

# ***OWNER'S MANUAL***

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***BAYTECH***

***REMOTE POWER CONTROL UNIT***

***FOR MODELS***

***RPC-2***

***RPC-2A***

***RPC-2 MD01***

***RPC-2 RDR***

***RPC-3***

***RPC-3A***

***RPC-5***

**BayTech Manual Publication #U140E125-03**

**July 1998**

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## ABOUT THIS OWNER'S MANUAL

This document provides information required for installing and operating your Bay Tech equipment. It should allow the user to connect, power up, and access an applications menu where peripheral equipment can be controlled. We recommend reading this manual carefully, while placing special emphasis on correct cabling and configuration. If you have any problems with your installation, please contact a BayTech Applications Engineer at **228-467-8231**, call toll free from anywhere in the United States using **1-800-523-2702** or contact us at our Web Site, [www.baytechdcd.com](http://www.baytechdcd.com).

BayTech manufactures many remote site management products, data switches, data collection multiplexers, remote power controllers, and peripheral print sharers. If you would like information on any of these products, please contact BayTech Customer Service at the numbers previously listed.

Conventions used in this manual include:

**CAUTION:** This term is used to denote any condition that could possibly result in physical harm to personnel or damage to equipment.

**IMPORTANT:** This term is used to denote conditions that could result in the loss of communications or to highlight the proper functioning of equipment.

**NOTE:** This term is used to denote items of interest to the user.

**<cr>:** Carriage Return or ENTER

**RPC SERIES OWNER'S MANUAL  
ABOUT THIS OWNER'S MANUAL**

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This manual replaces BayTech Publication U140E125-02.

We welcome any comments you may have about our products, and we hope that you will continue to look to BayTech for your data communication needs.

# **TABLE OF CONTENTS**

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---

<b>ABOUT THIS OWNER'S MANUAL.....</b>	<b>III</b>
<b>INTRODUCTION TO THE REMOTE POWER CONTROL SWITCH (RPC).....</b>	<b>1</b>
<b>RPC SERIES QUICK START.....</b>	<b>2</b>
RPC-2 AND RPC-2A QUICK START.....	2
RPC-2 MD01 AND RPC-2 RDR QUICK START.....	5
RPC-3, RPC-3A, AND RPC-5 QUICK START.....	8
<b>INSTALLATION.....</b>	<b>12</b>
UNPACKING.....	12
PREPARING THE INSTALLATION SITE.....	12
POWER.....	13
POWER ON/OFF STATE.....	14
POWER UP SEQUENCE.....	14
CIRCUIT BREAKER.....	14
<b>CABLING.....</b>	<b>15</b>
<b>DETAILED OPERATION AND CONFIGURATION.....</b>	<b>19</b>
RPC-2 AND RPC-2A.....	19
LOCAL ACCESS USING THE EIA-232 SERIAL CONNECTION.....	19
OPERATION.....	20
ACCESSING MAIN MENU.....	21
CONTROLLING RECEPTACLES.....	21
CONFIGURATION.....	22
CHANGE PASSWORD.....	23
DISABLING A PASSWORD.....	24
CHANGE OUTLET NAME.....	24
ENABLE/DISABLE CONFIRMATION.....	25
ENABLE/DISABLE STATUS MENU.....	26
RPC-2 MD01 AND RPC-2 RDR.....	27
LOCAL ACCESS USING THE EIA-232 PORT.....	27
REMOTE ACCESS USING MODEM CONNECTIONS.....	28
OPERATION.....	29
ACCESSING MAIN MENU.....	29
CONTROLLING RECEPTACLES.....	30
ACCESSING MAIN MENU VIA MODEM.....	31
CONFIGURATION.....	32
CHANGE PASSWORD.....	33
DISABLING A PASSWORD.....	34

# TABLE OF CONTENTS

---

CHANGE OUTLET NAME.....	34
RPC-3, RPC-3A, AND RPC-5.....	36
LOCAL ACCESS USING THE EIA-232 PORT.....	37
REMOTE ACCESS USING THE NETWORK PORT.....	37
OPERATION.....	38
ACCESSING MAIN MENU.....	39
OUTLET CONTROL.....	40
MANAGE USERS.....	42
ADD USER.....	43
DELETE USER.....	43
CHANGE PASSWORD.....	44
CHANGE OUTLET LIST.....	46
CONFIGURATION.....	47
IP ADDRESS.....	47
SUBNET MASK.....	48
GATEWAY.....	48
UNIT ID.....	49
ACCESS.....	49
OUTLETS.....	50
OUTLET STATUS DISPLAY.....	51
COMMAND CONFIRMATION.....	51
OUTLET POWER-UP DELAY.....	51
NAME OUTLETS.....	52
DISPLAY OUTLET USER.....	54
UNIT STATUS.....	54
SYSTEM STATUS.....	55
NETWORK INTERFACE.....	55
LOGGED USERS.....	56
OUTLET STATUS.....	57
RESET UNIT.....	57
COMMAND SUMMARY.....	57
<b>TECHNICAL SUPPORT.....</b>	<b>59</b>
EQUIPMENT SETUP.....	60
<b>REPACKAGING, SHIPPING AND RETURNING TO THE FACTORY.....</b>	<b>62</b>
<b>FCC RADIO FREQUENCY INTERFACE STATEMENT.....</b>	<b>63</b>
<b>APPENDIX A - SPECIFICATIONS.....</b>	<b>65</b>
<b>APPENDIX B – MODEM COMMANDS.....</b>	<b>67</b>

# ***TABLE OF CONTENTS***

---

---

<b>APPENDIX C - DIAGNOSTIC LED INDICATIONS.....</b>	<b>69</b>
<b>APPENDIX D - RPC TROUBLESHOOTING GUIDE... </b>	<b>70</b>
<b>APPENDIX E - DRAWINGS.....</b>	<b>73</b>
<b>INDEX .....</b>	<b>81</b>

# INTRODUCTION TO THE REMOTE POWER CONTROL SWITCH (RPC)

The BayTech RPC-Series is a full-featured AC power management solution that provides an easy way to control power of remote equipment. From your office or from anywhere, the RPC will TURN ON, TURN OFF, OR REBOOT remote equipment.

There are six different RPC models. Four models operate at 115 VAC, 15 Amp. Two models operate at 230 VAC, 10 Amp.

## 115 VAC, 50/60 Hz, 15 Amp

- |                    |  |
|--------------------|--|
| <b>RPC-2:</b>      | Six receptacles and an EIA-232 connection.                                   |
| <b>RPC-2 MD01:</b> | Six receptacles, EIA-232 connection, and a 2400 bps Modem.                   |
| <b>RPC-2 RDR:</b>  | Six receptacles, EIA-232 connection, and Ring Detect Reset.                  |
| <b>RPC-3:</b>      | Eight receptacles, Ethernet and EIA-232 connections.                         |
| <b>RPC-5:</b>      | Four receptacles (15 amps per receptacle), Ethernet and EIA-232 connections. |

## 230 VAC, 50/60 Hz, 10 Amp

- |                |   |
|----------------|---|
| <b>RPC-2A:</b> | Six receptacles and an EIA-232 connection.            |
| <b>RPC-3A:</b> | Eight receptacles, Ethernet, and EIA-232 connections. |

# RPC SERIES QUICK START

“Quick Start” is designed for users familiar with BayTech products who need a fast setup and familiarization. Detailed information on each of the functions and steps of operation and configuration may be found beginning at pages 19, 27, and 36 of this manual. Each “Quick Start” will discuss similar models.

## RPC-2 AND RPC-2A QUICK START

### EIA-232 serial connection

Using the 9FRJ45PC-1 adapter and the RJ08X007 cable, connect the serial port of your computer to the RJ-45 port labeled “EIA-232.”

Load serial port communications software. Set serial communications parameters to 9600 bps, 8 data bits, 1 stop bit, and no parity.

## OPERATION

### Accessing Main Menu

Power on the RPC unit. The following status menu appears:

**RPC-2 Series**  
**(C) 1997 by BayTech**  
**F2.07**

**Circuit Breaker : On**  
**1) ... OUTLET 1 : Off**  
**2) ... OUTLET 2 : Off**  
**3) ... OUTLET 3 : Off**  
**4) ... OUTLET 4 : Off**  
**5) ... OUTLET 5 : Off**  
**6) ... OUTLET 6 : Off**  
**RPC >**

If the status menu fails to appear, ensure the correct cables and adapters are being used and that they are connected properly. Also, verify the serial communication parameters are correctly configured.

### Controlling Receptacles

To set or change the status of the receptacles, enter one of the following commands: ON n, OFF n, REBOOT n, where "n" is the outlet number you want to command. Entering an outlet number of "0" sends the command to **all** outlets. Reboot only works on outlets which are in the "ON" condition.

### CONFIGURATION

Type "CONFIG" from the RPC> prompt. The following menu appears:

For the RPC-2:

RPC > CONFIG

- 1) ... Change Password
  - 2) ... Change Outlet Name
- Enter Request:

Or for the RPC-2A:

RPC > CONFIG

- 1) ... Change Password
- 2) ... Change Outlet Name
- 3) ... Enable/Disable Confirmation
- 4) ... Enable/Disable Status Menu
- X) ... Exit

Enter Request:

<b>Change Password</b>	Default <b>password is &lt;cr&gt;</b> . The maximum field length is 8 alphanumeric characters. The password feature is case sensitive.
<b>Change Outlet Name</b>	<b>Default Outlet Names are Outlet 1, Outlet 2, ...</b> The maximum field length is 10 alphanumeric characters.
<b>Enable/Disable Confirmation</b>	<b>Default setting is enabled.</b> This setting prompts the user for a Yes or No when making changes.
<b>Enable/Disable Status Menu</b>	<b>Default setting is enabled.</b> This setting toggles the menu on and off.

## RPC-2 MD01 AND RPC-2 RDR QUICK START

### Local access using EIA-232 serial connection

Using the 9FRJ45PC-1 adapter and the RJ08X007 (8-pin crossed) cable, connect the serial port of your computer to the RJ-45 port labeled "EIA-232."

Load serial port communications software. Set serial communications parameters to 9600 bps, 8 data bits, 1 stop bit, and no parity.

### Remote access using modem connections

#### RPC-2 MD01 (Internal Modem)

Using the RJ04X007 (RJ-11) modular cable, connect either port labeled "LINE" on the RPC unit to the telco wall jack. Proceed to "Accessing Main Menu via Modem."

#### RPC-2 RDR (External Modem)

Plug the modem's power supply into receptacle number six on the RPC. See figure 1 below.

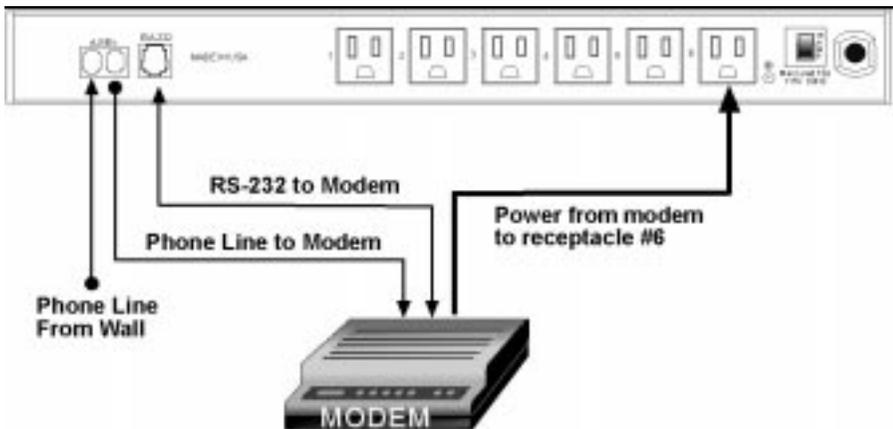


Figure 1: RPC-2 RDR to modem connection

Using the RJ04X007 (RJ-11) modular cable, connect either port labeled "LINE" on the RPC unit to the telco wall jack. Using another RJ04X007 (RJ-11) modular cable, connect the remaining port labeled "LINE" on the RPC unit to the port labeled "LINE" on the external modem.

Using the 25MRJ45MD-8 adapter and the RJ08X007 (8-pin crossed) cable, connect the DB-25 female port of the modem to the RJ-45 port labeled "EIA-232" on the back of the RPC unit.

## **OPERATION**

### **Accessing Main Menu**

Power on the RPC unit. The following status menu appears:

**RPC-2 Series**  
**(c) 1997 by BayTech**  
**F2.07**

**Circuit Breaker : On**  
1) ... OUTLET 1 : Off  
2) ... OUTLET 2 : Off  
3) ... OUTLET 3 : Off  
4) ... OUTLET 4 : Off  
5) ... OUTLET 5 : Off  
6) ... OUTLET 6 : Off  
**RPC >**

If the status menu fails to appear, ensure the correct cables and adapters are being used and that they are connected properly. Also, verify the serial communication parameters are correctly configured.

**Controlling Receptacles** To set or change the status of the receptacles, enter one of the following commands: ON n, OFF n, REBOOT n, where “n” is the outlet number you want to command. Entering an outlet number of “0” sends the command to **all** outlets. Reboot only works on outlets which are in the “ON” condition.

**CONFIGURATION** Type “CONFIG” from the RPC>prompt. The following menu appears:

RPC >CONFIG

- 1) ... Change Password
  - 2) ... Change Outlet Name
- Enter Request:

**Change Password** Default **password is <cr>**. The maximum field length is 8 alphanumeric characters. The password feature is case sensitive.

**Change Outlet Name** **Default Outlet Names are Outlet 1, Outlet 2, ...** The maximum field length is 10 alphanumeric characters.

## RPC-3, RPC-3A AND RPC-5 QUICK START

**NOTE:** The RPC-3, 3A and 5 are configured in a similar manner. This quick start will reference the RPC-3 menus. The only programming differences for the RPC-5 pertain to the number of receptacles shown in the menus (4 vice 8).

**NOTE:** Inlet #1 supplies power to the logic of the RPC-5, this inlet must have power for the unit to operate.

**Local access  
using EIA-232 serial  
connection**

Using the 9FRJ45PC-1 adapter and the RJ08X007 (8-pin crossed) cable, connect the serial port of your computer to the RJ-45 port labeled "EIA-232" on the RPC unit.

**Remote access using  
network port  
connection**

Using a straight 10Base-T cable, connect the port labeled Ethernet on the RPC to the network hub. Establish a Telnet client session and login from your workstation.

Load serial port communications software. Set serial communications parameters to 9600 bps, 8 data bits, 1 stop bit, and no parity.

## OPERATION

**Accessing Main Menu**

Power on the RPC unit. The following main menu appears:

RPC-3 Telnet Host  
Revision F 3.03, (C) 1998  
Bay Technical Associates  
Unit ID: RPC3

**RPC-3 Menu:**

- 1) ... Outlet Control
- 2) ... Manage Users
- 3) ... Configuration
- 4) ... Unit Status
- 5) ... Reset Unit
- 6) ... Logout

**Enter Selection:**

If the main menu fails to appear, ensure the correct cables and adapters are being used and that they are connected properly. Also, verify the serial communication parameters are correctly configured.

## **Outlet Control**

From the RPC> prompt, enter one of the following commands: ON n, OFF n, REBOOT where “n” is the outlet number you want to command. Entering an outlet number of “0” sends the command to **all** outlets. Type “MENU” to return to the main menu. . Reboot only works on outlets which are in the “ON” condition.

## **Manage Users**

New users (a maximum of 4 for the RPC-5 or 8 for the RPC-3/3A) may be added or deleted using this menu. Any time there is more than 1 user besides the admin, a “Delete user” function will appear. Any time the maximum number of users is reached, the “Add user” function will disappear. **Deletion of the admin user is prohibited.**

**Change Password**                      **Default password is <cr>; disabled.**  
Password is case sensitive.

**Change Outlet List**                      From the User Management Menu, select the number of the user to modify, followed by <cr>. Enter the number of the outlet(s) to which you want to give or remove access. If there is more than one outlet, enter the numbers, separated by commas. Example: 2,6,8. **Default is no outlets selected.**

## CONFIGURATION

**IMPORTANT:** For network access, you must configure the IP address, subnet mask, and gateway from the serial port.

**NOTE:** Network parameters, such as IP Address, require a unit reset.

**IP Address**                              Enter the RPC unit's IP address in dotted decimal format (200.4.3.50). **Default is 0.0.0.0**

**Subnet Mask**                          Enter the RPC unit's subnet mask in dotted decimal format (255.255.255.0). **Default is 0.0.0.0**

**Gateway**                                Enter the RPC unit's Gateway address in dotted decimal format (200.4.5.50). **Default is 0.0.0.0**

**Unit ID**                                 Enter the RPC unit's Unit ID (64 chars max). **Default is RPC-3 or RPC-3A or RPC-5**

**Access** **Default password is <cr>; disabled.**

**NOTE:** If user name and password are disabled (default), outlet users will have access to all admin functions.

**Outlets** Outlet Status display – **Default is enabled**

Command Confirmation – **Default is enabled**

Outlet Power-up Delay – programmable elapse time before applying power to an outlet after unit power-up, reset, or reboot. **Default is 0.**

Name Outlets – **Default name is Outlet 1, Outlet 2, ...**

Display Outlet Users – A display of outlet user assignments. **Default is no users assigned.**

## UNIT STATUS

The RPC sends a Unit Status Menu that provides vital information about the RPC; system status, network interface, logged user status, and outlet status. Select the number to review the status.

## RESET UNIT

RESET UNIT allows changes to take effect. It will not set the unit to factory default. It will not disrupt power to the outlets currently energized.

## LOGOUT

Ends the session.

# INSTALLATION

## UNPACKING

Compare the unit and serial number of the equipment you received to the packing slip located on the outside of the box. Log this information on the sheet on page 60. Inspect equipment carefully for damage that may have occurred in shipment. If there is damage to the equipment or if materials are missing, contact BayTech technical support at 228-467-8231 or call toll free inside the United States at 800-523-2702. At a minimum, you should receive the following:

- a. The RPC unit.
- b. This manual with any applicable addendum's.
- c. Power Cords (4 with RPC-5) (1 with RPC2A/RPC3A).
- d. 1 ea. DE-9 (9 pin) PC com port adapter -- 9FRJ45PC-1.
- e. 1 ea. RJ-45 cross over cable -- RJ08X007.
- f. 1 ea. RJ-11 telco cable -- RJ04X007 (RPC-2 MD01 & RPC-2 RDR).
- g. 1 ea. external modem adapter -- 25MRJ45MD-8 (RPC-2 RDR).

**NOTE:** Keep the shipping container and packing material in the event future shipment is required.

## PREPARING THE INSTALLATION SITE

The installation area should be clean and free of extreme temperatures and humidity. Allow sufficient space behind the RPC unit for cabling and receptacle connections.

## POWER

**CAUTION:** This unit is intended for indoor use only. Do not install near water or expose this unit to moisture. To prevent heat buildup, do not coil the power cord when in use. Do not use extension cords. Do not attempt to make any internal changes to the power source. Do not attempt to modify any portion or component of an RPC Series Unit unless specifically directed to. BayTech must perform any internal operations.

**CAUTION:** High-voltage surges and spikes can damage this equipment. To protect from such power surges and spikes, this unit must have a good earth ground. There is an earth ground connection next to the circuit breaker.

**CAUTION:** Before removing or replacing any cables or power cords, turn off main power switch located on the RPC Series Unit. Communication to the unit will be disrupted while power is off.

**CAUTION:** Do not exceed the AC current rating for the selected model. (See Appendix A "SPECIFICATIONS" for each RPC model).

**CAUTION:** Although the power switch is turned OFF, the unit is not totally isolated from the power supply. In order to be absolutely removed from the power supply, the power cord must be unplugged from the unit.

**CAUTION:** For PERMANENTLY CONNECTED EQUIPMENT, a readily accessible disconnect device shall be incorporated in the fixed wiring. For PLUGGABLE EQUIPMENT, the socket-outlet shall be installed near the equipment and easily accessible.

Applying power illuminates a green LED on the front panel of the RPC. When the power switch is off, devices connected to the unit are not receiving power.

## **POWER ON/OFF STATE**

Each receptacle is individually controlled by an internal relay. Upon initialization of power, the status of each receptacle will return to the state it was in prior to losing power. For example, if Outlet 1 and Outlet 2 are "ON" and power is removed from the RPC, the status of Outlet 1 and Outlet 2 will return to "ON" when power is restored to the RPC.

## **POWER UP SEQUENCE**

In order to minimize power surges, the RPC sequences power to each outlet in the "ON" state in 0.3-second intervals. When power is applied to the RPC, the initialization sequence requires a delay of 10 seconds before power is available at the service receptacles. Following the 10-second delay, the RPC sequences power to each outlet that is turned "ON." If you choose the option requesting the RPC to reboot all connected equipment, the RPC sequences power to each outlet turned "ON" in 0.1-second intervals.

## **CIRCUIT BREAKER**

In the case of power overload, the circuit breaker automatically trips. Determine the cause of the tripped circuit breaker, correct the problem then reset the circuit breaker by depressing the circuit breaker switch. Power to the RPC-5 base unit (electronics, EIA-232 port, etc.), supplied by "IN 1", does not go through the circuit breaker (this circuit is protected by a ¼ amp hardwired fuse). If an overload condition occurs, the RPC status menu is still accessible. For the menu to reflect an "On" status for the circuit breaker, a power cord must be attached to the "IN" receptacle. If all circuits are closed, the circuit breaker status menu will indicate "On." If the circuit breaker is tripped, the circuit breaker status will indicate "Off." If no power cord is attached to the "IN" receptacle, the circuit breaker status will indicate "Off", indicating there is no power available to the "OUT" receptacle.

# CABLING

## RJ-45 CABLES AND ADAPTERS

**IMPORTANT:** All RPC models have an RJ-45 port for connecting to a local EIA-232 device such as a computer terminal or external modem. Most serial computers do not have RJ-45 connections; therefore, an adapter is provided with this unit to convert from a DE-9 connector to an RJ-45 connector (BayTech Part No. 9FRJ45PC-1). An adapter to convert from a DB-25 connector to an RJ-45 connector is also available from BayTech, upon request (BayTech Part No. 25FRJ45PC-1).

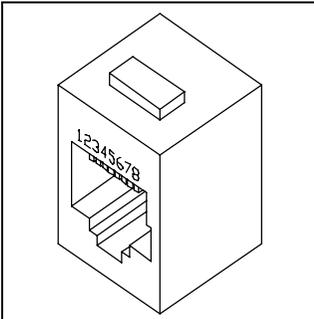


Figure 2: RJ-45 receptacle

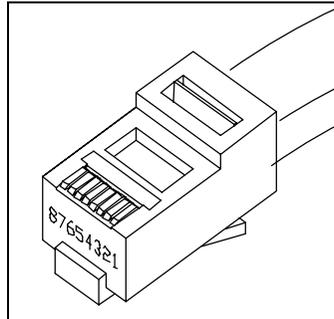


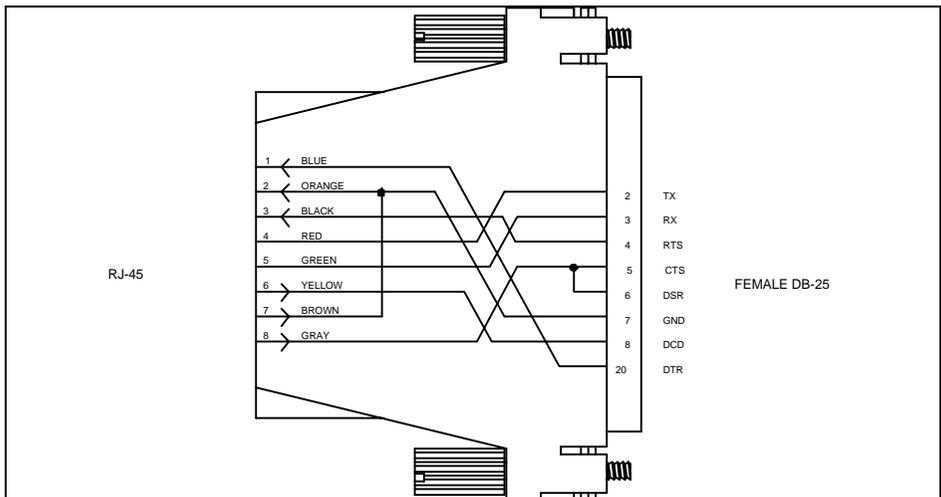
Figure 3: RJ-45 plug

**RPC SERIES OWNER'S MANUAL  
CABLING**

The RPC RJ-45 control port uses the following signals:

EIA-232 RJ-45 PIN/SIGNAL DEFINITION			
Pin	EIA-232 Signal	Direction	Description
1	DTR	Output	+10V when activated by DCD. Toggles on logout for modem disconnect.
2	GND	----	Signal Ground
3	RTS	Output	+10V when powered is applied, not used as a handshake line
4	TX	Output	Transmit Data (data out)
5	RX	Input	Receive Data (data in)
6	N/C	N/C	No Connection
7	GND	-----	Signal Ground
8	DCD	Input	DCD into the RPC/Not used on RPC-2 MD01

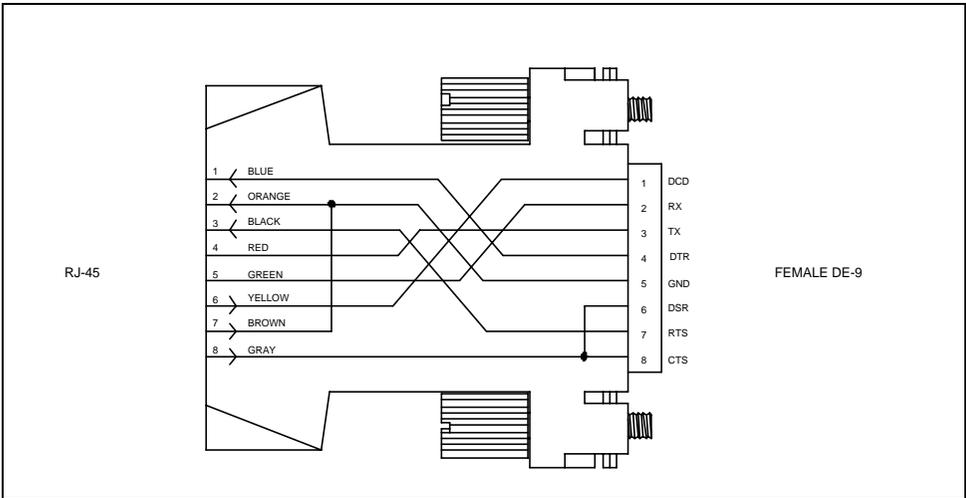
To interface a computer or terminal to the RPC, refer to comment on Page 19. Refer to Figure 4, if the host computer or terminal has a DB-25 male connector. Refer to Figure 5, if the host computer has a DE-9 male connector.



**Figure 4: Computer/Terminal Adapter**  
BayTech Part No. 25FRJ45PC-1

Crossed RJ-45 cable is required

**RPC SERIES OWNER'S MANUAL  
CABLING**



**Figure 5: Computer/Terminal Adapter**

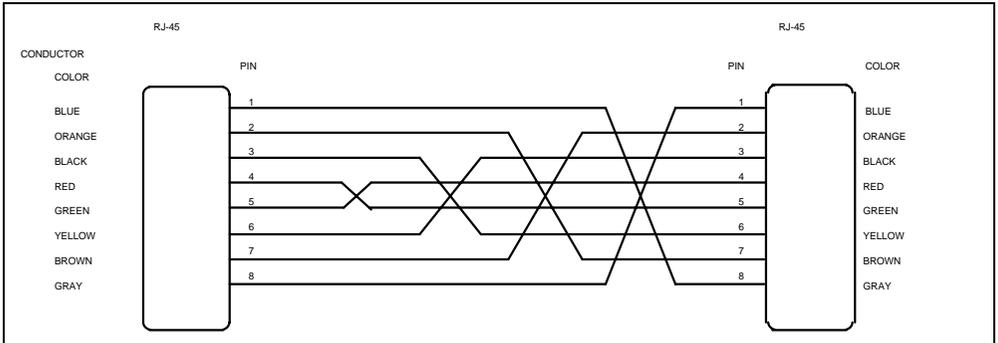
BayTech Part No. 9FRJ45PC-1

Crossed RJ-45 cable is required

**Modem Communications:** A modem can be connected to the EIA-232 serial port by using a 25MRJ45MD-8 adapter (Figure 6). Several types of modem adapters are available from BayTech. Contact an applications engineer for help in choosing the correct adapter.

**RPC SERIES OWNER'S MANUAL  
CABLING**

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**Figure 7: Crossed 8-pin Modular Cable**  
BayTech Part No. RJ08X007 (7 feet)

**IMPORTANT:** Crossed RJ-45 cables are required when modular connectors are used, as shown in Figures 4 – 6, or to interface the RPC to another BayTech product with modular connectors, such as the DS-Series data switch.

## DETAILED OPERATION AND CONFIGURATION

The following section, "Operation and Configuration," provides a detailed approach to accessing, operating, and configuring the RPC.

**NOTE:** It is important that you type all commands correctly. Any combination of wrong entries results in an error message. As a result, you will have to start over from the previous menu.

### RPC-2 AND RPC-2A

#### LOCAL ACCESS USING THE EIA-232 SERIAL CONNECTION

The RPC-2 and RPC-2A have an RJ-45 port for connecting to a local EIA232 device, such as a computer terminal or external modem. Most serial computers do not have RJ-45 connections; therefore, an adapter is provided with this unit to convert from a DE-9 connector to an RJ-45 connector (BayTech Part No. 9FRJ45PC-1). If you are connecting to a modem, use a modem adapter (BayTech Part No. 25MRJ45MD-8).

BayTech also manufactures a computer/terminal adapter (BayTech Part No. 25FRJ45PC-1) for converting from a DB-25 connector to a RJ-45 connector.

If your computer does have an RJ-45 connection, but the pin signals are different from those described for BayTech on Page 16 of this manual, it is possible for BayTech to customize an adapter for you. If you require a different adapter than the one supplied with this unit, contact BayTech's Applications Engineers.

Using the 9FRJ45PC-1 adapter (or other applicable adapter) and the RJ08X007 crossed cable, connect the serial port of your computer to the RJ-45 port labeled "EIA-232" on the back of your RPC unit.

Load serial port communications software. Configure host terminal's serial communications parameters to match the RPC. RPC factory serial communications parameters are 9600 bps, 8 data bits, 1 stop bit, and no parity.

## **OPERATION**

The RPC's main menu allows the user to monitor and control the equipment attached to each of the RPC-2 and RPC-2A's six receptacles. From this menu, you can turn on, turn off, or reboot attached equipment, individually, or all equipment, simultaneously.

The RPC recognizes three basic operating commands: ON n<cr>, OFF n<cr>, and REBOOT n<cr>, where n represents the outlet number and <cr> represents a carriage return.

There are six red LEDs on the front of the RPC unit. There is a corresponding red LED for each of the RPC's six receptacles. If any or all of the LEDs are illuminated, corresponding receptacle(s) are turned "ON," and consequently, attached equipment is receiving power. If any or all of the LEDs are not illuminated, corresponding receptacle(s) are turned "OFF."

## Accessing Main Menu

Power on the RPC unit. The following status menu appears:

```
RPC-2 Series
(c) 1997 by BayTech
F2.07
```

```
Circuit Breaker : On
```

```
1)... OUTLET 1  : Off
2)... OUTLET 2  : Off
3)... OUTLET 3  : Off
4)... OUTLET 4  : Off
5)... OUTLET 5  : Off
6)... OUTLET 6  : Off
```

```
RPC >
```

If the status menu fails to appear, ensure the correct cables and adapters are being used and they are connected properly. Also, verify the serial communication parameters are correctly configured.

## Controlling Receptacles

To set or change the status of receptacles, enter one of the following commands: ON n, OFF n, REBOOT n, where “n” is the outlet number you want to command. Entering an outlet number of “0” sends the command to all outlets.

Example: To turn “On” Outlet 3, type **ON 3** from the RPC prompt (RPC >). The RPC responds:

```
Turn On Outlet 3 (Y/N)?
```

Responding “Y” for yes turns “On” Outlet 3. Observe the status of Outlet 3 has changed to “On” in the status menu:

RPC-2 Series  
(c) 1997 by BayTech  
F2.07

**Circuit Breaker : On**

- 1) ... OUTLET 1 : Off
- 2) ... OUTLET 2 : Off
- 3) ... OUTLET 3 : On
- 4) ... OUTLET 4 : Off
- 5) ... OUTLET 5 : Off
- 6) ... OUTLET 6 : Off

**RPC >**

Likewise, typing **ON 0** at the RPC > prompt and responding "Y" for yes, turns "On" all outlets. Typing **OFF n** at the RPC > prompt turns off corresponding outlet(s).

The **REBOOT n** command will reboot or reset equipment attached to corresponding receptacle(s). When the command to REBOOT (n) is sent from the RPC > prompt, the RPC powers "Off" corresponding outlet(s) for approximately 10 seconds, then powers them up in sequence. This command only works on outlets which were "On" prior to the reboot.

## CONFIGURATION

The RPC-2's configuration menu allows the user to (1) set or change a password and (2) customize the outlet name(s) to identify equipment attached to the RPC. In addition to "Change Password" and "Change Outlet Name," the RPC-2A's configuration menu allows enabling/disabling confirmation and enabling/disabling status menu.

The password is disabled from the factory by making the password a carriage return. If a password (other than a carriage return) is

set, the RPC requires password entry before allowing the user to operate the RPC unit. **REMEMBER**, the password feature is case sensitive.

**Default outlet names are Outlet 1, Outlet 2, Outlet 3 . . . Outlet 6.** From the RPC's configuration menu, the user can change any outlet name to outline a unique set-up.

From the status menu's RPC > prompt, type **CONFIG**. The following menu appears for the RPC-2:

**RPC > CONFIG**

- 1) . . . Change Password
- 2) . . . Change Outlet Name

**Enter Request:**

Or this menu for the RPC-2A:

- 1) . . . Change Password
- 2) . . . Change Outlet Name
- 3) . . . Enable/Disable Confirmation
- 4) . . . Enable/Disable Status Menu
- X) . . . Exit

**Enter Request:**

## **Change Password**

Select #1, "Change Password," and press <cr> The RPC responds:

**Enter Current Password:**

If this is not an initial set-up and a password has already been set, enter the current password, followed by <cr>, otherwise, press <cr>. If you enter the password incorrectly, the RPC responds with an "Error" message and returns to the main menu. Consequently, you must start over by

typing "CONFIG" to access the configuration menu. If you enter the current password correctly, the RPC responds:

**Enter New Password:**

Enter a new password (maximum field length, 8 alphanumeric characters), followed by <cr>. The RPC responds:

**Re-Enter New Password:**

Re-enter the new password identically to the first entry. The password feature is case sensitive. If you fail to re-enter the new password correctly, the RPC responds with an "Error" message and returns to the main menu. Consequently, must start over by typing "CONFIG" from the RPC > prompt to access the configuration menu. If you re-enter the new password correctly, the RPC returns to the main menu again, but you will not get an "Error" message.

## **Disabling a Password**

To disable a password, enter <cr> at the "**Enter New Password**" prompt. Enter <cr> again at the "**Re-enter New Password**" prompt. Changing the new password to a carriage return disables password protection.

## **Change Outlet Name**

Select #2, "Change Outlet Name," and press <cr>. The RPC sends the following menu:

```
1) ... OUTLET 1
2) ... OUTLET 2
3) ... OUTLET 3
4) ... OUTLET 4
5) ... OUTLET 5
6) ... OUTLET 6
Enter Request:
```

Enter the number of the outlet you want to change. If you want to change the name of Outlet 4, type the number 4 at the “Enter Request” prompt, followed by <cr>. The RPC responds:

**Enter:**

Enter a new receptacle name (maximum field length, 10 characters), followed by <cr>. If you want to change the name of Receptacle 4 from Outlet 4 to Router 1, type Router 1 from the “Enter” prompt, followed by <cr>. The RPC responds with the outlet name menu displaying the name change to Outlet 4:

- 1) ... OUTLET 1
- 2) ... OUTLET 2
- 3) ... OUTLET 3
- 4) ... Router 1
- 5) ... OUTLET 5
- 6) ... OUTLET 6

**Enter Request:**

To return to the RPC > prompt, press any key at the “Enter Request” prompt.

## **Enable/Disable Confirmation**

When a command is sent to TURN ON, TURN OFF, OR REBOOT a receptacle, if the enable/disable confirmation feature is enabled, the RPC responds, asking you to confirm the command. For example, if the command “ON 3” is sent, and the enable/disable confirmation is enabled, the RPC responds:

**Turn On Outlet 3? (Y/N)**

If the enable/disable feature is disabled, the RPC will not ask to confirm the command.

**Enable/Disable  
Status Menu**

From the configuration menu, select #3, "Enable/Disable Confirmation."  
Depending on the current status of the switch, the RPC responds with the option to change the current status. **Default is Enabled.**

**Disable Confirmation? (Y/N)**

From the configuration menu, select #4, "Enable/Disable Status Menu." If the Enable/Disable Status Menu feature is enabled, the following status menu appears. **Default setting is Enabled.**

**Circuit Breaker: On**

- 1) Outlet 1 : Off
- 2) Outlet 2 : Off
- 3) Outlet 3 : Off
- 4) Outlet 4 : Off
- 5) Outlet 5 : Off
- 6) Outlet 6 : Off

**RPC-2A >**

If the Enable/Disable Status Menu feature is disabled, only the RPC-2A > prompt appears.

## RPC-2 MD01 AND RPC-2 RDR

### LOCAL ACCESS USING THE EIA-232 SERIAL CONNECTION

The RPC-2 MD01 and RPC-2 RDR have an RJ-45 port for connecting to a local EIA-232 device, such as a computer terminal or external modem. Most serial computers do not have RJ-45 connections; therefore, an adapter is provided with this unit to convert from a DE-9 connector to an RJ-45 connector (BayTech Part No. 9FRJ45PC-1). If you are connecting to a modem, use a modem adapter (BayTech Part No. 25MRJ45MD-8).

BayTech also manufactures a computer/terminal adapter (BayTech Part No. 25FRJ45PC-1) for converting from a DB-25 connector to an RJ-45 connector. If your computer does have an RJ-45 connection, but the pin signals are different from those described for BayTech on Page 16 of this manual, it is possible for BayTech to customize an adapter for you. If you require a different adapter than the one supplied with this unit, contact one of BayTech's Applications Engineers.

Using the 9FRJ45PC-1 adapter (or other applicable adapter) and the RJ08X007 crossed cable, connect the serial port of your computer to the RJ-45 port labeled "EIA-232" on the back of your RPC unit.

Load serial port communications software. Configure host terminal's serial communications parameters to match the RPC. RPC factory serial communications

parameters are 9600 bps, 8 data bits, 1 stop bit, and no parity.

## REMOTE ACCESS USING MODEM CONNECTIONS

### RPC-2 MD01 (Internal Modem)

Using the RJ04X007 (RJ-11) modular cable, connect either port labeled "LINE" on the back of the RPC unit to the telco wall jack.

### RPC-2 RDR (External Modem)

Plug the modem's power supply into receptacle number six on the RPC. Using the RJ04X007 (RJ-11) modular cable, connect either port labeled "LINE" on the back of the RPC unit to the telco wall jack. Using another RJ04X007 (RJ-11) modular cable, connect the remaining port labeled "LINE" on the back of the RPC unit to the port labeled "LINE" on the external modem. (See Figure 1 on page 5.)

Using the 25MRJ45MD-8 adapter and the RJ08X007 (8-pin crossed) cable, connect the DB-25 female port of the modem to the RJ-45 port labeled "EIA-232" on the back of the RPC unit.

**IMPORTANT:** You must customize the external modem's configuration to operate properly with the RPC-2 RDR. See Appendix C (MODEM COMMAND SUMMARY) for information on customizing external modem configurations.

**OPERATION**

The RPC's main menu allows you to monitor and control equipment attached to each of the RPC-2 RDR and RPC-2 MD01's six receptacles. From this menu, you can turn on, turn off, or reboot attached equipment, individually, or all equipment, simultaneously.

The RPC recognizes three basic operating commands: ON n<cr>, OFF n<cr>, and REBOOT n<cr>, where n represents the outlet number.

There are six red LEDs on the front of the RPC unit. There is a corresponding red LED for each of the RPC's six receptacles. When the LEDs are illuminated, corresponding receptacle(s) are turned "ON," and consequently, attached equipment is receiving power. If the LED's are not illuminated, corresponding receptacle(s) are turned "OFF."

**Accessing Main Menu**

Power on the RPC unit. The following outlet and circuit breaker status menu appears:

**RPC-2 Series**  
**(c) 1997 by BayTech**  
**F2.07**

**Circuit Breaker : On**

- 1) ... OUTLET 1 : Off
- 2) ... OUTLET 2 : Off
- 3) ... OUTLET 3 : Off
- 4) ... OUTLET 4 : Off
- 5) ... OUTLET 5 : Off
- 6) ... OUTLET 6 : Off

**RPC >**

If the status menu fails to appear, ensure the correct cables and adapters are being used and that they are connected properly. Also, verify the serial communication parameters are correctly configured.

### Controlling Receptacles

To set or change the status of receptacles, enter one of the following commands: **ON n**, **OFF n**, **REBOOT n**, where “n” is the outlet number you want to command. Entering an outlet number of “0” sends the command to **all** outlets.

Example: To turn “On” Outlet 3, type **ON 3** from the RPC prompt (RPC >). The RPC responds:

**Turn On Outlet 3 (Y/N)?**

Responding “Y” for yes turns “On” Outlet 3. Observe that the status of Outlet 3 has changed to **On** in the status menu:

**RPC-2 Series**  
(c) 1997 by BayTech  
F2.07

**Circuit Breaker : On**

1) ... OUTLET 1 : Off  
2) ... OUTLET 2 : Off  
3) ... OUTLET 3 : On  
4) ... OUTLET 4 : Off  
5) ... OUTLET 5 : Off  
6) ... OUTLET 6 : Off

**RPC >**

Likewise, typing **ON 0** at the RPC > prompt and responding “Y” for yes, turns “On” **all** outlets. Typing **OFF n** at the RPC > prompt turns off corresponding outlet(s).

The **REBOOT n** command will reboot or reset equipment attached to corresponding receptacle(s). When the command to **REBOOT (n)** is sent from the **RPC >** prompt, the RPC powers “Off” corresponding outlet(s) for approximately 10 seconds, then powers them up in sequence. This command only works on outlets which were “On” prior to the reboot.

### **Accessing Main Menu via Modem**

Using communications software, dial the modem using the **ATDT** command. If the modem does not respond in 5 to 7 rings, the RPC's RDR feature recycles power to Outlet 6 and consequently resets the modem. Dial the modem again using the **ATDT** command. When a connection has been established, the RPC sends the following header:

**RPC-2 Series  
(C) 1997 by BayTech  
F2.07**

If you set a password when you were locally connected to the RPC through the serial port, the following header appears. Note the additional prompt for a password:

**RPC-2 Series  
(C) 1997 by BayTech  
F2.07  
Enter Password:**

If prompted, enter password. The following main menu appears:

RPC-2 Series  
(C) 1997 by BayTech  
F2.07

Circuit Breaker : On

- 1) ... OUTLET 1 : Off
- 2) ... OUTLET 2 : Off
- 3) ... OUTLET 3 : Off
- 4) ... OUTLET 4 : Off
- 5) ... OUTLET 5 : Off
- 6) ... OUTLET 6 : Off

**IMPORTANT:** When operating remotely, do not send the command to turn “off” a receptacle that has a host terminal or modem attached. Doing so will result in the host terminal or modem being powered down creating a “locked-out” condition. You will not be able to reestablish a connection until the receptacle has been turned “on” through the serial port.

## CONFIGURATION

The RPC-2 RDR and RPC-2 MD01's configuration menu allows the user to (1) set or change a password and (2) customize the outlet name(s) to identify equipment attached to the RPC.

The password is disabled from the factory by making the password a carriage return. If a password (other than a carriage return) is set, the RPC requires password entry before allowing the user to operate the RPC unit. The password feature is case sensitive. The factory default outlet names are Outlet 1, Outlet 2, Outlet 3 . . . Outlet 6. From the RPC's configuration menu, the user can change any or all outlet names to outline a unique set-up.

## Change Password

From the status menu's RPC > prompt, type **CONFIG**. The following menu appears:

**RPC > CONFIG**

- 1) ... Change Password
- 2) ... Change Outlet Name

**Enter Request:**

Select #1, "Change Password," and press <Enter.> The RPC responds:

**Enter Current Password:**

Since the factory default password is a carriage return, press <cr>. If this is not an initial set-up and a password has already been set, enter the current password, followed by <cr>. If you enter the password incorrectly, the RPC responds with an "Error" message and returns to the main menu. Consequently, you must start over by typing "CONFIG" to access the configuration menu. If you enter the current password correctly, the RPC responds:

**Enter New Password:**

Enter a new password (maximum field length, 8 alphanumeric characters), followed by <cr>. The RPC responds:

**Re-Enter New Password:**

Re-enter the new password identically to the first entry. The password feature is case sensitive. If you fail to re-enter the new password correctly, the RPC responds with an "Error" message and returns to the main menu. Consequently, you must start over by

typing CONFIG” from the RPC > prompt to access the configuration menu. If you re-enter the new password correctly, the RPC returns to the main menu again, but you will not get an “Error” message.

**Circuit Breaker : On**

- 1) ... OUTLET 1 : Off
- 2) ... OUTLET 2 : Off
- 3) ... OUTLET 3 : On
- 4) ... OUTLET 4 : Off
- 5) ... OUTLET 5 : Off
- 6) ... OUTLET 6 : Off

RPC >

### **Disabling a Password**

To disable a password, enter a carriage return at the “**Enter New Password**” prompt. Enter another carriage return at the “**Re-enter New Password**” prompt. Changing the new password to a carriage return disables password protection

### **Change Outlet Name**

From the status menu’s RPC > prompt, type **CONFIG**. The following menu appears:

RPC > CONFIG

- 1) ... Change Password
- 2) ... Change Outlet Name

Enter Request:

Select #2, "Change Outlet Name," and press <Enter.> The RPC responds:

- 1) ... OUTLET 1
- 2) ... OUTLET 2
- 3) ... OUTLET 3
- 4) ... OUTLET 4
- 5) ... OUTLET 5
- 6) ... OUTLET 6

**Enter Request:**

Enter the number of the outlet you want to change. If you want to change the name of Outlet 4, type the number 4 at the "Enter Request" prompt, followed by <cr>. The RPC responds:

**Enter:**

Enter a new receptacle name (maximum field length, 10 characters), followed by <cr>. If you want to change the name of Receptacle 4 from Outlet 4 to Router 1, type Router 1 from the "Enter" prompt, followed by <cr>. The RPC responds with the outlet name menu displaying the name change to Outlet 4:

- 1) ... OUTLET 1
- 2) ... OUTLET 2
- 3) ... OUTLET 3
- 4) ... Router 1
- 5) ... OUTLET 5
- 6) ... OUTLET 6

**Enter Request:**

To return to the RPC > prompt, press any key at the "Enter Request" prompt.

## RPC-3 AND RPC-3A and RPC-5

**NOTE:** The RPC-3, RPC-3A and RPC-5 are configured in a similar manner. The RPC-5 has 4 outlets and supports 4 users. The RPC-3/3A has 8 outlets and supports 8 users. These differences are minor and not specifically addressed unless significant to the topic of discussion. The term “RPC Series”, as used in this section, will include the RPC-3, RPC-3A, and the RPC-5.

**IMPORTANT:** “IN” #1 supplies power to the logic of the RPC-5. This inlet must have power for the unit to operate.

The RPC Series are multi-user units, supporting one admin user and up to eight outlet users. The admin user has access to all outlets, user and system configuration options, unit status, and unit reset capabilities. The outlet user has access to only those outlets in the user’s outlet list, as set by the admin user. The outlet user’s menu and status display shows only those outlets available to the user.

**NOTE:** The RPC Series supports one admin user. The admin user may have four sessions running concurrently. Default user name is admin. User names are case sensitive.

**NOTE:** Each session has an inactivity timeout of ten minutes. After ten minutes of no activity elapses, the session terminates.

**LOCAL ACCESS  
USING EIA-232  
SERIAL CONNECTION**

Load serial port communications software. Configure host terminal's serial communications parameters to match the RPC. RPC factory serial communications parameters are 9600 bps, 8 data bits, 1 stop bit, and no parity.

The RPC Series has an RJ-45 port for connecting to a local EIA-232 device, such as a computer terminal or external modem. Most serial computers do not have RJ-45 connections; therefore, an adapter is provided with this unit to convert from a DE-9 connector to a RJ-45 connector (BayTech Part No. 9FRJ45PC-1). If you are connecting to a modem, use a modem adapter (BayTech Part No. 25MRJ45MD-8).

Using the 9FRJ45PC-1 adapter (or other applicable adapter) and the RJ08X007 crossed cable, connect the serial port of your computer to the RJ-45 port labeled "EIA-232" on the back of your RPC unit.

**REMOTE ACCESS  
USING NETWORK  
PORT CONNECTION**

The RPC Series has an Ethernet port for connecting to a network. In order for a network connection to be established, at a minimum, you must configure the IP Address, Subnet Mask, and if applicable, Gateway. Network configurations must be set initially through the serial port but may be modified using either the serial or Ethernet port..

Once you have configured the IP Address, Subnet Mask, and Gateway through the serial port, a network connection can be

established via a Telnet session from your workstation.

Using a straight 10Base-T cable, connect the Ethernet portion the RPC Series to the network hub.

The green LINK LED will illuminate when a satisfactory connection is made to the network. If it does not light, check the 10Base-T cable connection to your network. Also, verify status of the CX LED. It should not be flashing. If the CX LED is flashing, note the number of times it flashes in a cycle. To determine what the CX LED is indicating; refer to Appendix C, "DIAGNOSTIC LED INDICATIONS." If the LED indications are correct, the RPC can be accessed through a Telnet session. Establish the Telnet client session and login from you workstation.

## OPERATION

**IMPORTANT:** When operating remotely, do not send the command to turn "off" a receptacle that has a host terminal or modem attached. Doing so will result in the host terminal or modem being powered down creating a "locked-out" condition. You will not be able to reestablish a connection until the receptacle has been turned "on" through the serial port.

**IMPORTANT:** If you send the command to "reboot" a receptacle with a host terminal or modem attached, active connection to that terminal or modem is lost and will have to be reestablished.

**IMPORTANT:** An assigned user is allowed one active session. The admin user is allowed four sessions running concurrently.

In the RPC Series's main menu, #1 "Outlet Control" and #4 "Unit Status" allow the user to monitor and control the equipment attached to each of the RPC's eight receptacles. Selection #3 puts the user into the configuration menu for setting network parameters, programming user login access, and outlet configuration. Selection #2 allows the admin user to manage optional users. Selection #5 resets the unit. A unit reset is required for some changes to take effect.

There are eight red LED's on the front of the RPC unit. There is a corresponding red LED for each of the RPC's eight receptacles. If any or all of the LEDs are illuminated, the corresponding receptacle(s) are turned "ON," and consequently, attached equipment is receiving power. If any one (or all) of the LED's are not illuminated, the corresponding receptacle(s) are turned "OFF."

## **Accessing Main Menu**

Power on the RPC unit. The following main menu appears:

**RPC-3 Telnet Host**  
**Revision F 3.03, (C) 1998**  
**Bay Technical Associates**  
**Unit ID: RPC3**

**RPC-3 Menu:**

- 1) . . . Outlet Control**
- 2) . . . Manage Users**
- 3) . . . Configuration**
- 4) . . . Unit Status**
- 5) . . . Reset Unit**
- 6) . . . Logout**

**Enter Selection:**

If the main menu fails to appear, ensure the correct cables and adapters are being used and they are properly connected. Also, verify the serial communication parameters are correctly configured.

If this is not an initial setup and username and/or password have been enabled, you will be prompted to enter a username and/or password. When a successful username and/or password has been entered, the main menu (above) appears.

**Outlet Control**

To set or change the status of receptacles, select #1 "Outlet Control" from the main menu. The following status menu appears:

**Available RPC3 Outlets**  
**For command summary, enter HELP**

<b>Circuit Breaker : On (RPC-3/3A ONLY *)</b>				<b>(RPC-5 only*)</b>
<b>Selection Number</b>	<b>Outlet Name</b>	<b>Outlet Number</b>	<b>Power Status</b>	<b>CB Status</b>
1	OUTLET 1	1	Off	On
2	OUTLET 2	2	Off	Off
3	OUTLET 3	3	Off	Off
4	OUTLET 4	4	Off	Off
5	OUTLET 5	5	Off	
6	OUTLET 6	6	Off	
7	OUTLET 7	7	Off	
8	OUTLET 8	8	Off	

**RPC >**

**NOTE:** \* These menu items are displayed for the designated units only. The printing in parentheses does not appear on the screen.

**NOTE:** CB status for the RPC-5 will show "On" when a power cord is attached to the "In" receptacle of a specific port and power is available to the "Out" receptacle.

**NOTE:** The outlet user sees only those outlets as assigned to him by the admin user.

From the RPC > prompt, enter one of the following commands: ON n, OFF n, REBOOT n, where “n” is the outlet number you want to command. Entering an outlet number of “0” sends the command to **all** outlets.

Example: To turn “On” Outlet 3, type **ON 3** from the RPC prompt (RPC >). The RPC responds with:

**Turn On Outlet 3 (Y/N)?**

Responding “Y” for yes turns “On” Outlet 3. Observe the status of Outlet 3 has changed to **On** in the status menu:

**Circuit Breaker : On**

Selection Number	Outlet Name	Outlet Number	Power Status
1	OUTLET 1	1	Off
2	OUTLET 2	2	Off
3	OUTLET 3	3	Off
4	OUTLET 4	4	Off
5	OUTLET 5	5	Off
6	OUTLET 6	6	Off
7	OUTLET 7	7	Off
8	OUTLET 8	8	Off

RPC >

Likewise, typing **ON 0** at the RPC > prompt and responding “Y” for yes, turns “On” **all** outlets. Typing **OFF n** at the RPC > prompt turns off corresponding outlet(s).

The **REBOOT n** command will reboot or reset equipment attached to corresponding

receptacle(s). When the command to REBOOT (n) is sent from the RPC > prompt, the RPC powers "Off" corresponding outlet(s) for approximately 10 seconds, then powers them up in sequence. This command only works on outlets which were "On" prior to the reboot. prior to receiving the reboot command.

## Manage Users

Selection #2, "Manage Users," from the main menu allows the admin user to add and delete users, change passwords, and change the outlet list that determines an outlet user's access to prescribed outlets.

From the main menu, select #2, "Manage Users." The following menu appears:

### User Management Menu

To modify existing user, enter number of user.  
To add/delete user, select appropriate menu choice.  
Enter request, CR to exit menus.

- 1) ... Add user
- 2) ... admin

If this is not an initial setup and optional outlet users have been added, they too will show in the User Management Menu, along with the option to delete users.

### User Management Menu

To modify existing user, enter number of user.  
To add/delete user, select appropriate menu choice.  
Enter request, CR to exit menus.

- 1) ... Add user
- 2) ... Delete user
- 3) ... admin
- 4) ... engineering
- 5) ... sales

**Add User**

The "Add user" option is presented any time less than 8 (4 for the RPC-5) optional users are defined. Select #1, "Add user," from the User Management Menu. The RPC Series responds:

Enter username (<= 8 characters) >

Enter the name of the user to be added, followed by <cr>.

**NOTE:** User name is case sensitive.

The RPC Series redisplay the User Management Menu including the added user.

**Delete user**

Select #2, "Delete user," from the User Management Menu. The RPC-3 Series responds:

From menu above, enter number for user to delete

Enter the number that corresponds to the user to be deleted, followed by <cr>.

The RPC Series redisplay the User Management Menu minus the deleted user.

**NOTE:** Deletion of admin user is prohibited. If an outlet user is deleted and is logged in at the time, the outlet user is disconnected.

## Change Password

**IMPORTANT:** If enabled, the password function provides independent user access to assigned outlets by entering a user name and/or password. If disabled, neither the user name nor password is required, and every user will have access to all admin functions.

**NOTE:** Password can be enabled or disabled for serial login and network login.

From the User Management Menu, select the number of the user to modify, followed by <cr>. The unit responds:

Enter choice, CR to exit  
User name: engineering

- 1) . . . Change Password
- 2) . . . Change Outlet List

Enter Request >

**Default password is <cr>.**

**NOTE:** Password feature is case sensitive.

Select #1, "Change Password," followed by <cr>. The RPC Series responds:

**Enter Old Password:**

If this is not an initial set-up and a password has already been set, enter the current password, followed by <cr>. If it is an initial setup, press <cr>. If you enter the password incorrectly, the RPC responds indefinitely with "Enter old password:" until the old password has been entered correctly. A carriage return <cr> will exit to user menu.

When you enter the current password correctly, the RPC responds:

**Enter new password (<= 8 characters) >**

Enter a new password (maximum field length, 8 alpha-numeric characters), followed by <cr>. The RPC responds with:

**Confirm by Re-Entering New Password:**

Re-enter the new password identically to the first entry. The password feature is case sensitive.

If you fail to re-enter the new password correctly, the RPC responds indefinitely with "Confirm by Re-Entering New Password:" until the new password has been re-entered correctly. A carriage return will exit to user menu without making any changes to the password. If you re-enter the new password correctly, the RPC returns to the configuration menu.

**NOTE:** Entering a null password (<cr>) for a particular user will act to disable login requirement of a password for that user. Thus, if username and password prompts are enabled, it is possible to configure a unit to allow nonauthenticated access to some users while requiring a password from others.

## Change Outlet List

The outlet list determines which outlets a particular user can access. From the User Management Menu, enter the number of the user to modify, followed by <cr>. Then select #2, "Change Outlet List." The RPC Series responds:

To change outlet access, enter number(s) of outlets. If more than one entry, separate numbers with commas. CR to exit.

User Name: engineering

Outlet	Access
1) ... Outlet 1	yes
2) ... Outlet 2	no
3) ... Outlet 3	yes
4) ... Outlet 4	yes
5) ... Outlet 5	no
6) ... Outlet 6	yes
7) ... Outlet 7	yes
8) ... Outlet 8	no

**NOTE:** If an outlet user's list is changed and they are logged in at the time, their outlet list changes dynamically. If enabled, an updated outlet status report will be issued.

To toggle outlet access, enter the number that corresponds to the outlet you want to change. For example, if you want engineering to have access to Outlet 2, enter the number 2, followed by <cr>. If you want engineering to have access to Outlets 2, 5, and 8 enter the numbers 2, 5 and 8 separated by commas: 2,5,8, followed by <cr>.

## CONFIGURATION

Configuration can be performed by the admin user only via the serial port or the network port. From the RPC Main Menu, select #3, "Configuration." The following menu appears:

Bay Technical Associates  
RPC-3 Configuration Menu  
MAC Addr: 00.C0.48.05.53.A2

Unit ID: RPC3  
Medium Stat: good  
Active users: 1

Enter choice from menu, CR to exit  
1) ... IP Address : 0.0.0.0  
2) ... Subnet Mask : 0.0.0.0  
3) ... Gateway : 0.0.0.0  
4) ... Unit ID : RPC-3  
5) ... Access  
6) ... Outlets  
7) ... Exit

**IMPORTANT:** Network parameters, such as IP Address, require a Unit Reset before any changes will take affect. Other configuration changes will be immediately implemented upon accepting changes at the end of the configuration procedure. Exit all menus by pressing <cr>.

### IP Address

The IP Address consists of four bytes, each byte ranging from 0 to 255. This parameter must be programmed before the RPC can be accessed on the network.

From the configuration menu, select #1, "IP Address." The RPC responds:

**Enter IP address in dotted decimal form:**

Enter the IP Address (Example: 200.4.3.50), followed by a carriage return. Upon entry of a carriage return, the RPC resumes the configuration menu. **Default IP**

**address is 0.0.0.0.** If you fail to enter the IP Address in dotted decimal form, the RPC responds again:

**Enter IP address in dotted decimal form:**

The RPC responds indefinitely with the same request until the IP Address is entered in the correct form.

## Subnet Mask

The Subnet Mask consists of four bytes, each byte ranging from 0 to 255. This parameter must be programmed before the RPC can be accessed on a network.

From the configuration menu, select #2, "Subnet Mask." The RPC responds:

**Enter Subnet Mask in dotted decimal form:**

Enter the Subnet Mask (Example: 255.255.255.0), followed by a carriage return. Upon entry of a carriage return, the RPC resumes the configuration menu.

**Default Subnet Mask is 0.0.0.0.** If you fail to enter the subnet mask in dotted decimal form, the RPC responds again:

**Enter Subnet Mask in dotted decimal form:**

The RPC responds indefinitely with the same request until the Subnet Mask is entered in the correct form.

## Gateway

The Gateway address consists of four bytes, each byte ranging from 0 to 255.

From the configuration menu, select #3, "Gateway." The RPC responds:

**Enter Gateway address in dotted decimal form:**

Enter the Gateway address (Example: 200.4.5.50), followed by <cr>. The RPC resumes the configuration menu **Default Gateway address is 0.0.0.0**. If you fail to enter the Gateway address is dotted decimal form, the RPC responds again:

**Enter Gateway address in dotted decimal form:**

The RPC responds indefinitely with the same request until the Gateway address is entered in the correct form.

## Unit ID

From the configuration menu, select #4, "Unit ID." The RPC responds:

**Enter Unit ID (64 chars max):**

Enter the RPC Unit ID, followed <cr>. The RPC resumes the configuration menu. **Default Unit ID is RPC-3.**

## Access

Login Setup allows the user to enable or disable username and password login for both serial and network ports. If the features are enabled, the RPC requires username and password entry before allowing access to the unit.

To configure the login setup, select #5, "Access," from the configuration menu, followed by <cr>. The RPC Series responds with the following Login Setup menu:

**Login setup**

Toggle option by entering number, CR to exit.

**Network access:**

1)...Prompt for user name: disabled

2)...Prompt for password : disabled

**Serial Port Access:**

3)...Prompt for user name: disabled

4)...Prompt for password : disabled

Enter the number that corresponds to the prompt you want to toggle. The unit responds by asking if you want to enable the prompt, if it is currently disabled or disable the prompt, if it is currently enabled. Type "Y" for "Yes," or "N" for "No," accordingly.

**IMPORTANT:** If user name and password are disabled (factory default), outlet users will have access to all admin functions.

**NOTE:** A null password (<cr>) for any particular user disables the password login requirement for that user, even if prompt for password is enabled.

## Outlets

From the configuration menu, select #6, "Outlets." The following Outlet Operation Configuration Menu appears:

**Outlet Operation Configuration Menu**

Enter Request, CR to exit

1) ... Outlet Status Display:       enabled

2) ... Command Confirmation:       enabled

3) ... Outlet Power-up Delay

4) ... Name Outlets

5) ... Display Outlet Users

Enter Request >

**Outlet Status Display**

From the Outlet Operation Configuration Menu, select #1, "Outlet Status Display." Depending on whether outlet status display is currently enabled or disabled, the RPC responds with the option to change the current status. **Default setting is enabled:**

**Disable Outlet Status Display? (Y/N)**

**Command Confirmation**

When a command is sent to turn on, turn off, or reboot a receptacle, the enable/disable confirmation feature responds by asking you to confirm the command. For example, if the command **ON 3** is sent, the enable/disable confirmation responds:

**Turn On Outlet 3? (Y/N)**

If the enable/disable feature is disabled, the RPC will not ask to confirm the command.

From the Outlet Operation Configuration Menu, select #2, "Command Confirmation." Depending on current status, the RPC responds with the option to change the setting. **Default setting is enabled:**

**Disable Confirmation? (Y/N)**

**Outlet Power-Up Delay**

The Outlet Power-up delay allows a set amount of time to elapse after a unit power-up or user initiated reset before power is applied to the outlet. This power up sequence is also used when a REBOOT occurs.

From the Outlet Configuration Menu, select #3, "Outlet Power-up Delay." The unit responds:

To set delay, enter number of outlet, CR to exit

Outlet power-up delays (in seconds):

1) ... Outlet 1 : 0  
2) ... Outlet 2 : 0  
3) ... Outlet 3 : 0  
4) ... Outlet 4 : 0  
5) ... Outlet 5 : 0  
6) ... Outlet 6 : 0  
7) ... Outlet 7 : 0  
8) ... Outlet 8 : 0

Enter Request >

Enter the number of the outlet to set a power-up delay, followed by <cr>. The unit responds:

Outlet Name: Outlet 1  
Enter delay (seconds) >

Enter the amount of time (up to 599 seconds) to elapse before power is applied to the outlet. The RPC Series redisplay the power-up delay status reflecting the change.

## Name Outlets

"Name Outlets" allows the user to customize outlet name(s) to identify individual pieces of equipment attached to the RPC. From the RPC's configuration menu, the user can change any or all outlet names to outline a unique set-up. **Default outlet names are Outlet 1, Outlet 2, Outlet 3 . . . Outlet 8.**

From the "Outlet Configuration" Menu select #4, "Change Outlet Name," followed by <cr>. The RPC displays the following menu:

**Enter number of outlet to name, CR to exit.**

- 1) ... OUTLET 1
- 2) ... OUTLET 2
- 3) ... OUTLET 3
- 4) ... OUTLET 4
- 5) ... OUTLET 5
- 6) ... OUTLET 6
- 7) ... OUTLET 7
- 8) ... OUTLET 8

**Enter Request:**

Enter the number of the outlet you want to change. If you want to change the name of Outlet 4, type the number 4 at the "Enter Request" prompt, followed by <cr>. The RPC responds:

**Enter:**

Enter a new receptacle name (maximum field length, 10 characters), followed by <cr>. If you want to change the name of Receptacle 4 from Outlet 4 to Router 1, type Router 1 from the "Enter" prompt, followed by <cr>. The RPC responds with the outlet name menu displaying the name change to Outlet 4:

- 1) ... OUTLET 1
- 2) ... OUTLET 2
- 3) ... OUTLET 3
- 4) ... Router 1
- 5) ... OUTLET 5
- 6) ... OUTLET 6

**Enter Request:**

To return to the configuration menu, press any key.

## Display Outlet User

From the Outlet Operation Configuration Menu, select #5, "Display Outlet User," followed by <cr>. The RPC Series displays the outlet user assignments similar to the following:

### Outlet User Assignments

Outlet Number	Outlet Name	Assigned User(s)
1	Outlet 1	admin, eng
2	Outlet 2	admin, sales
3	Outlet 3	admin, sales, eng
4	Outlet 4	admin, eng
5	Outlet 5	admin, eng
6	Outlet 6	admin, sales
7	Outlet 7	admin, sales, eng
8	Outlet 8	admin, eng

<Strike CR to continue>

## UNIT STATUS

Unit status provides vital information about the RPC unit; system status, network interface, logged user status, and outlet status. In the event of problems with the RPC unit or its network interface capabilities, "Unit Status" information can be used as a valuable troubleshooting aid. You may be asked to refer to the unit status when calling one of BayTech's Application Engineers for support.

From the main menu, select #4, "Unit Status." The following Unit Status Menu appears:

**RPC Unit Status Menu**

- 1) ... **System**
- 2) ... **Network Interface**
- 3) ... **Logged Users**
- 4) ... **Outlet Status**

Enter selection>

## **System Status**

System Status provides information about the local memory (available buffers), how many TCP sockets are in use, and the time the unit has been operating since the last unit reset or power up.

From the Unit Status Menu, select #1 "System." The following system information is provided:

**System Status:**

**Available local memory (256 byte buffers): 30**  
**TCP sockets in use: 1**  
**System up time (days: hh:mm:ss): xx:xx:xx:xx**

<Strike any key to continue.>

## **Network Interface**

Network Interface gives information on the medium or connection status between the RPC unit and the equipment it is attached to, the number of faults, if any, the number of transmitting errors, the number of buffers left (30 or less) available to send data, and whether the receive queue status is available to receive data. From the Unit Status Menu, select #2, "Network Interface." The following network information is provided:

**Network Status:**

Medium status: good  
Medium faults: 0  
Xmit bufr errs: 0  
Available send buffers: 29  
Receive queue status: open

<Strike any key to continue.>

**Logged Users**

This option shows the number of active sessions. For each session, the name of the account, the type of interface (serial or network) and the status is provided.

**Logged Users:**

<u>User Name</u>	<u>Location</u>	<u>Status</u>
1) ... admin	*RS-232 Port	+

<Strike "T" to terminate a session or any key to continue.>

Terminate a session by typing "T" at the <Strike "T" to terminate a session or any key to continue> prompt. After typing "T" the RPC responds:

Enter number of connections to terminate, <CR>:

Enter the number of the session to terminate.  
The RPC responds:

<Connection being terminated. Strike CR to continue.

**Outlet Status**

The following table shows the status of all outlets:

**Outlet Status**

Selection Number	Outlet Name	Outlet Number	Power Status
1	OUTLET 1	1	Off
2	OUTLET 2	2	Off
3	OUTLET 3	3	Off
4	OUTLET 4	4	Off
5	OUTLET 5	5	Off
6	OUTLET 6	6	Off
7	OUTLET 7	7	Off
8	OUTLET 8	8	Off

**RESET UNIT**

Reset the unit to load new configuration changes.

From the main menu, select #5, "Reset Unit." The RPC responds:

**Reset Unit? (Y/N)**

Type "Y" for yes; allow approximately 5 seconds for unit reset.

Resetting the unit will not affect the power to energized outlets.

**COMMAND SUMMARY**

In the following menu, "n" refers to selection number as displayed in Outlet Status. Any invalid input results in an input error message and returns the user to the command prompt.

From the RPC3> prompt in Outlet Control, type HELP. The RPC responds with the following command summary information.

**RPC3 >**

**"n"** refers to selection number, as displayed in **Outlet Status**.

**LOGOUT** : terminate session

**OFF n** : turn off outlet "n", do all for n = 0

**ON n** : turn on outlet "n", do all for n = 0

**REBOOT n** : cycle power off/on outlet "n", do all for n = 0

**RC** : display outlet relay control information

**STATUS** : display power status of outlets

**HELP** : display this message.

**<Strike CR to continue.>**

## TECHNICAL SUPPORT

BayTech has a staff of applications engineers on duty to assist you from 7 a.m. to 6 p.m. (CST or CDT), Monday through Friday. If you have problems installing, setting up, or operating your Bay Tech product, please contact BayTech's technical support office. For information on all of BayTech's data communication products, contact our Web Site at the address shown below.

If you call the BayTech support desk, please have the following information available to help the applications engineers answer your questions efficiently. Use the next page to record vital information.

- a. The RPC-Series model type.
- b. The unit serial number.
- c. The peripherals you have connected to the RPC.
- d. Provide a general description of the application you are using and what you are trying to accomplish.
- e. What cables and adapters are you using? What are the lengths of the cables? Who sold you the cables and adapters?
- f. The name of the software emulation program you are using.
- g. If possible, a printout of the configuration status.

**Bay Technical Associates, Inc.**  
**200 N. Second Street, P. O. Box 387**  
**Bay St. Louis, MS 39520-1000, USA**  
**Telephone: 800-523-2702**  
**228-467-8231**  
**FAX: 228-467-4551**  
**Web Site: [www.baytechdcd.com](http://www.baytechdcd.com)**

# EQUIPMENT SETUP

RPC Series Unit Model \_\_\_\_\_

RPC Series Unit Serial Number \_\_\_\_\_

OUTLET 1	OUTLET 2	OUTLET 3
MODEL	MODEL	MODEL
SERIAL NUMBER	SERIAL NUMBER	SERIAL NUMBER
USE	USE	USE
OUTLET 4	OUTLET 5	OUTLET 6
MODEL	MODEL	MODEL
SERIAL NUMBER	SERIAL NUMBER	SERIAL NUMBER
USE	USE	USE
OUTLET 7	OUTLET 8	
MODEL	MODEL	
SERIAL NUMBER	SERIAL NUMBER	
USE	USE	

Type of adapters \_\_\_\_\_

---

Type of cables \_\_\_\_\_

---

Name of software program \_\_\_\_\_

---

## REPACKAGING, SHIPPING AND RETURNING TO THE FACTORY

If your Bay Tech unit needs service, upgrade, or repair, return it to BayTech. Before dismantling your equipment or before returning the unit for any reason, always call BayTech. The user should never attempt repairs on this unit. If you need to return the RPC Series to the factory for repair, warranty work, or upgrade, follow the instructions below for repackaging and shipping.

### INSTRUCTIONS FOR REPACKAGING AND SHIPPING:

- a. Call BayTech to get a **Return Authorization Number**.

**IMPORTANT:** Without this number, BayTech will not accept returns.

- b. Use the original packaging if available or choose a heavy cardboard box.
- c. Surround your unit with a minimum of two inches of insulation.
- d. Be sure to seal the box securely with strapping or packing tape. We do not recommend masking tape or cellophane tape.
- e. On the outside of the box, please write the Return Authorization Number.
- f. Ship the unit to the following address:

**Bay Technical Associates, Inc.  
200 N. Second Street  
Bay St. Louis, MS 39520-1000, USA**

## **FCC RADIO FREQUENCY INTERFACE STATEMENT**

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with this manual, may cause interference to radio communication.

This equipment has been type tested and found to comply within the limits for a Class A digital device pursuant to Subpart J of Part 15 of FCC rules. FCC rules provide reasonable protection against interference with radio communications in a commercial environment. Not installing in accordance with this manual or operating this unit in a residential environment is likely to cause interference. In such cases, the user will be responsible for the expense of correcting the interference.

### **FCC REQUIREMENTS FOR THE RPC-2 MD01 AND RDR**

- a. Federal Communications Commission (FCC) has established rules permitting a direct connection to the telephone network. These connections use standardized jacks. Do not use this equipment on party lines or coin lines.
  
- b. If this device is malfunctioning, it may also be causing harm to the telephone network; disconnect this device until the source of the problem is determined and repairs made. The Telephone Company may temporarily disconnect service until the problem is corrected.
  
- c. The Telephone Company may make changes in its technical operations and procedures. If such changes affect the compatibility or use of this device, the Telephone Company is required to give adequate notice of the changes. In this case, you have the right to file a complaint with the FCC.

**RPC SERIES OWNER'S MANUAL**  
**FCC RADIO FREQUENCY INTERFACE STATEMENT**

---

d. If the Telephone Company requests information on connected equipment to their lines, inform them of the following:

1. The telephone number of this unit.
2. The ringer equivalence number (indicated on the label).
3. The USOC jack required: RJ-11
4. The FCC Registration Number (indicated on the label).

The ringer equivalence number (REN) is used to determine how many devices can be connected to you telephone line. In most areas, the sum of the RENs of all devices on a single line should not exceed five. If there are too many devices attached, they may not ring properly.

In case of equipment malfunction, BayTech should perform all repairs. It is the responsibility of the user requiring service to report the need for service to BayTech:

**Bay Technical Associates, Inc.**  
**P.O. Box 387, 200 N. Second Street**  
**Bay Saint Louis, MS 39520-1000, USA**

**Telephone: 228-467-8231**  
**800-523-2702**  
**Fax: 228-467-4551**

# APPENDIX A

## SPECIFICATIONS

	RPC-2	RPC-2A	RPC-2 MDO 1	RPC-2 RDR	RPC-3	RPC-3A	RPC-5
Power Receptacle	6 each 115 VAC, 60 Hz, 15 Amp	6 each 230 VAC, 50 Hz, 10 Amp	6 each 115 VAC, 60 Hz, 15 Amp	6 each 115 VAC, 60 Hz, 15 Amp	8 each 115 VAC, 60 Hz, 15 Amp	8 each 230 VAC, 50 Hz, 10 Amp	4 each 115 VAC, 60 Hz, 15 Amp
Circuit Breaker	125 VAC, 15 Amp	230 VAC, 10 Amp, Universal IEC 320 Outlets	125 VAC, 15 Amp	125 VAC, 15 Amp	125 VAC, 15 Amp	230 VAC, 10 Amp, Universal IEC 320 Outlets	125 VAC, 15 Amp 4 indiv breakers
EIA-232 Serial Port	8 pin modular connect or (RJ-45)	8 pin modular connector (RJ-45)	8 pin modular connector (RJ-45)	8 pin modular connector (RJ-45)	8 pin modular connector (RJ-45)	8 pin modular connector (RJ-45)	8 pin modular connector (RJ-45)
Network Interface	N/A	N/A	N/A	N/A	Ethernet, IEEE 802.3 compliance 10BASE-T (twisted pair RJ-45)	Ethernet, IEEE 802.3 compliance 10BASE-T (twisted pair RJ-45)	Ethernet, IEEE 802.3 compliance 10BASE-T (twisted pair RJ-45)
Protocols	N/A	N/A	N/A	N/A	TCP/IP & Telnet	TCP/IP & Telnet	TCP/IP & Telnet
Frame Types	N/A	N/A	N/A	N/A	Ethernet II and SNAP	Ethernet II and SNAP	Ethernet II and SNAP
Modem Interface	N/A	N/A	2400 bps	N/A	N/A	N/A	N/A
Modem Connectors	N/A	N/A	4 pin modular RJ-45	4 pin modular RJ-45	N/A	N/A	N/A
Dimensions	16.73" w x 3.42" d x 1.72" h	16.73" w x 4.32" d x 1.72" h	16.73" w x 3.42" d x 1.72" h	16.73" w x 3.42" d x 1.72" h	16.73" w x 5.25" d x 1.72" h	16.73" w x 6.17" d x 1.72" h	16.73" w x 6.17" d x 1.72" h
Weight	3 lb, 4 oz	3 lb, 8 oz	3 lb, 4 oz	3 lb, 4 oz	4 lb, 4 oz	4 lb, 8 oz	4 lb, 4 oz

# APPENDIX A

## SPECIFICATIONS (Cont.)

	RPC-2	RPC-2A	RPC-2 MDO1	RPC-2 RDR
LED Indicators	power receptacle status	power receptacle status	power receptacle status TX modem status RD modem status DCD modem status	power receptacle status TX modem status RD modem status DCD modem status
Mounting (Optional)	19" or 23"	19" or 23"	19" or 23"	19" or 23"
Warranty	One year on parts and labor	One year on parts and labor	One year on parts and labor	One year on parts and labor

	RPC-3	RPC-3A	RPC-5
LED Indicators	power receptacle status CX connection status and diagnostics RX & TX activity Link	power receptacle status CX connection status and diagnostics RX & TX activity Link	power receptacle status CX connection status and diagnostics RX & TX activity Link
Mounting (Optional)	19" or 23"	19" or 23"	19" or 23"
Warranty	One year on parts and labor	One year on parts and labor	One year on parts and labor

## APPENDIX B

### MODEM COMMAND SUMMARY

#### U.S. ROBOTIC MODEMS

COMMAND	INTERPRETATION
<b>AT&amp;B1</b>	<b>Fixed Serial Port Rate (default)</b>
<b>AT&amp;C1</b>	<b>Normal CD Operations (default)</b>
<b>AT&amp;D2</b>	<b>Normal DTR Operations (default)</b>
<b>ATS0=1</b>	<b>Auto answer telephone line in 4 or fewer rings</b>
<b>ATE0</b>	<b>Modem does not display keyboard commands.</b>
<b>ATQ1</b>	<b>Place modem into quiet mode</b>
<b>AT&amp;W0</b>	<b>Save the modem's configuration in non-volatile memory</b>

**NOTE:** To send all of the above at the same time, type the following command: **AT&B1&C1&D2S0=1E0Q1&W0**

## APPENDIX B

### MODEM COMMAND SUMMARY (Cont.)

#### ROCKWELL CHIP SET MODEMS

COMMAND	INTERPRETATION
<b>ATS23=59</b>	<b>Fixed Serial Port Rate (default)</b>
<b>AT&amp;C1</b>	<b>Normal CD Operations (default)</b>
<b>AT&amp;D2</b>	<b>Normal DTR Operations (default)</b>
<b>ATS0=1</b>	<b>Auto answer telephone line in 4 or fewer rings</b>
<b>ATE0</b>	<b>Modem does not display keyboard commands</b>
<b>ATQ1</b>	<b>Place modem into quiet mode</b>
<b>AT&amp;W0</b>	<b>Save modem's configuration in non-volatile memory</b>

**NOTE:** To send all of the above at the same time, type the following command: **ATS23=59&C1&D2S0=1E0Q1&W0**

---

## APPENDIX C

### DIAGNOSTIC LED INDICATIONS

To detect hardware, cabling, or configuration problems upon initialization of power, the RPC Series go through a diagnostic sequence. To help determine the cause of the problem, the RPC Series have a CX LED located on the front, right side of the unit. Upon initialization of power, refer to the table below for interpretation.

INDICATION	INTERPRETATION
Not lit	Normal unconnected operation
Brief flash followed by a solid illumination	Established connection on network port or serial port
Flashes 1 time per cycle	Hardware or NIC problem
Flashes 2 times per cycle	Configuration error
Flashes 3 times per cycle	Cable or hub connection fault
Flashes 4 times per cycle	Duplicate IP address
Remains lit without a brief flash prior to illumination	Memory error

**NOTE:** Diagnostic indications override a connection indication.

---

# APPENDIX D

## RPC TROUBLESHOOTING GUIDE

<b>PROBLEM</b>	<b>SYMPTOM</b>	<b>CAUSE</b>	<b>SOLUTION</b>
No Menu	Blank Screen	Cables Adapters Parameters	Ensure correct cables and adapters are being used and are connected properly. Verify serial parameters are correctly configured.
Password Doesn't Work	Returns to prompt	Caps Lock	Password feature is case sensitive. Type password exactly as it was originally entered.
No menu when accessing thru external modem	Blank Screen	Modem settings disagree with RPC	Enter AT modem commands to configure modem to operate with RPC. See Appendix B (Modem Command Summary).
Cannot access RPC-3, 3A, 5 through network port	Blank Screen	Various	Note what the CX LED is doing. Refer to Appendix C (Diagnostic LED Indications)

---

## APPENDIX D - RPC TROUBLESHOOTING GUIDE (Cont')

<b>PROBLEM</b>	<b>SYMPTOM</b>	<b>CAUSE</b>	<b>SOLUTION</b>
Cannot access Outlet Control or Configuration	"X" in the menu line for the desired operation	Multiple Users	Network user overrides serial user. Only 1 user in Outlet Control or Configuration at a time. See logged users, Page 56.
Network session locks up	No response from unit	More than 4 sessions open	Terminate 1 or more sessions. See logged Users, Page 56.
Can't get out of Outlet Control	Returns to Outlet Control Menu	Wrong command	Type MENU
Device not working	No power, dead		Call BayTech Applications Engineers.
Need to download manual from web site			<a href="http://www.baytechdcd.com">www.baytechdcd.com</a> Go to Product Manuals; scroll to "JUMP HERE FOR MANUALS." Select desired manual.

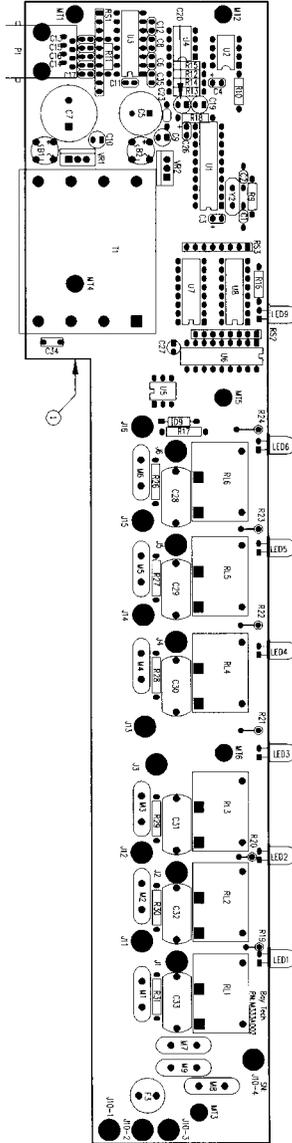
---

## APPENDIX D - RPC TROUBLESHOOTING GUIDE (Cont')

<b>PROBLEM</b>	<b>SYMPTOM</b>	<b>CAUSE</b>	<b>SOLUTION</b>
PING not echoing request	Gets request timeout		Check network connection
Forgot Password	Cannot access unit past password prompt		Call a BayTech Applications Engineer
Cannot configure network parameters	No access to network parameters	Trying to configure thru network port	Access unit thru serial port

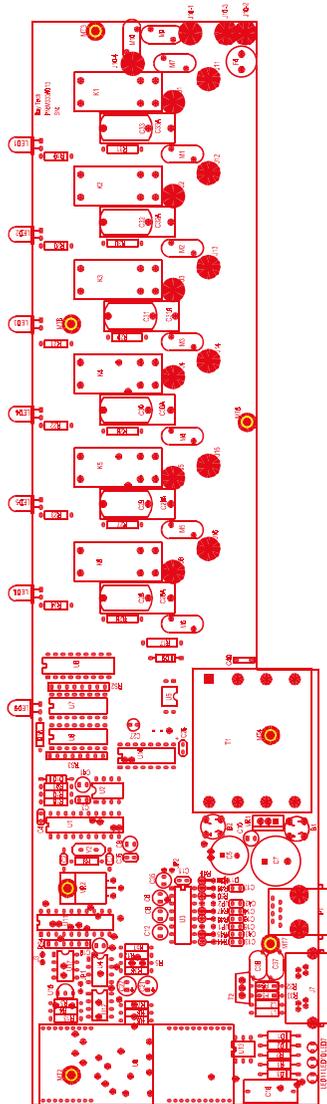
# APPENDIX E- DRAWINGS

## RPC-2



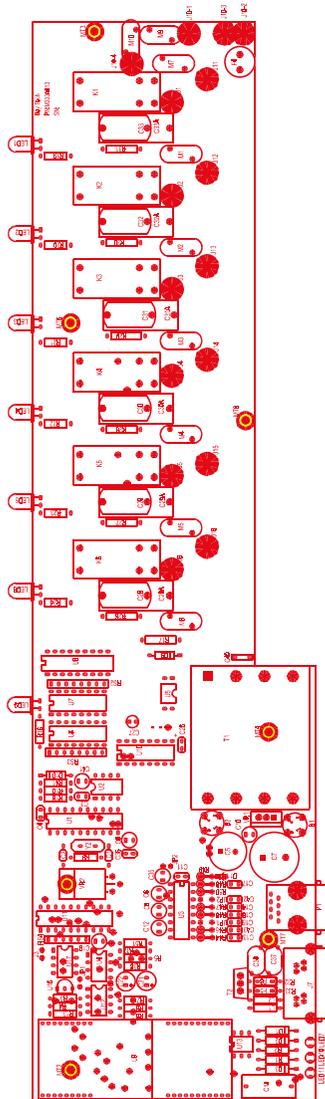
# APPENDIX E- DRAWINGS

## RPC-2A



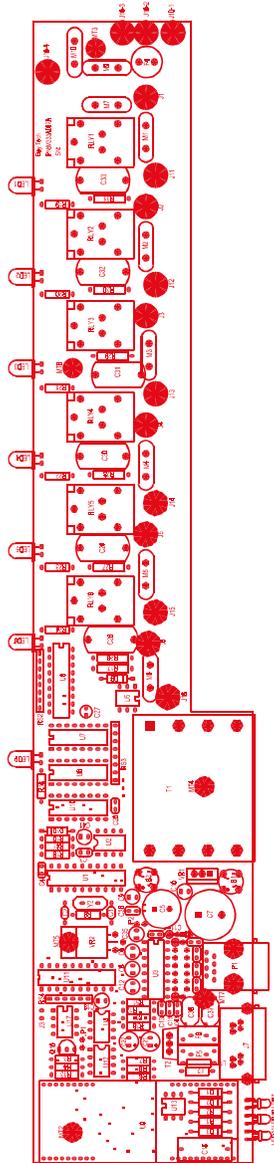
# APPENDIX E- DRAWINGS

## RPC-2 MD01



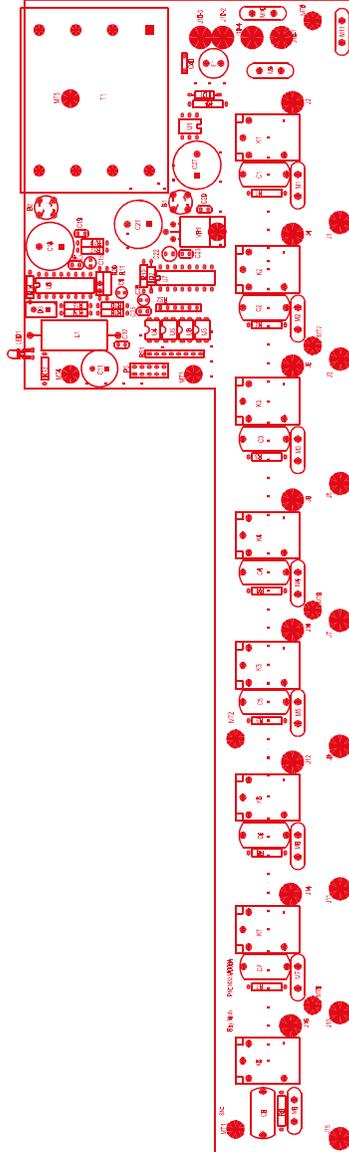
# APPENDIX E- DRAWINGS

## RPC-2 RDR



# APPENDIX E- DRAWINGS

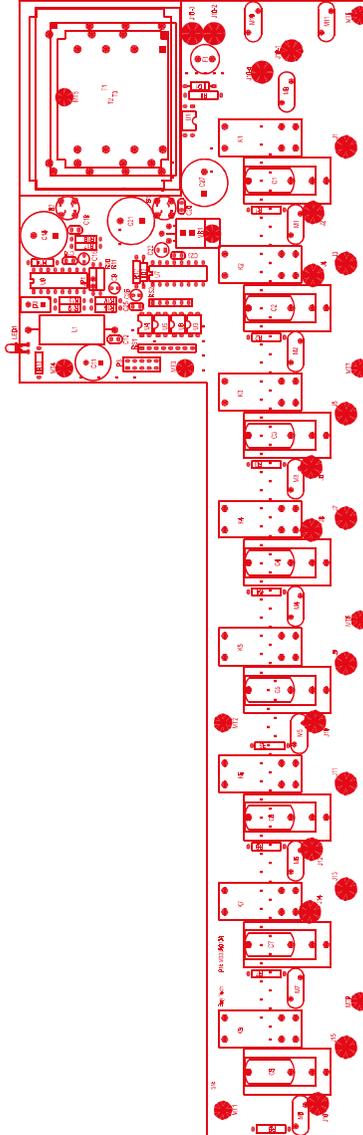
## RPC-3



---

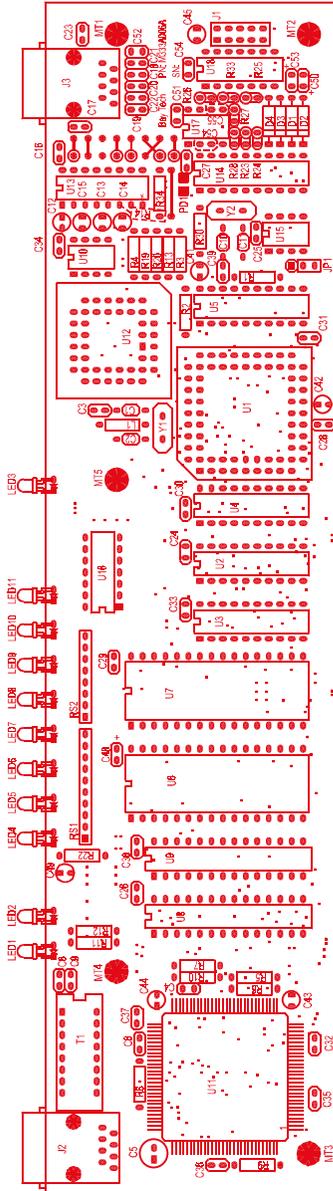
# APPENDIX E- DRAWINGS

## RPC-3A



# APPENDIX E- DRAWINGS

## RPC3/3A/5 ETHERNET BOARD





# INDEX

## A

Adapter, 2, 5, 6, 8, 12, 16, 19, 20, 27, 28, 37  
Adapters, 59  
Applications Engineer, iii  
Asynchronous, 17  
ATDT Commands, 31

## C

Cable, 18  
Cables, 59  
Cabling, 15  
Circuit Breaker, 2, 6, 14, 21, 29, 70  
Communications Software, 2, 5, 8, 20, 27,  
29, 31, 37  
Computer Adapter, 17  
Computer/Terminal Adapter, 16  
Configuration, 3, 7, 10, 11, 19, 22, 32  
Copyright, ii  
Current Password, 23, 24, 33, 44

## D

Default, 4, 7, 10, 23, 26, 32, 33, 47, 48, 49,  
51, 52, 66, 67  
diagnostic, 68

## E

EIA-232 Port, 1, 5, 6, 8, 14, 15, 19, 20, 27,  
28, 37, 64  
Emulation, 3, 6, 7, 59  
Ethernet Hub, 8  
Ethernet Port, 8, 37  
Exit, 47, 48, 55  
External Modem, 6, 12, 15, 19, 27, 28, 37,  
69

## F

FCC Requirements, 62  
FCC Rules, 62  
FCC Statement, 62

## G

Gateway, 47, 48, 49

## I

Installation, 12  
Interface, 62  
Internal Modem, 1, 28  
Internal Relays, 14  
IP Address, 10, 37, 47, 48, 68

## L

LED, 13, 20, 29, 39, 65, 68, 69  
Local Access, 5, 27, 37  
Local Operations, 38  
Login, 8, 38, 44, 49

## M

Modem, 1, 5, 6, 12, 15, 17, 19, 27, 28, 31,  
37, 65, 69  
Modem Adapter, 12  
Modem Command Summary, 28, 66, 67  
Modem Connections, 5, 28  
Modular connectors, 18

## N

Network Configuration, 10, 47, 48

## O

Operations, 2, 6, 8, 20

## P

Password, 3, 4, 7, 22, 24, 31, 32, 33, 34, 44,  
45, 47, 49, 69, 71  
Password Protection, 24, 34  
Pin Signal Definition, 16  
Power, 1, 5, 8, 13, 14, 20, 22, 28, 29, 31, 38,  
39, 42, 55, 65, 68, 70  
Power On/Off State, 14  
Power Up Sequence, 14

**RPC-SERIES OWNER'S MAP  
INDEX**

---

**R**

Reboot, 14, 20, 22, 29, 31, 41  
Remote Access, 5, 28, 37  
Remote Operations, 38  
Repackaging, 61  
Reset, 22, 31, 41, 55, 57, 70  
Returning, 61  
Ring Detect Reset, 1

**S**

Saving, 11  
Serial Parameters, 2, 5, 20, 27, 37  
Serial Port, 2, 5, 8, 10, 20, 27, 31, 37, 68, 71

Shipping, 61  
Status Menu, 2, 3, 6, 14, 21, 23, 26, 29, 30,  
33, 34, 40, 41

**T**

Technical Support, 59  
Telco Wall Jack, 6, 28  
Telnet, 9, 38, 39, 57, 64, 70

**U**

Unpacking, 12  
Users Manual, iii

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