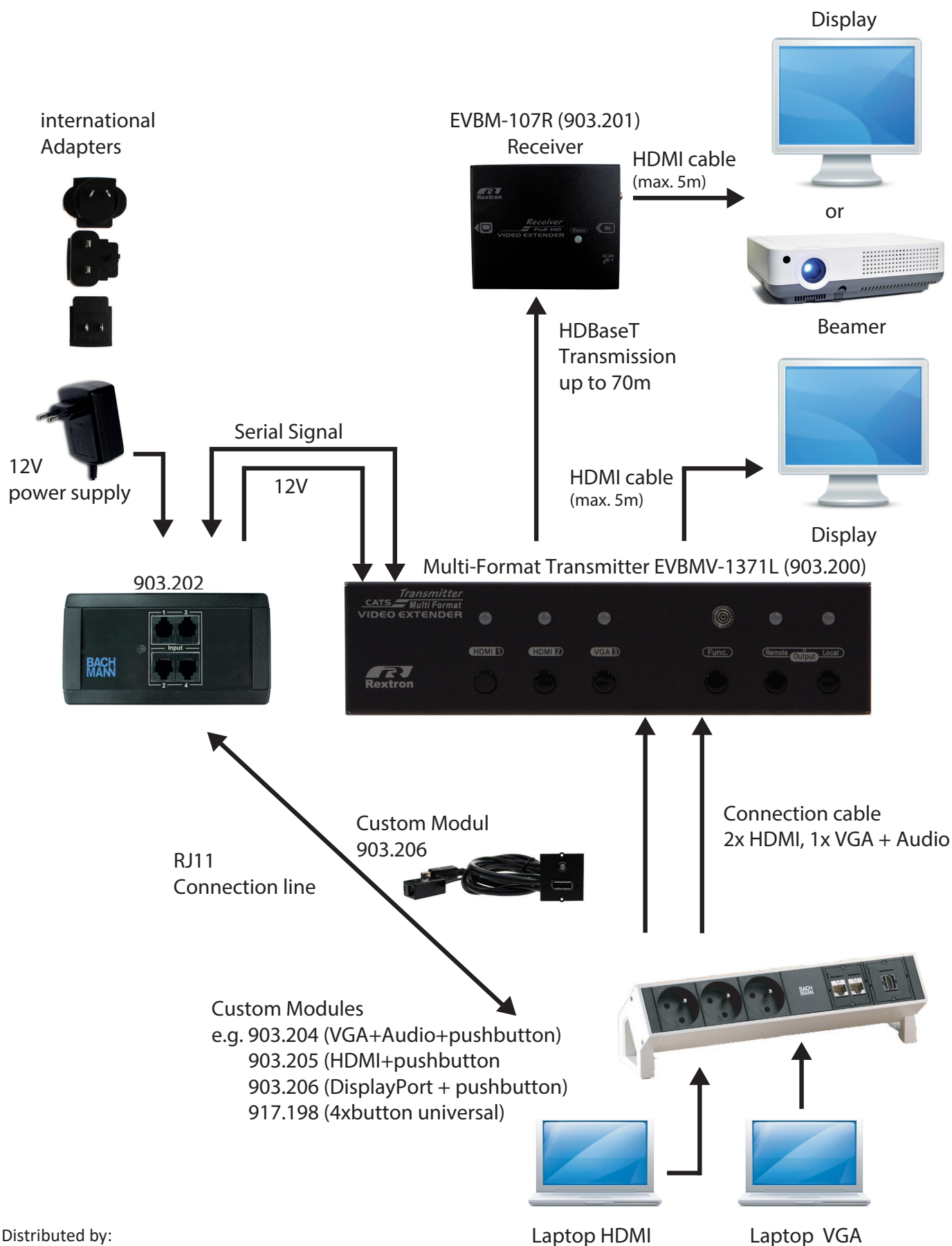
HDBT

* as a certified member of the „HDBaseT Alliance", the manufacturer Rextron uses the HDBaseT standard for signal transmission

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Display

EVBM-107R (903.201)
Receiver

HDMI cable
(max. 5m)

or

international
Adapters

Beamer

HDBaseT
Transmission
up to 70m

Serial Signal

HDMI cable
(max. 5m)

12V

12V
power supply

Display

903.202

Multi-Format Transmitter EVBMV-1371L (903.200)

Transmitter
CAT5 Multi Format
VIDEO EXTENDER

Input

HDMI 1   HDMI 2   VGA 3   Func.   Remote Output Local

Rextron

Connection cable
2x HDMI, 1x VGA + Audio

Custom Modul
903.206

RJ11
Connection line

Custom Modules
e.g. 903.204 (VGA+Audio+pushbutton)
903.205 (HDMI+pushbutton
903.206 (DisplayPort + pushbutton)
917.198 (4xbutton universal)

Laptop HDMI   Laptop VGA

Installation and commissioning

Before commissioning

Make sure that all devices to be connected are switched off. All devices should
be properly grounded. Install the connecting cables at a distance from other electrical systems such as lights, air-conditioning systems, machines, etc. that could interfere with the transmission. Install the devices so that air circulation is ensured.

- To prevent damage to the product or the connected equipment and to improve the performance of the product of video and audio transmission, equipment should be properly grounded.
- Use only high quality cables and connections between devices to ensure high quality video and audio transmission to get transmission of your signals.

Connecting the devices

Step 1:
First connect the 903.202 controller to the multi-format transmitter.
- Plug the RJ12 connector from the controller into the control port of the multi-format transmitter (C).
- Plug the DC output from the controller into the DC input of the multi-format transmitter (P).
Step 2:
Connect the signal sources to the input jacks (I) on the transmitter.
Step 3:
Connect the HDBaseT output to your HDBaseT terminal or receiver,
if necessary the HDMI output socket with a local second monitor
Step 4:
Connect the control line of the push-button (from the Custom Module) to the appropriate
Input socket on the controller
Step 5:
Connect the power supply unit of the controller to the mains voltage. After a few seconds, the HDBaseT line is set up. The correct connection of all components is indicated by a blue LED on the transmitter.

Selecting the A/V source

In switch mode (see page 6), you can easily select the source by pressing the corresponding input button. The selection can be made directly on the device via the labelled selection keys or via a serial control in conjunction with the corresponding Custom Modules (see accessories list). Simply press the corresponding source and the input is acknowledged with a short signal tone.

On/Off switching Output signals (Remote Unit and Local Unit)

The HDMI output signals can be switched off and on separately. Press the Remote Unit or Local button to deactivate/activate the corresponding output Unit for 2 seconds until the corresponding output LED
 flashes blue and then release the button. To to undo the entry, repeat the procedure.

Technical specs

Input:	1x VGA + analog Stereo, 2x HDMI Input
Output:	1x local HDMI, 1x Audio, 1x HDBaseT Output - RJ45
	at the minimum CAT5e, recommended CAT6 shielded or higher
Transmission:	max. UHD (3840x2160)
	HDMI transmission lenght max. 70m by 1920x1080 (Full HD)
	HDMI transmission lenght max. 35m by 3840x2160 (UHD)
Power supply:	12 Volt
Housing:	Metal, 40x160x100mm

Recommended equipment

Connection cable HDMI
HDMI cable 1m : 918.0191
HDMI cable 3m : 918.0192
HDMI cable 5m : 918.0193

Connection cable VGA
VGA cable 1m : 918.009
VGA cable 3m : 940.047
VGA cable 5m : 940.048
VGA cable + Audio 1m : 918.066
VGA cable + Audio 3m : 918.067
VGA cable + Audio 5m : 918.068

Custom Modules
Module VGA+Audio+pushbutton 1m cable: 903.204
Module HDMI+pushbutton 1m cable: 903.205
Module DP + pushbutton 1m cable: 903.206
Module 4xbutton universal: 917.198

HDBaseT network connection:
The connection between HDBaseT devices must occur at least with CAT5e. We recommend CAT6 shielded cables or higher). In dependence of cable quality, the cable lenght reduces itself between the devices. The connection should occur at least from Point-to-Point. Please do not connect any network structure via Hub/ Switch. The receiver gets power supply from network power supply.
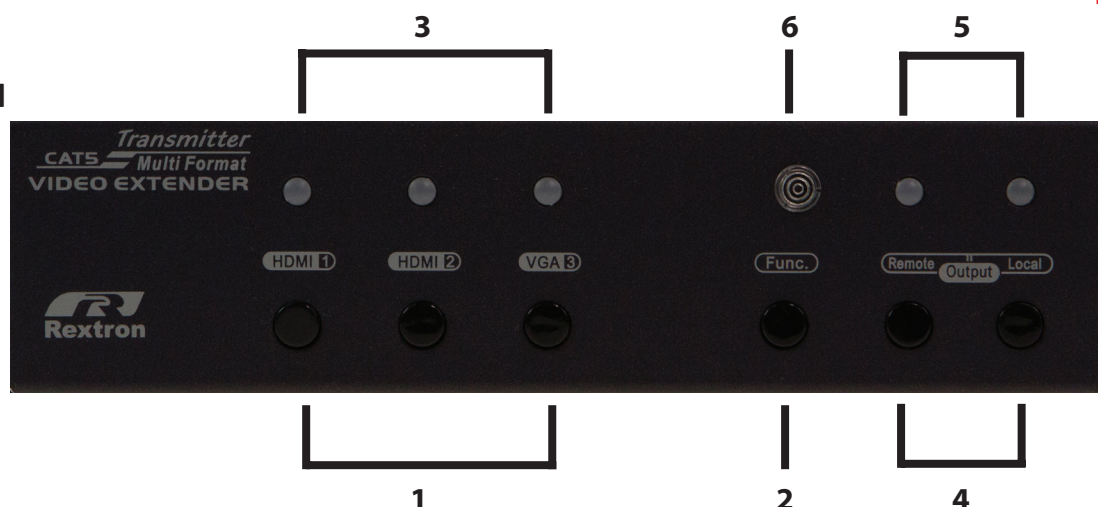
Recommended network cable:
Metz Connect CAT7A GC1500 pro22 part number 1308427A34142 (first HDBaseT certified transfer cable)

Front Panel

1	Input Port Button	Source selection
2	Function Button	System configuration
3	Input Port LED	Please see LED Indicator
4	Output Port Button	Turn ON / OFF Output Signal
5	Output Port LED	Please see LED Indicator
6	IR Sensor	IR remote controller sensor

Rear Panel
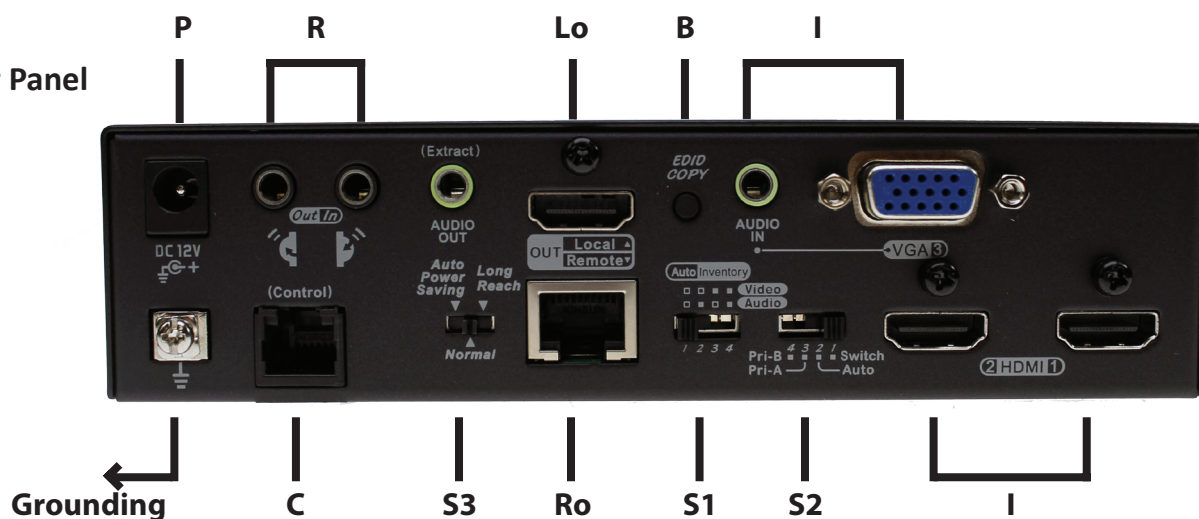
I	Video Input Port	Connect to VGA + Analog stereo, 2x HDMI
Ro	Remote Output Port	Connect to a receiver
Lo	Local Output Port	Connect to an HDMI display
S1	EDID Setting Switch	See the diagram of EDID Setting Switch
S2	EGO Slide Switch	See the diagram of EGO Slide Switch
S3	Link Port Switch	See the diagram of Link Port Switch
R	IR Connector	Transmission of IR signal to receiver
C	Serial Port	Connect to a serial control box
P	Power Supply	power input from serial control box

EDID Setting switch

When connecting a video source to a display via HDMI, the display transmits EDID information (video and audio functions) to the source in order to achieve optimum quality of presentation. Since the switch allows the connection of two displays (remote and local), they may have
differences in the resolution. The EDID information can either be emulated or copied via the setting switch if one of the two connected displays does not work. When emulating the EDID
signal, the display is set to 1080P and 2-channel audio. With the copy function you can copy the information of one display and send it to the second display until you get an optimal function of both displays.

|		
Position 1*:	Video Auto (Emulation)	Audio Auto (Emulation)
Position 2:	Video Auto (Emulation)	Copy Audio
Position 3:	Copy Video	Audio Auto (Emulation)
Position 4:	Copy Video	Copy Audio

Delivery in switch position 1 (recommended setting)

To copy the EDID information from the Remote Display: Press the EDID Copy button (on the back panel) for 3 seconds until the remote LED flashes green

To copy the EDID information from the Local Display: Press the EDID Copy button (on the back) for 6 seconds until the Local LED flashes green

EGO slide switch

This device has different operating modes for defining the input sources.
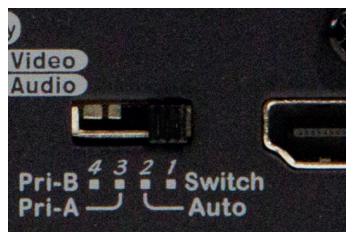
1 Switch*: Selection of the input source via input selection button, remote control or via external control (serial control). The control LED of the selected source lights up.
Switch Standard setting (switch must be set to Switch)

2 Auto: automatically selects the last connected or turned on video source. Attention, in auto mode it can happen that a presentation is interrupted by a second participant. The control LED of the active source lights up.

3 Pri-A: In this mode, different priorities are assigned to the sources in the order HDMI-1 - DisplayPort - VGA - HDMI-2. Sources with higher priority are automatically switched on, after completion of the transmission, the system switches back to the lower priority.

4 Pri-B: Function like Pri-A, but in order HDMI-2 - VGA - DisplayPort - HDMI-1

Port Link Switch

Operating mode switch for different HDBaseT transmission variants

	Auto Power Saving:	Device switches to power save mode when either source or display is no longer on
	Normal: (recommended)	Normal operation, transmission of signals up to 4K2K UHD
	Long Reach:	Range extension, transmission of signals up to 1080P Full-HD

To optimize video quality, users can adjust video equalization (sharpness) for all video inputs.
8 levels of adjustment are available.

- Press the function button 2x to enter the EQ mode.
- Press the corresponding input selection button 1 - 8 times to select the different Test screen settings
- Level 1-4 is indicated by the corresponding LED in blue, level 5-8 in green.

Stand-by-Modus

The unit can be switched to standby mode:
- Press the Remote Unit and Local Unit buttons simultaneously for 3 seconds
- Release when both LEDs flash green
- LED for Remote and Local lights up green and flashes blue every 3 seconds
- Repeat the procedure to return to the standard mode.

Screen Shift Mode (VGA input only)

The display of a VGA signal may have a different magnification than the display of a HDMI/DP signals.
This can be set separately on the product:
- Press the button for VGA input and the function button simultaneously for 2 seconds.
- VGA LED changes to light blue
- Press the HDMI-1 (Left) or HDMI-2 (Right) button to move the position of the image.
- Press the key for VGA input and the function key again for 2 seconds to leave the shift mode

****The system retains this setting, the horizontal position of the image can be shifted in max. 50 steps. If no setting is made, the unit will automatically exit Shift mode after 15 seconds.****

Resolution change mode (VGA input only)

In case of display problems in VGA mode, the resolution for the VGA input can be set separately:

- Switch to Screen Shift mode as described on page 8
- Press VGA button for 2 seconds
- LED flashes purple
- Press the VGA button for 2 seconds to change the resolution.
- Exit as described above

LED Indicator
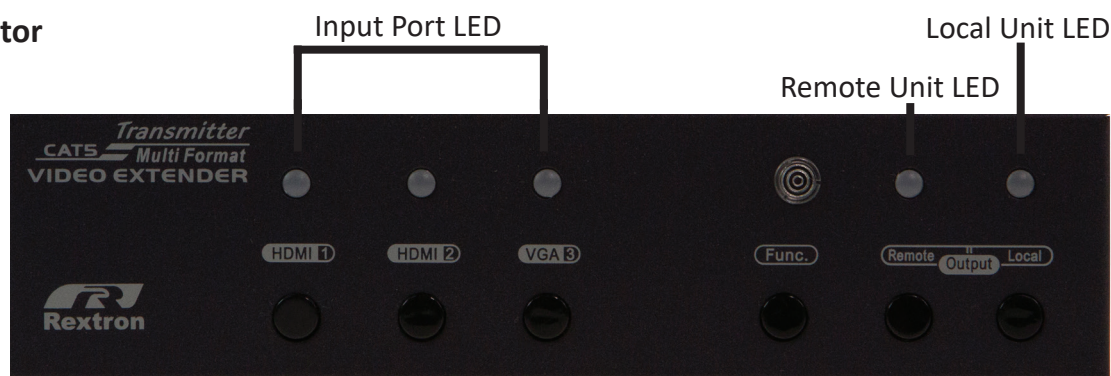
Input Port LED	Video OK	Source Selected	Note
Emit Blue and go off 3 times	Yes	Yes	w/o HDCP
Flash Blue once	Yes	No	
Emit Purple and go off 3 times	Yes	Yes	w/ HDCP
Flash Purple once	Yes	No	
Emit Blue and flash Red once	No	Yes	
OFF	No	No	
Emit Blue and Flash Orange twice / Three Times			Resolution Alternation (ONLY happen in Screen Shift Mode)

Remote Unit LED	ON / OFF	CAT5 detected	Status
Flash Blue once	ON	YES	Monitor Non-detected
Steady Blue	ON	YES	Monitor detected
Emit Blue and Flash Purple once Red twice	ON	YES	HDCP doesn't match
Flash Green once	ON	NO	
OFF	OFF	YES / NO	

Local Unit LED	ON / OFF	Status
Flash Blue once	ON	Monitor Non-detected
Steady Blue	ON	Monitor detected
Emit Blue and Flash Purple once Red twice	ON	HDCP doesn't match
OFF	OFF	

903.202 Serial Control Box

Suitable for usage with Bachmann Custom Modules with integrated Push Button or Bachmann Module with 4 Push Button Switch we offer you serial control adapter to connect devices easily. No programming needed. The device is suitable and ready for Plug-and-Play with the HDBaseT-Transmitter.

Technical Specs

Input: AC Adapter with 4 power plug adapter 100V-240V AC 50/60 Hz.
Control input: 4x RJ12-Jack to connect Push Button Switch with LED lightning
Output: DC Output: 1x Cable 12 volt 0,2 meter to connection Transmitter(DC Input)
                   For the switch no other power supply is needed
                   RJ12 Plug: 1x Cable 0,2 meter, serial signal control for 903.200
Housing: ABS, 30x123x68mm. Mounting parts and international adapters
                   included in shipment.
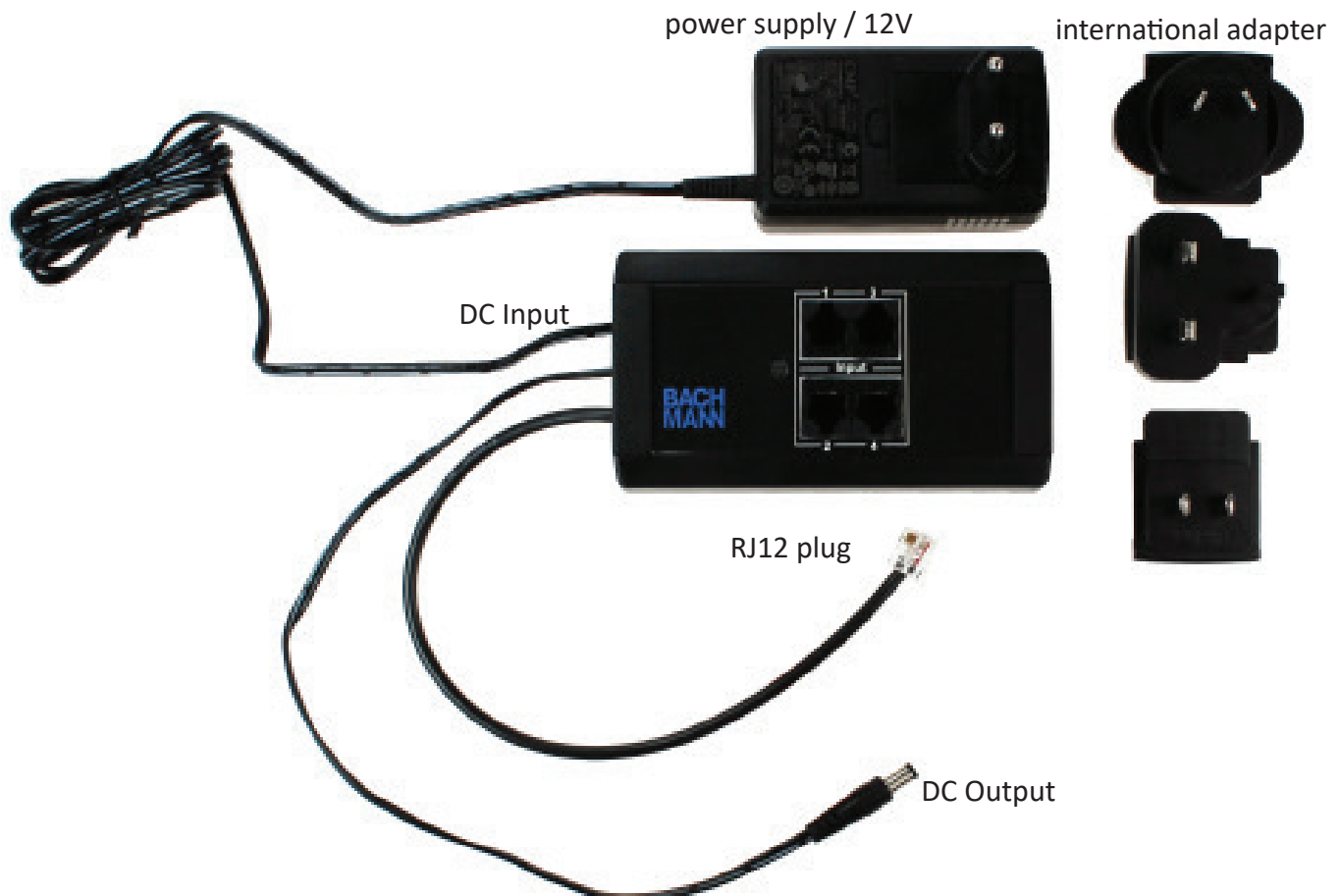
power supply / 12V   international adapter

DC Input

RJ12 plug

DC Output

HDMI Output

HDBaseT Input
RJ45

Suitable receiver for HDBaseT - Transmitter

Technical Specs

|	
Input:	CAT5e cable shielded or higher for HDBaseT Input
Output:	1x HDMI to Display / Beamer
Transmission:	max. UHD (3840x2160)
	HDMI connection lenght max. 70 m by 1920x1080 (Full HD)
	HDMI connection lenght max. 35 m by 3840x2160 (UHD)
Power Supply:	12 V
Housing:	Metal, 25x84x68mm

*Phantom power over network line from transmitter - normally no power supply is necessary.
If the transmission is not stable because the network connection is too bad, the transmission can be improved with a second power supply. The power supply should provide 12VDC/1.5A.

Cat x
Configuration T568B

Jack

Plug
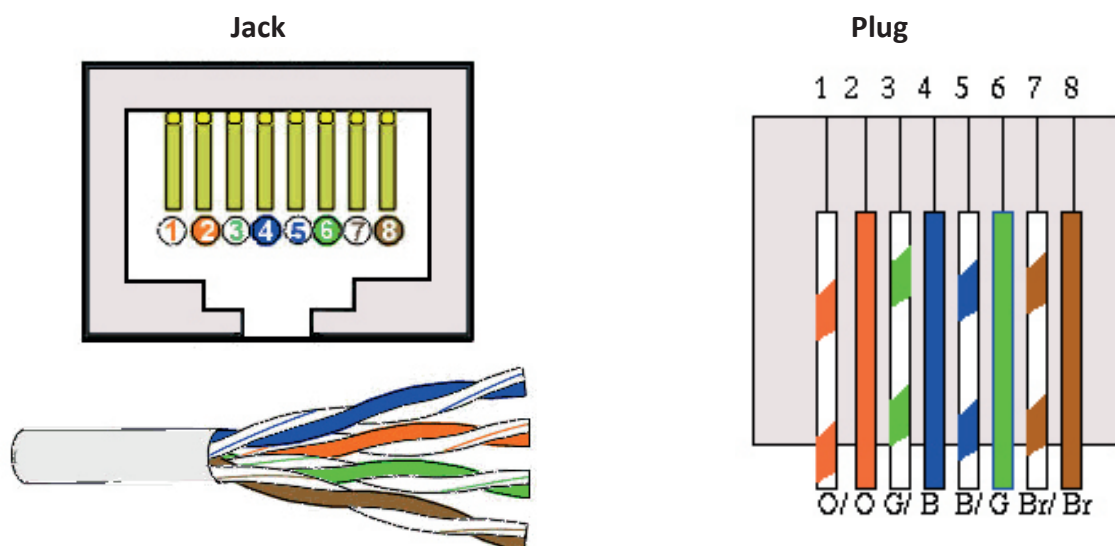
Pin	Color
1	orange / white
2	orange
3	green / white
4	blue
5	blue / white
6	green
7	brown / white
8	brown
Shield	

HDMI
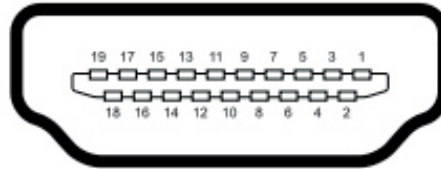
Pin	Funktion
Typ A	
Pin 1	TMDS Data 2 +
Pin 2	TMDS Data 2 shield
Pin 3	TMDS Data 2 -
Pin 4	TMDS Data 1 +
Pin 5	TMDS Data 1 shield
Pin 6	TMDS Data 1 -
Pin 7	TMDS Data 0 +
Pin 8	TMDS Data 0 shield
Pin 9	TMDS Data 0 -
Pin 10	TMDS Clock +
Pin 11	TMDS Clock shield
Pin 12	TMDS Clock -
Pin 13	CEC
Pin 14	HEC Data -
Pin 15	DDC SCL Clock
Pin 16	DDC SDA Data
Pin 17	DDC / CEC / HEC Ground
Pin 18	5 V Power
Pin 19	Hot Plug	HEC Data +

VGA
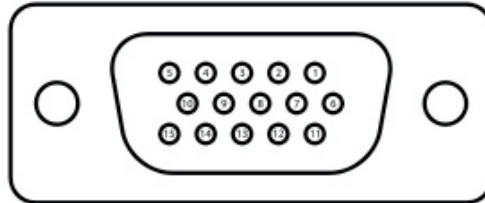
Pin	Function
1	red
2	green
3	blue
4	Monitor ID2
5	digital ground
6	ground red
7	ground green
8	ground blue
9	not connected
10	ground synchronization (HV)
11	Monitor ID0
12	Monitor ID1 (DDC – SDA; data)
13	horizontal synchronization
14	vertical synchronization
15	Monitor ID3 (DDC – SCL; clock)

This box includes:

- 1 x Transmitter 903.200 (Rextron EVBMV-1371)
- 1 x 903.202 Serial control
- 1 x Wall mount for serial control box
- 4 x AC Adapter (international)
- 4 x equipment foot (self-adhesive)