Smartband® Systems

A new way of operating large events

Band up!

Scan in!

Charge up!

Spend up!

Enjoy!

DEVtech Technologies

Introduction to Smartband
R.F.I.D Solutions for Patron Management

What is RFID?

RFID stands for Radio Frequency Identification.

In simple terms, it is like an electronic bar code that is read by radio waves instead of light or direct contact. Each RFID tag is made up of two main parts, an antenna that receives the energy to power the chip and transmit data back and forth and a chip that holds data.

RFID has many benefits over existing magnetic strip and bar code systems. Unlike magnetic stripe cards, it needs no physical contact, does not wear out and is not effected by magnetic fields. Bar codes can be reproduced on a home computer and are easily scratched, they also take up valuable space on the card surface that could be used for pictures, logos, advertising, branded sponsorship etc.

RFID tags can be read through clothing, skin, water, etc. There are also no moving parts to wear out in the reader that passes the information to the controllers. The surface of the card can be damaged and not effect the transponder housed safely inside it's plastic shell, if the same was done to a bar-code or mag-stripe, it could be rendered useless.

They also offer excellent security because the transponder programing equipment is not readily available, and they can not be simply reproduced on a computer and printed to a band or card. Each tag also has it's own unique number that is extremely difficulty to replicate, programmed at the point of manufacture.

You may have come across RFID already without knowing it. Most commonly it is seen in the application of access control (opening doors, etc.), Or you may have had your cat or dog implanted with a chip to identify it if it is ever lost.

Lately in the headlines you may have seen it being applied to retail shops as an upgrade from the old fashioned bar code.

Or, you may have seen on T.V how nightclubs overseas are implanting their clientele with implants instead of membership cards. (This could be thought of as a little extreme, but growing in popularity.)

One way of looking at it, is, that bar codes could be regarded as vinyl records, magnetic striped cards as cassette tapes and RFID as compact disks.

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Why should I choose a RFID solution?

The wonderful thing about the RFID technology is it only requires a small electronic component within the access device. This enables us to provide disposable wrist bands, smart cards, key tags, stickers, entry tickets, all with the same cross compatible technologies.

They are highly secure and can be interfaced to Point Of Sale systems (POS), turnstiles, lockers, Personal Digital Assistance (PDA), boom gates, doors, kiosks and access control systems.

Many of the above features can operate without the need of extensive cabling networks and computers because data can be written to the transponders, making the system very portable.

It is also a tried and tested concept, the security industry has been using similar implementations for over 20 years, guarding many secure instillations.

Can it work with my existing systems?

RFID cards are readily available with magnetic stripes if you are currently using a mag-stripe system; they are also manufactured to the same size and thickness as most thermally printed cards as used commonly at the present time for ID cards etc.

Our close relationship with Precision Dynamics Corporation in the United States of America provides us with the most up to date hardware and software solutions enabling the opportunity to merge with existing patron management and loyalty systems. The flexibility of the system makes is simple, very economical and safe.

We design and build the hardware and software pulling on our vast experience from working in the entertainment and security industries. We believe you will be pleasantly surprised by how diverse our systems can be.

Due to the stand-alone design, multiple systems can share the same card or band *e.g. Smartcard enables access to facilities and the magnetic stripe integrates with an existing loyalty systems, without the costs of linking databases etc.*

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We have used normal bands for years, why change?

Firstly, there were coloured cable ties, then the wonder of plastic and paper bands in all colours and flavours; the original wrist bands were not easily accessible and the thought of making copies was out of the question.

UNTIL!

The internet gave access to 100's of wrist band suppliers, and the desire to enter an event far out weighed the effort to copy bands.

Also, the increased popularity in outdoor events provides many opportunities where "pass-back" can occur. The term pass back is used where someone enters the venue and then hands the band, laminate or ticket back through a fence or gate.

Over the last 24 months we have seen some extremely clever and almost perfect copies of bands, tickets and laminates. The attention to detail has ranged from coloured paper and sticky tape, wrist bands spray-painted to match the colour to the extreme of near professional screen printing.

The above behaviour leads to several predominate factors, some including:-

- Loss in revenue.
- Over-crowding, risking Fines from enforcement agencies.
- Disgruntled partons that have purchased genuine tickets.
- Promoter or venue with occupational health and safety risks.

The Smartband® system also offers many other features that can increase revenue with the following value adding equipment.

- Cashless point of sale.
- Pay per use lockers.
- Pay per use toilets.
- Cashless vending equipment.
- Entertainment rides.

Smartband® can also be used to manage:-

- Staff time clocks.
- Staff access to restricted areas.
- Age verification.
- Catering services. (Staff meals)
- Patron Identification.
- Lost children.
- Multi day event access.

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Access control & Ticketing

Controlling who has access to an event, or an area within, becomes very simple with Smartband® technology.

We can offer membership cards, key fobs, stickers, reusable wrist bands, disposable wrist bands and tickets all using the same technology. A member can have access through the same entry gates as a patron attending a function or special event.

High security 'transponders' are the highlight of our system. Each band has a transponder with a unique identification number which is programmed into the band at the time of manufacture and can not be changed or emulated. This is then overlapped by several codes of our own unique design.

The codes are different for every event and every venue thus making it impossible to predict what system of encryption is being used. The reuse of a previous event tickets an impossibility.

We hold all the valuable data that is used on the bands which ensures that there cannot be any breach in the system.

Our access system, be it via turnstiles, barriers or manual checking with hand-held PDAs, flags the band with information that is referenced each time it's used. If a genuine band is passed through a fence and presented for entry, the system will block entry while notifying the operators who then can disable the band from use This prevents it's usage to access or to operate Smartband® within the event

We can also identify bands that have been "forged" by checking for the required information. If a few start appearing, security can be notified that someone is possibly selling fake tickets and take the required action.

If a series of tickets were stolen, we can remove the tickets from the system and flag them as a missing item, making it clear when it's presented that it has been reported as lost or stolen to the operator overseeing the entry area.

Devtech Technologies has just expanded and made portable, an already highly accepted security access system used world wide.

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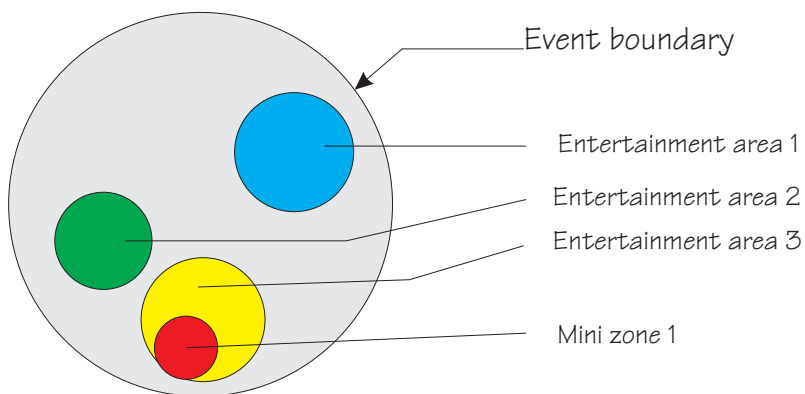## R.F.I.D Solutions for Patron Management

Multi-day events

Events that are held over several days can create a ticketing nightmare. But not with Smartband®! We can program the transponders and access units for single day entry, nominated day, or every day, depending on the individual requirements of the event management.

The band is safe enough to leave on the arm for multiple days, enabling the parton to keep the band on until the time programmed on the transponder has expired, or the event is finished.

If the event includes a camp site, access can also be controlled via the bands for a single day, or multiple day camping.

Multi-zone access

For events where access to different entertainment areas is controlled or ticketed differently, the Smartband® system can easily manage the logistics with the same band giving the parton entry into to the event boundary, and then access into the particular area that they have paid or been authorised to access.

Event boundary

Entertainment area 1

Entertainment area 2

Entertainment area 3

Mini zone 1

Example of zoned areas with in the boundry

Management, staff and security, can have access to all zones as required.

As the Smartbands® are available in up to seven different colours, areas can be matched electronically and visually by colour as required. We can provide customised printing if required.

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Age verification

All ages events where alcohol is being served in separate licenced areas can create problems with patron management because of the difficulty in screening those who are legally able to drink.

When crowds swing from one area to the next, large bottle-necks occur and mistakes are made when checking identification at the entry point. This is due to the pressure placed upon those responsible for the verification. The crowded area also enables people to pass through without being seen, or worse, security staff letting friends through.

The Smartband® Age Verification system streamlines this process by removing the ID verification from the entry points and moving them to a separate location where a band can be enabled for the restricted or licenced area.

The patron, if they wish to access the licenced areas, can proceed to an age verification check point, where their age can be confirmed. The band is then encoded and the patron, now verified, may then proceed to the licenced area.

If the patron provides fake ID, the band can also be flagged so if they try another type of ID at a different check point the operator will be aware that this is not the first time the patron has tried to verify their age.

The licenced areas which are fitted with turnstiles or barriers, can then provide a throughput of up to 40 people per minute because the same system that enabled them entry into the event now controls the access to the licenced area.

This rapidly speeds entry and reduces bottle-necks and the number of staff required to sit at the entry points and check identification.

If the patron has entered the event without an authorised band, they will prevented from accessing the licenced area, adding more security to the event, and discouraging illegal entrees.

As the age verification system expands into more events, illegal entrants will be more inclined to purchase a genuine ticket.

With the addition of exit counting equipment, the system can track the number of patrons within the licenced area and automatically control the numbers as per the licencing requirements.

The counting system's numbers can be changed on the fly if it is decided that the area has too many people inside, or if the night is drawing to a close.

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Cashless events / Stock control

Handling and controlling cash is always a problem at large venues or events. You are relying on first time staff to handle cash at the point of sale, gambling on their cash handling skills and more importantly their honesty.

Armed guards and armoured vehicles are expensive and the logistics of moving them around an event where there are thousands of people only makes things more difficult.

The Smartband® can offer a system that can reduce these situations.

Not only is the smart band a way of controlling who gets in and out, and if they are of age, we can credit and debit the band with funds loaded on at a E.F.T.P.O.S. (Electronic Funds Transfer at Point Of Sale) kiosks, or at dedicated cashier locations.

Simular to a ATM (Automatic Teller Machine) the patron can swipe their card through kiosk and load funds onto their band which then can be used at any of the following:-

- Bar facilities
- Food outlets
- Merchandise outlets
- Toilets
- Lockers / cloak facilities
- Entertainment rides

Kiosk unit

Funds collected with the system can be completely controlled by the venue / event management company, especially where profit sharing agreements have been put in place with venders.

Smartband® transactions are fast and more convenient to the consumer.

Because the bar is operating on a POS system, stock sales can be tracked and monitored. The data can be graphed so predictions can be made.

Drink tickets have many flaws, where even constant auditing is unable to detect the tickets sold, people change the minds and want to swap the tickets, or ticket rolls are stolen from the bars. The Smartband® solution makes this activity a thing of the past.

Its quite often possible for an intoxicated patron to seek service at another bar. The patron lockout option enables the bar person to prevent an intoxicated patron from obtaining another alcoholic drink until a specified time as passed.

Also the next-drink time stamp can prevent a purchaser from buying another drink until a certain time has expired, ensuring that responsible service is maintained.

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Staff security
Secure Laminates

With laminate fraud increasing at "No Pass Out" events, the Secure Laminate is one of the best ways to combat this crime.

Because staff and talent wearing laminates have constant access in & out of an event, the standard laminates can be transferred to patrons waiting to get in, either through the fence, or someone wearing a pass can walk out with several passes in their pocket.

Fraudulent laminates are also appearing, they are very well made and because security are not vigilant in checking their authenticity they pass through without being recognised.

Eliminate these problems using our Smart Laminates. We provide you with a credit card sized pass, or work with you by providing stickers for your existing laminate format.

The passes can then be verified automatically through turnstiles or hand held units, and they can be marked as entered, preventing them from being passed back through the gate to gain re entry.

The passes can also be coded for access into different areas, e.g. An AAA can have access to all areas, AMA can be locked out of stage and change room areas etc.

We are also able to limit access by country, state, event and day. This feature prevents laminates being sold on ebay for example, gaining access to national touring events.

It also prevents contractors accessing the event outside their required call.

Staff catering

An added feature of using SmartBands or our Smart Laminates is that you can credit them with funds for catering.

Each band can be individually programmed, or a preset amount programmed on them at the time of the order.

We supply a PDA or POS unit to the catering company who simply scan the band and deduct the cost of the meal.

Separate amounts can be set for local, national, and international crew.

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Hardware
Patron access units

Retractable barriers

Retractable barriers are *by far* the fastest method for access to events. Most commonly seen in train stations.

Besides the speed advantage, they are all-most impossible to slide under making them very secure.

- Available for both permeant and portable installations.
- Ideally suited for entry and exit points.
- Operates in both directions
- Electronic tailgating protection

Half height turnstiles

Half height turnstiles are the simplest solution for automated access. They are easy to install and can be provided in a portable configuration.

- Ideal for licenced areas, staff entries, production crew access etc.
- Skid mount with wheels optional.
- Up to 40 people per minute pass through.
- Operates in either direction.

Full height turnstiles

For complete peace of mind, Full height turnstiles have the best security and can be left un-maned.

Better suited for permanent installations where gates are exposed to the outer boundary and speed is not a issue

- Suitable for exit and entry areas.
- Extremely secure.
- IP 54 rating, well suited for outdoor use.
- Single direction operation preferred.

Swing arms

If controlled disabled access is a must, the swing arm is the best solution.

- Ideal for where disable access.
- Enables deliveries to be trolled in.
- Portable skid mount units available.
- Able to operate in both directions.
- Up to 1 meter opening

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Hardware
Smartband® Accessories

Personal Digital Assistants

PDA units are a very effective way of processing Smartbands® on the fly.

- Ideal for licenced areas, staff entries, production crew access, checking laminates etc.
- Can be used in catering areas to deduct funds from bands.
- Compact and light weight.
- A must for event managers.

Handheld readers

In situations where laminates are in use, the handheld reader makes it simple to scan whilst being worn around the neck.

- Suitable for exit and entry areas.
- Interfaces to Smartband® controllers.
- Light weight and durable.
- Audio and LED feedback on scanning.

CF card reader

In situations where portable devices are a must (Laptops, PDAs etc. the compact flash interface makes perfect sense.

- Low current draw.
- Loads into a standard CF memory slot.
- Can read and write to all 13.56Mhz products we stock
- Adaptors available to interface to laptops without CF

RFID printers

If you are using the printable Smartband®, or thermal stickers with transponders, this little unit makes it a breeze.

- Prints and encodes bands.
- Available with 100mm print head.
- Fast, quite printing.
- Interfaces include serial, parallel, USB or ethernet.
- Windows 98SE, 2000 and XP compatible.

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Transponders
PDC Smart bands®

PDC Smart™ Superband®

The SuperBand® Wrist band is the ideal choice for large, all day events or multiple day events.

The are manufactured using a heavy duty plastic making them waterproof and resistant to damage. They feature a SecurSnap® permanent snap lock for securing the band onto the wrist.

The SuperBands® are available in the following colours:-

Red	Day glow pink	White
Blue	Day glow green	Yellow
Grape		

PDC Smart™ ScanBand®

The ScanBand® Wrist band ideally suited in situations where information needs to be printed on the band, as well as RFID data on the fly.

They feature a self destructive, tamper evident construction with a strong, securing adhesive.

Simular to the Smart-Stickers, they can be printed and programmed via a suitable printer.

Superbands®

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Transponders

Smart labels

Smart Labels have a direct thermal print surface and contain low profile transponder. They can be printed and programmer using a RFID printer/encoder, company logos can be printed on them with ease.

- Ideal for corporate functions with in an event.
- VIP identification / name tag
- Conference and trade show information enquiry system name tags.
- Interfaces to Smartband® controllers.
- Many sizes available.

RFID Smart cards

Smart cards can be printed and programmed using a dye-sublimation card printer & programer simular to normal cards, or for a high quality image Devtech can provide an offset printed card.

- Ideal for membership cards.
- Interfaces to Smartband® controllers.
- Staff clock in and out systems.
- Optional magnetic stripe for interfacing to existing systems.
- We can provide cards fully printed in full colour.

Key Fobs

These small and compact key tags can be printed in full colour. Simular to the cards, these are well suited for memberships, staff time clocks, access control, etc.

- Compact and light weight.
- Provided pre punched with hole for key ring.
- Interfaces to Smartband® controllers.
- Can be printed with bar code.