

MILLPWR^{G2} SOFTWARE UPDATE

ACU-RITE[®]

August 2, 2021
MILLPWR^{G2} 2 & 3 Axis
Release of Version R9

For Use with Consoles (ID#1113777-NN) ONLY

**These release notes include enhancements/changes for R9.
Please read below for the list of enhancements.**

NOTE: HEIDENHAIN Corporation recommends making a backup image of the control with the USB Recovery Drive before updating the control software. Please refer to the manual included with the USB drive for the backup procedure. Reference compatibility chart below.

- Prior to updating to R9 you must have R8 loaded, if you have a previous version of software, confirm that R5 SP1 is installed and that you have resized the hard drive partitions. Due to the enhanced features since release 5, repartitioning the console's hard drive is required. USB Recovery Drive ID# 680480-04 includes an option for resizing the control's hard drive partitions. This can only be performed on consoles ID#1113777-NN that are running software release 4 service pack 4 (R4 SP4) or R5. Please insure the console is updated to one of these releases prior to restructuring the drive and installing release 9 (R9).
- R5 cannot be installed unless you have R4SP4 installed first. If you have previous version of software such as R1, R2, or R3 SPx (release 1, release 2, or release 3 with any service pack) download and install R4 SP4 then proceed to update to R5.
- Recovery Drive Kit ID# 1127022-01 can be purchased from your local ACU-RITE distributor.

If a special PLC for AMI functions was created for your MILLPWR system. Any OEM/User customizations to the PLC may need to be reintegrated into the new PLC project. Note: R9 is a software update only and will not change the PLC or and special PLC that an OEM may have provided.

All users can verify your software version from the **DRO** screen by pressing 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.

You can download the software release update free of charge from our web site at www.acu-rite.com. If you wish to purchase the software and operation manual from ACU-RITE, contact your authorized dealer 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

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software. When a USB memory device is placed in a USB port prior to boot up with the update files setup.zip, and setup.ini located within a folder named “install”, at boot up your G2 control will detect the upgrade software files and proceed to install.

Procedure for downloading the update files and placing them on a USB drive.

Download the update from <http://www.acu-rite.com/software-updates.html> found under the Controls Tab.

- Unzip the downloaded archive insuring the target is the root level of your USB drive.
- Insure the files setup.zip and setup.ini are transferred to a folder at the root level of your USB drive named install, //MY USB DRIVE/install/



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.

! 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. 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.

! After installation and upon restart, you may receive a message prompt to confirm a firmware update, accept the changes and RUN UPDATE.

- *(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. *(These values should not change when upgrading software.)*
- If special machine functions were active, Press the SETUP hard key, then the “Install Setup” soft key, enter passcode 8891, press ENTER

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- In the “Installation” dialogue, arrow 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.

MILLPWR^{G2} Recovery Drive Compatibility

- Due to hardware differences the original MILLPWR^{G2} console and the current console require different software upgrade paths.
- Consoles can easily be identified by the color of the front bezel. The current design has a darker grey color than the original design.
 - The current G2 console will proceed to release 9 (R9) and all its service packs.
 - The original G2 console will remain with release 4 (R4) and all of its service packs.

Console ID# and Software Revision	 Recovery Drive ID# 1114023-01	 Recovery Drive Kit ID# 1201909- 01 USB ID# 680480-03	 Recovery Drive Kit ID# 1127022- 01 USB ID# 680480-04
745604-NN	Yes	Yes	No
R1	Yes	Yes	No
R2	Yes	Yes	No
R3	Yes	Yes	No
R4	Yes	Yes	No
R4 SP9	Yes	Yes	No
1113777-NN	No	Yes	Yes
R1	No	Yes	Yes
R2	No	Yes	Yes
R3	No	Yes	Yes
R4	No	Yes	Yes
R4 SP4	No	Yes	Yes
R5	No	No	Yes
Post R5	No	No	Yes

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Console ID # 745604-NN



Console ID # 1113777-NN



G2 consoles (ID#745604-NN)

- These consoles **cannot be upgraded to R9 or service packs within R9** and will continue to receive service packs under the R4 release. Please do not attempt to install release 5 (R5) R6 R7 R8 or R9 onto these consoles.
- System drive restructuring on this original design consoles will cause the console to become un-operational and require in house service to correct the issue. **Do not restructure the drive on these consoles.**
- **Not all software enhancements will be included in future R4 releases.** We will continue to support console ID# 745604-NN with service packs through the R4 released software that will mainly include minor enhancements or fixes.
- USB Recovery Drive Kit 1201909-01 includes a compatible USB Recovery Drive ID# 680480-03 for original G2 consoles (ID#745604-NN) and should be ordered when replacing a recovery drive for these consoles. This drive does not include the repartitioning option, so the unit cannot be repartitioning accidentally.

G2 consoles (ID#1113777-NN)

- **R9 and its associated service packs R9SPX cannot be installed unless you have R5SP1 installed first.** If you have previous version of software such as R1, R2, or R3 SPx (release 1, release 2, or release 3 with any service pack) download and install R4 SP4 prior to updating to R5.
- Due to the enhanced features of release 5, it has become necessary to repartition the console's hard drive. USB Recovery Drive ID# 680480-04 is now included in Recovery Drive Kit ID# 1127022-01 which supports all G2 consoles and all software versions to date or planned for the near future. This new recovery drive includes an option for resizing the control's hard drive partitions. This must only be performed on current consoles (ID#1113777-NN) that are running software release 4 service pack 4 (R4 SP4). Please insure the console is updated to this release prior to restructuring the drive and installing release 5 (R5). Hard drive repartitioning is required on these consoles prior to the upgrade to release 5 (R5).

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These enhancements/changes were made:

Software updates are now available in different package types; R9 NC software and PLC. Systems (systems built by a machine integrator, not standard KIT systems) or systems with customized PLC code should only install software updates which do not include the default PLC code. The PLC should instead be obtained from the OEI machine builder and updated separately from the NC software.

To prevent custom PLC software from being overwritten during installation of application software, the PLC software is no longer included with the application software update. A separate PLC update will be available for installation of PLC software when necessary. **Due to changes in R9 you will first load the update NC software and then the PLC.**

Added 0.0001" jog step to Move Table.

Added GUI to allow Z retract after home and to set machine datum.

The base NcKernel platform was updated to Milestone 13.

The on-screen help was updated.

A new Help Viewer has been implemented, using a more modern look, improved search/index features, and now supporting French, and Spanish languages.

The Online Help no longer requires a system reboot after changing the system language; the UI updates immediately.

For AMI-G2 systems with Spindle Control, the DRO dashboard now indicates the active spindle gear and RPM range of that gear. If the physical gear switch doesn't match the active system state, the info is displayed in RED. Up to four spindle gears are now supported.

In GeoCalc, the Load Program function loads chamfers as GeoLine and blends as GeoArcs.

Improved support of having no tool mounted (Tool 0).

The direction in which the arrow keys move the table under "Move Table" is user configurable.

The options are...

Standard: Up = +Y; Down = -Y; Left = -X; Right = +X;

ACU-RITE: Up = -Y; Down = +Y; Left = +X; Right = -X;

The default setting is ACU-RITE for MILLPWR.

Allow Position/Drill to position XY only without a Z operation.

MILLPWRG2 simple tapping feature

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MILLPWRG2 tracking feature

Programming G53 On is now possible.

The Restore Position feature allows the tool to be moved when the program is paused and the position restored before the program resumes.

Restore hand wheel soft key

Spindle Control added to Installation Setup.

Correctly handle setting Z datum on tool prompt when running a G-code program.

Spindle control has been removed from Machine Functions and to its own screen under Installation Setup. Now has four gear ranges (previously had two). Note: Polarity, Inputs & Delay require AMI Type = Full Spindle Control.

In hole pattern steps (bolt circle, row of holes, hole array, and hole frame), the type may be set to tap.

There are now two folders under service\ac; namely, SMA9115 containing the soon-to-be legacy amp files and SMD9A15 containing the new amp files; plus the recovery file. More info will be provided in the AC Installation Manual. Note: old amp files not overwritten. Same structure in TURNPWR service folder.

The table and nc_guide folders now show when Program type = All files. This allows copy to/from these folders. Files in the table folder cannot be deleted because they are required by the software. Errors are generated if a required file is missing. The NC must be rebooted for the newly copied file to take effect. Tool data is maintained in the file tool.t in MILLPWR and toolturn.trn in TURNPWR. Copy this file as needed to the target destination and reboot for the new file to take effect. Note that both of these file have a correspond "sim" version which should be ignored since the control internal overwrites the file with the content of the non "sim" version when Program mode is accessed. This is required to keep both NC and SIM synchronized. Copying to the nc_guide folder may be necessary to use a newer chm (help) file.

A new parameter was added to Installation Setup / Z Axis Control to allow the system to be configured to turn the Z servo on or off at a tool change. The current and default setting is off. For systems which do not have manual control of the Z axis, the setting may be set to on which allows the axis to be moved via Move Table. Z Axis Control dialogue is available in DC or AC systems.

The Offline software was updated to use Virtual Box 6.0.8. The Keypad must be manually launched from the Control Panel once the MILLPWR application is running to address keypad not connecting issues.

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Note: **Release 8 (R8) software includes many enhancements**, prior to downloading this version be aware that the graphics of the user interface has changed. The user interface now uses a modern theme congruent with the latest versions of the newly released ACU-RITE digital readout products. Here are just a few of the changes, fonts, larger pop up menu's large qwerty keyboard, color highlighting of steps.

IF YOU WANT TO STAY WITH THE GRAPHICS YOU CURRENTLY HAVE DO NOT INSTALL R8.

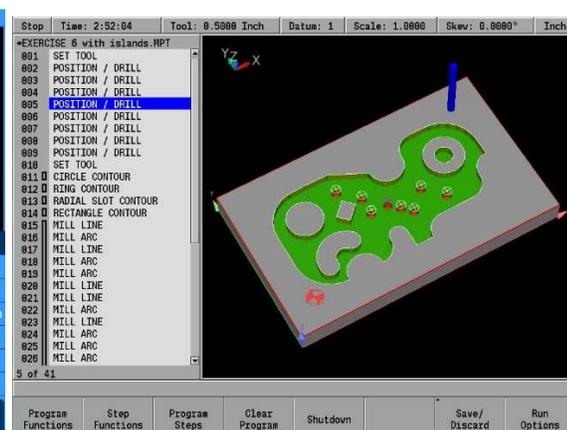
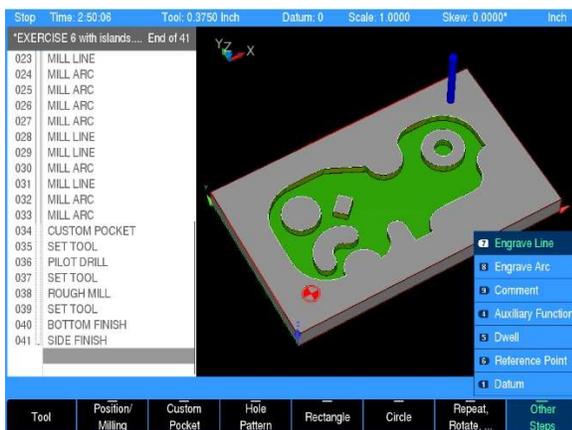
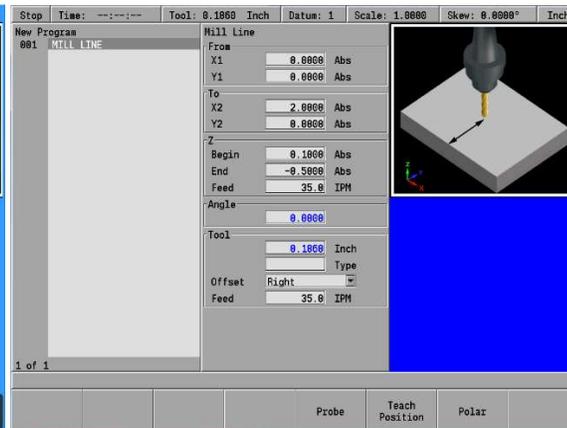
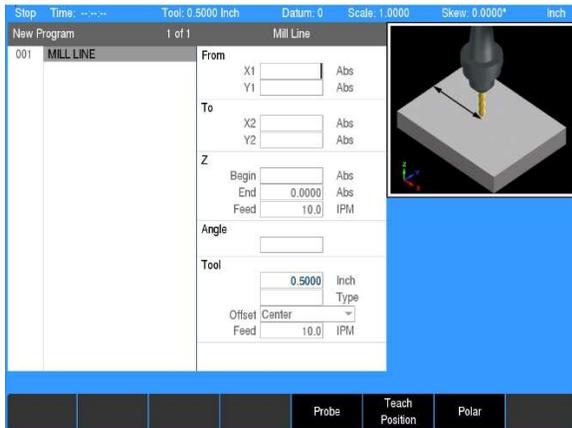
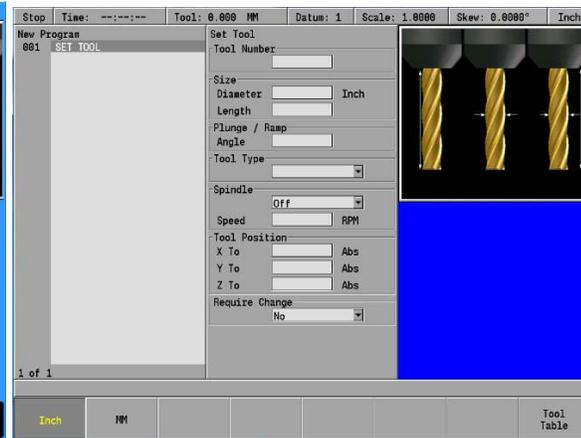
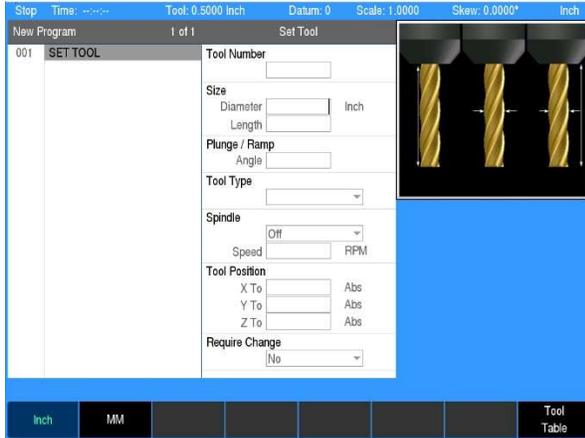
Here are some side by side comparisons:

Stop	Feed: 0.0 100%	Tool: 0.5000 Inch	Datum: 0	Scale: 1.0000	Skew: 0.0000°	Inch
EXERCISE 6 with islands.MPT 1 of 42		Estimated Time 11:20:26	Part Clock 0:00:13	Parts 0	Job Clock 1:05	Time of Day 3:44 pm
001	SET TOOL			6.8845	ABS	X
002	*POSITION / DRILL	INC 6.8845				
003	*POSITION / DRILL			2.4571	ABS	Y
004	*POSITION / DRILL					
005	*POSITION / DRILL	INC 2.4571				
006	*POSITION / DRILL			0.0343	ABS	Z
007	*POSITION / DRILL					
008	*POSITION / DRILL	INC 0.0343				
009	*POSITION / DRILL			1500	OFF	S
010	SET TOOL					
011	<input type="checkbox"/> CIRCLE CONTOUR					
012	<input type="checkbox"/> RING CONTOUR					
013	<input type="checkbox"/> RADIAL SLOT CONTOUR					
014	<input type="checkbox"/> RECTANGLE CONTOUR	OVR 100%				
015	MILL LINE					
016	MILL ARC					
017	MILL LINE					
018	MILL ARC					
019	MILL ARC					
020	MILL LINE					
021	MILL LINE					

Zero X
Zero Y
Zero Z
Shutdown
Machine Functions
Datum
Move Table

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If any issues are encountered, please contact your service representative for assistance or contact technical support at millpwrservice@heidenhain.com if you have any questions.