



MLS[®]
Multiwave
LockedSystem

**SEE HOW VALID OUR WORK IS AT
ASACAMPUS**

Working closely with an international network of researchers, ASAcampus has allowed us to demonstrate the validity of our work by:

- ▶ extensively studying the photochemical, photothermal, photomechanical effects resulting from the interaction between MLS[®] pulse and biological tissue
- ▶ investigating, up to a molecular level, the mechanisms that are at the base of the biological response
- ▶ evaluating the therapeutic effects



ASL
A S A L A S E R
Research and Therapeutic Solutions

MLS® the 3rd Millennium Laser Therapy



UNITED STATES PATENT No.: US 8,251,982 B2

The patent obtained in the US officially recognizes the uniqueness and originality of MLS®.

MLS® Multiwave Locked System is the result of a long path of scientific research and technological innovation, the fruit of knowledge and experiences acquired over the evolution of laser therapy, where ASAlaser has marked the most significant stages as protagonist: from low to high power, from CO₂ to Nd:YAG, from combined lasers to MLS® Laser Therapy. Synchronization, which characterizes the MLS® pulse, is the result of thirty years of experience, marked by continuous improvement of laser source performances, by the knowledge of the biological and clinical effects, by the dedication to create a safe and effective therapy, personalized according to healing objectives.

THERAPEUTIC EFFECT

The marked analgesic effect and the intense anti-inflammatory and anti-edema effects of the MLS® pulse are shown simultaneously strengthening one another

ADVANTAGES

Notable reduction of symptoms right from the first sessions. Reduced treatment times, long lasting results

905 nm
PULSED EMISSION

MLS® PULSE
COMBINATION-SYNCHRONIZATION
The chosen wavelengths ensure that laser energy penetrates deeply

808 nm
CONTINUOUS EMISSION

The synchronization in one single pulse of specific continuous and pulsed emissions, produces the synergy and strengthening of the single effects

MLS®
Multiwave
LockedSystem

BETTER HOMOGENEITY AND ENERGY DISTRIBUTION.

The synchronized action, specific of MLS® Laser Therapy, allows to obtain a complex and refined light pulse that according to our studies is able to transfer energy to the target anatomical structures with very high efficiency. The emitted energy is directed through an optical group and distributed evenly over a large Target Area. This energy delivery modality facilitates the activation of photoreceptors in the treated area, involving at the same time a large volume of tissue beneath the skin.



APP

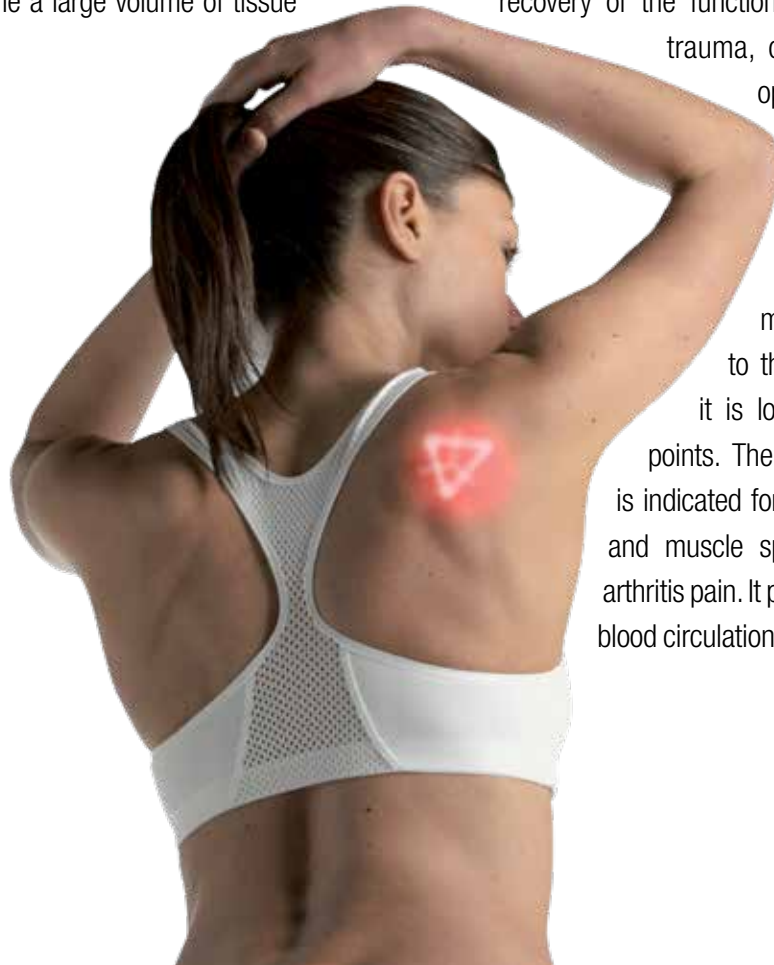
The most complete and up to date scientific content, technical and practical (3D animations, videos, tutorials, factsheets, ...) dedicated to MLS® Laser Therapy according to anatomy, diseases and treatments.



ACTIVE AGAIN. Thanks to MLS® Laser Therapy devices, the patient can quickly overcome the acute phase of pain with long-lasting results, finding a better quality of life and coming back in a short time to the normal activities of everyday life such as work, sports and social life. In fact, MLS® Laser Therapy does not only facilitate the overcoming of the painful symptom, typical of musculoskeletal pathologies, but it is also a valid rehabilitation tool, as it effectively promotes the recovery of the functionality compromised by

trauma, overuse, and surgical operations. The MLS®

Laser Therapy is based on a global approach: the treatment is extended to the whole muscle groups related to the pathology and then it is localized on the trigger points. The MLS® Laser Therapy is indicated for the treatment of pain and muscle spasms, joint stiffness, arthritis pain. It promotes an increase in blood circulation and muscle relaxation.



ADVANTAGES AND INDICATIONS.

▷ QUICK RECOVERY TIMES

The patient can quickly overcome the acute phase of pain; the reduction of pain is noticeable from the very first applications.

▷ NO SIDE EFFECTS

Thanks to its analgesic and anti-inflammatory effects, MLS® Laser Therapy is a valid choice for pain management, allowing effective treatments without side effects.

▷ SIMULTANEOUS ACTION

The combination and synchronization in a single pulse of the specific continuous and pulsed emissions synergizes and strengthens the single effects on the inflammation-edema-pain triad.

SPECIFICALLY SUITABLE FOR THE TREATMENT OF:

▷ Pain Management

Joint disorders, tendinopathies, contractures, muscle pains, trigger points

▷ Edemas

▷ Tissue Lesions



Mphi the MLS® Laser Therapy available everywhere



MPHI, THE MLS® “PORTABLE UNIT” DEVICE. Easy to transport, ergonomic, easy to use, intuitive: a new opportunity for making the beneficial effects of MLS® Laser Therapy available everywhere, in your clinic or at patient’s home. Completely independent, provided with lithium battery, with moderate dimensions and weight. Mphi is equipped with an innovative backlit color graphic touch-screen display that interacts with the operator in an intuitive manner.



Mphi



Mphi Trolley



TROLLEY. The devices for MLS® Laser Therapy blends quality with innovation for easy use, practicality and therapy efficiency. In the Trolley version, Mphi and Mphi 75 are equipped with an ergonomic trolley, perfect to store the accessories and to be easily moved inside the clinic so you can always have it close to you and to the area to be treated.

Mphi 75: new 75 W peak power



Mphi 75 represents a further evolution of the MLS® line and inherits its safety features and ease-of-use as a portable device with adequate size and weight. The MLS® sources have a peak power of 75 W and an average power output of up to 1.2 W, which is fully put to use by the synchronization of emissions (continuous/frequenced and pulsed) that allows to reach deep into the tissues, ensuring total safety against thermal damage.

LASERPUNCTURE

Thanks to the interchangeability of the handpiece's terminal, the standard lens (Target Area of 2 cm diameter) can easily and quickly be replaced with the high efficiency Light Guide, capable of directing the laser beam into a spot dedicated to the Laserpuncture.



Mphi 75



Mphi 75 Trolley



Mphi 5

the complete solution



The Mphi 5 has been designed to reach easily each area of the body and to convey the high-quality energy of the MLS® pulse to a well-defined 5 cm diameter Target Area, whose shape and size has been optimized to guarantee an excellent therapeutic result. The size of the irradiated zone, in fact, makes it possible to treat homogeneously large tissue volumes, such as large fractions of muscle strips or whole joints. This causes a rapid response of the irradiated structures.

The preset therapeutic protocols facilitate the operator to choose the kind of treatment, and the multi-diode applicator Charlie offers the advantage of acting on extensive body areas in a short time and in an autonomous manner, without the active and constant intervention of the operator.



M6 the multitarget

for the MLS® Laser Therapy

The distinctive characteristic of M6 is the innovative multitarget functioning. Thanks to the features of the exclusive MLS® multi-diode optical group, a wide area is treated instantaneously, producing an immediate response from treated tissues. The results are therefore better and faster than with the scanning modality of traditional laser therapy. A sophisticated design has given shape to the most advanced achievement in optical technology and electromechanics, creating a medical device capable of delivering MLS® Laser Therapy automatically.



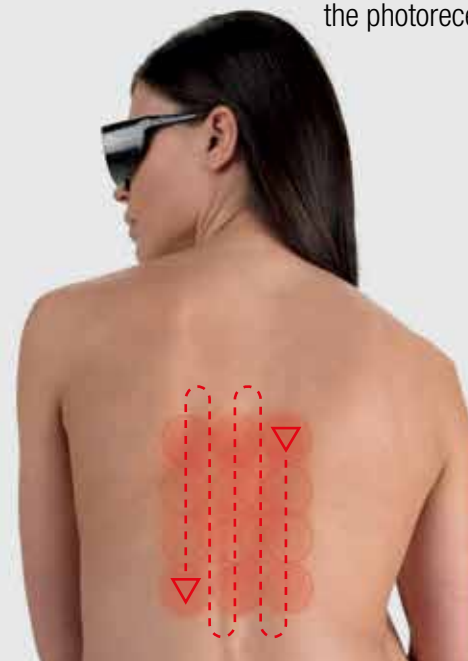


The robotized head covers evenly the whole area to be treated, this is achieved by the multitarget modality “Greek key” movement that guarantees the homogeneous coverage of wide treatment areas in a very short time. Treatment times have been rigorously calibrated to achieve the best results. The parameters are displayed and can be changed through an advanced user interface, featuring a backlit color graphic touch screen display. The new software, conceived to satisfy operators’ needs, offers complete protocols illustrated with anatomic images and treatment points.



5 PRE-SET DIRECTIONS
The robotized head that encloses the MLS® multidiodic optical group can move along five pre-settled directions (2 horizontals, vertical, right and left) in order to increase the operating versatility and to easily reach every portion of the area to be treated.

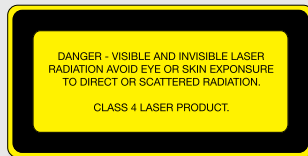
TREATING LARGE AREAS SIMULTANEOUSLY. The M6 makes it possible to perform the automatic Multitarget application of MLS® Laser Therapy. The movement of the column and of the arm, together with the 5 robotized directions of the laser head, allows the optical group to correctly reach each area of the body to be treated. This makes M6 unique. The irradiation is performed through the automatic movement of the Target Area on the treatment area: the ideal solution for treating wide painful areas, such as entire muscular strips and nerve course. The wide array of movements of the robotized head can be reduced to treat smaller areas of the body up to perform fixed pointing application. The Multitarget has been designed for the purpose of minimizing the loss of energy caused by reflection and scattering and to guarantee the activation of the photoreceptors of the treated area.



The Multitarget modality application with a “Greek key” movement guarantees the homogeneous coverage of wide treatment areas in a very short time.

Simple and intuitive, the “teaching machine” for MLS® Laser Therapy

With its renewed logic interface, the Mphi touch-screen was developed to come closer to the personal therapeutic approach of the operator: 3 different use modes in “Pain management”, and another 2 for treating edema and for biostimulation (injuries, ulcers, sores). The new software gives different treatment personalization according to the “phototype” and “size” of the patient: it is also possible to select “acute” or “chronic” values.



PATHOLOGY MODE. The operator is guided through a list of pathologies referred to each single body area. Selecting the pathology, a 3D anatomic representation of the human body appears, clearly indicating all the points to be treated.

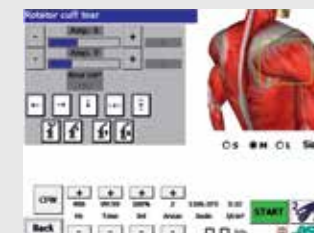
AREA MODE.

FOR A GLOBAL APPROACH. There are 2 phases: manual scanning (scan phase) and trigger point treatment (trigger points). The operator is guided on how to carry out the two phases thanks to the continuous representation of the areas to be treated using manual scanning and the trigger points. In this way the MLS® Laser Therapy is applied to the specific tissues concerning the pathology and to the whole muscular groups that are directly and indirectly involved.



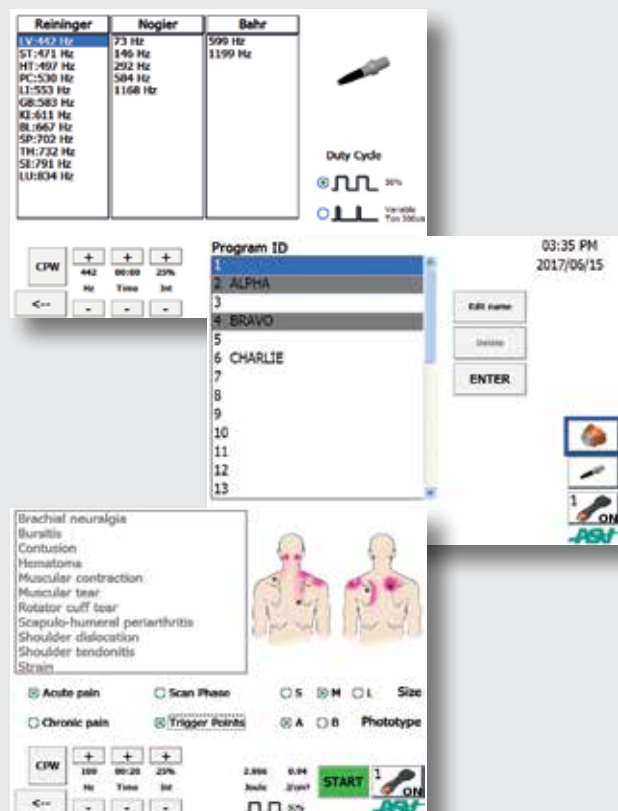
ROBOTIZED MODE (MODEL M6).

The operator can intuitively set the size of the area to be treated and chose the most appropriate directions among pre-set ones.



5 TREATMENT METHODS

(MODEL MPHI 75). Mphi 75 makes it possible to manage multiple treatment modes, including Laserpuncture and custom protocols in a specific dedicated area, allowing the creation and storage of parameters ready to be used at any time.



Mphi

TECHNICAL CHARACTERISTICS

- ▶ Handpiece with optical group composed of MLS® source power up to 1.1 W
Peak Power 25 W
Target Area ø 2 cm highlighted by high-efficiency red lights LEDs
- ▶ High resolution LCD color touch screen user interface
- ▶ Simultaneous management of two independent channels
- ▶ 4 treatment modalities:
 - A) specific pathologies
 - B) pain management
 - C) anti-edema
 - D) biostimulation
- ▶ Possibility to customize each treatment parameters
- ▶ MLS® modulation in CPW and FPW mode (Synchronized emission of Continuous Pulsed Waves and Frequenced Pulsed Waves)
- ▶ Modulation frequency from 1 to 2000 Hz with 1 Hz steps
- ▶ Power level 25%, 50%, 75% and 100%
- ▶ Fixed duty cycle at 50% or variable
- ▶ Treatment duration from 1" to 99'59" with 1" steps
- ▶ Automatic calculation of the emitted energy according to the settled parameters

ALARMS AND SAFETY FEATURES

- ▶ Laser emission warning light
- ▶ Interlock
- ▶ Acoustic signal selectable by operator
- ▶ Date and time
- ▶ Password to operate the device
- ▶ Language option
- ▶ Ready to be connected to the remote laser emission signaling device

INCLUDED ACCESSORIES

- ▶ N° 2 Laser Safety Goggles
- ▶ Unit carrying case
- ▶ Table handpiece holder
- ▶ Shoulder strap for portable use

SIZE AND WEIGHT

- ▶ 36 x 28 x 10 cm; 3 Kg

POWER SUPPLY

- ▶ Lithium polymer battery
- ▶ External power supply 18Vdc 50VA

OPTIONAL ACCESSORIES

- ▶ Trolley-Unit carrying

Mphi 75

TECHNICAL CHARACTERISTICS

- ▶ Handpiece with optical group consisting of an MLS® source with power up to 1.2 W -Peak Power 75 W
Therapeutic terminal, Target Area of ø 2 cm highlighted by high-efficiency red LED Light Laserpuncture terminal, Target Area of ø 4 mm highlighted by high-efficiency red LED light
- ▶ Color touch screen display with anatomical images
- ▶ Simultaneous management of two independent channels
- ▶ 5 treatment modalities:
 - A) specific pathologies
 - B) pain management
 - C) anti-edema
 - D) biostimulation
 - E) Laserpuncture
- ▶ Possibility to customize every treatment parameters
- ▶ Dedicated area to create and save new customised programmes for each terminal/ applicator
- ▶ MLS® modulation in CPW and FPW mode (Synchronized emission of Continuous Pulsed Waves and Frequenced Pulsed Waves)
- ▶ Modulation frequency from 1 to 2000 Hz with 1 Hz steps
- ▶ Power level 25%, 50%, 75% and 100%
- ▶ Fixed duty cycle at 50% or variable
- ▶ Treatment duration from 1" to 99'59" with 1" steps
- ▶ Automatic calculation of the emitted energy according to the settled parameters

ALARMS AND SAFETY FEATURES

- ▶ Laser emission warning light
- ▶ Interlock
- ▶ Acoustic signal selectable by operator
- ▶ Date and time
- ▶ Password to operate the device
- ▶ Language option
- ▶ Ready to be connected to the remote Laser emission signaling device

INCLUDED ACCESSORIES

- ▶ N° 2 Light Guide for Laser puncture
- ▶ N° 2 Laser Safety Goggles
- ▶ Unit carrying case
- ▶ Table handpiece holder
- ▶ Shoulder strap for portable use

SIZE AND WEIGHT

- ▶ 36 x 28 x 10 cm; 3 Kg

POWER SUPPLY

- ▶ Lithium polymer battery
- ▶ External power supply 18Vdc 50VA

OPTIONAL ACCESSORIES

- ▶ Trolley-Unit carrying

Mphi 5

TECHNICAL CHARACTERISTICS

- ▶ Multiiodic applicator Charlie with optical group composed of 3 MLS® sources with power up to 3.3 W - Peak Power 3 x 25 W
Target Area ø 5 cm highlighted by high-efficiency red light LEDs
- ▶ Handpiece with optical group composed of MLS® source power up to 1.1 W
Peak Power 25 W
Target Area ø 2 cm highlighted by high-efficiency red lights LEDs
- ▶ High resolution LCD color touch screen user interface
- ▶ Simultaneous management of two independent channels
- ▶ 4 treatment modalities:
 - A) specific pathologies
 - B) pain management
 - C) anti-edema
 - D) biostimulation
- ▶ Possibility to customize every treatment parameters
- ▶ MLS® modulation in CPW and FPW mode (Synchronized emission of Continuous Pulsed Waves and Frequenced Pulsed Waves)
- ▶ Modulation frequency from 1 to 2000 Hz with 1 Hz steps
- ▶ Power level 25%, 50%, 75% and 100%
- ▶ Fixed duty cycle at 50% or variable
- ▶ Treatment duration from 1" to 99'59" with 1" steps
- ▶ Automatic calculation of the emitted energy according to the settled parameters

ALARMS AND SAFETY FEATURES

- ▶ Laser emission warning light
- ▶ Interlock
- ▶ Acoustic signal selectable by operator
- ▶ Date and time
- ▶ Password to operate the device
- ▶ Language option

INCLUDED ACCESSORIES

- ▶ N° 2 Laser Safety goggles
- ▶ Unit carrying case
- ▶ Shoulder strap for portable use
- ▶ Trolley-Ergonomic trolley designed for holding Mphi, with bumper-protected wheels, a built-in handpiece holder and two storage compartments

SIZE AND WEIGHT

- ▶ 63 x 54 x 85 cm; 25 Kg

POWER SUPPLY

- ▶ Lithium polymer battery
- ▶ External power supply 18Vdc 50A

M6

TECHNICAL CHARACTERISTICS

- ▶ Robotized optical group with 3 MLS® sources - power up to 3.3 W
Peak Power 3 x 25 W
Target Area ø 5 cm highlighted by high-efficiency red-light LEDs
- ▶ Handpiece with optical group composed of MLS® - power up to 1.1 W
Peak Power 25 W
Target Area ø 2 cm highlighted by high-efficiency red-light LEDs
- ▶ High resolution LCD color touch screen user interface
- ▶ Simultaneous management of two independent channels
- ▶ 4 treatment modalities:
 - A) specific pathologies
 - B) pain management
 - C) anti-edema
 - D) biostimulation
- ▶ Possibility to customize every treatment parameters
- ▶ MLS® modulation in CPW and FPW mode (Synchronized emission of Continuous Pulsed Waves and Frequenced Pulsed Waves)
- ▶ Modulation frequency from 1 to 2000 Hz with 1 Hz steps
- ▶ Power level 25%, 50%, 75% and 100%
- ▶ Fixed duty cycle at 50% or variable
- ▶ Treatment duration from 1" to 99'59" with 1" steps
- ▶ Automatic calculation of the emitted energy according to the settled parameters

ALARMS AND SAFETY FEATURES

- ▶ Laser emission warning light
- ▶ Interlock
- ▶ Acoustic signal selectable by operator
- ▶ Date and time
- ▶ Password to operate the device
- ▶ Language option

INCLUDED ACCESSORIES

- ▶ N° 2 Laser Safety goggles
- ▶ Unit carrying case
- ▶ 106 x 43 x 154 cm; 43 Kg

POWER SUPPLY

- ▶ 85/110VA 100/240Vdc

ASL

A S A L A S E R

Research and Therapeutic Solutions

Hilterapia®

MIS
Multiwave
LockedSystem

Qs
Magnetotherapy



ASA srl

CORPORATE HEADQUARTERS / REGISTERED OFFICE
Via Galileo Galilei, 23 / 36057 Arcugnano (VI) - Italy
T +39 0444 28 92 00 / F +39 0444 28 90 80
asalaser@asalaser.com

RESEARCH DIVISION / BRANCH
Joint Laboratory Department of Experimental and Clinical
Biomedical Sciences University of Florence
Viale G. Pieraccini, 6 / 50139 Firenze - Italy
asacampus@asalaser.com

asalaser.com



CE
0123