

ACU-RITE®



MILLPWR^{G2}

2 or 3 Axes Control
3 Axes Readout

POWERFUL CONVERSATIONAL
CNC RETROFIT SYSTEM FOR
KNEE & BED MILLS

From the moment you power up your MILLPWR^{G2}® system,
you'll know it was built with convenience in mind.

Large, full-color LCD display for exceptional clarity | Full 3D contouring capabilities
Menu-prompted conversational programming | Essential functions just a key stroke away
A full-function digital readout system or a programmable CNC control or both!
Powerful enough to handle any job | Easy enough for anyone to operate
No prior programming experience necessary

Faster set-ups, shorter run times and a major boost in productivity are just one “powerful easy” retrofit away.

The ACU-RITE MILL**PWR^{G2}** control and retrofit kits can turn just about any knee or bed mill into a productive CNC machine.

Now USB and Ethernet compatible, the MILL**PWR^{G2}** also features a bright 12.1" high resolution display, 1.4 GHz dual-core processor and plenty of programming capabilities — estimated runtimes, expanded tool/datum offsets, enhanced tool paths, a dxf converter — plus much, much more.



POWERFUL
EASY

The MILL**PWR^{G2}** is a contouring control that enables you to program conventional machining operations right at the machine in an easy-to-use conversational language. It is designed for both knee mills and bed mills with up to 3 axes of closed loop controlled.

MILL**PWR^{G2}** was developed specifically for machinists where manual and automated operation are both useful and needed. It's designed to maximize throughput by significantly reducing set-up time, scrap, and other non-productive operations, thereby increasing your efficiency, productivity and profitability.

A closed looped system, when equipped with ACU-RITE SENC 150 precision linear encoders (1um/0.00005" resolution), includes Position-Trac™ — a unique, advanced feature that enables you to easily quickly and accurately re-establish work piece zero after shutting down or power loss to the control.

USER-FRIENDLY

SAVE VALUABLE TIME.

Standardized menus make it easy to program common features, simply press any function key and follow the prompts. Use MILLPWR^{G2} for lines, arcs, blends and pockets in any size, shape or pattern your print requires. There is no need to set up rotary tables or other devices. MILLPWR^{G2} also includes an engrave option for engraving alphanumeric characters vertically, horizontally, diagonally or along an arc.

Save time with the skew feature, which enables the user to program to the work piece without having to perfectly aligning it along the X and Y axes. MILLPWR^{G2} will compensate for the skew angle offset from start to finish.

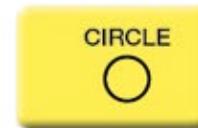
The teach position feature allows the operator to use a tool, electronic Edge Finder or indicator to create a program from an existing part.



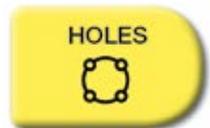
Program tools by diameter, length, type, direction, speed



Pocket, frame, face, slot



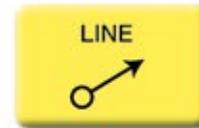
Pocket, frame, ring, helix



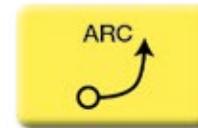
Full/partial circles, linear row/column, rectangular frame and array



Drill, bore, position



Defined by "from" and "to" points or by angles



Defined by "from" and "to" points or by sweep, center or 3-points



Insert a corner radius between two lines, two arcs or lines and arcs

RETROFIT PACKAGES

WHAT'S IN YOUR SHOP?

Update your existing mill with ease. Custom engineered, bolt-on retrofit packages are available for the following machines:

ACER	CLAUSING	SHARP
ACRA	ENCO	SOUTHBEND
ALLIANT	JET	LATHE
ARGO	KENT	TOP ONE
ATRUMP	LILIAN	TURNPRO
BIRMINGHAM	MILLPORT	VECTRAX
BRIDGEPORT	MSC	VICTOR
CHEVALIER	REPUBLIC	WILTON
	LAGUN	YCI

AND MANY MORE!



CNC systems available for knee mills and bed mills. Electronics package available for CNC-ready machines

DC SYSTEM RETROFIT KIT:

- G2 CNC control
- Remote stop/go switch
- Ball screws
- Servo drives and motors
- Motor mounting castings and hardware
- Handwheels
- Precision linear encoders (1um/0.00005" resolution)
- Console and encoder mounting hardware
- Machine specific bracketry
- Recovery drive

3D GRAPHICS SYSTEM

IMPROVES EFFICIENCY
& ACCURACY

Intuitive navigation menus eliminate the need for multiple screens.

Program cycles using a simple, easy-to-understand set of machinist language prompts, are accompanied by content-specific "help" graphics. Here is a step-by-step look at the G2 graphical interface, as a simple bolt hole circle and pocket are entered.

TOOL LIBRARY

Create a list of frequently used tools to save time while programming a part.

TOOL OFFSETS

Automatically compensate for the tool's dimensions while machining.

CUSTOM POCKET/ISLANDS

Clear an irregular contour with multiple passes and finish passes.

TOOL PATH ESTIMATION

To help reduce machine time and assist with quotes. Easily manipulate part programs to save time and reduce program steps.

EXPLODE

Explode a program step into several, more detailed steps for easier editing.

REVERSE STEP/REVERSE PATH

Switch the end points and tool offset of any step or path.

CHANGE STEPS

Change or edit the depth, offset, feed rate of several steps simultaneously.

TRAVEL LIMITS

Establish maximum travel limits with software, instead of costly mechanical switches that reduce travel.

FEED RATE OVERRIDE

Adjust the feed rate without exiting the milling function or program. Spindle speed override in optional spindle control console.

REFERENCE TABLES

Look up recommended surface speeds in seconds.

REMOTE STOP/GO

Start and pause movement with a hand held switch.

JOG CONTROL

Move quickly from one location to another utilizing one or all axes simultaneously.

FULL FUNCTION DRO

Significantly improve efficiency, productivity and profitability; may be used automatically or manually.

IMMEDIATE PART-VIEW GRAPHICS

Verify part-programs before and during machining to reduce errors and scrap; use zoom features for intricate details.

USB CONNECTIVITY – FRONT & BACK



Loading and off-loading programs, importing data via USB is now a plug-and-play convenience, with USB ports located on both the front and the back of the G2 control with mouse and keyboard support.

BUILT-IN CALCULATOR

Solve geometry and trigonometry problems. Save time and avoid errors by transferring results directly to your part program. Calculate spindle speeds with the RPM calculator.



AC BED MILL KIT:

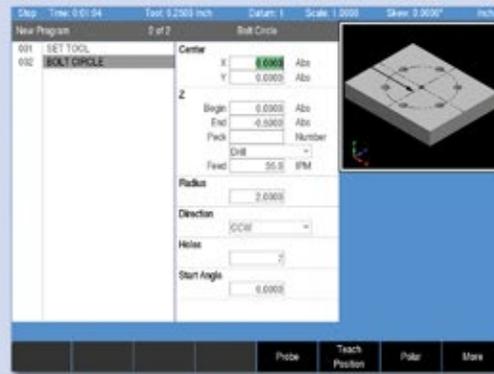
CNC systems available for bed mills. Electronics package available for CNC-ready machines

- G2 CNC with spindle control
- Remote handwheel
- AC motors
- Electrical cabinet with Servo drives and AMI
- Interconnect cables
- Recovery drive
- Optional precision linear encoders (1um/0.00005" resolution)
- Optional console and encoder mounting hardware



STEP 1

All programs begin with the tool. Parameters are entered in the middle column and are graphically supported in the right column for each field.



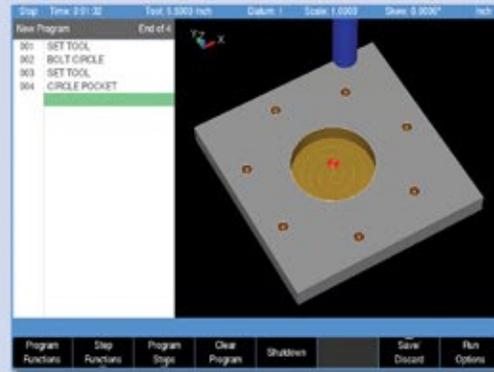
STEP 2

Select a cycle to be created. In this case, a circular bolt hole pattern. Once the data has been entered into the form press the USE hard key.



STEP 3

Create a second cycle. Adding a circular pocket that is illustrated in real time within the help graphic screen.



STEP 4

Tool paths are also displayed in 3D graphics that can be rotated and manipulated. The program is ready to run. Simply press "GO."

SHOP TOUGH

DEPENDABLE.

Every MILLPWR^{G2} system includes components that have been designed, manufactured and tested to withstand the elements of contamination found in even the harshest machine shop environment.

From the durable operator console to the hardened ballscrews and powerful DC servo motors, the components of each system are protected with diecast metal enclosures, sealed keypads and interlocking lipseals to further protect from metal chips and other contaminants.





SPECIFICATIONS

DRO Mode

Multiple Datums (Fixture Offset)	99
Skew	Yes
Zero Reset	Yes
Near Zero Warning	Yes

PGM Mode

Estimated Machining Time	Yes
View Graphics	2D Line / 3D Line / 3D Solid
Block Form	Yes, w/ User Override
Custom Pocket & Islands	Yes, Ramp Feed & Optimized Path
Replication (Repeat, Rotate, Mirror)	Yes
Engrave (Line / Arc)	Yes
Program Manager Navigation	Tree w/ Program Type Filter
Long Program Names	Yes
Program Preview	Listing & Graphic w/ Estimated Machining Time
Explode Step	Hole Patterns & Repeat / Rotate / Mirror
Reverse (Step / Path)	Yes
Shift Steps	Yes
Auto Save (Program)	Yes
Program Size Limit (MPT only)	9999 Steps
DXF File Import	Yes
G-code Program	Yes, w/ Graphics Support/Simple Edit
On-Screen Help	User Manual Viewer (Text & Graphics)
Parts Counter & Clock	Yes
Manual / Auto Z Control	Yes, 3 Axes
Optional Stop (G-code Only)	Yes
Feed Override	Potentiometer
Error Compensation	Linear & Bidirectional Non-linear

Hardware

Processor	1.4 GHz Dual Core Celeron® Processor
Display	12.1" 1024 x 768 Color TFT LED
Internal Storage	2.5 GB CFAST (SATA) User
Remote Pendant (Stop / Go)	Yes, for DC kits only
Remote Handwheel	Yes, for AC kits only
Housing	Die Cast Metal (Bezel & Back Sheet Metal)
Connections	Ethernet, USB (x2)
Protection	IP 54 (front) / IP 40 (Back)



MILLPWR^{G2}

Accessories

KNEE SCALE FOR COUPLING Z (QUILL) AND W (KNEE MILL APPLICATIONS)

This option provides the machine operator positional feedback on the control when the knee is manual moved.



ELECTRONIC EDGE FINDER

The edge finder allows you to set datums quickly and easily, without leaving marks on the workpiece.



Options



UPGRADE

Upgrading from an old MILLPWR II to MILLPWR^{G2} only requires the G2 console and mounting arm.

OFFLINE SOFTWARE

This allows you to create programs on a Windows compatible PC and permits those programs to be loaded into the MILLPWR^{G2} via USB or ethernet.



ACU-RITE offers a complete line of digital readouts and precision linear encoders.

MILLPWR^{G2} is backed by a comprehensive 2-year warranty and supported by a nationwide network of factory trained and certified distributors. Our distribution network is readily available to provide you with prompt delivery, product training and skilled technical service installation and support.



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