

SPiiPlusSPC



Smart Processing Commander

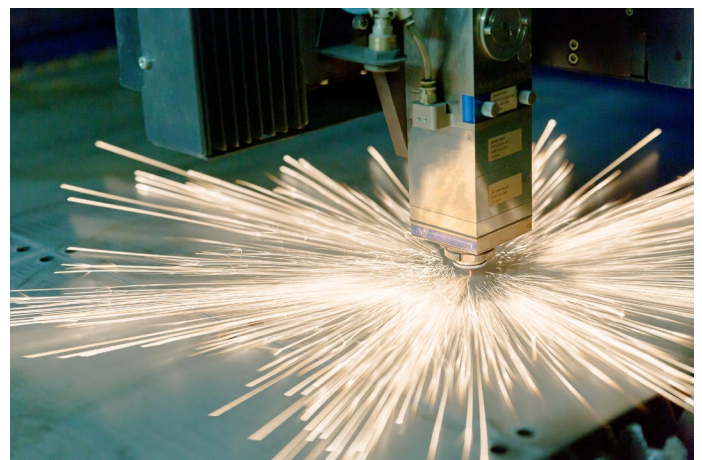
Machine Control Interface for High Precision Laser Processing Applications

- Leverages SPiiPlus EtherCAT® based motion control product line for complete machine control.
- Easy to use, comprehensive environment for manual and automated machine operation.
- Create simple or complex motion/process recipes from one or multiple imported CAD files (DXF, DWG, Gerber, NC Drill, STL, etc.) and/or the SPC geometric functions.
- Suitable for many 2D and 3D laser processing applications 'out of the box', with customization options available for more complex applications.
- Suitable for any PC running Windows 7/8/10, XP with SP3, optimized to require minimal Windows resources.
- Sophisticated laser control options synchronized with single and multi-axis motion via LCMv2 laser control module and drives
 - › Power modulation mode via digital or analog signal.
 - › Fixed distance pulse firing mode.
 - › Array based pulse firing and windowing mode.
 - › Axis range windowing mode.
 - › Combining multiple modes simultaneously.
- Combination of SPiiPlusSPC and SPiiPlus Motion Controller – designed to maximize process throughput and accuracy at every level
 - › Motion recipe planning (optimal order of recipe execution).
 - › Motion trajectory generation (maximizing speed while minimizing jerkiness through corners and small geometries).
 - › Servo performance (ensuring motion axes follow desired path as closely as possible).
- Easily integrate vision components for automated alignment and calibration.
- Integration of Galvo scanner control for step and scan (stitching) as well as certain 'on the fly' processing applications.

The SPiiPlusSPC is user interface software for high precision laser processing equipment that provides complete machine control and easily integrates, manages, and coordinates the SPiiPlus motion control system, laser, and other potential machine peripherals (vision, galvo, etc.).

SPiiPlusSPC full featured standard version can be used as an 'out of the box' solution for complete machine control functionality, completely eliminating the need for user interface development.

For more complex applications developed by System Integrators and OEMs, customization options are available through ACS and its partners, or via user created plugins.



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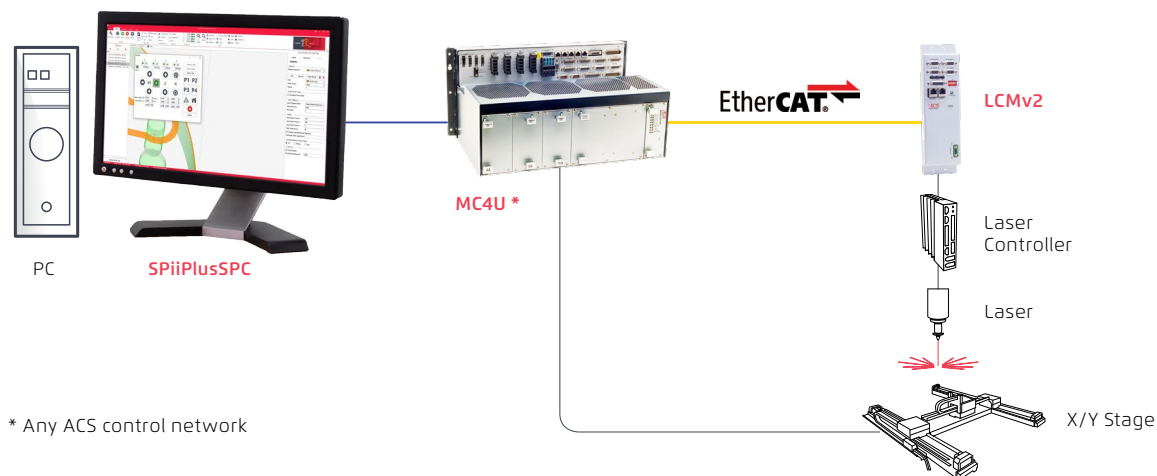
Additional SPiPlusSPC Features

- Joystick for intuitive manual axis control
- Real time display of axis positions
- Monitor and log physical stage positions during motion to analyze and optimize process
- Simple skin customization
- Scanlab RTC galvo controllers supported for step and scan (stitching) type and certain 'on the fly' type processing applications
- Advanced hatching options for marking applications
- Machine control is handled via the GUI and parameter settings, user can optionally write code directly in the controller as well (ACSPL+ or G-Code)

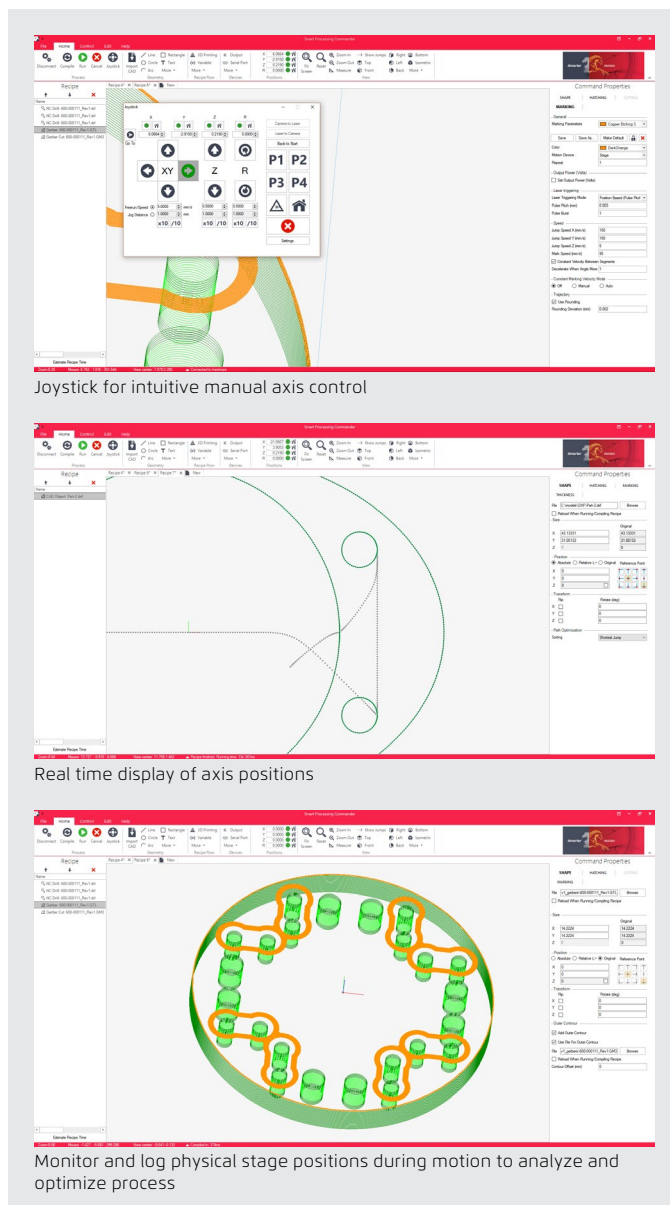
SPiPlusSPC Applications

- 3D engraving
- Laser Microprocessing
 - › Polymer Processing
- Laser Drilling
 - › PCB Drilling
- Laser Cutting
 - › PCB Stencil Manufacturing
 - › Glass and Polymer Cutting
 - › Stent Manufacturing
- Laser Additive Manufacturing

Motion & Laser Control Solution Example



* Any ACS control network



Joystick for intuitive manual axis control

Real time display of axis positions

Monitor and log physical stage positions during motion to analyze and optimize process

Product Features

	SPiiPlusSPC Standard	SPiiPlusSPC PRO
Motion Control		
Galvanometric scanner control	✓	✓
Positioning stages control	✓	✓
Up to 3 axes control	✓	✓
Unlimited number of axes	X	✓
Galvo+Stages Stitching	X	✓
Virtual Joystick	✓	✓
File Import		
DXF, DWG	✓	✓
STL	With 3D Module	✓
STP, IGES	X	✓
Gerber, NC Drill/Excellon	With PCB Module	✓
TXT, CSV	✓	✓
Tools / Commands		
Drawing tools	✓	✓
Hatching (lines, cross-hatching)	✓	✓
Advanced hatching (stripes, chess pattern)	X	✓
Measuring	✓	✓
Logical Commands (Loop, If)	X	✓
Variables	✓	✓
Math functions	✓	✓
Logging, Data Export	X	✓
Sample surface height mapping	X	✓
3D Printing tool	With 3D Module	✓
Support generation for 3D models	X	✓
3D model fixing	With PCB Module	✓
Device control		
IO	✓	✓
Serial Port control	✓	✓
Wait For IO Trigger	X	✓
Security features^x		
User access levels	X	✓
Process Parameter locking	X	✓
Custom features		
APIs to add new hardware and features	X	✓
Development of custom features and hardware support (up to 16 hours)	X	✓

	SPiiPlusSPC Standard	SPiiPlusSPC PRO
Training and Support		
Personal online training session	✓	✓
Online assistance with configuration	X	✓
Training for recipe creation for your application	X	✓
Follow-up online training	X	✓
System		
64 bit support	✓	✓
Multicore processing	✓	✓
Cameras and Vision		
Webcam support	With MV LITE	With MV LITE
Industrial camera support	With MV LITE	With MV LITE
Camera view calibration with positioning system	With MV LITE	With MV LITE
Autofocus feature (to find laser focus position)	With MV LITE	With MV LITE
Perspective distortion correction	With MV PRO	With MV PRO
Manual alignment	With MV LITE	With MV LITE
Automatic feature recognition	With MV PRO	With MV PRO

Ordering Options

Ordering options	Field	Example Selection by user	Optional Values
SPiiPlusSPC Version	1	P	S - Standard) P - Professional
3D and PCB modules	2	3	N - None 3 - 3D module P - PCB module
Camera and machine vision features	3	P	N - None L - MV Lite P - MV Pro
Future use	4	N	N - Reserved for future use
Future use	5	N	N - Reserved for future use
Future use	6	N	N - Reserved for future use
Future use	7	N	N - Reserved for future use
Future use	8	N	N - Reserved for future use

Example: SP+SPC-P3PNNNNN

Field	1	2	3	4	5	6	7	8
PN SP+SPC-	P	3	P	N	N	N	N	N



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