ABBERFIELD TECHNOLOGY

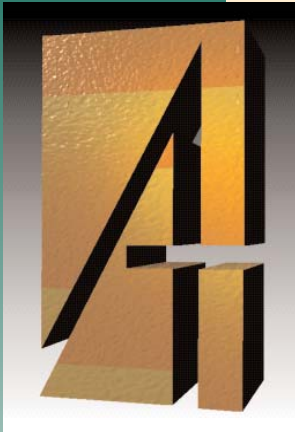# Revenue Collection Equipment

MANAGEMENT INFORMATION SYSTEM (MIS)

This manual refers to management information based on earlier IT platforms. However report presentations remain relevant to management information delivered on a current IT platform.

ABBERFIELD
TECHNOLOGY

MANAGEMENT INFORMATION SYSTEM

CONTENTS

MANAGEMENT INFORMATION SYSTEM

INTRODUCTION

This manual describes the Abberfield Technology Management Information System (MIS) software for the Abberfield Technology Automatic Revenue Collection and Change Giving Systems.

All the components of the Abberfield Technology systems are designed to record information which may be useful when assessing the operation and performance of the system. This information is stored in special memory in each machine called an "audit log". Information in the audit log is remembered even when the power is removed from the machine.

The audit log data is transferred from each machine to your computer via the Electronic Cash Box. The Electronic Cash Box is designed to provide secure transfer of cash and audit log data from the machine back to the processing office. If secure cash transfer is not required, the Electronic Cash Box Lid may still be used to transfer the audit log information. The Management Information System includes software to process Electronic Cash Boxes (extract audit log data).

It should be noted that, unlike many other systems, it is possible to process Cash Boxes from a machine "out of chronological order" without loss of audit log data, provided the time of the first to the time of the last Cash Box is not excessive. This time is system usage dependant but could range from a few days to several weeks.

Some Abberfield systems have features such as ticket prices which may be changed by the owner. These features may be set at the processing office via the Abberfield Configuration Program used in conjunction with the Management Information System system. This information is then transferred to the machines by the Electronic Cash Box.

The Management Information System is designed to produce a range of reports which represent the operational data gathered from the various machines in the system (such as Ticket Vending Machines, Ticket Validators, car park Pay Stations and Change Givers). Each report can present data from a single machine or a user specified group of machines. A list of machine groups is maintained by the system.

The Management Information System is designed to run on an IBM or compatible P.C. (personal computer) in the Microsoft Windows '95/'98 environment. It is recommended that for any reasonable sized revenue collection system a P.C. is dedicated to Management Information System usage.

If desired a stripped down version of the Management Information System can be used to allow cash processing only at the place where coins are sorted and banked. The data can then be transferred to a second Management computer where the full set of reports can be accessed.

MANAGEMENT INFORMATION SYSTEM INSTALLATION

Assumptions made in this manual

It is assumed that the user is familiar with Windows '95/'98 menus, icons, windows and using the mouse to make selections. If you do not understand these concepts, please start with your *Microsoft Windows User's Guide*.

System Requirements

To operate The Management Information System, you will require an IBM P.C. or compatible computer capable of operating Windows 1995 / 1998 / 2000.

The history records will build up over time and enough disk space should be set aside to allow for the database to grow and for the reports to be generated. An allowance of 1 gigabyte per five million transactions is expected.

Your Computer's Clock

Before proceeding with the Management Information System software installation, please check that your computer's clock has been set correctly. **It is most important to have the correct date as well as the correct time.**

Installation

Follow the normal Windows installation procedure;

> Insert disk 1
> Select Start, Run and then click O.K.
> Type A:SETUP
> Follow screen prompts

Alternatively if installation is via a C.D. insert the C.D. and the system install should start automatically.
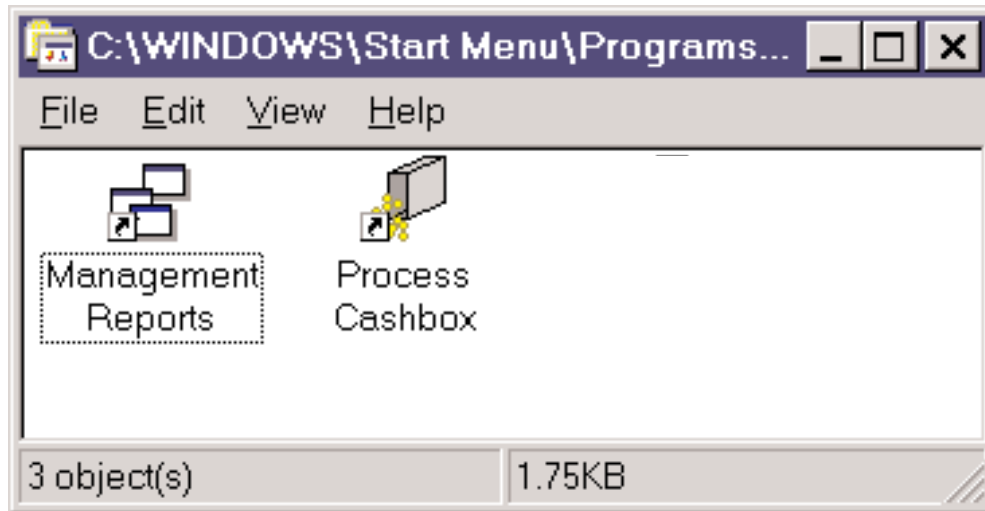
If auto run has been disabled on your P.C. then it will be necessary to start the setup manually;

> Select Start, Run and then Type D: Setup and click O.K.

Follow screen prompts.

The installation procedure will set up the appropriate icons for the Windows '95/'98 environment.

When the setup programme completes, a group of ICONS will be created. The ICONS are customer specific. A typical group look like;-

```
┌─────────────────────────────────────────────────┐
│ 📋 C:\WINDOWS\Start Menu\Programs...  [_][□][×]  │
├─────────────────────────────────────────────────┤
│ File   Edit   View   Help                        │
├─────────────────────────────────────────────────┤
│                                                  │
│    📑              📦                             │
│                                                  │
│  Management      Process                          │
│  Reports         Cashbox                          │
│                                                  │
│                                                  │
├─────────────────────────────────────────────────┤
│ 3 object(s)              │ 1.75KB                 │
└─────────────────────────────────────────────────┘
```

After completing the initial installation the history files will be created by processing the Cash Boxes from operative machines. No management reports will be available until these history records have been created.

Note: The Management System will format the reports based on the size of the page on the installed printer (A4 etc.).

CASH BOX PROCESSING

Introduction

The Abberfield Technology Electronic Cash Box is an intelligent module. It is used to carry audit data (coins and / or tokens accepted and other data) from the machine to the central office computer when the Cash Box is emptied. The audit data is saved in a "history file" during cash box processing.

From time to time, the cash box operating software will need to be updated to provide new features or to improve performance. New operating software is automatically re-loaded into the Cash Box, and subsequently then into the machine, after the Cash Box has been processed and the history files are updated.

Note: **The computer time and date needs to be correct as this is also down loaded to the machines.**

Equipment Required

You will require the following equipment to retrieve data from the Cash Box:

- A self contained Cash Box Processing Station.

Or for more portable systems:

- Abberfield Interface Module.
- Interface Module extension cable (4 or 6 core).
- P.C. parallel printer port cable (25 pin 'D' male to 25 pin 'D' female).
- Plug Pak power supply (12V D.C., 300mA).
- An unused printer port on your P.C..

Connecting to your Computer

This is achieved via a portable interface or for larger systems the purpose built processing station is recommended.
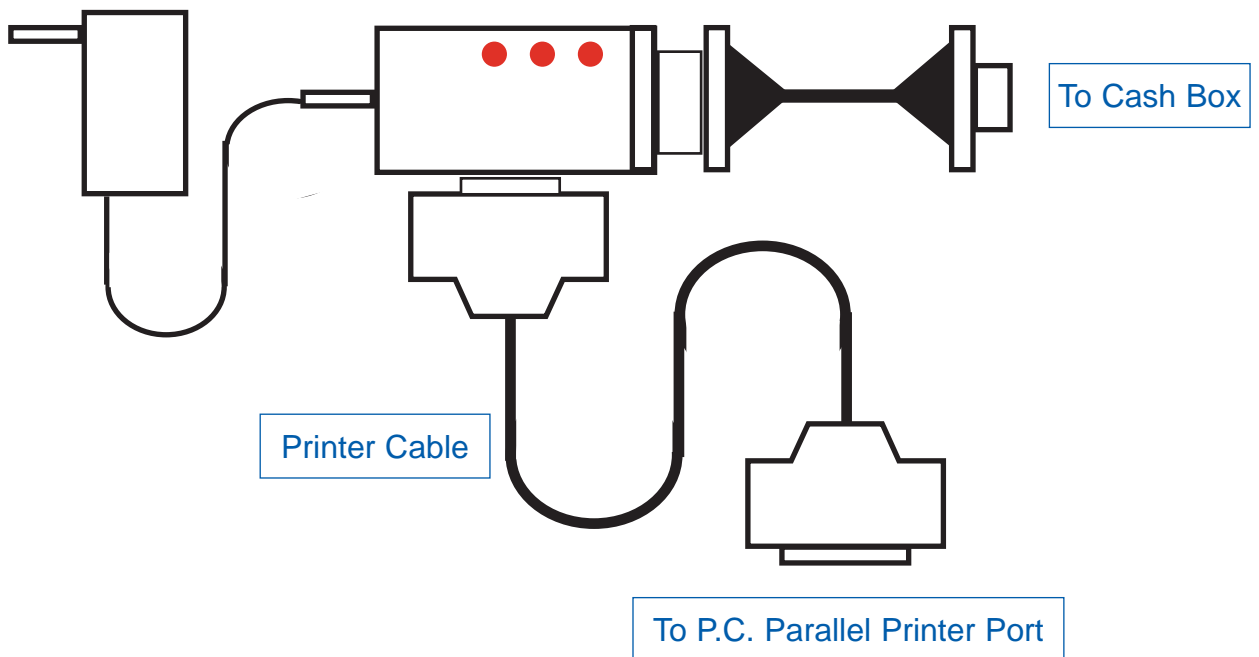
When correctly connected and power is applied, the Interface Module's green POWER light should be on continuously and the other two lights will flicker when data is transferred.

PORTABLE SYSTEM

Plug Pak Power Supply

TVM Interface Module

TVM Module Cable

To Cash Box

Printer Cable

To P.C. Parallel Printer Port

PROCESSING STATION

Processing Cash Box

To commence Cash Box processing, double click on the Process Cash Box icon.

Connect and disconnect the cash box ONLY when prompted to do so.

When the Cash Box has been successfully read, a short cash summary will be displayed.

**Note 1:** You do not have to turn the power off to connect or disconnect a Cash Box.

Note 2: A P.C. parallel printer port has a 25 pin socket (no pins). If you are unsure, consult your computer manual or Abberfield Technical support.

Cash Box In Machine

When a Cash Box is placed into a machine, the top light will flash quickly while the Cash Box is locking itself in. Once locked in, the top light will continue to flash more slowly (about twice per second). The machine will now operate normally.

If a mechanical problem should occur during locking, pressing any of the three red buttons will unlock the Cash Box.

Electronic Cash Box Lid - front view
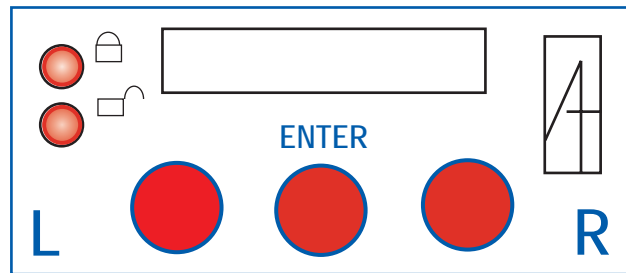
CASH BOX LIGHT STATUS		
Top Light	**Bottom Light**	**Condition**
Flashing quickly	Off	Locking
Flashing slowly	Off	Locked (normal operation)
Flashing quickly	On	Loading audit data
Off	Flashing quickly	Unlocking
Off	Flashing slowly	Unlocked, ready to remove
Alternating	Alternating	Cash Box not communicating with machine modules

When a cash box needs to be removed from a machine, a **P**ersonal **I**dentification **N**umber (P.I.N.) may be required.

If the P.I.N. code has been factory set the default number will be 1234.

Via the Configuration program, customers can set their own P.I.N. numbers.

First press ENTER.The coin validator display will flash 'PIN'. The method of entering your PIN is like the method used to open a safe's combination lock. Press the 'L' button until the first digit of your P.I.N. is displayed. Press the 'R' button until the second digit appears. Press the 'L' button again until the third digit appears. Finally, press the 'R' button until the fourth digit appears. When your P.I.N. is complete on the display, press the 'ENTER' button. If your PIN is valid the display will show **Good**. The Cash Box should start to unlock. If the P.I.N. is not accepted the display will show **Err**.

Note: If you accidentally press the button too many times, simply keep pressing the button until the required digit appears. Each digit behaves as if it is on a wheel - as it turns it will display ... 8, 9, 0, 1, 2, or 2, 1, 0, 9, 8 ...

There may be a delay of a few seconds before the Cash Box unlocks, as any recent audit details are copied. If the Cash Box has only recently been installed there may be a delay of up to forty five seconds as the entire audit details are copied.

During the unlock process the bottom light will flash quickly. When the bottom light is flashing slowly, the display shows **OPEN** and the power supply beeps, the Cash Box may be removed. Some machines may also issue an audit ticket if the machine is configured with this option. An audit ticket on demand is also a configurable option, actuated by pressing left and right buttons together.

When the cash box is plugged in at the cash box processing station, select the Process Cash box icon.

Depending on the configured option the Cash Box lid may still be locked to the Cash Box. Once the audit details have been extracted by the Process Cash Box program the lid will fully unlock. This ensures cash security up to the stage where audit details are known to the Management Information System.

The screen will display Cash Box contents which will balance with the audit ticket details. This makes it possible to check physical count against individual Cash Boxes and / or the total of all Cash Boxes processed.

The system menu allows printing of banking slips and individual Cash Box contents. These are accessed via the menu bar.

SYSTEM CONFIGURATION

Configuration options are set in the Configuration Program that operates in conjunction with the Management Information Program. Configuration options are currently factory set, due to the wide range of the possible parameters. Some customer configuration parameters can be made available by negotiation. Examples of some configurable parameters follow.

1. <u>Cash Box time bomb</u>.
   Requires Cash Boxes to be processed within a configurable period or the machine will shut down.

2. <u>Cash Box location</u>.
   The Cash Box can be;

   a) exchanged between any valid machines.
   b) accepted into any valid machine but only removed and re-entered into that machine (normal).

3. <u>Lid locking positions</u>.
   On entering P.I.N. number the Cash Box lid can either;

   a) half unlock so as to release from the machine but not from the Cash Box (still closing off the coin entry slot). This is the recommended security mode.
   b) Full unlock so as to fully release from both the machine and the Cash Box.

4. <u>Operating Parameters</u>

   These are many and varied, usually set by ✓ and ✗ or entering parameter settings. An example would be the Cash Box capacity limits. Another is creating Cash Box access P.I.N. numbers, ticket prices, schedules etc.

EXPLORING THE MANAGEMENT INFORMATION SYSTEM

Report Menu

First select the Management Reports icon.

The Report Menu allows you to create and delete report definitions, open and print reports and export the report data into another application such as a spreadsheet (contact Abberfield for details).

To run report click Report on the menu bar and then click New. Enter in the report parameters in the dialogue box.

Window Menu

More than one report may be open at any time. The Windows Menu controls how these reports are displayed. These are normal Windows functions.

Cascade: Causes all report windows to be overlaid such that the title bar of each window is visible. Only the last report is visible.

Tile: Causes all report windows to be displayed one above the other so that a section of each report is visible.

Arrange All: If there are several reports open, the screen may become cluttered. By minimising some of the report windows, more screen is made available for fewer reports. Arrange icons arranges the icons of the minimised reports along the bottom of the screen.

Help Menu

Contents: Opens the Management Information System on-line help system. Much of the text of this manual can be found in the help system.

Using Help: This is a standard Windows file and is not part of the Management Information System.

About - Program Revision

CREATING DATA FILES

Before any reports may be produced, data (history) files need to be created. All these files are created or updated during the Cash Box Processing routine. Use the following procedure to create the data and index files.

1. Take each Cash Box and process it. This will ensure that the current Cash Box operating software is loaded in each Cash Box.

2. Place each Cash Box into a machine and allow it to lock in. Once the machine is operational the Cash Box can be removed regardless of whether the machine is operated or not (see Cash Box in Machine section). The Cash Box will now contain the unique identification information to create its history file.

3. Process the Cash Box again. The file will be created automatically.

REPORTS

Introduction

Several different reports of machine operation are available. Each report may be based on the data from a single machine or a user specified group of machines. A group may consist of any combination of machines. Some examples may be the machines on one platform, at one station or on a whole line. After a report is defined, the report definition may be saved so it can be recalled and re-run at a later date.

After a report has been built, it may be viewed and / or printed. There is also a "print preview" function to check the appearance of a report before printing.

Running A Report

A report is specified in two stages.

1. The report is defined. These are user specific and selected in the dialogue box.

a) Select GROUP OF MACHINES or INDIVIDUAL MACHINE on which you wish to report. To create a group, select the Group item in the menu bar and follow the prompts.
b) Select the report type by opening the REPORT TYPE Window by clicking on the Then select one of the reports available.
c) Enter the relevant dates **day, month, year**, click on OK to run the report.

2. The report is run. Normal weekly type reports will process in seconds to minutes, dependant in the number of transactions being reviewed. The report is placed on the screen for the user to view. It may then be printed.

Report definitions may be stored for later use. A definition may be recalled by selecting "OPEN" in the Report Parameters Menu.

Note: Only the report definitions are saved. If you need to re-print a report at a later date, you will need to open the definition and run it before you can print the report.

Additional special reports may be created to meet special needs. The audit log in each machine retains substantial detail of all transactions in a data base format. All reports allow a Start and End date to be specified to control the data used in a particular report.

Machine Groups

For reporting purposes in systems with multiple machines, machines may be grouped. The resulting report will contain the relevant data from all machines within the group. A group can be given a descriptive name and have notes attached. A group may contain any number of machines from one to all machines in the system. Any machine may appear in more than one group.

To add a machine to a group, select a machine from the OTHER MACHINES List and click ADD. The selected machines will be moved to the MACHINES IN GROUP list. Similarly, to remove a machine from the group, select the machine to be removed in the MACHINES IN GROUP list and click on REMOVE.

After the MACHINES IN GROUP list is complete, you may add some notes that provide more information about the group.

Click O.K. to complete the group definition.
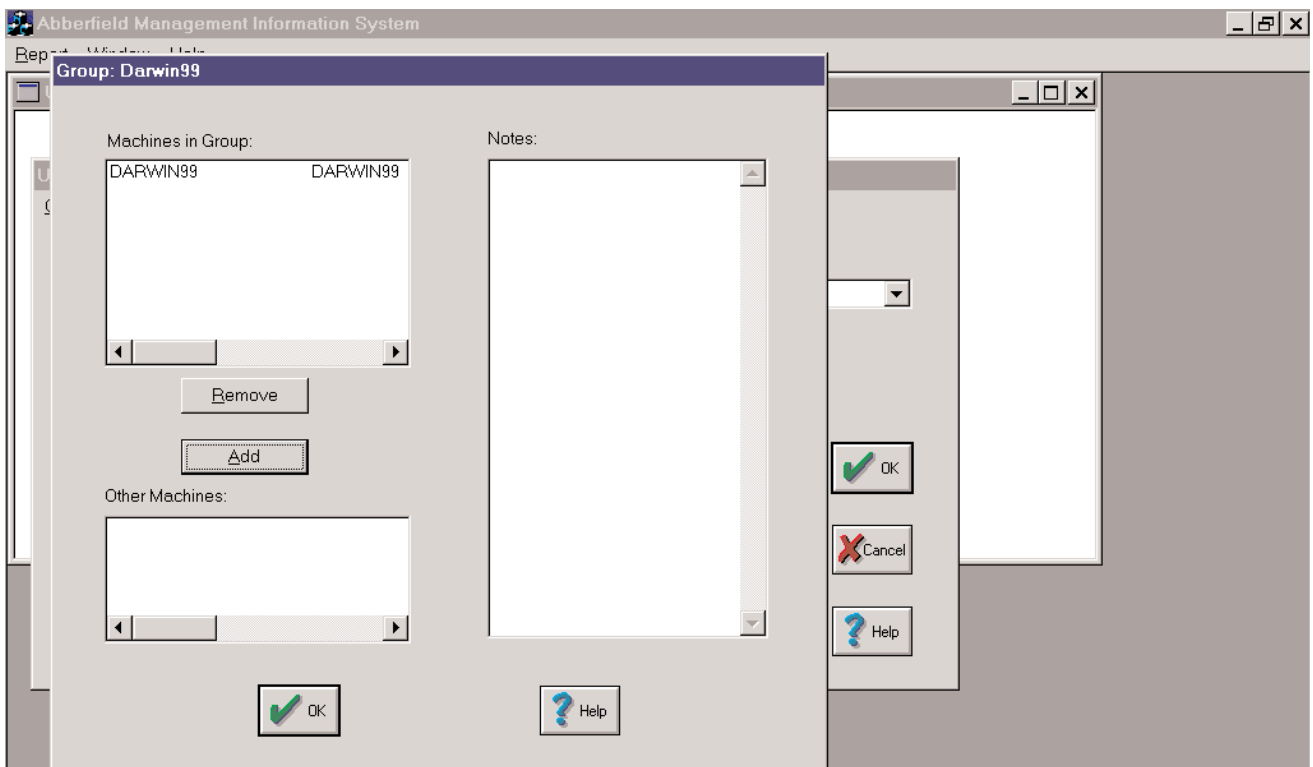
Defining A Report

To define parameters for a new report, select, NEW in the Report Menu. You should see the report definition window.

Note: the INDIVIDUAL MACHINES option is selected by default. You may select from any of the listed machines or groups of machines.

If you wish to define a report for a single machine, select INDIVIDUAL MACHINE which should look like ....
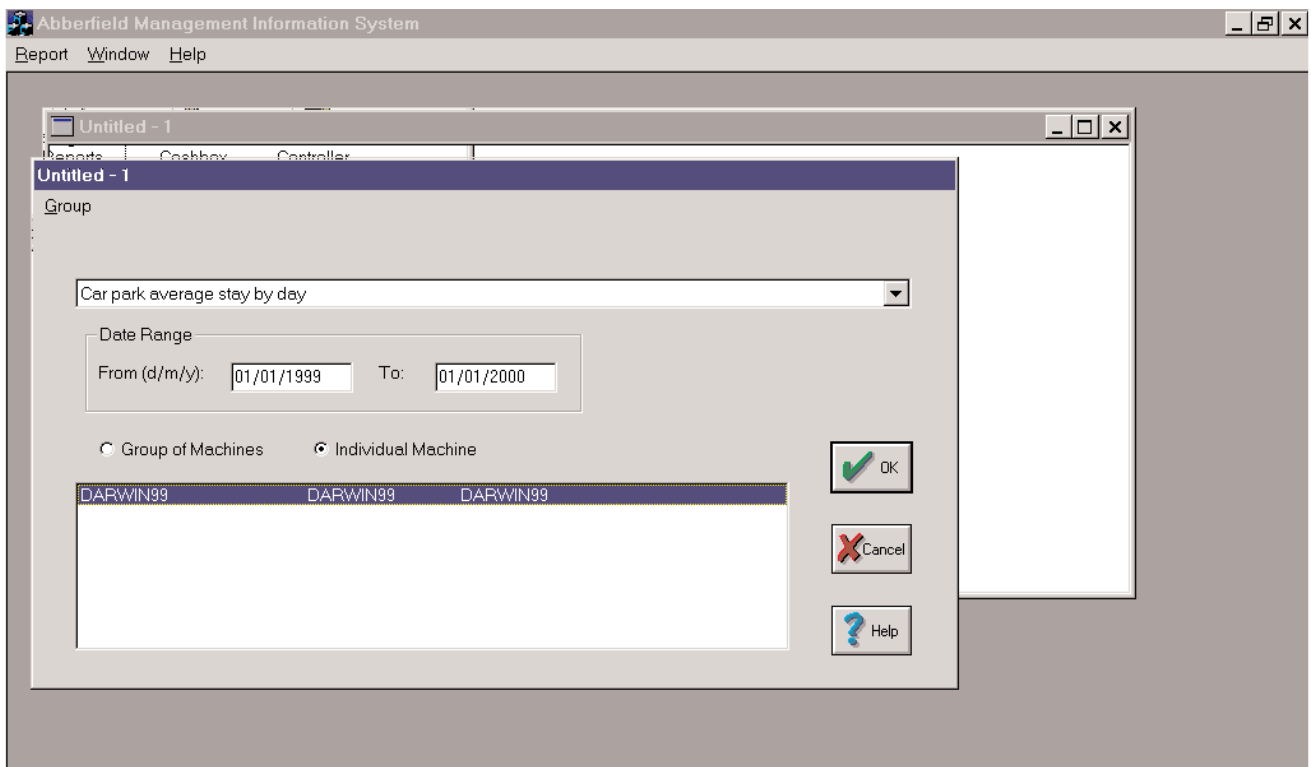
You may select any machine from the list. Select the appropriate REPORT TYPE and DATE RANGE. Click on OK to run the report. When the report is complete, you can SEARCH for information in the report (if more than one page is involved) or you can send the report to your printer.