HX Series
Operations Manual

HDMI Matrix Routers
with
Analog & Digital Audio

This is a pre-release version of our new manual coming out soon. Some of the new RS-232 command pages may have errors. The matrix functions work properly but the manual may describe it incorrectly. If you have trouble getting a command to work, call us to ensure it is outlined in the manual correctly.

AVocation Systems
7130 W. 117th Ave.
Suite D-3
Broomfield, CO 80020
Ph: 303-410-6639
www.avocationsystems.com

Read all instructions before connecting or operating the A/V Matrix. Pay particular attention to the safety information. Keep this manual so you can refer to these safety instructions.

WARNING: There are no user serviceable parts inside. Refer all servicing to qualified service personnel.

WARNING: To reduce risk of fire or electric shock, do not expose the Matrix to extreme heat, extreme cold, moisture or water. Do not allow foreign objects to get into the enclosure. If the unit is exposed to moisture, or a foreign object gets into the enclosure, immediately disconnect the power cord from the wall. Take the unit to a qualified service person for inspection and the necessary repairs.

Clean the A/V Matrix only with a dry cloth or a vacuum cleaner. Do not use water, solvents, or any other liquid to clean the A/V Matrix.

Place the A/V Matrix on a fixed, level surface strong enough to support its weight. Keep the A/V Matrix away from heat sources such as radiators, heat registers, stoves, or any other appliance that produces heat.

The A/V Matrix from 90 to 250 VAC power sources It may also be operated from either 50 Hz or 60 Hz line frequencies. The unit is autosensing for power configuration.

Connect the A/V Matrix to the power outlet only with the supplied 3-prong grounded power supply cord or an exact equivalent. The cable should be connected to a properly grounded 3-conductor wall outlet. Do not modify the supplied cable in any way. Extension cords must be rated for adequate current.

Do not route the power cord where it can be crushed, pinched, bent at severe angles, exposed to heat, or damaged in any way. If the cord shows any sign of wear or damage, immediately stop using it and obtain a proper replacement from a qualified service agency or from the Convergent service department.

If the A/V Matrix shows signs of improper operation, or if it has been dropped or damaged in any way, immediately disconnect the power cord from the power outlet. Take the A/V Matrix to a qualified service technician or send it directly to Convergent for inspection and the necessary repairs.

Safety Instructions

1 **Read Instructions** - All the safety and operating instructions should be read before the appliance is operated.

CAUTION

RISK OF ELECTRICAL SHOCK
DO NOT OPEN

CAUTION: DO NOT REMOVE COVER.
NO USER SERVICABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED
SERVICE PERSONNEL.

2 **Retain Instructions** - The safety and operating instructions should be retained for future reference.

3 **Heed Warnings** - All warnings on the appliance and in the operating instructions should be adhered to.

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert you to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electrical shock to persons.

4 **Follow Instructions** - All operating and other instructions should be followed.

5 **Water and Moisture** - The appliance should not be used near water - for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, etc.

The exclamation point within an equilateral triangle is intended to alert you to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

6 **Carts and Stands** - The appliance should be used only with a cart or stand that is recommended by the manufacturer.

6A An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.

7 **Wall or Ceiling Mounting** - The appliance should be mounted to a wall or ceiling only as recommended by the manufacturer.

8 **Ventilation** - The appliance should be situated so that its location or position does not interfere with its proper ventalation. For example, the appliance should not be situated on a bed, sofa, rug, or similar surface, that may block the ventilation openings; or placed in a built-in installation, such as a bookcase or cabinet that may impede the flow of air through the ventilation openings.

9 **Heat** - The appliance should be situated away from heat sources such as radiators, stoves, or other appliances that produce heat.

10 **Power Sources** - The appliance should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.

11 Power-Cord Protection - Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, covenience receptacles, and the point where they exit from the appliance.

12 Cleaning - The appliance should be cleaned only as recommended by the manufacturer.

13 Nonuse Periods - The power cord of the appliance should be unplugged from the outlet when left unused for a long period of time.

14 Object and Liquid Entry - Care should be taken so that objects do not fall into and liquids are not spilled into the inside of the appliance.

15 Damage Requiring Service - The appliance should be serviced by qualified service personnel when:

A. The power-supply cord or the plug has been damaged.

B. Objects have fallen, or liquid has been spilled into the appliance.

C. The appliance has been exposed to rain.

D. The appliance does not appear to operate normally or exhibits a marked change in performance.

E. The appliance has been dropped, or the cabinet is damaged.

16 Servicing - The user should not attempt to service the appliance beyond those means described in the operating insturctions. All other serviing should be referred to qualified service personnel.

17 Power Lines - An outdoor antenna should be located away from power lines.

18 Grounding or Polarization - The precautions that should be taken so that the grounding or polarization is not defeated.

Be careful when unpacking the A/V Matrix. This electronic package is susceptible to dropping or holding heavy objects on top of it. Save the original package and all enclosed packing material in case the unit needs to be returned. Damage due to shipping in cartons other than the original package are not covered under the warranty.

Make sure you fill out and return the warranty card. This document along with the sales receipt will give you the purchase date in case the unit needs to be returned for repair under warranty service.

Any modifications or improper use of the A/V Matrix or the Matrix keypad will void the warranty. Please read all information and instructions concerning this system before installing.

For any questions or concerns about the A/V Matrix, please call Avocation Systems, Inc. We are happy to answer any questions you may have or any problems you may be experiencing. If you are unsure of any aspects of your installation please contact one of our technicians at (303) 410-6639 before you start your installation. Here at Avocation Systems, Inc. we will assist you in any way we can.

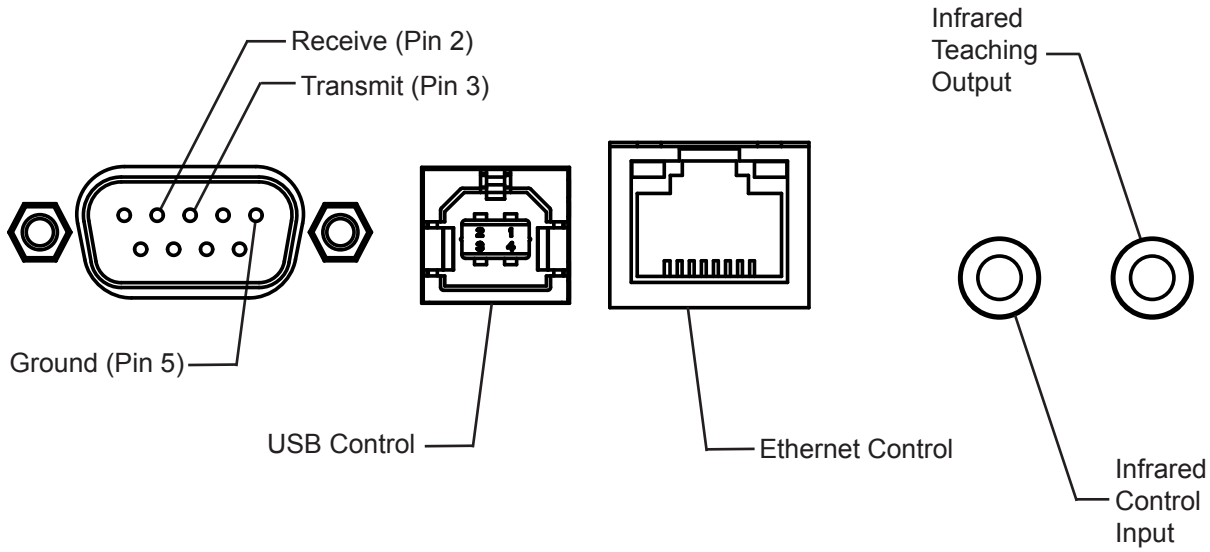
Please read this manual carefully and completely before operating the A/V Matrix. It gives details in operation, configurations, descriptions, adjustments, trouble shooting, problems, performance, and convenience of use.

Section C - Control Connections

The HX series of matrices can be controlled via RS-232, USB, Ethernet and infrared.

RS-232 Connections to the matrix use a null modem cable from the controller.
The default communications parameters are:

Baud Rate	19200 baud
Bits	8
Parity	None
Stop Bits	1



The default Ethernet connection is:

IP Address: 192.168.0.75
Port: 9760

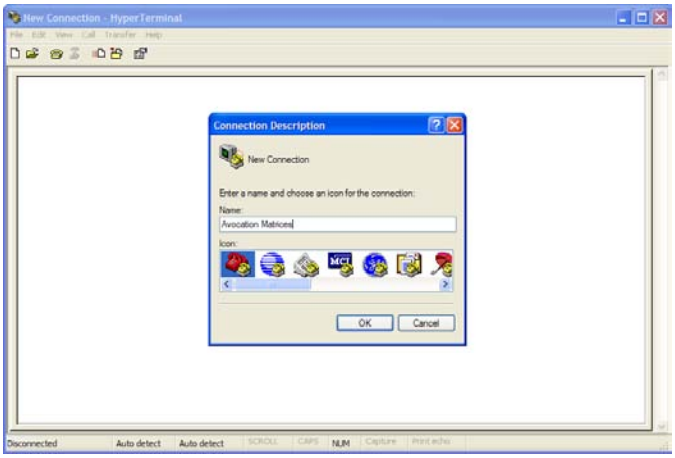
Using USB

The HX Series is controllable through the USB port of any PC. This connection is a standard serial port on the pc when connected. If you are using a Windows machine the

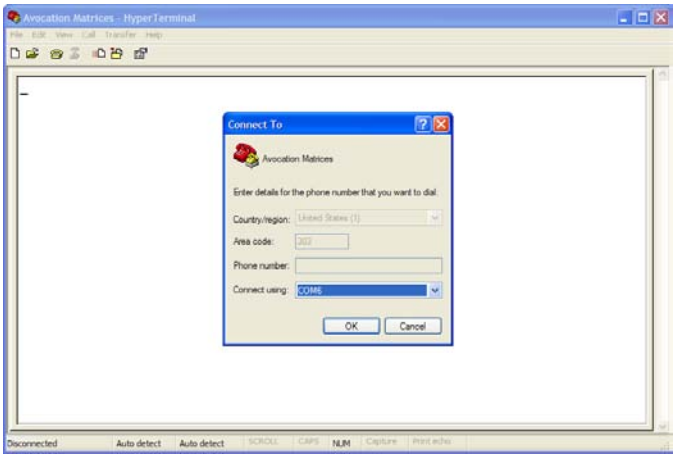
Using Windows Hyperterminal with Serial Connection

The HX Series is controllable through any terminal software such as Hyperterminal. The following setup can be used to allow communications to the HX unit.

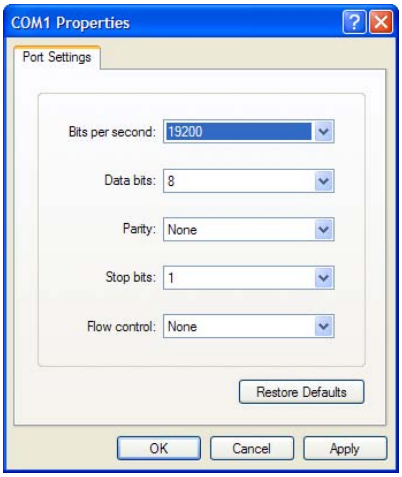
1) Open Hyperterminal under Accessories => Communications => Hyperterminal



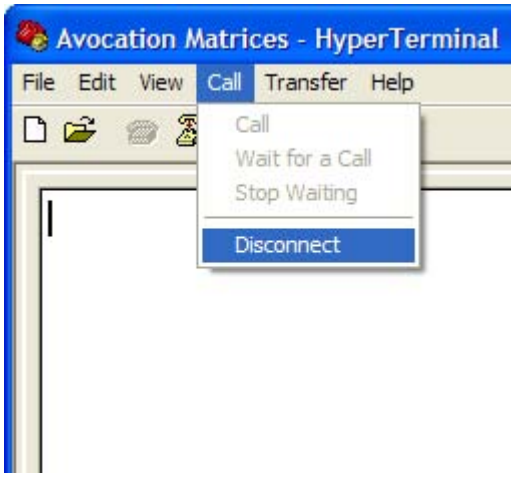
Provide a name for the connection and click OK.



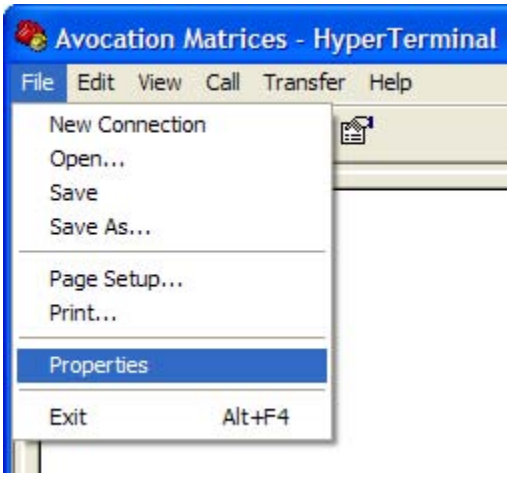
Select the COM port to use



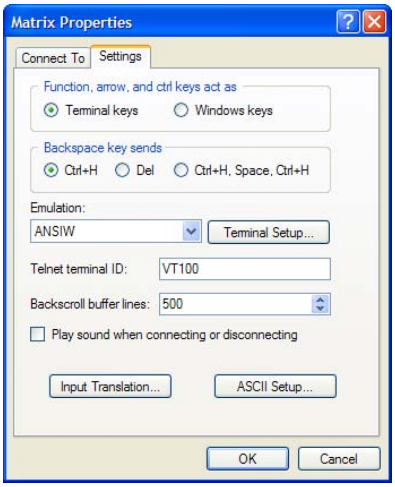
Select the COM properties



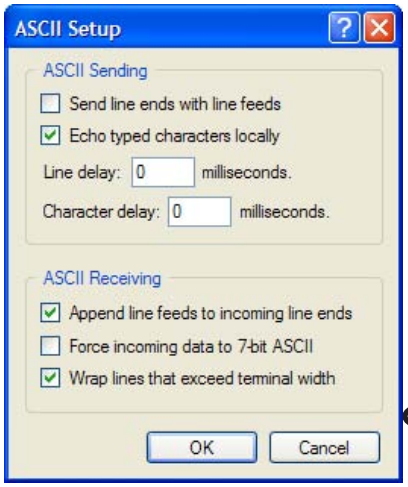
Disconnect



Select File => Properties

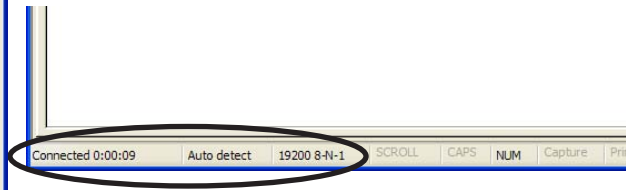


Select the Settings Tab
Select ASCII Setup



Check “Echo typed characters locally” and “Append line feeds to incoming line ends”

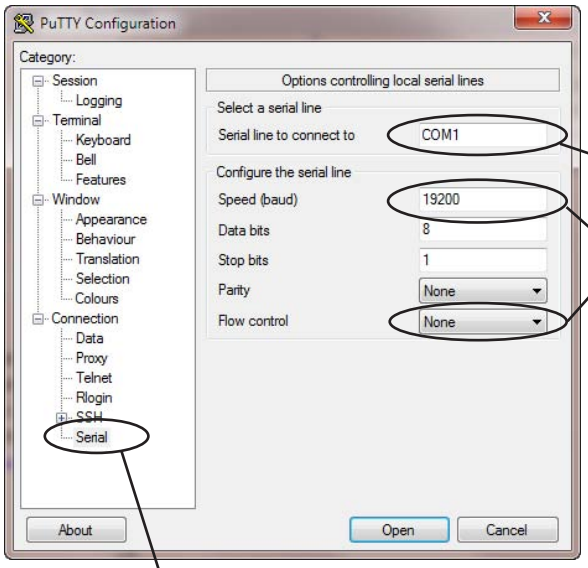
Select OK untill all the setup windows are closed.

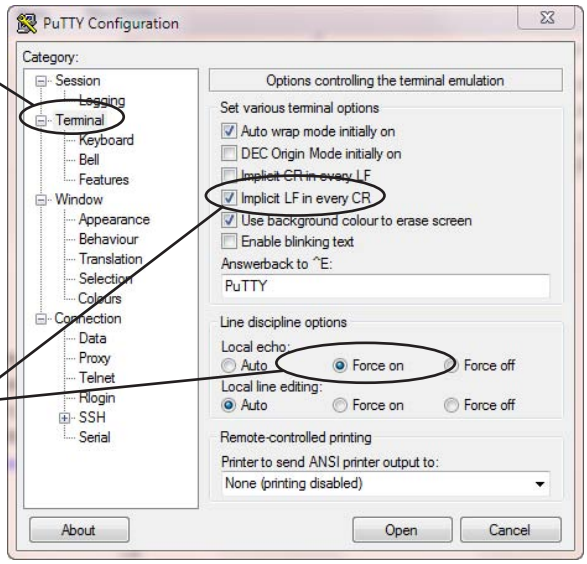


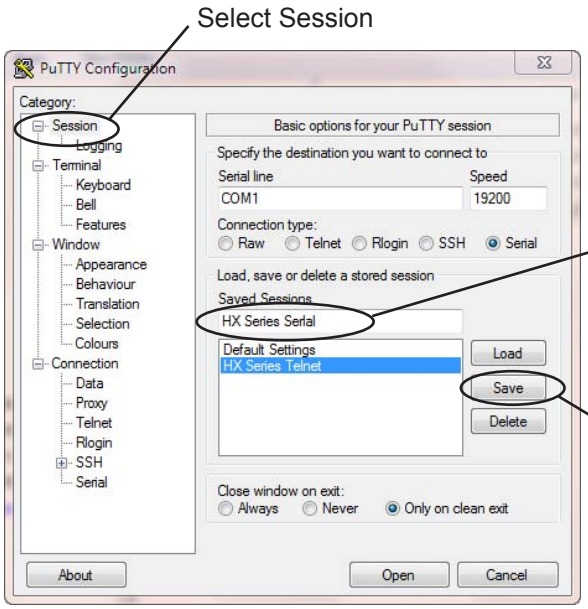
Hit “Enter” to make the connection.

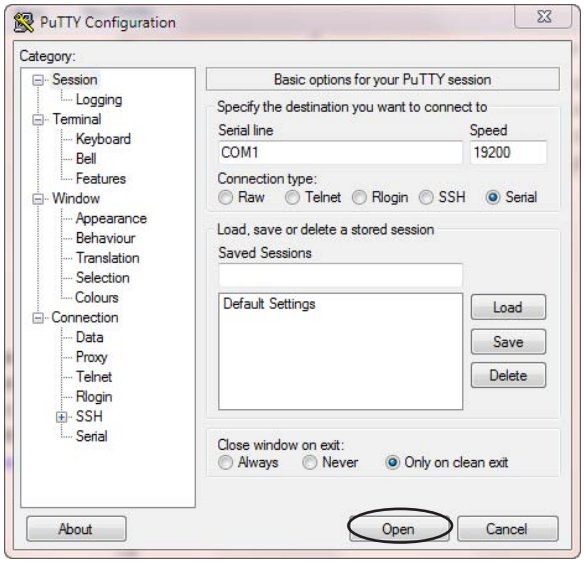
Using Putty with Serial Connection

The HX Series is controllable through any terminal software such as Putty. The following setup can be used to allow communications to the HX unit.





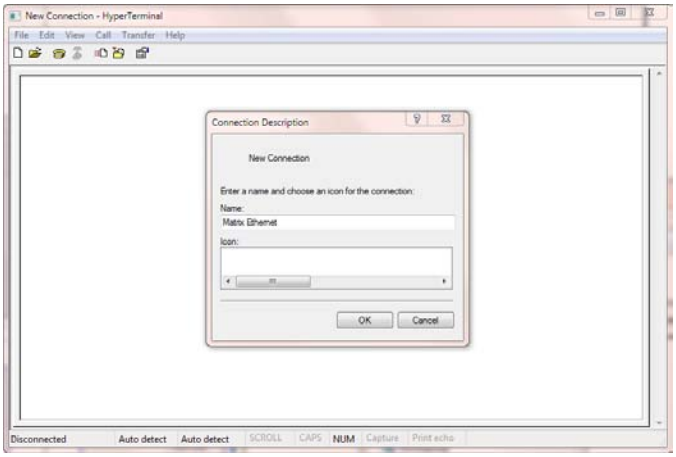




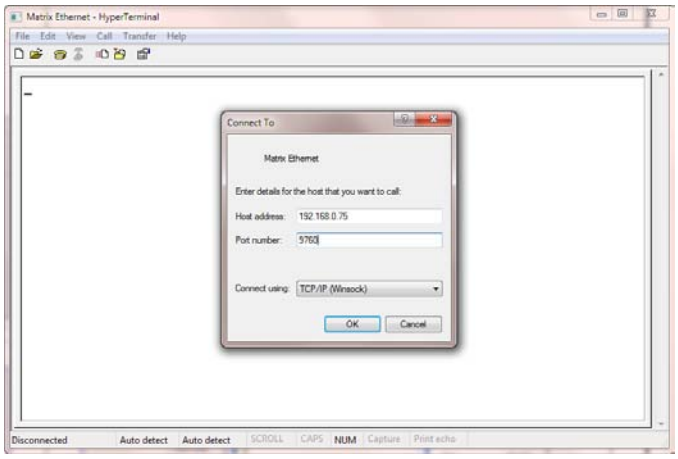
Using Windows Hyperterminal with Ethernet Connection

The HX Series is controllable through any terminal software such as Hyperterminal. The following setup can be used to allow communications to the HX unit.

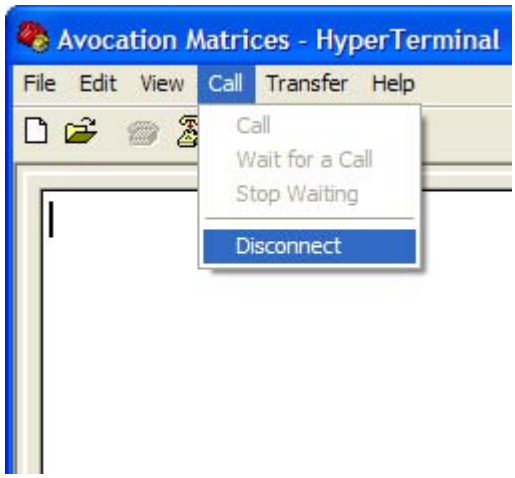
1) Open Hyperterminal under Accessories => Communications => Hyperterminal



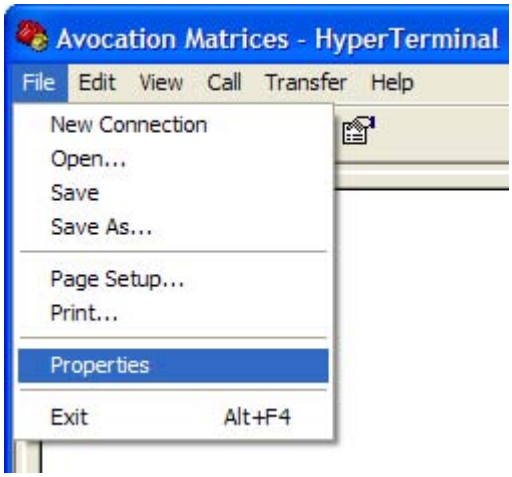
Provide a name for the connection and click OK.



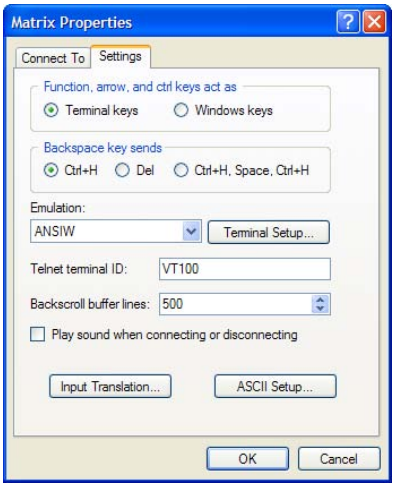
Enter the IP Address and port



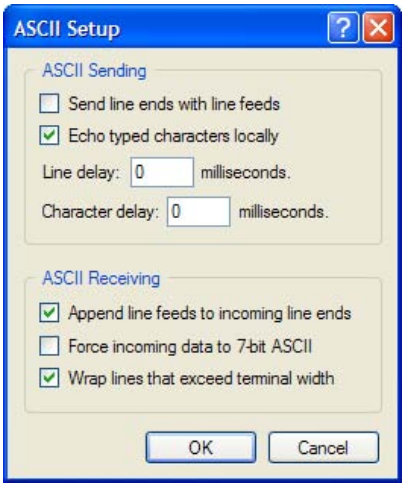
Disconnect



Select File => Properties

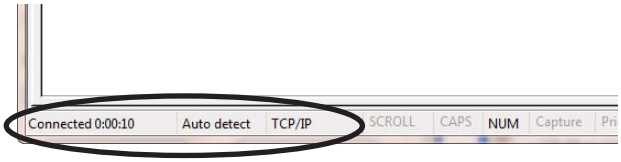


Select the Settings Tab
Select ASCII Setup



Check “Echo typed characters locally” and “Append line feeds to incoming line ends”

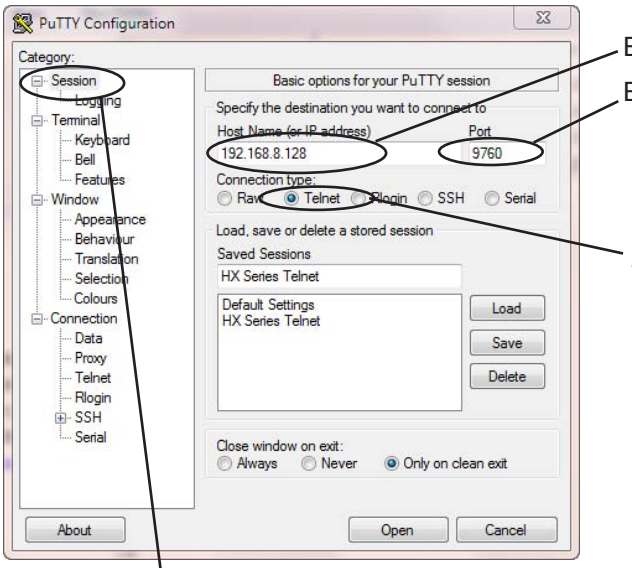
Select OK untill all the setup windows are closed.

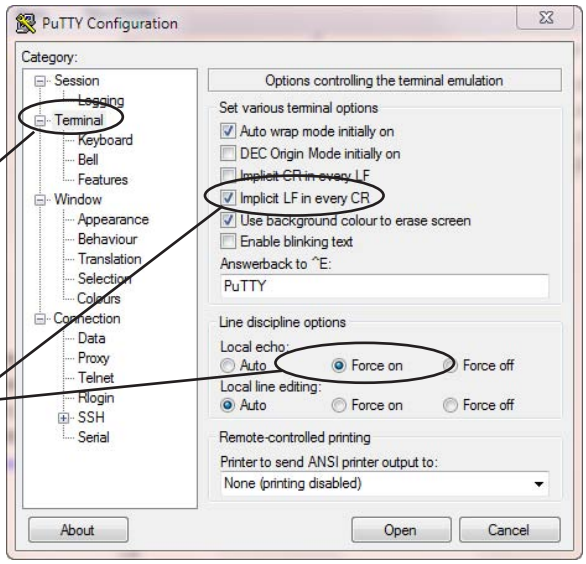


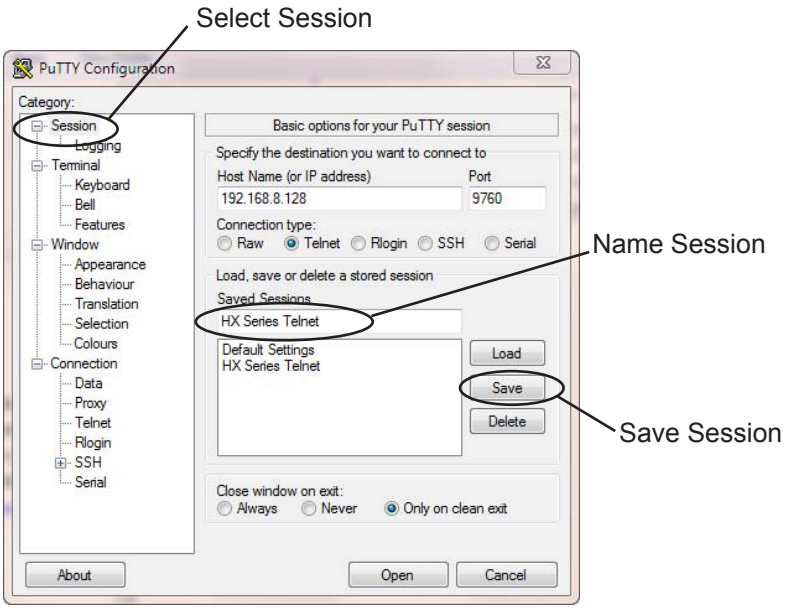
Hit “Enter” to make the connection.

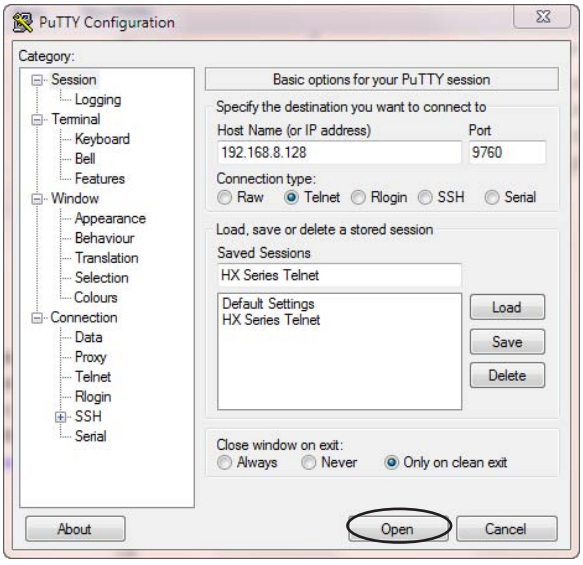
Using Putty with Ethernet Connection

The HX Series is controllable through any terminal software such as Putty. The following setup can be used to allow communications to the HX unit.





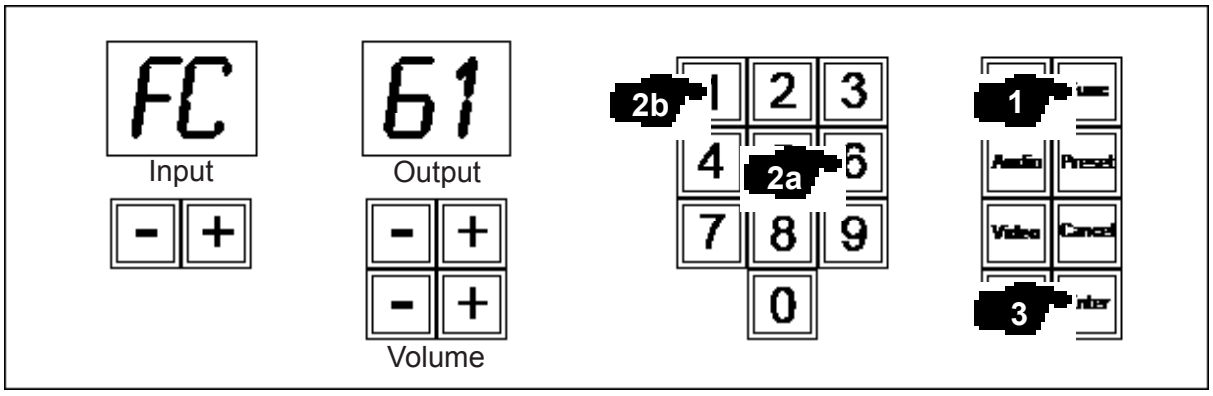




Changing the Units Baud Rate

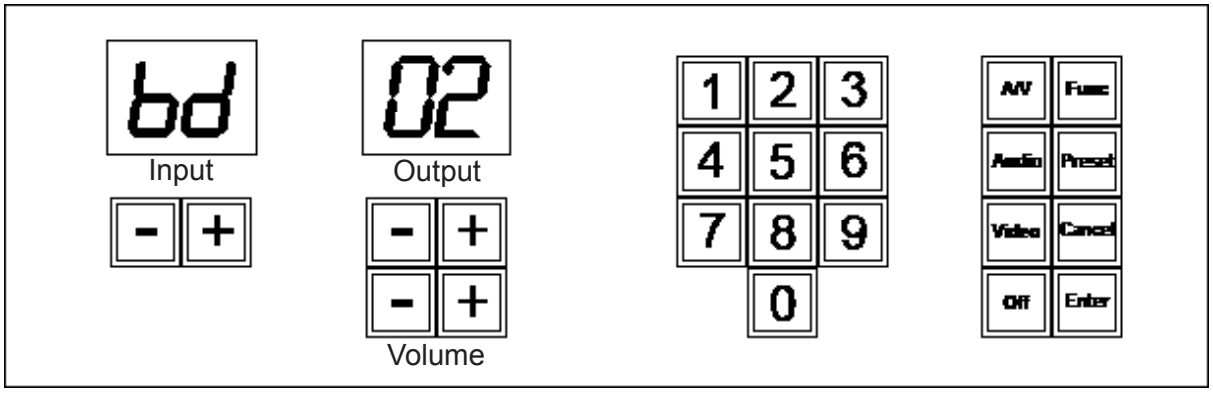
The MTX baud rate for communications is changed through the the front panel by using the following keystrokes.

1) Press the “Func” button
2) Enter “6” and “1” then press “Enter”.
   The display will show the current baud rate selected.
3) Enter the two digits for the baud rate that you want to select then press “Enter”.



Valid baud rates are:

00 = 4800
01 = 9600
02 = 19200 (default)
03 = 38400
04 = 57600
05 = 115200



To change baud rates:

Enter the two digit code for the baud rate required and press Enter

Section D - Commands

The Mountain Series has a number of commands for control and query to allow full control. Each command is listed in this section with a description and example to help understand the commands.

The following commands are available:

xx..... Unit ID (default is zero)
ii..... Input Number
oo..... Output Number
y..... Optional Data

Audio Routing and Status

MXxxAiioo ..... audio input to output
MXxxAiio1,o2,o3,o4,o5,o6,o7,o8 ..... audio input to multiple outputs
MXxxAAii ..... audio input to all outputs
MXxxABooyy ..... balance
MXxxABAyy ..... balance to all outputs
MXxxAFoo ..... audio output off
MXxxAMoo ..... audio mute
MXxxAMAy ..... audio mute set all zones
MXxxAPiiyy ..... Sensitivity
MXxxAPAyy ..... all inputs to sensitivity yy
MXxxAUooyy ..... Volume
MXxxAUAyy ..... all outputs to volume level yy
MXxxAYoo ..... Step volume up
MXxxAZoo ..... Step volume down
MXxxAYA ..... Step volume up all zones
MXxxAZA ..... Step volume down all zones
MXxxSA(oo) ..... status of audio route (s)
MXxxSAA ..... status of all audio items
MXxxSAB[oo] ..... status of audio balance(s)
MXxxSAM[oo] ..... status of of audio mute(s)
MXxxSAP[ii] ..... status of sensitivity level(s)
MXxxSAU[oo] ..... status of volume level(s)
MXxxZ50ooyy ..... set maximum volume for output
MXxxZ51[oo] ..... read maximum volume setting
MXxxZ61ooyy ..... set startup volume for output
MXxxZ62oo ..... read startup volume setting
MXxxZ63 ..... set/read startup volume mode

Digital Audio Routing and Status

MXxxDiioo ..... Digital input to output
MXxxDiio1,o2,o3,o4,o5,o6,o7,o8 ..... input to multiple outputs
MXxxDAii ..... send Digital input to all
MXxxDFoo ..... Digital output off
MXxxSD[oo] ..... status of digital route(s)
MXxxZ53[y] ..... Set/Read select digital with analog
MXxxZ54[y] ..... Set/Read select digital with video

Video Routing and Status

MXxxViioo ..... Video input to output
MXxxViio1,o2,o3,o4,o5,o6,o7,o8 ..... Video input to multiple outputs
MXxxVFoo ..... Video output off
MXxxVAii ..... Route video input to all outputs
MXxxSV[oo] ..... Status of video routes (specific output)

Audio/Video/Digital Routing and Status

MXxxBiioo ..... A/D/V input to output
MXxxBiio1,o2,o3,o4,o5,o6,o7,o8 ..... Input to multiple outputs
MXxxBAii ..... Send A/D/V input to all
MXxxBFoo ..... A/D/V output off
MXxxBS ..... A/D/V straight through
MXxxSB[oo] ..... Status of A/D/V routes (specific output)

General Status

MXxxS ..... All status returned

Misc Commands

MXxxZ98 ..... Reset unit
MXxxZ99 ..... Search for unit

Configuration Commands

MXxxZ01 ..... Read audio inputs
MXxxZ02 ..... Read video inputs
MXxxZ03 ..... Read audeo outputs
MXxxZ04 ..... Read video outputs
MXxxZ05 ..... Read option flags
MXxxZ06 ..... Read hardware type (model number)
MXxxZ07 ..... Read hardware code
MXxxZ08 ..... Read hardware revision
MXxxZ09 ..... Read software revision
MXxxZ10 ..... Read serial number
MXxxZ11 ..... Read mfg date
MXxxZ13 ..... Read/Set Front Panel Control Status
MXxxZ20 ..... Read/Set Serial Baud Rate
MXxxZ64 ..... Read/Set IP Address
MXxxZ65 ..... Read/Set IP Mask
MXxxZ66 ..... Read/Set IP Gateway
MXxxZ67 ..... Read/Set Primary DNS
MXxxZ68 ..... Read/Set Secondary DNS
MXxxZ69 ..... Read MAC Address
MXxxZ70 ..... Reset IP Address to default
MXxxZ71 ..... Read Current IP Address

Audio Routing Commands

MXxxAiioo<CR>	
Route an audio input to an audio output	MX00A0103<CR>
	Routes audio input 1 to output 3
Response: MXxx-Audio=ii to oo<CR>	

MXxxAiio1,o2,o3,o4,o5,o6,o7,o8,o9,o10<CR>	
Route an audio input to as many as 10 outputs	MX00A0101,02,03,04,05,06,07,08,09,10<CR>
	Routes audio input 1 to outputs 1 to 10
	MX00A0101,02,03,04<CR>
	Routes audio input 1 to outputs 1 to 4
Response: MXxx-Audio=ii to oo<CR> (for each route made)	

MXxxAAii<CR>	
Routes an audio input to all outputs	MX00AA02<CR>
	Routes audio input 2 to all audio outputs
Response: MXxx-Audio=ii to oo<CR> (for each route made)	

MXxxABooyy<CR	
Sets a balance level for an output	MX00AB0249<CR>
yy=00 for full left yy=49 for center yy=99 full right	Output 2 is set for equal balance between left and right channels.
Response: MXxx-Balance oo set to yy<CR>	

MXxxABAyy<CR>	
Sets a balance level for all outputs	MX00ABA49<CR>
yy=00 for full left yy=49 for center yy=98 full right	Sets the balance of all outputs to an equal balance between left and right channels.
Response: MXxx-Balance oo set to yy<CR> (for each output changed)	

MXxxAFoo<CR>	
Turn an audio output off	MX00AF03<CR>
	Turn off audio output number 3
Response: MXxx-Audio=00 to oo<CR>	

MXxxAMoo[y]<CR>	
Mute an audio output	MX00AM03<CR>
adding y is optional for setting a mute directly y = 0 turns off the mute for the output y = 1 turn on the mute for the output	Toggle the mute of output 3
	MX00AM021<CR>
	Enables the mute for output 2
Response: MXxx-Audio=00 to oo<CR> (for each route made)	

MXxxAMA[y]<CR>	
Mute all audio outputs	MX00AMA1<CR>
y = 0 turns off the mute for the output y = 1 turn on the mute for the output	Enables the mute for outputs
	MX00AMA0<CR>
	Disables the mute for outputs
Response: MXxx-Audio=00 to oo<CR> (for each route made)	

MXxxAPiiyy<CR>	
Set the level adjustment for an audio input	MX00AP0132<CR>
yy = 00 to 48 yy = 32 for 0dB pass yy adjusts in 0.5dB steps	Sets audio input 1 to 0dB pass
Response: MXxx-Sensitivity ii set to yy<CR>	

MXxxAPAyy<CR>	
Set the level adjustment for all audio inputs	MX00APA32<CR>
yy = 00 to 48 yy = 32 for 0dB pass yy adjusts in 0.5dB steps	Sets all audio inputs to 0dB pass
Response: MXxx-Sensitivity ii set to yy<CR> (for each input changed)	

MXxxAUooyy<CR>	
Sets an audio output volume level	MX00AU0132<CR>
yy = 00 (-64dB Minimum) yy = 32 (0dB Pass Through) yy = 48 (+32dB Maximum)	Sets audio output 1 to 0dB pass
Response: MXxx-Volume oo to yy<CR>	

MXxxAUAyy<CR>	
Sets all audio outputs to a volume level	MX00AUA32<CR>
yy = 00 (-64dB Minimum) yy = 32 (0dB Pass Through) yy = 48 (+32dB Maximum)	Sets all audio outputs 1 to 0dB pass
Response: MXxx-Volume oo to yy<CR> (for each output changed)	

MXxxAYoo<CR>	
Step an audio output volume up one level	MX00AY03<CR>
	Step up audio output number 3 up one step
Response: MXxx-Volume oo to yy<CR>	

MXxxAZoo<CR>	
Step an audio output volume down one level	MX00AZ03<CR>
	Step down audio output number 3 up one step
Response: MXxx-Volume oo to yy<CR>	

MXxxAYA<CR>	
Step allaudio outputs volume up one level	MX00AYA<CR>
	Step up all audio outputs one step
Response: MXxx-Volume oo to yy<CR> (for each output)	

MXxxAZA<CR>	
Step all audio outputs volume down one level	MX00AZA<CR>
	Step down all audio outputs one step
Response: MXxx-Volume oo to yy<CR> (for each output)	

MXxxSA[oo]<CR>	
Query for the status of an audio route.	MX00SA<CR>
	Returns the status of all the audio routes
	MX00SA04<CR>
	Returns the routing status of audio output number 4
Response: MXxx-Audio=ii to oo<CR> (each output will be sent if output number not specified)	

MXxxSAB[oo]<CR>	
Query for the status of an audio output balance	MX00SAB<CR>
	Returns the balance status of all the audio outputs
	MX00SAB04<CR>
	Returns the balance status of audio output number 4
Response: MXxx-Balance oo set to yy<CR> (each output will be sent if output number not specified)	

MXxxSAM(oo)<CR>	
Query for the mute status of an audio output	MX00SAM<CR>
	Returns the mute status of all the audio outputs
	MX00SAM04<CR>
	Returns the mute status of audio output number 4
Response: MX00-Output 01 is Muted<CR> (each output will be sent if output number not specified)	

MXxxSAP[oo]<CR>	
Query for the status of an audio input level	MX00SAP<CR>
	Returns the level of all the audio inputs
	MX00SAP04<CR>
	Returns the level of audio input number 4
Response: MXxx-Sensitivity ii set to yy<CR> (each input will be sent if input number not specified)	

MXxxSAU[oo]<CR>	
Query for the status of an audio output volume	MX00SAP<CR>
	Returns the volume of all the audio outputs
	MX00SAP04<CR>
	Returns the volume of audio output number 4
Response: MXxx-Volume oo to yy<CR> (each output will be sent if output number not specified)	

MXxxZ61ooyy<CR>	
Set the maximum volume level for an output	MX00Z610432<CR>
yy=00 to 48	Set the maximum volume for output 4 to 32
Response: MXxx-Max Out Level for oo = yy<CR>	

MXxxZ62oo<CR>	
Read the maximum volume level for an output	MX00Z6204<CR>
	Read the maximum volume for output 4
Response: MXxx-Max Out Level for oo = yy<CR>	

MXxxZ63<CR>	
Read the maximum volume level for all outputs	MX00Z63<CR>
	Read all output maximum volume levels
Response: MXxx-Max Out Level for oo = yy<CR> (each output will be sent)	

Digital Routing Commands

MXxxDiioo<CR>	
Route an digital input to an a/v output	MX00D0103<CR>
	Routes digital input 1 to output 3
Response: MXxx-Digital=ii to oo<CR>	

MXxxDiio1,o2,o3,o4,o5,o6,o7,o8,o9,o10<CR>	
Route an digital input to as many as 10 outputs	MX00D0101,02,03,04,05,06,07,08,09,10<CR>
	Routes digital input 1 to outputs 1 to 10
	MX00D0101,02,03,04<CR>
	Routes digital input 1 to outputs 1 to 4
Response: MXxx-Digital=ii to oo<CR> (for each route made)	

MXxxDAii<CR>	
Routes an a/v input to all outputs	MX00DA02<CR>
	Routes digital input 2 to all digital outputs
Response: MXxx-Digital=ii to oo<CR> (for each route made)	

MXxxDFoo<CR>	
Turn an digital output off	MX00DF03<CR>
	Turn off digital output number 3
Response: MXxx-Digital=00 to oo<CR>	

MXxxSD(oo)<CR>	
Query for the status of an digital route.	MX00SD<CR>
	Returns the status of all the digital routes
	MX00SD04<CR>
	Returns the routing status of digital output number 4
Response: MXxx-Digital=ii to oo<CR> (each output will be sent if output number not specified)	

MXxxZ53(y)<CR>	
Set/Read select digital with analog	MX00Z530<CR>
y = 0 digital will not switch with analog audio	Disconnect digital from routing with analog audio
y = 1 digital will switch with analog audio	
if y is not used the current setting will be returned	
Response: MXxx-Digital will not switch with audio<CR>	

MXxxZ54(y)<CR>	
Set/Read select digital with video	MX00Z541<CR>
y = 0 digital will not switch with video	Disconnect digital from routing with video
y = 1 digital will switch with video	
if y is not used the current setting will be returned	
Response: MXxx-Digital will switch with video<CR>	

Video Routing Commands

MXxxViioo<CR>	
Route a video input to an video output	MX00V0103<CR>
	Routes video input 1 to output 3
Response: MXxx-Video=ii to oo<CR>	

MXxxViio1,o2,o3,o4,o5,o6,o7,o8,o9,o10<CR>	
Route an video input to as many as 10 outputs	MX00V0101,02,03,04,05,06,07,08,09,10<CR>
	Routes video input 1 to outputs 1 thru 10
	MX00V0101,02,03,04<CR>
	Routes video input 1 to outputs 1 thru 4
Response: MXxx-Video=ii to oo<CR> (for each route made)	

MXxxVAii<CR>	
Routes a video input to all outputs	MX00VA02<CR>
	Routes video input 2 to all video outputs
Response: MXxx-Video=ii to oo<CR> (for each route made)	

MXxxVFoo<CR>	
Turn a video output off	MX00VF03<CR>
	Turn off video output number 3
Response: MXxx-Video=00 to oo<CR>	

MXxxSV[oo]<CR>	
Query for the status of a video route.	MX00SV<CR>
	Returns the status of all the video routes
	MX00SV04<CR>
	Returns the routing status of video output number 4
Response: MXxx-Video=ii to oo<CR> (each output will be sent if output number not specified)	

A/V Routing Commands

MXxxBiioo<CR>	
Route an a/v input to an a/v output	MX00B0103<CR>
	Routes a/v input 1 to output 3
Response: MXxx-A/V=ii to oo<CR>	

MXxxBiio1,o2,o3,o4,o5,o6,o7,o8,o9,o10<CR>	
Route an a/vinput to as many as 10 outputs	MX00B0101,02,03,04,05,06,07,08,09,10<CR>
	Routes a/v input 1 to outputs 1 thru 10
	MX00B0101,02,03,04<CR>
	Routes a/v input 1 to outputs 1 thru 4
Response: MXxx-A/V=ii to oo<CR> (for each route made)	

MXxxBAii<CR>	
Routes an a/v input to all outputs	MX00BA02<CR>
	Routes a/v input 2 to all video outputs
Response: MXxx-A/V=ii to oo<CR> (for each route made)	

MXxxSB[oo]<CR>	
Read for the status of an a/v route.	MX00SB<CR>
	Returns the status of all the a/v routes
	MX00SB04<CR>
	Returns the routing status of a/v output number 4
Response: MXxx-A/V=ii to oo<CR> (each output will be sent if output number not specified)	

Configuration Commands

MXxxZ01<CR>	
Read how many audio inputs installed	MX00Z01<CR>
Response: MXxx-Audio inputs = yy<CR>	

MXxxZ02<CR>	
Read how many video inputs installed	MX00Z02<CR>
Response: MXxx-Video inputs = yy<CR>	

MXxxZ08<CR>	
Read matrix hardware revision level	MX00Z08<CR>
Response: MXxx-Hardware revision = 1.000<CR>	

MXxxZ09<CR>	
Read matrix software revision level	MX00Z09<CR>
Response: MXxx-Software revision = 1.000<CR>	

MXxxZ10<CR>	
Read matrix serial number	MX00Z10<CR>
Response: MXxx-Serial No. = HX11A1000<CR>	

MXxxZ11<CR>	
Read matrix date of manufacture	MX00Z11<CR>
Response: MXxx-Date Mfg. = 01/01/12<CR>	

MXxxZ13[y]<CR>	
Read Front Panel Control Status	MX00Z13<CR>
Response: MXxx-Front Panel is unlocked<CR>	
Disable Front Panel Control	MX00Z130<CR>
Response: MXxx-Front Panel is locked<CR>	
Enable Front Panel Control (default mode)	MX00Z131<CR>
Response: MXxx-Front Panel is unlocked<CR>	

MXxxZ20[“baud”]<CR>	
Read Current Serial Baud Rate	MX00Z20<CR>
Response: MXxx-RS-232 baud = 19200<CR>	
Set Serial Baud Rate	MX00Z20”19200”<CR>
Baud Rates 4800 9600 19200 38400 57600 115200	
Response: MXxx-RS-232 baud = 19200<CR>	

MXxxZ64[xxx.xxx.xxx.xxx]<CR>	
Read matrix IP Address	MX00Z64<CR>
Response: MXxx-IP Address is 192.168.000.075<CR>	
Set matrix IP Address	MX00Z64192.168.000.075<CR>
	Set matrix IP Address to 192.168.009.075
Response: MXxx-IP Address is 192.168.000.075<CR>	

MXxxZ65[xxx.xxx.xxx.xxx]<CR>	
Read matrix IP Mask	MX00Z65<CR>
Response: MXxx-IP Netmask is 255.255.255.000<CR>	
Set matrix IP Address	MX00Z65255.255.255.000<CR>
	Set matrix IP Address to 255.255.255.000
Response: MXxx-IP Netmask is 255.255.255.000<CR>	

MXxxZ66[xxx.xxx.xxx.xxx]<CR>	
Read matrix IP Gateway	MX00Z66<CR>
Response: MXxx-IP Gateway is 192.168.000.001<CR>	
Set matrix IP Address	MX00Z66255.255.255.000<CR>
	Set matrix IP Address to 255.255.255.000
Response: MXxx-IP Gateway is 192.168.000.001<CR>	

MXxxZ67[xxx.xxx.xxx.xxx]<CR>	
Read matrix Primary DNS	MX00Z67<CR>
Response: MXxx-Primary DNS is 192.168.000.001<CR>	
Set matrix Primary DNS	MX00Z67192.168.000.001<CR>
	Set matrix Primary DNS to 192.168.000.001
Response: MXxx-Primary DNS is 192.168.000.001<CR>	

MXxxZ68[xxx.xxx.xxx.xxx]<CR>	
Read matrix Secondary DNS	MX00Z68<CR>
Response: MXxx-Secondary DNS is 004.002.002.002<CR>	
Set matrix Secondary DNS	MX00Z68004.002.002.002<CR>
	Set matrix Secondary DNS to 004.002.002.002
Response: MXxx-Secondary DNS is 004.002.002.002<CR>	

MXxxZ69<CR>	
Read matrix MAC Address	MX00Z69<CR>
Response: MX00-MAC Address is 00-50-C2-ED-80-63<CR>	

MXxxZ70<CR>	
Reset matrix Ethernet configuration to default	MX00Z70<CR>
Response: MXxx-IP Address is 192.168.000.075<CR> **MXxx-IP Netmask is 255.255.255.000<CR>** **MXxx-IP Gateway is 192.168.000.001<CR>** **MXxx-Primary DNS is 192.168.000.001<CR>** **MXxx-Primary DNS is 004.002.002.002<CR>** **MX00-MAC Address is 00-50-C2-ED-80-63<CR>**	

MXxxZ71<CR>	
Read matrix current operating Ethernet settings	MX00Z70<CR>
	Read matrix current operating Ethernet settings
Response: MXxx-IP Address is 192.168.000.075<CR> **MXxx-IP Netmask is 255.255.255.000<CR>** **MXxx-IP Gateway is 192.168.000.001<CR>** **MXxx-Primary DNS is 192.168.000.001<CR>** **MXxx-Primary DNS is 004.002.002.002<CR>** **MX00-MAC Address is 00-50-C2-ED-80-63<CR>**	

MXxxZ72fyy<CR>	
Set HDMI simple debug level	MX00Z72S01<CR>
f = S	Turn on/off serial debug
f = U	Turn on/off USB debug
f = T	Turn on/off Telnet debug
yy = 00	Turn off debug
yy = 01	Turn on debug
Response: MX00-Serial Debug Level is 01<CR> MX00-USB Debug Level is 00<CR> MX00-Telnet Debug Level is 00<CR>	

MXxxZ98<CR>	
Reboot matrix	MX00Z98<CR>
Response: The matrix will do a soft reboot	

MXxxZ99<CR>	
Query for matrix	MX00Z99<CR>
Response: MX00-OK<CR>	

HDMI EDID Commands

HDMI Status/Debug Commands

MXxxH01<CR>	
Read HDMI Software Version	MX00H01<CR>
Response: MX00-Software Version: 017<CR>	

MXxxH02<CR>	
Read HDMI Software Release	MX00H02<CR>
Response: MX00-Software Release: 008<CR>	

MXxxH03<CR>	
Read HDMI Software Release Revision	MX00H03<CR>
Response: MX00-Software Release Rev: 016<CR>	

MXxxH04S<CR>	
Read HDMI Input Port Software Version	MX00H04S<CR>
Response: MX00-Input Port Processor - Software Version: 018<CR>	

MXxxH04Z<CR>	
Read HDMI Output Port Software Version	MX00H04Z<CR>
Response: MX00-Output Port Processor - Software Version: 019<CR>	

MXxxH05S<CR>	
Read HDMI Input Port Software Release	MX00H05S<CR>
Response: MX00-Input Port Processor - Software Release: 008<CR>	

MXxxH05Z<CR>	
Read HDMI Output Port Software Release	MX00H05Z<CR>
Response: MX00-Output Port Processor - Software Release: 008<CR>	

MXxxH06S<CR>	
Read HDMI Input Port Software Release Revision	MX00H06S<CR>
Response: MX00-Input Port Processor - Software Release Rev: 016<CR>	

MXxxH06Z<CR>	
Read HDMI Output Port Software Release Revision	MX00H06Z<CR>
Response: MX00-Output Port Processor - Software Release Rev: 016<CR>	

MXxxHISii<CR>	
Read Source Port Input A/V Status	MX00HIS01<CR>
ii = input number	
Response: MX00-OK<CR> **MX00-HDMI 0000FFFFFFFFFFFFFF0000000000000000030001000100010000000000000104010002DB00000000000000000000<CR>**	

MXxxHOSii<CR>	
Read Zone Port Input A/V Status	MX00HIZ01<CR>
oo = output number	
Response: MX00-OK<CR> **MX00-HDMI 0103020203080202001000000000000001000104030001000100000000000000400000200000000000000000000000<CR>**	

MXxxHIZii<CR>	
Read Zone Port Input A/V Status	MX00HIZ01<CR>
ii = input number	
Response: MX00-OK<CR> **MX00-HDMI 08021000010102080200000000000000000009FFFF000000000000** **00000000000000000000000000000000000000000000<CR>**	

MXxxHOZoo<CR>	
Read Zone Port Output A/V Status	MX00HOZ01<CR>
oo = output number	
Response: MX00-OK<CR> **MX00-HDMI 0800FFFFFFFFFF0100FF00000000000000000FFFF09FFFF0000000** **00000000000000000000000000000000000000000000<CR>**	

Section E - Updating Matrix Firmware

The HX series of matrices firmware can be updated via the USB port.

Please contact AVocation Systems to receive any updates that may pertain to you.

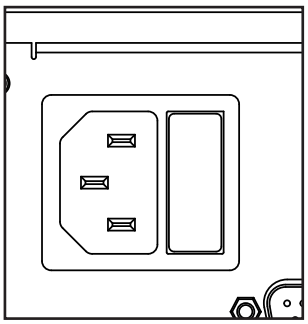
The following are the instructions on how to use the updating program.

What you will need:

- USB Type A to Type B cable
- AvoUpdate.exe software
- Firmware update file (contact AVocation Systems for latest version)

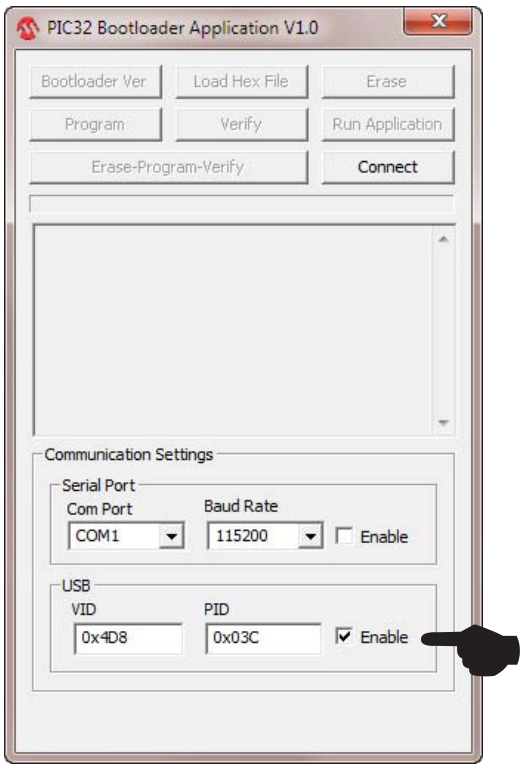
Read this completely before attempting to perform an update. There is certain timing that takes place to ensure success. You have 10 seconds to make a connection to the matrix via the updater before it will jump out of the updater mode back into normal operation.

1



Make sure that power is removed from the matrix.

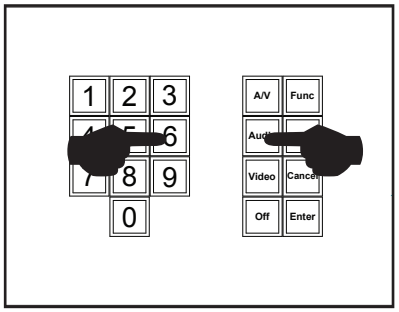
2



Start the AvoUpdate.exe program and select the USB option.

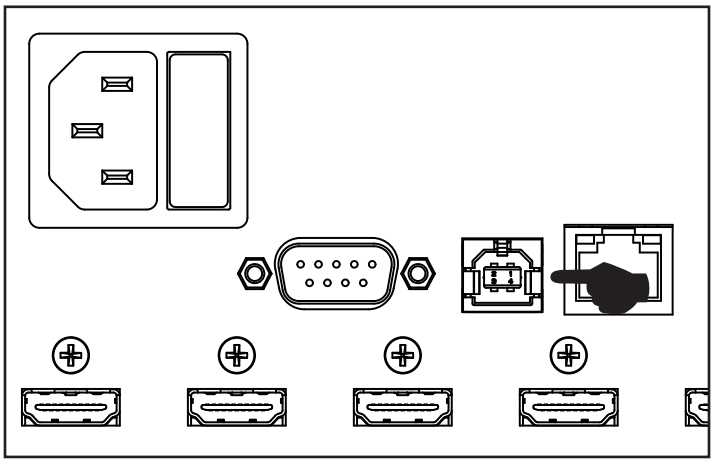
3 **Plug the USB cable into your PC now.**

4



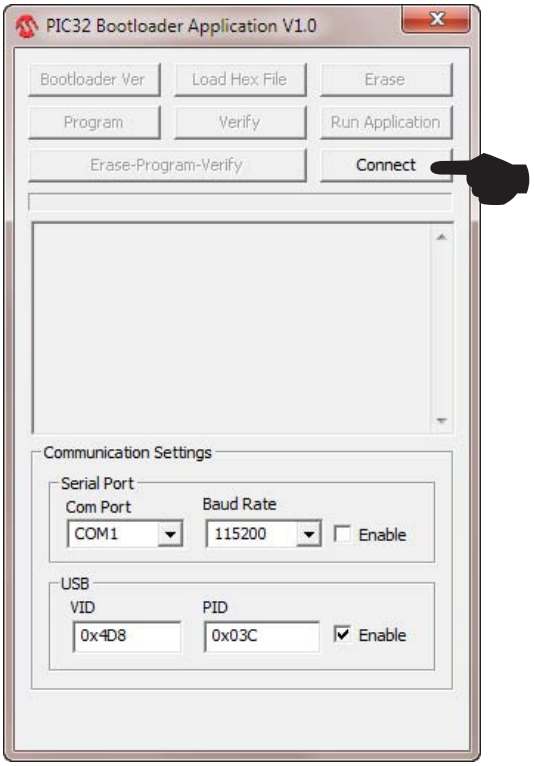
When applying power to the matrix hold the “6” and “Audio” buttons for 2 seconds

5



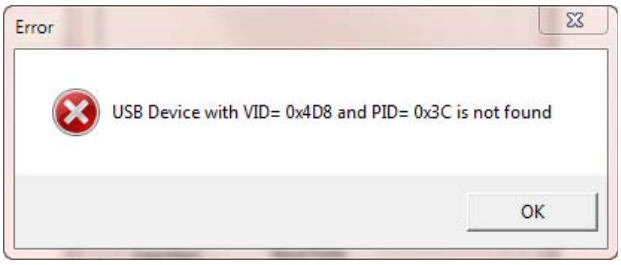
Plug the USB cable into the matrix now.

6



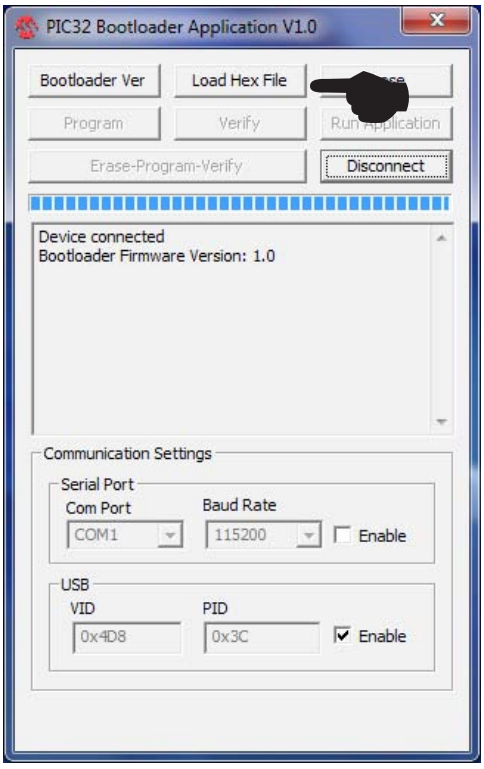
When the USB connection is in the matrix select “Connect”

7



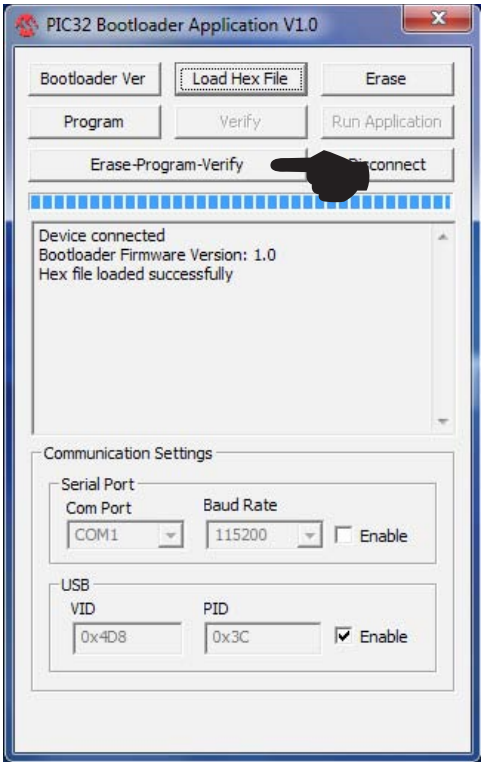
If you receive the following error the matrix has not been connected to the PC through the USB cable. Please check the connection. You will have to start from step 4 with the power off the matrix.

8



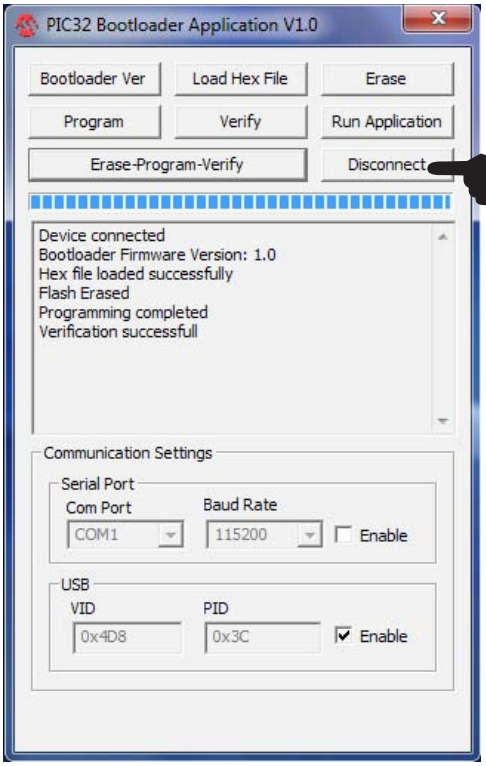
Select “Load Hex File” and choose the file provided by AVocation Systems

9



Select “Erase-Program-Verify” to program matrix

10



If successful press “Disconnect” and recycle the power on the matrix.

7130 W. 117th Ave.
Suite D-3
Broomfield, CO 80020
Ph: 303-410-6639
www.avocationsystems.com