



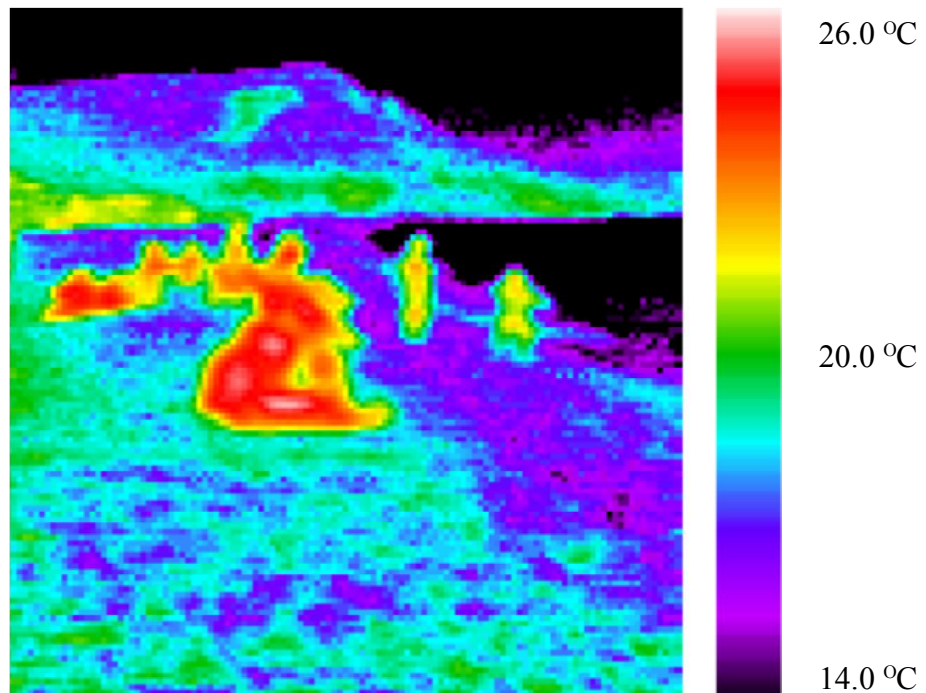
**REAL TIME  
MEDICAL DIAGNOSTICS AND MANAGEMENT**

**USING WHALE MEDICAL INC.'S**

***INFRARED BIOSCANNER***

**QUANTITATIVE RADIOMETRIC TELETHERMOMETRY**

**OPERATING AND TRAINING HANDBOOK**



**INCLUDING SUPPLEMENTARY NOTES AND A - Z DISEASE AND SYMPTOMS**

**WHALE MEDICAL INC.**

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**INDEX FOR THE LUX IV**

by  
J. Whale. PhD

*With more medical professionals prescribing Lux IV Medical Lamps for all types of medical problems, new successful treatments and procedures are constantly being developed. Single copies of the latest version are printed direct from a computer as required. Always check with Whale Medical Inc. for conditions not listed.*

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This Operating Handbook is issued to: \_\_\_\_\_

Lux IV Serial No: \_\_\_\_\_

Infrared Bioscanner Serial No: \_\_\_\_\_

Signed: \_\_\_\_\_ On: \_\_\_\_\_



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# ***INFRARED BIOSCANNER***

## **OPERATING AND TRAINING HANDBOOK**

### **INCLUDING A LUX IV GUIDE**

**THIS OPERATING AND TRAINING HANDBOOK IS TO BE USED IN CONJUNCTION WITH THE  
LUX IV AND ITS OPERATING AND TRAINING HANDBOOK**

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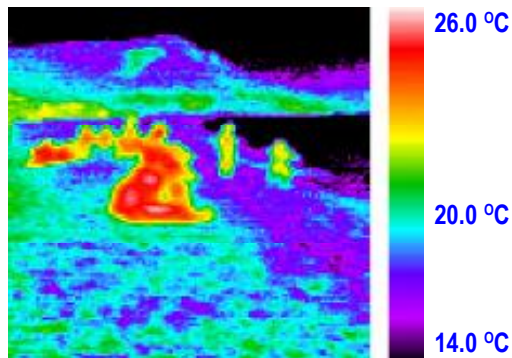
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## EXPLANATORY NOTE

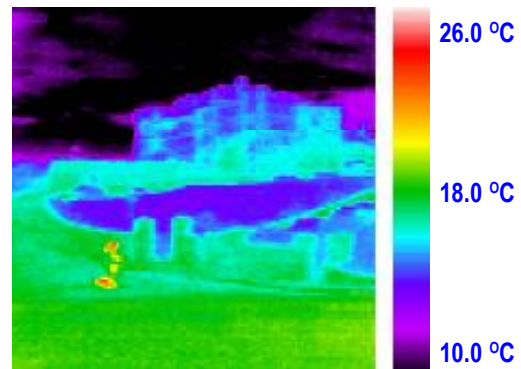
Both on the front and rear covers and throughout this book are illustrations created by a Radiometric Infrared Camera. Each illustration is provided with a Temperature Conversion Table on the left-hand side of the picture calibrated in degrees Celsius. These infrared pictures clearly illustrate the microwave emissions from humans, as well as the world at large. Diseased tissue emits greater or lesser energy compared to healthy tissue. The frequencies measured by the infrared camera and Whale Medical's *Infrared Bioscanner* are between 8.0 and 14.0 micrometers. Simply by comparing the image colours against the Rainbow Colour Calibration Gradient on the pictures left side, the temperature of different entities within it can be determined. The highest temperatures are red and the lowest are violet. The black sky is at a much lower temperature outside of the image calibration.

**Front Cover Image**



Infrared image of the higher radiometric transmissions of people enjoying the cool sea

**Back Cover Image**



A solitary person walking towards Castle Hill on a cold night

## DISCLAIMER

Laboratory analysis providing the haematology and biochemistry data along with many other diagnostic procedures available are paramount for the correct medical management of disease. Modern drugs and surgery are life saving . This book is a reference work, not intended to diagnose, prescribe or treat. The information contained herein is in no way to be considered as a substitute for consultation with a professional physician. Those who use the techniques described in this book do so by their own choice and, whilst if carried out according to the instructions in this book they may prove efficacious, neither the author nor the publisher promise, guarantee or accept responsibility for any specific results.

## Appendix VI

### THE INFRARED BIOSCANNER



Accurate easy to use Desktop Infrared Differential Scanner.

*Extracts from the Lux IV and Infrared Bioscanner Operating and Training Handbook*

#### Advantages In Use

Quantitative real time Infrared Thermal diagnostics combined with real time Lux IV management provide:

- \* **Rapid calibrated evidence of the biological energy levels accompanying disease or injury.**
- \* **Indicate the correct type of electronic gem therapy application or other therapy modality required to counteract and heal the problem.**
- \* **Permit the monitoring of the applied therapy's effects during and throughout treatment.**
- \* **Provide the clinician and the patient with visual evidence of the effectiveness and progress of the applied therapy.**
- \* **Increase success rates and shortens the patient's attendance and recovery time as well as save the clinician's time and energy.**

#### Apparatus Description

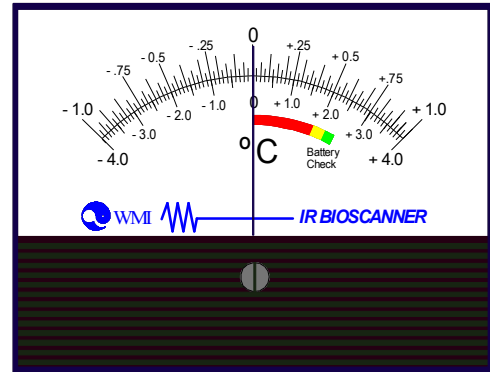
This radiometric differential scanner instrument is simple and easy to use. It is battery powered and provides rapid accurate real-time diagnostic assistance. It is extremely sensitive and accurate and provides a very fast response time when scanning the body's natural microwave emissions.

The Human Body emits microwaves in the infrared spectrum. Diseased and injured areas emit different levels of energy and frequencies when compared to healthy parts. When the Bioscanner's diagnostic potential is combined with the Lux IV Electronic Gem Therapy lamps, 'Real-Time Medical Diagnostics and Management' is the result.

The temperature of patients can vary; many aspects can affect it, for example: age, weight, height, sex, diet, blood pressure, menstrual cycle, metabolic rate, infection, menopause, state of health, diet, these and many other considerations will affect the individual's temperature. Therefore this, comprehensive thermal maps or models suitable for diagnostic and management are almost non-existent. Thus there are very few baseline or benchmark values known in relation to the diagnosis of disease and injury. So in the past thermal diagnostics methods have been treated with considerable reservation.

Today all of this has changed. Radiometric differential measurement does not rely on a common baseline or benchmark of calibrated values for different types of injuries or diseases in order to provide rapid accurate assessment and diagnosis. The Infrared Bioscanner does not rely on any of the traditional methods of temperature measurement. The baseline reference temperature value (for a healthy condition) that is scientifically required is taken from the patient rather than from some medically established table of values. The Bioscanner achieves this by taking a reference reading from the patient and this eliminates the problems created by variations of temperature between individuals. Using our *Infrared Bioscanner*, a 'sample and hold' reading is taken from a corresponding healthy area of the patient. This sample reading is retained in the instrument's memory and the *Infrared Bioscanner* is then used to scan the diseased, injured or affected area and this is compared against the stored value taken from the patient's unaffected or healthy area.

Diseased or injured areas of the patient will emit higher or lower energy levels when compared to unaffected parts. The more serious the presented condition under examination, the higher the deviations of emissions will be and the meter will record these. Using the *Infrared Bioscanner* to scan back and forth across any area, it is a simple matter to pinpoint the exact problem area and the nature of the problem. This greatly assists in determining the correct treatment to improve and correct the patient's energy emissions back towards a normal level.



Precision Moving Coil Meter, centre zero calibrated with two temperature scales and a battery test scale.



The meter showing a positive reading of +2.2 °C.



The meter showing a negative reading of -2.8 °C.

### High Differential Reading

Contusions, fractures, burns, carcinomas, lymphomas, melanomas, prostate cancer, dermatological

diseases, rheumatoid arthritis, diabetes melitis and associated pathology, liver disease and many other common conditions, including infections, are usually accompanied with vasodilation, hyperthermia, hyperperfusion, hypermetabolism and or vascularisation: all high energy conditions with higher microwave emission often accompanied with discomfort and pain. The **Infrared Bioscanner** will easily detect and record these to a distinguished difference of 0.05 degree Celsius. The slightest increase in these conditions will cause the Bioscanner's meter reading to increase instantly as it is compared to the healthy stored reference value.

### Low Differential Reading

Conversely, conditions involving atrophy, neuropathy, deep vein thromboses, paralysis, ulceration, and so on, exhibit localised hypothermia, hypometabolism, vasoconstriction, low energy conditions with a lower microwave emission. In this case the Bioscanner's meter will decrease towards negative values compared to the healthy reference value.

### High And Low Differential Reading

Many conditions will involve tissue areas of both high and low readings. For example disabled patients suffering with spastic, athetoid, dystonic and choreiform muscular problems will present both high and low reading on their limbs depending on the amount of circulation and nerve energy levels in any given muscle group. This is the same for stroke patients with paralysis, some muscles will be under tension with excessive energy and other muscle groups will be with a very low level of energy, possessing no tension or feeling. Using The **Infrared Bioscanner** in conjunction with gem lamp treatment, such differential can be addressed, giving rise to a considerable improvement for the patient's mobility.



Scanning the Spine and back for inflammation

### One Example Of Use For Back Problems

Set the **Infrared Bioscanner's** meter range switch to +4.0 - Zero -4.0 °C. Target the patient's



Taking a 'Sample & Hold' reference from the right knee for comparison scanning of the left knee area.

spine with the scanner's probe and depress the red push-switch. This will store a reference value into the scanner's memory. Scan the spinal area up and down as well as either side. Look for any sudden peaks and dips in the meter reading.

Note that the reading will vary as the spinal column is scanned, normally this variation will be linear showing no peaks or dips by the meter. Any sudden peak or dip in the meter reading will indicate inflammation.

Often with back pain, the pain will extend to one of the hips and down one leg. This is even more likely if a high level of inflammation is measured on the spine around L4 & L5 with the scanner.

Take a reference readings from the unaffected leg and compare the painful hip, knee and leg against it. Although the patient may report feeling pain in their hip or knee joints and general feelings of heat in their leg, the *Infrared Bioscanner* will show a lower energy levels in the affected leg.

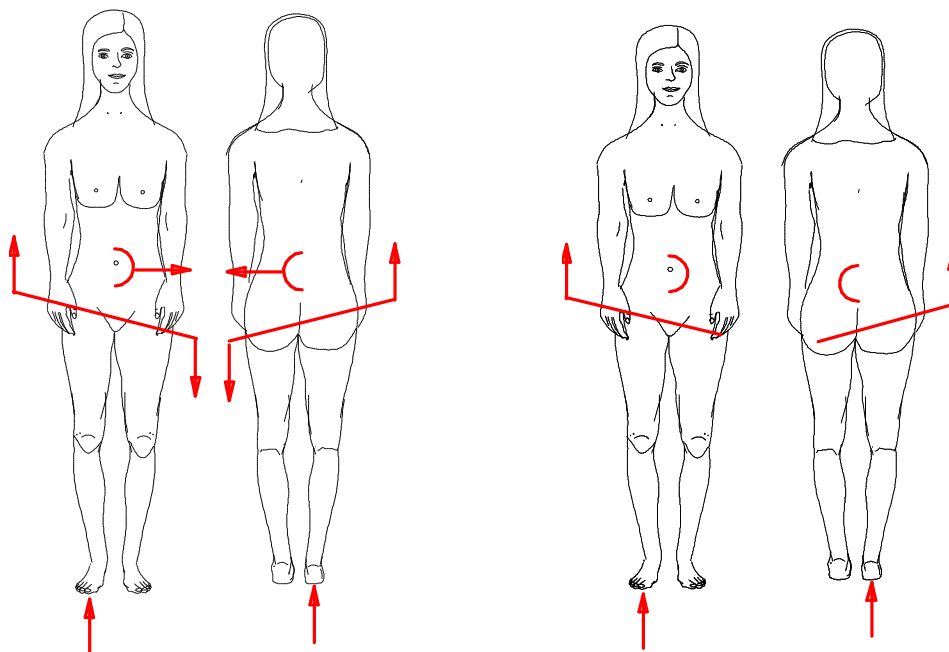
This energy imbalance is in part due to the nerve energy that routes down the spine to each leg being blocked in one or more nerve pathways at the site of inflammation. The sciatic pain in the hips and legs is phantom. The pain is generated at the site of the spinal inflammation and may be due to disc pressure and chafing. The nerve pathway is short circuited and the nerve energy to the leg will be lower. The patient will hold their weight on their seemingly good leg and this will require more nervous energy and blood supply which will raise the energy levels accordingly.



Robust easy-grip hand-held scanner probe

### Notes On Skeletal Alignment And Balance

When the sciatic nerve is compromised pain will often be experienced in only one leg. Chronic conditions are self-feeding (refer to the schematic drawing below). The patient naturally attempts

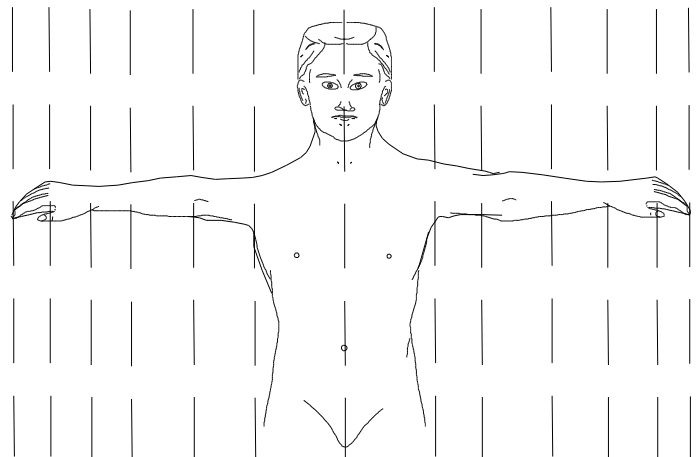
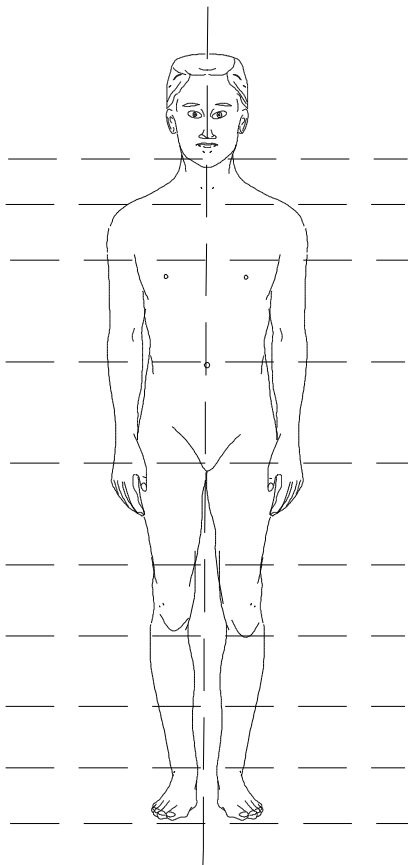
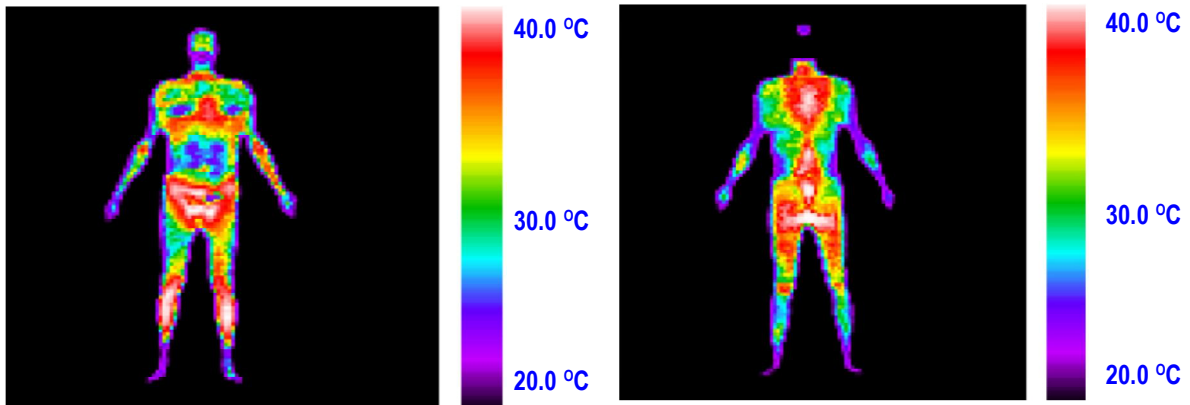


Skeletal distortion force directions(see text).

to avoid or relieve the leg and back pain by taking their weight on one leg. This over time will cause the pelvic structure to move upwards from the leg that is taking the strain, together with whole body muscle imbalance. The net result is that under examination, the patient's legs appear to be of different lengths when lying on their back with their ankles close together. Also, muscle groups in their back will be under uneven tension. The twisted pelvis applies sideways pressure via the supportive muscle tension to the spine, causing it to curve away in an 'S' Shape, this induces even more disc distortion and pressure, increasing the spinal nerve inflammation and pain.

The rapid way to treat this effectively is by using a Lux IV lamp containing emeralds and dark

### Regional Temperature Distribution in The Human Body



#### Differential Comparison Rule No. 1 & No. 2

- 1) Always take the reference sample for differential measurement comparison from a corresponding area on the opposite side of the patient's body.
- 2) Alternatively, take a reference sample from an area close to the target area under examination.

sapphire at 1.5 Hz. With the patient lying on their side or front, use the lamps to target the spinal inflammation for twenty to thirty minutes. As treatment progresses, the patient's pain will substantially subside and their muscular skeletal frame alignment will relax and correct itself. The leg length if checked after the treatment will be equal.

There are many causes of back pain and their solutions may not involve treatment directly to the back. Abdominal surgery can leave deeply embedded muscle trauma. Hernia operations are very painful and mobility and posture are compromised to get some relief from the post surgery pain. Even years later, the site of surgery can be numb, over sensitive and painful. This can bring about frontal unbalanced transverse muscle tension that ultimately is supported by the spine. Chronic back pain can result. The treatment is not to treat the back, but the site of the surgery.

Not all back pain will show signs of inflammation with high scanner readings. Low scanner readings can be noted. In which case Lux IV lamps containing a red filter, rubies for heat and dark sapphires for the pain are included, especially if the pain on-sets with cold weather. Weakness in the back spine and disc problems are treated with an orange filtered lamp containing diamond and carnelians after the inflammation has been remedied.

### Operational Notes

When taking a sample & hold reference level with the scanner it is important to take the reference sample from a corresponding area on the opposite side of the patient's body. The extremities of the body such as the toes feet fingers and hands will present lower temperature readings.

For example, when scanning carpal tunnel syndrome on the right wrist take the reference sample from the patient's left wrist, or when scanning the liver for hepatitis, take a reference sample from the patient's spleen area. As the blood passes through the spleen then into the liver, under healthy conditions they should be at much the same temperature.

### Using The Infrared Bioscanner To Determine The Lux IV Treatment

#### High Differential Recordings

Scanned readings that show a much higher level when compared against a reference sample taken from a corresponding part of the body are significant and should be investigated further.

Readings greater than perhaps +1.5 ° C. may indicate localised hypermetabolism, vasodilation, infection or perhaps vascularisation and cancer. When the cause of the inflammation is supported by reported symptoms and patient's history, for example, contusions, fracture, post surgery trauma, injury infections, dermatitis, eczema, psoriasis or burns, then the treatment using the Lux IV will almost certainly be a green lamp filled with emeralds and



Lux IV Lamp Transducer fitted with a violet filter & filled dark sapphires.



Lux IV Lamp Transducer fitted with a green filter & filled with emeralds and dark sapphires.

dark sapphires. This applies to acute and chronic conditions with high readings.

In the case where only a relatively small positive reading is observed and is accompanied with pain but little inflammation, then the treatment would be a violet lamp filled with dark sapphire only or perhaps a reduced number of emeralds. Emerald is specific for cooling, it reduces hypermetabolism and vasodilation whereas dark sapphire is specific for pain, being an analgesic, antispasmodic, muscle relaxant, and reduces hypertension. This type of situation often relates to chronic or old traumas that have been largely physically repaired with the passing of time but still exhibit neuropathy of one sort or another.

The Lux IV should be set to pulse the lamps with a slow calming frequency of Delta. - 1.5Hz. When the human body is asleep or anaesthetised, the brain frequency is uniformly at around 1.5Hz. When the Delta brainwave frequency is applied in conjunction with dark sapphire, together they induce a profound relaxed and anaesthetised feeling in the area targeted.

Lux IV medical lamps containing emeralds (beryllium aluminium silicate) and dark sapphires (aluminium oxide) crystalline substrates are extremely effective for reducing localised hyperthermia, hyperperfusion, hypermetabolism and vasodilation as well as dramatically attenuating pain. This type of transducer is electronically modulated at slow analgesic brainwave frequency of sleep (1.5 HZ). They are employed in perhaps 90% of all presented disease or injury. The patient's experience is always very pleasant, regardless of their presented symptoms or disease. As they receive treatment, over 90% of patients report immediate relief from their pain, irritations, uncomfortable or distressing feelings, emotions and symptoms.

### Low Differential Recordings

Low differential readings are not as common as high readings. Low readings can indicate local vasoconstriction, capillary constriction, hypothermia, hypometabolism, limb paralysis, neuropathy, nerve damage, post injury or infection trauma, oedema, low blood pressure, thrombosis and so on. These conditions are more common in older patients, often involving diabetes, ischaemia, thrombosis, strokes, dementia, low cardiovascular performance, leg ulcers, and/or immobility. Recording of up to -1.5 to - 2.0 °C. require a stimulating invigorating treatment to counteract the low biological energy. Where low readings are present, the patient is more likely to suffer chronic or iatrogenic disease. Lux IV treatment for all of these conditions, at one level or another, will require the use of diamonds and carnelians with an orange filter. A faster stimulating treatment frequency equivalent to Alpha around 7.0 - 8.5 Hz or perhaps even Beta brain frequencies 16 - 25 Hz.



Lux IV Lamp Transducer fitted with an orange filter & filled with diamonds and carnelians.



Lux IV Lamp Transducer fitted with a red filter & filled with diamonds and rubies.

## Very Low Differential Readings

Lux IV lamps containing aluminium chromium oxide (ruby, 625 nm) or silicon magnesium dioxide (carnelian 610 nm) together with carbon (diamond, 470 nm) crystalline substrates and electronically modulated at faster brainwave frequency of alertness (16.5 HZ). This combination can rapidly and effectively reduce hypothermia, vasoconstriction, hypometabolism, increasing local temperature, circulation and biological energy.

## Specifications

The *Infrared Bioscanner* is powered by four x 1.5 Volt Alkaline Batteries Size: AA, RX6, or HP7. Operating Voltage is 6.0 Volts, Current Consumption is 70 mA. Power consumption is 420 milli-Watts. The instrument is protected against accidental reverse battery installation.

## Electromagnetic Spectrum Response

The *Infrared Bioscanner* is sensitive to wavelengths between 8 and 14 micrometers or frequencies between  $3.75 \times 10^{13}$  &  $2.14 \times 10^{13}$  HZ). At this wavelength window, gases such as carbon dioxide do not affect the accuracy of the reading. Response Time: Very fast. Sampling Response Time of typically a quarter of a Second (0.250 Seconds).

## Range And Calibration Accuracy

Typically +/-3.0% of Full Scale Meter Reading on all five ranges. The *Infrared Bioscanner* has two modes of measurement: Standard Temperature Measurement (E). Differential Measurement

in four ranges of sensitivity (A, B, C, D). Differential provide readings of great accuracy and on the most sensitive range the reading can be determined down to a twentieth of a degree Celsius. The meter is calibrated in degrees Celsius via a 'Centre Zero' Moving Coil Meter.

Calibrated in Four Ranges of Sensitivity: Modes of Function: The Scanner has two modes of measurement.

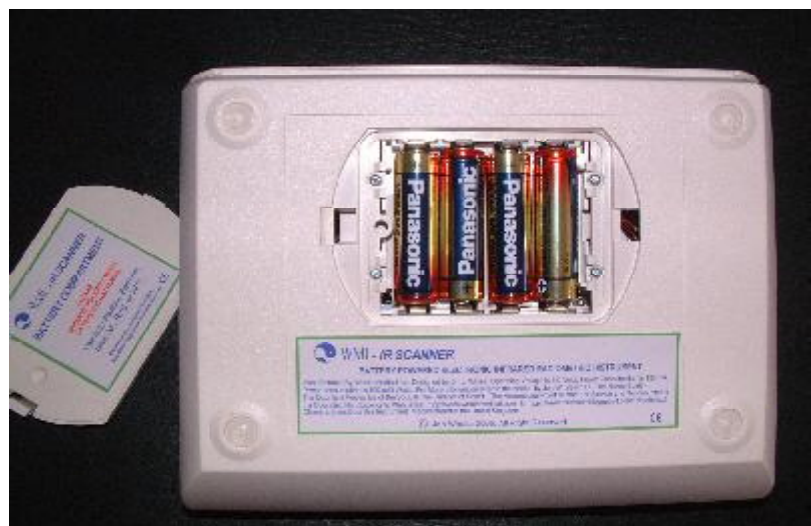
A. +40 Zero -40 °C. Differential Temperature Measurement Mode.

B. +10 Zero -10 °C Differential Temperature Measurement Mode.

C. +4.0 Zero -4.0 °C. Differential Temperature Measurement Mode.

D. +1.0 Zero -1.0 °C. Differential Temperature Measurement Mode.

E. Zero -10.0 Zero to +40 °C. Standard Temperature Measurement Mode: Temperature is referenced against Zero degrees Celsius.

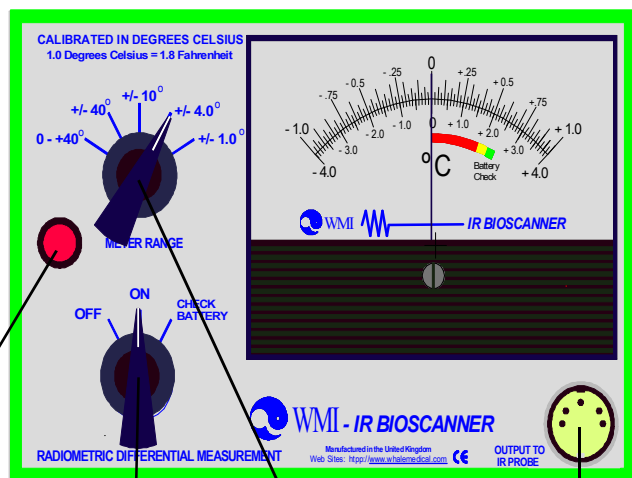


Underside view of the open battery compartment. Four AA cells will provide many months of use.

## IR BIOSCANNER MAIN PANELS & THEIR CONTROLS



The Drawing Below Shows The Normal Switch Positions For Typical Surgery Use



LED Indicator

Meter Range

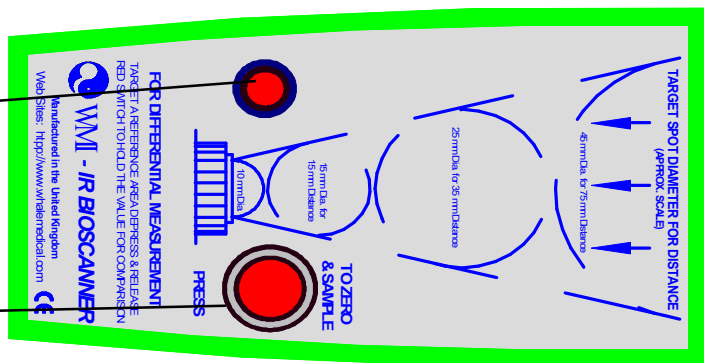
Probe Input

OFF/ON & Battery Check Switch



LED Indicator

Sample & Hold Push Switch



## Environmental Operating Temperature

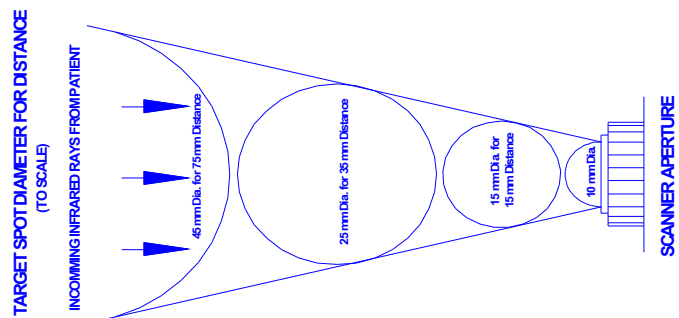
For medical diagnostic use the *Infrared Bioscanner* in room between 20.0 and 24.0 °C. The ideal room temperature is 22.0 °C., this is a typical temperature of the average office.

## Dimensions & Weight

The sloping Desktop Console is 200 mm wide, 150 mm deep and 55 mm high. The weight is 650 grams. The Hand Held Scanner is 180 mm long, 70 mm wide and 30 mm depth. The weight is 200 grams.

## Environmental Considerations

Differential Infrared Thermography will tolerate a much wider environmental range than is permitted for contact thermography due to the fact that the base line reference is taken from the patient and not from a medical reference book or paper where base line values have been obtained by research on a cross section of patients. Nevertheless by observing some simple and obvious environmental controls, very accurate meaningful scientific data and results can be obtained.



Approximate scale diagram illustrating the spot diameter for different distances from the scanner aperture.

- 1) Maintain the surgery and waiting room at a temperature of 20 to 24 °C. Avoid cold draughts, glowing electric fires and heating radiators close to the examination target area.
- 2) Avoid scanning patients immediately following exposure to excessive cold, hot or wet weather or that have been standing in exposed sources of heat, such as a bath, shower, sauna or swimming pool. Avoid providing hot or cold drinks and food immediately prior to scanning, especially if the scanner is being used for dental diagnostics (infections/neuralgia). Allow any such patients to acclimatise to their new environment.
- 3) Avoid using the *Infrared Bioscanner* immediately after bringing it in from a cold or hot environment, such as a automobile boot. In such cases allow the *Infrared Bioscanner* time to adjust to the local ambient temperature, twenty minutes should be enough time..

## Instrument Storage

Whale Medical's *Infrared Bioscanner* is a precision instrument containing numerous sensitive instrumentation amplifiers and a mechanical moving coil meter. The construction and conformal coating protect the electronic sub assemblies and components. Always store the scanner in a dry clean environment, such as an office or surgery. Do not leave the instrument in a damp, cold or hot humid environment such as a shower or bathroom. Moving coil meters will withstand high humidity, but its not good practice to put this to the test.

Should the scanner get wet, store it in a dry warm place for several hours to dry out slowly and naturally.

## **Posting & Shipping**

Before posting or shipping always remove the batteries and switch the instrument to the OFF position to protect the meter movement from shock. Before boxing, wrap the Meter Instrument and the Scanner Probe and its cable separately in several layers of foam or bubble wrap.

Details From: Email: [whalemedicalinc@aol.com](mailto:whalemedicalinc@aol.com) . Websites: <http://www.whalemedical.com>

## TEMPERATURE CONVERSION TABLES

### For Celsius To Fahrenheit

**1 degree Celsius = 1.8 degrees Fahrenheit**

To convert Celsius to Fahrenheit, first multiply by 1.8 then add 32. To convert Fahrenheit to Celsius, first subtract 32 then divide the remainder by 1.8

Celsius	Fahrenheit	Celsius	Fahrenheit	Celsius	Fahrenheit
40.0	104.0	20.0	68.0	0.0	32.0
39.0	102.2	19.0	66.2	-1.0	30.2
38.0	100.4	18.0	64.4	-2.0	28.4
37.0	98.6	17.0	62.6	-3.0	26.6
36.0	96.8	16.0	60.8	-4.0	24.8
35.0	95.0	15.0	59.0	-5.0	23.0
34.0	93.2	14.0	57.2	-6.0	21.2
33.0	91.4	13.0	55.4	-7.0	19.4
32.0	89.6	12.0	53.6	-8.0	17.6
31.0	87.8	11.0	51.8	-9.0	15.8
30.0	86.0	10.0	50.0	-10.0	14.0
29.0	84.2	9.0	48.2	-11.0	12.2
28.0	82.4	8.0	46.4	-12.0	10.4
27.0	80.6	7.0	44.6	-13.0	8.6
26.0	78.8	6.0	42.8	-14.0	6.8
25.0	77.0	5.0	41.0	-15.0	5.0
24.0	75.2	4.0	39.2	-16.0	3.2
23.0	73.4	3.0	37.4	-17.0	1.4
22.0	71.6	2.0	35.6	-18.0	-0.4
21.0	69.8	1.0	33.8	-19.0	-2.2