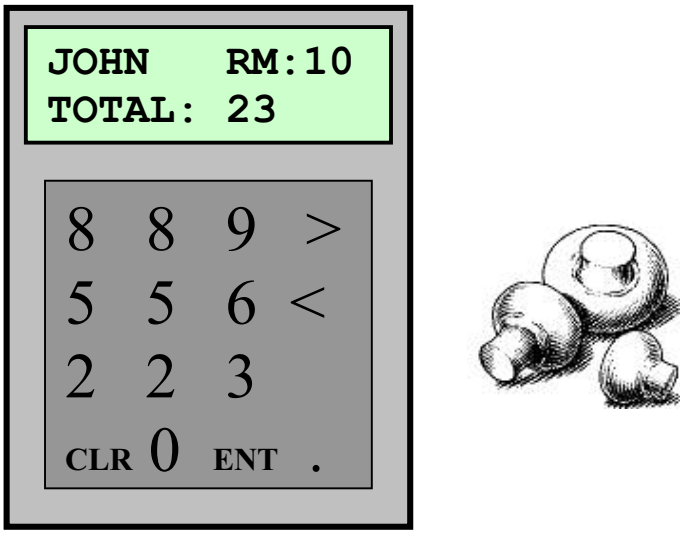
Boxer

Crop production tracking system

Beta Version 0.2



Terminal Hardware and PC Software
User Manual

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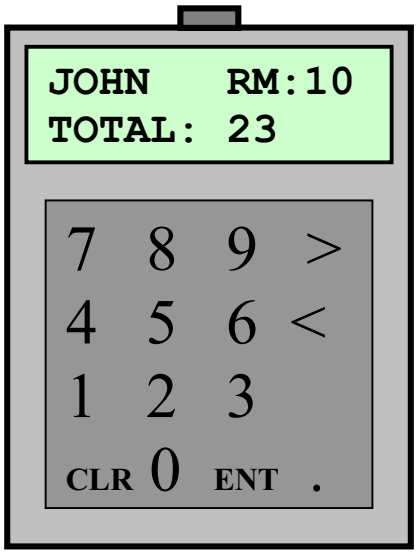
1 Introduction

The “Boxer” system is a crop production tracking system designed to record the number and details of boxes of mushrooms at weigh-up time.
The information gathered can be used for statistical, stock control, quality assurance and auditing purposes.
This system could easily be adapted for tracking other types of crops.

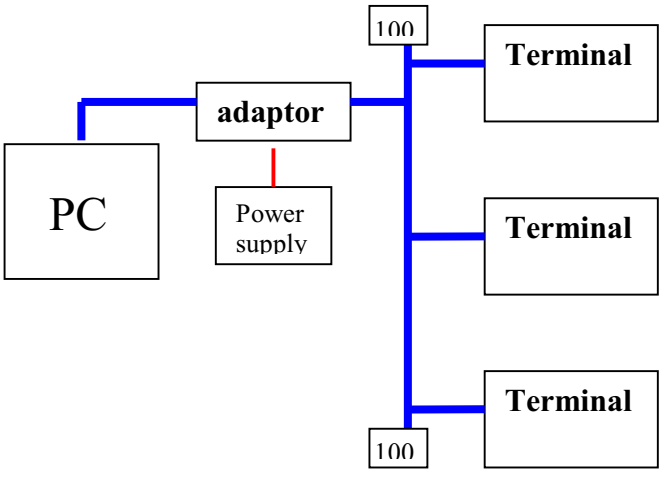
2 Hardware

The “Boxer” terminal consists of an numerical keypad and a two line display connected to a microprocessor. Once the information of a pick is entered the information is sent serially to a PC.



2.1 Connection

The terminal is connected to a PC via a RS485 serial bus. This allows a number of terminals to be connected on the same set of wires. An adaptor (RS232 to RS485) must be used to connect the PC to the serial bus. This adaptor can be connected to any spare serial port (i.e. COM1) on the PC.
The suggested wiring for the system is simular to a computer network using a 4 pair CAT5 cable and RJ45 connectors, except there is one cable run of which multiple points can be added. A 100 Ohm terminator resistor should be placed at either end of the cable run. (see below diagram)



2.2 Entering pick information

A series of questions will appear on the terminal display, each requires a numerical response.

The first question should be to enter your ID number, if this prompt does not appear press the clear (**CLR**) button to return to the ID entry prompt.
After typing your two digit ID number, your log-in or picker name should appear. If this is correct press enter (**ENT**) , otherwise press clear (**CLR**) to return to the ID entry prompt.

You should now be asked for the room number. Type in the room number from which the boxes were picked and press enter.

You should now be asked for the number of boxes of button mushrooms picked. Type in the number of boxes of that type picked, and press enter (**ENT**).

You should now be asked for the number of boxes of Flat or 2nd grade mushrooms picked. Type in the number of boxes of that type picked, and press enter (**ENT**).

You should now be asked for the number of boxes of small button mushrooms picked. Type in the number of boxes of that type picked, and press enter (**ENT**).

You should now be asked for the number of boxes of Medium/Large button mushrooms picked. Type in the number of boxes of that type picked, and press enter (**ENT**).

A summary should now be displayed showing the log-in or picker name, the room number and the total number of boxes picked. If this is correct press enter (**ENT**) to confirm and send the information to the PC. The display should briefly display a saved message to confirm the information was received correctly. If an error message appears consult the troubleshooting section of this manual.

The clear (**CLR**) button can be pressed at any time to cancel the entries and return to the login screen.

2.3 Entering correction of pick information (At terminal)

A correction entry can be made from the terminal for the current day if the details of an entry are incorrect. This sends a negative entry to the computer.

To do this press **99** for the ID number. "CORRECTION MODE" should appear on the display, press enter to continue.
You will be asked the same questions as for a normal entry. Enter the picker ID, room and number of boxes to be subtracted.
At the summary screen "**CORRECTION**" will appear as the log-in / picker name and the total should be displayed as a negative number. If this is correct press enter to confirm, otherwise press clear.
You must type **99** if you wish to re-enter (after clear) or enter a new correction entry.

After the information is confirmed or the clear button is pressed the terminal is no longer in correction mode and can be used as normal

2.4 Troubleshooting

If an error message appears on the terminal -
Try re-entering the details ensuring they are correct. If an error message appears again try the following in order:

- Disconnect and reconnect the terminal plug then attempt two entries
- Check the software is running on the PC
- Check the adaptor is connected properly to the correct PC COM port and the serial BUS
- Check the adaptor power is light on
- Try closing and re-starting the program on the PC then attempt two entries
- Check end-line terminator resistor are connected and wiring is ok

If there is nothing on the terminal display -

- Check the power is connected to the adaptor and the power is light on
- Check the adaptor is connected to the serial BUS
- Disconnect and reconnect the terminal plug
- Check all wiring is ok

2.5 Additional hardware notes

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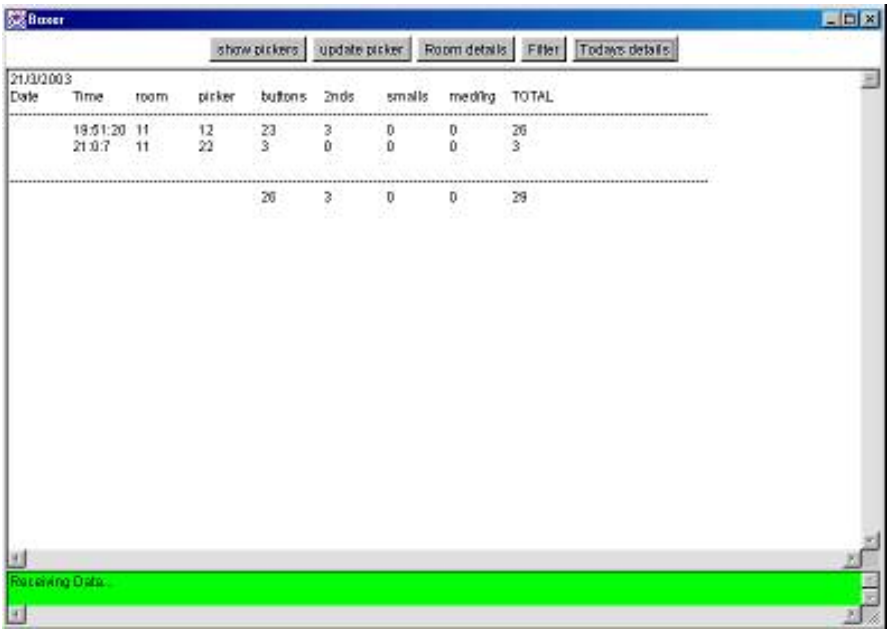
3 Software

The PC software collects the data from the terminal, supports addition terminal functions and allows the information to viewed and edited.



Main software window

3.1 Terminal functions

3.1.1 Receiving information from terminal

Once the program has started it is ready to receive data from the “Boxer” terminal.
The terminal entries should be displayed in the main text area as they are sent.

3.1.2 Sending picker names to terminal

A log-in or picker name can be change or added by clicking on the “Update Picker” button in the software window. An entry field window will appear. Type the ID number (10 - 49) and the name in the given fields then press send details. To save the information in the terminal press the down-load button (**<**) on each terminal.

The current names and ID’s can be see by clicking on the “Show Pickers” button.

3.1.3 Print request from terminal (**>**)

This function is not yet implemented.

3.2 Displaying Pick information

Pick information can be viewed by clicking either of the buttons "Todays details", "filter" or "Room Details"

3.3 Information filter

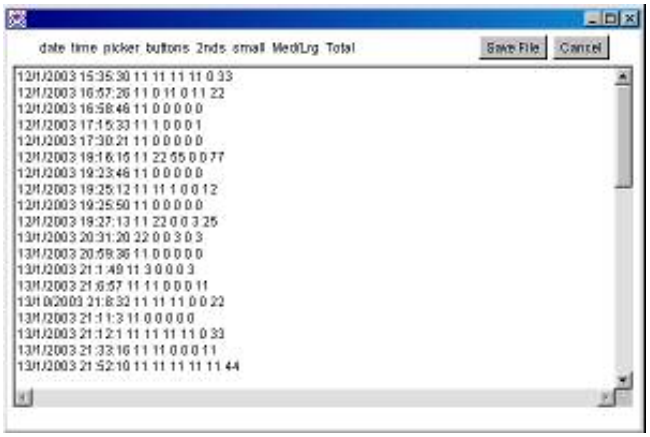
After clicking on the "filter" button a field window will appear with fields for date, room number and picker number.
None, some or all the filter fields can contain criteria
If a field is left blank it will show all information for that field not filtered by other fields.
The date in the date field should be entered in the form d/m/yyyy (e.g. 3/4/2003)
Clicking on the "Get Details" Button displays the filtered information in the main text area

Filter window

3.4 Editing pick information

Caution: changing this information may effect correct operation of the program if done incorrectly.

To edit the data files that the pick information is stored click on the “Room Details” button, then enter the room in the room number field for which the data is to be edited. Now click the “edit room details” button.
The raw data now appears in the text area. With the column descriptions above the text area.
The a data line may be deleted or edited but their should be the same number of columns on each line after editing, and there should be no blank lines between entries
Click on the “save file” button to save any changes or cancel to ignore changes.



Edit room file window

3.5 Archiving pick information for crop

If this system is used in conjunction with the Mushroom Monitor program the pick information will be archived in the crop folder for the archived crop automatically at the end of each crop.

Future release will provide archiving for systems not used in conjunction with the Mushroom Monitor program.

3.6 Trouble shooting

(See section 2.4)

3.7 Additional notes

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4 Appendices

Appendix A

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