This file contains only the changes for firmware version 1.78 since V1.77. Replacing the corresponding pages in the V1.77 manual with these pages will result in a V1.78 manual.

RLC-4 4 Port Communications Controller
Software Version 1.78

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020: Program a Selected Timer

This command allows you to program the controller's timer system.

<020> xx y..y

Parameters:

- 020 is the default command name.
- XX is the selected timer to be programmed (two digits)
- y..y is the value to be programmed into the timer (0 to 9999). y..y can be one, two, three or four digits long.

Message Start Delay Timer:

This timer controls how long the controller will wait before sending any tones in two situations. The first is when you enter a command and unkey; it controls how long it will be before the response to that command will be sent. If the delay is set too short, you might miss the first CW character or two while your HT finishes switching from transmitting to receiving. The second situation in which this timer might delay tones or voice messages is when they need to be sent out of a transmitter that is not keyed up at the time. The transmitter will be keyed for at least the length of this timer before the tone is started. If this timer is too short, the transmitter might not have time to come up to full power and the beginning of the tone might be missed. If the tone is being sent down a link system with multiple hops, more time might be needed so all of the link transmitters will have time to come up.

- This timer is programmed in 10mS increments from 0..9999.
- If a timer value of 0 is entered, the timer is disabled.

Timer Number	Definition	Defaults
00	Message Start Delay Timer, Transmitter 1	500mS (50)
01	Message Start Delay Timer, Transmitter 2	"
02	Message Start Delay Timer, Transmitter 3	"
03	Message Start Delay Timer, Transmitter 4	"

Courtesy Beep Delay Timer:
This timer specifies the minimum time between when a receiver unkeys and when its courtesy beep will be sent out connected repeater ports. The courtesy beep can also be delayed by other tones in the tone queues and the message start delay timer.
- This timer is programmed in 10mS increments from 1..9999.

Timer Number	Definition	Defaults
04	Courtesy Beep Delay Timer, Receiver 1	1sec (100)
05	Courtesy Beep Delay Timer, Receiver 2	"
06	Courtesy Beep Delay Timer, Receiver 3	"
07	Courtesy Beep Delay Timer, Receiver 4	"

Transmitter Hang Timer:
This timer holds the transmitter PTT active after a connected receiver goes inactive. If a courtesy beep is sent, this is the minimum time after the courtesy beep before the PTT drops.
- This timer is programmed in 10mS increments from 0..9999 (0 is OK).

Timer Number	Definition	Defaults
08	Hang Timer, Transmitter 1	2 sec (200)
09	Hang Timer, Transmitter 2	"
10	Hang Timer, Transmitter 3	"
11	Hang Timer, Transmitter 4	"

DTMF Mute Timer:
This timer controls the amount of time the receiver entering DTMF stays muted after a DTMF digit is released. This timer needs to be short so the instances of "voice falsing" do not mute the audio too long. Voice falsing is the phenomenon that occurs when your voice sounds like a DTMF digit. If you set this timer too long and the DTMF decoder falses, you will have a long gap in your voice (for the length of this timer). The mute timer begins to run after the release of the DTMF key.
- This timer is programmed in 10mS Increments from 1..9999
- If a timer value of 000 is entered, your audio will be muted forever; if you want it to be as short as possible, enter a length of 1.

Timer Number	Definition	Defaults
12	DTMF Mute Timer, Receiver 1	1 sec. (100)
13	DTMF Mute Timer, Receiver 2	"
14	DTMF Mute Timer, Receiver 3	"
15	DTMF Mute Timer, Receiver 4	"

I/O Polling Timer:
This timer determines how often the controller checks to see if any of the input lines have changed from high to low or low to high or if any analog alarm conditions have changed. If you want quicker response to changes, shorten this timer. If you don't want to hear about changes that happen more often than every minute or so, lengthen it to a minute. The default is one second.

Timer Number	Definition	Defaults
16	I/O Polling Timer	1 sec (100)

Doug Hall RBI-1 Delayed Send Timer:
Buffers inside the RBI-1 overflow if it is sent too many changes too quickly. The RLC-4 avoids this potential problem by collecting all of the changes that occur quickly (such as within a macro) and sends the combined result of all of them only when no changes have been made for the length of this timer. This timer also affects the RLC-ICM.
- This timer is programmed in 10mS Increments from 1-9999

Timer Number	Definition	Defaults
17	RBI-1 Data Send Delay Timer	1 sec (100)

DVR Internal Timer (18):
This timer is preset by the factory and does not need to be adjusted.

Transmitter Mini-Hang Timer:
This timer holds the transmitter PTT active for a minimum time after any keying source (connected receiver, tone, cw, DVR message, etc) goes inactive. It can be used to keep the transmitter from dropping out immediately after a message. To control the hang time after a connected receiver unkeys, you can also use the normal hang timers; the actual hang time will be the longer of the two.
- This timer is programmed in 10mS increments from 0-9999

Timer Number	Definition	Defaults
19	Mini Hang Timer, Port 1	1sec (100)
20	Mini Hang Timer, Port 2	"
21	Mini Hang Timer, Port 3	"
22	Mini Hang Timer, Port 4	"

Keyup Delay Timer:
The keyup delay timer is used to keep short noise bursts that open the receiver's squelch from keying up the repeater. It can also keep people from kerchunking the repeater. When enabled, it makes the controller totally ignore keyups shorter than the default of ½ second. If the receiver is keyed for longer than ½ second, the first ½ second will be ignored, then it will respond normally, bringing up the transmitter, triggering the ID system, etc. To keep every keyup from being delayed, the keyup delay is automatically disabled while the repeater is being used. It is only re-enabled when the repeater is not used for a default of 60 seconds (see timers 75..78). If this timer is set to zero, the keyup delay is disabled.

Timer Number	Definition	Defaults
23	Keyup Delay Timer, RX 1	½ sec (50)
24	Keyup Delay Timer, RX 2	"
25	Keyup Delay Timer, RX 3	"
26	Keyup Delay Timer, RX 4	"

Impolite ID Timer:
This timer waits until either the timer expires or activity goes away before sending an ID.
- This timer is programmed in 1Sec increments from 1..9999
- If a timer value of 000 is entered, the controller will not interrupt a conversation to send an ID.
Note: that in this case, the 10 minute ID requirement could be broken.

Timer Number	Description	Defaults
40	Impolite ID Timer, Port 1	20 sec (20)
41	Impolite ID Timer, Port 2	"
42	Impolite ID Timer, Port 3	"
43	Impolite ID Timer, Port 4	"

Initial ID Timer:
This timer times the amount of inactivity before an initial ID is sent.
- This timer is programmed in 1Sec increments from 1..9999
- If a timer value of 0 is entered, the controller will never send an initial ID.

Timer Number	Description	Defaults
44	Initial ID Timer, Port 1	10 min (600)
45	Initial ID Timer, Port 2	"
46	Initial ID Timer, Port 3	"
47	Initial ID Timer, Port 4	"

Pending ID Timer:
This timer times inter-activity ID timer so a proper Pending ID can be sent during activity.
- This timer is programmed in 1Sec increments from 1..9999
- If a timer value of 0 is entered, the controller will never send a rotating ID.
- This timer should normally be set shorter than the initial ID timer (one minute shorter works well). You may need to make sure that the length of this timer plus the length of the impolite ID timer is less than 10 minutes to meet requirements for ID timing.

Timer Number	Description	Defaults
48	Pending ID Timer, Port 1	9 min (540)
49	Pending ID Timer, Port 2	"
50	Pending ID Timer, Port 3	"
51	Pending ID Timer, Port 4	"

Timeout Timer:
This timer limits how long a receiver can be continuously active. If the receiver is active longer than the length of this timer, its time out message is sent out all transmitters that are connected to it and it is disabled until it goes inactive. It is reset and the time out clear message is sent when the timed out receiver goes inactive.
- This timer is programmed in 1 second increments from 1..9999
- If a timer value of 0 is entered, the controller will never time-out.

Timer Number	Description	Defaults
52	Time Out Timer, Port 1	3 Min. (180)
53	Time Out Timer, Port 2	"
54	Time Out Timer, Port 3	"
55	Time Out Timer, Port 4	"

Preaccess Tone Timer:
This timer is used to limit how long the preaccess tone will run. The preaccess tone can also be stopped by other things, such as a DTMF character being entered on the port the preaccess tone is being sent out of or the preaccess timer expiring (since indicating that a link has been preaccessed is what preaccess tone is used for most). If you want to generate preaccess tone that can't be stopped by any of these things, use command C040 to generate the tone.
- This timer is programmed in 1Sec increments from 1..9999
- If a timer value of 0 is entered, this timer will never stop the preaccess tone.

Timer Number	Description	Defaults
56	Preaccess Tone Timer, Transmitter 1	8 sec. (8)
57	Preaccess Tone Timer, Transmitter 2	"
58	Preaccess Tone Timer, Transmitter 3	"
59	Preaccess Tone Timer, Transmitter 4	"

Preaccess Timer:
This timer controls how long the "window" of access is between when you enter the preaccess code and when you have to enter a DTMF digit or be locked out. It starts running again as soon as each DTMF digit is released, and will lock you out if it expires. When it expires, it throws away whatever DTMF digits have been entered so far and won't accept any more commands until the controller is accessed again. It also stops the dial tone when it expires (if it expires before the dial tone timer does).
- This timer is programmed in 1Sec increments from 1..9999
- If a timer value of 0 is entered, this timer will never expire.

Timer Number	Description	Defaults
60	Preaccess Timer, Port 1	8 sec. (8)
61	Preaccess Timer, Port 2	"
62	Preaccess Timer, Port 3	"
63	Preaccess Timer, Port 4	"

User Timers:
These timers are not normally used by the controller. They are provided for your use. You can start them running by executing Command 022 and stop them with 023 (or they will stop automatically when they expire). Also, when one of these timers expires, the corresponding event trigger (see Chapter 20) is automatically fired. This allows you to start these timers when certain things in the controller happen and do something when the timer expires. These timers are programmed in one second increments.

Timer Number	Description	Defaults
64	User Timer 0	0 sec. (0)
65	User Timer 1	"
66	User Timer 2	"
67	User Timer 3	"
68	User Timer 4	"

DTMF Interdigit Timers or Auto-execution timers (See Command 078):
These timers are used to get rid of stray DTMF digits after several seconds without entering any more digits. For example, if you key and press a DTMF digit, then start talking, this timer will throw that digit away after a default of 5 seconds. That way if, after you talk a while, you try to enter a command, the digit you entered 30 seconds ago won't mess it up. Of course if you unkeyed during that time, all of the digits would be either executed or discarded anyway. This also reduces problems caused by voice falsing the DTMF decoder, by discarding the incorrectly received digits if no more digits are received during the length of this timer. This timer starts running when the DTMF digit is released, so you can hold a DTMF digit as long as you like without it being discarded.

Timer Number	Description	Defaults
69	DTMF Interdigit Timer, Port 1	5 sec. (5)
70	DTMF Interdigit Timer, Port 2	"
71	DTMF Interdigit Timer, Port 3	"
72	DTMF Interdigit Timer, Port 4	"

Reverse Patch Ring Timer:
This timer sets the maximum time between rings allowed for the reverse patch to work. If this timer expires between rings, the ring count starts over. This would keep the reverse patch from ever answering the phone.
- This timer is programmed in 1 second increments from 1..9999

Timer Number	Description	Defaults
73	Reverse Patch Ring Timer	10 sec. (10)

DVR Start Recording Timer:
This timer sets the maximum time allowed after entering a command to start recording a DVR message and when you actually key up to start the recording. If you wait longer than this timer, it will not record. This is so a command to record a DVR message can not be executed and end up recording someone that keys up an hour later. If you start the recording with a DTMF digit, this timer will not have any effect.
- This timer is programmed in 1 second increments from 1..9999

Timer Number	Description	Defaults
74	DVR Start Recording Timer	10 Sec. (10)

Re-Enable Keyup Delay Timers:
These timers determine how long a receiver must be inactive after being keyed up before the keyup delay will be re-enabled. See the description for timers 23..26 for more information.

Timer Number	Description	Defaults
75	Re-Enable Keyup Delay Timer, RX 1	60 seconds (60)
76	Re-Enable Keyup Delay Timer, RX 2	“
77	Re-Enable Keyup Delay Timer, RX 3	“
78	Re-Enable Keyup Delay Timer, RX 4	“

021: Recall a Timer Value

This command allows you to recall the value of a programmed timer.

<021> xx

Parameters:

- 021 is the default command name.
- XX is the timer to recall (two digits, see command 020 for list of timers)

CW Response:

XX '**IS**' YYY

- Where 'XX' is the timer number and 'YYY' is the timer value

022: Start a Timer

This command makes the specified timer start running, so that it will expire later. If the timer is already running, this command will make it start over. The controller automatically starts and stops most timers, but you can override the controller's normal way of doing things with this command. You can also use this command to make the user timers start running (timers 64..68).

<022> xx

Parameters:

- 022 is the default command name.
- XX is the timer to start (two digits, see command 020 for list of timers)

CW Response:

' **I** ' - CW character 'I' which is "Beep-Beep"

023: Stop a Timer

This command allows you to stop a timer, so that it will not expire normally. The controller automatically stops most timers as needed, so the only time you should need to use this command is when you want to change the way the controller normally works. Most timers automatically stop when they expire.

<023> xx

Parameters:

- 023 is the default command name.
- XX is the timer to stop (two digits, see command 020 for list of timers)

CW Response:

' **I** ' - CW character 'I' which is "Beep-Beep"

075: Set Stop Access Conditions

When a port is configured for preaccess, it will not be allowed to execute commands until the access code has been received. Typically this access code is "*" for a repeater port or "#" plus two digits for a link. When the access code is received, the controller executes command 074 (among other things) which sets a flag indicating that it is OK to execute commands entered from that port. The controller will continue to accept and execute commands until that flag is cleared, at which point it will require the access code to be entered again. This command controls which conditions will clear that access flag.

<075> p	Recall Current Settings
<075> p x y z i f	Set Stop Access Conditions

Parameters:

- 075 is the default command name.
- P is the port for which to set or recall the stop access conditions (1..4)
- X is 1 to enable / 0 to disable stopping access when a command is executed
- Y is 1 to enable / 0 to disable stopping access when an invalid command is entered
- Z is 1 to enable / 0 to disable stopping access when the receiver drops after a DTMF tone has been entered
- I is 1 to enable / 0 to disable stopping access when the DTMF interdigit timer expires.
- F is 1 to enable / 0 to disable stopping access when the force-execution digit is pressed

Notes:

- All digits following parameter P are optional.
- The preaccess timer (see Chapter 4) will always clear the access flag when it expires. It cannot be disabled with this command. It starts running when you enter the access code and is re-started whenever you release a DTMF digit. It will never expire while you are holding down a DTMF digit. When no digits have been entered for the length of the timer, it clears the access flag. These conditions provide additional ways to clear the flag.
- Parameter X: A command is executed or tries to execute and causes an error. If X is 1, you will not be able to execute the access code once, then multiple commands. You will be able to enter the access code, one command, access code, one command...
- Parameter Y: An error occurs because the digits entered are not a valid command name. If you make a mistake and this condition is enabled, you will have to enter the access code before you can try again.
- Parameter Z: DTMF digits have been entered since the access code was entered and you unkey. This condition doesn't care how many commands you enter or whether they were valid or not; if you enter anything and unkey, you will be forced to enter the access code again.
- Parameter I: The DTMF interdigit timer expired. This may occur if you enter a few digits then pause for a while without unkeying or if your voice falses the DTMF decoder.
- Parameter F: The force-execution digit (usually ‘D’) was entered. If the force-execution digit is part of the access code, it will not trigger this condition, otherwise it will.

076: Recall Stop Access Conditions

This command allows you to recall the conditions that will stop access on a port. See Command 075 for descriptions of the conditions.

<076> p

Parameters:

- 076 is the default command name.
- P is the port for which to recall the stop access conditions (1..4)

077: Isolate a Port from the Rest of the System

This command breaks the audio and PTT links between the specified port and all other ports in the system until the preaccess timer (which it starts) runs out. It temporarily overrides but does not change the crosspoint connections you may have set with Commands 000 and 001. It is useful for isolating a port while you enter local control commands without the tones going down any connected links. It is usually automatically called from the preaccess macro of a port configured as a repeater. This macro is usually named '*', the local control key.

<077> p

Parameters:

- 077 is the default command name.
- P is the port for which to allow access (1..4)

049: Set Link Access Tone Frequency

This command allows the user to set the tone frequency that will be heard when the preaccess code is entered on a link. The default is a 1064Hz tone. It is not possible to send dial tone, because the RLC-4 can only send one tone frequency at a time.

<049> p xxxx 0000	V1.77 and V1.78
<049> p xxxx	future versions

Parameters:

049 is the default command name
P is the port number to set the tone frequencies for
XXXX is the tone frequency

096: Control or Recall Extended Output Lines

"Extended" output lines provide a way to control more external devices or signals than the four output lines built into the controller. By connecting external shift registers such as are used on many BCD boards to three of the controller's output lines, you can control up to 64 "extended" output lines. Whenever command 096 is executed to set or recall the state of an output line, the controller shifts out 64 bits of information representing the state of each of the outputs. Extended output line 64 is shifted out first, line 1 last. The data is also shifted out when the controller is reset and the extended outputs are enabled (you should not enable the extended output lines if you are not using them, or output lines 1, 2 and 3 will get messed up every time the controller resets).

<096> 0	Disable the extended output lines (the default)
<096> 1	Enable the extended output lines
<096> xx	Recall the state of extended output line "xx"
<096> xx 1	Turn extended output line "xx" on
<096> xx 0	Turn extended output line "xx" off

Parameters:

XX - the extended output line number (two digits, 01..64)

Details:

Most standard shift registers should be compatible with this command. Up to eight 8-bit shift registers can be chained together, each one providing eight more extended outputs. If the shift registers have separate output registers (like the 74HC595 or 4094), the latch line can be used to keep the outputs from rippling each time new data is shifted in.

I/O Board 1 Output Line Number	Description
1	Latch - Optional, but will prevent the lines from "rippling" as data is shifted if used
2	Clock - pulses 64 times to shift data out
3	Data - goes high or low for each clock pulse. If using the RBI-1 or RLC-ICM, this line will be shared. Both should work normally.

RLC-5 Note:

The RLC-5 uses lines 5, 6 and 8 on the optional I/O board for latch, clock and data, respectively.

commands 112 to '*' enter "* 00") and unkey. "053 201 113 1 800 555 1212" will make autodial 01 call "1 (800) 555 1212" and can be dialed by entering "112 01". Numbers up to 16 digits long can be stored as autodial numbers in this way. The autodialer can dial long distance numbers, even if those numbers would normally be blocked if dialed directly (not as an autodial) with command 112.

If you are using predial digits to dial out of a PBX and you want to program an autodial to dial an extension on the PBX (without using the predial digits), use the following to program the autodial:

053 MMM 117 <phone number>.

Using command 117 rather than 113 in the autodial will make it skip the predial digits when dialing.

Limiting Call Length:

The time out timer for the autopatch port limits the total length of the call. If the timer expires, it will fire the time out event trigger for port 4 (see Chapter 20) and hang the autopatch up. If you would like a message to be sent when this happens, use command 045 to make the time-out event trigger for port 4 call a macro and put the commands to send that message in the time out macro. If you do not want the autopatch to time out, set the timer length to 9999 with Command 020.

You will be warned before the patch times out. Thirty seconds before timeout, three beeps will be sent out of the radio port and down the phone line (so both sides of the conversation know it). Two beeps are sent twenty seconds before, and one ten seconds before. The CW characters 'S', 'I', and 'E' are used for these warning beeps.

If you want to reset the patch time out timer (time out timer #4) during a call, use Command 022 to reset the time out timer for the autopatch port (timer 55), "022 055" for example. You could make macro 183 extend the patch timer using the code **3 with the following commands:

```
053 183 030 18          ; send CW 'I' as a beep-beep response
056 183 038             ; be silent for rest of macro
056 183 022 055         ; reset timer 055
010 183 **3             ; rename macro 183 to '**3'
```

How the Dialing Tables Work:

The dialing tables are used to control which long distance numbers can be dialed with Command 112 and which cannot. They do not affect autodial numbers or numbers dialed with Command 113. If you attempt to dial a number with Command 112 that is not allowed you will get an error. By default all but 7 digit numbers are blocked (see command 119).

The Allowed-Prefixes Table:

The RLC-4 supports 20 (Area Code) + (Prefix) number filter slots. These slots can contain a "wildcard" digit which the controller sets as the '#' digit. The user can enable all prefixes within an area code by entering:

143: Recall Frequency and Offset or Memory

This command allows you recall the current frequency and offset settings of the radio connected to the Doug Hall RBI-1 or RLC-ICM, or the memory number if a memory has been selected. The format of the response is shown below.

<143>

Parameters:

- 143 is the default command name.

Response:

XXX.YYY The frequency in MHz.

O The offset as indicated below:

"m" minus offset
"s" simplex
"p" plus offset
"M2" minus 20 MHz offset (1200 radios only)

or

M xx where xx is the memory number.

144: Control/Recall RBI-1 Output Lines

The Doug Hall RBI-1 has eight open collector output lines that can be used to control other hardware, such as antenna switches. Those output lines can be controlled with this command. See the RBI-1 manual for more information about their current sink limits and other specifications.

<144> X	Recall State of Output 'X'
<144> X 1	Turn Output 'X' On
<144> X 0	Turn Output 'X' Off

Note:

- When an output line is turned on or off using this command, there will be a slight delay (about a second) before the change will actually take place. Because of the delay, this command cannot be used to quickly pulse an output line. See commands 093 and 094 which use the output lines that are built into the RLC-4 if you need pulses.

045: Set Up Event Trigger

This command allows the user to assign a macro or command call when an event occurs in order to get response or action to occur. These are useful for alarming, and interrogating events that occur.

<045> ee ccc

Parameters:

- 045 is the default command name
- EE is the Event Number (two digits, see table below)
- CCC is the command number to call when an event occurs

Default:

- All events are disabled
- When an event is programmed, the event is enabled

046: Recall Event Trigger Setting

This command allows the recall of what macro or command an event will jump to when a change occurs.

<046> ee

Parameters:

- 046 is the default command name
- EEE is the Event Number (two digits, see table below)

Default:

All events are disabled

047: Enable/Disable Event Trigger

This command allows the enable/disable control of the automatic event calling.

<047> ee 1	Enable an event
<047> ee 0	Disable an event

Parameters:

- 047 is the default command name
- EE is the Event Number (two digits, see table below)

Default:

All events are disabled

Event Table: Default settings are shown in parenthesis.

00 - Reset Macro
01 - Port 1 Initial ID (Macro 151)
02 - Port 2 Initial ID (Macro 152)
03 - Port 3 Initial ID (Macro 153)
04 - Port 4 Initial ID (Macro 154)
05 - Port 1 Pending ID (Macro 155)
06 - Port 2 Pending ID (Macro 156)
07 - Port 3 Pending ID (Macro 157)
08 - Port 4 Pending ID (Macro 158)
09 - Port 1 Courtesy Beep (Macro 159)
10 - Port 2 Courtesy Beep (Macro 160)
11 - Port 3 Courtesy Beep (Macro 161)
12 - Port 4 Courtesy Beep (Macro 162)
13 - Input 1 Low
14 - Input 2 Low
15 - Input 3 Low
16 - Input 1 High
17 - Input 2 High
18 - Input 3 High
19 - Analog 1 Low Alarm
20 - Analog 2 Low Alarm
21 - Analog 3 Low Alarm
22 - Analog 4 Low Alarm
23 - Analog 1 High Alarm
24 - Analog 2 High Alarm
25 - Analog 3 High Alarm
26 - Analog 4 High Alarm
27 - Analog 1 Alarm to Normal
28 - Analog 2 Alarm to Normal
29 - Analog 3 Alarm to Normal
30 - Analog 4 Alarm to Normal
31 - Output 1 On
32 - Output 2 On
33 - Output 3 On
34 - Output 4 On
35 - Output 1 Off
36 - Output 2 Off
37 - Output 3 Off
38 - Output 4 Off
39 - Time Out Port 1
40 - Time Out Port 2
41 - Time Out Port 3
42 - Time Out Port 4
43 - Time Out Clear Port 4
44 - Time Out Clear Port 2
45 - Time Out Clear Port 3
46 - Time Out Clear Port 4
47 - User Timer #0
48 - User Timer #1
49 - User Timer #2
50 - User Timer #3
51 - User Timer #4
52 - COR Active Port 1
53 - COR Active Port 2
54 - COR Active Port 3
55 - COR Active Port 4
56 - COR Inactive Port 1
57 - COR Inactive Port 2
58 - COR Inactive Port 3
59 - COR Inactive Port 4
60 - PL Active Port 1
61 - PL Active Port 2
62 - PL Active Port 3
63 - PL Active Port 4
64 - PL Inactive Port 1
65 - PL Inactive Port 2
66 - PL Inactive Port 3
67 - PL Inactive Port 4
68 - Port Active Port 1
69 - Port Active Port 2
70 - Port Active Port 3
71 - Port Active Port 4
72 - Port Inactive Port 1
73 - Port Inactive Port 2
74 - Port Inactive Port 3
75 - Port Inactive Port 4
76 - Error Code 00
77 - Error Code 01
78 - Error Code 02
79 - Error Code 03
80 - Error Code 04
81 - Error Code 05
82 - Error Code 06
83 - Error Code 07
84 - Error Code 08
85 - Error Code 09
86 - Error Code 10
87 - Error Code 11
88 - Error Code 12
89 - Error Code 13

90 - Any Connected RX Active 1
91 - Any Connected RX Active 2
92 - Any Connected RX Active 3
93 - Any Connected RX Active 4
94 - All Connected RX Inactive 1
95 - All Connected RX Inactive 2
96 - All Connected RX Inactive 3
97 - All Connected RX Inactive 4
98 - Before Patch Off Hook
99 - After Patch On Hook

