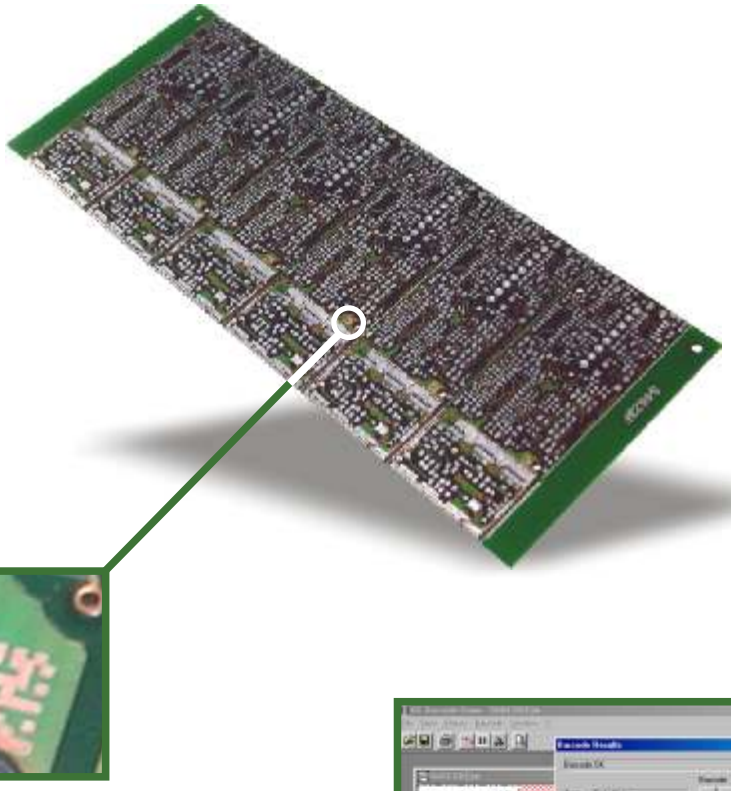
AUREL AUTOMATION

LASER MARKING SYSTEM MOD. ALS 6100

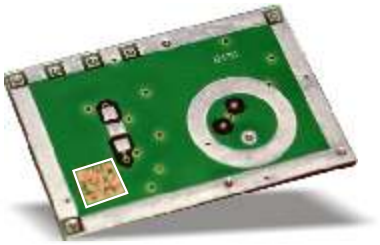
Aurel Automation SpA • Via Foro dei Tigli, 4 • 47015 MODIGLIANA (FC) • ITALY • Tel. +39 0546 941124 • Fax +39 0546 941660
www.aurelautomation.com • automation@aurelautomation.com

DATA MATRIX ON PCB

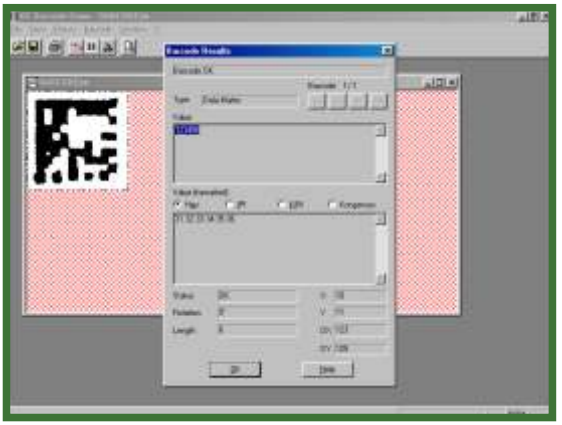
Example of marking on PCB with solder and copper, with AUREL ALS6100 Nd-YAG laser.
Machine has 160 x 160 mm marking area and moving head to cover areas up to 320 x 320 mm.



□ 2,5 x 2,5 mm



□ 5 x 5 mm



Aurel Automation SpA •Via Foro dei Tigli, 4 • 47015 MODIGLIANA (FC) • ITALY • Tel. +39 0546 941124 • Fax +39 0546 941660
www.aurelautomation.com • automation@aurelautomation.com

AUREL ALS 6100 MARKING SYSTEM

SPECIFICATION:

Working Area	:	110 x 110 mm (150 x 150mm optional)
Resolution	:	10 µm.
Repeatability	:	30 µm.
Writing speed	:	350 caratteri/sec.
Scanner head	:	Scanlab Mod. Hurryscan
Computer	:	Pentium 3 450 Mhz 128 RAM, Cd Rom, 15" TFT Flat monitor, tastiera con trackball integrata, Windows 95/98
Software	:	SAM Light SCAPS
I/O Interfacing signal	:	Start/Stop marking cycle (input). Beginning / End marking cycle (output). Emergency (input). Fault (output). Piece rotation (optional).

Laser generator:

- Aurel Nd-Yag with acousto-optic Q-Switch.
- Beam diameter TEMoo 1,3 mm.
- Wave length 1064 nm.
- Power TEMoo CW 12 W.
- Multimode CW 40 W.
- Repetition rate Single pulse to 10 Khz.
- Alignment either by HeNe Laser or through collimator.
- All mirrors and optical components mounted on rails with micrometric adjustment vertical and horizontal alignment of the Q-Switch by micrometer.

Utility requirements & enviromentals

Electrical power	:	3 / 380 V 20 A 50 Hz.
Operating temp.	:	10 - 40 Celsius.
Humidity	:	85 % max

AUREL AUTOMATION S.p.A. • Via Foro dei Tigli, 4 • I - 47015 MODIGLIANA (FC) ITALY • Tel. +39 0546 941124 - Fax +39 0546 941660
www.aurelautomation.com • automation@aurelautomation.com

AUREL AL 40 Nd-Yag LASER with acousto optic Q-Switch

- Wave length : 1064 nm.

- Power : 40 W Multimode CW
  12 W TEMoo CW

- Kripton lamp : 3,5 Kw.

- Q-Switch : 50 W - 24 Mhz.

- Repetition rate : Single pulse to 10 Khz.

- He Ne : 2,5 mW, 632 nm, in line with YAG beam to allow perfect laser beam alignment and visualizement. (Optional)

- All Components mounted on optical bench.

- Changeover of Pumping Kripton Lamp without Optical Re-alignment.

- Cooling system with deionized water, pump, particle and deionizer filters, interlock for protection of laser against high temperature and low flow.

AUREL AUTOMATION S.p.A. • Via Foro dei Tigli, 4 • I - 47015 MODIGLIANA (FC) ITALY • Tel. +39 0546 941124 - Fax +39 0546 941660
www.aurelautomation.com • automation@aurelautomation.com

More than 3 50 characters per second possible
Compact design
Apertures:10mm and 14 mm
Mechanically and electrically compatible with the SCANgine® series and the SCANjet
Scan mirrors available for various laser wavelengths and power densities
Digital and analog versions
Automatic self-calibration optionally available fo hurrySCAN® 14

Rapid manufacturing
Stereolithography, Laser carving
Processing on-the-fly
Inspection & Identification
The varioSCAN20, an optical system for fast and precise adaptation of the focal length to different working distances, m akes it possible to change the focus diameter by controlled defocusing.

When combined w ith the varioSCAN 20, XY scan systems can be extended into 3 D beam deflection units.

Typical applications:
Laser materials processing
Marking, Coding, Drilling, Scribing, Trimming, Deep-engraving, Texturing, Structuring, Perforating
3D Solutions
Micro-machining

Precision display systems
Materials sorting
Product individualizing
Medical systems
Biomedical systems
Ophthalmology
Science & Research

In comparison with the s can heads of the SCANgine® series, the hurrySCAN® offers highly improved step response times. This is decisive for applications with h igh demands for speed and accuracy.

The compact housing of the hurrySCAN® is fully compatible with the SCANgine® series and the SCANjet. This enables OEMintegrators and system m anufacturers to choose the scan head best suited for a g iven application.

Easy retrofitting of installed systems e quipped with SCANgine® a n d compatible scan heads is also possible. SCANLAB offers mounts for common F-Theta objectives. The standard configuration of the hurrySCAN® includes an F-Theta objective with a focal length of 160mm. Other F-Theta objectives are available on request.

The compact sealed design of the hurrySCAN® ensures stable working conditions, forming the basis for high reliability and defined performance parameters such as repeatability and speed. For enhanced long-term repeatability, automatic self-calibration is optionally available for the hurrySCAN® 14.

Tight production tolerances allow the hurrySCAN®to be interchanged easily. Therefore, upgrades and service interventions can be quickly performed without excessive equipment down time.

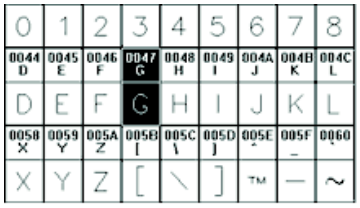
SCANLAB also offers the deflection unit minus the housing as a scan module for integration into existing designs.

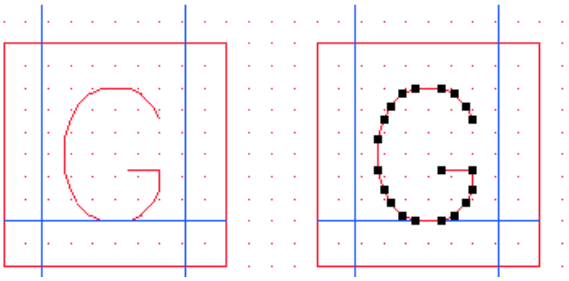
SAM 2D

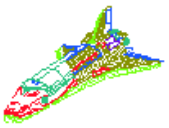
SCAPS SAM 2D
Marking application software

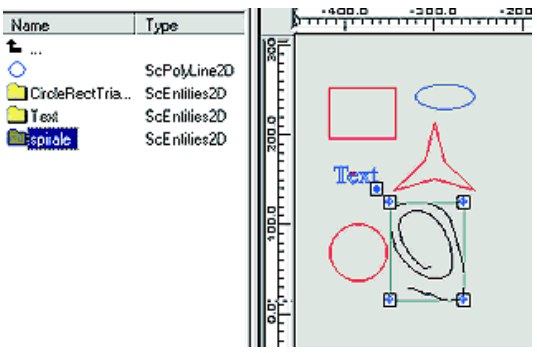
SAM2D Standard Components

Basic
Optic
View2D
Text2D
Barcodes
Bitmap
Std-IO
Hatcher









- Display of all SCAPS data like HPGL,text, bitmaps etc.
- Assignment of properties like illumination style, name, hatch style, etc.
- Transformation of data with mouse and keyboard input.
- Graphical generation of standard geometry like lines,rectangles, triangles, circles, and polygon lines by mouse.
- Transformation of point items
- Entity list for defining mark order
- Linear and radial text
- Windows True Type fonts
- Serial numbers, Laserfonts
- Font editor for defining customized laser fonts.
- Generation of different 1D and 2D barcodes like 3of9, EAN, EAN-128, Code-128, UPC-A, Data Matrix, etc.
- Reading and writing of HPGL data with pen information
- DFX Import maintaining object hierarchy
- Import of PC-MARK files
- BMP and PCX bitmap import
- Filling of 2D polygon lines
- Beamcompensation of closed polygon lines during hatching.