KRAMER ELECTRONICS LTD.

USER MANUAL

MODELS:

TP-121EDID, XGA/Audio Line Transmitter

TP-123EDID, XGA /Audio/Data Line Transmitter

TP-125EDID, XGA /Audio/Data Line Transmitter

PT-110EDID, XGA Line Transmitter

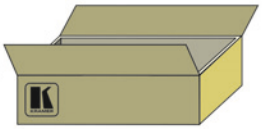
P/N: 2900-000585 Rev 5

TP-121EDID, TP-123EDID, TP-125EDID, PT-110EDID Quick Start Guide

This page guides you through a basic installation and first-time use of your Kramer device.
For more detailed information, see the products' User Manual.
You can download the latest manual at http://www.kramerelectronics.com.

Step 1: Check what's in the box

- **TP-121EDID, TP-123EDID, TP-125EDID** and/or **PT-110EDID**
- XGA/TP Transmitter
- 1 Power supply (12V DC)
- 4 Rubber feet
- 1 Quick Start sheet
- 1 User Manual



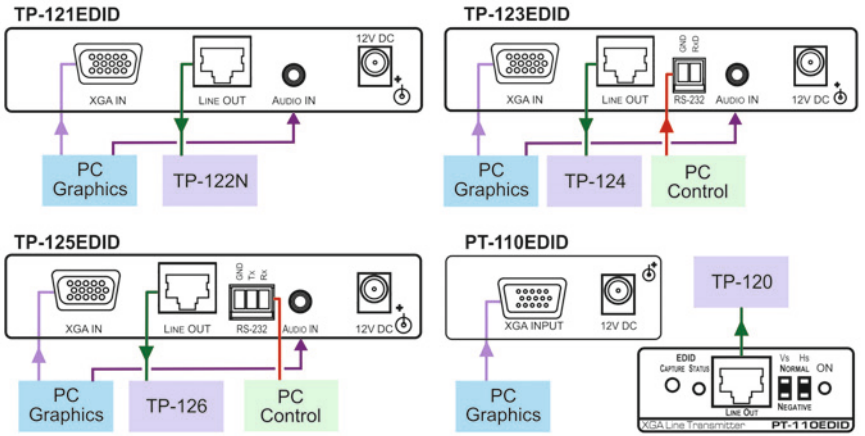
Save the original box and packaging in case your product needs to be returned to the factory for service.

Step 2: Install the TP-12xEDID/PT-110EDID

Attach the rubber feet and place on a table or mount the machine in a rack (using an optional **RK-3T** rack mount for the **TP-12xEDID** units or an **RK-4PT** for the **PT-110EDID**).

Step 3: Connect the inputs and outputs

Always switch off the power on each device before connecting it to your product.



Always use Kramer high-performance cables for connecting AV equipment to the product.

Step 4: Connect the power

Connect the12V DC power adapter to the transmitter and plug the adapter into the mains electricity.

Step 5: Operate the Product

To capture the EDID, press the CAPTURE button.

Contents

Figures

1 Introduction

Welcome to Kramer Electronics! Since 1981, Kramer Electronics has been providing a world of unique, creative, and affordable solutions to the vast range of problems that confront video, audio, presentation, and broadcasting professionals on a daily basis. In recent years, we have redesigned and upgraded most of our line, making the best even better!

Our 1,000-plus different models now appear in 11 groups that are clearly defined by function: GROUP 1: Distribution Amplifiers; GROUP 2: Switchers and Routers; GROUP 3: Control Systems; GROUP 4: Format/Standards Converters; GROUP 5: Range Extenders and Repeaters; GROUP 6: Specialty AV Products; GROUP 7: Scan Converters and Scalers; GROUP 8: Cables and Connectors; GROUP 9: Room Connectivity; GROUP 10: Accessories and Rack Adapters and GROUP 11: Sierra Video Products.

Thank you for purchasing your Kramer TOOLS: **TP-121EDID** *XGA/Audio Line Transmitter*, and/or **TP-123EDID**, *XGA/Audio/Data Line Transmitter*, and/or **TP-125EDID**, *XGA/Audio/Data Line Transmitter*, and/or Kramer Pico TOOLS™ **PT-110EDID**, *XGA Line Transmitter*, which are ideal for:

- Presentation and multimedia applications
- Long-range graphics distribution for schools, hospitals, security, and stores

2 Getting Started

We recommend that you:

- Unpack the equipment carefully and save the original box and packaging materials for possible future shipment
- Review the contents of this user manual
- Use Kramer high-performance, high-resolution cables

Go to http://www.kramerelectronics.com to check for up-to-date user manuals, application programs, and to check if firmware upgrades are available (where appropriate).

2.1 Achieving the Best Performance

To achieve the best performance:

- Use only good quality connection cables to avoid interference, deterioration in signal quality due to poor matching, and elevated noise levels (often associated with low-quality cables)
- Do not secure the cables in tight bundles or roll the slack into tight coils
- Avoid interference from neighboring electrical appliances that may adversely influence signal quality
- Position your Kramer **TP-121EDID**,**TP-123EDID**,**TP-125EDID**, **PT-110EDID** away from moisture, excessive sunlight and dust

Caution: There are no operator serviceable parts inside the unit

Warning: Use only the Kramer Electronics input power wall adapter that is provided with the unit

Warning: Before installation, make sure the unit is unplugged and the power is fully disconnected

3 Overview

This user manual describes the following devices:

- **TP-121EDID** *XGA/Audio Line Transmitter* (see Section 4)
- **TP-123EDID** *XGA/Audio/Data Line Transmitter* (see Section 5)
- **TP-125EDID** *XGA/Audio/Data Line Transmitter* (see Section 6)
- **PT-110EDID** *XGA Line Transmitter* (see Section 7)

This section also describes:

- Using shielded twisted pair (STP)/unshielded twisted pair (UTP), see Section 3.1
- The power connect feature, see Section 3.2
- Defining EDID, see Section 3.3

3.1 About Shielded Twisted Pair (STP)/Unshielded Twisted Pair (UTP)

We recommend that you use Shielded Twisted Pair (STP) cable, and stress that the compliance to electromagnetic interference was tested using STP cable. There are different levels of STP cable available, and we advise you to use the best quality STP cable that you can afford. Our non-skew-free cable, Kramer **BC-STP** is intended for analog signals where skewing is not an issue.

In cases where there is skewing, our Unshielded Twisted Pair (UTP) skew-free cable, Kramer **BC-XTP**, may be advantageous, and UTP cable might also be preferable for long-range applications. In any event when using UTP cable, it is advisable to ensure that the cable is installed far away from electric cables, motors and so on, which are prone to create electrical interference.

3.2 About the Power Connect™ Feature

The Power Connect feature applies as long as the cable can carry power. This feature is available when using STP cable and the distance does not exceed 50m (164ft) on standard CAT 5 cable. For longer distances, heavy-gauge cable should be used (TP cable is still suitable for the video/audio transmission, but not for feeding power at these distances). For units that are connected via RJ-45 connectors, make sure that the shield of the STP cable is connected to the metal casing of the connectors on both ends of the cable. For units that are connected via terminal block connectors, the shield of the STP cable must be connected to a ground terminal on the units at both ends. (Use the ground terminal of the power supply connection if necessary.) For a TP cable exceeding a distance of 50m, separate power supplies should be connected to the transmitter and to the receiver simultaneously**.**

3.3 About EDID

The Extended Display Identification Data (EDID) is a data-structure provided by a display, to describe its capabilities to a graphics card (that is connected to the display's source). The EDID enables the product to "know" what kind of monitor is connected to the output. The EDID includes the manufacturer's name, the product type, the timing data supported by the display, the display size, luminance data and (for digital displays only) the pixel mapping data.
EDID is defined by a standard published by the Video Electronics Standards Association (VESA).

4 Your TP-121EDID

This section describes the **TP-121EDID** *XGA/Audio Line Receiver*.

4.1 Overview

The **TP-121EDID** is a high-performance XGA/stereo audio line transmitter. It inputs an XGA signal (up to WUXGA, 1080p) and an unbalanced stereo audio signal and transmits them over CAT 5 cable to a receiver (for example, the Kramer **TP-122N**). It converts the unbalanced stereo audio signal to a digital audio (S/PDIF) stream before transmitting, to preserve the quality of the audio signal.

When the **TP-121EDID** is connected to a display device and the EDID CAPTURE button is pressed, the **TP-121EDID** reads and stores the EDID (Extended Display Identification Data) from the display device. The display can be disconnected and later reconnected without rebooting the operating system.

The **TP-121EDID** features:

- A maximum resolution of WUXGA and 1080p
- A transmission range of more than 300ft (100m), and a 20kHz audio bandwidth with an S/N ratio that exceeds 80dB on the same transmission range
- EDID Capture that copies and stores the EDID from a display device
- The Power Connect Feature that transmits power to the receiving device, or receives power from it, over twisted pair cable
- 12V DC power

Figure 1 defines the **TP-121EDID**:

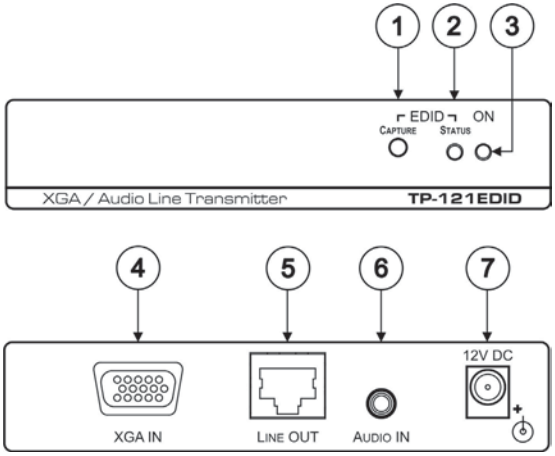


Figure 1: TP-121EDID XGA/Audio Line Transmitter

#	Feature		Function
1	*EDID*	*CAPTURE* Button	Press to capture the EDID information from the display
2		*STATUS* LED	Illuminates during normal operation; flashes when acquiring the EDID
3	*ON* LED		Illuminates when receiving power
4	*XGA IN* 15-pin HD (F) connector		Connects to the XGA source
5	*LINE OUT* RJ-45 connector		Connects to the LINE IN RJ-45 connector on a receiver Using a CAT 5 cable with RJ-45 connectors at both ends (the PINOUT is defined in Section 8)
6	*AUDIO IN* 3.5mm mini jack		Connects to the audio source
7	*12V DC*		+12V DC connector for powering the unit

4.2 Connecting the TP-121EDID XGA/Audio Line Transmitter

You can use the **TP-121EDID** together with the **TP-122N** to configure a twisted pair transmitter and receiver system, to transmit the video and audio signals via CAT 5 cable.

Before connecting the transmitter and receiver system you can acquire the EDID from the display or set the system to the default EDID, see Section 9.

To connect the **TP-121EDID** with the **TP-122N**, as the example in Figure 2 illustrates, do the following:

1. On the **TP-121EDID**, connect the:
   - XGA source (for example, a laptop's graphics card) to the XGA IN 15-pin HD (F) connector
   - Audio source (for example, the audio out of the PC) to the AUDIO IN 3.5mm mini jack

     You can use a Kramer **C-GMA/GMA** cable (VGA 15-pin HD (M) + audio jack to VGA 15-pin HD (M) + audio jack) to make both connections on one cable. Cables are not supplied. The complete list of Kramer cables is on our Web site at http://www.kramerelectronics.com.

2. On the **TP-122N**, connect the:
   - XGA OUT 15-pin HD (F) connector to the XGA acceptor (for example, a display)
   - AUDIO OUT S/PDIF RCA connector to the digital audio acceptor (for example, an AV receiver)
   - ANALOG 3.5mm mini jack to the analog audio acceptor (for example, a stereo audio recorder)

3. Connect the LINE OUT RJ-45 connector on the **TP-121EDID** to the LINE IN RJ-45 connector on the **TP-122N**, using CAT 5 cabling.

   CAT 5 cable has a range of greater than 300ft (>100m). For details of how to wire a CAT 5 LINE IN/LINE OUT RJ-45 connector, see Section 8.

4. Connect the 12V DC power adapter to the power socket and connect the adapter to the mains electricity on both the **TP-121EDID** and the **TP-122N**.

   If you cannot connect the power to both the **TP-121EDID** and **TP-122N**, connect the power only to any one unit.

5. On the **TP-122N**:
   - Adjust the video output signal level and/or cable compensation equalization level, if required

     Use a screwdriver to carefully rotate the trimmer, adjusting the appropriate level.
   - If necessary, set the H SYNC and V SYNC switches, on the underside

     By default, both switches are set down (for negative V SYNC and H SYNC polarity).

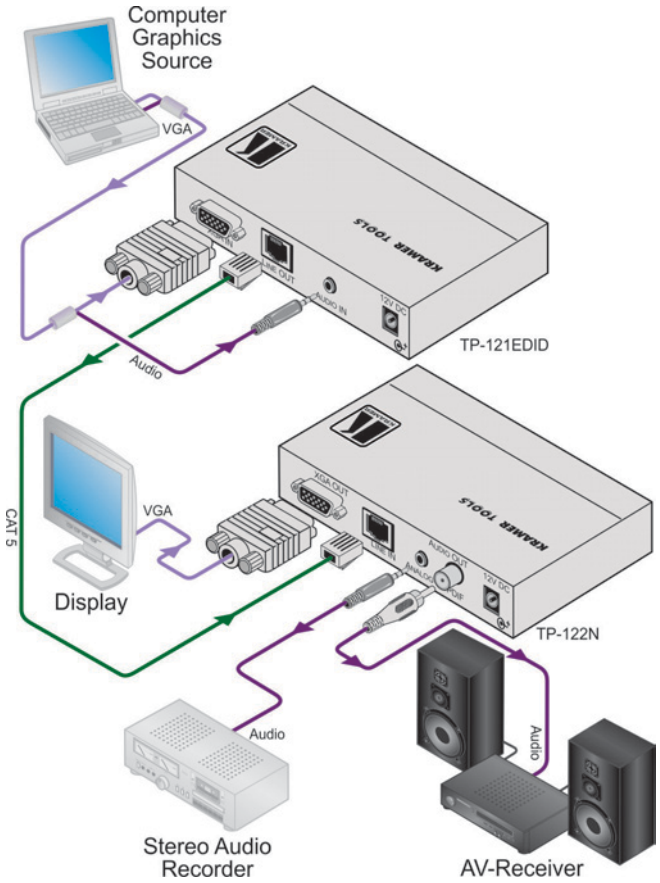


Figure 2: Connecting the TP-121EDID XGA/Audio Line Transmitter

4.3 Technical Specifications - TP-121EDID

INPUTS:	Video: 1 VGA/UXGA on a 15-pin HD connector Audio: 1 audio ANALOG 3.5mm mini jack
OUTPUT:	1 RJ-45 OUT connector
BANDWIDTH (-3dB):	Audio: 20Hz to 20kHz @0.5dB
RESOLUTION:	Up to WUXGA and 1080p
S/N RATIO:	Video: 58dB unweighted, 68.3dB @5MHz weighted Audio: <-80dB
TOTAL GAIN:	Audio: Analog/analog: 0dB; Analog/SPDIF: –12dBFS
COUPLING:	AC
TND+N:	Audio: <0.01%
POWER CONSUMPTION:	12V DC 540mA
OPERATING TEMPERATURE:	0° to +55°C (32° to 131°F)
STORAGE TEMPERATURE:	-45° to +72°C (-49° to 162°F)
HUMIDITY:	10% to 90%, RHL non-condensing
DIMENSIONS:	12.1cm x 7.18cm x 2.42cm (4.76" x 2.83" x 0.95") W, D, H
WEIGHT:	0.3kg (0.67lbs) approx.
ACCESSORIES:	Power supply
OPTIONS:	RK-3T 19” rack adapter
All measurements are based on the transmitter/receiver pair. Specifications are subject to change without notice at http://www.kramerelectronics.com	

5 Your TP-123EDID

This section describes the **TP-123EDID** *XGA/Audio/Data Line Transmitter*.

5.1 Overview

The **TP-123EDID** is a high-performance XGA/stereo audio line transmitter. It inputs an XGA signal (up to WUXGA, 1080p), unbalanced stereo audio signal, and unidirectional (RxD) RS-232 control commands and transmits them over CAT 5 cable to a receiver (for example, the Kramer **TP-124** XGA/Audio/Data Line Receiver). It converts the unbalanced stereo audio signal to a digital audio (S/PDIF) stream before transmitting, to preserve the quality of the audio signal.

When the **TP-123EDID** is connected to a display device and the EDID CAPTURE button is pressed, the **TP-123EDID** reads and stores the EDID (Extended Display Identification Data) from the display device. The display can be disconnected and later reconnected without rebooting the operating system.

The **TP-123EDID** features:

- A maximum resolution of WUXGA and 1080p
- A transmission range of more than 300ft (100m), and a 20kHz audio bandwidth with an S/N ratio that exceeds 80dB on the same transmission range
- A unidirectional RS-232 port for transmitting control commands
- EDID Capture that copies and stores the EDID from a display device
- The Power Connect Feature that transmits power to the receiving device, or receives power from it, over twisted pair cable
- 12V DC power

Figure 3 defines the **TP-123EDID**:

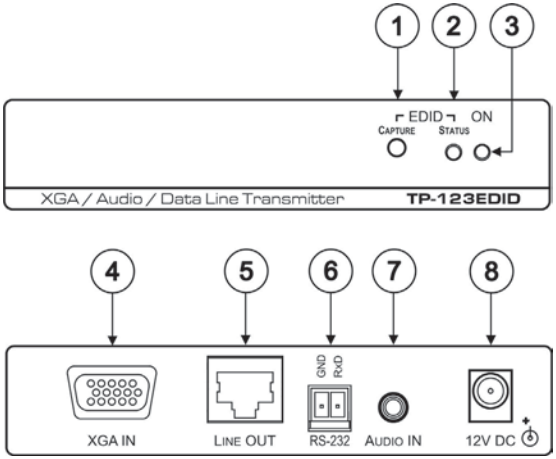


Figure 3: TP-123EDID XGA/Audio/Data Line Transmitter

#	Feature		Function
1	*EDID*	*CAPTURE* Button	Press to acquire the EDID information from the display
2		*STATUS* LED	Illuminates during normal operation; flashes when acquiring the EDID
3	*ON* LED		Illuminates when receiving power
4	*XGA IN* 15-pin HD (F) connector		Connect to the XGA source
5	*LINE OUT* RJ-45 connector		Connects to the LINE IN RJ-45 connector on the **TP-124** *XGA/Audio Line Receiver* Use a CAT 5 cable with RJ-45 connectors at both ends (the PINOUT is defined in Section 8)
6	*RS-232* terminal block connector		Connects to the PC or the Remote Controller (see Section 5.3)
7	*AUDIO IN* 3.5mm mini jack		Connects to the audio source
8	*12V DC*		+12V DC connector for powering the unit

5.2 Connecting the TP-123EDID XGA/Audio/Data Line Transmitter

You can use the **TP-123EDID** together with the **TP-124** *XGA/Audio/Data Line Receiver* to configure a twisted pair transmitter and receiver system, to transmit the video, audio and RS-232 control signals via CAT 5 cable.

Before connecting the transmitter and receiver system you can acquire the EDID from the display or set the system to the default EDID, see Section 9.

To connect the **TP-123EDID** and the **TP-124**, as the example in Figure 4 illustrates, do the following:

1. On the **TP-123EDID**, connect the:
   - XGA source (for example, a laptop's graphics card) to the XGA IN 15-pin HD (F) connector
   - Audio source (for example, the audio out of the PC) to the AUDIO IN 3.5mm mini jack

     You can use a Kramer **C-GMA/GMA** cable (VGA 15-pin HD (M) + audio jack to VGA 15-pin HD (M) + audio jack) to make both connections on one cable. Cables are not supplied. The complete list of Kramer cables is on our Web site at http://www.kramerelectronics.com.
   - RS-232 cable with a 9-pin D-sub connector to the laptop, and a 2-pin terminal block connector to the **TP-123EDID** RS-232 port (as shown in Figure 5).
2. On the **TP-124**, connect:
   - The XGA OUT 15-pin HD (F) connector to a display
   - The S/PDIF audio OUT RCA connector to a digital AV receiver (leave the ANALOG audio OUT 3.5mm mini jack unconnected)
   - An RS-232 cable with a 2-pin terminal block connector to the **TP-124** RS-232 port, and a 9-pin D-sub connector to the RS-232 port on an RS-232 controllable device (for example, a switcher)
3. Connect the Line OUT RJ-45 connector on the **TP-123EDID** to the LINE IN RJ-45 connector on the **TP-124,** via CAT 5 cabling.

   CAT 5 cable has a range of greater than 300ft (>100m). For details of how to wire a CAT 5 LINE IN/LINE OUT RJ-45 connector, see Section 8.
4. Connect the 12V DC power adapter to the power socket and connect the adapter to the mains electricity on both the **TP-123EDID** and the **TP-124**.

   If you cannot connect the power to both the **TP-123EDID** and **TP-124**, connect the power to any one unit.
5. On the **TP-124**:
   - Adjust the video output signal level and/or cable compensation equalization level, if required

     Use a screwdriver to carefully rotate the trimmer, adjusting the appropriate level.

- If necessary, set the H SYNC and V SYNC switches, on the underside

  By default, both switches are set down (for negative V SYNC and H SYNC polarity).

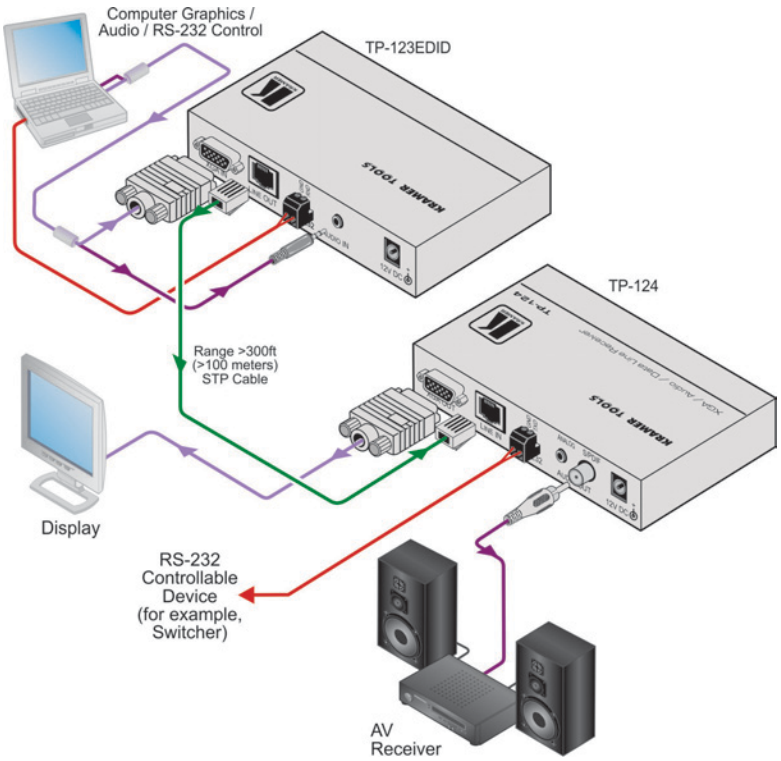


Figure 4: Connecting the TP-123EDID XGA/Audio/Data Line Transmitter

5.3 Connecting the RS-232 Port

To control an RS-232 controllable remote device from a PC or RS-232 controller, prepare an RS-232 cable with a 9-pin D-sub connector at one end, and a 2-pin terminal block connector at the other end, as shown in Figure 5.

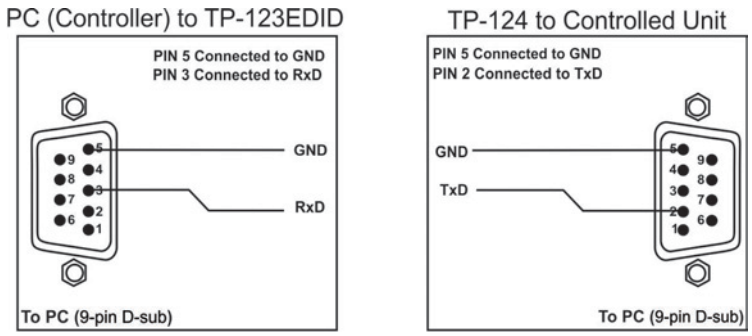


Figure 5: RS-232 PINOUT Connection

Connect this PIN on the Terminal Block Connector:	To this PIN on the 9-pin D-sub Connector
TxD	PIN 2
RxD	PIN 3
GND	PIN 5

5.4 Technical Specifications – TP123EDID

INPUTS:	Video: 1 VGA/UXGA on a 15-pin HD connector Audio: 1 audio ANALOG 3.5mm mini jack
OUTPUT:	1 RJ-45 OUT connector
CONTROL:	RS-232 2-pin terminal block
RS-232 BAUD RATE:	Up to 19200kbps
BANDWIDTH (-3dB):	Audio: 20Hz to 20kHz @0.5dB
RESOLUTION:	Up to WUXGA and 1080p
S/N RATIO:	Video: 58dB unweighted, 68.3dB @5MHz weighted Audio: <-80dB
TOTAL GAIN:	Audio: Analog/analog: 0dB; Analog/SPDIF: –12dBFS
COUPLING:	AC
TND+N:	Audio: <0.01%
POWER CONSUMPTION:	12V DC 550mA
OPERATING TEMPERATURE:	0° to +55°C (32° to 131°F)
STORAGE TEMPERATURE:	-45° to +72°C (-49° to 162°F)
HUMIDITY:	10% to 90%, RHL non-condensing
DIMENSIONS:	12.1cm x 7.18cm x 2.42cm (4.76" x 2.83" x 0.95") W, D, H
WEIGHT:	0.3kg (0.67lbs) approx.
ACCESSORIES:	Power supply
OPTIONS:	RK-3T 19” rack adapter
All measurements are based on the transmitter/receiver pair. Specifications are subject to change without notice at http://www.kramerelectronics.com	

6 Your TP-125EDID

This section describes the **TP-125EDID** *XGA/Audio/Data Line Transmitter*.

6.1 Overview

The **TP-125EDID** is a high-performance XGA/stereo audio line transmitter. It inputs an XGA signal (up to WUXGA, 1080p), unbalanced stereo audio signal, and bidirectional RS-232 control commands and transmits them over CAT 5 cable to a receiver (for example, the Kramer **TP-126** UXGA/Audio/Data Line Receiver). It converts the unbalanced stereo audio signal to a digital audio (S/PDIF) stream before transmitting, to preserve the quality of the audio signal. Commands and data can flow in both directions via the RS-232 interface, allowing status requests and control of the destination unit. The **TP-125EDID** includes H and V Sync internal polarity switches.

When the **TP-125EDID** is connected to a display device and the EDID CAPTURE button is pressed, the **TP-125EDID** reads and stores the EDID (Extended Display Identification Data) from the display device. The display can be disconnected and later reconnected without rebooting the operating system.

The **TP-125EDID** features:

- A maximum resolution of WUXGA and 1080p
- A transmission range of more than 300ft (100m), and a 20kHz audio bandwidth with an S/N ratio that exceeds 80dB on the same transmission range
- A bidirectional RS-232 port where commands and data can flow in both directions via the RS−232 interface, allowing status requests and control of the destination unit
- EDID Capture that copies and stores the EDID from a display device
- 12V DC power

Figure 6 defines the **TP-125EDID**:

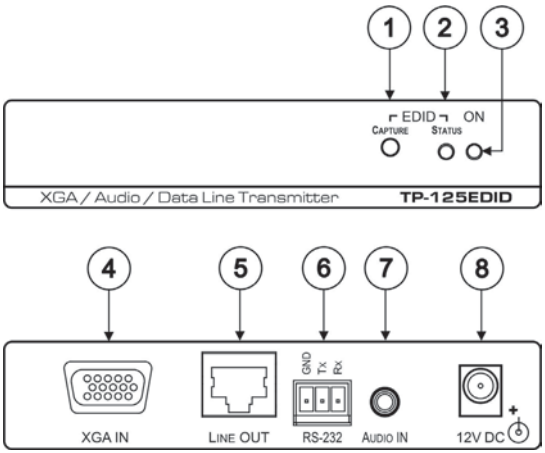


Figure 6: TP-125EDID XGA/Audio/Data Line Transmitter

#	Feature		Function
1	*EDID*	*CAPTURE* Button	Press to acquire the EDID information from the display
2		*STATUS* LED	Illuminates during normal operation; flashes when acquiring the EDID
3	*ON* LED		Illuminates when receiving power
4	*XGA IN* 15-pin HD (F) connector		Connect to the XGA source
5	*LINE OUT* RJ-45 connector		Connects to the LINE IN RJ-45 connector on the **TP-126** *XGA/Audio Line Receiver* Use a CAT 5 cable with RJ-45 connectors at both ends (the PINOUT is defined in Section 8)
6	*RS-232* terminal block connector		Connects to the PC or the Remote Controller (see Section 5.3)
7	*AUDIO IN* 3.5mm mini jack		Connects to the audio source
8	*12V DC*		+12V DC connector for powering the unit

6.2 Connecting the TP-125EDID XGA/Audio/Data Line Transmitter

You can use the **TP-125EDID** together with the **TP-126** *UXGA/Audio/Data Line Receiver* to configure a twisted pair transmitter and receiver system, to transmit the video, audio and RS-232 control signals via CAT 5 cable.

Before connecting the transmitter and receiver system you can acquire the EDID from the display or set the system to the default EDID, see Section 9.

To connect the **TP-125EDID** and the **TP-126**, as the example in Figure 7 illustrates, do the following:

1. On the **TP-125EDID**, connect the:
   - XGA source (for example, a laptop's graphics card) to the XGA IN 15-pin HD (F) connector
   - Audio source (for example, the audio out of the PC) to the AUDIO IN 3.5mm mini jack

   You can use a Kramer **C-GMA/GMA** cable (VGA 15-pin HD (M) + audio jack to VGA 15-pin HD (M) + audio jack) to make both connections on one cable.
   Cables are not supplied. The complete list of Kramer cables is on our Web site at http://www.kramerelectronics.com.
   - An RS-232 cable with a 9-pin D-sub connector to the laptop, and a 3-pin terminal block connector to the **TP-125EDID** RS-232 port (as shown in Figure 5)
2. On the **TP-126**, connect:
   - The UXGA OUT 15-pin HD (F) connector to the AV display system
   - The S/PDIF audio OUT RCA connector to a digital AV receiver (leave the ANALOG Audio OUT 3.5mm mini jack unconnected)
   - An RS-232 cable with a 3-pin terminal block connector to the **TP-126** RS-232 port, and a 9-PIN D-SUB connector to the RS-232 port on the AV display system
3. Connect the Line OUT RJ-45 connector on the **TP-125EDID** to the LINE IN RJ-45 connector on the **TP-126,** via CAT 5 cabling.
   CAT 5 cable has a range of greater than 300ft (>100m). For details of how to wire a CAT 5 LINE IN/LINE OUT RJ-45 connector, see Section 8.
4. Connect the 12V DC power supply to the power socket and connect the adapter to the mains electricity on both the **TP-125EDID** and the **TP-126**.
5. On the **TP-126**:
   - Adjust the video output signal level and/or cable compensation equalization level, if required
     Use a screwdriver to carefully rotate the trimmer, adjusting the appropriate level.
   - If necessary, set the H SYNC and V SYNC switches, on the underside
     By default, both switches are set down (for negative V SYNC and H SYNC polarity).

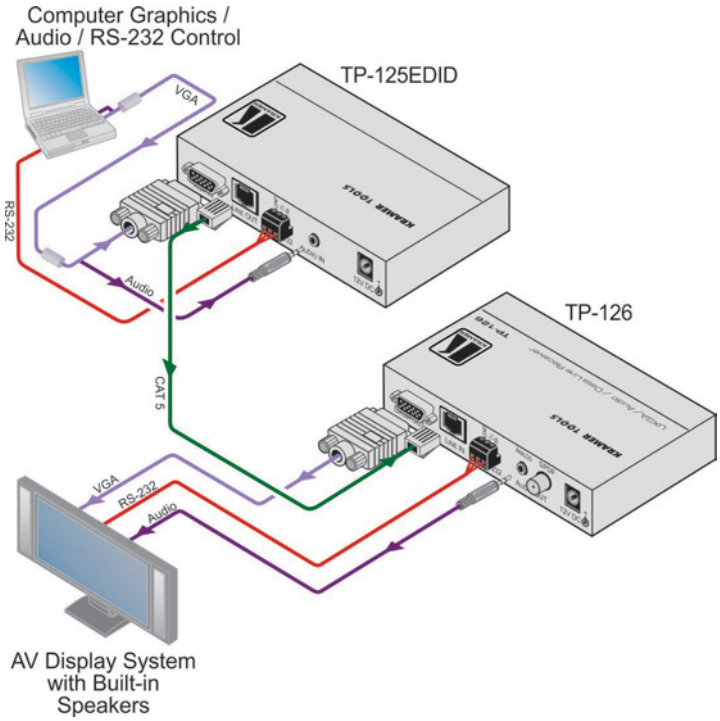


Figure 7: Connecting the TP-125EDID XGA/Audio/Data Line Transmitter

6.3 Connecting the RS-232 Port

To control an RS-232 controllable remote device from a PC or RS-232 controller, prepare an RS-232 cable with a 9-pin D-sub connector at one end, and a 3-pin terminal block connector at the other end, as shown in Figure 8:

Connect this PIN on the Terminal Block Connector:	To this PIN on the 9-pin D-sub Connector
TxD	PIN 2
RxD	PIN 3
GND	PIN 5

RS-232 Pinout

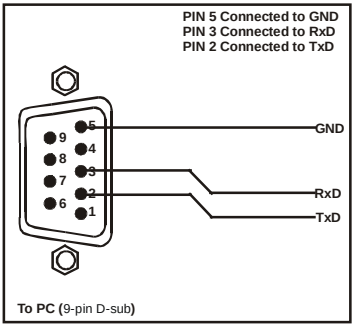


Figure 8: RS-232 PINOUT Connection

6.4 Technical Specifications – TP-125EDID

INPUTS:	Video: 1 UXGA on an 15-pin HD connector Audio: 1 audio ANALOG 3.5mm mini jack
OUTPUT:	1 RJ-45 OUT connector
RESOLUTION:	Up to WUXGA and 1080p
S/N RATIO:	Video: 58dB unweighted, 68.3dB @5MHz weighted Audio: <-80dB
CONTROL:	RS-232 3-pin terminal block
RS-232 BAUD RATE:	Up to 19200kbps
RS-232 MODE:	Full-duplex
BANDWIDTH:	Audio: 20Hz to 20kHz @0.5dB
TOTAL GAIN:	Analog/analog: 0dB, analog/SPDIF: -12dBFS
COUPLING:	AC
TND+N:	Audio: <0.01%
POWER CONSUMPTION:	12V DC 140mA
OPERATING TEMPERATURE:	0° to +55°C (32° to 131°F)
STORAGE TEMPERATURE:	-45° to +72°C (-49° to 162°F)
HUMIDITY:	10% to 90%, RHL non-condensing
DIMENSIONS:	12.1cm x 7.18cm x 2.42cm (4.76" x 2.83" x 0.95") W, D, H
WEIGHT:	0.3kg. (0.67lbs.) approx.
ACCESSORIES:	Power supply
OPTIONS:	RK-3T 19” rack adapter
All measurements are based on the transmitter/receiver pair, tested with 100m CAT 5 cable. Specifications are subject to change without notice at http://www.kramerelectronics.com	

7 Your PT-110EDID

This section describes the **PT-110EDID** *XGA/Line Transmitter*.

7.1 Overview

The **PT-110EDID** is a high-performance XGA line transmitter that inputs an XGA (up to WUXGA, 1080p) signal and transmits it over CAT 5 cable to a receiver (for example, the Kramer **TP-122N** XGA/Audio Line Receiver).

The **PT-110EDID** is pre-programmed with default EDID information ready for the source even before capturing the EDID from the display. When the **PT-110EDID** is connected to a display device and the EDID CAPTURE button is pressed, the **PT-110EDID** reads and stores the EDID (Extended Display Identification Data) from the display device. The display can be disconnected and later reconnected without rebooting the operating system.

The **PT-110EDID** features:

- A maximum resolution of WUXGA and 1080p
- A transmission range of more than 300ft (100m), and a 20kHz audio bandwidth with an S/N ratio that exceeds 80dB on the same transmission range
- EDID Capture that copies and stores the EDID from a display device
- The Power Connect Feature that transmits power to the receiving device, or receives power from it, over twisted pair cable
- H and V Sync polarity switches for improved display compatibility with the CAT 5 outputs
- Is 12V DC fed

Figure 9 defines the **PT-110EDID**:

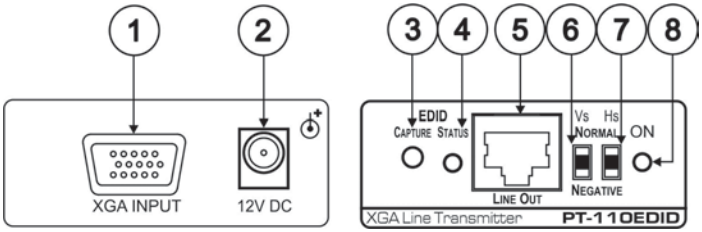


Figure 9: PT-110EDID XGA Line Transmitter

#	Feature		Function
1	*XGA IN* 15-pin HD (F) Connector		Connect to the UXGA source
2	*12V DC*		+12V DC connector for powering the unit
3	*EDID*	*CAPTURE* Button	Press to acquire the EDID information from the display (see Section 9)
4		*STATUS* LED	Illuminates during normal operation; flashes when acquiring the EDID
5	*LINE OUT* RJ-45 Connector		Connects to the LINE IN RJ-45 connector on the **TP-120** *UXGA/Audio Line Receiver*
6	*VS* Switch		Slide up to set the V SYNC to NEGATIVE polarity; slide down to set the V SYNC to NORMAL polarity By default, both switches are set down (for normal V SYNC and H SYNC polarity)
7	*HS* Switch		Slide up to set the H SYNC to NEGATIVE polarity (NEG); slide down to set the H SYNC to NORMAL polarity By default, both switches are set down (for normal V SYNC and H SYNC polarity)
8	*ON* LED		Illuminates when receiving power

7.2 Connecting the PT-110EDID XGA/Line Transmitter

You can use the **PT-110EDID** *XGA Line Transmitter* together with the **TP-120** *XGA Line Receiver* to configure an XGA-to-Twisted Pair transmitter and receiver system.

Before connecting the transmitter and receiver system you can acquire the EDID from the display or set the system to the default EDID, see Section 9.

To connect the **PT-110EDID** with the **TP-120**, as the example in Figure 10 illustrates, do the following:

1. On the **PT-110EDID**, connect the XGA source (for example, the 15-pin HD output from a computer's graphics card) to the XGA INPUT 15-pin HD (F) connector.
2. On the **TP-120**, connect the XGA OUT 15-pin HD (F) connector to the XGA acceptor (for example, a monitor).

3. Connect the LINE OUT RJ-45 connector on the **PT-110EDID** to the LINE IN RJ-45 connector on the **TP-120**, via CAT 5 cabling.
   CAT 5 cable has a range of greater than 300ft (>100m). For details of how to wire a CAT 5 LINE IN/LINE OUT RJ-45 connector, see Section 8.
4. On both the **PT-110EDID** and the **TP-120**, connect the 12V DC power adapter to the power socket and connect the adapter to the mains electricity.
   For distances of up to 100 meters you can connect a power adapter to either the PT-110 or TP-120. Above it, both sides should be fed with power
5. On the **TP-120**, adjust the output signal level and/or cable compensation equalization level, if required.
   Use a screwdriver to carefully rotate the trimmer, adjusting the appropriate level.
6. If necessary, set the H SYNC and V SYNC switches, on the units.
   By default, both switches are set for normal H SYNC and V SYNC polarity.

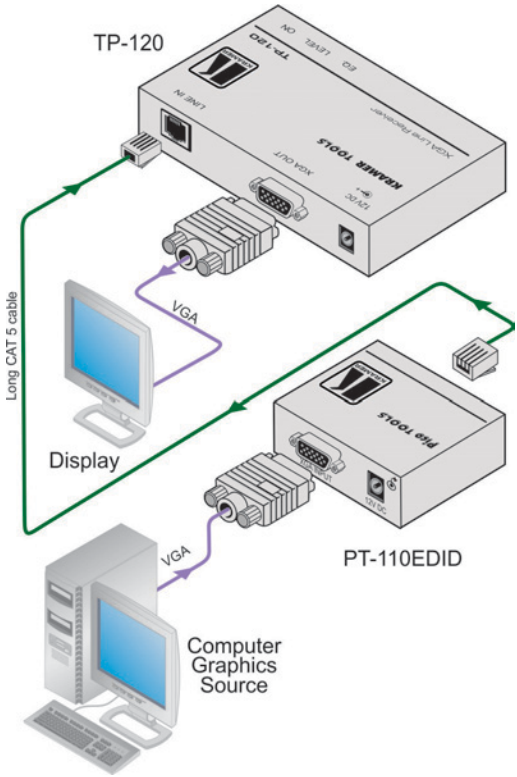


Figure 10: Connecting the PT-110EDID XGA/Line Transmitter

7.3 Technical Specifications PT-110EDID

INPUT:	1 VGA/UXGA on a 15-pin HD connector
OUTPUT:	1 RJ-45 LINE OUTPUT connector
RESOLUTION:	Up to UXGA
S/N RATIO:	69dB (worst case)
COUPLING:	AC
POWER CONSUMPTION:	12V DC, 320mA
OPERATING TEMPERATURE:	0° to +55°C (32° to 131°F)
STORAGE TEMPERATURE:	-45° to +72°C (-49° to 162°F)
HUMIDITY:	10% to 90%, RHL non-condensing
DIMENSIONS:	6cm x 6.5cm x 2.5cm, (2.36" x 2.56" x 1") W, D, H
WEIGHT:	0.14kg (0.31lbs) approx.
ACCESSORIES:	Power supply
OPTIONS:	RK-4PT 19” rack adapters
All measurements are based on the transmitter/receiver pair, tested with 100m CAT 5 cable. Specifications are subject to change without notice at http://www.kramerelectronics.com	

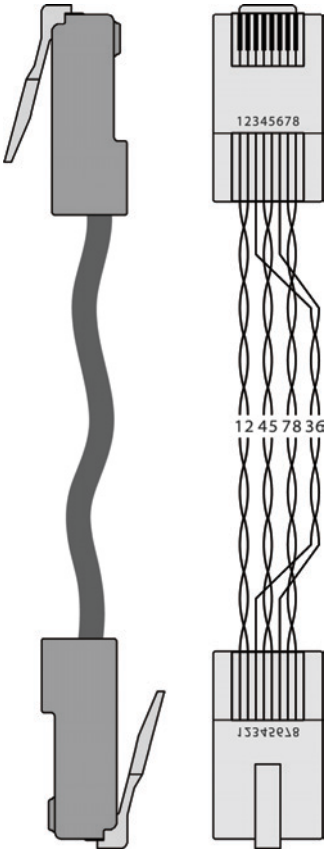
8 Wiring the TP LINE IN/LINE OUT RJ-45 Connectors

This section defines the TP pinout, using a **straight** pin-to-pin cable with RJ-45 connectors.

Note, that the cable Ground shielding must be connected / soldered to the connector shield.

EIA /TIA 568B	
PIN	**Wire Color**
1	Orange / White
2	Orange
3	Green / White
4	Blue
5	Blue / White
6	Green
7	Brown / White
8	Brown

Figure 11: TP PINOUT



9 Acquiring the EDID

The transmitter can acquire the EDID information from the connected display or it can acquire the default EDID.

To acquire the display EDID, do the following:

1. Using a short cable, connect the XGA INPUT 15-pin HD connector of the transmitter to the XGA input connector of the display.

Pins 12 and 15 of the VGA connector carry the EDID signal.
The cable used for capturing the EDID must pass all 15 pins.

2. Connect the display power.
3. On the transmitter, connect the 12V DC power adapter to the power socket and connect the adapter to the mains electricity.
4. Press the EDID CAPTURE button.
5. Once the EDID STATUS flashes slowly several times, the EDID is captured.
6. Disconnect the display.

To acquire the default EDID:

Do not connect the transmitter to the display when acquiring the default EDID.

1. On the transmitter, connect the 12V DC power adapter to the power socket and connect the adapter to the mains electricity.
2. Press the EDID CAPTURE button.
3. Once the EDID STATUS flashes rapidly several times, the default EDID is captured.

Alternatively, you can press the EDID CAPTURE button after connecting the transmitter-receiver system. When the EDID STATUS LED flashes rapidly several times, the default EDID information is acquired.

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SAFETY WARNING
Disconnect the unit from the power supply before opening and servicing

PN: 2900-000585 Rev: 5