

QUICK START GUIDE

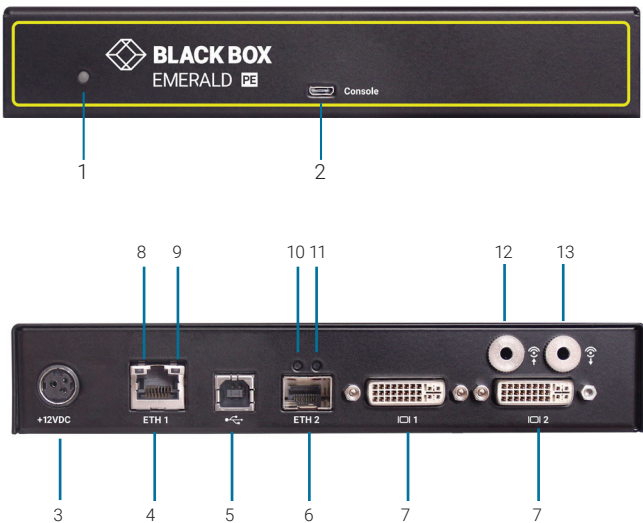
EMD2002PE-T, EMD2002PE-R-P, EMD2002PE-K

EMERALD PE DUAL-HEAD

24/7 TECHNICAL SUPPORT AT 877.877.2269 OR VISIT BLACKBOX.COM



STEP 1A - Transmitter Diagrams



STEP 1B - Transmitter Components

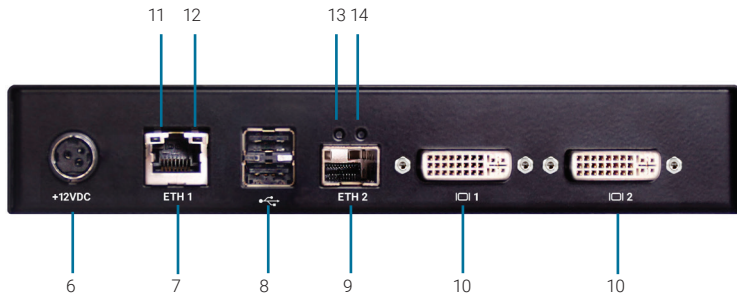
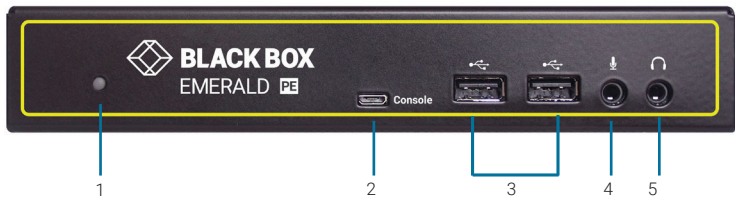
TABLE 1. EMD2002PE-T COMPONENTS

NUMBER IN DIAGRAM AT LEFT	DESCRIPTION	DESCRIPTION
1	Power LED	Lights when power is ON
2	Micro USB connector	For future use
3	12 VDC Power In connector	Connects to supplied power adapter
4	RJ-45 PoE port	Connects to network and supports Power over Ethernet (PoE)
5	USB Type B connector	Connects to PC/workstation USB connector
6	SFP cage	Holds fiber network SFP module
7	(2) DVI Video connectors	Connect to PC Video
8	TP port Speed LED	Indicates 10/100/1000 Mbps
9	TP port Activity LED	Indicates activity on the link
10	Fiber port Speed LED	Indicates 10/100/1000 Mbps
11	Fiber port Activity LED	Indicates activity on the link
12	Audio Line In	Connects to speakers
13	Audio Line Out	Connects to microphone

NOTE: Unit automatically powers on when plugged in; must be powered off at the power source.



STEP 2A - Receiver Diagrams



STEP 2B - Receiver Components

TABLE 2. EMD2002PE-R-P COMPONENTS

NUMBER IN DIAGRAM AT LEFT	DESCRIPTION	DESCRIPTION
1	Power LED	Lights when power is ON
2	Micro USB connector	For future use
3	(2) USB Type A connectors	Connect to USB peripherals
4	Microphone	Connects to microphone
5	Speakers	Connects to speakers
6	12 VDC Power In connector	Connects to supplied power adapter
7	RJ-45 PoE port	Connects to network and supports Power over Ethernet (PoE)
8	(2) USB Type A connectors	Connect to USB peripherals
9	SFP cage	Holds fiber network SFP module
10	(2) DVI Video connectors	Connects to monitors
11	TP port Speed LED	Indicates 10/100/1000 Mbps
12	TP port Activity LED	Indicates activity on the link
13	Fiber SFP port Speed LED	Indicates 10/100/1000 Mbps
14	Fiber SFP port Activity LED	Indicates activity on the link

NOTE: Unit automatically powers on when plugged in; must be powered off at the power source.



STEP 3 - Install SFPs in the SFP cages

INSTALL AN SFP MODULE IN THE TX

1. Plug a compatible SFP in the SFP slot on the transmitter unit (TX).

NOTE: See Table 3 for a list of compatible SFPs (ordered separately).

INSTALL AN SFP MODULE IN THE RX

1. Plug a compatible SFP in the SFP slot on the receiver unit (RX).

NOTE: See Table 3 for a list of compatible SFPs (ordered separately).

TABLE 3. COMPATIBLE SFPs

PART NUMBER	DESCRIPTION	DISTANCE
1-Gbps Connections		
LFP441	SFP, Gigabit Ethernet, 850-nm Multimode Fiber, LC	550 m
LFP442	SFP, Gigabit Ethernet, 1310-nm Singlemode Fiber, LC	20 km
LFP443	SFP, 10/100/1000BASE-T RJ-45 SGMII	100 m
LFP411	SFP, 1.25-Gbps, 850-nm Multimode Fiber, LC	550 m
LFP413	SFP, 1.25-Gbps 1310-nm Singlemode Fiber, LC	10 km
LFP414	SFP, 1250 Ext. Diag. 1310-nm Singlemode Fiber, LC	30 km
LFP415	SFP, 1.25-Gbps Copper RJ-45, SerDes	100 m
LFP416	SFP, 1250 Ext. Diag. 10/100/1000 RJ-45 SGMII	100 m

NOTE: The EMD2002PE-K kit contains one TX (EMD2002PE-T) and one RX (EMD2002PE-R-P).



STEP 4A - Connect Power via External Power Supply

CONNECT POWER TO TRANSMITTER

1. Locate the power supply adapter and the AC line cord.
2. Plug the DC connector of the power supply into the matching socket on the rear of the transmitter.
3. Attach the AC line cord to the power supply adapter.

CONNECT POWER TO RECEIVER

1. Locate the power supply adapter and the AC line cord.
2. Plug the DC connector of the power supply into the matching socket on the rear of the receiver.
3. Attach the AC line cord to the power supply adapter.

STEP 4B - Connect Power via PoE

CONNECT POWER USING POE

1. Connect all computer cables to the Transmitter.
2. Plug the POE enabled network cable into the transmitter; power will be enabled immediately.
3. Connect the monitor and peripheral devices into the receiver.
4. Plug the POE enabled network cable into the receiver; power will be enabled immediately.



STEP 5 - Connect the Peripherals

CONNECT THE TRANSMITTER

1. Attach the Emerald PE Transmitter to the target PC/workstation using DVI and USB Type B cables.
2. Connect to the LAN using standard CATx UTP or fiber cables to the local network connection.

CONNECT THE RECEIVER

1. Attach the monitor, keyboard, mouse, USB and audio devices to the Emerald PE Receiver.
2. Connect to the LAN using standard CATx UTP or fiber cables to the local network connection.



STEP 6 - Starting Up and Default Settings

STARTING UP

1. Once everything is connected, the unit automatically powers on when it is plugged in via a power adapter or PoE.
2. The Graphical User Interface (GUI) will appear on the screen.
3. Enter the default administrator user name and password.
User name: admin
Password: blank (just press the Enter key)
4. The default network setting for the Emerald PE Receiver uses a preconfigured static IP address.
5. If you require the unit to be set to use DHCP, select the Control tab on the GUI and then choose the Network option. Select the DHCP option and click Apply.

DEFAULT SETTINGS

Default Settings:

Transmitter IP Address: 192.168.1.22

Receiver IP Address: 192.168.1.21

Type: Static

Subnet Mask: 255.255.255.0

Default Gateway: 0.0.0.0

Admin username: admin

Admin password: no password, it is blank by default

Ports Used: 3389

IMPORTANT: Do not lose the admin password once configured; there is no way to reset or retrieve it. The Emerald PE receiver has the option to create a second administrator account as a secondary entrance.



STEP 7 - Point-to-Point Installation

POINT-TO-POINT INSTALLATION

In a point-to-point configuration, no administrator setup of the Emerald PE Transmitter or the Emerald PE receiver is required. This enables you to install the system quickly, directly out of the box. In the point-to-point configuration, you can install only one transmitter and receiver pair on a subnet and both must be on the same subnet unless a router is present in the network to span subnets. To span across different subnets, you will need to have admin rights to both routers on either side of the installation and setup port forwarding for port "3389" for Remote Desktop.

If further configuration is required to change the default IP addresses, you can access the transmitter's network settings through the remote unit:

1. Simply connect the transmitter to the receiver using a CATx cable (but do not power up the transmitter yet), then connect a keyboard, monitor, and mouse to the remote unit (remote unit is on at this time).
2. Login as "admin" and go to (Control)>>(Transmitter)>>(Discover) and follow the on-screen steps.
3. It will advise you to connect both devices together and then power up the transmitter and press the "Next" button.
4. It will take several minutes to discover the transmitter, but once found, you can modify the network parameters.



STEP 8 - Matrix Installation and Getting Started

MATRIX INSTALLATION

In a matrix installation, every Emerald PE transmitter and receiver requires its own IP address. By default, the DHCP setting is set to static, so the addresses will need to be configured manually:

1. Always configure the transmitter first by connecting the transmitter to the receiver using a CATx cable (but do not power up the transmitter yet), then connect a keyboard, monitor, and mouse to the remote unit (remote unit is on at this time).
2. Login as "admin" on the remote unit and go to (Control)>> (Transmitter)>> (Discover) and follow the on-screen steps.
3. It will advise you to connect both devices together, and then power up the transmitter and press the "Next" button.
4. It will take several minutes to discover the transmitter, but once found, you can modify the network parameters.

5. Once the transmitter is configured, you can now configure the receiver.

6. If the units are on different subnets, then routers will need to be used to properly direct traffic.

GETTING STARTED

Once the IP addresses have been configured, each receiver will need to be configured for users, user passwords, user access rights and default video resolutions. You can access these settings from the receiver's OSD (reboot the receiver and login as admin) and begin configuring these parameters.

NOTE: Each receiver can support a maximum of 32 users and a maximum of 32 targets (virtualized or transmitter).



STEP 9 - Download the User Manual (Optional)

The full user manual/installation guides can be downloaded from the Black Box Web site.

FOR US, AUSTRALIA NEW ZEALAND, AND CANADA

1. Go to BLACKBOX.COM
2. Enter the part number in the search box (for example, EMD2002PE-T).
3. Click on the product in the "Products" page.
4. Click on the "Support" tab on the product page and select the document you wish to download.

FOR OTHER COUNTRIES

1. Go to BLACK-BOX.EU/SUPPORTCENTER
2. Enter the part number in the search box and check the file type: application diagram, data-sheet, firmware or manual.
3. Select the document you want to download.



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**Contact our free, 24/7 technical support in the US at 877-877-2269
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