

## *Installation Manual*

### RK-DVX200

16-Port DVI-D Extender up to 225 feet over STP Cable



## **Introduction**

The RK-DVX200 is the ideal solution for extending DVI-D signals to remote locations up to 225 feet away. It is the ideal way to extend up to 16 workstation computers from one location to another location or various locations. It is fully compatible with Mac, PC and Linux standards. Up to 16 displays can be extended easily from a rack without the complication or expense of multiple extenders. Rather than buy multiple extenders for rack components, and having to find power strips or numerous power outlets for the adapters, the SmartAVI rack series of extenders allows for up to 16 inputs and 16 outputs from a single rack device. The extender comes in three configurations: four inputs and four outputs, eight inputs and eight outputs, and 16 inputs and 16 outputs. The extender can achieve the full output distance of 225 feet when using a Cat6 23AWG STP cable.

The RK-DVX200 rack extender can be implemented in three ways. First, the rack device can be used as a transmitter, extending signals to multiple small receivers (DVX-RX200). Second, the rack device can be used as a receiver, taking in signals from multiple small transmitters (DVX-TX200). Third, the rack device can be used in tandem with another rack device.

## **Features**

- Supports up to 16 DVI-D single-link sources
- Supports high resolution 1920x1200 60Hz WUXGA
- Supports Mac, PC, and Linux DVI
- Distance: 225 feet using Cat6 23AWG STP cables
- Uses universal DVI Single Link connectors
- Zero pixel loss with TMDS signal correction
- DDC from internal table for Mac/PC
- Compatible with all operating systems
- Compatible with all major KVM switches
- Rack mountable solution
- Data recovery for digital video
- Supports 1.5 and 12Mbps data rates
- Plug-and-play

## **Applications**

- Medical Applications
- Industrial Work Areas
- Home Theater Integration
- Digital Signage Deployment
- Information Kiosks/Displays
- Film/Recording Studios

The RK-DVX200 transmitter is designed to work in conjunction with the RK-DVX200 receiver, but may also be used with the DVX-200 receiver and transmitter units. Up to 16 DVX-200 receivers/transmitters may be used with the RK-DVX200, depending on the application.



DVX200 Transmitter

## What's in the Box?

PART NO.	DESCRIPTION
RK-DVX-TX4S	DVI RACK 4-port Transmitter over STP CAT6
RK-DVX-TX8S	DVI RACK 8-port Transmitter over STP CAT6
RK-DVX-TX16S	DVI RACK 16-port Transmitter over STP CAT6
RK-DVX-RX4S	DVI RACK 4-port Receiver over STP CAT6
RK-DVX-RX8S	DVI RACK 8-port Receiver over STP CAT6
RK-DVX-RX16S	DVI RACK 16-port Receiver over STP CAT6
DVX-RX200	DVI Receiver over CAT6 STP
DVX-TX200	DVI Transmitter over CAT6 STP

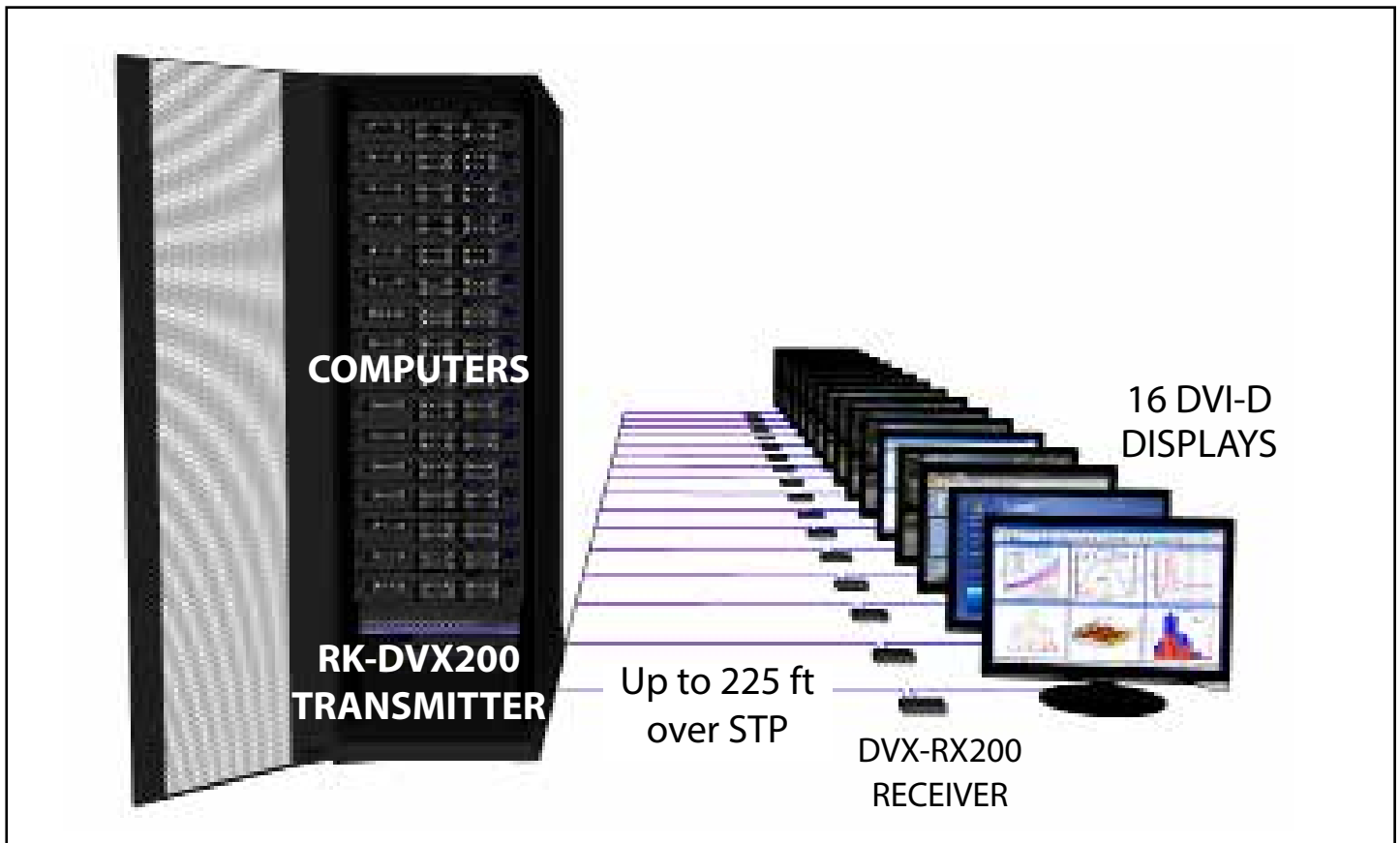
## Technical Specifications\*

VIDEO	
Format	DVI-D Single Line
Maximum Pixel Clock	165 MHz
Input Interface (TX)	(16) DVI-D 29-pin female
Output Interface (RX)	(16) DVI-D 29-pin female
Resolution	Up to 1920 x 1200 @60Hz
DDC	5 volts p-p(TTL)
Input Equalization	Automatic
Input/Output Cable Length	Up to 20 ft.
Extension over Cat6	Up to 225 ft.

OTHER	
Power	Internal 110-240 VAC
Dimensions	17 in W x 3.5 in H x 3.25 in D
Weight	10 lb
Operating Temp.	0-55 °C (32-131°F)
Storage Temp.	-20-85 °C (-4-185 °F)
Humidity	Up to 95%

\*specifications shown are for 16-Port option

## Installation Diagram One - Rack to Endpoint

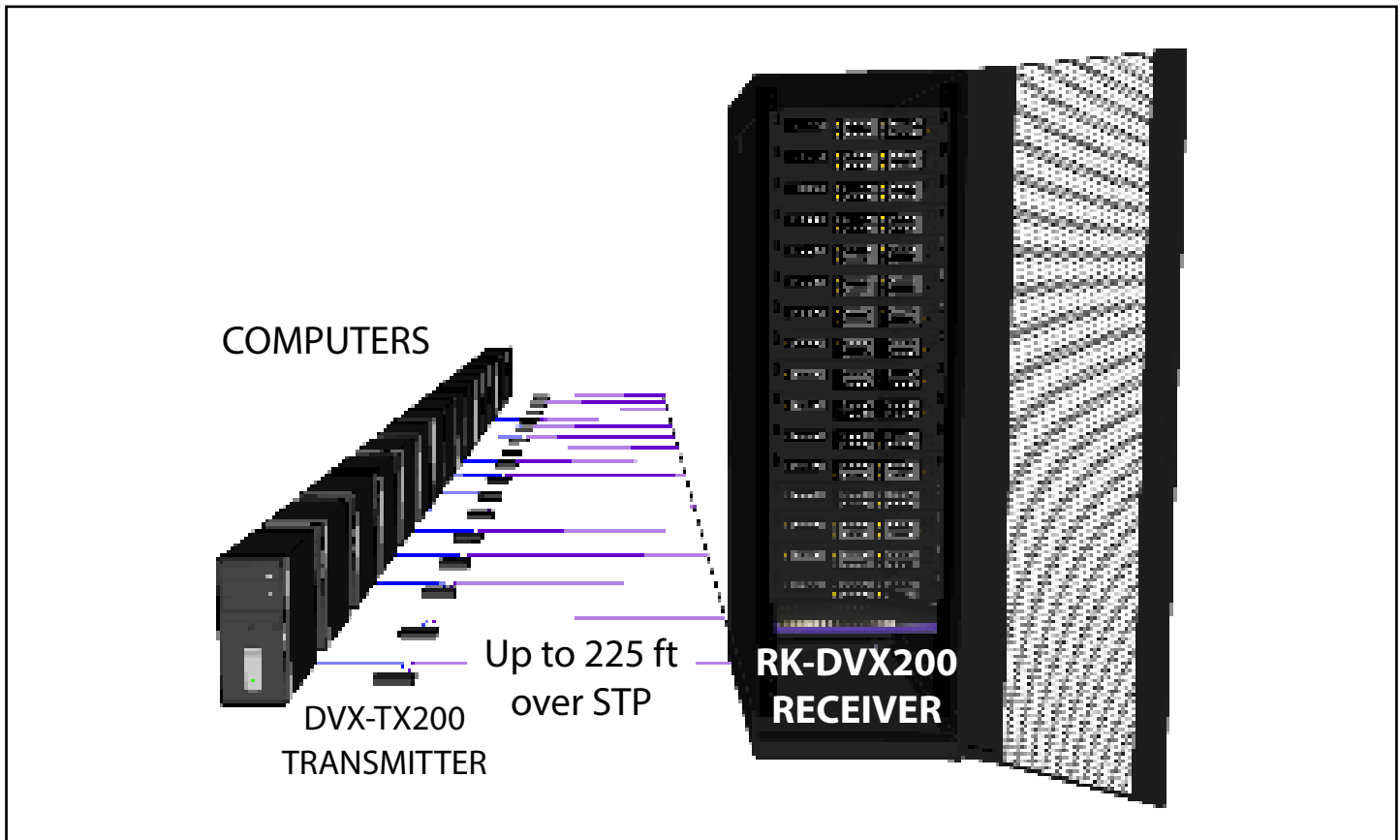


1. Power off all devices.
2. Connect up to 16 DVI-D sources (computers) to each of the 16 DVI-D ports on the rear of the RK-DVX200 transmitter.
3. Connect the RK-DVX200 transmitter to the rear of each of the DVX-200 receivers with one STP (Shielded Twisted Pair) cable per receiver.
4. Connect up to 16 DVI displays to the DVI-D ports on the front of the DVX200 receivers.
5. Connect the power to the RK-DVX200 transmitter and the DVX-200 receivers.
6. Power on the computers and displays.



DVX-200 Receiver

## Installation Diagram Two - Endpoint to Rack

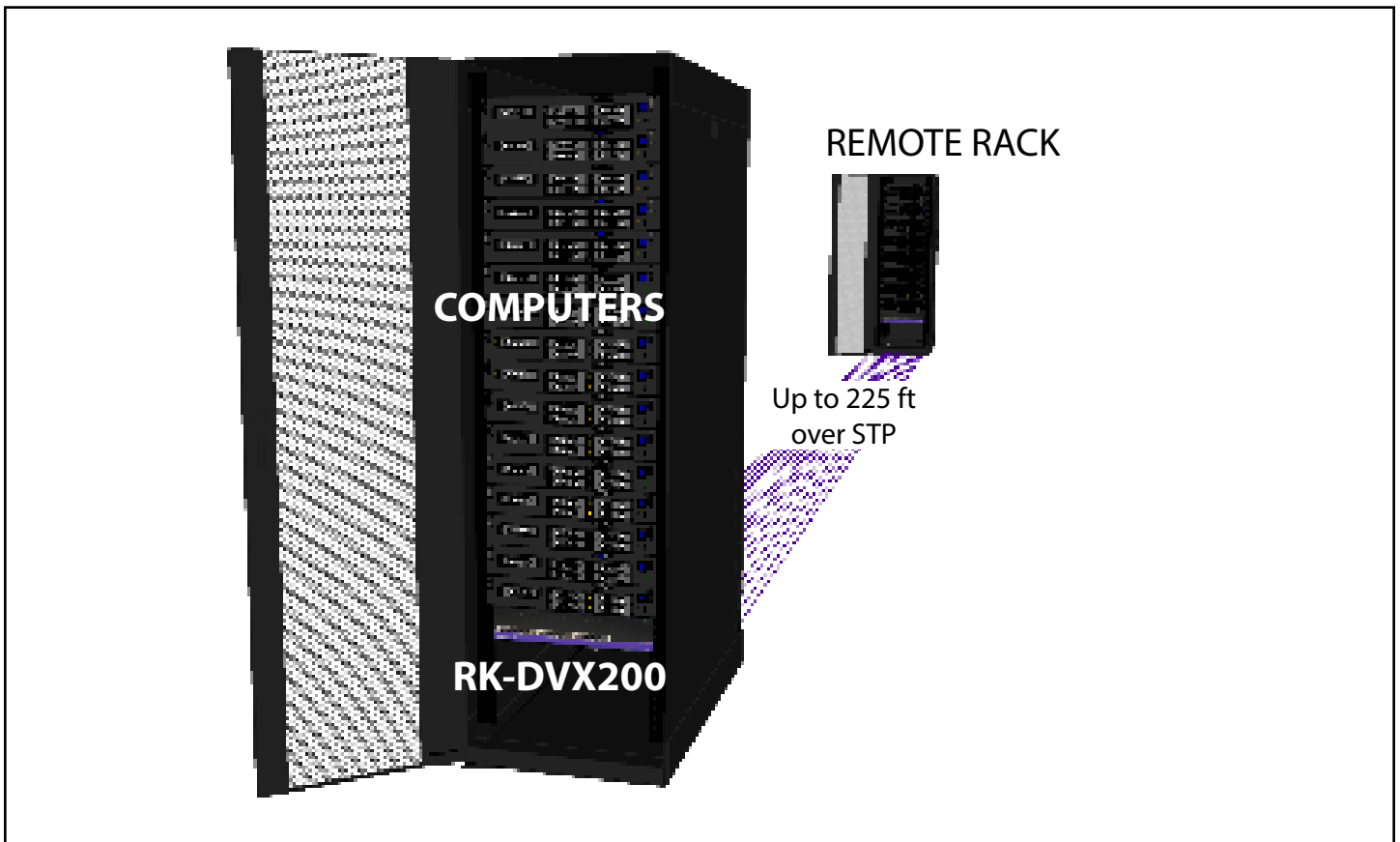


1. Power off all devices.
2. Connect up to 16 DVI-D sources (computers) to the DVI-D ports of up to 16 DVX200 transmitters.
3. Connect each of the DVX-200 transmitters to the RK-DVX200 receiver with one STP (Shielded Twisted Pair) cable per transmitter.
4. Connect up to 16 DVI displays (or optional DVI-D outputs) to the ports on the rear of the RK-DVX200 receiver.
5. Connect the power to the RK-DVX200 receiver and the DVX-200 transmitters.
6. Power on the computers and displays.



DVX-200 Transmitter

## Installation Diagram Three - Rack to Rack



1. Power off all devices.
2. Connect DVI-D sources (computers) to the DVI-D ports of the RK-DVX200 transmitter.
3. Connect the RK-DVX200 transmitter to the RK-DVX200 receiver with one STP (Shielded Twisted Pair) cable per channel (up to 16).
4. Connect up to 16 DVI displays (or optional DVI-D outputs) to the ports on the rear of the RK-DVX200 receiver.
5. Connect the power to the RK-DVX200 transmitter and the RK-DVX200 receiver.
6. Power on the computers and displays.



RK-DVX200-TX Front



RK-DVX200-TX Rear

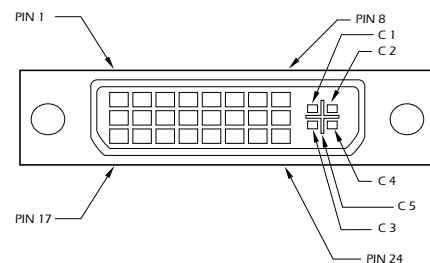


DVX200 Transmitter

### Supported Resolutions

Resolution	Refresh Rate
640 x 480	85 Hz
800 x 600	85 Hz
1024 x 768	85 Hz
1152 x 870	75 Hz
1280 x 768	75 Hz
1280 x 960	60 Hz
1280 x 1024	60 Hz
1600 x 1200	60 Hz

### DVI-D Configuration



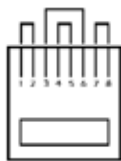
Pin #	Signal	Pin #	Signal
1	T.M.D.S Data 2-	16	Hot Plug Detect
2	T.M.D.S Data 2+	17	T.M.D.S Data 0-
3	T.M.D.S Data 2/4 Shield	18	T.M.D.S Data 0+
4	T.M.D.S Data 4-	19	T.M.D.S Data 0/5 Shield
5	T.M.D.S Data 4+	20	T.M.D.S Data 5-
6	DDC Clock	21	T.M.D.S Data 5+
7	DDC Data	22	T.M.D.S Clock Shield
8	Analog Vert. Sync	23	T.M.D.S Clock+
9	T.M.D.S Data 1-	24	T.M.D.S Clock -
10	T.M.D.S Data 1+		
11	T.M.D.S Data 1/3 Shield	C1	Analog Red
12	T.M.D.S Data 3-	C2	Analog Green
13	T.M.D.S Data 3+	C3	Analog Blue
14	5□□□□□	C4	Analog Horz Sync
15	GND	C5	Analog Ground

### STP Cable Configuration

The following is the wiring standard for terminating UTP/STP cable using RJ-45 connector:



- Pair 1 Pins 1 & 2
- Pair 2 Pins 3 & 6
- Pair 3 Pins 4 & 5
- Pair 4 Pins 7 & 8



- Connectors: RJ-45
- Capacitance: 14 pf/ft (46.2 pf/m)
- Conductor Gauge: 24 AWG
- Impedance: 100 +/- 15 ohms

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