CAT5 Audio/Video Display

User Guide

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1. What is the CAT5 Audio/Video Display system?

The CAT5 Audio/Video Display (AVDS) system from Minicom broadcasts real-time high-resolution video and mono audio signals to hundreds of remote display monitors and speakers.

The AVDS system consists of the following:

- Broadcaster unit p/n 0VS22014 + Control unit

- Line Splitters unit p/n 0VS22015 to expand the system

- Remote units p/n 0VS23009 connect to each remote screen/computer

- Power Remote units P/N 0VS22036 - enhance audio signals

- Remote Long units P/N 0VS22077 - located up to 250m/825ft away

Warning! Do NOT connect units with the above part numbers to units of earlier AVDS systems that have different part numbers. Part numbers are located on the back of each unit.

2. Remote and Power Remote units

Note! Any reference to Remote units refers to both Remote and Power Remote units unless stated otherwise.

Both types of Remote units can be up to 110m/360ft away from the Broadcaster.

The difference between the 2 Remote unit types is as follows:

The Remote units:

- Must be connected with Shielded CAT5 FTP cables

- Do not need a separate power supply they receive power from the connected Shielded CAT5 FTP cable

The Power Remote units:

- Need a separate power supply (provided)

- Can be connected with Shielded CAT5 FTP or CAT5 UTP cables
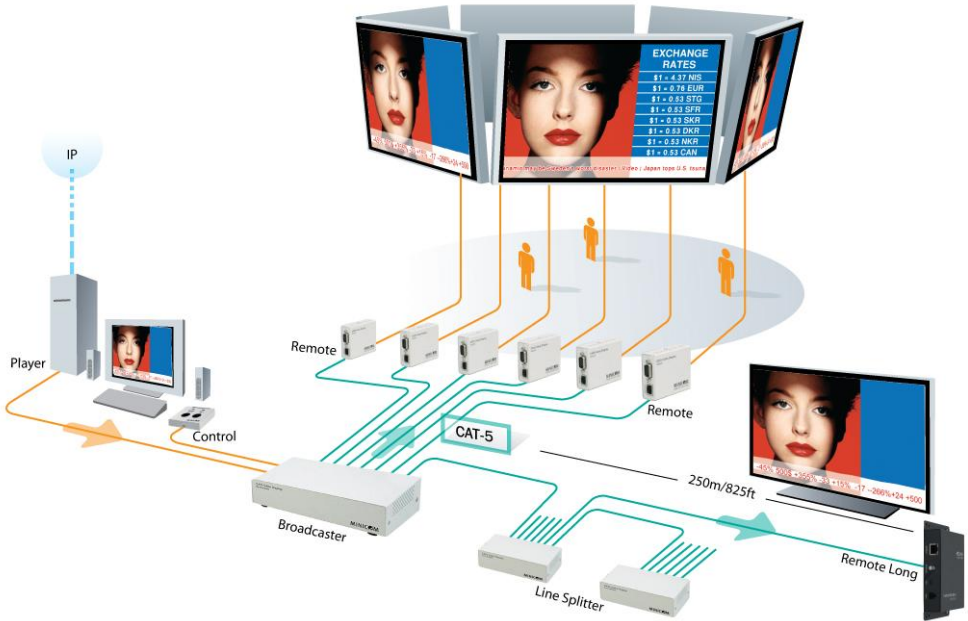
- Produce high quality audio signals

Figure 1 System diagram

3. Remote Long units

AVDS RL transmits full HD video and mono audio to a plasma/LCD screen located up to 250m/825ft away over CAT5/6/7 cable.

The AVDS RL displays rich multimedia content to a single screen in real-time, over a long distance (with Skew correction capability), without degradation to video or sound quality.
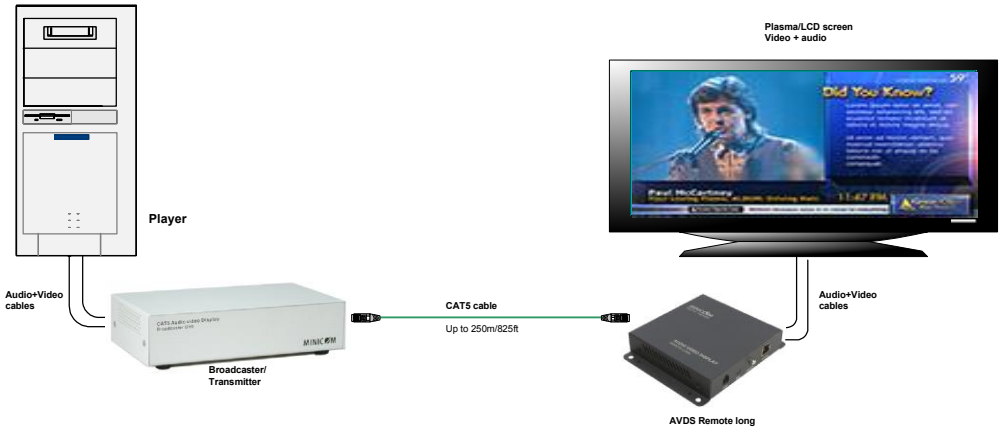
Figure 2 Remote Long connected to a Broadcaster

4. The multi-functional AVDS system

You can use the AVDS system in the following ways:

(A) Without the Control unit

The AVDS system constantly broadcasts a computer screen with audio to all remote monitors/speakers.

(B) With the Control unit

- Broadcast a computer screen with audio to all remote monitors/speakers
- Darken all remote screens (audio broadcast is unaffected)
- Release the remote screens to allow local monitor viewing (when remote computers are connected).

The screen dark function is useful when carrying out maintenance, changing the broadcast program or in a classroom environment to grab students' attention.
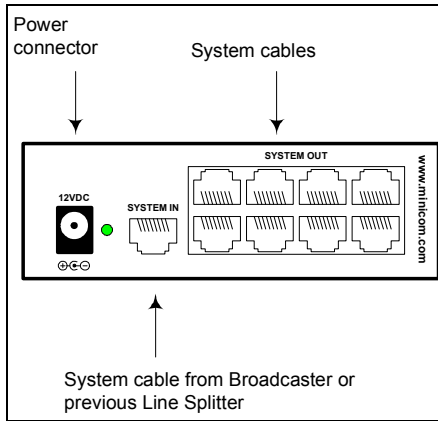
With both applications broadcast the video up to resolutions of 1920x1080 @ 60Hz 1080p depending on the cable length.
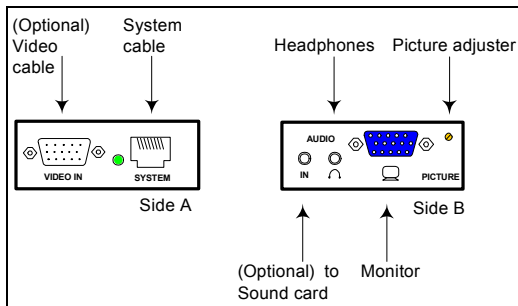
5. The AVDS units

The figures below illustrate the Broadcaster unit, Line Splitter and Remote units.
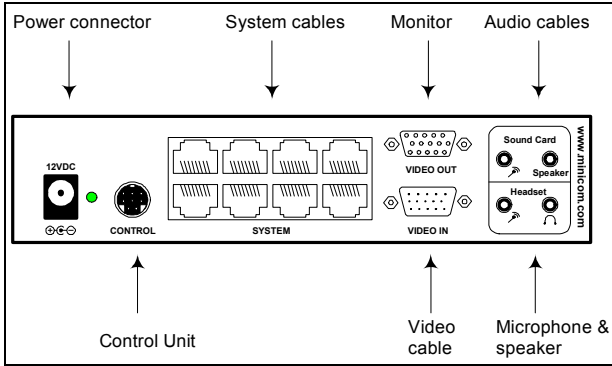
Figure 3 Broadcaster unit

Figure 4 Line Splitter

Figure 5 Remote unit
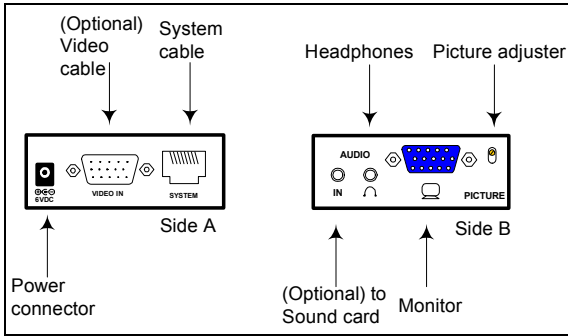
Figure 6 Power Remote unit
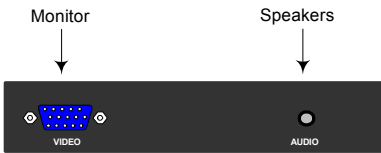
Figure 7 Remote Long – side 1
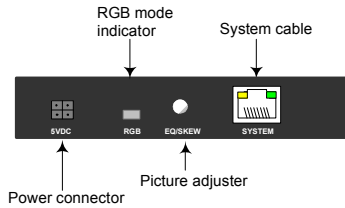
Figure 8 Remote Long – side 2

Remote Long LEDS

System port	
LED	**Indication when lit**
1	The Remote Long detects a video signal from the Broadcaster/Transmitter
2	Power

6. Pre-installation guidelines

Place cables away from fluorescent lights, air conditioners, and machines that are likely to generate electrical noise.

Note! In the AVDS system the CAT5 cables carry electrical power. Therefore do **NOT** connect them to any other device. To avoid this we recommend you attach the stickers provided to the ends of each CAT5 cable.

7. The AVDS cables

The AVDS cables are illustrated below. Connect the cables as explained.

To host computer's Video port — Broadcaster Video cable — To Broadcaster's Video In port

To host computer's Microphone port — Broadcaster Audio cable — To Broadcaster's Sound Card Microphone port

Connecting an optional remote computer

You have the option to connect the Remote units (not a Remote Long unit) to a computer, which can be worked on locally. To do so you need to connect Video and Audio cables between the Remote unit and a computer. You can order Remote Video and Audio cables from Minicom.
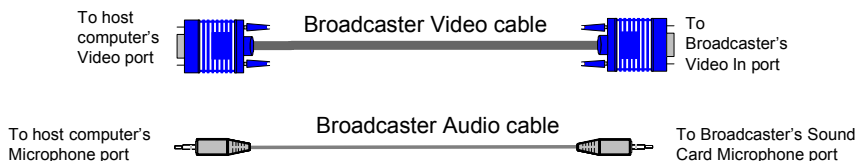
Connecting the CAT5 cables

AVDS works with CAT5/5e/6/7 data solid wire cabling.

Please note!

Connect the CAT5 cables to the Broadcaster and Line Splitter units when the units are powered off. We recommend that you connect the CAT5 cables **BEFORE** connecting the power supply.

Connecting the Remote Long unit

Connect a CAT5/6/7 cable as follows:

Connect the CAT5/6/7 cable - up to a distance of 250m/825ft - to the System port of the Remote Long and the System port of the Transmitter/Broadcaster or Line Splitter. See Figure 2 above.

Connecting the screens

Connect the screen/display to the Remote/Long Video port using the screen's Video cable.

Connect the screen/speakers to the Remote/Long Audio port using the screen's Audio cable.

Connecting the Power supply

Broadcaster and Line Splitters
Connect the Broadcaster and Line Splitters to the power supply with the 12 VDC, 2A from the AC/DC adapter provided.

Power Remote
Connect the Power Remote to the power supply with 6 VDC, from the AC/DC Power adapter provided.

Remote units
The Remote units receive 12 VDC, 160 mA via the CAT5 cables from the Broadcaster or Line Splitter.

Remote Long
Connect the Remote Long to the power supply with the 5VDC Power adapter provided.

Once connected, the system is ready to transmit the video and audio signals.

8. Expanding the AVDS system

You can expand the AVDS system to 512 Remote units by having up to 2 levels of Line Splitters. Each Line Splitter on level 1 can have 8 Remote units or Line Splitters connected to it. Each Line Splitter on level 2 can connect to 8 Remote units. (See the configuration diagram on page 10).

9. Configuration without remote computers

The figure below illustrates the AVDS configuration without optional computers connected to the Remote units. The connections are the same as above minus the Remote Video and Audio cables.
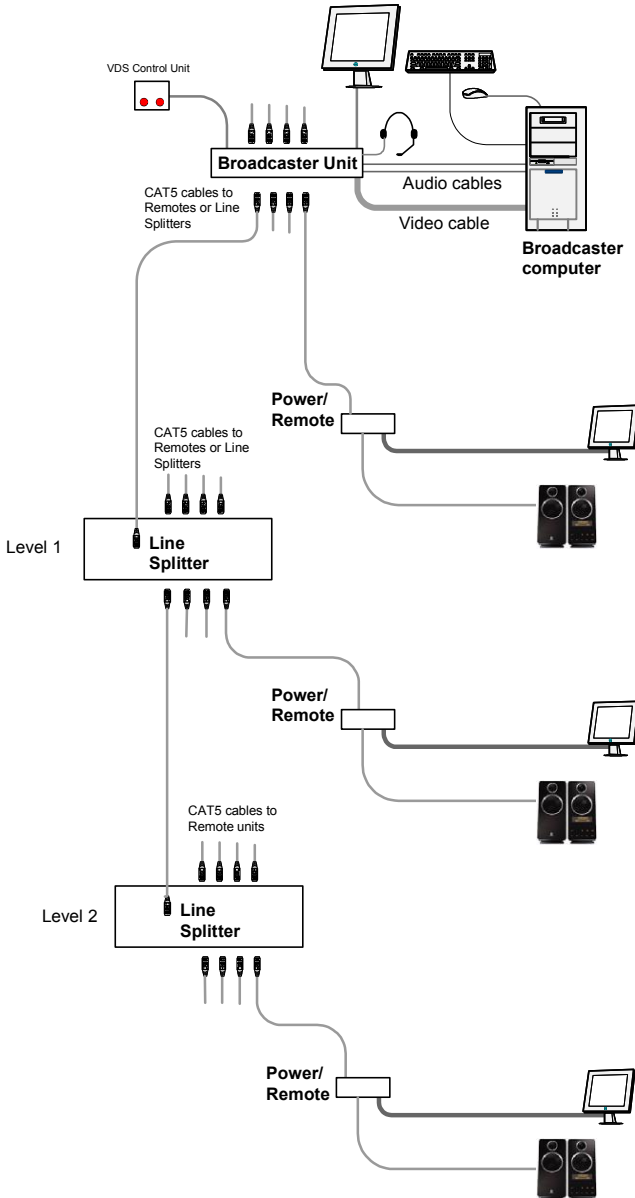
10. The AVDS configuration for a CBT application

The figure below illustrates the AVDS configuration with the Control unit and the optional remote computers.

VDS Control Unit

Broadcaster Unit

Audio cables

Video cable

Broadcaster computer

CAT5 cables to Remotes or Line Splitters

Video cable

Audio cable

Power/ Remote

Optional Remote computer

CAT5 cables to Remotes or Line Splitters

Level 1   **Line Splitter**

Video cable

Audio cable

Power/ Remote

Optional Remote computer

CAT5 cables to Remote units

Level 2   **Line Splitter**

Video cable

Audio cable

Power/ Remote

Optional Remote computer

11. AVDS detailed connections

The figure below illustrates the detailed connections of the AVDS units.
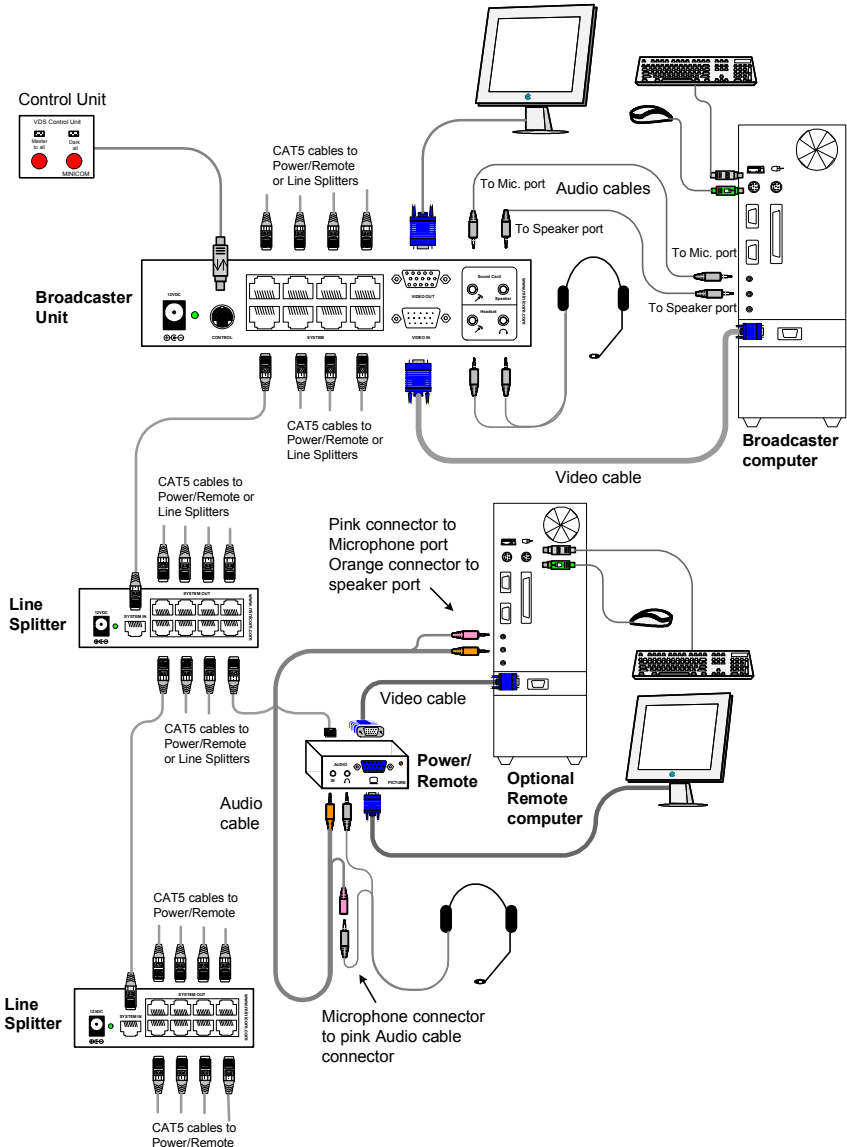
12. Operating the AVDS system

Once connected the AVDS system broadcasts to all remote monitors/speakers.

The Control unit

The Control unit is illustrated below.

With the Control unit carry out the following functions:

Master to all

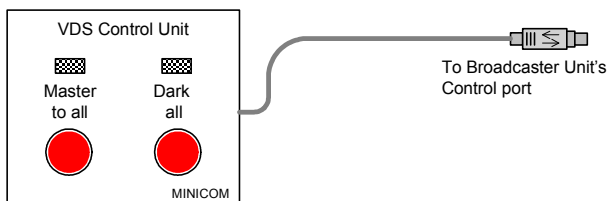Press the **Master to all** button to send the broadcaster's screen with audio to all remote monitors /speakers. The LED above the button lights up.

Press the button again to release the remote monitors/speakers, allowing local monitor viewing (when remote computers are connected).

Dark all

Press the **Dark all** button to darken all remote screens. The LED above the button lights up. (This does not affect audio broadcasting).

Press the button again to release the remote monitors.

13. Adjusting the picture quality

When the picture needs adjusting, tune the picture as follows:

For the Remote unit

Use a small screwdriver to turn the Picture adjuster on the Remote unit to adjust the picture quality.

For the Remote Long unit

To enter the tuning mode, hold down the Remote Long's EQ/SKEW knob (see Figure 8) for 4 seconds, the RGB LED turns red. During the tuning procedure the RGB LED goes through a cycle of six different colors, with each color representing a different parameter to tune.

The color order is: Red > Green > Blue > White > Orange.

The colors mean the following:

- Red, green and blue – red, green and blue skew correction
- White – peak correction
- Orange – gain correction

To adjust the picture for each color, rotate the knob. When the RGB LED blinks it means that the maximum or minimum tuning parameter has been reached.

Once the tuning is satisfactory, press the knob to save the adjustment and move to the next color. By not pressing the knob, adjustments done for the currently lit color, will not be saved and the unit exits the tuning mode after approximately 13 seconds of inactivity.

Exiting tuning mode

The unit automatically exits the tuning mode either at the end of the color cycle - after pressing and saving the Orange color adjustment - or (as already mentioned) at any point in the process after not touching the knob for approximately 13 seconds. The LED turns off.

14. Technical specifications

SYSTEM	
Resolution	HDTV 1080p,1920x1080 @ 60Hz (depending on cable length)
System cable	CAT5, 5e, 6, 7 Shielded FTP/UTP cable
	2 x 4 x 24 AWG solid wire cable
	Power Remote & Remote Long can work with UTP cable
Max distance	250m/825ft
Input/Output Video Signals	Analog signal red, green, blue 0.7v p-p 75 Ohm
Sync.	TTL compatible
Horizontal/Vertical Sync. Polarity	Positive/Negative
Audio	Mono
Operating Temperature	0ºC to 40ºC/32ºF to 104ºF
Storage Temperature	-40ºC to 70ºC/-40ºF to 158ºF
Audio frequency response	150Hz-5kHz
Humidity	80% non condensing relative humidity
Warranty	3 Years

	BROADCASTER	LINE SPLITTER
Cables & Connectors	VGA In - HDD15M	System In - RJ45
	VGA Out - HDD15F	System Out – 8 x RJ45
	System Out – 8 Ports RJ45	Power jack
	Audio In/Out – Jack	
	Mic/Headphone	
	Control - MiniDin8F	
	Power jack	
Dimensions (HxWxD)	4.2 x 15 x 9.4 cm/ 1.6 x 5.9 x 3.7 in	4.2 x 11.8 x 9.6cm/ 1.4 x 3.9 x 3.1 in
Power supply	AC/DC Power Adapter 12VDC 2A	AC/DC Power Adapter 12VDC 2A

	REMOTE	POWER REMOTE	REMOTE LONG
Cables & Connectors	System In - RJ45 VGA In- HDD15M VGA out (Screen) - HDD15F Audio In/Out – Jack	System In - RJ45 VGA In- HDD15M VGA out (Screen) - HDD15F Audio In/Out – Jack Power jack	System In - RJ45 VGA In- HDD15M VGA out (Screen) - HDD15F Audio In/Out – Jack Power jack
Dimensions (HxWxD)	3.2 x 7.8 x 6.2 cm/ 1.3 x 3.1 x 2.4 "	3.2 x 7.8 x 6.2 cm/ 1.3 x 3.1 x 2.4 "	143.5x118x25.5mm/ 5.6x4.6x1.26in
Power supply	From CAT5	6VDC 800mA	5VDC 2.5A