PureLink
Digital Extender®

DTS50R/DRS50R

Stand Alone DVI CAT5 Extension System

DVI + Stereo Audio + RS-232 + IR over two CAT5

Owner's Manual

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DTS50R/DRS50R Package Contents

Please make sure all of the following items are included in the package;

1) DTS50R/DRS50R x1
2) DC 12V Power Supply Unit with a power cord x1
3) User Manual

DTS50R: DVI CAT5 Transmitter Module





DRS50R: DVI CAT5 Receiver Module





General Specification

• DTS50R/DRS50R is a DVI, stereo audio, RS-232, IR extension system over two CAT5 cables for long distance up to 165ft.

• Compact & durable design and lower power consumption makes it an ideal solution for connection for high definition video/audio signal of digital displays such as LCD/Plasma/LED displays and projectors.

• DTS50R/DRS50R's unique circuitry design for the best quality of HDTV and its CAT5 connection enables to minimize electrical noise and EMI free that is ideal for long distance extension of high definition DVI signal .

• DTS50R: Transmitter module
DRS50R: Receiver module

Model	DTS50R/DRS50R
Input Signal	DVI, 3.5mm Analog Audio, RS-232, IR
Output Signal	DVI, 3.5mm Analog Audio, RS-232, IR
Supporting Display Resolutions	VGA ~WUXGA(up to 1920 x 1200 @ 60Hz) , 480i ~ 1080p
Max. Distance	1920x1200 @ 60Hz or at 1080p: 50M(165ft) 1280x1024 @ 60Hz or at 1080i: 60M(200ft)
Connector Type	DC Power Jack DVI 29 Pin Female RJ45 * 2 EA 3.5mm Stereo Jack IR: 4P Phoenix connector RS-232C: 3P Phoenix connector
Conformations	DDWG DVI 1.0 with HDCP
Power Rating	DC +12V , 8W Max
Dimension	4.3x3.1x1.6(inches) 110x78x40(mm)
Weight	0.81 lbs (0.37Kg)

Operation and Reliability Specification

1. Operating Environment
   Temperature: 50F ~ 104F (10℃~ 40℃)
   Humidity: 10% ~ 80%
   Altitude: 3,000m Max.

2. Transit Environment
   Temperature: -13F ~ 140F (-25℃~ 60℃)
   Humidity: 5% ~ 95%
   Altitude: 15,000m Max.

3. Storage Environment
   Temperature: -4F ~ -49F (-20℃~ 45℃)
   Humidity: 5% ~ 95%
   Altitude: 3,000m Max.

4. Reliability
   MTBF: 90% at over 50,000 hours aging test
   - In compliance with LCD Monitor reliability test standard

Main Features

1. Zero loss & Zero noise delivery of digital high definition video and audio signal using CAT5 conversion technology, DTS50R/DRS50R delivers HD signals over Cat5 cables without loss or digital interference maintaining the clarity and colors. Noise cancellation and error correction logic enhances video and audio signals over long distance.

2. Built-in signal repeater to support longer distance between the source and the DTS50R & DRS50R and the display. This Signal Repeater logic supports up to 50ft copper based DVI/HDMI cables.

3. Compact and Robust Module Design.

4. Long distance (Up to 200ft at 1080i or lower signal) over cost effective RJ45 (CAT5/e/6) cables.

5. Full EDID Management
   1) Built-in EDID library
      Choose one from 14 pre-saved most widely used EDID (Rotary switch)

   2) EDID Emulation
      Saving/Emulating display's EDID in the DTS50R transmitter module enhances reliability and compatibility with various displays.

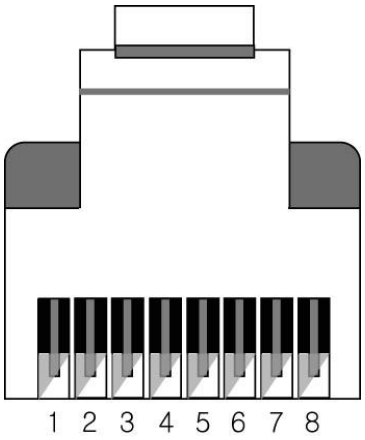
6. HDCP (High-bandwidth Digital Content Protection) Support.

7. DDWG DVI 1.0

Installation and Connection Instructions

1. Turn off both the video source and the display before connecting any cables.
2. Connect DVI, 3.5mm stereo audio, RS-232 and IR cables between the source and DTS50R AND between the DRS50R and the display.
3. Cable Connection:

   CAT5 Cable: DTS50R/DRS50R was designed to conform to TIA/EIA-568-B Standard. Please ensure that each PIN layout of DTS50R/DRS50R is corresponding with the picture below before connecting the cable. Please note that CAT5e or above level cable enables to deliver better video quality and longer distance.



1. AV PIN MAP

Pin	TIA/EIA-568B Wire color	Signal Digital RGB
1	Orange/ White	TMDS Data2+
2	Orange	TMDS Data2-
3	Green/ White	TMDS Data1+
4	Blue	TMDS Data0+
5	Blue/ White	TMDS Data0-
6	Green	TMDS Data1-
7	Brown/ White	TMDS Clock+
8	Brown	TMDS Clock-

2. CONTROL PIN MAP

Pin	TIA/EIA-568B Wire color	Signal Digital RGB
1	Orange/ White	RS-232C_TXD
2	Orange	GND
3	Green/ White	RS-232C_RXD
4	Blue	IR Out
5	Blue/ White	GND
6	Green	GND
7	Brown/ White	IR In
8	Brown	GND

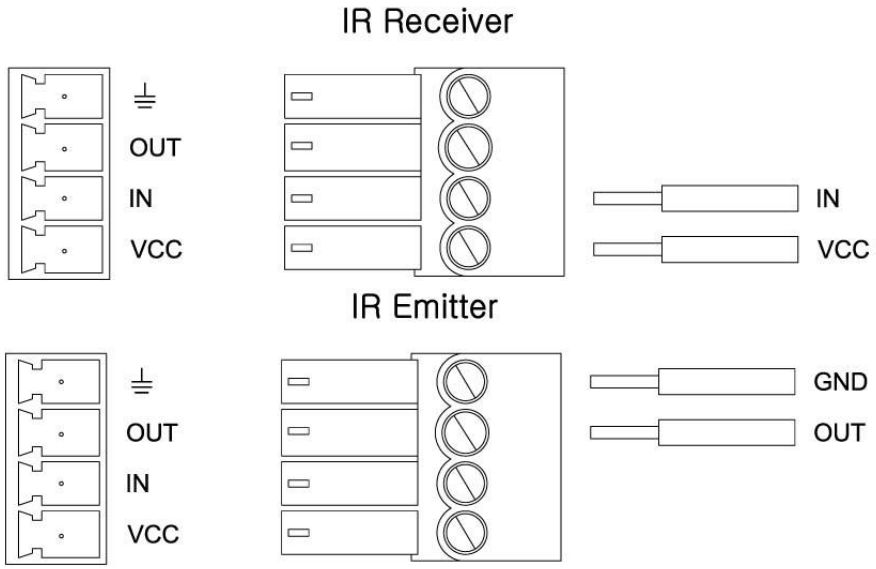
4. Connect the power supply unit to both DTS50R AND the DRS50R units.
5. Turn on Display
6. Turn on Video Source

Cable Termination

IR cable

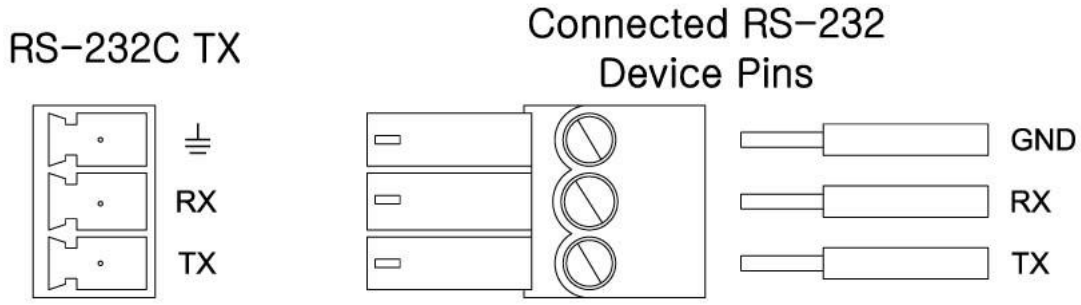
DTS50R/DRS50R supports both 5V and 12V and it can be selected by IR voltage switch on the side of the unit. Please choose the voltage that IR cable requires. (Factory default is 5V)

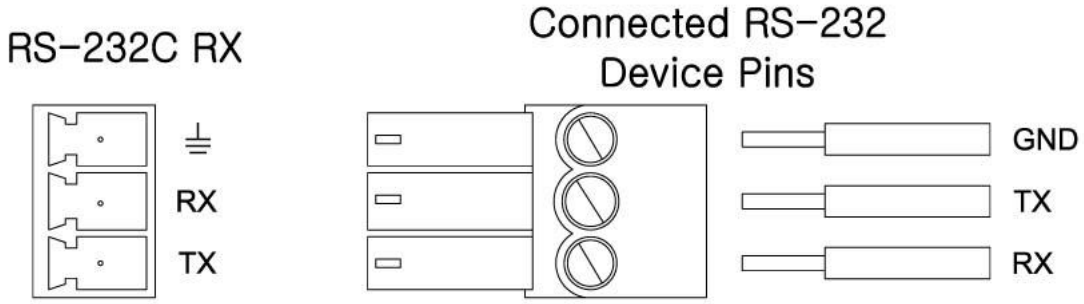
Please refer below for the IR cable termination;



RS-232 cable

Please refer below for the RS-232C cable termination;

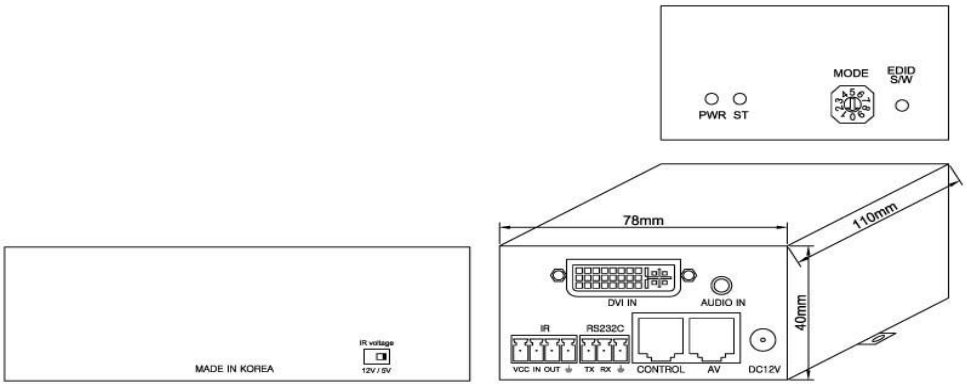




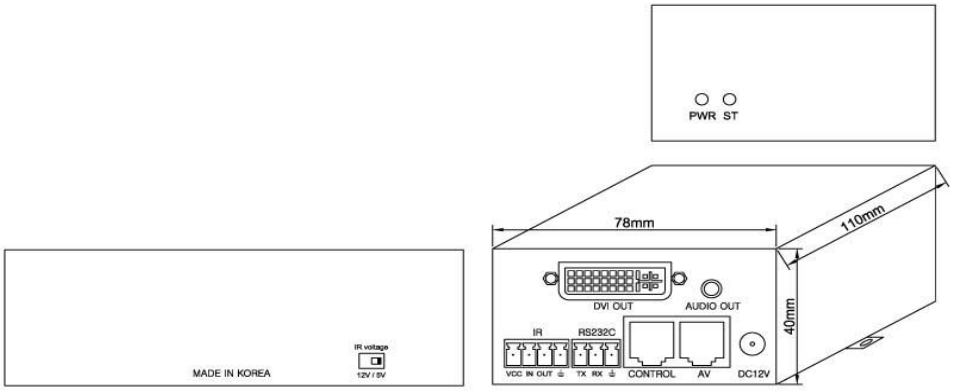
DTS50R/DRS50R Specification

Dimensions: 4.3x3.1x1.6(inches) 110x78x40(mm)

DTS50R: Transmitter Module



DRS50R: Receiver Module



Front Panel:

PWR: Power LED indicator

ST: Status LED indicator

MODE: EDID library rotary switch

EDID S/W: EDID save button

Side Panel:

IR voltage: 5V / 12V select switch

Rear Panel:

DVI IN, OUT: DVI-D Input/output port

Audio IN, OUT: 3.5mm stereo Input/output port

CONTROL, AV: CAT5 connection ports

IR: IR signal Input/output port

RS232C: RS-232 signal Input/output port

DC 12V: Power input port

Operating Instruction

EDID library

: Use MODE rotary switch on the front panel of DTS50R to select EDID to use.

EDID library list;

0- External EDID

1-800x600 60Hz , 2-1024x768 60Hz , 3-1280x768 60Hz ,4-1280x1024 60Hz

5-1360x768 60Hz ,6-1366x768 60Hz , 7-1400x1050 60Hz , 8-1600x900 60Hz

9-1600x1200 60Hz , A-1680x1050 60Hz ,B-1920x1200 60Hz , C-HD1080i 60Hz

D-HD1080p (2CH) , E-HD1080p(Multi)

External EDID;

Connect display device to DTS50R’s DVI port and then press EDID S/W button.

It will copy and save display’s EDID information to DTS50R’s EEPRom.

DTS50R/DRS50R modules' Compatibility Chart

DTS50R	Compatible with DR50R, DRS50R, DCE RX
DRS50R	Compatible with DT50R, DTS50R, DCE TX

Technical Specification

Data Transfer Speed:	Up to 2.25 Gbps (DVI Single Link), 10 Gbps (HDMI)
Frequency Range:	25 ~ 165 Mhz
Supporting Display Resolutions:	1080p / Up to WUXGA (1920X1200)@60Hz
I/O Video Signal Standard:	DVI 1.0, HDMI 1.3, TMDS
I/O Audio Signal Standard:	Stereo Audio
I/O IR Signal Standard:	IR
I/O RS-232C Signal Standard:	RS-232C
Max Distance:	1920x1200 @ 60Hz or at 1080p: 50M(165ft) 1280x1024 @ 60Hz or at 1080i: 60M(200ft)
Input Ports:	DVI-D Female 29P / RJ45*2 / 3.5mm Stereo Jack / 3P&4P Phoenix connector
Output Ports:	DVI-D Female 29P / RJ45*2 / 3.5mm Stereo Jack / 3P&4P Phoenix connector
Power Consumption:	8 Watts (Max 13W)
Power Rating:	12V DC / 3A

Warranty

2 (Two) Years Warranty

Dtrovision warrants this CAT5 DVI extension cable to be free from defects in workmanship and materials, under normal use and service, for a period of two (2) years from the date of purchase from Dtrovision or its authorized resellers.

If a product does not work as warranted during the applicable warranty period, Dtrovision shall, at its option and expense, repair the defective product or part, deliver to customer an equivalent product or part to replace the defective item, or refund to customer the purchase price paid for the defective product.

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

Replacement products may be new or reconditioned.

Any replaced or repaired product or part has a ninety (90) day warranty or the reminder of the initial warranty period, whichever is longer.

Dtrovision 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 Dtrovision for repair under warranty or not.

Warranty Limitation and Exclusion

Dtrovision 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 Dtrovision 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.

FCC/CE Statement

This device complies with part 15 of FCC Rules and EN 55022/55024/61000-3 for CE certification. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must not accept any interference received, including interference that may cause undesired operation. This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 and 2 of FCC Rules and EN 55022/55024/61000-3 for CE certification. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and. if not installed and used in accordance with the instruction guide, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Re-orient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult a service representative for help.

Properly shielded and grounded cables and connectors must be used in order to comply with FCC/CE emission limits. Changes or modifications not expressly approved by the party responsible for compliance could void the user s authority to operate the equipment.

UL Statement

This device has completed a UL Commercial Inspection and Testing Services for the multimode HDMI cable complied with VW-1 under UL 758. it is validated by the UL file number SV2038 and project number 04CA05353.