

# HITACHI

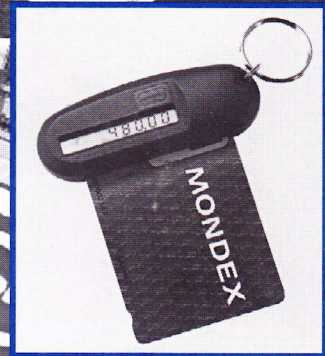
# Southern Cross



A Newsletter for the Hitachi Group of Companies in Australia and New Zealand

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## COVER STORY



## Mondex:

## From Concept to Reality with Hitachi

Every day of the year, millions of cash transactions are made around the world. In fact, cash accounts for 90% of all transactions. Existing credit cards capture a mere 10% of all payments. However, this is all about to change. A card based cash substitute will soon replace actual cash in many wallets around the globe. Already, cash cards are being widely tested in the UK, Canada and even on the Gold Coast and Canberra right here in Australia. A large trial in Hong Kong is scheduled for later this year and it is believed that 1997 will see a broad scale world-wide public uptake of the cash card.

There are several varieties of cash cards being tested but only one that offers all the core features of cash plus the added benefits of security and convenience. This card, known as Mondex was the initiative of one of the UK's largest banks – National Westminster Bank. Now franchised throughout the world through other banking organisations, Mondex is set to become the world-wide alternative to cash. The essential difference with the Mondex system is that it is not transaction-based. The stored value moves from consumer to retailer without clearance at a central computer system.



## Hitachi Technology makes Mondex different

The key to the Mondex system's features and versatility is the Hitachi developed and manufactured 'attack-resistant' chip on the Mondex card and the way it is used.

In the Mondex system, all value transfers are from one Mondex chip to another Mondex chip, sent as a unique digital signal that confirms the authenticity of each Mondex card and the details of the transaction. The Mondex card uses an Hitachi microprocessor, a smartcard chip with 8KB of memory, in which is embedded the protocol for receiving, storing, transacting and locking Mondex value in up to five different currencies. No signatures or authorisations are required so Mondex value can flow as freely and universally, yet more securely and widely than cash. The card's memory also stores a log of the last ten transactions.

### Hitachi: World leader in smart card chip technology

Taking the Mondex concept from idea to reality involved a huge investment in innovative development, trial and refinement of leading edge encryption and chip manufacturing technologies. As an experienced developer and supplier of electronic banking infrastructures, Hitachi was the choice of the National Westminster Bank, to provide chips for the Mondex system. An intense commitment to research and development helped Hitachi to create chips for Mondex cards which met the required standards for security and reliability. As well, it ensures they will withstand use in every country in the world.

The security encryption of the Hitachi IC chip on Mondex cards makes the Mondex system feasible. To make it practical, devices with the Hitachi Control LSI installed will act as an interface between the Mondex system and existing

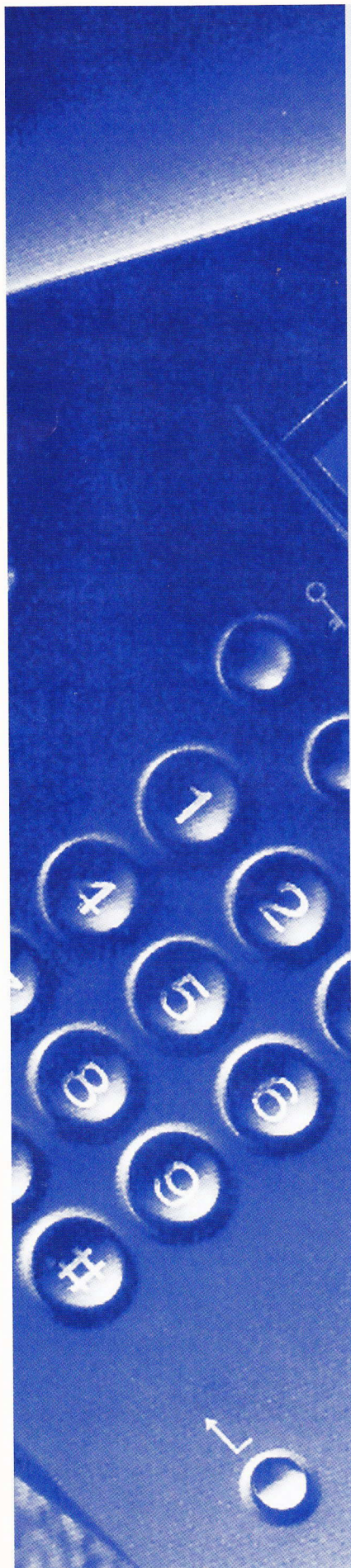
infrastructures. Hitachi's Total System Solutions for Mondex, based on experience in developing and producing the Mondex card IC chip, the Control LSI and banking infrastructure in Japan, include equipment for every facet of the Mondex system. As a Total Mondex System vendor, Hitachi is able to provide devices for personal use, retail use and banking infrastructures – everything that is required to implement an entire Mondex system.

At the personal level, there is the Mondex card, Keyring Balance Reader and an Electronic Wallet device. At the retail level, Hitachi offers a range of Mondex-compatible devices that can replace or adapt existing equipment, such as Mondex Value Transfer Terminals for supermarkets. And in banking infrastructure, Hitachi offers solutions that will interface between bank's existing accounting infrastructures and Mondex cardholders, the Value Store and the VCMS (Value Control and Management System).

In addition, adapters for PCs and Mondex telephones exploit the electronic benefits of Mondex value that go far beyond the physical limits imposed by cash. They enable 24-hour home and office banking through modem connections, and in the future, payment for purchases on the Internet.

### Australia and New Zealand Banks form joint venture to offer customers Mondex

In Australia and New Zealand, the banking community is preparing itself to maximise the benefits of Mondex. Recently, in Australia, Westpac, the Commonwealth Bank, National Australia Bank and Australian New Zealand Banking Corporation formed a joint venture known as Mondex Australia and in New Zealand, Westpac/Trust, ANZ, BNZ, Auckland Savings, Countrywide and NBNZ formed Mondex New Zealand. Reportedly they have paid more than \$10 million for the rights for the Mondex







*Mr Hiroshi Asao Acting Manager New Financial Systems Hitachi Ltd, Ltd "Describing the functions of Hitachi's Mondex chip to people from Hitachi Data Systems Senior Executive visit."*

smart card technology. It is expected that smart cards will take off quickly in this region.

## HDS/HAUL positioned as total Mondex Systems Integrator

According to Tim Ward, Senior Account Manager at Hitachi Data Systems, and the Mondex product champion here in Australia and New Zealand, "Hitachi Data Systems (HDS) has been working closely with Hitachi Australia (HAUL) and Hitachi Limited, Japan, for almost two years in relation to Mondex. The focus has been to utilise Hitachi technology in creating total solutions including specific applications for banking customers in the region. HDS has a growing team of service specialists and systems integrators who will help the banks integrate Mondex into their existing banking systems.

Now that the official take-up of Mondex franchises has occurred in Australia and New Zealand, Mr. Ward and his HDS/Hitachi team are pursuing three specific Mondex opportunities likely to dramatically increase the Mondex profile in

the region in the next six months. Success with these opportunities should see the HDS/Hitachi total solution be the choice of all banks, not only in the region but elsewhere in the world.

## Recent Customer Visit to Japan

Said Mr. Ward, "There is certainly reason to be confident, judging by the reaction from HDS customers that recently visited Hitachi in Japan as part of the annual Senior Executive visit hosted by HDS' Vice President and General Manager for Asia-Pacific, Mr. Cliff Stratton. The group was comprised of 24 people including representatives from six banks from Australia, Indonesia and Thailand."

"The visit included presentations and demonstrations of Mondex by Hitachi's New Financial Systems Group. Demonstration units (Mondex cards, personal readers and wallets) were also supplied to the visit group."

As Mr. Stratton describes, "The scene on the bus following the presentation was euphoric. Everybody was asking questions. 'When can I have some?.... You know what else we could do with it!....' 'Put me in touch with Mondex' ...'Can I get more specifications?'. This excitement started on Tuesday and was still a major topic of conversation on Friday night at the end of the visit."

## Further Progress

Mr. Ward and Mr. Jiro Katsura, Managing Director of HAUL recently accompanied Mr. Shimayama, the General Manager of Hitachi's International Business Planning and Development Group, for meetings scheduled with ANZ Bank personnel responsible for Mondex. During this visit, the Hitachi representatives visited several potential Mondex pilot and demonstration sites.

Meetings which started at the end of July between HDS, HAUL, and Hitachi's New

Financial Systems Team, headed by Mr. Kotaro Yamashita, have encouraged further co-operation among a growing number of financial institutions and electronic industries towards the implementation of Mondex in Australia and New Zealand. The momentum is gathering with pilot programs and other exciting projects planned.

According to Mr. Katsura, "Australia and New Zealand are particularly well positioned to widely implement the Mondex cash card because of the existing EFTPOS infrastructure." Said Mr. Katsura, "It is quite easy and cost effective to attach Mondex devices to this existing technology." The move towards the implementation of Mondex technology is fast gathering momentum. According to Mr. Katsura, "This project represents an exciting future for Hitachi in Australia and New Zealand. And one that will significantly impact the way these countries transact their normal day to day business." ■



*Demonstration of Mondex transfer at Hitachi's Omori 2 building in Tokyo to HDS (Tim Ward) Adelaide Bank (Glen Hickey) Bangkok Bank (Suteera Sripaiboon).*