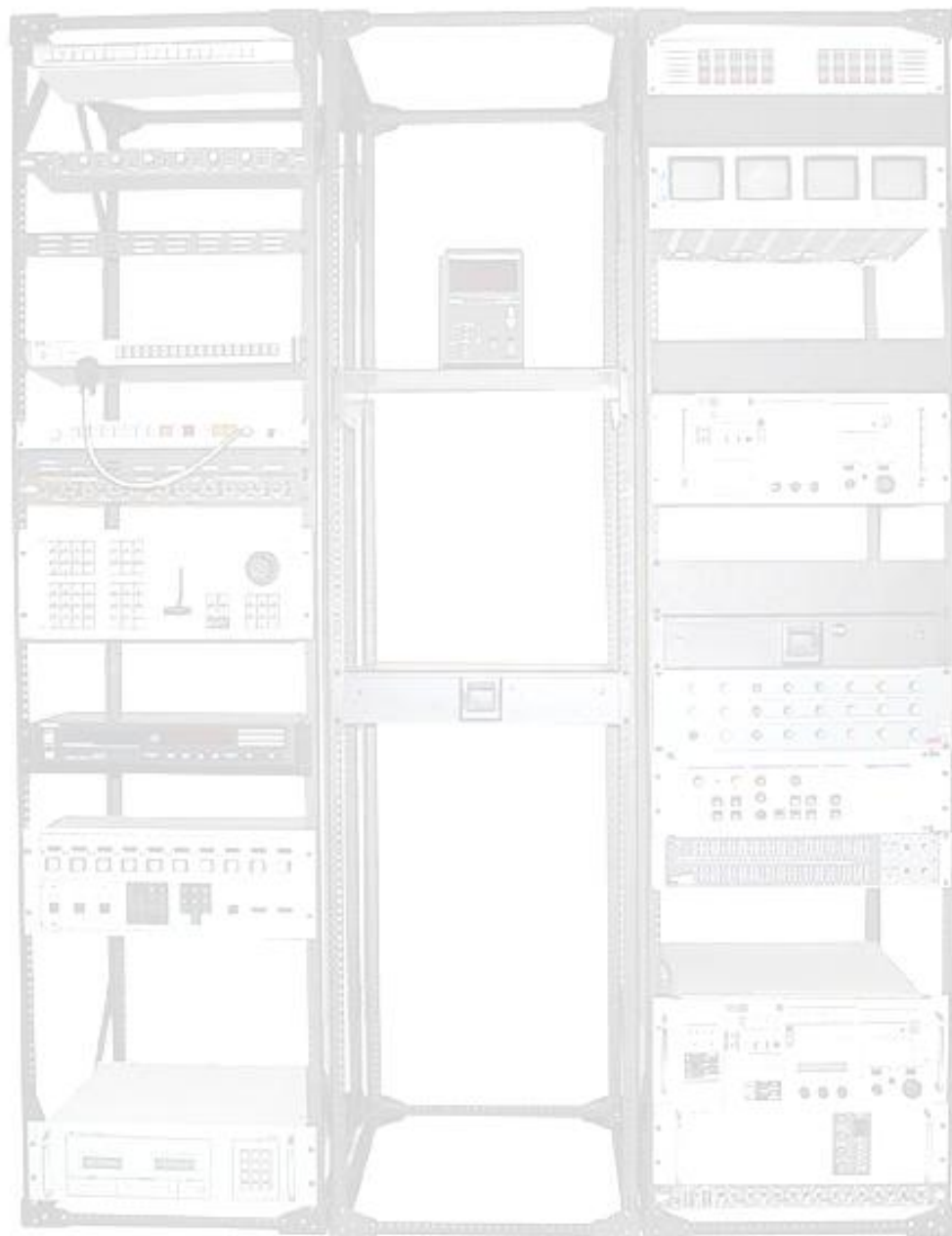




## *i*-Rack User Manual



Document Revision CSSIR 03/07

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### Computer Support Systems Pty Ltd.

Head Office: 373 Johnston Street  
Abbotsford  
VICTORIA 3067  
Australia

Telephone: - 61 3 9419 3955  
Facsimile: - 61 3 9419 3509  
Web Address: - [www.csspl.com.au](http://www.csspl.com.au)  
[sales@csspl.com.au](mailto:sales@csspl.com.au)  
[support@csspl.com.au](mailto:support@csspl.com.au)

**The i-rack range of products are designed and manufactured by Computer Support Systems Pty Ltd for Hallam Manufacturing Pty Ltd.**



## Disclaimer and Revisions

Operation of this equipment in a residential area may cause interference in which case the user, at his or her own expense, will be required to take whatever measures may be required to correct the interference.

Date	Revision	Comments
12/02/2006	CSSIR02/06	NK Revision A
23/11/2006	CSSIR11/06	NK making document universal for all iRack models
19/12/2006	CSSIR12/06	NK add SNMP notes
05/03/2006	CSSIR03/07	NK added V2 updates. LCD, Traps, Serial Port & SMTP

## **Declaration of Conformity**

### **Manufacturer's Name & Address:**

Computer Support Systems Pty Ltd, 373 Johnston Street, Abbotsford, Victoria 3067,  
Australia.

### **Product Name, Model & Version(s):**

*i-Rack* (20 Way) ZIR1020, ZIR2020 – Version 1.02 – Refer to V1.XX documentation  
*i-Rack* (6 Way) ZIR4006 – Version 1.00 – Refer to V1.XX documentation  
*i-Rack* (8 Way) ZIRXXX8, – Version 2.00

## Warranty

Computer Support Systems warrants *i-Rack*

- If used in accordance with all applicable instructions
- To be free from defects in material and workmanship for a period of one year from the date of initial purchase.

This warranty is voided if the customer uses *i-Rack* in an unauthorized or improper way, or in an environment for which it was not designed. Warranty does not apply to normal wear or to damage resulting from accident, misuse, abuse or neglect.

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# 1 Introduction to *i-Rack*

*i-Rack* is a network based 240V power control unit for computer server racks. It allows turning powered devices on or off on the server rack just by visiting a webpage & controlling the power outlet of the device connected. The Current load on *i-Rack* can be monitored via the web page and the LCD screen. In the case of exceeding user set Current load thresholds *i-Rack* has the capability of notifying the incident via email or SNMP traps.

*i-Rack* allows viewing the status of the server rack power on each individual power outlet, allows custom controlled timed reboots for each power outlet and adding delays on start-up in the case of a power failure allowing certain devices to turn on prior to other devices in a selected sequence. All this is done by remotely accessing the device via a web interface. *i-Rack* also allows viewing the current consumption by all the outlets via the web interface.

In the case when network connectivity is down, as an alternative outlet control access method, *i-Rack* provides a serial port connection to perform the fundamental control to your outlets.

When in use, *i-Rack* is a network element on the network, thus it will have its own IP address. *i-Rack* comprises an embedded web server. With a standard web browser installed in almost all computers today, you can easily view *i-Rack* web pages to monitor status, control power outlets remotely & to view the current consumption.

*i-Rack* includes SNMP features where each outlet status or the current consumption can be obtained via SNMP GET commands, thus allowing monitoring systems to closely monitor the power of attached devices and the current loading. *i-Rack* can also notify when Current load thresholds are met via SNMP Traps.

## Features

- Up to 20 web controlled power outlets. Available in 4,6,8,12,16 & 20 power outlet versions to suit your application.
- Powerful embedded microprocessor driven, with networking features.
- Installed on side of the server rack, thus not taking any of the rack space. Also available in a rack mount version for existing server racks.
- 2 x row LCD panel displaying Current load and systems status.
- LEDs to indicate outlets that are powered on. LED to indicate when Current load thresholds are in jeopardy.
- Remote configuration and monitoring capabilities.
- Up to 20 entries each in configuration, event & alarm logs.
- Two level protection in controlling. Administration user and up to three normal users with limited grants.
- Each power outlet can be configured individually.
- SNMP for obtaining device details, outlet status & current consumption.
- SNMP Traps & SMTP enabled for notifying alarm conditions. (Current loading)
- Clear status view of each power outlet on user interface.
- Serial port access to control & view status of outlets

## Applications

- Allows total control on power outlets on server racks.
- Configures device start up sequence in a power failure occasions for controlled powering up devices.
- Control your home appliances remotely from the Internet.

## 2 Assumptions

- Configured *i-Rack* network parameters according to the **Quick Install Guide**, and that the IP address of the device is known. This manual is to explain how to use *i-Rack* once successfully installed on the network. You can find information on how to get *i-Rack* on the network in the **Quick Install Guide** found on the product CD.

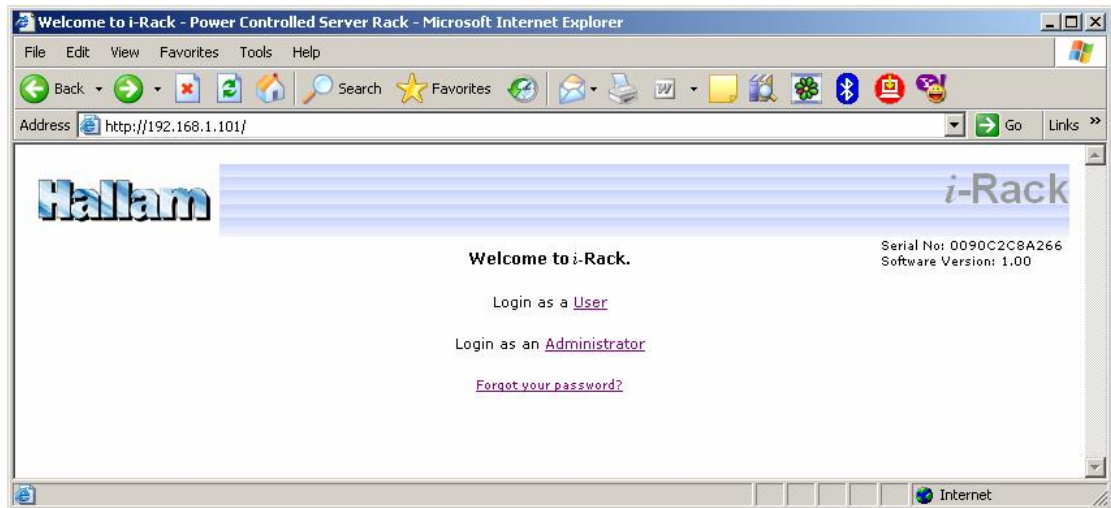


### 3 Accessing i-Rack via Web Interface

i-Rack web interface can be accessed by visiting the URL using its IP address on a web browser.

Eg: if IP address is 192.168.1.105, open web browser and visit <http://192.168.1.105/>

The following welcome page shall be loaded. i-Rack is DHCP enabled when shipped. It will obtain a DHCP address if connected to a DHCP enabled network. Use the i-Rack Finder software tool to obtain the DHCP address.



## 4 Introduction to User Groups

i-Rack has two effective user groups.

- Administrator (1 user)
- User (3 users)

Each user group has different level of grants.

### 4.1 Administrator Group

The product is released with the following user credentials for the 'Administrator' group.

Username	Password
admin	admin

This user is responsible for configuring the unit, its users & each outlet. An administrator can also control each outlet & view the status of the server rack.

Please configure the 'secret question' & 'answer' for administrator. In the case of a forgotten password this set of question & answer is required to reset the administration password.

The administrator should also set different usernames and passwords for the user group. The default User group credentials are described in the 'User Group' subheading.

To login as the administrator, click on '*Login as an Administrator*' from the main web page. Enter the administration username & password, and then click OK.



## 4.2 User Group

The product is released with the following user credentials for the 'User' group

Username	Password
user1	pwd1
user2	pwd2
user3	pwd3

These users are responsible controlling each outlet & viewing the status of the server rack

To login as a user from the User group, click on '*Login as a User*' from the main web page. Enter the username and password, then click OK.

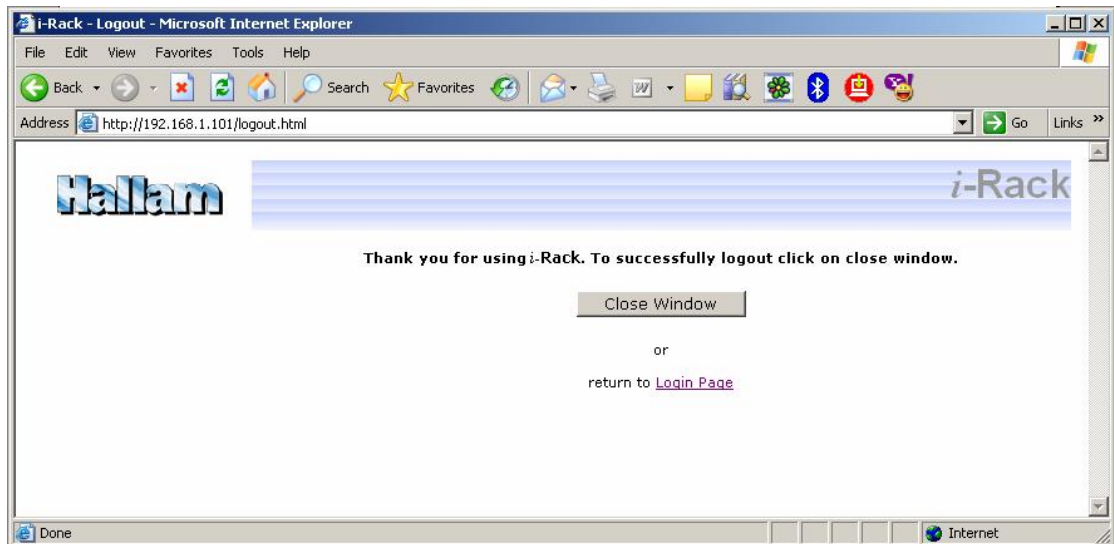


## 4.3 Security on i-Rack

### 4.3.1 Browser Credentials

Authentication is required to view any of i-Rack web pages. i-Rack uses basic authentication.

Once clicking 'Logout' on the interface, i-Rack will load the following page.



Click on 'Close Window' button to logout from *i-Rack*. This will close the window.

#### 4.3.1.1 Changing the Password

Only the administrator user can change the passwords for both 'administrator' & 'user' groups.

Log in as the administrator and click on 'Manage Users' on the menu. Set the relevant user credentials from this menu.

#### 4.3.2 Forgotten Password

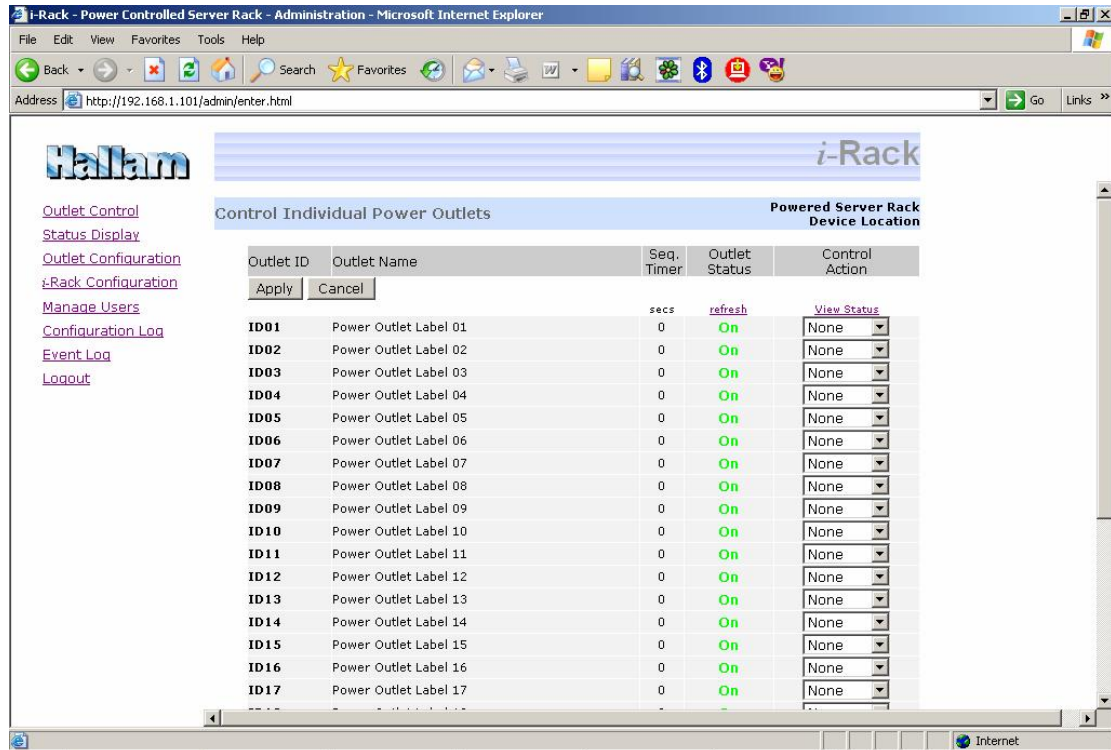
A forgotten password for a user cannot be reset. The administrator should provide the correct password by logging in and retrieving the password set for each user.

If the administrator password is forgotten the only method to reset the password is to answer the secret question set by the administrator. Answering this question correctly will reset the administration username and password both to be '*admin*'.

PS: Note for the administrator: Please ensure that the secret question & answer is updated when the device is configured.

## 5 Controlling & Viewing Status of Outlets

Both 'Administrator' and 'User' groups can control each individual power outlet. Outlets are controlled from the 'Outlet Control' menu. This is the default page loaded when a user logs in to i-Rack.



The parameter 'Sequence Timer' is an important parameter for each outlet and is displayed on this page. The 'Sequence Timer' is a value in seconds how long it will take for an outlet to turn on when the rack is powered. (Note: the outlet startup preference has to be setup in such a way that it will turn on)

The Sequence Timer will also be used when the outlet is rebooted. Each outlet will turn off for duration of Sequence Timer + Global Reboot Delay.

Eg: i-Rack has a Global Reboot Delay of 30 seconds.

Outlet 10 has a Sequence Timer value of 14 seconds.

Outlet 10 'On Power Failure Outlet Startup' is selected to be 'Always On'

Select Outlet	Outlet ID: ID10 Outlet Name: Power Outlet Label 10
Outlet ID01	Outlet ID: <input type="text" value="ID10"/>
Outlet ID02	Outlet Name: <input type="text" value="Power Outlet Label 10"/>
Outlet ID03	On Power Failure Outlet Startup: <input type="text" value="Always On"/>
Outlet ID04	Sequence Timer (Secs): <input type="text" value="14"/> (delay applied at device reboot or outlet reboot)
Outlet ID05	<input type="button" value="Apply"/> <input type="button" value="Cancel"/>
Outlet ID06	
Outlet ID07	
Outlet ID08	Global Reboot Delay Setting
Outlet ID09	
Outlet ID10	Global Reboot Delay: <input type="text" value="30"/> in seconds. (Enter value between 0 - 60)
Outlet ID11	<input type="button" value="Apply"/> <input type="button" value="Cancel"/>
Outlet ID12	

When server rack is powered on: Outlet will be powered on in 14 seconds  
 When outlet 10 is rebooted or global reboot is selected outlet 10 will be powered in 44 seconds.

## 5.1 View Status & Total Current Consumption of Outlets

Status can be viewed by both administrator & user groups. Click on 'Status Display' from the menu. The current consumption is displayed graphically using a slider object. The slider object is colour coded for easy identification for monitoring total current consumption by i-Rack.

The screenshot displays the i-Rack administration interface in a Microsoft Internet Explorer browser window. The address bar shows <http://192.168.1.101/admin/enter.html>. The page features a navigation menu on the left with links: [Outlet Control](#), [Status Display](#), [Outlet Configuration](#), [i-Rack Configuration](#), [Manage Users](#), [Configuration Log](#), [Event Log](#), and [Logout](#). The main content area is titled 'Current Consumption' and includes a horizontal slider bar representing power usage from 0 to 30A, with a current reading of 7.5A. To the right, it shows 'Powered Server Rack Device Location' and 'Total Current 6,233A'. Below the slider, the time is 22:59:29 and the date is 19.12.2006. A table below displays the status of various outlets:

Empty. No device attached	Nortel Shasta 4233	Powered UPS APC 001	Cisco 4000 Series Router
US Robotics Modem	Gateway PC 101	Server Monitoring SafetyNet Plus	IBM Server 001
Data Backup Device	Tape Recorder	Powered Fans	Rack Mounted Server
Empty. No Device attached	Empty. No Device attached	Empty. No Device attached	Server #33
Backup Server 002	Empty. No Device attached	Web Server IIS6.0	EM File Server 005

A legend at the bottom indicates the status colors: Red for Off, Green for On, Blue for Rebooting, and Dark Green for Starting up.

The legend describes the status of each outlet.

## 5.2 Turning On Outlets

Select the outlet & select 'Turn ON' from the combo box from the 'control action' column. Click the 'Apply' button. Multiple outlets are also selectable.

Outlets will be turned on only if they were turned off. Turning on an already on outlet or a rebooting outlet will have no effect.

Powered Server Rack Device Location			
	Seq. Timer	Outlet Status	Control Action
	secs	<a href="#">refresh</a>	<a href="#">View Status</a>
	0	Off	Turn ON
	0	Off	Turn ON
	0	Off	None
	0	Off	None
	0	Off	Turn ON
	0	Off	Turn OFF
	0	Off	Reboot
	0	Off	None
	0	Off	None

### 5.3 Turning Off Outlets

Select the outlet & select 'Turn OFF' from the combo box from the 'control action' column. Click the 'Apply' button. Multiple outlets are also selectable.

Outlets will be turned off only if they were turned on or while rebooting. Turning on an already off outlet will have not affect.

### 5.4 Rebooting Outlets

Select the outlet & select 'Reboot' from the combo box from the 'control action' column. Click the 'Apply' button. Multiple outlets are also selectable.

Outlets will be rebooted only if they were turned on. Rebooting an already off outlet or a rebooting outlet will have not affect.

Each outlet will reboot with a delay of 'Sequence Timer' + 'On Power Failure Outlet Startup' seconds.

### 5.5 Global On

All outlets can be turned on by selecting this option. Select 'Global ON' and click apply.

Control All Power Outlets

Global Control Action:

None  
Global ON  
Global OFF  
Global Reboot

PS: All outlets that are rebooting or turned off status will turn on.

### 5.6 Global Off

All outlets can be turned off by selecting this option. Select 'Global OFF' and click apply.

PS: All outlets that are rebooting or turned on status will turn off.

## **5.7 Global Reboot**

All outlets can be rebooted by selecting this option. Select '*Global REBOOT*' and click apply.

PS: All outlets that are turned on & off status will turn reboot.

Each outlet will reboot with a delay of 'Sequence Timer' + 'On Power Failure Outlet Startup' seconds.



## 6 Alarms on i-Rack

i-Rack has the following alarm conditions

- Current load in Warning condition
- Current load in Alarm condition
- Current load in Critical condition
- Current load in Normal condition ( clearance of an alarm)

In the case of any of these conditions occur, i-Rack can be configured to notify the user via SNMP traps & via email.

The front panel LCD display shall also indicate if in alarm condition. An blinking red LED will also attract attention.

### 6.1 Email Messages

Configure Alarm thresholds for the Current load by going into the 'Alarm Configuration' menu item. Configure the Current Warning, Alarm & Critical levels in milliAmperes here.

**Hallam** **i-Rack**

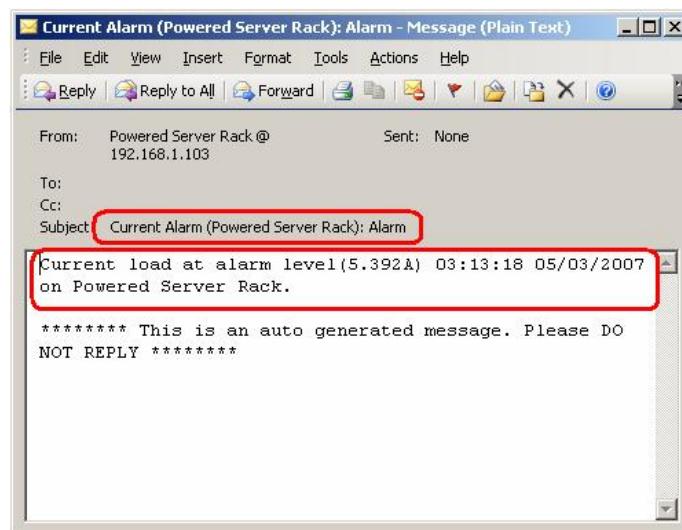
[Outlet Control](#)  
[Status Display](#)  
[Outlet Configuration](#)  
[Alarm Configuration](#)  
[i-Rack Configuration](#)  
[Manage Users](#)  
[Configuration Log](#)  
[Alarm & Event Log](#)  
[Logout](#)

#### Current Alarm Settings

Warning Level	4000	mA
Alarm Level	8000	mA
Critical Level	9000	mA
Send email(s)	<input checked="" type="checkbox"/>	

Apply Cancel [Back to Top](#)

By ticking the Send Email check box, the system shall send emails to the email addresses set under i-Rack configuration.



### 6.2 LCD Text in Alarm Condition

Condition	LCD Text
System is OK	Load: X.XXXA All's Well
Current Load in Warning condition	!!! Load Warning X.XXXA
Current Load in Alarm condition	!!! Load Alarm X.XXXA
Current Load in Critical condition	!!! Load Critical X.XXXA

### 6.3 SNMP Trap Message

Event	Protocol	Source	Reci
Specific trap c...	SNMPv1	192.168.1.103	21:47
coldStart	SNMPv1	192.168.1.103	20:59

Time stamp: 0 days 00h:48m:06s.59th  
Agent address: 192.168.1.103 Port: 161 Transport: IP/UDP Protocol: SNMPv1 Trap  
Manager address: BATMOBILE (192.168.1.100) Transport: IP/UDP  
Community: trap  
SNMPv1 agent address: 192.168.1.103  
Enterprise: 1.3.6.1.4.1.14748  
Specific Trap MIB Lookup Results

Bindings (3)

- Binding #1: iRack8WayMessageString.0 \*\*\* (DisplayString) Current load at warning level
- Binding #2: iRack8WayCurrentAlarm.0 \*\*\* (INTEGER) 1
- Binding #3: currentConsumed-8Way.0 \*\*\* (INTEGER) 5392

## 7 Serial Port Connection on i-Rack

i-Rack provides a RS232 connection (EIA-561 RJ45 type) to control the outlets and to obtain the Current load independent from the network. The serial port will operate only if enabled.

The device has the following settings by default.

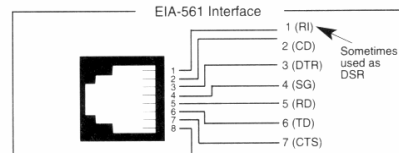
- Serial Port is enabled
- 9600 Baud rate
- 8 Data bits
- No parity
- 1 stop bit
- No flow control

When connected i-Rack has the following acceptable commands

```
status <outlet# [command]> | <cur>
```

```
outlet# = 1-8
```

```
command = 'ON', 'OFF', 'REBOOT'
```



	Male	Female		
	8	1		
	RJ45			
Pin No.	Signal Description	Abbr.	DTE	DCE
1	DCE Ready, Ring Indicator	DSR/RI	←	→
2	Received Line Signal Detector	DCD	←	→
3	DTE Ready	DTR	→	←
4	Signal Ground	SG		
5	Received Data	RxD	←	→
6	Transmitted Data	TxD	→	←
7	Clear To Send	CTS	←	→
8	Request To Send	RTS	→	←

### 7.1 Serial Command Table

Command	Description	Possible Serial Response
status X	Command to retrieve outlet status of outlet X  (condition: 0<X<8)	Outlet X = ON Outlet X = OFF Outlet X = REBOOTING Outlet X = STARTING UP
status X ON	Command to turn outlet X ON  (condition: 0<X<8)	-
status X OFF	Command to turn outlet X OFF  (condition: 0<X<8)	-
status X REBOOT	Command to reboot outlet X  (condition: 0<X<8)	-
status all ON	Command to turn all outlets on	-
status all OFF	Command to turn all outlets off	-
status all REBOOT	Command to reboot all outlets	-
status CUR	Command to obtain Current load	Current Load = 3.267A

If outlet ID is invalid the system shall provide with response: Error: Outlet>8. Try again

## 8 Configuring *i*-Rack

Only the administration user can configure *i*-Rack.

The following can be configured:

- *i*-Rack device configuration, includes SNMP, Serial Port, SMTP & Current Load threshold configuration
- Loading defaults on
- Outlet configuration
- Manage users
- Clear alarm, configuration and event logs

Each of the above shall be described in the following sections.

### 8.1 *i*-Rack Device Configuration

The following can be set by clicking on '*i*-Rack Configuration':

- Device settings
- Network interface settings
- SMTP Settings
- SNMP community & Network Manager configuration
- Serial port settings
- Date & time of *i*-Rack
- Loading factory defaults

There is also an option that allows rebooting the server rack fully. PS: note that all outlets will be tuned off and then each outlet will operate as set as each outlets' start up preference.

#### **Device Settings**

Allows setting a device name & a location for *i*-Rack. Enter appropriately and click '*Apply*'.

Device Settings	
Device Name	<input type="text" value="Powered Server Rack"/>
Device Location	<input type="text" value="Device Location"/>
<input type="button" value="Apply"/> <input type="button" value="Cancel"/>	

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#### **Network Interface Settings**

Allows setting the network parameters for *i*-Rack. Allows selecting the boot up preference. I.e.: DHCP or Static. If DHCP is selected the network parameters entered will be ignored. Within 60 seconds (page needs to be requested after 60 seconds) these fields shall be updated with the DHCP obtained IP address. Enter appropriately and click '*Apply*'.

If a DHCP server is not detected, *i*-Rack sets in with a fall back IP address as described below:

- Fall back IP address: 192.168.1.100

- Fall back subnet mask: 255.255.255.0
- Fall back gateway: 0.0.0.0

### **SMTP Settings (Email Settings)**

Allows setting the SMTP mail server address and the email addresses that messages are sent to when in alarm condition.

SMTP Settings (Email Settings)	
SMTP Mail Server	<input type="text" value="smtp.mailserver.com"/>
Email address 1	<input type="text" value="someone@somedomain.com"/>
Email address 2	<input type="text" value="someone@somedomain.com"/>
Email address 3	<input type="text" value="someone@somedomain.com"/>
<b>SMTP Authorisation Settings</b>	
Enable Authorisation <input type="checkbox"/>	username <input type="text"/>
	password <input type="text"/>

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All email addresses are sent an email when in alarm condition. If your mail server requires authentication tick the *Enable Authorisation* check box & provide the username and password for SMTP authentication.

### **SNMP Settings**

Allows setting the read/write SNMP communities on i-Rack and the Network managers for receiving trap notifications.

SNMP Settings	
Read Community	<input type="text" value="public"/>
Write Community	<input type="text" value="private"/>
Network Manager IP Address 1	<input type="text" value="0.0.0.0"/>
Network Manager IP Address 2	<input type="text" value="0.0.0.0"/>
Network Manager IP Address 3	<input type="text" value="0.0.0.0"/>

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All Network Manager IP addresses shall be sent with a trap when i-Rack is in an alarm condition as well as the clearance of the alarm.

### **Loading Factory Defaults**

The following action is performed:

- User accounts, credentials, secret question & answer are set back to defaults.
- Device name & location shall be reset.
- Each outlet name, ID, sequence timer, preference of startup & global reboot timer values are reset.
- SMTP, SNMP, Serial port settings are set back to default
- Alarm, configuration & event logs shall be cleared.

Network settings or present outlet status will not be affected. Though, when server rack is powered on the next time, the default preference (ALWAYS ON) of outlets shall be used, hence all outlets will be powered on.

## 8.2 Outlet Configuration

Click on 'Outlet Configuration': The first outlet configuration page will be loaded. To configure each outlet click on the button displayed with the ID's of outlets.

Set the name of the power outlet, the ID of the outlet (optional), sequence timer value in seconds & the startup preference & click 'Apply'.

The 'Global Reboot Delay' can be set while setting any of the outlets. PS: note that this is common to all outlets.

Configure Individual Power Outlets		Powered Server Rack Device Location
Select Outlet	Outlet ID: ID05 Outlet Name: IBM Server Rack #4466	
Outlet ID01	Outlet ID	<input type="text" value="ID05"/>
Outlet ID02	Outlet Name	<input type="text" value="IBM Server Rack #4466"/>
Outlet ID03	On Power Failure Outlet Startup	<input type="text" value="Last Known"/>
Outlet ID04	Sequence Timer (Secs)	<input type="text" value="10"/> ( delay applied at device reboot or outlet reboot)
Outlet ID05	<input type="button" value="Apply"/> <input type="button" value="Cancel"/>	
Outlet ID06		
Outlet ID07		
Outlet ID08	Global Reboot Delay Setting	
Outlet ID09		
Outlet ID10	Global Reboot Delay	<input type="text" value="25"/> in seconds. (Enter value between 0 - 60)
Outlet ID11	<input type="button" value="Apply"/> <input type="button" value="Cancel"/>	
Outlet ID12		

## 8.3 Manage Users

Click on 'Manage Users' to configure user credentials. User group credential for all three users shall be displayed.

The administrator password can only be changed by entering the present administrator password only.

The secret question & answer for administrator should be set here.

## 9 Alarm, Configuration and Event Logs on i-Rack

i-Rack stores internal log entries for each alarm, event and configuration change that occurs. These are three separate logs with up to 20 entries of each. When the log reaches more than 20 entries, the oldest entry is removed and the latest entry is added. Therefore, at any given time it is able to review the last 20 entries of alarms and events. To keep a record of the alarms and events, it is recommended to print of the table or copy and paste the table to a file (eg: to Notepad) frequently.

Each log entry consist a time stamp and a description of the alarm, event or the configuration.

The configuration log can be viewed only by the administrator user group. The administrator can also clear both types of logs by clicking the 'Clear Log' button.

A user from the 'User group' can only access the event log. The configuration log will not be accessible by this user.

Event Log		Powered Server Rack Device Location
<b>Time stamp</b>	<b>Description</b>	
23:49:28 12/02/2006	Outlet ID: ID01 rebooted	
23:49:28 12/02/2006	Outlet ID: ID06 rebooted	
23:49:28 12/02/2006	Outlet ID: ID12 rebooted	
23:49:28 12/02/2006	Outlet ID: ID16 rebooted	
23:49:18 12/02/2006	Outlet ID: ID04 turned off	
23:49:18 12/02/2006	Outlet ID: ID05 turned off	
23:49:18 12/02/2006	Outlet ID: ID09 turned off	
23:49:18 12/02/2006	Outlet ID: ID15 turned off	
23:49:18 12/02/2006	Outlet ID: ID20 turned off	
23:48:32 12/02/2006	Global - All outlets turned on	
23:47:05 12/02/2006	Outlet ID: ID02 turned off	
23:47:05 12/02/2006	Outlet ID: ID04 turned off	
23:47:05 12/02/2006	Outlet ID: ID13 turned off	
23:46:30 12/02/2006	Global - All outlets rebooted	
23:46:24 12/02/2006	Outlet ID: ID10 turned off	
23:46:24 12/02/2006	Outlet ID: ID13 turned off	
23:46:24 12/02/2006	Outlet ID: ID19 turned off	

Refresh Log    Clear Log

Sample of the Event Log

Configuration Log		Powered Server Rack Device Location
<b>Time stamp</b>	<b>Description</b>	
23:58:09 12/02/2006	User access usernames/passwords changed	
23:58:00 12/02/2006	Event log cleared by Administrator	
23:57:25 12/02/2006	DHCP IP Requested. Allocated 192.168.1.101 by Server	
23:57:08 12/02/2006	Outlet No: 2 (ID02) configuration updated	
23:57:03 12/02/2006	Outlet No: 14 (ID14) configuration updated	
23:57:00 12/02/2006	Outlet No: 7 (ID07) configuration updated	
23:56:48 12/02/2006	Event log cleared by Administrator	
23:56:19 12/02/2006	Device reboot successful	
23:56:07 12/02/2006	Device reset via web interface	
23:48:43 12/02/2006	IP Address set to 192.168.1.101	
23:48:18 12/02/2006	Administration reminder question/answer updated	
23:47:47 12/02/2006	Administrator username/password changed	
23:47:35 12/02/2006	User access usernames/passwords changed	
23:46:49 12/02/2006	Outlet No: 8 (ID08) configuration updated	
23:46:42 12/02/2006	Device Name/Location or Reboot Timer value updated	
23:46:03 12/02/2006	Event log cleared by Administrator	
23:39:45 12/02/2006	Administration reminder question/answer updated	
23:35:24 12/02/2006	Device Name/Location or Reboot Timer value updated	
23:35:21 12/02/2006	Outlet No: 5 (ID05) configuration updated	
23:26:13 12/02/2006	Device reboot successful	

Refresh Log    Clear Log

Sample of the Configuration Log

## 10 SNMP on i-Rack

### 10.1 Introduction to SNMP Features on i-Rack

i-Rack is a SNMP (Simple Management Network Protocol) agent. The current status of any outlet & the total current consumption can be retrieved via SNMP polling techniques.

i-Rack at has trap sending capability when in alarm condition. The exceeding of the Current load shall sent SNMP traps to the Network Manager IP addresses.

### 10.2 SNMP Implementation

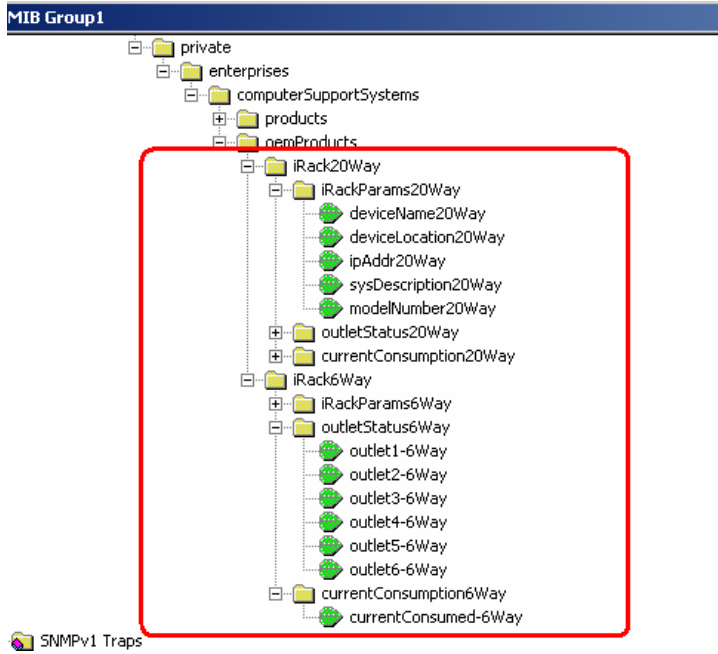
i-Rack supports the SNMP System group in the MIB-II Objects SysDescr, sysObjectID, sysUpTime, sysContact & sysName.

The private MIB (Management Information Base) implements the following objects:

Object	Description
deviceName	i-Rack Device Name Parameter
deviceLocation	i-Rack Device Location Parameter
ipAddr	i-Rack IP Address
sysDescription	i-Rack Description
modelName	i-Rack Model Number
outletXX	i-Rack Outlet XX Status 00 = OUTLET OFF 01 = OUTLET ON 02 = OUTLET REBOOTING 03 = STARTING UP
currentConsumed	i-Rack total current consumption. This value is in mA
iRackMessageString	Message giving more detailed information on alarms/alerts/notifications on iRack
iRackCurrentAlarm	Alarm for Current Load Sensor 0 = level OK 1 = level at warning level 2 = level at alarm level 3 = level at critical level

Refer to the file CSS.MIB in your product CD-ROM under the folder MIB for further details on the Management Information Base. The latest CSS.MIB is also available at <http://www.csspl.com.au>





### 10.3 SNMP Traps Samples

#### Coldstart Trap

Event	Time stamp: 0 days 00h:00m:07s.66th
coldStart	<ul style="list-style-type: none"> <li>Agent address: 192.168.1.103 Port: 161 Transport: IP/UDP Protocol: SNMPv1 Trap</li> <li>Manager address: BATMOBILE (192.168.1.100) Transport: IP/UDP</li> <li>Community: trap</li> <li>SNMPv1 agent address: 192.168.1.103</li> <li>Enterprise: 1.3.6.1.4.1.14748</li> <li>Bindings (2)                             <ul style="list-style-type: none"> <li>Binding #1: sysDescr.0 *** (DisplayString) i-Rack 8 Way Ver 2.00 - CSS</li> <li>Binding #2: sysUpTime.0 *** (TimeTicks) 0 days 00h:00m:08s.23th</li> </ul> </li> </ul>

#### Current Warning level Trap

Event	Protocol	Source	Recd	Time stamp: 0 days 00h:48m:06s.59th
Specific trap c...	SNMPv1	192.168.1.103	21:47	<ul style="list-style-type: none"> <li>Agent address: 192.168.1.103 Port: 161 Transport: IP/UDP Protocol: SNMPv1 Trap</li> <li>Manager address: BATMOBILE (192.168.1.100) Transport: IP/UDP</li> <li>Community: trap</li> <li>SNMPv1 agent address: 192.168.1.103</li> <li>Enterprise: 1.3.6.1.4.1.14748</li> <li>Specific Trap MIB Lookup Results                             <ul style="list-style-type: none"> <li>Bindings (3)                                     <ul style="list-style-type: none"> <li>Binding #1: iRack8WayMessageString.0 *** (DisplayString) Current load at warning level</li> <li>Binding #2: iRack8WayCurrentAlarm.0 *** (INTEGER) 1</li> <li>Binding #3: currentConsumed-8Way.0 *** (INTEGER) 5392</li> </ul> </li> </ul> </li> </ul>
coldStart	SNMPv1	192.168.1.103	20:55	

## 11 Hardware Specifications

### Network Interface

- RJ45 Ethernet 10Base-T, Realtek Semiconductors
- LED indication: 10Base-T TX Activity, Full/half duplex.
- Network Compatibility: Ethernet: Version 2.0/IEEE 802.3

### *i-Rack* Operating Conditions

- Temperature range: -20°C to +70°C
- Humidity range: 5 - 95%, non condensing

### Power Requirements & Specifications

- Input power: 240V A/C 50-60Hz
- Current usage: 380 mA
- Total outlet supply: 16A rated. (model dependant)

### LCD Panel Specifications

- 2 x 12 char LCD

## 12 Troubleshooting

### 12.1 Technical Support

For any technical difficulties contact CSS technical support at:

Email: [support@csspl.com.au](mailto:support@csspl.com.au)

Telephone: +613-9419 3955

Fax: +613-9419 3509

Please have the following details when you contact CSS technical staff:

- Model of product with software version.
- Serial number (Label on back panel or from the main menu display)
- Date of purchase
- Clear definition of problem
- Steps taken so far to fix problem