

SECTION 6

NV11 MANUAL SET

TECHNICAL APPENDICES

INTELLIGENCE IN VALIDATION



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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:

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

Capacity	
Storage	300 or 600 notes
Note Float module	30 notes

Weight	
NV11	2.2 kg

Interface Protocol	
	eSSP; ccTalk (CC1, CC4)



APPENDIX C – GLOSSARY OF TERMS

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



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



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



APPENDIX D – ORDERING INFORMATION

The following information is required to order an NV11 validator:

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

