Weighbatch

AdvanTec
WPC Software

Operating Manual

Software Version 12-Feb-07

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About this Document

This document describes the installation and operation of the WPC software component of the AdvanTec system. It is not a complete operations manual for the whole AdvanTec system and should be read in conjunction with the operating manuals for the other Weighbatch equipment.

WPC is a highly customisable piece of software used in many different application areas. This makes it a challenge to describe its use in one manual without endlessly repeating some of the more basic functions. Accordingly this manual describes the features of WPC that are common to all applications. Specific features of each application are described in their own manuals.

This document is divided into three main sections

- The first section introduces WPC and covers the general principles of the AdvanTec system. It also covers general operation of the screens.

- The second section covers in detail the functions of the software common to all applications.

- The final section covers the installation of the software and wiring and the common setup of the configuration data.

If you are a person who will be using the AdvanTec system you should read the first section, then read section three. You will then need to read the first two parts of the application specific manual and then any manual related to your specific installation.

If you are the person who will be installing and setting up the AdvanTec system then you should read the first section, skim section two, then read section three. You will then need to read all of the application specific manual plus any manual related to your specific installation.

Introduction

Weighbatch/PC, or WPC for short, is the software component of the Weighbatch AdvanTec system for material handling and control in plastics processing.

The AdvanTec system includes the various hardware devices made by Weighbatch, such as blenders and throughput controllers, which are connected together by the Weighbatch/PC software to give a unified process control system.

WPC Organisation

The WPC software is divided into a number of modules and this modular structure has some reflection in how these documents are organised. Two modules (**WpcSys** and **WpcBase**) are common to all installations and provide common functions. On top of these there will be one of the application specific modules, such as **WpcCoex** for blown film extrusion. On top of this there may be a customisation module for your specific installation. For example this may provide links to a company database or special report formatting.

Basic Operation

This section describes each general operation of WPC. Each of the screens uses a similar layout and these general elements are described first.

Touch Screen

WPC is designed so that it can be operated on computers equipped with touch screens as well as through a normal mouse type pointer. This does require some changes to normal Windows behaviour and also means that many of the display elements are larger than normal to make them "finger" sized.

General Layout

The WPC screen occupies the full display. It cannot be shrunk to a partial screen although it can be minimised to allow other Windows functions to be performed.

The normal WPC screen contains three areas as shown in the following picture.
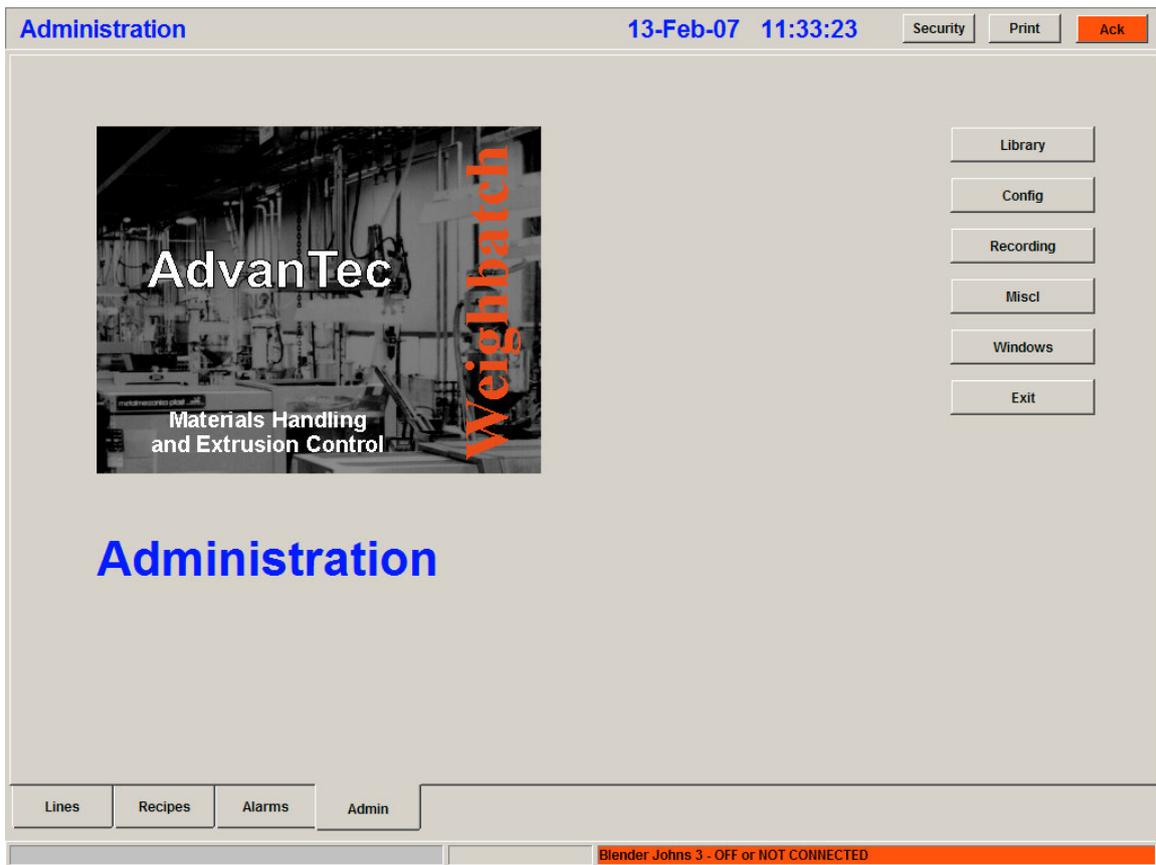
Title Area

The Title Area appears at the top of the screen. The current page title ("Materials") is shown on the left. The date and time are shown to the right of center. On the right are three buttons. The **Security** button gives access to the pages related to the security system. The **Print** button will print the current screen. The **Ack** button changes to red when there is an active fault alarm. Clicking this button will acknowledge this alarm.

If the security system has been enabled then the current User Code ("OP") is shown in the center and the **Security** button is enabled. The background colour of the Title Area changes to indicate the security level of the current user. The colours are grey (Operator), white (Senior Operator), yellow (Supervisor) and red (Administrator). The purpose of these colours is to remind you that you are running at a high security access level.

Status Area

The Status Area appears at the bottom of the screen. Short status messages are shown on the left. The most recent fault or warning alarm message is shown on the right. Faults are shown in red, warnings in yellow.

Page Area

The center of the screen is used to display the information and controls for the current page. WPC can be thought of as a series of linked pages with buttons leading from each page to any sub-pages.

There are a number of top-level pages which are unrelated to each other. Access to these pages is through tabs displayed at the bottom of the Page Area. These tabs only appear when a top-level page is being displayed.

Which top level pages are available is very dependent on the application and how it has been set up. Typically at least these pages will be available:
- **Line**, the primary information for the process
- **Alarms**, showing current fault and warning alarms
- **Admin**, allowing access to the setup and configuration information

Using the Screens

As mentioned earlier, using the screens follows normal Windows practice except for a few changes related to touch screens. These changes will be covered next.

List Data

WPC uses scrolling lists frequently, as does most Windows software, but the normal Windows scroll bars are too small to be used with a finger touch and it is generally awkward to drag by touch. The typical WPC list looks like this:

The list data is displayed as a series of rows and columns. One row will be highlighted and is the active row. If the number of rows of data is larger than the number of displayed rows then the

data can be thought of as being divided into blocks. The four buttons to the right of the list, **First,** ⬆, ⬇, **Last**, are used to move from one block to another.

First will display the first data block, ie. the one starting from the first row. **Last** will display the last block. ⬆ and ⬇ will display the previous or next block of data. One difference from normal Windows behaviour that can confuse you is that scrolling to a new data block does not change the active row. This can mean that the currently displayed block of rows contains no highlighted row. It also means that pressing **First** for example will not cause the first row to be highlighted. To select a row you need to do two things, firstly to scroll to the block containing the row, then secondly to click on the desired row to highlight it.

Associated with the list will be a number of buttons which will act on the active row. For many lists these will be the **Edit, Insert** and **Delete** buttons. Another point of difference with normal Windows is that you cannot double-click on a row in order to edit it. You must select it with a single click and then click the **Edit** button.

Edit Fields

Edit fields accept typed information. These fields act normally if you have a keyboard. However for touch screen systems, touching the field will pop up on the screen a "touch" numeric pad or alphabetic pad.

To enter data just use the touch pad by touching the key buttons as though it was a normal keyboard. Touching the **Shift** button toggles the alpha pad between upper and lower case characters and also changes some of the key button characters, just as a normal keyboard does. Touch the **Ok** button when you have done to transfer the data to the edit field.

Option Fields

Option fields allow selection of one of a limited set of options. Clicking on these fields will pop up a list of the available options:

This is like a mini-list where the ↑ and ↓ buttons will scroll the block of rows. The currently selected option will be highlighted. To change it simply click on another option to highlight it and then press the **Ok** button. To cancel any changes press the **Cancel** button.

Security

As mentioned earlier, WPC has a security system which can be used to limit access to functions or data to specific people.

There are four levels of security: Operator, Senior Operator, Supervisor and Administrator. Supervisor level may correspond to shift leader or similar. Administrator is probably a production engineer or similar.

Exactly what level of security is required to do any particular function depends on the application and may be able to be changed as part of the application setup. However there is one level that is common to all applications and that is that Administrator level is required to modify any of the software configuration data.

Normally WPC operates at Operator level security, being the lowest level. To move to a higher security level you must sign-on using a user code that has been assigned the required level. The lowest level of security can be changed so that, for example, all staff operate at Senior Operator level even if they have not signed on as such.

To sign-on as a different user just click the **Security** button at the top of the screen. This will display the **Security Users** page. Click on the user you wish to sign-on as. Click on the **Password** field and enter the user's password. Then click on **Sign On**. This will exit from the page with WPC running at the new user's security level.

The security level is indicated by a change of colour of the title area of the screen. White for Senior Operator, Yellow for Supervisor and Red for Administrator. This is to remind you that you are at a high security level. Leaving WPC at a high security level defeats the whole purpose of having security and so you should sign-off when you have finished. Again click on the **Security** button and then either sign-on as another user or click on **Sign Off**.

Alarms

All Weighbatch products use an alarm system which divides alarms into faults and warnings. A particular alarm starts as a fault when it first occurs. This will normally cause a siren or strobe light to be activated. The operator can acknowledge the fault at which time it becomes a warning. The alarm will not go away completely until the original cause is rectified. At this time if the alarm occurs again then it will go back to being a fault.

WPC reflects this basic alarm mechanism in that it separates alarms into fault alarms and warning alarms. There is a top level page which can display all current faults and warnings. In general faults are indicated by Red and warnings by Yellow.

Typically there will be a top level page with the tab **Alarms**. Clicking this will display the **Alarms** page.

Materials and Blends

A critical function within WPC is to manage information related to material blends. This is to control any blenders and additive feeders in the system, calculate blend density and to generally track the materials being used.

All materials are identified by code names found in a table of materials which you can specify. Density information is also taken from this material table.

Blends are specified by material codes and ratios. The blend information includes both the primary material passing through the blender and any post-blender additives.

Status

At various times the lines will be in different operating statii, some productive and some non-productive. Typical non-productive statii would be Job Setup or Breakdown. One of the functions of the AdvanTec system is to record the time spent and amount of product generated in each of the various operating statii.

A table of status codes can be specified. The operators can enter the line's status at any time by selecting from this list.

Material Usage

Another of the primary functions of the AdvanTec system is to provide recording of material usage. This is done by using the throughput information provided by blenders and weight controllers. Using the material codes provided through the blend information the amount of each material can be recorded.

Data Recording

The AdvanTec system provides a number of functions to record, display and share the process data collected through the various hardware devices that can be attached to it.

The most immediate function is the graphical display of process data on continuous scrolling graphs. This data is updated once per second and normally the last 5 minutes of data are displayed. This process data can also be permanently recorded at one minute intervals. The process graphs can be changed to a "history" mode to display this historical data.

In addition to the recorded process data an time stamped event log can be saved to record specific events such as job start or a parameter change such as blend ratios.

A synchronisation function is available to keep library data updated across multiple lines each running their own copy of WPC. For example the lists of material codes can be kept synchronised so that changes made on one system are replicated to the others.

Common Functions

This section will describe the various pages and functions of WPC which are common to all applications.

Alarms Page

The Alarms page is accessed from the **Alarms** tab which is displayed along with any top level page. It shows the current **Fault** alarms and the current **Warning** alarms. Warnings are simply acknowledged Faults.

The **Acknowledge** button will acknowledge the topmost fault alarm. This also acknowledges the alarm in the device that caused it. The **Ack.All** button will acknowledge all alarms. The **Faults/Warnings/Both** buttons switch the display between showing both faults and warnings to show faults only or warnings only.

Clicking the **History** button will display the most recent historical alarms. This displays the Alarm History Page.

| Alarm History | | | 13-Feb-07 11:39:45 | Security | Print | Ack |

Time	Source	Description	Status
13-02-07 11:32:28	Blender Johns 3	OFF or NOT CONNECTED	Alarm
13-02-07 11:32:28			Off
12-02-07 17:48:34	Blender Johns 3	COMP #4 N/C	Warning
12-02-07 17:48:34	Blender Johns 3	COMP #3 N/C	Warning
12-02-07 17:48:33	Blender Johns 3	COMP #2 N/C	Warning
12-02-07 17:48:33	Blender Johns 3	COMP #1 N/C	Warning
12-02-07 17:48:32	Blender Johns 3	OFF or NOT CONNECTED	Off
12-02-07 17:48:26	Blender Johns 3	OFF or NOT CONNECTED	Alarm
12-02-07 17:48:26			Off
12-02-07 16:43:10	Blender Johns 3	COMP #4 N/C	Warning
12-02-07 16:43:10	Blender Johns 3	COMP #3 N/C	Warning
12-02-07 16:43:10	Blender Johns 3	COMP #2 N/C	Warning
12-02-07 16:43:10	Blender Johns 3	COMP #1 N/C	Warning
12-02-07 16:43:08	Blender Johns 3	OFF or NOT CONNECTED	Off
12-02-07 16:43:03	Blender Johns 3	OFF or NOT CONNECTED	Alarm
12-02-07 16:43:03			Off
12-02-07 16:35:16	Blender Johns 3	COMP #4 N/C	Warning
12-02-07 16:35:16	Blender Johns 3	COMP #3 N/C	Warning
12-02-07 16:35:16	Blender Johns 3	COMP #2 N/C	Warning

First   ▲   ▼   Last

Ok   Clear

Blender Johns 3 - OFF or NOT CONNECTED

Each alarm has entries for the initial Fault, the change to Warning (if it was acknowledged) and the removal of the alarm (when the fault condition goes away). The list is in chronological order with the most recent alarms first.

Security Page

The Security Page is displayed by clicking the **Security** button at the top right of the screen.
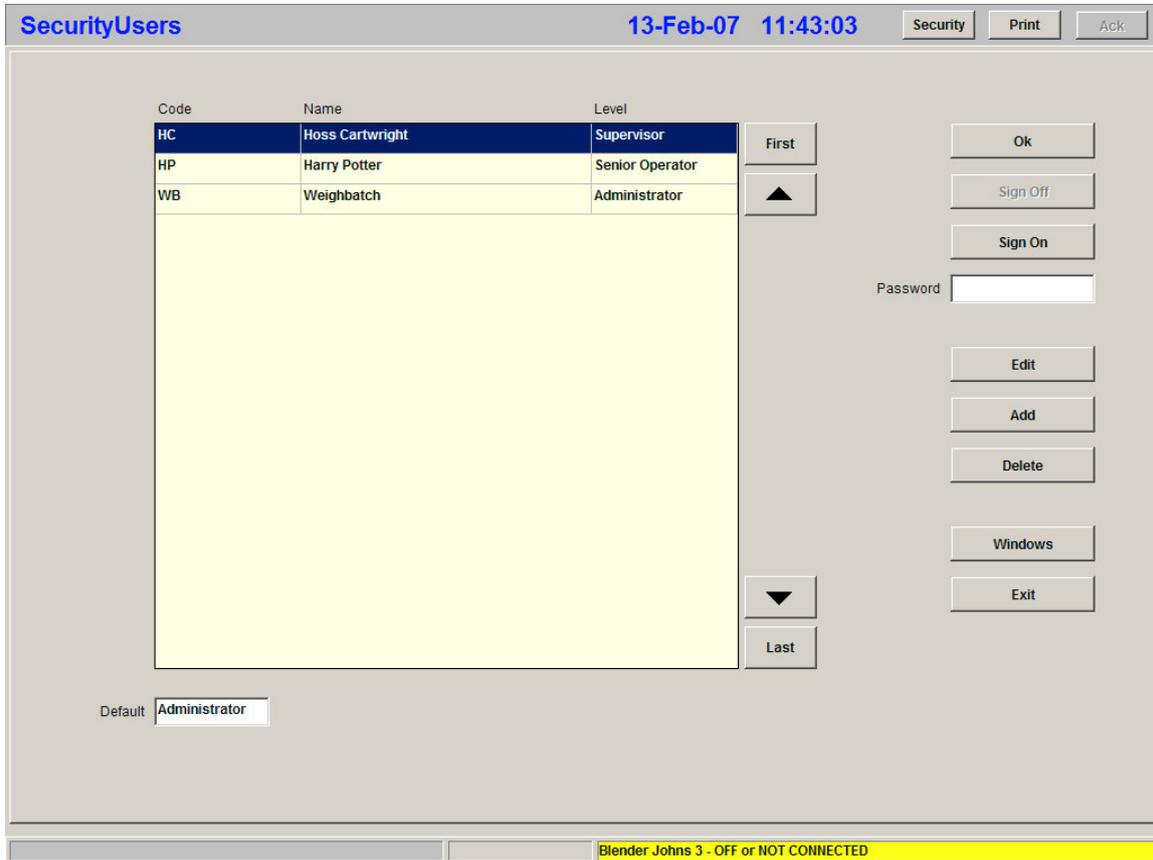
The page displays the list of user codes that have been set up. Alongside each user is their full name and their security level.

A user may log on by selecting their user code, entering their **Password**, and clicking the **Signon** button. They can log out again by clicking the **Signoff** button. Signing off takes the software back to Operator level security.

Any user may edit their own password after they have signed on but only an Administrator may alter the user list and may also alter any user's password.

There are four levels of security. Operator, Senior Operator, Supervisor and Administrator. In general terms Senior Operator level is required to alter the setpoints for the line. Supervisor level is required to alter the job targets or the operating mode of the line. Administrator level is required to alter anything about the software or hardware configuration of the line.

Chart Page

The **Chart** page is accessed from the **Charts** button on a Line Page. It is used to display graphical trend data for a number of predefined parameters.
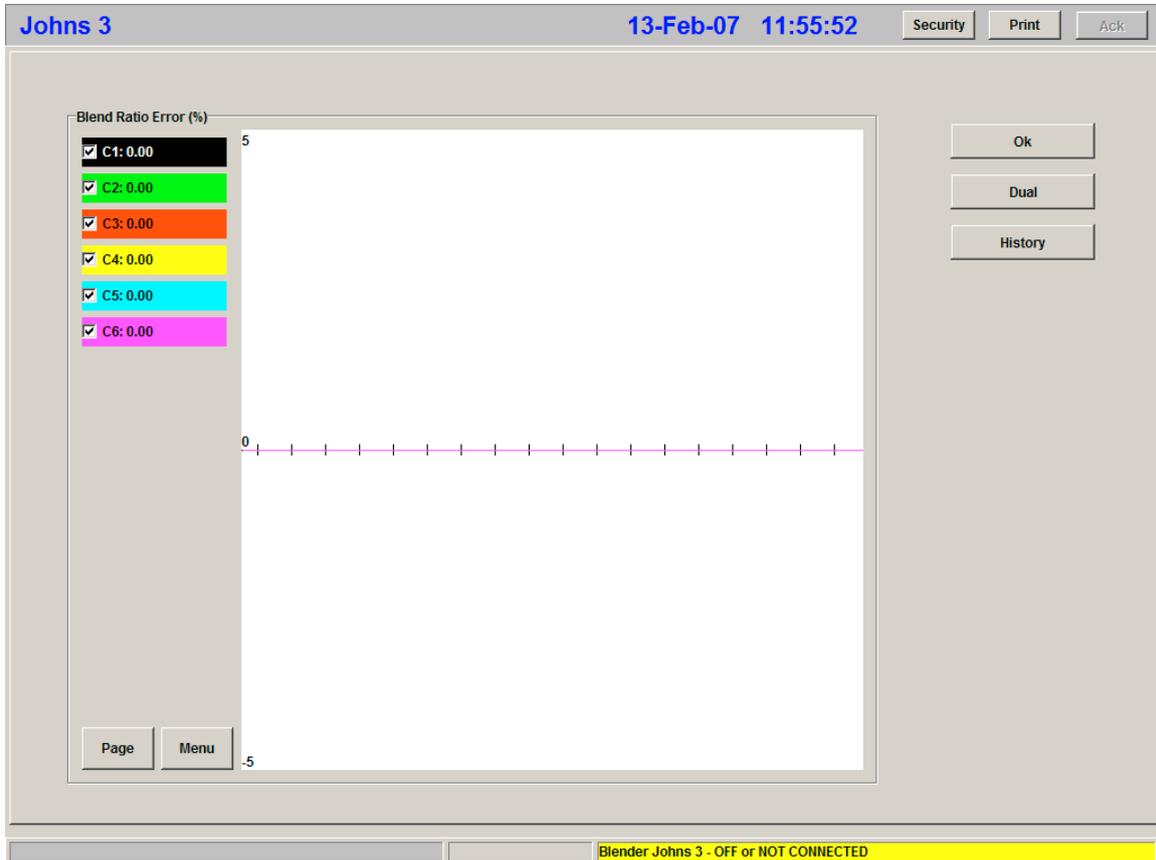
Typically the data is collected into sets, for example the RPMs of all extruders in a co-ex line would be one set. Each of these sets is called a "page". The **Page** button allows you to select which page (or set) to display.

Each of the items within a set is displayed in a different colour. The individual check boxes beside each item allow you to turn the display of that line off or on. The current value of the item is also displayed.

Clicking the **Dual** button will display two sets of data on the one screen. This can be useful for looking at the effects of variation in one parameter on another.

Page Menu

Clicking on the **Menu** button will display the page menu buttons as shown below:
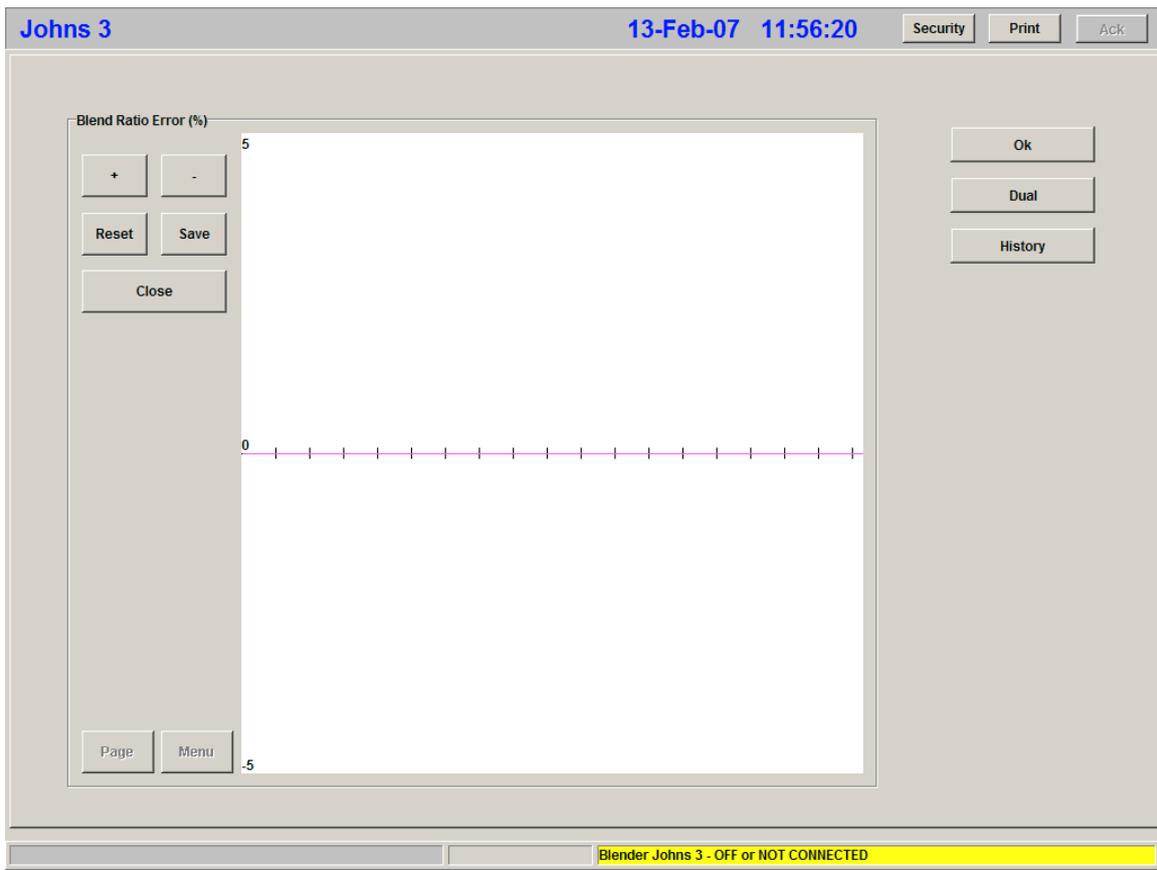
These buttons allow you to alter the vertical scale of the plot. The **+** button will zoom in on the scale. The **–** button will zoom out. Both buttons will shift the position of the vertical scale if necessary.

The **Reset** button will restore the vertical scale to its default value. The **Save** button will set the default scale to the currently displayed one. The **Close** button will remove the menu buttons and will redisplay the parameter labels.

History

The **History** button will only be displayed if history recording has been enabled.

History data is recorded at one minute intervals. Clicking on the history button will display the chart using historical data and will display the history controls as shown below:
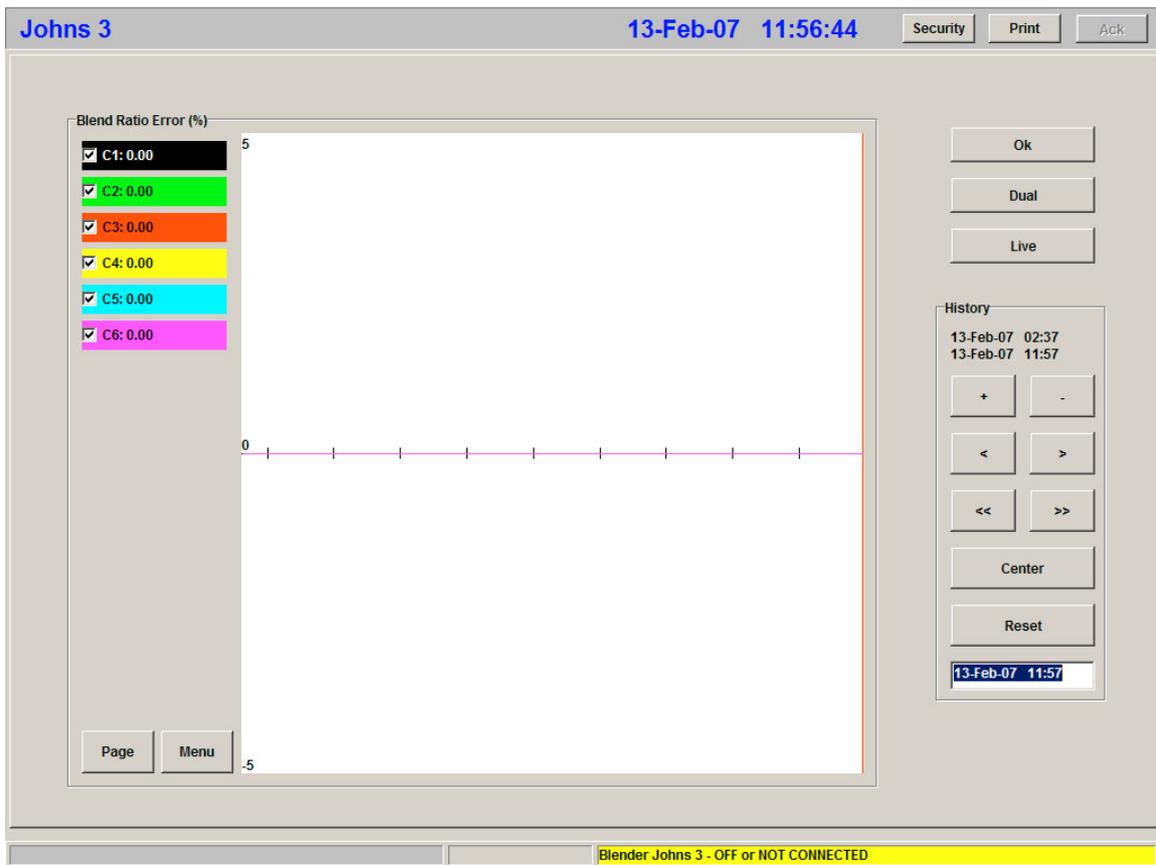
The history buttons control the horizontal time scale. The **+** and **–** buttons will zoom the time scale in or out.

The date and time displayed is known as the "Cursor Time". The value displayed for each item is the historical value at the cursor time. The cursor time is also plotted on the chart as a single vertical red line. The **<** and **>** buttons can be used to change the cursor time by one minute per click. The **<<** and **>>** buttons are used to scroll the chart and the cursor time backward or forward by one complete chart width. The **Center** button will redisplay the chart with the current cursor time at the center. The **Reset** button will reset the cursor time to the current time and will redisplay the chart.

You can also change the cursor time by entering a new date/time directly in the time field or by clicking anywhere within the chart area.

Clicking on the **Live** button will remove the history controls and return the chart to normal live data plotting.

Blend Data

Blend data is displayed on a number of pages related to product specifications, job specifications or physical blenders. While the page may display other data the blend data is displayed in one of two formats in all cases.

Long Format

The long format is used to display detailed data about the blend and to provide full control over component class.

The **Type** field is only displayed for components where the corresponding blend item can have more than one type.

The **Density** is taken from the material table and the overall calculated blend density is displayed.

Short Format

The short format is displayed when there is limited space on a page. It basically shows the materials and the ratios.

Components with alternative blend item types show the selected type as (N), (A) or (R) but this cannot be changed.

Installation and Setup

Setting up an AdvanTec system has three parts. The first part is the wiring of the communications cabling required to talk to the various pieces of Weighbatch equipment. The second part is the installation of the WPC software.   The third part is the setup of the software to match the hardware configuration of the line.

Communications Wiring

Communications to the Weighbatch Mini Blends, Weight Controllers, Loading Controllers and other devices is via a multi-drop or daisy chained RS-422 cable. This is a screened 4 core cable. A conversion module is provided with the WPC software which connects this RS-422 cable to the RS-232 serial port of the computer. The 4 core communications cable is called the **S/Bus**.

Specific wiring connections for each Weighbatch device are included with the operating manuals of each device. There is considerable flexibility as to exactly how the devices are connected due to the low speed of the communications signal. You may choose to daisy chain from one device to another or you may choose to run a backbone cable with junction boxes and to run branches to each device. You can even use a star configuration with all devices connected back to a single point.

The standard wiring is the backbone, junction boxes and branches approach.   The primary reason for this being that it is the standard way of wiring the communications for a Weighbatch Loading System and the standard Weighbatch junction box has connectors for both the AdvanTec S/Bus as well as the Loading System's IP/Bus.

A typical three layer co-ex system would be wired as shown below.

Mini Blends

Weight Controls

WPC 232/422 interface Loading Controller
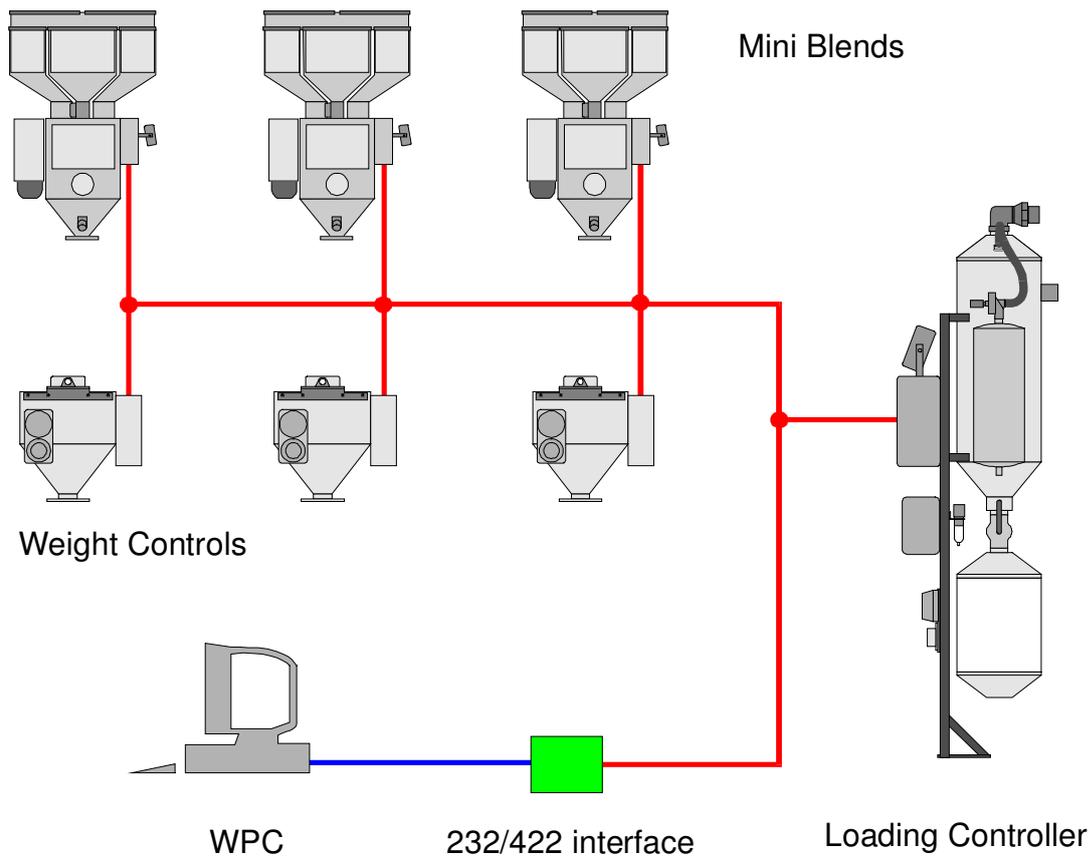
The main thing to remember is that all connections to the devices are in parallel. If using standard 4 colour core then make the following connections:

Device	Green	Yellow	Red	Blue
Mini Blend	#17	#18	#19	#20
Loading Controller	#17	#18	#19	#20
Weight Control	#17	#18	#19	#20
Protocol Converter	#2	#3	#4	#5
Junction Box	#7	#8	#9	#10
SDI Module	#1	#2	#3	#4
232/422 Interface	#1	#2	#3	#4

In addition the 232/422 Interface needs DC power. This should be supplied from an independent power supply. This could be a power supply from within the existing electrical cabinet for the line, or it could be a simple "plug-pack" type transformer. For a simple system you can take power from the first device by running a 6 core cable as the first segment of the S/Bus. Most Weighbatch devices have 0V/24V as the two connectors following the 4 S/Bus connectors. Refer to the device's wiring drawings. The disadvantage of this is that turning off this device causes communication with all devices to be lost.

Shielded cable must be used and should be run away from any mains power circuits where practicable. All shields should have a single earth connection. The simplest way to do this is to connect the shields at the device end only. If using junction boxes then another way is to connect all of the shields together but to earth the shields to a single point. Usually the this point would be the Loading System controller.

Installing WPC Software

The standard WPC software is installed from CD or downloaded file in similar fashion to other software. If you have been supplied with additional customised modules these will be supplied either on CD or may have been supplied by e-mail.

Start the software installation by double clicking on the **AdvanTec** file on the CD or executing the downloaded file. Follow the instructions of the installation program.

The software installation process installs the AdvanTec software into a folder called AdvanTec within the Program Files folder. It also installs a desktop shortcut to start the program plus installs a shortcut in the Startup folder so that the software automatically starts when the PC starts.

The initial installation however contains only the basic software with none of the application level modules activated. To do this you need to specify more information on the type of application and any site and line specific data.

Use the desktop icon to start WPC for the first time. The following screen will be displayed.

Select the **Application**. This will be one of the standard application types: Material Handling, Blown Film or Cable Sheathing.

Specify the **System Name**. This should be a short name that describes your site. It will be used to distinguish the software running at this site from any other running the same application. If you have been supplied with customised software then you will be instructed what the System name should be.

Specify the **Line Name**. This is used to identify one line from another, ie. one PC from another. Again, if you have been supplied with a pre-configured system you will be instructed what this name should be.

Once the three parameters have been set, click the Setup button to create the initial application setup files. Now the WPC software is ready to run the correct application but will not yet have any configuration data set up. Neither will it have any customised software loaded. This is the next step.

Loading Supplied Files

Typically two types of customised files may be supplied. A customised software module will be supplied as a file with the name "xxxx.wcl" where "xxx" is the System Name you specified in the installation above. You may also be supplied with a configuration file with the name "yyy.dta" where "yyy" is the Line Name specified in the installation above.

To install these files follow these steps:
• Start the WPC software.
• Click on the Admin tab.
• Click on the Miscl button.
• Click on the Update button.
• Change the **Source Dir.** Field to the folder name of the supplied files. The file list will be updated to show all of the files in that folder.
• Find each file you have been supplied, highlight the file name and click the **Update** button.
• After all required files have been selected click the **Update Files** button. Confirm that you wish to update the selected files.
• After the files have been updated, click the **Exit** button. Confirm that you want to exit.

Configuring WPC

The WPC software must be configured to match the hardware setup of the line. After the software is first installed it has an empty default configuration. You can then use the various **Administration** pages described in the following sections, to modify this default setup.

NOTE: The following description is of the configuration options common to all applications. All applications have further configuration parameters which will be described in the application manual. Customised software for specific sites may have further configuration options which will be described in the site customisation manual.

Administration Pages

The various administration pages are accessed by the **Admin** tab on the top-level pages. In general Administrator level security is needed to access these pages although Supervisor level only is required for some library pages such as Material Codes.

Admin Screen

The Administration Page is the gateway to all setup pages. It is accessed by clicking on the **Admin** tab visible on any top-level page.

In addition the page provides the means of terminating the WPC software and exiting back to Windows. These options are usually available to lower security level users.

The **Library** button allows you to set up the "library" type reference data such as material codes and product specifications.

The **Config** button allows you to set up the configuration data describing the connected physical devices such as Blenders, Weight Controls and the like.

The **Recording** button allows you to set up database access for historical recording, to define the data to be recorded and to set up the data to be charted.

The **Miscl** button allows you to set up other control data including any application specific data.

The **Windows** button minimises the WPC screen and gives access to the Windows desktop but leaves WPC running. The **Exit WPC** button terminates WPC and returns to Windows.

Library Page

The Library Page is accessed by clicking the **Library** button on the Administration Page.

The **Materials** button allows you to set up the list of material codes. These are used to specify the material used in each component of a blend.

The **Status Codes** button allows you to set up the list of status codes which are used to indicate the operational status of each line.

There are usually other buttons on this page which are application specific. Refer to the following sub-section for each application for details on these.

Configuration Page

The Configuration Page is accessed by clicking the **Config** button on the Administration Page.

Ok

Blend Items

Bins

Blenders

Extruders

Load Ctrls

Loaders

SDIs

AdvanTec

Weighbatch

Materials Handling and Extrusion Control

Configuration

The page allows you to define what physical devices are part of the AdvanTec system and how they are collected together into lines. Consider the example of a film plant with one mono line and one three layer co-ex line. The mono line has just a blender while the co-ex line has blenders on two layers and weight controllers on all three. Each blender has loaders on two main components with one loading system running both lines. The co-ex line has a layflat measuring bar. In total we have a device "universe" with the following:

       3 Blenders (B1, Ba, Bc),
       3 Weight Controllers (Wa, Wb, Wc)
       6 Loaders (L1-1, L1-2, La-1, La-2, Lc-1, Lc-2)
       1 Loading Controller (LS1)
       1 SDI (serial device interface for layflat width) (S1)

These are collected into lines:
       Line 1 = (B1, L1-1, L1-2)
       Line 2 = (Wa, Wb, Wc, Ba, Bc, La-1, La-2, Lc-1, Lc-2, S1)

The first step in defining the configuration is to enter all of the individual devices into their lists and then to enter the line configuration.

Buttons

The **Blend Items** button allows you to specify what goes into making a blend in the AdvanTec system. All blends within one system must be structured the same way. For example you may define all blends as having 4 blended components and one non-blended component (eg. direct injected PIB). This of course would create a problem if one of the blenders had six components.

The **Bins** button allows you to specify what material bins are used by the system. This is usually only necessary for systems having some type of automated material handling system.

The **Blenders**, **Extruders** and **Load.Ctls** buttons allow you to list the connected Blenders, Weight Controls and Loading System Controllers in the system. These can be non-Weighbatch devices connected through Weighbatch Protocol Converters.

The **Loaders** button allows you to list the loaders connected.

The **SDIs** button allows you to enter the connected Serial Device Interface modules. These modules allow the AdvanTec system to communicate with devices equipped with serial interfaces such as temperature controllers, pressure readouts etc.

Finally, the **Lines** button allows you to specify how these various devices are collected into Lines. The line configuration data is very application dependent.

Material Page

The Material Page is accessed by clicking the **Materials** button on the Library Page and then the **Edit** or **Add** button on the Materials list.

Material ZRG010B	13-Feb-07 14:14:30	Security	Print	Ack

Code ZRG010B

Name LD104BR (2MI .925D HS MA)

Density 0.925

Regrind ☐

Ok

Cancel

The **Density** is specified as g/cc or Kg/Litre. If the density is left blank it will be taken as 1.000.

If the **Regrind** flag is set and the density is blank or zero then it will be assumed to be the same density as the virgin components of the blend.

Status Page

The Status Page is accessed by clicking the **Status Codes** button on the Library Page and then the **Edit** or **Add** button on the Status Codes list.
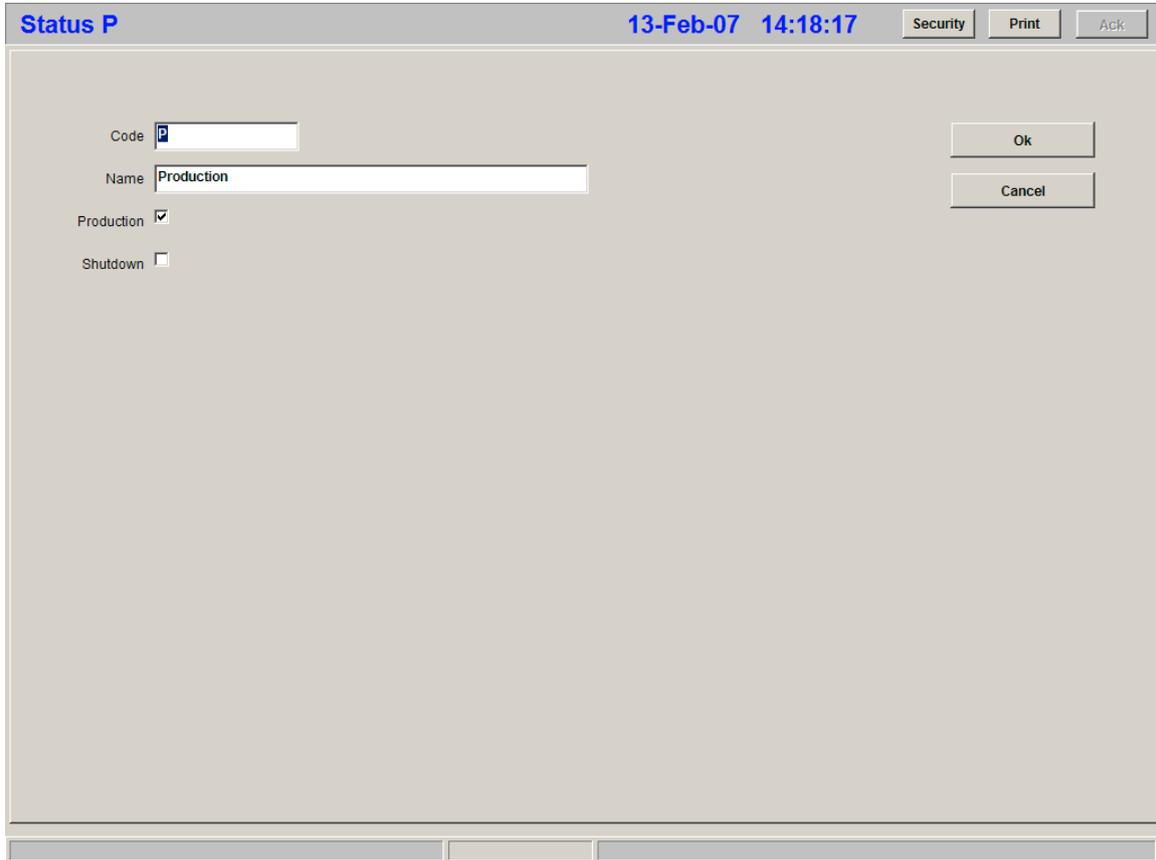
Status Codes are used to specify the operating status of a line. They could include various downtime codes, job setup and production codes.

The material usage data recorded for each job includes the time, kgs and meters of material produced under each status code.

The **Production** flag indicates that the status is a "productive" one. Typically the amount left to run on a job will only count down if the line's status is one of these productive ones.

The **Shutdown** flag indicates that the status is one which indicates that the line is intentionally shut down or has been made non-operational. These are typically treated differently from a normal short-term non-productive status such as job startup or breakdown.

Blend Items Page

The Blend Items Page is accessed by clicking the **Blend Items** button on the Configuration Page.

The page defines how all blend information will be structured for this AdvanTec system.

Component Types

WPC considers blend components to be in three types depending on where they are introduced into the blend.

Referring to the diagram below, the type "A" components are those fed into the blender. The type "B" components are those fed in after the blender but before the extruder Weight Control hopper. For example an edge trim feeder. The type "C" components are those fed in after the Weight Control hopper. For example direct injection of liquid colour or PIB.

Types "A" and "B" are called the Primary components because they are the ones whose throughput is directly measured by the Weight Control.
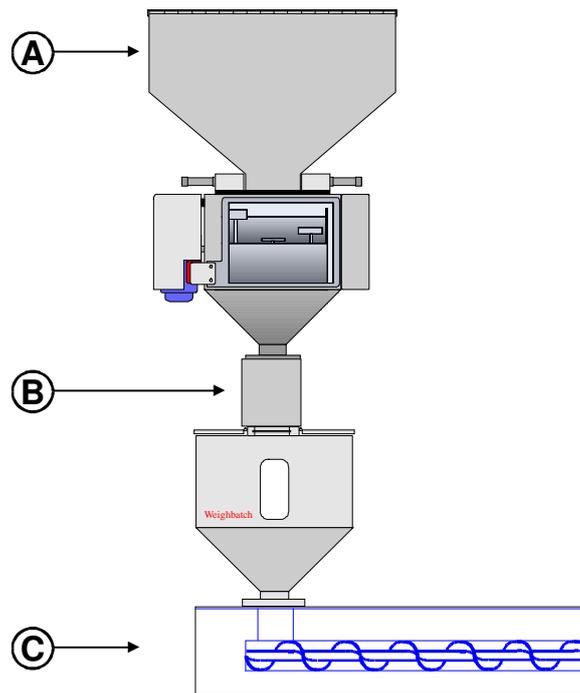
On the Blend Items Page, **Max Items** specifies the total number of components in a blend. **Max Blended** specifies the number of components passing through the blender, the type "A" components. **Max Primary** specifies the number of primary components, the type "A" and "B" components.

Changing any of these values will cause the page to be redisplayed with differing number of rows in each type.

Component Classes

WPC also categorises components by the way they are defined within the blend. **Natural** components are specified by ratio between themselves. **Additive%** components and **Regrind%** components are specified as a percentage of the blend. A component may be fixed to be one class or its class may vary depending on the blend.

How the classes are used generally depends on type of blender being used and any non-blended components.

Example: All components blended using Weighbatch MB80 five component blenders.

Component	Class
1	Natural
2	Natural
3	Natural
4	Natural
5	Natural

Example: All components blended using Weighbatch MB80 five component blenders set in regrind mode.

Component	Class
1	Natural
2	Regrind%
3	Natural
4	Natural
5	Natural

Example: All components blended using Maguire four component blenders with components 1 and 2 used for main material, component 3 as an additive and component 4 used for either additive or regrind.

Component	Class
1	Natural
2	Natural
3	Additive%
4	Additive% or Regrind%

Example: No blenders but two secondary additive feeders.

Component	Class
1	Natural
2	Additive%
3	Additive%

Other Blend Item Controls

On the Blend Items Page, setting **Natural % Mode** causes WPC to force all of the Natural class components to add up to 100. In this mode the first natural component cannot be entered but is calculated.

If **Additive % of Natural** is set then the Additive% class components are specified as a percentage of the Natural components. If not set then they are specified as a percentage of the entire blend. This flag has an effect on the calculation done in Natural % Mode. If not set then the total of the Naturals and the Additive components will add to 100.

If **Clear Unused** is set then any blend component where the ratio is set to zero will automatically have its material code erased as well. Leave this un-set if you want to be able to specify a component material without entering a ratio.

Blend Ratios

Some examples may clarify how the different flags and component classes affect the calculation of blend ratios. Assume a 1000g batch of blended materials with 4 components. C1 and C2 are naturals in 50:50 ratio. C3 is 10% additive, C4 is 10% regrind.

If **Additive % Natural** is un-set then the required weight of each component would then be:
C4 = 10% of 1000g = 100g.
C3 = 10% of 900g = 90g.
C1 and C2 = ½ of 810g = 405g each.

If **Additive % Natural** is set then the required weight of each component would then be:

C4 = 10% of 1000g = 100g.
C1 and C2 = ½ of (900 * 100/110)g = ½ of 818g = 409g each.
C3 = 10% of 818g = 82g.

Bin Page

The Bin Page is accessed by clicking the **Bins** button on the Configuration Page and then the **Edit** or **Add** button on the Bins list.

Bins are usually only defined in AdvanTec systems with automated material handling.

The Bins page has a **Security** field. This field is used to define the security level required to change the material assigned to a bin. In addition to the normal security levels this can be set to **Nobody** so that the material assignments cannot be modified. This is normally done only in a multi-line network system where all material changes must be done through one system.

Blender Page

The Blender Page is accessed by clicking the **Blenders** button on the Configuration Page and then the **Edit** or **Add** button on the Blender list.

The Blender Page is used for defining the blenders controlled by the AdvanTec system. Do not define any unconnected blenders or off-line blenders. These are handled differently within the setup data for the lines. Do define any non-Weighbatch blenders connected via protocol converters.

Components specifies the number of components able to be blended in this blender.

Address is the communication address set on the CPU board of the blender (Weighbatch blender) or in the MBX protocol converter (non-Weighbatch blender). **Server** is used only if the blender is not connected directly to this PC but is connected to another PC on the network. In this case set Server to the Server Name of the other PC (refer Miscl Page).

Type is the make of blender. Set to "Weighbatch Mini Blend" for a Weighbatch blender or select one of the other options if it is a non-weighbatch blender connected through a protocol converter.

Ratio Update controls how ratio changes made at the blender or in WPC affect the other. If set to **Both Directions** then altering the ratio at the blender will alter the ratio in WPC and vice versa. If set to **From WPC Only** then the blender is forced to follow the WPC ratios. If the ratios are

altered on the blender they will be immediately changed back to the WPC ratios. If set to **From Blender Only** then the opposite happens. If set to **None** then changing the ratios at either end has no effect at the other.

The **Storage Kgs** specify the amount of material held in the storage hopper for each component. This is used at he end of a job to allow WPC to determine when there is sufficient material available to complete the job.

Read Only is used for components where the ratio cannot be set from the PC. For example Maguire blenders using the thumbwheel switches.

Extruder Page

The Extruder Page is accessed by clicking the **Extruders** button on the Configuration Page and then the **Edit** or **Add** button on the Extruder list.

The Extruder Page is used for defining the Weight Controls controlled by the AdvanTec system.

The **Storage Kgs** specifies the amount of material held in the extruder storage hopper or blender. This is used at the end of a job to allow WPC to determine when there is sufficient blended material available to complete the job.

Address is the communication address set on the CPU board of the Weight Control. **Server** is used only if the Weight Control is not connected directly to this PC but is connected to another PC on the network. In this case set Server to the Server Name of the other PC (refer Miscl Page).

Version is the software version of the Weight Control software. All recent installations would use "Version 2+".

If **Lockup Check** is checked then WPC checks to make sure that the indicated weight is continually varying. This is to guard against a fault in the Weight Controller or the communications.

Num.Additive specifies the number of secondary additive feeders controlled by this Weight Control. Typically the Weigh Control would output an analog signal to control the feed rate of these feeders depending on the primary throughput rate.

Loading Controller Page

The Loading Controller Page is accessed by clicking the **Load Ctrls** button on the Configuration Page and then the **Edit** or **Add** button on the Loading Controller list.
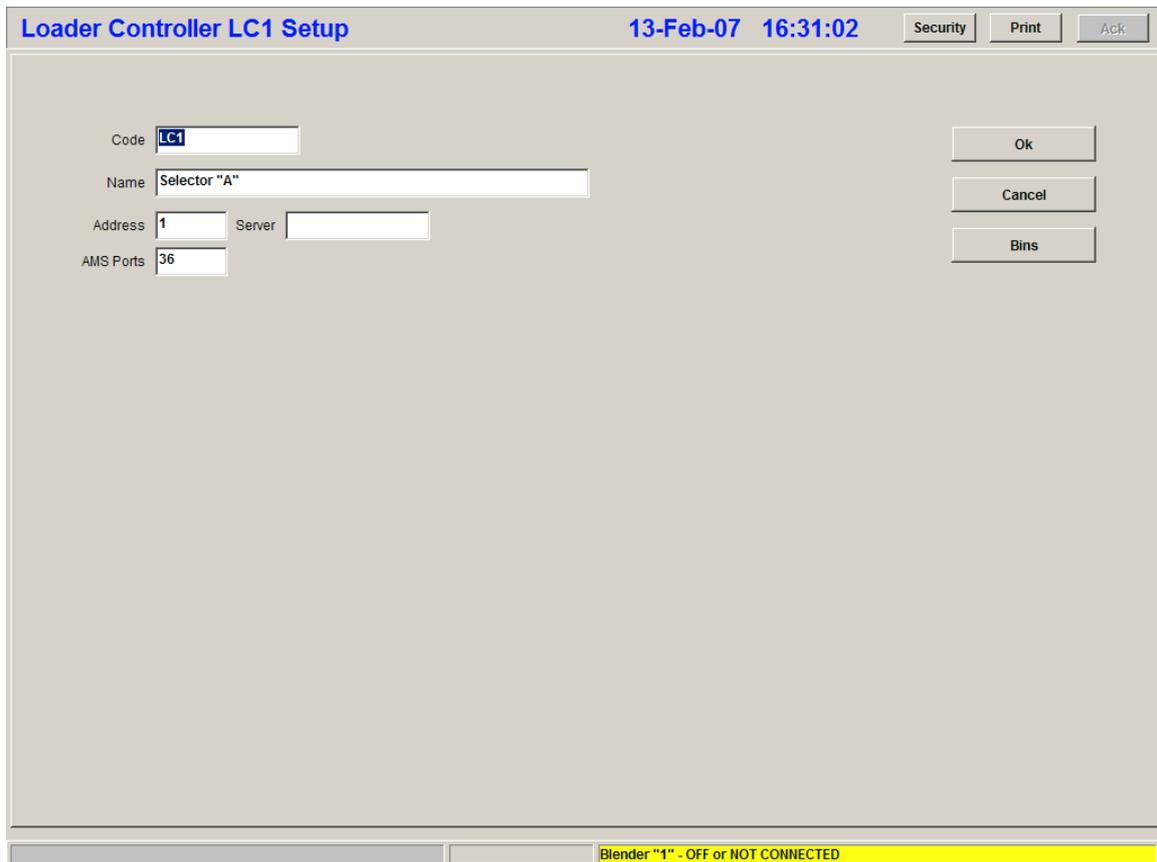
| Loader Controller LC1 Setup | 13-Feb-07 16:31:02 | Security | Print | Ack |

Code: `LC1`
Name: `Selector "A"`
Address: `1`   Server: ` `
AMS Ports: `36`

Ok
Cancel
Bins

Blender "1" - OFF or NOT CONNECTED

The Loading Controller Page is used for defining the central Loading Systems controlled by the AdvanTec system.   There is normally only one such system.

Address is the communication address set on the CPU board of the Loading System controller. **Server** is used only if the Loading System is not connected directly to this PC but is connected to another PC on the network. In this case set Server to the Server Name of the other PC (refer Miscl Page).

AMS Ports is used if the Loading System uses an Automatic Material Selector (AMS). It is the number of material ports on the selector.

The **Bins** button is also used with an AMS to specify which material bin is connected to each of the AMS's inlet ports.

Loading Controller Bins Page

The Loading Controller Bins Page is accessed by clicking the **Bins** button on the Loader Controller Page.

Loader Controller LC1 Bins		13-Feb-07 16:36:31	Security	Print	Ack

#1	None	#17	Day Bin 14	#33	Day Bin 2
#2	None	#18	Day Bin 13	#34	Day Bin 3
#3	Silo Bin 7	#19	None	#35	Day Bin 4
#4	Silo Bin 1	#20	None	#36	Air
#5	Silo Bin 2	#21	Day Bin 15		
#6	Silo Bin 3	#22	Day Bin 16		
#7	Silo Bin 4	#23	Silo Bin 6		
#8	Silo Bin 5	#24	Day Bin 17		
#9	None	#25	Day Bin 18		
#10	Day Bin 9	#26	Day Bin 1		
#11	Day Bin 11	#27	None		
#12	Day Bin 22	#28	Day Bin 7		
#13	None	#29	Day Bin 6		
#14	None	#30	Day Bin 5		
#15	Day Bin 10	#31	Day Bin 20		
#16	Day Bin 12	#32	Day Bin 21		

Ok

Cancel

Blender "1" - OFF or NOT CONNECTED

This page allows you to specify which Material Bin is connected to each Automatic Material Selector inlet port.

Loader Page

The Loader Page is accessed by clicking the **Loaders** button on the Configuration Page and then the **Edit** or **Add** button on the Loader list.

The Loader Page is used to define each loader controlled by the AdvanTec system.

Controller specifies which Loading System this loader is connected to. **Address** is the loader number.

Auto Select should be set if this loader is connected to an automatic material selector. The selector outlet port number is the same as the loader number.

Status displays the current operating status of the loader (Full, Loading etc). **Material** shows the material code currently assigned to the loader and **Port** shows the AMS inlet port number assigned to that material. **Locked** will be checked if the loader cannot operate for some reason. Typically this would be because the requested material in not available when using an AMS.

SDI Page

The SDI Page is accessed by clicking the **SDIs** button on the Configuration Page and then the **Edit** or **Add** button on the SDI list.

SDI D1 Setup	13-Feb-07 16:46:16	Security	Print	Ack

Code D1
Name Temps 1
Address 1   Version Version 2+
Log Point [   ] None View
Status Off or Not Connected

Comms Settings
Enable Settings ☐
Speed [   ] Parity [   ]
Stop [   ] Data [   ]
Wiring [   ]

Ok
Cancel

Point	Name	Address	Status
1	EXT 1 ZONE 1	0	
2	EXT 1 ZONE 2	1	
3	EXT 1 ZONE 3	2	
4	EXT 1 ZONE 4	3	
5	EXT 1 ZONE 5	4	
6	EXT 1 ADP 1	5	
7	EXT 1 ADP 2	6	
8	EXT 2 ZONE 1	7	
9	EXT 2 ZONE 2	8	
10	EXT 2 ZONE 3	9	
11	EXT 2 ZONE 4	10	
12	EXT 2 ADP 1	12	

First ▲ ▼ Last

Edit
Insert
Add
Delete

☐ Add As Copy

Blender "1" - OFF or NOT CONNECTED

SDIs are the Serial Device Interface modules that are used by the AdvanTec system to communicate with non-Weighbatch measuring devices. For example temperature controllers, width measuring devices etc.

One SDI module may communicate with a string of similar devices. This is typically how temperature controllers are wired. Each of the individual devices acts as one measurement point. All SDI measurement points have only two parameters, a setpoint and an actual value.

Address is the communications address of the SDI module and is set with the switch on the front of the module.

Version is the version number of the software running in the SDI module. For all recent modules this will be "Version 2+".

Log Point shows the name of any point which has been selected for logging of communications between the SDI module and the device. This is a diagnostic tool to help resolve communications problems. It is enabled from the SDI Point Page which is described below. The **None** button will turn off logging. The **View** button allows you to view the log.

Status shows the current operating status of the SDI module.

The **Comms Settings** box allows you to override the default communications settings used by the SDI to communicate with its attached devices. It can also specify if a 2 wire (RS-485) or 4 wire (RS-422) connection is used.

The SDI Page lists the measurement points connected to the module. Clicking on the **Edit** or **Add** buttons will display the SDI Point Page shown below. If **Add As Copy** is checked then clicking the **Add** button will add a new point that is a copy of the current one. This is a quick way of defining a string of temperature points with similar properties.

SDI Point Page

The SDI Point Page is accessed by clicking the **Edit** or **Add** button on the SDI Page.

Class specifies the type of device corresponding to the point. Normally all of the devices connected to one SDI would be the same type. It may be possible, depending on the compatibility of the communications protocols, to have different devices connected.

Address is the device address.

Status shows the current connection status of the point, ie. if the SDI module is able to communicate and any errors being reported by the device. **Actual** shows the current Actual Value reported by the device. **Setpoint** is the setpoint value reported by the device. Changing this value will change the setpoint in the device.

Typically there are other fields to define access to the device which depend on the Class of device. Refer to the SDI Module manual for more details.

The **Log** button is used to enable logging of the communications between the SDI module and this device. Used to diagnose communications problems between the SDI module and the device. Logging can be turned off and the log viewed from the SDI Page.

Recording Page

The Recording Page is accessed by clicking the **Recording** button on the Administration Page.

The page controls the recording of historical data and the setup of charts for graphical display. The **Database** button allows you to enable database recording. The **Data Sync** button allows you to set up synchronisation of the library data between multiple WPC systems on a network. The **Event Log** button allows you to enable event logging and to define the events to be logged. The **History** button allows you to define what data is recorded. The **Charts** button allows you to set up what data appears on the process charts for each line.

Database Page

The Database Page is accessed by clicking the **Database** button on the Recording Page.

The are two databases which WPC may possibly use. The first is referred to the Local Database and is typically used for information related exclusively to this system. Usually the database would be stored on the PC that WPC is running on. The second database is referred to the Shared Database and is used typically for information that is shared by a number of systems (not all WPC) running on a network. For example it could be used to allow WPC to update library information from a central database.

There may be other databases that appear on this page defined by any customised software. They will be managed in the same way as the two standard databases.

All database accesses in WPC are done using ODBC drivers. This allows the actual database files to be of any type. For example the local database might be a Microsoft Access file and the shared database an SQL Server. From WPC's perspective they are all treated the same.

On Error defines what happens if a database error occurs. The Options are:
- Do nothing, ie. ignore the error
- Write an error message in the system log and continue
- Display a status message at the lower left of the screen and continue

- Display a message the operator must acknowledge and continue
- Abort, ie. display a message and stop WPC.

The **On** flag for each database should be checked to enable use of the database. The **Status** field next to it shows the current connection status to the database.

The **ODBC** button allows you to specify the Windows ODBC Connection data that allows WPC to connect to the database. The window that is displayed will depend on the type of ODBC driver associated with the database connection name. If no connection has been defined then WPC will define one using a Microsoft Access driver and will present the screen below.
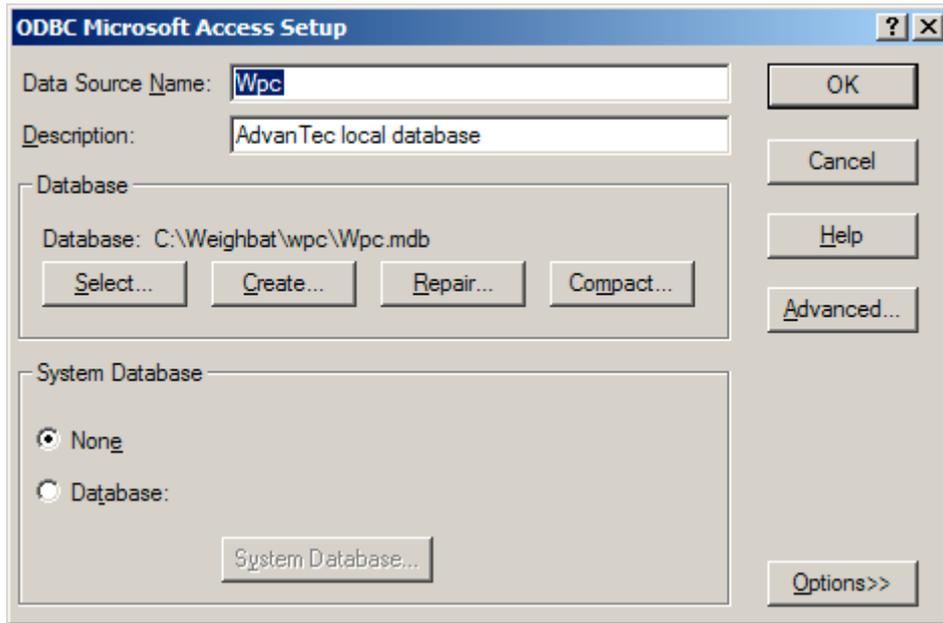
Data Sync Page

The Data Sync Page is accessed by clicking the **Data Sync** button on the Recording Page.

The Data Sync Page control the synchronisation of various setup data using the Shared Database. This allows changes to the data on one WPC system to be replicated to other WPC systems on the same network. The synchronisation works by periodically checking the Shared Database for updates which have been posted by other systems. These updates are posted to the Shared Database for every Edit/Add/Delete operation performed on the synchronised data.

In order for the synchronisation to work the Shared Database must be enabled in the Recording/Database Page and the **Use Sync** box must be checked. The **Status** field will show the current status of synchronisation.

Period specifies the frequency at which the Shared Database is checked for updates.

Max Age specifies how long an update entry will be kept in the Shared Database before being deleted. If a WPC system is turned off for longer than this then it will miss these updates. The simplest solution to this problem is to use the **Export** button on another up-to-date system and allow the out-of-date system to completely refresh itself.

The **Synchronise** flags (Users, Status and Materials but their may be others) are used to enable synchronisation for each set of data.

The **Do Now** button will cause synchronisation to happen immediately rather than waiting for the next periodic update.

The **Export** button causes update entries to be posted to the Shared Database for all of the synchronised data. This will cause all other WPC systems to refresh their copies of this data. Typically used when a new WPC system is first started or when an existing WPC system is turned on after being off for some time.

The **Clear All** button is used to clear the Shared Database of all posted updates.

Event Log Page

The Event Log Page is accessed by clicking the **Event Logs** button on the Recording Page and then the **Edit** or **Add** button on the Event Log list.

The Event Log Page allows you to control the logging of discrete events with the AdvanTec system. Typically these would be one-off events such as starting a new job, or a change of setpoint data such as altering a blend ratio.

Most events to be logged are set up by the various application and customised software modules within WPC but you can define your own events to be logged. Usually there would be a function within the application's Line setup page which will define the standard logged events. This is usually the easiest way to set up the event logging.

There may be a number of event logs defined depending on the application. Typically there is a separate event log for each line usually associated with some block of production such as a job or a day or shift.

List Ref specifies a reference to the internal variable used to store the event log entries. This must be specified in WCL code. Refer to the WCL Programming Manual.

The **Entries** button will display all of the event entries in the log, each with a time stamp. The displayed list has a **Details** button to display the full text of the log entry and has a **Clear** button to clear all entries from the log.

The **Items** button allows you to modify the list of events to be recorded in the log.

Event Item Page

The Event Item Page is accessed by clicking the **Items** button in the Event Log Page and then the **Edit** or **Add** button on the Event Items list.

The Event Item Page describes one event to be logged. The event is specified as a WCL function which returns a value. A log entry is created whenever the value of the function changes. Actually the log entry is made a few seconds after the value changes so that multiple changes made in quick succession (as when an operator makes a mistake) do not get recorded.

Function specifies the WCL code to be executed to return the event's value. Refer to the WCL Programming Manual.

Value displays the current value returned by the function.

History Page

The History Page is accessed by clicking the **History** button on the Recording Page.
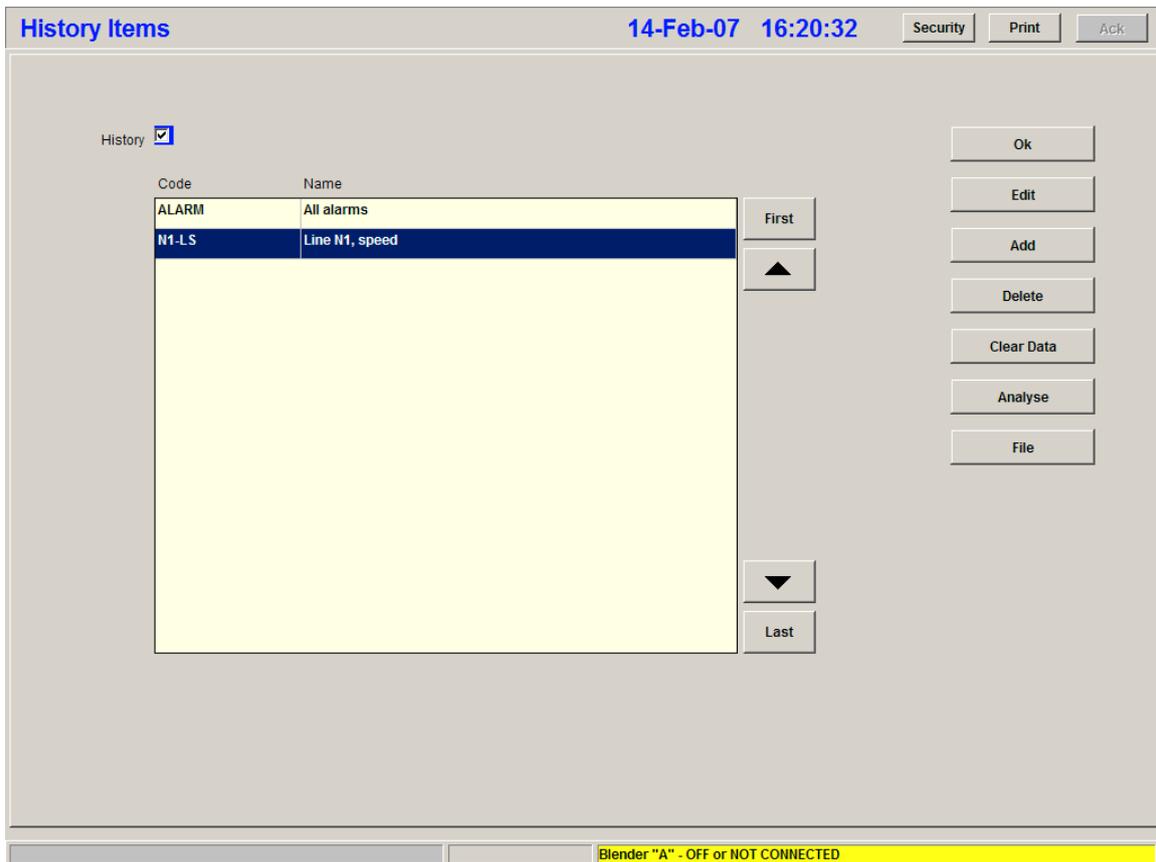
The History Page allows you to specify data to be recorded in the History Database and to be displayed using the real-time process charts. Data is recorded in the History Database at each one minute interval using the value which is current at the time.

The **History** box must be checked to enable the recording of historical process data. If left unchecked no data will be recorded but any charts defined will still display the live process data.

The **Clear Data** button will delete all current historical data.

The **Analyse** button is used to check the size and internal structure of the History Database. It is intended to be used as a diagnostic tool.

The **File** button is used to save historical data to a text file or to load data from a text file or to delete specific groups of data.

History Item Page

The History Item Page is accessed by clicking the **History** button on the Recording Page and then the **Edit** or **Add** button on the History Item list.

The History Item Page is used to define one item of data to be recorded in the History Data or to be plotted on a chart. As with defining the Event Log items, defining History Items requires a knowledge of the WPC programming language plus a knowledge of the application data structure. Part of the line setup of each application is a function to create default History and Chart recording data and this is the preferred method.

Code is the identifier for the item within WPC and is also the code used to store the data value in the database.

String should be checked if the output of the function is non-numeric.

Function contains the WPC program statements which when executed will return the value to be recorded. Refer to the WCL Programming Manual.

Chart Setup Page

The Chart Setup Page is accessed by clicking the **Charts** button on the Recording Page and then the **Edit** or **Add** button on the Chart list.

The chart **Code** should not be changed as this is a fixed identifier by which the WPC software loads the chart to be displayed. The **Title** can be changed.

If the **Show Alarms** box is checked then when the charts are used to display history data the times when there was an alarm active will be highlighted on the chart.

The screen lists the chart pages, ie. the displayable sets of related items. You can add, edit or delete pages. The **Insert** button will position the new page before the selected one. The **Add** button will add the new page at the end.

Chart Page Setup Page

The Chart Page Setup Page is accessed by clicking the **Edit** or **Add** button on the Chart Setup Page.

The Chart Page Setup Page is used to enter the control data for a particular chart page and lists the "lines" (or data items) which are to be displayed on that page.

Title is a descriptive name of the page. **Button** is a short label that is used for the list of alternatives when changing displayed pages.

Low Value and **High Value** specify the default vertical scale. This can be changed when the chart is displayed with the **Menu/Save** buttons.

Period is the interval of time (seconds) at which the line moves to the left. The larger this is the slower the line moves and the longer the timespan that can be seen on the screen.

At the bottom of the screen is a list of the line items to be displayed along with the usual buttons to edit, add, insert and delete.

Chart Line Setup Page

The Chart Line Setup Page is accessed by clicking the **Edit** or **Add** button on the Chart Page Setup Page.

The Chart Line Setup Page is used to specify the display of one line item on a chart page.

Label is used as the id text for the colour code legend on the side of the chart.

Current is the history item code which returns the value to be displayed in the legend as the current value. It need not be related to the value used to plot the trend line. For instance, when plotting film thickness error the plot may be the error as a percentage but the value displayed may be the current film thickness. **Decimals** specifies the number of decimal places displayed for the value. If the displayed value is a text string rather than a numeric value, then the **String** box should be checked.

Plot is the history item code which returns the value to be plotted.

Displayed to the right of each of the value and history item codes is the value currently being returned.

Miscellaneous Page

The Miscellaneous Page is accessed by clicking the **Miscl** button on the Administration Page.

The Miscellaneous Page allows specification of all of the general setup data for the AdvanTec system. The Miscellaneous Page itself contains all of the basic data with other buttons taking you to more specific data.

Display

Checking **Keyboard** indicates a real keyboard is connected to the PC. This prevents the on screen popup keyboards appearing when an entry field is clicked. This flag must be turned off for touch screen PCs. If the **Prt.White** flag is set then any screen prints will have the background set to white. This reduces the time and ink used in printing screen images. Normally screen prints are printed in landscape mode to maximise the size of the image but checking **Portrait** will cause them to be printed at the top of the page in portrait mode. **Print Id** specifies a identifying string to be printed at the top of each screen print.   **Halt Level** sets the security level required to terminate WPC using the **Exit WPC** button on the Administration Page (or by pressing Alt-F4).

Material Codes

The **Display Code** and **Display Name** flags control how materials are displayed in a edit field. If **Code** is checked then the material code is displayed. If **Name** is checked then the material name is displayed. For example, if the material 311 is UV stabiliser then the following can be displayed:

Code	Name	Displays as
Yes	No	311
No	Yes	UV Stabiliser
Yes	Yes	311, UV Stabiliser

The **List Code** and **List Name** flags do the same job in controlling how materials are displayed in a list when selecting a material code. If the **By Name** flag is checked then the list is sorted by name, otherwise it appears in alphabetic order by material code.

S/Bus

The S/Bus is the name given to the communications bus which connects all Weighbatch equipment together. The **Port** field specifies which of the PC's serial ports are used to communicate. The **Log** button displays a screen of most recent messages sent and received and is typically used to troubleshoot communications problems.

Where WPC communicates with other WPC systems it does so using TCP/IP protocol over the network. TCP/IP may also be used to communicate with Ethernet enabled Weighbatch devices. Where TCP/IP is used the **TCP** box must be checked and the communications **Port** specified. By default this is set to "54321". If another value must be used then all systems and devices must be set to use the same port value. Each WPC system on the network must be given a unique **Name**.

Usage

The Usage panel controls the collection of material usage data and the printing of material usage reports. Typically material usage can be reported by day, shift and job.

The **Use Day/Shift/Job** boxes should be checked to enable reporting for the corresponding period. If the **Break jobs into days** box is checked then separate reporting periods will be used each time a job crosses the start of a day. If the **Auto Print Day/Shift/Job** boxes are checked then the corresponding reports will be automatically printed at the end of each period or at the end of the job.

Material usage data is kept within the WPC system until deleted after the **Delete After** number of days.

When the Day or Shift reporting periods are enabled the start of the day and the shift periods must be defined. **Day Start** is the time of day that the production day starts. The **No Shifts** and **Hours** specify the number and duration of each shift. The total shift duration does not need to total 24 hrs.

Printer specifies the printer to be used for material usage reports. If automatic printing is enabled then the time at which the reports are printed can be specified by checking the **Deferred Print** box and specifying the required print time. For instance, this would allow all shift reports for the day to be printed at the same time instead of at the end of each shift. The **Do Now** button will cause any deferred report to be printed immediately. If the **No Zero** box is checked then any reports showing zero material use will not be printed. This is to save paper when the line is not running for extended periods.

Alarms

History Limit specifies the maximum number of entries saved in the alarm history log within WPC. **History Days** specifies the maximum age of the saved alarms. Some WPC applications have a facility where alarms can be muted for a time, for instance during job startup. **Mute Minutes** specifies how long the alarm muting should last.

File Backup

It is very important that adequate backups of the WPC software are taken to allow speedy recovery in the case of loss or damage to the system. This panel controls WPC's system for taking periodic automatic backups.

Ideally these should be done to a network server or some other independent drive. Often this is not possible but as a minimum backups should be taken to a folder other than the one WPC is installed in. Typically this is a folder in the root of drive C: called "Backup".

There are two types of backup. A Full Backup is a copy of all of the files required to run WPC including the current configuration file. Each time a Full Backup is done the previous copy of these files is overwritten. A Data Backup is a copy of the configuration file only but each time a Data Backup is done a new copy of the configuration file is created with the current date added as part of the file name. This allows you to restore the configuration data to that current at a previous time. There is no limit to the number of previous copies of the configuration data that are kept other than available disk space.

Full backup Path and **Data Backup Path** specify the folder names where each of the backups will be stored. They can us drive letters or full network names. If a number of folder names are specified separated by commas then backup copies will be made in each of the folders. The **List** button will display a page showing all of the copies of the configuration data that are available and provides a function to recover the configuration data from a selected date. **Backup Time** specifies the time of day at which automatic Full and Data backups are done. The **Do Now** button will cause both backups to be done immediately.

Zip Backup

The Zip Backup panel allows you to set up WPC to take backups of the system files and the configuration file (data) to some form of removable media, typically a USB drive. Because the same USB drive may be used for backup of multiple WPC systems each system is identified by a unique name. The backups are done by compressing the files to ZIP format archive files with the names "ddd\nnnSYS.ZIP" and "ddd\nnnDAT.ZIP" where "ddd" is specified in **Drive** and "nnn" is specified in **Name**.

The **System** and **Data** buttons allow you to create the ZIP files. The **Recover** button will recover both the system files and the configuration data file.

If **Menu** is checked then a **Data Backup** button will be added to the Administration Page. Clicking this button will cause a ZIP backup of the configuration data in the same way as clicking the **Data** button.

Buttons

Sys.Log displays the System Log file which is a record of all stops and starts and errors. **Version** displays the version numbers and file dates of all of the WPC software modules. **Update** allows you to copy updated software files from some distribution media to the WPC software folder without having to stop WPC. **Net.Link** controls use of Weighbatch ethernet link modules to enable communications to devices over a network. **E-Mail** sets up the access by WPC to your email server for those applications or customised software which need to be able to send emails. **RAS** sets up the functions within WPC which assist in remote support via the Internet.

Clicking on the **No Save** button will stop WPC from saving subsequent changes to the configuration or operational data. The current data may have already been saved because of the periodic background process which does this every few minutes but no further changes will be saved. This function is used very rarely, typically when using Windows File Manager to overwrite the existing data file while WPC is still running.

System Log Page

The System Log Page is accessed by clicking the **Sys.Log** button on the Miscellaneous Page.

System Log		15-Feb-07 10:54:38	Security	Print	Ack

```
15-02-07 9:56:39, Alt-F4 pressed
15-02-07 9:56:40, Stopped
15-02-07 10:02:19, Restarted
15-02-07 10:02:33, Alt-F4 pressed
15-02-07 10:02:33, Stopped
15-02-07 10:02:42, Restarted
15-02-07 10:02:58, Alt-F4 pressed
15-02-07 10:02:59, Stopped
15-02-07 10:04:55, Restarted
15-02-07 10:06:15, Alt-F4 pressed
15-02-07 10:06:15, Stopped
15-02-07 10:07:29, Restarted
15-02-07 10:09:30, Alt-F4 pressed
15-02-07 10:09:30, Stopped
15-02-07 10:10:23, Restarted
15-02-07 10:13:25, Alt-F4 pressed
15-02-07 10:13:25, Stopped
15-02-07 10:13:55, Restarted
15-02-07 10:16:03, Alt-F4 pressed
15-02-07 10:16:03, Stopped
15-02-07 10:25:17, Restarted
15-02-07 10:30:29, Alt-F4 pressed
15-02-07 10:30:30, Stopped
15-02-07 10:39:24, Restarted
15-02-07 10:39:24, Event log LINE-N1 compile error
15-02-07 10:39:24, Event item BLDM-1 compile error
15-02-07 10:39:24, Event item BLDM-2 compile error
15-02-07 10:39:24, Event item BLDR-1 compile error
```

Ok

Clear

Memory 5.24 Mb

Num.Isolated 0

Servers

Blender "1" - OFF or NOT CONNECTED

All critical software events within WPC are recorded in a System Log file.   This page allows you to view the log and additionally displays some other software related data which may be useful in solving software related problems.

Memory displays the total amount of memory used by WPC currently. **Num.Isolated** displays the number of internal variables which are no longer used but have not yet been released.

Servers is the list of all WPC systems running on a network.

Clicking the **Clear** button will delete all existing System Log entries.

File Update Page

The File Update Page is accessed by clicking the **Update** button on the Miscellaneous Page.
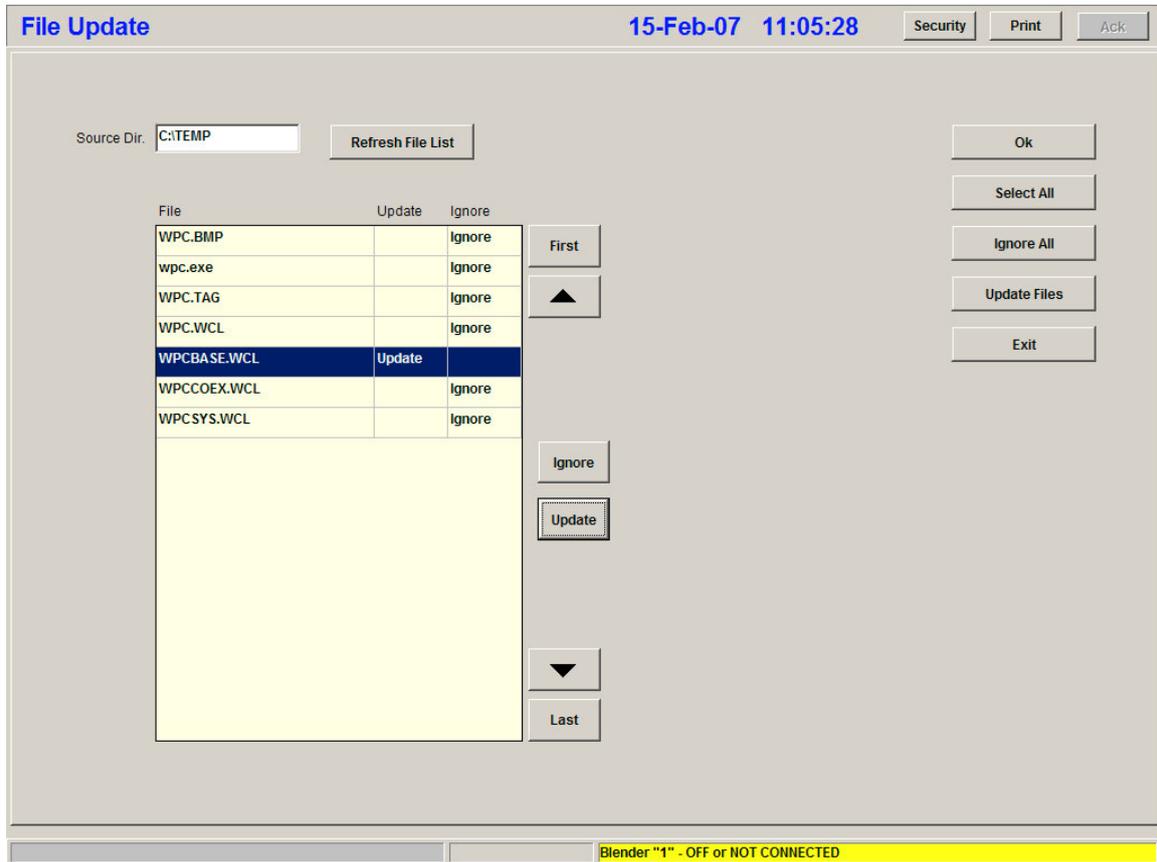
The File Update Page allows you to copy software update files from some source folder into the WPC program folder while WPC is running. This is more convenient than using Windows File Manager especially if one of the files to be copied is the WPC executable (wpc.exe) which cannot normally be copied while WPC is running. It is also useful in Windows installations where the user's security setup will not allow File Manager to be run or will not allow access to the Program Files folder.

Source Dir should be specified as the name of the folder where the update files are to be copied from. Often this is a USB drive in which case it would be specified as "E:\" or similar. After changing the folder name the list of files will be updated. The **Refresh File List** button can also be used to update the list. You may need to do that for instance if you forgot to plug in the USB drive !

The alongside each of the listed files is either "Update" or "Ignore". When you finally do the update only the files marked "Update" will be copied. The **Select All** and **Ignore All** buttons can be used to set all of the files in the list. Otherwise select each of the files and click the **Update** or **Ignore** button as required.

After setting all files to update or ignore click the **Update Files** button. You will be prompted to confirm that you do want to do the update and the files are then copied. If one of the files that is updated is the configuration data file you will get another message reminding you that no further data changes will be saved.

The updates will not take effect until the WPC software has been stopped and restarted. You can click the **Exit** button to do this or you can do it a later time.

Email Setup Page

The Email Setup Page is accessed by clicking the **E-Mail** button on the Miscellaneous Page.

Some applications or customised software need to be able to send information via email. The Email Setup Page allows you to specify the server settings required to do this and to view the current status of emails being sent.

The email system assumes the PC has a TCP/IP connection to an SMTP email server via the network.

The **On** box must be checked to enable the email system. The field next to it shows the current status.

SMTP Server is the name of the mail server, typically a URL of the form "mail.mysystem.com".

Account and **Password** is the account name on the mail server that will be used to send the emails and its password. You may also need to specify the type of **Authorisation** required.

Name and **E-mail** are the full name and the return email address to be used for all emails sent by this WPC system.

Setting **Test E-mail** to a valid address will enable the **Send Test** button. Clicking this will send a short test email to the specified address.

Emails to be sent are displayed in the list at the bottom of the page. The **Clear** button can be used to delete all emails not yet sent. Periodically WPC will try to connect to the email server to send any waiting emails. **Retry** specifies the time between these connection attempts. **Next** shows when the next connection will be attempted. Clicking the **Now** button will attempt to send the emails immediately.

The **Connect** and **Disconnect** buttons can be used to manually connect to and disconnect from the email server. The **Reset** button will reset the entire email system, disconnecting from the server if necessary. If there are any waiting emails then WPC will immediately attempt to send these again.