

DSNet Broadcaster

K5DS-BR8
K5DS-BR16



K5DS-BR

Signage Broadcast over Cat5 Cables

Features

- Allows broadcasting of audio and video from a PC (Player) to a virtually unlimited number of screens
- SSL secure network connection allowing remote management over the Internet
- Management software running on Windows, Linux and Mac OS
- 10/100 Ethernet interface with built-in Ethernet switch (no additional Ethernet cable)
- High definition video and CD-quality stereo audio
- Carries bidirectional RS232 up to 115200 bps
- Transparent to the Player
- UTP Cat5 cabling reduces the installation costs
- No problem of unwanted radio waves
- No local network congestion
- High reliability
- Metal housing

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What is DSNet ?

DSNet (Digital Signage Network) comes as a complement of the traditional digital signage schema by allowing a Player to display its audiovisual content over cat5 cables. Instead of one or two joined panels, a Player can handle a quasi unlimited number of monitors distributed in an area of approximately 300m radius. The surface covered by DSNet is sufficient for a large supermarket. The audiovisual content is broadcasted to all screens simultaneously at lower cost. With DSNet, at comparable price, you have much more screens and thus you improve the impact of your digital signage campaigns.

DSNet is based on three types of devices: broadcaster **K5DS-BR8** or **K5DS-BR16**; splitter **K5DS-SP**; receiver **K5DS-RC**.

K5DS-BR Broadcaster

The K5DS-BR broadcaster is the main equipment of the DSNet signage system. It broadcasts the audiovisual content and allows the management of the DSNet network. The only difference between the **K5DS-BR8** and **K5DS-BR16** models is the number of ports.

Monitor Emulation

Towards the Player, K5DS-BR acts exactly like a monitor. It provides a full VGA interface, an audio interface and an RS232 interface needed to emulate touch screens. The Plug and Play (DDC) information that K5DS-BR sends to the player can be a record got by capturing the DDC from any monitor of the network. The player "believes" being connected to this monitor.

Audio and Video Streams

The audio and video streams received from the Player are encoded and transmitted simultaneously on all RJ45 output ports (8 or 16 according to the model) into the UTP cables. The length of cables is limited to 300m.

Management Server

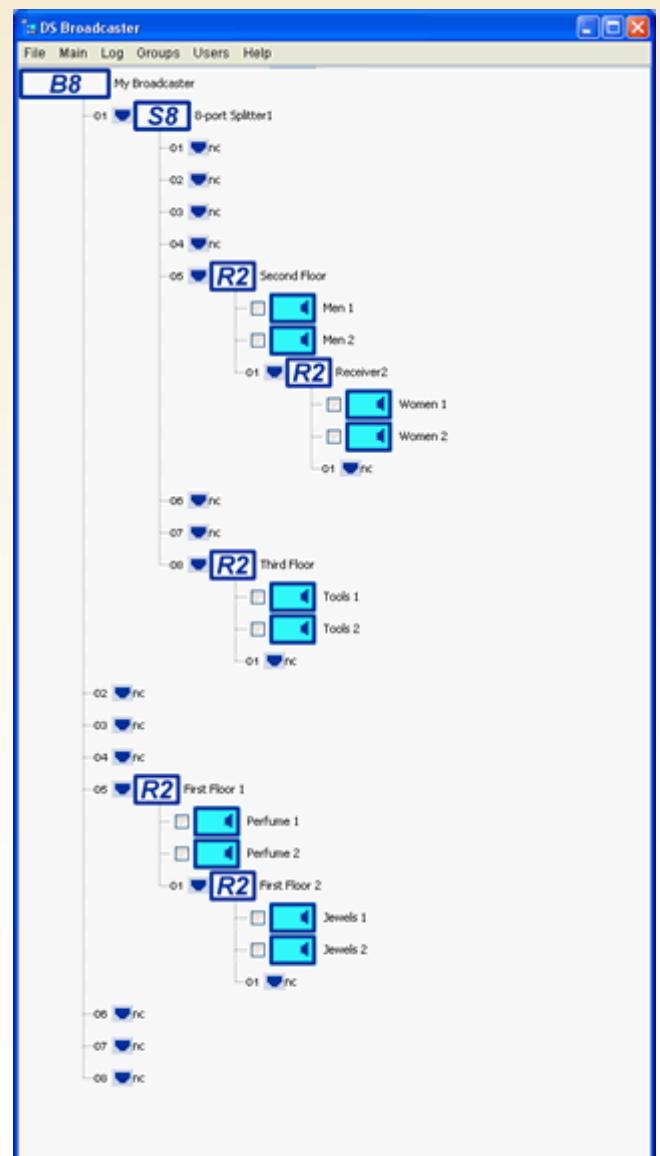
K5DS-BR runs a management server listening to users that try to login to the management port. There is no risk in using the Internet because the connection is secured by **SSL**.

Management Software

DSNet Manager, a Java GUI software provided with the broadcaster, allows anyone with an admission fee to connect to the K5DS-BR management server and to manage all aspects of the network. The software runs on all platforms that can provide a SUN (Oracle) Java 6 virtual machine. It has been tested on Windows, Linux, and Mac Os. In a few mouse clicks you can do audio and video settings of any monitor, enable and disable monitors individually, name network equipments, consult the log, create groups, update the firmware of one or of all equipments connected to the DSNet network, etc.

Bi-directional RS232

The data and the management signals (RTS, CTS, DSR, DTR) coming from the RS232 port connected to the Player are also transmitted in all cables and received by all monitors of the DSNet network. The maximum data rate is 115200 bps. Transmitted data



may be commands to control the monitors, or any other types of data. The receivers forward the received data to their RS232 ports, which are typically connected to the monitors. However, it is possible to connect these RS232 ports to other types of devices, such as remote power supplies (such as ioPower) to physically turn on and turn off the monitors. One can also imagine using TX/RX RTS/CTS for the monitor and reserving DSR to control an external power supply.

Conversely, all monitors can send data to the Player. They are usually touch screens, but again one can imagine all kinds of different applications such as temperature sensors, motion sensors, etc. The fact that a given monitor uses a bidirectional link or not can be set up.

Note: DSNet does not implement any protocol for the feedback. So there can be collisions as if all monitors were connected to the same cable. The protocol can be nonexistent if collisions are authorized, or it can be implemented between the Player machine and the monitors since DSNet is transparent. On request, PROSUM may implement an internal protocol between the receiver and the broadcaster with some API that must be defined between K5DS-BR and the Player.

Control of Equipments

The K5DS-BR broadcaster is in continuous dialog with all splitters and receivers of the network. It receives the alarms and sends internal commands as well as commands and controls coming from the administrators connected to the management server. It can perform the firmware update of one or of all networking equipments.

Ethernet Connection

K5DS-BR features an Ethernet 10/100 switch and two Ethernet ports allowing connecting it to the same cable as the Player. It thus requires no new connection to the LAN.

Mirroring Ports

K5DS-BR features a VGA port, an audio port, and one RS232 port replicating those of the Player and allowing keeping the existing connections. The monitor directly connected to K5DS-BR is in the network. Its DDC information can be captured like the DDC information of monitors connected to receivers. So you can keep the local monitor, the loud speakers and the RS232 attachment previously connected to the Player machine.

Delivery

The K5DS-BR broadcaster is delivered with all accessories (power adapter, VGA and audio cables, rack mount kit).

Warranty and Technical Support


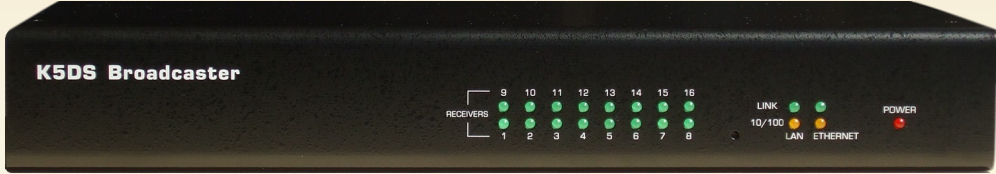
Prosum provides one year warranty and free technical support during the warranty period.

Ordering Information

K5DS-BR8 : 8-port DSNet Broadcaster

K5DS-BR16 : 16-port DSNet Broadcaster

Technical Specifications

Main Controller	32-bit ARM
Memory	SDRAM 32 Mo, FLASH 8 Mo
Back Panel	
AV Ports	<p>K5DS-BR8: 8 RJ45 AV ports K5DS-BR16: 16 RJ45 AV ports AV</p> <p>Recommended UTP cable: Cat5 Supported UTP cable: Cat5, Cat5e, Cat6 Max delay skew between pairs: 60ns Max attenuation: 52 dB at 50MHz</p>
Player Ports	<p>HDB15 male for VGA DSUB9 female for RS232 Audio stereo Jack</p>
Local Monitor Ports	<p>HDB15 female for VGA DSUB male for RS232 Audio stereo Jack</p>
Ethernet Ports	Two RJ45 connectors, 10/100 BASE-T with "auto-sensing"
Front Panel	
Indicators	<p>Power</p> <p>For each Ethernet port: Link/activity and 10/100 for each AV port: Indicator showing if the port is enabled.</p>
Video Resolution	<p>1920 × 1080 @ 60HZ over 300m. Higher resolutions are possible with shorter cables.</p>
Management	With a specific management tool software.
Security	SSL, Encryption with 256-bit ephemeral keys. User authentication based on id/passwords
Power Supply	External 5V 4A power adapter
Working Temperature	0 to 50°C
Stocking Temperature	-20 to 60°C
Humidity	0 to 90%, not condensing
Dimension (L x l x H)	300 x 165 x 44.5 mm (1U)
Weight	1600 g
Standards	FCC, CE