A little history

Until 1995 the control of patrol officers and watchmen was performed with a cylindrical shaped device that was large and heavy called a “Watch Clock”. It was created in the 1870’s by AA Newman. The Watch Clock made by Newman can still be found in use today in the 21st century. Internally it has a cardboard disc that performs a complete revolution every 24 hours. Keys were chained in places where the “night watchman” had to go. When you insert the key in the Watch Clock, a needle made a hole in the cardboard disk. According to the position of the hole you could tell what sites had been visited by the patrol officer and at what time the visit occurred. One hundred and twenty-five years later, in 1995, the engineers who founded Contronics created the first electronic tour device using technology based around the iButton that had been recently launched in the U.S. by Dallas Semiconductors Inc. The inventors of the original electronic tour device did not have the needed to patent the invention. To patent a new invention is a process that can take more than a decade and requires a large amount of money that the inventors did not have. Furthermore, after obtaining a patent they still needed money to defend it from other companies that violated it, a task impossible for a company that doesn’t have a staff of lawyers. So the inventors decided to evolve and continually improve their invention. With a small portion of the amounts that would be spent on patents and to enforce their patents, the inventors have devoted themselves to create even better products. So if someone could copy their device, they would be a step ahead and have a new, better product to introduce to the market.

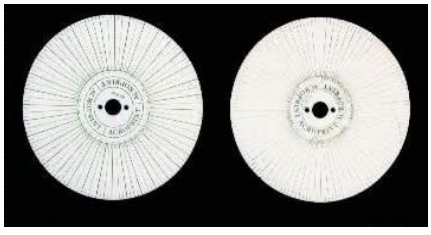
And that is exactly what is happening with Contronics: when other companies manage to make copies of our products, usually of inferior quality to the original, Contronics has a new product, modern and with new features to offer. The years have shown that this strategy is appropriate and decisive. This produced an evolution and continuous improvement in products and services offered by Contronics , as well as allows us to maintain our leadership in the global market.

Therefore it is natural that Contronics is the company with the greatest number of options in electronic tour devices, always offering the most modern and advanced equipment. After all, Contronics tour verification products are sold in more than 60 countries.

When purchasing solutions from Contronics to monitor officers and their patrols, you can always count on the support and maintenance of the manufacturer if and when the need arises - peace of mind that only the inventors and manufactures of the technology can offer. And what’s even better, we have several distributors around the world to assist you locally.

Watch Clock manufactured by Newman in 1902

Keys that were chained at locations that the patrol officer would visit

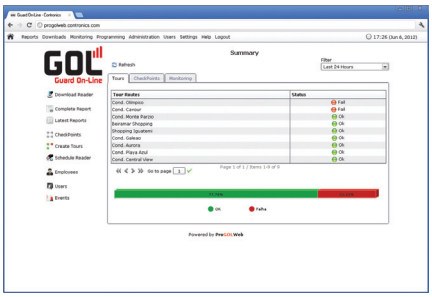


Cardboard disks that were placed inside the Watch Clocks and punched each time a patrol officer would insert a key

Technology Made Simple

PC Software

Guard On-Line:



Guard On-Line (GOL) is known as a high-performance software application that includes all the features of PROGuard as well as many other advanced functions, including real time monitoring via the web. In fact, more than PC software, GOL is a system composed of several executable programs; they all behave in a simple and integrated way, without complication. GOL is provided in several versions and sub-versions so we have a product that will meet your needs.

Versions of Guard On-Line:
Guard On-Line is available for:
1. *Desktop*
2. *Enterprise*
3. *WEB*

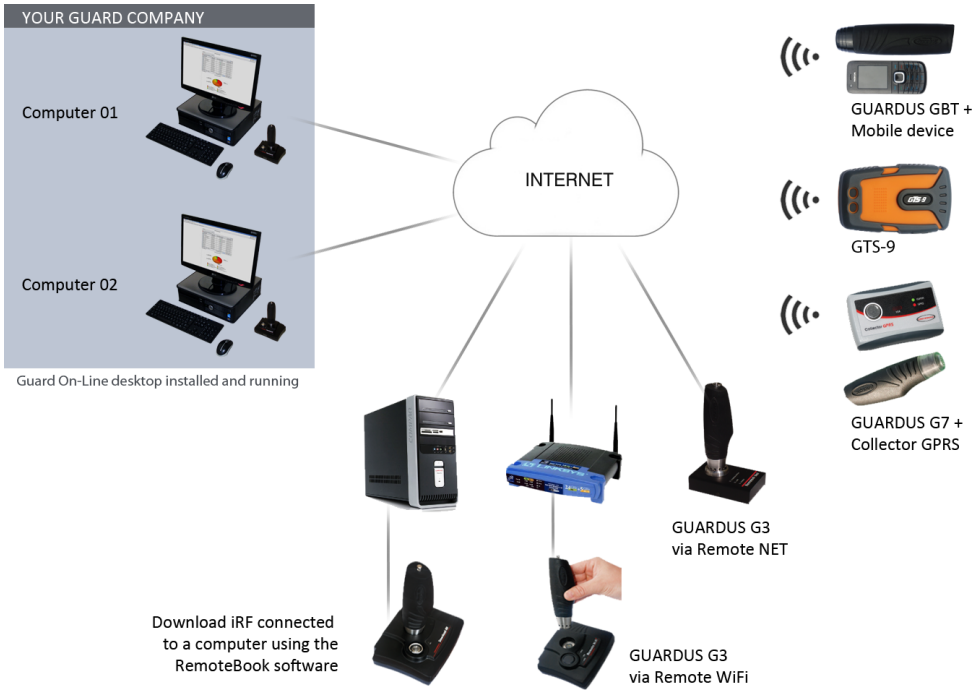
Guard Online is avaible in 3 versions :
a) *Light*
b) *Professional*
c) *Enterprise*

Guard On-Line Desktop:

Guard On-Line Desktop runs on Windows 7 and XP operating systems on desktop computers or conventional workstations (not recommended for servers). Besides all the features of PROGuard, it has a database manager that facilitates the control of tours conducted with several different devices.

Requirements: Internet Explorer 7 or greater, which is already part of MS Windows.

Guard On-Line Desktop is installed and run on a single computer the same way as any other software application for Windows®, such as PROGuard. If more than 1 user needs access to Guard On-Line Desktop at the same time, it may be installed on more than 1 computer.
It is not recommended that multiple installations of Guard On-Line Desktop (multiple computers) share the same data.

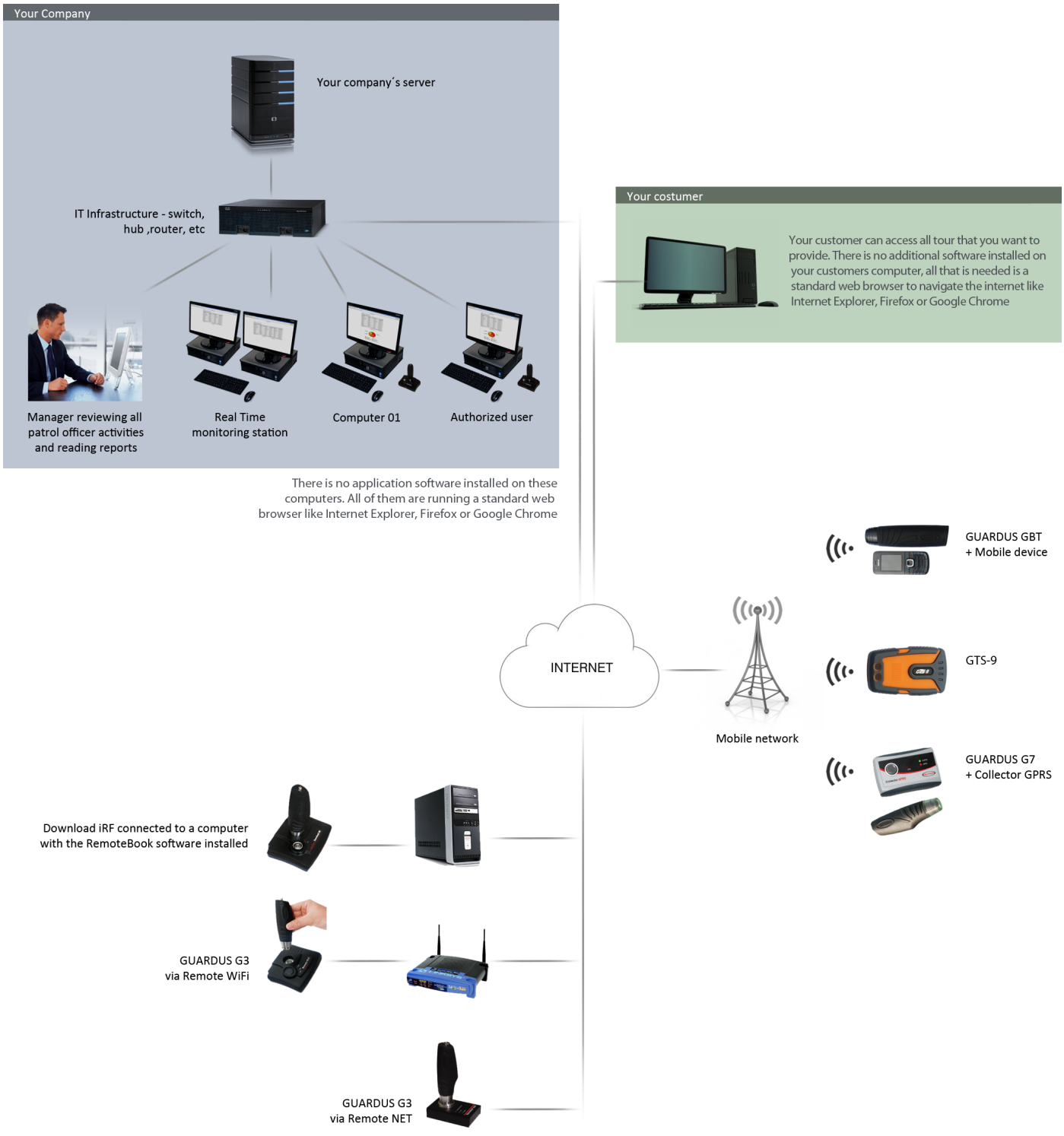


CONTRONICS

Technology Made Simple

Guard On-Line Enterprise:

Guard On-Line Enterprise is installed and runs on a dedicated computer or server in your company. We recommend using Windows Server 2008 or higher, it also works under Windows 7 and XP operating systems. It has a web interface and users access it through a web browser just as if they are surfing the internet. It is especially recommended for large and medium companies.



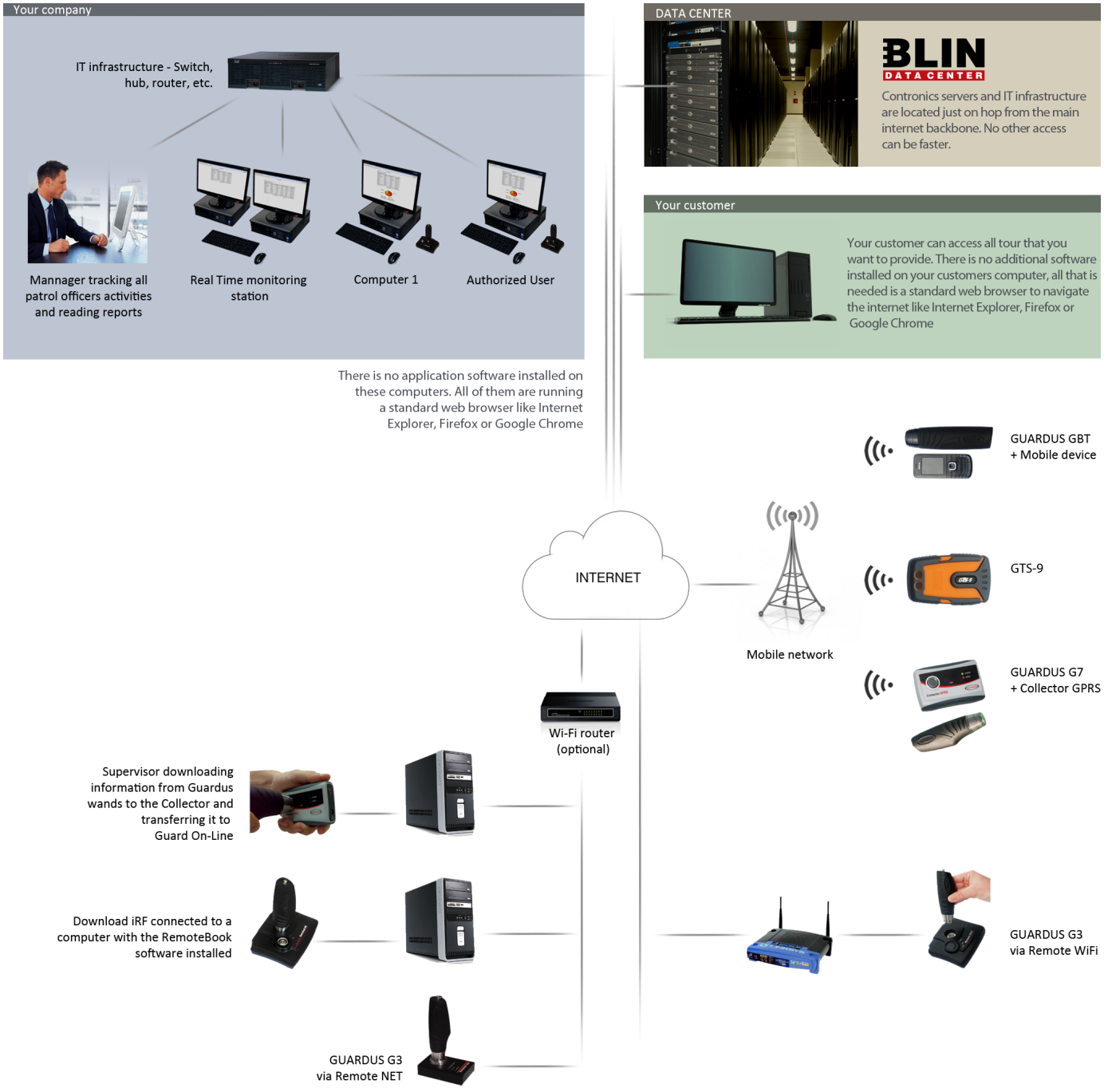
Technology Made Simple

Guard On-Line WEB:

Absolutely no application software needs to be installed on your companies computers, all you need is a web browser. The entire infrastructure of servers, database managers, back up, air conditioning, power supply with redundant UPS and generators, everything is provided by Contronics and our business partner, Blin Data Center.

Guard On-Line WEB is provided under the SAAS concept - Software As A Service. You focus on your business and let us manage the information technology aspect of tour verification.

Guard On-Line WEB is a web based solution with a broad spectrum, it is recommended for small security companies that have no IT department or for which the costs of building a Data Center is impractical. It is also recommended for large corporations with thousands of customers, many offices and subsidiaries around the world.



COMPARISON TABLE

Versions & Sub-Versions of Guard On-Line:

CONTRONICS

Technology Made Simple

Version	Sub-Version	Licensed product	Maximum devices	Remote download supported	Remote download supported	Has the same features as PROGuard (Customized descriptions)	Automated report scheduling	Report delivery via email	Monitoring and monitoring profiles	Schedule device programming	Company ID required for login	Operational Office registration supported	Client registration supported	Facility registration supported	Site registration supported	Checkpoint registration supported	Server registration supported	Employee registration supported
Desktop	**Light**	-	10	(1)	-	-	-	-	-	-	(2)	-	√	-	-	√	-	-
	Pro	√	-	√	-	√	-	-	√	-	(2)	-	√	-	-	√	-	-
Enterprise	**Light**	√	30	√	-	-	-	-	-	-	√	-	√	-	-	√	-	-
	Pro	√	(3)	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
WEB	**Light**	√	30	√	-	√	-	-	-	-	√	-	√	-	-	√	-	√
	Pro	√	-	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√

√ Yes

- No

(1) Desktop Light cannot receive remote downloads from the Traxxer 1 but does receive remote downloads of all other Guardus & Traxxer tour devices

(2) No login required

(3) The limit of devices that can be used is based on the license purchased

CONTRONICS

Technology Made Simple

PROGuard:

PROGuard is software that runs on computers with Windows® installed. It allows you to program the Guardus and Traxxer tour verification devices (except Traxxer T1), download the information, view the activities of patrol officers and employees as well as print reports.

PROGuard uses the high processing capacity of Guardus devices and its database manager. Through PROGuard, Guardus can tell you every detail of the activities that your patrol officer performed, including the checkpoints visited, times and more.

PROGuard has an intuitive interface, which means that you do not need special training or to read the manual before using it.

PROGuard is available in several languages including English and Portuguese. We believe that it is the most used tour software in the world.

PROGuard is free for Contronics customers. But before deciding to use it, consider whether Guard On-Line Desktop Light, which is also free for Contronics customers, is right for your business.

CommPC Suite for PROGuard:

CommPC Suite is software that acts as an “add-on” to PROGuard and gives it the ability to automatically receive downloads from the tour verification devices without operator intervention, from remote sites in real time.

CommPC Suite for PROGuard is free for Contronics customers.

Note: Guard On-Line Desktop Light, as well as other versions and sub-versions of Guard On-Line, already have the functionality of CommPC Suite for PROGuard built-in without requiring any software “add-on”.

RemoteBook:

The RemoteBook is software that runs on Windows computers and is used to download data from the tour verification devices in remote locations, far from your company headquarters or from the site where Guard On-Line or PROGuard is installed. The data read from the tour verification devices is immediately transmitted to a central computer using any Internet connection, even mobile internet connections.

The RemoteBook is lightweight software. It can run on any computer no matter how simple or old it is, provided it has Windows XP or Windows 7 installed, which is the norm in most security posts. Even a simple netbook is capable of running the RemoteBook software. The operation is simple and robust, designed especially for use by individuals that are unfamiliar with computers or technology.

Requirements: You must have an internet connection, even if by mobile internet connection, a USB port and Windows 7 or XP.

The RemoteBook software is just one of many options offered by Contronics to download information from remote locations. The RemoteBook software is the best option when the site already has a computer with an internet connection available. The officer performing the download just needs basic access to the computer along with a USB Download station, Download iRF or another local download interface plugged to the computer to get data from the tour verification device.

RemoteBook operating on a laptop computer. A Guardus G7 is being downloaded via the USB Download Cable with Infrared.

Mobile Software:

All software for mobile devices developed by Contronics integrates with our Guard On-Line system and equipment available for GSM and iDen (Nextel) platforms.

Prerequisite software: On-Line Guard.

Mobile device requirements:

- The make and model must have been approved in advance by Contronics. Any device capable of running Java applications and has internet capability may be approved. Every day models become obsolete and new models are launched, so check with Contronics for updated information.
- Data/internet connection plan with your mobile operator. We recommend at least 2MB per month. If images are sent regularly then a minimum 20MB per month plan is recommended.
- A voice plan is not required, that is, the device doesn't have to be enabled to make or receive phone calls.
- To work in conjunction with the Guardus GBT it is necessary that the device has Bluetooth. A camera phone is desirable, it is only a requirement if you use the QR Code functions.

Before going into Contronics software for mobile devices, we need to explain a little about the technologies supported by them:

The patrol officer uses the mobile device in place of a tour verification device. An image of the QR code is taken by the camera on the mobile device and GOL-QR sends the tour information immediately to Guard On-Line

QR Code Technology:

QR stands for "Quick Response". It is a two-dimensional barcode which can easily be printed by any printer on self-adhesive labels or on signs like those used by the security companies to indicate "protected location."

The patrol officer, upon reaching his checkpoint, takes a picture of the QR-Code with the camera on his cell phone. Within the mobile device, a program is installed to communicate with Guard On-Line. Immediately the mobile devices software interprets the QR-Code and decodes its serial number identification, which is immediately sent to Guard On-Line through mobile devices internet connection.

The QR-Code is a very low cost solution, but should only be used when the company has complete confidence in their patrol officers as the QR-Code labels can be duplicated.

Requirements: a mobile device with a built-in camera.

Contronics created, developed and patented the use of QR-Code technology for tour verification.

CONTRONICS

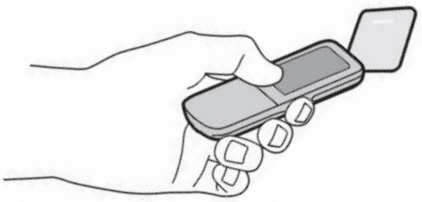
Technology Made Simple

NFC:

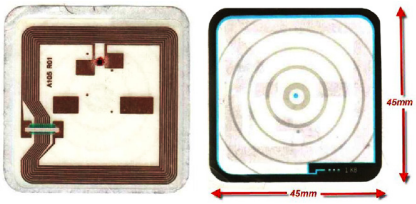
NFC means Near Field Communication. Mobile devices with this technology are able to communicate with other devices at a distance of 3 cm from each other. The use of these phones is more fashionable as a means of payment, causing the mobile device to behave like a credit card. In Japan, China, France, England and several other countries you can simply pass the mobile device close to the turnstile in subways, trains, buses, etc, to have the fair deducted from your credit available. In Brazil, the São Paulo subway system uses a card called “fast pass” that has an NFC chip inside it. Many vending machines, like soda vending machines for example, also accept NFC mobile device payments. The VISA credit card network is encouraging the use of NFC mobile phones to replace its traditional plastic cards.

Mobile phones equipped with NFC are capable of reading radio-frequency tags type generically called “Mifair”. These tags are similar to those used by the Guardus G7, Guardus GBT and Traxxer T7, but use the 13.56MHz operating frequency instead of 125KHz (so they are incompatible). The Mifair RF-Tags exist in many shapes and sizes. They are fixed in areas that patrol officers or other mobile workers need to visit or inspect regularly. As soon as the NFC handset reads the tag, Guard On-Line immediately receives the location information of the patrol officer along with the date and time of the visit. In other words, a mobile device equipped with NFC can be used as a substitute for the tour verification device, performing exactly the same function.

Contronics created, developed and patented the use of NFC technology for the tour verification market.



Mobile device equipped with NFC reading an RF-Tag (Illustration extract from the Nokia 6212 user manual)



The standard Mifare RF-Tags used by GOL-NFC are available in many shapes and sizes. The image above depicts just 2 of the many available options. These RF-Tags shown have adhesive on 1-side that allows them to be easily placed behind signs showing it is a protected location.

Bluetooth Technology:

Bluetooth is a radio technology that allows communication between multiple devices over a distance of around 15 meters. It is very popular with wireless handsfree systems where someone can talk on the phone without the need to place a mobile device to their ear.

The existing Bluetooth feature in many handsets can be used for tour verification monitoring and reporting as long as the staff has a Contronics device equipped with the technology, such as the Guardus GBT, the Traxxer T3-BT or the Traxxer T7-BT.

The patrol officer reads the checkpoint with the tour verification device. This transmits the information read immediately to the mobile device, which relays it to Guard On-Line.

Requirements: The handset must be approved by Contronics, but any mobile GSM or iDen (Nextel) device equipped with Bluetooth and the ability to run Java applications can be used.

Mobile device screen showing an example of the "Events Wallet" that the patrol officer can select and send immediately.

Event Logging and Incident Images:

All of the software options developed by Contronics for mobile devices have a feature known as the "Event Wallet". Guard On-Line can register events and incidents that occur most frequently in the tour or at the checkpoints visited by patrol officers. A list of all events is automatically sent to the mobile device used by the patrol officer. When faced with an incident that needs to be reported immediately, the officer selects the relevant event in the list that is displayed on the devices screen. A photograph can be taken with the mobile devices camera to be attached to the event information. The patrol officer can also optionally write a short text description. All this information appears immediately in Guard On-Line and is included in the reports.

The mobile software options are: GOL-NFC, GOL-QR e GOL-PI.

Features for each option are:

	NFC Support	QR-Code Support	BlueTooth Support for Guardus GBT	Event and incident registration with images
GOL-NFC	√	√	√	√
GOL-QR		√		√
GOL-PI			√	√

All of the mobile software options require a specific Guard On-Line mobile license.

CONTRONICS

Technology Made Simple

Tour Verification Devices:

Contronics offers an extensive line of models and options in our tour verification devices or wands as they are better known by our customers. As already established in the market, these are electronic devices that can be used in numerous other applications in addition to managing patrols and patrol officers. For example:

- Management of maintenance for elevators and air conditioners.
- Management of periodic inspections of equipment in industrial plants
- Recording of visits to points of sale locations, conducted periodically by sales reps selling food and beverages Verification of transportation time-tables and mileage.

Contronics has three distinct lines of wands, each composed of several models and with two options: Guardus and Traxxer. The main difference between the lines is in the design, aimed to meet a variety of specifications, trends and needs. From a technical and engineering standpoint, they all share the same high level of technological development.

iWT - Intelligent Technology in the wand:

Contronics engineers are the creators of the products now known as “Patrol Wands”, which were quickly copied by many competitors and manufacturers around the world. They are nothing more than a sophisticated data collector: by touching an iButton or approaching an RF-Tag, the unique serial number was read and stored in non-volatile memory along with the date and time. It didn’t matter if the patrol officer was visiting the right checkpoints or if the correct sequence was being followed. It was enough to touch the iButton with the wand for a record to be generated with the unique serial number along with the date and time information. Later the information stored within the wand was transferred to a PC with patrol reporting software installed. The software processed the results of the tours, comparing locations (checkpoints) visited by the patrol officer along with the date and time of each visit with predetermined settings. Only then could the supervisor determine if the patrol officer carried out the patrol correctly or not, and only then was it possible to know the outcome of the patrols. We call this concept “PC Centered-Processing”.

All wands followed the concept of “PC Centered-Processing” because that was how the Touch-1, the first, and original wand created by Contronics worked. The “center” or the report processing, was done on the computer, not on the wand.

But in the late 1990s Contronics engineers had a vision that revolutionized the tour verification industry: Instead of processing the tours on the computer, why not have the wand do the processing? Why not migrate all the intelligence, the database and processing power that was in the PC into the wand? The fact is that it represents an enormous technical challenge; as it is a portable device it must be powered by batteries, should be robust and vandal resistant, it should perform the same work previously performed by a computer which has no problem with energy consumption as it is plugged in, not to mention the computer is not made to withstand abuse.

Thus was born the “Contronics Guard-1”, the first wand with iWT technology and the predecessor of the Guardus G3 Classic. The “center” or the report processing computer went to the wand. That is, the processing became centered on the wand. What’s the point? More than to just manage the patrol officer, now the wand can walk the guard through the patrol, with signals indicating if he is doing his job correctly. For example, if a patrol was scheduled to start at 2am and at 2:10 the patrol officer had not started the patrol, the tour verification device sounds an alert for (or even wakes) the patrol officer. If the patrol officer visits an incorrect checkpoint the tour verification device emits a low and long sound, like a “Bop”, which on its own conveys the feeling of “oops! I did something wrong”. If the patrol officer visits the correct checkpoint, as scheduled, a “beep” with a light-hearted sound will be heard. Successfully finishing the patrol, the patrol officer will hear the melody of “Happy Birthday”. There are many other features that iWT technology brings to tour verification, we are only giving a few examples here. The end result is that the patrol officer misses fewer checkpoints, makes fewer mistakes and your company can submit reports to clients with fewer or even no errors.

iWT technology is unique to Contronics. All other wands from other manufacturers are still following the concept of “ PC Centered-Processing”. The wands manufactured by Contronics are the only ones available with iWT – “device-based processing”

Technology Made Simple

Compatible Identifiers for Tour Identification Devices:

Identifiers are microchips – electronic devices that come with an identification number, otherwise known as a serial number, that the tour identification device reads. There are no identifiers with the same serial number. When used for tours, the identifier is installed at a location that needs to be checked by the patrol officer – in this case they are referred as “checkpoints”. They can also be attached to the patrol officer’s identification badge. The identifiers can be used in a variety of ways. The identifiers are:

iButtons:

iButtons are semiconductor chips that are encapsulated in a stainless steel shell with a diameter of 16mm and heights of 3mm or 5 mm. This serial number is read by the tour verification device with a simple touch. iButtons are propriety technology of Maxim/Dallas Semiconductor, a North American company that manufactures.

iButton checkpoints are usually mounted using a metal mounting plate, each mounting plate is attached at a location the patrol officer is required to visit and inspect during the tour.

RF-Tags:

RF-Tags are discs with a diameter between 30mm and 60mm containing a unique serial number that is read by Contronics tour verification devices when they are at a distance of around 2.5cm to the tag. The shape of an RF-Tag may vary according to the manufacturer and model. There are many patterns and technologies available. The standard that the Guardus and Traxxer tour verification devices work with is 125KHz compatible with EM Marin EM4102. Contact Contronics for a list of approved manufacturers and models of RF-Tags.

In this image you can see a patrol officer using a Guardus GBT to register he has visited a location by reading a checkpoint. Behind the sign an RF-Tag is installed. Note: to register that the location has been visited, the device does not need to make physical contact with the RF-Tag checkpoint, it just needs to be in close proximity to the checkpoint.

The sequence of how to read an iButton checkpoint with a Guardus G3.
Note: to register that the location has been visited, the device needs to make physical contact with the checkpoint.