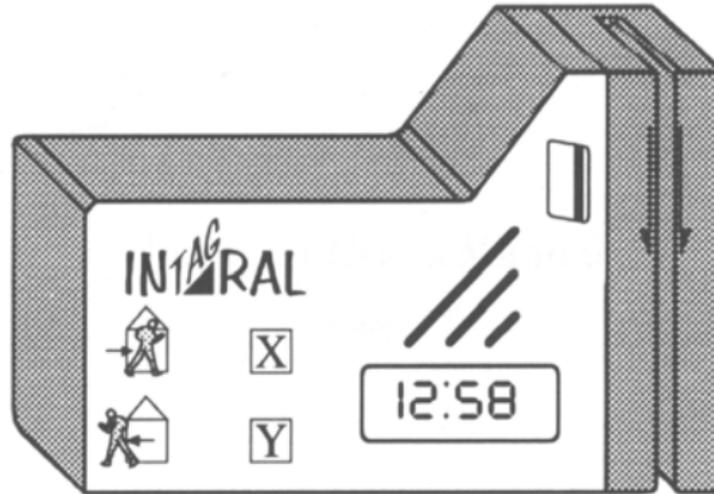


INTAGRAL Time Clock - User's Manual



InTagral, the clock for easy-to-use Attendance monitoring.

InTagral User's Manual

Version 1.70

Contents

1.	Introduction	1
1.1.	System Overview.....	1
1.2.	This Manual	3
2.	Installing and Operating the InTagral Clock.....	5
2.1.	Unpacking.....	5
2.2.	InTagral Default Setup.....	8
2.3.	Mounting InTagral	9
2.4.	Clocking In and Out.....	11

3.	Installing the InTagral Time & Attendance S/W.....	13
3.1.	Installation	13
3.2.	Running the Program	14
4.	Downloading InTagral Data.....	15
4.1.	Connecting to InTagral	15
4.2.	Downloading Data from InTagral.....	22
4.3.	Transferring InTagral Data to Diskette	24
5.	Preparing Reports.....	26
5.1.	Creating and Updating the Employee List.....	27
5.2.	Producing Reports.....	27

5.3.	Manual Clocking	29
5.4.	Report Configuration	30
5.5.	Exporting Attendance Data	33
5.6.	Attendance Data Maintenance	33
6.	Configuring the InTagral Time Clock	34
6.1.	InTagral Clock Parameters.....	34
6.2.	Company Name.....	40
6.3.	Password.....	41
6.4.	Export File Name.....	42
6.5.	Export Data Format	42

6.6.	Direct / Phone / Network Connection	44
6.7.	Software Update.....	45
7.	Maintenance and Troubleshooting.....	46
7.1.	Batteries.....	46
7.2.	Troubleshooting.....	47
8.	Specifications	51



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1. Introduction

1.1. System Overview

The InTagral Time and Attendance clock uses state-of-the-art technology to provide low cost, hassle-free attendance monitoring for the average business.

The InTagral clock contains: Slot for reading Magnetic or Bar-Code Tags, Display, Four function keys, Audible alarm, Port for connection to a PC. The InTagral requires no external connections to operate. It is powered by two standard alkaline batteries. Battery life is over one year. A backup battery retains the correct time when the main batteries are removed. InTagral's Flash memory provides safe data retention that is independent of the power source.

The InTagral Time & Attendance S/W, supplied with InTagral, is used to download data to a PC or laptop via the cable provided in the package or to poll remote sites via modem. If several InTagrals are to be connected to a single PC port then an RS485 network connection is required.

Attendance data may be stored in InTagral's internal database as well as in a file for use by external software. The file created for external use is adapted to the requirements of specific software by the flexible formatting capability. The program provides a set of Attendance Data processing functions and reports. These may be used for basic stand-alone operation or for preliminary processing before transferring the data to an external system.

The operation of InTagral and the Time & Attendance S/W may be adjusted to suit specific requirements by setting parameters via the Time & Attendance S/W. The InTagral is supplied with these parameters set to default values that should, in most cases, allow you to operate the clock right out of the box.

1.2. This Manual

This manual describes how to use InTagral and the InTagral Time & Attendance S/W and how to adjust them to suit your needs.

A list of sections follows with a brief description of the contents of each.

Section 1: Introduction - Gives a brief overview of InTagral and of this manual.

Section 2: Installing and Operating the InTagral clock - Lists the items in the InTagral package and describes how to mount and use the InTagral clock.

Section 3: Installing the InTagral Time & Attendance S/W - Describes how to install the files from the distribution Diskette to the PC hard disk and start running the software.

Section 4: Downloading InTagral Data - Explains how to retrieve data from the InTagral clock.

- Section 5:** Preparing Reports - Describes the functions that process attendance data and the types of reports that may be generated.
- Section 6:** Configuring the InTagral Time Clock - Explains how to configure the operation of the InTagral clock and its Time & Attendance S/W to suit specific requirements.
- Section 7:** Maintenance and Troubleshooting - Describes problems that may occur when using InTagral and suggests ways to deal with these problems.
- Section 8:** Specifications - Lists InTagral specifications.

2. Installing and Operating the InTagral Clock

2.1. Unpacking

1. Make sure the InTagral box contains the following:
 - InTagral clock with two batteries (installed).
 - Cable with 9-pin RS232 connector on one end and RJ11 phone connector on the other end.
 - Adapter for 25-pin RS232 connector.
 - 3½" diskette containing InTagral's Time & Attendance S/W.
 - Ten Magnetic or Bar-Code personal ID cards sequentially numbered 001–010. The face of the card has been left blank so that you can print on it whatever information you wish. For more cards, contact your local InTagral distributor.

2. Take the InTagral out of the box. The InTagral screen displays the time of day in 12-hour (AM-PM) format. Make sure the clock shows the correct local time, if not it will need to be adjusted before use (refer to **“Setting Date and Time”**). If the display shows a plus sign preceding the time then InTagral has been put in "sleep" mode to preserve battery power. Press any of the square function keys to wake up the clock.

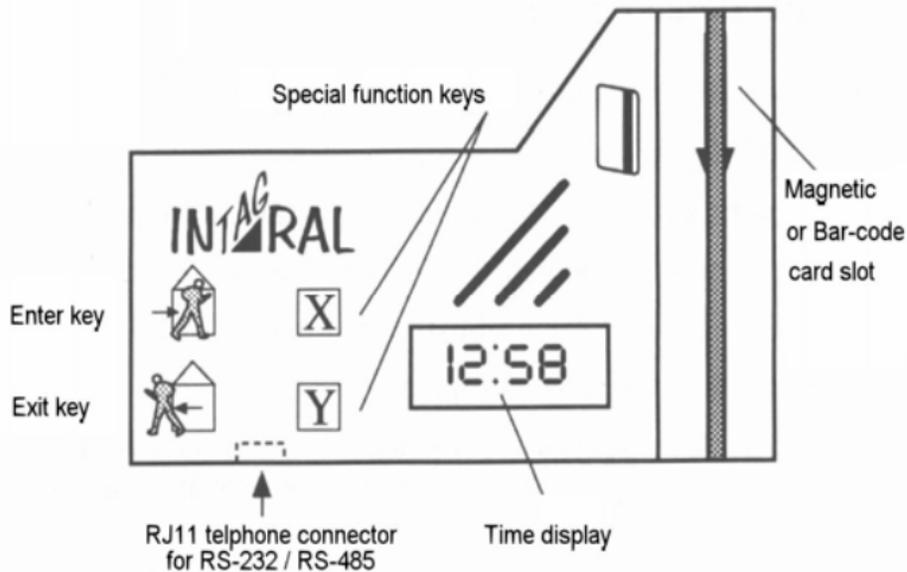


Figure 1. InTagral Time Clock, Front View.

2.2. InTagral Default Setup

InTagral is preset at the factory with the following defaults:

- Local time and date
- ID tag format - Contains 3 digit ID number
- Entry times from 6:00 AM to 12:59 PM , afterwards Exit.
- Daylight Savings Time adjustments - not defined
- Special function keys - disabled

If you do not have special requirements there is no need to change parameter values. To make changes to suit specific needs refer to the section on **“Configuring the InTagral Time Clock”**.

If the default parameters meet your needs, the InTagral is ready to use.

2.3. Mounting InTagral

Mount InTagral in a suitable location in the workplace. Place two screws in the wall 120 mm (4.72") apart. Hang the InTagral by the two holes in its back plate (Figure 2). No power or other external connections are required.



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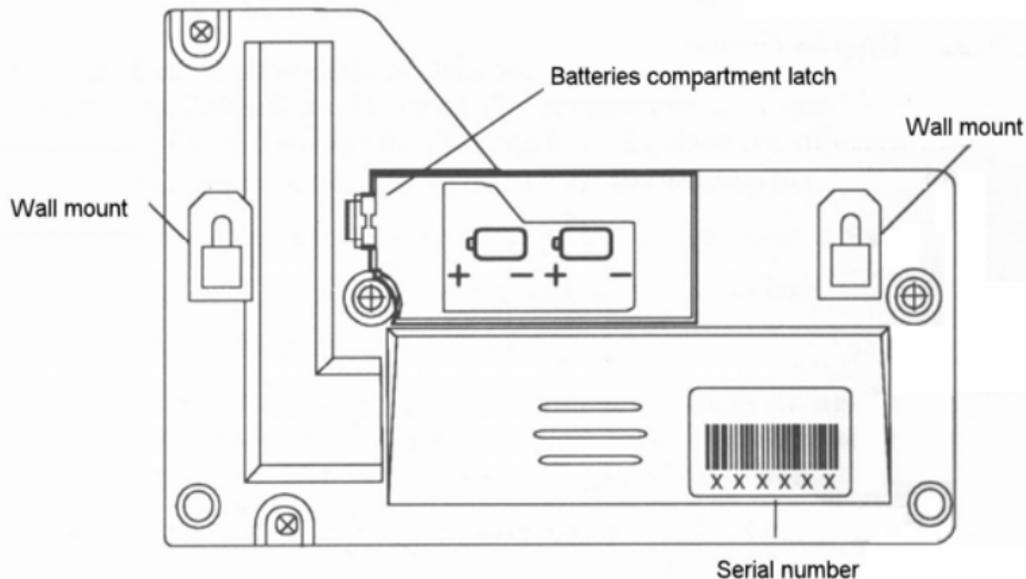
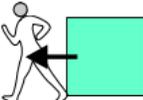


Figure 2. InTagral Time Clock, Rear View.

2.4. Clocking In and Out

The Entry key  shows an employee entering.

The Exit key  shows an employee leaving.

Each one of these keys has an associated LED indicator. When the Entry LED is flashing InTagral expects an Entry operation, when the Exit LED is flashing InTagral expects an Exit operation. InTagral determines which operation it expects according to the time of day and a table of default Entry/Exit times held in its memory.

To clock in or out:

1. To clock in, make sure the Entry key LED is lit. If it is not, press the Entry key.

To clock out, make sure the Exit key LED is lit. If it is not, press the Exit key.

If you need to record a special operation, refer to “**Special Function Keys**”.

2. Pass your InTagral ID card through the card slot from top to bottom, with the Magnetic strip or Bar-Code symbol facing to the right.
3. On a good read InTagral will produce two short beeps and momentarily display your personal ID number. If no beep is heard, check that the Magnetic strip or Bar-Code symbol is properly aligned to your right and try passing the badge through the slot once more. If InTagral reads data it cannot accept, it will sound a long single beep and display an error message. For a list of error messages and suggested remedies, refer to “**Troubleshooting**”.

3. Installing the InTagral Time & Attendance S/W

3.1. Installation

Before you can download data from InTagral, you must install the InTagral Time & Attendance S/W on your PC or laptop computer. The following description assumes drive A: is your 3½" floppy disk drive and that drive C: is your hard disk.

Place the supplied InTagral Time & Attendance S/W diskette into the floppy drive.

- To install from Microsoft Windows 3.x, select RUN from Program Manager's File menu, then type 'A: SETUP' and press Enter.
- To install from Microsoft Windows 95/98/NT, select RUN from Start menu then, type 'A: SETUP' and press Enter. You may then create a shortcut on the DeskTop from the Programs/InTagral submenu under the Start menu by holding the 'Ctrl' key and dragging the InTagral item.
- To install from a DOS prompt, type 'A: INSTALL C:' and press Enter.

The InTagral Setup and Install programs will create a new directory called **InTagral** on drive C:, a new Folder (in Windows 95/98/NT) or a new Program group (in Windows 3.x). In DOS a small batch file, **intag.bat** will be copied to the root directory. Initially, the files in C:\INTAGRAL will take about half a Mbyte of disk space, though some of the files will get somewhat larger as data accumulates.

3.2. Running the Program

To run the Time & Attendance S/W from Microsoft Windows, go to Programs/InTagral submenu under the Start menu (in Windows 95/98/NT) or the InTagral group (in Windows 3.x). To run the Time & Attendance S/W from DOS, at the C:\ prompt type **intag** and press <Enter>. The InTagral Time & Attendance S/W will load and display its main menu screen.

The program's main menu contains options to download data, transfer data to a diskette, prepare reports and configure InTagral. The use of these options is described in the following chapters. To choose a menu option move the highlighted bar using the arrow keys, and then press <Enter>, or press the number of your choice. In most parts of the program you can return to the previous menu or display by pressing <Esc>.

4. Downloading InTagral Data

Assuming an average of two entries and exits a day per employee, InTagral can store attendance records of about 400 employees for a week or about 75 employees for a month. Data should be downloaded before InTagral's maximum storage capacity is exceeded.

4.1. Connecting to InTagral

To download data from InTagral it must first be connected to your PC. The basic way to do this is via the supplied cable connecting the InTagral to the PC serial port. The cable may be connected permanently (Unless the InTagral is installed far away from the PC) or else the InTagral may be physically brought to the location of the PC for downloading. If the InTagral is installed at a remote location than both the InTagral and the PC must be connected to a Modem and communicate over a phone line. If several InTagrals are to be connected to the same PC then an RS485 network connection is required. Connection configurations are shown schematically in figures 3, 4 and 5 respectively.

4.1.1. Connecting to a PC

Use the supplied 9-pin RS232 cable to connect InTagral to your computer.

1. Plug the RJ11 connector of the cable into the jack at the bottom left of InTagral
2. Plug the RS232 connector of your cable into a serial port on your computer. The cable has a 9-pin connector. An adapter is supplied to connect to a 25-pin port.

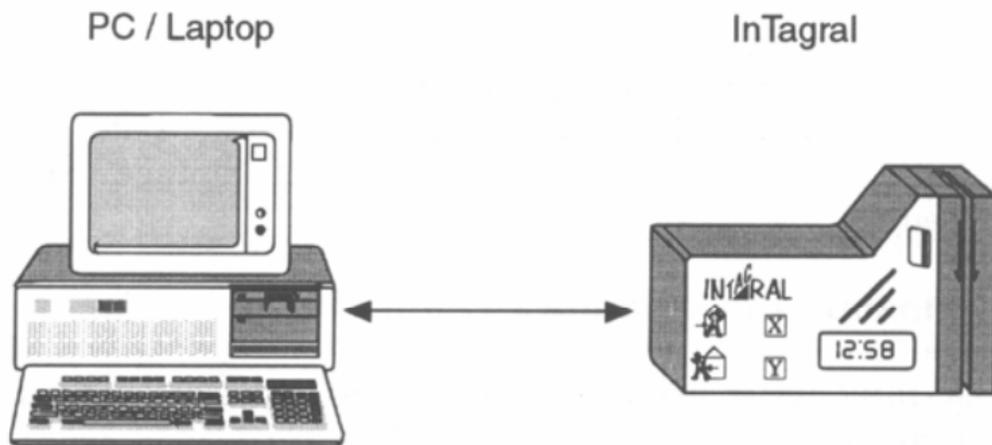


Figure 3. Downloading from InTagral directly

4.1.2. Connecting via a modem

If InTagral is in a remote area, you may poll InTagral via the telephone line and a modem. Refer to your local distributor for instructions.

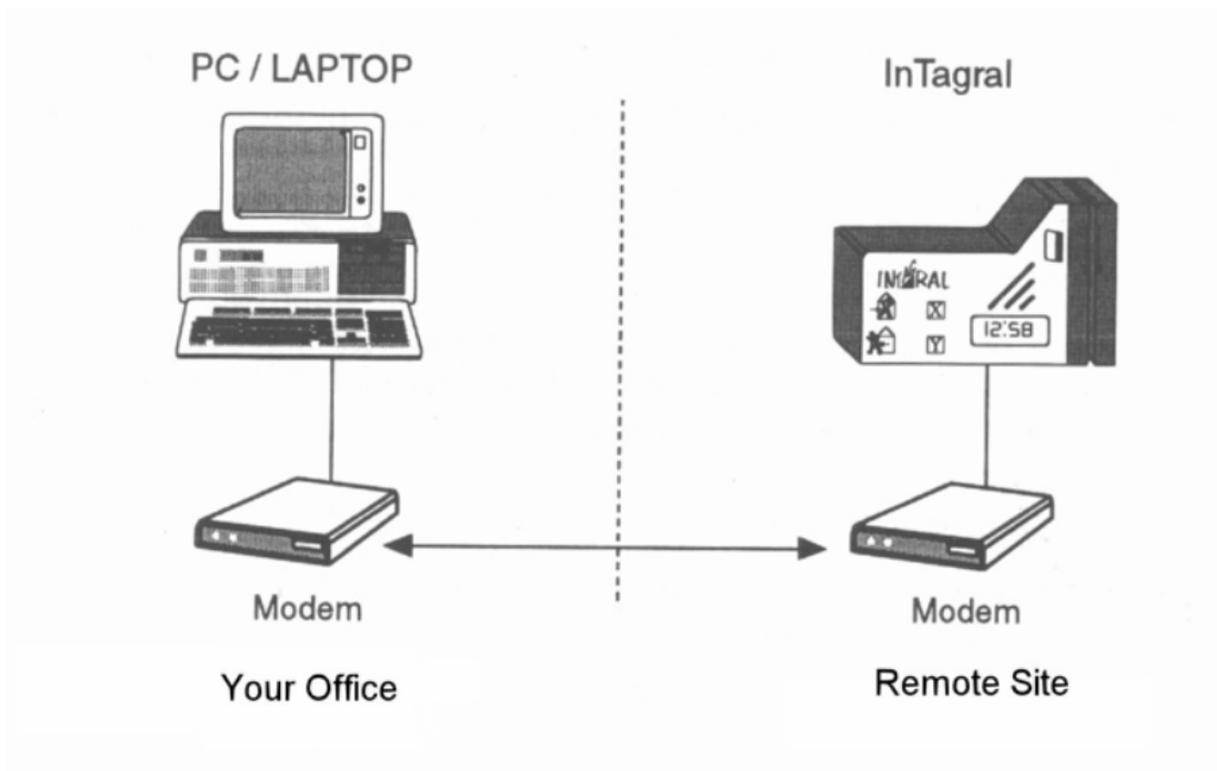


Figure 4. Downloading from InTagral via modem

4.1.3. Connecting several InTagrals together

Up to 15 InTagral units may be connected to a single PC port using an RS485 Network connection. This requires an external RS-232 to RS-485 converter connected to the PC port. The clocks may be daisy-chained using a cable splitter plugged into the existing RJ11 telephone jack. The communication software must be informed of the network and the serial numbers of the connected clocks. Refer to your local distributor for instructions.

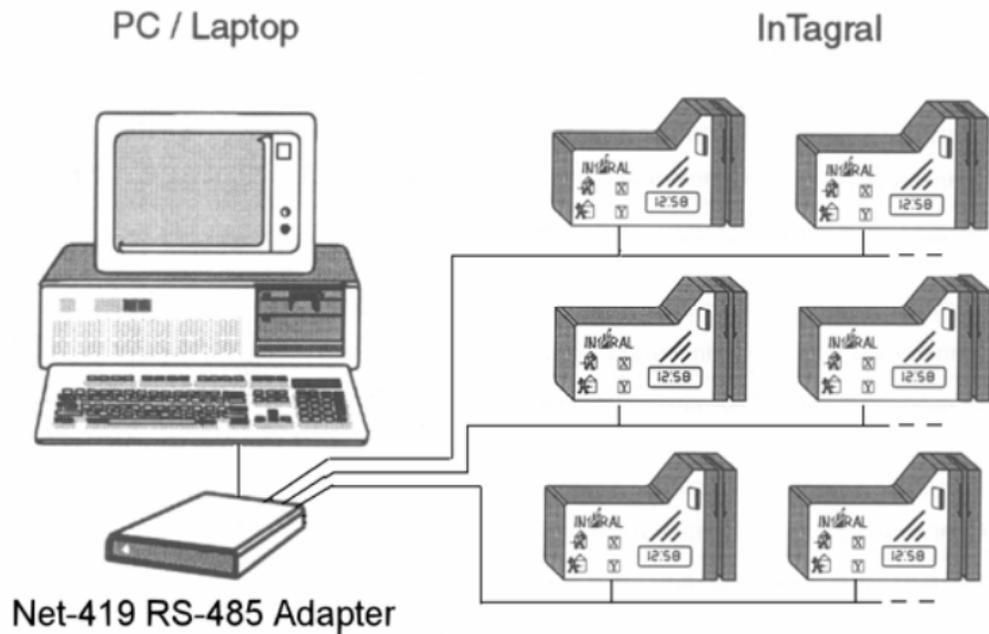


Figure 5. Downloading from InTagral via RS-485 Network.

4.2. Downloading Data from InTagral

The following procedure assumes that you have already installed the InTagral Time & Attendance S/W (refer to “**Installing the InTagral Time & Attendance S/W**”).

To download data from InTagral:

1. Connect InTagral to your computer.
2. Activate the InTagral Time & Attendance S/W from Programs/InTagral submenu under the Start menu (in Windows 95/98/NT), InTagral group (in Windows 3.x) or by typing **C:\intag** from DOS prompt and press <Enter>, The Main Menu will appear.
3. Choose option 1 from the Main Menu.

If a connection list with more than one option have been defined you will now need to choose which connection to use. When a modem connection is chosen, InTagral will dial and try to connect with the remote modem.

When an RS485 network is chosen then you will need to indicate if you wish to download data from all connected clocks or only a specific clock.

4. The program tries to establish communication between your PC and InTagral clock. If there is no response the program will allow you to retry or specify a different port, (for a modem connection it will hang up, for RS-485 network you may choose to skip to the next clock). Once communication is established, the Program displays a clock status screen and will prompt you to confirm before beginning the actual downloading process.

The clock status screen displays the following information:

- Clock ID
- Number of Entries to be downloaded
- InTagral Software Version
- Clock Serial Number

Note: if the main batteries or the lithium backup battery is low, a message will appear before downloading starts.

5. Follow instructions on screen to download data to your computer. The Program will not enable you to download the same data from InTagral twice. If you wish to download the same data or other old data for a second time, refer to **“Memory Data Retrieve”**.

4.3. Transferring InTagral Data to Diskette

During download, data from the InTagral clock may be stored on the PC disk for use by an external program. The transfer function allows you to copy this data to a diskette for backup or for use on another computer (possibly that of a service bureau). To back up InTagral’s internal database files refer to **“Attendance Data Maintenance”**.

To copy data to a diskette:

1. Activate the InTagral Time & Attendance S/W.
The Main Menu will appear.
2. Choose option 2.
If the data file has already been transferred you will be prompted to confirm a repeat operation.
3. You may change the Drive to A: or B: before beginning the transfer operation. If the diskette contains a file with the same name you will need to confirm before it is overwritten.
4. The program monitors the transfer and reports the total number of bytes copied.

5. Preparing Reports

InTagral's Time & Attendance S/W accumulates all data downloaded from InTagral in a file ready for processing (unless the reports option is disabled). The program can prepare several reports from attendance data. These can be printed out or shown on the screen. In order to generate reports an Employee List must first be defined that identifies each employee by name, ID number and Badge number. Some additional information may also be entered to configure the report generation process (such as rules for rounding). The program also allows manual modifications of the data to be entered via the keyboard. An "Export" function is available to transfer the data in the proper format for further processing by external programs.

The above-mentioned functions are available from the Reports Menu, entered from the Main menu by selecting the "Preparing Reports" option.

If Password control has not yet been defined you will be reminded to do so before entering the reports program. An explanation for available options is given below.

5.1. Creating and Updating the Employee List

In order to produce reports a list must be maintained that designates each employee's name and ID number and the number of the assigned badge.

Once a list has been created, it will be displayed on the screen allowing scrolling through the list, updating or deleting an existing entry or inserting a new entry.

The use of this option requires the password to be entered if defined. A printout of the current list can be produced directly from the List display screen.

5.2. Producing Reports

Actual generation of reports is done via this option. Each report (except the Employee list) requires a date range to be specified. The date range may be defined as a month, half-month, fortnight or week or as a custom date range defined by start and end dates.

The reports print the results in the order of the Employee list. This order may be changed by reordering the list using the sort option.

The following types of report are available:

5.2.1. Detailed Attendance

For all employees or a chosen employee.

Details all 'In' and 'Out' clocking times and the calculated work hours for each day as well as totals for the report period. Indications are given for missing clockings and in case calculated work hours are affected by workday limits (such as early clock in) or by break time rules (either automatic deduction or paid break).

If special functions (X or Y) are in use than these are reported separately.

5.2.2. Daily Activity

Clocking data (for all employees) arranged by day.

5.2.3. Hours Summary

Calculated daily hours worked for each employee.

5.2.4. Employee List

Generate a printout of the employee list.

Once a report has been created you may display it on the screen or send it to the printer.

The reports use some special graphic characters, which may not be recognized by your printer. You may specify the use of basic font characters (ASCII codes) which are less clear but should work on any printer or else specify a special code set (this option should be used only by experienced users and when detailed data on the printer is available).

5.3. Manual Clocking

The clockings recorded by InTagral may be incomplete or otherwise in need of manual correction. As sensitive data may be modified, using this option

requires keying of the password. Once an employee has been chosen a calendar screen is displayed in which days that have missing clocking are highlighted. The user may navigate through this calendar to choose the day for which modifications are to be entered. When the day has been chosen, clocking data for this day is displayed and may be modified as needed. Actual recording of the modifications in the Attendance file requires an explicit command.

5.4. Report Configuration

This option is used to set up several parameters that control report generation. The parameters that may be set include the following: Company name (appears in the heading of reports); rules for rounding; Workday Limits (earliest Arrival, latest exit, maximum work hours and work after midnight); Break calculation (either automatic deduction or paid break); Rules for overtime calculation; Weekday to start week; Print font (control of codes used for printing); Printer port number.

A more detailed explanation of Rounding rules, Break calculation and Overtime options appears below:

5.4.1. Rounding rules

Rounding rules are made up of the rounding interval and a grace period, each specified in minutes. The interval divides the hour into equal periods (use 15 minutes when rounding to the quarter hour). Grace divides each period into two, for rounding down and for rounding up. Separate rules are defined for clocking in and for clocking out. A clock-in will be considered as if it occurred at the start of the rounding interval if the actual time-stamp is not late by more than the number of minutes defined in the grace period, otherwise it is calculated as at the end of the interval. A clock-out will be calculated at the end of the interval if it is not early by more than the grace period. An interval of zero means no rounding is performed.

5.4.2. Break Calculation

The reports can be configured to make special calculations for break periods during the workday, in two different ways. In the first case the

employee does not clock in or out and the program makes an automatic deduction of the requested number of minutes. The deduction is made only if the calculated worktime exceeds the hour limit parameter. To disable this calculation set the minutes deducted to zero. The second method requires that the employee clock in and out for his break but stipulates that the number of minutes set are considered as work hours. The addition of "paid break" time will only be performed if there is a clocking out in the middle of the workday. To disable set the paid break time to zero.

5.4.3. Overtime Rules

The Detailed attendance report can partition the calculated work hours into regular hours and overtime. Overtime calculation may be specified either on a daily basis or for the full report period. In either case it is required to set the time to start each level overtime (if the second level is set at less than the first level it is disabled). Special Daily Overtime rules can be applied to two different weekdays.

5.5. Exporting Attendance Data

Attendance data may need to be transferred for further processing by an external program. The name and format of the file used for this are defined as part of InTagral's setup, refer to **“Export File Name”** and **“Export Data Format”**.

The date range for the data generated is specified in the same way as for reports. Once data has been generated it may be transferred to a diskette for use on a different computer or for backup purposes.

5.6. Attendance Data Maintenance

This option provides functions for backup and restore of the main attendance data file as well as the employee list. A further function deletes old attendance data. This may be necessary in order to free up disk space or to speed up program operations.

6. Configuring the InTagral Time Clock

The operation of the InTagral clock and Time & Attendance S/W can be fine-tuned to suit specific requirements by setting the value of control parameters. This is done through the Time & Attendance S/W main menu option “Configuring InTagral”. Some parameters affect the operation of the InTagral clock and are stored in the clock's memory. To set new values for these parameters requires communicating with the InTagral clock. A description of these options can be found in section 6.1 below. Other parameters affect the operation of the Time & Attendance S/W, their values are stored in the PC disk in a parameter file. These options are described in sections 6.2 - 6.7.

Note: In some cases it may be preferable to deny access to these options at a specific PC site. It is possible to install the Time & Attendance S/W with this option deleted from the main menu. Please consult your distributor.

6.1. InTagral Clock Parameters

Parameters stored in the clock's memory (including the current time and day) are accessed by entering this option of the “Configuring InTagral Menu”.

If the connection list has more than one entry then the required connection is chosen at this point. For a modem connection the program attempts to dial and connect to the remote clock.

The set of parameters is grouped under several headings. Each group is accessed through the corresponding option of the menu displayed at this stage. For each option that is chosen the program will communicate with InTagral before proceeding. In case of a communication failure an error message is displayed and a retry may be attempted. A description of the available options follows.

1. Setting Date and Time

To set InTagral's date and time choose option 1 of the Clock Parameters menu. The program will display the current settings of the InTagral clock and those of your PC. You may download the setting of the PC to InTagral or else specify the time and date manually.

2. Entry/Exit Times

In normal operation InTagral expects an EXIT or ENTRY operation depending on the time of day and a pre-set table of regular entry and exit

times. The default operation type can be overridden by using the operation keys but remains in effect following the completion of the operation. Initially InTagral is set to Entry from 6:00 AM to 12:59 PM and Exit for the rest of the day.

Option 2 of the Parameter Setting menu allows the operator to define the exit and entry times. Up to 4 pairs of entry and exit times may be set in ascending order. Additionally two days in the week may have a different set of entry and exit times.

If the exit/entry timetable is empty InTagral will ignore the time of day and set the default operation according to the last key pressed.

3. Daylight Savings Time

InTagral can make adjustments for daylight saving time automatically. The date for making the adjustment is defined using option 3. The adjustment is a one-time function and dates must be re-programmed for the following year.

4. Employee Cards

InTagral is supplied with 10 personal ID cards numbered 001-010. Additional cards in the same format (numbered up to 1999) are available.

The factory set values of the employee card parameters is suited for use with the supplied cards. The need to change these parameters will arise only in case cards with a different format are used instead. All of the cards being used must have the same format.

The parameters “Minimum Spaces “ and “Maximum Spaces” define valid cards to be accepted by InTagral as ID tags. A card with less than the minimum or more than the maximum number of encoded digits will be rejected. The factory value for both these parameters is 3 for Magnetic cards and 6 for Bar-Code cards so that only cards that have exactly 3 or 6 digits are accepted.

The parameter “Spaces Ignored” defines the location of the ID field in the data read from the tag. The factory set value for Magnetic tag is 0 meaning the ID begins with the first character read from the tag, for Bar-Code tag this value is 3 to skip over the first 3 digits.

The parameter “Field Length” defines the size of the ID field. The factory set value is 3 meaning InTagral stores a three-digit ID number.

When ID card data is read by InTagral it displays the ID field. If the ID is longer than 3 digits InTagral will display the last 3 digits but will store the full field.

When using Bar-Code tags the type of Bar-Code symbology must be specified. The default is Code 128 as printed on the tags supplied with InTagral. Other accepted symbologies are EAN, Code 39, and Interleaved 2 of 5.

Since all the parameter values are related they should all be set properly before updating the clock.

Note: The field length value cannot be changed when InTagral has previously stored data that has not been downloaded. Any changes to this field will cause InTagral to clear the data file.

5. Time Clock ID

To specify an ID for your InTagral Clock, choose option 5.

6. Special Function Keys and Permanent Override

InTagral has two extra keys that may be used to allow recording of functions other than entry and exit. The use of these keys is disabled in the default setting. The special functions option allows you to enable the use of the X and Y keys.

Normally after completing an operation the InTagral returns to the default defined by the Entry/Exit times. If permanent override is enabled than pressing a function key 3 times will establish that function as the default.

7. Memory Data Retrieve

The procedure described in “Downloading InTagral Data”, allows you to download attendance data to your PC once only. To download the same data again, or to retrieve previously accumulated data from InTagral’s memory buffer, Select option 7, “Memory Data Retrieve,” from the InTagral Parameters Setting Menu. When you choose this option, you will be prompted to choose whether you wish to download all data in memory, or only data from a specific period. It is preferable to select a specific period to shorten downloading time and preserve InTagral’s battery life.

8. Upload Authorised List

This option is normally enabled only for systems using the door-opening feature of InTagral. It will upload the employee list to the InTagral clock so that only tags with a valid employee ID will be accepted by the clock.

9. Buzz Times

This option is enabled for InTagral clocks that are connected to an alarm buzzer to set the times when the buzzer is activated.

6.2. Company Name

To enter your company name, choose option 2, “Enter Company Name,” in the Configuring InTagral Menu. The Company Name may contain up to 20 characters.

The Company Name will appear in the heading of all reports.

6.3. Password

Some of the options of the InTagral Time & Attendance S/W allow the user to modify sensitive data. For this reason it is prudent to define a password code that will prevent access to these options by unauthorized personnel.

InTagral is supplied with the password undefined. Until the user defines the password, entering either the Reports or the Configure options of the main menu will cause the program to display a request to define the password. Setting the password requires that a 4-digit code be entered twice (to prevent a keying error from locking the program). It is also possible (but not recommended) to define the password as being inoperative so that no password protection is used.

Once the password has been defined it may be changed using option 3 of the Configuring InTagral menu.

Warning! Be sure to keep a secure record of your password. If the password cannot be recovered you will need to contact your InTagral distributor for instructions on reconfiguring the system.

6.4. Export File Name

The data collected from the InTagral clock may need to be processed by an external program such as Attendance accounting or Payroll software. This option allows you to specify the name of the file created by the Time & Attendance S/W for external use (the default name is SEND1.TXT). This file is created either during the downloading of data from the clock or via the use of the "Data Export" option of the reports menu.

6.5. Export Data Format

Attendance data written to the export file is formatted according to instructions coded in the export format. This will normally be set by the supplier of the clock to produce output that is compatible with the external software being used. Following is a short description of the format code. For further details contact your distributor.

The format code is a string consisting of text fields and data commands. Text fields are included in the output as is commands (enclosed in curly brackets) attach data downloaded from InTagral. Following is a table of data field commands:

Table 1. Allowed Output Fields

Symbol	Explanation
{Y}	Year (2 digits)
{Y+}	Year (4 digits)
{M}	Month (2 digits)
{D}	Day (2 digits)
{W}	Day of Week (1-7).
{h}	Hour (2 digits in 24 Hour format)
{m} , {s}	Minutes , Seconds (2 digits Each)
{TI O X Y}	Operation type - code for Entry, Exit, X, Y operation.
{A1 0}	Card ID number.
{L}	End of line.
{Z}	Clock ID
{S}	Clock serial number

An example of a format code:

```
{Y+}-{M}-{D}-{W}-{A1|0}-{h}:{m}{TI|O|X|Y}{L}
```

The resulting line of data in the export file will look something like this:

```
1995-10-18-4-001-13:30O
```

An exit was recorded for card ID 001 on 01:30 PM, 18 October, 1995.

6.6. Direct / Phone / Network Connection

If the InTagral is connected via a Modem or Network (or if more than one port of the PC is used) then it is necessary to define the connection list.

A connection is defined as either a Direct, Modem or Network connection. A Modem connection requires a dial-up number. A Network connection requires that the Serial No. Of each clock connected to the network be defined. When using a Modem the Initialization string used for modem setup must also be entered.

When the connection list contains more than one entry then the program will require the operator to choose from this list to begin communication with a clock.

6.7. Software Update

Upgrades to InTagral software may be released from time to time. Software releases will be supplied through local distributors with precise instructions for installing the update.



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7. Maintenance and Troubleshooting

7.1. Batteries

InTagral comes with a pair of long-life, C-type, alkaline batteries for power and a R2032 3-Volt lithium battery for back up. Under normal operation, the main batteries should last at least one year. When the batteries are low, the LCD displays a warning '**LOBAT**'. When this occurs the batteries, housed in the backside of the InTagral clock (Figure 2) should be replaced within 3 days.

When new batteries are inserted InTagral powers on and then performs a self-test procedure, and then resumes normal operation.

7.2. Troubleshooting

InTagral is programmed to display a number of error messages on its LCD display. Some error messages are caused by problems reading a personal ID card and some are related to system states.

Operational Errors (In response to attempt to read personal ID card)

LCD	Problem	Remedy
BAD	Personal ID card format does not fit format defined in clock.	Check if the proper card has been read. If this problem persists then the card format defined in the clock may need to be corrected (See "Employee Cards" in the section "InTagral clock parameters")

Operational Errors (In response to attempt to read personal ID card) (Continued)

LCD	Problem	Remedy
REJ	Trying to record a second consecutive Entry or Exit operation on the same day.	Check that the proper LED is lit for the entry or exit operation before retrying. To force a second Exit (or Entry) you must first record a dummy Entry (or Exit).
FUL	Clock memory is full	Download data from clock to PC. See "DOWNLOADING INTAGRAL DATA".
Nnn	(Card number display incomplete.) Personal ID card format does not fit format defined in clock.	Reprogram card to match defined format or clock to match card format. See "Employee Cards".

Technical Malfunctions

LCD	Problem	Remedy
OFF	Main batteries are depleted.	Replace the two main batteries according to directions in " Batteries ".
ERR	Internal error.	Consult your distributor immediately.
ER1	Internal error.	Consult your distributor immediately.
ER0	Internal error.	Consult your distributor immediately.
CKA	Internal error.	Consult your distributor immediately.
CKB	Internal error.	Consult your distributor immediately.

Other Technical Problems

Problem	Remedy
No response on an attempt to read an ID card.	Check orientation of Magnetic strip or Bar-Code symbol on personal ID card.
No communication with PC.	Check cable connection and assigned port number on your PC. See "Connecting to InTagral".
LCD displays time and Plus sign, but both LED's off.	InTagral has switched into storage mode (this occurs if the clock is inactive 35 days). Press any of the four square function keys (Figure 1) to wake InTagral up.



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8. Specifications

- **Dimensions**

Length: 100 mm (3.95")

Width: 150 mm (5.90")

Depth: 35 mm (1.40")

- **Weight**

310 gr. (10.85 ounces), including batteries

- **Power**

2 C-type alkaline long-life batteries - at least 12-month use under typical operating conditions

1 R2032 3-Volt lithium battery for memory back-up

- **User Interface**

 - LCD display

 - 4 touch function keys

 - 2 LED indicators

 - Audible feedback

- **Communication**

 - Communicates with IBM-compatible PC via RS232 serial port at up to 9600 BPS.

- **Memory**

 - InTagral can store up to 10,000 transactions, which is enough for attendance records of about 400 employees for a week or about 75 employees for a month, assuming two entries and two exits a day per employee.

Specifications are subject to change without notice.