



## Console Server & Power Switch USR4204



## User Guide

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## Symbols Used In This User Guide



This symbol alerts the user to important operating and maintenance instructions.



This symbol warns the user that there are hazardous voltages within the product enclosure.



This symbol invites the user to read more technical details.



This symbol identifies helpful user information.



This symbol warns the user to stop, read, and understand critical information.



This symbol denotes supplemental information.

## Important Safety Instructions

### SAVE THESE INSTRUCTIONS



This manual contains instructions and warnings that should be followed during the installation, operation, and storage of this product. Failure to heed these instructions and warnings may affect the product warranty.



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***WARNING: Hazardous Voltage!** To reduce the risk of personal injury from electric shock, do not remove the cover. There are no field-serviceable or user-serviceable components inside.*

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- Disconnect mains power from the product by unplugging the power cord from either the electrical outlet or the product. The AC inlet is the main disconnect for removing power to the product. For products that have more than one AC inlet, to remove power completely, all AC line cords must be disconnected. The socket-outlet shall be installed near the equipment and shall be easily accessible.
- Disconnect mains power from the USR4204 before servicing equipment powered by the USR4204.
- Do not connect the product to an ungrounded outlet or to extension cords or adapters that eliminate the connection to ground.
- Before installing and using the product, check it for any external damage. If the product is damaged, do not install or operate the product and contact your service representative.
- The product is designed for indoor use only in a controlled environment away from excess moisture, temperature extremes, conductive contaminants, dust, or direct sunlight.
- DO NOT operate the product in an explosive atmosphere or in the presence of flammable gases or fumes.
- For continued protection against fire, replace the line fuse(s) only with fuse(s) of the same voltage and current rating and type.
- The total power requirement for equipment connected to the product must not exceed the maximum output load rating(s).

## **Introduction**

### **Overview of Main Features**

#### *Out-of-Band Remote Management*

Out-of-band remote management uses a secondary communications channel, typically a pair of dial-up modems, to connect to the management ports of remote equipment and to control outlets that supply power to the remote equipment. With one USR4204 a single channel can control up to four management ports and two power ports. The USR4204 allows a Network Manager to select and control remote ports via a simple menu-driven interface.

#### *Security*

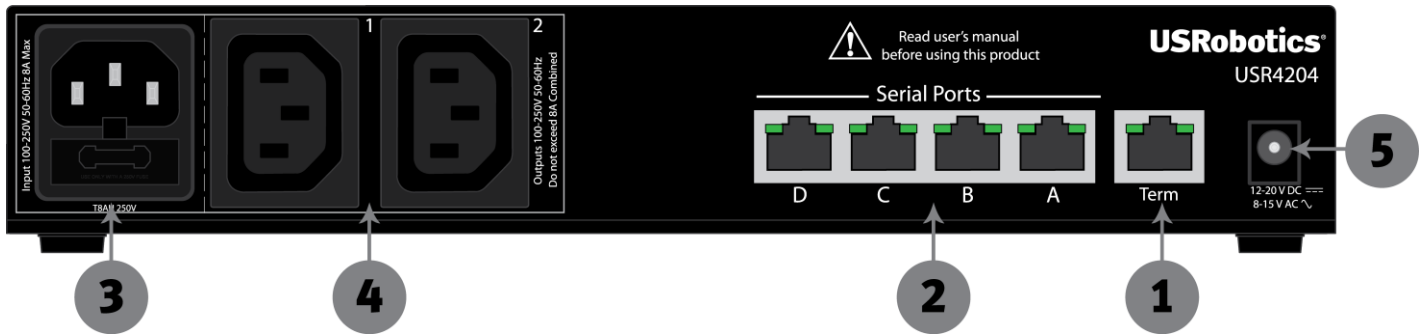
The USR4204 allows for one default Administrator and fifteen User accounts, and any User can be granted Administrator privileges. Any Administrator can create, delete, or edit User accounts, and has access to all USR4204 configuration menus. Any Administrator can also assign access privileges for individual ports to each User. To deter unauthorized access, the USR4204 is configured to lockout User or Administrator accounts and display a security notification to Users and Administrators in the event of three consecutive failed attempts to log-in as a User or Administrator.

## **Package Contents**



- 1 USR4204
- 1 VersaPower Kit – Universal Power Supply
- 1 6-foot RJ45 rollover cable
- 1 RJ45-to-DB25M adaptor
- 1 RJ45-to-DB9F adaptor
- 2 Rackmount brackets
- 6 Bracket mounting screws
- 4 Rubber feet
- 1 Reference Guide

## Physical Features



1. **Terminal Port** - RS-232 port for connection to modem or computer serial port to configure and manage the USR4204 and connected devices.

The terminal port supports an RS-232 asynchronous serial DTE connection via an RJ45 jack. See appendix A for pinout details. Terminal port activity can be monitored using the two adjacent LEDs. Both LEDs light when the terminal or modem connected to this port signals that it's ready to receive or transmit data. For a terminal it is the DTR signal, for a modem it is the DCD signal. The left LED flickers when data is transmitted from the terminal port, the right LED flickers when data is received by the terminal port.

2. **Serial Ports** – Connect RS-232 network devices with RJ45 cables for device management.

The four serial ports are RS-232 asynchronous serial DCEs presented on RJ45 jacks. See appendix A for pinout details. Each serial port is represented by two adjacent LEDs, which light when the port is selected. The left LED flickers when data is transmitted from the serial port, the right LED flickers when data is received by the serial port.

3. **Mains Input Port** - Connect a C13 power cord from a nearby power outlet to the mains input port to provide power to additional network devices.

The mains power input port is an IEC C14 fused inlet, rated for 8 amps maximum.

4. **Power Output Ports** - Connect power cords from up to two network devices (rated for a total of 8 amps combined) for individual power management.

The power out ports are IEC C13 outlets, individually rated for 8 amps maximum.



**WARNING:** The combined power requirement of the equipment connected to all the USR4204 outputs must not exceed the USR4204 maximum input rating of 8 Amps.

5. **External Power Supply Input** - Connect the included Versa Power Kit to power the USR4204.

The external power supply input delivers operating power to the USR4204 from the external low voltage power supply that is included with the product.



## Getting Started – Local Access

This section describes how to verify that the unit is operational. Once the unit is installed, this is also the setup process for local access. For detailed unit configuration and advanced operating features see [Physical Installation](#), [Remote Access](#), or [Product Operation](#).

Step 1: Confirm package contents and check system requirements:

- Computer terminal with a COM port
- Terminal emulation application

Step 2: Connect the VersaPower™ Kit to the USR4204

Use the included VersaPower power supply to power the USR4204. The VersaPower power supply includes blade clips compatible with mains power outlets in North America, UK, and Europe. Remove the plastic protector from the VersaPower base unit, and slide the region-specific clip in until it locks into place. Plug the power supply into a mains power outlet and connect the VersaPower output jack to the USR4204 external power supply input.

Step 3) Open a Terminal Emulation Application

Open a terminal emulation window on the computer and select the COM port corresponding to the computer's serial port (usually COM1). Set the port parameters for 9600bps, 8 data bits, no parity, 1 stop bit.



Refer to the terminal emulation application documentation for details on setting parameters. Please set your application's font for Courier, Courier New, or another fixed character width font to properly display the menus.

Step 4) Connect a PC to the USR4204

Plug the included RJ45-to-DB9F adaptor into the computer's DB9M serial port. Then connect the adaptor's RJ45 socket to the USR4204 terminal port using the included rollover cable.



If the terminal application raised the RS-232 DTR signal during initialization, the USR4204 terminal port LEDs will light and the USR4204 will automatically send its Main Menu screen to the terminal at 9600bps, 8N1 when you plug into the terminal port.

Step 5) Confirm communication with the USR4204

In the terminal emulation window hit **Enter** to show the Main Menu screen. If the Main Menu does not appear on the terminal, remove power from the USR4204 and check the Troubleshooting section.

You can now see the USR4204 parameter settings or enter any command displayed in the Main Menu screen.

### Congratulations!

The USR4204 is operational and ready to be installed at the equipment site.

## Physical Installation

### **Standalone**

To use the USR4204 on a flat, horizontal surface, affix the four adhesive rubber feet to the bottom of the housing in the four corners.

### **Rack Mounting**

To mount the USR4204 in a 19" rack, securely fasten the two rackmount brackets to the sides of the USR4204 using the supplied hardware and mount the USR4204 in a 1U space in a 19" rack.



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*CAUTION: When the USR4204 is installed in a closed or multiunit rack assembly, be aware of these potentially hazardous situations:*

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- Elevated Ambient Operating Temperature – A USR4204 installed in a closed or multi-unit rack assembly may be subjected to an ambient operating temperature that exceeds room ambient temperature. Installing the equipment in an environment compatible with the maximum ambient temperature (Tmax) specified by the manufacturer is recommended.
- Reduced Air Flow – Ensure that the amount of airflow required for safe operation of the equipment is not compromised when a USR4204 is installed in a rack assembly.
- Mechanical Loading – Do not create a hazardous condition by mounting the USR4204 in a rack that results in uneven or unbalanced mechanical loading.
- Circuit Overloading - Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of the circuits might have on overcurrent protection and supply wiring. Careful assessment and awareness of equipment nameplate ratings should be used.
- Reliable Earthing/Grounding - Reliable earthing/grounding of rack-mounted equipment should be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuit (e.g. use of power strips).

## Connecting Network Devices

### Connecting to Network Device Console Ports

When connecting network device console ports, the type of device will determine the type of cable required.

Console Port	Cable
RJ45 Cisco DTE	Straight Ethernet Cable
RJ45 Cisco DCE	Rollover Cable

Additional adapters may be required when connecting to console ports that use DB9 or DB25 connectors or RJ45 ports with alternate pinouts.

### Connecting To Power Ports

#### *Mains Input Port*

The mains power input port is the source of power to both of the USR4204 power out ports. Connect an IEC C13 power cord with an 8A or better rating to this input. Connect the other end of the power cord to the AC mains power service outlet.




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*WARNING: For continued protection against fire, replace the line fuse only with a fuse of the same voltage, current rating, and type.*

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#### *Power Out Ports*

The power out ports provide power to attached equipment, and provide a means to measure the load current of each output port and to remove power from each port. Connect IEC C14 power cords with an 8A or better rating to these outputs. Connect the other end of the power cords to the equipment.




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*WARNING: The combined power requirement of the equipment connected to all the USR4204 outputs must not exceed the USR4204 maximum input rating of 8 Amps.*

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The power from these ports is 'on' by default, even when the USR4204 is unpowered. When a power port is switched 'off', both the LINE and NEUTRAL conductors are opened. If the USR4204 loses power while a port is 'off', the port will turn 'on', but when power is restored to the USR4204, the port will return to the 'off' state.

The AC current being sourced from each of the output ports is monitored by the USR4204 and the RMS value is displayed on the Main Menu. To update the value, refresh the Main Menu by hitting the spacebar, Enter key or using the Menu command ('-' default).

## Remote Access

### Setup Using an Analog Modem

The PSTN phone network allows two analog modems to connect and pass data, and either modem can initiate the connection. For analog out-of-band remote management, the modem at the management site typically initiates contact.

Confirm requirements for analog connectivity:

- Computer terminal with a COM port
- Terminal emulation application
- Analog modem at the management site
- Analog modem at the equipment site
- Access to a phone line at both locations

#### *Configuring the Analog Modems*

The analog modem deploying at the management site requires no special configuration.

Before connecting the analog modem deploying at the equipment site to the USR4204, it must be pre-configured as follows. Consult the modem's user guide for details on configuring modem settings and storing into memory.

#### Fixed DTE Rate

The USR4204 terminal port has a fixed DTE rate of 9600bps, 8N1, so the modem must also have a fixed rate of 9600bps, 8N1. To set the modem DTE rate, use a terminal set at 9600bps, 8N1 to send commands to the modem to establish the modem DTE rate, and then store the updated settings into modem memory.



Save a step by first entering all the modem configuration commands at the 9600bps DTE rate, then store the settings into modem memory to save the new settings and the DTE rate together.

#### Result Codes - Disabled

Disable Result Codes to prevent USR4204 from misinterpreting modem Result Codes as commands.

#### Local Echo - Disabled

Disable Local Echo to prevent USR4204 transmissions from recirculating between the modem and the USR4204.

#### Auto-Answer - Enabled

Enable Auto-Answer so the modem answers whenever contact is initiated by the analog modem at the management terminal.

Carrier Detect Signal - Active

The RS-232 Carrier Detect signal should be active (not overridden) so the USR4204 will automatically present its Main Menu upon connection and automatically close ports upon disconnection.

Error Correction - Enabled

Enable Error Correction to allow the sending of V.42 flow control messages to the other modem if the receive buffer fills.

Xon/Xoff Flow Control- Enabled

Enable Xon/Xoff flow control in the modem if the USR4204 has flow control enabled.



Enable Xon/Xoff flow control in the USR4204 and in the modem to prevent buffer overflow for any of these situations:

- The equipment being managed through the USR4204 uses serial rates different from 9600bps
- USR4204 batch configuration files are larger than 1500 characters
- USR4204 linefeed pacing is enabled

AT Commands - Disabled (a.k.a. "Dumb Mode")

After all other configuration commands are set and stored, disable AT Commands to prevent messages from the USR4204 from causing a key-press abort of a pending modem connection. Disabling AT commands is typically done by flipping a physical switch on the modem.

*Cabling the Analog Modems*

Once the analog modem deploying at the equipment site has been properly configured, it may be attached to the USR4204 terminal port and telephone line.

Modem Connector	Adaptors and Cables Needed
DB25F	Provided DB25 Adapter and provided RJ45 rollover cable.
DB9F	Select one of the following: <ul style="list-style-type: none"> <li>• Purchase a RJ45-to-DB9M null modem adaptor and use the provided RJ45 rollover cable.</li> <li>• Purchase a RJ45-to-DB9M adaptor and use a straight Ethernet cable.</li> <li>• Purchase a DB25F-to-DB9M adaptor and use the provided RJ45-to-DB25M adaptor and RJ45 rollover cable.</li> <li>• See appendix A for the wiring diagrams for all options.</li> </ul>
RJ11	Use a phone cord with an RJ11 plug on one end, and a plug on the other end to suit your regional phone socket.

Connect the analog modem deploying at the management site to the management terminal COM port with a suitable RS-232 serial cable.

The setup is now ready to remotely manage the attached equipment.

### *Remotely Connecting and Managing Using Dialup*

To connect to the USR4204 and manage the attached equipment at the remote site via the analog phone network, the user will need a terminal emulation application, a modem, and a phone line at the management site to initiate the connection.

From the terminal, dial the phone number of the modem at the equipment site.

Once the modems connect, the USR4204 should send the Main Menu or login prompt to the management terminal. The attached equipment can be managed from the USR4204 Main Menu.



If the Main Menu or login prompt does not automatically appear, hit **Enter**. If the Main Menu or login prompt still does not appear on the terminal, check the Troubleshooting section.

### **Setup Using a Cellular Modem**

Most cellular networks do not allow a cellular modem to connect peer-to-peer with another modem. Therefore in a cellular setup, the modem is an IP client that communicates with an IP server. For out-of-band remote management, the IP server typically is a terminal used by a Network Manager for real-time communication to the remote equipment.

Confirm requirements for cellular connectivity:

- Computer with a TCP/IP protocols and Internet access
- Terminal emulation application with TCP/IP connectivity
- Cellular modem at the equipment site
- Access to a cellular network at the equipment site

The way to setup connectivity between a management terminal and a remote cellular modem depends on whether the IP address of the modem is public or private and static or dynamic. Contact your cellular operator about available options. The recommended setup for cellular out-of-band remote management is private static IP addressing, which allows immediate secure communication with the remote equipment through a VPN tunnel.

### *Configuring the Cellular Modem*

The modem connected to the USR4204 must be pre-configured before connecting it to the USR4204 at the equipment site. Depending on the modem's capabilities, some settings may not apply.

#### Fixed DTE Rate

The USR4204 terminal port has a fixed DTE rate of 9600bps, 8N1, so the modem must also have a fixed rate of 9600bps, 8N1. Please consult your cellular modem documentation about setting the modem DTE rate.

#### Result Codes - Disabled

If available, disable Result Codes to prevent USR4204 from misinterpreting modem Result Codes as commands.

Local Echo - Disabled

If available, disable Local Echo to prevent USR4204 transmissions from recirculating between the modem and the USR4204.

Auto-Answer - Enabled

Auto-Answer does not apply to cellular modems, however the recommended setup for cellular out-of-band remote management does require the modem to connect whenever contact is initiated by the management terminal.

Carrier Detect Signal - Active

If available, the RS-232 Carrier Detect signal should be active (not overridden) so the USR4204 will automatically present its Main Menu upon connection and automatically close ports upon disconnection.

Error Correction - Enabled

Error Correction does not apply to cellular modems. The TCP/IP protocol handles flow control messages transparently.

Xon/Xoff Flow Control- Enabled

Enable Xon/Xoff flow control in the modem if the USR4204 has flow control enabled.



Enable Xon/Xoff flow control in the USR4204 and in the modem to prevent buffer overflow for any of these situations:

- The equipment being managed through the USR4204 uses serial rates different from 9600bps
- USR4204 batch configuration files are larger than 1500 characters
- USR4204 linefeed pacing is enabled

AT Commands - Disabled (a.k.a. "Dumb Mode")

The Dumb Mode requirement does not apply to cellular modems because a key-press cannot abort a cellular connection.

*Cabling the Cellular Modem*

Once the cellular modem has been properly configured, it may be attached to the USR4204 terminal port.

Modem Connector	Adaptors and Cables Needed
DB25F	Provided DB25 Adapter and provided RJ45 rollover cable.
DB9F	Select one of the following: <ul style="list-style-type: none"> <li>• Purchase a RJ45-to-DB9M null modem adaptor and use the provided RJ45 rollover cable.</li> <li>• Purchase a RJ45-to-DB9M adaptor and use a straight Ethernet cable.</li> <li>• Purchase a DB25F-to-DB9M adaptor and use the provided RJ45-to-DB25M adaptor and RJ45 rollover cable.</li> <li>• See appendix A for the wiring diagrams for all options.</li> </ul>

The attached equipment is now ready to be remotely managed.

### *Remotely Connecting and Managing Using Cellular*

To connect to the USR4204 and manage the attached devices at the equipment site via a cellular network, the recommended setup is private static IP addressing, which allows immediate secure communication with the remote equipment through a VPN tunnel. Please consult your cellular modem vendor for guidance in setting-up mobile-terminated cellular connections, consult your cellular network operator for guidance in setting-up static IP addressing and a VPN tunnel, and consult your terminal application documentation for the settings to contact an IP address.

From the TCP/IP terminal, enter the static IP address and port number of the cellular modem at the equipment site. When the modem connects, the USR4204 should send the Main Menu or login prompt to the management terminal. The attached equipment can be managed from the USR4204 Main Menu.



If the Main Menu or login prompt does not automatically appear, hit **Enter**. If the Main Menu or login prompt still does not appear on the terminal, check the Troubleshooting section.



## Product Operation

### User Interface

The USR4204 offers two types of user interfaces: a Menu-Driven User Interface and a Command-Line User Interface. Users and Administrators use the Menu-Driven User Interface to manage the equipment connected to the USR4204. Administrators use the Menu-Driven User Interface or the Command-Line User Interface to configure the USR4204.

#### *Menu-Driven User Interface (a.k.a. "Menu Mode")*

The USR4204 Menu-Driven User Interface organizes commands into menus. See Figure 1 for a map of all menus. Each menu contains commands, text, and status where appropriate. Menu commands listed on the following pages are shown within single quotes ('), programmable names are shown within double quotes ("). A Menu command is a single character that either performs an action or provides navigation to another menu. Menu commands are not case-sensitive. Text can be any alphanumeric or non-alphanumeric displayable characters.



Alphanumeric and non-alphanumeric characters include all ASCII characters from 20h to 7Eh.

The USR4204 defaults to Menu Mode. To access the Menu-Driven User Interface, open a terminal emulation window on a computer (using Courier or other fixed-width font) and connect to the USR4204 remotely via modem or locally via the terminal port using a rolled RJ45 cable. Hit **Enter** to show the Main Menu screen. If security is enabled, the login prompt will appear instead.



Hit the spacebar or the Enter key to refresh any menu within the Menu-Driven User Interface.

#### *Command-Line User Interface (a.k.a. "Batch Mode")*

The USR4204 Command-Line User Interface allows an Administrator to configure the USR4204 by entering commands individually or by sending a sequence of commands in a batch configuration file. Commands are sent from a terminal as an ASCII data stream. A Batch command is (with three exceptions) a string of two or three characters and an equal sign (=) delimiter, followed by a parameter setting or text string, terminated with a carriage return. Batch commands are not case-sensitive. Text can be any alphanumeric or non-alphanumeric displayable characters.



The USR4204 will not parse multiple Batch commands in one line.

The USR4204 Command-Line User Interface can be accessed only by Administrators (including Users that are granted Administrator privileges) to configure the USR4204. The

USR4204 must enter Batch Mode before it will accept Batch commands, and must exit Batch Mode to return to Menu Mode. An inactivity timeout will automatically exit Batch Mode.



Important: Batch Mode does not check that commands are valid. Entries cannot be erased with a backspace and retyped. Improperly formatted commands or out-of-range values may produce unexpected results!

### Batch Configuration Files

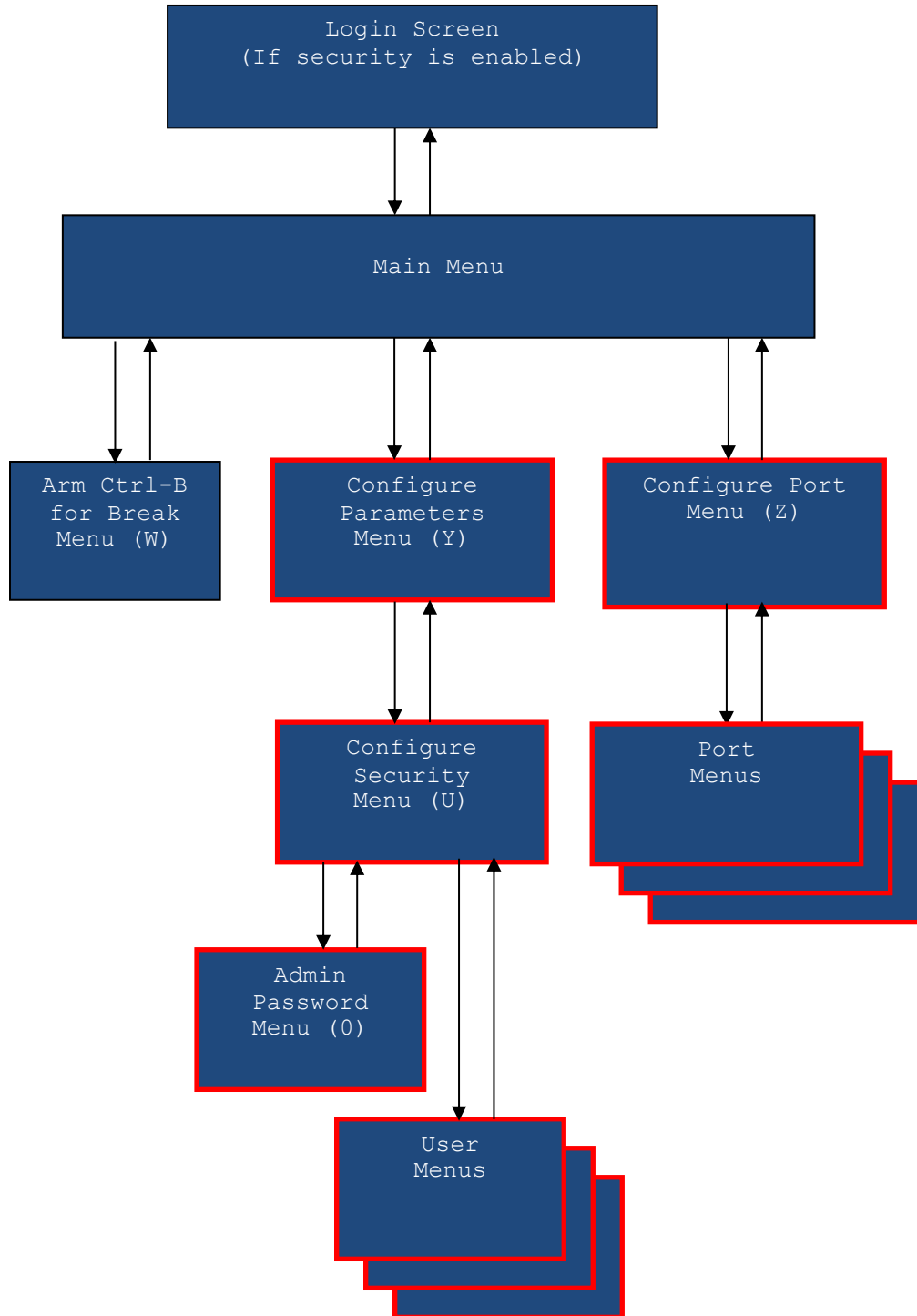
A sequence of Batch commands can be grouped into an ASCII text file and sent to the USR4204 in Batch Mode. The USR4204 will receive the sequence and execute each command as it is received. An example of a USR4204 factory default batch configuration file is available on the USR4204 support page. ([www.usr.com/support/4204](http://www.usr.com/support/4204))

Batch configuration files can be created or modified to contain fewer than all system parameters, and any system parameters not included in the file will be unchanged in the USR4204.

The receive buffer of the USR4204 may overflow if a batch configuration file is larger than 1500 characters. To prevent buffer overflow, either enable Xon/Xoff flow control in the USR4204 and the modem (for remote configuration) or terminal (for local configuration); or reduce the size of the batch configuration file by removing comments or splitting the file into two smaller files.

The USR4204 can also send its complete set of current parameter settings to the terminal. This stream of data can be captured or logged to create a configuration file. Refer to your terminal help files for details on capturing and saving data from the terminal window. Configuration files must be saved using either ANSI or UTF-8 character encoding.

Figure 1



Note: Menus with red borders are not available to Users if security is enabled

Command Reference – Menu Mode

Function	Keystrokes	Availability
Connect to Port	Mm <i>PL</i>	NS, A, AU
Toggle Power Port ON or OFF	oMm P# (Y,N)	NS, A, AU
Enable Power Port	aMm P# (Y,N)	NS, A, AU
Disable Power Port	aMm (5-6) (Y,N)	NS, A, AU
Reboot Power Port	aMm (M-N) (Y,N)	NS, A, AU
Arm Ctrl-B for Break, Ctrl-R and Ctrl-T for Reboot, and Ctrl-Z to Disarm Break and Reboot	Mm W <i>PL</i>	NS, A, AU
Configure Port Parameters	Mm Z <i>PL</i>	NS, A
Rename Power Port	Mm Z P#	NS, A
Rename Console Port	Mm Z <i>PL</i> R	NS, A
Copy Baud Rate and Parity to All Console Ports	Mm Z <i>PL</i> C	NS, A
Change Console BPS Rate	Mm Z <i>PL</i> (1-9)	NS, A
Change Console Parity	Mm Z <i>PL</i> (NEOMS)	NS, A
Change Character for Transmitted Escape	Mm Z <i>PL</i> Y	NS, A
Toggle Transmitted Cellular Mode	Mm Z <i>PL</i> Z	NS, A
Configure Parameters	Mm Y	NS, A
Change Inactivity Timeout	Mm Y T	NS, A
Customize USR4204 Name	Mm Y R	NS, A
Change Character for Received Escape	Mm Y S	NS, A
Change Character for Menu	Mm Y M	NS, A
Change Character for Xon	Mm Y N	NS, A
Change Character for Xoff	Mm Y X	NS, A
Toggle Received Cellular Mode	Mm Q	NS, A, AU
Enter Login Banner	Mm Y W	NS, A
Enter Security Banner	Mm Y Y	NS, A
Toggle S/W Flow Control	Mm Y F	NS, A
Toggle Xon/Xoff Pass Thru	Mm Y P	NS, A
Toggle Command Echo	Mm Y E	NS, A
Toggle Auto CR	Mm Y A	NS, A
Toggle DCD Override	Mm Y D	NS, A
Toggle Security Banner	Mm Y B	NS, A
Configure Security (Manage Users and turn on Security)	Mm Y U	NS, A

NOTE: Italics indicate that a specific port or user must be selected.  
 Parentheses indicate multiple options – verify choice on screen.

**Key:**

Mm both Main Menu or Alternate Main Menu  
 oMm Main Menu only  
 aMm Alternate Main Menu only

*PL* Console Port Letter (A-D)  
*P#* Power Port Number (1-2)  
 NS No Security  
 A Admin

AU Approved user  
*UID* User account number or letter (1-9, A-F)

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Function	Keystrokes	Availability
Load Factory Parameters	Mm Y &	NS, A
Flash New Code	Mm Y !	NS, A
Toggle Linefeed Transmit Pacing	Mm Y L	NS, A
Toggle Strong Password Constraint	Mm Y J	NS, A
Turn on Security/Create an Administrator	Mm Y U 0	NS, A
Change Administrator Username	Mm Y U 0 Y	NS, A
Change Administrator Password	Mm Y U 0 Z	A
Create/Manage a User	Mm Y U <i>UID</i>	A
Change User Username	Mm Y U <i>UID</i> Y	A
Change User Password	Mm Y U <i>UID</i> Z	A
Remove All User Accounts including Administrator. Turn off Security.	Mm Y U &	A
Change User Port Permissions	Mm Y U <i>UID</i> <i>PL/P#</i>	A
Deny Access to All Ports	Mm Y U <i>UID</i> W	A
Grant Access to All Ports	Mm Y U <i>UID</i> S	A
Turn User ON or OFF	Mm Y U <i>UID</i> T	A
Toggle Administrator Privileges	Mm Y U <i>UID</i> P	A
Delete User	Mm Y U <i>UID</i> X	A
Change Password	Mm P	A, AU
Return to Parent Menu	- (programmable)	NS, A, AU
Logout	Mm X	A, AU
Enter Batch Mode (Command-Line Interface)	Mm ~B	NS, A
Toggle Alternate Power Commands ON or OFF	Mm ~V	NS, A
Restore Factory Parameters and Clear All Accounts & Banners	Mm ~&	NS, A

NOTE: Italics indicate that a specific port or user must be selected.  
 Parentheses indicate multiple options – verify choice on screen.

**Key:**

Mm both Main Menu or Alternate Main Menu	PL Console Port Letter (A-D)	AU Approved user
oMm Main Menu only	P# Power Port Number (1-2)	UID User account number or letter (1-9, A-F)
aMm Alternate Main Menu only	NS No Security	
	A Admin	

Command Reference – Batch Mode

Function	Command	Values / Range
Exit Batch Mode (Return to Menu Mode)	~	n/a
Restore Factory Parameters and Clear All Accounts & Banners	&	n/a
Send All System Parameter Settings	R	n/a
Alternate Power Port Commands	FV=	1=on, 0=off
Rename Power Port 1:2	N1= N2=	up to 32 displayable characters [zero characters nulls the port name]
Rename Console Port A:D	NA= NB= NC= ND=	up to 32 displayable characters [zero characters nulls the port name]
Change BPS Rate of Console Port A:D	TA= TB= TC= TD=	300, 1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200
Change Parity of Console Port A:D	WA= WB= WC= WD=	None, Even, Odd, Mark, Space
Change Escape Character Transmitted from Port A:D	HA= HB= HC= HD=	<u>Valid ASCII characters</u> # \$ % ( ) * - . / : ; < > ? @ [ \ ] ^ _ {   } ~  <u>Valid ASCII Ctrl characters</u> A B C D E F G I K L N O P Q R S T U V W X Y Z \ ] ^ _  [Ctrl-\ disables the escape sequence]
Number of Escape Characters Transmitted from Port A:D	H1= H2= H3= H4=	00 [3 characters] 01:07 [1 thru 7 characters]
Change Inactivity Timeout	HT=	00:FF (hex minutes) [00 disables the timeout]
Customize USR4204 Name	NN=	up to 32 displayable characters [zero characters nulls the name]
Change Character for Received Escape	HS=	<u>Valid ASCII characters</u> # \$ % ( ) * - . / : ; < > ? @ [ \ ] ^ _ {   } ~  <u>Valid ASCII Ctrl characters</u> A B C D E F G I K L N O P Q R S T U V W X Y Z \ ] ^ _  [Ctrl-\ disables the escape sequence]
Change Character for Menu	HM=	<u>Valid ASCII characters</u> # \$ % ( ) * - . / : ; < > ? @ [ \ ] ^ _ {   } ~  <u>Valid ASCII Ctrl characters</u> A B C D E F G I K L N O P Q R S T U V W X Y Z \ ] ^ _

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Function	Command	Values / Range
Change Character for Xon	HN=	Valid ASCII characters # \$ % ( ) * - . / : ; < > ? @ [ \ ] ^ _ {   } ~ Valid ASCII Ctrl characters A B C D E F G I K L N O P Q R S T U V W X Y Z \ ] ^ _
Change Character for Xoff	HX=	Valid ASCII characters # \$ % ( ) * - . / : ; < > ? @ [ \ ] ^ _ {   } ~ Valid ASCII Ctrl characters A B C D E F G I K L N O P Q R S T U V W X Y Z \ ] ^ _
Number of Escape Characters Received (Cellular Mode)	HQ=	00 [Off, 3 characters] 01:07 [On, 1 thru 7 characters]
Enter Login Banner	NL=	up to 64 displayable characters [zero characters nulls the banner]
Enter Security Banner	NS=	up to 256 displayable characters, use \n for CR/LF [zero characters nulls the banner]
S/W Flow Control	FF=	1=on, 0=off
Xon/Xoff Pass Thru	FP=	1=on, 0=off
Command Echo	FE=	1=on, 0=off
Auto CR	FA=	1=on, 0=off
DCD Override	FD=	1=on, 0=off
Security Banner	FB=	1=on, 0=off
Linefeed Transmit Pacing	FL=	1=on, 0=off
Strong Password Constraint	FS=	1=on, 0=off
Change Administrator Username	U0=	up to 16 displayable characters [zero characters disables security]
Change Administrator Password	P0=	up to 13 displayable characters [zero characters disables security]
Change Username of User 1:15	U1= U2= U3= U4= U5= U6= U7= U8= U9= UA= UB= UC= UD= UE= UF=	up to 16 displayable characters [zero characters disables the User]

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Function	Command	Values / Range	
Change Password of User 1:15	P1= P2= P3= P4= P5= P6= P7= P8= P9= PA= PB= PC= PD= PE= PF=	up to 13 displayable characters [zero characters nulls the password]	
Change User Permissions Port A:D, 1:2	User 1	B1A= B1B= B1C= B1D= B11= B12=	1=yes, 0=no
	User 2	B2A= B2B= B2C= B2D= B21= B22=	1=yes, 0=no
	User 3	B3A= B3B= B3C= B3D= B31= B32=	1=yes, 0=no
	User 4	B4A= B4B= B4C= B4D= B41= B42=	1=yes, 0=no
	User 5	B5A= B5B= B5C= B5D= B51= B52=	1=yes, 0=no
	User 6	B6A= B6B= B6C= B6D= B61= B62=	1=yes, 0=no
	User 7	B7A= B7B= B7C= B7D= B71= B72=	1=yes, 0=no
	User 8	B8A= B8B= B8C= B8D= B81= B82=	1=yes, 0=no



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Function		Command	Values / Range
	User 9	B9A= B9B= B9C= B9D= B91= B92=	1=yes, 0=no
	User 10	BAA= BAB= BAC= BAD= BA1= BA2=	1=yes, 0=no
	User 11	BBA= BBB= BBC= BBD= BB1= BB2=	1=yes, 0=no
	User 12	BCA= BCB= BCC= BCD= BC1= BC2=	1=yes, 0=no
	User 13	BDA= BDB= BDC= BDD= BD1= BD2=	1=yes, 0=no
	User 14	BEA= BEB= BEC= BED= BE1= BE2=	1=yes, 0=no
	User 15	BFA= BFB= BFC= BFD= BF1= BF2=	1=yes, 0=no
Enable/Disable User	User 1	B1E=	1=enable, 0=disable
	User 2	B2E=	1=enable, 0=disable
	User 3	B3E=	1=enable, 0=disable
	User 4	B4E=	1=enable, 0=disable
	User 5	B5E=	1=enable, 0=disable
	User 6	B6E=	1=enable, 0=disable
	User 7	B7E=	1=enable, 0=disable
	User 8	B8E=	1=enable, 0=disable
	User 9	B9E=	1=enable, 0=disable
	User 10	BAE=	1=enable, 0=disable
	User 11	BBE=	1=enable, 0=disable
	User 12	BCE=	1=enable, 0=disable
	User 13	BDE=	1=enable, 0=disable
	User 14	BEE=	1=enable, 0=disable
	User 15	BFE=	1=enable, 0=disable
Grant/Deny User Administrator Privileges	User 1	B1P=	1=grant, 0=deny
	User 2	B2P=	1=grant, 0=deny
	User 3	B3P=	1=grant, 0=deny
	User 4	B4P=	1=grant, 0=deny
	User 5	B5P=	1=grant, 0=deny
	User 6	B6P=	1=grant, 0=deny
	User 7	B7P=	1=grant, 0=deny

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Function		Command	Values / Range
	User 8	B8P=	1=grant, 0=deny
	User 9	B9P=	1=grant, 0=deny
	User 10	BAP=	1=grant, 0=deny
	User 11	BBP=	1=grant, 0=deny
	User 12	BCP=	1=grant, 0=deny
	User 13	BDP=	1=grant, 0=deny
	User 14	BEP=	1=grant, 0=deny
	User 15	BFP=	1=grant, 0=deny

## **Menu Mode and Batch Mode Command Reference**

This section shows an example of each USR4204 menu, describes the functions available in each menu, and correlates the equivalent Batch Mode command.

### *Main Menu*

```

T/O Esc Menu Xon Xoff Flow Pass Echo AutoCR DCD Banr
005 - - ^Q ^S OFF OFF ON ON OFF OFF
-----
MAIN Menu "USR4204 " Logged In: "Admin Username "

CMD
'A' Connect "Console A "( 9600 None )
'B' Connect "Console B "( 9600 None )
'C' Connect "Console C "( 9600 None )
'D' Connect "Console D "( 9600 None )

'1' Toggle "Power 1 "(ON 0.0 Amps)
'2' Toggle "Power 2 "(ON 0.0 Amps)

'Q' Toggle Cellular Mode (OFF)
'W' Arm Ctrl-B for Break
'X' Logout 'P' Change Password
'Y' Config Parameters
'Z' Config Ports

'- ' Refresh MAIN Menu
    
```

At the top of the Main Menu is a banner that displays the current system parameters. Below the banner are the menu name, the user-programmable device name, and the current login name (if security is enabled). Next is a list of valid commands, text, and status. Invalid commands are ignored.



Menu commands listed in this guide are shown within single quotes ('); programmable names are shown within double quotes ("). The corresponding Batch Mode command is identified following the description of each function.

### 'A'-'D' Connect to Console

These Connect commands create a full duplex data connection between the USR4204 terminal port and one of its serial ports. The terminal port is fixed at 9600bps, 8N1. The rate and format of serial ports are programmable to match the console port of the attached equipment. The current serial port parameters are shown in parentheses next to the port name.

To close a connection to a serial port, use the Escape Sequence. The Escape Sequence is a string of identical characters typed rapidly without surrounding characters. The default Escape Sequence is "----".

A serial port will automatically close upon loss of the DCD/DTR RS-232 signal on the USR4204 terminal port, unless the DCD override is ON. Whenever a serial port closes due to a loss of the DCD/DTR, the serial port automatically transmits an Escape Sequence for the purpose of closing any downstream serial port of a cascaded USR4204.

A serial port will automatically close due to an inactivity timeout.

Batch Mode Command: None

#### '1'- '2' Toggle Power Port

These Toggle commands each control a USR4204 power port. When a Toggle command is entered, power from the mains power input is disconnected or reconnected (depending on the previous state) to the corresponding output after entering a 'Y' at the "Are you sure?" prompt. The current power port state (ON or OFF) and RMS load current are shown in parentheses next to the port name.

To update the RMS value, refresh the Main Menu by hitting the spacebar, Enter key, or using the Refresh Menu (default '-') command.

Batch Mode Command: None

#### 'Q' Toggle Cellular Mode

Use this command to change the number of characters and disable the guard timing requirement for the received Escape Sequence. Each entry of this command cycles the cellular mode from 0 (OFF) through 7.

OFF: The Escape Sequence behaves normally for analog modem connections. Receiving three consecutive Escape characters (default '-') from the terminal causes a disconnect from a Serial Port connection. There is a one second maximum guard time allowed between the characters.

1-7: These settings are for Cellular (packet) connections, where large variations in latency may occur. Receiving the specified number (1 thru 7) of the Escape characters (default '-') from the terminal causes a disconnect from a Serial Port connection. The one second maximum guard time limit is disabled.

Batch Mode Command: HQ=

Valid values: 00[Off, 3 characters], 01:07[On, 1 thru 7 characters]

#### 'W' Arm Ctrl-B for Break

Navigates to the Arm Ctrl-B for Break Menu to select which serial port will enable and send a break signal or trigger a power port reboot.

Batch Mode Command: None

### 'X' Logout

The Logout command ends a secure session and sends the Login screen to the terminal. It is available only when security is on.

Batch Mode Command: None

### 'P' Change Password

This Change Password command allows Users to change their own password. Use the command to enter a new password on the Change Password screen. The password may be up to 13 displayable characters in length. Passwords are case-sensitive.

Batch Mode Command: None (Users can't access Batch Mode)

### 'Y' Configure Parameters

Navigate to the Configure Parameters Menu with this command.

Batch Mode Command: None

### 'Z' Configure Ports

Navigate to the Configure Ports Menu with this command.



The Configure Parameters and Configure Ports commands are available only to the administrator, or if security is off.

Batch Mode Command: None

### '-' Refresh Main Menu

Refresh the Main Menu banner with current system parameters and update current status for each port with this command.



The spacebar or the Enter key may also be used to refresh the Main Menu.

Batch Mode Command: None

### ~B Enter Batch Mode

Enter this two character sequence to put the USR4204 into Batch Mode. Even though the ~B command is not shown on the Main Menu, it is always available for Administrators at the Main Menu. Exit Batch Mode with the ~ Batch Command.

Batch Mode Command: None

~& Restore Factory Settings

Enter this two character sequence to restore the USR4204 to factory parameters and clear all accounts & banners. Even though the ~& command is not shown on the Main Menu, it is always available for Administrators at the Main Menu.

Batch Mode Command: &

~V Toggle Alternate Menu Mode

Enter this two character sequence to toggle the USR4204 between the Main Menu and the Alternate Main Menu. Even though the ~V command is not shown on the Main Menu, it is always available for Administrators at the Main Menu.

Batch Mode Command: FV=

Valid values: 1=on, 0=off

*Alternate Main Menu*

```
T/O Esc Menu Xon Xoff Flow Pass Echo AutoCR DCD Banr
005 - - ^Q ^S OFF OFF ON ON OFF OFF
-----
MAIN Menu "USR4204 " Logged In: "Admin Username "

CMD
'A' Connect "Console A "( 9600 None )
'B' Connect "Console B "( 9600 None )
'C' Connect "Console C "( 9600 None )
'D' Connect "Console D "( 9600 None )

'1' Enable "Power 1 "(ON 0.0 Amps)
'2' Enable "Power 2 "(ON 0.0 Amps)

'Q' Toggle Cellular Mode (OFF) '5' Disable 1
'W' Arm Ctrl-B for Break '6' Disable 2
'X' Logout 'P' Change Password
'Y' Config Parameters
'Z' Config Ports

'M' Reboot 1
'- ' Refresh MAIN Menu 'N' Reboot 2
```

The Alternate Main Menu offers alternate power port commands that may be preferred by some Users. All other commands remain as described for the Main Menu.

'1'- '2' Enable Power Port

These commands each control a USR4204 power port. When an enable command is entered, power from the mains power input is connected (regardless of the previous state) to the corresponding output after entering a 'Y' at the "Are you sure?" prompt. The current power port state (ON or OFF) and RMS load current are shown in parentheses next to the port name.

To update the RMS value, refresh the Main Menu by hitting the spacebar, Enter key, or using the Refresh Menu (default '-') command.

Batch Mode Command: None

'5'- '6' Disable Power Port

These commands each control a USR4204 power port. When a disable command is entered, power from the mains power input is disconnected (regardless of the previous state) from outputs 1 or 2 after entering a 'Y' at the "Are you sure?" prompt. The current power port state (ON or OFF) and RMS load current are then shown in parentheses next to the port name.

To update the RMS value, refresh the Main Menu by hitting the spacebar, Enter key, or using the Refresh Menu (default '-') command.

Batch Mode Command: None

'M'- 'N' Reboot Power Port

These commands each control a USR4204 power port. When a reboot command is entered, power from the mains power input is disconnected (regardless of the previous state) from output 1 or 2 for approximately 10 seconds after entering a 'Y' at the "Are you sure?" prompt, then reconnected. The current power port state (ON or OFF) and RMS load current are shown in parentheses next to the port name.

No commands are accepted during the reboot time. To update the RMS value after reboot is complete, refresh the Main Menu by hitting the spacebar, Enter key, or using the Refresh Menu (default '-') command.

Batch Mode Command: None

*Arm Ctrl-B for Break Menu (Main Menu → W)*

```
'W' Arm      Ctrl-B for Break (one-shot)
    Arm      Ctrl-R to  Reboot Pwr 1
    Arm      Ctrl-T to  Reboot Pwr 2
           Ctrl-Z to  Cancel Arming

Select Port:

CMD
'A' Connect "Console A      " ( 9600 None )
'B' Connect "Console B      " ( 9600 None )
'C' Connect "Console C      " ( 9600 None )
'D' Connect "Console D      " ( 9600 None )

'- ' Refresh MAIN Menu
```

At the top of the Arm Ctrl-B for Break Menu is the menu name. Below that is a list of valid commands, text, and status. Invalid commands are ignored.

From this menu, the serial ports are armed to reboot the USR4204 power ports while a serial port is connected, and also are armed to transmit an RS232 break signal from a serial port while connected. Rebooting while connected to a serial port allows a User to observe the messages sent from the attached equipment during the entire power-up cycle. Sending a break signal from a serial port during a power-up sequence is useful to force the operating system of Cisco routers into ROMmon diagnostic mode.

'A'-'D' Arm and Connect to Console

These Connect commands create a full duplex data connection between the USR4204 terminal port and one of its serial ports, and arms the Ctrl-B, Ctrl-R, Ctrl-T, and Ctrl-Z commands. The terminal port is fixed at 9600bps, 8N1. The rate and format of serial ports are programmable to match the console port of the attached equipment. The current serial port parameters are shown in parentheses next to the port name.

To close a connection to a serial port, use the Escape Sequence. The Escape Sequence is a string of identical characters typed rapidly without surrounding characters. The default Escape Sequence is "---".

A serial port will automatically close upon loss of the DCD/DTR RS-232 signal on the USR4204 terminal port, unless the DCD override is ON. Whenever a serial port closes due to a loss of the DCD/DTR, the serial port automatically transmits an Escape Sequence for the purpose of closing any downstream serial port of a cascaded USR4204.



Batch Mode Command: None

Ctrl-R and Ctrl-T Reboot Power Port

While connected to the selected serial port, the user can reboot either USR4204 power port by using the Ctrl-R and Ctrl-T commands. When a reboot command is entered, power from the mains power input is disconnected (regardless of the previous state) from output 1 or 2 for approximately 10 seconds after entering a 'Y' at the "Are you sure?" prompt, then reconnected. Both of the power reboot commands remain armed until the break command or the cancel command is executed, or the serial port closes.

Batch Mode Command: None

Ctrl-B Send Break

While connected to the selected port, the user can manually send an RS-232 break signal of approximately 750mS by hitting the Ctrl-B keys at the appropriate time. Executing the break command disarms the reboot commands and disarms further break commands.

Batch Mode Command: None

Ctrl-Z Cancel Arming

Executing the Ctrl-Z command disarms the Ctrl-B, Ctrl-R, Ctrl-T commands.

Batch Mode Command: None

Once a Ctrl-B command or Ctrl-Z command has been executed, any subsequent Ctrl-B, Ctrl-R, Ctrl-T, or Ctrl-Z characters will be recognized as ordinary data instead of commands.

*Configure Ports Menu (Main Menu → Z)*

```

Configure Ports Menu "USR4204"
"
CMD
'A' Config "Console A" ( 9600 None )
'B' Config "Console B" ( 9600 None )
'C' Config "Console C" ( 9600 None )
'D' Config "Console D" ( 9600 None )

'1' Rename "Power 1" (ON 0.0 Amps)
'2' Rename "Power 2" (ON 0.0 Amps)

'- ' Return to MAIN Menu
    
```

At the top of the Configure Ports Menu are the menu name and the user-programmable device name. Below that is a list of valid commands, text, and status. Invalid commands are ignored.

'A'-'D' Config Console Port

Navigate to the Port Menu of the corresponding serial port to change the rate, format, or name of the selected port with this command. The current serial port parameters are shown in parentheses next to the port name.

Batch Mode Command: None

'1'-'2' Rename Power Port

Navigate to the Rename screen of the corresponding power port to change the name of a power port with this command. The port name may be up to 32 displayable characters in length. The current power port state (ON or OFF) and RMS load current are shown in parentheses next to the port name.

Batch Mode Commands: N1=, N2=

Valid range: up to 32 displayable characters (zero characters nulls the port name)

'-' Return to Main Menu

Navigate back to the Main Menu with this command.

Batch Mode Command: None

*Port Menus (Main Menu → Z → Port Letter or number)*

```

Menu for "Console A" ( 9600 None )

CMD          CMD
'1'   300 bps  'N' 8 Data Bits, Parity None
'2'   1200 bps 'E' 7 Data Bits, Parity Even
'3'   2400 bps 'O' 7 Data Bits, Parity Odd
'4'   4800 bps 'M' 7 Data Bits, Parity Mark
'5'   9600 bps 'S' 7 Data Bits, Parity Space
'6'  19200 bps
'7'  38400 bps
'8'  57600 bps
'9' 115200 bps

'R' Rename "Console A"
'Y' Change Char for Escape (-)
'Z' Toggle Cellular Mode (OFF)
'C' Copy This Baud/Parity/Esc Seq to All Console Ports

'- ' Return to Configure Ports Menu
    
```

At the top of the Port Menu are the menu name, the user-programmable port name, and the current serial port parameters. Below that is a list of valid commands and text. Invalid commands are ignored.

'1'-'9' Change bps

Use a bps command to change the rate of the selected serial port.

Batch Mode Commands: TA=, TB=, TC=, TD=  
 Valid values: 300, 1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200

'N', 'E', 'O', 'M', 'S' Change Parity

Use a Parity command to change the format of the selected serial port.

Batch Mode Commands: WA=, WB=, WC=, WD=  
 Valid values: None, Even, Odd, Mark, Space

'R' Rename

Rename the serial port with this command. It navigates to the Rename screen. The port name may be up to 32 displayable characters in length.

Batch Mode Commands: NA=, NB=, NC=, ND=  
 Valid range: up to 32 displayable characters (zero characters nulls the port name)

### 'Y' Change Char for Escape

Whenever a serial port closes due to a loss of the DCD/DTR RS-232 signal on the USR4204 terminal port, the serial port automatically transmits an Escape Sequence for the purpose of closing any downstream serial port of a cascaded USR4204.

This command changes the Escape character that is transmitted by the serial port. It navigates to the Change Character screen. The current value of the transmitted Escape character is shown in parentheses.

The transmitted Escape Sequence may be disabled by programming this character to a control-\. To enter control-\. in the Change Character screen, hold down the Ctrl key and press \

Default: "-"



ASCII character ^\ (Ctrl-\) is Hexadecimal 1C

Batch Mode Commands: HA=, HB=, HC=, HD=

Valid characters: # \$ % ( ) \* - . / : ; < > ? @ [ \ ] ^ \_ { | } ~

Or any of the following control characters:

A B C D E F G I K L N O P Q R S T U V W X Y Z \ ] ^ \_

### 'Z' Toggle Cellular Mode

Whenever a serial port closes due to a loss of the DCD/DTR RS-232 signal on the USR4204 terminal port, the serial port automatically transmits an Escape Sequence for the purpose of closing any downstream serial port of a cascaded USR4204. This command changes the number of Escape characters that is transmitted by the serial port. Each entry of this command cycles the cellular mode from 0 (OFF) through 7.

OFF: The transmitted Escape Sequence is three consecutive Escape characters.

1-7: The serial port will transmit the specified number (1 thru 7) of the Escape characters.

Batch Mode Commands: H1=, H2=, H3=, H4=

Valid values: 00 [3 characters], 01:07 [1 thru 7 characters]

### 'C' Copy This Baud/Parity to All Console Ports

Set all serial ports to the rate and format of the selected port with this command.

Batch Mode Command: None

### '-' Return to Configure Ports Menu

Navigate back to the Configure Ports Menu with this command.

Batch Mode Command: None

*Configure Parameters Menu (Main Menu → Y)*

```

T/O Esc Menu Xon Xoff Flow Pass Echo AutoCR DCD Banr
005 - - ^Q ^S OFF OFF ON ON OFF OFF
-----
Configure Parameters Menu Ver 1.17 05/29/14 S/N: 1ME4Z7PM0004 C/S: A8D5

CMD                                CMD
'T' Change Inactivity Timeout      'R' Rename System
'S' Change Char for Escape         'M' Change Char for Menu
'N' Change Char for Xon           'X' Change Char for Xoff
'W' Enter Login Banner            'Y' Enter Security Banner

'F' Toggle S/W Flow Control        'P' Toggle Xon/Xoff Pass Thru
'E' Toggle Command Echo           'A' Toggle Auto CR
'D' Toggle DCD Override            'B' Toggle Security Banner
'L' Toggle LF Pacing (ON )        'J' Toggle Strong Password (OFF)

'U' Config Security               '&' Load Factory Parameters
'- ' Return to MAIN Menu          '!' Flash New Code
    
```

At the top of the Configure Parameters Menu is a banner that displays the current system parameters. Directly below the banner are the menu name, the firmware version number and date, the serial number of the USR4204, and a firmware checksum. Below that is a list of valid commands and text. Invalid commands are ignored.

'T' Change Inactivity Timeout

The USR4204 will close a serial port if no data passes in or out of the terminal or serial port before this inactivity time lapses. If security is enabled, the session will also logout.

Valid range: 0 to 255 decimal minutes (0 disables the timer) Default: 005

Batch Mode Command: HT=

Valid range: 00 to FF (hex minutes, 00 disables the timer)

'R' Rename

Rename the USR4204 with this command. It navigates to the Rename screen. The USR4204 name may be up to 32 displayable characters in length.

Default: USR4204

Batch Mode Command: NN=

Valid range: up to 32 displayable characters (zero characters nulls the name)

### 'S' Change Char for Escape

The USR4204 will close a connection to a serial port when it receives the Escape Sequence on its terminal port. Change the received Escape character with this command. It navigates to the Change Character screen.

The received Escape Sequence may be disabled by programming this character to a control-\. To enter control-\. in the Change Character screen, hold down the Ctrl key and press \

Default: "-"



ASCII character ^\ (Ctrl-\) is Hexadecimal 1C

Batch Mode Command: HS=

Valid characters: # \$ % ( ) \* - . / : ; < > ? @ [ \ ] ^ \_ { | } ~

Or any of the following control characters:

A B C D E F G I K L N O P Q R S T U V W X Y Z \ ] ^ \_

### 'M' Change Char for Menu

Change the character for the Menu command with this command. It navigates to the Change Character screen.

Default: "-"

Batch Mode Command: HM=

Valid characters: # \$ % ( ) \* - . / : ; < > ? @ [ \ ] ^ \_ { | } ~

Or any of the following control characters:

A B C D E F G I K L N O P Q R S T U V W X Y Z \ ] ^ \_

### 'N' Change Char for Xon

Change the character used for Xon flow control with this command. It navigates to the Change Character screen.

Default: 11h



Hexadecimal 11 is ASCII character ^Q (Ctrl-Q)

Batch Mode Command: HN=

Valid characters: # \$ % ( ) \* - . / : ; < > ? @ [ \ ] ^ \_ { | } ~

Or any of the following control characters:

A B C D E F G I K L N O P Q R S T U V W X Y Z \ ] ^ \_

'X' Change Char for Xoff

Change the character used for Xoff flow control with this command. It navigates to the Change Character screen.

Default: 13h



Hexadecimal 13 is ASCII character ^S (Ctrl-S)

Batch Mode Command: HX=

Valid characters: # \$ % ( ) \* - . / : ; < > ? @ [ \ ] ^ \_ { | } ~

Or any of the following control characters:

A B C D E F G I K L N O P Q R S T U V W X Y Z \ ] ^ \_

'W' Enter Login Banner

When security is enabled, the USR4204 will present this greeting previous to the login prompt if security is enabled. This command is available only when security is on and navigates to the Change Banner screen. The banner may be up to 64 displayable characters in length.

Default: **USRobotics Console Server & Power Switch**

Batch Mode Command: NL=

Valid range: up to 64 displayable characters (zero characters nulls the banner)

'Y' Enter Security Banner

If security and the security banner are enabled, the USR4204 will present a security banner prior to the login banner. This command is available only when security is on and navigates to the Change Banner screen. The banner may be up to 256 displayable characters in length. Each occurrence of '\n' (newline) will be replaced with a carriage return/line feed pair.

Default: empty (nulls)

The security banner is enabled or disabled by the 'B' command in the Configure Parameters Menu.

Batch Mode Command: NS=

Valid range: up to 256 displayable characters (use \n for CR/LF, zero characters nulls the banner)

'F' Toggle S/W Flow Control

Enable or disable Xon/Xoff flow control for the terminal port and all serial ports with this command.

Default: Off



If S/W flow control is desired, it must be enabled on both the USR4204 and the modem attached to the USR4204 terminal port

Batch Mode Command: FF=

Valid values: 1=on, 0=off

#### 'P' Toggle Xon/Xoff Pass Thru

Xon/Xoff flow control characters are allowed to pass through the terminal port and all serial ports with this command.

Default: Off

Batch Mode Command: FP=

Valid values: 1=on, 0=off

#### 'E' Toggle Command Echo

The terminal port can echo back to the terminal all valid commands and text it received. Disable or re-enable echoing with this command.

Default: On

Batch Mode Command: FE=

Valid values: 1=on, 0=off

#### 'A' Toggle Auto CR

The terminal port can accept single digit commands without an explicit carriage return (0Dh). Disable or re-enable Auto CR with this command.

Default: On

Batch Mode Command: FA=

Valid values: 1=on, 0=off

#### 'D' Toggle DCD Override

The terminal port can monitor the incoming DCD (or DTR) signal. When DCD is not overridden, a rising edge will cause the terminal port to send the main menu or the login prompt. A falling edge will close any open serial port, and logout the session if security is enabled. Enable or disable DCD override with this command.

Default: Off

Batch Mode Command: FD=

Valid values: 1=on, 0=off



### 'B' Toggle Security Banner

If security is enabled, the USR4204 may present a security banner ahead of the login prompt. Enter the security banner text with the 'Y' command in the Configure Parameters Menu. Enable or disable the security banner with this command, which is available only when security is on.

Default: Off

Batch Mode Command: FB=

Valid values: 1=on, 0=off

### 'L' Toggle LF Pacing

If the equipment attached to a USR4204 serial port needs time to process each line of data that is streaming out of the USR4204 serial port, use LF Pacing to insert a 250mS pause after every line-feed character in the data stream. The pauses in transmitted data will cause the receive buffer of USR4204 to quickly fill, so S/W flow control must also be enabled for this LF Pacing command to take effect.

Default: On

Batch Mode Command: FL=

Valid values: 1=on, 0=off

### 'J' Toggle Strong Password

Security policies may require that the USR4204 must not allow Users to choose weak passwords. This command toggles the password constraint ON or OFF and constrains new passwords as follows:

At least 8 characters, consisting of:

- At least one uppercase letter (A-Z)

- At least one lowercase letter (a-z)

- At least one numeric digit (0-9)

- At least one non-alphanumeric character (between 20h and 7Eh)

Default: Off

Batch Mode Command: FS=

Valid values: 1=on, 0=off

### 'U' Config Security

Setup and manage Administrator or User accounts with this command. It navigates to the Configure Security Menu.

Batch Mode Command: None

### '&' Load Factory Parameters

With this command, restore factory defaults to all system parameters shown in the banner.

Batch Mode Command: None

### '-' Return to Main Menu

Navigate back to the Main Menu with this command.

Batch Mode Command: None

### !' Flash New Code

The USR4204 erases current firmware and prepares for new firmware file to be installed. See [Flashing the Firmware](#) for detailed instructions.

Batch Mode Command: None

## **Security Features**

The USR4204 defaults to security disabled. To enable security, create the Administrator account. From the Main Menu, go to the Configure Parameters Menu ('Y'), then Config Security ('U'), then Select Admin ('0'), and enter the Administrator name and password.

When security is enabled:

- The Administrator has access to all ports and menus. Users have access to ports allowed by an Administrator.
- Up to fifteen User accounts may be created, edited, or deleted by an Administrator. Each User may be granted or denied access to each serial and power port.
- Only an Administrator has access to configuration menus.
- Individual Users may be granted Administrator privileges.
- The USR4204 will generate a notification if three consecutive login attempts fail. The notification is displayed prior to the Main Menu Screen following a successful login. A successful Administrator login clears the notification.
- If the three consecutive failed login attempts match a registered username, that User account will be disabled until an Administrator re-enables it.
- Disable security by deleting the Administrator account. The Administrator account can only be deleted by removing all accounts in the Configure Security Menu, or setting the Administrator name or password to null in Batch Mode.



---

*If the three consecutive failed login attempts match the Administrator name, the Administrator account will be disabled. The Administrator account can only be re-enabled from the remote site with the USR4204. See "[Clearing A Forgotten or Disabled Administrator Name and Password](#)" for details.*

---

See [FAQs and Troubleshooting](#) for suggested security guidelines.

*Config Security Menu (Main Menu → Y → U)*

```

Configure Security Menu (current enabled state in parentheses below)

CMD                                     CMD
'0' Select "Admin Username " Admin    '8' Select " " (OFF)
'1' Select " " (OFF)                  '9' Select " " (OFF)
'2' Select " " (OFF)                  'A' Select " " (OFF)
'3' Select " " (OFF)                  'B' Select " " (OFF)
'4' Select " " (OFF)                  'C' Select " " (OFF)
'5' Select " " (OFF)                  'D' Select " " (OFF)
'6' Select " " (OFF)                  'E' Select " " (OFF)
'7' Select " " (OFF)                  'F' Select "User 15 " (ON )

'-' Return to Config Parameters Menu '&' Remove ALL Accounts
    
```

At the top of the Configure Security Menu is the menu name. A list of valid commands, text, and status follows. Invalid commands are ignored.

Use a Select command (see below) to set up the Administrator and up to 15 User accounts.

'0' Select Admin

Navigate to the Administrator Menu with this command. It is the only command available on this menu if security is off. Use this command to setup the Administrator account and turn on security.

Batch Mode Command: None

'1'-'9' and 'A'-'F' Select User

Navigate to the corresponding User Menu with this command. The current User status (ON/OFF) is shown in parentheses next to the User name. Use this command to setup a User account.



NOTE: To disabled a user or re-enable a locked-out user, select the user then Toggle the User Enable status to 'ON'.

Batch Mode Command: None

'-' Return to Configure Parameters Menu

Navigate back to the Configure Parameters Menu with this command.

Batch Mode Command: None

'&' Remove ALL Accounts

Disable security and clear all user accounts including the Administrator with this command. There is a confirmation prompt before deletion.

Batch Mode Command: None

*Administrator Password Menu (Main Menu → Y → U → 0)*

```
"Admin Username " Admin Password Menu

CMD
'Y' Change Username
'Z' Change Password

'-' Return to Configure Security Menu
```

At the top of the Administrator Password Menu is the programmable Administrator name and the menu name. Below that is a list of valid commands. Invalid commands are ignored.

'Y' Change Username

This command navigates to the Change Administrator username screen. The username may be up to 16 displayable characters in length.

Batch Mode Command: U0=

Valid range: up to 16 displayable characters (zero characters nulls the name and disables security)

'Z' Change Password

Use this Change Password command to enter the Administrator password on the Change Password screen. The password may be up to 13 displayable characters in length.

This Change Password command appears only after the Administrator Username is entered.



The Administrator Username and password are case-sensitive.



Security is enabled by entering an Administrator Username and password.

Batch Mode Command: P0=

Valid range: up to 13 displayable characters (zero characters nulls the password and disables security)

'-' Return to Configure Security Menu

Navigate back to the Configure Security Menu with this command.

Batch Mode Command: None




---

*Do not forget the administrator name and password! Record and store all Administrator and User information in a secure location. The recovery method requires you to be at the physical location of the USR4204. See "[Clearing A Forgotten or Disabled Administrator Name and Password](#)" for details.*

---

*User Menu (Main Menu → Y → U → number or letter of User)*

```
"User 15          " User Menu (current permissions in parentheses below)

CMD
'A' Toggle "Console A           " (ON )
'B' Toggle "Console B           " (ON )
'C' Toggle "Console C           " (ON )
'D' Toggle "Console D           " (ON )

'1' Toggle "Power 1             " (ON )
'2' Toggle "Power 2             " (ON )

'Y' Change  Username
'Z' Change  Password
'W' Deny    All Permissions
'S' Grant   All Permissions
'T' Toggle  User Enable (ON )
'P' Toggle  Admin Privil (OFF)
'X' Delete  User

'-' Return  to Configure Security Menu
```

At the top of the User Menu are the programmable User name and the menu name. Below that is a list of valid commands, text, and status. Invalid commands are ignored.

Only the Change Username command ('Y') appears until a Username is entered.

#### 'A'-'D', '1'-'2' Toggle Port Permissions

Grant or deny access to the corresponding port for the selected User. When the USR4204 is configured for the Alternate Main Menu, these Toggle Power Port Permission commands affect all three alternate power commands.

Batch Mode Commands: BnA=, BnB=, BnC=, BnD=, Bn1=, Bn2= (n=User number)

Valid values: 1=yes, 0=no

#### 'Y' Change Username

This command navigates to the Change Username screen. The username may be up to 16 displayable characters in length, but may not be blank. Usernames are case-sensitive.

Batch Mode Commands: Un= (n=User number)

Valid range: up to 16 displayable characters (zero characters nulls the name and disables the User)

#### 'Z' Change Password

Use this Change Password command to enter the password on the Change Password screen. The password may be up to 13 displayable characters in length. Passwords are case-sensitive.



A User account password is optional. If no password is entered, the User can hit the enter key to skip the password prompt in the Login Screen.

Batch Mode Commands: Pn= (n=User number)

Valid range: up to 13 displayable characters (zero characters nulls the password)

#### 'W' Deny All Permissions

Deny the selected User access to all ports with this command.

Batch Mode Command: None

#### 'S' Grant All Permissions

Grant the selected User access to all ports with this command.

Batch Mode Command: None

'T' Toggle User Enable

Enable or disable the selected User's login with this command. Current status is indicated in parentheses.

Batch Mode Commands: BnE= (n=User number)

Valid values: 1=enable, 0=disable

'P' Toggle Administrator Privileges

Enable or disable Administrator privileges to a User with this command. Current status is indicated in parentheses.

Batch Mode Commands: BnP= (n=User number)

Valid values: 1=grant, 0=deny

'X' Delete User

Remove all User information including permissions, username, and password with this command. Delete Users with this delete command or the Remove All Accounts command in the Configure Security Menu.

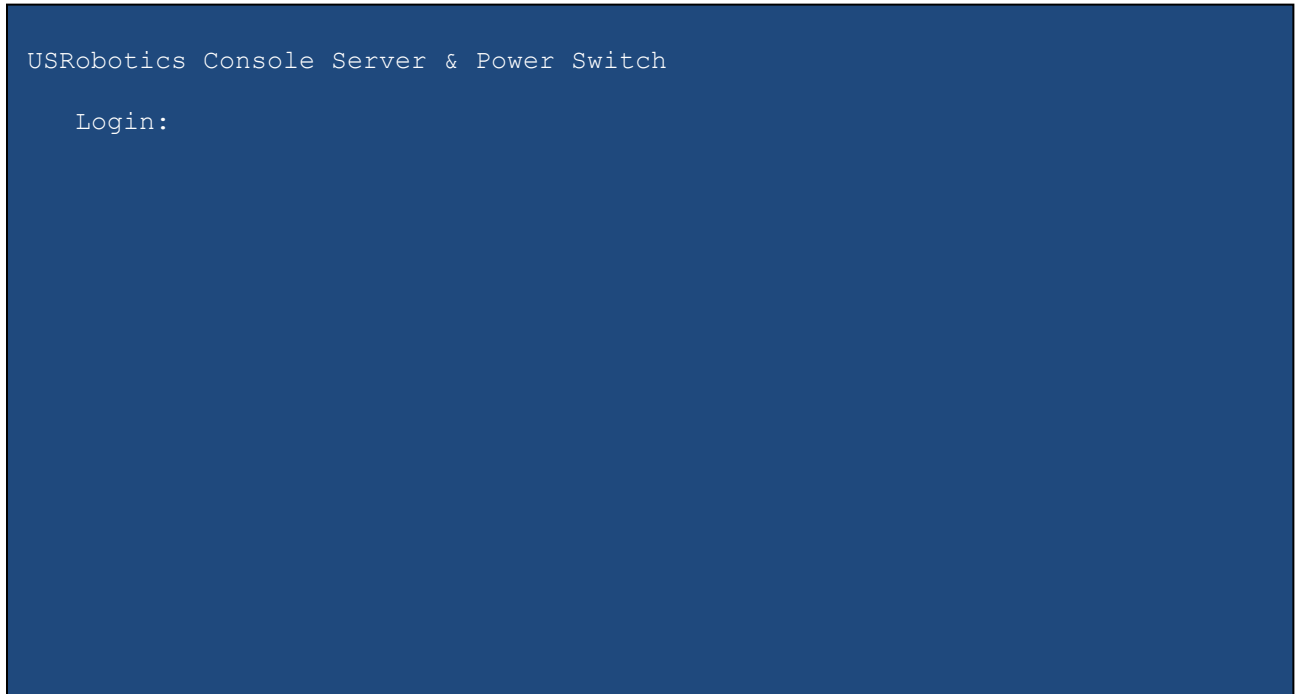
Batch Mode Command: None

'-' Return to Configure Security Menu

Navigate back to the Configure Security Menu with this command.

Batch Mode Command: None

### *Login Screen*



Once security is enabled the user interface will always first display the Login Screen until security is disabled. The Administrator or any enabled User may login from this screen.

Batch Mode Command: None



## Flashing the Firmware

The USR4204 uses two pieces of flash memory for its operation – boot code and system code. Flashing the firmware replaces the system code.

Before flashing, the firmware file must already be downloaded from the USR4204 support webpage to a hard drive accessible from the management terminal. **Note the location of the file. Also, be sure to note how to send files with the terminal application being used. Read all steps for flashing the firmware before you begin.**

Step 1: Choose the *Flash New Code* command ('!') from the Configure Parameters Menu to put the USR4204 into Boot Mode.

Step 2: At the "Are you sure?" prompt, type 'Y'.



NOTE: To abort or to exit Boot Mode without flashing, type '!' at the Boot> prompt. The USR4204 restarts and goes to Main Menu (or Login screen if security is on).



**WARNING: Step 3 erases system code. The system will no longer be operational until firmware is uploaded.**

Step 3: Type '#\$%' at the Boot> prompt. "Please wait" will appear while the system code is erased. When complete, "LOAD HEX FILE" appears. The USR4204 is now in file receive mode.



NOTE: File upload must be started within 30 seconds or you will be returned to the Boot> prompt. To continue the upload process from the Boot> prompt, repeat step 3.

Step 4: Use an application (HyperTerminal, ProComm Plus, etc.) to send the .hex file (in ASCII) to the USR4204. The process will take about 30 seconds. When complete, the USR4204 restarts and goes to Main Menu (or Login screen if security is on).



If upload is interrupted or the file is corrupt, the USR4204 will return to the Boot> prompt. Check the Troubleshooting Section for possible causes.

## Adding More Ports

If more serial or power ports are needed, purchase an additional USR4204 and connect it to the master USR4204.

### Attaching a Slave USR4204

Use a straight Ethernet cable (see appendix A) to connect any available USR4204 serial port to the terminal port of the slave USR4204. The serial port parameters must be 9600bps, 8N1.

### Addressing the Slave USR4204

To access the menus of the slave USR4204, select the serial port that connects it to the master USR4204 from the Main Menu. Enter any command in the slave USR4204 Main Menu, including the View Menu command (hit **Enter**). To return to the master USR4204 Main Menu, type the USR4204 Escape Sequence (default "---").



**NOTE:** It is recommended to rename each USR4204 to a unique name for easier identification.



If the slave USR4204 has a serial port selected, the Escape Sequence will close the port, exit from the slave USR4204, and return to the master USR4204 Main Menu. If you wish to return to the slave USR4204 menu, either set the Escape character of the slave USR4204 different than the Escape character of the master USR4204, or set the number of Escape Sequence characters in the master USR4204 higher than the number of Escape Sequence characters in the slave USR4204.

### Security Considerations

If the master USR4204 has security enabled, the Administrator should choose whether security is disabled or enabled in the slave USR4204.

If the Administrator chooses to allow Users access to all menus and ports in the slave USR4204, security must be disabled in the slave USR4204. Users that log in to the master USR4204 and have permission to access the serial port connected to the slave USR4204 will then have access to all menus and ports in the slave USR4204.

If the Administrator chooses to restrict Users from accessing configuration menus and certain ports in the slave USR4204, the slave USR4204's security must be enabled. The Administrator must create additional User accounts in the slave USR4204, and set each of those User's permissions to access ports. Users that log-in to the master USR4204 and have permission to the serial port connected to the slave USR4204 will have to enter a valid username and password into the slave USR4204 to access its ports.

## Technical Specifications

### **Electrical**

#### RS-232 DTE Terminal Port

- Data rate: 9600 bps
- Asynchronous data format: 8 data bits, no parity, 1 stop bit
- 4-wire interface: RXD, TXD, DTR, DSR (See appendix A for pinout)

#### RS-232 DCE Serial Ports

- Supported data rates: 115200, 57600, 38400, 19200, 9600, 4800, 2400, 1200, and 300 bps
- Supported asynchronous data formats:
  - 8 data bits, no parity, 1 stop bit
  - 7 data bits, odd parity, 1 stop bit
  - 7 data bits, even parity, 1 stop bit
  - 7 data bits, mark parity, 1 stop bit
  - 7 data bits, space parity, 1 stop bit
- 2-wire interface: RXD, TXD (See appendix A for pinout)

#### Mains Power Input Port

- Connector: IEC C14
- Voltage: 250 Vac maximum
- Current: 8A maximum continuous
- Fuse: 8A, 250 Vac, 5 x 20mm, time-delay, ceramic (IEC type T8AH250V)

#### Power Output Ports

- Connector: IEC C13
- Voltage: 250 Vac maximum
- Current: 8A maximum continuous
- Switching: 2-pole, normally closed (2 Form B)
- Current measurement range: 0-8.5 A (RMS)
- Current measurement accuracy:  $\pm 0.2$  A

#### Power supply input

- Voltage: 12-20 Vdc (either polarity), or 8-15 Vac
- Plug dimensions: 5.5mm o.d. x 2.5mm i.d. x 9.5mm length

#### Power Consumption

- 1.5 W (typical)
- 1.8 W (maximum)

### **Environmental**

#### Temperature

- Operating Temperature conditions: 0 to 50 degrees C,
- Non-Operating Temperature conditions: -20 to 70 degrees C

Humidity

- Operating Humidity conditions: 20% to 80% non-condensing,
- Non-Operating Humidity conditions: 5% to 95% non-condensing

**Product Dimensions and Weights**

Dimensions

- W x H x L: 9.96 x 1.71 x 7.75 in (25.3 x 4.34 x 19.7 cm) (without rubber feet)
- W x H x L: 9.96 x 1.94 x 7.75 in (25.3 x 4.92 x 19.7 cm) (with rubber feet)
- 1U 19" rack space (with rack brackets attached)

Weight

- 2.25 lbs (1.02 kg)

## **FAQs and Troubleshooting**

### **General**

If you have trouble with the USR4204 first try the following:

- Try removing the power and repeating the setup process.
- Make sure the correct COM port was selected.
- Make sure the modem was setup properly.
- Make sure the power supply is plugged in to an operational power outlet, and that the power supply is also securely plugged into the unit.
- Verify all cables and adaptors are correct for the type of ports.
- When connected hit **Enter** to see if the Main Menu appears on the terminal.

### **Configuring Cascaded USR4204 Units for Flow Control**

If flow control is required in a setup that has a master USR4204 and one or more cascaded USR4204 units, it is recommended to enable Xon/Xoff flow control and disable Xon/Xoff pass through on all USR4204s in the setup in addition to enabling Xon/Xoff flow control on the modem.

### **Remote Management**

Management modem fails to connect to remote modem:

- Refer to your modem troubleshooting documentation.
- Check modem phone numbers

Modems connect but fail to show USR4204 interface on the management terminal:

- Check for carrier detect override (hit **Enter**)
- Try general USR4204 troubleshooting.

### **Flashing Firmware**

Possible Causes for firmware flash failure:

- Phone line was disconnected. Confirm it is connected and functional, then reconnect and try firmware flash again.
- File was corrupt. Re-download file and try firmware flash again.
- Firmware flash continues to fail. Try firmware flash again using previous working version or original firmware available from [usr.com](http://usr.com).

### **Clearing A Forgotten or Disabled Administrator Name and Password**

Disconnect the low voltage power supply from the USR4204, connect a straight Ethernet cable from the USR4204 terminal port to serial port A, and then re-apply power to the USR4204. The USR4204 will clear the administrator name and password. You may then connect a terminal to the USR4204 terminal port to enter a new administrator name and password. User accounts are unaffected.

## **Suggested Security Guidelines**

### Creating usernames and passwords

- Create Usernames and Passwords that are not easy to guess.
- Use at least 8 characters.
- Use upper/lowercase letters, numbers, and non-alphanumeric characters.
- Consider using 2 spaces instead of 1 between words.
- Consider beginning with a space, a number, or a non-alphanumeric character.
  - Example: "John Smith" might be better as " J0hn \$m!Th"

### Hacker protection

- If someone tries to hack in with a valid Username three consecutive times, that user will be locked out until the administrator re-enables the account.
- If the hacked Username is the Administrator's, the above procedure (**Clearing a Forgotten or Disabled Administrator Name and Password**) will be required on-site. (i.e. don't use "admin")

### Security Features to use or enable

- Don't disable the Inactivity Timer. This ensures that the system is available for users who are actually using it.
- Program the Security Banner. Use warning text appropriate for your installation.

## **What are "displayable characters"?**

"Displayable characters" are all ASCII characters from 20h thru 7Eh.

## **What are programmable characters?**

All 4 of the programmable characters (Escape, Menu, Xon, Xoff) can be any of the following displayable characters:

# \$ % ( ) \* - . / : ; < > ? @ [ \ ] ^ \_ { | } ~

Or any of the following control characters:

A B C D E F G I K L N O P Q R S T U V W X Y Z \ ] ^ \_

## **Temporarily disabling Security**

There is no way to temporarily disable security. The Administrator must be deleted using the "Remove all Accounts" command, which will turn off security and remove all accounts that were created. To turn security back on, a new Administrator must be created as well as any other accounts and permissions.

**Is there a maximum number of slave units that can be attached to a master USR4204?**

No, there is no maximum. But as the hierarchy grows, the path can become more complicated - especially if security is on, as each step in the path would require a separate username and password.

**Rackmounting the USR4204 with the back panel facing out**

When rackmounted, the USR4204 front panel will face out by default, but it can be rackmounted with the back panel facing out.

1. WARNING: Remove all power cords from the USR4204 to prevent shock hazard.
2. Unscrew and remove the rackmount brackets if necessary.
3. Unfasten the top housing by unscrewing the six (6) Phillips-head screws. Save the screws for step 5.
4. Remove the top housing and position it so the bracket mounting holes are near the rear panel.
5. Replace the top housing and fasten it with the six (6) Phillips-head screws.
6. Follow the instruction in the Physical Installation section to attach the rackmount brackets to the USR4204 and install in a rack.

If these troubleshooting tips did not solve your issue contact USRobotics technical support.

**Support**

1. Be prepared to provide model and serial numbers.

<b>Product</b>	<b>Model Number</b>
USRobotics Console Server & Power Switch	4204

The USR4204 serial number is on the side of the package, bottom of the unit, and listed in the user interface at the top right of the Configure Parameters Menu.

2. Visit the Support section of the USRobotics Web site at [www.usr.com/support/4204](http://www.usr.com/support/4204)

Many of the most common issues that users experience have been addressed in the FAQ and Troubleshooting Web pages for the USR4204. The Support Web pages also contain information on the latest firmware and documentation updates.

3. Submit a technical support question to the USRobotics Technical Support Department using an online form:

<b>Country</b>	<b>Webmail</b>
United States & Canada	<a href="http://www.usr.com/emailsupport">http://www.usr.com/emailsupport</a>

<b>Country</b>	<b>Webmail</b>
Austria	<a href="http://www.usr.com/emailsupport/de">www.usr.com/emailsupport/de</a>
Belgium (Flemish)	<a href="http://www.usr.com/emailsupport/nl">www.usr.com/emailsupport/nl</a>
Belgium (French)	<a href="http://www.usr.com/emailsupport/be">www.usr.com/emailsupport/be</a>
Czech Republic	<a href="http://www.usr.com/emailsupport/cz">www.usr.com/emailsupport/cz</a>
Denmark	<a href="http://www.usr.com/emailsupport/ea">www.usr.com/emailsupport/ea</a>
Finland	<a href="http://www.usr.com/emailsupport/ea">www.usr.com/emailsupport/ea</a>
France	<a href="http://www.usr.com/emailsupport/fr">www.usr.com/emailsupport/fr</a>
Germany	<a href="http://www.usr.com/emailsupport/de">www.usr.com/emailsupport/de</a>
Greece	<a href="http://www.usr.com/emailsupport/gr">www.usr.com/emailsupport/gr</a>
Hungary	<a href="http://www.usr.com/emailsupport/hu">www.usr.com/emailsupport/hu</a>
Ireland	<a href="http://www.usr.com/emailsupport/uk">www.usr.com/emailsupport/uk</a>
Italy	<a href="http://www.usr.com/emailsupport/it">www.usr.com/emailsupport/it</a>
Luxembourg	<a href="http://www.usr.com/emailsupport/be">www.usr.com/emailsupport/be</a>
Netherlands	<a href="http://www.usr.com/emailsupport/nl">www.usr.com/emailsupport/nl</a>
Norway	<a href="http://www.usr.com/emailsupport/ea">www.usr.com/emailsupport/ea</a>
Poland	<a href="http://www.usr.com/emailsupport/pl">www.usr.com/emailsupport/pl</a>



## USR4204 User Guide

<b>Country</b>	<b>Webmail</b>
Portugal	<a href="http://www.usr.com/emailsupport/pt">www.usr.com/emailsupport/pt</a>
Russia	<a href="http://www.usr.com/emailsupport/ru">www.usr.com/emailsupport/ru</a>
Spain	<a href="http://www.usr.com/emailsupport/es">www.usr.com/emailsupport/es</a>
Sweden	<a href="http://www.usr.com/emailsupport/se">www.usr.com/emailsupport/se</a>
Switzerland	<a href="http://www.usr.com/emailsupport/de">www.usr.com/emailsupport/de</a>
Turkey	<a href="http://www.usr.com/emailsupport/tk">www.usr.com/emailsupport/tk</a>
United Kingdom	<a href="http://www.usr.com/emailsupport/uk">www.usr.com/emailsupport/uk</a>

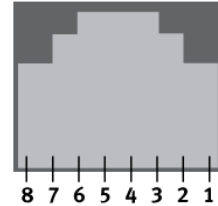
For additional current support contact information, go to: [www.usr.com/international.asp](http://www.usr.com/international.asp)

## Appendix A

### Terminal Port and Serial Port RJ45 Pinout

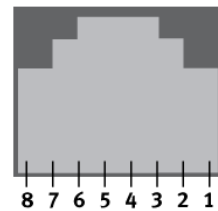
#### Terminal Port RJ45 Pinout

RJ45 Pin	Symbol	Description	Direction
1	RTS	Loop to pin 8	Output
2	DTR	Data Terminal Ready	Output
3	TXD	Transmit Data	Output
4	GND	Ground	-
5	GND	Ground	-
6	RXD	Receive Data	Input
7	DSR	Data Set Ready	Input
8	CTS	Loop to pin 1	Input



#### Serial Port RJ45 Pinout

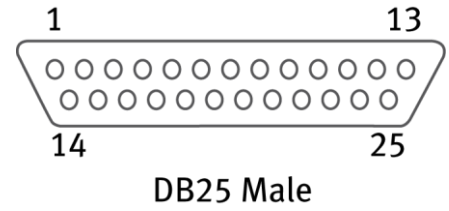
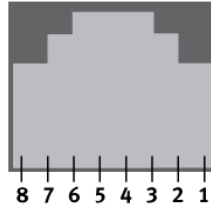
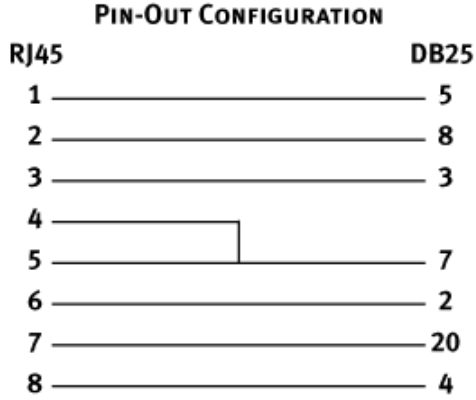
RJ45 Pin	Symbol	Description	Direction
1	CTS	Loop to pin 8	Input
2	DTR	Loop to pin 7	Input
3	RXD	Receive Data	Input
4	GND	Ground	-
5	GND	Ground	-
6	TXD	Transmit Data	Output
7	DSR	Loop to pin 2	Output
8	RTS	Loop to pin 1	Output



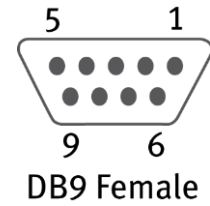
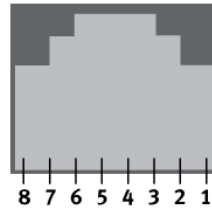
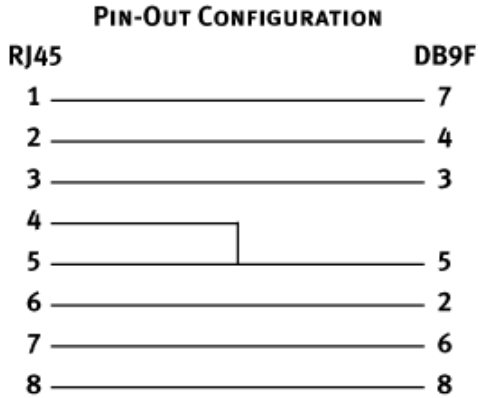
## RS-232 Adaptor Pinouts

### RS-232 Adaptors

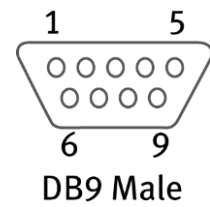
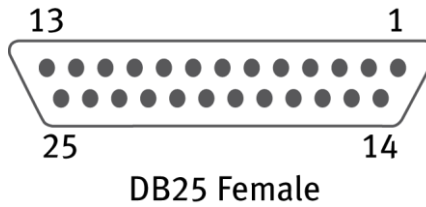
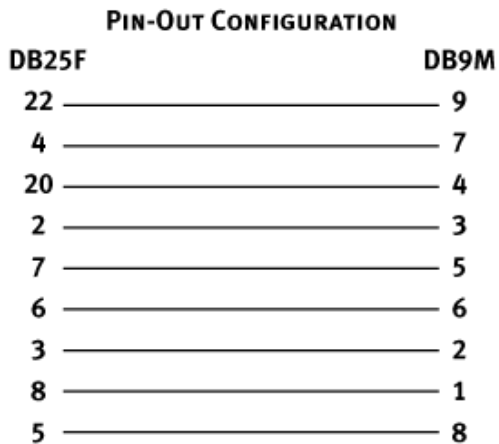
#### RJ45-to-DB25M



#### RJ45-to-DB9F

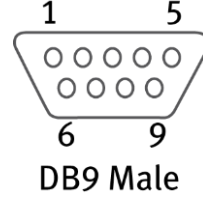
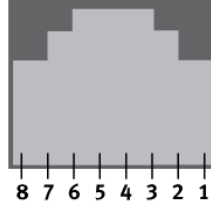
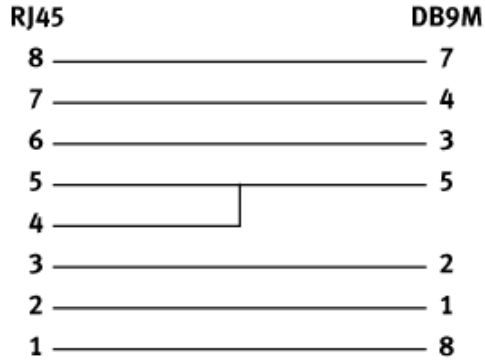


#### DB25F-to-DB9M



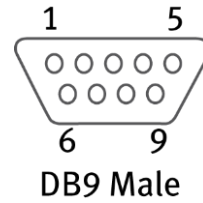
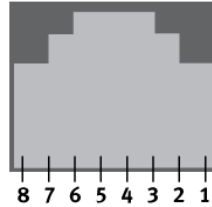
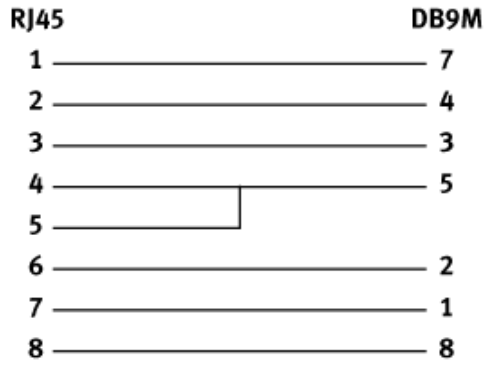
**RJ45-to-DB9M Null Modem**

**PIN-OUT CONFIGURATION**



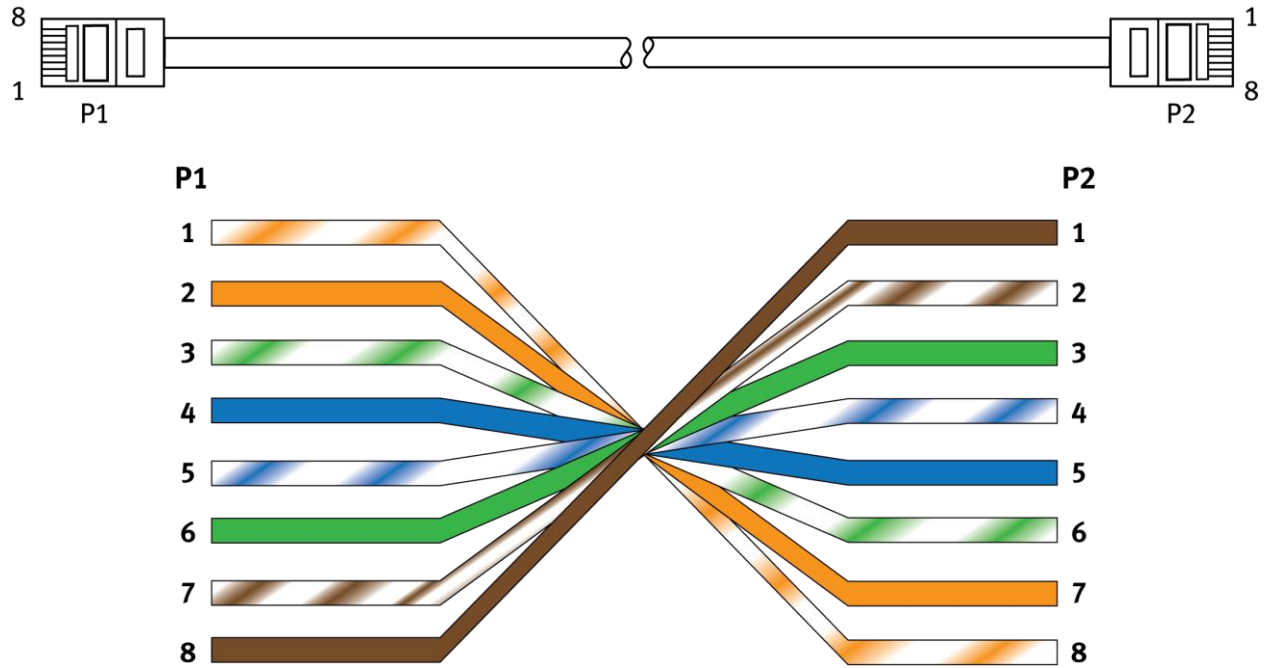
**RJ45-to-DB9M**

**PIN-OUT CONFIGURATION**

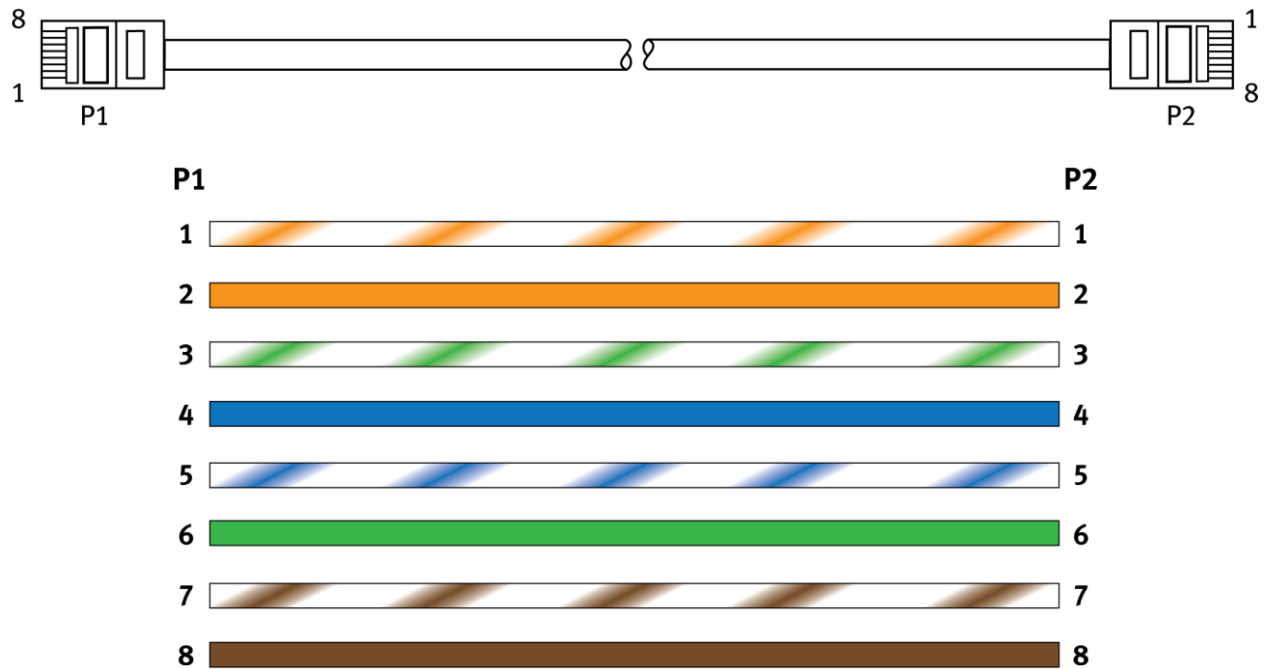


## Straight and Rollover Cables

### *Rollover Cable*



### *Straight Cable*



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This publication does not constitute an endorsement of the product or products that were tested. The configuration or configurations tested or described may or may not be the only available solution. This test is not a determination of product quality or correctness, nor does it ensure compliance with any federal state or local requirements.

The safety precautions listed in this user guide must be observed at all times. Failure to comply with these precautions may result in injury and property damage. **U.S. Robotics assumes no liability for the customer's failure to comply with these requirements.**



### **WARNING!**

**YOU ARE EXPRESSLY PROHIBITED FROM USING THIS PRODUCT IN HIGH RISK APPLICATIONS AND SUCH USE SHALL BE AT YOUR SOLE RISK. AS USED IN THIS PARAGRAPH, "HIGH RISK APPLICATIONS" REFERS TO USAGE IN OR IN CONJUNCTION WITH EQUIPMENT FOR WHICH FAILURE OF THE USR PRODUCT MAY RESULT IN PROPERTY DAMAGE, BODILY INJURY, EMOTIONAL INJURY OR LOSS OF LIFE, INCLUDING BUT NOT LIMITED TO ATOMIC ENERGY CONTROL EQUIPMENT, AIRCRAFT OR SPACECRAFT EQUIPMENT, TRAFFIC CONTROL EQUIPMENT, TRANSPORTATION EQUIPMENT, COMBUSTIBLE CONTROL EQUIPMENT, MEDICAL OR DIAGNOSTIC EQUIPMENT, AND ALL TYPES OF MANUFACTURING AND SAFETY DEVICES.**

## Warranty

### U.S. Robotics Corporation Two (2) Year Limited Warranty

#### 1.0 GENERAL TERMS:

1.1 This Limited Warranty is extended only to the original end-user purchaser (CUSTOMER) and is not transferable.

1.2 No agent, reseller, or business partner of U.S. Robotics Corporation (U.S. ROBOTICS) is authorized to modify the terms of this Limited Warranty on behalf of U.S. ROBOTICS.

1.3 This Limited Warranty expressly excludes any product that has not been purchased as new from U.S. ROBOTICS or its authorized reseller.

1.4 This Limited Warranty is only applicable in the country or territory where the product is intended for use (As indicated by the Product Model Number and any local approval stickers affixed to the product).

1.5 U.S. ROBOTICS warrants to the CUSTOMER that this product will be free from defects in workmanship and materials, under normal use and service, for TWO YEARS from the date of purchase from U.S. ROBOTICS or its authorized reseller.

1.6 U.S. ROBOTICS' sole obligation under this Limited Warranty shall be, at U.S. ROBOTICS' sole discretion, to repair the defective product or part with new or reconditioned parts; or to exchange the defective product or part with a new or reconditioned product or part that is the same or similar; or if neither of the two foregoing options is reasonably available, U.S. ROBOTICS may, at its sole discretion, provide a prorated refund to the CUSTOMER of the purchase price of the product, as evidenced by the proof of purchase, less any applicable service fees in accordance with the following schedule:

Months 0- 3:	100%
Months 4 – 12:	50%
Year 1 – 2:	25%

1.7 A product or part that is repaired or replaced under this Limited Warranty shall be covered for the remainder of the original warranty period applying to the product or part, or for NINETY (90) days, whichever is longer. All products or parts that are exchanged for replacement will become the property of U.S. ROBOTICS.

1.8 U.S. ROBOTICS makes no warranty or representation that this product will meet CUSTOMER requirements or work in combination with any hardware or software products provided by third parties.

1.9 U.S. ROBOTICS makes no warranty or representation that the operation of the software products provided with this product will be uninterrupted or error free, or that all defects in software products will be corrected.

1.10 U.S. ROBOTICS shall not be responsible for any software or other CUSTOMER data or information contained in or stored on this product.

1.11 U.S. ROBOTICS products are not designed for any "critical applications." "Critical applications" shall mean life support systems, medical applications, connections to implanted medical devices, commercial transportation, nuclear facilities or systems or any other applications where product failure could lead to injury to persons or loss of life or property damage.

#### 2.0 CUSTOMER OBLIGATIONS:

2.1 CUSTOMER assumes full responsibility that this product meets CUSTOMER specifications and requirements.

2.2 CUSTOMER is specifically advised to make a backup copy of all software provided with this product.

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2.3 CUSTOMER assumes full responsibility to properly install and configure this product and to ensure proper installation, configuration, operation and compatibility with the operating environment in which this product is to function.

2.4 CUSTOMER must furnish U.S. ROBOTICS or its authorized reseller a dated Proof of Purchase (copy of original, dated purchase receipt from U.S. ROBOTICS or its authorized reseller) for any warranty claims to be authorized.

### 3.0 OBTAINING WARRANTY SERVICE:

3.1 CUSTOMER must contact U.S. ROBOTICS Technical Support within the applicable warranty period to obtain warranty service authorization.

3.2 For information on how to contact U.S. ROBOTICS Technical Support please see the U.S. ROBOTICS corporate Web site at: [www.usr.com](http://www.usr.com)

3.3 CUSTOMER should have the following information/items readily available when contacting U.S. ROBOTICS Technical Support:

Product Model Number

Product Serial Number

Dated Proof of Purchase

CUSTOMER contact name & telephone number

CUSTOMER Computer Operating System version

U.S. ROBOTICS Installation CD-ROM

U.S. ROBOTICS Installation Guide

### 4.0 WARRANTY REPLACEMENT:

4.1 In the event U.S. ROBOTICS Technical Support determines the product or part has a malfunction or failure attributable directly to faulty workmanship and/or materials; and the product is within the TWO (2) YEAR warranty term; the CUSTOMER will include a copy of the dated Proof of Purchase (original purchase receipt from U.S. ROBOTICS or its authorized reseller) with the returned product or part, then U.S. ROBOTICS will issue CUSTOMER a Return Material Authorization (RMA) and instructions for the return of the product to the authorized U.S. ROBOTICS Return Center.

4.2 Any product or part returned to U.S. ROBOTICS without an RMA issued by U.S. ROBOTICS prominently displayed on the exterior of the return packaging will be returned.

4.3 CUSTOMER agrees to pay shipping charges to return the product or part to the authorized U.S. ROBOTICS Return Center; to insure the product or assume the risk of loss or damage which may occur in transit; and to ship the product in the original packaging.

4.4 Responsibility for loss or damage does not transfer to U.S. ROBOTICS until the returned product or part is received as an authorized return at an authorized U.S. ROBOTICS Return Center.

4.5 Authorized CUSTOMER returns will be unpacked, visually inspected, and matched to the Product Model Number and Product Serial Number for which the RMA was authorized. The enclosed Proof of Purchase will be inspected for date of purchase and place of purchase. U.S. ROBOTICS may deny warranty service if visual inspection of the returned product or part does not match the CUSTOMER supplied information for which the RMA was issued.

4.6 U.S. ROBOTICS retains the final decision whether products are within warranty conditions. In the event U.S. ROBOTICS determines that the product is not within warranty conditions, or is without the original packaging and accessories, CUSTOMER will not be entitled to repair or a refund and the product will be returned to CUSTOMER.



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4.7 Once a CUSTOMER return has been unpacked, visually inspected, and tested U.S. ROBOTICS will, at its sole discretion, repair or replace the product, using new or reconditioned product or parts, to whatever extent it deems necessary to restore the product or part to operating condition.

4.8 U.S. ROBOTICS will make reasonable efforts to ship the repaired or replaced product or part to CUSTOMER, at U.S. ROBOTICS expense, not later than TWENTY ONE (21) DAYS after U.S. ROBOTICS receives the authorized CUSTOMER return.

4.9 U.S. ROBOTICS shall not be liable for any damages caused by delay in delivering or furnishing repaired or replaced product or part.

### 5.0 LIMITATIONS:

5.1 THIRD-PARTY SOFTWARE: This U.S. ROBOTICS product may include or be bundled with third-party software, the use of which is governed by separate end-user license agreements provided by third-party software vendors. This U.S. ROBOTICS Limited Warranty does not apply to such third-party software. For the applicable warranty refer to the end-user license agreement governing the use of such software.

5.2 UNAUTHORIZED PRODUCTS: To the extent permitted by applicable law, this U.S. ROBOTICS Limited Warranty does not apply to distressed, "grey market" or liquidated inventory and all such products are sold "as is" without any warranty. Further, this U.S. ROBOTICS Limited Warranty does not apply and U.S. ROBOTICS assumes no responsibility or liability for counterfeit products or for products sold by auction or by parties who are not specifically authorized by U.S. ROBOTICS.

5.3 DAMAGE DUE TO MISUSE, NEGLIGENCE, NON-COMPLIANCE, IMPROPER INSTALLATION, AND/OR ENVIRONMENTAL FACTORS: To the extent permitted by applicable law, this U.S. ROBOTICS Limited Warranty does not apply to normal wear and tear; damage or loss of data due to interoperability with current and/or future versions of operating system or other current and/or future software and hardware; alterations (by persons other than U.S. ROBOTICS); damage caused by operator error or non-compliance with instructions as set out in the user documentation or other accompanying documentation; damage caused by acts of nature such as lightning, storms, floods, fires, and earthquakes, etc. Products evidencing the product serial number has been tampered with or removed; misuse, neglect, and improper handling; damage caused by undue physical, temperature, or electrical stress; damage or loss of data caused by a computer virus, worm, Trojan horse, or memory content corruption; failures of the product which result from accident, abuse, misuse (including but not limited to improper installation, connection to incorrect voltages, and power points); electrical transients or disturbances in the line power (mains) connected to the device or in a telephone network connected to the device, including any transient phenomenon due to the cross connected nature of a device between these two networks, failures caused by products not supplied by U.S. ROBOTICS; damage cause by moisture, corrosive environments, high voltage surges, shipping, abnormal working conditions; or the use of the product outside the borders of the country or territory intended for use (As indicated by the Product Model Number and any local telecommunication approval stickers affixed to the product).

5.4 TO THE FULL EXTENT ALLOWED BY LAW, THE FOREGOING WARRANTIES AND REMEDIES ARE EXCLUSIVE AND ARE IN LIEU OF ALL OTHER WARRANTIES, TERMS, OR CONDITIONS, EXPRESS OR IMPLIED, EITHER IN FACT OR BY OPERATION OF LAW, STATUTORY OR OTHERWISE, INCLUDING WARRANTIES, TERMS, OR CONDITIONS OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, SATISFACTORY QUALITY, CORRESPONDENCE WITH DESCRIPTION, AND NON-INFRINGEMENT, ALL OF WHICH ARE EXPRESSLY DISCLAIMED. U.S. ROBOTICS NEITHER ASSUMES NOR AUTHORIZES ANY OTHER PERSON TO ASSUME FOR IT ANY OTHER LIABILITY IN CONNECTION WITH THE SALE, INSTALLATION, MAINTENANCE, WARRANTY, OR USE OF ITS PRODUCTS.

5.5 LIMITATION OF LIABILITY. TO THE FULL EXTENT ALLOWED BY LAW, U.S. ROBOTICS ALSO EXCLUDES FOR ITSELF AND ITS SUPPLIERS ANY LIABILITY, WHETHER BASED IN CONTRACT OR TORT (INCLUDING NEGLIGENCE), FOR INCIDENTAL, CONSEQUENTIAL, INDIRECT, SPECIAL, OR PUNITIVE DAMAGES OF ANY KIND, OR FOR LOSS OF REVENUE OR PROFITS, LOSS OF BUSINESS, LOSS OF INFORMATION OR DATA, OR OTHER FINANCIAL LOSS ARISING OUT OF OR IN CONNECTION WITH THE SALE, INSTALLATION, MAINTENANCE, USE, PERFORMANCE, FAILURE, OR INTERRUPTION OF ITS PRODUCTS, EVEN IF U.S. ROBOTICS OR ITS AUTHORIZED RESELLER HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES, AND LIMITS ITS LIABILITY TO REPAIR, REPLACEMENT,

OR REFUND OF THE PURCHASE PRICE PAID, AT U.S. ROBOTICS OPTION. THIS DISCLAIMER OF LIABILITY FOR DAMAGES WILL NOT BE AFFECTED IF ANY REMEDY PROVIDED HEREIN SHALL FAIL OF ITS ESSENTIAL PURPOSE.

#### 6.0 STATUTORY RIGHTS OF CUSTOMER:

Some countries, states, territories or provinces do not allow the exclusion or limitation of implied warranties or the limitation of incidental or consequential damages for certain products supplied to consumers or the limitation of liability for personal injury, so the above limitations and exclusions may be limited in their application to CUSTOMER. When the implied warranties are not allowed by law to be excluded in their entirety, they will be limited in scope and duration to this written Limited Warranty. This Limited Warranty gives CUSTOMER specific legal rights. CUSTOMER may also have other rights that may vary from state to state or from country to country. CUSTOMER is advised to consult applicable state or country laws for full determination of its rights. If any term is held to be illegal or unenforceable, the legality or enforceability of the remaining terms shall not be affected or impaired.

#### 7.0 GOVERNING LAW:

This Limited Warranty shall be governed by the laws of the State of Illinois, U.S.A. excluding its conflicts of laws principles and excluding the United Nations Convention on Contracts for the International Sale of Goods.

U.S. Robotics Corporation  
1300 East Woodfield Road, Suite 506  
Schaumburg, IL, 60173  
U.S.A.

## Regulatory Information

### FCC Compliance



U.S. Robotics Corporation  
1300 E. Woodfield Rd. Suite 506  
Schaumburg, IL 60173  
U.S.A.

declares that this product conforms to the FCC's specifications:

### Part 15, Class A

This equipment complies with Part 15, Class A for use in a commercial, industrial, or business environment.

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at one's own expense.

Modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment under FCC rules.

### UL Listing/CUL Listing



This information technology equipment is UL Listed and C-UL Listed for both the US and Canadian markets respectively for the uses described in this User Guide. Use this product only with UL Listed Information Technology Equipment (ITE).

### Industry Canada (IC)

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus set out in the interference-causing equipment standard entitled Digital Apparatus, ICES-003 of Industry Canada.

### Customer Information

Notice: This equipment meets the applicable Industry Canada Terminal Equipment Technical Specifications. This is confirmed by the registration number. The abbreviation, IC, before the registration number signifies that registration was performed based on a Declaration of Conformity indicating that Industry Canada technical specifications were met. It does not imply that Industry Canada approved the equipment.

**CE Compliance**



**Declaration of Conformity**

We, U.S. Robotics Corporation of 1300 E. Woodfield Rd. Suite 506, Schaumburg, Illinois, 60173-5446 USA, declare under our sole responsibility that the product, USRobotics model USR4204, to which this declaration relates, is in conformity with the following standards and/or other normative documents.

- EN60950-1
- EN55022
- EN55024
- EN61000-3-2
- EN61000-3-3

We hereby declare that the above named product is in conformity with the essential requirements and other relevant provisions of **Directive 2011/65/EU**.

The conformity assessment procedure referred to in Article 10(3) and detailed in Annex IV of Directive 1999/5/EC has been followed.

An electronic copy of the original CE Declaration of Conformity is available at the U.S. Robotics website: [www.usr.com](http://www.usr.com)

**WEEE Compliance**

**CONSUMER NOTICE**

**For the following Countries:**



Austria	Estonia	Iceland	Netherlands	Slovenia
Belgium	Finland	Ireland	Norway	Spain
Croatia	France	Italy	Poland	Sweden
Cyprus	Germany	Latvia	Portugal	Switzerland
Czech Republic	Greece	Luxemburg	Romania	Turkey
Denmark	Hungary	Malta	Slovakia	United Kingdom

This product is subject to Directive 2002/96/EC of the European Parliament and the Council of the European Union on waste electrical and electronic equipment (WEEE) and, in jurisdictions adopting that Directive, is marked as being put on the market after August 13, 2005 and should not be disposed of as unsorted municipal waste. Please utilize your local WEEE collection facilities in the disposition of this product and otherwise observe all applicable requirements. For further information on the requirements regarding the disposition of this product and collection facilities that maybe available to you, please visit [www.usr.com/weee](http://www.usr.com/weee).

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1300 E. Woodfield Road, Suite 506  
Schaumburg, Illinois  
60173-5446  
USA

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