

# SECTION 6

## NV11 MANUAL SET

## TECHNICAL APPENDICES

INTELLIGENCE IN VALIDATION

Innovative Technology assume no responsibility for errors, omissions, or damages resulting from the use of information contained within this manual.

**NV11 MANUAL SET – SECTION 6**

6.	TECHNICAL APPENDICES	3
	APPENDIX A – PRODUCT APPROVALS	3
	APPENDIX B – TECHNICAL SPECIFICATIONS	5
	APPENDIX C – GLOSSARY OF TERMS	7
	APPENDIX D – ORDERING INFORMATION	10



## 6. TECHNICAL APPENDICES

### APPENDIX A – PRODUCT APPROVALS

#### CE Marking

The NV11 unit described in this manual set has been designed to comply with the relevant sections of the following Harmonised European Standards:

- EN60950-1:2001
- EN60335-1:2002
- EN60335-2-82:2003

The unit complies with all the applicable essential requirements of the Standards.

#### RoHS

The following products, identified by the part numbers listed in the table below, are compliant with the European Union Directive 2002/95/EC of the Restriction of the use of certain Hazardous Substances (RoHS) in Electrical and Electronic Equipment.

Product	Description	Lead free date
NV11	Bank Note Acceptor Assembly	All NV11

We hereby declare that lead (Pb), mercury (Hg), cadmium (Cd), hexavalent chromium (Cr4-6), polybrominated biphenyls (PBB) and polybrominated diphenyl ethers (PBDE), are not intentionally added to our products in amounts exceeding the maximum concentration values as defined by RoHS regulations (except where the application of any of those substances comes within the scope of the RoHS regulations exempted applications).

All compliant products are clearly marked on the product and/or packaging.

All the information provided in this statement of compliance is accurate to the best of our knowledge, as of the date of this publication being issued.



## WEEE

The European Union's directive 2002/96/EC on Waste Electrical and Electronic Equipment (WEEE) was adopted by the European Council and Parliament in 2003 with a view to improving the collection and recycling of Waste Electrical and Electronic Equipment throughout the EU, and to reduce the level of non-recycled waste. The directive was implemented into law by many EU member states during 2005 and 2006.



Products and packaging that display the symbol (shown left) indicates that this product must NOT be disposed of with other waste. Instead it is the user's responsibility to dispose of their Waste Electrical and Electronic Equipment by handing it over to an approved reprocessor, or by returning it to the original equipment manufacturer for reprocessing.

## APPENDIX B – TECHNICAL SPECIFICATIONS

The information contained here does not form part of a contract and is subject to change without notice. Innovative Technology Ltd operates a policy of continual product development; as such specifications may change from time to time.

### Environment:

	Minimum	Maximum
Temperature	+3 °C	+50 °C
Humidity	5 %	95 % non condensing

### Power Requirements:

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



#### **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).

### Logic Levels:

Interface Logic Levels	Logic Low	Logic High
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	



**General Specifications:**

<b>Note Sizes</b>	<b>Minimum</b>	<b>Maximum</b>
Width	60 mm	82 mm in cashbox 80mm in Note Float module
Length	115 mm	150 mm

<b>Capacity</b>	
Storage	300 or 600 notes
Note Float module	30 notes

<b>Weight</b>	
NV11	2.2 kg

<b>Interface Protocol</b>	
	eSSP; ccTalk (CC1, CC4)

## APPENDIX C – GLOSSARY OF TERMS

Term	Meaning
<b>A</b>	Ampere
<b>AC</b>	Alternating Current
<b>ACK</b>	Acknowledge
<b>AES</b>	Advanced Encryption Standard
<b>ASSY</b>	Assembly
<b>AV</b>	Average
<b>AWG</b>	American Wire Gauge
<b>AWP</b>	Amusement With Prizes
<b>BNV</b>	Bank Note Validator
<b>ccTalk</b>	Coin Controls Talk
<b>COMMS</b>	Communications
<b>CRC</b>	Cyclic Redundancy Check
<b>DC</b>	Direct Current
<b>DIA</b>	Diameter
<b>DIP</b>	Dual Inline Package
<b>ECB</b>	Electronic Code Book
<b>EEPROM</b>	Electrically Erasable Programmable Read Only Memory
<b>eSSP</b>	Encrypted Smiley <sup>®</sup> Secure Protocol
<b>FAQ</b>	Frequently Asked Questions
<b>FIFO</b>	First In, First Out
<b>GA</b>	General Assembly
<b>GND</b>	Ground
<b>Hz</b>	Hertz



<b>Term</b>	<b>Meaning</b>
<b>IF</b>	Interface
<b>ITL</b>	Innovative Technology Ltd
<b>LED</b>	Light Emitting Diode
<b>LIFO</b>	Last In, First Out
<b>mA</b>	milliampere
<b>max</b>	maximum
<b>MDB</b>	Multi Drop Bus
<b>min</b>	minimum
<b>mm</b>	millimetre
<b>ms</b>	millisecond
<b>MOD</b>	Modified (or Modification)
<b>NV</b>	Note Validator
<b>PCB</b>	Printed Circuit Board
<b>PDF</b>	Portable Document Format
<b>PiPS</b>	Pay-in Pay-out System
<b>PROM</b>	Programmable Read Only Memory
<b>PSU</b>	Power Supply Unit
<b>QTY</b>	Quantity
<b>RAM</b>	Random Access Memory
<b>ROM</b>	Read Only Memory
<b>Rx</b>	Receive
<b>RoHS</b>	Restriction of the use of certain Hazardous Substances
<b>SIO</b>	Serial Input Output
<b>SSP</b>	Smiley <sup>®</sup> Secure Protocol
<b>SWG</b>	Standard Wire Gauge





<b>Term</b>	<b>Meaning</b>
<b>SWP</b>	Skill With Prizes
<b>SYNC</b>	Synchronize
<b>TTL</b>	Transistor Transistor Logic
<b>Tx</b>	Transmit
<b>USB</b>	Universal Serial Bus
<b>V</b>	Volt
<b>V_In</b>	Voltage In
<b>WEEE</b>	Waste Electrical and Electronic Equipment



## APPENDIX D – ORDERING INFORMATION

The following information is required to order an NV11 validator:

<b>Product</b>	NV11	Consists of NV9USB validator, Note Float module, bezel and cash box
<b>Dataset</b>	Country code and variant	Alternatively supply details of the currency and note types you wish to use
<b>Bezel Size</b>	66 - 85 mm	Please check the NV11 product page on the ITL website for details of the bezels available
<b>Cash Box</b>	300 or 600 note capacity	Please check the NV11 product page on the ITL website for details of the range of available cashboxes
<b>Interface</b>	eSSP; ccTalk	The NV11 can be used with CC1 or CC4 variants of ccTalk

## MAIN HEADQUARTERS

Innovative Technology Ltd  
Derker Street – Oldham – England - OL1 4EQ  
Tel: +44 161 626 9999 Fax: +44 161 620 2090  
E-mail: [support@innovative-technology.co.uk](mailto:support@innovative-technology.co.uk)  
Web site: [www.innovative-technology.co.uk](http://www.innovative-technology.co.uk)



### AUSTRALIA

[support@innovative-technology.com.au](mailto:support@innovative-technology.com.au)

### BRAZIL

[suporte@bellis-technology.com.br](mailto:suporte@bellis-technology.com.br)

### CHINA

[support@innovative-technology.co.uk](mailto:support@innovative-technology.co.uk)

### GERMANY

[supportDE@innovative-technology.eu](mailto:supportDE@innovative-technology.eu)

### ITALY

[supportIT@innovative-technology.eu](mailto:supportIT@innovative-technology.eu)

### SPAIN

[supportES@innovative-technology.eu](mailto:supportES@innovative-technology.eu)

### UNITED KINGDOM

[support@innovative-technology.co.uk](mailto:support@innovative-technology.co.uk)

### REST OF THE WORLD

[support@innovative-technology.co.uk](mailto:support@innovative-technology.co.uk)

