



API Protocol and IR Code Reference for Modular, HDMI, and HDBaseT Switches

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Introduction

This document contains the command types for the modular, HDMI, and HDBaseT switches.

Modular 16x16 and 32x32 modular matrix switches

| Command Codes | Functions | Feedback Examples |
|------------------------|---|-------------------|
| System Commands | | |
| /*Type; | This finds the model. | MATRIX |
| /%Lock; | This locks the keyboard of the control panel on the Matrix. | System Locked! |
| /%Unlock; | This unlocks the keyboard of the control panel on the Matrix. | System Unlock! |
| /^Version; | This finds the firmware version. | V1.5.4 |

| Command Codes | Functions | Feedback Examples |
|---------------------------|---|--|
| /:MessageOff; | This turns off the COM port feedback command. | Closed The Message Return. |
| /:MessageOn; | This turns on the COM port feedback command. | Enabled The Message Return. |
| EDIDMInit. | This recovers the factory default EDID data. | EDIDMInit |
| EDIDM[X]B[Y]. | This manually switches the EDID. It copies the EDID data of the output[X] to the input [Y]. | EDIDM3B1 |
| Undo. | This cancels the previous operation. | Undo |
| Demo. | This switches to the "demo" mode. | Demo Mode |
| Operation Commands | | |
| [x1]All. | This transfers all of the signals from the input channels [x1] to the output channels | 01 to All |
| All#. | This transfers all of the input signals to the corresponding output channels. | All Through. |
| All\$. | This switches off all output channels. | All Closed. |
| [x1]#. | This transfers the signal from the input channel [x1] to the output channel [x1]. | 01 Through. |
| [x1]\$. | This switches off the output channel [x1]. | AV: 01 Closed. |
| [x1] B[x2]. | This transfers the signal from the input channel [x1] to the output channel [x2]. | V: 01->001 |
| [x1] B[x2],[x3],[x4]. | This transfers the signal from the input channel [x1] to the output channels [x2], [x3] and [x4]. | All Open. |
| Status. | This sets the input channel to the output channels one by one. | AV: 1-> 1 AV: 2-> 2 AV: 3-> 3 AV: 4-> 4 AV: 5-> 5 AV: 6-> 6 AV: 7-> 7 AV: 8-> 8 |
| Save[Y]. | This saves the present operation to the preset command [Y]. [Y]. It ranges from 0 to 9. | Save To F1 |
| Recall[Y]. | This recalls the preset command [Y]. | Recall From F1 |
| Clear[Y]. | This clears the preset command [Y]. | Clear F1 |

CM-MT8810-HD 8x8 HDMI switches

| Command Codes | Functions | Feedback Examples |
|--------------------------|---|--|
| System Commands | | |
| /*Type; | This finds the model's information. | MATRIX |
| /%Lock; | This locks the keyboard of the control panel on the Matrix. | System Locked! |
| /%Unlock; | This unlocks the keyboard of the control panel on the Matrix. | System Unlock! |
| /^Version; | This finds the firmware version. | V1.5.4 |
| /:MessageOff; | This turns the COM port feedback command off. | Closed The Message Return. |
| /:MessageOn; | This turns the COM port feedback command on. | Enabled The Message Return. |
| EDIDMInit. | This recovers the EDID factory default data. | EDIDMInit |
| EDIDM[X]B[Y]. | This manually switches the EDID. It copies the EDID data in the output [X] to the input [Y]. | EDIDM3B1 |
| Undo. | This cancels the previous operation. | Undo |
| Demo. | This switches to the "demo" mode. | Demo Mode |
| Operation Command | | |
| [x1]All. | This transfers the signal from the input channel [x1] to all output channels. | 01 to All |
| All#. | This transfers all input signals to their corresponding output channels. | All Through. |
| All\$. | This switches all of the output channels off. | All Closed. |
| [x1]#. | This transfers signals from the input channel [x1] to the output channel [x1]. | 01 Through. |
| [x1]\$. | This switches off the output channel [x1]. | AV: 01 Closed. |
| [x1] B[x2]. | This transfers the signal from the input channel [x1] to the output channel [x2]. | V: 01->001 |
| [x1] B[x2],[x3],[x4]. | This transfers the signal from the input channel [x1] to the output channels [x2], [x3] and [x4]. | All Open. |
| Status. | This sets the input channels to the output channels one by one. | AV: 1-> 1 AV: 2-> 2 AV: 3-> 3 AV: 4-> 4 AV: 5-> 5 AV: 6-> 6 AV: 7-> 7 AV: 8-> 8 |
| Save[Y]. | This saves the present operation to the preset command [Y]. [Y]. It ranges from 0 to 9. | Save To F1 |
| Recall[Y]. | This recalls the preset command [Y]. | Recall From F1 |
| Clear[Y]. | This clears the preset command [Y]. | Clear F1 |

CM-MT8810-BT-70 8x8 70m HDBaseT matrix switches

| Command Codes | Functions | Feedback Examples |
|---------------------------|---|---|
| System Commands | | |
| /*Type; | This finds the model information. | CM-MT8810-BT-70 |
| /%Lock; | This locks the front panel buttons on the Matrix. | System Locked! |
| /%Unlock; | This unlocks the front panel buttons on the Matrix. | System Unlock! |
| /^Version; | This finds the firmware version. | V1.3.2 |
| /:MessageOff; | This turns off the COM port feedback command. | /:MessageOff; |
| /:MessageOn; | This turns on the COM port feedback command. | /:MessageOn; |
| Demo. | This switches to the “demo” mode. The switching interval is two seconds. | Demo Mode |
| Undo. | This cancels the previous operation. | Undo Ok! |
| Operation Commands | | |
| [x]All. | This transfers signals from the input channel [x] to all of the output channels. | 1 To All. |
| All#. | This transfers all input signals to the corresponding output channels. | All Through. |
| All\$. | This switches off all of the output channels. | All Closed. |
| [x]#. | This transfers signals from the input channel [x] to the output channel [x]. | 1 Through. |
| [x]\$. | This switches off the output channel [x]. | 1 Closed. |
| [x]@. | This switches on the output channel [x]. | 1 Open. |
| All@. | This switches on all of the output channels. | All Open. |
| [x1] V[x2]. | This transfers the video signal from the input channel [x1] to the output channel [x2]. | AV: 1-> 1 |
| [x1] B[x2]. | This transfers the AV and IR signals from the input channel [x1], to the output channel [x2]. | AV: 1-> 1 |
| Status[x] | This checks the status of the output channel [x]. | AV: 1-> 1 |
| Status. | This sets the input channels to their output channels one by one. | AV: 1-> 1 AV: 1-> 1 AV: 2-> 2 AV: 3-> 3 AV: 4-> 4 |
| Save[Y]. | This saves the present operation to the preset command [Y]. It ranges from 0 to 9. | Save To F1 |
| Recall[Y]. | This recalls the preset command [Y]. | Recall From F1 |
| Clear[Y]. | This clears the preset command [Y]. | Clear F1 |

| Command Codes | Functions | Feedback Examples |
|-------------------|---|------------------------------|
| PWON. | This enables normal mode. | PWON |
| PWOFF. | This enables standby mode and cuts off the power supply to the HDBaseT receivers. | PWOFF |
| STANDBY. | This enables standby mode. It does not cut off the power supply to the HDBaseT receivers. However, it does allow use of other buttons and allows other commands to start. | STANDBY |
| /%[Y]/[X]:[Z]. | <p>HDCP management command.</p> <p>[Y] represents the input (value: I) or output (value: O).</p> <p>[X] represents the number of the port. If the value of X is ALL, it means all ports.</p> <p>[Z] represents the working status (value: 1 or 0).</p> <ul style="list-style-type: none"> • Y=I & Z=1, means the input port is with HDCP. • Y=O & Z=1, means the output port is with HDCP. • Y=I & Z=0, means the input port is not with HDCP. • Y=O & Z=0, means the output port without HDCP. | /%I/ALL:0 |
| [x1] R[x2]. | This transfers the IR signal from the input channel [x1] to the output channel [x2]. | IR: 1-> 1 |
| DigitAudioON[x]. | <p>This enables the HDMI audio output of one port [x].</p> <ul style="list-style-type: none"> • X=1, 2, 3, 4, 5, 6, 7, 8, enable this port. • X=9, enable all eight ports. | DigitAudio ON with Output 4 |
| DigitAudioOFF[x]. | <p>This disables the HDMI audio output of port x.</p> <ul style="list-style-type: none"> • X=1, 2, 3, 4, 5, 6, 7, 8, disable one port. • X=9, disable all eight ports. | DigitAudio OFF with Output 4 |

| Command Codes | Functions | Feedback Examples |
|------------------|---|-------------------|
| /+[Y]/[X].*****. | <p data-bbox="505 216 971 275">Set communication between the PC and the HDBaseT receiver.</p> <p data-bbox="505 306 971 396">1. Y is the RS232 port. It connects with the RS232 port of the HDBaseT receiver.</p> <p data-bbox="505 428 971 455">Value = 1,2,3,4,5,6,7,8,A,B,C,D,E,F,G or H</p> <p data-bbox="505 487 971 577">The value of Y is defined in the following ways (in a given baud rate dependent by the value of X):</p> <ul style="list-style-type: none"> <li data-bbox="505 609 971 730">A. Y = 1, 2, 3,4,5,6,7, or 8. Send this command to the corresponding HDBaseT receiver to control a far-end device. <li data-bbox="505 735 971 825">B. Y = 9. Send this command to all HDBaseT receivers to control all of the far-end devices. <li data-bbox="505 829 971 856">C. Y = A, B, C, D, E, F, G or H. <li data-bbox="505 861 971 888">D. Y = I, J, K, L, M, N, O or P.s <p data-bbox="505 919 971 1157">For items C and D, send this command. It will be saved to the matrix switcher and taken to the corresponding HDBaseT receiver without action. Its command function will be effective almost immediately after sending the command PWON (for item C) or PWOFF (for item D).</p> <p data-bbox="505 1161 971 1434">Note: A & I are used for port 1. B & J are used for port 2. C & K are used for port 3. D & L are used for port 4. E & L are used for port 5. F & N are used for port 6. G & O are used for port 7. H & P are used for port 8.</p> <p data-bbox="505 1465 971 1738">2. X is the bound rate. Value ranges from 1 to 7. 1 is for 2400 2 for 4800 3 for 9600 4 for 19200 5 for 38400 6 for 57600 7 for 115200</p> <p data-bbox="505 1770 971 1797">3. ***** is for data (the max 48 Byte).</p> <p data-bbox="505 1829 971 1885">4. The symbol “.” is the end of one command.</p> | ***** |

| Command Codes | Functions | Feedback Examples |
|--------------------|--|---------------------------|
| EDIDH[x]B[y]. | <p>Study the EDID from the output port [x] to the input port [y].</p> <p>If the EDID data is effective and the audio part supports more than the PCM mode, force-set it to only support PCM mode. If the EDID data is not effective, then set it as initialized EDID data.</p> | EDIDH2B1 |
| EDIDPCM[x]. | This sets the audio of the input port [x] to the PCM format in the EDID database. | EDIDPCM01 |
| EDIDG[x]. | This gets the EDID data from the output port and displays the output port number [x]. | Displays Data |
| EDIDMInit. | This recovers the factory default EDID data. | EDIDMInit. |
| EDIDM[X]B[Y]. | Manually switches the EDID. Enables the input[Y] to study the EDID data of the output[X]. If the EDID data is not effective, then set it as initialized EDID data. | EDIDM03B01 |
| EDIDUpgrade[x]. | <p>Upgrades the EDID data using the RS232 port.</p> <p>[X] is the input port. When the value of X is 9, upgrade all input ports. When the switcher receives this command, it shows a message prompting you to send the EDID file (.bin file). Operations will be canceled after ten seconds. Cut off all connections of HDBaseT ports.</p> | Please send the EDID file |
| UpgradeIntEDID[x]. | <p>This selects the EDID data and upgrades the built-in EDID data. It supports four types of EDID data:</p> <ol style="list-style-type: none"> 1. 1080P, 2D, PCM2.0 2. 1080P, 2D, 5.1 (audio) 3. 1080P, 3D, PCM2.0 4. 1080P, 3D, 5.1 (audio) <p>[x] = 1, 2, 3 or 4</p> <p>When the switcher gets the command, it will show a message to send the EDID file (.bin file). Operations will be canceled after ten seconds.</p> | Please send the EDID file |
| EDID/[x]/[y]. | <p>Set the built-in EDID data of the input port [x] to [y].</p> <p>The value of [y] is 1, 2, 3, and 4. The EDID data types are same as mentioned above.</p> | EDID/02/01 |
| %0801. | Automatically the HDCP management. input and output is HDCP. | %0801 |

| Command Codes | Functions | Feedback Examples |
|----------------------|--|--|
| %0900. | This sets the infrared carrier following mode. | Carrier native |
| %0901. | This sets the infrared carrier enforcing mode. | Force carrier |
| %0911 | This resets to factory default. | Factory Default |
| %9951. | This checks the command sent by port 1 when it is PWON. | Port 1: NO Data |
| %9952. | This checks the command sent by port 2 when it is PWON. | Port 2: NO Data |
| %9953. | This checks the command sent by port 3 when it is PWON. | Port 3: NO Data |
| %9954. | This checks the command sent by port 4 when it is PWON. | Port 4: NO Data |
| %9955. | This checks the command sent by port 5 when it is PWON. | Port 5: NO Data |
| %9956. | This checks the command sent by port 6 when it is PWON. | Port 6: NO Data |
| %9957. | This checks the command sent by port 7 when it is PWON. | Port 7: NO Data |
| %9958. | This checks the command sent by port 8 when it is PWON. | Port 8: NO Data |
| %9941. | This checks the command sent by port 1 when it is PWOFF. | Port 1: NO Data |
| %9942. | This checks the command sent by port 2 when it is PWOFF. | Port 2: NO Data |
| %9943. | This checks the command sent by port 3 when it is PWOFF. | Port 3: NO Data |
| %9944. | This checks the command sent by port 4 when it is PWOFF. | Port 4: NO Data |
| %9945. | This checks the command sent by port 5 when it is PWOFF. | Port 5: NO Data |
| %9946. | This checks the command sent by port 6 when it is PWOFF. | Port 6: NO Data |
| %9947. | This checks the command sent by port 7 when it is PWOFF. | Port 7: NO Data |
| %9948. | This checks the command sent by port 8 when it is PWOFF. | Port 8: NO Data |
| %9961. | This checks the system locking status. | System Unlock! |
| %9962. | This checks the status in standby mode. | PWON /PWOFF |
| %9963. | This checks the working mode of the infrared carrier. | Carrier native/Force carrier |
| %9964. | This checks the IP address. | IP:192.168.0.178 |
| %9971. | This checks the connection status of the inputs. | In 1 2 3 4 Connect N Y Y Y In 5 6 7 8 Connect N Y Y Y |

| Command Codes | Functions | Feedback Examples |
|---------------|---|--|
| %9972. | This checks the connection status of the outputs. | Out 1 2 3 4 Connect N Y Y Y Out 5 6 7 8 Connect N Y Y Y |
| %9973. | This checks the HDCP status of the inputs. | In 1 2 3 4 HDCP N N Y Y In 5 6 7 8 HDCP N N Y Y |
| %9974. | This checks the HDCP status of the outputs. | Out 1 2 3 4 HDCP N N Y Y Out 5 6 7 8 HDCP N N Y Y |
| %9975. | This checks the switching status. | Out 1 2 3 4 In 1 2 3 4 Out 5 6 7 8 In 5 6 7 8 |
| %9976. | This checks the outputs resolution. | Resolution Out 1 0000x0000 Out 2 1920x1080 Out 3 1920x1080 Out 4 1920x1080 Out 5 0000x0000 Out 6 1920x1080 Out 7 1920x1080 Out 8 1920x1080 |
| %9977. | This checks the status of the digital audio of the output channels. | Out 1 2 3 4 Audio Y Y Y Y Out 5 6 7 8 Audio Y Y Y Y |
| %9978. | This checks the HDCP status of the input ports. | In 1 2 3 4 HDCPEN Y Y Y Y In 5 6 7 8 HDCPEN Y Y Y Y |

CM-MT4410-BT-70 4x4 HDBaseT matrix switches

| Command Codes | Functions | Feedback Examples |
|---------------------------|--|-------------------|
| System Commands | | |
| /*Type; | This finds the model information. | CM-MT4410-HD |
| /%Lock; | This locks the front panel buttons on the Matrix. | System Locked! |
| /%Unlock; | This unlocks the front panel buttons on the Matrix. | System Unlock! |
| /^Version; | This finds the firmware version. | V1.1.4 |
| /:MessageOff; | This turns off the COM port feedback command. | /:MessageOff; |
| /:MessageOn; | This turns on the COM port feedback command. | /:MessageOn; |
| Demo. | This switches to the “demo” mode. The switching interval is two seconds. | Demo Mode |
| Undo. | This cancels the previous operation. | Undo Ok! |
| Operation Commands | | |
| [x]All. | This transfers signals from the input channel [x] to all of the output channels. | 1 To All. |
| All#. | This transfers all input signals to the corresponding output channels. | All Through. |
| All\$. | This switches off all of the output channels. | All Closed. |
| [x]#. | This transfers signals from the input channel [x] to the output channel [x]. | 1 Through. |
| [x]\$. | This switches off the output channel [x]. | 1 Closed. |
| [x]@. | This switches on the output channel [x]. | 1 Open. |
| All@. | This switches on all output channels. | All Open. |
| [x1] V[x2]. | This transfers the AV signal from the input channel [x1] to the output channel [x2]. | AV: 1-> 2 |
| [x1] B[x2]. | This transfers the AV and IR signals from the input channel [x1] to the output channel [x2]. | AV: 1-> 2 |
| Status. | This changes the input channel to the output channels one by one. | AV: 1-> 1 |
| Save[X]. | This saves the present operation to the preset command [X]. It ranges from 0 to 9. | Save To F1 |
| Recall[Y]. | This recalls the preset command [Y]. | Recall From F1 |
| Clear[Y]. | This clears the preset command [Y]. | Clear F1 |
| PWON. | Running in normal mode. | PWON |
| PWOFF. | This enters standby mode and stops the power supply to HDBaseT receivers. | PWOFF |
| STANDBY. | This commences standby mode. | STANDBY |

| Command Codes | Functions | Feedback Examples |
|-------------------|--|------------------------------|
| /%[Y]/[X]:[Z]. | <p>The HDCP management commands follow:</p> <p>[Y] represents the input (value: I) or the output (value: O).</p> <p>[X] represents the number of one port. If the value of X is ALL, it means all ports instead of just one.</p> <p>[Z] represents the working status (value: 1 or 0).</p> <ul style="list-style-type: none"> • Y=I & Z=1, means the input port is compliant with HDCP. • Y=O & Z=1, means output with HDCP. • Y=I & Z=0, means the input port is not compliant with HDCP. • Y=O & Z=0, means output without HDCP. | /%/ALL:0. |
| [x1] R[x2]. | This transfer the IR signal from the input channel [x1] to the output channel [x2]. | 01R01 |
| DigitAudioON[x]. | <p>This enables the HDMI audio output of the port [x].</p> <ul style="list-style-type: none"> • X=1, 2, 3, 4, enable this one port. • X=5, enable all the 4 ports. | DigitAudio ON with Output 4 |
| DigitAudioOFF[x]. | <p>This disables the HDMI audio output of the port [x].</p> <ul style="list-style-type: none"> • X=1, 2, 3, 4, disable this one port. • X=5, disable all the 4 ports. | DigitAudio OFF with Output 4 |

| Command Codes | Functions | Feedback Examples |
|------------------|--|-------------------|
| /+[Y]/[X].*****. | <p>This sets the communication between the PC and the HDBaseT receiver.</p> <ol style="list-style-type: none"> 1. Y is the RS232 port. It connects with the RS232 port of the HDBaseT receiver. Value = 1,2,3,4,5,A,B,C,D,E,F,G or H <p>The value of Y is defined in the following ways (in a given baud rate depended by the value of X):</p> <ol style="list-style-type: none"> A. Y = 1, 2, 3 or 4, Send this command to the corresponding HDBaseT receiver to control the far-end device. B. Y = 5, Send this command to all of the HDBaseT receivers to control all far-end devices. C. Y = A, B, C or D D. Y = E, F, G or H <p>For items C and D, send this command. It will be saved to MHD44TP and taken to the corresponding HDBaseT receiver without action. Its command function will be effective almost immediately after sending the command PWON (for item C) or PWOFF (for item D).</p> <p>Note: A & E are for port 1. B & F are for port 2. C & G are for port 3. D & H are for port 4.</p> <ol style="list-style-type: none"> 2. X is the bound rate. The value ranges from 1 to 7. 1 is for 2400 2 for 4800 3 for 9600 4 for 19200 5 for 38400 6 for 57600 7 for 115200 3. ***** is for the data (max 48 Byte). 4. The symbol “.” is the end of one command | ***** |
| EDIDH[x]B[y]. | <p>Copy the EDID from the output port [x] to the input port [y].</p> <p>If the EDID data is effective and the audio part supports more than the PCM mode, force-set it to only support PCM mode. If the EDID data is not effective, then set it as initialized EDID data.</p> | EDIDH01B01 |
| EDIDPCM[x]. | <p>This sets the audio part of input port [x] to PCM format in the EDID database.</p> | EDIDPCM01 |

| Command Codes | Functions | Feedback Examples |
|--------------------|---|---------------------------|
| EDIDG[x]. | This gets the EDID data from the output and displays the output port number [x]. | |
| EDIDMInit. | This recovers the factory default EDID data. | EDIDMInit. |
| EDIDM[X]B[Y]. | This manually switches the EDID. It copies the EDID data of output[X] to the input[Y]. | EDIDM03B01 |
| EDIDUpgrade[x]. | Upgrade the EDID data using the RS232 port. [x] is the input port. When the value of x is 5, it upgrade all input ports. When the switcher gets this command, it will show a message to send the EDID file (.bin file). Operations will be canceled after ten seconds. Note: Please cut off all connections to HDBaseT ports. | Please send the EDID file |
| UpgradeIntEDID[x]. | This selects the EDID data and upgrades the built-in EDID data. It supports four types of EDID data: <ol style="list-style-type: none"> 1. 1080P, 2D, PCM2.0 2. 1080P, 2D, 5.1 (audio) 3. 1080P, 3D, PCM2.0 4. 1080P, 3D, 5.1 (audio) [x] = 1, 2, 3 or 4 When the switcher gets the command, it will show a message to send EDID file (.bin file). Operations will be canceled after ten seconds. | Please send the EDID file |
| EDID/[x]/[y]. | Set the built-in EDID data of the input port [x] to the type [y]. The value of [y] is 1, 2, 3, and 4. The EDID data types are the same as mentioned above. | EDID/02/01 |
| %0801. | Automatically the HDCP management input and output is HDCP. | %0801. |
| %0900. | This sets the infrared carrier following mode. | Carrier native |
| %0901. | This sets the infrared carrier enforcing mode. | Force carrier |
| %0911. | This resets to the factory default. | Factory Default |
| %9951. | This checks the command sent by port 1 when it is PWON. | Port 1: NO Data |
| %9952. | This checks the command sent by port 2 when it is PWON. | Port 2: NO Data |
| %9953. | This checks the command sent by port 3 when it is PWON. | Port 3: NO Data |
| %9954. | This checks the command sent by port 4 when it is PWON. | Port 4: NO Data |
| %9955. | This checks the command sent by port 1 when it is PWOFF. | Port 1: NO Data |
| %9956. | This checks the command sent by port 2 when it is PWOFF. | Port 2: NO Data |
| %9957. | This checks the command sent by port 3 when it is PWOFF. | Port 3: NO Data |
| %9958. | This checks the command sent by port 4 when it is PWOFF. | Port 4: NO Data |

| Command Codes | Functions | Feedback Examples |
|---------------|---|--|
| %9961. | This checks the systems locking status. | PWON /PWOFF |
| %9962. | This checks the status in standby mode. | System Unlock! |
| %9963. | This checks the working mode of infrared carrier. | PWON/PWOFF |
| %9964. | This checks the IP address. | IP:192.168.0.178 |
| %9971. | This checks the connection status of the inputs. | In 1 2 3 4 Connect N N N N |
| %9972. | This checks the connection status of the outputs. | Out 1 2 3 4 Connect Y N N N |
| %9973. | This checks the HDCP status of the inputs. | In 1 2 3 4 HDCP N N N N |
| %9974. | This checks the HDCP status of the outputs. | Out 1 2 3 4 HDCP N N N N |
| %9975. | This checks the switching status. | Out 1 2 3 4 In 1 2 3 4 |
| %9976. | This checks the output resolution. | Resolution Out 1 0000x0000 Out 2 1920x1080 Out 3 1920x1080 Out 4 1920x1080 |
| %9977. | This checks the status of digital audio to output channels. | Out 1 2 3 4 Audio Y Y Y Y |
| %9978. | This checks the HDCP status of the input ports. | In 1 2 3 4 HDCPEN Y Y Y Y |

CM-MT4420-HD 4x4 HDMI matrix switches

| Command Codes | Functions | Feedback Examples |
|------------------------|--|-------------------|
| System Commands | | |
| /*Type; | This finds the model information | CM-MT4420-HD |
| /%Lock; | This locks the front panel buttons on the Matrix. | System Locked! |
| /%Unlock; | This unlocks the front panel buttons on the Matrix. | System Unlock! |
| /^Version; | This finds the firmware version. | V1.1.4 |
| /:MessageOff; | This turns off the COM port feedback command. | /:MessageOff; |
| /:MessageOn; | This turns on the COM port feedback command. | /:MessageOn; |
| Demo. | This switches to the “demo” mode. The switching interval is two seconds. | Demo Mode |
| Undo. | This cancels the previous operation. | Undo Ok! |

| Command Codes | Functions | Feedback Examples |
|---------------------------|--|-------------------|
| Operation Commands | | |
| [x]All. | This transfers signals from the input channel [x] to all output channels | 1 To All. |
| All#. | This transfers all input signals to the corresponding output channels. | All Through. |
| All\$. | This switches off all of the output channels. | All Closed. |
| [x]#. | This transfers signals from the input channel [x] to the output channel [x]. | 1 Through. |
| [x]\$. | This switches off the output channel [x]. | 1 Closed. |
| [x]@. | This switches on the output channel [x]. | 1 Open. |
| All@. | This switches on all output channels. | All Open. |
| [x1] V[x2]. | This transfers the AV signal from the input channel [x1] to the output channel [x2]. | AV: 1-> 1 |
| [x1] B[x2]. | This transfers the AV and IR signals from the input channel [x1] to the output channel [x2]. | AV: 1-> 1 |
| Status. | This sets the input channels to their output channels individually. | AV: 1-> 1 |
| Save[X]. | This saves the present operation to the preset command [X]. It ranges from 0 to 9. | Save To F1 |
| Recall[Y]. | This recalls the preset command [Y]. | Recall From F1 |
| Clear[Y]. | This clears the preset command [Y]. | Clear F1 |
| PWON. | This enables normal mode. | PWON |
| PWOFF. | This enters in standby mode and cuts off the power supply to the HDBaseT receivers. | PWOFF |
| STANDBY. | This enables standby mode. | STANDBY |

| Command Codes | Functions | Feedback Examples |
|-------------------|--|------------------------------|
| /%[Y]/[X]:[Z]. | <p>HDCP management command.</p> <p>[Y] represents the input (value: I) or output (value: O).</p> <p>[X] represents the number of one port. If the value of X is ALL, it means all ports.</p> <p>[Z] represents the working status (value: 1 or 0).</p> <ul style="list-style-type: none"> • Y=I & Z=1, means the input port is compliant with the HDCP. • Y=O & Z=1, means output port is compliant with the HDCP. • Y=I & Z=0, means the input port is not compliant with HDCP. • Y=O & Z=0, means the output is not compliant with the HDCP. | /%/ALL:0. |
| [x1] R[x2]. | This transfers the IR signal from the input channel [x1] to the output channel [x2]. | 01R01 |
| DigitAudioON[x]. | <p>This enables the HDMI audio output of the port [x].</p> <ul style="list-style-type: none"> • X=1, 2, 3, 4, enable one port. • X=5, enable all of the four ports. | DigitAudio ON with Output 4 |
| DigitAudioOFF[x]. | <p>This disables the HDMI audio output of the port [x].</p> <ul style="list-style-type: none"> • X=1, 2, 3, 4, disable one port. • X=5, disable all of the four ports. | DigitAudio OFF with Output 4 |

| Command Codes | Functions | Feedback Examples |
|------------------|--|-------------------|
| /+[Y]/[X].*****. | Set communication between the PC and the HDBaseT receiver. | ***** |
| | <p>1. Y is the RS232 port. It connects with the RS232 port of the HDBaseT receiver.</p> | |
| | <p>Value = 1,2,3,4,5,A,B,C,D,E,F,G or H</p> | |
| | <p>The value of Y is defined in the following ways (in a given baud rate depended by the value of X):</p> | |
| | <p>A. Y = 1, 2, 3 or 4. Send this command to the corresponding HDBaseT receiver to control the far-end device.</p> <p>B. Y = 5. Send this command to all of the HDBaseT receivers to control all of the far-end devices.</p> <p>C. Y = A, B, C or D</p> <p>D. Y = E, F, G or H</p> | |
| | <p>For items C or D, send this command. It will be saved to the MHD44TP and taken to the corresponding HDBaseT receiver without action. Its command function will be effective almost immediately after sending the command PWON (for item C) or PWOFF (for item D).</p> | |
| | <p>Note:</p> <p>A & E are for port 1. B & F are for port 2. C & G are for port 3. D & H are for port 4.</p> | |
| | <p>2. X is the bound rate. The value ranges from 1 to 7. 1 is for 2400 2 for 4800 3 for 9600 4 for 19200 5 for 38400 6 for 57600 7 for 115200)</p> | |
| | <p>3. ***** is for data (max 48 Byte)</p> | |
| | <p>4. The symbol “.” is the end of one command.</p> | |

| Command Codes | Functions | Feedback Examples |
|--------------------|--|---------------------------|
| EDIDH[x]B[y]. | <p>This copies the EDID from the output port [x] to the input port [y].</p> <p>If the EDID data is effective and the audio part supports more than the PCM mode, force-set it to only the PCM mode. If the EDID data is not effective, then set it as initialized EDID data.</p> | EDIDH01B01 |
| EDIDPCM[x]. | This sets the audio part of input port [x] to the PCM format in the EDID database. | EDIDPCM01 |
| EDIDG[x]. | This obtains the EDID data from the output and displays the output port number [x]. | |
| EDIDMInit. | This recovers the factory default EDID data. | EDIDMInit. |
| EDIDM[X]B[Y]. | This manually switches the EDID. It copies the EDID data of the output [X] to the input [Y]. | EDIDM03B01 |
| EDIDUpgrade[x]. | <p>This upgrade the EDID data using the RS232 port.</p> <p>[x] is the input port. When the value of x is 5, upgrade all of the input ports. When the switcher gets the command, it will display a message to send to the EDID file (.bin file). Operations will be canceled after ten seconds.</p> <p>Note: Please cut off all connections to the HDBaseT ports.</p> | Please send the EDID file |
| UpgradeIntEDID[x]. | <p>Selects the EDID data and upgrade the built-in EDID data. It supports four types of EDID data:</p> <ol style="list-style-type: none"> 1. 1080P, 2D, PCM2.0 2. 1080P, 2D, 5.1 (audio) 3. 1080P, 3D, PCM2.0 4. 1080P, 3D, 5.1 (audio) <p>[x] = 1, 2, 3 or 4</p> <p>When the switcher gets the command, it will show a message to send the EDID file (.bin file). Operations will be canceled after ten seconds.</p> | Please send the EDID file |

| | | |
|---------------|--|--------------------------------|
| EDID/[x]/[y]. | Set the built-in EDID data of the input port [x] to type [y]. The value of [y] is 1, 2, 3, or 4. The EDID data types are the same as mentioned above. | EDID/02/01 |
| %0801. | Automatic HDCP management. If the input is HDCP, the output it HDCP. | %0801. |
| %0900. | This sets as infrared carrier following mode. | Carrier native |
| %0901. | This sets the infrared carrier enforcing mode. | Force carrier |
| %0911. | This resets to factory default. | Factory Default |
| %9951. | This checks the command sent by port 1 when in PWON. | Port 1: NO Data |
| %9952. | This checks the command sent by port 2 when in PWON. | Port 2: NO Data |
| %9953. | This checks the command sent by port 3 when in PWON. | Port 3: NO Data |
| %9954. | This checks the command sent by port 4 when in PWON. | Port 4: NO Data |
| %9955. | This checks the command sent by port 1 when in PWOFF. | Port 1: NO Data |
| %9956. | This checks the command sent by port 2 when in PWOFF. | Port 2: NO Data |
| %9957. | This checks the command sent by port 3 when in PWOFF. | Port 3: NO Data |
| %9958. | This checks the command sent by port 4 when in PWOFF. | Port 4: NO Data |
| %9961. | This checks the systems locking status. | PWON /PWOFF |
| %9962. | This checks the status in standby mode. | System Unlock! |
| %9963. | This checks the working mode of the infrared carrier. | PWON/PWOFF |
| %9964. | This checks the IP address. | IP:192.168.1.1 |
| %9971. | This checks the connection status of the inputs. | In 1 2 3 4 Connect N N N N |
| %9972. | This checks the connection status of the outputs. | Out 1 2 3 4 Connect Y N N N |
| %9973. | This checks the HDCP status of the inputs. | In 1 2 3 4 HDCP N N N N |
| %9974. | This checks the HDCP status of the outputs. | Out 1 2 3 4 HDCP N N N N |
| %9975. | This checks the switching status. | Out 1 2 3 4 In 1 2 3 4 |

| | | |
|--------|---|--|
| %9976. | This checks the output resolution. | Resolution Out 1 0000x0000 Out 2 1920x1080 Out 3 1920x1080 Out 4 1920x1080 |
| %9977. | This checks the status of the digital audio of the output channels. | Out 1 2 3 4 Audio Y Y Y Y |
| %9978. | This checks the HDCP status of the input ports. | In 1 2 3 4 HDCPEN Y Y Y Y |

IR hex codes

| Functions | Hex Codes |
|------------------------|--|
| Input 1 to Global(All) | 0000 006C 0022 0002 015B 00AD 0016 0016 0016 0016 0016 0016 0016 0016 0016 0016 0016 0016 0016 0041 0016 0016 0016 0041 0016 0041 0016 0041 0016 0041 0016 0041 0016 0041 0016 0041 0016 0041 0016 0041 0016 0016 0016 0041 0016 0016 0016 0041 0016 0041 0016 0041 0016 0016 0016 0016 0016 0041 0016 0016 0016 0041 0016 0016 0016 0016 0016 0016 0016 0041 0016 05CB 015B 0057 0016 0E6C |
| Input 2 to Global(All) | 0000 006C 0022 0002 015B 00AD 0016 0016 0016 0016 0016 0016 0016 0016 0016 0016 0016 0016 0016 0041 0016 0016 0016 0041 0016 0041 0016 0041 0016 0041 0016 0041 0016 0041 0016 0041 0016 0041 0016 0041 0016 0016 0016 0016 0016 0016 0016 0041 0016 0016 0016 0016 0016 0016 0016 0016 0016 0041 0016 0041 0016 0041 0016 0016 0016 0041 0016 0041 0016 0041 0016 05CB 015B 0057 0016 0E6C |
| Input 3 to Global(All) | 0000 006C 0022 0002 015B 00AD 0016 0016 0016 0016 0016 0016 0016 0016 0016 0016 0016 0016 0016 0041 0016 0016 0016 0041 0016 0041 0016 0041 0016 0041 0016 0041 0016 0041 0016 0041 0016 0041 0016 0016 0016 0016 0016 0041 0016 0016 0016 0041 0016 0041 0016 0041 0016 0016 0016 0041 0016 0041 0016 0016 0016 0041 0016 0016 0016 0016 0016 0016 0016 0041 0016 05CB 015B 0057 0016 0E6C |
| Input 4 to Global(All) | 0000 006C 0022 0002 015B 00AD 0016 0016 0016 0016 0016 0016 0016 0016 0016 0016 0016 0016 0016 0041 0016 0016 0016 0041 0016 0041 0016 0041 0016 0041 0016 0041 0016 0041 0016 0041 0016 0041 0016 0041 0016 0041 0016 0016 0016 0016 0016 0041 0016 0041 0016 0041 0016 0016 0016 0016 0016 0016 0016 0041 0016 0041 0016 0016 0016 0016 0016 0016 0016 0041 0016 05CB 015B 0057 0016 0E6C |
| Input 5 to Global(All) | 0000 006C 0022 0002 015B 00AD 0016 0016 0016 0016 0016 0016 0016 0016 0016 0016 0016 0016 0016 0041 0016 0016 0016 0041 0016 0041 0016 0041 0016 0041 0016 0041 0016 0041 0016 0041 0016 0041 0016 0016 0016 0016 0016 0041 0016 0016 0016 0041 0016 0016 0016 0016 0016 0016 0016 0041 0016 0041 0016 0016 0016 0041 0016 0016 0016 0041 0016 0041 0016 0041 0016 05CB 015B 0057 0016 0E6C |
| Input 6 to Global(All) | 0000 006C 0022 0002 015B 00AD 0016 0016 0016 0016 0016 0016 0016 0016 0016 0016 0016 0016 0016 0041 0016 0016 0016 0041 0016 0041 0016 0041 0016 0041 0016 0041 0016 0041 0016 0041 0016 0041 0016 0016 0016 0016 0016 0016 0016 0041 0016 0041 0016 0016 0016 0016 0016 0016 0016 0041 0016 0041 0016 0041 0016 0016 0016 0016 0016 0041 0016 0041 0016 0041 0016 05CB 015B 0057 0016 0E6C |

| | |
|------------------------|--|
| Input 8 to Output 6 | 0000 006C 0022 0002 015B 00AD 0016 0016 0016 0016 0016 0016 0016 0016 0016 0016 0016 0016 0016 0041 0016 0016 0016 0041 0016 0041 0016 0041 0016 0041 0016 0041 0016 0041 0016 0041 0016 0041 0016 0041 0016 0041 0016 0041 0016 0041 0016 0041 0016 0016 0016 0041 0016 0016 0016 0016 0016 0016 0016 0016 0016 0016 0016 0016 0016 0041 0016 0016 0016 0041 0016 05CB 015B 0057 0016 0E6C |
| Input 8 to Output 7 | 0000 006C 0022 0002 015B 00AD 0016 0016 0016 0016 0016 0016 0016 0016 0016 0016 0016 0016 0016 0041 0016 0016 0016 0041 0016 0041 0016 0041 0016 0041 0016 0041 0016 0041 0016 0041 0016 0041 0016 0041 0016 0016 0016 0016 0016 0016 0016 0016 0016 0041 0016 0041 0016 0016 0016 0016 0016 0041 0016 0041 0016 0041 0016 0041 0016 0016 0016 0016 0016 0041 0016 05CB 015B 0057 0016 0E6C |
| Input 8 to Output 8 | 0000 006C 0022 0002 015B 00AD 0016 0016 0016 0016 0016 0016 0016 0016 0016 0016 0016 0016 0016 0041 0016 0016 0016 0041 0016 0041 0016 0041 0016 0041 0016 0041 0016 0041 0016 0041 0016 0041 0016 0041 0016 0041 0016 0016 0016 0016 0016 0016 0016 0041 0016 0041 0016 0016 0016 0016 0016 0016 0016 0041 0016 0041 0016 0041 0016 0016 0016 0016 0016 0041 0016 05CB 015B 0057 0016 0E6C |

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