

# TIMY Time Reporting Terminal



**User Manual**  
**Manual Part Number 01084-90003**  
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## Installation

**IMPORTANT:** The USB-Key is only used for copying Employee "Time Stamps". **DO NOT LEAVE IT INSERTED IN THE TIMY TERMINAL** - it is NOT possible to "Clock-In" or "Clock-Out" if the USB-Key is plugged into the Terminal.

The TIMY Time Reporting Terminal can store more than 14,000 "Time Stamps" in its internal memory.

Install your TIMY Terminal at a suitable height to ensure good visibility of the display. Avoid installing the Terminal at a location that may be in direct sun for any part of the day (e.g. opposite a window).

TIMY Terminals are not designed for external installations. The ambient temperature must remain between +5°C and +45°C and the Terminal should not be exposed to a relative humidity level above 95%, nor in locations subject to water condensation.

## The TIMY Time Reporting Terminal

When operating on its batteries, the badge holder (Employee) simply "awakens" TIMY by pressing on the front panel red button. The Terminal will indicate the time, in 24-hour clock format, as in the example below:



The Employee badge should then be passed through the Terminal slot from top to bottom. TIMY badges are coded on both sides - therefore the orientation of the badge is not important. After a valid reading, TIMY emits an audible tone and displays "Good", as below :



Five seconds after a reading a badge, the TIMY display extinguishes to preserve battery life. **Another Employee can "Clock" even while TIMY displays the "Good" message of the preceding Employee (it is not necessary to wait until the Terminal display extinguishes).**

If the Terminal does not display a "Good" message, it is because the badge was read incorrectly. The Employee must swipe the badge again.

Possible reasons of an incorrect reading are :

- the Employee swiped the badge too slowly. It is always preferable to pass the badge quite fast. It is almost impossible to pass a badge too fast.
- the Employee did not pass the badge completely through the Terminal. The location of the "read head" is approximately 8cm from the bottom edge of the Terminal, and it is necessary to pass the badge along the complete length of the slot, exiting at the bottom. Do not stop the swipe action before exiting the slot.

- the badge could be degraded to such a point that it is not readable any more. TIMY uses an optical barcode reader and if the badge code area is damaged it can become unreadable. Replace the badge in this event.

If the *same person* attempts to swipe a badge several times in sequence, the TIMY Terminal will display the "Good" message every time, but **ONLY THE FIRST SWIPE IS RECORDED**. All additional "Clocking" attempts carried out while the Terminal display remains lit are ignored. The purpose of this is to prevent malevolent attempts to fill the memory of the Terminal and make invalid data attempts useless.

TIMY remains operational for one second after the display extinguishes to take into account a "Clocking" which might be carried out just at the moment the display extinguishes.

When TIMY is powered from the mains via its adapter it remains permanently ON, and there is no need to press the "wake-up" button.

## **TIMY ID-Badges**

The badges provided with TIMY Time Reporting Terminals use Barcode technology. The technology is extremely robust, with no wear as there is no physical contact between the reader and the badge (contrary to magnetic stripe badges). The barcodes are illuminated by light when a badge is passed through the reader slot. In order to prevent copying of the badges for malevolent purposes, the barcodes are masked with a special ink process and cannot be copied nor read by the human eye.

The Terminal electronics decodes "Code 3 of 9" with a length of 4 characters. Barcodes using other specifications or a different number of characters cannot be read. The resolution of the barcode reader is about 0.4mm.

Badges are coded with FOUR characters, by using the digits 0 to 9 and the capital letters A to Z. The combination of 10 numerical and 26 alphabetical characters give:

$$36 \times 36 \times 36 \times 36 = 1,679,616 \text{ unique code combinations.}$$

ALL the badges delivered with your TIMY Terminal are unique. All issued badge numbers are never used a second time. If an Employee loses or destroys a badge, a new badge with a different number must be issued to the Employee.

During the registration of the badge numbers in your TIMY-Soft application, you should accurately distinguish the number "0" from the capital letter "O". Badge number 0A07 is not the same as number OA07!

## Recovery of Clocking Time Stamps

TAKE CARE TO INSERT THE USB-KEY THE CORRECT WAY AROUND – WITH THE TIMY LOGO FACING YOU:



When operating from batteries, press the red button. When operating from mains, simply insert the USB-Key. TIMY displays "CoPY" to indicate that it is transferring the Time Stamps onto the USB-Key:



***EXTREMELY IMPORTANT! NEVER REMOVE A USB-KEY DURING THE COPY OPERATION. YOU WILL BE LIKELY TO LOSE ALL THE TIME STAMPS IN PROGRESS AND POSSIBLY DAMAGE THE EQUIPMENT!***

(Similar to the withdrawal of a computer diskette while the PC is writing to it.)

When the TIMY Terminal has finished copying the Time Stamps to the USB-Key, it displays "End".



At this point you can withdraw the Key. If the Terminal indicates "End" immediately (without displaying "CoPY") then the Terminal memory was empty and there was nothing to copy.

You can recover the Time Stamps from several different TIMY Terminals, without copying the USB-Key contents onto your PC after each copy function. For the requirements of this application the capacity of a USB-Key can be considered as unlimited - a 128Mb Key is able to store approximately 4 million Time Stamps!

The TIMY Terminal can store 14,000 Time Stamps in its internal memory before requiring a transfer to a USB-Key. When the internal memory is full, TIMY displays "FuLL" when an additional "Clocking" is attempted:



If for an unspecified reason TIMY does not manage to copy the Time Stamps to the USB-Key, the Terminal displays an error code (for example, "Er63"):



The TIMY error codes are grouped into a "Er5x" and a "Er6x" series. Without going into great technical detail at this point, the "5x" series indicates a hardware problem with the Key and the "6x" series indicates a problem related to formatting.

The original USB-Keys shipped with the TIMY Terminals are tested and formatted by the manufacturer of the Terminals. If you are using a Key from some other source, it may not function with the Terminal for a variety of reasons such as excessive power consumption.

If you are using an original Key and the Terminal indicates a "5x" error, the USB-Key is probably defective and needs to be replaced. If the Terminal indicates a "6x" error, the causes can be:

- the absence of a file named BKS\_FILE.TXT on the USB-Key
- illegal handling of file BKS\_FILE.TXT (never remove this file, rename or replace it by another file)
- badly formatted USB-Key
- a damaged or defective Key

For more details on the formatting process for the USB-Key, see the section "The USB-Key" at the end of this manual.

## Daylight Saving Time

TIMY Terminals are delivered with automatic change for Daylight Saving Time activated. If you wish to de-activate this function, swipe the Configuration Badge "SUMMERTIME=OFF". If you wish to re-activate this function, swipe the Configuration Badge "SUMMERTIME=ON". Once programmed, the setting is permanent until it is re-programmed. There is no need to swipe the badge every spring and autumn!

## Time Setting

The internal clock of the TIMY Terminal has an accuracy of between 15 - 30 seconds per month, depending on the ambient temperature (the further the ambient temperature moves away from 25°C, the larger the accuracy variation). An accuracy of 15 - 30 seconds is specified for the temperature range +10°C to +40°C.

To set the time of the TIMY Terminal, swipe the Configuration Badge "SET CLOCK". At this instant, the clock stops and TIMY displays the current value of the MINUTES (for most time settings you will ONLY have to adjust the minutes). The TIMY display cannot indicate extended text messages, so the indications are somewhat cryptic - for example "Mi 43" if the clock is currently at 15:43 (Mi indicates "minutes"):



If you BRIEFLY press the red button, the display will be advanced by one minute. If the Terminal time is *ahead* of the actual time, you can either wait for the actual time to "catch up" or cycle up to "59" after which the setting starts over at "0". Adjust the minute value so that it is ONE MINUTE IN ADVANCE of the actual time, and wait for the correct time to catch up before swiping the Configuration Badge "SET CLOCK" again. The clock will be synchronised with the set values at the instant of swiping the badge (seconds are set to "00" by default).

If you must adjust the other time values (the day, month or year) PRESS and HOLD the red button until the next time heading displays. For each time function the adjustment operation is the same: BRIEFLY press the red button to advance the value and PRESS and HOLD to pass to the next time category. CAUTION: for the year adjustment, if you pass the desired value, it is necessary to advance all the way through year "99" to arrive at "00" and then stop on the correct year value.

For a clock showing 15:43:56 Friday 26/12/2003, the display sequence would be:



(Minute setting=43)



(Seconds = 00 - seconds are always set to 00 to facilitate the setting with a broadcast time signal)



(Year=2003)



(Month=12)



(Day of the month=26)



(Day of the Week – this is Friday). This parameter MUST be set correctly for the daylight saving switch to function correctly!



(Hour setting=15)

If the red button is pressed and held again, the Terminal will cycle around to “Minutes” again.

To check the accuracy of the clock, compare the Terminal minute changeover with the time signal of your reference clock.

***Do not leave the Terminal in “Set Time” mode – the display does not switch off in this mode and the batteries will be quickly drained. You must swipe the “SET CLOCK” badge to exit the “Set Time” mode.***

## Changing Batteries

NOTE: The four alkaline “AA” type batteries have a capacity to perform approximately 20,000 Time Stamps. If you want your Terminal to operate on AC power, please order the AC power plug-in adapter, part number 9100-1084 for Central European type plug, or 9100-1084UK for UK-type plug.

When the batteries are low, the TIMY display will briefly indicate “bAtt” when the user presses the red button (or when the user swipes the badge under mains operation):



At the first appearance of this message the remaining battery life is still sufficient for several hundred Time Stamps. Do not delay replacing the batteries. If you go beyond the operational limit, the Terminal will stop functioning, but you will not lose any data! The “Time Stamps” are stored in a flash memory that does not require any electrical source. As soon as you change the batteries, the Terminal returns to normal operation. However, the clock needs energy to function and if you wait too long to replace the batteries it will be necessary to reset the clock when the Terminal is re-started.

The batteries are located in a drawer that can be withdrawn from the top of the Terminal without removing the Terminal from the wall. Pinch the two retaining clips on either side and pull the drawer out. The clips are quite hard to prevent the drawer from popping out during transport, and you may have to use a small flat-blade screwdriver to press the clips, as shown in the photo below:



Remove the expended batteries and replace them with NEW alkaline batteries, all of the same brand. Be careful with the battery polarity when refitting! The Terminal clock will continue to function for at least 3 MINUTES without batteries. Beyond this time there may be a need to re-set the clock after the Terminal is re-started. Use only good-quality alkaline batteries. Do not use rechargeable-type batteries!

### Operation on AC Power

Your TIMY Terminal will function on AC power, with the plug-in adapter (9100-1084 or 9100-1084UK). **WARNING: Do not use any other adapter, as it may destroy the Terminal.**

**Operating on AC power does not mean to say that the Terminal functions without batteries! Batteries MUST be installed in the Terminal at all times.** The TIMY internal clock **ALWAYS** requires batteries even when the Terminal is connected to AC power via the Adapter. Under AC power operation the batteries should be replaced between 2 - 3 years.

On AC power operation, the Terminal remains switched on permanently and there is no need to press the red button before swiping a badge.

If there is a power failure while operating under AC power, the Terminal automatically switches to battery operation (which means that the red button must be pressed prior to swiping a badge)

## TIMY Terminal Specifications

**Case:** Grey polystyrene. Dimensions in mm: 240 (high) x 108 (wide) x 38 (deep)  
Dimensions in inches: 9.5 (high) x 4.25 (wide) x 1.5 (deep). Weight 500 gms/1.10 lbs.

**Power:** 4 standard "AA" alkaline Batteries. Life span of batteries is approximately 20,000 time stamps – equivalent to one year with 80 time stamps for 250 working days. Batteries are included with an initial system purchase.

**Display:** 4-character, 7-segment LCD Display. Displays time in 24-hour format (hh:mm) and system messages, such as "Good" when swiping badges. Large 13mm display elements provide exceptional readability.

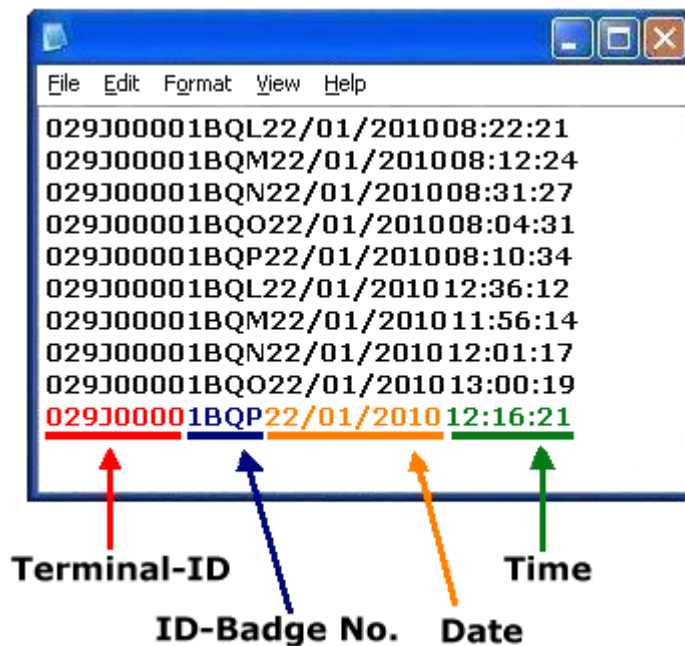
**Acoustic signal:** Audible Tone. Confirms ID-Badge reading and announces system messages, such as "Copy" when clocking-in data is transferred to the USB Key.

**Swipe Badge Reader:** Infrared Optical Barcode. Optical badge reader with no moving parts. Robust, non-contact, totally maintenance-free technology – no service contract required. The Badge Reader decodes "Code 3 of 9" with a length of 4 characters and 0.4mm resolution.

**Internal memory:** Electronic non-volatile. Stores more than 14,000 time stamp records. Flash memory protects data if power fails.

**Clock:** Time and Date. Accuracy of ±15 seconds per month if ambient temperature is within +10°C to +40°C. Automatic seasonal time changes which can be disabled by user if required. Time & Date are adjusted by System Configuration Badge. When changing batteries, clock autonomy is more than 3 minutes.

**Data Transfer:** USB Memory Key. USB Key downloads data from Time Recorder when Key authentication is verified. USB data is transferred to the TIMY-Soft Application. The Terminal output file on the USB-Key is a simple text file in DOS format that can be read directly on any MS-Windows computer. Example:



## The USB-Key

USB-Keys are generally robust devices designed for transporting data of all sorts, but they remain sophisticated electronic parts and certain care in handling is essential. If you observe the simple guidelines below, your Key will give you years of reliable service. For the purposes of this application, the memory capacity of the key used is of no importance. Even the lowest capacity keys available on the market today are several orders of magnitude higher than necessary. For example, a 128Mb Key could store 4 million Time Stamps!

- 1) As for all electronic equipment, memory devices are sensitive to electrostatic discharge. If you are in an environment favouring electric discharge (low air humidity, carpeted floors . . .) try whenever possible to touch an earthed object (heating radiator, water piping, metal screws on your PC, etc) before inserting the key in the Terminal or your PC.
- 2) USB-Keys are shipped with a protection cap over the connector. Always make sure that the cap is in place when the Key is not in use.
- 3) Don't drop a Key on the floor.
- 4) Do not expose the Key to temperature extremes. A reasonable temperature range is +10°C to +40°C. Never leave a Key in bright sunlight (for example, in a vehicle).
- 5) Keep the Key in a dry place and do not expose it to excessive humidity.
- 6) Do not leave the Key permanently plugged into your PC. Use it only when importing the Time Stamps into your application and remove it afterwards.

***When inserting the Key into your PC or into the Terminal make sure you are inserting it the right way round. Do not use excessive force.***

## Using the USB-Key with your TIMY Time Reporting Terminal

***NEVER use your USB-Key for purposes other than transferring Time Stamps from your TIMY Terminal to your PC (such as transferring other data files between PC's or storing photos). The Key may subsequently not function in the Terminal.***

***NEVER insert the USB Key into a device other than a TIMY Terminal or a Windows PC. In particular, never plug the Key into a Mac computer. It will subsequently not function in the Terminal.***

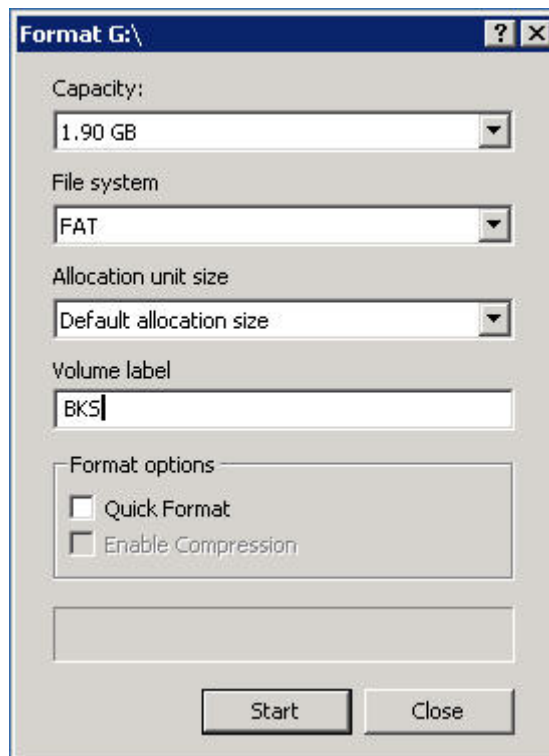
The mechanism for storing Time Stamps on the USB-Key is purposely rendered a bit complex to prevent unauthorised individuals from withdrawing the data from a Terminal with commercially available keys.

The TIMY Terminal stores the Time Stamp data in a text file on the USB-Key named "BKS\_FILE.TXT". If a file with this name is not present on the Key, the Terminal displays an error message. This text file is copied to the Key by the TIMY manufacturer. You must **NEVER** modify the name of this file nor delete it from the Key. Even if you replace a deleted file with one of the correct name, or correctly rename a renamed file, the Terminal will display an error message and refuse to copy the Time Stamps to the Key.

If a Key becomes unusable, or if you are using a Key from some other source, procede as follows:

- 1) Format the Key on your PC

- in My Computer, click on the icon corresponding to the USB-Key with the right mouse button and select "Format . . ."



- do not modify the "Capacity" field
- select "FAT" (and not "FAT32" which is the default) as file system
- enter "BKS" (all in CAPITAL LETTERS) as Volume Name
- do NOT select "Quick Format"
- click on "Start" and confirm in the warning message

2) Start Notepad (which you will normally find under "Accessories") and store an empty file named "BKS\_FILE.TXT" (**ALL IN CAPITAL LETTERS**) in any directory on your PC's hard disc. Close Notepad and copy the file you just created to the USB-Key. **VERY IMPORTANT:** Do not store the file on the USB-KEY directly from Notepad! You must first store it on your PC and then copy it to the Key.

## **In case of problems with your USB Key**

For an original Key shipped with a TIMY Terminal :

The USB-Keys shipped with the TIMY Terminals are tested and formatted by the TIMY manufacturer. If you encounter a problem with one of these Keys, it is very likely due to some illegal operation, and the error code displayed by the Terminal will be of the type "6x" (for example, "Er65". Re-format the Key as described above and try again.

If an original Key causes the Terminal to display a "5x" error (for example "Er50") then the Key is very likely defective and needs to be replaced.

For a third-party USB-Key purchased elsewhere:

Some of the USB-Keys on the market will not function with the TIMY Terminal, for a variety of reasons that are too complex to be discussed here. If after formatting and copying a "BKS\_FILE.TXT" file the Terminal displays a "5x" type error when the Key is inserted, then the Key is not compatible with the Terminal. In most cases the error displayed will be "Er52" indicating that the current consumption of the Key is too high for the Terminal. You will need to try a Key from a different manufacturer.

If the Terminal displays a "6x" type error, you have perhaps made an error in the formatting procedure. Try again from the beginning.

## **Message Codes displayed by the TIMY Terminal**

<u>Code</u>	<u>Meaning</u>
badG	Waiting for an employee badge after swiping a task badge
bAtt	Weak batteries (displayed in battery mode when the red button is pressed and in mains mode when a badge is swiped)
Good	Badge read and Time Stamp stored
CoPY	Transfer of Time Stamp file from the Terminal to the USB-Key
End	End of transfer – Key may be removed
FULL	The internal Terminal memory is full (more than 14,000 Time Stamps stored)
USb	USB-Key detected (appears very briefly on insertion)

## Error Codes displayed by the TIMY Time Reporting Terminal

<u>Code</u>	<u>Meaning</u>
Er00	FlashRAM defective (replace the Terminal)
Er04	Invalid badge format (not 4 characters, or illegal characters)
Er07	USB-Key memory full
Er98	FlashRAM not completely erased (contact your supplier)
Er99	Internal error (replace the Terminal)
Er50	The USB-Key is not "Full Speed"
Er51	Error during USB-Key Identification
Er52	The USB-device does not belong to the "Mass Storage" class, or The USB-device is not "Bus-Powered", or The USB-device draws more than 100mA of current
Er53	Error during USB-Key "Reset Recovery"
Er54	Error during USB-Key "Test Unit Ready"
Er55	Error during USB-Key "Inquiry"
Er56	The USB-device is not of the "Direct Access" type
Er57	Error during USB-Key "Read Capacity"
Er58	Error while reading the USB-Key "Master Boot Record"
Er59	The USB-Key "Master Boot Record" is invalid
Er60	Error while reading the USB-Key "FAT Boot Record"
Er61	The USB-Key "FAT Boot Record" is invalid
Er62	The FAT parameters in the FBR are not valid
Er63	Error while reading the USB-Key "Root Entries"
Er64	Error during USB-Key formatting
Er65	The USB-Key "Root Entries" are invalid
Er66	Error while reading the USB-Key "File Access Table" (FAT)
Er67	The USB-Key "File Access Table" (FAT) is invalid
Er68	Error while writing to the USB-Key
Er69	Error while updating the USB-Key FAT
Er70	Error while updating the USB-Key "Root Entries"