

INSTALLATION INSTRUCTIONS

HD44CC5

High Definition Video Matrix Switcher,
Coaxial and CAT5

HD44C

High Definition Video Matrix Switcher,
Coaxial Only

DESCRIPTION

The HD44CC5 four-source, four-zone high-definition matrix switcher has component video and S/PDIF digital audio inputs for each source. All four zone outputs have component video output and S/PDIF audio output for economical local distribution up to 250', as well as a RJ45 output for transmission of the video and digital audio signal up to 1000' to the HDRXSG01 receiver located in the zone. Both coaxial component video output and CAT5 output are active simultaneously, making it possible to distribute four sources to eight outputs at the same time.

The HD44C has the same great features as the HD44CC5 without the CAT5 output. The HD44C is ideal for installations requiring local switching and distribution up to 250'.

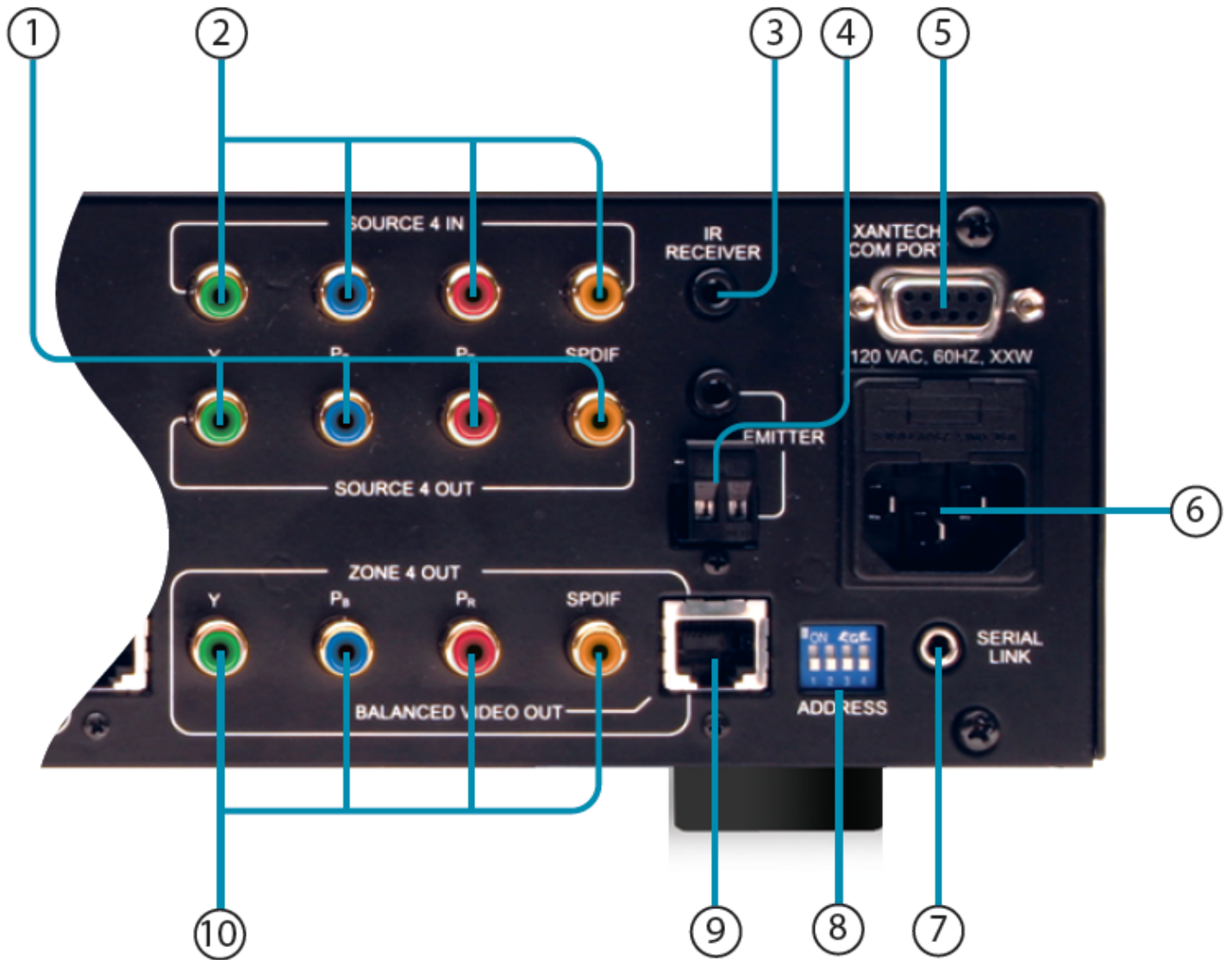
The HD44CC5 and HD44C unit is expandable up to 16 zones.

SPECIFICATIONS

- Size: 17" W x 7 3/8" D x 3 15/16" H
- Weight: 9.25 lbs (4.2 kilos)
- Controllable through IR and RS232 commands
- Bandwidth supports resolutions of 1080p, 1080i, 720p, 480p and 480i.
- Optional Rack Mount kit available (RM2UKIT)
- Power supply (120VAC, 0.25A, 50-60Hz)
- Operates in temperatures up to 55 degrees Celsius.



DETAIL OVERVIEW



[1] SOURCE LOOP-THROUGH CONNECTION

The source inputs are buffered to provide an output at the same levels, assuming a 75-ohm termination is on the output. Use these connections for HD44 expansion systems. The buffers are an active circuit. The HD44 must be powered on for an active connection.

[2] SOURCE INPUTS

Gold-plated RCA jacks for connection from the output of the source. Color coordinated to match all HD source components.

[3] IR RECEIVER

The rear panel IR receiver is a 3.5mm Stereo jack that is compatible with all Xantech IR receivers, such as the 291-10. Switch 4 must be in the OFF position to use this jack.

PLUG	CIRCUIT
TIP	IR SIGNAL
RING	GROUND
SLEEVE	+12VDC, 25mA

[4] IR BUS, EMITTER PORT

The 3.5mm Mono jack is an emitter port. The IR signal is connected to the IR Receiver. A Xantech 283M emitter can be connected to this port.

PLUG	2-Pin WECO	CIRCUIT
TIP	+	IR SIGNAL
SLEEVE	-	GROUND

The 2-Pin WECO screw terminal is an IR port. The IR signal is connected to the IR Receiver. The WECO screw terminal allows easy installation to a typical Xantech IR connecting block.

[5] RS232 (SERIAL) COMMANDS

The RS232 Port is bi-directional. The communication is set to 9600 Baud 8-N-1.

DB9 CONNECTOR

CIRCUIT	PIN
TX	2
RX	3
GND	5

RS232 COMMAND STRUCTURE

Where:

- {CR#} – Carriage Return (0x0D)
- {z#} - Zone Number. Range is 1..4 (1..16 if expanded)
- {s#} - Source Input Number. Range is 1..4
- {0/1} – Either 0 (zero) or 1 (one). 0 – Off, 1 – On.

NAME	COMMAND	RETURN	REMARKS
Zone Power	!{z#}PR01+	OK{CR}	To turn on Zone 2: !2PR1+ or !02PR1+ or !2PR01+ or !02PR01+
	!{z#}PR00+	ERROR{CR}	To turn off Zone1: !1PR0+ or !01PR0+ or !1PR00+ or !01PR00+
Zone Power Toggle	!{z#}PT+	OK{CR} ERROR{CR}	
All Zones Off	!EO+	OK{CR} ERROR{CR}	Turns all the zones off.
All Zones On	!EA+	OK{CR} ERROR{CR}	Turns all the zones on.
Zone Restore All	!RF+	OK{CR} ERROR{CR}	Restore all the Zone-to-Source routing to the current selection: !RF+
Input (Source) Select	!{z#}SS{s#}+	OK{CR} ERROR{CR}	To set Zone 1 to Source Input 4: !1SS4+
Ping Expansion Port	!RP+	OK{CR} ERROR{CR}	Request that any unit connected to the expansion port respond with a ping.
Return Ping to Xantech port	!SP+	+	Returns a +. Meant for inter-expansion box communications.

RS232 QUERIES

Where:

- {CR#} – Carriage Return (0x0D)
- {z#} - Zone Number. Range is 1..4 (1..16 if expanded)
- {s#} - Source Input Number. Range is 1..4
- {0/1} – Either 0 (zero) or 1 (one). 0 – Off, 1 – On.

NAME	QUERY	RETURN	EXAMPLE RETURN	EXPLANATION
Zone Power	?{z#}PR+	?{z#}PR{0/1}+	?4PR0+{CR}	Power in zone 4 is OFF.
Input Select	?{z#}SS+	?{z#}SS{s#}+	?4SS3+{CR}	Zone 4 currently has source 3 selected.
System Info	?SI+	?SI {Device: HD44, Device Cde: 000C, Hardware Cde: 0000, Reserved Cde: 0000, Firmware Ver: X.Y.Z}+	?SI Device: HD44, Device Cde: 000C, Hardware Cde: 0000, Reserved Cde: 0000, Firmware Ver: 1.1.0	This command is used only with single unit systems. Note this is command does not trickle down to the expansion port. X = Major Y = Minor Z = Release

[6] AC POWER INPUT

Standard IEC 3-Conductor AC Line Cord Receptacle for plug-in of a 3-conductor power line cord. Be sure to note if the power receptacle is domestic (120VAC type) or international (240VAC type).

[7] RS232 EXPANSION

The HD44C and HD44CC5 can be expanded into a larger system. By using any combination of the HD44C and HD44CC5 (up to 4 units), a larger High-Definition distribution system can be created.

For instance, two HD44C units can be combined to create a much larger 4 source input to 8 zone output. The two HD44C units must have their own unique address (see ADDRESS (DIP SWITCH) section). The top unit (master controller) must always be addressed as UNIT 1. See Section 8 for setting the unit address. The included RS232 expansion cable allows a single RS232 control port to be used to command the entire system. The expansion cable is connected between the DB9 (5) and 3.5mm stereo mini jack (7).

IMPORTANT NOTICE

The top unit (master controller) must always be addressed as UNIT 1.

DB9 MALE

CIRCUIT	PIN
TX	2
RX	3
GND	5

3.5MM PLUG

PLUG	CIRCUIT
TIP	TX
RING	RX
SLEEVE	GND

[8] ADDRESS (DIP SWITCH)

Switch 1 & 2: Unit Address (for Expansion mode)

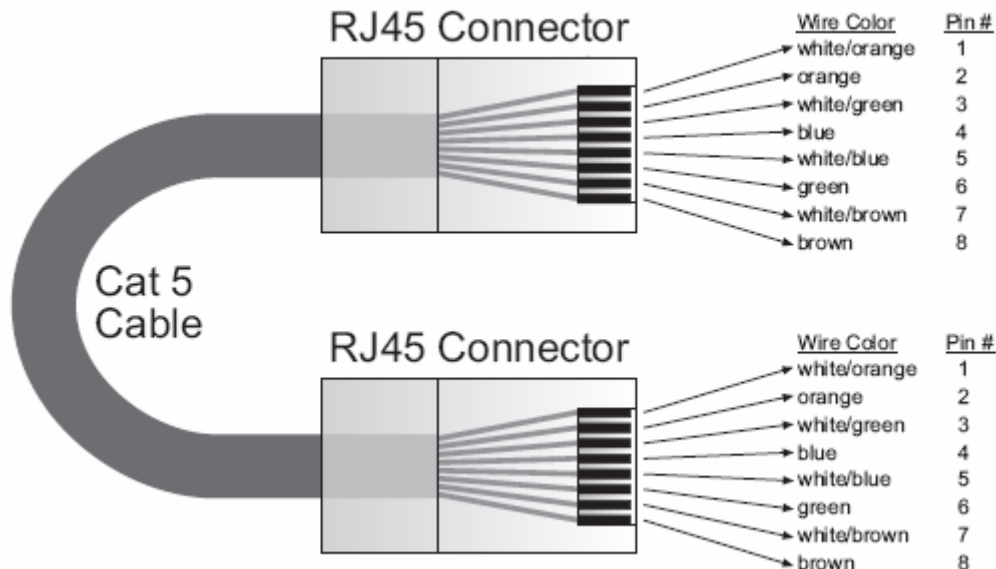
ADDR	SW 1	SW 2
UNIT 1	OFF	OFF
UNIT 2	OFF	ON
UNIT 3	ON	OFF
UNIT 4	ON	ON

Switch 3: ON for firmware write protect

Switch 4: ON for front panel IR receiver / OFF for rear panel IR receiver

[9] CAT5 ZONE OUTPUT

Output connection to the HDRXSG01 receiver module. Uses standard CAT5 cable. Be sure to verify CAT5 wiring connection is correct before installation.



[10] COAXIAL ZONE OUTPUT

Gold-plated RCA jacks for connection to an HD monitor. Color coordinated to match all HD type products. The CAT5 and coaxial output can be used at the same time.

IMPORTANT NOTICE

After connecting the CAT5 cable to the receiver (HDRXSG01), the power supply to the receiver should be unplugged for a few seconds and then reconnected. This allows the receiver to go through the full process of line length and line quality self-calibration.

Do not connect the power supply to the receiver until after the CAT5 connection. The HD44CC5 must be powered on before the HDRXSG01.

As an alternate process to this procedure, the power may be cycled off for a few seconds and reapplied to accomplish the same full self-calibration process.

If for some reason the system loses power at the receiving end (HDRXSG01), the transmitting end (HD44CC5), or both ends, the full self-calibration process will automatically occur.

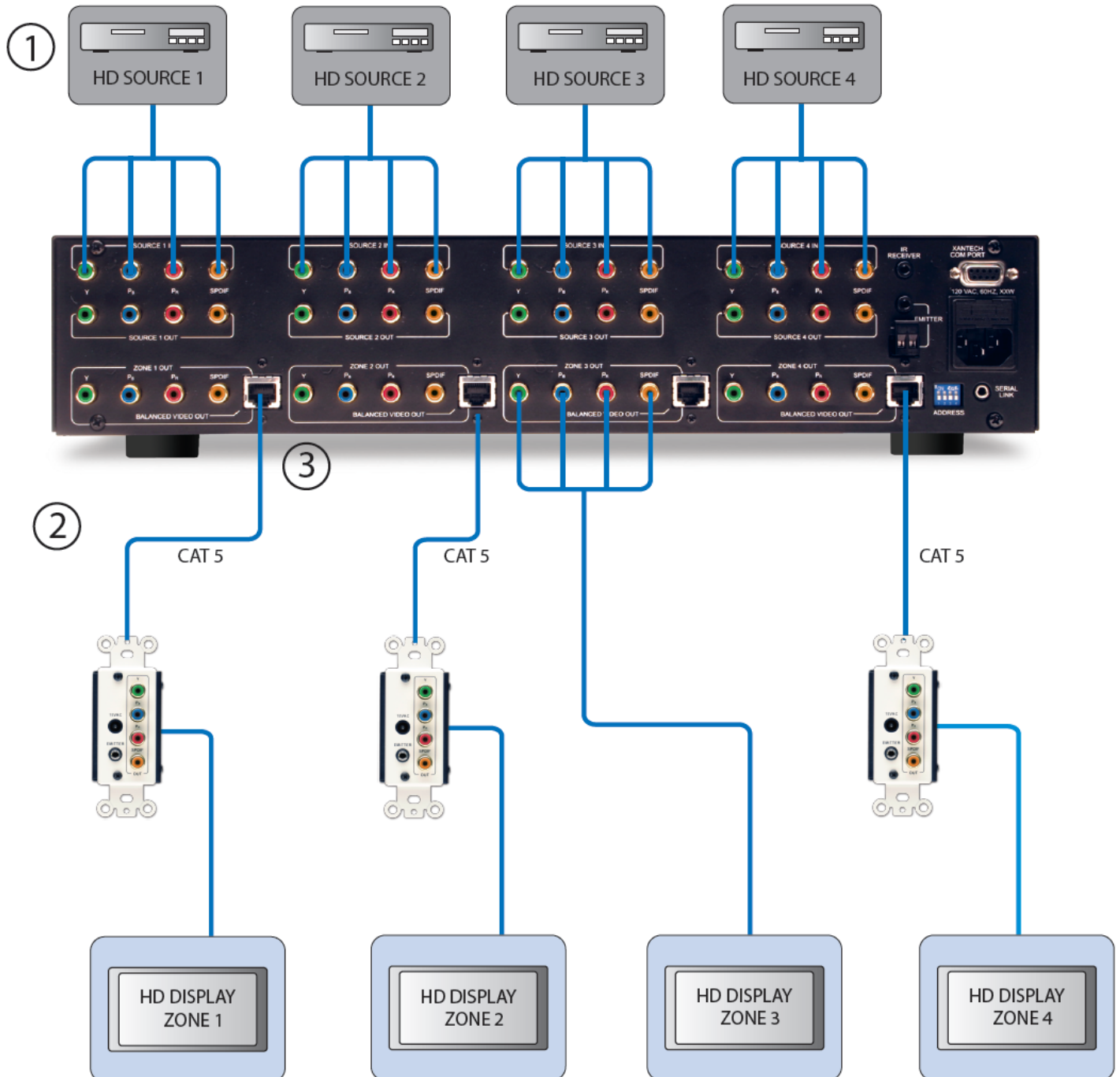
QUICK INSTALLATION: HD44CC5 and HDRXSG01

[1] Connect the High-Definition Source to the HD44CC5 or HDTXSG01. Figure 1 below shows a HD44CC5 (video matrix transmitter) connected to the HDRXSG01 (receiver).

[2] Using CAT5 cable, connect the HD44CC5 zone output or the output from the HDTXSG01 to the HDRXSG01. Connect power to the HD44CC5 first. Then connect power to the HDRXSG01.

[3] On the HD44CC5, set the source to zone to enable the HDRXSG01 from the connected High-Definition source. See HD44CC5 manual on how to use RS232 and IR RC68+ controls.

[4] Installation Complete! No adjustments needed!



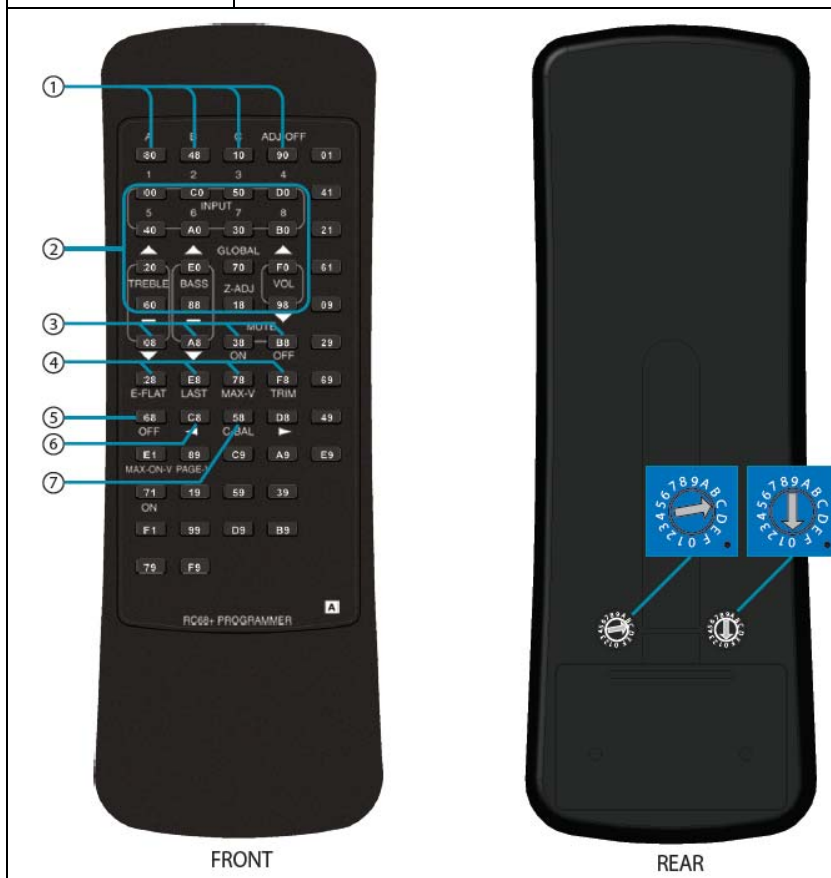
RC68+ (IR) COMMANDS

The RC68+ should be set to Group Code "C0".

		ZONE 1	ZONE 2	ZONE 3	ZONE 4
1	Zone Power Toggle	80	48	10	90

		SRC 1	SRC 2	SRC 3	SRC 4
2	Zone 1 Source Select	00	C0	50	D0
	Zone 2 Source Select	40	A0	30	B0
	Zone 3 Source Select	20	E0	70	F0
	Zone 4 Source Select	60	88	18	98

		ZONE 1	ZONE 2	ZONE 3	ZONE 4
3	Zone Power On	08	A8	38	B8
4	Zone Power Off	28	E8	78	F8
5	Zone Power All Off	68			
6	Zone Restore All	C8			
7	Zone Power All On	58			



Note: For expanded systems, the 'Primary' HD44 should remain on the default group code of "C0" but each additional HD44 will need to be changed to a different discrete Code Group so the units can be individually controlled. To change the Group Code of the additional HD44's please see the RC68X instruction manual (section labeled CHANGING THE INTERNAL CODE GROUP NUMBER OF A XANTECH MODEL) or the Application Advisory AA-09 on the Xantech Web Site

[URL:

http://www.xantech.com/products/a_folder/a_aa09.pdf

ADVANCE INSTALLATION

FIGURE 2: Below shows a diagram for a sports bar application. With the equipment rack located near or behind the bar area, the coaxial outputs can be used for local HD monitors. The CAT5 outputs can be used to deliver HD content to areas such as outdoor patios and pool table recreational areas.

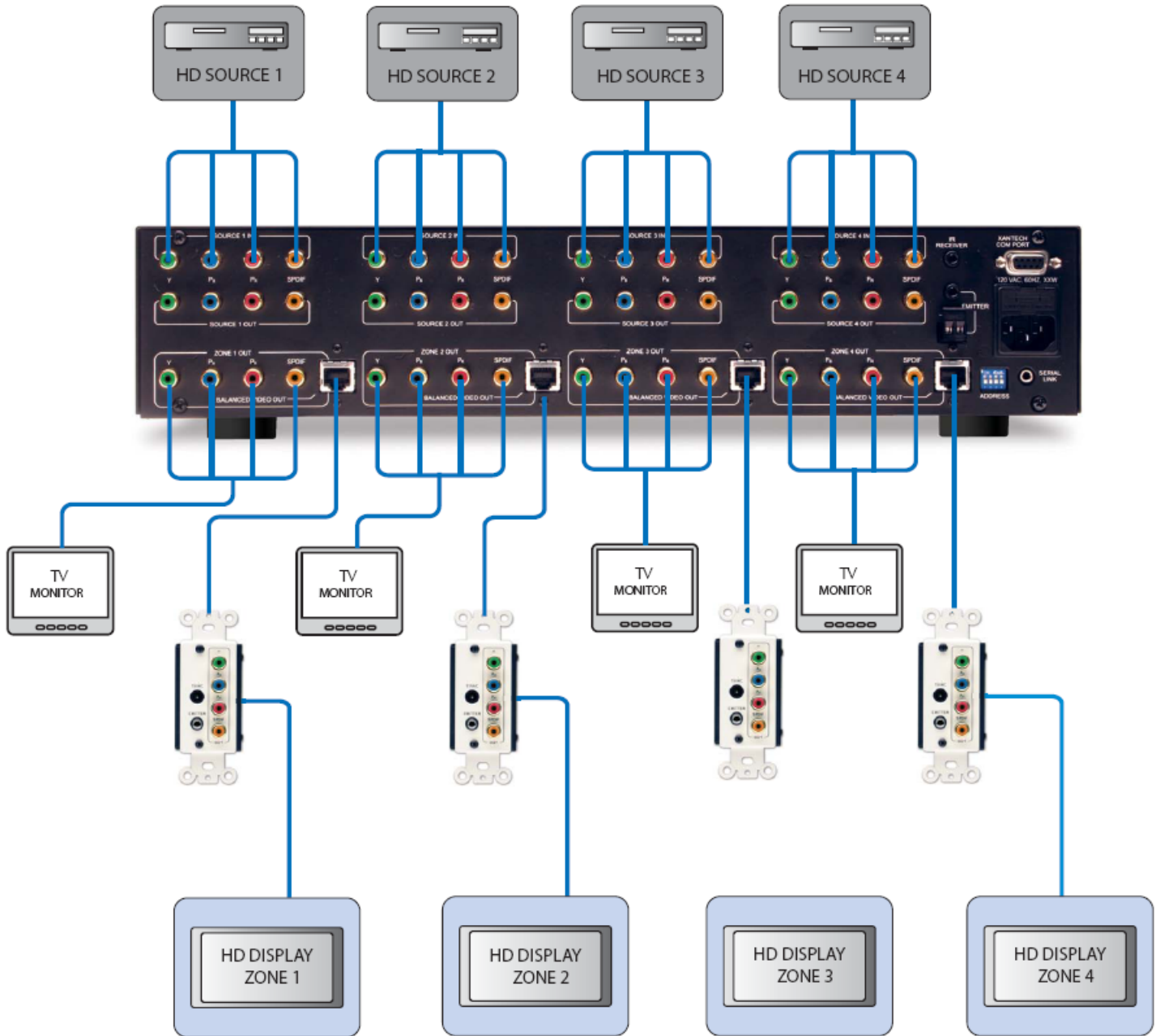


FIGURE 2

FIGURE 3: The figure in the next page shows an expanded HD44CC5 system. With two HD44CC5 devices, HD content can be distributed to 16 displays (8 with CAT5 outputs, 8 with coaxial outputs). The included RS232 expansion cable allows a single RS232 control port to be used to command the entire system.

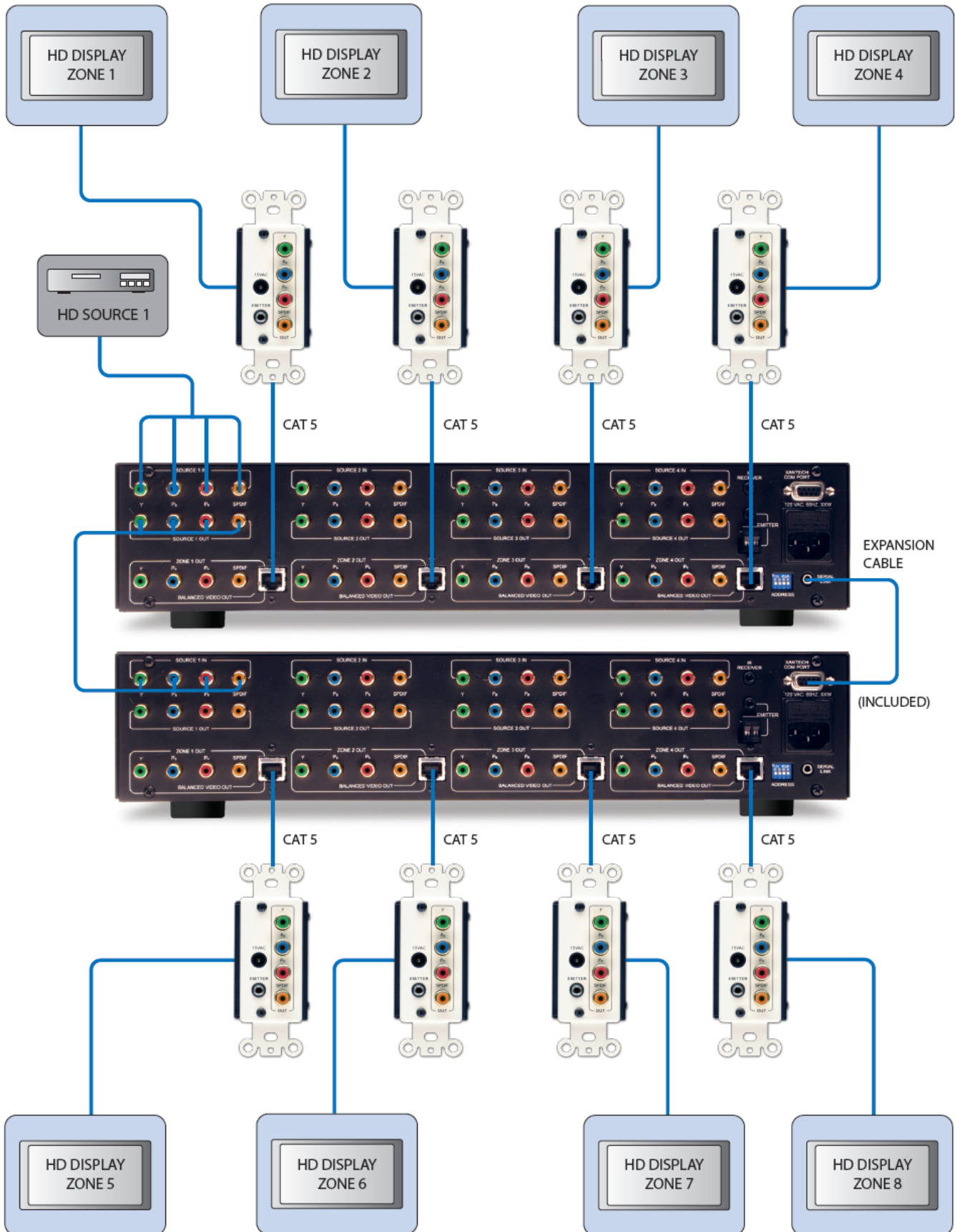


FIGURE 3 (Note: The top unit (master unit) must be addressed as UNIT #1)

COMMON PROBLEMS AND TROUBLESHOOTING

Poor video quality (picture is washed out): Several manufacturers of cable and satellite box may have higher than normal DC offset on the video signals. When connected to an HD44C, HD44CC5, and HDTXSG01, this may result in a washed out picture. To remedy this problem, a DC blocker should be used between the source component and the HD44C, HD44CC5, and HDTXSG01.

Picture appears to be blooming: A blooming picture is usually caused by a video signal that is too high. One reason for this problem is the HDRXSG01 was not synchronized to the HD44CC5. To correct this, be sure the CAT5 cables is connected between the HD44CC5 and HDRXSG01. Remove power from both devices. Simultaneously apply power to both units. This will synchronize the correct signal strength.



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Modules and Connecting Blocks	Limited Lifetime
Accessories	Limited Lifetime
Speakers	Limited Lifetime
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MRC, BX, ZPR and Commercial Products	2 year Limited
Amplifiers	2 year Limited
Control Interfaces	2 year Limited
Hand Held Remote Controls	1 year Limited
SPLCD Product	1 year Limited
Source Components	1 year Limited