Micro*coin* QL

Casinomate Instruction Manual

Contents

1. Overview

1.1 Overview

The Microcoin QL coin validator has been specifically configured as a multi-programmed high speed coin acceptor.

There has been significant development in the area of security, both in view of an OEM's security regime and the ability of end-users to incorrectly program (deliberately or otherwise) their own acceptors.

A comprehensive and highly secure solution has been developed which addresses these security issues, yet maintains the philosophy of offering a Casino operator the responsibility and ability to access their QL acceptor for maintenance, diagnostics, programming and coin enable/disable functions, whilst maintaining the highest level of security.

1.2 Solution

Micro*coin* QL

All Microcoin QL validators will be supplied with factory security **SET**, restricting any access to on-board programming features and disallowing the use of a regular Micromate.

Casinomate

A special version of the Micromate hand held programmer called a Casinomate will be used to permit password access to the following features :

1. **View coin settings**
   All coin categories may be viewed to check their parameter settings.

2. **Change settings**
   Two parameter settings are permitted to be adjusted.

   - ***Coin Enable/Disable Toggle***
     As the QL is programmed for multiple coins, only one coin type may be turned **ON** at any one time. The coin enable/disable facility allows you to toggle between coin types and the Casinomate will automatically toggle the coin types on or off respectively.

   - ***Coin Sensitivity***
     All coin categories are set on WIDE discrimination for optimal coin acceptance performance and fraud protection. In the event that the sensitivity band needs to be adjusted, there are three additional bands which can be used to increase sensitivity – Medium, Narrow and Special .
     (Please use in consultation with Microcoin).

3. **Diagnostics**
   Various diagnostics functions are available to the user, including validator and Casinomate operational checks and a powerful CRC security check.
   (See Diagnostics for details)

1.3 TRACER Software Package

To monitor and control the use of the Casinomate, a software program named TRACER is with the Casinomate.

2. Essential Information

Before you use the Casinomate, a few essential concepts and comments. It is strongly recommended that if you read nothing else, you at least read this page.

Introduction

The Casinomate allows a user to check and modify the coin settings in QL. It will also allow diagnostic tests to be done.

It is provided in a sturdy case to protect against everyday knocks and bumps.

Validator Power.

QL needs to be connected to a 12Vdc power source via its parallel port to work with the Casinomate.

Casinomate Power.

The Casinomate is powered by an internal, rechargeable battery. It also has an input for an external 9Vdc power source.

Initial Setup.

When you first use your Casinomate, set up the operating modes using the DIAGNOSTICS; CASINOMATE menu.

Menus and Navigation.

- The menu structure of the Casinomate is self explanatory and designed to prompt the user for the next entry. Take time to read each screen.
- A flashing field indicates that the Casinomate is requesting data input. Key in the data and press Enter.
- For multiple field entry screens, pressing ENTER will skip to the next field without changing the existing value.
- Navigating the menus is accomplished by pressing the appropriate number key for the option listed or pressing ESC to return to the previous menu. Pressing ESC multiple times will step back through the menu tree and eventually return you to the main menu.
- The keypad responds best to slow deliberate presses on the individual keys. Listen for the confirmation beep
- Where there are arrows at the bottom of the screen, use the scroll (arrow) buttons to access additional options and information.

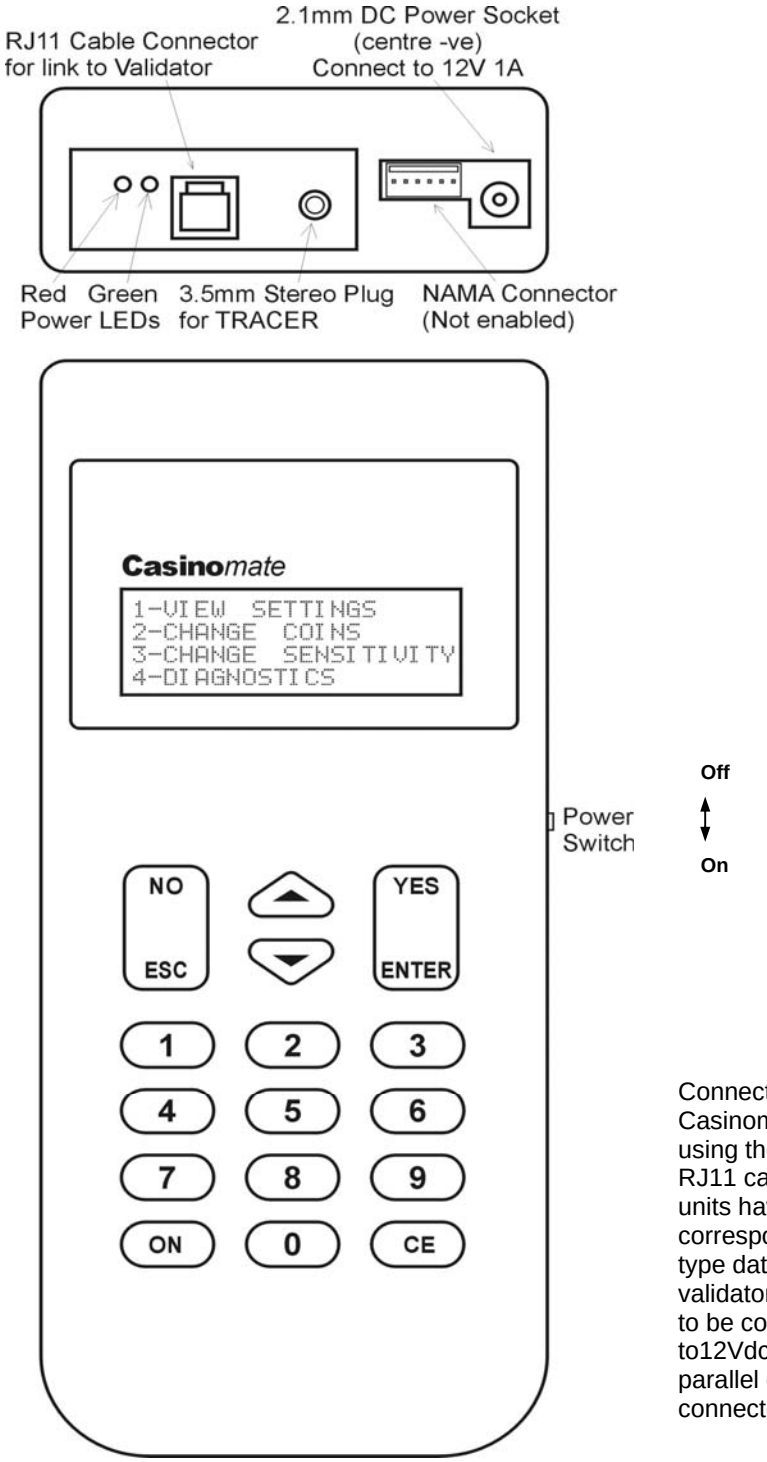
Coins and Tokens.

Throughout this manual, the term coin is used to cover both coins and tokens.

Casinomate Display

This manual shows Casinomate screen text as "**BOLD**" capitals.
Flashing text is shown as "NORMAL " capitals.

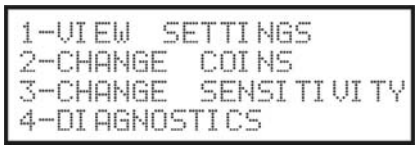
Connection and Configuration of the Casinomate



Connect the Casinomate to QL using the supplied RJ11 cable. Both units have a corresponding RJ-type data plug. The validator also needs to be connected to12Vdc via its parallel output connector.

Switch On

A small switch on the right of the housing, just above the keyboard, will switch power to the Casinomate. Once switched on, the Casinomate goes into a self-diagnostic mode, and then Displays the Main Menu Menu:



To Configure the Casinomate for Use

To check the set-up of the Casinomate, press **3** to bring up the diagnostics menu.

1-CASINOMATE
2-VALIDATOR
3-VERIFICATION
ESC

Press **1** to go to the Casinomate set-up options.

VERSION=X.X
1-COMMS VIA CABLE
2-BACKLIGHT ON
ESC **SCROLL**

VERSION= This is the software version number of the Casinomate

1-COMMS This is the setting for the communication method with the validator

COMMS VIA CABLE Comms via the supplied RJ11 cable (**default**)

2-BACKLIGHT The option will turn the backlight on or off. Press **2** to toggle states

.3-POWER SAVE When the power save option is on, the Casinomate will shut down after 5 minutes of inactivity. Press **3** to toggle states.

Once the settings are complete, press **ESC**, **ESC** to save settings and return to the main menu.

3. Checking the QL Configuration

To Check the QL Configuration

Pressing **1** at the Main Menu will bring up the View Settings Menu and allow you to check the configuration information in the QL validator.

You will first be presented with a screen showing you which coin is currently enabled. Then you have the option to continue or return to the Main Menu.

CURRENT COIN ON :
aaaa

CONTINUE? (YES/NO)

YES - GO TO VIEW SETTINGS MENU
NO - RETURN TO MAIN MENU

3.1 Check Coin Settings

1-COIN SETTINGS
2-PRICE SETTINGS

To check the coin information, press **1** .

COIN SETTINGS
O/P ON=12 OFF=25
ENTER COIN CATEGORY - (*FLASHING*)
ESC

The O/P shows the ON and OFF pulse widths of the output lines in milliseconds (ms).

To check the settings for a coin category, enter the coin channel No. Refer to QL Label

CAT=x	**ENABLED=Y or N**
VAL=x	**WIDE**
OUTPUT=x	**PULSES=1**
ESC	**▼▲ SCROLL**

CAT=1	Coin category number (**1-12**)
ENABLED=Y	Coin is enabled (**Y** or **N**)
VAL= X	Value of the coin
WIDE	Discrimination window (**wide**/**medium**/**narrow**/**special**)
OUTPUT=1	Output number (**1-6**)
PULSES=1	Number of pulses for each coin (**1**)

Use the scroll keys to check other coin categories.

3.2 Check Price Settings

1-COIN SETTINGS
2-PRICE SETTINGS

Press **2** to go to the Price Settings.

PRICE= 1 ENABLED=Y
CLEAR EXCESS=Y

ESC

PRICE = 1	Price value should always be set at **1**
ENABLED =Y	Price Enabled/Disabled
CLEAR EXCESS = Y	Clear excess after price reached (only permits one credit per coin)

Press **ESC**, **ESC** to return to the main menu.

4. Change Coins

At the main menu, press **2** to bring up the Change Coins Menu.

You will first be presented with a screen showing you which coin is currently enabled. Then you have the option to continue or return to the Main Menu.

CURRENT COIN ON :
aaaa

CHANGE? (YES/NO)

YES - GO TO CHANGE COINS MENU
NO - RETURN TO MAIN MENU

4.1 Change Coins

The Casinomate presents a simple method of turning on a required coin. Simply follow the prompts to enable your coin. All other coins will be automatically turned OFF.

ENTER COIN VALUE
TO ENABLE
xxxx

RETRIEVING SETTINGS !

ENABLING VALUE - xxxx

CHANGES DONE

The Casinomate automatically downloads the new settings to the validator.

When your changes are completed, press **ESC**, **ESC**, to return to the main menu

5. Change Coin Sensitivity

All coins are preset with the optimal **WIDE** sensitivity setting. In the event of a situation which requires the coin sensitivity to be increased, (fraud, slugging) you may choose up to three settings which gradually increase the coin sensitivity.

These settings are called **MEDIUM**, **NARROW** and **SPECIAL** respectively

It is recommended that you consult with Microcoin if you encounter a need to alter these settings

5.1 Change Coin Sensitivity

At the main menu, press **3** to bring up the Change Coin Sensitivity Menu.

Simply follow the prompts to alter the coin sensitivity.

ENTER COIN CATEGORY
TO CHANGE
xxxx

RETRIEVING SETTINGS !

SENSITIVITY IS : xxxx
WIDE MED NARROW SPEC
▼▲ SCROLL TO CHANGE
CONTINUE? (YES/NO)

YES - CHANGES SETTINGS
NO - RETURN TO MAIN MENU

NEW SENSITIVITY - xxxx

CHANGES DONE

The Casinomate automatically downloads the new settings to the validator.

When your changes are completed, press **ESC**, **ESC**, to return to the main menu

6. Diagnostics

The diagnostics menu for the Casinomate is used to set the Casinomate user options, (as explained in Setup section of this user guide) and to test various QL functions.

Select option 4 from the Main Menu

1-CASINOMATE
2-VALIDATOR
3-VERIFICATION
ESC

6.1 Validator Diagnostics

The QL performs a self diagnostic routine every time it is powered up, to ensure that it is functioning correctly.

From the main diagnostics menu, press 2 to bring up the validator diagnostics menu.

1-SELF DIAGNOSTICS
2-TEST ACCEPT GATE
3-TEST STATUS LED
ESC

6.1.1 Validator Self Diagnostics

Press **1** to start the self diagnostics routine in the validator.

TESTING!
OPTO'S ARE OK

ESC

- The validator checks the operation of the 3 coin detection opto-coupler devices, and then reports back their condition. If an error message comes up, indicating that one or more of the optos are faulty, you should check the QL coin path for obstructions
- If there are no obvious signs of obstruction, contact Microcoin for advice.
- Press **ESC** to return to the main diagnostics menu.

6.1.2 Test Accept Gate

Press **2** from the main diagnostics menu to start the accept gate test sequence. This test will allow you to activate the QL accept gate and ensure that it is functioning correctly.

PUSH CE FOR GATE
ESC

I

- To test the operation of the gate, press the **CE** button. A double “click” will be heard from the validator, indicating that the gate has activated.
- Once you have completed the output tests, press **ESC** to return to the diagnostic main menu.

6.1.3 Test Status LED

The QL validator comes equipped with a multi-coloured LED to show validator status and to aid in diagnosis. To test this device, press **3**.

1-TEST STATUS LED
ESC

- To test the multi-coloured LED on the side of the validator, press **1**. This will cause the validator to pulse the LED, first green, then red, then orange, before returning the display to the normal green.

- Once you have concluded this test, press ESC until you return to the diagnostics main menu.

6.2 Software Security Verification

The Casinomate can perform a comparative verification of the program that is used to operate the validator, and the configuration data loaded in to customise the validator for a specific job.

As part of the verification procedures, a 'seed' number is entered, and this is used, with a CRC check, to generate a number. This number can then be compared to the verification numbers generated by other validators of the same type, to check whether anything is different or changed.

To verify the validator, press 3 from the diagnostics main menu.

SERIAL NO= XXXX
SOFTWARE REV= X.XX
CONFIG NO= XXXXX-XX
VERIFY Y/N?

The serial number of the validator will be displayed, along with the software revision number, and the config number. To proceed with the verification, press YES.

VAL S/N= XXXX

ENTER SEED
ESC

Enter a seed number, for example **1, 2, 3**, **4 ENTER**.

CALCULATING
PLEASE WAIT!

SEED=1234

The display will now show the results of the verification.

VAL S/N= XXXX
CONFIG CRC= XXXXX
ROM CRC= XXXXX
ESC

- The Config CRC is the checksum of the seed number, and the config data stored in the validator. This number can be compared to a previous reading taken from the same validator, or from another validator with the same config, to see if there are any changes in the code.

- The ROM CRC is the checksum of the seed number and the program software in the validator, and can be used to verify that there haven't been any changes to the operation of the validator

7. Glossary

ALARM	QL has an alarm output which can be configured to pulse in the event of various conditions.
BACKLIGHT	The Casinomate has a display which can be turned ON and OFF
CATEGORY No.	QL has 12 Coin Categories (or Coin Channels) which can be programmed for individual coins or tokens. Each of the 12 Coin Channels has the following information associated with it : Coin value, Output Line, No of Pulses, Enable/Disable status and Discrimination Band
CHECKSUM	This is a number generated by an algorithm within the QL that uses both the seed number, chosen by the User and the CRC number, which is calculated from the software code. The checksum can be used to verify that the code and configuration in a validator hasn't changed, or that the code in different validators is the same. Refer *Verification.*
EXCESS CREDIT	Excess credit is generated when the accumulated value of coins accepted exceeds the preset totalised price (or credit) value. Excess credits will be cleared after the accumulated price output.
COIN SIGNATURE	The Coin Signature is a set of values generated within the QL for a particular coin when it passes through the detect area. The Average Coin Signature is a set of numbers stored within the QL which represents the average of the coin signatures for a population of those coins. An acceptance window is formed into which a coin signature must fall to be considered valid.
COMMS	This setting refers to the physical mode of communications between the Casinomate and the QL.
CONFIG	The Config, or Configuration File, contains all the information programmed into the QL. This includes all coin category information and user specified settings.
CREDIT	See PRICE
DISCRIMINATION	The discrimination band (sensitivity) determines how wide the acceptance window will be for a particular coin. Typical factory setting is WIDE and Medium, Narrow & Special can also be selected,
ENABLE	Each coin category may be enabled or disabled by the Casinomate. Only one coin denomination can be ON at any one time.
GATE	The validator has a gate which operates to allow valid coins to pass to accept or directs rejected coins to reject. The Casinomate can test the operation of the gate. Refer Enable/Disable Coins
O/P PULSE WIDTH	The Output Pulse Width is the duration of the pulses issued on a coin line. Both ON and OFF times (time between multiple pulses) can be specified in mSec

POWER SAVING	When the power save option is turned ON, the Casinomate switches itself off after 5 minutes of inactivity.
PRICE	The Price (Credit) totaliser accumulates the value of the coins and tokens accepted by the QL until the preprogrammed Credit value is reached. A credit pulse is then output on the Accumulator output line. Line 6. (This value is set at 1)
PULSES	The number of pulses issued on a coin output line for each of the Coin Channels, can be programmed. (This is set at 1)
VALUE	Defines the value of a coin or token which is programmed into a Coin Category. It is used in conjunction with the Price Setting.
VERIFICATION	The verification feature is used to check that the code and config data in the validator has not changed. See A seed number is chosen by the user and this is applied to an algorithm that calculates a number from the config data and from the ROM code. These numbers can then be compared to previous readings or other validators of the same type.

8. Attachments

Microcoin QL – Features and Benefits

The Microcoin QL electronic coin validator is designed and developed by Australian-based coin validation experts, Microsystem Controls Pty Ltd.

This coin acceptor is a universal high speed, multi-coin, secure yet programmable device.

It has been specifically configured to operate in IGT Gaming machines.

Microcoin QL validator

Features	**Benefits**
New patented coin discrimination	Superior coin & token discrimination Less frauds
Unique Coin Path	No jams Greater reliability Elimination of coin steals
Field Programmability – Casinomate	Field diagnostics Turn coins on/off Security – CRC check
Programming software – QLProd	Easy to use Permits authorised config reprogramming Maintains Gaming security
Coin “toggle” feature	Through the use of the Casinomate programmer, only one coin type can be enabled at any one time.
Factory Security	QL cannot be tampered with in the field Programming only with secure QLProd software package Highest security level possible
High Speed Coin Acceptance	Superior performance No user frustration with slow coin feed rates
Mechanical Dimensions	“It fits” Industry standard dimensions Can be interchanged between machines
Industry Compatible Connectors	Retrofittable to most applications Conforms to defacto Gaming industry standard 10 way connections Conforms to defacto comparitor Gaming industry standards
Anti-strimming protection	Electronic and mechanical anti-strimming features are incorporated into the Microcoin QL to prevent strimming attempts. 1. Mechanical gate 2. Electronic direction sense 3. Inhibit timer after a strim is detected
Serial Communications	QL can communicate via NAMA protocols directly to a host machine, providing operational and audit information unheard of with standard parallel communications.