



STAR-System™

RF Narrow Band Solution for Mobile applications

FEATURES

- Seamless Active Roaming
- Up to 2,000 RF devices supported
 - Gryphon™ Mobile series
 - Dragon™ Mobile series (*)
 - F734 RF Pocket Terminals
 - F725 RF Hand-Held Terminals
 - F660 RF Pen Terminals
- Up to 16 STARGATE™ RF base stations network
- STAR-Link™ software for Windows
- Conformance with the European ETSI standard EN 300 220-3
- Excellent price/performance ratio

(*) Available soon

APPLICATIONS

- Goods shipping/receiving
- Inventory
- Picking
- Warehouse management
- Shop Floor
- Access Control
- Order management

GENERAL DESCRIPTION

The new Datalogic **STAR-System™** enables you to bring one of the widest range of wireless data capture devices into your business while exploiting the most interesting RF Narrow Band Solution for Mobile applications.

Many processes in the Distribution & Retail as well as the Manufacturing industry require data collection operations to supply information to the ERP/WMS system: for best accuracy, precision and efficiency this data should be provided to the information system automatically and in real-time, as well as low money investment.

STAR-System™ takes advantage of the most advanced Datalogic automatic data capture devices to provide a RF Narrow Band Solution featuring total mobility, real-time communication and affordability, comparable with wired applications. Free from cable constraint and entanglement, many time consuming activities can now be executed quickly and directly on field exploiting the distinctive features of pocket-sized pen shaped and hand held wireless terminals as well as gun shaped mobile devices to read linear and stacked codes.

STAR-System™ offers scalable solutions to solve both simple applications and complex projects: exploiting its unique seamless active roaming capability even big plants requiring contiguous/non-contiguous large area coverage, or warehouses needing to overcome physical limits given by concrete walls, firewalls or metal shelving can profit from the **STAR-System™** impressive real-time communication with no need for operators to constantly log in/out of the system.

A wide range of mobile devices, an incredible price/performance ratio and quick return on investment are the key features of **STAR-System™**: most RF Narrow Band Solutions can be paid back within 1 year due to distinct economic and business benefits such as productivity improvement, lower costs and a substantial competitive advantage for the company.



STAR-System™ OVERVIEW

STAR-System™ is the new Datalogic RF narrow band solution for mobile applications which includes all the RF system components: RF data collection devices, RF base station and software tools. In fact, STAR-System™ provides the widest range of narrow band devices for data collection ever seen on the market.

The STAR-System™ addresses both industrial & residential environments and takes advantage of the distinctive characteristics of the various RF devices supported. These include pocket-sized pen shaped terminals and hand held readers as well as gun shaped devices, which together can read linear and PDF417 codes and offer instinctive, and distance reading.

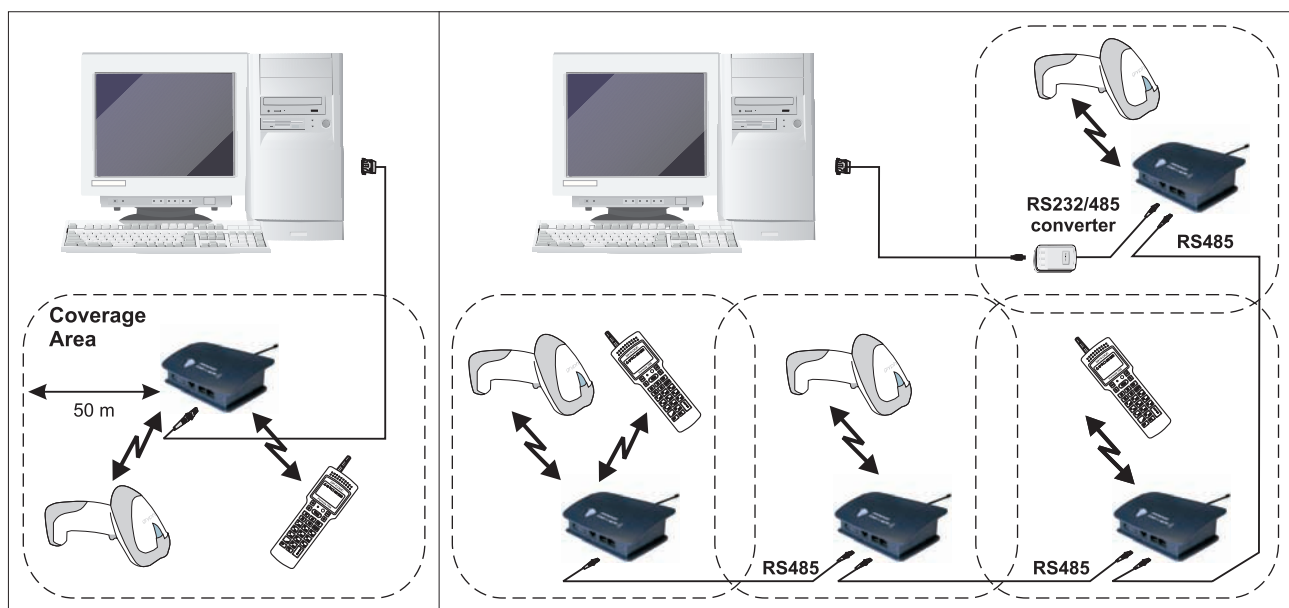


STAR-System™ is the ideal solution to satisfy and improve the performance of most common data collection applications requiring mobile automatic data capture (e.g. bar code) and real-time feed-back (e.g. price, description, location, etc.) from the ERP/WMS system such as Inventory, Picking, Shipping/Receiving, etc.

Any warehouse management process can exploit the STAR-System™ RF solution to increase the precision, speed and quality of many operations, keeping the central host system always updated with the data coming from the field and the mobile workers "on-line" with any information they could need. STAR-System™ offers a scalable system ready to solve both simple applications, such as small warehouses with limited radio coverage, and complex projects, such as big plants requiring contiguous/non-contiguous large area coverage. Exploiting its unique seamless active roaming capability, STAR-System™ permits operators to move in total freedom from office to office or through different departments/buildings (with no need for them to constantly log in/out of the system).

STAR-System™ provides the most flexible wireless connection between data and business: "RS232 stand-alone" configurations as well as "RS485 network" solutions easily integrate the Datalogic wireless solution with any custom software application running on a standard Windows based PC. Real-time communication is really impressive and data collection operations performed by the wide range of different RF devices are faster than ever. The client-server architecture, where each operation is driven by the RF device (client), combined with the CSMA/CA (Carrier Sense Multiple Access / Collision Avoidance) access protocol type, boost overall performance so that STAR-System™ does not interfere with other RF equipment using the same frequency.

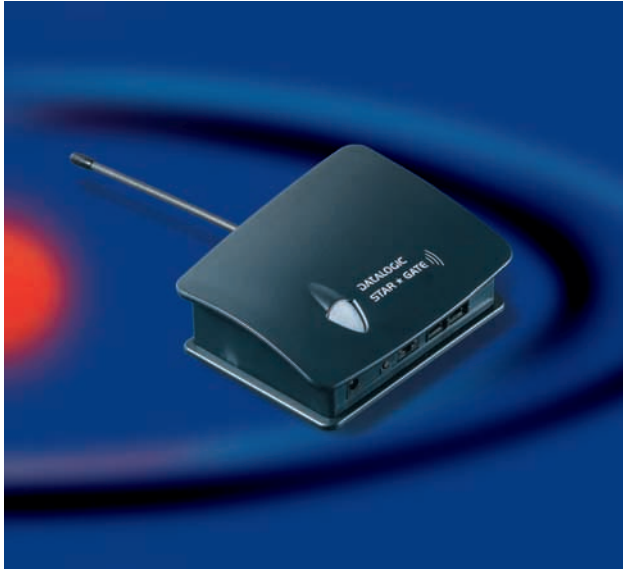
STAR-System™ conforms with the European ETSI standard EN300 220-3 and boasts a large number of benefits. It has a wide area coverage, and real-time connection with the user application. A large range of devices are able to solve various applications in different markets. Integration is easy in Windows-based applications, and no operating license is required. Furthermore it is a reliable, fast and cost-effective system with minimal installation costs. To fully support sales offers and complete equipment installations an entire set of professional hardware & software instruments have been developed: with these tools it is very easy to design a successful RF solution as well as to perform a qualified site-survey service.



RS232 Stand Alone Configuration

RS485 Network Configuration

STAR-System™ COMPONENTS: STARGATE™ RF BASE STATION



STARGATE™, the core component of the Datalogic STAR-System™, is a narrow band radio base station that allows data transmission between several Datalogic RF devices and a host system (standard PC, Windows based) via a wireless network. A single STARGATE™ RF base station covers an area of about 8,000 m² outdoors, manages up to 2,000 mobile devices and supports up to 255 simultaneous active clients in real time.

STARGATE™ is equipped with RS232 and RS485 high-speed serial interfaces: to solve the simplest applications, the RF base station can be connected to a standard PC taking advantage of the "RS232 stand-alone" layout.

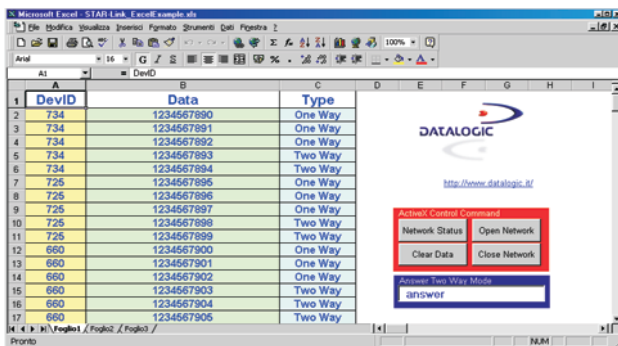
STARGATE™ can exploit its seamless active roaming capability, combined with the "RS485 network configuration" (max. length 1,200 m), to extend the covered area, or to overcome physical limits given by concrete walls, firewalls or metal shelving.

STARGATE™ conforms with the European ETSI standard EN300 220-3, does not carry out continuous polling and does not interfere with other RF equipment using the same frequency due to the CSMA/CA (Carrier Sense Multiple Access / Collision Avoidance) access protocol type.

Cabling and physical installation operations can benefit from STARGATE™ wide power supply range (9÷30 VDC) along with its capability, in the case of network configurations, to use the same cable (2 twisted pair AWG 24 wire) to exchange data and propagate power supply from one RF base station to another.

STARGATE™ can operate both industrial & residential environments, in a temperature range of 0 to 50 °C, granting IP30 protection class.

STAR-System™ COMPONENTS: STAR-Link™ SOFTWARE TOOL



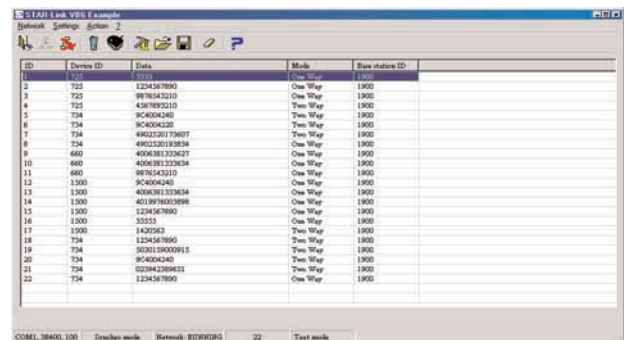
STAR-Link™ is a professional software tool for programmers familiar both with "object programming" and Windows 95/98/2000/ME/NT environments. The fundamental component is Automation COM object implementing a dual interface (it is possible to use it with Visual Programming Tools and Office applications) that manages, at a low level, the new Radio Frequency Network based on the new Datalogic CSMA/CA protocol. STAR-Link™ ActiveX provides "properties" and "methods" to easily set-up and monitor communication and "events" to manage incoming data without having to deal with any wired or wireless transmission protocol.

The STAR-Link™ software tool allows software developer to easily associate each RF device with its own host application, establishing a real-time, fast, reliable and cost-effective wireless connection between mobile operators and most common data-

bases or most extensive ERP/WMS systems.

It is very easy to integrate data coming from STAR-System™ RF devices into an Excel spreadsheet or an Access database. Even easier for a programmer is the development of custom software using Rapid Application Development languages to exchange data and messages in real time with Datalogic cordless hand-held readers or Formula RF terminals. Application examples of STAR-Link™ ActiveX integration with Excel, Access, Visual Basic 6.0, C++ Builder 4.0 and Delphi 4.0 with the relative source code files, together with the STAR-Link™ professional reference manual, are provided with the STAR-Link™ CD-ROM (supplied with the STARGATE™).

The STAR-Link™ software tool can be downloaded free of charge from the Datalogic website www.datalogic.com.



STAR-System™ COMPONENTS: HAND-HELD READERS



Gryphon™ Mobile Series

The Gryphon™ Mobile reader series answers the needs of many applications due to its innovative characteristics, outstanding reading performance and excellent ergonomic design. Promptness and high throughput are provided by 270 scans/sec and new sophisticated optics. The patented "green spot" provides additional good reading feedback directly on the target where the operator usually tends to be looking. The Gryphon™ cordless devices have a radio range of up to 30 m (more than 2500 m²), and are available in 2 models for linear (M100) and stacked (M200) code reading. The Gryphon™ M readers are ideal for data management in retail environments such as cash & carry point-of-sale. In residential and warehouse environments where mobility, durability and aggressive scanning performance are required, this cordless device is simply the best solution.

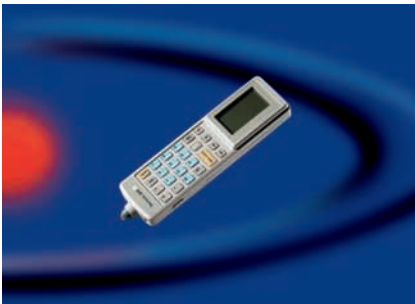
AVAILABLE
SOON



Dragon™ Mobile Series

The DRAGON™ Mobile Series meets all the industrial sector's needs with the highest level of robustness, reliability and durability. Due to its protected optical parts and special body materials, the DRAGON™ works reliably and consistently in harsh environments, and provides ergonomics and ease of use for the operator. Clearly audible dual beepers and bright good read LEDs are provided for areas where noise levels are usually high. The DLL6010-R and DLL6110-R radio frequency laser guns provide a radio coverage of up to 50 m from the base station. The DLL6110-R version also includes a display and 3 push-button keyboard. These features allow the operator to receive information from the host, actively interact with the central system and visualise the code read.

STAR-System™ COMPONENTS: PORTABLE DATA COLLECTION TERMINALS



Formula 660/RF

Compact, portable and fully programmable, the Formula 660/RF is a genuine electronics jewel, with an integrated optical scanner, a 16-character, 4-line, high-contrast easy-to-read display and a 23-key alphanumeric keyboard for easy and rapid data entry.

Formula 660/RF is an excellent solution for situations demanding high working autonomy, total freedom of movement, light weight, pocket-size and affordable cost. The astonishing flexibility of Formula 660/RF makes it ideal for virtually any application in the retail, commercial and industrial fields: one of the most successful applications is in restaurants for taking orders at tables.



Formula 725/RF

The F725/RF Hand-Held Laser Terminal with pistol grip, offers features and functionality typical of high-end products. Compact and lightweight, the F725/RF successfully faces the most trying conditions of today's industrial use such as incidental falls, extreme environmental temperatures and intensive use. The F725/RF Long Range version enables reading of bar codes in difficult-to-reach places, even up to 1.5 m away. The F725/RF also features a graphic LCD backlit display with excellent readability and software controlled icons as well as a 20-key alphanumeric keyboard for easy and rapid data entry. Most of the applications in the Distribution & Retail market can take advantage of the distinctive F725/RF features, especially in warehousing/back office environments.



Formula 734-E/RF

The F734-E/RF is a light weight, pocket-sized and fully programmable RF terminal able to solve the most complex application needs, with an "overspeed" feature to boost software performance, 512KB RAM memory for managing large databases and 512KB Flash memory for application programs of large dimensions. The bar code reading capabilities are the best you can desire due to the high performance and high visibility laser engine, while the long life batteries assure large autonomy covering more than one work shift. The wide backlit LCD display, with 4 lines and 16 chars., clearly shows much information while the practical 25-key alphanumeric keyboard allows data to be input very quickly. Furthermore, protection against bumps, dust and water are all features that make the F734-E/RF suitable for intensive use even in industrial fields.

MODELS AND ACCESSORIES

PRODUCT	DESCRIPTION	ORDER NO.
STARGATE™	STARGATE™ RF433MHz Base Station	946104060
GRYPHON™ M100	Hand-Held cordless reader for linear bar codes (433 MHz)	901671000
GRYPHON™ M200	Hand-Held cordless reader for linear and stacked codes (433 MHz)	901681000
F734-E/RF 512	F734-E/RF Enhanced Radio Pocket Terminal 512KB	941554000
F725/RF 512	F725 Radio Hand-Held Terminal 512KB	941304100
F725/LR/RF 512	F725 Long Range Radio Hand-Held Terminal 512KB	941304110
F660/RF 128	F660 Radio Pen Terminal 128KB	940304020
MAIN ACCESSORIES		
STAR232 D 9 F	STARGATE™ RS232 serial cable for PC (9-pin type D Female) 6 m	94A054270
F904	STARGATE™ RS232/RS485 converter F904	94ACC4470
FPS21	Power supply 110/USA	94ACC4050
FPS32	Power supply 240/UK	94ACC4060
FPS1	Power supply 220/EUROPE	94ACC4070
FPS41	Power supply 240/AUSTRALIA	94ACC4500
C-GRYPHON™	GRYPHON™ Mxxx Battery Charger	90A351020
PG110 (110 Vac)	Power supply unit 12 VDC for C-GRYPHON™	B9751057
PG220 (220 Vac)	Power supply unit 12 VDC for C-GRYPHON™	B9751027
F951/C	F734/F660 Battery Charger	94A15400X
F951	F734/F660 Transceiver/Charger - RS232 / RS485	94A15401X
F950/4/C	F734/F660 Battery Charger - 4 slots	94A15402X
F950/4	F734/F660 Transceiver/Charger - 4 slots - RS232 / RS485	94A15403X
F925	F725 Transceiver/Charger - RS232 / RS485	94A15405X
F925/4	F725 Transceiver/Charger - 4 slots - RS232 / RS485	94A15407X
FCB232 D 9 F	Transceiver RS232 serial cable for PC (9-pin type D Female) 2 m	94A054000
FBK73X-E	Battery Kit Ni-MH F734-E	94ACC1110
FBS73X-E	Battery Kit Ni-MH F734-E (5PCS)	94ACC1120
FLH734	Leather holster	94ACC4010
FBK725	Battery kit Ni-Cd F725	94ACC4200
FBS725	Battery kit Ni-Cd F725 (5PCS)	94ACC4210
FBK660	Battery kit Ni-Cd F660	94ACC4180
FBS660	Battery kit Ni-Cd F660 (5PCS)	94ACC4190
FLH660	Leather holster	94ACC4000
DS FOR FORMULA™	Development system for Formula Basic Line	94A104860
CA51 Compiler	8051 Compiler kit V6 for F6xx and F7xx	94A104890

*X=1 - power supply for USA; 2 - power supply for Europe; 4 - power supply for UK; 5 - power supply for Australia

SPECIFICATIONS

RADIO COMMUNICATION

RADIO FREQUENCY	433.92 MHz
RADIO POWER OUTPUT	< 10 mW
RADIO RANGE*	50 m (164 ft)
ROAMING	SEAMLESS ACTIVE ROAMING
ACCESS PROTOCOL	CSMA/CA
DATA TRANSFER RATE	up to 19,200 baud
CONFORMITY	European ETSI standard EN 300 220-3

MOBILE DEVICES

DEVICE TYPE	Gryphon™ Mobile series Dragon™ Mobile series (**) Formula 734 RF Pocket Terminals Formula 725 RF Hand-Held Terminals Formula 660 RF Pen Terminals
TOTAL DEVICES	up to 2,000 mobile devices
ACTIVE DEVICES	up to 255 mobile devices for each STARGATE™

SERIAL COMMUNICATION

STAND-Alone	Single STARGATE™ RS232 serial connection (max. length 15 m) RS485 serial connection (max. length 1,200 m) Communication speed up to 38,400 baud
NETWORK Configuration	up to 16 STARGATE™ RF base Stations supported RS485 serial connection (max. length 1,200 m) Communication speed up to 38,400 baud Single power supply for multiple STARGATE™

SOFTWARE DEVELOPMENT

DATA COLLECTION	STAR-Link™ (ActiveX for Windows 95/98/2000/ME/NT environments) Ready to use Excel, Access, Visual Basic, C builder and Delphi application examples (<i>Free downloading from www.datalogic.com</i>)
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TERMINAL PROGRAMMING	DS for Formula™ (Development system for Formula Basic Line) Ready to use "C" language application example CA51 8051 Compiler kit V6 for F6xx and F7xx
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STARGATE™ SPECIFICATIONS

ELECTRICAL FEATURES	Micro-controller 16bit CMOS Program memory 128 Kb Data memory 128 Kb Supply voltage 9÷30 Vdc
ENVIRONMENTAL FEAT.	Working temperature 0° to +50 °C / 32° to 122 °F Storage temperature -20° to +70 °C / -4° to 158 °F Humidity 90% non condensing Protection class IP30
MECHANICAL FEATURES	Dimension (without antenna) 141x111x52 mm / 5.6x4.4 x2.0 in Weight (without fixing plate) 210 g / 7.4 oz LED indicator Power on/Data Comm., Communication/ Downloading error, Firmware downloading

* The radio range depends on the environment characteristics

**Available soon

