



# SPECTRA

Long Range Locator – Gold Detector



SPECTRA Long Range Locator transmits underground specific frequency signals for gold and various metals, in order to stimulate the target. The user will find and trace the target energy line using the receiver L rods. The frequency of SPECTRA gold detector is extremely accurate to 0,1 z, this combined with the ground balance function eliminates false signals from minerals and unwanted metals.



**Microchip processor inside**

**Digital Frequency Synthesizer:**

Select your frequency mode to scan for gold, copper, bronze, iron, lead, aluminum, diamonds, water, void & other elements. The metal frequency is not locked, and can be fine adjusted by the user in steps of +/-1 Hz.

**Digital Ground Balance:**

Measures the percentage of wetness - ground minerals, and automatically alters SPECTRA gold detector signal waveform to reject ghost targets.

**Automatic Power On:**

SPECTRA long range locator has no power on key. SPECTRA senses the ground conditions through the ground probe, and powers on automatically only in good conductive spots, that absorb the signal.

SPECTRA gold detector needs not any probes, cables, filters, external battery. This is a compact design easy to handle. Detects to all directions, with a signal that has a 360 degrees radius, the user is not limited to scan only in one direction.



he "GROUND BALANCING" function. SPECTRA gold detector analyses both the soil mineral content & level of wetness, the result appears as GROUND VALUE identification number, on a scale 00 to 99. This number determines the false signals SPECTRA rejects, also informs the user of the ground type to be scanned

Long range locators from competitors are simple frequency generators, with locked metal frequencies and not any ability to sense ground conditions. Those frequency generators are not specialized for ground usage, they might operate well in soil with average minerals, but do not penetrate on neutral grounds. Even worse in heavy mineralized soil will give false target signals.

The DGB - Digital Ground Balancing feature, programmed in SPECTRA long range locator to assist the reliable target indication, and maintain maximum range and stable operation regardless of the ground type. As a second step, the "SPECTRA track" system, completes the ground balancing accurately, by selecting variable waveforms of the transmit frequency to match the various soils.

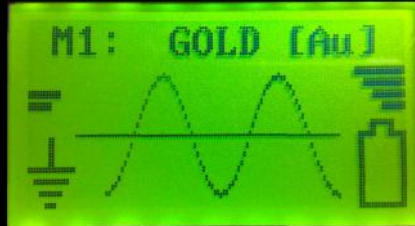
SPECTRA gold detector features a worldwide cutting edge technology invention. DFS - Digital Frequency Synthesis. The only long range gold detector on the market with signal output by a DSP microprocessor, which is fast enough to run at 40 MIPS (million instructions per second), performing corrections to frequency accuracy automatically. Every metal has its own specific molecular frequency, up to present day, long range locators were unable to maintain molecular frequency signal stable enough to make visible only the desired target, faults were common practice from minerals and ghost targets due to solar storms and earth magnetic fields.



Select the metal mode and a counter informs when the SPECTRA signal has put enough energy to the ground to start scanning the target. When the counter stops the electromagnetic field is strong enough and the message "START SCANNING" alerts the operator to pinpoint the target. All other metal objects in the area are eliminated, and the desired element absorbed enough energy to become visible.



Limestone



Clay



Bauxite

Automatic Ground Balance. Signal examples on various soil conditions  
**"whatever the ground SPECTRA gold detector can handle it, no matter the minerals"**

Locate and trace the target signal by holding the antenna L rods.

The L rods are held steady and balanced at waist level, slightly in front of the operator.

They are held pointed in a forward direction parallel to each other, at distance of 20 to 45 cm apart.

The antennas connect to the receiver amplifier, this way the ability to locate at large distances is improved, and the reaction to weak targets is enhanced.

The antenna L rods are gold plated for better conductivity.



**L rods with amplifier ( receiver )**

Amplifier purpose is to power the antenna L rods.

This way the system is not self-potential.

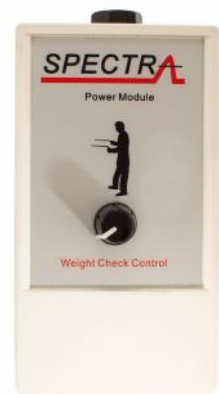
By increasing user conductivity, the amplifier permits everyone to be a successful user.

Contains a 9 VDC battery for power supply and features a new Weight Check Control (W.C.C).

Once the energy line between the SPECTRA probe and the target has been verified, the weight check can be used by the rotary knob.

Set it to starting position and smaller quantities corresponding to grammars are also accepted.

As the knob is rotated to the right only large quantities in Kilograms are located.



**Receiver amplifier**



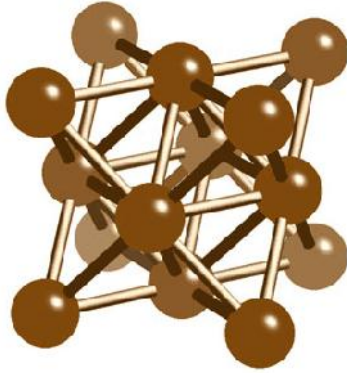
### SPECTRA gold detector specifications

- \* 16 bit processor 40 MIPS speed – 160 MHz clock
- \* 32 bit DDS synthesizer chip for signal waveforms
- \* Digital frequency synthesis x 20 PLL frequency generator with automatic 0.1 Hz frequency stabilizer
- \* Modes to scan gold, silver, copper, bronze, lead, iron, aluminum, diamonds, water, void & free mode
- \* Manual frequency selections at 1Hz increments
- \* Dot Matrix LCD 64 x 128 resolution with 8 level backlight
- \* 80 mA battery consumption / 180 mA at full backlight. Constant battery condition indication
- \* “APO” - Automatic power on to conductive ground
- \* “DGB” – Digital ground balance to cancel interference of ground minerals
- \* Soil mineral content indication with scale 00 – 99 & icon
- \* “SPECTRA track” – Variable waveform according to the ground type
- \* “SPECTRA graph” – Real time waveform animation
- \* On screen counter for signal inductance, alerts to start scanning when the energy field is strong enough
- \* BNC ground probe and main unit in one piece – no cables - compact design
- \* Unit rotates 360 degrees for easy viewing of screen
- \* Tactile keys & sound indication
- \* Signal receiver with target Weight Check Control, power amplifier & gold plated L rods
- \* Receiver antennas do not suffer from oxidation due to human skin PH
- \* Distance up to 1600 m. range / Depth 7 m.



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## How the SPECTRA Long range Locator works in theory



**The gold molecule.  
Every element has a unique molecular structure  
which vibrates on a different molecular frequency.**

All the Elements of nature produce a phenomenon called “resonance”. One classic example to that phenomenon is that of a clear, loud and high frequency sound that can break glass. If the physical frequency of glass is similar to the playing note, then the glass will start to vibrate to these vibration pulses. If the vibration becomes very intense for the crystals structure, it breaks.



Resonance occurs when an element absorbs energy same to its physical frequency. This resonance by attraction will happen when a source transmits a frequency that is immediately absorbed by a specific object. Molecules are the smallest particle of an element that can exist in the free state and still retain the characteristics of the element which is unique. The molecules vibrate forming the frequency that we know as molecular frequency and others call energy field of the matter or phenomenon of nuclear resonance. Some people can see this energy field with the naked eye like in the case of human aura.

Many years have been spent experimenting with various devices to develop this small, but powerful SPECTRA transmitter capable of transmitting Radio Frequency (RF) signals accurate to 0,1 Hz stability, enough to stimulate only the desired elements. That accuracy in signal stability is controlled by a technologically advanced DSP microchip running at 40 MIPS inside the SPECTRA. Signal is channeled through the soil over a considerable distance at varying waveforms that filter out the interference caused by soil minerals. The emitted signal is induced into the soil in a directional radius of 360°. And because of that induced signal the targets become “visible”. Targets can be located to all directions, and the user is not limited to search from a specific direction. Now that the signal is transmitted from the SPECTRA long distance locator, the expected target responds with a solid and identical signal. This solid signal can be traced by the operator using the “L” antenna rods, and therefore all non-desirable targets are eliminated. That signal between the SPECTRA long range locator and the target becomes a “path” for the operator to trace the target. The whole procedure lasts few minutes to realize if there are any specific targets within the location range of the SPECTRA long range locator.

Range of the SPECTRA can vary for many reasons. The first and most important variable is size of target. The larger the target the range is extended. That is followed by soil conditions (presence of electrolytes) and length of time in the ground. Another factor that enhances the operational performance of the SPECTRA, is the chemical change of the soil immediately surrounding the target. Those targets that have a tendency to oxidize, whether it be the object itself or its container, will present a stronger signal. Because of that oxidation factor, the target will offer a stronger potential for amplifying the SPECTRA transmitted signal, therefore an object that is buried for a long time in the ground absorbs the signal in a larger percentage than a freshly buried target.



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