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SOFTWARE BROCHURE for RFID readers

This brochure describes software available from Trolley Scan for operating the RFID **reader** products. The **RFID radar™** products are supplied with their own software and are not part of the software described in this brochure.

Historically Trolley Scan have supplied long range reader and transponder technology generally to IT companies and System houses where they have added the necessary software needed by their clients based in 49 countries. Trolley Scan will continue to provide “hardware only” to clients wanting to use their excellent reader and transponder technology, but will now start supplying software for the systems as well to users who do not want to operate via IT companies. Several standard low cost packages are being developed to ease the use of RFID systems for the user who wants to plug in and operate immediately.

Interfacing the RFID reader to a computer system is very simple and straight forward. The reader puts out RS232 data which is transferred to the computer via a cable connected to the RS232 port of the computer. By using standard terminal emulator programs that come free with the software supplied by the computer manufacturers, the user can read and capture the data from transponders entering the RFID reader zone. Settings for the computer and sample programs are provided in the handbook of the RFID reader.

Some users want more than just the identity of the transponder to make a useful application. The transponder might for example be attached to a parcel, or attached to a person or vehicle and the user wants to know the details of that parcel, person or vehicle when it enters its zone.

Software starter programs

Trolley Scan are initially offering two software packages to users wanting more complete data processing. The one version is for the user who does not want to do their own programming, but just wants to plug in the system and operate immediately. The second version has the same functionality, but all the source code is provided so that the user can add to the program and customise it to their needs.

The software is fitted to a Windows based computer and will

- 1) look up the details of items tagged from a database,
- 2) will create a time stamped log file of tags passing the reader together with identity and description information,
- 3) will forward the identity information via the Internet to a number of other computers so

that the details of the tag passing the reader can be displayed.

The database holding details of the tags, also holds four separate records of information about the item which forms the description. The user can decide what records of information these should be, for e.g name, make, registration number, name of cow, date of purchase, owner or the like. The user edits the database by filling in whatever information he wants to be retrieved when the tag is read and this information can then be displayed on a number of computers simultaneously.

Figure 1 shows a typical application where the reader is interfaced to the computer network via an RS232 port on the computer that will also look up details from the database. The information that matches the tag-id is retrieved from the database and broadcast to other users via the internet. Other computers in the network running the display software can retrieve that information and display it immediately. In addition a logfile with a time stamp is made by the computer which interfaces to the reader.

The database can be edited by the user and the logfile displayed with a web browser.

The two programs that are installed on the network are the **LOOKUP PROGRAM** and the

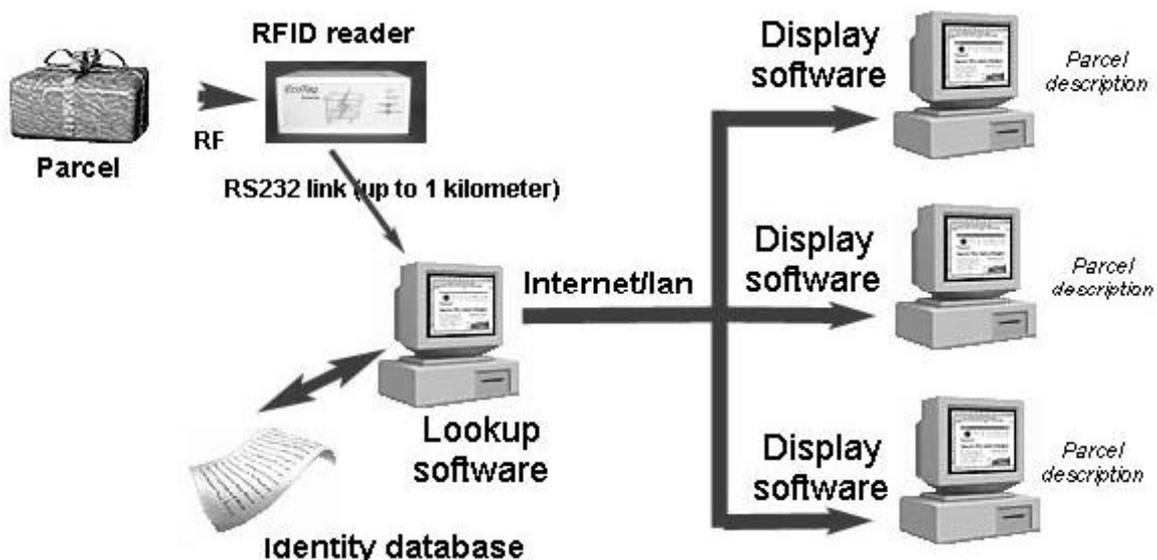


Fig 1: RFID reader linked to computer network via RS232 into a port. Lookup software running in the background on one computer looks up details from the database and sends on the description via the Internet. Other computers receive the identity details and display the data via Display Software. It is not necessary for the computers to be dedicated solely to this task but any slightly idle computer can be used.

DISPLAY PROGRAM .

For those who do not want to use RS232 cabling but wish to use internet connectivity as soon as possible, Trolley Scan have developed an RS232 to Internet converter module that allows data to be moved around via the Internet cabling of their network.

The link cable from the RS232 port of the reader to the RS232/LAN adapter can be very short. Any idle computer on the LAN can be used for the Lookup software and others can display the identity. The disadvantage of this version is that the RS232/LAN adapter is relatively expensive. The two programs that are installed on the network are the **LOOKUP PROGRAM** and the **DISPLAY PROGRAM**.

The last configuration that is available with this package is shown in Figure 3. Here no LAN is used and the lookup computer is used also as the display computer with connection to the reader being via RS232. A combined **LOOKUP** and **DISPLAY PROGRAM** are installed on the

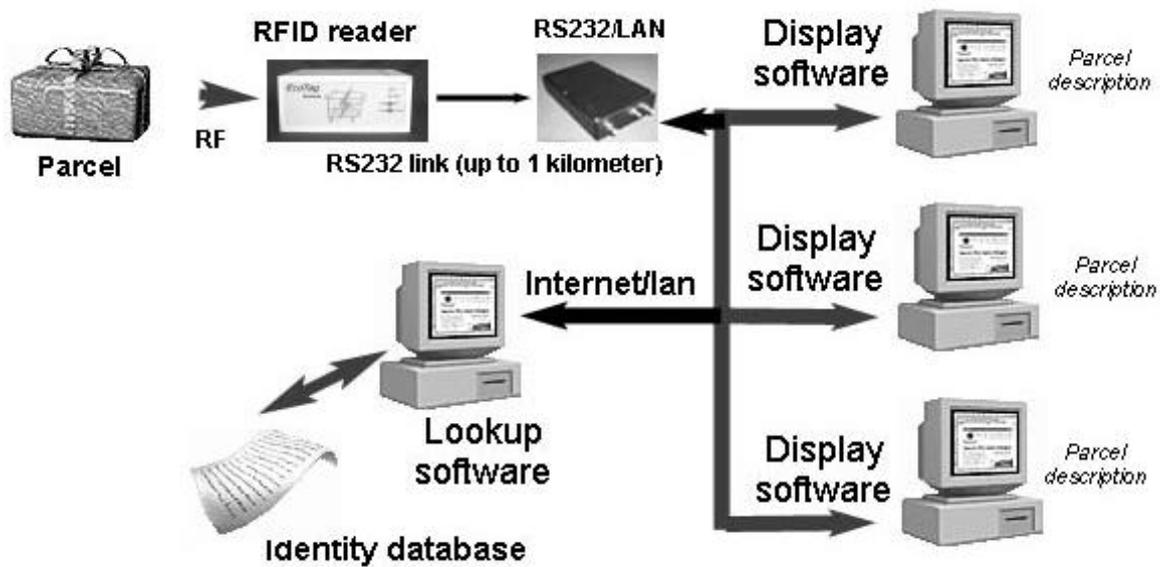


Fig 2: RFID reader linked to computer network via short RS232 cable into RS232/LAN adapter from Trolley Scan. Lookup software running in the background on one computer looks up details from the database and sends on the description via the Internet. Other computers receive the identity details and display the data via Display Software. It is not necessary for the computers to be dedicated solely to this task but any slightly idle computer can be used.

one computer

The software for all these configurations is provided in the Reader software starter kit. The RS232/LAN adapter can be purchased separately from Trolley Scan. The software is compiled and supplied as an EXE file to be run on the targeted machine.

Advanced version

For those wishing to take this software as a starting point for further development, the Advanced version includes all the source code for the LOOKUP and DISPLAY programs which can then be modified to your needs. The programs are written in Power Basic Console Compiler code with Console Tools added features. These compilers can be purchased from Power Basic from their website www.powerbasic.com for a small charge.

The networking routines are included in the source code. The system uses a UDP protocol in the Internet to broadcast the packets with packets being numbered to ensure no data goes missing. This allows an unlimited number of computers to act as display stations.

Requirements

The software is written for any Win32 operating system. It does not use the operating system but has its own low level operating system interfacing at the DOS level. This means it will run on Win 95/98/NT/Xp and the like. The database can be entered and edited using a spreadsheet program such as Excel, and a browser such as Firefox, Netscape or Internet Explorer can be used to read and print the log files.

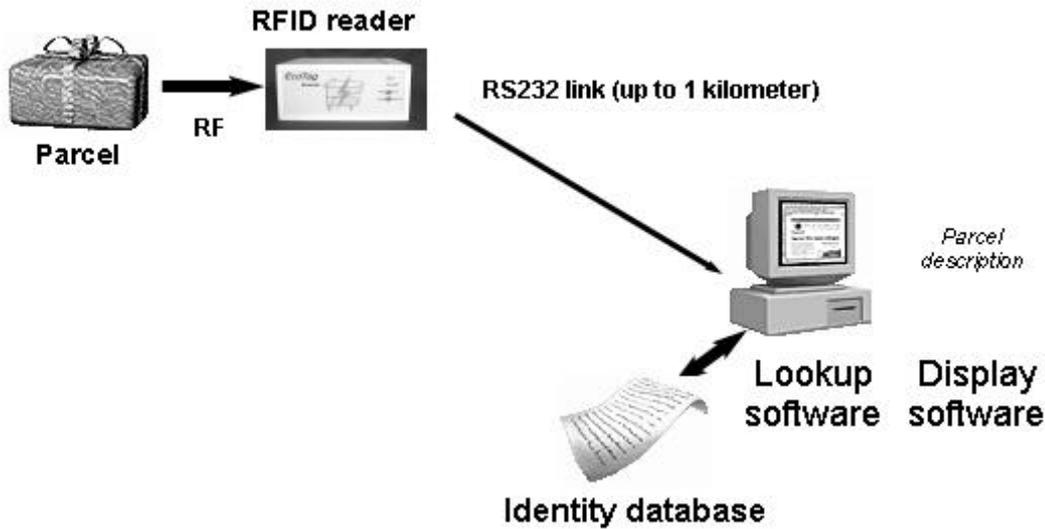


Fig 3: RFID reader linked to computer network via RS232 cable. Combined Lookup and Display software running in the background on one computer looks up details from the database and sends on the description via the Internet. It is not necessary for the computers to be dedicated solely to this task but any slightly idle computer can be used.

Costs

1. *Standard version of Software starter programs* comprising compiled versions of LOOKUP and DISPLAY programs for RS232 or LAN interfacing and a version for use with a single computer.
 - EURO 200.00
 - US\$ 280.00
 - ZAR1600.00
2. *Advanced version of Software starter programs* comprising compiled versions of LOOKUP and DISPLAY programs for RS232 or LAN interfacing and a version for use with a single computer. Source code in Power Basic Console Compiled code provided.
 - EURO 400.00
 - US\$ 560.00
 - ZAR3200.00
3. RS232/LAN adapter for linking RS232 data from reader onto Internet LAN with power supply, 1 metre LAN cable for connection to HUB
 - EURO 500.00
 - US\$ 700.00
 - ZAR4000.00

Updates

These products are the first in a series of software products to be made available from Trolley Scan. We will continually improve the products with experience. Any purchaser of the DISPLAY and LOOKUP software is entitled to Free updates as these become available.

10 April 2007