MILL**PWR**^{G2} SOFTWARE UPDATE

ACU-RITE®

November 24, 2015

MILL**PWR**^{G2} 2 & 3 Axis

(Version R4**)**

NOTE: <mark>HEIDENHAIN Corporation recommends making a backup of the control with the included USB Recovery Drive</mark> before updating the control software. Please refer to the manual included with the drive for the backup procedure.

If a <mark>special</mark> PLC for AMI functions was created for your MILLPWR system this may need to be reinstalled after completing the R4 update.

AMI or users of auxiliary machine function interface will need to first check two configuration settings in their current system.
Make note of the values so that they can be restored manually after the R4 update, via the Machine Functions menu.
The special password provided or setup by your authorized dealer to access the Advanced Configuration from Installation Setup is required in order to view these settings:

System -> PLC -> CfgOemBool -> NP_MG_guard_inactive – [value]
      If the setting is FALSE, then in R4 they should set "Guards" to "Enabled"

Axes -> ParameterSets -> PS_1 -> CfgAxisAnalog – [unipolar]
      If the setting is "off", then in R4 they should set "Polarity" to "Bipolar"

To verify your software version, from the **DRO** screen press SETUP. If one of your soft keys is labeled More Commands, you have release 1 (R1) software. If one of your soft keys is labeled Install Setup, press this key. Enter the password 8891 and press Enter. The installed software version will be displayed at the bottom left of your screen.

If any issues are encountered, please contact your service representative for assistance.

<u>**Version (**</u>2 or 3 axis) - The version number was updated to R4.

You can download the software release update from our web site at www.acu-rite.com. If you wish to purchase the software and operation manual from ACU-RITE contact Customer Service to place an order.

Installing the software onto your MILLPWR^{G2} system:
Use a blank USB memory stick (1 GB or larger) to update the software. Do not use any memory stick with a smaller storage capacity. The software installation files are required for updating the software. These files will automatically be recognized by the installation program of the control and must be contained in a folder named **"install"** on the USB memory device with typical files called setup.zip, and setup.ini.

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Procedure for updating the software

- Shut down the control software using the normal method of pressing the Shutdown soft key and then confirming the shutdown by pressing Yes.
- Wait for the screen message which indicates that it is safe to switch off power, or restart.
- Insert the USB memory device containing the folder named "install" on the USB memory device.
- Press ENTER to restart the system.
- The software update will now be done automatically, taking approximately 10 - 20 minutes.

If any issues are encountered, please contact your service representative for assistance.

If the USB memory stick used for installation is not removed, then the prompt to install the software will continue to appear on subsequent power cycles.

A confirmation box will appear. If necessary, use the LEFT or RIGHT ARROW keys to select Yes, and then press ENTER
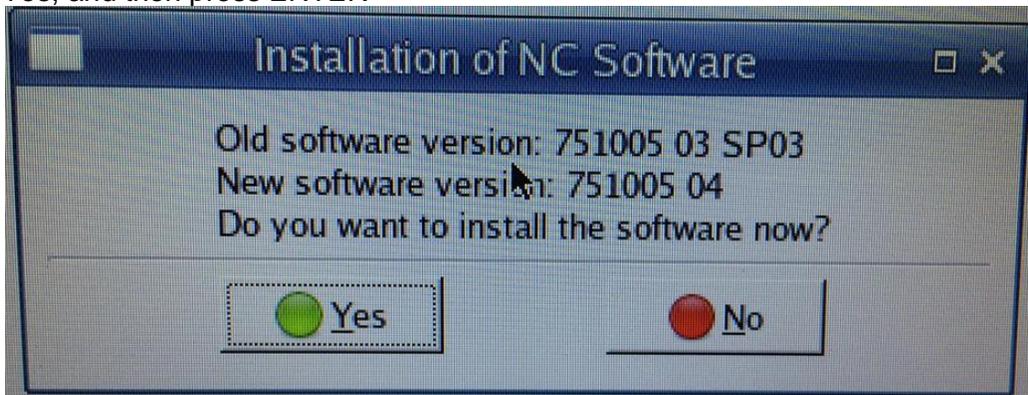
When the update is complete, it will prompt you to remove the USB drive and restart. At this time, remove the USB drive and press ENTER to restart.

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- On first NC startup, confirm the firmware update, accept the changes, RUN UPDATE softkey
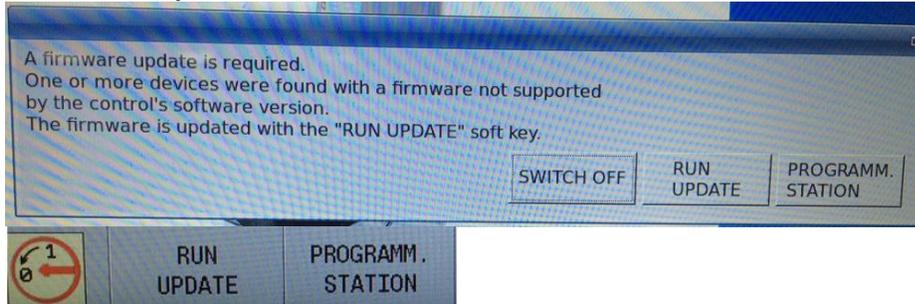
- On second NC startup, confirm the firmware change, ACCEPT the changes softkey
- *(Note: This particular NC startup screen can take several minutes to display. Please be patient. Do not shutdown control and reboot.)*
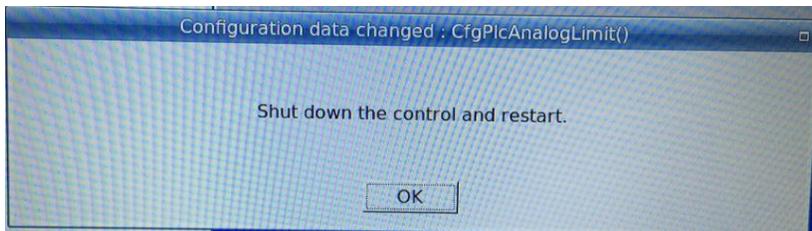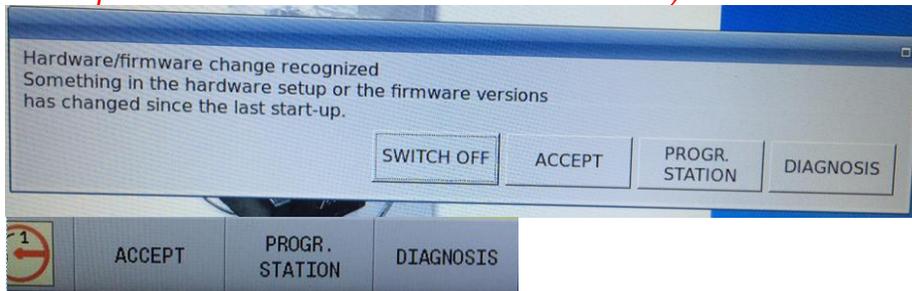
- After the system has restarted, it will start up normally to the control software.
- Confirm that your count directions are correct.
- Press the SETUP hard key, then the "Install Setup" soft key, enter passcode 8891, press ENTER
- In the "Installation" dialogue, scroll down to the last option "Machine Functions" and press ENTER
- Configure the dialog to match your machine Note:(only required if special machine function options are installed like demo, ami, guards, etc.)
- Press the USE hard key, then press the "Save Changes" soft key
- After a moment, you will get a reboot prompt
- Acknowledge the reboot and you are all done at the next startup

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These enhancements/changes were made:

The shutdown / reboot sequence and behavior have changed:
- There is no longer an option to 'press ENTER to restart' after a normal shutdown
- Instead, at the MILLPWR software level, the choice to 'shutdown' or 'restart' is provided via the confirmation softkey menu

Confirm system shutdown ...							
					Restart	Shutdown	Cancel

- Upon initial installation of R4 it is required to establish the correct parameters for the machine.
Implement full MFSK settings in Installation Setup

```
Machine Functions
 Console
  MFSK Menu  Enabled    ▼
  Demo Mode  Disabled   □
 AMI
  Type       Disabled   □
  Guards     Disabled   □
  Lube       Disabled   □
  Distance     0.0000  MM
 Spindle Control
  Polarity   Unipolar   □
  Inputs     Disabled   □
  Delay        0.2500  Sec
  Low MIN          0   RPM
  Low MAX      10000   RPM
  High MIN     10000   RPM
  High MAX     20000   RPM
```

- Allow calculator functionality (add/subtract/multiply/divide) in DMS angle fields.

- G-code programs now display drill markers in the line views.

```
Slot
 Center                          Tool
  X1      0.0000  Abs             0.2500  Inch
  Y1      0.0000  Abs                     Type
 Z                              Feed   35.0  IPM
  Begin   0.1000  Abs            Finish
  End    -0.5000  Abs             0.0000  Cut
  Pass         1  Number        Feed   20.0  IPM
  Feed     35.0  IPM            Direction CCW  ▼
 Radius                          Stepover
          2.0000  Minor                 50  %
 Direction
          CCW       ▼
 Slot Width
          0.5000
 Start Angle
          90.0000
 Sweep Angle
          180.0000
```

- Implement a radial slot step.

- The tool color in the 3D Solid graphic view now indicates whether the tool is actively removing material (RED) or freely moving outside of material (BLUE or GREEN depending on the hardware).

- The graphics ruler is no longer displayed while running a program. The ruler is displayed while programming and in 2D view.

- Allow Inch/mm selection in GeoCalc

- Job Setup parameter to support full cut feedrate reduction to rectangle pocket, slot, ring, and custom pocket steps.

- Program continuity in the Aux Function step is now user-specified. Continuity only applies to continuous paths. An Aux step at the start of end of the path may not be included in the continuity.

- A new job setup option exists to keep help graphics "On" for step form dialogs, or set them to "Automatic" so they only show if the step form dialog doesn't have enough fields to require the graphics area.

- Enhanced toolpath for closed paths to start and stop on the same point.

- Adjusting of the graphics (View) is now done through a menu dialog form

- The datum point indicator and rapid lines are now able to be toggled on and off via the VIEW key and menu dialog form.

- Rapid movements in graphics views can now be toggled on or off.

- The solid model has been improved with more realistic graphics and the option to have toolpaths along with the solid model (requires consoles with ID 1113777-xx)

- Step form dialogs will now display an error message when pressing USE if there is information missing or incorrectly defined within the form prior to press in the USE key.

- Support Coarse Tool and Side/Bottom Finish Cycles within Custom Pockets.
1. Added **Rough Mill**, **Bottom Finish**, and **Side Finish** steps.
2. Bottom finish will now use finish direction.

- ServiceFiles are now located at V:\ service\ *.zip.
In the event of a system software crash, ServiceFiles are now automatically generated without the need for a user to do so manually.
Also, the currently active program at the time of the crash, or manual generation, is saved to the file.

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- Network shares can now be setup and managed easier, since the dialog can now be accessed in Installation Setup on the Tools page via the Shares button.

AMI-G2 presence is now detected and monitored when configured as such in Installation Setup.
- If an AMI-G2 is not found at startup, a warning is displayed.
- If an AMI-G2 becomes disconnected, an error is displayed, and the MILLPWR^{G2} must be restarted.

- Additional hardware information is now viewable in Installation Setup (not fully supported on all consoles):
- System Information: Now displays the Console Part ID and Serial Number
- Advanced Configuration: Hardware info visible at System -> Versions -> CfgArHardwareInfo

- A message is displayed when enabling or disabling W-Axis coupling, which informs the user that the Z-Axis datum positions are now invalid.

- The alert dialog in Move Table now displays the active feedrate for jogging the axes.

- Allow starting custom pocket from mid-cycle or from Rough Mill, Floor finish, or Side Finish. When starting mid-cycle, a warning message is displayed before executing the Rough Mill, Floor Finish, or Side Finish step.

- Revised some encoder related error monitoring messages. These messages usually referred to a "defective encoder" which is typically not the case. The revised messages were: "Position encoder %2: Frequency too high", "Error in position encoder %2", and "Error in reference mark distance of encoder %2" when %2 =, X, Y, Z or W.

- Move Table button is now disabled if any preventative errors are active.

- Moved the Contour step from Custom Pocket pop-up menu to Position/Milling menu.

- Update on-screen help file and context hooks to reflect R4 changes.

Additional erroneous error were corrected

- Import of legacy program corrections.
- 1. Default to distance if NumberOfCycles setting is missing from file.
- 2. Convert decimal stepover to percentage on load.
- 3. Default engrave arc direction to UP if parameter is missing from file.
- Editing a gcode program that has no 2D contour or has an error shows the last program with a 2D contour.
- Attempting to paste a folder into itself now correctly cancels the operation and alerts the user.
- The user will now be prompted for overwriting an existing file.
- G-Code block form generator should recognize G20 and G21 commands. G20 sets system to Imperial units. G21 sets Metric units.

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