ccTalk PCI Card

This ccTalk PCI (Peripheral Component Interconnect) Card interfaces industry standard ccTalk enabled peripherals to a standard motherboard. This facilitates the use of mass-produced PC format control-boards to control amusement, ticket and other money handling machines. The same board can be used in desktop machines for low cost, rapid, system development, fitting directly in to existing PCI slots. It has a powerful 16-bit micro processor supplied with the required embedded software to quickly set up and run a ccTalk serial system, rapidly allowing developers to concentrate on the actual machine. The ccTalk PCI Card also makes machine peripheral upgrades simple, because core applications are decoupled from the monetary peripherals.

The card fits into a standard PCI slot and communicates with the PC CPU at "bus speeds", allowing the application to run on the PC whilst communicate indirectly with the card at high speed simply by reading and writing to shared memory. The card comes equipped with the required connectors to allow effective connection to all the key monetary peripherals.

The ccTalk PCI Card provides compatibility with the industry standard ccTalk serial interface to drive Coin Acceptors, Coin Hoppers and Note readers. Such peripherals include the RMS ccTalk, SRS, ccTalk Cube Hopper, Lumina and NVccTalk. The card has the facility to communicate with any ccTalk enabled peripheral. Other protocols can also be accommodated via a multi-interface card. The card can also drive LEDs, industry standard switches and a serial electronic meter.

The application of the ccTalk interface offers increased security, improved diagnostics, detailed error and status reporting and simplified harnessing. The ccTalk PCI card interfaces industry standard ccTalk enabled peripherals to a standard motherboard providing fast and effective development allowing resources to be focused on the machine application.

Key Benefits:

- Cost effective and resource efficient implementation of money handling peripherals.
- Frees up the application programming, development and manufacturing staff to concentrate on the core applications.
- Product Speed to market.
- Plug and Play.
- Decouples core applications from the monetary peripherals allowing simple machine peripheral upgrades.
- The multi-protocol availability means no additional communications software to be written.
- Comprehensive services, diagnostics and error reporting.
- Ability to configure coin channels.
- Future proof - state of art peripheral access with new device upgradeability

Key Features:

- Fits to a standard PCI slot and communicates with the PC CPU at "bus speeds".
- Powerful 16-bit micro controller.
- Fully field upgradeable as new peripherals are developed or required.
- The micro-controller can support a range of communication protocols.
- ccTalk Protocol provides a 3-wire daisy-chain link.
- Drives 16 industry-standard switches or LED’s.
- Serial electronic meter driver.
- Full range of connectors for monetary peripherals.

Lumina Banknote Validator

The Lumina Banknote Validator is a simple compact modular system that offers trouble-free note handling. Ideal for use in AWP, amusement games and change machines.

Key Benefits:

- Low-cost, high-performance solution.
- Truly global – accepts most of the world’s note currencies.
- Field update of note sets.
- High security, high resistance to fraud.
- High performance level is self-maintaining.
- Handles multiple currencies at the same time.
- Optimum in-service time.
- Easy cleaning and maintenance.

Key Features – general:

- High-speed acceptance, less than 2.5 seconds vend time.
- Very high first-time acceptance rate of street-grade banknotes.
- ccTalk serial interface or standard parallel interface.
- Multiple, precision optical and security sensors.
- Automatic calibration of sensors for high performance.
- Optical, anti-stringing design.
- Alternative programming methods – EPROM replacement/download.
- Compact, modular system with easy access to note path.

Key Features – serial:

- ccTalk serial interface, with encryption.
- Higher level of security.
- Comprehensive diagnostics and error & status reporting.
- Detailed monitoring of product performance.

Optional Features:

- Choice of bezel – 80mm or 82mm.
- Choice of bezel colour.

Denomination Acceptance:

Lumina accepts note widths from 55mm to 80mm without modifications. An optional mounting escutcheon is available to accept note widths up to 85mm.

Designed for multi-currency and multi-denominations, Lumina’s 16 note, 4-way memory recognition provides tremendous acceptance program flexibility.
The **Ardac 5** utilising the **World Acceptor Cassette System** is a world-proven, self-contained note/bill and barcoded ticket/coupon acceptor, with a cassette stacking system that offers high performance, high security and fast, trouble-free note and ticket/coupon handling. Available for a wide range of applications, including casino slot machines, change machines, ticket machines, fuel dispensers, telephone card vending, merchandise vending, banking and other automated money transaction applications. Based on world-proven Ardac technology, **Ardac 5** also delivers a new barcode reading option for the latest ticket applications and a range of enhanced protocols including – Ardac II and ID003. Designed for acceptance of virtually all the world’s note/bill currencies it can also handle multiple currencies of varying sizes at the same time. EPROM or Flash memory is used to program up to 260 individual note/bill profiles that allow reliable discrimination of up to 65 banknotes in four directions.

**Ardac 5** optically scans each note/bill to determine authenticity and denomination, resulting in very high security, and also incorporates an internationally proven optical and mechanical anti-counterfeiting design to protect against fraudulent activity. The optional addition of the barcode reader into the acceptor allows the **Ardac 5** to optically scan barcoded tickets/coupons sending the information to the host system for assignment of value. Individual notes/bills may be inhibited from normal acceptance, giving operational flexibility and enhanced security when needed. Accepted notes/bills are routed and stacked within the removable, and optionally lockable, cassette. This has a capacity to hold up to 550 street-grade notes, and, with no motor or electrical connectors, is ideal for use as an interchangeable unit. The Smart Cassette option, with electrical connections for touch-memory data storage, can be used to provide the back office with recorded information, such as its identity and location, acceptor performance, attempted tampering details, and the amount of money held in the cassette.

The modular **Ardac 5** comprises the acceptor and cassette mounted within a steel chassis that allows simple location of the unit within a host machine. The acceptor and cassette can be easily removed from the chassis and opened for periodic inspection or cleaning without the use of tools, simplifying general maintenance. Advanced maintenance and system monitoring is performed using the built-in diagnostics function in association with a PC.
## Technical Data Summary

### Dimensions

<table>
<thead>
<tr>
<th></th>
<th>Acceptor</th>
<th>Cassette</th>
<th>Chassis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Height</td>
<td>90mm (3.520”)</td>
<td>204mm (8.042”)</td>
<td>316mm (12.442”)</td>
</tr>
<tr>
<td>Width</td>
<td>107mm (4.210”)</td>
<td>88mm (3.476”)</td>
<td>116mm (4.586”)</td>
</tr>
<tr>
<td>Depth</td>
<td>229mm (9.000”)</td>
<td>220mm (7.940”)</td>
<td>180mm (7.100”)</td>
</tr>
<tr>
<td>Weight</td>
<td>1.04kg (2.23lb)</td>
<td>1.01kg (2.24lb)</td>
<td>1.8kg (3.50lb)</td>
</tr>
</tbody>
</table>

### Note Size

- Minimum Width: 62mm (2.443”)
- Maximum Width: 83mm (3.270”) [85mm (3.350”) option]
- Minimum Length: 120mm (4.728”)
- Maximum Length: 172mm (6.777”)

### Cassette Stacking Capacity

Up to 550 street-grade notes

### Environmental

- Temperature Range: Operating: 0°C to 60°C
- Storage: -30°C to 60°C
- Humidity Range: Up to 90% RH non-condensing

### Electrical Interface

- Voltage: Nominal: 12 – 24Vdc range
- Current: @ 12Vdc: 830mA
- Typical (running): 400mA
- Minimum (idle): 4.0A
- Maximum: 1.6A

### Operational Specification

- 65 notes/bills x 4-ways, 260 profiles
- Automatic calibration of sensors for high performance
- Vend time less than 3.25 seconds
- Individual note/bill inhibit using 8-position dip switch
- Easy access to note/bill path for inspection and cleaning diagnostics via PC (RS232)

### Communications Interface

- Ardac II serial protocol RS232, ID003 and barcode interface

### Security

- Ardac 5 incorporates an optical and mechanical anti-stringing design to deter and protect against fraudulent activity, such as pullback manipulation, thus providing optimum security.
- The stacked banknotes can be secured in an optionally lockable cassette using dual locks: Barrel length: 16mm to 28mm (0.625” to 1.125”)

### Optional Features

- Lockable cassette – dual locks
- Smart cassette – audited contents
- Plastic cassette – made from ruggedised engineering plastic

For further information please refer to the appropriate Technical Manual.

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NV7 Banknote Validator
For Gaming, Amusement and Vending

Features:
- Advanced four lens optical reading system with top and bottom note scanning.
- Integrated stacking system with removable cassettes.
- All note handling contained within one unit eliminating the need for separate cash boxes.
- NV7 can accept up to 32 different notes.
- Designed to accept all the Euro notes.
- Very high acceptance and excellent security.
- Simple easy servicing.
- Integral anti-fishing (stringing) devices to prevent mechanical fraud.
- Currency database for many countries available free over the internet.
- Cloning - NV7 to NV7 re-programming for easy in-the-field updates.
- Currency programming via PC.
- Horizontal mounting for gaming and amusement applications.
- Vertical vending bezel to suit many popular designs of vending machines.
- User selectable high security or high acceptance.
- Parallel interface similar to original 'Smiley' design.
- Pulse stream - PC programmable.
- SSP - Smiley Secure Protocol - serial, protected communications to prevent system fraud and allow host machine re-programming.
- Available interfaces: Pulse, Parallel, Binary, SSP, Simple Serial, CCTalk and MDB (using IF5).

NV4 To NV8 Adaptor Plate
- For replacing NV4 to NV8 Note Validator.
  (Check dimensions of NV8)

<table>
<thead>
<tr>
<th>Part no.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3NV7H-300</td>
<td>Banknote validator horizontal stacker 300 notes</td>
</tr>
<tr>
<td>3NV7H-600</td>
<td>Banknote validator horizontal stacker 600 notes</td>
</tr>
<tr>
<td>3NV7V-300</td>
<td>Banknote validator vertical stacker 300 notes</td>
</tr>
<tr>
<td>3NV7V-600</td>
<td>Banknote validator vertical stacker 600 notes</td>
</tr>
<tr>
<td>3NV7VD-1</td>
<td>Banknote validator vertical down + lockable stacker</td>
</tr>
<tr>
<td>3NV7V-1</td>
<td>Frontplate vertical</td>
</tr>
<tr>
<td>3NV7H-1</td>
<td>Frontplate horizontal</td>
</tr>
</tbody>
</table>

NV8 Banknote Validator
For Gaming, Amusement and Vending

The NV8 is the result of over 10 years experience in developing and manufacturing highly competitive bank note validators for the Gaming and Amusement Industry. There are now over 1.5 million ITL validators in use in over 70 countries around the world.

Features:
- Combined optical assembly with the noth path - using multiple wavelengths and sophisticated analysis software. 16 bit CISC processor with integral flash memory featuring Digital Signal Processing module.
- NV8 can accept up to 16 different Notes.(Included all Euro notes)
- Standard validation time 2.5 seconds.
- Easy servicing, low cost of ownership.
- Integral anti-stringing devices to prevent mechanical fraud.
- Currency database for many countries and firmware updates available free through the Internet.
- Currency programming via PC.
- Illuminated note entrance to clearly identify insert point.
- Kevlar lined belts to drive the banknotes right through the validator with full contact at all times.
- 11-15Volt operation with 1 Amp peak current.
- Mounting aperture 105mm x 43mm (4 1/8” x 1 1/16”)
- Size: W x D x H 100 x 161 x 85mm. D= overall size till front of door.
- Available interfaces: Pulse, Parallel, Binary, SSP, Simple Serial, Cctalk and MDB (using IF5).
Side Mount Box
Easily fitted to your machine, the NV8 offers a reliable and accurate note validator.
No more ‘coin handling’ problems, whilst enhancing the machine take.

<table>
<thead>
<tr>
<th>Part no.</th>
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</thead>
<tbody>
<tr>
<td>39NV8-115</td>
<td>Side mount box</td>
</tr>
</tbody>
</table>

Download Adaptor Kit for NV4, NV7 and NV8
- Adaptor kit for easy programming of banknote validators types NV4, NV7 and NV8.
- Kit contents: Dongle, connection wires and program CD.
- Frequent updates through internet for firmware and software available.

<table>
<thead>
<tr>
<th>Part no.</th>
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<tbody>
<tr>
<td>39F6-1500</td>
<td>DA kit for NV4 and NV7</td>
</tr>
<tr>
<td>39NV8-1500</td>
<td>DA kit USB for NV8</td>
</tr>
</tbody>
</table>

Interface Board with MDB Protocol for NV7 and NV8

<table>
<thead>
<tr>
<th>Part no.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>39IF5</td>
<td>Interface board MDB protocol</td>
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</table>

Universal Bezel for NV4 Banknote Validator

<table>
<thead>
<tr>
<th>Part no.</th>
<th>Description</th>
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<tbody>
<tr>
<td>39IT4-182</td>
<td>Bezel for NV4</td>
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</table>

Transport Rollers for NV4

<table>
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<tr>
<th>Part no.</th>
<th>Description</th>
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<tbody>
<tr>
<td>39IT4-14</td>
<td>Transport roller with rubber wheels</td>
</tr>
<tr>
<td>39NV4-218</td>
<td>Transport roller without rubber wheels</td>
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</table>