

RLC-3 Manual Changes V1.48

These are the RLC-3 manual changes between V1.46 and V1.48. The major differences are that the long distance dialing tables are now easier to use and that the small DVR (DVR2) is supported.

***RLC-3 8 Port Communications Controller
Software Version 1.48
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The Autopatch

Configuring the Autopatch:

Because any of the eight radio ports can be used as the autopatch port, you must tell the controller which radio port the autopatch is hooked up to. This is done with command C110. C110 also allows you to specify whether or not you want the autopatch to read back in the synthesized voice the number it is about to dial. If you select to have the number read back, you can choose whether it should read it back "politely" (so it can be interrupted by kerchunking) or "impolitely" (so it always reads back the whole number).

Autopatch Up Commands:

There are three different commands that can be used to access the autopatch. All of them connect the port that the command was entered from to the autopatch port (as specified with command C110). Because of this, none of them can be executed from the serial port or by the scheduler (how do you connect an autopatch to a scheduler?). They are:

- **Manual Off Hook:** C111. This command connects the radio port to the phone line without dialing any numbers. You can dial phone numbers without DTMF regeneration by executing this command, waiting for dial tone, and entering the number on your DTMF pad. Since the tones are not captured and regenerated but go out directly onto the phone line, there is no long distance checking, etc.
- **Normal Forward Dial:** C112. This command is the one you would usually make available to users. Three digit numbers will access autodial slots, 4 through 11 digit numbers will be checked against the dialing tables (explained later), then regenerated over the phone line. If you have specified pre-dial digits (such as a '9' to get out of a local PBX) with command C115, they will be dialed first.
- **Special Forward Dial:** C113. This command is similar to the normal forward dial but it bypasses the dialing table checks. It is the most convenient way to bypass all of the long distance checking. It will dial any predial digits that you have programmed with C115.

Using '' for the Autopatch Up Command:*

You can use the '*' digit to execute any of the above autopatch commands, even if '*' is your EOF digit. This will allow you to use the patch by simply keying up, pressing '*', then the phone number you wish to dial. See command C164 for more information.

Hanging Up:

No matter which command was used to bring up the autopatch, command C114 will hang it up. If you want to have more than one hang up command, just make several different macros call C114. You can rename command 114 to * by entering C010*114#*.

Connected Ports:

Any ports that are connected to or monitoring the port you make the autopatch call from will also be included in the autopatch call. For example, if you have connected repeaters and someone wants to make a call from one of them, you can bring the patch up for them from the other one.

Predial Digits:

Autopatches that are on a PBX often have to dial a '9' or some other combination of digits to reach the outside world. The RLC-3 has the ability to dial these digits for you. You can tell it what digits to dial and how long of delays to use before and after these "predial digits" with command C115. These digits will be dialed before every number that is dialed with the forward dial commands. You can chose whether or not they should be dialed before each autodial number. This allows you to dial numbers that do not require the predial digits by putting them in an autodial slot.

The Autodialer:

There are 1000 autodial slots that can each hold up to an eighteen digit phone number. They are numbered 000 through 999. They can be accessed by executing either of the forward dial commands with the number of the autodial slot you want to dial. They can be programmed with command C124. You can find out what number is in an autodial slot with command C125. You can select whether or not the predial digits (set with command C115) get sent before the autodial number with command C126. This is useful for those using a PBX because it allows them to have some autodial slots go to internal numbers and some to dial the predial digits to get to the outside world. Command C127 allows you to enable or disable the use of an autodial slot. This allows you to keep an autodial number from being dialed without erasing the slot and having to re-program it later.

Limiting Call Length:

The time out timer for the autopatch port limits the total length of the call. If the timer expires, it will execute the autopatch port's time out macro (see appendix D) and hang the autopatch up. If you would like a message to be spoken when this happens, put the commands to speak 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 C020. You will probably want to erase

the contents of the the time out clear macro for the autopatch port with command C055.

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 during a call, use command C022 to reset the time out timer for the autopatch port (timer 094..101 depending on which port you are using). Using port 4 as the autopatch port as an example, the command would be: C022*097. You could make macro 500 extend the patch timer using the code *3 (or just 3) with the following commands:

```
C053*50003018* ; send CW 'I' as a beep-beep response
C050*500038*   ; be silent for rest of macro
C050*500022097* ; reset timer 097
C010*5003*     ; rename macro 500 to '3', can also enter '*3'
```

How the Dialing Tables Work:

The dialing tables are used to control which long distance numbers can be dialed with C112 and which cannot. They do not affect autodial numbers or numbers dialed with C113. If you attempt to dial a number with C112 that is not allowed you will get an error 13 (you can disable or change this error message by editing macro 213 - see Appendix D). By default all numbers are blocked. Before a number is dialed using C112, it must pass the following tests:

- All digits in the phone number must be decimal digits. *, #, A, B, C, and D are not allowed; if you need to dial these digits, put them in as predial digits, use an autodial slot or use C113.
- The phone number must be at least 5 digits long. If it is one or two digits, it will be treated as an autodial request. If you need to dial numbers less than 5 digits long, use autodial slots or C113.
- If the number matches one of the entries in the nuisance number table, it is blocked.
- If the number matches one of the entries in the allowed number table, it is accepted, otherwise it is blocked.

If the number passes all of the above tests and is accepted, it will be read back (if you turn number readback on with C110) and then dialed.

Both the allowed numbers table and the nuisance number table store each type of number in a separate "slot". Each slot affects only one length of number, so allowing all seven digit numbers will not affect six or eight digit numbers. You should keep track of what you put in

each slot as you program them, so that you can easily change them later.

The allowed numbers table has 500 slots, numbered 000..499. Each slot can hold one type of number that you want to allow. For example, you might want to program slot 0 to allow seven digit numbers that begin with the prefix 482, such as 482-7515 and slot 1 to allow eleven digit numbers that begin with 1800. To do this, you could enter C119*000482* (where C119 is the name of the command that programs the allowed numbers table, 0 is the slot to store this type of number in, and 482 is the number we want to allow, ignoring the last four digits). If you instead wanted to allow all seven digit numbers, not just 482 numbers, we could enter C119*000###* instead. The # symbol is a wildcard digit that represents any decimal digit. To allow 1800 numbers (using slot 1 so we don't mess up the seven digit numbers we allowed in slot 0), we would enter C119*0011800###*.

The nuisance number table allows you to block numbers that would otherwise be allowed. It has 100 slots, numbered 000..099. You may not need to use the nuisance number table. It is usually used to block prank calls. For example, we allowed all seven digit numbers in the allow table example above. If someone was calling our fax number (482-7547) with the autopatch as a prank, we could block that number by entering C121*0004827547*. Note that the nuisance number table is independent from the allowed number table; slot 000 in one table does not interfere with slot 000 in the other table. The nuisance number table requires that you enter all of the digits of the phone number; it does not ignore the last four digits like the allowed number table does. The nuisance number table accepts wildcards. Even if we had allowed all seven digit numbers in the allow table as in the examples above, we could block seven digit numbers beginning with 554 by entering C121*1554####*.

You can check the operation of the dialing tables at any time by either trying to dial a number with the forward dial command, or just *pretending* to dial it with command C123. This command will tell you whether a number would be blocked by the dialing table or would be dialed, without actually using the autopatch. C123 will work even if you don't have an autopatch.

Command Description: C182 Select DVR Type

This command tells the RLC-3 what type, if any, DVR is installed. Some DVR commands will not work correctly if this command has not been executed. If no DVR is installed, this command should be used to tell the controller that.

Description	Command	Response
No DVR	C182*0	"zero"
Large DVR	C182*1	"one"
Small DVR	C182*2	"two"

Command Description: C183

Record a DVR2 Message

This command allows you to record a DVR message. There are 35 message slots available. You can record a message that fits in one slot, or let a message overlap multiple (consecutive) slots. If you stop recording before the end of a slot, the DVR will remember where you stopped, so it won't send "dead air" at the end of a short message. Slots 00..25 are about one second long. Slots 00..09 are often used to record the digits "zero," "one," etc. Slots 25..29 are often used to record IDs. The other slots are available for you to use in any way you wish.

Description	Command	Response
Record Slot YY	C183* YY	
Rec YY..ZZ	C183* YY ZZ	

Parameters:

- C183 is the default command name.
- YY is the DVR slot number, two digits per slot.
- ZZ (optional). If ZZ is not specified, the DVR will stop recording when slot YY is full. If ZZ is specified, the DVR will record from the beginning of slot YY to the end of slot ZZ. ZZ must be greater than YY.

Notes:

- There are two ways to start and stop the recording. It may be helpful to watch the "Record" LED until you get used to it. The easiest way is to enter the command as shown above, unkey, key and speak the message, then unkey. With this method, the DVR starts recording as soon as you key to speak the message and stops when you unkey or when it reaches the end of the slot, whichever comes first. The other method is useful for recording messages while using the reverse autopatch function. To use it, enter the command as shown above, then a '*'. As soon as you release the '*' digit, the DVR will begin recording. It will stop when you press another DTMF digit or when it reaches the end of the slot, whichever comes first. Either way, you must begin recording within several seconds of entering the command or you will have to enter the command again.
- When the DVR stops recording because you unkey or press a DTMF digit, it attempts to back up and erase the squelch tail or DTMF burst so that your message sounds clean. When it stops recording because it reaches the end of a slot, it does not back up to avoid wasting record time.

Command Description: C184 ***Send DVR2 Message(s)***

This command allows you to send one or more DVR messages. It will be sent to the ports that are in the audio routing variable at the time this command is executed (for more information about audio routing, see Appendix A).

Description	Command	Response
Send Slot 0..9	C184* Y	See Below
Send 00..34	C184* YY	See Below
Send Multiple	C184* YY..YY	See Below

Parameters:

- C184 is the default command name.
- YY is the DVR slot number, two digits per slot

Notes:

- DVR messages can be intermixed with synthesized voice messages and the RLC-3 will make sure that they are sent in the right order. For example, you could write a macro that would speak your call sign using the synthesized voice, then use the DVR to speak "Link Up". This also means that if the synthesized voice is in use, the DVR will have to wait until it is finished to send its message, even if the messages are unrelated.
- If a single message was recorded across multiple slots, it should be played back by specifying only the beginning slot number. For example, if you recorded a six second message with the command C183*1015*, you can play back the whole message by entering C184*10*.

Command Description: C185 ***Erase DVR2 Message(s)***

This command allows you to delete one or a range of DVR messages. If an erased message is later played, it will sound like a short pause. There is no way to "un-erase" a message once it is erased.

Description	Command	Response
Del 00..34	C185* YY	See Below
Del Multiple	C185* YY ZZ	See Below

Parameters:

- C185 is the default command name.
- YY is the DVR slot number to erase, two digits per slot
- ZZ (optional). If ZZ is not specified, only one slot will be erased. If ZZ is specified, the DVR will delete slots YY through ZZ.