

- **CS Technologies access control supports easy generation of time and attendance reports**
- **Reports include time of entry and exit of each user together with total time on site**

Introduction

CS Technologies access control systems are powerful and flexible for controlling access to any premises. However because the systems provide a full audit trail of transactions it is possible to also use them to track time and attendance of employees and visitors to a particular site.

This application note describes some of the functionality available and how to achieve it using Advent and PC3 software.

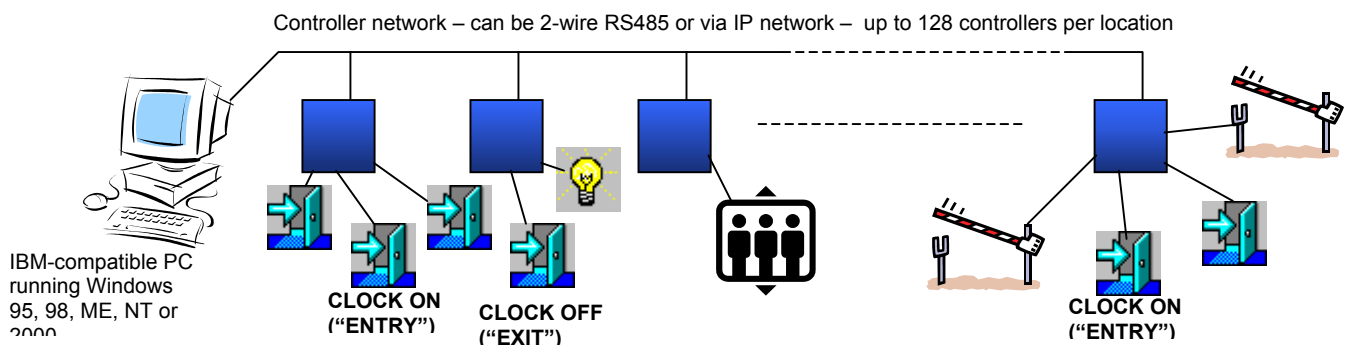
Typical system configuration

In a typical access control system there are a number of readers controlling access to doors, elevators, alarm systems and so on. When the system is to be utilized for time and attendance recording, some of the readers are designated as the time and attendance entry and exit readers.

Whenever a user presents a credential at one of these readers the system records that the person was at that door at that time, and the appropriate output can operate to allow entry or exit. However the transactions at these entry or exit readers can also be used to generate a time and attendance report.

The time and attendance readers can be any reader in the system, or can be dedicated to the purpose of collecting the time and attendance data. The system requires separate readers for clocking ON and clocking OFF to reduce any possibility of confusion and ensure accuracy with the operation of the system.

The diagram below shows a typical system layout with a PC operating a number of controllers; some readers used for normal access control and others designated for time and attendance. The system is extremely flexible and any reader can be designated as an entry or exit reader for time and attendance purposes.



Controllers each operate doors, an elevator, lighting control, air conditioning control and/or alarm areas

Some particular things to note:

- any reader in the system (except an elevator reader) can be designated as an entry or exit reader for time and attendance purposes.
- readers can be dedicated to the purpose of time and attendance recording, or can be existing door readers.
- multiple entry and exit readers can be defined; there doesn't have to be the same number of entries as exits
- time and attendance readers don't need to be on the same controller.
- designating readers for time and attendance is unrelated to using them for antipassback (see the 'antipassback' application note for more information).

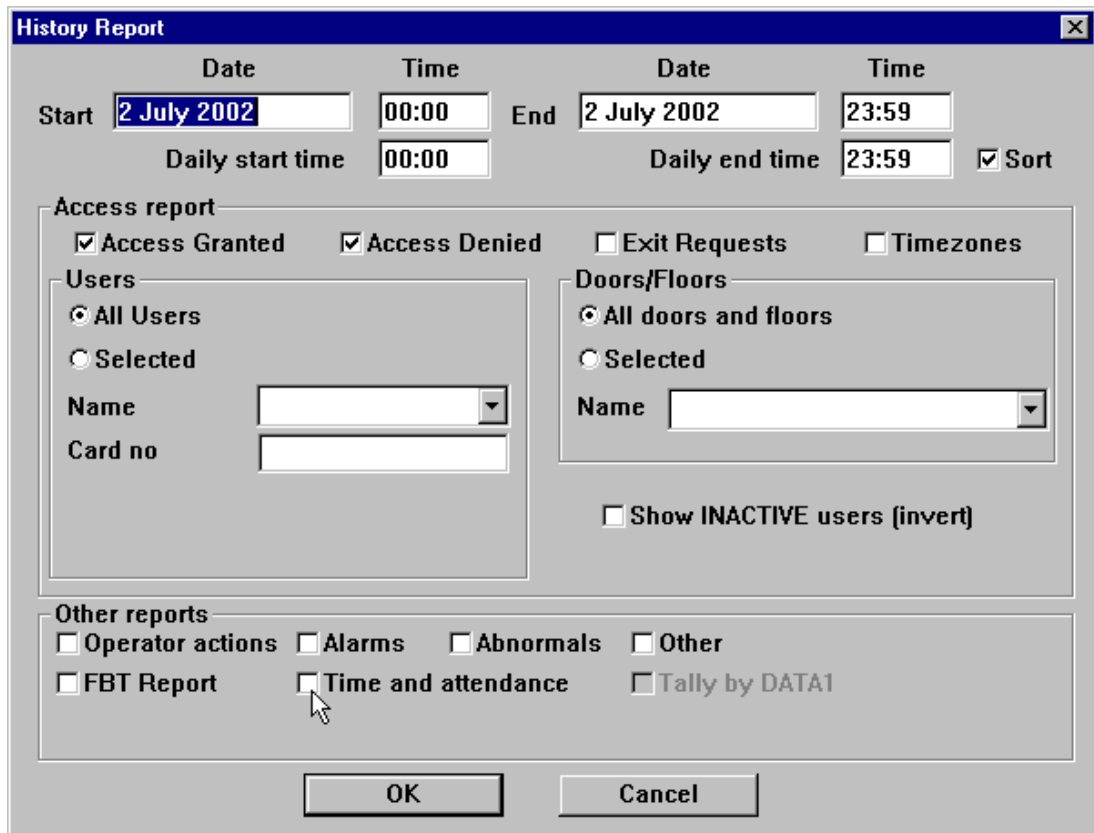
Time and attendance reports

With a time and attendance system the designated 'entry' and 'exit' readers simply record a transaction just like any other use of the reader. However when set up for time and attendance (see below) it becomes possible to create a time and attendance report.

In either Advent or PC3, select the Reports/History menu.



If the system is correctly configured, a check-box appears at the bottom of the report definition dialog which allows a 'time and attendance' report to be selected.



To create a time and attendance report, enter the start and end date and time of the report as normal. You can also select an individual user for the report or all users or a group of users (by entering the first part of their name or their 'data 1' or 'data 2' field) just as for a standard history report.

Tick the 'time and attendance' report check box and click 'OK'. This will produce a time and attendance report. The report is generated using the following method:

For each user in the selected report:

If there are any entry or exit transactions in the selected period print the user's name.

For each date in the selected report:

If there are any entry or exit transactions on that date print the date.

Print the entry or exit transactions for that user for that date.

Where there is an entry followed by an exit, print the total time on site between those transactions

At the end of each date, print the total amount of time on site for that user for that date.

The report prints a ‘—’ if the first transaction for a user for a day is an exit and similarly if the last transaction for a user for a day is an entry.

An example report is as follows:

Time and Attendance Report					
Start date:	01/07/2002	Start time:	00:00		
End date:	02/07/2002	End time:	23:59		
Users:	ALL				
Doors:	ALL				
Name	Date	Entry	Exit	Total	
Joseph Bloggs	01/07/02	09:03	12:03	03:00	
		12:45	17:12	04:27	07:27
	02/07/02	08:55	12:35	03:40	
		13:30	17:35	04:05	07:45
Charles Smith	01/07/02	06:01	15:05	09:04	
					09:04

Tally report (Advent only)

Advent includes an extra report which can be generated to produce a tally of users entering and exiting the premises for each day. Rather than providing the information on a particular individual, the tally report summarises the entries and exits for each group of users (grouped by the ‘DATA 1’ user-defined title), summarized in hourly periods over the day.

This is particularly useful in situations such as a building site, where the builder may want to check on the activity of contractors on the site. It produces a report which summarises how many of each contractor’s employees have entered and exited the site during each hour of the day.

An example would be where the DATA 1 field (defined under Administration/Titles) is called ‘Company’. Each user in the database is assigned to a particular company. When the report is run (Reports/History) and the Time and Attendance box is checked, an additional check-box appears next to it which allows you to select ‘Tally by company’. If this box is checked then the tally report is generated.

An example of the tally report is shown below.

Time and Attendance Report – tally by company

Start date: 01/07/2002 Start time: 00:00
 End date: 02/07/2002 End time: 23:59
 Users: ALL
 Doors: ALL

Company - Bricklayers

01/07/2002
 05:00-06:00 5 0
 06:00-07:00 12 0
 07:00-08:00 1 0
 11:00-12:00 13 12
 14:00-15:00 0 7
 15:00-16:00 0 10

Total entries = 31, Total exits = 31

02/07/2002
 05:00-06:00 3 0
 06:00-07:00 8 0
 11:00-12:00 5 5
 14:00-15:00 0 11

Total entries = 16, Total exits = 16

Company - Tilers

01/07/2002
 08:00-09:00 3 0
 16:00-17:00 0 3

Total entries = 3, Total exits = 3

02/07/2002
 08:00-09:00 4 0
 12:00-13:00 1 1
 16:00-17:00 0 4

Total entries = 5, Total exits = 5

Setting up the system

To set the system up for generation of time and attendance reports is very simple. Controllers are defined in the usual fashion, and as long as the defined doors are designated as 'entry' or 'exit' readers then the time and attendance report option will be available for the generation of the reports in the history screen.

Doors are defined under Hardware/Controllers/Edit Controller/Add Door. As long as the door in question is part of a 'Door' controller then the "entry/exit/don't care" selection will be available. Select Entry or Exit to have this door included when calculations of time and attendance are made.

Exporting data to other programs

It is also possible to collect time and attendance data from the system for use with other programs. There are two ways of doing this.

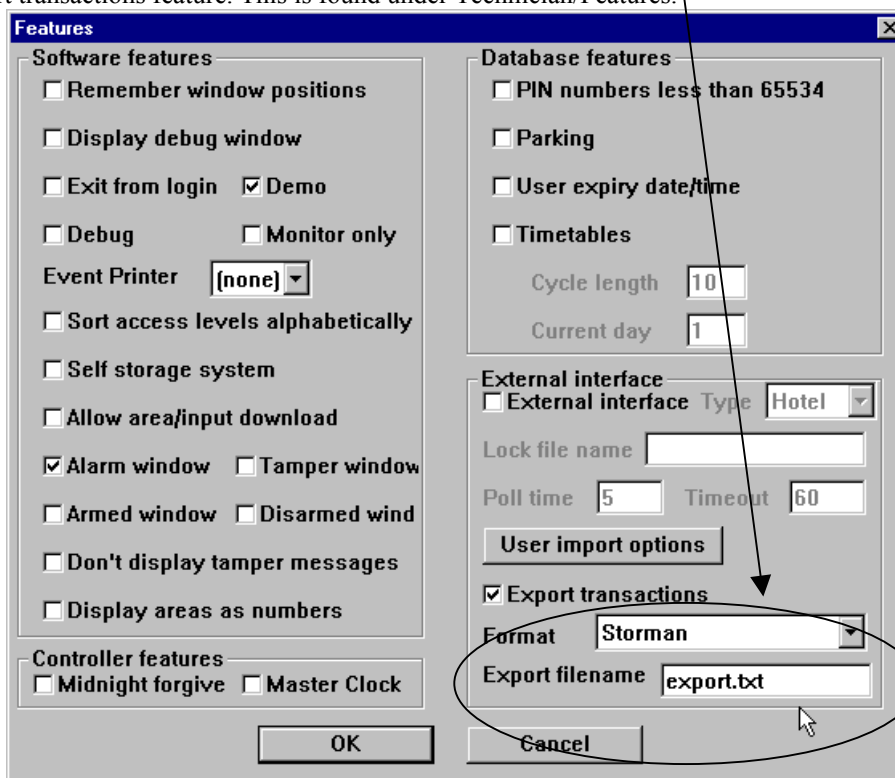
Exporting a report

After one of the reports described above has been created it can be exported in text format for use in another program or word processor. To do this, simply click on the 'Save' button which appears at the top of the report window. This will allow you to save the displayed report information in a text file which can be opened in another program.



Exporting raw transactions

The other way that time and attendance information can be used with other programs is by enabling the 'external interface' export transactions feature. This is found under Technician/Features.



Tick the 'export transactions' box, select the 'Storman' format and enter a filename for the exported data. Now every time a transaction occurs on the screen it will also be recorded in this text file. The text file is in CSV (comma-separated value) format as follows:

```
<DD/MM/YYYY>,<HH:MM>,<NAME>,<CREDENTIAL>,<DOOR NAME>,<1/0>,<DATA 1>,<DATA 2>
```

where the 1/0 is 1 for access granted, 0 for access denied.

The text file is created if it doesn't exist, or appended to if it does exist. Thus another application is able to read the data in and delete the file. All access transactions are included in the file so it can be imported into a database or spreadsheet and manipulated to produce time and attendance or any other information required.

Some sample transactions are below:

```
03/07/2002,15:27,Joe Bloggs,5,Carpark entry,1,Bricklayers,
03/07/2002,15:27,Charles Smith,15,Staff door,1,Tilers,
```