

Title (en)

AUTOMATED LASER WORKSTATION FOR HIGH PRECISION SURGICAL AND INDUSTRIAL INTERVENTIONS.

Title (de)

AUTOMATISIERTE LASER-EINHEIT FÜR HOCHGENAUE CHIRURGISCHE UND INDUSTRIELLE EINGRIFFE.

Title (fr)

POSTE DE TRAVAIL AUTOMATISE A LASER POUR INTERVENTIONS INDUSTRIELLES ET CHIRURGICALES DE HAUTE PRECISION.

Publication

EP 0630205 A4 19950614 (EN)

Application

EP 93907083 A 19930226

Priority

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- US 84337492 A 19920227

Abstract (en)

[origin: WO9316631A1] A method, apparatus and system for template-controlled, precision laser interventions is described for microsurgery, and industrial micromachining. The system includes a user interface, wherein the user can either draw, adjust, or designate particular template patterns overlaid on live video images of the target and provides the means for converting the template pattern into a sequence of laser shots on the corresponding surgical or industrial site. The user interface also continuously presents three dimensional visual information to the surgeon/ user during the operation. The system thus comprises the following key elements: (a) a user interface (19), consisting of a video display (18), microprocessor (16) and controls, (b) an imaging system (86), including a surgical video microscope with zoom capability, (c) an automated 3D target acquisition and tracking system (84, 85, 82) that can follow the movements of the tissue, during the operation, (d) a laser, (e) a diagnostic system, incorporating a mapping and topography means (98) for measuring precise surface shapes prior to and subsequent to a procedure.

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Citation (search report)

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- [A] US 5029220 A 19910702 - JUDAY RICHARD D [US]
- [X] MARKOW ET AL.: "An Automated Laser System for Eye Surgery", I.E.E. ENGINEERING IN MEDICINE & BIOLOGY, vol. 8, no. 4, December 1989 (1989-12-01), NEW YORK, pages 24 - 29, XP000100548
- See references of WO 9316631A1

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