



# JADE Breakthrough

The Visa Members' Global Payment Solution



# The Fast, Most Competitive Payment Device for EMV Migration

# Cost Effective...High Security... Plug & Play

JADEBreakthrough addresses the varying requirements of different markets across the world. JADEBreakthrough features a powerful 32bit processor, runs on CyberSoft, its state-of-the-art operating system, and is delivered with an IDE (Integrated Development Environment) toolkit.

'C' based development environment, *CyberAPI*, is also available on *JADEBreakthrough* for easy application development. The main characteristic of this device is that it is easy to use, easy to manage and has a high security built-in PINpad complying to Visa PED requirements.

Moreover, in addition to dial-up communications using 2400bps or 33.6Kbps (option) modem, *JADEBreakthrough* supports the optional Ethernet communications with SSL encryption security that deliver a variety of advantages - super-fast transactions and always-on service.











# What is in the JADEBreakthrough package?

- A powerful payment machine, EMV level I, EMV level II and Visa PED
- A retail payment application for international credit and debit (ISO8583)
- · A fast (12.5 lines/sec), easy to load printer
- An option to choose a fast modem (33.6Kbps)
- An option to choose Ethernet communications
- A license of the CyberWrite software development toolkit
- A license of the pcTMS<sup>™</sup> terminal download system

## **Technical Specifications**



## Standard Configurations

#### Processor

RISC 32bit (20 MIPS)

#### Memory

. SRAM: 512KB (Option: Up to 2MB)

· Flash: 1.5MB

#### Display

• 128 x 64 pixel graphic display

. Up to 8 lines x 21 characters

Backlit

#### Keypad

21 keys

12 numeric keys 4 soft function keys 2 scroll keys CANCEL, CLEAR & ENTER keys

Magnetic-stripe card reader

Tracks: 1&2 or 2&3

Bi-directional

#### Smartcard reader

ISO7816 compliant

. EMV level I (2000) certified

#### Security Access Module (SAM)

2 (Option: Up to 4)

#### Modem

Async: 2400bps (Option: Up to 33.6Kbps)

Sync: 1200, 2400bps

#### Peripheral ports

• RS232 x 2

• Telco x 1

#### 10/100 Base T Ethernet (Option)

Standard RJ45 connection

· Supports static & dynamic IP address

\* 1 x RJ45 or mini-din serial port

Speed: 1200bps ~ 115Kbps

\* Flow control

Software (AT command) Hardware (RTS/CTS)

Supporting protocols
 ARP, IP/ICMP
 TOP LIDE

TCP. UDP DHCP client PPPoE

Security

User ID & password Data encryption: SSL

#### Security

DES, 3DES encryption

DUKPT, Master/Session key management

Visa PED certified

#### Printer

- 2" thermal
- 12.5 lines/sec
- Clamshell paper loading

#### Power

Input: AC 100V ~ 240V, 50/60Hz

Output: DC 8.0V/3.0A

#### Physical dimensions

\*86.4mm (W) x 212.6mm (L) x 94.5mm (H)

#### Weight

•537g

#### **Environmental**

• Operating temperature: 0°C ~ 40°C

\*Storage temperature: -40°C ~ 65°C

### Software Environment

CyberSoft CyberAPI

EMV level II (2000) certified



## Software Development Tools

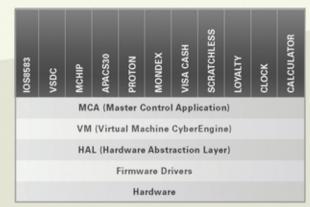
#### CyberWrite

Since CyberWrite is a complete GUI, all the features of a windowing environment such as "Point & Click" and "Drag & Drop" visual programming methodology is supported, allowing users to create applications in an IDE that is delivered in Java™.\*

#### CyberTerm

Applications written with CyberWrite can be tested and debugged on the host development system using CyberTerm, a PC based simulator to test and debug the applications before loading to any terminal or target devices.\*

<sup>\*</sup>Available on PC (Windows), Apple, Unix, Linux



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