

# SECTION 1

## NV11 MANUAL SET

### QUICK START AND CONFIGURATION GUIDE

INTELLIGENCE IN VALIDATION



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## 1. QUICK START AND CONFIGURATION GUIDE

This section is one part of a complete manual set: most users should use this section of the manual - typical users are software engineers looking at how to make it work, project engineers evaluating their first unit, or installation engineers installing the unit into a host machine.

This section contains the essential information that a user needs to quickly assemble and configure the NV11 validator ready for installation into the host machine.



### Information

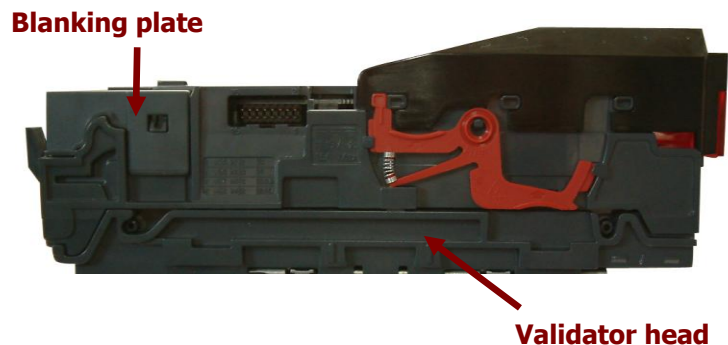
Validator compatibility.

The NV11 validator is pin for pin compatible with the NV7 / NV8 / NV9 / NV10 series of validators, but **NOT** with earlier versions of the product (NV2 – NV5).

### 1.1 Assembly

Installing the NV11 is a simple operation, but note that the validator can only be installed **horizontally**:

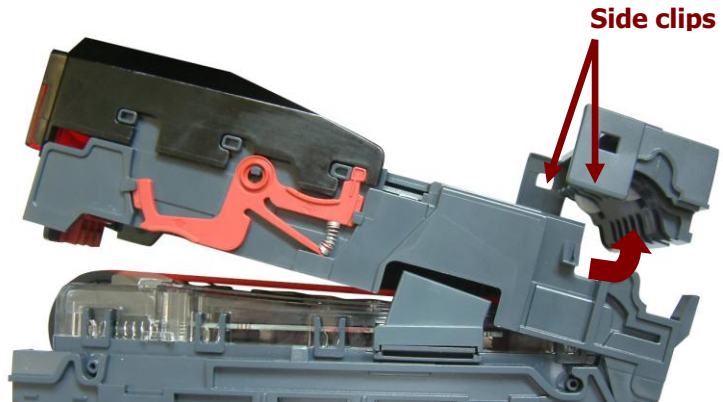
1. If the validator head has a blanking plate fitted, you will need to remove this BEFORE attempting to fit the Note Float module. If the Note Float module is already fitted, please go to step 6
2. Open the validator head by sliding the red release catch on the front of the validator to the left (as indicated in the picture)



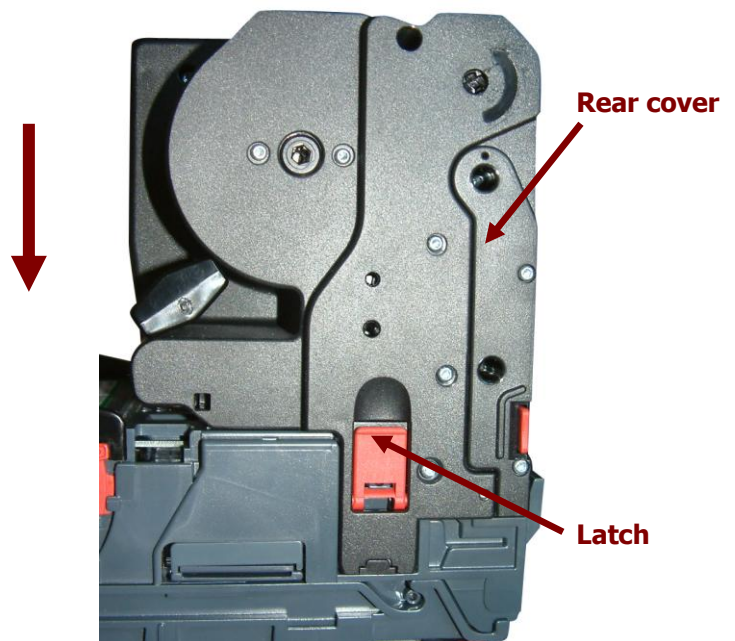
**Caution!**  
 Validator head **MUST** be opened.

Always make sure the validator head has been opened **BEFORE** trying to remove the blanking plate – trying to remove the blanking plate with the validator head closed will cause unit damage.

3. Remove the blanking plate by disengaging the two side clips and lifting the blanking plate upwards



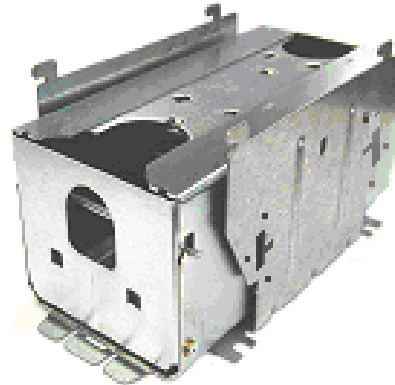
4. Close the validator head and then carefully fit the Note Float module onto the validator head, making sure the rear cover is securely closed and that both latches are lined up correctly



5. Make sure both latches are engaged and closed



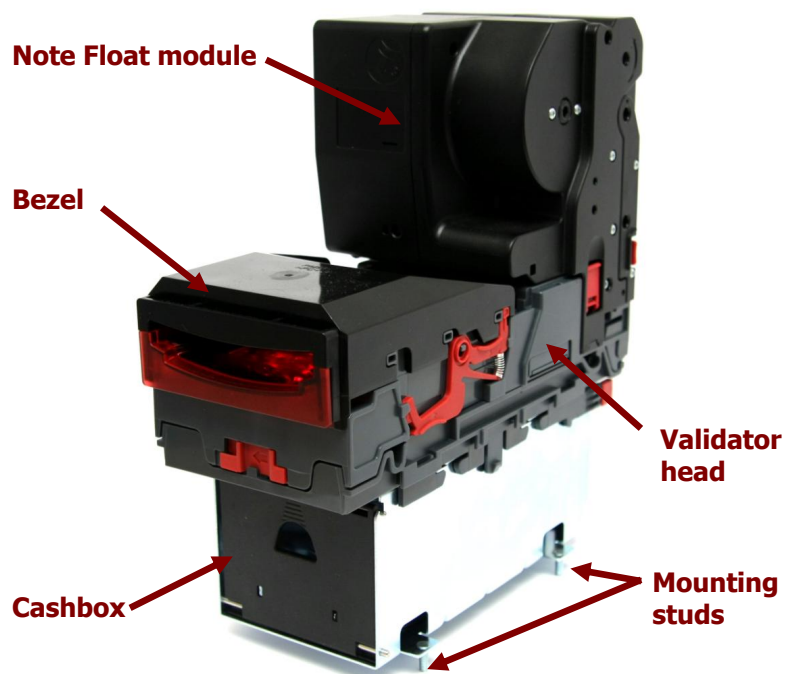
6. The validator can be fitted with a standard or slide-on cashbox of 300 or 600 note capacity



7. If not already attached, the validator can be fitted with a horizontal bezel of your choice.



8. The cashbox is attached to the validator by locating and sliding until the cashbox is clipped securely and secured in the host machine using the studs on the bottom of the cashbox

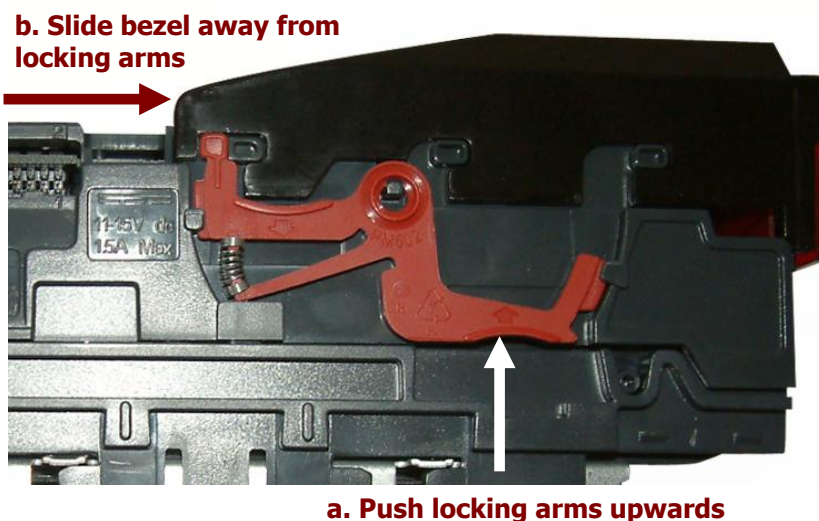


**Information**  
Check website for options.

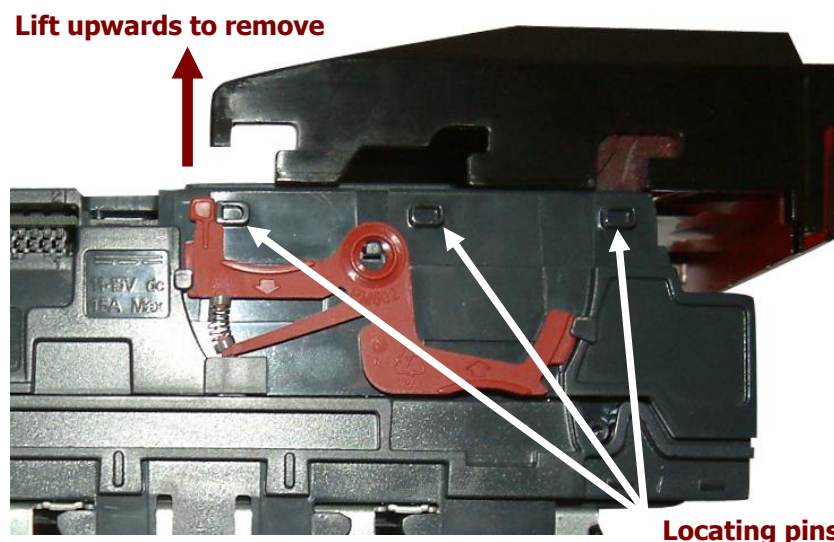
There are many variants of bezel and cashbox type available for the NV11 validator. Please check the ITL website ([www.innovative-technology.co.uk](http://www.innovative-technology.co.uk)) for up to date information on the options available.

### 1.2 Bezel Removal and Refitting

- The bezel is removed by pushing the red locking arms on both sides of the validator upwards, and sliding the bezel away from the locking arms



- Lift the bezel off once the bezel has been slid fully across and is clear of the locating pins



The bezel is refitted by pushing the bezel back onto the locating pins and sliding backwards until all six pins are engaged in the slots. The locking arms will then spring back and locate into the bezel.

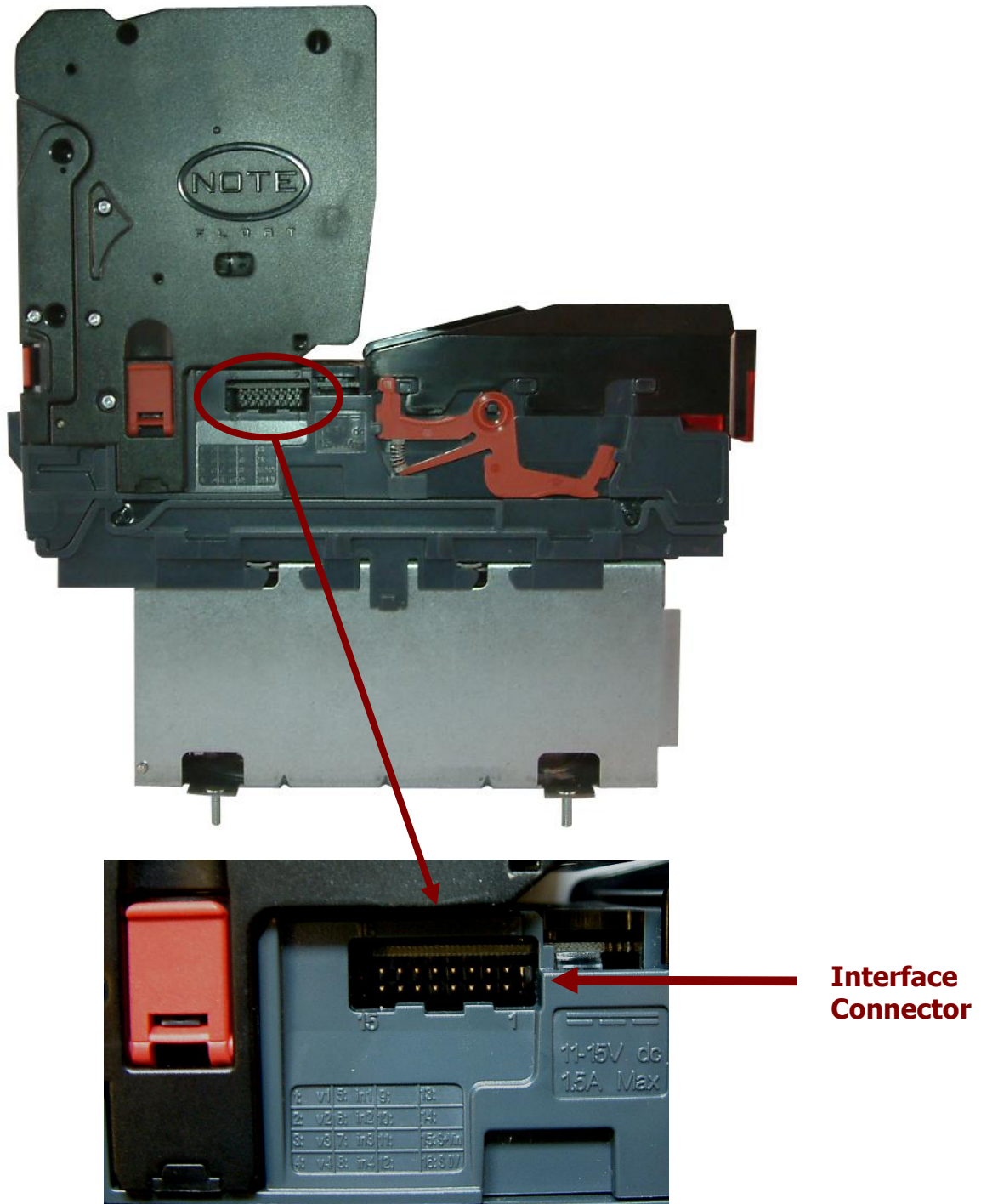
**Caution!**  
Check locking arms.

Always make sure that **BOTH** locking arms are fully located in the bezel – trying to operate the validator if they are not correctly located can cause unit damage.



### 1.3 Interfacing

The connector needed to set up and interface with the NV11 validator is easily accessible on the side of the unit:



### 1.4 Connector and Pinouts

The NV11 validator has a single connector that is used to allow interfacing and programming.



**Information**

Power always required regardless of connection type.

Power is always required on pins 15 and 16 of the 16 way connector.

The connector is a 16 pin socket used to interface the NV11 to the host machine. The pin numbering of the socket is shown below, as well as an overview of the socket connections:



Pin	Description
1	Serial Data Out (Tx)
5	Serial Data In (Rx)
11	USB Data +
12	USB Data -
13	USB Power (+5V)
15	+ V
16	0V / Ground Connection

To use a USB connection with the NV11, a USB cable fitted with a 16 way connector on one end (ITL Part Number CN00392) should be used. The CN00392 cable fits into the 16 way connector and allows high speed programming and serial communications when used in SSP and ccTalk modes.

When using the USB connection, power must be supplied to the NV11 using the CN00392 cable.





### 1.5 Configuration

The NV11 does not use DIP switches to configure the unit – configuration and setting is carried out by using a Configuration Button mounted on the front of the Note Float module:



There are several functions available when using the Configuration Button, and these are listed in this table:

Action	Power Status	Function
Press and hold (more than 2 seconds) until the bezel illuminates, then release	Powered ON	Sets validator to Programming mode (SSP)
Press twice (within half a second)	Powered ON	Shows current interface type (see flash count table below)
Press once when Note Float module status LED is flashing (transport error)	Powered ON	Acknowledges that a note blockage has been cleared

Flash Count	Interface
<b>1</b>	SSP
<b>6</b>	ccTalk
<b>6 , 1</b>	ccTalk plain (16 bit)
<b>6 , 1 , 2</b>	ccTalk (8 bit)

The NV11 Validator leaves the factory preset to at least one currency and one interface so that it is ready for immediate installation. The dataset and interface used are shown on the label fixed to the front of the Note Float unit.

### 1.6 Status Indicators

The NV11 validator has two separate coloured Light Emitting Diode (LED) indicators that are used to show the status of the unit – these are located next to the configuration button on the front of the Note Float module, and behind the front bezel of the NV9USB validator head.

If there is a fault or other issue with the unit, the LEDs will flash as described in subsection 1.9.

### 1.7 Programming

Full details on programming the NV11 validator can be found in Section 3 of this manual set (ITL Software Support Guide).




### 1.8 Technical Specifications

The full technical specifications for the NV11 validator can be found in Section 6, Appendix B of this manual set. A brief summary is given here:

<b>DC Voltage</b>	<b>Minimum</b>	<b>Nominal</b>	<b>Maximum</b>
Absolute limits	10.8 V	12 V	13.2 V
Supply ripple voltage	0 V	0V	0.25 V @ 100 Hz
<b>Supply Current</b>			
Standby	350 mA		
Running	3 A		
Peak (motor stall)	3.5 A		

<b>Interface Logic Levels</b>	<b>Logic Low</b>	<b>Logic High</b>
Inputs	0 V to +0.5 V	+3.7 V to +12 V
Outputs (2.2 kΩ pull-up)	+0.6 V	Pull-up voltage of host interface
Maximum current sink	50 mA per output	



**WARNING!**  
Use suitable power supply

Ensure that the supply voltage to the NV11 is not lower than 10.8 V and that the power supply can provide sufficient current to avoid incorrect operation and excessive note rejects.

We recommend that your power supply is capable of supplying 12V DC at 4 A.

- For 12V operation, use TDK Lambda model SWS50-12. This power supply is available from a variety of suppliers including Farnell (stock code 1184645) and RS (stock code 466-5869).



### 1.9 NV11 Flash Codes

The NV11 validator has inbuilt fault detection facilities. If there is a configuration or other error either the Note Float module status LED, or the NV9USB validator head front bezel will flash in a particular sequence; a summary of the Flash Codes for both units is shown below:

#### NV9USB Bezel Flash Codes:

Flashes		Indicated Error	Comments
Long	Short		
<b>0</b>	<b>0</b>	None	
<b>1</b>	<b>2</b>	Note path obstructed	Remove obstruction and follow the cleaning procedure in Section 2 of this manual set
	<b>3</b>	Unit not initialised	Contact ITL technical support
<b>2</b>	<b>2</b>	Cash box problem	Check that the cash box note plate is free to move and the stacker mechanism is in the home position
<b>3</b>	<b>1</b>	Firmware checksum error	Download new firmware
	<b>2</b>	Interface checksum error or unable to set programmed interface	
	<b>3</b>	EEPROM checksum error	
	<b>4</b>	Dataset checksum error	
	<b>5</b>	Incompatible firmware	Check the validator firmware is compatible with the Note Float module
<b>4</b>	<b>1</b>	Power supply too low	Check power supply
	<b>2</b>	Power supply too high	



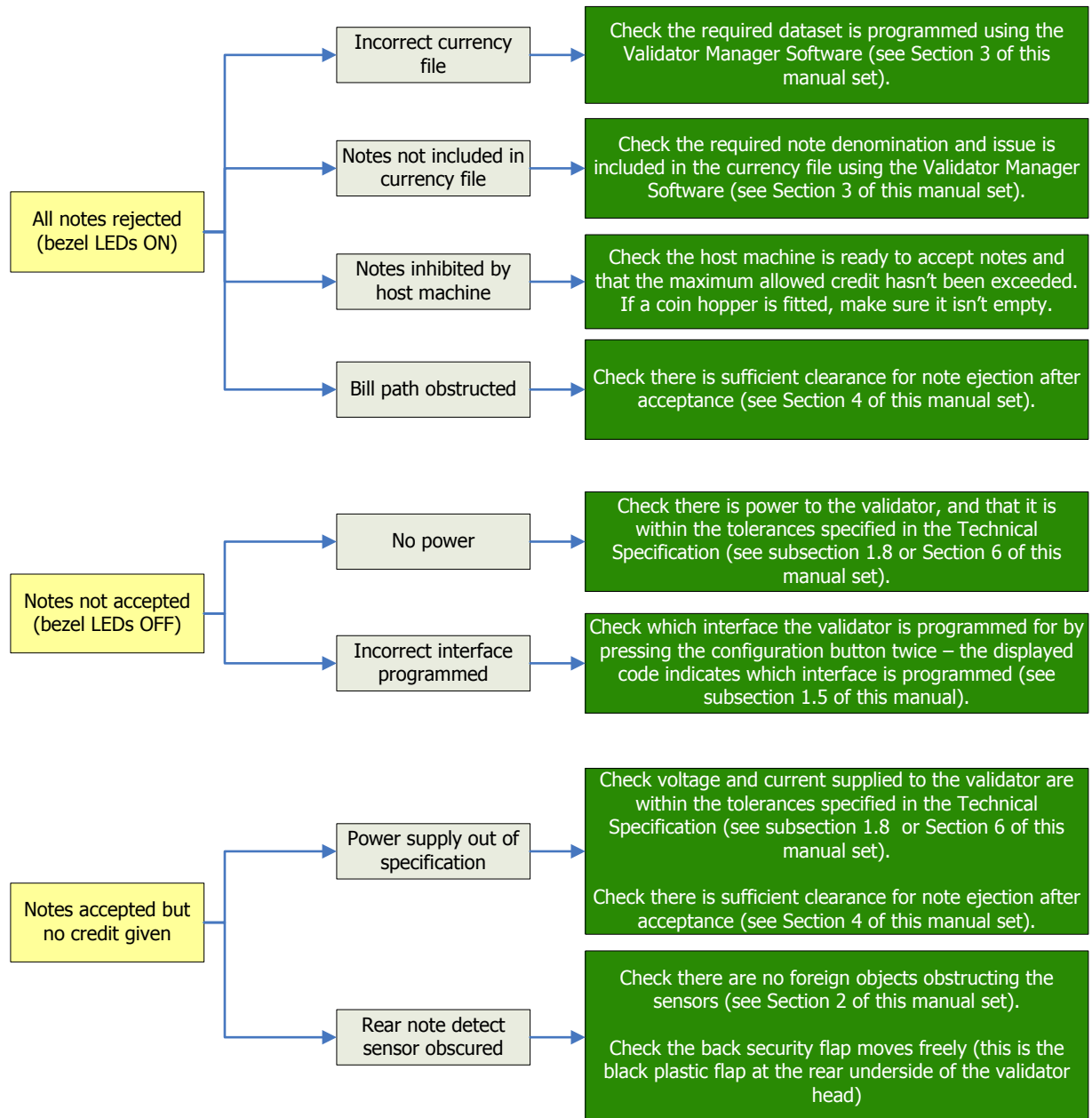
**Note Float Module Flash Codes:**

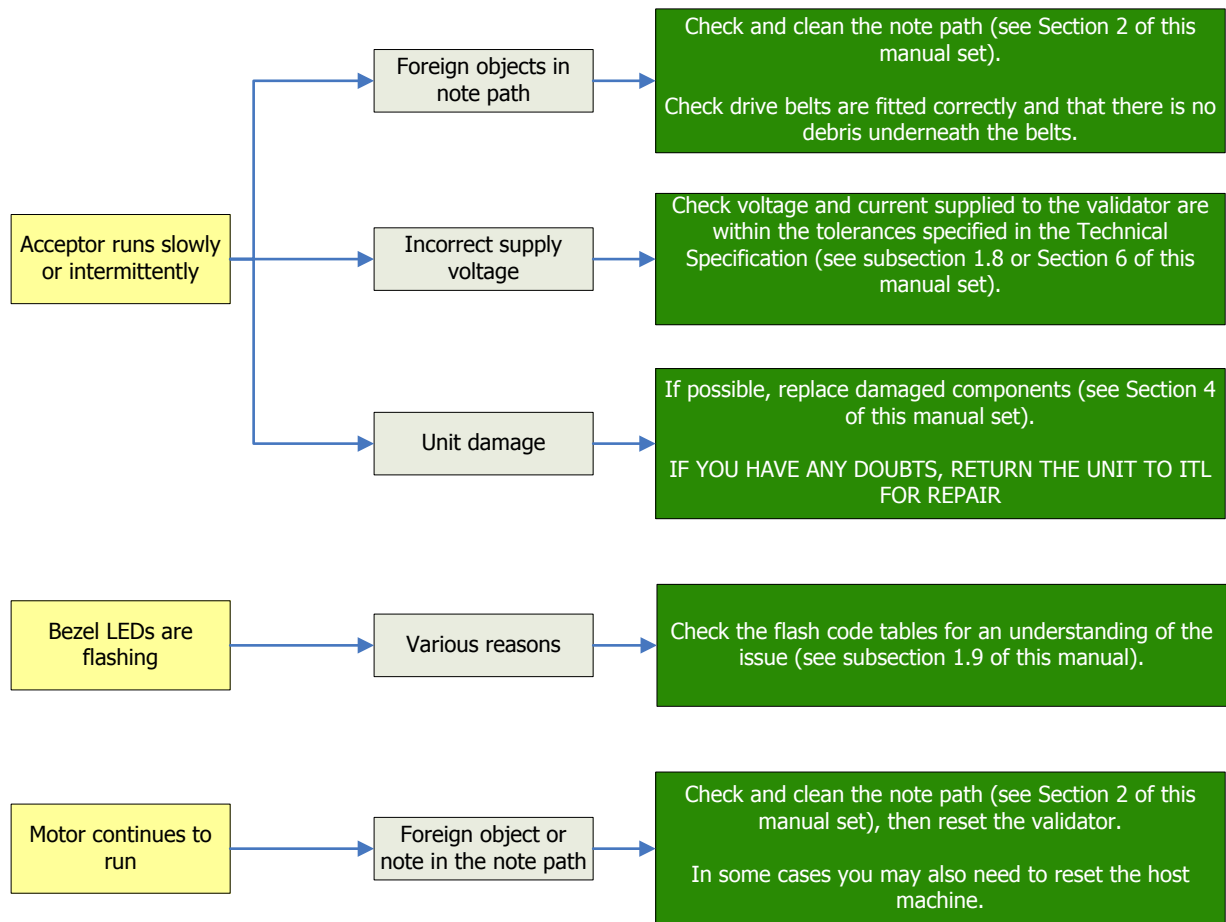
<b>Flashes</b>	<b>Indicated Error</b>	<b>Comments</b>
<b>0</b>	None	
<b>Constant flash (1 every second)</b>	Note transport error	Remove trapped note from the Note Float module and press the configuration button once
<b>2</b>	Software error	Download new dataset / firmware
<b>3</b>	Calibration error	Return to service centre for repair
<b>4</b>	Diverter error	Check for trapped notes stopping the diverter returning to the home position
<b>5</b>	Motor timeout	Check for trapped notes stopping the Note Float module tape from moving



### 1.10 Fault Finding

Please use this flow chart with the Flash Codes in the previous sub-section as an aid to help resolve any configuration or start up problems you might have after installing the NV11 validator





If you are unsure about the cause or how to resolve the problem, please contact ITL’s technical support department. Support contact details can be found on the ITL website ([www.innovative-technology.co.uk](http://www.innovative-technology.co.uk)), or on the last page of this section.

## 1.11 Frequently Asked Questions

### a. Why are there no DIP switches on the unit?

- The NV11 has no dipswitches. Configuring the unit is carried out by using the configuration button mounted on the front of the Note Float module – see subsection 1.5 of this manual for more information.

### b. In what orientation can I use the NV11 validator?

- The NV11 can only be mounted horizontally - see subsection 1.1 of this manual for more information on mounting the validator. Check the ITL website to see the currently available range of cashboxes and bezels.

### c. How do I check which interface has been set?

- You can check which interface has been selected by using the configuration button mounted on the front of the Note Float module – see subsection 1.3 of this manual for more information.

### d. How do I change the interface type?

- You can change the interface type by using the configuration button mounted on the front of the Note Float module – see subsection 1.5 of this manual for more information.

### e. Some or all notes are not accepted

- Check that no inhibits are set in the Validator Manager software (see Section 3 of this manual set). If the problem persists, contact ITL Support for further assistance.