

## CHAPTER 2 SET PREFERENCES

**INTRODUCTION** The Set Preferences function allows for the setting of preferred machine control options.

To access the set preferences window proceed as follows:

1. Select **Maint.** (F8).

Run	Head	Paste Load	Clean Screen	Adjust	Setup	Monitor	<b>Maint.</b>
-----	------	------------	--------------	--------	-------	---------	---------------

2. Select **Set Prefs** (F5).

Calibrat Pressure	Calibrat Offset	Calibrat Vision	House Keeping	<b>Set Prefs</b>	Diagnost	Test Cycles	Exit
-------------------	-----------------	-----------------	---------------	------------------	----------	-------------	------

The set preferences window is displayed:

Set Preferences	
<b>TRANSPORT MODE</b>	<b>LEFT TO LEFT</b>
MACHINE UNITS	Metric
UPLINE PROTOCOL	NO FMI
DOWNLINE PROTOCOL	NO FMI
TRANSFER PERIOD	20 secs
SELECTIVE PRINT/PASS	ENABLED
PASTE DISPENSE POS.	FRONT
COMMS PROTOCOL	NO COMMS
EVENT RECORDING	GROUP 3
TOOLING HARDWARE	MAGNETIC
FIDUCIAL REFERENCE	LEFT
PRODUCT BARCODE H/W	NOT FITTED
SCREEN BARCODE H/W	NOT FITTED
REMOTE BARCODE H/W	NOT FITTED
..more	

The menu bar changes to give the following options:

			Next	Previous	Incr.	Decr.	Exit
--	--	--	------	----------	-------	-------	------

**Next** and **Previous** move the highlight between the various parameters.  
**Incr.** and **Decr.** alter the value of the highlighted parameter.

## PREFERENCES

**Transport Mode** Sets the input and output side of the printer, options are:

Options	Default
Left to Right	Left to Right
Right to Left	
Right to Right	
Left to Left	
No Transfer	

**Machine Units** Sets the unit of measurement, options are:

Options	Default
Metric	Metric
Imperial	

**Upline Protocol** Sets the protocol for transferring boards from adjacent machines, options are:

Options	Default
No FMI	Specified by Customer Requirements
MIU	
Manual	

**Downline Protocol** Sets the protocol for transferring boards to adjacent machines, options are:

Options	Default
No FMI	Specified by Customer Requirements
MIU	
Manual	

**Transfer Period** Sets a programmable time period used by certain transfer protocols, options are:

Minimum	Maximum	Increment	Default
0 Seconds	999 Seconds	1 Second	20 seconds

Period of Transfer Time - This is the period of time which the machine allows for a transfer of a board before displaying a '**Board Transfer Error**' for upline or downline.

Period of Waiting Time - This is the period of time which the machine allows when waiting for the upline or downline machine to request a board for transfer before displaying a message of '**Waiting for Upline/Downline**'.

**Selective Print/Pass** Sets whether the facility to selective print or pass through a board is to be used, options are:

Options	Default
Enabled	Disabled
Disabled	

This feature is protected by Feature Licence Authentication.

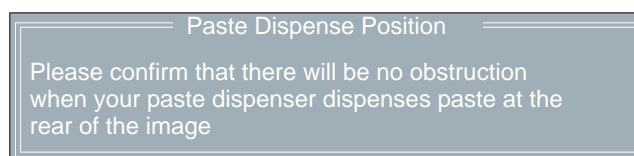
When enabled the identity of the incoming board is checked using a separate fiducial on the board only, called a Select Mark. If the identity of the board matches the current product file the board is printed. If the board is different or cannot be recognized, it is passed through without printing.

**Paste Dispense Position**

Sets the position from which paste is dispensed, in relation to the screen image, options are:

Options	Default
Front	Auto
Rear	
Auto	

When exiting set preferences after setting option to either Rear or Auto the following window is displayed:



**Comms Protocol**

Sets the communications protocol to be used for serial communications to a host computer, options are:

Options
GEM
Net_File
No Comms

The menu bar changes depending on the option chosen, see the Host Communications Chapter for further details.



**WARNING**

**HOST COMMUNICATIONS. BE AWARE THAT IF THE MACHINE SAFETY LOCKS ARE DEFEATED WHILST HOST COMMUNICATIONS ARE ACTIVE, A DANGER EXISTS WHEREBY MACHINE PARTS MAY MOVE UNEXPECTEDLY.**

**Event Recording** Sets which events are recorded in the event log file, options are:

Options
Custom
Group 3
Group 2
Group 1

Over 200 possible events may be recorded.

On selecting Custom the following set up window opens:

Event Report Setting:	Disk	Host	Grp
System Power on	on	off	1
System Power down	on	off	1
Humidity	on	off	1
Temperature	on	off	1
Batch Count	on	off	1
Measured Cycle Time	on	off	1
Throughput Cycle Time	on	off	1
Front Print Pressure	on	off	1
Rear Print Pressure	on	off	1
Table Separation Speed	on	off	1
Stretch Error	on	off	1
X error	on	off	1
Y error	on	off	1
Theta Error	on	off	1
...more			

The window displays how each event is logged in three possible ways; Disk, Host (not used) and Grp.

**Disk** This column lists which events are logged to the disk file. The events set to 'on' are logged, those set to 'off' are not logged.

**Host** This column lists which events are sent to the host computer. The option is only active if a GEM host comms interface is fitted. The events set to 'on' are logged, those set to 'off' are not. How the host computer deals with the event logging, depends on the host software and is not controlled by the machine.

**Grp** This column lists the group an event is assigned. The user can select which of the groups are to be recorded, as follows:

Set Preference Selection	Event Groups Recorded
Group 1	Groups 1, 2 and 3 (all events)
Group 2	Groups 2 and 3
Group 3	Group 3

## Setting Up Events

The Event Recording menu is laid out as follows:

Toggle	Left	Right	Next	Previous	Incr.	Decr.	Exit
--------	------	-------	------	----------	-------	-------	------

Use the **Next** and **Previous** keys to move to the event to be changed.

Use the **Toggle** key to toggle the Disk and Host parameters between on and off.

Use the **Left** and **Right** keys to move to the Disk, Host or Grp columns.

Use the **Incr.** and **Decr.** keys to change the value of the Grp parameter.

Use **Exit** to leave the Event Recording window.

## Recordable Events

The following tables show the events that can be selected for recording:

System Power On	System Power Down	Humidity
Temperature	Batch Count	Measured Cycle Time
Throughput Cycle Time	Front Print Pressure	Rear Print Pressure
Table Separation Speed	Stretch Error	X Error
Y Error	Theta Error	Board Fid 1 Score
Board Fid 2 Score	Board Fid 3 Score	Screen Fid 1 Score
Screen Fid 2 Score	Screen Fid 3 Score	ProFlow System Pressure
Pneumatic Power Down	Front Squeegee Error	Rear Squeegee Error
Rising Table Error	Print Carriage Error	Paste Carriage Error
Camera X Axis Error	Camera Y Axis Error	Rail Width Error
Screen XF error	Screen XR Error	Screen Y Error
Paste Cartridge Tilt Error	Screen Changer Drive Error	Board Stop Stuck
Board Clamp Stuck	Board Stuck In Rails	Unable To Find Fiducial
Rail Lifted Error	Pressure Error	File Error
Unable To Recover	Recovery Started	Recovered
Upline Transfer Error	Downline Transfer Error	Dual Shuttle Fault
Screen Elevator Comms Fault	Screen Elevator Fault	Screen Changer Fault
Lid Bolt Fault	Alignment Out Of Range	Line Power On
Line Power Off	Cover Open	Cover Closed
Printer Ready	Head Raised	Head Closed
Paste Dispensing	Paste Cartridge Empty	Cycle Aborted
Cycle Completed	Cleaning Screen	Parameter Adjusted
Setup Started	Product Loaded	New Product
Product Data Changed	Screen Unloaded	Screen Loaded
Tool Change Started	Tool Change Complete	Setup Ended
Start Print Cycle	Board Received	End Print Cycle
Printed Board Ready	Board Printed	Operator Log On
Operator Log Off	Clear Batch Count	Start Maintenance

## SET PREFERENCES

### PREFERENCES



End Maintenance	Pressure Recalibrated	Offset Recalibrated
XY Scale Recalibrated	Theta Recalibrated	Configuration Changed
Start Diagnostics	End Diagnostics	Flood Height Reset
Camera Ref Reset	Thickness Recalibrated	Vision Height Reset
Print Height Reset	AutoFlex Status Reset	Software Updated
New Event Log	Front Reference Position Reset	Front Reference Height Reset
Rear Reference Height Reset	Check Cleaner Paper	Cleaner Solvent Low
Barcode Read Failure	Barcode Mismatch	Screen Couplings Not Extended
Mint Reply Timeout	Camera X Failed To Position	Camera Y Failed To Position
Aperture Blockage	Stencil Smear	Paste Present
Bridging alarm	Alignment Alarm	Head Left Partly Open
Head Moved To Safe State	Inspection Cycle Complete	Clock Change Request
Clock Changed	Board Delivered and Removed	Event Log Disc File Full
ProFlow Error	Autoflex Tooling Selected	Autoflex Tooling Deselected
AutoFlex Tooling Enabled	AutoFlex Tooling Disabled	Tooling Data Has Been Changed
CAN Node Comms Lost. Node	CAN Node Comms Active. Node	CAN Bus Comms Lost. Bus
CAN Bus Comms Active. Bus	Invalid CAN Response	Product Directory Request
Current Product Request	Erase Product Request	Rename Product Request
Load Product Request	Download Product Request	Upload Product Request
Download Configuration Request	Upload Configuration Request	Upload Management Data Request
Clear Batch Data Request	Clear Session Data Request	Upload Event Log Request
Clear Event Log Request	Comms Start Request	Comms Stop Request
Update Mode Request	Comms Error	Parameter Info Uploaded
Formatted Parameters Uploaded	Formatted Parameters Downloaded	Comms Status Request
Comms Rebuild Product List	Comms Adjust Paste Rate	Comms Adjust Front Pressure
Comms Adjust Rear Pressure	Comms Adjust Print Gap	Comms Adjust Separation Speed
Comms Adjust Clean Screen	Comms Adjust FWD_X Offset	Comms Adjust FWD_Y Offset
Comms Adjust FWD_T Offset	Comms Adjust REV_X Offset	Comms Adjust REV_Y Offset
Comms Adjust REV_T Offset	Comms Dispense Paste Request	Comms Clean Screen Request
Comms Enabled	Comms Disabled	Equipment Constant Change
Acknowledge Terminal Message	Comms Knead Paste Request	Comms Condition Paste Request
Control State Change To Local	Control State change To Offline	Control State Change To Remote
GEM Spooling Activated	Gem Spooling Deactivated	GEM Spool Transmission Failure
Operator Command Issued	Remote Barcode Received	Comms Adjust ProFlow Pressure
Options.enb file Attribute Error	Volume Alarm	Evaluation Dongle Detected
Valid Dongle Detected	Dongle Error	Dongle Changed
Print Speed	Front Print Speed	Rear Print Speed
Comms Adjust Print Speed	Comms Adjust Front Print Speed	Comms Adjust Rear Print Speed

Vortex Cassette Replaced	Maintenance Monitoring Initials	The Monthly Service is Due
The Six Monthly Service is Due	The Yearly Service is Due	Equipment Recovery
Equipment Setup	Equipment Ready	Equipment Maintenance
Equipment Waiting	Equipment Running	Equipment Down
Camera Behind Rail	Unload Board Start	

**Tooling Hardware** Sets which type of tooling is fitted, these options are:

Options
Vacuum
Magnetic
AutoFlex
Vac for Flex

**Fiducial Reference** Sets whether the fiducial co-ordinates are specified relative to the front/left or front/right corner of the board, options are:

Options
Left
Right

**Product Barcode Hardware** Sets whether or not the product barcode reader is fitted, options are:

Options
Fitted
Not Fitted

**Screen Barcode Hardware** Sets whether or not the screen barcode reader is fitted, options are:

Options
Fitted
Not Fitted

**Remote Barcode Hardware** This preference is only available if the TCP/IP version of Host Comms is used and Serial Host Comms is not selected from the Comms Protocol set preference, options are:

Options
Fitted
Not Fitted

The optional External Product Barcode Reader provides a generic bar code interface for the capturing by GEM and SPC of a product bar code before the product is passed to the printer. Use of the reader enables a host program to decide on the action to be taken for this product and provides a method for SPC to log product details for tracking.

The DEK printer acts as a dumb receiver of barcode data and provides no set up, configuration or triggering information for the barcode reader.

**Compatible Bar Code Reader**

The printer has been designed to operate with a SICK Model CLV 212 Bar code reader.

**Options**

The External Barcode parameter options are:

Options
Enabled
Disabled

If the bar code reader is set to **Disabled**, COM 1 is setup as per previous versions of software and enabled to accept serial host comms.

If the bar code reader is set to **Enabled**, COM 1 is set to use the external bar code reader and the option Serial Comms is removed from the Comms Protocol parameter in the Set Preferences menu.

**Pressure H/W**

Used when pressure feedback hardware is fitted, options are:

Options
Not Fitted
Fitted

**ProFlow Contact Position**

This parameter sets the height of the ProFlow printhead so that it just touches the stencil surface.

Minimum	Maximum	Increment	Default
- 10mm	+10mm	0.1mm	0.0mm

**ProFlow Down Stop Position**

This parameter pre-tensions the squeegee suspension springs to provide ProFlow with a zero pressure datum.

Minimum	Maximum	Increment	Default
- 10mm	+10mm	0.1mm	0.0mm



### Change Mode Option

Sets the screen change mode, options are:

Options
Manual
Dual Shuttle

#### NOTE

*The dual shuttle option is only relevant on a machine with a dual shuttle unit fitted.*

### Screen Size

Sets the screen size frame, these options are:

Options
265
Screen Library
Fuji
249
Sanyo

With Screen Library enabled the printer is provided with detailed screen dimensional information from a 'read only' library. This information is stored within the machine configuration and product files.

Once selected in Set Preferences, detailed frame dimensions are provided to the printer. In Edit Current Process Parameters, the parameter Image Data provides comprehensive location and mesh details to the printer.

To enable screen library files carry out the following:

1. Highlight **Screen Size** in the Set Prefs page.
2. Using **Incr.** or **Decr.** select **Screen Library**.

Edit Data is now available on the menu bar.

3. Select **Edit Data**, the following window and menu bar is displayed:

Screen Frame Configuration

SCREEN TYPE	DEK 265 CENTRAL IMAGE	
SCREEN LENGTH	XXX	mm
SCREEN WIDTH	XXX	mm
FRAME FRONT	XXX	mm
FRAME REAR	XXX	mm
FRAME LEFT	XXX	mm
FRAME RIGHT	XXX	mm

Next

Previous

Incr.

Decr.

Exit

Use **Incr.** or **Decr.** to select the required Screen Type. If no valid screen library files are found, the default file DEK 265 Central Image is displayed.

Use the **Next** or **Previous** to select and **Incr.** or **Decr.** to modify the screen frame parameters as required.

The screen library menu parameters are defined in the table below:

Parameter	Definition
Screen Record ID	<p>The identity of the screen type library record containing a text string that matches the Screen Type selected.</p> <p>Format            Maximum 32 character text string</p> <p>Default            DEK 265 Central Image</p>
Screen Length	<p>This parameter sets overall dimension front to rear of the screen frame or adaptor.</p> <p>Minimum            550mm</p> <p>Maximum            860mm</p> <p>Increment           0.1mm</p> <p>Default              736.6mm</p>
Screen Width	<p>This parameter sets the overall dimension left to right of the screen frame or adaptor.</p> <p>Minimum            580mm</p> <p>Maximum            736.6mm</p> <p>Increment           0.1mm</p> <p>Default              736.6mm</p>
Frame Front	<p>This parameter sets the distance between the outer edge of the screen frame or adaptor and the inner edge of the frame, at the front of the frame.</p> <p>Minimum            20mm</p> <p>Maximum            Screen Length - 250mm</p> <p>Increment           0.1mm</p> <p>Default              38.1mm</p>
Frame Rear	<p>This parameter sets the distance between the outer edge of the screen frame or adaptor and the inner edge of the frame, at the rear of the frame.</p> <p>Minimum            20mm</p> <p>Maximum            Screen Length - 250mm</p> <p>Increment           0.1mm</p> <p>Default              38.1mm</p>
Frame Left	<p>This parameter sets the distance between the outer edge of the screen frame or adaptor and the inner edge of the frame, at the left of the frame.</p> <p>Minimum            20mm</p> <p>Maximum            Screen Length - 250mm</p> <p>Increment           0.1mm</p> <p>Default              38.1mm</p>
Frame Right	<p>This parameter sets the distance between the outer edge of the screen frame or adaptor and the inner edge of the frame, at the right of the frame.</p> <p>Minimum            20mm</p> <p>Maximum            Screen Length - 250mm</p> <p>Increment           0.1mm</p> <p>Default              38.1mm</p>

### Consumable Action

Sets how the machine reacts to a cleaner paper low, cleaner solvent low, print medium low or Vortex cleaning cassette expired, options are:

Parameter	Definition
Warn	A warning window is displayed, but printing proceeds without interruption. The tricoloured beacon shows amber/green.
Pause	A pause on warning window is displayed and printing is delayed to enable the user to either; replenish the consumable resource, or defer the replenishment until later and continue printing. The tricoloured beacon shows red.
Suspend	A suspend on warning window is displayed and printing is suspended and remains suspended, until the consumable resource has been replenished. The tricoloured beacons shows red. Before printing commences the consumable resources are checked for availability, before allowing the print run to proceed.

**Vacuum Hold Time** Used when Flexible Board Printing option is fitted, this parameter introduces a time delay between raising the table to flex print height and initiating Flatten Vac Delay, options are:

Minimum	Maximum	Increment
0.000 secs	5.000 secs	0.100 secs

### 2D Inspection

Sets whether the 2D inspection facility is to be used, options are:

Options
Enabled
Disabled

### 2Di Movement Tuning

Used to determine whether camera movement is to be tuneable. While the value is other than zero; the camera, upon arrival at an inspection site, is allowed to settle for the period set before proceeding with acquisition and inspection.

Minimum	Maximum	Increment	Default
0 milliseconds	250 milliseconds	50 milliseconds	250 milliseconds

### Image Recording

Sets whether video images can be recorded, options are:

Options	Default
OFF	OFF
PC Disk	
VP Disk	

#### NOTE

PC disk requires the PC to have 8Mb ram and VP disk requires a SCSI disk to be attached to the VP.

**Under Screen Cleaner**

Sets whether or not the vacuum option is fitted to the machine, options are:

Options	Default
Vacuum	Standard
Standard	

If standard is selected the vacuum options are removed from the screen clean mode parameters. If Vortex under screen cleaner is fitted, vacuum is the only option.

To disable the Vortex under screen cleaner carry out the following:

**Blue Under Screen Cleaner**

To enable the blue under screen cleaner carry out the following:

1. Press the function key **F10** on the keyboard, the following window is displayed:

INFINITY	
Serial Number	: 201305
Executable date	: March 19 2000
Executable time	: 10:57:38
Executable name	: RR0400.EXE
Software Version	: 05.00
Options Enabled	: S B N G
<Enter> to Close ...	

**NOTE**

*If the Vortex under screen cleaner is currently enabled, carry out disabling the Vortex under screen cleaner.*

2. Type **bluon** using the keyboard.
3. Press **Enter**, the message '**Blue Under-Screen Cleaner Enabled**' is displayed in the message prompt bar.
4. Press **Exit**.

To disable the blue under screen cleaner carry out the following:

1. Press the function key **F10** on the keyboard, a window of the following form is displayed:

INFINITY	
Serial Number	: 201305
Executable date	: March 19 2000
Executable time	: 10:57:38
Executable name	: RR0400.EXE
Software Version	: 05.00
Options Enabled	: S B N G
<Enter> to Close ...	

2. Type **bluoff** using the keyboard.
3. Press **Enter**, the message '**Blue Under-Screen Cleaner Disabled**' is displayed in the message prompt bar.

The silver under screen cleaner becomes the current cleaner and all cleaner parameters revert to being appropriate to the previous cleaner.

The value of the configuration parameter cleaner type is set to silver and this parameter is written to the configuration file.

4. Press **Exit**.

Vortex Under Screen Cleaner To enable the Vortex under screen cleaner carry out the following:

1. Press the function key **F10** on the keyboard, a window of the following form is displayed:

INFINITY	
Serial Number	: 201305
Executable date	: March 19 2000
Executable time	: 10:57:38
Executable name	: RR0400.EXE
Software Version	: 05.00
Options Enabled	: S B N G
<Enter> to Close ...	

**NOTE**

*If the blue under screen cleaner is currently enabled, carry out disabling the blue under screen cleaner first.*

2. Type **vorton** using the keyboard.
3. Press **Enter**, the message '**Vortex Under-Screen Cleaner Enabled**' is displayed in the message prompt bar.

The Vortex under screen cleaner becomes the current cleaner and all cleaner parameters become appropriate to the Vortex cleaner.

The value of the configuration parameter cleaner type is set to Vortex and this parameter is written to the configuration file.

4. Press **Exit**.
1. Press the function key **F10** on the keyboard, a window of the following form is displayed:

INFINITY	
Serial Number	: 201305
Executable date	: March 19 2000
Executable time	: 10:57:38
Executable name	: RR0400.EXE
Software Version	: 05.00
Options Enabled	: S B N G
<Enter> to Close ...	

2. Type **vortoff** using the keyboard.
3. Press **Enter**, the message **Vortex Under-Screen Cleaner Disabled** is displayed in the message prompt bar.

The silver under screen cleaner becomes the current cleaner and all cleaner parameters revert to being appropriate to the previous cleaner.

The value of the configuration parameter cleaner type is set to silver and this parameter is written to the configuration file.

4. Press **Exit**.

## Paste Trails

Provides the capability to reduce solder paste trails from squeegees automatically, options are:

Options
Disabled
Mode 1

If mode 1 is selected, any paste that has dripped from the squeegee is scooped up, by the squeegee back to the paste roll. This process occurs at the start of every stroke, with the print mode set to print/print and at the start of only the print stroke, when the print mode is set to flood/print or print/flood.

## Transport Wait Mode

This option enables the product to be held in contact with the screen until both upline and downline systems are ready to transfer, options are:

Options	Default
Standard	Standard
Hold_at_Print	

## Clamp Type

Sets the type of board clamp used, options are:

Options
Board Clamp
Snuggers

To eliminate vacuum seal loss during alignment, if the Snuggers option is selected and the tooling type is Vacuum, the rails do not dip when the camera is traversing.

## On the Fly

Sets whether the camera captures fiducials whilst moving over them (on the fly), or whether the camera stops over the fiducial first, options are:

Options	Default
Enabled	Disabled
Disabled	

## Snugger Thickness

This parameter is only available if snuggers has been selected from the Clamp Type preference, the options are:

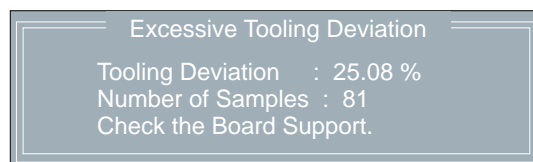
Minimum	Maximum	Increment	Default
0.8mm	2.0mm	0.1mm	1.6mm

**Tooling Monitoring** This parameter sets, while Feature Licensing asserts that use of Tooling Deviation Monitoring is authorized, the frequency (in boards printed) at which monitoring is performed. Monitoring is also carried out on the first print stroke of a print run.

Minimum	Maximum	Increment	Default
0 Boards (Tooling Monitor Disabled)	200 Boards	1	0 Boards

This feature only applies while squeegees are fitted.

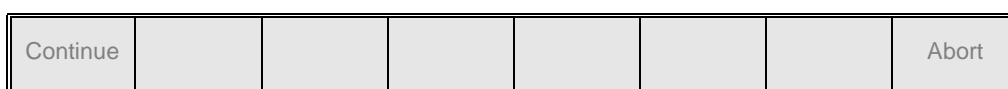
When a particular print stroke is being monitored, as the squeegee traverses the image the pressure being applied is measured and recorded. Any variations in the load being applied, as a result of insufficient tooling support or underside components coming into contact with the tooling are noted. Upon completion of the print stroke, the deviation in the pressure applied over the print stroke is determined and expressed as the tooling deviation. The tooling deviation is calculated from the minimum and maximum values and expressed as a percentage. If the tooling deviation exceeds the permitted threshold, as set by the Tooling Deviation parameter in the product file, a cyclic log text file called deviate.dat is written and the following window is displayed:



**NOTE**

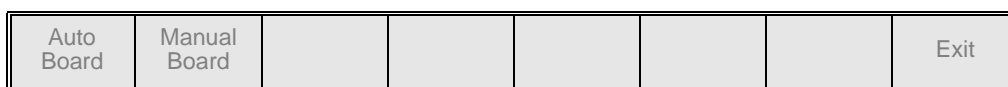
*The number of samples is the amount of pressure variations recorded during the print stroke.*

The following menu bar is displayed:



On selecting **Continue** printing proceeds until it is interrupted by some other cause.

On selecting **Abort** printing is discontinued and the following menu bar is displayed, to enable the board to be removed from the machine:



If the number of samples (pressure variations) during a print stroke is less than 2 or the minimum value is zero, the error message **'Failed to determine Tooling Deviation'** is displayed.

## Display Type

Sets the type of status page displayed on the monitor, options are:

Options	Default
Type 1	Type 1
Type 2	

## Fiducial Monitoring

This parameter enables and disables the intelligent fiducial monitoring feature, options are:

Options	Default
Smart	Normal
Normal	

If smart is selected, a set levels menu bar option is available.

		Set Levels	Next	Previous	Incr.	Decr.	Exit
--	--	------------	------	----------	-------	-------	------

On pressing the **Set Levels** key, a window opens as follows:

SMART FIDUCIAL MONITORING	
SCORE WARNING LEVEL	50
VAR'N WARNING LEVEL	10
AUTOMATIC RETRY	OFF

The **Next** and **Previous** keys move the cursor between the three parameters.

The **Incr.** and **Decr.** keys increase and decrease the value of the top two parameters and turn the Automatic Retry On and Off.

The **Exit** key closes the window and returns to the set preferences window.

The range of values for the three parameters are as follows:

Score Warning Level	Min:	0
	Max:	500
Var'n Warning Level	Min:	0
	Max:	500
Automatic Retry		OFF
		ON

## Score Warning Level

During fiducial set up the score achieved after training each fiducial is analyzed. If the score fails to achieve the accept score by more than Score Warning Level, an instruction box appears recommending the operator check video settings, fiducial parameters etc.



### Variation Warning Level

While the machine is running, the score for every fiducial located is monitored. If for a given fiducial, the score from one fiducial to the next varies by more than the Variation Warning Level, but does not fall below the minimum accept score, a message window is displayed, warning that the score of the screen/board fiducial is fluctuating. Fiducial relearning is advised if the problem persists.

### Fiducial Search

The parameter enables an auto search to be selected if a screen fiducial or board fiducial are not found. The feature also enables a machine to run a product setup on another machine, options are:

Options	Default
Custom	Disabled
Disabled	

### Setup

If Custom is selected, an Adjust option becomes available on the menu bar:

		Adjust	Next	Previous	Incr.	Decr.	Exit
--	--	--------	------	----------	-------	-------	------

On selecting **Adjust** from the menu, a Fiducial Search Strategy window opens:

Fiducial Search Strategy

AUTOSEARCH	All Boards
WINDOW SIZE	16 mm

The menu bar changes to:

			Next	Previous	Incr.	Decr.	Exit
--	--	--	------	----------	-------	-------	------

The **Next** and **Previous** keys move the cursor between the two parameters.

The **Incr.** and **Decr.** keys change the value of the highlighted parameter.

The **Exit** key returns to the set preferences menu.

### Autosearch

This parameter sets whether an automatic search can be selected following a Fiducial Not Found Error Message. The options are:

Options
1st Board
All Boards

The option Auto Search (F2) is added to the menu bar as follows:

Retry	Auto Search	Fiducial Setup		Search Step	Search Reset		Abort
-------	-------------	----------------	--	-------------	--------------	--	-------

Depending on the setting, the option Auto Search (F2) is available for the 1st board or all boards of a batch, following a Fiducial Not Found Error Message.

If Auto Search is selected, the machine uses the following strategy to search for the fiducial. The sequence continues until the fiducial is found:

1. The camera starts in the nominal fiducial position, determined by the product file.
2. The camera attempts to locate the fiducial within its field of view.
3. The camera stays in position and repeatedly searches for the fiducial, each time using a different adjustment of the camera lighting.
4. The camera moves to another position in the search window area.
5. If the whole search window area has not been covered, the sequence returns to Step 2.
6. If the the whole search window area has been covered with no fiducial being found, the camera moves to the nominal position and an error is generated.

**NOTE**

*If 2D board inspection is enabled on a machine this feature searches for screen fiducials only.*

**Window Size** This parameter sets the size of the window area that is searched around the nominal fiducial location.

**Local Product File** The offset values (differences between the product file and set up of the machine) are stored locally on the hard disk in an offsets file called local.lpf. For each product file, any offset values required are stored added to the offsets file. The addition to the offsets file is made when the first board is run and only if Custom is selected.

Because the product file is not updated other machines are able to share the product file.

**Loading a Product** When a product is loaded, if Custom is selected and a corresponding entry in the offsets file (local.lpf) exists, the parameters are read from the offsets file and added to the corresponding parameters from the product file, the sum of the two values for each fiducial offset is used as the new parameter. The chase offsets are calculated for the first board and are saved to the local.lpf file.

**Actuator Limits** If due to the new fiducial positions the actuators are required to go close to their limits a warning is generated. If the actuator would need to travel beyond its limit an error is generated and the red beacon is illuminated.

**Board Stop X Offset** This parameter allows a value to input which compensate for variations in the focal lengths of the vision systems between machines.

Minimum	Maximum	Default
20mm	40mm	28mm

This parameter has no function while remote board stop is fitted.

### Run on Delay

This parameter sets a delay of up to one second for the print station belts to stop once the board is detected at the camera board stop. Effectively this prevents any board 'bounce back' which may occur when belt speeds are high.

Parameter settings for run on delay are:

Minimum	Maximum	Default
0.000 Sec	1.000 Sec	0.100 Sec

#### NOTE

*This parameter is for the High Throughput Conveyor option only.*

**Remote Board Stop** Sets whether the remote board stop facility is to be used, options are:

Options	Default
Not Fitted	Not Fitted
Fitted	

### Fiducial Finder

This parameter is used, while Feature Licensing asserts that use of Fiducial Finder 2 is authorized, to specify which fiducial finder is to be used, options are:

Options	Default
FF1	FF2
FF2	

### Auto Fiducial Setup

This parameter sets whether the facility to automatically learn fiducials is to be used, options are:

Options	Default
Enabled	Enabled
Disabled	

### Camera Idle Position

This parameter sets whether the camera is moved to behind the rails or home during the print cycle, options are:

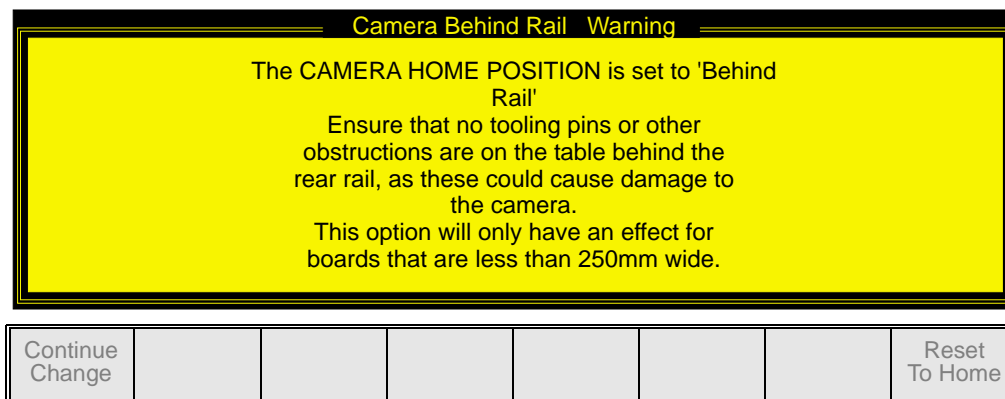
Options	Default
Home	Home
Behind Rail	

**NOTE**

Although this function can be set to Behind Rail with the following, the setting would have no affect and the camera is always moved to home:

- Snuggers Fitted
- Boards Over 250mm

With Camera Idle Position highlighted, selecting either **Incr.** or **Decr.** to change the parameter to Behind Rail displays the following window and menu bar:



The **Continue Change** key closes the warning window and the Camera Behind Rail event is recorded.

The **Reset To Home** key closes the warning window and the Camera Idle Position is set to Home.

**Unload Board Start** This parameter sets whether the board is unloaded from the rails as soon as the board has separated from the stencil, while the table is still being lowered or when the board is at transport height, options are:

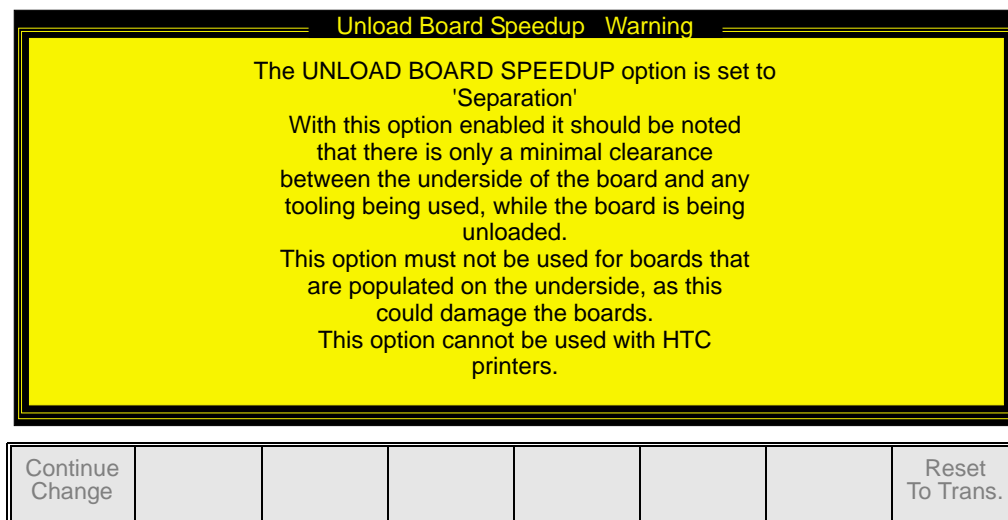
Options	Default
Transport	Transport
Separation	

**NOTE**

Although this function can be set to Separation with the following, the setting would have no affect and the board is unloaded from the rails only when the table has reached transport height:

- Tooling Hardware set to Vac for Flex
- 2D Inspection Enabled
- SPC Output

With Unload Board Start highlighted, selecting either **Incr.** or **Decr.** to change the parameter to Separation displays the following window and menu bar:



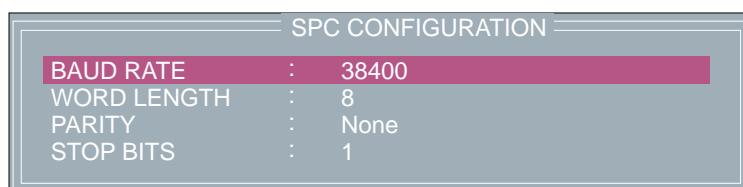
The **Continue Change** key closes the warning window and the Unload Board Start event is recorded.

The **Reset To Trans** key closes the warning window and the Unload Board Start is set to Transport.

## SPC Port Configuration

This preference allows the user to set the configuration of the SPC port output rate and data format.

Selecting the **Incr.** or **Decr.** buttons whilst this preference is highlighted opens a further parameter window.



The menu bar changes to:



The **Next** and **Previous** keys move the cursor between the parameters.

The **Incr.** and **Decr.** keys change the value of the highlighted parameter.

The **Exit** key returns to the set preferences menu.

The four adjustable parameters have the following ranges:

Parameter	Options	Default
Baud Rate	110, 300, 600, 1200, 2400, 3600, 4800, 9600, 14400, 19200, 28800, 38400	9600
Word Length	5, 6, 7, 8	8
Parity	ODD, EVEN, NONE, MARK, SPACE	NONE
Stop Bits	1,2	1

**NOTE**

*The faster the baud rate the faster information transfer occurs.*

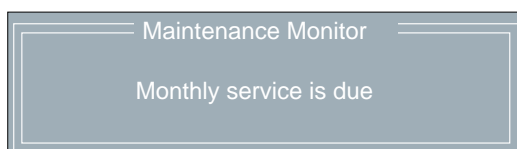
SPC data is output when any of the following occur:

- SPC output cycle (as per Output Rate)
- Alignment Inspection Cycle
- 2D Inspection Cycle

**Maint. Monitoring** This preference, when enabled, provides an indication to the operator when a preventive maintenance service is due. Options are:

Options
Enabled
Disabled

When enabled, if Run (F1) is pressed on the menu bar and a service is due, the amber light on the tricolour beacon is illuminated. The following window is displayed:



The message in the window varies dependent upon the type of service due. If a period of one month or 45,000 cycles has elapsed, the message is as shown above. If a period of six months or 260,000 cycles has elapsed, the message is '**Six Monthly service is due**'. If a period of one year or 520,000 cycles has elapsed, the message is '**Yearly service is due**'.

The menu bar changes to the following:

Done							Defer
------	--	--	--	--	--	--	-------

The **Done** key updates the maintenance monitor data file, named service.dat, as follows:

- The service cycle counter is set to zero.
- The service number is incremented.
- The last service date is reset to the current date.
- The warning window is cleared, the amber beacon changes to green and the printing run commences.

The **Defer** key does not update the maintenance monitor data file.

The warning window is cleared, the amber beacon changes to green and the printing run commences. As the file has not been updated, the next time the Run key is pressed the maintenance monitor window is displayed again. This routine continues until the Done key is pressed.

If Maintenance Monitoring is disabled, left disabled for several service periods, either calendar or cycle or both, and enabled again:

The next time Run is pressed, the maintenance monitor software determines how many service periods have been exceeded. From this information it determines if any higher order servicing has been missed during the disabled period. If a higher order service would have become due during the disabled period, that service message is displayed.

**Machine Location** This allows the operator to enter text to uniquely identify the machine. Output is via GEM, Host and SPC.

**Data File Locations** Allows the user to create individual directories for product and data files. Once created the individual directories become the current locations for all future product and data files.

Before changing the product and data file locations, use the copy data function in House Keeping, to copy any existing product and data files to floppy disk. After changing the product and data file locations, use the copy data function in House Keeping, to copy any existing product and data files from the floppy disk to the new directories.

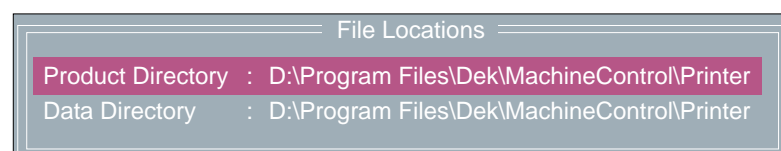
**NOTE**

*When Load Data is selected from the setup menu only the files in the current location are displayed.*

The default location is:

D:\Program Files\DEK\MachineControl\Printer

Selecting the **Incr.** or **Decr.** key with data file locations highlighted opens the following window:



The menu bar changes to the following:

Browse		Restore Default	Next	Previous			Exit
--------	--	-----------------	------	----------	--	--	------

**NOTE**

*Restore default is only available while the highlighted directory is not already at the default location.*

Use the **Next** and **Previous** keys to move between the different directories.

Use the **Exit** key to close the File Locations window.

Use the **Restore Default** key to change the path, for files associated with the highlighted directory, from the current location to the default location.

Selecting the **Browse** key opens the following window:

The menu bar changes to the following:

Select		Create Dir	Left	Right	Up	Down	Exit
--------	--	------------	------	-------	----	------	------

The message '**Select a directory to become the current location for Process Program files.**' is displayed in the message bar.

Use the **Up** and **Down** keys to scroll up and down the highlighted column.

Use the **Left** and **Right** keys to move between columns.

Use the **Exit** key to close the Directory Structure On Drive window.

Selecting the **Create Dir** key opens the following window:

The menu bar changes to the following:

Proceed							Cancel
---------	--	--	--	--	--	--	--------

Use the keyboard to type the name of the new directory.

Select the **Proceed** key, a new directory is created providing:

- The string entered constitutes a valid name for a directory.
- A file or directory of that name does not already exist.
- The current directory is accessible for writing.