Configuration of the Serial Port

- Command 214 is provided to configure the serial port baud rate.

-- Baud rate: Allows baud rate changes from 300,600,1200,2400,4800, and 9600 baud.

Operation and Programming Over the Serial Port

- The RLC-1's serial port gives the controller the ability to communicate with the world over a digital radio link.

Serial Command Structures:

- Upper or Lower case digits may be used for the DTMF digits 'ABCD'
- All commands entered must be the commands 3 digit number that ranges from 000..215
- Spaces, Tabs, and backspaces can be used over the serial port
- Comments must begin with the ';' colon digit first. Any data following the ';' will be ignored.

Example: 000 11 ; This command convert port 1 into a repeater port

The example shows the command number as '000' with additional data of '11' and a comment that begins with the ';' digit.

- The command sequence can be entered with either the <ENTER> key or the forced execution digit. This digit defaults to the 'D' key.

Serial Response:

- Voice words as actual ASCII Text
- Words 686,687 and 700 on up are not printed

012: Program a Receiver's Access Mode

This command allows the user to set the receiver's access mode.

<012> *x y* z

Parameters:
X is the receiver that the access mode is being changed. This number ranges from 1..2

Y is the access mode

Access Modes Number	Access Mode Description
0	No Access from the receiver
1	COR Access
2	PL Access
3	COR and PL Access
4	COR or PL Access

Z is the DTMF decoders security access control
Where 1 = Access to the DTMF decoder only when the access mode is matched
Where 0 = Access to the DTMF decoder anytime.
When accessing in mode 0, all commands entered must be terminated with the DTMF EOF digit which defaults to the 'D' key

Defaults:
All ports default to COR (1) access

Error Codes:
E1 - Invalid port. Port must range from 1..2
E2 - Invalid access mode. Modes are listed above.
(System wide errors are listed in front of the manual)

Example 1:
I want port 1 to require both COR and PL for access.

012 1 3 D or unkey

Response:
"Port is <Access Mode> Receiver <ON/OFF>"

013: Checking Access Modes

This command checks the settings of the ports access modes.

<013> *x*

Parameters:
X is the port number

Response:

Access Modes Number	Access Mode Description
0	No Access from the receiver
1	COR Access
2	PL Access
3	COR and PL Access
4	COR or PL Access

Defaults:
All ports default to COR (1) access

Error Codes:
E1 - Invalid port. Port must range from 1..2
(System wide errors are listed in front of the manual)

Example 1:
I am getting noise on my port 2. I need to see if it is still in COR and PL mode.

013 2 D or unkey

Response:
"Port is <Access Mode> Receiver <ON/OFF>"

Examples for Chapter 10

Connector P5 pin-out

DB-25	Description		DB-25	Description
1	Output 1		14	Output 2
2	Output 3		15	Output 4
3	Output 3		16	Ground
4	Ground		17	Input #1
5	Ground		18	Input #2
6	Ground		19	Input #3
7	Ground		20	Input #4
8	Ground		21	Analog Input #1
9	Ground		22	Analog Input #2
10	Ground		23	Analog Input #3
11	Ground		24	Analog Input #4
12	Ground		25	Ground
13	Ground		....	

Chapter 11 Examples

Connector P5 pin-out

DB-25	Description		DB-25	Description
1	Output 1		14	Output 2
2	Output 3		15	Output 4
3	Output 3		16	Ground
4	Ground		17	Input #1
5	Ground		18	Input #2
6	Ground		19	Input #3
7	Ground		20	Input #4
8	Ground		21	Analog Input #1
9	Ground		22	Analog Input #2
10	Ground		23	Analog Input #3
11	Ground		24	Analog Input #4
12	Ground		25	Ground
13	Ground		....	

120: Assign the 2 Ports Link Prefixes

This command assigns the link port prefix codes. These prefix codes are only used when the controller is in pre-access mode. The repeater prefix code is always 'D'

<120> *x yyy*

Parameters:
X is the port to assign the prefix digits.

Pre-Access Number	Port Name
1	Port 1
2	Port 2

YYY is the new prefix code. This code can be any of the DTMF digits except the 'Forced Execution Digit'.

Defaults:
Port 1 defaults to '#97'
Port 2 defaults to '#98'

Notes:
- Refer to the timer commands 050,051,052 to control the pre-access timer and dial tone generation length.

Error Codes:
E1 - Invalid radio port

(System wide errors are listed in front of the manual)

Example 1:
I want to change port 1's code to 93#

120 1 93# D or unkey

Response:
"<Port> Code is <New Prefix Code>"

121: Configure Pre-Access on a Port

This command configured how pre-access works on each port. This command controls dial tone generation requirements and the dial tone response frequency for a port.

<121> *w x* yyyy zzzz

Parameters:
W is the port number. This number must range from 1..2
X is the dial tone response control
0 - No dial tone generated
1 - Dial tone generated on valid pre-access code receipt
YYYY is the first tone of the dial tone response
ZZZZ is the second tone of the dial tone response

Defaults:
All ports dial tone generation is disabled (off)

Error Codes:
E1 - Invalid port. Number must range between 1..2
E2 - Invalid mode. Mode must be either a 0,1
(System wide errors are listed in front of the manual)

Example 1:
I want my port 2 to generate a dial tone when selected. This means the dial tone will begin when the correct pre-access code is received.

121 2 1 0440 0350 D or unkey

Response:
"Code Set Up Radio <Port> Dial <ON\OFF>Frequency <Tone1> and <Tone2>"

Examples for Chapter 9

Connector P5 pin-out

DB-25	Description		DB-25	Description
1	Output 1		14	Output 2
2	Output 3		15	Output 4
3	Output 3		16	Ground
4	Ground		17	Input #1
5	Ground		18	Input #2
6	Ground		19	Input #3
7	Ground		20	Input #4
8	Ground		21	Analog Input #1
9	Ground		22	Analog Input #2
10	Ground		23	Analog Input #3
11	Ground		24	Analog Input #4
12	Ground		25	Ground
13	Ground		....	

Special Faceplate:
This faceplate is provided to allow custom responses for input voltages. Applications for this faceplate is special wind directions, 8-quadrant conversion results etc...

Analog Input Value	Special Message Slot	Analog Input Value	Special Message Slot
Vinput ÷ 8	31	Vinput ÷ 4	35
Vinput ÷ 7	32	Vinput ÷ 3	36
Vinput ÷ 6	33	Vinput ÷ 2	37
Vinput ÷ 5	34	Vinput ÷ 1	38

Voltage input limitations:
In order for the RLC-1 to allow higher that 5.00 volts input, external voltage dividers are required. When higher input voltages are used, an external voltage divider is required to scale the input voltage to span a maximum of 0..5V. When voltages below 5.00 volts are used (like temperature sensors), no external voltage divider is needed. When attaching a temperature sensor, the on-board jumper is used to apply the needed power to the analog input line needed in powering the external temperature sensor.

Jumper Definition

Jumper Number	Jumper Function
J9	Temperature Power, Analog 1
J8	Temperature Power, Analog 2
J7	Temperature Power, Analog 3
J6	Temperature Power, Analog 4

Defaults:
All faceplates set to 00

Notes:
- Check your board before connecting any voltage input.

Error Codes:
E1 - Invalid analog input line. Number must be between 1..4
E2 - Invalid analog faceplate. Number must be between 00..15
(System wide errors are listed in front of the manual)

Example 1:
I need to monitor my 12 battery voltage on analog #2 (Use an external resistor divider to scale the input)
(Assume the analog input is set-up to handle the voltage)