Radiance User Manual

Money Controls

Contents

Figures

1. Diary of Changes

Issue 1.0……June 2005

- 1st Issue for Radiance version 1.02

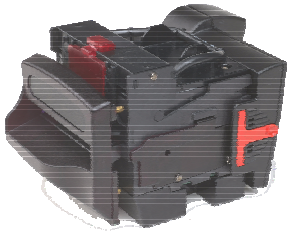
Issue 1.1……July 2005

- Change to cross reference hyperlinks + change to text colour

2. Introduction

Radiance is a software package to support Money Controls cctalk note acceptors (also called BNV's). At the time of writing, cctalk note acceptors are:

- Lumina



- MC7200 (still under development).

All aspects of the cctalk BNV's can be programmed, credit codes, timers, note tables, firmware. In addition, full diagnostics features can be performed.

3. Contents

The Radiance kit consists of the following items: -

1 x Carry case.
1 x Software installation CD.
1 x cctalk serial interface pod – abbreviated to 'POD'. (**Figure 1**)
1 x Lumina/SR5 cable. (**Figure 2**)
1 x SR3/Condor Plus cable.
1 x PC Comms cable. (**Figure 3**)
1 x Power cable.

Note – The Radiance and ccProgrammer kits are the same apart from the software CD.

Figure 1: POD reference

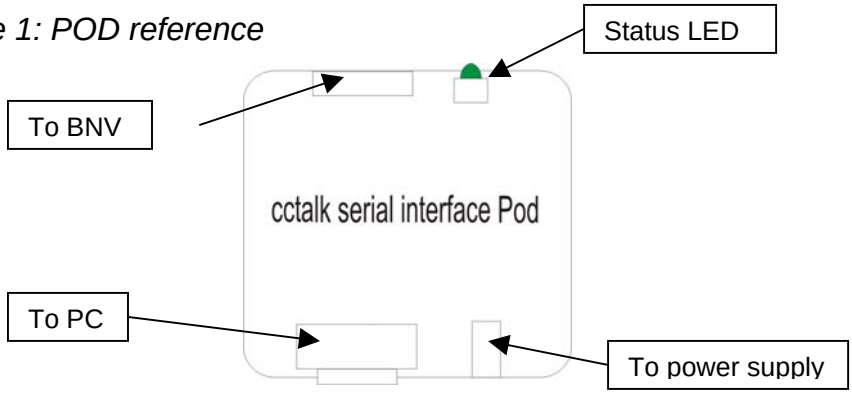
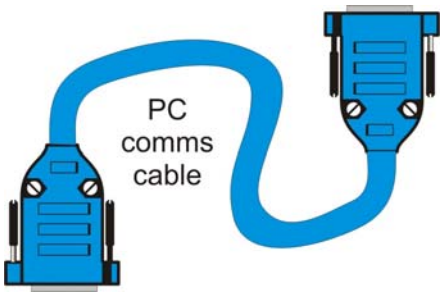


Figure 2: Lumina cable reference

Figure 3: PC Comms cable reference



4. Installation

4.1 Hardware installations

Refer to **Figure 4**

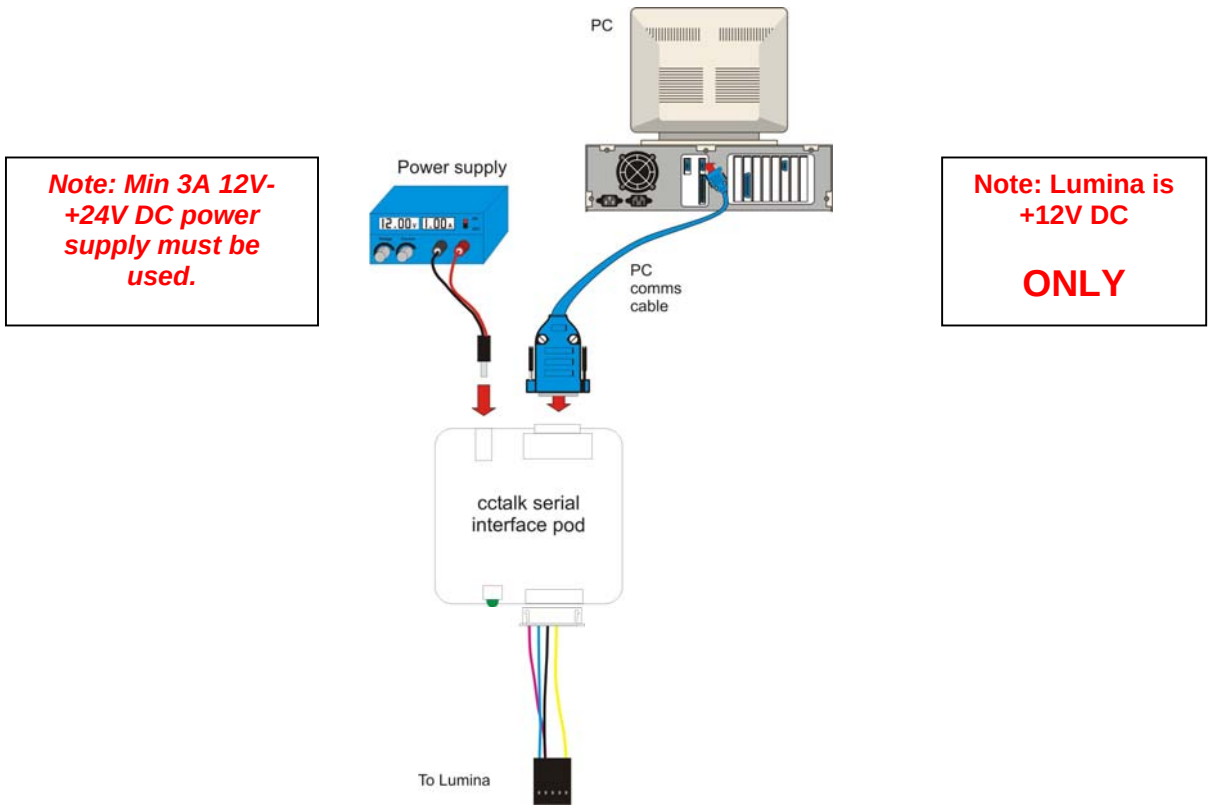
1. Connect one end of the PC Comms cable to a free comm port on the PC, and the other end to the POD.

2. Connect the red and black power cables to the power supply, and the other end to the POD.

3. Connect the Lumina cable, from the POD to the Lumina.

4. Switch on the power supply and ensure the **GREEN** LED, on the POD is ON and the **RED** LED on the BNV is also on.

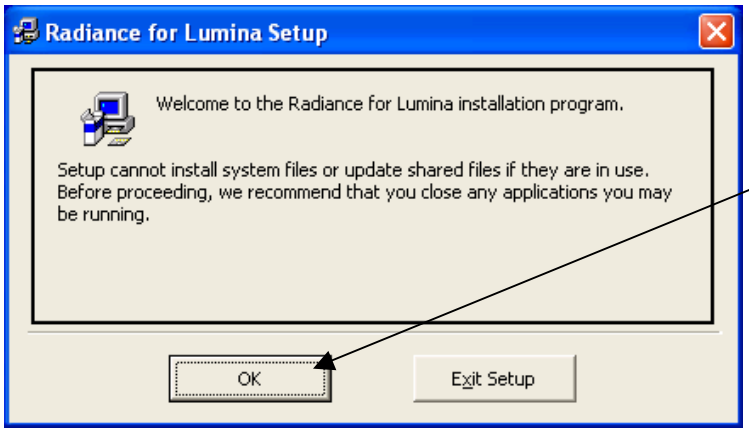
Figure 4: Hardware connections

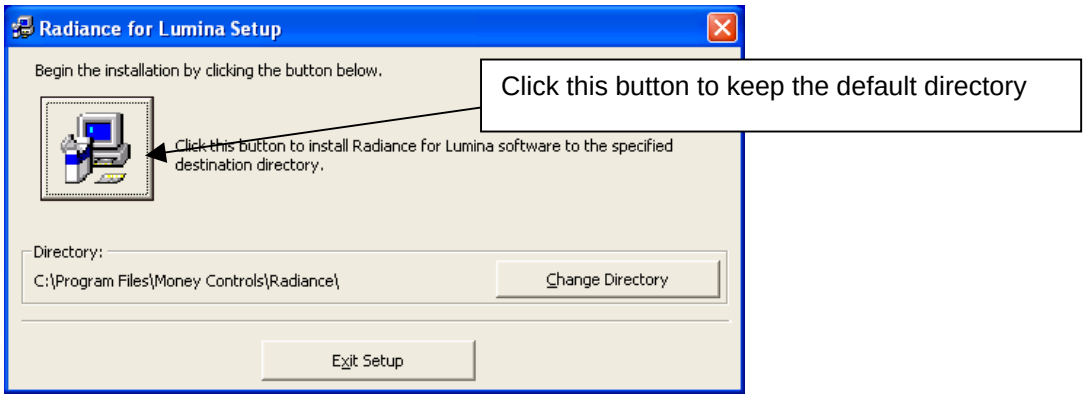


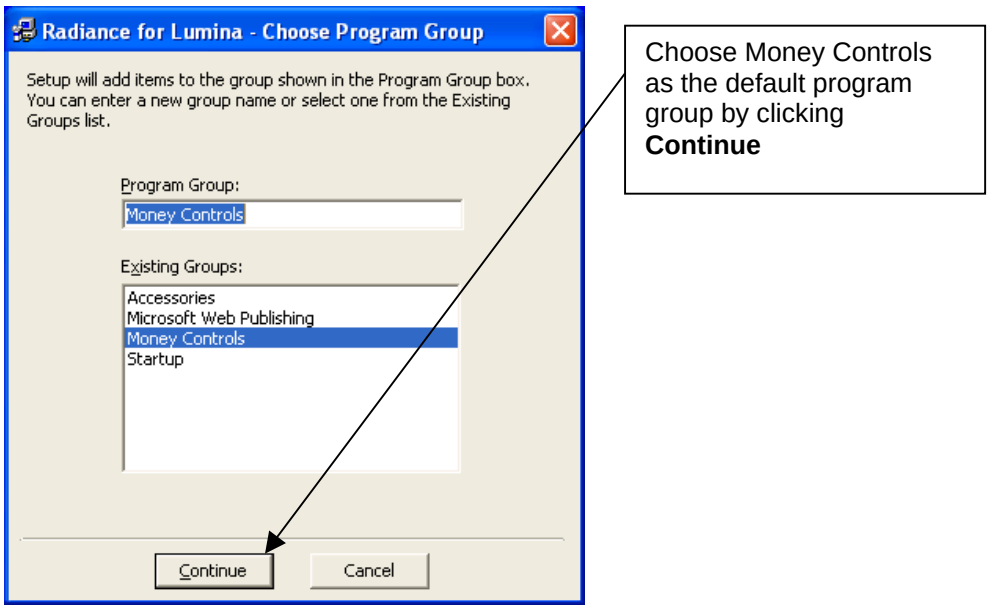
4.2 Software installation

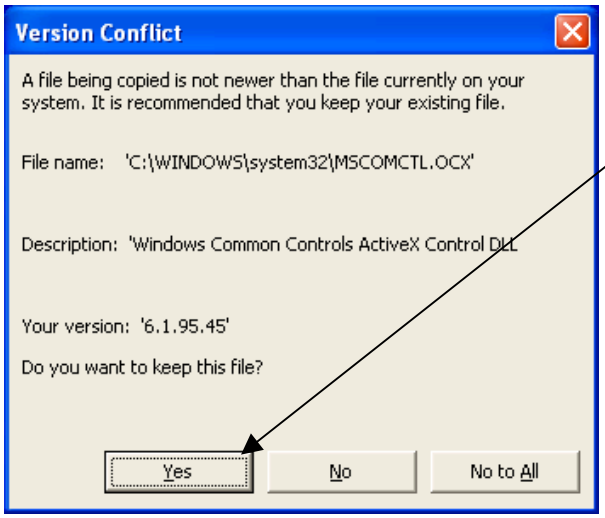
Place the Radiance installation CD into your CD ROM drive. Open the CD directory and choose ‘setup.exe’

The following on-screen instructions will be displayed.







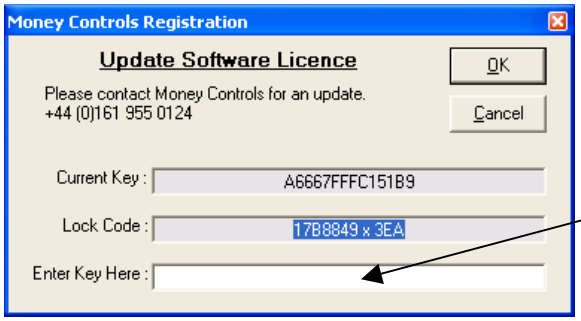


If this message appears, always choose **Yes**.

Click **OK**. Setup is now complete

4.3 Registering Radiance

Start Radiance by selecting it from the programs menu (Start\Programs\Money Controls\Radiance). The following screen will be displayed.



Money Controls Technical Services will supply a new number which should be entered here, press **OK** to proceed.

When you see this screen. Call Money Controls Technical Services on the number shown, or on technical.uk@moneycontrols.com.

If there is a problem, one of the 2 below screens may be displayed.

If this screen is displayed, check that the LED on the POD is on, that the PC Comms cable is connected to the PC.

If this screen is displayed, the POD is connected but the Lumina is not communicating. Check that the Lumina is set to cctalk mode (SW7 ON, SW8 OFF)

Once the issues are resolved, and the registration is complete, the following screen will be displayed.

Radiance is now installed and ready to use.

4.4 Run levels

Radiance has 5 different run levels, which allow the various features to be used. Below is a spreadsheet which shows which features the run levels allow. The run level is decided when the product is registered.

Figure 5: Radiance Run Levels

Radiance Run Levels

		Tools														Main Menu							
	Registration	Power	History Show + Hide	Reset	Run Macro	Write Firmware	User Data	Diagnostic Report	Change cctalk address	Change security code	Store security code	Fix checksum	Data grab (encrypted files)*	Register	Setup	About	Note handle	New BNV	Diagnostics	Information	Configure I/O	Note Program	Read Note ID's	Exit
(Note handle)	**1**	X	X	X				X						X	X	X	X	X	X	X			X	X
(Configure)	**2**	X	X	X			X	X	X	X	X	X		X	X	X	X	X	X	X	X		X	X
(Note program)	**3**	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X
(Data grab)	**4**	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
(Firmware)	**5**	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

5. Using the software

This manual will show each feature step by step, starting with the general features which do not depend on the access level, then showing the features which run level 1, 2, 3, 4 and 5 give. To skip directly to the desired feature/run level, use the links on the contents page.

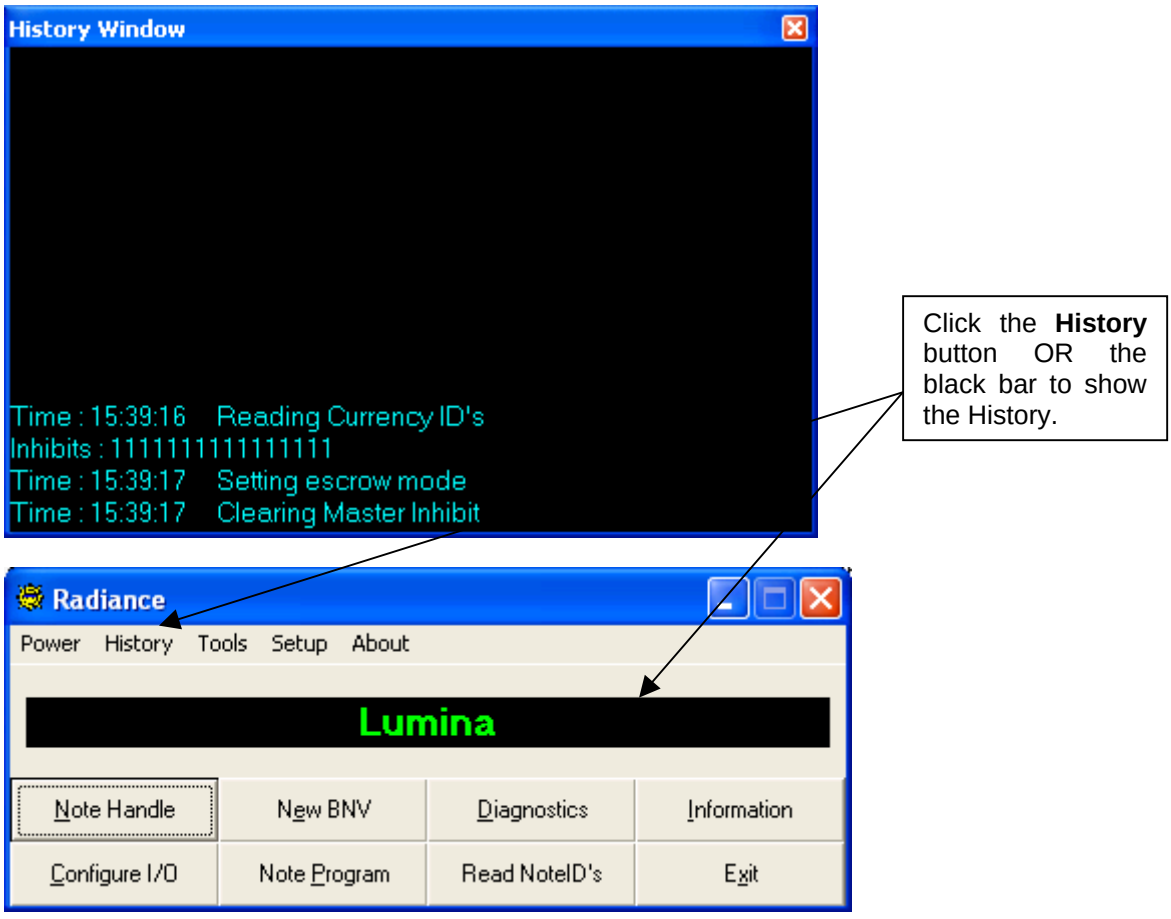
5.1 General Features (all run levels)

Some of the more obvious features do not require screenshots.

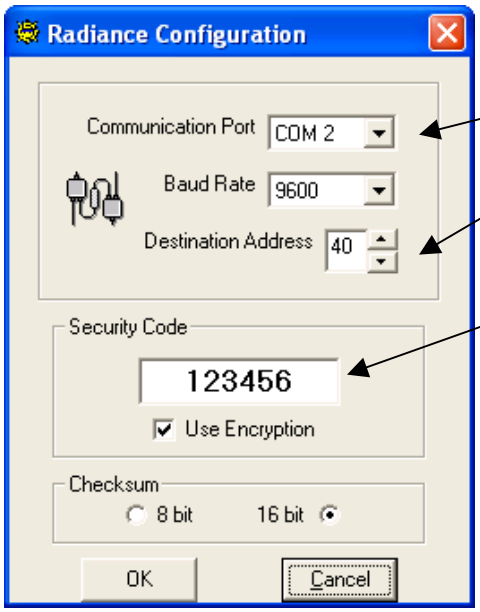
Power/Exit – This shows a drop down menu, which gives you the option to exit.
Exit – This exits the program.
New BNV – If a new BNV is being connected or if Comms is lost to the BNV, click this button to start the process again.
Tools/reset – this resets the BNV.
Register – This returns to the registration screen.

5.11 HISTORY

This shows a log of events with times.



5.12 SETUP



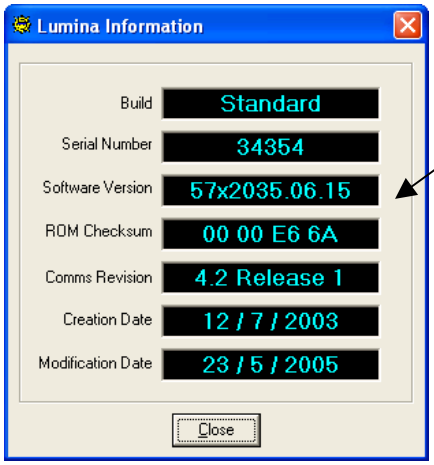
Shown here are the default settings. The only things that may change are the comm port, address and security code. For information regarding the security code, contact your local Money Controls Technical Services dept (_).

5.13 ABOUT

The about screen shows the version number of Radiance, along with the time and date of creation. To access this screen, choose **About** menu from the main screen.

5.14 INFORMATION

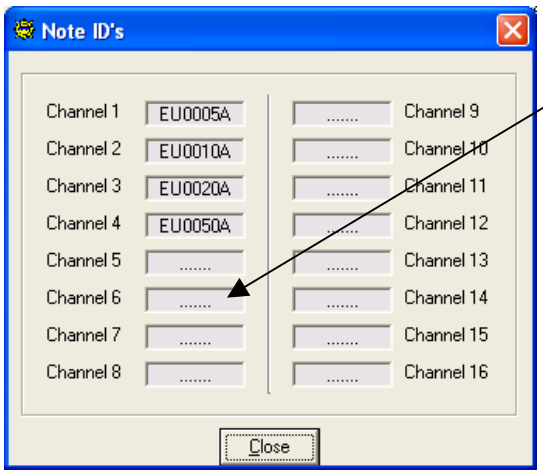
This shows various information about the BNV.



The firmware number shows the revision of firmware (software) programmed into the BNV.

5.15 READ NOTE ID'S

This shows the notes currently programmed into the BNV.



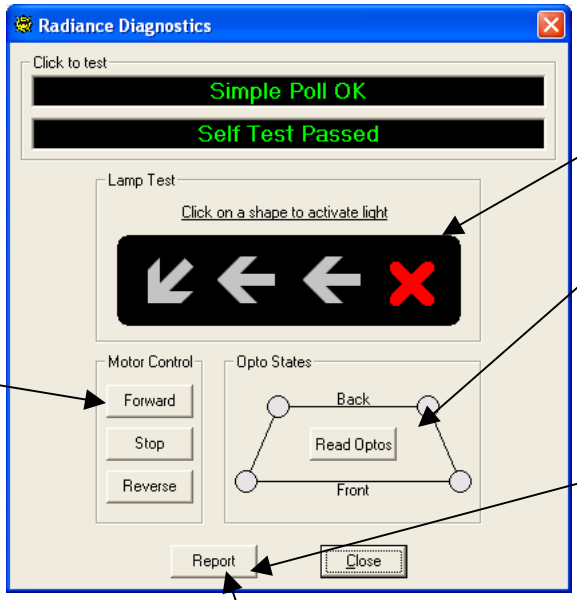
This example shows a Lumina which has 16 'note slots' available to program.

5.16 DIAGNOSTICS

This feature allows diagnostics of the BNV, the below screenshot is the diagnostics feature when used on Lumina.

Simple poll is used to check that the Lumina is talking correctly in software.

Self test is used to check that the eeprom (sometimes called E2 or e-squared) is not corrupted. A problem with the eeprom would be indicated here.



Click on the lights to activate the lights on the front of the Lumina.

Click here to activate the position sensors 'optos'. If they are covered, they will change to red.

Click on the motor control buttons to drive the motor forward or reverse.

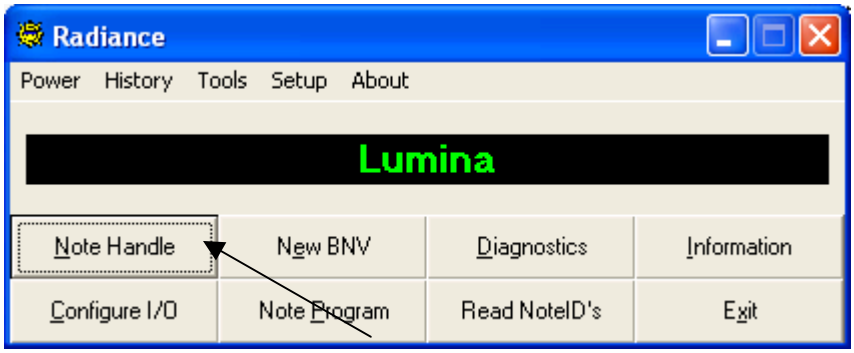
This will create a diagnostics report (which is a dump of the eeprom), which can be e-mailed to Money Controls for evaluation.

5.17 DIAGNOSTICS REPORT

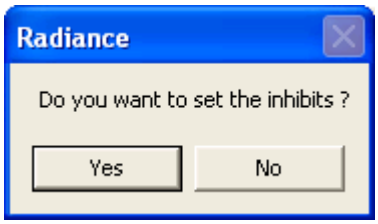
This is the same as the above report. This can be found under the tools menu.

5.18 NOTE HANDLE

This is basically the test feature, which tests the acceptance of the BNV.



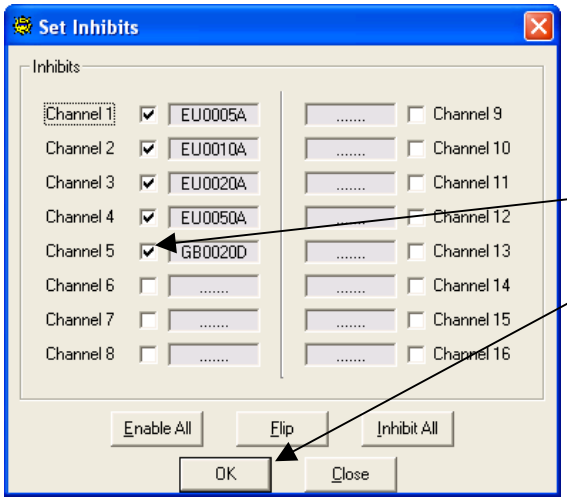
Click on the **Note Handle** button, the below screen will appear.



Click **Yes** to see the 'Set inhibits' screen.

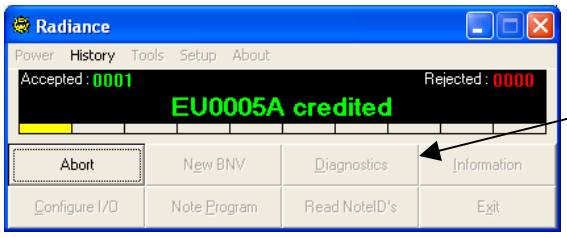
Choose **No** to enable all programmed notes.

If **Yes** is clicked, the below screen will appear.

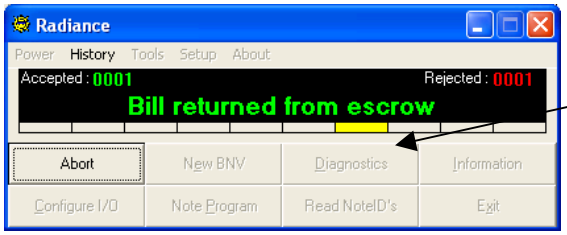


A checked box indicates that the note is enabled; an unchecked box indicates that a note is disabled. Once all the inhibits have been set, click **OK** to proceed.

Enable All = Enables all the notes.
Inhibit All = Inhibits all the notes.
Flip = This inverses the current selection.



Once the note is inserted, the Lumina will accept or reject the note. This is an example message for an accepted note



This is an example message for a rejected note.

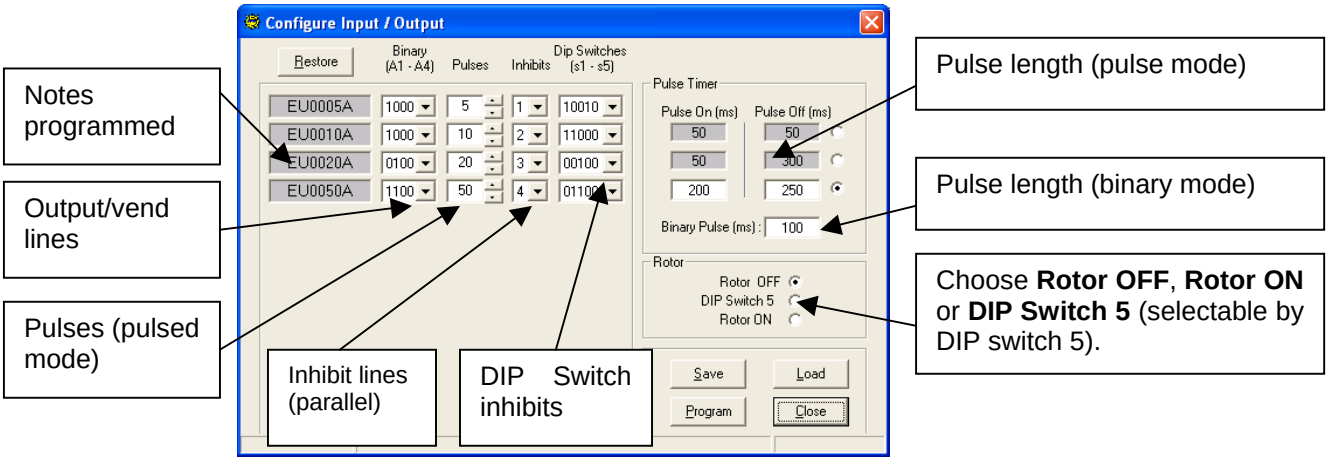
Click **Abort** to return to the main screen.

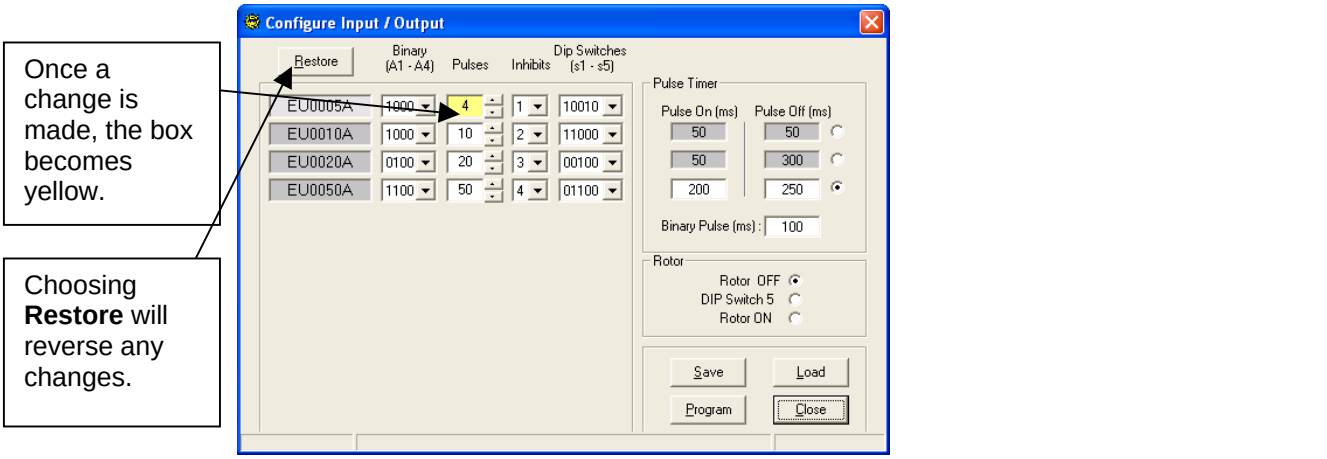
5.2 Features (run level 2 and above)

5.21 CONFIG I/O

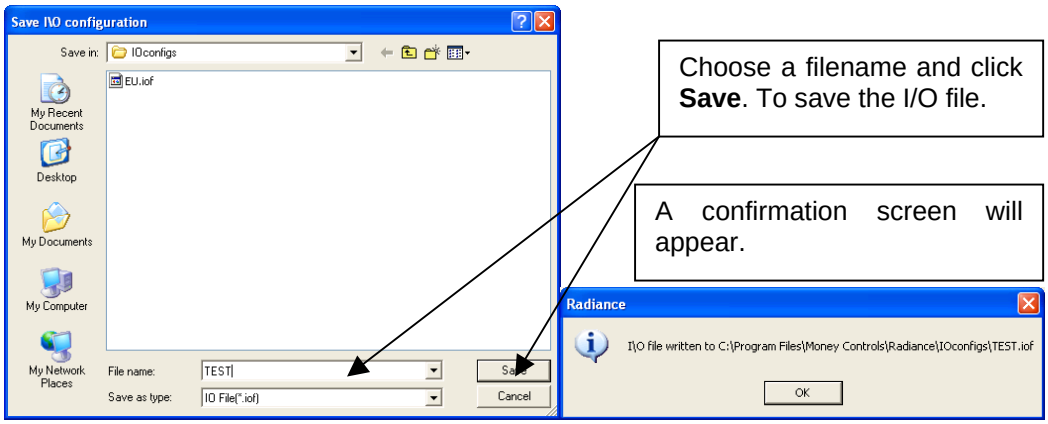
This refers to all the settings stored in eeprom – Binary codes, pulse lengths, inhibit settings etc.

Radiance reads all the notes programmed and the current configuration of the connected BNV.

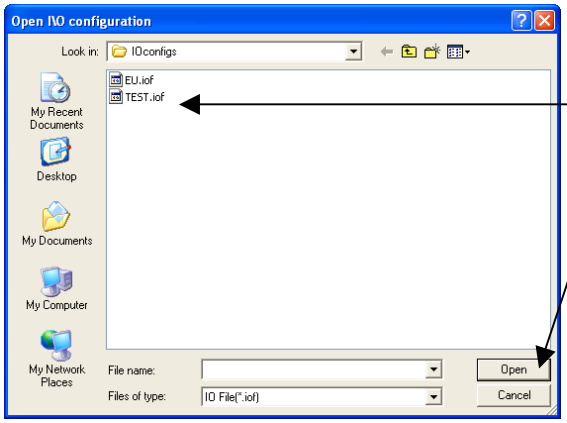




Once the desired changes have been made, save this configuration by clicking the **Save** button. The following screen will then appear.

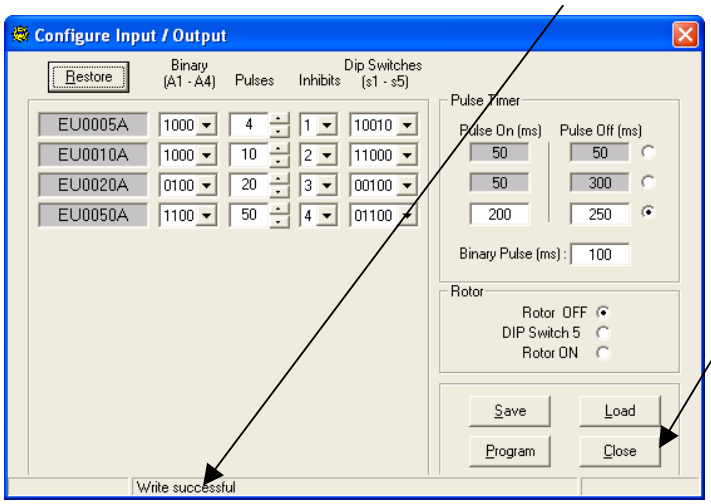


Saved I/O files can be loaded using the **Load** button. The following screen will appear.



Choose the file to open, and then click the **Open** button.

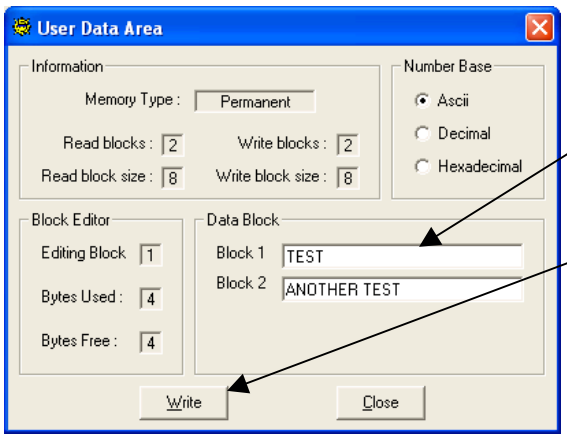
Once the settings are ready to be programmed. Click the **Program** button, after a short time, a 'Write successful' message will be shown.



Click **Close** to return to the main screen.

5.22 USER DATA

There is a block of data, which is available for a customer to write their own data (serial numbers etc). Various information types (decimal, ASCII, hex) can be used. The below screen will be seen. This can be found under the tools menu.



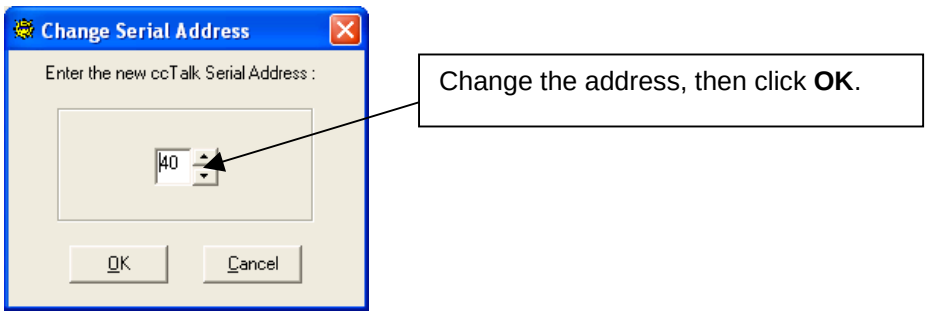
Type the information in the 2 'blocks'. Once complete, click the **Write** button to write the data.

5.23 FIX CHECKSUM

If the eeprom of the Lumina becomes corrupted (possibly because of a power fail during programming or Comms) you will get an error message in the main screen. Click the **Fix checksum** button and the Lumina should return to normal.

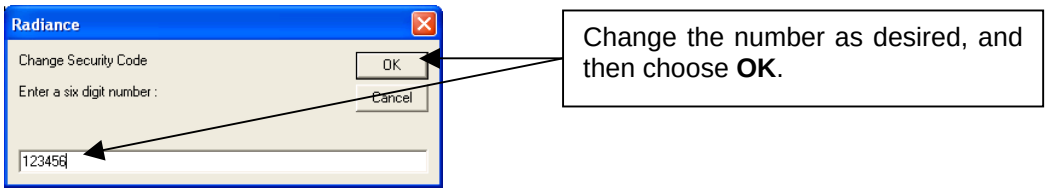
5.24 CHANGE CCTALK ADDRESS

This is used to change the cctalk address of the BNV. The STD address for cctalk BNV's is 40. The following screen will be shown.



5.25 CHANGE SECURITY CODE

This allows the user to change the 6-digit security code of the BNV.



5.26 STORE SECURITY CODE

Once the number has been changed, it needs to be stored. This extra step has been included so the number isn't changed by mistake. If the security code has been changed, but not stored – it will be lost when Radiance is closed.

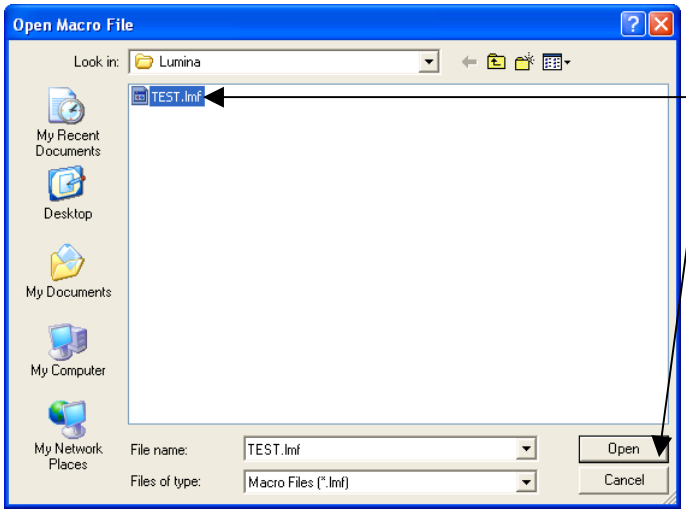
When the **Store security code** button is clicked, there is no indication on the screen.

5.3 Features (run level 3 and above)

5.31 RUN MACRO

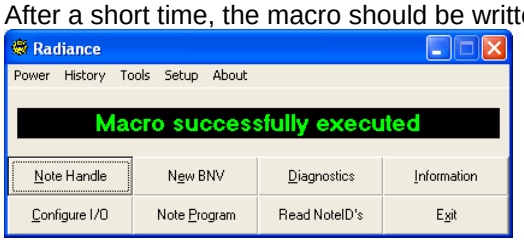
Macros are used to change values in eeprom. Typically they are not needed, but from time to time Money Controls may release a macro to correct an issue. The macros are stored in the following directory.

C:\Program Files\Money Controls\Common\Macros\



Choose the macro file and then click **Open**.

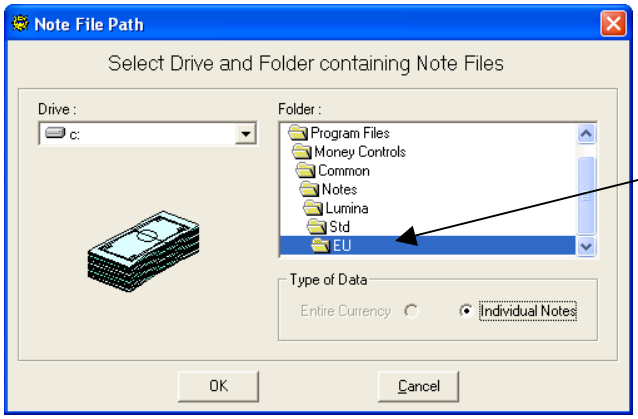
After a short time, the macro should be written successfully, as shown below.



5.32 NOTE PROGRAM

This is used to program notes into the BNV. This feature is restricted to run levels 3 and above. The note tables can be obtained via the Spectacle software from the Money Controls website (see TSP128 Spectacle User Manual for details).

Click the **Note Program** button and you will see the below screen.

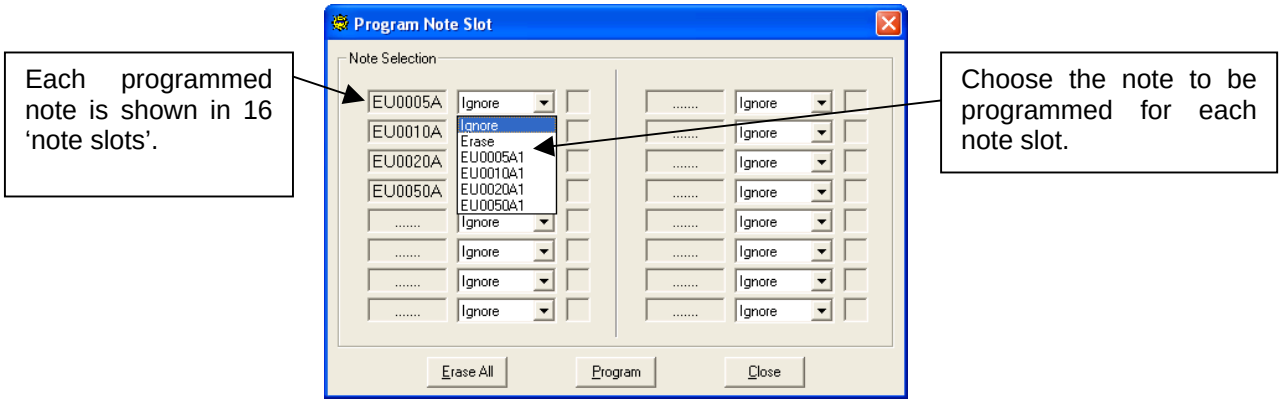


Choose the correct product and note table you wish to use.

The default path for installed note tables is C:\Program Files\ Money Controls\Common\Notes

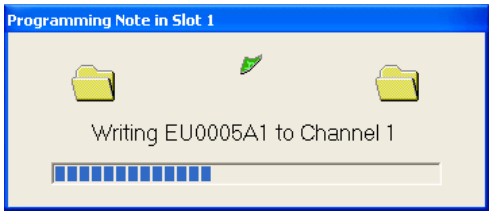
Choose 'individual notes' or 'entire currency' (the default is 'individual notes). Then click **OK**.

If programming **Individual notes**, the following screen will be displayed.

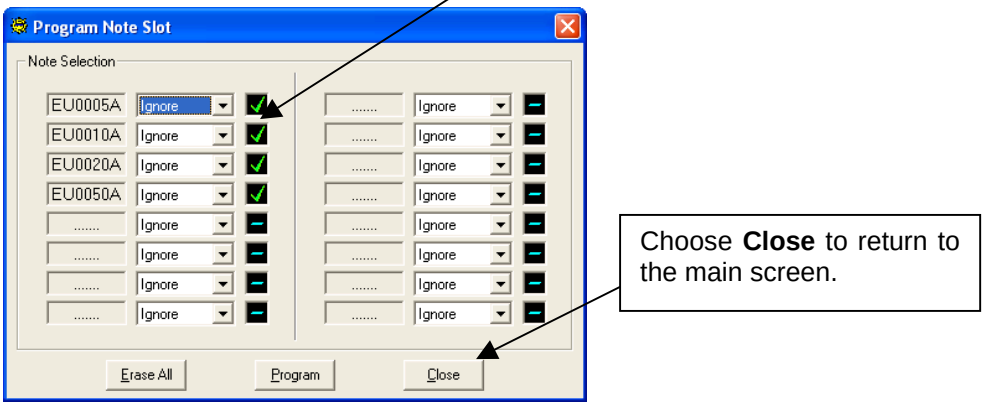


Ignore – This keeps the current note programmed in the note slot.
Erase – This erases the current note programmed in the note slot.
Erase all – This is quick way of choosing **Erase** in all 16 note slots, it is still necessary to click the **Program** button.

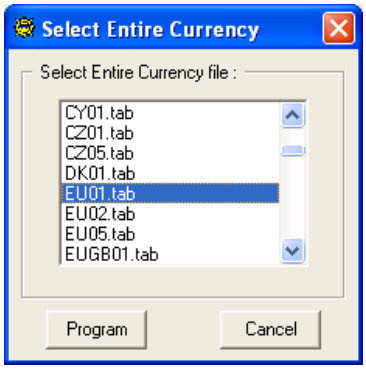
Once all 16-note slots are set as desired, click the **Program** button. The following screen will be displayed to show the progress.



Once completed, the note programming screen will be displayed again but with the new notes programmed in the note slots. A green check mark indicates the note has been programmed successfully.

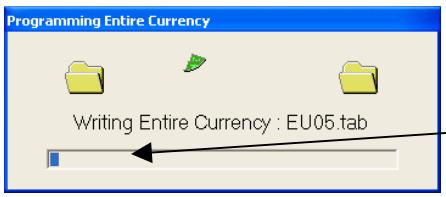


If programming **Entire currency**, then an alternative screen will be displayed.



Choose the desired entire currency file (.tab) and click the **Program** button.

During programming, the following screen will be shown.



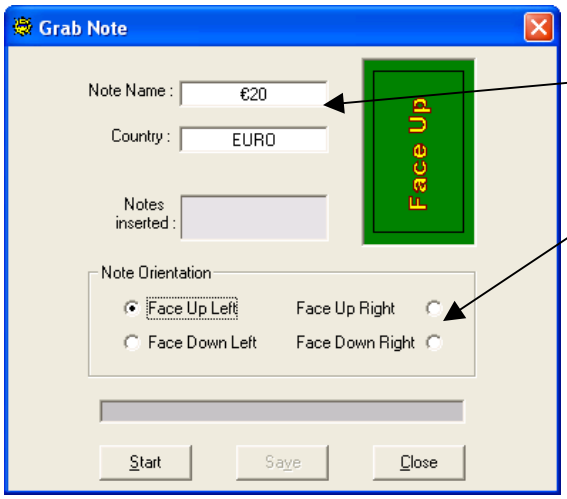
The status bar shows the progress. Once the bar is full, the programming is almost complete.

When the programming is complete, Radiance will return back to the main screen.

5.4 Features (run level 4 and above)

5.41 DATAGRAB

This is a method of collecting data from the notes. This information can then be sent to Money Controls for creation/modification of note tables.

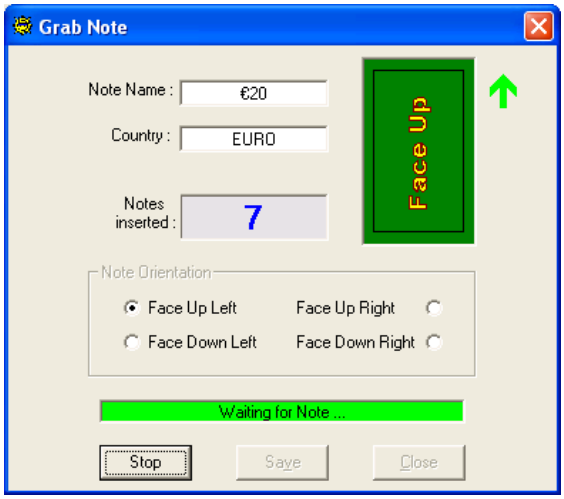


Enter the name of the note you are data-grabbing and also the country.

Choose the note orientation. (Face up left, face up right etc).

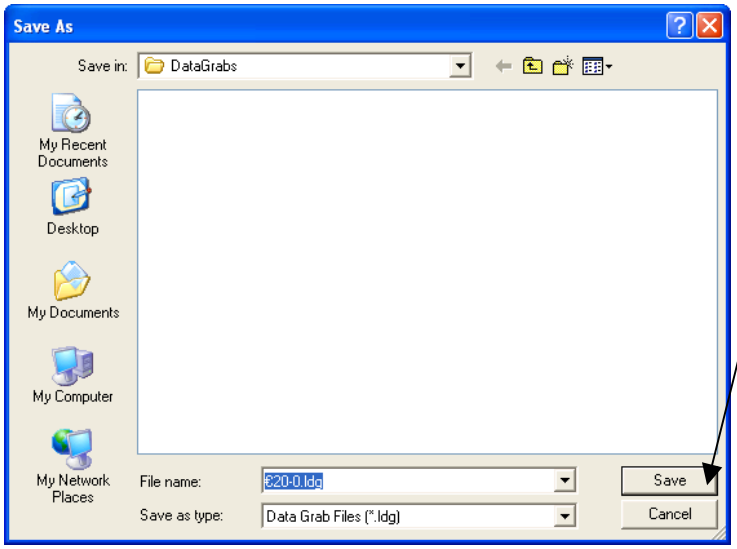
Next, choose Start to begin the data grab.

The status bar will turn green and show ‘Waiting for note’. Enter the note/s one at a time.



Every time a note is entered you will see the status bar turn red and the message 'Processing note' will be shown, it will then return to green. Also, the 'notes inserted' box will display the number of 'grabbed' notes.

Once the desired number of notes has been entered. Choose **Stop**, and then **Save**.



The default save directory will be automatically chosen. Click **Save** to save the data grab file.

Note – The data grab file will have a suffix relating to the note face.

Face up left = -0
Face up right = -1
Face down left = -2
Face down right = -3

The data grab files are encrypted, and can only be read by Money Controls.

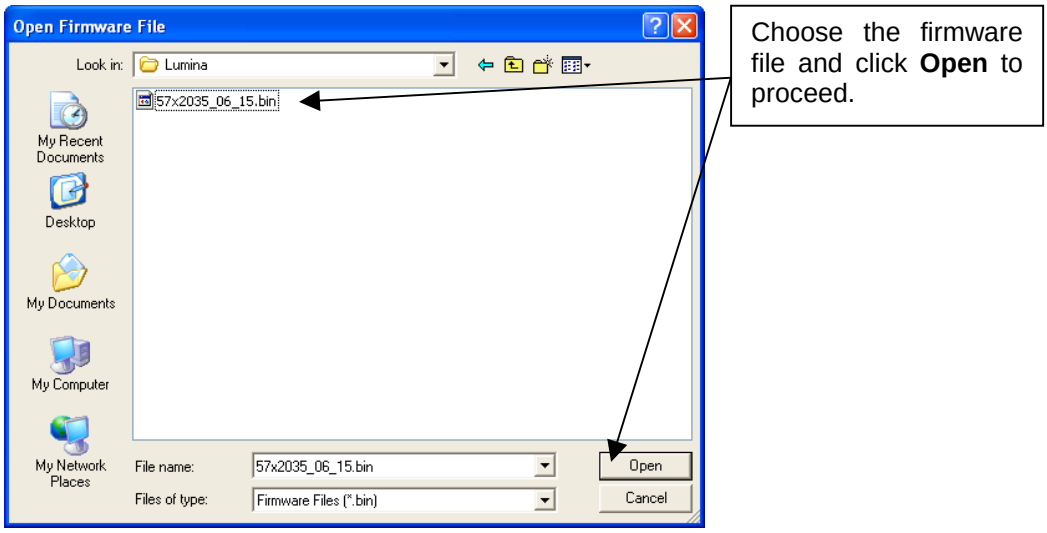
Repeat the same process for all 4 note faces. Remember to save the data after every note face. Once all the data has been saved, e-mail the files to Money Controls.

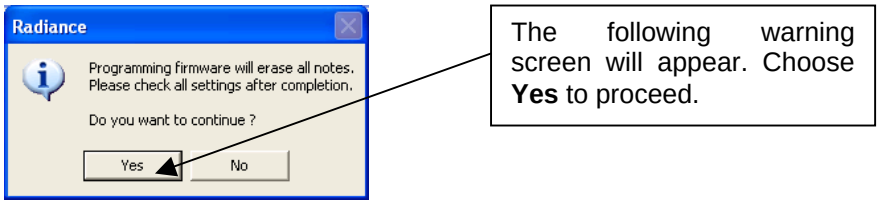
5.5 Features (run level 5 and above)

5.51 WRITE FIRMWARE

This allows the flash device of the BNV to be reprogrammed with the core firmware. This is restricted to the highest access level as improper use can result in a faulty BNV. The firmware files can only be obtained via your local Money Controls office. Please do not be offended if you are refused access to this feature!

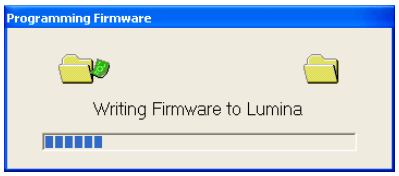
Choose **Tools** and **Write Firmware**, the following screen should appear.





The following screen indicates the progress of the firmware writing process.

NOTE – The process takes approx 3-5 minutes depending on various factors. Do not have any other applications running at the same time (MS Outlook, Acrobat etc) as this may cause issues with the writing of firmware.



Once complete, the display will return to the main screen.

6. Troubleshooting and support

6.1 Troubleshooting guide

Note: This is not a troubleshooting guide for Lumina itself. Please refer to TSP019 Lumina Technical Manual for this information. This can be obtained (free of charge) from the Money Controls website www.moneycontrols.com

Error	Possible reason	Solution
Slave is not responding	no comms from BNV to PC	Check connections
Error - some RX bytes seem to be missing	checksum/eeprom corrupt	Fix checksum feature
CRC checksum error	checksum incorrect	Fix checksum feature
Error - all comms are dead	BNV not connected	Connect BNV
	faulty cable	Replace cable
Lumina not found	Address set to 80	Change address to 40 in **SETUP screen**

6.2 USB-RS232 converters

Money Controls have experienced issues when using RS232-USB converters with Radiance. RS232-USB converters need to be used if there is no comm port on the PC.

When using the below features, Comms issues can occur which may result in a faulty BNV:

Note program
Write firmware

Radiance has been modified to take account of these Comms issues from version 1.02 and above.

Money Controls recommend only using USB-RS232 converters with Radiance 1.02 and above. If possible, a PC with a 9 way comm port should be used, which will eliminate the need to use a USB-RS232 converter.

Any questions regarding USB-RS232 converters with Radiance should be directed towards your local Money Controls Technical Services dept (see **Support**).

6.3 Support

For support using this software, please contact your local Money Controls Technical Services office.

Money Controls UK - Technical Services

Tel: +44 (0) 161 955 0124

E-mail: technical.uk@moneycontrols.com

Website: http://www.moneycontrols.com/support/technical_support.asp

7. Spares

For price and availability please contact your local Money Controls Customer Services Dept:

Money Controls UK – Customer Services

Tel: +44 (0) 161 955 0176

E-mail: orders@moneycontrols.com

Website: http://www.moneycontrols.com/support/customer_support.asp

Figure 6: Radiance spares list

Radiance Spares List

Part	Part number
Radiance FULL KIT	ASERLAXX00007
Radiance black 'Pod'	SCTALKXX00001
Radiance red 'Pod'	SCPROGXX00001
Lumina cable	SASRLAXX00002
Power cable	SASPIIXX00019
Comms cable	SASRLAXX00010

This manual is intended only to assist the reader in the use of this product and therefore Money Controls shall not be liable for any loss or damage whatsoever arising form the use of any information or particulars in, or any incorrect use of the product. Money Controls reserve the right to change product specifications on any item without prior notice.