QUICK CHART AUTOMATION SETUP TO ROUTER AND MC

SC4 SETUP

Protocols – RCP1, RCP3

(SERIAL PORTS)
Serial Ports (6) – Labeled 'CONTROL 1 through 6'. All are configurable and usable as RS232 or RS422.
Serial Port Pin Out

PORT PIN OUT for 9p	
RS232pins	RS422pins
TX+ = (2) RX+ = (3) GND = (5)	TX+ = (7) TX- = (2) RX+ = (3) RX- = (8)

How to select RS232/422 - Move the jumper block on the SC4 card for each of the ports 1-6. The jumpers are located at the back left of the card as you pull the card from the chassis and are labeled RS232 and RS422.
How to change Baud/Parity - Go to the SC4 icon in the UCON software, right click on it and select configure. Go to serial ports and change settings. Save this and then right click on the SC4 icon and then click Program. Note: ports are labeled on the chassis and match in the software.
Note: Select RCP1i for index and RCP1n for numeric in the serial port setup in UCON. Most common used mode is RCP1i. If the automation needs to select individual router levels, also called break away takes, then this would need to be the RCP1n numeric mode. Note: RCP-3 protocol is used over the Ethernet port and there is no setup required.

(ETHERNET)
Ethernet Ports (2) – Labeled 'Ethernet' and are setup using the 'chassis' commands from a terminal either over a Telnet session to the SC4 or via the diagnostics port on the front of the card. (Refer to the System Installation Guide Appendix D) These are two separate standard NIC interfaces and must be used as such, having two separate subnets. Port 1 must be connected to the pc that is running UCON and is the only port that works with this application. Port 1 can also be used for Ethernet control panels or Soft Panels. Port 2 can be used to connect any Ethernet control panels, Soft Panels or automation. Note: If Port 2 is activated then the syslogs must be applied to this port and will not work on Port 1.

Additional procedures

- If serial jumpers must be changed for RS232 or RS422 then the best way to do this is to power down the SC4 chassis, move the jumpers and then apply power. If these jumper blocks must be moved after power has been applied, follow steps in section 2 of the SC4 guide for proper removal of SC4 cards.
- If a different baud rate and parity are required, see note above on 'how to change'. For more details on how this is done, follow the steps in section 2 of the SC4 guide for changing serial port settings.
- If attaching to a standard 9 pin PC port for RS232 simply use a straight through 9 pin cable.
- RCP3 is the other option for automation control. It is an Ethernet protocol and there is no setup in the SC4 in order to use this as it is always enabled.

SC400 SETUP (Installed in UT400/64)

Protocols – RCP1, RCP3

(SERIAL PORTS)
Serial Ports (2) – Labeled 'SERIAL 1 and SERIAL 2'. Both are configurable as RS232 or RS422.
Serial Port Pin Out

PORT PIN OUT for 9p	
RS232pins	RS422pins
TX+ = (2) RX+ = (3) GND = (5)	TX+ = (7) TX- = (2) RX+ = (3) RX- = (8)

How to select RS232/422 - Move the jumper block on the SC400 card for each port. Jumpers are located at the back center of the card.
How to change Baud/Parity - Go to the SC400 icon in the UCON software, right click on it and select configure. Go to serial ports and change settings. Save this and then right click on the SC4 icon and then click Program. Note: ports are labeled on the chassis and match in the software. UCON will have 6 ports and the first two are used for the SC400. The other four are unused.
Note: Select RCP1i for index and RCP1n for numeric in the config file in the serial port setup in UCON. Most common used mode is RCP1i.
Note: RCP-3 protocol is used over the Ethernet port and there is no setup required.

(ETHERNET)
Ethernet Ports (1) – Labeled 'E-NET' and is setup using the 'chassis' commands from a terminal either over a Telnet session to the SC4 or via the diagnostics port on the front of the card. (Refer to the System Installation Guide Appendix D for more details).

Notes and additional procedures

- NOTE: If the UT400/64 chassis was installed prior to June of 2010 and there are no labels covering the Serial 1 and Serial 2 port labels then the ports are actually reversed from the way they are etched onto the rear panel. Serial port 1 is on the right side facing the rear of the chassis and Serial port 2 is on the left side.
- If jumpers must be changed for RS232 or RS422 then the best way to do this is to power down the UT400 chassis, move the jumpers and then apply power however, this will take the router down during this time. If these jumper blocks must be moved after power has been applied, follow steps in section 2 of the SC4 guide for proper removal of SC4 cards. This procedure is the same for the SC400 cards.
- If a different baud rate and parity are required, see note above on 'how to change'. For more details on how this is done, follow the steps in section 2 of the SC4 guide for changing serial port settings. This procedure is the same for the SC400 cards.
- If attaching to a standard 9 pin PC port for RS232 simply use a straight through 9 pin cable.
- RCP3 is the other option for automation control. It is an Ethernet protocol and there is no setup in the SC4 in order to use this as it is always enabled.

SC400 SETUP (Installed in MXLATOR – Note: only the half labeled SC400 is used)
Protocols – RCP1, RCP3

(SERIAL PORTS)
Serial Ports (2) – Labeled 'SERIAL 1 and SERIAL 2'. Both are configurable as RS232 or RS422.
Serial Port Pin Out

PORT PIN OUT for 9p	
RS232pins	RS422pins
TX+ = (2) RX+ = (3) GND = (5)	TX+ = (7) TX- = (2) RX+ = (3) RX- = (8)

How to select RS232/422 - Move the jumper block on the SC400 card for each port. Jumpers are located at the back center of the card.
How to change Baud/Parity - Go to the SC400 icon in the UCON software, right click on it and select configure. Go to serial ports and change settings. Save this and then right click on the SC4 icon and then click Program. Note: ports are labeled on the chassis and match in the software. UCON will have 6 ports and the first two are used for the SC400. The other four are unused.
Note: Select RCP1i for index and RCP1n for numeric in the config file in the serial port setup in UCON. Most common used mode is RCP1i.
Note: RCP-3 protocol is used over the Ethernet port and there is no setup required.

(ETHERNET)
Ethernet Ports (1) – Labeled 'E-NET' and is setup using the 'chassis' commands from a terminal either over a Telnet session to the SC4 or via the diagnostics port on the front of the card. (Refer to the System Installation Guide Appendix D). Used for RCP3 automation, Ethernet panels, Soft Panels and diagnostics.

Notes and additional procedures

- If jumpers must be changed for RS232 or RS422 then the best way to do this is to power down the UT400 chassis, move the jumpers and then apply power however, this will take the router down during this time. If these jumper blocks must be moved after power has been applied, follow steps in section 2 of the SC4 guide for proper removal of SC4 cards. This procedure is the same for the SC400 cards.
- If a different baud rate and parity are required, see note above. For more details on how this is done, follow the steps in section 2 of the SC4 guide for changing serial port settings. This procedure is the same for the SC400 cards.
- If attaching to a standard 9 pin PC port for RS232 simply use a straight through 9 pin cable.

SCX400 SETUP (Installed in UT400/32)

Protocols – RCP1, RCP3

(SERIAL PORTS)

Serial Ports (2) – Labeled 'SERIAL 1 and SERIAL 2'. Both are configurable as RS232 or RS422.

Serial Port Pin Out

PORT PIN OUT for 9p	
RS232pins	RS422pins
TX+ = (2) RX+ = (3) GND = (5)	TX+ = (7) TX- = (2) RX+ = (3) RX- = (8)

How to select RS232/422 - Move the jumper block on the SCX400 card for each port. Jumpers are located at the back right of the card.

How to change Baud/Parity - Go to the SC400 icon in the UCON software, right click on it and select configure. Go to serial ports and change settings. Save this and then right click on the SC4 icon and then click Program. Note: ports are labeled on the chassis and match in the software. UCON will have 6 ports and the first two are used for the SC400. The other four ports are unused.

Note: Select RCP1i for index and RCP1n for numeric in the config file in the serial port setup in UCON. Most common used mode is RCP1i.

Note: RCP-3 protocol is used over the Ethernet port and there is no setup required.

(ETHERNET)

Ethernet Ports (1) – Labeled 'E-NET' and is setup using the 'chassis' commands from a terminal either over a Telnet session to the SC4 or via the diagnostics port on the front of the card. (Refer to the System Installation Guide Appendix D).

Notes and additional procedures

- If jumpers must be changed for RS232 or RS422 then the best way to do this is to power down the UT400 chassis, move the jumpers and then apply power however, this will take the router down during this time. If these jumper blocks must be moved after power has been applied, follow steps in section 2 of the SC4 guide for proper removal of SC4 cards. This procedure is the same for the SCX400 cards.
- If a different baud rate and parity are required, see note above. For more details on how this is done, follow the steps in section 2 of the SC4 guide for changing serial port settings. This procedure is the same for the SCX400 cards.
- If attaching to a standard 9 pin PC port for RS232 simply use a straight through 9 pin cable.

MCP400 SETUP (Used with MC400 and MC40)

Protocols – TAS_AUTO_PANEL, TAS_REV2, TAS_AUTO_EXTEND

(SERIAL PORTS)

Serial Ports (4) – Labeled 'COM 1 through COM 4'. All ports are configurable as RS232 or RS422.

Serial Port Pin Out

PORT PIN OUT for 9p	
RS232pins	RS422pins
TX+ = (3) RX+ = (2) GND = (5)	TX+ = (3) TX- = (8) RX+ = (7) RX- = (2) GND = NA

How to select RS232/422 – Jumpers are located through the access port (metal cover), located on the top of the panel. Remove the plate and move the jumper block for each of the 4 ports to the desired position, which are labeled next to the jumpers for each port.

How to change Baud/Parity – Use the MCconfig program to change protocol, baud rate and parity settings. Go to 'Panels' from the top menu and select 'Configure Master Control Panels'. Choose device type, port, baud rate and parity. Note: ports are labeled on the rear and match in the software. Note: Most common used protocol is TAS_AUTO_EXTEND however this will depend on the driver being used for that port from the automation. The other two options are TAS_AUTO_PANEL or TAS_AUTO_REV2. Any others are for custom use only and most likely don't apply.

Notes and additional procedures

- To check the jumper settings from a terminal connect via Telnet to the MCP400 IP address or use serial connection to the diagnostics port on the rear of the panel. At the prompt type the command HDconfig status and this will show the status of the 4 ports.
- For more details on how to change the port settings and protocol, follow the steps in section 1 of the MCConfiguration guide.
- As mentioned above the jumpers for setting the serial port to RS232 or RS422 are located inside the MCP400 panel. There is an access port (metal cover) located on the top of the MCP400. Remove the cover and the four serial port jumper blocks are labeled and need to be moved to the desired position for RS232 or RS422.
- If attaching to a standard 9 pin PC port for RS232 simply use a NULL MODEM 9 pin cable.

MCP40 SETUP (used with MC40)

Protocols – TAS_AUTO_PANEL, TAS_REV2, TAS_AUTO_EXTEND

(SERIAL PORTS)

Serial Ports (4) – Labeled 'COM 1 through COM 4'. All ports are configurable as RS232 or RS422.

Serial Port Pin Out

PORT PIN OUT for 9p	
RS232pins	RS422pins
TX+ = (3) RX+ = (2) GND = (5)	TX+ = (3) TX- = (8) RX+ = (7) RX- = (2) GND = NA

How to select RS232/422 – Jumpers are located through the access port (metal cover), located on the top of the panel. Remove the plate and move the jumper block for each of the 4 ports to the desired position, which are labeled next to the jumpers for each port.

How to change Baud/Parity – Use the MCconfig program to change protocol, baud rate and parity settings. Go to 'Panels' from the top menu and select 'Configure Master Control Panels'. Choose device type, port, baud rate and parity. Note: ports are labeled on the rear and match in the software. Note: Most common used protocol is TAS_AUTO_EXTEND however this depends on the driver being used for that port from the automation. The other two options are TAS_AUTO_PANEL or TAS_AUTO_REV2. Any others are for custom use only and most likely don't apply.

Notes and additional procedures

- To check the jumper settings from a terminal connect to the MCP40 IP address or use serial connection to the diagnostics port on the rear of the panel. At the prompt type the command HDconfig status and this will show the status of the 4 ports.
- For more details on how to change the port settings and protocol, follow the steps in section 1 of the MCConfiguration guide.
- As mentioned above the jumpers for setting the serial port to RS232 or RS422 are located inside the MCP40 panel. There is an access port (metal cover) located on the top of the MCP40. Remove the cover and the four serial port jumper blocks are labeled and need to be moved to the desired position for RS232 or RS422.
- If attaching to a standard 9 pin PC port for RS232 simply use a NULL MODEM 9 pin cable.

MC4000 SETUP

Protocols – TAS_AUTO_PANEL, TAS_REV2, TAS_AUTO_EXTEND

(SERIAL PORTS)

Serial Ports (4) – Labeled 'CHANNEL 1 and 2 SERIAL PORTS 1-4'. All ports are configurable as RS232 or RS422.

Serial Port Pin Out

PORT PIN OUT for 9p	
RS232pins	RS422pins
TX+ = (3) RX+ = (2) GND = (5)	TX+ = (3) TX- = (8) RX+ = (7) RX- = (2) GND = NA

How to select RS232/422 – Jumpers are located at the rear of the card in the center area. They are actually labeled JP7 through JP10 which are ports 1 through 4 in that order. I.e. JP7 = Port 1, JP8 = Port 2, JP9 = Port 3, JP10 = Port 4.

How to configure Baud/Parity – Currently these must be configured manually from the config file using the Utsci Install Utility by retrieving and then editing the config file in the [CONTROL_PANEL_TYPE_DEFINITIONS_START] section. It will soon be done using the MCconfig software. At that point, use the MCconfig program to change protocol, baud rate and parity settings. Go to 'Panels' from the top menu and select 'Configure Master Control Panels'. Choose device type, port, baud rate and parity. Note: ports are labeled on the rear and match in the software. Note: Most common used protocol is TAS_AUTO_EXTEND however this will depend on the driver being used for that port from the automation platform. The other two options are TAS_AUTO_PANEL or TAS_AUTO_REV2. Any others are for custom use only and most likely don't apply.

Notes and additional procedures

- To check the jumper settings from a terminal connect to the MCP4000 IP address or use a serial connection to the diagnostics port on the front of the MC4000 card. At the prompt type the command HDconfig status and this will show the status of the 4 ports.
- For more details on how to change the port settings and protocol, this must be done manually as the GUI is not usable with this yet.
- If attaching to a standard 9 pin PC port for RS232 simply use a NULL MODEM 9 pin cable.

MC2020 SETUP

Protocols – TAS_AUTO_PANEL, TAS_REV2, TAS_AUTO_EXTEND

(Serial Ports)

Serial Ports (4) – Labeled 'Serial 1 through Serial 4'. All ports are configurable and usable as RS232 or RS422.

Serial Port Pin Out

PORT PIN OUT for 9p	
RS232pins	RS422pins
TX+ = (3) RX+ = (2) GND = (5)	TX+ = (3) TX- = (8) RX+ = (7) RX- = (2) GND = NA

How to select RS232/422 – Jumpers are located on the CP2020 card at the top rear of the card as it is removed from the chassis.

How to change Baud/Parity – Use the MCconfig program to change protocol, baud rate and parity settings. Go to 'Panels' from the top menu and select 'Configure Master Control Panels'. Choose device type, port, baud rate and parity. Note: ports are labeled on the rear and match in the software. Note: Most common used protocol is TAS_AUTO_EXTEND however this will depend on the driver being used for that port from the automation platform. The other two options are TAS_AUTO_PANEL or TAS_AUTO_REV2. Any others are for custom use only and most likely don't apply.

Notes and additional procedures

- To check the jumper settings from a terminal connect to the MC2020 IP address or use serial connection to the diagnostics port on the front of the CP2020 card. At the prompt type the command HDconfig status and this will show the status of the 4 ports.
- For more details on how to change the port settings and protocol, follow the steps in section 1 of the MCConfiguration guide.
- If attaching to a standard 9 pin PC port for RS232 simply use a NULL MODEM 9 pin cable.

BPS-2020 SETUP

Protocols – RCP1, GVG10XL

(Serial Ports)

Serial Port (1) – Labeled 'Serial'. This port is configurable and usable as RS232 or RS422. It is used primarily for external control of the 8 inputs using either the Utah protocol RCP1 or the Grass Valley protocol GVG10XL.

Serial Port Pin Out

PORT PIN OUT for 9p	
RS232pins	RS422pins
TX+ = (2) RX+ = (3) GND = (5)	TX+ = (7) TX- = (2) RX+ = (3) RX- = (8) GND = NA

How to select RS232/422 – The Jumpers are located on the BPS2020 card at the right side of the card as it is removed from the chassis and are labeled J1 and J2. Set both jumpers to the 232 position for RS232 and both jumpers to the 422 position for RS422.

How to change Baud/Parity – Use the dip switch located on the front edge of the video card to change baud rate and parity settings. Switch 5 of SW2 sets the baud rate of the serial interface. On = 19.2KBaud, off = 38.4Kbaud. Both baud rate settings use 8, none and 1 for parity control.

How to change Protocol – Use the dip switch located on the front edge of the video card to change protocol between RCP1 (Utah protocol) and GVG10XL (Grass Valley protocol). Switch 4 of SW2 sets the protocol of the serial interface. On = GVG10XL, OFF = USI RCP-1.

Notes and additional procedures

- For more details on how to change the port settings and protocol, follow the steps in section 1 of the BPS-2020 guide.
- If attaching to a standard 9 pin PC port for RS232 simply use a straight through 9 pin cable.

SC3 SETUP

Protocols – RCP1, RCP2, RCP3, PROBEL, GVG

(Serial Ports)

Serial Ports 1-4 – Labeled COMM Port 1 through COMM Port 4. All are configurable as RS232 or RS422.

Serial Port Pin Out

PORT PIN OUT for 25p	
RS232pins	RS422pins
TX = (2) RX = (3) GND = (7)	TX+ = (9) TX- = (11) RX+ = (18) RX- = (25)

PORT PIN OUT for 9p	
RS232pins	RS422pins
Unused	TX+ = (2) TX- = (7) RX+ = (8) RX- = (3)

PROTOCOLS	SERIAL PORT Default Baud	Default Parity
RCP-1 (Serial) RCP-3 (E-NET)	Odd ports 38400 Even ports 19200	Odd = 8N1 Even = 7E2

Third Party Ports 1-8 – Labeled '3rd Party Router Control 1 through 8'. All are configurable and usable as RS422 only. These are used specifically for GV Horizon and Nvision Probel routers but can also be used from any automation system that uses the RCP1 protocol.

How to select RS232/422 – This is set using the RMS software and only for the 25 pin ports. Go to Panels\CSP Tables and select the desired port 1-4 only from the UDI Object Status drop down window. Then choose the soft setting of RS232/422 just below the baud rate selections. Note: if these settings are already set and need to be changed then you must first 'Destroy' the object just below all the settings and then 'Create' the object and put the values all in as new.

How to change Baud/Parity - This is set using the RMS software for all serial ports. Go to Panels\CSP Tables and select the desired port 1-4 or 3rd Party 1-8 from the UDI Object Status drop down window. Then choose the baud rate and parity settings from the drop down windows just below this section. Note: if these settings are already set and need to be changed then you must first 'Destroy' the object just below all the settings and then 'Create' the object and put the values all in as new.

(Ethernet)

Ethernet Ports (1) – Labeled 'Ethernet' and is setup either over a Telnet session to the SC3 or via the diagnostics port on the front of the card. A menu will appear once the connection is made. Refer to the cable pin out for the diagnostics port found at the end of this guide.

(Alarm Status)

Alarm Port – Labeled 'ALARM STATUS'. This port can be wired to an audible device that will sound whenever a major alarm is activated on the SC3 such as a power supply failure or fan failure.

UT200 SETUP (WITH SC200)

Protocols – RCP1

(Serial Ports)

Serial Ports (2) – Labeled 'RS232 and RS422'. Both are configurable and usable as RMS200 and UDI protocols. Each is only usable as what they are electrically as RS232 and RS422.

Serial Port Pin Out

PORT PIN OUT for 9p	
RS232pins	RS422pins
TX+ = (2) RX+ = (3) GND = (5)	TX+ = (7) TX- = (2) RX+ = (8) RX- = (3) GND = NA

How to change Baud/Parity – This can only be done from the diagnostics port if there is not a UT200 control panel or from the display menu on the UT200 control panel. Go to the SC4 icon in the UCON software, right click on it and select configure. Go to serial ports and change settings. Note: ports are labeled on the chassis and match in the software.

Note: RCP-3 protocol is used over the Ethernet port and there is no setup required.

Notes and procedures

- RMS200 can be used either over Ethernet or serially from one of the serial ports. If an Ethernet module is not installed on the SC200 then RMS200 can only be used over the serial port. Note: Unless the PC using RMS200 has an RS422 port (which most don't) then it must be used in RS232 mode. And if automation is used over RS232 then you will need an Ethernet module in order to use RMS200.

THINGS WE KNOW ABOUT AUTOMATION COMPANIES

Jupiter Control system – VM3000 - SI3000

Harris Control system –

- Uses TAS_AUTO_EXTEND protocol driver

PIN OUT for 9p 422 – SC4	
HARRIS	SC4
TX+ = (3) TX- = (8) RX+ = (7) RX- = (2)	RX+ = (3) RX- = (8) TX+ = (7) TX- = (2) GND = NA

9p RS422 – MC4K/MC400	
HARRIS	MC4K/MC400
TX+ = (3) TX- = (8) RX+ = (7) RX- = (2)	RX+ = (7) RX- = (2) TX+ = (3) TX- = (8) GND = NA

9p RS422 – MC2020	
HARRIS	MC2020
TX+ = (3) TX- = (8) RX+ = (7) RX- = (2)	RX+ = (7) RX- = (2) TX+ = (3) TX- = (8) GND = NA