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UPS Version 3.1.0 467692-02

Created by: Judy L Lotsman on 06/26/2001 at 11:51 AM

USER RELEASE NOTES FOR UNIVERSAL PLATFORM SOFTWARE
UPS 467692-02 Version 3.1.0

The following details the changes made to the control software for this release. The first section, SYSTEM REQUIREMENTS, outlines the support hardware, software and documentation necessary for this new release. The second section, NEW FEATURES, describes the new features and enhancements made to the software package. The third section, PROBLEM RESOLUTIONS, details resolved problem areas.

SYSTEM REQUIREMENTS

1. WARP 3.0 Connect
2. 32 Meg Ram, 467282-01
3. D-Block Machine with an VME Upgrade completed or Higher
4. 500 Meg Hard Drive
5. PROMS

Þ F33 VME Prom/RFS

· CPU Lite, 46521801
· (Eyring #3580-387)
· (Ref Force #910-12483-101/201 Ver A)

Þ Axis Controller

· Themis: 44791811_911
OR
· Radisys: 46088608

Þ Strobe XY

· 44847602_702
OR
· 45721401_501

Þ Serial I/O Proms

· 45293801_901
OR
· 45293804_904 (Required for the PSV Option, Bar Code Product Changeover Option, and machines with RAMTFs.)

Þ RAMTFB

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· 471372-02

Þ GSMx/GSMxs

· DSP Contoller Prom: 47089205
· Linear Motor EProms: 47274001_101
· UICBUG Proms: 43010204_304

NOTE: Updated PROMS are not required unless they are included with your software update package. Please refer to the packing list enclosed with your software package.

When upgrading to UPS 3.1.0 software, please read the through the Revision Notes and Product Documentation before loading and operation. Following are some items to pay particular attention to:

- **CALIBRATION**: Due to the introduction of a smaller calibration plate for the GSMxs and upcoming FlexJet, an internal calibration file changed in UPS 3.1.0. This change makes it necessary to select "Calibrate Machine" when calibrating under UPS 3.1.0 for the first time. Individual tasks can be performed in subsequent calibrations.
- **PARTIALLY DISPLAYED WINDOWS OR BLANK SCREENS**: During the final month of testing, one of those typical PC screen refresh problems that we have all seen at our desktops, occurred with UPS 3.1.0. The problem was somewhat frequent, once or twice a week, when the machines disk was fragmented and had under 60mb free space. Cleaning up the disk reduced the frequency, but the problem still occurred on one test machine, but much less frequent. This issue appears to be a system resource conflict and is currently being investigated by UIC and IBM.

  There is a workaround that prevents the need for a power cycle:

  1. Push [CTRL, ESC] to display the Window List.
  2. Push the left trackball button once to select the System Window which is partially displayed, ie. System Setup, Product Changeover, Production Control or Machine Status.
  3. Push the right trackball once and a menu is displayed.
  4. Use the left trackball button to select the Close menu option to close the partially displayed Window.
  5. Now, return to the UPS main Window and select the UPS Icon for the Window desired and the screen should paint correctly.

  UIC is interested in determining the root cause and would like feedback if this issue is seen.

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With UPS release 3.1, the AIS-3500 Vision System will be unable to support several functions which are supported as standard with the AIS-630 (Lantern) Vision System.

The chart below depicts various features compatible with the AIS-3500 and AIS-630 Vision Systems
at various UPS levels

	UNIVERSAL PLATFORM SOFTWARE (UPS) LEVELS						
Vision Hardware/Software	**UPS 1.4**	**UPS 2.1**	**UPS 2.4**	**UPS 3.0**	**UPS 3.1**	**UPS 3.x**	**UPS 4.x**
AIS-3500 hardware	Compatible	Compatible	Compatible	Compatible	Compatible	Compatible	Not Compatible
Software Enhancements							
Single FOV BGA Ball Inspection	Not Available	*Factory Quote*	*Factory Quote*	*Factory Quote*	*Factory Quote*	*Factory Quote*	Not Available
MFOV BGA Ball Inspection	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available
Improved Corner Finder	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available
Improved Auto Thresholding	Not Available	Not Available	Not Available	**Standard**	**Standard**	**Standard**	Not Available
AIS-630 hardware	Not Compatible	Compatible	Compatible	Compatible	Compatible	Compatible	Compatible
Software Enhancements							
Single FOV BGA Ball Inspection	Not Available	Not Available	Not Available	*Factory Quote*	**Standard**	**Standard**	**Standard**
MFOV BGA Ball Inspection	Not Available	Not Available	Not Available	*Factory Quote*	**Standard**	**Standard**	**Standard**
Improved Corner Finder	Not Available	Not Available	Not Available	*Factory Quote*	**Standard**	**Standard**	**Standard**
Improved Auto Thresholding	Not Available	Not Available	Not Available	**Standard**	**Standard**	**Standard**	**Standard**

The AIS-3500 will no longer provide the memory requirements for the future projects under development at this time.

A more detailed KNOWN ISSUES list that includes issues seen only once or infrequently during in-house or field testing can be accessed on the web. Universal provides Software Revision Notes and detailed Known Issues Lists on the World Wide Web at: **http://www.uic.com/ss/services.nsf/pages/ss_services_05.html .**

NEW FEATURES

GSMx

The GSMx is a GSM style machine with a linear motor driven positioning system. The beam is driven at both ends by linear motors. Position feedback is provided at both ends of the beam by linear encoders.

GSMxs

The GSMxs is a Platform that supports Advanced Component Manufacturing. The design is modular and considers General Surface Mount applications. The machine is similar in format to the GSM1, just a smaller footprint. The unconfigured machine occupies 20 square feet of floor space (4 feet wide by 5 feet deep) and has the same elevation characteristics as the GSM1. The machine was designed to allow the use of it on elevated floors (2.0 feet). The positioning system is Linear Motor driven, being a scaled down design of the gantry style original. System travel is 482 mm (18.976") between soft limits in the X, and 903 mm (35.551") in the Y.

PENTIUM™ SUPPORT

This software will support the RadiSys's Pentium™ EPC-9. The Vme chassis has been redesigned to incorporate the EPC-9 Pentium™ based single board computer. Features of the new board are increased processing power, 32 MB RAM, and onboard Ethernet. The "off-the-shelf" version of the EPC-9 includes an IDE controller. We use a custom configuration, without this controller, because the failure recovery cost is less (hard drive failures will not cause a Pentium™ board change) and because of the ease of retrofitting. The Pentium™ based VME allows the full 1 Gig of the existing hard drive to be used.

CAMERA TYPE CONSIDERED IN OPTIMIZATION

Currently, a user can specify which camera will be used to inspect a component or can let the machine decide which camera to use. In the past, the optimizer ignored camera issues. This made it possible for the optimizer to construct a task block that contained components that had to be inspected by two different cameras. This would cause the machine to stop. Now, the optimizer does not allow an obvious conflict to occur. Components that call out two different cameras will not share the same task block.

PLATFORM SETUP VALIDATION (PSV) ENHANCEMENTS

The user is now able to define to PSV up to ten additional fields to be scanned before a feeder can be enabled. The user specifys a field name, or label, for the additional information. The user also defines either a prefix string that identifies the field or range of column values where the field can be found. If prefix strings identify the additional fields, the fields must appear on separate labels. These fields, as well as the component ID, can be scanned in any order.

A new screen replaces the "Bar-code Label Definition" screen in PSV. Component ID processing definitions (character masking, character suppression, and character substitution) now appears on a separate screen.

A new screen, which displays bar-code scan activities to the user as they occur, is implemented. The user is able to configure whether or not this screen appears automatically. If configured, this screen appears automatically whenever a feeder is removed while the machine is in production mode. As the user scans each label, the screen updates to show the data that was scanned. The screen displays a visual cue when all required fields have been scanned. If the feeder is mounted

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in the proper slot, the screen displays for 5 seconds, then disappears automatically. If the feeder is placed into the wrong slot, the screen will display the component ID mounted and the component ID expected for that slot. The screen will continue to display until a valid scan-mount sequence takes place, or the cancel button on the screen is selected. If the feeder is placed into a slot which is not used in the current product, the screen will displays for 5 seconds, then disappears automatically.

Information that is tracked by PSV is also be available to the customer's host computer through the UPS GEM host interface. In addition to the machine events and associated reports that are now available, the scanned component ID and all scanned additional field data for each slot are now available as a report. This report can be requested at any time or can be linked to an event (the "feeder mounted" event, for example.)

MISSING BALL INSPECTION (MFOV/SFOV)

This software inspects BGAs for missing solder balls. The BGAs may fit into a single field of view or require multiple fields of view. For each view, the regular ball find algorithm is executed and five candidates are selected as potential missing ball sites. The selection is based on a low correlation signal, a large deviation from the expected location, or an absence of correlation strength in the expected region. Then an intelligent pattern recognition algorithm is trained on sites which are known to contain good ball images and good missing ball images, and the trained algorithm is used to classify the suspect sites and verify the presence/absence of a solder ball. Various graphic overlays are used during the execution of the algorithm:

The bumps found by the standard bump finding method are overlaid with small red crosses.

Candidates classified as actual balls are indicated by a blue plus sign inside a blue box.

A red box around the candidate region indicates candidates classified as missing balls.

Missing Ball Inspection is supported with the AIS 630 Vision System and, when it becomes available, the 640 Vision System. It will not be supported with the AIS 3500 Vision System.

NEW CORNER FIND (RF SHIELD)

Multipattern components consist of components or objects (RF shields, connectors, etc.) which cannot be described adequately as either leaded or leadless components, but rather are defined in terms of an arrangement of geometric features. The multipattern object is located by locating each of the features of which it is comprised, using a single or multiple field(s) of view. One such feature, which is commonly used to locate rectangular or pseudo-rectangular objects, is the corner feature. In the past, this feature was defined simply by entering the length of each of the two line segments which made up the 90 degree corner (the horizontal corner edge length and the vertical corner edge length.) Now this feature definition has been extended to allow for two more optional parameters. These parameters define "ignore zones" at the apex of the corner, and allow

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the image processing to ignore these regions of the edges when locating the corner. By this means, corners, which are rounded, chamfered, or poorly defined at the apex, can be located by using segments of the corner away from the apex, which subtend 90 degrees to each other.

New Corner Find is supported with the AIS 630 Vision System and, when it becomes available, the 640 Vision System. It will not be supported with the AIS 3500 Vision System.

BAR CODE CHANGEOVER

The Bar Code Changeover Option allows rapid product change without requiring the user to manually load the product data or press the START button.

With the Bar Code Changeover option, the board arrives at the input conveyor and proceeds under a bar code reader. The bar code reader reads the bar code and determines what action to take, based on the status of the read and the bar code data. If necessary, the machine will automatically load a new product, zero, and start. Board counts are updated, as required. Error conditions, such as a bad read of the bar code or an invalid product, are also handled.

A new menu item now appears: System Setup -> UPS -> Barcode Changeover -> Restart. This allows the operator to restart the Barcode Changeover option logic.

ChipJet

The ChipJet error recoveries for the plugged/empty and jammed conditions now have a graphical display of the feeder

Support has been added to the ChipJet Setup screen to support two new tasks. The new tasks are Teach Reload Position and Setup Lighting Level.

The component ID has been added to the ChipJet error recovery interfaces in order to assist the operator in determining the area where the error has occurred. The empty or plugged condition (event code 38200) and the jammed condition (event code 38203) are covered.

ChipJet COMBINATION MACHINES

The ChipJet head is a high-speed head designed to place bulk case packaged surface mount type capacitors and resistors. This software will support the ChipJet head, in combination with other heads. The following configurations will be supported:

ChipJet/open

Open/ChipJet

ChipJet/ChipJet

NCC8/ChipJet

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Positive Displacement/ChipJet

AMV/ChipJet

Note that when the ChipJet is combined with another head type, the ChipJet is the rear head.

PLATFORM TRAY FEEDER (PTF) ENHANCEMENTS

The user can define the speed of the pallet transfer and belt axes as a percentage of the UIC recommended speed for the two axes. This can be done for all pallet transfer and/or all belt moves in 1% increments. Or the user can define the speed of the pallet transfer and/or belt axes for a specific component using one of three categories. The categories are standard, medium, and slow. Standard speed will cause the axis to move at top speed as defined by the PTF/RAMTF Configuration screen. Medium and slow will cause the axis to run at 66% and 33%, respectively, of standard speed.

The PTF Setup feature now includes a tray removal cycle feature. The Task Choice field is new, with the options Product Cycle or Tray Removal Cycle. Select Product Cycle to cause the PTF to cycle through an existing product. Select Tray Removal Cycle to exercise the tray removal sequence on a selected pallet and stack within a feeder.

This software supports a PTF mounted on a GSMxs. The belt distance move is one inch shorter on the GSMxs than on a GSM machine.

The message "Component <name> unavailable in PTF feeder at slot <x>" will be displayed if a component is no longer available within the PTF.

The software will detect low air pressure at the PTF and an error message will be displayed. A soft E-Stop condition will be invoked and the low air pressure condition must be resolved before normal machine operation can resume. This feature requires that the PTF has the corresponding "Low Air Pressure" hardware. This required hardware will be included in PTF’s built under Product Tree Number 46519502

This software supports 2 PTFs on a GSM1 and a GSM2. The operation of the PTFs is a direct result of the product definition and load product options. The three modes of operation that are possible are Independent mode, Exchange mode, and Backup mode. If the product is defined such that both PTFs are considered the primary feeder for at least one PTF fed component, the PTFs will operate in independent mode. If the product is defined such that only one PTF is considered the primary feeder for all PTF fed components and the other PTF is never considered the primary feeder for all PTF fed components, the PTFs will operate in backup or exchange mode. Backup or exchange mode is selected on the load product options screen with the field "Dual PTF Exchange Mode."

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This software supports PTF Theta implementation. If the PTF theta is installed and the pre-orient field for the component in the component database is "YES", then the PTF will orient the component to the 90-degree quadrant closest to the placement orientation. Otherwise, the component will be placed on the belt without any theta orientation.

ARCHIMEDES METERING VALVE (AMV) SUPPORT ON GDM & GSM

The Archimedes Metering Valve is a screw driven metering valve. It is not meant to be a replacement of Universal's current piston pump, but will be marketed for increased flexibility. There is an immediate need to develop a multipurpose metering valve to address areas of concern from customers where the piston pump has difficulties. The Archimedes Metering Valve adds to the economic potential of the platform in specific definable OEM opportunities. The Archimedes Metering Valve is readily available, has a proven market acceptance, and is currently being used to dispense several materials with proven flexibility.

DISPENSING

A change is made in how the "Rept/Encode #" field in the component database is used for dispensing dots. The field is now capable of providing Archimedes Metering Valve (AMV) and Positive Displacement Pump (PDP) information. When dispensing with an AMV head, the last digit in this field is changed to a 0, and that number is used as the Encoder Count value. When dispensing with a Piston Pump head, the last digit in this field is used as the Repeat Number. For example, a Rept/Encode # of 2503 would result in an Encoder Count value of 2500 for an AMV head and a Repeat Number of 3 for a Piston Pump head.

Changed PDP Pump calibration routine to place calibration dots using same routine that's used to place dots when running a product. This increases the speed at which the dots are placed.

SOFTWARE CYCLE COUNTERS

Software cycle counters allow the operator to view the cycle counts without having to physically check the mechanical counters mounted on the front of the platform. The Cycle Counters dialog box is brought up by selecting the Machine Status, Diagnostics, Cycle Counters option. In this dialog box, the operator can read the counters as well as Set and Zero the counters.

The software cycle counters are implemented for convenience. There is no guarantee that they will always read exactly the same as the mechanical cycle counters. They are not included in the Backup/Restore utility.

ADVANCED PROGRAMMING EDITOR (APE)

Added database-locking capability.

Rounded corners can now be defined for the multi-pattern finder corner shape.

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Changed the way the MTF pattern is written to sort by slot, pallet and stack in that order and in ascending order.

Added two new feeder types: Bulk Track, and ChipJet

Added a check for different cameras in the same task block during optimization.

There is a new ChipJet Optimizer. There is a new option in the Optimize Dialog box for quick CJ Optimization. If it is optimizing for the ChipJet head, then a new dialog box will come up displaying the current action and a button to stop the Optimizer.

A check is added in the Error Checking configuration to allow feeder slots at zero during Comprehensive Import.

The wide body 0.8-mil/pixel camera with C4 lighting and standard body 2.0 mil/pixel are now supported.

Fixed a problem that was writing faulty information to the MTF pattern for the GSMxs.

NEW EVENT MESSAGES

The following event messages are added:

1302 Timeout waiting for sufficient air pressure on base machine

2010 Label <Barcode Label> received from scanner for lane <lane #>, product name is <product>

2011 Soft E-Stop requested

2012 Label <barcode label> received from scanner for lane <lane number>

2200 NOREAD condition from scanner for lane <lane #>

2201 Label <Barcode Label> received from scanner for lane <lane #>, lookup failed for product <product>

2201 Label <Barcode Label> received from scanner for lane <lane #>, unable to read data for product <product>

3032 Board from input conveyor for lane <lane #> was removed by operator

3033 Operator entered label <Barcode Label> for lane <lane #>

3034 Operator defined lookup table entry for product <product name>

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3035 Operator modified lookup table entry for product <product name>

26261 PTF feeder at slot <slot #> theta axis fault sensed

26262 PTF feeder at slot <slot #> theta zero did not complete in time

26263 PTF feeder at slot <slot #> theta axis move did not complete in time

26264 PTF feeder at slot <slot #> had MMIT data error.

26265 PTF feeder at slot <slot #> air low sensed

26266 Component <Component Identifier> unavailable in PTF feeder at slot <Feeder slot #>

26267 PTF feeder at slot <slot #> stopped because the tray removal chute is blocked.

26399 Timeout waiting for sufficient air pressure on PTF feeder at slot <slot #>

30203 Invalid head/beam combination for head <head id>

30311 Timeout waiting for impact switch not detected

30312 Timeout waiting for nozzle changer close

30313 Timeout waiting for nozzle changer open

31206 Expected empty hole for nozzle <nozzle type> drop off on head <head ID>

31207 Expected empty spindle for nozzle <nozzle type> pickup on head <head ID>

38301 Timeout waiting for shutter opener home

38302 Timeout waiting for shutter closed

The following event messages are altered:

3029 Label <Barcode Label> scanned by <Scanner ID> scanner, value <User Name>

3207 All information for <Scanner ID> scanner cleared: scan to mount timer expired

3208 Feeder slot <Slot #> not validated: one or more fields not scanned before mount

Removed Error Recovery from PTF event 26203: PTF PART ON HEAD

26399 Timeout waiting for sufficient air pressure on PTF

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MANUAL CONTROL

Manual Control now supports the OFS Vision Head.

Manual Control now uses the head type description "Servo Gripper" instead of "OFS Vision".

Manual Control now allows the user to display axis locations in counts.

Manual Control now supports two PTFs mounted on the machine as well as providing support for the new PTF theta axis. In addition, while in Manual Control, the last PTF that is selected will be retained when the user selects a different device.

NEW MENU ITEMS UNDER MACHINE STATUS

Three new menu items have been added to Machine Status: Cycle Counters, Setup Validation Scanned Data and Setup Validation Scanner Activity.

FIDUCIAL REPAIR HAS NEW DEFAULT SELECTION

Fiducial Repair's default selection is now "Reteach Fiducial" rather than "Alignment Done". This modification will ensure more accurate placements by preventing the wrong selection from being inadvertently selected.

FEEDER SETUP NOW DISPLAYS THE COMPONENT DESCRIPTION

The Feeder Setup screen now displays the component description when the feeder setup is viewed for a product. The display is limited to 80 characters so if the component description will not fit on one line the remaining portion of the description will be right justified on the second line.

MACHINE CONFIGURATION

A Machine ID field has been added to the Machine Configuration window.

Added a new feature that allows a machine configuration template’s parameters to be applied to the Machine’s Configuration Data (i.e. - the data that is used to operate the machine). This feature is accessed by the ‘Activate...’ menu item.

The ‘high-level’ dialogs for nozzle changers, which are activated by the buttons on the machine graphic, are updated to show all seven holes at once and list the hole numbers based on where the changer is mounted. For example, the hole #’s will be listed in a left-to-right manner for a changer mounted between the right front rails or left rear rails, and they will be listed right-to-left for changers between the left front rails and right rear rails.

Support has been added for the MegaView camera and MegaView (C4) camera types.

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The configuration screen for Setup Variables is modified to use a notebook style dialog for displaying information. By implementing a paged style dialog the data was logically grouped into four pages which allows future items to be added easier within the given screen space.

SYSTEM SECURITY

A new menu item, Logout on Power Cycle, has been added to System Security's menu structure under System Setup. When this menu item is selected, the current user will be logged out when the machine is power cycled. This means that when the machine comes up after a power cycle, a user will have to log in as soon as he tries to access something in the interface.

The data in System Security's user account configuration file (containing user names and passwords) is now masked such that a user cannot decipher this information when typing out the contents of the file at the command line.

System Security now checks the characters entered for the user name and password to ensure they are within the valid range. Refer to the appropriate User's Guide for a list of valid characters. NOTE: If the customer's user account data (user ids or passwords) currently contains characters not listed in the User's Guide, it is strongly recommended that those accounts be changed immediately.

A new category for Feeder Teach is added to System Security's user level configuration. This was formerly covered by the category, Subsystem Setup.

FLEX/C4/NCC8 REJECT ORIENTATION

Components are now rejected to a reject feeder using the rotation of the feeder presenting the component. e.g. If a rejected component's feeder rotation was 90 degrees, it will be placed in the reject feeder at 90 degrees. i.e. The component will be placed into the reject feeder as it appears in the feeder presenting the component.

There are two limitations to this enhancement:

1. The feeder must be a base machine mounted feeder.
2. The feeder used to reject the component must be on the same side of the machine as the feeder used to present the component.

MANAGEMENT INFORMATION

Enhancement allows GEM Host to prevent the clearing of management information at product changeover.

CALIBRATION FIXTURE FILES

Changed the C2F fixture file, used for PEC camera calibration, to support the new mini calibration plate. The C2F file has fewer fiducials coordinates listed. This file is backward

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compatible to work with all old calibration plates. The file resides in the C:/USOS/MODEL/DEFAULT/FIXTURE/PEC_1M, ../PEC_08M, and ../PEC_2M directories.

CHANGE ROW/COLUMN SCREEN

The Change Row/Column Screen is updated to allow for multiple matrix trays to be reset at one time. Multiple selections can be made using the 'Select All' checkbox or by the normal multiple-selection process. After selecting all desired entries the 'Reset' button can be selected to reset all selections.

SHUTDOWN

Added a note to come up when the Shutdown icon is selected to inform the user that it may take up to two minutes to complete.

POWER-UP TIME REDUCED

Changes are implemented that has reduced the power-up times on machines. Initial timings have shown a reduction of 2 - 2.5 minutes on average.

NOTE: The changes require that the VMESERVE initialization screen be kept in the background to remove the possibility of initialization errors in addition to take full advantage of the speed-up changes.

PROBLEM RESOLUTIONS

ADVANCED PRODUCT EDITOR (APE)

Fixed the global correction graphic to be refreshed. If global correction fiducials are deleted, then the red square will not appear in the graphic in the circuit list.

Fixed a problem with Enhanced Product Setup (EPS) where "Inspect n-times" was, in many cases, inspecting less than n times.

Altered the maximum component thickness to be 2 ½ inches.

Fixed a problem with upgrade products from database, that caused an incorrect centering type to be set.

Changed the default inner and outer lighting values to 80 and 20 for the fiducial definitions.

Fixed a problem where if a PTF product has a purge pallet, and the PTF is changed to a RAMTF, the purge pallet would get left over. This caused a problem when the RAMTF tried to pick from the purge pallet.

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Fixed a problem that would show a PTF1 feeder in gray instead of red in the feeder status screen, when the feeder was disabled.

Added Pickup Tolerance X and Y to ChipJet Feeder Type. These fields are typically only used for calibration.

Fixed a problem with purge pallet and PTF. Additional and incorrect information about purge pallet was being added to the MTF pattern when the PTF slot was changed in the configuration.

Fixed a problem where the ChipJet optimizer would never be started, because the dialog box was never brought up.

Fixed a problem with the ChipJet/NCC8 optimizer where the optimizer would never run to completion, if the first optimization was run without assigning the heads properly. Now if the ChipJet can't be optimized, everything is halted till the pattern is fixed by assigning heads or slots. This way, the optimizer will always run to completion unless there is another error.

Fixed a problem with the drawing and saving of ChipJet Feeder types.

Fixed a problem where the shuttle optimizer was not checking for different cameras in the same task block.

Comprehensive Import/Export supports the Bulk Track and ChipJet feeder types.

Added a check for the ChipJet head to make sure all heads and slots are properly assigned before saving the product, and before running the optimizer.

Fixed a problem where a GSMxs product wouldn't optimize during comprehensive import.

Fixed a problem where the dispense pattern was being defaulted during Comprehensive Import whether or not it was already defined.

Altered component database and comprehensive import to allow 30-degree rotation or any degree between 0 and 360 of component in feeder.

Fixed a problem with the optimizer where dispense patterns were being bypassed when the quick dispense optimize option was selected.

Fixed a problem where the graphic information for head 2 wasn't being displayed correctly when toggled between shuttle hand and head2.

Fixed a problem where the optimizer would allow placements to pick from spindles in the exclusion zones.

Made the Nozzle field in the component database to hold the same number of characters as the Nozzle name in the Nozzle Database.

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Added Horizontal scroll bar to the Nozzle lists in the Head Setup screen.

MACHINE CONFIGURATION

Updated the camera default parameters for a 4 mil per pixel OFA rear ULC.

Updated the default Amount of Compliance for the Servo Gripper Head to 3000.

The default Dispenser Calibration Pad X location is now 255000 for AMV1 and ADH1 heads on Classic Board Handling machines.

The default Current Trip Point axis parameter for the Z axis on C4 heads has been updated from 500,000 to 5,000,000.

Updated the default Flux Offsets for a Serial Flux head when it's mounted on a linear motor based machine. The new values are 23514, 119039.

The Setup Variable defaults have been updated for the Min Pixels for Pattern Find Center and Inspect. Center is now 20 and Inspect is 25.

Updated the default Overspeed Limit Margin axis parameter for the Z axis of a UFP head to 50.

The names of some the machine types have been updated. The new names GSMx and GSM2 CONN replace GSM1/LM and GSM CONN.

Added On-the-fly Slew Information to the Setup Variables screen to address different values needed for the GSMx family of machines.

The Export Machine Configuration Template dialog has been changed to show what template is being exported. The template that is currently being viewed is the template that is exported and the user must choose the destination.

The default PEC camera magnification for machines with linear motors is now 0.8 mil per pixel instead of 1.0.

AUTOMATIC MOUNTING OF NCC CAMERA WHEN CONFIGURING NCC8 HEAD

When mounting/unmounting an NCC8 head in the Machine Configuration screen, the corresponding NCC camera in the Camera screen will be automatically mounted/ unmounted. This is now done to assure the user that the camera will be mounted when the head is configured. Power-cycling the machine is still necessary to activate the camera settings.

FEEDER REPAIR

The Feeder Repair screen no longer lists a feeder from the shuttle as a potential alternate for a feeder from the base machine.

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MESSAGES

Changes are made to prevent the reporting of some error conditions that are normal during the disabling and enabling of motion controllers in the zeroing process.

Eliminate erroneous "PTF feeder at slot ?? air low sensed" and "Soft E-Stop requested" messages after an E-Stop on either the base machine or a PTF.

PROBLEM WITH GREATER THAN 50 FIDUCIALS

Fixed a problem with not being able to register moves if more than 50 fiducials were defined.

MANAGEMENT INFORMATION

Fixed a problem which existed if the shuttle sent a "Component Unavailable" message. The machine continually updated the "Waiting For Operator Action" timer.

PLATFORM SETUP VALIDATION

The Scanner Activity screen now displays the slot number of the unmounted slot when it appears. If another feeder is unmounted while the screen is active, the display changes to reflect the newly unmounted feeder. If the screen is invoked from the Scanner Activity menu item under Feeder Services, the slot number is blank until a feeder is unmounted.

The error messages for Modify and Delete of additional fields on the Barcode Label Definition screen are now correct.

A memory leak occurred when PSV and Barcode Changeover were both active on a machine, causing an eventual "error writing to global" error, requiring a reboot.

If the operator scanned a barcode label then mounted a feeder into a slot not under PSV control, the scanner activity screen would turn red, indicating an unsuccessful validation. This was misleading since the feeder was enabled. Now the screen returns to the default background color in this case.

If the barcode label definition was set to fixed columns, and the user activated the barcode label definition screen and clicked on save without making any changes, the value of the end column of the additional field definition would change to zero.

If the operator scanned a label containing data in fixed columns, the event appearing in the current messages window indicating a barcode scan would show no information for the value. Now the part ID derived from the fixed column label appears in the event.

Fixed a problem where incorrect characters appeared in the machine status window when scanning a label.

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Fixed a problem where the scanner activity screen would dismiss when a validation completed on one side of the machine, but validation activity was continuing on the other side of the machine.

Fixed a problem where a misleading error message appeared if the operator manually entered a barcode label but did not select the front or rear of the machine.

The Enter Label menu option now allows the operator to enter barcode labels repeatedly without exiting the screen. The operator now selects Exit to dismiss the screen.

ChipJet

The Feeder rotation, which is defined in the feeder list, was not being correctly used.

The Feeder Status window now displays ChipJet feeders in the same manner as the Product Editor.

PERFORMANCE SIMULATOR

There was problem where the Performance Simulator would hang. This particular hang was related to PTF feeders. Due to the fact that the PTF data was not being initialized correctly the simulator was unable to find a feeder to feed certain parts. This caused the simulator to go into an endless loop looking for a feeder.

It was found that the Performance Simulator would while simulating a product involving the serial fluxer. This problem was due to the simulator code checking for the amount of flux being to low. Since the simulator can't judge this condition it should have always been assuming there was enough flux. It was not making this assumption and thus was causing the simulator to go into an endless loop. The simulator has now been changed to always assume there is enough flux and will not hang for this condition any more.

SYSTEM SECURITY

The error message that is displayed when an invalid character is entered for the user id or password under System Security has been modified to show all valid characters.

Now allow any and all users to be deleted in the User Account Management interface when System Security is disabled.

UPDATED Z AXIS PARAMETERS TO ADDRESS MOTION FAULT ERRORS

The following head types have had certain Z axis parameter values changed to address motion fault errors: FLEX2, C4, NCC8, ADH, and Shuttle heads.

Z TORQUE CONVERSION NUMBER FOR OFS HEADS

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The default value for the Z Torque Conversion Number for OFS heads will now be 75 when setting default data for OFS heads.

DISPENSER HEAD SETUP WARNING ON PREMATURE EXITING

A warning message is now displayed when the user attempts to exit the Dispenser Setup screen when calibrating a spindle and the data hasn't been saved because the alignment hasn't been confirmed.

HEAD CONFIGURATION

A change has been made to maintain the nozzle configuration for heads that don't have a default nozzle/tool configuration. The nozzle type will now be saved instead of setting the nozzle to None.

FEEDER BANK SETUP PROCEDURE

The Feeder Bank Setup procedure will now only be displayed when the machine has a teachable feeder plate type instead of being shown based on machine type.

SELECT MACHINE MODE

The Select Machine Mode screen is changed to display a warning message when changing to production mode. The user is warned to use the Load Product screen to assure that the correct product data is used after the change to production mode.

MANUAL CONTROL SUPPORTS DISPLAY OF SPAN AXIS LOCATION

Axis locations for the span axis will now be displayed under Manual Control.

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