1. GENERAL

Dataprobe's *RSS* Redundancy Switch Systems provide high density relay based A/B switching for multiple circuits. Two chassis systems are available to accommodate large and small applications.

Each system uses the same plug in cards, providing switching for up to 32 circuits in a single chassis. Both systems offers gang (simultaneous) switching as well as individual control of each A/B card.

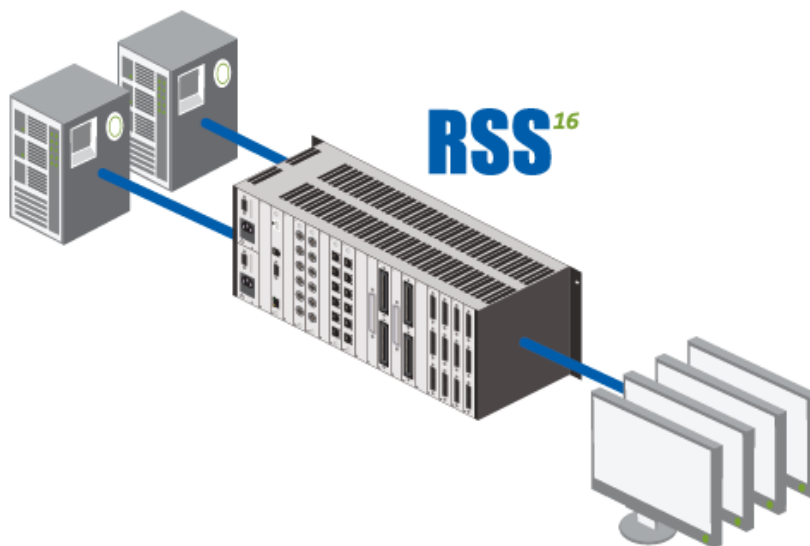Dataprobe's **RSS Series** rack mounting chassis are available in two models; **RSS-16** and **RSS-3**.

The **RSS-16** supports up to 16 AB switch cards, 2 control interface cards and 2 internal power supply modules in a compact 4U high, 19 inch chassis.

The **RSS-3** supports up to 3 AB switch cards, 1 control interface card and 1 internal power supply module, in a 1U chassis with removable rack mount brackets.

Both chassis also provides access to local control switches for each of the A/B switch cards and viewing of their A/B status LEDs.

Information in this manual applies to both systems except where specifically indicated.

Power Supply modules are available for 90-240 VA/C 50/60Hz and 24 or 48 VDC power sources. Two modules can be installed in the chassis. In addition, external power supplies are available as an alternative to the internal power module or to provide redundant power.

Dataprobe Inc
1 Pearl Court, Suite B
Allendale New Jersey 07401

dataprobe.com/support
201-934-5111
tech@dataprobe.com

Table of Contents

2.1.   RSS-16 Chassis

Item # 1150101

The *RSS-16* Chassis mounts in standard 19" equipment cabinets.

Power supplies, control cards and switch cards install from the rear of the chassis. Install each card with the components facing left. The chassis and cards are keyed to prevent incorrect insertion. Switch cards may be inserted and removed with the power on (hot insertion/removal). Cards are secured in chassis with screws at the top and bottom of each panel.

19" W x 7.0" H x 7" D   Weigh 12.5 Lbs (w/o cards)

16 A/B Card Slots

Dual Control Card Slots

Power Supply Slot
Dual Power Modules
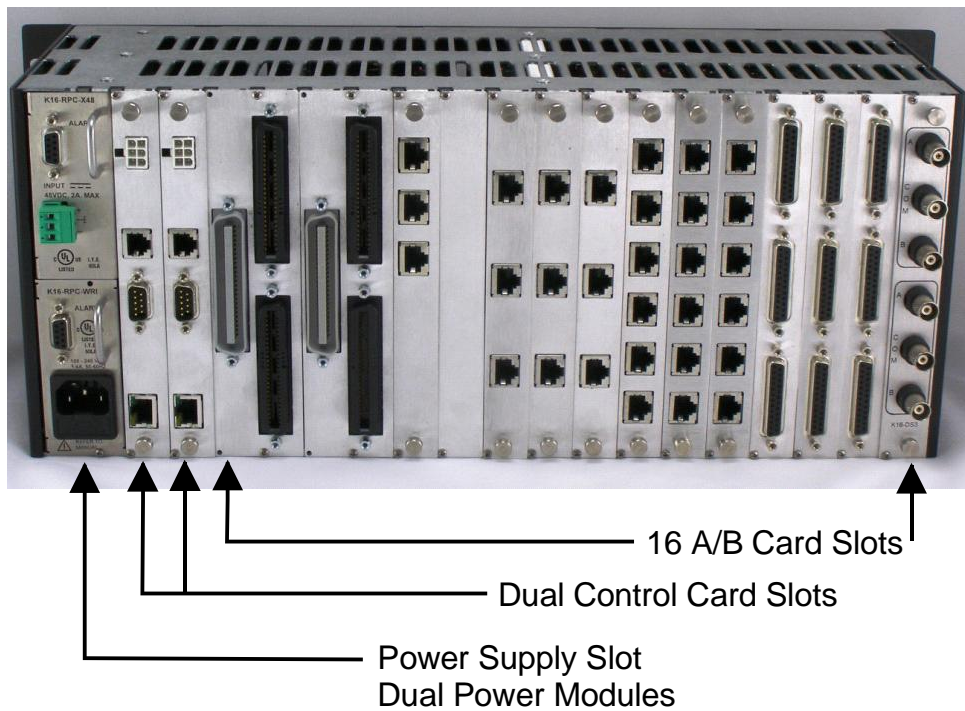
2.2. RSS-3 Chassis

Item # 1150102

The *RSS-3* Chassis mounts in standard 19" equipment cabinets. Rack mounting brackets provided, can be attached to the chassis sides for front or rear rail installations, or removed for non rack applications.

Power supplies, control cards and switch cards install from the rear of the chassis. Install each card into the guide slots with the components facing upwards. The chassis and cards are keyed to prevent incorrect insertion. Switch cards may be inserted and removed with the power on (hot insertion/removal). Cards are secured in chassis with screws at right and left of each panel.

19" W x 1.75" H x 7" D   Weigh 3.5 Lbs (w/o cards)

3 A/B Switch Card Slots

Control Card Slot

Power Supply Slot

Power Supply Status Indicator

A/B Switch Postion Indicator

Local A/B Control Toggle Switch

2.3. Power Supply Indicators

The Chassis has two LED indicators that display the current status of two power supply sources. These are designated PS-1 and PS-2. LED on Indicates the power supply source is connected.

PS-1 Internal Power Supply Module, or External Power Supply #1
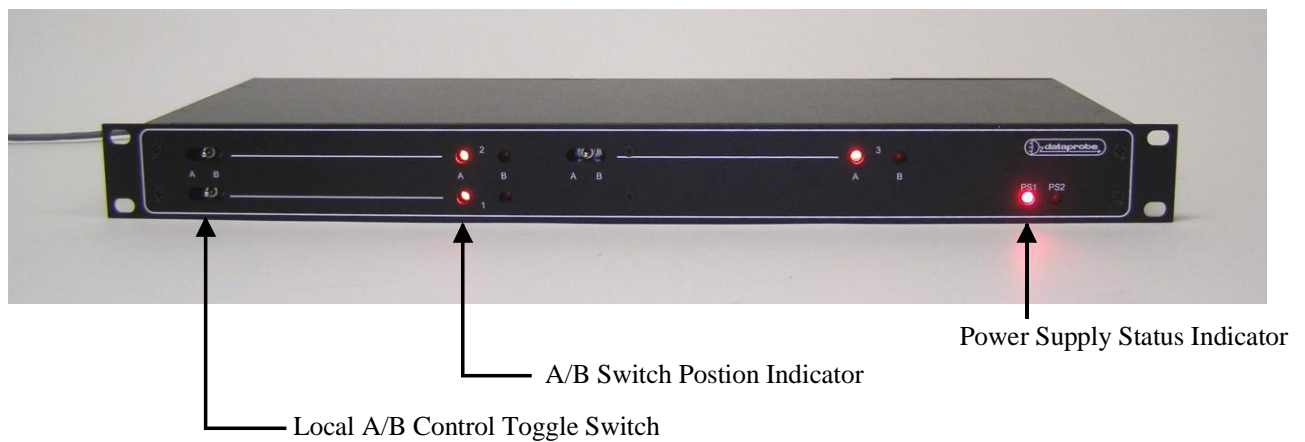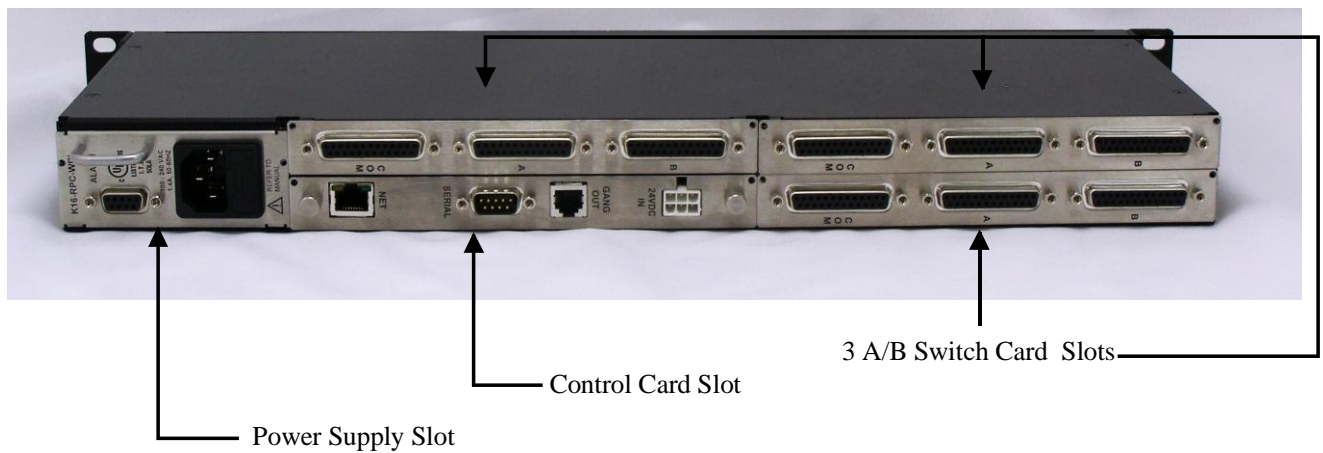PS-2 Internal Power Supply Module, or External Power Supply #2

2.4. A/B Card Status Indicators

Each A/B switch card has LED indicators that can be viewed from the front panel of each chassis. When an A/B Switch is installed, the LEDs for that slot will be either A or B to indicate the status of the card. With no A/B Switch installed, there will be no LEDs to view.

2.5. A/B Card Manual Toggle Switches

Each A/B switch card has al toggle switch for local control. The switches are accessed thru slots in the chassis front panel. These are momentary switches. Move the toggle up to select the A position of the card or down for the B position. With no card in a slot, there will be no toggle switch.

2.6. Gang Control Switches RSS-16

The *RSS-16* chassis has three pushbutton switches for simultaneously controlling all A/B cards in the chassis.   To perform control, hold down the pushbutton marked Enable while pressing either the A or B pushbutton to operate the switches.

In multi-chassis systems, the master chassis (containing the control card), these pushbuttons will operate all A/B Cards in the system. In subsequent chassis, these pushbuttons will operate only the cards in that specific chassis.

2.7. Filler Panels

Blank Filler Panels - **#1920128** Blank panels are available for covering and shielding unused card slots. Filler panels are required for unused slots to meet UL and CE requirements.

3. Chapter 2   Power Supplies

The *RSS* chassis supports both internal and external power supplies, allowing a wide assortment of combinations for flexibility and redundancy. Internal power modules are available to support worldwide A/C power, -48VDC and +24VDC power supplies. External power supplies provide redundancy either when used in pairs, or when combined with an internal module.

Internal Power Supplies
Dataprobe offers the following internal supply modules for the RSS series:

1930069	100 – 240 VAC, 50/60 Hz
1930070	42 – 60 VDC
1930081	24 VDC External Connection Panel, Dual Inputs

3.1.   Power Supply

Item # 1930069

Converts 110/ 220 /240 VAC to 24VDC Single Slot Redundant Capable

INPUT POWER
Nominal : 120/240 VAC 50/60 Hz
Range : 100 - 240 VAC
Watts: 50
Fusing: 2 A

ENVIRONMENTAL
Operating: 0 C -   +65C

PHYSICAL
Plug in rack card installs from rear of chassis

AC Input connector:
IEC 320 (C14)   on rear panel

Alarm / Expansion connector: 9 pin d-Sub
Contact Ratings: 1A @ 24VDC res.

3.2.   Power Supply

Item # 1930070

Converts 48 VDC to 24VDC Single Slot Dual Redundant Capable

INPUT POWER
Nominal : 48 VDC
Range : 42 - 60 VDC
Watts: 75
Fusing: 2.5 A

ENVIORMENTAL
Operating: 0 C -   +65C

PHYSICAL
Plug in rack card installs from rear of chassis

DC Input Connector:
Screw Terminal Mating Connector Supplied.

Alarm / Expansion connector: 9 pin d-Sub
Contact Ratings: 1A @ 24VDC res.

3.3.   Power Supply Installation

Power Supplies insert into the chassis from the rear. An LED indicator on the front panel of the chassis displays power supply operation. Insert the power supply card in chassis prior to applying power.

3.3.1.   RSS-3

The *RSS-3* chassis supports one internal power supply installed thru the rear of the chassis, or an external 24VDC power power supply can also be used by installing the Power Accces Card 193xxx.

Redundant power can be added by connecting an external power supply to the DC power connector provided on the control card.

LED indicators on the chassis front panel display the operating status of PS1 or PS2. The PS2 indicator only functions when an external power supply is added for redundancy.

3.3.2.   RSS-16 Power Supply Options

The *RSS-16* can be configured for redundant power by using internal or external power supplies. Two internal power supply cards can be installed in the single slot power supply position in any combination of AC and DC models. The various configurations are shown below.

Insert the card into the desired power supply position from the rear of the chassis. PS1 is the top position and PS2 is the bottom position

A blank power card panel is included with the chassis when only one of the redundant supplies is installed. This panel should be kept for future use when two supply cards are installed should the need for removal of one of the supplies become necessary.

Redundant Internal Power
Supply Modules.
PS # 1930069
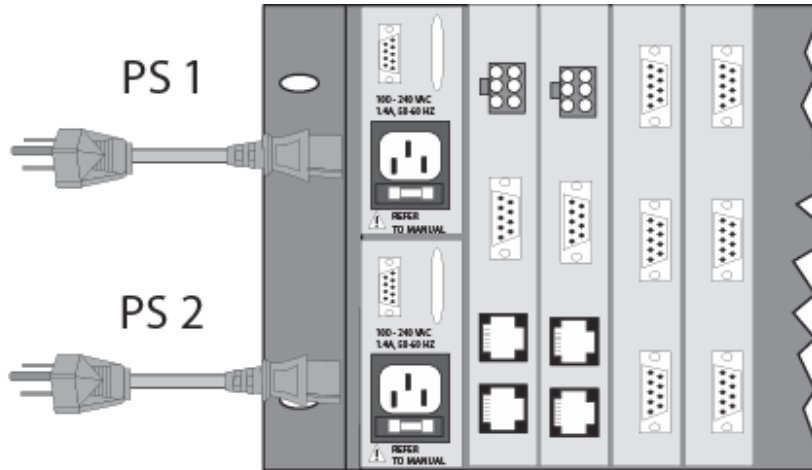
3.3.3.   RSS-3 Power Supply Options

The RSS-3 provides one power supply bay for either the 1930069 AC or 1930070 DC power supply. For redundant power, add the external power supply 1930076. Connection to an external power supply can be made thur the 24VDC power input on control cards IOC-1, IPC-1 or IPC-16, or the External 24VDC Connection Panel

3.4.   24VDC Power Connection

The RSS-3 can be powered from an external 24VDC supply, Dataprobe Item # 1930076, or other 24VDC 600ma source using an RSS DC Power Connector Kit Item #1940164. Two power Inputs are provided for redundant power capability. Wiring detail is shown below. Note The two inputs are isolated but will appear as PS1 on the front panel LED indicator and thru the Power Supply Status when using the IPC-16 control card. PS2 indicates the status of an external power supply connected to the control or gang expansion card option.

EXTERNAL 24VDC POWER WIRING

6	—	4
3	2	+

Rear View
Pin1 +24VDC

Pin5 ‑ Return

3.4.1.   Alarm Connector

Alarm Connection on internal power supply modules provides status information on the condition of the supply.

9 Pin D-Sub Wiring
Pin 6   NO   Pin 6 shorts to Pin 7 when the Power Supply is Non-Operational

Pin 7   COM
Pin 8   NC   Pin 8 shorts to Pin 7 when the Power Supply is Operational

RSS-PAM-R Power Supply #2:
Pin 3   NO   Pin 3 shorts to Pin 4 when the Power Supply is Non-Operational
Pin 4   COM
Pin 5   NC   Pin 5 shorts to Pin 4 when the Power Supply is Operational

4. IPC-16-R Control Card

Item # 1340065

Two Control Cards are available for use in the RSS systems; IPC-16-R and IPC-1-R , providing remote access control through network in-band and serial out-of-band circuits.

IPC-16-R: Both Ethernet TCP/IP and Serial Connections, Individual and Gang AB card control
IPC-1-R: Ethernet TCP/IP, Gang Control Only,

WEB
Through a web browser interface, you can access the control card, obtain current status information and operate the A/B Switches

SNMP
The system can be managed by SNMP through standard management software. Dataprobe provides a private MIB.

Telnet– IPC-16-R Only
Through a telnet client, you can access the control card, obtain current status information and operate the A/B Switches. This is also the method for setting configuration parameters of the card

TCP Messaging – IPC-16-R Only
A direct TCP messaging protocol is supported for direct computer control of the A/B switching system.

Serial – IPC-16-R Only
The serial port on the IPC-16-R provides direct terminal access or via modem. The A/B Cards are controlled either by a menu selection or by command line strings (escape code sequences). Menu selections are ideal for easy operator interface and the escape code sequences streamline automated control.

4.1. Dual Control Cards   RSS-16

The *RSS-16* chassis has two control card slots for supporting either; two IPC-16-R networks control cards, or one IPC-16-R and either the IOC-16-R or IOC-1-R I/O access cards.

When two network cards are installed both cards must be configured the same except for individual IP addresses. The user must also control network access to avoid any conflicts in control contention.

Each controller provides pulsed control signals to the A/B switch cards. The switch cards will be positioned according to commands from the last network controller or I/O access card used.

When a IPC-16-R Network control card and either IOC I/O access card is used, any contact closure externally provided thru the I/O access card will override the network control if the external contact is not momentary.

4.2. IPC-16-R Installation

The IPC-16-R Control Card installs from the rear of the chassis in one of the two control card slots only. The slot are on the left (facing the rear), next to the power supply. Two IPC-16-R cards can be installed for redundant remote access. **Note:** It is recommended that any removal or insertion of a control card be performed with power off to prevent possible unintentional switching of the switch cards.

 The card provides the following connections:

External Power Input. Connection for external power supply, singularly, or as a supplement to an internal supply for dual redundant power. Mating Connector kit # 1940164

Gang Expansion. RJ11 connection for connection to additional chassis for large gang switching applications.

Serial Port. RS-232 port for out-of-band access to the IPC-16-R card.

Ethernet. Network connection; 10baseT - IPC-16-R,

4.3. Serial Port

The Serial Port on the control card is a 9 pin male connector, configured as a DTE. The following pins are used. The following chart illustrates the pin out of the D9 connector and the connection required to an external modem with a D25 pinout.

D9 Pin	Abbreviation	Full Name	Modem D25 Pin
Pin 2	RD	Receive Data	Pin 3
Pin 3	TD	Transmit Data	Pin 2
Pin 5	SG	Signal Ground	Pin 7
Pin 9	RI	Ring Indicator	Pin 22

 For connection directly to a terminal, a Null Modem cable is required.

IPC-16-R D9 Pin	Terminal D9 Pin
Pin 3	Pin 2
Pin 2	Pin 3
Pin 5	Pin 5

4.5. Command Line Interface

The IPC-16-R is managed by a Command Line Interface (CLI) system via Telnet or Serial Port. The CLI uses a username password challenge for security.

4.5.1. Factory defaults System Chassis and RCU

Username   admin
Password   admin

4.6. Telnet

The system supports the Telnet communications protocol for management access. Optionally, the telnet server in the IPC-16-Rcan be disabled with a CLI command.

Connect via Telnet client to the IP address of the IPC-16-R

4.6.1. Factory Defaults

- RSS IP Address 192.168.1.254

4.7. Serial Port

To login in to the IPC-16-Rusing the serial port, set the terminal to the baud rate and character format, then send a Carriage Return <Enter key> .

Baud Rate Baud rate choices are 9600, 19200, 38400, 57600 and 115200 bits per second. Character format is fixed at 8 Data Bits, No Parity, One Stop Bit. (8, N, 1)

4.7.1. Factory Defaults

- 9600, 8 Data Bits, No Parity, One Stop Bit (9600,8,N,1)

4.8. SNMP

The IPC-16-R system is SNMP manageable. Up to four SNMP managers can be defined for the purpose of delivering status Inform messages.

4.8.1. Factory Defaults

- Read Community: public
- Read/Write Community: private
- Notification Timeout: 1 second
- Notification Retry Count: 3
- Lead Configuration Change: 0 seconds

4.9. Command Line Interface

4.9.1. Initial connection

To establish a connection to the system chassis via the network, open a telnet client to the IP address of the system. The session will begin upon connection.

To access the system chassis via the serial port, connect a suitable dumb terminal, or system running terminal emulation to the serial port at the proper baud rate and character format. Send <Enter> via the serial port to begin the session.

Upon Connection the system will send the Model, Version and login prompt:

```
Hello... connected to RSS-16!

Connected to Telnet Session 2

User>
```

Enter the username. The system will then prompt for a password:

```
Password>
```

Enter the password. If successful, the system will send the system level prompt:

```
RSS-16>
```

4.9.2.   CLI Navigation

The system uses a tree structured navigation system. System level, indicated by the `RSS-16>` prompt set the or display the basic parameters for the IPC-16-R including all network configuration. To access any card level parameters, including the A/B status of the card, select the card with the `select card` command

```
RSS-16> select card 3
RSS-16.Card 3>
```

The prompt changes to indicate the current card selected. To return to the system level, send the `exit` command.

4.10. Configuration – IPC-16-R

Configuration of the The IPC-16-R involves the following steps:
*   Setting The IPC-16-R's IP Address
*   Setting additional configuration parameters.

4.10.1.   Setting I/P Address

The IPC-16-R comes with factory installed IP address **192.168.1.254**. In most cases this will need to be changed.

Consult your Network Administrator to determine the appropriate IP address. There are several methods to change the IP address.
*   ARP
*   Telnet
*   Serial Port
*   setip.exe program, available from Dataprobe's web site

To set the IP address, the hardware (MAC) address must be known. This address is located on a label on on the IPC-16-R printed circuit board. The syntax for the MAC address is: nn-nn-nn-nn-nn-nn

4.10.2.   Setting the IP address using ARP

To set the IP address using ARP, connect the jack marked 10Base-T to your local Ethernet network and apply power to the unit. The computer used to set the IP address must be on the same physical network as the IPC-16-R. ARP does not work across switched or routed networks.

4.10.3.   Windows (98 and Later)

1.   Open a DOS window.

2. Type the following command:
    arp -s <IP Address> <MAC Address>
    Where <IP Address> is the desired IP address (in dotted decimal) for the IPC-16-R and the <MAC address> is the MAC Address of the IPC-16-R. The MAC Address is located on a label on the rear panel of the card.

    Example: arp -s 63.211.86.165 00-50-c2-05-01-c1 <enter>
    　　　　　　　　　|--- new IP addr. ---| |-------   MAC addr.   ------|

3. Ping the IPC-16-R to program the IP address into the IPC-16-R.
    Type: **ping <IP Address>**
    If the ping command returns "host not responding" 4 times then the address has not been programmed properly, or the IP or MAC Address is incorrect. In either case redo step 2. If the problem persists, contact the Dataprobe Tech Support Hot Line.
4. Delete the entry from the ARP cache by typing:
    arp -d <IP Address>
5. Ping the IPC-16-R to confirm that it has been programmed.

If the card fails to respond, repeat steps 2-4 above. If the problem persists contact the Dataprobe support hotline.

4.10.4.   Unix, Linux

Consult your systems administrator for information on setting an IP Address using ARP. The unit should be pinged after the IP Address has been set to confirm proper operation.

4.10.5.   Setting IP Address with Telnet

For initial setup, the computer used must use the same network segment as the default IP Address, or current IP address. (192.168.1.xxx) If this is not the case, use one of the other methods.   To connect to the IPC-16-R using telnet, run your telnet client program (provided with your operating system) and connect to the IP address as set in step one above.

For Windows: Select Run…Telnet
　　　　　　　　　　Connect…192.168.1.254　　　　　(or the current IP address)

As soon as you connect the following message will be displayed:

4.10.6.   Setting IP address via Serial Port

The serial port uses the same menu sequences as the Telnet method described above. Connect a terminal directly to the IPC-16-R serial port. Send an Enter keystroke to start the session. The serial port default settings are 9600bps, 8 data bits, no parity, one stop bit. These setting can also be changed via the menus.

4.10.7.   Setting IP Address with setip.exe

Utility setip.exe is available from Dataprobe's website at http://dataprobe.com/support/rss/setip.exe. Download this windows program and run it on any computer on the same physical network segment as the control card. Enter the MAC address and desired IP address and press SetIP.

4.11. Setting other Parameters

Via the Serial Port or telnet, all other configuration parameters can be set for the IPC-16-R. These setting are made from the Command Line Interface, as described in the section 4.13 . Some specific settings to consider are:

Location Name: Enter a 1-20 character name to identify the system. This name appears at the top of each telnet screen and web page.

Card Setup: This allows setting of parameters for individual A/B cards in the system. Each card can be named, up to 20 characters, and can be enabled or disabled. Disabling a card hides its status from web and telnet screens. This should be used where no card is installed, to make reading the screens easier.

Password: A password from 1 to 15 characters is needed for access to the system. Re-enter the old password then enter the new password twice as prompted.

Com Port: Set the Baud Rate and Character Format for the serial port. Baud rate choices are 9600, 19200, and 38400. Character format choices are 8N1, 7E1 and 7O1 (databits, parity, stop bit).

The Default Serial Port Parameters are 9600, 8 Data Bits, No Parity, One Stop Bit (9600,8,N,1)

Escape Response: This selects Yes or No for escape code responses. See section 3.4.3 on escape code control

Web Port, Telnet Port, Message Port: These three settings determine the port assignment for the different TCP protocols used to communicate with the control card. Standard port assignments for these protocols are:

WEB: 80
Telnet: 23
Message: 9100

If you change these assignments, you will need to specify them when you connect to the IPC-16-R. For example if the IP address of the IPC-16-R is 192.168.1.254 and you have changed the web port to 8800, then you would need the following URL to access the IPC-16-R: http://192.168.1.254:8800

> *Note:* *After changing the IP Address, Web Port, Telnet Port or Com Port parameters, it is necessary to reboot the IPC-16-R Card. Do this by entering selection "System Reset", item 6 in the System Setup Menu displayed in the CLI during a Telnet session, or momentarily powering Off the power to the chassis power supply. Power cycling the power source to the chassis power supply will insure no unintentional changes in switch positions of any A/B Card in the chassis.*

MTU: Maximum Transmission Unit. Set the MTU from 100 to 1024. The default of 1024 should not be changed unless required by network architecture.

Read and Write Community Names: These settings are for use with SNMP managers only. Set the names as appropriate for your SNMP configuration.

SNMP Managers: Set up to four SNMP managers that will receive SNMP TRAPs. Other SNMP managers will be able to manage the system.

4.12. Operation

Remote control of each or all A/B Cards is accomplished using either TCP/IP protocols for Web browser (http) , Telnet, or direct TCP messaging. Each card in the chassis can be operated independently, or all 16 A/B cards can be operated simultaneously. In all cases, switch control is password protected.

4.13. Command Line Interface

4.13.1. System Level Commands

Command	Description	Default
`logout`	Log out of the system	
`reboot`	Reboot the system	

`get all`	Get system status
	
	`RSS System: Network_Ops    Power 1: Fail    Power 2: Ok`
	
	`Controller F/W: v1.00.067`
	
	`ID          Name          Enabled    Act`
	
	`  1    NewYork               Yes      A`
	`  2    Boston                Yes      A`
	`  3    Providence            Yes      A`
	`  4    Philadelphia          Yes      A`
	`  5    Baltimore             Yes      B`
	`  6    WDC_East              Yes      A`
	`  7    WDC_West              Yes      A`
	`  8    Atlanta               Yes      A`
	`  9    Miami                 Yes      B`
	` 10    Seattle               Yes      A`
	` 11    Portland              Yes      B`
	` 12    San_Francisco         Yes      A`
	` 13    Phoenix               Yes      B`
	` 14    Houston               No       -`
	` 15    Chicago               No       -`
	` 16    Pittsburgh            No       -`
	
	`Ok`
	`RSS-16>`	

`select card <1-16>`	Moves to card level. Prompt changes to `RSS.Card nn>`	
`get location` `set location <0-20 characters>`	Sets the displayed name of the chassis. 20 Characters maximum	Set Location

Command	Description	Default

`get powersupply`	Get the current state of the power supplies
	
	`RSS-16> get powersupplies`
	
	`Power Supply 1:  Fail`
	`Power Supply 2: Ok`
	
	`Ok`
	`RSS-16>`	

`get upgrade enable` `set upgrade enable <yes|no>`	Set firmware upgrade enable flag	no
`get mac` `set mac <XX:XX:XX:XX:XX:XX>`	Set network MAC address	

`get network`	Get network IP settings
	
	`RSS-16> get network`
	`IP Mode:        Static`
	`IP Address:     10.10.10.70`
	`Subnet:         255.255.255.0`
	`Gateway:        10.10.10.7`
	`DNS1:           0.0.0.0`
	`DNS2:           0.0.0.0`
	
	`Ok`
	`RSS-16>`	

`set ipmode <static|dhcp>`	Sets the IP Mode Static: The IP address is set manually DHCP: The IP Address is set by DHCP Server	static
`set ipaddress <xxx.xxx.xxx.xxx>`	Sets the IP Address in dotted decimal	192.168.1.254
`set subnet <xxx.xxx.xxx.xxx>`	Sets the subnet mask in dotted decimal	255.255.255.0
`set gateway <xxx.xxx.xxx.xxx>`	Sets the gateway in dotted decimal	0.0.0.0
`set dns1 <xxx.xxx.xxx.xxx>`	Set network DNS server 1 IP address	0.0.0.0
`set dns2 <xxx.xxx.xxx.xxx>`	Set network DNS server 2 IP address	0.0.0.0

`get console`	Displays the current console and telnet settings ``` RSS-16> get console Auto Logout: 50 minute(s) Serial Login: Yes Baud Rate: 9600 BPS Telnet Enabled: Yes Telnet Port: 23 Ok RSS-16> ```	
`set console timeout <0-99>`	Set the current timeout (auto logout) value minutes (0=disable)	Default =
`set console serial login <yes|no>`	Set the serial login enable flag	
`set console serial baud` `   <2400|9600|57600|115200>`	Sets the baud rate on the serial port. Serial port character format is fixed at : 8 Data bits, No Parity, One Stop Bit, (8,N,1)	9600
`set console telnet enable <yes|no>`	Set the telnet enable flag	Default =
`set console telnet port <1-65535>`	Set the telnet port	23
`get SNMP`	Get network SNMP settings ``` RSS-16> get snmp Read Community: public Write Community: private Manager IP Address 1: 192.168.1.19 Manager IP Address 2: 192.168.4.19 Manager IP Address 3: 10.10.10.60 Manager IP Address 4: 0.0.0.0 Ok RSS-16> ```	
`set snmp enable <yes|no>`	Set network SNMP enable flag	
`set snmp readcommunity <0-20>`	Sets the trap community name for the specified SNMP manager	public
`set snmp writecommunity <0-20>`	Sets the read/write community name for the specified SNMP manager	private
`set snmp manageripaddress <1-4> <ip>`	Sets up to four SNMP managers	
`get http`	Get network HTTP (web) settings ``` RSS-16> get http HTTP Server Enabled: Yes HTTP Port: 80 HTTPS Port: 443 HTTP SSL Enabled: No Ok RSS-16> ```	

Command	Description	Default
`set http enabled <yes|no>`	Set Web Server Enabled or Disabled	yes
`set http port <1-65535>`	Set network HTTP port	80
`set http httpsport <1-65535>`	Set network HTTPS SSL port	443
`set http usessl <yes|no>`	Set if Web Encryption, HTTPS is required	no

`get escape`	Get escape sequence settings
	
	`RSS-16> get escape`
	
	`Escape Enabled: Yes`
	`Escape Port:    9100`
	
	`Ok`
	`RSS-16>`	

`set escape enabled <yes|no>`	Set escape sequence enable flag	yes
`set escape port <1-65535>`	Set escape sequence port	9100
`set gang <a|b>`	Gang Switches all cards in system to A or B	
`set password <1-20>`	Set system password	admin
`set factory defaults`	Set system to factory defaults	

4.13.2. Card Level Commands		4.13.3.
Command	**Description**	**Default**

`get all`	Get card status and configuration
	
	`RSS-16.Card 1> get all`
	
	`Current Card Values:`
	
	`Card ID:      1`
	`Card Name:    NewYork`
	`Enabled:      Yes`
	`Active Port:  A`
	
	`Ok`
	`RSS-16.Card 1>`	

`get name` `set name <0-20 characters >`	Set card name	????
`get enabled` `set enabled <yes|no>`	Set card enabled flag	yes
`set type <empty|dumb>`	Set card type (empty means not populated)	dumb
`set activeport <a|b>`	Set active port status	a
`exit`	Exit back to main level	

4.14. Web Browser Operation

To access the RSS using any web browser, point your browser to the IP address of the IPC-16-R card. If the IP address is the default 192.168.1.254 then enter in the web browser address bar: http://192.168.1.254

You may wish to bookmark this location and rename the bookmark for easy reference.

You will be prompted for a User Name and Password. The User Name is not used, and any or no characters can be entered there.

Enter Password as programmed in the setup menu system. The default password is PASS. Please guard your password safely. If the password is forgotten, contact Dataprobe Tech Support.

Upon entering the correct password, the main page will be displayed.

4.14.1.   Status and Control Page

The web page shows the current status of each enabled card in the chassis.
It also displays the status of the two power supplies in the lower right corner.

To operate one or more switch cards: Select the desired A/B Card(s) using the checkbox next to the card and then click on the large A or B button under Switch Control. The screen will refresh with the new card status shown. Buttons for Select All and Select None assist in making selections.

The Web page will not automatically refresh. It displays the correct status at the time the page was displayed. To obtain the latest status, click on the Refresh button.

If cards are not installed in the system, their status will be reported as Position A. To avoid confusion, use the Disable feature in the Setup for unused card slots. When cards are disabled, their name will continue to appear on the web page or telnet screen, however, their status will not. Note cards slots 14-16 in the screenshot.

To simultaneously switch all cards in the chassis, click on either the Gang A or Gang B buttons. The checkboxes need not be used for this operation.

A logout button is provided. Click this button to be instantly logged out. There is an automatic logout function if there is no activity for two minutes. You can also just close the browser; however you will not be able to log back in for two minutes.

4.15. SNMP Manager Control

The IPC-16-R allows for management via SNMP. The private MIB is available from the Dataprobe Web Site at: http://dataprobe.com/support_rss-series.html

MIB Outline and MIB Definitions can be found in Section 7

4.16. Escape Sequence Control

The IPC-16-R can be controlled via command line messages sent either over the serial port or using TCP messaging over the Ethernet port. This allows streamlined communication between the IPC-16-R and network management systems or computer based monitor and control systems. Programming support is available. Contact Dataprobe Applications Engineering.

4.16.1.   Making Connection via Ethernet and Serial

The IPC-16-R uses the TCP (Transport Communication Protocol) to communicate with the client PC. To use the IPC-16-R , establish a TCP connection (Stream Socket) to the IPC-16-R. Be sure to use the Port assigned to the IPC-16-R , either Port 9100 or the port assigned through the Setup Menus. Once connected use the Send() function to send the commands to the IPC-16-R and the Recv() function to receive the IPC-16-R 's response.

For the serial port of the IPC-16-R, connection via the serial port requires only setting the computer to the proper baud rate and character format.

4.16.2.   Command Syntax

<esc><password><^a><card><^b><command><cr>

Where:			
esc	=	The ASCII escape character (0x1b)
password	=	The IPC-16-R password in ASCII (case sensitive)
^a	=	The ASCII control 'a' character (0x01)
card	=	The number of the card to be changed, with or with out leading 0's (a or A = all)\
^b	=	The ASCII control 'b' character (0x02)
command	=	The command to be executed:
		a or A - Switch selected card to A
		b or B - Switch selected card to B
		q or Q - Display the status of the selected card
cr	=	The ASCII Carriage Return (0x0d)

The < and > in the syntax above are only to delineate the control characters and should not be sent.

Example: To switch card 7 to B send   **<esc>PASS<^a>7<^b>B<cr>**

4.16.3.   Response Syntax

The syntax for the command response is.   **<card><status><cr>**

Example: 01A

card	=	The number of the card.
status	=	The status of the card either A, or B.
cr	=	The ASCII carriage return character

If the queried card has been disabled then no response will be transmited.
In response to the Query All command, 16 response messages will be sent.
All invalid commands will be ignored. No response even when responses are enabled.

Item # 1340066

The IPC-1-R Control Card installs from the rear of the chassis in the 2nd control card slot only. This is the third slot on the left (facing the rear), next to the power supply. The physical size of the IPC-1-R components require 2 slots. **Note:** It is recommended that any removal or insertion of a control card be performed with power off to prevent possible unintentional switching of the switch cards.

The card provides the following connections:

External Power Input. Connection for external power supply, singularly, or as a supplement to an internal supply for dual redundant power.
Mating Connector kit # 1940164

Gang Expansion. RJ11 connection for connection to additional chassiss for large gang switching applications.

Ethernet.   10/100base-T Network connection

4.17. IPC-1-R Configuration

4.17.1.   Setting I/P Address

IPC-1-R comes with factory installed IP address **192.168.1.254** you may need to change this address. Consult your Network Administrator to determine the appropriate IP address. The IP address can be set in any of four ways:

- Web Browser via the Set-up Page
- Automatically from a DHCP Server
- ARP-Ping
- Dataprobe setip.exe utility

1. Setting the IP address using Web Browser

Access the IPC-1-R with the administrator credentials and select Setup, then IP. Enter the IP address, subnet mask and gateway.   For initial setup the computer accessing the IPC-1-R needs to be on the same subnet as the IPC-1-R (have a 192.168.1.xx address)

To lock the settings, select the IP Mode: Static. This prevents additional changes to be made with either DHCP or ARP.

Click Apply and then a Reboot button will appear. Click to Reboot. The new changes will take effect after reboot.

2. Setting the IP address from a DHCP Server

A DHCP server will automatically assign an IP address (dynamic address) as well as Subnet Mask and Gateway to the IPC-1-R. If you power up IPC-1-R with the IP Mode set to DHCP, the server will be able to assign an IP address.   Once an IP address is assigned, you must check with the DHCP server to see what address is

assigned to IPC-1-R. Once the assignment is made, you can lock the settings, by accessing the IP setup page and selecting the IP Mode: Static. This prevents additional changes to be made with either DHCP or ARP-Ping.

To enable DHCP, access the Setup web page, then IP settings and select Mode DHCP. A reboot is required.

3. Setting the IP address using ARP-Ping

To set the IP address using ARP, connect the ethernet connection to your network and apply power to IPC-1-R. Using ARP you use a computer to set the IP address. The IP address assigned to IPC-1-R must be use the same network segment as the computer assigning the address. ARP does not work across routed or switched networks.

For security purposes, ARP-Ping will only work within the first two minutes of powering up the IPC-1-R.

To set the IP address using ARP, the hardware (MAC) address is used. This address is located on the bottom of the unit. The syntax for the MAC address is: nn-nn-nn-nn-nn-nn

Windows
     Open a DOS window.

1. Type the following command:
    arp -s <IP Address> <MAC Address>
    Where <IP Address> is the desired IP address (in dotted decimal) for the IPC-1-R and the <MAC address> is the MAC Address of the IPC-1-R. The MAC Address of the IPC-1-R is located on bottom of the unit.

    Example: arp -s 192.168.7.203 00-50-c2-05-01-c1 <enter>
                     |--- new IP addr. --| |------   MAC addr.   ------|

2. Ping the IPC-1-R to program the IP address into the IPC-1-R by typing:
    ping <IP Address>
    If the ping command returns "host not responding" 4 times then the address has not been programmed properly, or the IP Address is incorrect. In either case redo step 2. If the problem persists, contact the Dataprobe Tech Support Hot Line.

3. Delete the entry from the ARP cache by typing:
    arp -d <IP Address>

4. Ping the IPC-1-R (repeat step 2) to confirm that it has been programmed properly.
    If the IPC-1-R fails to respond, repeat steps 2-4 above. If the problem persists contact the Dataprobe support hotline.

    To lock the settings, select the IP Mode: Static. This prevents additional changes to be made with either DHCP or ARP-Ping.

4.17.2.   Setting the IP address setip.exe

Dataprobe provides a utility program to streamline the setting of the IP address. This program duplicates the steps used in the ARP-Ping method above. Download this program at http://dataprobe.com/files/control/setip.exe. This windows program is self extracting file with the program and help file. The setip.exe program must be run from the same subnet as the IPC-1-R. As with ARP-Ping, the program must be run within 2 minutes of powering up the IPC-1-R.

4.18. Web Browser Operation

4.18.1. Password Protection:

IPC-1-R uses two passwords, one for normal use and one that also provides access to the setup functions. From the factory, both are set the same.

Open your browser and access IPC-1-R by entering the default (**192.168.1.254**) or current IP address into your browser's Address window. Enter the default administrator username and password, or your username and password if it has been changed.

Default Usernames: admin   user
Default Passwords: admin   user

IPC-1-R also uses an inactivity timer for security. When there is no activity for 2 minutes, the connection is closed and the password will need to be entered again for access.

4.18.2. Main Screen

Once the password is entered, the following page is displayed.
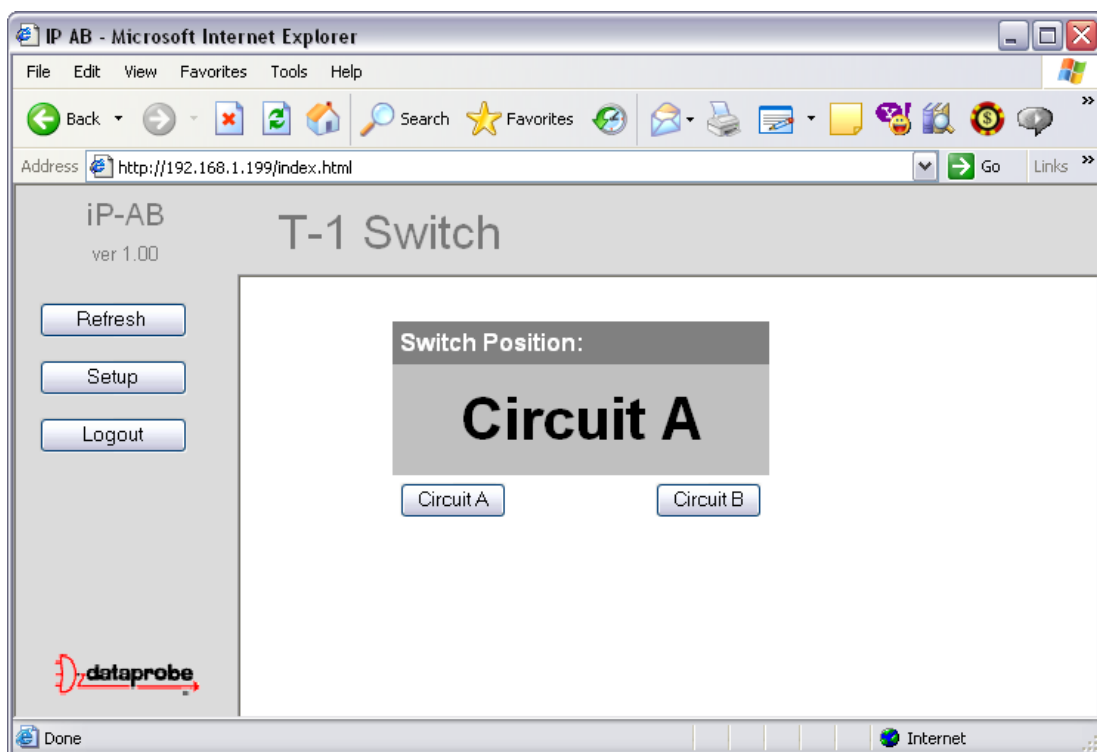
To control the switch, click on the appropriate button. The names displayed for the A and B status as well as the names of the appropriate switch control buttons can be changed through the Setup.

Use the Refresh link to obtain the latest status of IPC-1-R. Using your browser's refresh button can lead to inadvertent switching.

When you are finished with IPC-1-R, click on Logout. A confirmation page will be displayed. If you close your browser windows without first clicking Logout, there will be a two minute delay before you can re-access IPC-1-R.

IPC-1-R will automatically time out if there is no activity for two minutes. This is to prevent accidental lockout by leaving the browser open.

If the Auto-Ping feature is in use, this page will also display its status, OK or Triggered, and the number of times it has been triggered. OK indicates that the IP address being pinged is responding. It will display Triggered to indicate that it has is not receiving a response to the pings, and has performed its programmed switching function. The Trigger Count indicates the number of times the IPC-1-R has been triggered. This counter can be reset with a button on the page.
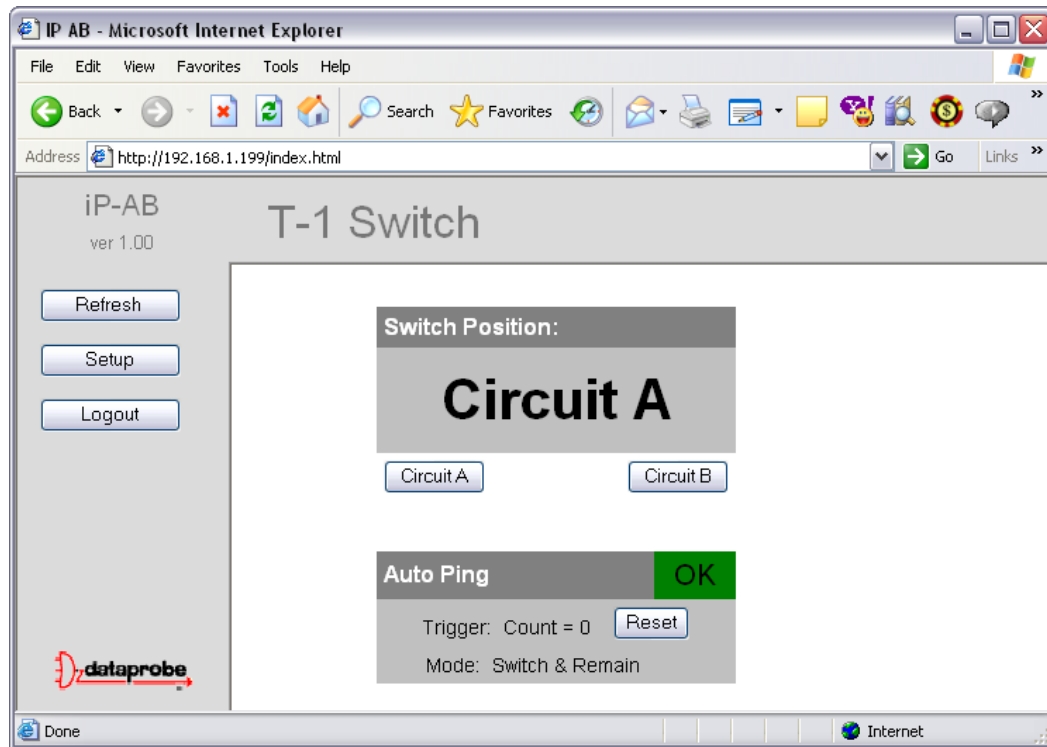
4.19. Setup Page

The setup page consists of several sections. Each time a setting is changed click on the Apply button for that section to save the changes in IPC-1-R.
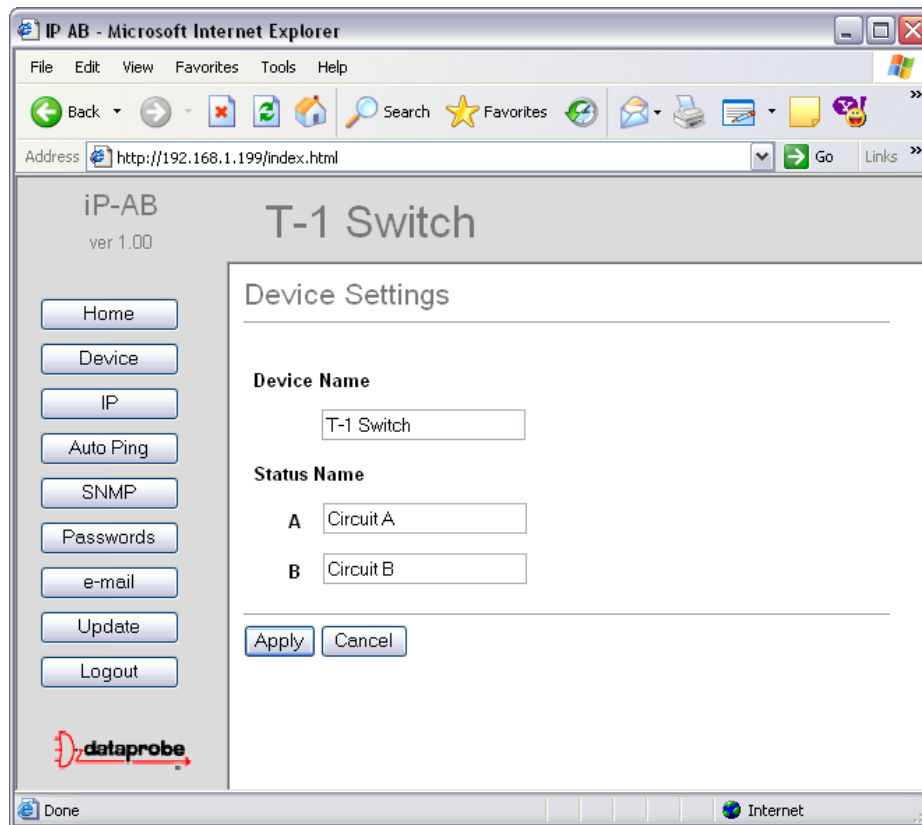
Device	Set the name that displays on the top of the Home Page as well as the Status Name for the A and B switch positions.
IP	Set the IP address, IP acquisition mode, Port Settings and SSL
AutoPing	Set the IPC-1-R for automatic operation based on device availability
SNMP	Set up to 4 SNMP managers and what events generate Traps
Passwords	Set username and passwords for the Administrator and User
E-mail	Set email notification and what events generate emails
Update	Load new or custom firmware in the IPC-1-R

Device
Device Name: Set the name to be displayed on the top of each web page. 20 Character Max.
Status Name: Set the name displayed for the A and B switch status. 20 Character Max.

IP
IP address, Subnet Mask, Gateway: Enter these values as provided by your network administrator.

IP Mode: Select the mode of acquiring the IP address.
Static Mode: Locks the IP address as shown above. When the IP number is Static, it can not be changed by DHCP or ARP-PING methods.   If the IP number is forgotten, use the IP-AB recovery tool. See Troubleshooting.
DHCP Mode: Allows a DHCP server to assign IP address
APR-PING Mode: Allows setting of the IP address via ARP/Ping method or using the ipset.exe utility.

HTTP Port: To access IPC-1-R on a port other than the Web standard 80. If the port is changed, you will need to identify the port number when you enter IPC-1-R's IP address into your browser: if the new port is 9100 then use **http://192.168.1.254:9100** to access IPC-1-R.

Dataprobe recommends changing of the port from the default 80 to reduce the number of attacks from hackers.

SSL: The IPC-1-R can use Secure Socket Layer (SSL) encryption to protect the username/password and data between the browser and the switch. This is set Enabled by default. Disabling SSL will increase the response of the unit.

Once you click Apply for any changes in this section, a reboot of the unit is required. A Reboot button will appear on the bottom of the page. This will automatically reboot the IPC-1-R and redirect the browser to the new address/port

AutoPing
This page sets the unit for automatic operation. AutoPing monitors one or two IP addresses and switches the IPC-1-R based on the response or lack of response to the ping requests. See the section below on AutoPing for complete details.

SNMP
SNMP Manager IP Address: Set the IP address of up to four SNMP managers that can send configuration information and receive Traps from the IPC-1-R

Enable: Enable or Disable SNMP and set the actions that send Traps to the SNMP managers.

Passwords
Set the username and password for the Administrator and User functions. The Administrator has access to all setup and operational functions. The User can view and change the status of the A/B switch, and reset the AutoPing trigger count only. The Setup button is not visible to the User. Enter the new username and password. If the passwords are lost, see Troubleshooting.

E-Mail
E-mail Services: Set the email parameters for generating email alerts to various activities. Set the POP and SMTP server IP addresses, the Mail From and Mail To addresses as well as the username and password for the SMTP and POP servers.

Notification Enable: Enable or Disable the e-mail generation for SNMP activities and switch changes via Web, AutoPing and from the manual toggle switch.

Update
This screen provides access to loading new operating software into the IPC-1-R. Follow the instructions on the screen to browse to a software file, load, install and reboot the IPC-1-R.

4.20. AutoPing

AutoPing allows the IPC-1-R to monitor one or two network attached devices and automatically switch based on the availability of these devices.

Ping Address: Enter the IP address of the device(s) to be pinged.
Ping Frequency: Enter 1 to 999 seconds. The ping will go out to the selected device this often.
Fail Counter: 1 to 99. This is the number of times the ping does not get a response before the IPC-1-R takes action.

Action: select from:

Action	IPs Set	Function
None:	None	Auto Ping not used
Switch & Remain:	IP A	Switch to B on ping loss and remain until switched back via web, manual toggle switch, SNMP or TCP Messaging.
Switch & Return:	IP A	Switch to B on ping loss and back to A when ping response resumes.
Hunt for Ping:	IP A	On loss of ping, switch to B and look for ping response, if no ping detected, switch back to A. Repeat until ping response is detected and remain there until ping is lost again.
Dual: Alternate	IPA IPB	Switch to whichever ping that responds. Both/Neither = No Change.
Dual: Last	IP A IP B	Switch to position based on last ping response. Whichever IP address most recently changed from no response to response.
Custom Setting	IP A IP B	Create your own logic table for switching. Enter the action required for each combination of ping OK or No Response for A, B or both.

Custom Setting generates a pop-up box to allow you to create your own switching logic. Click Apply when done.

4.21.

4.22. Troubleshooting

- I forgot my Password
- I lost my IPC-1-R on the network

You can find and reset IPC-1-R to its factory default conditions, with the exception of the IP address.

Dataprobe provides a Discovery and Reset utility for Windows. You will need to have physical access to the IPC-1-R as well as network access. Download the reset program and instructions at http://dataprobe.com/support_rss-series.html

4.23. Updating Firmware

From time to time, Dataprobe releases updated firmware with additional enhancements for the IP-AB. These can be downloaded from the Dataprobe website and installed on your units. Check http://dataprobe.com/support_rss-series.html for the latest release.

To install the firmware, click on Update from the Setup page. Follow the on-screen instructions to browse to the downloaded file, install the file and reboot the IPC-1-R.

Note: System Reboot
To reboot any control card, momentarily powering Off the power to the chassis power supply. Do not remove and reinstall the control card with power applied ON. Power cycling the power source to the chassis power supply will insure no unintentional changes in switch positions of any A/B Card in the chassis.

Dataprobe offers a number of remote and automatic power reboot products. Please see the Dataprobe website or contact your local sales representative.

5. 16 Channel I/O Control Model   IOC-16-R

Item # 1340067

The IOC-16-R #1340067 provides wiring access for external contact control and switch card status monitoring. It can be installed along with a IPC-16-R Network Control access card or with a IOC-16-R gang access card.

5.1.   Installation

The IOC-16-R installs in from the rear of the chassis in either of the two control card slots only. If an IPC-R-16 card is also used, the IOC card should be installed in 2nd control card slot, 3rd slot from the left in the rear of the chassis. Install the card with the components facing left. The IOC-16-R may be inserted and removed with the power on (hot insertion/removal) , but use caution as any contact wiring connected to the IOC card may cause unintended switch card changes.   Make sure to use the screws provided to secure the card in the chassis before connecting cables.

5.2.   Status and Control Connector Pinouts

The following pinouts detail the connections necessary for individual and gang control of each A/B card, as well as the available status contacts.

Status
Status is dry relay contacts:
Common not connected to Normally Open (NO) = Switch in Position A
Common connected to Normally Open (NO) = Switch in Position B

Control
For control, momentarily connect the appropriate pin to Ground, for example, To switch Card Slot 2:
Connect Pin 2 to Ground to switch to A
Connect Pin 27 to Ground to switch to B

Use Pins 17 and 42 to switch all card slots simultaneously.

The complete pinout of these connectors follows on the next page.

Status

	Pin	Function
Card Slot 1	1	NO - Normally Open
	26	Ground
Card Slot 2	2	NO - Normally Open
	27	Ground
Card Slot 3	3	NO - Normally Open
	28	Ground
Card Slot 4	4	NO - Normally Open
	29	Ground
Card Slot 5	5	NO - Normally Open
	30	Ground
Card Slot 6	6	NO - Normally Open
	31	Ground
Card Slot 7	7	NO - Normally Open
	32	Ground
Card Slot 8	8	NO - Normally Open
	33	Ground
Card Slot 9	9	NO - Normally Open
	34	Ground
Card Slot 10	10	NO - Normally Open
	35	Ground
Card Slot 11	11	NO - Normally Open
	36	Ground
Card Slot 12	12	NO - Normally Open
	37	Ground
Card Slot 13	13	NO - Normally Open
	38	Ground
Card Slot 14	14	NO - Normally Open
	39	Ground
Card Slot 15	15	NO - Normally Open
	40	Ground
Card Slot 16	16	NO - Normally Open
	41	Ground
	17	
	42	
	18	
	43	
	19	
	44	
	20	
	45	
	21	
	46	
	22	
	47	
	23	
	48	
	24	
	49	
	25	
	50	

Control

|	Pin	Function
Card Slot 1	1	Switch to A
	26	Switch to B
Card Slot 2	2	Switch to A
	27	Switch to B
Card Slot 3	3	Switch to A
	28	Switch to B
Card Slot 4	4	Switch to A
	29	Switch to B
Card Slot 5	5	Switch to A
	30	Switch to B
Card Slot 6	6	Switch to A
	31	Switch to B
Card Slot 7	7	Switch to A
	32	Switch to B
Card Slot 8	8	Switch to A
	33	Switch to B
Card Slot 9	9	Switch to A
	34	Switch to B
Card Slot 10	10	Switch to A
	35	Switch to B
Card Slot 11	11	Switch to A
	36	Switch to B
Card Slot 12	12	Switch to A
	37	Switch to B
Card Slot 13	13	Switch to A
	38	Switch to B
Card Slot 14	14	Switch to A
	39	Switch to B
Card Slot 15	15	Switch to A
	40	Switch to B
Card Slot 16	16	Switch to A
	41	Switch to B
Gang All Slots	17	Switch to A
	42	Switch to B
All Slots	18	Ground
	43	Ground
	19	Ground
	44	Ground
	20	Ground
	45	Ground
	21	Ground
	46	Ground
	22	Ground
	47	Ground
	23	Ground
	48	Ground
	24	Ground
	49	Ground
	25	Ground
	50	Ground

IOC-3-R   3 Channel I/O Control Card

Item # 1340073

The **IOC-3-R 3 Channel I/O Control Card** provides gang and individual control for up to three A/B switch cards. It can be used to link multiple chassis in large gang switching systems, allowing for simultaneous switching of multi-chassis systems.

It can be installed along with an IPC-16-R network control card or an IOC-16-R I/O access card.

A connection is also provided for external power input from the PS-WRI-4 or similar +24VDC source.

Connections for individual control is made with screw terminal blocks. For gang systems, connection between control cards is made using 6 wire connection modular jack cords. (RJ11 / RJ12 type)
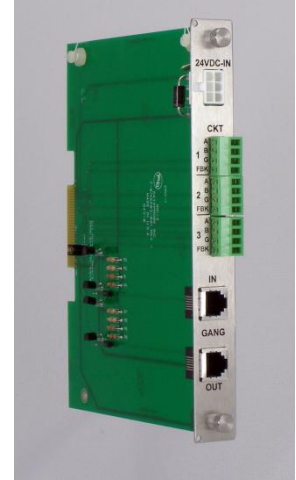
5.3.   IOC-3-R Card Installation

The IOC-1-R installs from the rear of the chassis in either of the two control card slots only. If an IPC-R-16 network card is also used, the IOC card should be installed in 2nd control card slot, which is the 3rd slot from the left in the rear of the chassis. Install the card with the components facing left. The chassis and cards are keyed to prevent incorrect insertion. The IOC-3-R may be inserted and removed with the power on (hot insertion/removal).

5.4.   IOC-3 A/B Switch Control Connections

The IOC-3 uses a four position screw terminal for connections to control the three A/B switch cards. Circuits 1 – 2 – 3 correlate to positions 1 – 2 – 3 in both the RSS-3 and RSS-16 chasses.

Pin	Designation	Function
FBK	Feedback Status	This pin is open relative to ground for Position A and closed to ground for Position B
G	Ground	Signal Ground
B	Position B	Momentarily connect to Ground to set the card to Position B
A	Position A	Momentarily connect to Ground to set the card to Position A

5.5.   Gang Switching Applications

For gang switching applications using the IOC-3 control card, use Ckt 1 controls and set the A/B cards to Gang operation, as described in Section 6.3.2

5.5.1. <u>I/O Gang Expansion Connector Pinout</u>

To connect multiple chassis together in larger gang applications, use the Gang in and Gang Out connectors. Use standard (RJ11/RJ12) 6 conductor modular cable between jacks.

Pin	Designation	Function
	Feedback Status	This pin is open relative to ground for Position A and closed to ground for Position B
1 & 6	Ground	Signal Ground
2 & 5	Position B	Momentarily connect to Ground to set the card to Position B
3 & 4	Position A	Momentarily connect to Ground to set the card to Position A

To control the system, momentarily short either Switch to A or Switch to B to Ground.

Expansion of Gang Systems.
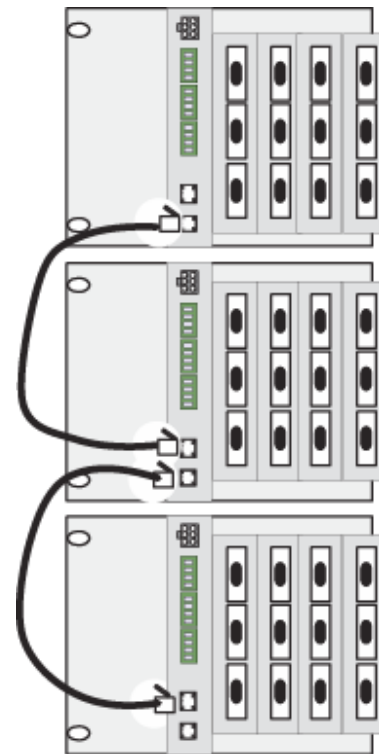
6. Basic A/B Cards

Basic A/B Switch Cards provide circuit switching individual or gang applications and can be controlled remotely thru the network control card, external contact closures, or locally from front panel switches. Magnetic latching relays maintain selected circuit connectivity, A or B, in the event of a power loss. Automatic switching can be arranged using features in the IPC-1-R Network control card, such as "Auto Ping" where switching is activated as the result of the loss of response from a networked device. See "A "Auto Ping" on page 28 for more detail.

6.1.   A/B Cards, Current Models

All A/B cards listed below use relay switching and are compatible with any communications interface and switching up to 10Mbps, or as noted. All connectors are female gender except as noted below. All support the full complement of leads.

Model	Item#	Description	Notes
AB-D25-R	1110200	D25 Connectors for RS-232, RS-530 etc.	
AB-D15-R	1110212	D15 Connectors for X.21, AUI, etc	
AB-D9-R	1110206	D9 Connectors for RS-232, RS-422, RS-423, RS-485, etc.	
AB-HD44-R	11102xx	HD44 Connectors for high density I/O applications	
AB-T50-R	1110204	50 Pin Telco (Amp Champ, Amphenol) for Station sets, trunk lines, etc.	Requires 2 slots. Common connector is male, A and B are female.
AB-M34-R	1110205	V.35 with M34 Winchester connectors.	Requires 2 slots.
AB-2RJ8-R	1110202	Dual A/B 8 Wire RJ type. Suitable for all applications up to 1G Ethernet	Dual A/B Models switch both sets of interfaces simultaneously.
AB-2BNC-R	1110211	Dual BNC for DS-3, and applications up to 800Mhz	Dual A/B Models switch both sets of interfaces simultaneously.

The switch card is configured for switching between redundant TI lines wired in an RJ48C configuration. When either line is selected, A or B the unused line is placed in loopback.

Please refer to **Section 6.7, Interface Wiring** Section of manual for more detail.

New models are being added. Please contract Dataprobe for the most current list.

6.2. Installation

6.2.1. RSS-16

Install A/B Switch cards starting from card slot #1 which is on the right side of the rear of the *RSS-16* chassis. Up to 16 switch cards can be installed. Some interfaces take up two slots and assume the lower slot position number in the control interfaces. Install each card with the components facing left. The chassis connectors and cards are keyed to prevent incorrect insertion. Cards may be inserted and removed with the power on (hot insertion/removal). Cards are secured in chassis with screws at the top and bottom of each panel. Cables for the Common, A & B circuits are attached to the rear. Interface diagrams with wiring information are shown on the following pages.

6.2.2. RSS-3

Install A/B Switch cards starting from card slot 1 which is the upper right side of the rear of the *RSS-16* chassis. Slot 2 is just below slot 2, and slot 3 is to the left of slot1. A control card or IO access card is installed in slot 4 below the third switch card. Install each card into the guide slots with the components facing upwards. The chassis and cards are keyed to prevent incorrect insertion. Cards may be inserted and removed with the power on (hot insertion/removal). Cards are secured in chassis with screws at right and left of each panel. Cables for the Common, A & B circuits are attached to the rear. Interface diagrams with wiring information are shown on the following pages.

6.3. Configuration

Each Basic A/B switch card can be setup for individual operation or part of a group for gang control which operate simultaneously. Certain model cards provide jumpers for selecting if all interface leads are to be switched or if specific leads are non-switched ,connected together or tied to signal or frame ground. See details under the specific switch card interface.

6.3.1. Gang or Individual Control.

Jumper selections on each A/B card select individual or gang switching.   Jumpers are located near the card edge fingers of each board.   A/B Switch cards are factory set for both Gang and Individual Control. GANG A and B provide for Gang Operation. COIL A and B for Individual Control.

Remove these jumpers to prevent one or the other type of switching. For example, to prevent one specific card to being part of the Gang, remove the GANG A and GANG B jumpers from that card.

The positions for CTL A and CTL B are for special applications only. Do not move the jumpers into those positions unless specifically instructed to by Dataprobe Technical Support.

### 6.3.2.   Frame Ground Switching – Model AB-D25-R

Jumper selection allows Pin 1 Frame Ground to be either switched or tied together and non-switched. Pin 1 can also be tied to the Frame of the Chassis, or left isolated from the chassis.

Factory Default for Gang and Individual Control
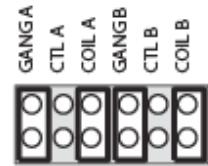
6.3.3.   Signal Ground Switching

An additional set of jumpers provides the same switched/common, isolated or grounded for Signal Ground. These jumpers control Pin 7 in the D25 model and Pin 5 in the D15 and D9 models. The circuit is the same as shown above replacing Pin 1 for the correct pin and SG Signal Ground for FG, Frame Ground.
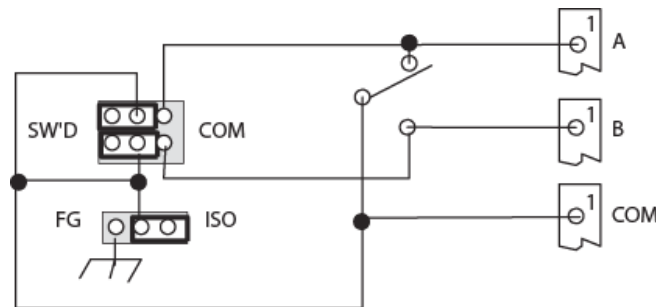
6.4.   Indicators

Two Red LEDs indicate Switch status A or B. LED's are driven by extra relay contacts.

6.5.   Manual Switches

Manual toggle switch on each card. These are momentary switches.   Also controlled by *RSS-16* front panel Gang Control pushbuttons when the card's jumper is configured for Gang control.

6.6.   Relays

Sealed Telephone relays. Gold clad contacts. Maximum Contact Current: 2 Amps @ 30 VDC
Special DS-3 and NET models: Hi Freq. Speeds up to 1 Gig Hz.

6.7.   Interface Wiring

6.7.1.   AB-D25-R

Conectors: 25 Pin D'Subminiature, Female
Leads Supported: All 25 Pins Switched
Additional Information: Optional Jumper Configuration for
                        Unswitched Frame Ground Pin 1 (See Section 8.4.2) J10
                         and Signal Ground Pin 7 (See Section 8.4.3) J11

6.7.2.   AB-D9-R

Conectors: 9 Pin D'Subminiature, Female
Leads Supported: All 25 Pins Switched
Additional Information: Optional Jumper Configuration for
                         Signal Ground Pin 7 (See Section 8.4.3) J11

6.7.3.   AB-D15-R

Conectors: 25 Pin D'Subminiature, Female
Leads Supported: All 15 Pins Switched
Additional Information: Optional Jumper Configuration for
                         Signal Ground Pin 7 (See Section 8.4.3) J11

6.7.4.   AB-2RJ8-R

Conectors: 8 Wire Modular Jack
Leads Supported: All 8 Wires
Additional Information: Two A/B Switches per card. 6 connectors total. Simultaneous switching only.
                         Support EIA/TIA 568A wiring scheme for up to 1Gbps Ethernet Applications.

6.7.5.   AB-2BNC-R

Conectors: BNC Female
Leads Supported: 1 Switched, Shields Unswitched.
Additional Information: For DS-3 and Applications up to 45Mbps.

6.7.6.   AB-M34-R

Conectors: Winchester M34, Female
Leads Supported: 18 Leads Switched, Grounds Hardwired, Unswitched. See Below
Additional Information:

Pin	Connectivity		Pin	Connectivity
A	Hardwired		V	Switched
B	Hardwired		W	Switched
C	Switched		X	Switched
D	Switched		Y	Switched
E	Switched		Z	Not Supported
F	Switched		AA	Switched
H	Switched		BB	Switched
J	Switched		CC	Not Supported
K	Switched		DD	Not Supported
L	Switched		EE	Not Supported
M	Not Supported		FF	Not Supported
N	Not Supported		HH	Not Supported
P	Switched		JJ	Not Supported
R	Switched		KK	Not Supported
S	Switched		LL	Not Supported
T	Switched		MM	Not Supported
U	Switched		NN	Not Supported

6.7.7.   AB-T50-R

Connectors: 50 Pin Amphenol (Telco). Common – Male, A/B - Female
Leads Supported: All 50 Pins Switched.
Additional Information: Optional Jumper Selection for Pins 25 and 50 Hardwired, Non-Switched. Install Jumper
                       as indicated for Non-Switched.

Pin	Connector A	Connector B
25	JP2	JP1
50	JP3	JP4

7. MIB Definitions

rss16RackName 1.3.6.1.4.1.1418.1.1.1

This read/write variable is the name of the rss16 chassis. This variable can be programmed either via SNMP, Telnet or via serial port. It can contain printable characters and MUST not exceed 20 characters in length.

rss16CardTable 1.3.6.1.4.1.1418.1.1.2

This variable is not directly accessible.

rss16CardEntry 1.3.6.1.4.1.1418.1.1.2.1

This variable is not directly accessible.

rss16CardIndex 1.3.6.1.4.1.1418.1.1.2.1.1.rss16CardIndex

The card index. This is a 0 based index so 0 is card 1 and 15 is card 16.

rss16CardName 1.3.6.1.4.1.1418.1.1.2.1.2.rss16CardIndex

This read/write variable is used to set or get the name of an individual A/B card. The card name can only contain printable ASCII characters and MUST not exceed 20 characters in length.

rss16CardPosition 1.3.6.1.4.1.1418.1.1.2.1.3.rss16CardIndex

This read/write variable can be used to set or get the position of any of the 16 A/B cards individually. This variable uses an enumerated integer where:
1 = a
2 = b
3 = disabled
4 = invalidCardIndex
The values 3 and 4 cannot be used in the set command. These are returned by the get and set commands when appropriate.

rss16CardEnable 1.3.6.1.4.1.1418.1.1.2.1.4.rss16CardIndex

This read/write variable is used to set or get the enabled/disabled status of an A/B card. It uses an enumerated integer where:
1 = enabled
2 = disabled
3 = invalid index
The value 3 cannot be used in the set command. It is returned by both the set and get commands when the card index is invalid.

rss16GangControl 1.3.6.1.4.1.1418.1.1.3

This read/write variable is used to set the position of all cards in the chassiss. It uses an enumerated integer where:
1 = a
2 = b
3 = writeOnly

The value 3 is always returned from both the get and set commands to alert the operator that there is no data for this command to return.

rss16PowerSupply1 1.3.6.1.4.1.1418.1.1.4

This read only variable returns the current status of the power supply 1 as an enumerated integer where:
1 = ok
2 = failed.

rss16PowerSupply2 1.3.6.1.4.1.1418.1.1.5

This read only variable returns the current status of the power supply 2 as an enumerated integer where:
1 = ok
2 = failed.

rss16Sync 1.3.6.1.4.1.1418.1.1.6

This read only variable returns the status of the synchronization channel (special models only) as an enumerated integer where:
0 = ok
1 = fail

7.1.   Trap Definitions

ps1Failed specific-1

This trap is sent when ever power supply 1 fails. It carries not variable bindings.

ps1Ok specific-2

This trap is sent when ever power supply 1 returns to serves. It carries not variable bindings.

ps2Failed specific-3

This trap is sent when ever power supply 2 fails. It carries not variable bindings.

ps2Ok specific-4

This trap is sent when ever power supply 2 returns to serves. It carries not variable bindings.

switchChanged specific-5

This trap is sent when ever any or multiple switches are changed by any means. This trap will contain a variable binding for each card in the chassis that has changed.

syncStatus specific-6

This trip is sent when ever the status of the chassis synchronization changes. It will contain the rss16Sync variable. Only available in special models.

Seller warrants this product, if used in accordance with all applicable instructions, to be free from original defects in material and workmanship for a period of **Three Years** from the date of initial purchase. If the product should prove defective within that period, Seller will repair or replace the product, at its sole discretion. Repairs may be made with new or refurbished components and replacements may be new or refurbished at the Sellers sole discretion. Repaired or replaced units shall be warranteed for the balance of the original warranty, or 90 days, whichever is greater.

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> **Dataprobe Inc.**
> **Technical Support: 201-934-5111**
> **support@dataprobe.com**
> **www.dataprobe.com/support.html**

Dataprobe, Inc.
1 Pearl Court, Suite B
Allendale New Jersey 07401

dataprobe.com
201-934-9944
sales@dataprobe.com