Utilities’ progression toward an Automated Meter Reading solution has evolved naturally through the use of hand-held computers. The Emeris Route Manager (ERM) is a logical and cost-effective replacement for both manual and outdated automated systems.

The combination of Microsoft® Windows™ compatible, configurable software and Radix’s durable hardware sets the route manager apart from its competition. ERM features one of the smallest, lightest and most durable Windows CE™ hand-helds available – the Radix FW500.

The combination of the FW500 and ERM gives meter readers an efficient and effective data collection system for both management and billing functions.

ERM: An Overview

ERM for Windows provides users with a graphical interface that makes system operation very easy. The following is an example of daily operations:

1. An ASCII file containing meter reading routes is downloaded from the host computer. ERM imports the file, storing it as individual routes, ready for the meter reading cycle.
2. Routes are split, combined or used as they are. Any combination of routes, route segments and unread meters can be loaded into the hand-held computers.
3. Routes can be re-sequenced if necessary.
4. Routes are assigned to meter reading hand-helds then loaded.
5. Loaded hand-helds are taken into the field where the Meter Readers collect readings, enter comment codes, free-form notes or changes.
6. When the hand-helds are ready for unloading, ERM extracts the newly collected data, storing it on the PC.
7. Reports are generated as required, using the graphical report functions.
8. ERM outputs the collected data ready for the billing system.
Elster Route Manager – for the Radix FW500

Benefits of ERM

**Easy use**
The graphic user interface means its very quick to learn and easy to use. A simple clear screen layout avoids the clutter that is often seen in Windows applications. This keeps operation intuitive and very straightforward.

**Manage routes**
Modify, combine, or re-sequence routes for operational efficiency. A billing system set up for a manual reading route will probably define shorter routes than required in a drive-by AMR system. These routes can be combined for loading into a hand-held.

**Automatic generation of unread/missed read routes**
At the end of the meter reading cycle unread meters can be extracted from the route files and automatically combined into new routes. This means you can choose to send out meter readers to check out these properties.

**Automatically report on operations**
Extensive reporting facilities give you all the information you need for efficient and effect management. Many common reports are supplied as standard (unread reads, faulty meters). Other customised reports can be generated as required.

**Suitable for small and large Utilities**
The stand-alone configuration is suitable for utilities with up to 16 meter-readers. The network configuration can handle an almost unlimited number of readers, making it suitable for the larger Utilities.

**Meter reading**

**Touch probe operation**
Gathering data is as simple as touching the tip of the probe to the touch-pad and pressing the trigger. The meter reading and any tamper codes are transferred instantly to the hand-held computer where it is automatically saved with the proper account.

**Automatic data collection**
ERM employs an auto-search function that takes the data from the meter and automatically places it in the appropriate account. Searching for the right address or meter number and manually entering meter readings is not necessary.

Using probes to gather meter readings is so easy, even inexperienced meter readers require minimal training to begin using them. You will start realising the benefits of touch meter reading immediately.

**Automatic meter reading**
Elster’s Emeris system is an advanced meter reading system employing radio. This technology provides safe collection of meter readings without the need to see or touch the meter.

Elster has designed ERM for use with the TRA500 and TRC600* series of RF MIU (meter interface units), in walk-by and drive-by applications.

Typical walk-by ranges are a few hundred meters, depending upon meter location and the surrounding environment. In the drive-by mobile environment, a sensitive, roof-mounted, antenna will provide easy data collection and extend the range.

There is no need to purchase laptops for meter reading vehicles. The FW500 with its Windows CE™ operating system, and the TRA501 radio, is fully capable of drive-by meter reading operations. If an RF meter reading is missed, simply take the FW500 to the meter for a visual read, then return to the vehicle and turn drive-by mode back on and continue driving the route.

Radios are integrated into the FW500 hand-held or cable connected and belt-clipped for lighter hand-held operation.

* walk-by only
FW500 Hand-held computer
Ergonomically designed to encompass true durability in meter reading applications, the FW500 provides advanced Ultra-Rugged technology in a hand-held computer. The FW500 offers a blend of technologies whether used alone or with expansion peripherals. It provides total reliability under harsh conditions and the ability to perform a wide range of mobile computer tasks.

Features of the FW500 include an Industrial grade processor, two PC Card slots, infra-red IrDA communications, built-in FTP server, Microsoft Windows CE™ operating system and a modular design to support integrated peripherals.

The FW500 comes standard with 64MB RAM and 32MB FLASH memory. Unlike RAM, FLASH does not require power to maintain your valuable meter reading data. Once data is entered into the FW500, the data is totally secure and protected. Depending on your ERM configuration, approximately 10,000 accounts can be stored safely in an FW500.

Power comes from a high-tech intelligent Lithium-Ion battery pack that provides maximum power for not only meter reading but also supported peripherals. The FW500 is recharged in approximately 3 hours using the loader/chargers.

Personal Computer
Office-based equipment for the Elster Route Manager includes one or more PC’s, a report printer, and loader/chargers for the hand-held computers.

The ERM is designed to run on a Personal Computer or Network Server. The following minimum configuration is recommended:

- Pentium Processor 4
- 256 megabytes of RAM
- Microsoft Windows 2000/XP
- CD-ROM drive
- Serial COM port
- Ethernet Port
- Laser printer for reports

Optional Peripherals
- 56K V.90 smart modems for remote sites

Elster will evaluate any existing equipment for compatibility with the Route Manager and recommend a specific hardware configuration.

Loader/Chargers for FW500
For ease of use, a range of optical loader/chargers are used to charge the FW500 and link it to a PC or network. FW500 batteries are recharged in approximately 3 hours.

These single and multi-way loader chargers are designed around the requirements of varied applications, for main depot and/or home use. Utilising the infra-red IrDA port on the FW500, the system offers cableless communications through the unique optical light guide. No physical connection for communications is required between the FW500 and its loader chargers.

The FW-ML master loader accommodates a single hand-held. You can connect up to two FW-SL secondary loader chargers to an FW-ML, thus allowing up to 3 loaders to be chained together. The FW-CL cascade loader charger accommodates up to 12 FW500’s. The FW-CL can be ordered in 6, or 12 hand-held configurations. The CL includes serial and Ethernet ports. All communications are via TCP/IP allowing communications via the corporate network.
ERM Software Features

ERM Main Menu

From the main window, the PC operator can control all system functions. Major user functions are:

- Import Route Files
- Assign Hand-helds to Routes
- Splitting Routes
- Combining Routes
- Extracting Unreads
- Data Editing
- Back-ups
- Sequencing and Sorting
- Broadcast Messages
- Help System
- Security
- Re-routing
- Unattended Operations
- Hand-held Maintenance
- Communications
  - loading hand-helds
  - unloading hand-helds
  - modem support
  - network support
- Reports
  - output to other formats
  - add, modify, delete
  - print
  - display

- Export Billing Files
- Microsoft Windows 2000/XP compatible
- Supports Radix FW500 Hand-holds
- Configurable software without the need for programming. Technical support or advanced users can modify these ERM functions:
  - Download file formats
  - Upload file formats
  - Hand-held displays
  - Search fields
  - Prompts
  - Hand-held menus
  - Tables
  - Alarms
- Microsoft Windows 2000/XP compatible graphical report writer allows you to generate management reports.
- Help System – For those users already familiar with Microsoft Windows, the ERM help system will make you feel right at home. The help system includes Contents, Index, and Find Text features, and the ability to print help topics.
- Supports several types of universal probes for reading a wide variety of meters using a single probe.

The Company’s policy is one of continuous improvement and the right is reserved to modify the specifications without notice.