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IP KVM HDMI /DVI Extender, IPKVM-350ED

User's Manual

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※ The design can be chaned without notice

Contents

■ Welcome

Congratulations on your purchase of the IP KVM HDMI / DVI Extender, IPKVM-350-ED. This manual contains information that will assist you in installing and operating the product.

■ Product Description

The OPTICIS HDMI / DVI IP KVM Extender, IPKVM-350-ED is designed for extending of HDMI, keyboard / mouse and provides unicast (1 to 1) over IP network. But the key feature of Dual-display mode inside IPKVM-350-ED enables user to extend two (2) displays with keyboard / mouse.

The transmitter, IPKVM-350-E (Encoder) connected to a HDMI source, encodes the HDMI by H.264 and transmits the video signal via Ethernet. The receiver, IPKVM-350-D (Decoder) connected to a display, receives the H.264 encoded video signal via the Ethernet and decodes video signal into the HDMI display.

The USB keyboard and mouse interface in the receiver, IPKVM-350-D also can be accessed to the source via transmitter, IPKVM-350-E, if it is connected to the source by USB interface.

The IPKVM-350-ED supports the digital video data of full HD up to 1080p at 60Hz and stereo audio and transmits the signal via Intra network. By using GUI interface and PC program, user can control the transmitters for connecting in the receiver side.
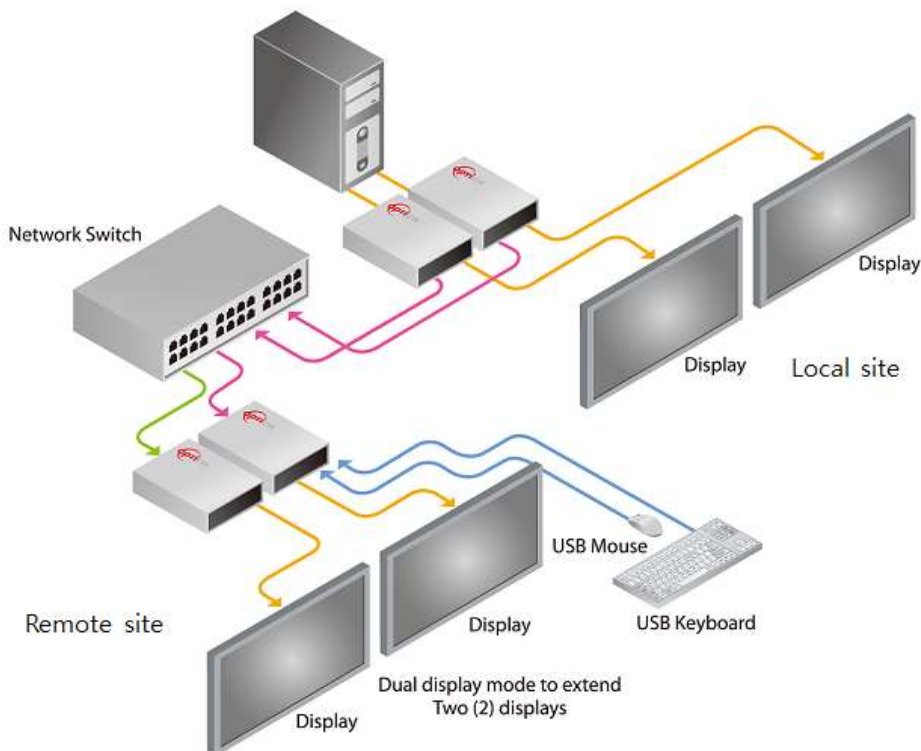
■ Main Features

♦ Supports Dual-display mode: extend two (2) displays with keyboard / mouse.

♦ Provides unicast (1 to 1) over IP network

♦ LAN standard: 802.3 Ethernet 10/100/1000Mbps.

♦ Video Resolution: up to 1080p@60Hz

♦ H.264 CODEC

♦ OSD GUI

♦ Remote Manager: PC Program for User Setting and Control

♦ HDMI V1.3, DVI 1.0

♦ USB KVM via backchannel: USB HID mouse & keyboard on remote site(Rx).

♦ Provides optionally mounting bracket (OPSCB) complying with VESA 75,100.

♦ IPKVM-350-E(Transmitter,Tx): Power Jack, RJ45, HDMI Input /HDMI Output (Loop-through) and mini USB port

♦ IPKVM-350-D (Receiver,Rx): Power Jack, RJ45, HDMI Output and Dual USB ports

♦ Certifications: CE / FCC

■ Network components

♦ Source: A video source connected to a transmitter (encoder), a source can be a media player, personal computer, or camera.

♦ Transmitter (Encoder): An encoder is needed for each source and can broadcast to a single transmitter (decoder) or to multiple receivers (decoders).

♦ Receiver (Decoder): A decoder is needed for each display output.

♦ RemoteManager(PC Program): Via a PC connected to the network, RemoteManager (PC program) manages user accounts, configures IP addresses of IPKVM-350-EDs and provides user information about each IPKVM connection.
When you set IP address or RX grouping for the first time and modify or add device (IPKVM-350-EDs), you need to use this program.

♦ IP Network: An IP network what IP devices is connected via Switching hub.
e.g Ethernet switching hub, Optical-Ethernet switch

■ Shipping Group

♦ IPKVM-350-E: Transmitter (Tx, Encoder) or IPVKM-350-D: Receiver (Rx, Decoder)

♦ Power adaptor: One (1) unit of 5V, 2A

♦ One (1) HDMI male to male cables (1.2m)

♦ One (1) Mini-USB Cable for PC (Only IPKVM-350-E,Tx)

♦ Two (2) of Three (3) pin terminal block

♦ User's manual

Option

♦ RS232 cable: DB9 male to Three (3) pin terminal block

♦ Switch (Tx): Console Switch & RJ11 male to Three (3) pin terminal block

♦ Mounting bracket (OPSCB) complying with VESA 75, 100.

■ Supporting Video Resolutions for Input / Output

♦ 480i60, 576i50

♦ 480p60, 576p50

♦ 720p50, 720p60

♦ 1080i30, 1080i50, 1080i60

♦ 1080p24, 1080p30, 1080p50, 1080p60

♦ 640x480p60

♦ 800x600p60

♦ 1024x768p60

♦ 1280x768p60

♦ 1280x960p60

♦ 1280x1024p60

♦ 1600x1200p60

♦ 1920x1080p60

Note: Some PC resolutions may not be displayed properly.

■ Application

- ◆ KVM

- ◆ Video Control room

- ◆ RCS/ROS

■ System Requirements for Setup

- ◆ **Hardware requirements**

  - ► You must have a HDMI graphic controller or card having a HDMI or DVI port in your PC or any other equipment being used.
  - ► It should support the maximum graphic resolution feature of displays to be connected.
  - ► No special requirements for memory size, CPU speed and chipsets, if you've already properly installed your HDMI or DVI graphic controllers or cards.

- ◆ **Software requirements**

  - ► You need to check OS version of your PC or any other equipment being used.

- ◆ **Network requirements**

  - ► You may need Ethernet switch(L2 or L3) as a switching hub, Optical-Ethernet switch or router for connecting multiple IPKVM-350-EDs in Local network. And also it is possible to communicate directly between one pair of IPKVM-350-ED, point-to-point connection. Network speed of each port of Ethernet switch requires 100/1000Mbps

- ◆ **requirements for control PC to install RemoteManager**

  - ► We provides RemoteManager [PC program] for setting and control. The program manages user accounts, setup of IP addresses of IPKVM-350-EDs.
  - ► Requirements: Windows XP and Window7 (or above OS)

- ◆ **AC/DC Power Adapter Technical Advisory**

  - ► The IPKVM-350-ED has a reverse voltage protection circuit and receiver (Rx) module also has overcurrent protection circuit.
  - ► The IPKVM-350-ED is designed to use mainly external +5V AC/DC power adaptor. The internal power supplied through a HDMI pin (#18) from the graphic source is used to identify normal connection between a source and transmitter, IPKVM-350-E.

■ Installation

Important: Please keep the installation procedure below. Improper or no operation may result if the start-up sequence is not followed correctly.

Step 1
Carefully unpack the contents of the shipping group.

Step 2
Turn on the PC, display, and network server.

Step 3
Connect HDMI IN port in IPKVM-350-E (Tx) to the PC by supplied HDMI cable.

Step 4
Connect mini USB port in IPKVM-350-E (Tx) to USB port in PC with supplied USB cable.

Step 5
Connect Local Display port in IPKVM-350-E (Tx) to HDMI port in a display with HDMI cable. You may skip Step 5 if you don't need loop-through for local.

Step 6
Connect LAN port (RJ45) in IPKVM-350-E (Tx) to LAN port in Network server with LAN cable.

Step 7
Connect HDMI OUT port in IPKVM-350-D (Rx) to a display by supplied HDMI cable.Then, Attach keyboard and mouse for remote control.

Step 8
Connect LAN port (RJ45) in IPKVM-350-D (Rx) to LAN port in Network server with LAN cable.

Step 9
Plug the +5V power adaptors to both IPKVM-350-E (Tx) and IPKVM-350-D (Rx).

Note: If you change an input source to another source, you have to reset the power of all TXs and RXs by re-plugging of the +5V power adaptor.

Note: Before you power on your devices, firstly connect your encoder(transmitter) unit to your source and to the network, secondly connect your decoder(receiver) unit to the network and to your displays, and other devices to your decoder and encoder units (including connection of mini-USB cable to the PC source, finally plug +5V power adaptor to your encoders and decoders.

■ Connection Ports

◆ Connector descriptions

- ▸ 5V AC/DC Power (Transmitter & Receiver): Connect the 5V AC/DC Power Adaptor to the connector of each device. When the 5V AC/DC Power Adaptor is connected to the device, the power LED is turned on. For more information on LEDs, see "LED indication"
- ▸ HDMI IN (Transmitter): Connect your video source (such as a PC) to this connector. If your video source doesn't support HDMI output, use an HDMI/DVI cable or an HDMI converter to connect it to your transmitter device. Note: To connect to this connector, you need a shielded HDMI cable.
- ▸ HDMI Out (Receiver): Connect a digital display to this connector. If your digital display has not an HDMI input, use an HDMI/DVI cable or an HDMI adaptor to connect it to your receiver device. Note: To connect to this connector, you need a shielded HDMI cable.
- ▸ Local Display (Transmitter): Connect a digital display to the HDMI output connector. If your digital display has not an HDMI input, use an HDMI/DVI cable or an HDMI converter to connect it to your transmitter device. Note: To connect to this connector, you need a shielded HDMI cable.
- ▸ RJ45 (Transmitter & Receiver): Connect a network cable (CAT5e/CAT6) to this connector.
- ▸ mini USB port (Transmitter): Connect a source PC to this connector for the purpose of using HID mouse or Keyboard.
- ▸ Dual USB A Type (Receiver): Connect a mouse and/or a keyboard to this connector for the purpose of using HID mouse or Keyboard.
- ▸ RS232 (Transmitter & Receiver)
  Optional - Connect a RS232 cable to this terminal block for the purpose of using a knob or controller (which controls an instrument).

- ▸ DIO (Transmitter & Receiver)
  Optional - Connect a DIO cable to this terminal block for the purpose of using Knob or controller (which receive some data from an instrument)

Note: If you change a source to another source such as PC, Camcorder, you have to reset the power of all TXs and RXs by re-plugging of the +5V power adaptor.

◆ IPKVM-350-E Transmitter Front

Mini USB   USB B for   DIO   RS232
for PC   Upgrading   (Terminal Block)

◆ IPKVM-350-E Transmitter Back

Power Jack   HDMI Input   HDMI Output   RJ45 JACK
(5V, 3.5mm)   (Source)   (Display)   (LAN)

◆ IPKVM-350-D Receiver front

[M]   [▶]   [▲]   [▼]

Key button for GUI only

DIO   RS232
(Terminal Block)

◆ IPKVM-350-D Receiver back

Power Jack   USB A   HDMI Output   RJ45 JACK
(5V, 3.5mm)   for   (Display)   (LAN)
             Mouse/Keyboard

■ **Setting Local/Remote Authority**

You can use KVM (including an HID mouse and/or a keyboard, or a knob (or controller) under user's authority. Only on the Local site, you can set user's authority to Local or Remote using an external console switch. But without the external console switch, you can access to the devices on both local and remote site.

■ LED Indication

IPKVM-350-ED has two (2) LEDs for Power and Authority status located on the front

♦ Power status LED (Red)

When power is applied, the red LED will be turned on.

♦ Authority status LED (Green)

If green LED turns on the transmitter, IPKVM-350 doesn't work HID Mouse/Keyboard and others (Knob, etc.) on the Remote site. And also if green LED turns on the receiver, IPKVM-350-D is ready to use HID Mouse/Keyboard and others (Knob, etc.) on the Remote site. You can set the authority state to Local or Remote on the external console switch (TX). And you can see same status via LEDs on the Console switch. Refer to the page 30, "Externally Setting Local/Remote Authority".

■ SW & Factory Reset

♦ SW Reset: Press the Reset switch on the back of devices shortly to reset devices.

♦ Factory Reset : To recover the Factory setting, press and hold the Reset switch on the Back of devices until the LED turns off after blinking approx.10sec.

■ Configuration & Operation

Note: Please keep the installation procedure below. Improper or no operation may result if the start-up sequence is not followed correctly.

Note: IPKVM-350-ED supports static fixed IP on the network. And a default IP is 192.168.0.100 on the Txs and 192.168.0.200 on the RXs from shipping group ,that is, all Txs have 192.168.0.100 and all Rxs have 192.168.0.200 from shipping group. And also, Gateway is 192.168.0.1 and Subnet Mask is 255.255.255.0 in both Txs and Rxs.

Important:

When you first set and modify devices for a system configuration, you need to use Remote Manager (PC Program).

First, you should directly connect with PC and change the IP address of each Tx or Rx to another one by using PC Program. It is because devices, which have same IP, are not operated on one network. Refer to the page 12, "Remote Manager (PC Program).

Second, you need to set Tx IP grouping on the Rx for multi-screen viewing, directly with PC or on one network by using PC Program.

And then, you are ready to set the system configuration or operate devices on a network. Refer to the page 23 Getting Started.
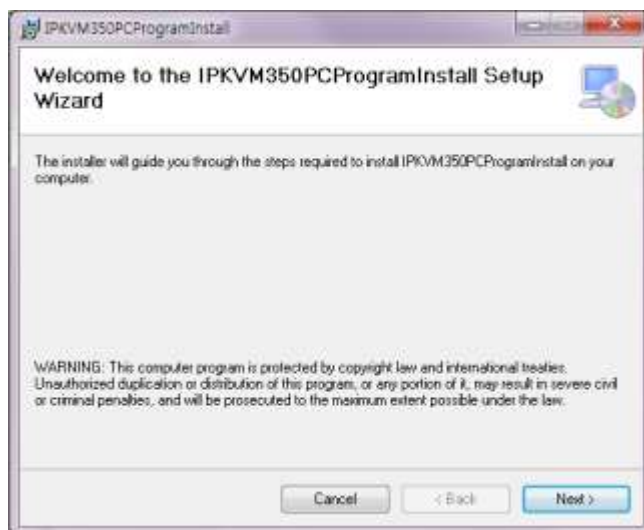
■ Remote Manager (PC Program)

1) Installing PC Program

Notice: First of all, you should check the IP address and Gateway of the PC which should be set to the same IP class of the devices, Txs and Rxs from Network setting of PC.

   eg. Tx 192.168. 0.40 (GW 192.168.0.1), Rx 192.168.0.51(GW 192.168.0.1)
     => PC 192.168.0.xxx (GW 192.168.0.1)

(1) Firstly, uninstall on the Control Panel of Window OS to re-install or upgrade the PC Program.

(2) Run the IPKVM350 PC Program Install.EXE on the Windows Operating System.

(3) Carry out the procedure according to on-screen instructions.

   ▶ It will take a few seconds installing procedure to be completed.

♦ If installation is completed, you can ready to access the PC program and setup or modify IPKVM-350-EDs.

(4) Run the PC program (RemoteManager).

2) Scan

(1) Firstly you should assign IP address "Device Auto Detect and start the auto detection.

(2) Click the 'Scan' button to search IP addresses on" on the network.
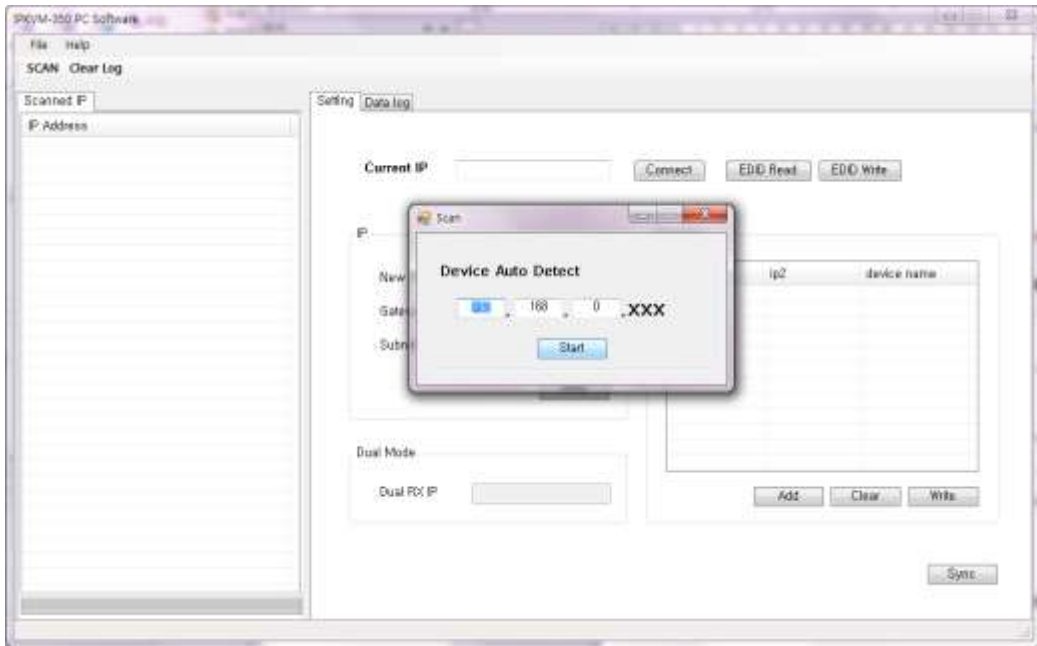
♦ You can see IP list on scanned IP address (Left side on the sheet).

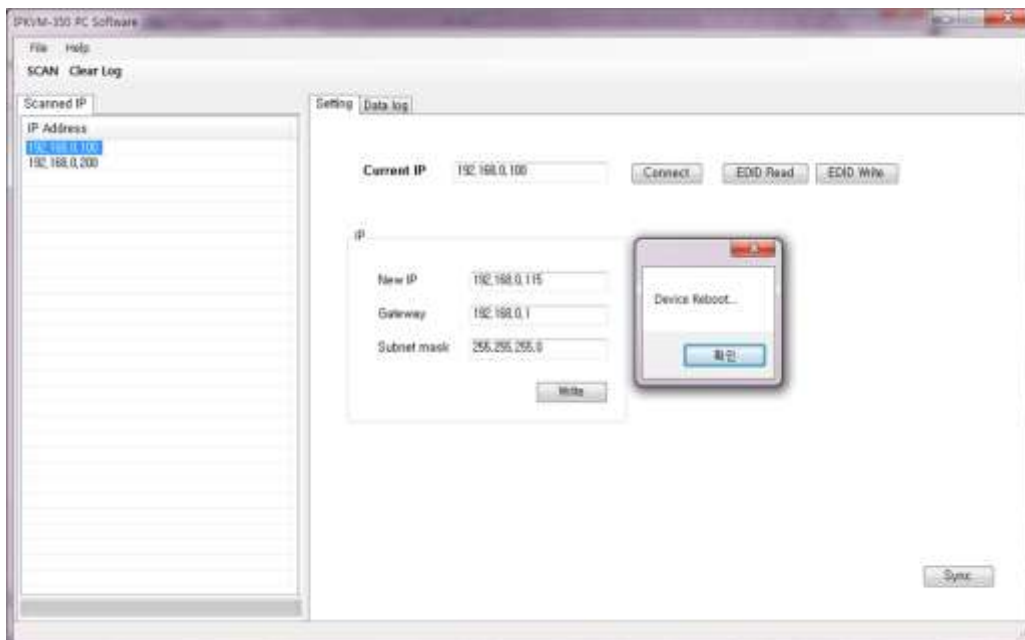♦ You are ready to modify or change each IP individually.
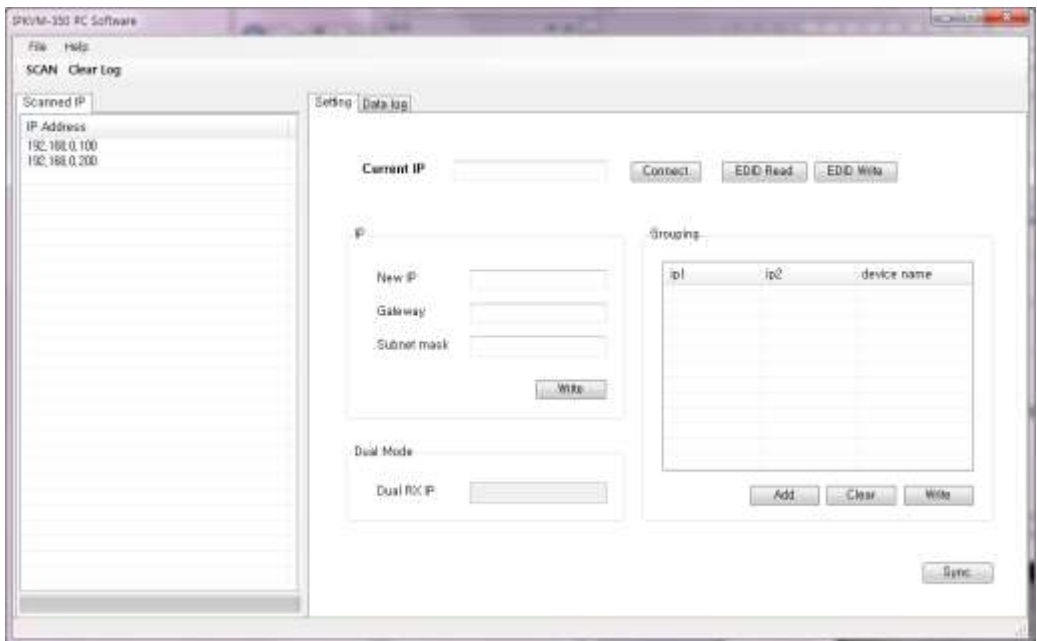
3) Transmitter(Encoder) setting

(1) Double click(with a mouse) a Tx IP address or type Tx IP address and press 'connect' button, and then you can see the IP address, gateway and subnet mask.

(2) <u>Change to anyone that you want, and then press 'write' button.</u> (eg. 192.168.0.115)
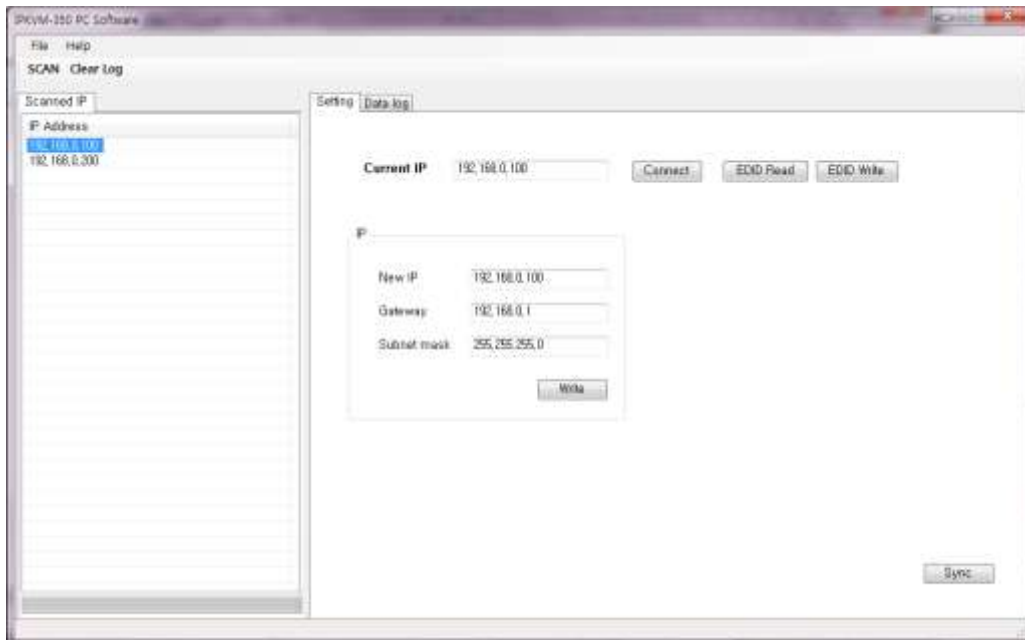
(3) To apply the changed value, press 'sync' button.

◆ After the transmitter is reboot and if you press 'scan' button, you can recognize the change IP on scan list.

4) Receiver(Decoder) setting

(1) Double click(Mouse) a Rx IP address or type Rx IP address and press 'connect' button, and then you can see the IP address, gateway and subnet mask.

(2) <u>Change to anyone value and then press 'write' button.</u> (eg. 192.168.0.215) if you want.
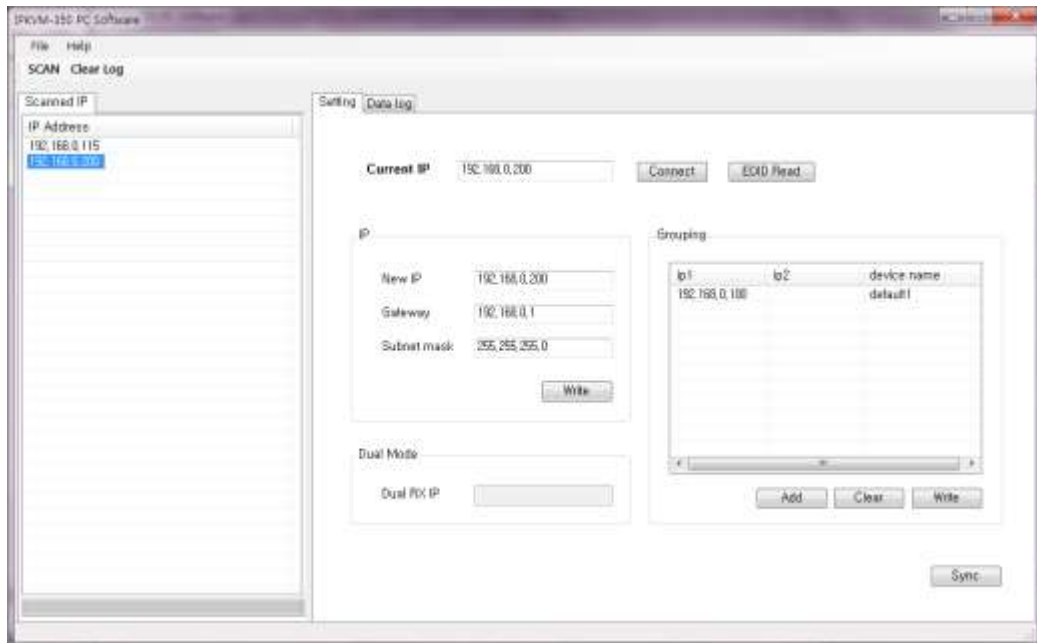
♦ You can insert IPs of transmitters to be connected with the receiver ,so that you can select and connect one among available transmitters on the GUI.

(3) Press 'Add' button on the grouping (right side) .

(4) Insert IP address and device name of transmitter.

(5) Repeat (3) and (4).

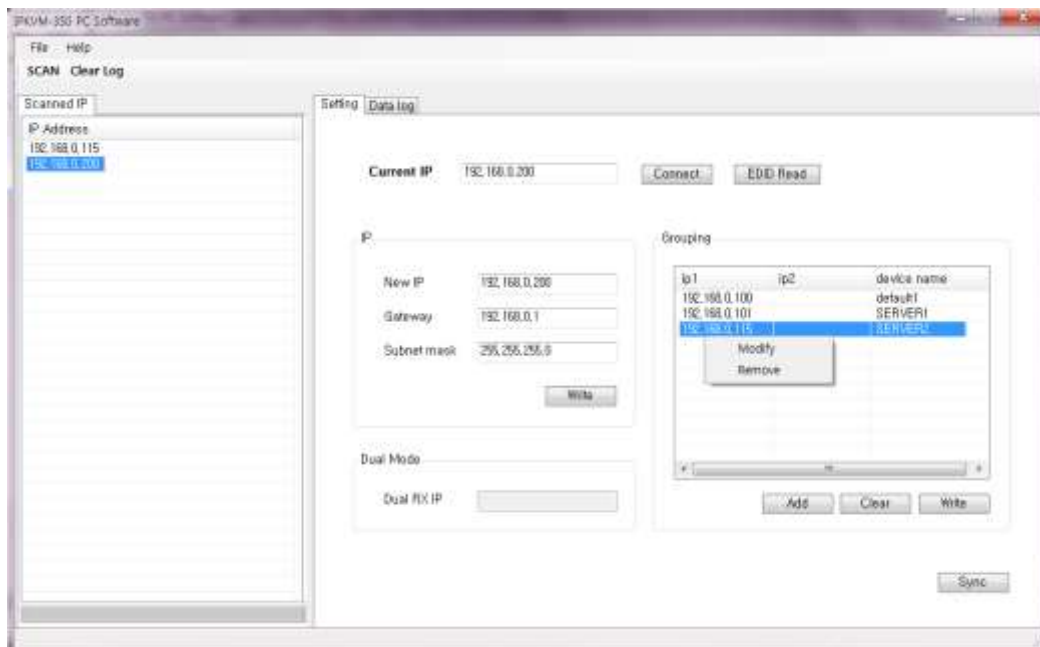(6) Press "write" and "Sync" to save and use as a group of the list.
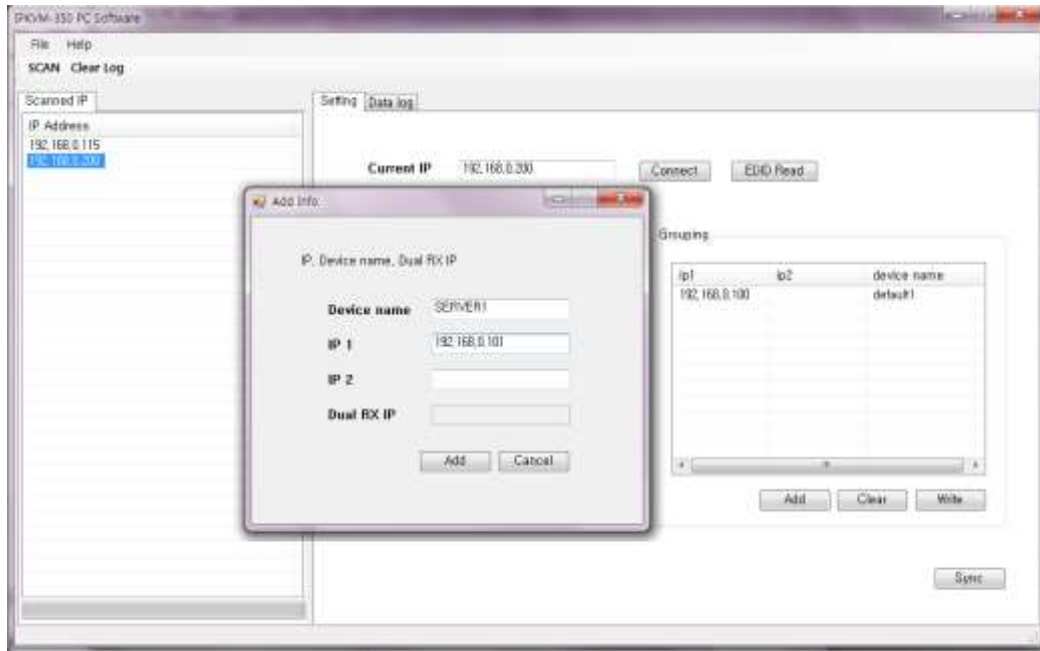
♦ You can modify or remove IP addresses and device names on the list.

(7) Click mouse right button and select 'modify' button.

(8) Change IP addresses and device names.

(9) Press "write" and "Sync" button to save and use as a group of the list.

♦ If you press "Sync" button to apply the changed value, the transmitter is rebooted.

5) "Dual display" mode Setting

To use videos, a keyboard and a mouse for dual displays on the remote site (transmitted from one source PC with dual video ports), you have to set IP Grouping for dual displays.

Important: If you have "IPs, IP1 and IP2" for dual displays on the "grouping item" more than one, you have to insert an Rx IP address on the "Dual mode" item as the other of a pair of Rxs for "Dual display" mode.

Note: After IP Scanning, double click(Mouse) a Rx IP address or type a Rx IP address and press 'connect' button, and then you are ready to set for dual monotors.

(1) Add IP (both IP1 and IP2) and device names on the "grouping" item.
(2) Add an IP (Dual Rx IP) as the other one of a pair of Rxs for dual displays, and then press 'write' button.
(3) Press "Sync" to save the grouping.
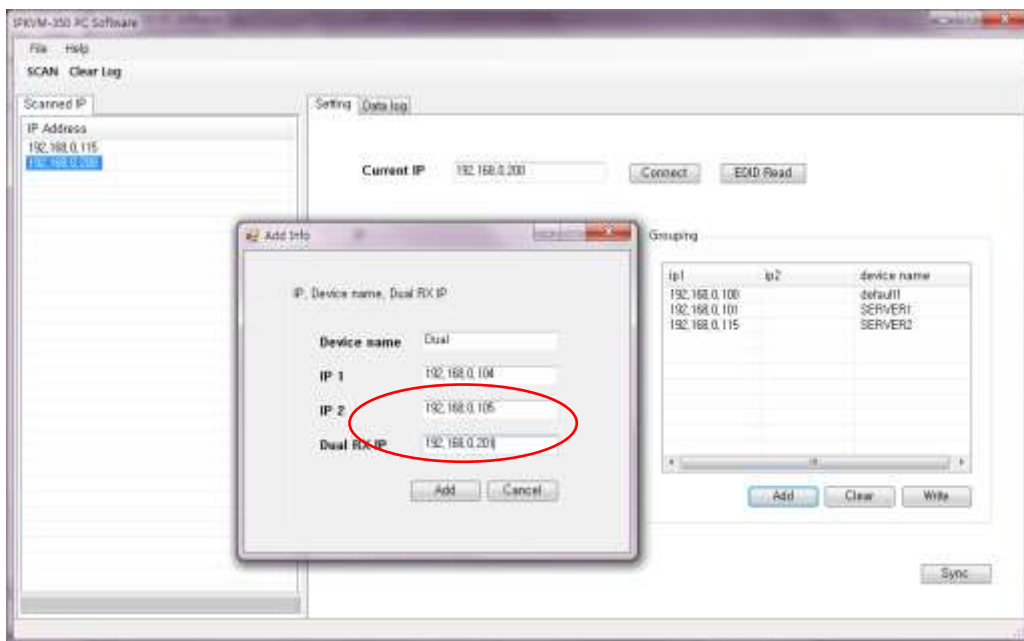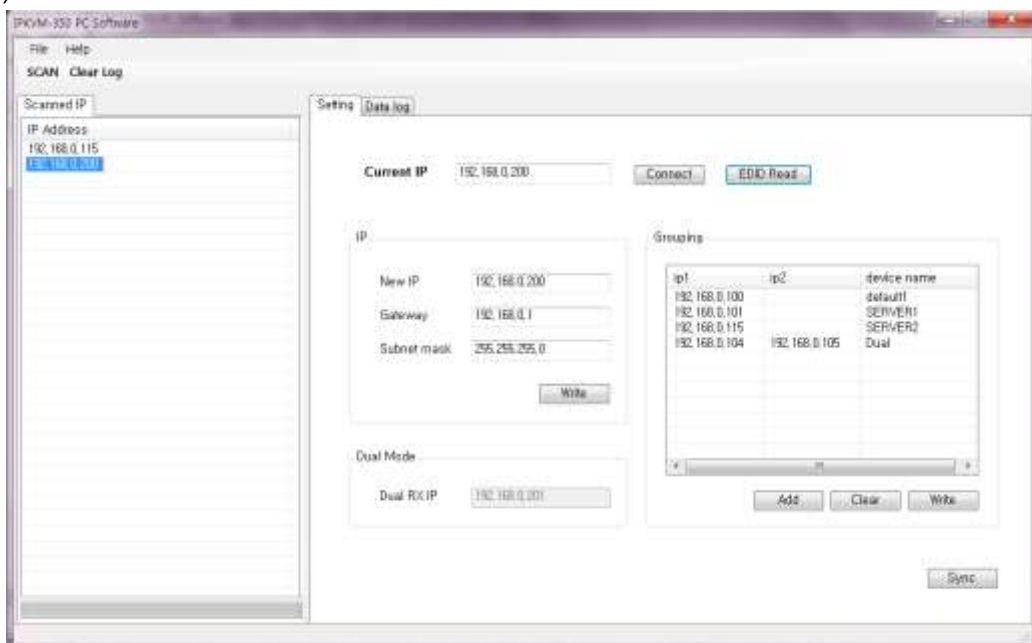
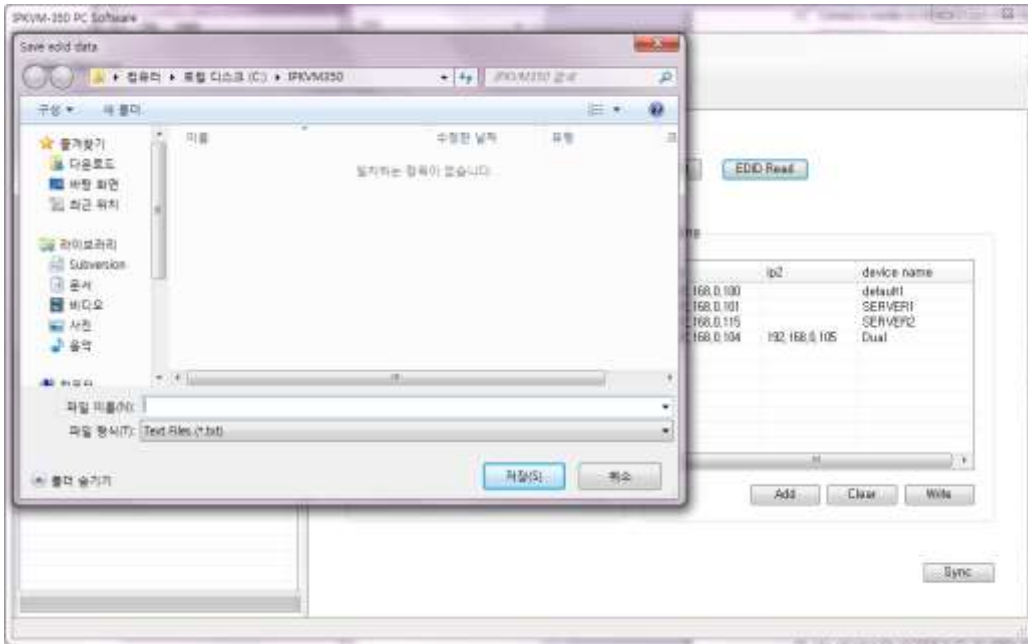♦ In case of correct setting with "Dual Rx IP"
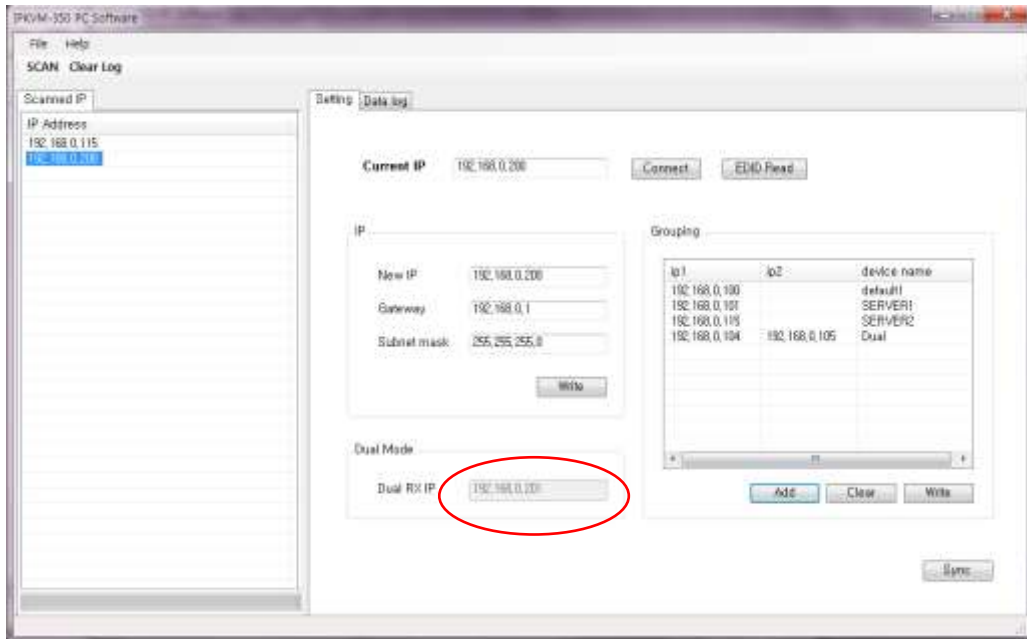
6) **EDID Read/Write**

♦ You can read and write the EDID of the connected display without using builted-in EDID.

♦ **EDID read on the receiver**

(1) Connect a isplay to HDMI/DVI port of the Receiver and recycle the power supply of selected device.
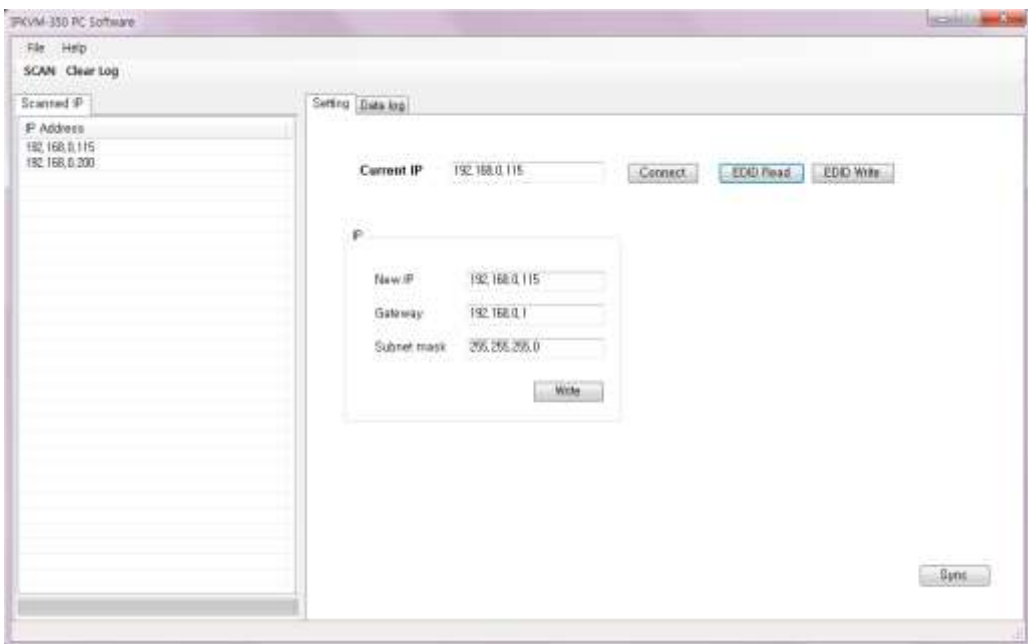
(2) Click "EDID read" button.

(3) You can read and the EDID of the connected display.
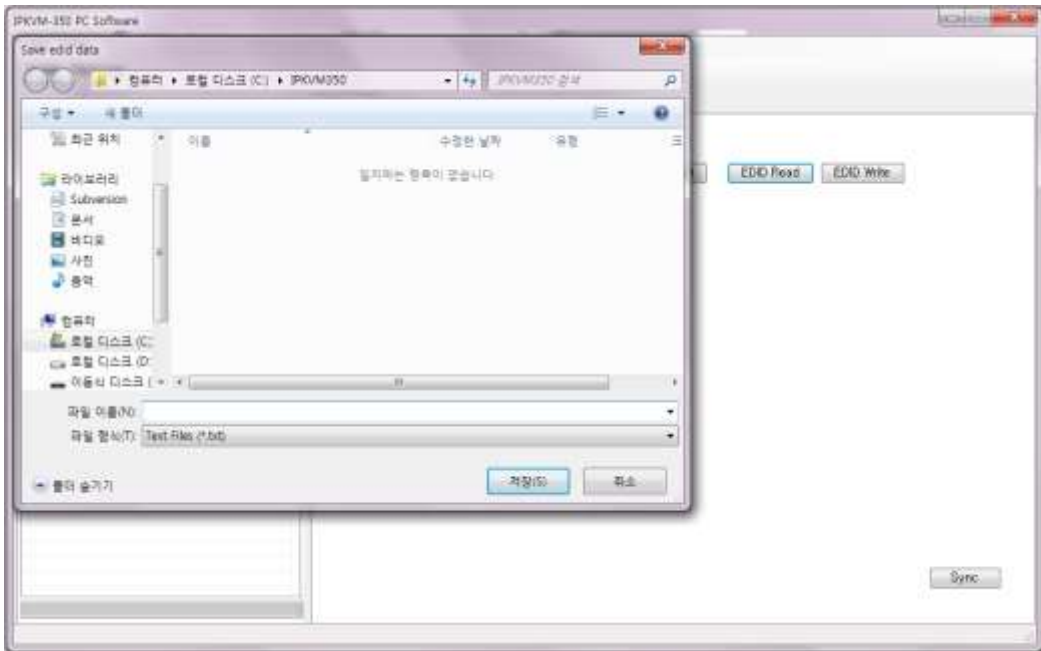

(4) You can save the red EDID to PC for writing the EDID to a transmitter.

◆ **EDID read on the transmitter**

You can repeat [1]~[4] to read EDID of a transmitter except connecting a display to HDMI/DVI Loop-through port of the Transmitter
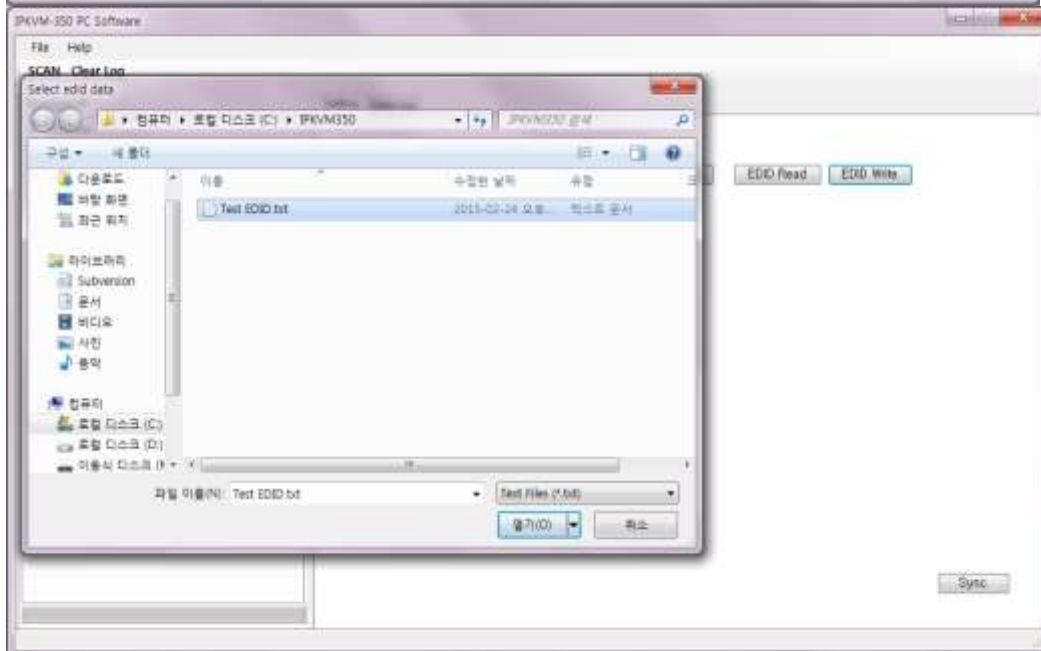
◆ EDID write EDID to the transmitter.

(1) Click "EDID write" button.
(2) Select the EDID to the transmitter from previously saved EDID data in PC.
   And then you can see a message ,"EDID write OK, Device reboot"
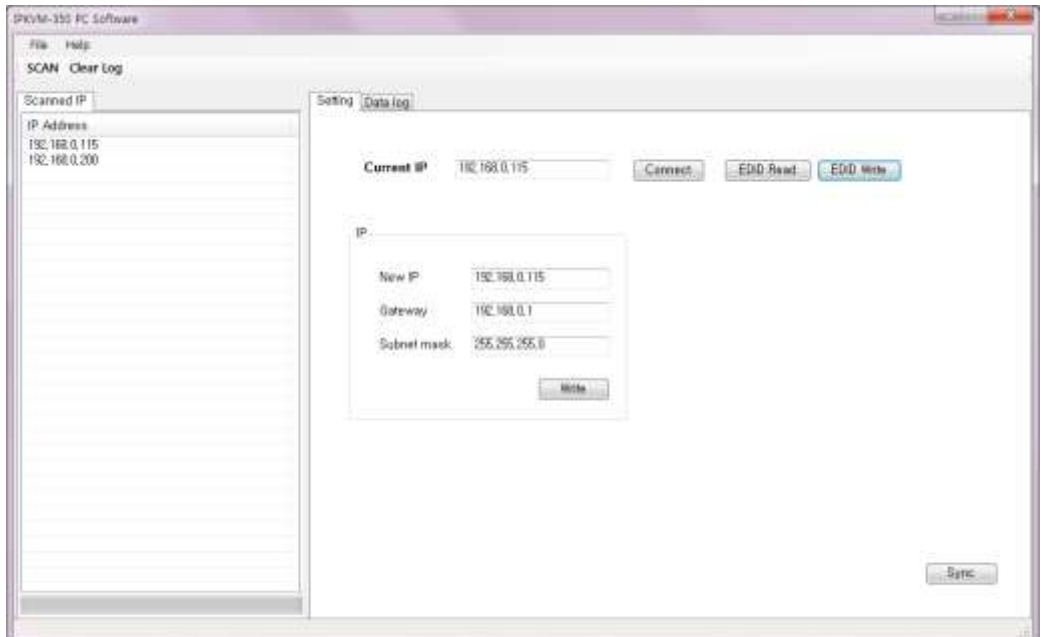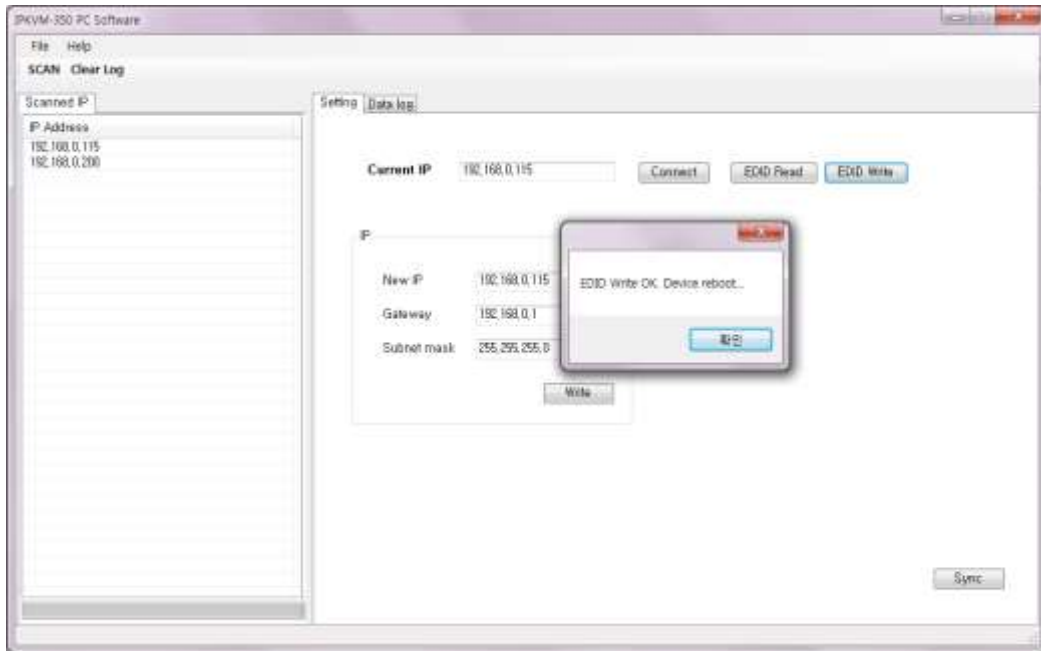
7) Reboot on the RemoteManager (PC Program)

♦ You can reboot each scaned device on the PC Program.

(1) Click Mouse right button and select "reboot" on the scanned device.

♦ After the transmitter is reboot and if you press 'scan' button, you can recognize the change IP on scan list.

■ Getting started

1) Description of buttons to control OSD(On-Screen Display) GUI.

(1) Keybutton (Refer to page 10, "Reciever front case")

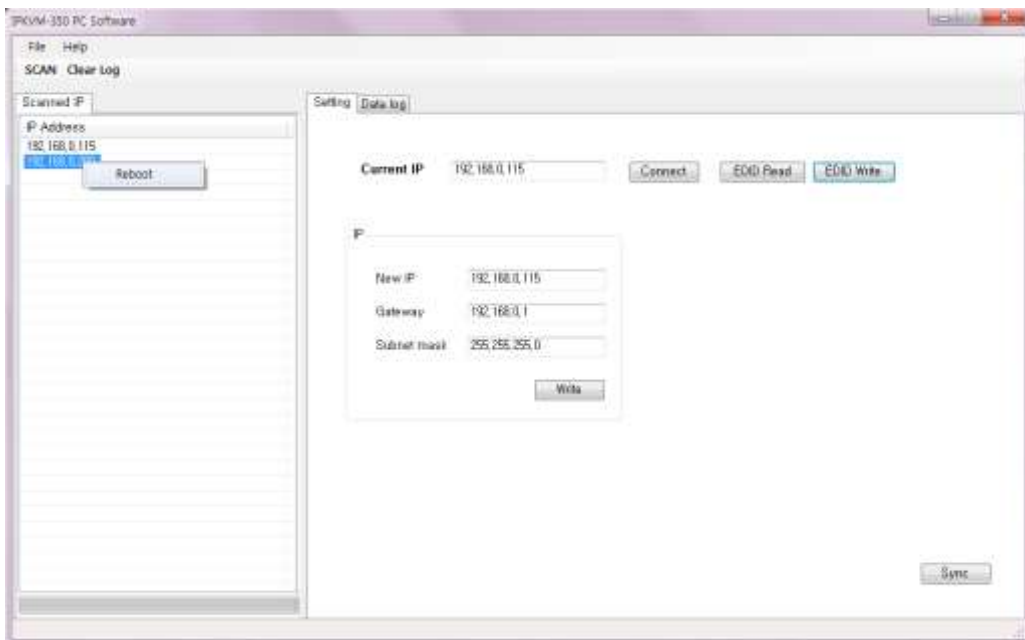Note: **(S)** means press shortly and release the button, **(L)** means press the button and hold for 2~3sec and release the button.

Note: Basically, GUI is operated on the receiver side and it shall be operated in cases as below;

- ▸ **[M] button**: Menu or Select Button
  - **(S)**: Select an item or activate the action
  - **(L)**: Exit from GUI menu or return to GUI menu.
- ▸ **[▸] button (S)**: Right Button
- ▸ **[▲] button: (S)**: Move Up
- ▸ **[▾] button: (S)**: Move Down

2) Access to OSD GUI MENU:

- ♦ Press and hold the **[M] button** for 2~3sec to enter GUI menu.
- ♦ Press and hold the **[M] button** for 2~3sec again to exit from GUI menu.
- ♦ It will take a few seconds to change the menu.

3) How to connect IPKVM-350-ED with a source PC or displays.

- ♦ When a pair of IPKVM-350-ED have been connected, it will be totally showed as below.
- (1) Connet a Source PC to the HDMI input port of the transmitter (E) with HDMI/DVI cable.
- (2) Connect a Local Display to the HDMI output port as a Loop-through port of the transmitter (E) with DVI/HDMI cable.
- (3) Connect a Remote display to the HDMI output port of the receiver(D) with HDMI/DVI cable.
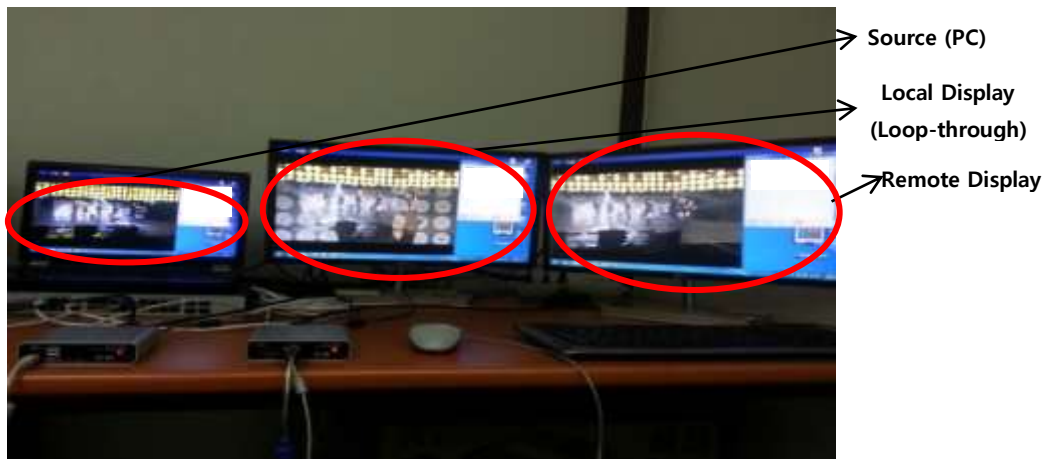
4) Connection

♦ You can connect to one of available transmitters in the network

Important: Look at IP address/name/icon before connetion

　　　　Icons show staus of transmitters in the network.

- **Green (available): transmitters ready to connect with this receiver**
- **Blue (connected): this receiver already connect to the transmitter.**
- **Red (Not available): transmitters already connect to other receivers.**
    Eg. When other users work with these transmitters
- **Gray (Not available): When transmitters are not in the network.**
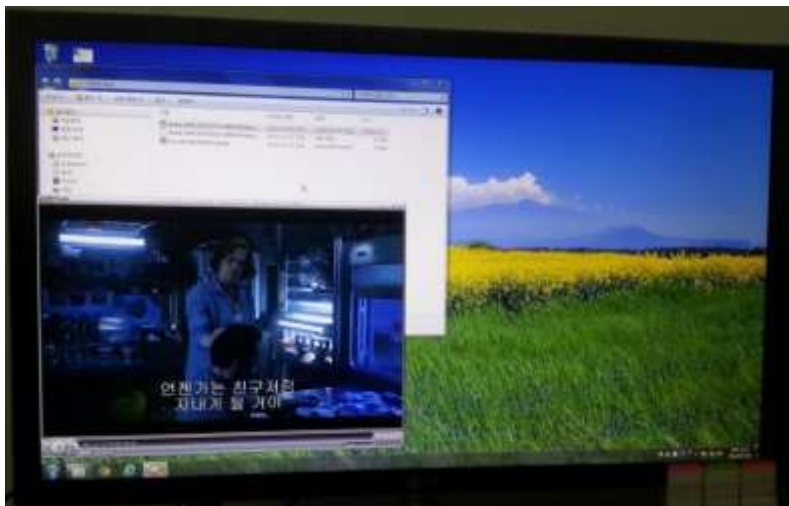   Eg. When transmitters are power off

(1) Select a transmitter using **M**, **[▲] [▾] button.**

5) Operation with HID KVM mode [image screen for streaming video, keyboard and mouse]

♦ After connection, you can use a keyboard and a mouse in the HID KVM mode as below.

6) Logout for dis-connection

♦ Connection to another transmitter

(1) Press and hold the **[M] button** for 2~3sec to enter GUI menu [Connectivity].

(2) Select one and connect to the transmitter among available transmitters.

  Note: a Blue icon shows this receiver is currently connected to the transmitter (IP 192.168.1.225)

  Note: this receiver can connect to another transmitter (IP address 192.168.1.226

    which displays with green icon).

♦ Exit: You can return to the previous image screen [KVM mode].

(3) Press and hold the **[M] button** for 2~3sec to return to the previous image screen.

♦ Logging out: After finishing work on the remote site and dis-connection, it is available to log out

   so that GUI display returns to the connectivity menu.

(4) Press [▸] button to log out.

7) Dual display mode

Note: You can use videos, a keyboard and a mouse for dual displays on the remote site (transmitted from one Source PC with dual video ports).

◆ You can connect 2 pairs of Txs and Rxs together on a Rx GUI.

◆ Also, you can dis-connect 2 pairs of Txs and Rxs together on one Rx GUI.

◆ Refer to connection diagram below.
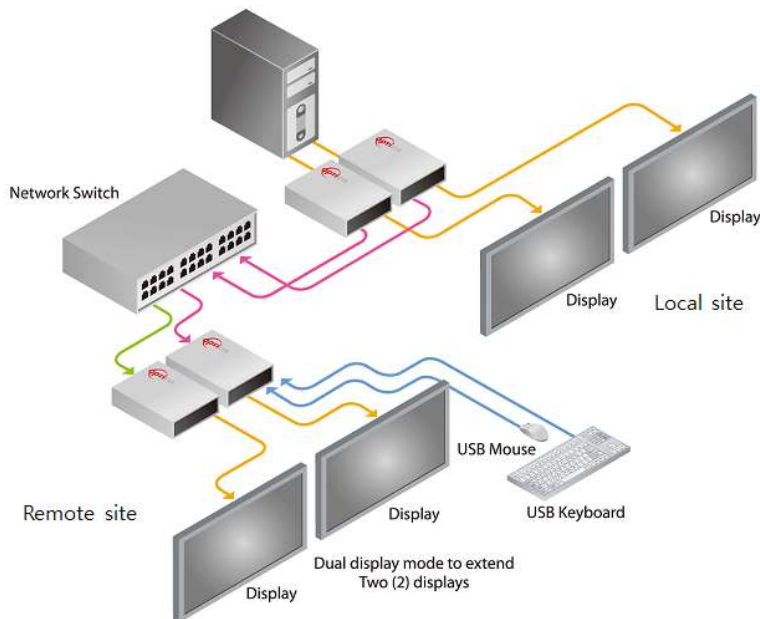
Notice: Firstly, you have to set an IP grouping for dual displays.[Refer to a picture below]

◆ Double click(Mouse) a Rx IP from scanned IPs or type Rx IP, and press 'connect' button, then you are ready to set for dual monotors.

Refer to the page 12, "Remote Manager (PC Program) to know how to set up for details.

(1) Add IP1, IP2 and device names on the "grouping" item.

(2) Add IP as the other one of a pair of Dual Rx IP.
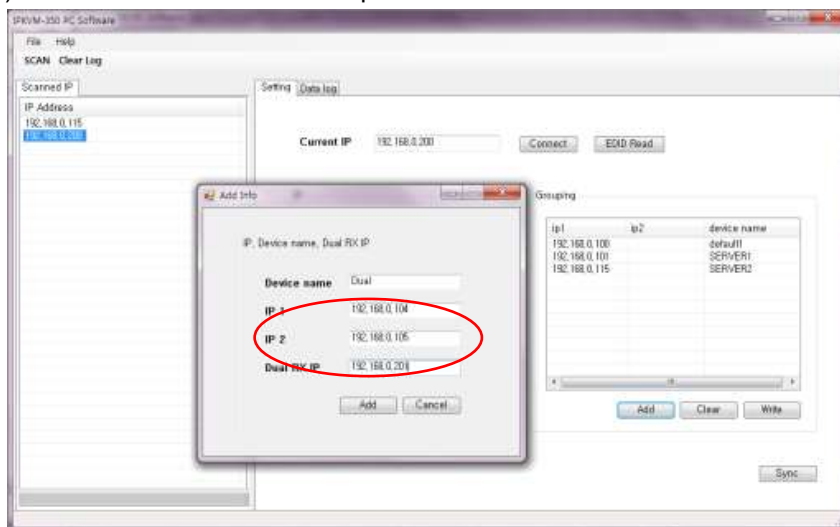
◆ On the displays, you can see available IP addresses to connect for single or dual displays.

♦ You can see available Tx IP addresses to connect for single or dual displays.

 Notice for reminding: Icons show staus of transmitters in the network.

- Green (available): transmitters ready to connect with this receiver.
- Blue (connected): this receiver already connect to the transmitter.
- Red (Not available): transmitters already connect to other receivers.
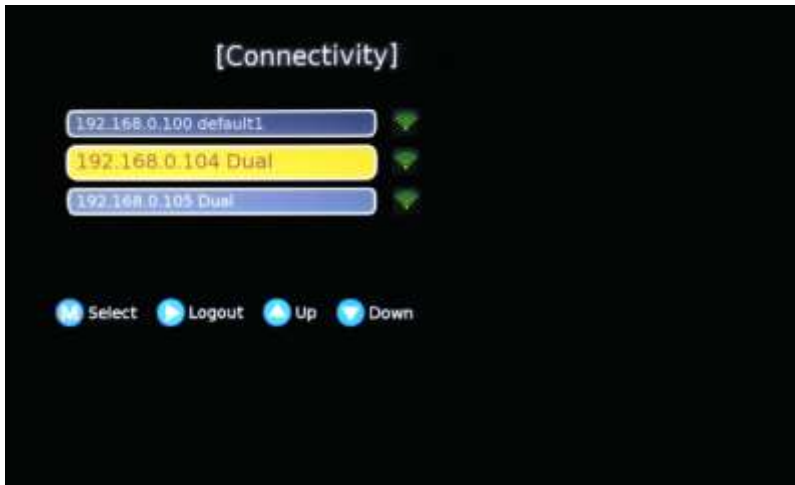 Eg. When other users work with these transmitters.
- Gray (Not available): When transmitters are not in the network.
  Eg. When transmitters are power off.

(1) Select one IP of a pair of Txs for dual displays which you want to connect among available IPs ["Green" icon shows available Tx IP to connect].

(2) Press 'Select' button (**M**) on the key button.

♦ You can see videos on each of dual displays and use a keyboard and a mouse on dual displays. It takes 3~10 seconds for connection.

♦ Connection to another transmitter for single or dual displays

(1) Press and hold the **[M] button** for 2~3sec to enter GUI menu [Connectivity].

(2) Select one and connect to the transmitter among available transmitters [with green icons].

Note: a Blue icon shows this receiver is currently connected to the transmitter (IP 192.168.1.225).

Note: this receiver can connect to another transmitter (IP address 192.168.1.226 which displays with green icon).

♦ Exit: You can return to the previous image screen [KVM mode].

(3) Press and hold the **[M] button** for 2~3sec to return to the previous image screen.

♦ Logging out: After finishing work on the remote site, it is available to log out so that GUI display returns to the login menu.

(4) Press **[▸]** button to log out.

■ Product Specifications

Item	Description	
Display Resolution	Up to 1080p@60Hz	
Network(LAN)	10/100/1000Mbps Base-T Ethernet: TCP/IP based wired network	
Video Streaming protocol	RTSP, RTP, RTCP, UDP / TCPIP	
Video Codec	MPEG-4 Part 10/AVC (H.264)	
Video Interface Standard	HDMI 1.3 and DVI1.0	
Tx Video Interface	Input: 1 HDMI/DVI Input Output: 1 HDMI/DVI Output (Loop-Through)	
Rx Video Interface	Output: 1 HDMI/DVI Output	
USB terminal	1x mini USB B type to PC on Local site (Tx)	
USB KVM	2x USB USB A type for HID Keyboard /Mouse on Remote Site(Rx)	
Dual display mode	Support KVM with video, keyboard and mouse on Dual displays	
LAN Port	RJ-45 (Tx/Rx 1 port)	
RX232 Port	3 Pin Terminal Block for Knob & alarm interface	
Digital I/O Port	Terminal Block for Console Switch	
Reset Switch	SW reset & Factory reset	
External Console Switch (Tx, Optional)	select Local/Remote Autority on the switch pad externally.	
Key button	[M] menu, [▸] right, [▲] up, [▾] Down	
Configuration access	OSD GUI via key button PC Program (RemoteManager) for user account, device setting and control	
EDID	Built-in EDID & EDID Read/Write	
Dimension	Tx: 112x28x104mm (WHD), Rx: 112x28x104mm (WHD)	
Power	100-240VAC, 50-60Hz	
	5V 2A Adaptor	
Power Consumption	Transmitter <6W	Receiver <6W
Operating Temperature	0~50°C	
Storage Temperature	-20~60°C	
Certification	FCC, CE	

■ **Externally Setting Local/Remote Authority (Option)**

♦ **Console Switch (Tx)**

The Console switch is to set a Local or Remote state of control authority on an external switch for user's convenience. Connect the console switch (left image) to DIO terminal block of the transmitter by using a cable (right image). You can set a Local or Remote state of control authority by rotating the switch and see the state through LED indication.
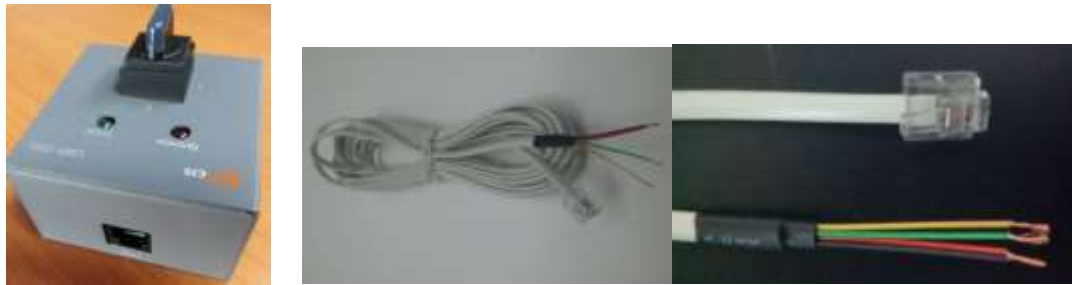
Refer to below figures to know an method and order for conntction to 3pin terminal block

+3.3
CTL
GN

■ **A.2 A guide for Upgrading**

Please keep this guide to upgrade the device (IPKVM-350-E or D)
 (1) Copy "IPKVM-350.bin" to an USB memory stick.
 (2) Insert the USB memory stick to USB port of the device (IPKVM-350E or D) which you want to upgrade.
 (3) Recycle the power supply of selected device (IPKVM-350-E or D)
 (4) Wait until LED blinking stops and the device is rebooted. It takes about 3 minites
 (5) Remove the USB memory stick from the device (IPKVM-350-E or D)

■ Troubleshooting

Problem	Remedy Action	Causes
Video quality: - Freezing or collapse - Mosaic pattern - Jitter	- Check network connectivity. - Check if the graphic resolution is properly set. Go to the display properties and tap the settings. Max. Resolution (1080p @60Hz) - Reset the power of all Txs and Rxs again by re-plugging the power adaptor or by reboot on the PC program.	Network connectivity issues
Keyboard or Mouse doesn't work properly.	- Ensure the USB cables are connected properly between Source PC and USB port of a transmitter - Reset the power of all Txs and Rxs again by re-plugging the power adaptor or by reboot on the PC program. - Change USB cable, if it doesn't work properly after reconnecting the cable and reset.-	Cables are connected incorrectly.
Abnormal operation occurs in playing audio/video or USB Keyboard/Mouse	- Reset the power of all Txs and Rxs again by re-plugging the power adaptor or by reboot on the PC program.	
After changing input source, the video clip does not play.	- Execute window media player again. - Reset the power of all Txs and Rxs again by re-plugging the power adaptor.	

■ Warranty Information

1 (One) Year Warranty

Opticis warrants this IPKVM-350-ED HDMI extender to be free from defects in workmanship and

materials, under normal use and service, for a period of

one (1) year from the date of purchase from Opticis or its authorized resellers.

If a product does not work as warranted during the applicable warranty period, Opticis shall, at its

option and expense, repair the defective product or part,

deliver to customer an equivalent product or part to replace the defective itemor refund to customer

the purchase price paid for the defective product.

All products that are replaced will become the property of Opticis.

Replacement products may be new or reconditioned.

Any replaced or repaired product or part has a ninety (90) day warranty or thereminder of the initial

warranty period, whichever is longer.

Opticis shall not be responsible for any software, firmware, information, or memory data of customer

contained in, stored on, or integrated with any products returned to Opticis for repair under warranty

or not.

Warranty Limitation and Exclusion

Opticis shall have no further obligation under the foregoing limited warranty if the product has been

damaged due to abuse, misuse, neglect, accident, unusual physical or electrical stress, unauthorized

modifications, tampering, alterations, or service other than by Opticis or its authorized agents, causes

other than from ordinary use or failure to properly use the product in the application for which said product is intended.

Dispose of Old Electrical & Electronic Equipment

(Applicable in the European Union and other European countries with separate systems)

This symbol on the product or on its packaging indicates that this product shall not be treated as household waste. Instead it shall be handed over to the applicable collection point for the recycling of electrical and electronic equipment. By ensuring this product is disposed of correctly, you will help prevent potential negative consequences for the environment and human health, which could otherwise be caused by inappropriate waste handling of this product.

The recycling of materials will help to conserve natural resources. For more detailed information about recycling of this product, please contact your local city office, your household waste disposal service or the shop where you purchased the product.

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For technical support, visit Opticis web site, www.opticis.com or contact techsupp@opticis.com