

**Kramer Electronics, Ltd.**



# **USER MANUAL**

**Model:**

**WP-120**

*XGA Line Receiver*

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## 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 the video, audio, presentation, and broadcasting professional on a daily basis. In recent years, we have redesigned and upgraded most of our line, making the best even better! Our 500-plus different models now appear in eight groups<sup>1</sup> that are clearly defined by function.

Congratulations on purchasing your Kramer Wall Plate **WP-120 XGA Line Receiver**, which is ideal for:

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

The package includes the following items:

- **WP-120 XGA Line Receiver**
- Power supply and this user manual<sup>2</sup>

## 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<sup>3</sup>

## 3 Overview

The Kramer **WP-120** wall plate is an XGA line receiver that receives an encoded CAT5 signal transmitted by a transmitter<sup>4</sup>, decodes it and converts it to an XGA output. In particular, the **WP-120**:

- Includes EQ. and level controls
- Has the power connect feature<sup>5</sup>
- Is 12VDC fed

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1 GROUP 1: Distribution Amplifiers; GROUP 2: Video and Audio Switchers, Matrix Switchers and Controllers; GROUP 3: Video, Audio, VGA/XGA Processors; GROUP 4: Interfaces and Sync Processors; GROUP 5: Twisted Pair Interfaces; GROUP 6: Accessories and Rack Adapters; GROUP 7: Scan Converters and Scalers; and GROUP 8: Cables and Connectors

2 Download up-to-date Kramer user manuals from the Internet at this URL: <http://www.kramerelectronics.com>

3 The complete list of Kramer cables is on our Web site at <http://www.kramerelectronics.com>

4 For example, the Kramer WP-110 or PT-110

5 Powering via the CAT5 cable from either the receiver or the transmitter is good for 50 meters. Above it, both sides should be fed with power

### 3.1 About the Power Connect Feature

The Power Connect feature applies as long as the cable can carry power. The distance does not exceed 50 meters on standard CAT5 cable. For longer distances, heavy gauge cable should be used<sup>1</sup>.

For a CAT5 cable exceeding a distance of 50 meters, separate power supplies should be connected to the transmitter and to the receiver simultaneously.

### 3.2 Shielded Twisted Pair (STP) / Unshielded Twisted Pair (UTP)

The decision whether to use shielded twisted pair (STP) cable or unshielded twisted pair (UTP) cable depends on the nature of the application.

It is recommended that in applications with high interference, shielded twisted pair (STP) cable is used. However, the shield itself does create a capacitance that degrades the frequency response of the machines. For shorter distances, of 50m or so, shielded twisted pair (STP) cable is preferred because it provides protection from interference (degradation is not apparent).

For long range applications, unshielded twisted pair (UTP) cable is preferred. However, the unshielded twisted pair (UTP) cable should be installed far away from electric cables, motors and so on, which are prone to create electrical interference.

### 3.3 Recommendations for Achieving the Best Performance

Achieving the best performance means:

- Connecting only good quality connection cables, thus avoiding interference, deterioration in signal quality due to poor matching, and elevated noise levels (often associated with low quality cables)
- Avoiding interference from neighboring electrical appliances and positioning your **WP-120** away from moisture, excessive sunlight and dust



**Caution** – No operator-serviceable parts inside unit.

**Warning** – Use only the Kramer Electronics input power wall adapter that is provided with this unit<sup>2</sup>.

**Warning** – Disconnect power and unplug unit from wall before installing or removing device or servicing unit.

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<sup>1</sup> CAT5 cable is still suitable for the video/audio transmission, but not for feeding the power at these distances

<sup>2</sup> For example: model number AD2512C, part number 2535-000251

## 4 Your WP-120 XGA Line Receiver

This section describes the **WP-120 XGA Line Receiver**

- Front panel (see section 4.1)
- Rear side (see section 4.2)

### 4.1 Your WP-120 XGA Line Receiver (Front Panel)

Figure 1 and Table 1 define the front panel of the **WP-120 XGA Line Receiver**:

Table 1: WP-120 XGA Line Receiver Features

| # | Feature                 | Function                         |
|---|-------------------------|----------------------------------|
| 1 | XGA OUT HD15F Connector | Connect to the XGA acceptor      |
| 2 | ON LED                  | Illuminates when receiving power |

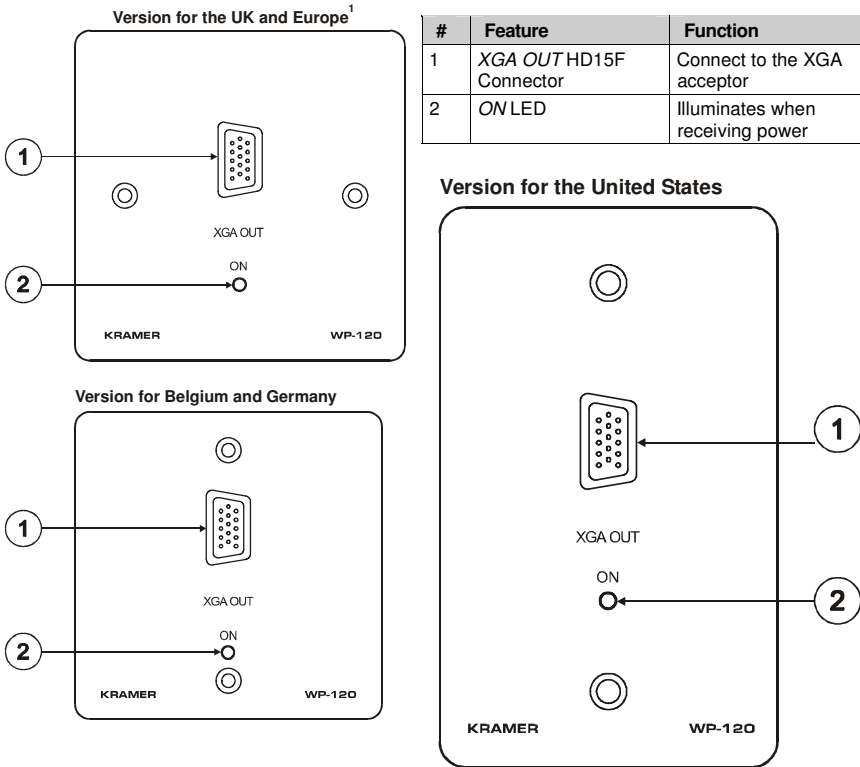


Figure 1: WP-120 XGA Line Receiver

<sup>1</sup> Excluding Belgium and Germany

## 4.2 Your WP-120 XGA Line Receiver (Rear Side)

Figure 2 and Table 2 define the rear panel of the **WP-120**:

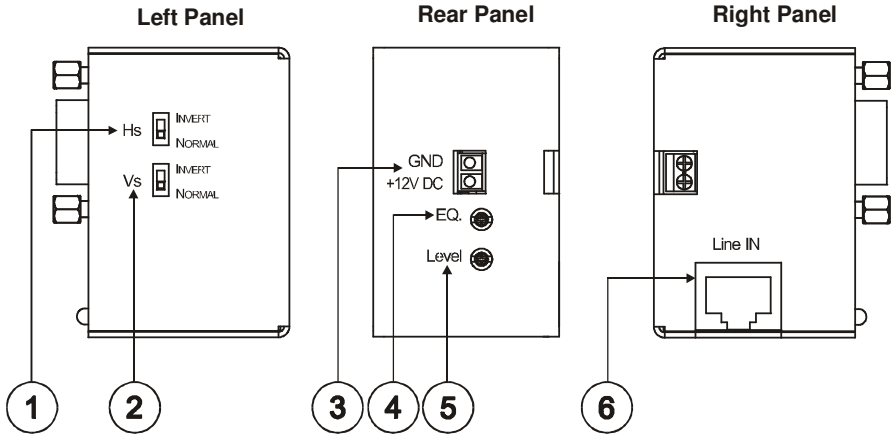


Figure 2: WP-120 XGA Line Receiver (Rear Side)

Table 2: WP-120 XGA Line Receiver (Rear Side) Features

| # | Feature                 | Function  |  |
|---|-------------------------|---|--|
| 1 | HS <sup>1</sup> Switch  | Slide the switch down <sup>2</sup> to invert the HS polarity <sup>3</sup><br>Slide the switch up (to NORMAL) to retain the polarity |  |
| 2 | VS <sup>1</sup> Switch  | Slide the switch down <sup>2</sup> to invert the VS polarity <sup>3</sup><br>Slide the switch up (to NORMAL) to retain the polarity |  |
| 3 | POWER                   | +12V PIN  | Connect (+) to the connector for powering the unit |
|   |                         | GND PIN   | Connect (-) to the Ground                          |
| 4 | EQ <sup>4</sup> Trimmer | Adjust <sup>5</sup> the cable compensation equalization level   |  |
| 5 | Level Trimmer           | Adjust <sup>5</sup> the output signal level   |  |
| 6 | Line IN RJ-45 Connector | Connect <sup>6</sup> to the LINE OUT RJ-45 connector from a receiver <sup>7</sup>   |  |

1 SYNC

2 By default, both switches are set to NORMAL

3 Downgoing syncs

4 Degradation and VGA/XGA signal loss can result from using long cables (due to stray capacitance), sometimes leading to a total loss of sharpness in high-resolution signals

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

6 Using a UTP cable with CAT 5 connectors at both ends (the PINOUT is defined in Table 3 and Figure 3)

7 For example, the PT-110 or WP-110

### 4.3 Installing the WP-120 XGA Line Transmitter

To install your **WP-120 XGA Line Transmitter**:

1. Connect the line out RJ-45 connector of the transmitter to the pre-installed UTP wiring in the wall box opening that connects via UTP cabling to the LINE IN RJ-45 connector of the **WP-120**.
2. Connect your 12V DC power supply to the *POWER SUPPLY* pins<sup>1</sup>, taking care that **polarity is correct**.
3. Insert the **WP-120** directly into the wall box opening, and then mount the front panel securely using the screws.
4. Connect the XGA acceptor to the *XGA OUT* HD15F connector.

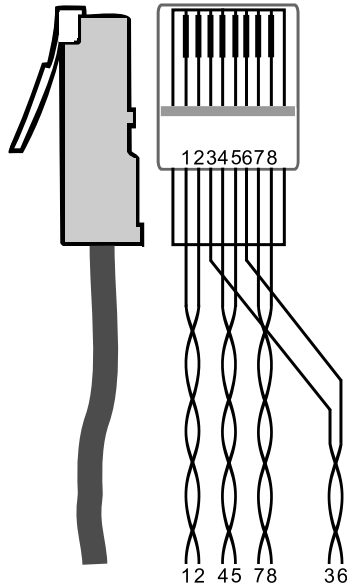
### 4.4 Wiring the CAT 5 LINE IN / LINE OUT RJ-45 Connectors

Table 3 and Figure 3 define the CAT 5 PINOUT, using a straight pin to pin cable with RJ-45 connectors:

Table 3: CAT 5 PINOUT

| EIA / TIA 568A |                | EIA / TIA 568B |                |
|----------------|----------------|----------------|----------------|
| PIN            | Wire Color     | PIN            | Wire Color     |
| 1              | Green / White  | 1              | Orange / White |
| 2              | Green          | 2              | Orange         |
| 3              | Orange / White | 3              | Green / White  |
| 4              | Blue           | 4              | Blue           |
| 5              | Blue / White   | 5              | Blue / White   |
| 6              | Orange         | 6              | Green          |
| 7              | Brown / White  | 7              | Brown / White  |
| 8              | Brown          | 8              | Brown          |
| Pair 1         | 4 and 5        | Pair 1         | 4 and 5        |
| Pair 2         | 3 and 6        | Pair 2         | 1 and 2        |
| Pair 3         | 1 and 2        | Pair 3         | 3 and 6        |
| Pair 4         | 7 and 8        | Pair 4         | 7 and 8        |

Figure 3: CAT 5 PINOUT



<sup>1</sup> Connect the wire labeled “+” to the +12V pin, and the wire labeled “-” to the GND pin

## 5 Technical Specifications

Table 4 includes the technical specifications:

*Table 4: Technical Specifications<sup>1</sup> of the WP-120*

|                            |  |
|----------------------------|--|
| INPUTS:                    | 1 RJ-45 LINE IN connector  |
| OUTPUTS:                   | 1 XGA on an HD15F connector  |
| MAX. OUTPUT LEVEL:         | 1.5Vpp   |
| RESOLUTION:                | Up to UXGA   |
| DIFF. GAIN <sup>2</sup> :  | 2.7%   |
| DIFF. PHASE <sup>2</sup> : | 0.22 Deg   |
| K-FACTOR <sup>2</sup> :    | <0.1%  |
| S/N RATIO <sup>2</sup> :   | 61dB   |
| CONTROLS:                  | Level: -9.4dB to +2.2dB; EQ.: 0dB to +30.9dB   |
| COUPLING:                  | DC   |
| POWER SOURCE:              | 12 VDC 190mA   |
| DIMENSIONS:                | USA: 6.9cm x 3.8cm x 11.4cm (2.72" x 1.5" x 4.5", W, D, H)<br>Belgium and Germany: 8cm x 3.8cm x 8cm (3.15" x 1.5" x 3.15", W, D, H)<br>UK and most of Europe <sup>3</sup> : 8.6cm x 3.8cm x 8.6cm (3.39" x 1.5" x 3.39", W, D, H) |
| WEIGHT:                    | 0.14kg. (0.31lbs.) approx.   |
| ACCESSORIES:               | Power supply   |

1 Specifications are subject to change without notice

2 For the Transmitter/Receiver pair

3 Excluding Belgium and Germany



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## LIMITED WARRANTY

Kramer Electronics (hereafter *Kramer*) warrants this product free from defects in material and workmanship under the following terms.

### HOW LONG IS THE WARRANTY

Labor and parts are warranted for seven years from the date of the first customer purchase.

### WHO IS PROTECTED?

Only the first purchase customer may enforce this warranty.

### WHAT IS COVERED AND WHAT IS NOT COVERED

Except as below, this warranty covers all defects in material or workmanship in this product. The following are not covered by the warranty:

1. Any product which is not distributed by Kramer, or which is not purchased from an authorized Kramer dealer. If you are uncertain as to whether a dealer is authorized, please contact Kramer at one of the agents listed in the Web site [www.kramerelectronics.com](http://www.kramerelectronics.com).
2. Any product, on which the serial number has been defaced, modified or removed.
3. Damage, deterioration or malfunction resulting from:
  - i) Accident, misuse, abuse, neglect, fire, water, lightning or other acts of nature
  - ii) Product modification, or failure to follow instructions supplied with the product
  - iii) Repair or attempted repair by anyone not authorized by Kramer
  - iv) Any shipment of the product (claims must be presented to the carrier)
  - v) Removal or installation of the product
  - vi) Any other cause, which does not relate to a product defect
  - vii) Cartons, equipment enclosures, cables or accessories used in conjunction with the product

### WHAT WE WILL PAY FOR AND WHAT WE WILL NOT PAY FOR

We will pay labor and material expenses for covered items. We will not pay for the following:

1. Removal or installations charges.
2. Costs of initial technical adjustments (set-up), including adjustment of user controls or programming. These costs are the responsibility of the Kramer dealer from whom the product was purchased.
3. Shipping charges.

### HOW YOU CAN GET WARRANTY SERVICE

1. To obtain service on you product, you must take or ship it prepaid to any authorized Kramer service center.
2. Whenever warranty service is required, the original dated invoice (or a copy) must be presented as proof of warranty coverage, and should be included in any shipment of the product. Please also include in any mailing a contact name, company, address, and a description of the problem(s).
3. For the name of the nearest Kramer authorized service center, consult your authorized dealer.

### LIMITATION OF IMPLIED WARRANTIES

All implied warranties, including warranties of merchantability and fitness for a particular purpose, are limited in duration to the length of this warranty.

### EXCLUSION OF DAMAGES

The liability of Kramer for any effective products is limited to the repair or replacement of the product at our option. Kramer shall not be liable for:

1. Damage to other property caused by defects in this product, damages based upon inconvenience, loss of use of the product, loss of time, commercial loss; or:
2. Any other damages, whether incidental, consequential or otherwise. Some countries may not allow limitations on how long an implied warranty lasts and/or do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations and exclusions may not apply to you.

This warranty gives you specific legal rights, and you may also have other rights, which vary from place to place.

**NOTE:** All products returned to Kramer for service must have prior approval. This may be obtained from your dealer.

This equipment has been tested to determine compliance with the requirements of:

- EN-50081: "Electromagnetic compatibility (EMC);  
generic emission standard.  
Part 1: Residential, commercial and light industry"
- EN-50082: "Electromagnetic compatibility (EMC) generic immunity standard.  
Part 1: Residential, commercial and light industry environment".
- CFR-47: FCC Rules and Regulations:  
Part 15: "Radio frequency devices  
Subpart B Unintentional radiators"

### CAUTION!

- Servicing the machines can only be done by an authorized Kramer technician. Any user who makes changes or modifications to the unit without the expressed approval of the manufacturer will void user authority to operate the equipment.
- Use the supplied DC power supply to feed power to the machine.
- Please use recommended interconnection cables to connect the machine to other components.





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**For the latest information on our products and a list of Kramer distributors, visit our Web site: [www.kramerelectronics.com](http://www.kramerelectronics.com), where updates to this user manual may be found. We welcome your questions, comments and feedback.**



**Caution**

**Safety Warning:**

Disconnect the unit from the power supply before opening/servicing.



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**Kramer Electronics, Ltd.**

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