

User Manual CS-88MHDBTS, CS-44MHDBTS 8x8 and 4x4 4K HDMI and HDbaseT Matrix

The CS-88MHDBTS and CS-44MHDBTS are true 18Gbps 4K60 (4:4:4) 8x8 and 4x4 HDMI matrix switches. Supporting HDMI 2.0(a/b), HDCP 2.2, up to 4K video resolution, and up to 18 Gbps bandwidth. The CS-88MHDBTS supports 8 HDMI sources (Blu-ray, UHD Blu-ray, satellite receiver, game consoles, PCs, etc. ...) and 8 separate displays, while the CS-44MHDBTS supports 4 HDMI sources and 4 HDMI or mirrored HDbT displays. Allowing you to view any of the connected sources on any of the connected displays at any one time.

Features:

- HDMI 2.0 (a/b)
- 4K60 4:4:4 Support
- Full HDR Support (HDR 10 & 12 Bit)
- Dolby Vision, HDR10+ and HLG Support
- HDCP 2.2 (up-to)
- Web GUI Interface
- 4 or 8 HDMI with Mirrored HDbT Outputs
- Scaling from 1080p up to 4K on the HDMI outputs
- Scaling from 4K down to 1080p on the HDbT outputs
- Advanced EDID Management
- IR, RS-232 and LAN Control Options
- Audio De-Embedding via SPIDF & 3.5mm jack

- Install in seconds
- Powerful EDID management
- Front Panel Control
- IR Remote
- IR & RS-232 Control
- LAN Control
- Driver Support for Crestron, C4, Etc.
- Bi-Directional IR and RS-232 on extenders
- Built in Test Pattern for each Output

In The Box:

- CS-88MHDBTS or CS-44MHDBTS HDMI Matrix
- IR Remote Control
- 12V/4A Locking Power Supply

Front Panel Control

Switching

The CS-88MHDBTS and CS-44MHDBTS can be switched from the front panel by selecting the OUTPUT button first and then selecting the INPUT button:

- 1. Press the OUTPUT button (1 through 8) on the bottom row that corresponds with the OUTPUT (Display, or Sink Device) you would like to send to a source.
- 2. Once pressed, the switch will illuminate the OUTPUT button that you have selected, along with the INPUT row, indicating that it is ready for you to select the INPUT.
- 3. Select the desired INPUT.



EDID

The CS-88MHDBTS and CS-44MHDBTS has the ability to control the EDID that the source devices sees as a display

- 1. Press and hold the INPUT button of the source you want to set EDID for 3 seconds
- 2. Use the selected INPUT button as UP and the corresponding OUTPUT button as DOWN to select the desired EDID setting
- 3. To set the selected EDID setting press and hold for 3 seconds the original INPUT button





Toggle DHCP

The CS-88MHDBTS and CS-44MHDBTS comes from the factory with DHCP turned off. To enable DHCP from the front panel:

1. Press and hold INPUT 1 and INPUT 4 together for 3 seconds





View Network Settings

1. Press and hold INPUT 3 and INPUT4 together for 3 seconds

The CS-88MHDBTS and CS-44MHDBTS will cycle through the following information: Device IP, Host IP, Subnet Mask, and MAC Address.



View Firmware Version

To view the current firmware on the CS-88MHDBTS or the CS-44MHDBTS:

1. Press and hold INPUT 2 and INPUT 4 together for 3 seconds





Locking Front Panel Buttons

You have the ability to lock the front panel buttons so any accidental button presses can be ignored.

1. Press and hold INPUT 2 and INPUT 3 together for 3 seconds





Web Interface

In order to access the Web Interface use a web browser (e.g. Internet Explorer, Chrome, Edge, Safari, etc.) and go to the IP address of the Matrix.

Live Switch

Live Link Switch Info	IR Setting	,	Video Settin	g	Audio Setting		Audio Matrix	EC Mar	DID nage	System Setting
Metra Home Manufacturer of Premiu	Theate	er.cc	DM ducts							
				Live Sw	/itch					
OUT1	IN1	IN2	IN3	IN4	IN5	IN6	IN7	IN8		
OUT2	IN1	IN2	IN3	IN4	IN5	IN6	IN7	IN8		
OUT3	IN1	IN2	IN3	IN4	IN5	IN6	IN7	IN8		
OUT4	IN1	IN2	IN3	IN4	IN5	IN6	IN7	IN8		
OUT5	IN1	IN2	IN3	IN4	IN5	IN6	IN7	IN8		
OUT6	IN1	IN2	IN3	IN4	IN5	IN6	IN7	IN8		
OUT7	IN1	IN2	IN3	IN4	IN5	IN6	IN7	IN8		
OUT8	IN1	IN2	IN3	IN4	IN5	IN6	IN7	IN8		
ALL	IN1	IN2	IN3	IN4	IN5	IN6	IN7	IN8		
			С	S-88MH V1.0	IDBTS 0					

Use this page to switch between inputs and outputs from the web interface live.

Link Info

Live Switch	Link Info	IR Setting	Video Setting	Audio Setting	Audio Matrix	Input Setting	EDID Manage	System Setting
Metral Manufacture	HomeTheater	r.com er Products						
					1			
			IN1	NO SIGNAL			Refresh	
			IN2	NO SIGNAL				
			IN3	NO SIGNAL	6			
			IN4	NO SIGNAL				
			ING	NO SIGNAL				
			IN7	NO SIGNAL				
			IN8	NO SIGNAL	K			
				CS-88MHDBTS				

Use this screen to monitor the EDID information of the connected input devices.

IR Setting

Live Switch	Link Info	IR Setting	Video Setting	Audio Setting		Audio Matrix	Input Settin	: g	EDID Manage	System Setting
Metral	HomeTheater of Premium Home Theater	Products								
				IR Switc	h				<u> </u>	
	OUT1	INT	IN2 IN3	IN4	IN5	IN6	IN7	IN8		
	OUT2	IN1	IN2 IN3	IN4	IN5	IN6	IN7	IN8		
	OUT3	IN1	IN2	IN4	IN5	ING	IN7	IN8		
	OUT4	IN1	IN2 IN3	Kd	IN5	IN6	IN7	IN8		
	OUT5	IN1	IN2 IN3	IN4	INS	IN6	IN7	IN8		
	OUT6	IN1	IN2 IN3	IN4	IN5	INE	IN7	IN8		
	OUT7	IN1	IN2 IN3	IN4	IN5	IN6	IN Z	IN8		
	OUT8	IN1	IN2 IN3	IN4	IN5	IN6	IN7	INB		
	ALL	IN1	IN2 IN3	IN4	IN5	IN6	IN7	IN8		
				CS-88MHD	BTS					

The IR switching allows you to route the IR signals on the IR outputs manually if you need to have a fixed route.

Note: By default the IR OUT is automatically routed with the active source.

Video Setting

	UDMUZZ	A		UDNI Orderst			UDDTV/d					
OUT		Scaler Mode	01171	HDMI Output S	Signal Generator	OUT1	HDBT VIDE	o Scaler Mode		ON		
01172	HD.4K	AVPLSS		ON	088	01172	4K-HD	ICT MODE	01172	ON	CAR F	
OUT3	HD-4K	BYPASS	ОИТЗ	ON	OFF	OUT3	4K-HD	ICT MODE	OUT3	ON	OFF	
OUT4	HD-4K	BYPASS	OUT4	ON	OFF	OUT4	4K-HD	ICT MODE	OUT4	ON	OFF	
OUT5	HD-4K	BYPASS	OUT5	ON	OFF	OUT5	4K-HD	ICT MODE	OUT5	ON	OFF	
OUT6	HD-4K	SYPASS	OUT6	ON	OFF	OUT6	4K-HD	ICT MODE	OUT6	ON	OFF	
0017	HD-4K	BYPASS.	ουττ	ON	GEF	ουτ7	4K-HD	ICT MODE	0017	ON	OFF	
OUT8	HD-4K	BYPASS	OUT8	ON	OFF	OUT8	4K-HD	ICT MODE	OUT8	ON	OFF	

On this screen you can modify the video signal that is being output by the matrix.

- either upscale, downscale or bypass the scaling feature
- Enable to disable the Output Signal Generator
 - NOTE: The HDMI and HDbT outputs can be tested independent from each other.

Audio Setting

Live Switch	Link Info	Se	IR etting		Video Setting		Audio Setting		Audio Matrix		Input Setting		EDID Manage	System Setting
Metra H Manufacturer o	omeTheate	E.COM) s											
				Ex-	Audio Outpi	ut Delay(MS)				Audio	Status		
	OUT1	90	180	270	360	450	540	630	80	OU	T1 🗰	OFF		
	OUT2	90	180	270	360	450	540	630	Up	OU	T2 .0K	OFF		
	OUT3	90	180	270	360	450	540	630	86	OU	T3 EN	OFF		
	OUT4	90	180	270	360	450	540	630	8)	OU	T4 ON	OFF		
	OUT5	90	180	270	360	450	540	630	Bµ	OU	T5 CM	OFF		
	OUT6	90	180	270	360	450	540	630	89	OU	T6 💌	OFF		
	OUT7	90	180	270	360	450	540	630	Bp	OU	17	OFF		
	OU T8	90	180	270	360	450	540	630	Вр	OU	T8 ON	OFF		
	-												NOTE: Bp - Bypass;	
						C	S-88MHDB	TS						

Here you can turn on or off the extracted audio for the SPDIF digital Coax or 3.5 Stereo ports. You can also set the audio delay for the audio breakouts in order to combat any audio sync issues.

Audio Matrix and EX-Audio Matrix Mode



Here you can set the route of the audio in a matrix fashion for the extracted audio connections and bind the audio to follow either the INPUT, OUTPUT, or set it to be Matrixed.

- Audio Delay This allows you to change the audio delay to combat lip-sync issues on the extracted audio. Each audio output can be delayed independently of the others.
- Bind to Input The extracted audio binds to its corresponding input. E.g. Audio out 3 will always output audio from INPUT 3.
- Bind to Output The extracted audio binds to its corresponding output. E.g. Audio Out 3 will always output audio from whichever input is selected for OUTPUT 3.
- Matrix The extracted audio can be set manually to specific Audio Outs. E.g. Audio Out 3 will always play audio from INPUT 4 regardless of what INPUT is selected for OUTPUT 3.

EDID Manage

Live Switch	Link Info	IR Setting	Video Setting	Audio Setting	Audio Matrix	Input Setting	EDID Manage	System Setting
Metral Manufacture	HomeTheate r of Premium Home Theat	er.com ter Products						
				EDID Manage				
	17	1080P 2CH	 Apply 		IN2 1080P 2CI	App	by	
	17	1080P 2CH	• Apply		IN4 1080P 2C	• Арр	ly	
	17	1080P 2CH	Apply		IN6 1080P 2CI	• App	lý	
	P	1080P 2CH	• Apply	x	IN8 1080P 2C	• Арр	ły	
	_							
				CS-88MHDBTS				

Here you can set or control the EDID for the individual inputs.

System Settings

Me	tra HomeT	heater .C	roducts				
		IP Setting			Port Alias	Setting	
	MAC Address	00:08:E	0C:01:02:03	OUT	1 OUT1	IN1 IN	1
				OUT	2 OUT2	IN2 IN	2
	Host IP Addres	s 192.1	168.0.239	OUT	3 OUT3	IN3 IN	3
	Subnet Mask	255.2	255 255 0	OUT	4 OUT4	IN4 IN	4
	oublict music		00.200.0	OUT	5 OUT5	IN5 IN	5
	Router IP Addre	ss 192	.168.0.1	OUT	6 OUT6	IN6 IN	6
	TOP Deat	_	22	OUT	7 OUT7	IN7 IN	7
	TCP Port		23	OUT	8 OUT8	IN8 IN	8
	DHCP Stati	c IP	Apply		Арр	ly	
	1			(*************************************			

IP Settings – Here you can set the network configurations. E.g. set the static IP address, change the TCP port, or find the MAC address.

Port Alias Setting – Here you can give the individual inputs or outputs an Alias, or a name. E.g. if INPUT 1 is a cable box, you can name it "Cable", or if OUTPUT 3 is the Master Bedroom TV, you can name it "Master Bed"

EDID Management

The CS-88MHDBTS and CS-44MHDBTS matrices have 29 pre-configured EDID settings.

NOTE: In order to maximize compatibility, by default the matrix is set to a 1080p EDID. When using 4K sources, you will want to define a 4K EDID on that input (or read from the display).

To Change the EDID setting with the face buttons:

- 1. Press and hold the INPUT you want to change for 3 seconds8
- 2. Now "press" the desired INPUT/OUTPUT (Example: Setting EDID for INPUT3, use IN 3 & OUT 3) to toggle through the available EDID options
- 3. Once you are on the EDID you want to select, press and hold the INPUT button again for 3 seconds. The LCD Screen will say "Please Wait", then "OK" once the EDID is set.

To change the EDID setting with the Web Interface, login to the Matrix through a web browser using the IP address and then select EDID. From there you can select the desired/required EDID for each input individually.

These are the pre-configured EDID settings that are available to toggle through:

0:1080P 2CH(PCM) 1:1080P_6CH 2: 1080P_8CH 3: 1080P_3D_2CH(PCM) 4: 1080P_3D_6CH 5: 1080P_3D_8CH 6: 4K30Hz 3D 2CH(PCM) 7:4K30HZ 3D 6CH 8:4K30HZ 3D 8CH 9: 4K60Hz(Y420) 3D 2CH(PCM) 10: 4K60Hz(Y420) 3D 6CH 11: 4K60Hz(Y420) 3D 8CH 12: 4K60HZ 3D 2CH 13: 4K60HZ 3D 6CH 14: 4K60HZ_3D_8CH 15: 1080P_2CH(PCM)_HDR 16: 1080P_6CH_HDR

17: 1080P 8CH HDR 18: 1080P 3D 2CH(PCM) HDR 19: 1080P_3D_6CH_HDR 20: 1080P 3D 8CH HDR 21: 4K30Hz 3D 2CH(PCM) HDR 22: 4K30Hz_3D_6CH_HDR 23: 4K30Hz 3D 8CH HDR 24: 4K60Hz(Y420) 3D 2CH(PCM) HDR 25: 4K60Hz(Y420) 3D 6CH HDR 26: 4K60Hz(Y420) 3D 8CH HDR 27: 4K60Hz 3D 2CH(PCM) HDR 28: 4K60Hz 3D 6CH HDR 29: 4K60Hz 3D 8CH HDR 30: USER_EDID_1 31: USER EDID 2 32: USER EDID 3

The first 30 EDID settings cannot be changed. The three USER EDID settings are programmed using RS-232 or the web interface. However, you can read an EDID from any output and it will automatically store in USER EDID 1. Remember, each INPUT has an independent EDID setting and you may need to program each one. To read and set an EDID to a specified input the steps are the same as switching the EDID normally, except when you see the following figure, press and hold the original INPUT button again for 3 seconds. This will read, store, and set the EDID for that INPUT based on the OUTPUT selected.

IR Remote Control

The HDMI matrix can also be controlled by using the supplied IR remote. The left arrow button switches to the previous button in the sequence, and the right arrow switches to the next input in sequence.

1	>
2	
3	>
4	•
5	>
6	>
7	•
8	
9	>

RS-232 TCP/IP Control Commands

These commands apply to both the CS-88MHDBTS and the CS-44MHDBTS. Where applicable, commands that show 1-8 for inputs or outputs if used with the CS-44MHDBTS do not exceed 4 for the inputs and outputs.

- Note: Add a return (Enter Key) after each command when using direct commands.
- Note: To send control commands to the Matrix, be sure to use the RS232-CTL port NOT the HDbT RS232 port.

How to route RS232 commands when using the HDbT extenders:

To ensure that you format the commands correctly take note of the following:

- 1. You first send a route command then send the device command
- 2. You MUST know the baud rate of the device you are sending commands to.
- 3. For "hybrid" ASCII commands, it may be necessary to convert the numbers to a decimal value

Your first Command is for the route, and looks like this:



- A = Device Address (use this even if using a single unit, just put 00)
- **OUT** = The Output you want to route the forthcoming command to
- **LEN** = Forthcoming command length for ASCII this includes EVERY character including spaces. For HEX it includes only the BYTE count.
 - Ex1: If the ASCII command is "ka 0 1" the length is 6. Count spaces. NOTE: You can
 exceed the length by 2 if unsure. If you exceed the length by more than 2 it will not
 work.
 - Ex2: If HEX command is "6B 68 20 30 20 31" the length is 6. Do not count spaces. Again, you can exceed by 2.
- **BR** = Baud Rate of the device you are sending to You use a single digit to replace "x"
 - o 0 9600, 1 14400, 2 19200, 3 38400, 4 57600, 5 115200

Using Telnet (IP)

System HELP					
System Address = 00	F/W Version : 1.00				
Azz	All Commands start by Prefix System Address zz, if [01-99]				
Н	Help				
STA	Show Global System Status				
SET RST	Reset to Factory Defaults				
SET ADDR xx	Set System Address to xx {xx=[00~99](00=Single)}				
SET LCD ON Tx	Set LCD Remain On Time{x=[0~3](0=Always ON,1=15,2=30,3=60Sec)}				
SET KEY LOCK ON/OFF	Set Key Lock On/Off				
GET ADDR	Get System Address				
GET STA	Get System System Status				
GET INx SIG STA	Get Input x Signal Status{x=[0~4](0=ALL)}				
GET LCD ON T	Get LCD Remain On Time				
GET KEY LOCK	Get Key Lock Status				
Output Setup Commands					

SET OUTx VS Iny	Set Output x To Input y{x=[0~4](0=ALL), y=[1~4]}
SET OUTx HP VIDEOy	Set HDMI Output VIDEO Mode {x=[0~4](0=ALL), y=[1,3](1=BYPASS,3=2K->4K)}
SET OUTx TP VIDEOy	Set HDBT Output VIDEO Mode {x=[0~4](0=ALL), y=[2,5](2=4K->2K,5=ICT Mode)}
SET OUTx EXA EN/DIS	Set Ex-Audio Output Enable/Disable{x=[0~4](0=ALL)}
	Set Ex-Audio Delay{x=[0~4](0=ALL),
SET OUTx EXADL PHy	y=[0~7](0=Bypass,1~7=90,180,270,360,450,540,630MS)}
SET EXAMX MODEx	Set Ex-Audio Matrix Mode{x=[0~2](0=Bind To Output,1=Bind To Input,2=Matrix}
SET OUTx AS INy	Set Ex-Audio Output x To Input y{x=[0~4](0=ALL), y=[1~4]}
SET OUTx HP SGM EN/DIS	Set HDMI Output Signal Generator Enable/Disable{x=[0~8](0=ALL)}
SET OUTx TP SGM EN/DIS	Set HDBT Output Signal Generator Enable/Disable{x=[0~8](0=ALL)}
SET OUTx HP STREAM	
ON/OFF	Set HDMI Output x Stream ON/OFF{x=[0~4](0=ALL)}
SET OUTX TP STREAM	
ON/OFF	Set HDBT Output x Stream ON/OFF{x=[0~4](0=ALL)}
GET OUTx VS	Get Output x Video Route{x=[0~4](0=ALL)}
GET OUTx HP VIDEO	Get HDMI Output x Video Mode{x=[0~4](0=ALL)}
GET OUTx TP VIDEO	Get HDBT Output x Video Mode{x=[0~4](0=ALL)}
GET OUTx HP EDID DATA	Get HDMI Output x EDID DATA{x=[1~4]}
GET OUTX TP EDID DATA	Get HDBT Output x EDID DATA{x=[1~4]}
GET OUTx EXA	Get Ex-Audio Output Enable/Disable Status{x=[0~4](0=ALL)}
GET OUTx EXADL PH	Get Ex-Audio Output Delay Status{x=[0~4](0=ALL)}
GET EXAMX MODE	Get Ex-Audio Matrix Mode
GET OUTx AS IN	Get Output x Ex-Audio Route{x=[0~4](0=ALL)}
GET OUTx HP SGM	Get HDMI Output Signal Generator Enable/Disable Status{x=[0~4](0=ALL)}
GET OUTx TP SGM	Get HDBT Output Signal Generator Enable/Disable Status{x=[0~4](0=ALL)}
GET OUTx HP STREAM	Get HDMI Output x Stream ON/OFF Status{x=[0~4](0=ALL)}
GET OUTx TP STREAM	Get HDBT Output x Stream ON/OFF Status{x=[0~4](0=ALL)}
Input Setup Commands	
SET INx EDID y	Set Input x EDID{x=[0~4](0=ALL), y=[0~32]}
	0:1080P_2CH 1:1080P_6CH 2:1080P_8CH 3:1080P_3D_2CH
	4:1080P_3D_6CH 5:1080P_3D_8CH 6:4K30HZ_3D_2CH 7:4K30HZ_3D_6CH
	8:4K30HZ_3D_8CH 9:4K60HzY420_3D_2CH 10:4K60HzY420_3D_6CH
	11:4K60HzY420_3D_8CH
	12:4K60HZ_3D_2CH 13:4K60HZ_3D_6CH 14:4K60HZ_3D_8CH 15:1080P_2CH_HDR
	16:1080P_6CH_HDR 17:1080P_8CH_HDR 18:1080P_3D_2CH_HDR
	19:1080P_3D_6CH_HDR
	20:1080P_3D_8CH_HDR_21:4K30HZ_3D_2CH_HDR 22:4K30HZ_3D_6CH_HDR
	24:4K0UH2142U_3U_2CH_HUK 25:4K0UH2142U_3U_6CH_HUK
	SUUSERI_EDID SUUSER2_EDID SZUUSER3_EDID Conv HDML Output v EDID To Input v/USER1 RUE/(v=60x4)/0=4U/1 v=[4x4])
SET INX EDID CY OUTY HP	COPY HDIVILOUTPUT Y EDID TO INPUT X(USEKT BUF){X=[0~4](U=ALL), Y=[1~4]}

SET INX EDID CY OUTY TP	Copy HDBT Output y EDID To Input x(USER1 BUF){x=[0~4](0=ALL), y=[1~4]}
SET INx EDID Uy DATAz	Write EDID To User y Buffer of Input x{x=[0~4](0=ALL), y=[1~3],z=[EDID Data]}
GET INx EDID	Get Input x EDID Index{x=[0~4](0=ALL)}
GET INx EDID y DATA	Get Input x EDID y Data{x=[1~4],y=[0~32]}
Network Setup Command	(xxx=[000-255], zzzz=[0001~9999]
SET RIP xxx.xxx.xxx.xxx	Set Route IP Address to xxx.xxx.xxx
SET HIP xxx.xxx.xxx.xxx	Set Host IP Address to xxx.xxx.xxx
SET NMK xxx.xxx.xxx.xxx	Set Net Mask to xxx.xxx.xxx
SET TIP zzzz	Set TCP/IP Port to zzzz
SET DHCP y	Set DHCP {y=[0~1](0=Dis,1=Enable)}
GET RIP	Get Route IP Address
GET HIP	Get Host IP Address
GET NMK	Get Net Mask
GET TIP	Get TCP/IP Port
GET DHCP	Get DHCP Status
GET MAC	Get MAC Address
IR Route Setup Command	
SET IRC OUTx IS INy	Set Local Output x IR Route{x=[0-4](0=all),y=[1-4]}
SET IR EXT SW x1.x2.x3.x4	Set IR Extender Switch{x1~x4=[0-1](0=Disable,1=Enable)}
GET IRC OUTx IS	Get Local Output x IR Route{x=[0-4](0=all)}
GET IR EXT SW	Get IR Extender Switch Status
RS232 Route Setup	
Command	
	Set RS232 Pass Through to Outputx {x=[0-
SET RS PTH OUTx LENy BRz	9](0=ALL),y=[1~100],z=[0~5](0=9600,1=14400,2=19200,3=38400,4=57600,5=115200)}
IR Code Setup Command	
SET IR SYS xx.yy	Set IR Custom Code{xx=[00-FFH],yy=[00-FFH]}
SET IR OUTx INy CODE zz	Set IR Data Code{x=[1~4],y=[1~4],zz=[00-FFH]}
GET IR SYS	Get IR Custom Code
GET IR OUTx INy Code	GET IR DATA Code

Specifications

Video								
	Up to 4K 60Hz 4:2:0, 4K	30Hz 4:4:4, DCI 4K						
Supported Video Resolutions		(1096x2160						
	4:2:0, 4:2:2, 4:4:4 10 and	12 Bit Deep Color -						
	HDR10, HDR10+, I	Dolby Vision (24/30						
Supported HDR Formats		Frames), HLG						
Supported Color Space	YUV, RGB - CSV: REC. 601	, REC. 709, B12020, DCL P3 D6500						
Supported Chroma Subsampling		4:4:4, 4:2:2, 4:2:0						
Supported Deep Color	Up to 16bit @ 1080	p, Up to 12bit @ 4K						
HDMI Scaling	1080p to 4K (Resolution o	nly, not Framerate)						
HDbaseT	4K to 1080p (Resolution o	nly, not Framerate)						
Audio								
	PCM 2.0 CH, LPCM 5.1 8	& 7.1, Dolby Digital,						
	DTS 5.1, Dolby Digital F	Plus, Dolby TrueHD,						
Support HDMI Audio Formats	DTS-HD Master Audio, I	DTS-X, Dolby Atmos						
Supported Extracted Audio Digital Coax	PCM 2.0 CH, LPCM 6CH	l, Dolby Digital, DTS						
Supported Extracted Audio 3.5mm Stereo	PCM 2.0 C	H (No Downmixing)						
Other								
HDMI Bandwidth		18Gbps						
	18Gbps Using	MLC (Minimal Loss						
HDbaseT Bandwith	Compression) 10.2 Gbps signal							
PoC Power over cable for HDbaseT Receivers	Yes on all ports							
Supported HDCP	Н	DCP 2.2 and earlier						
Control	1							
Ports		IR, RS-232, LAN						
Web GUI		Yes						
Ports								
	4x In, 4x	Out CS-44MHDBTS						
HDMI	8x In, 8x	Out CS-88MHDBTS						
	70 Meters/230Ft with	4x Out CS-						
	4K@60, 4:4:4, & HDR	44MHDBTS						
	100 Meters/328Ft with	8x Out CS-						
HDbaseT	1080p	88MHDBTS						
		1x RJ45 10/100						
	4x Coax SPDIF Out, 4x 3.5	mm Stereo Out CS-						
Audio		88MHDBTS						
IB	1 1	R 3 conductor input						
	1/11	to conductor input						

RS232	1x DB9 Female	
Environmental		
Operating Temperatures	23 to 125°F (-5 to 51°C)	
Storage Temperatures	-4 to 140°F (-20 to 60°C)	
Humidity Range	5-90% RH (No Condensation)	
Power		
Consumption	92 Watts Max	
	Input: AC 100-240V ~ 50/60Hz	
Power Supply	Output: DC 12V 3A	
Physical		
		MM: 50.8 x 256 x
		441.33
		Inch: 2 x 10.07 x
	CS-88MIHDB15:	17.375
		225 42 x 438 15
		Inch: 1.75 x 8.75
Dimensions	CS-44MHDBTS:	x 17.25
Rack Units	1x RU	
Weight	7 Lbs / 3.5 Kg CS-44MHDBTS, 8Lbs /3.5Kg CS- 88MHDBTS	
Weights and Dimensions are approximate, Specifications may change without notice.		

Safety Instructions

To protect the safety of any person using or handling these devices and to ensure the reliable operation of these products, please follow these instructions:

- 1. Use provided power supplies
 - a. If alternate power supply is necessary, check Voltage, Polarity and Amperage to ensure sufficient and correct power is supplied to the device.
- 2. Operate these products within specified temperature and humidity ranges
- 3. Ensure adequate ventilation
- 4. Repair should be handled only by qualified professionals due to sensitive devices that may be damaged if mistreated.
- 5. Only operate in a dry environment. These devices are not meant for outdoor or marine environments

Troubleshooting

- Verify Power The LCD screen on the front of the matrix should be lit up when power is applied. Check that both power supplies are connected to the matrix and powered
- Verify Connections Check that all cables are properly connected
- Issues with one INPUT/OUTPUT Swap ports/cables/etc to help narrow down if the issue stays with the input/output/etc
 - Follows the device, then it may be an EDID issue. Default out of the box is a 1080p 2ch. Try another canned EDID or use the COPY FROM OUTx command to copy the connected displays EDID - Pg.12, 17, 23
- Issues with 4k but 1080p or less is working
 - Verify all connected devices are capable of the signal you are sending

Warranty

If your device does not work properly because of a defect in material or manufacturing, Metra Home Theater will either repair or replace with a new or refurbished unit for a period of 10 Years. You must mail-in your product during the warranty period. This Limited Warranty is available only to the original purchaser and only covers products purchased as new. A receipt or other proof of original purchase with the purchase date is required for warranty service.

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