

Portable Timeclock



User Manual

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Description

The 'Portable Timeclock' is a portable, lightweight, hand held bar code reader that is capable of using standard off the shelf barcode scanners. It has 4M bits of data Flash for storing information and a real time clock for time & date stamping each transaction.

It is powered by 2 rechargeable 1.2V NiMH cells that can be fully charged in 18 hours from flat.

The 'Portable Timeclock' has a 2 line 12 character LCD display for displaying time and date, error conditions, scanned data and menu options. The 'Portable Timeclock' also contains a buzzer to give audible confirmation of valid transactions & error conditions.

A simple USB connection is all that is required to download data, update time and date, and record the setup status from a computer.

There is also a built in menu system that allows various setup configurations which allow the user to configure the functionality of the unit.

The unit also has a built in keypad that can be used to enter employee or job numbers directly.

The unit can be used as a simple employee IN/OUT time recorder or it can be setup to also keep track of job costing using multi-level job numbers.

Basic Operation

Power Down Mode

When the 'Portable Timeclock' is not in use it will shut itself down and go into a hibernation mode. This mode is used to conserve battery power and will display the message "Power OFF" on the display.

The battery charge status is also displayed on the bottom line. This consists of a series of 5 graduated bars that show the status of the battery. As the battery discharges the bars will slowly disappear to a point where the battery indicator will display "*Low*". At this point the unit should be recharged as the batteries are flat and will not last much longer.

In this mode all unnecessary functions are turned off including the externally attached scanner, however the real time clock is still functional.

Pushing the **P** button will wake the unit up from this mode and activate the scanner ready for reading barcodes. In the wakeup mode the display will display time and date and the word "Scan" to show that the unit is ready to be used. After a timeout period of no activity the unit will re-enter hibernation mode.

If the unit is being powered by the AC power pack then the unit will not enter the hibernation mode, but will instead continuously display the time and date. However, after the same timeout period as used for the hibernation mode, the unit will switch the power to the scanner off and the word “Scan” will not be displayed. The scanner can be reactivated by pressing the “P” button.

In this mode the battery charging status is displayed next to the Time display as 1 to 5 graduated bars. These bars will flash on and off until the batteries are fully charged. This will take 16 – 18 hours from flat or if the batteries are fully charged a minimum of 2 hours.

Barcode Scanning

1. Ensure that a barcode scanner is connected to the ‘Portable Timeclock’ PS2 input connector labeled “Scanner”.
2. If the ‘Portable Timeclock’ is not switched ON then press the button to activate.
3. Holding the scanner, push the scanners ‘ON’ button and pass over the barcode.
4. The ‘Portable Timeclock’ should ‘BEEP’ and display the Employee/Job number on the display if it is a valid barcode.
5. Each valid transaction will remain displayed for 10 seconds or until another barcode is scanned.
6. If Job Costing is enabled then an Employee number must be scanned first before entering the Job number.
7. When generating barcodes an Employee number must use the letter “E” as a prefix to the number egg. E800013. A Job number must have the letter “J” as well as the Job Level number as a prefix e.g. the barcode “J2456” is a level 2 Job number 456.

A Job number can be constructed by using up to 4 sub levels. For example the job number 12345678 using 4 levels will be made up of 4 different barcodes of 2 characters. The 4 barcodes will be “J112” “J234” “J356” “J478”.

Each of these 4 barcodes can be scanned in any order and the final Job number will be displayed as a single number.

Keyboard Entry

Data may also be entered using a external keyboard that has a PS2 connector or from the built in keypad. Data is keyed in manually starting with the employee number and if enabled followed by the Job number.

Both the Employee number and the Job number must be terminated with a carriage return after entering all the numbers.

The Job number is entered as a single number with no level information.

The 'E' and 'J' prefixes do not need to be entered.

Function Cancel

At any stage of either data entry or menu system, the current operation can be cancelled by pressing both the **Scroll UP** and **Scroll Down** buttons together.

System Reset

The Portable Timeclock can be reset by holding down the **Scroll Down** button for more than 5 seconds.

Once reset, the unit will display the version number and does a memory check. If there are any records stored in memory then it will display the number of records stored.

If it detects any errors the unit will attempt to correct them before continuing.

Loss of Battery Power

If the batteries are allowed to run completely flat such that the unit cannot function then the time and date settings will also be lost. In this mode when the AC adapter is plugged in to the unit to charge up the batteries the Portable Timeclock will automatically go to the set clock mode and will not operate until the time has been corrected.

The time and date can either be set manually from the unit or via the computer link.

Low Battery Warning

The Low Battery warning system is functional in both the normal operating mode and also the hibernation mode. In the normal operating mode, the word "BAT" will flash ON and OFF on the display in the bottom right hand side of the display where the Day of the Week is normally displayed.

In the hibernation mode the message "*Low*" will be displayed on the second line.

Menu System

Entering the Menu

Factory Default Access Code: 1234.

To enter the Menu System both the **P** and the **Scroll UP** buttons must be pushed together. While in the menu system the scanner power is turned off.

The Menu System has a 4 digit security code which must be entered before access to the menu is allowed. Each number of the security code is entered individually on the second line of the display by using the **Scroll UP** or **Scroll Down** buttons. When the digit number is correct it is selected by pushing the **P** button which will add that number to the access code. As each of the 4 digits are entered there will be a corresponding “*” character displayed on the top line of the display in that digits position.

Once all 4 digits of the access code have been selected and match the users stored code the display will show the first item of the menu.

Using the Menu

To scroll up or down the menu list use the **Scroll UP** or **Scroll Down** buttons.

To select a displayed menu option for editing, push the **P** button.

Once a menu item has been selected you can modify that options parameters by using the **Scroll UP** or **Scroll Down** buttons.

To select the modified value push the **P** button. This will save the new value entered and return back to the beginning of the menu system.

At any stage within the menu system if both the **Scroll UP** and **Scroll Down** buttons are pressed together the current operation will be aborted. Pressing these two buttons will also exit the menu system if no menu items have been selected.

The unit will automatically exit the menu system if there is no button activity after 60 seconds.

Menu Items

1. On Time

Factory Default: 20 seconds

This parameter sets the time of which the unit is ON when in the battery mode and is also the time the scanner is enabled when powered by the AC plug pack.

This time is adjustable from 10 seconds to 60 seconds by using the **Scroll UP** or **Scroll Down** buttons.

Once the desired value has been set press the **P** button to save the new value or press both **Scroll UP** and **Scroll Down** buttons together to abort.

2. Clock Adj

This option allows the real time clock to be adjusted manually. When selected the time, date and day of week can be adjusted by using the **Scroll UP** or **Scroll Down** buttons.

On first time entry to this option the time will be displayed on the bottom line of the display with the hours flashing. Adjust the desired hour (24 hour mode) and select the new value by pressing the **P** button.

Once the **P** button has been pushed the minutes will flash. Adjust to the desired value and push the **P** button again which will then move on to the seconds.

Repeat this until the time, date and day of week have been adjusted. Termination of this function will occur automatically once the end of the cycle has been reached.

At any stage of the cycle pressing both **Scroll UP** and **Scroll Down** buttons together will abort back to the main menu.

3. Station

Factory Default : 01

This parameter is used to set the Portable Timeclock address for communications.

The address can range from 01 to 30 by using the **Scroll UP** or **Scroll Down** buttons.

Once the desired value has been set press the **P** button to save the new value or press both **Scroll UP** and **Scroll Down** buttons together to abort.

4. Job Cost

Factory Default; OFF.

This option enables or disables the Job Costing function. When enabled the Portable Timeclock will prompt for the entry of a Job number.

Use the **Scroll UP** or **Scroll Down** buttons to select the required option and press the **P** button to save the new value or press both **Scroll UP** and **Scroll Down** buttons together to abort.

5. Config

This option sets up the basic operation of the unit and contains the following sub-menu:

1. *Emp Limit*

Factory Default: 06.

This option sets the maximum number of characters allowed in an employee number. The values range from 01 to 08.

Use the or buttons to select the required option and press the button to save the new value or press both and buttons together to abort.

2. *Job Level*

Factory Default: 04.

This option sets the number of levels used to build a Job number.

The values range from 01 to 04.

Use the or buttons to select the required number of levels and press the button to save the new value or press both and buttons together to abort.

Once the number of levels has been selected the maximum number of characters for each level will have to be set. The menu system will then guide the user through each of the selected levels and the number of characters are adjusted by using the or buttons to select the required value and pressing the button to save the new value and move onto the next level.

The maximum number of characters allowed in a Job number is 12. The maximum limit of each level will be adjusted such that the user cannot select a Job number that is greater than 12 characters.

For example if 4 levels have been selected then level 1 cannot be adjusted greater than 9 because the other 3 levels have a minimum of 1 character each. If level 1 is set at 2 characters then level 2 cannot be adjusted greater than 8 characters because level 1 has been set to 2 and levels 3 and 4 must have a minimum of 1 character each. This will also apply to the remaining levels.

Once all levels have been set the maximum Job number limit is calculated and displayed. This limit is used to test that the correct number of entries have been entered.

3. *Job Accep*

Factory Default: Auto.

This option selects either Automatic transaction acceptance after the Job number has been entered or Manual transaction acceptance.

Use the or buttons to select the required operation and press the button to save the new option or press both and buttons together to abort.

4. Emp Match

Factory Default: Less or Equal.

This option allows entry of the Employee number to be either “Less or Equal” to the Employee Limit or the entry must be “Equal Only” to the Employee Limit.

Use the or buttons to select the required operation and press the button to save the new option or press both and buttons together to abort.

5. Job Match

Factory Default: Less or Equal.

This option allows entry of the Job number to be either “Less or Equal” to the Job number Limit or the entry must be “Equal Only” to the Job number Limit.

Use the or buttons to select the required operation and press the button to save the new option or press both and buttons together to abort.

6. Exit

This option will exit the Configuration menu system and take the unit back to the Main Menu.

Pressing both and buttons together will also achieve the same function.

6. Password

This option allows the user to enter a 4 digit password to access the menu system.

Entry of the password is done in the same manner as typing the password to enter the menu system. That is to say that each of the 4 digits are entered separately by using the or buttons to select the required value and then pressing the button to add the new value to build up the 4 digit code.

The new code must be entered twice before it is accepted.

Pressing both and buttons together will abort the process.

7. Exit

This option will exit the menu system and take the unit back to normal operating mode.

Pressing both and buttons together will also achieve the same function.

Connecting to a Computer

The Portable Timeclock uses a standard USB connection to the Computer serial port. Communications are set at a speed of 9600 baud using 8 bits no parity.

A third party VCP USB driver from FTDI is used to convert the USB connection into a COMM port. Once the driver is installed onto the computer the Windows operating system will detect the Portable Timeclock when it is first plugged into the USB port. The driver will then allocate an unused COMM port to the device and this COMM port can then be selected by the Polling software to communicate with the clock.

*It must be noted that if the Portable Timeclock is not plugged into the AC adapter then the user will have to turn the unit ON by pressing the **P** button before communication can take place.*

Polling Software

The Portable Timeclock uses the same Polling software as the TR3 and uses all the same formats for each of the available commands.

The Polling functions available are:

set_time

get_times

get_status

system_reset

Software Upgrade

The **get_status** command will have the same contents as the TR3 but those functions that are not available in the TR3 will show as disabled. Below is an example of the Status request:

| | |
|--------------------|---------------|
| 01 Job Costing | Enabled |
| 01 Job Accept | Auto |
| 01 Job Limit Match | Less or Equal |
| 01 Job Table Match | Disabled |
| 01 Job Table Check | Disabled |
| 01 Emp Limit Match | Less or Equal |
| 01 Bell Tables | Disabled |
| 01 Bell2 Tables | Disabled |

| | |
|----------------------|------------|
| 01 Pin Number | Disabled |
| 01 Password | Disabled |
| 01 Access Code | 1234 |
| 01 Employee Limit | 06 |
| 01 Job Limit | 08 |
| 01 Job Levels | 04 |
| 01 Job Level 1 Limit | 02 |
| 01 Job Level 2 Limit | 02 |
| 01 Job Level 3 Limit | 02 |
| 01 Job Level 4 Limit | 02 |
| 01 CPU Version | 03.00 |
| 01 Display Version | 00.00 |
| 01 Input Module | Not Fitted |
| 01 Comms Module | RS232 |