RUTUS

METAL DETECTOR

VERSA
NC 6.14



USER MANUAL

MAXIMIZE YOUR SUCCESS IN SEARCHING

Appropriate use of programs

The General program works best in most situations. You can fine-tune the settings to suit the conditions and the purpose of your search by selecting one of the three Multi-Frequency modes (W, FH, FL). The Fast program is designed for speed; use it to improve detection performance beneath iron objects and in their immediate vicinity. This program is not optimized for deep searching. The Beach program is designed primarily for use on seaside beaches.

Master Reset for troubleshooting

If your metal detector is experiencing issues, consider performing a Master Reset to return to factory settings, which are often the most effective.

Optimal settings for coin search

When searching for coins, set the Reaction to 5. Despite common misconceptions, using Filters 1 and 2 may not provide deeper detection and can reduce search effectiveness.

Sensitivity adjustment

Adjust the sensitivity to ensure the detector operates stably. Maximum sensitivity is not always necessary or effective in all environments. A setting between 20-25 is typically best, especially given the high sensitivity of the Versa model.

Enhancing detection of deep targets

If deeper targets are producing faint signals, consider increasing the Volume and Audio Gain for better detection.

Dealing with high trash areas

In areas with a high density of objects (closer than 50 cm apart), it is advisable to use a Reaction setting of 6,7 or 8 or to move the coil more slowly to enhance detection accuracy.

DEAR USER!

Thank you for purchasing this product. This detector has been designed with the latest technology to allow you to make the most of your passion, to discover the remains of the past. We hope that the Versa meets all of your expectations during your adventures. This manual will give you all the necessary information, so that you can quickly understand how the Versa works before going into the field. Please take some time to get to know your detector, each day spent working with your detector will increase your knowledge, and steadily increase the effectiveness of your searches.

Please remember that while you are searching, you will be uncovering history.
Do not destroy these unique remains in the process, take some time to get to know
the law of your country and leave your search area clean and tidy.

Be an exemplary user of metal detectors:

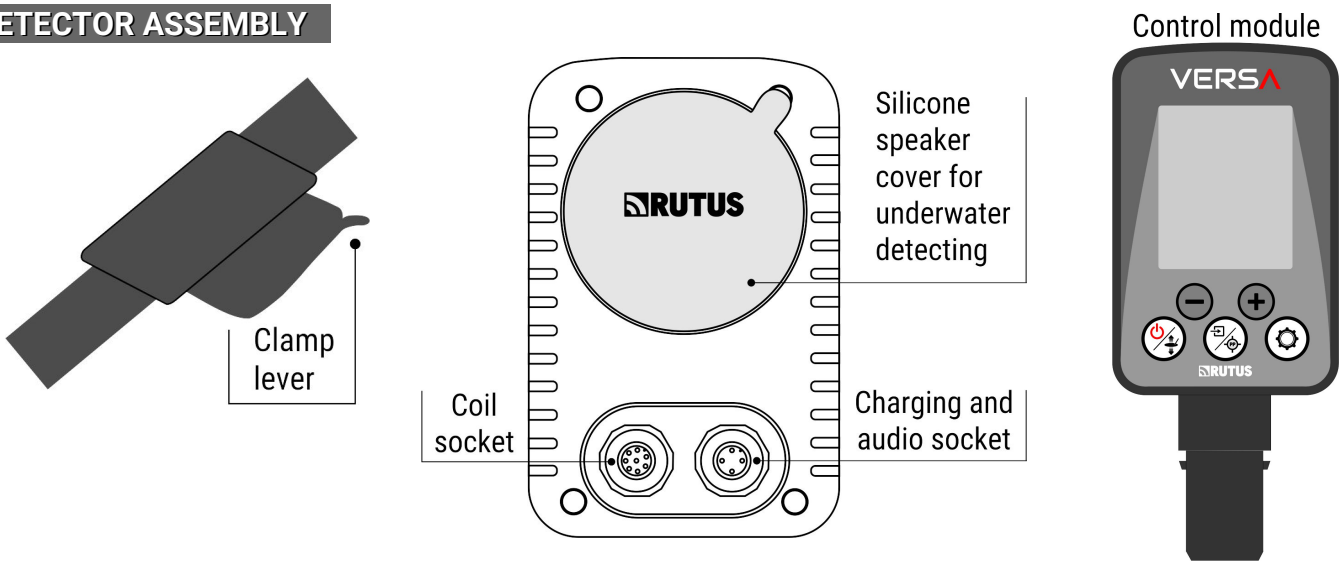
* Do not use the detector in areas that are under archaeological protection or where an archaeological dig has been conducted.
* Before entering private property, ask the owner for permission.
* Do not make life harder for farmers or foresters by damaging crops or disturbing animals.
* Do not leave a mess after yourself. Leave the place you have searched, in the same condition as when you arrived.
* Refill all holes, take any rubbish with you and put it in the next rubbish bin you come across.

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Contents of the detector box:
1. Control module
2. Coil
3. Shaft with handle, armrest and clamps
4. Lower stem
5. Instruction manual
6. Ziplock bag contents: charging cable, 3.5mm audio cable, silicone cover for speaker, silicone cap for charging/audio port, underwater plastic cap for charging/audio port, armrest strap, screw with washers.

DETECTOR ASSEMBLY



The detector assembly is simple and requires no tools, a properly assembled detector is shown on the front cover of the user's manual.

Assembly sequence:

* Press the control module into the detector holder, when properly pressed, a characteristic click will be heard. Make sure the screen is facing the right way. In the event of a mistake, the control module can be removed and inserted correctly again.

* Attach the coil to the lower stem - washers should be between the ears of the coil.

* Open the clamp levers and place the lower stem in the lower part of the detector shaft. Wind the cable around the shaft so that it fits snugly but not too tight.

* Plug the connector to the search coil socket, tighten the ring, then press the plug again, tighten the ring. Repeat the steps until the plug is fully inserted into the socket - only at this point the waterproof of the connection is achieved. Pay special attention: the coil socket has 8 contacts, the charging/audio socket has only 4 contacts.

NOTE: When not in use, the charging/audio jack should always be sealed with a silicone plug or plastic cap for use in water.

NOTE: The control module is not designed to be repeatedly inserted into the shaft structure.

NOTE: Do not extend the detector components beyond the MAX arrow on the stickers.

NOTE: For long-term storage, leave the clamps loose (clamp levers open) - this will increase their service life.

NOTE: Charge the battery before using the detector for the first time.

BATTERY CHARGING

The detector is equipped with a Li-Po battery. The working time on a fully charged battery is 12 to 20 hours (depending on the frequency used and the use of the speaker or headphones). Charging time about 6 hours.

Charging battery:

* Connect the charging cable to the charging socket (four pins).

* Connect the USB plug of the charging cable to any USB charger with a current efficiency of at least 0.5A (500 mA).

* Wait until "100%" appears on the screen.

NOTE: It's best to follow the rule of "use all day - charge all night."

NOTE: During long-term storage, recharge the battery every two months.

OPERATING WITH THE POWERBANK

Working with a good quality powerbank (not emitting electromagnetic interference) is possible. First, turn on the detector, then connect the powerbank with the charging cable.

NOTE: After connecting the powerbank, enter the Frequency screen and check if it emits interference.

DETECTOR STORAGE

Do not store the detector and coil in extremely low or high temperatures. The storage temperature should be in the range from -5 to +35 degrees.

NOTE: Avoid storing the detector in a car in hot weather and exposed to strong sun.

NOTE: The device must not be stored with a discharged battery. During long-term storage, recharge the battery every two months.

UNDERWATER DETECTING

Versa is completely waterproof and can be submerged to a depth of 2.5 meters without any preparation. The silicone cap supplied with the detector is only an additional protection against the ingress of dirt and sand and against possible denting of the speaker by water pressure. The cover should be installed in the position shown in the figure on the page 3 and then pressed flat with the palm of your hand to remove excess air. After getting out of the water, unfold the detector, pour out the water from the shaft, then place the detector in such a way that the water leaks through the holes at the bottom of the handle.

NOTE: If you use wired headphones while working in water, make sure that the connection between the audio cable jack and the headphone plug is kept above the water level.

NOTE: Wireless headphones can be used for shallow wading, after the control module is submerged, the connection with the detector will be lost. Please note that wireless headphones are not waterproof.

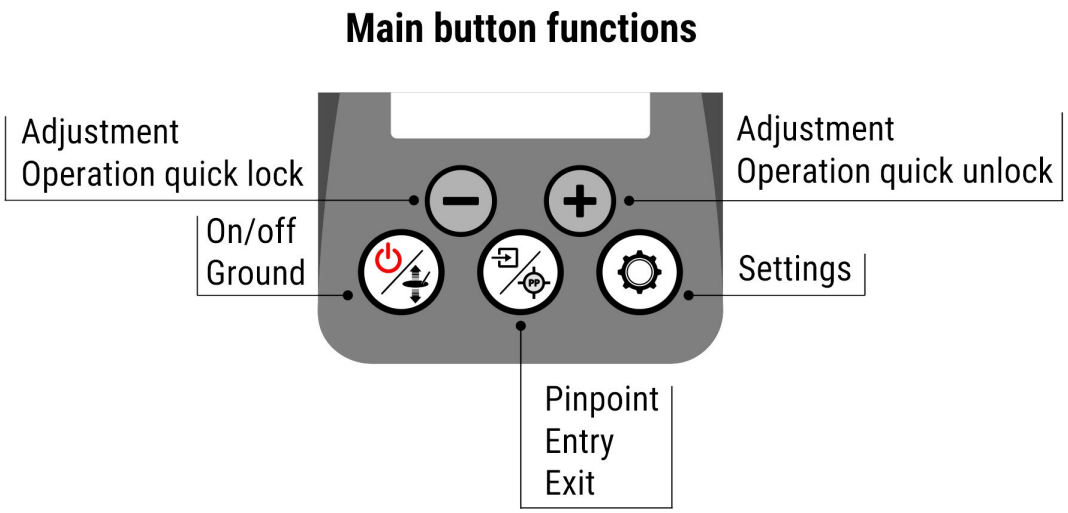
NOTE: Before attaching the silicone cover to the speaker, make sure that the recess in the housing for it is clean and free of sand. If it is dirty, rinse the detector in water, then remove the water from the cover recess.

NOTE: If you do not use wired headphones, e.g. during shallow wading, secure the charging/audio socket with a plastic cap attached to the detector - this is also to protect the socket from dirt and sand.

NOTE: After working in salt water, be sure to rinse the entire detector with fresh water without the use of chemicals, the connection plugs from the cables can only be disconnected after this operation. Take care to prevent salt water from entering the plugs and sockets.

NOTE: Do not put a detector that is hot in the sun into water.

CONTROL PANEL



TURNING ON

Press and hold the button.

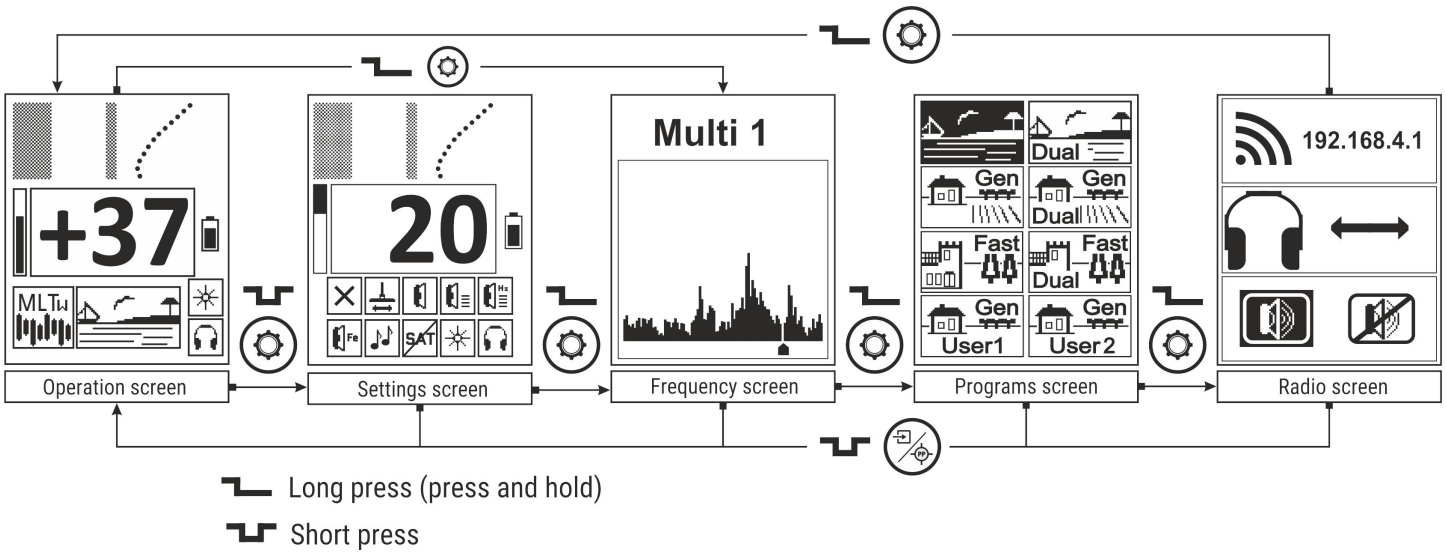
TURNING OFF

The detector can only be turned off from the Operation screen by pressing and holding the button.

MASTER RESET

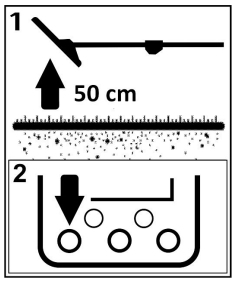
When turning on the detector, you can perform a complete reset of all settings. After turning on, while the splash screen with the company logo and the name of the detector is displayed on the screen, press and hold the button until the MASTER RESET screen appears.

SCHEME OF NAVIGATION ON THE SCREENS



COIL BALANCE

The detector forces the coil to balance after switching on, after changing the operating frequency or after changing the program. This is the process by which the detector prepares the coil for operation. The process is automatic and the user's role is merely to lift the coil up away from metal objects and follow the graphics that appear on the detector screen.



Coil Balance procedure:

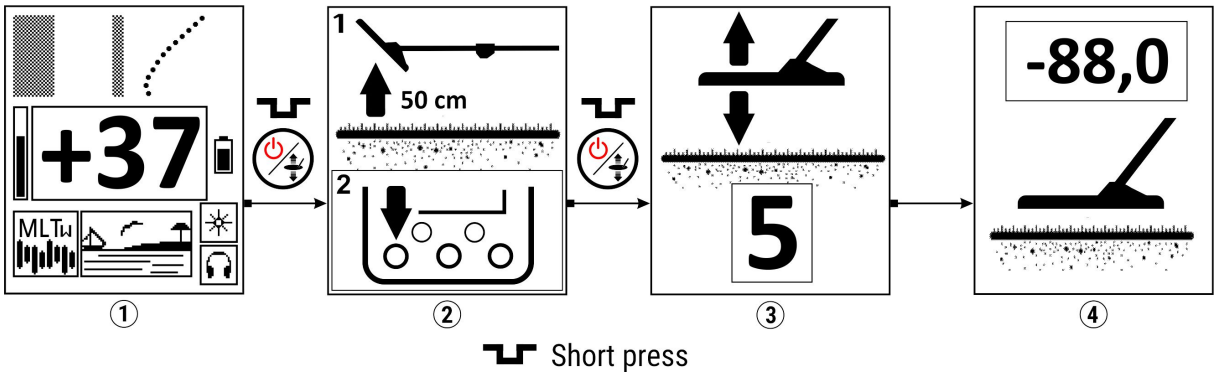
1. Lift the coil upwards minimum 0.5 meter above the ground.
2. Short press the button.
3. Wait until the "hourglass" icon disappears.

From this point you can use the detector with the factory ground pre-sets or proceed the Ground Balance (if Coil Balance is the start of a user initiated Ground Balance process).

NOTE: Be sure to lift the coil up. IT IS UNACCEPTABLE TO BALANCE THE COIL WHEN IT IS ON THE GROUND.

NOTE: The coil should be connected to the detector SWITCHED OFF. Otherwise, the transmission between the detector and the coil may be incorrect. In this case, a "COIL ERROR" screen may appear and the detector will shut down automatically. Don't worry about this situation, just turn the detector back on.

GROUND BALANCE



Ground Balance procedure:

1. Short press the button from the operation screen (1).
2. Coil Balance screen will appear (2).
3. Lift the coil upwards minimum 0.5 meter above the ground.
4. Short press the button and wait until the "hourglass" icon disappears.
5. Pumping screen will appear (3).
6. Start to pump - the search coil should be slowly moved up and down above the ground, each cycle taking about a second. The detector will display the number of cycles remaining – decreasing from 5 to 1.
7. After the last movement up, the screen indicating the completion of ground balance will appear (4).
8. You can start searching.

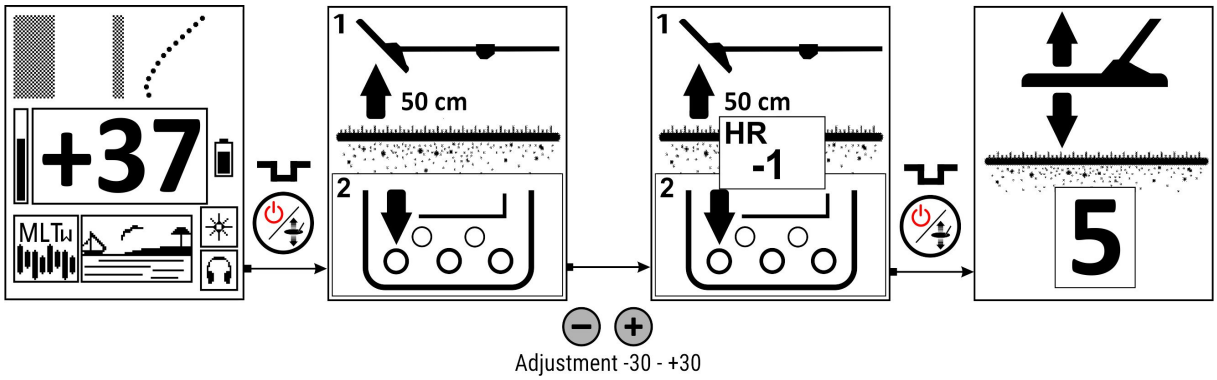
A single Ground Balance process does not guarantee stable operation across an entire search area or for the whole of a day's searching. It is best to repeat a Ground Balance process each time a new area is started or when the detector starts to give false readings. Examples of new areas would be where field changes to forest, or when moving from a track to wetlands (on which we recommend operating with programs: **Beach, Beach Dual, General, General Dual using Multi Frequency type „W").**

NOTE: A non-conductive ground will give a signal phase of approximately -88.0. The more this value is shifted towards positive values, the more conductive the ground is. On high conductivity soils, you should not use a single frequency, but Multi Frequency operation in programs: **Beach, Beach Dual, General, General Dual using Multi Frequency type „W".**

NOTE: While balancing the coil (screen with an hourglass) the search coil must be raised a minimum of 0.5 m above the ground and away from metal objects. Ground Balance must be done at least 15 m away from other detectors. Not following these guidelines will not damage the detector, but it will cause the detector to operate less accurately – a proper Ground Balance procedure will fix this quickly.

NOTE: If you want to use the detector with factory ground pre-sets, skip pumping process by short pressing the button again when the pumping screen appears. This is very useful if you want to quickly find an uncluttered area in order to perform correct Ground Balance by pumping.

HOT ROCKS



The Hot Rocks setting can be entered from the operation screen by short pressing the button. Once the coil balance screen appears, you can change the setting of the Hot Rocks using the and buttons. Another short press of the button leads to the pumping screen, which can be performed or skipped by short pressing the button. If this function is set to 0, the "HR" box with the value in the middle of the screen does not appear.

NOTE: The Versa is a detector designed so that there is absolutely no need to change this setting, in the vast majority of cases this setting should remain set to 0. It is intended for VERY EXPERIENCED users only.

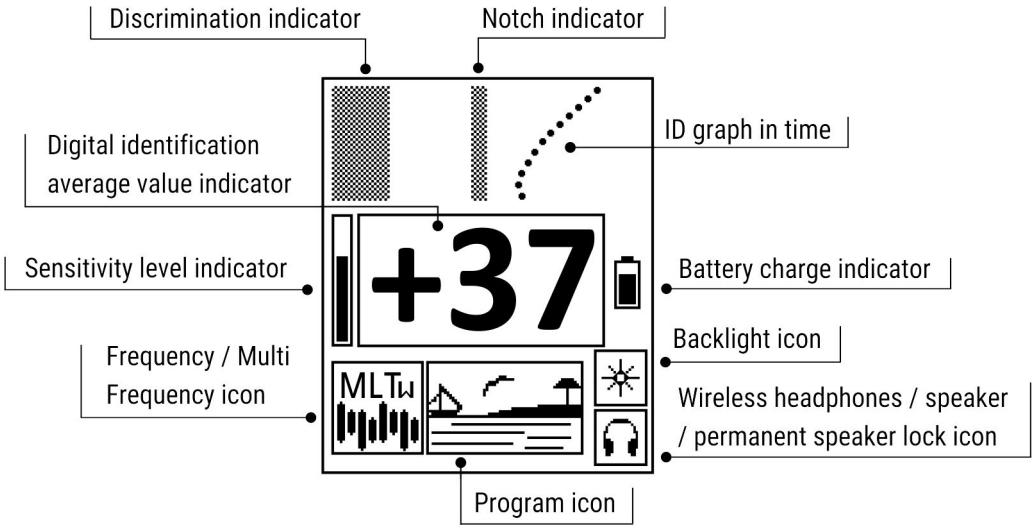
This adjustment allows the detector's reaction to magnetic rocks and objects of particularly high identification value to be modified. Magnetic rocks are plain field rocks which have residual magnetic properties. Magnets do not attract them, but they influence the detector's operation. They are essentially recognized by the detector as signals with an ID value of -29 and in most cases these objects can be isolated using the Discrimination option, in the same way as simple steel scrap. Objects with exceptionally high ID values +89 or +90 are large pieces of aluminium, aluminium sheets and aluminium canteens. In this way Hot Rocks adjustment can be used to set the reaction to objects at both ends of the identification scale. This is a result of the detector "virtually" connecting both ends of the scale. The microprocessor does not treat the identification scale as linear, but rather circular, where values of -29 and +90 are connected, and therefore an object identified as below -29 is automatically identified as a high value object and vice versa.

Hot Rock adjustment is simply a slight tuning of the circular scale on which the detector's operation is based. In this way magnetic rocks can be set apart from the -29 value and will be more clearly discriminated (but equally large aluminium will fall into the -29 value and thus is also discriminated). It is equally possible to adjust the values in the other direction: moving the large aluminium objects to lower identification values (e.g. +88) and in this way increase the effectiveness of detecting these kind of objects but this may result in magnetic rocks giving a high, fuzzy tone. The Hot Rocks factory setting is set to 0 and this is the best setting for 99% of search areas. But if for some reason there is a need to increase the masking of magnetic rocks, use the ⊖ button to set it to negative values. The adjustment of values into the positive range will increase the detection range for objects with exceptionally high identification.

NOTE: In the Beach, Beach Dual, General, General Dual programs using Multi Frequency, the Hot Rock should be set to 0. The user can make minor adjustments to this setting to change the detector's response to salt water in the Beach and Beach Dual programs.

NOTE: A setting higher than 0 may cause unstable operation of the detector.

OPERATION SCREEN



IDENTIFICATION

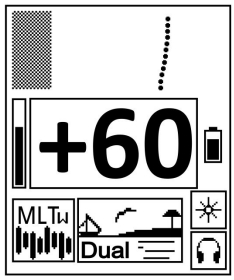
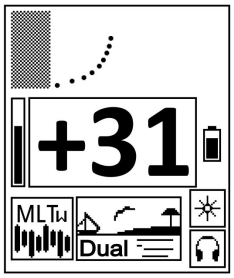
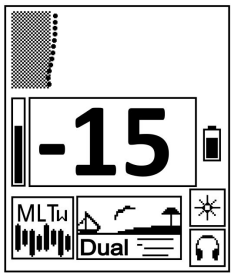
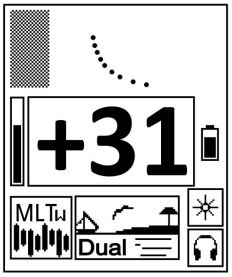
Versa is a detector which has a built-in metal object identification circuit with 120 identification points. It analyses the signal from a metal object several hundred times per second, after each identification process, the internal memory of the device saves a specific digital value. The values stored in the memory are used to calculate an average identification value and an identification graph is shown. The average value depends on the characteristics of the object that is below the search coil.

When the search coil is moved over an object made of a ferrous metal (e.g. steel) the identification process will give a low value e.g. -15. Non-ferrous metals will give higher identification values. The value for objects will depend on their size, thickness and the type of material they are made of. Small, thin objects give values of around +15 and big, thick ones, made from good conductors will show values above +70. The soil will also have an influence on the identification process. Rich mineral contents, and objects at great depth will influence the values against those taken from above the ground. The identification of ferrous objects is highly dependent on the operating frequency. Particularly at high frequencies, it is possible to identify ferrous objects in the positive range.

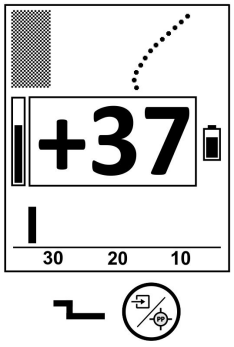
IDENTIFICATION GRAPH

The identification graph is a graphical representation of the data ollected by the identification circuit while moving the search coil over an object and is stored in the device's memory. This feature allows for quicker identification of ferrous objects than any other method. Please be aware that using the ID graph requires extensive experience. It is particularly important to become familiar with the detector so that the user can recognize the depth of the object. For deep objects, the graph will never be perfectly straight.

NOTE: When using the detector, the most important information is always the sound, then the ID number, and the graph is only supporting information.

Basic cases of graph interpretation	Cases requiring extensive user experience
 If the object is shallow and the graph is straight or only slightly bent, the object is made of non-ferrous metal.	 Iron debris that deceives discrimination very often causes the graph to bend toward iron.
 If the graph is in the iron range and the ID number is negative, we are dealing with a iron object.	 Depending on the type of soil, the situation may be the opposite - a deeply located non-ferrous object may form a graph with the lower part bent towards high conductors.

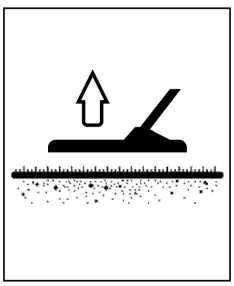
PINPOINT



This function allows for the quick and easy location of an object you have detected. To use the Pinpoint function move the search coil away from the area where the object is and then press and hold the button. To pinpoint the object, make a cross like movement, to find the point where the signal is the strongest. The depth of the object shown on the screen is in centimeters and is set-up for medium-sized objects (for example coins). This means that for large objects the depth will be larger than indicated on the screen. The operation of the indicator and depth gauge is not dependent on the sensitivity of the detector, however the sound signal is.

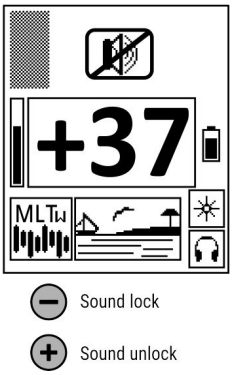
NOTE: In the Pinpoint function the detector works as non motion.

OVERLOAD



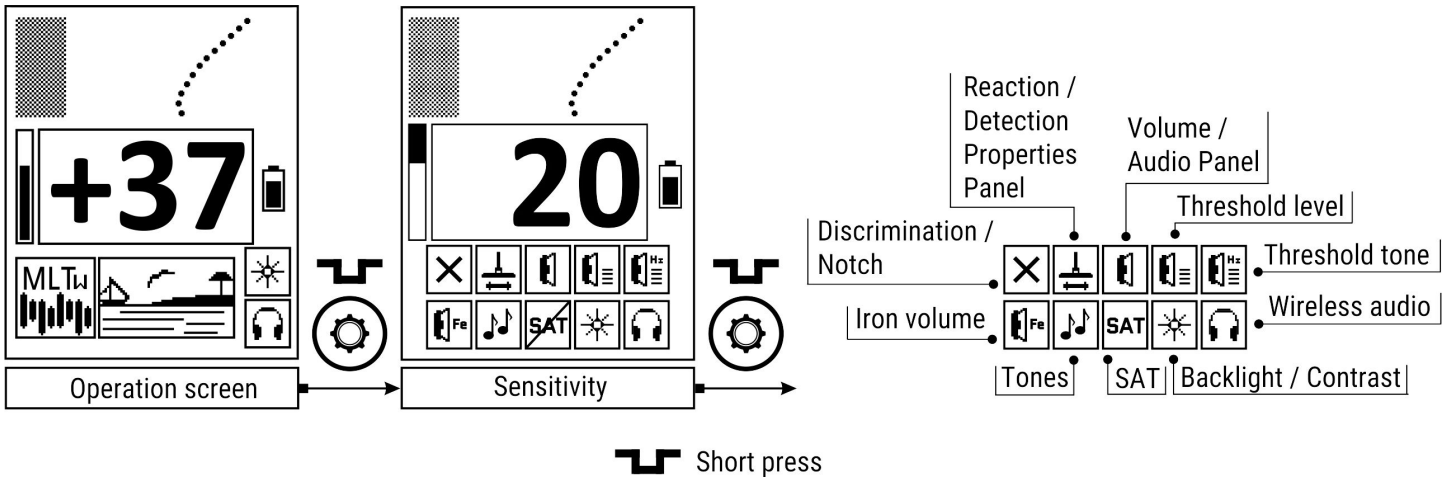
An overload means that the signal from an object is too strong for the detector to process correctly. The Pinpoint function indications and identification indications will be incorrect in this situation. Obviously, this does not mean the detector has been damaged. An overload is indicated by a rattling sound, in this situation lift the search coil up – when the overload sound has gone, the display will show the identification value for the object.

SOUND QUICK LOCK



In the Operation screen, it is possible to quickly block the sound – useful when putting the detector down, using the pinpointer to retrieve the find and when you want to listen to the sounds of nature without turning off the detector. The ⊖ button is used to block the sound, the ⊕ button is used to unlock.

SETTINGS SCREEN

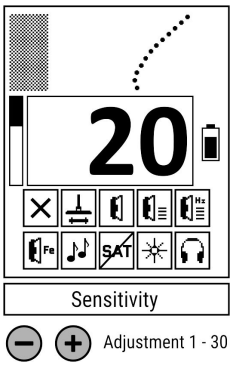


To enter the Settings screen, short press the ⚙ button from the operation screen. The detector still works, and the effects of changes can be observed on an ongoing basis. Use the ⚙ and ⏻ buttons to move between the individual settings. The current setting is shown as negative. The first pressing of the ⚙ button leads to the setting of the Sensitivity level, subsequent short pressings of this button cause the transition to the following settings:

* Discrimination
* Notch (from the Discrimination setting)
* Reaction
* Detection Properties Panel (from the Reaction setting)
* Volume
* Audio Panel (from the Volume setting)
* Threshold Level
* Threshold Tone
* Iron Volume
* Tones
* SAT
* Backlight
* Contrast (from the Backlight setting)
* Wireless Audio

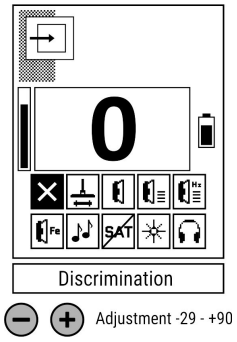
The following settings are assigned to the programs: Sensitivity, Discrimination, Reaction, Threshold Level, Threshold Tone, Iron Volume, Tones, SAT, Frequency and settings from Detection Properties Panel and Audio Panel. Program independent settings: Notch, Volume, Backlight, Wireless Audio, Hot Rock, Speaker Lock. The settings screen is exited by a short press of the ⏻ button. The exclamation mark that appears next to the value digit of setting is intended to alert the user that he is using a detector at an advanced level.

SENSITIVITY



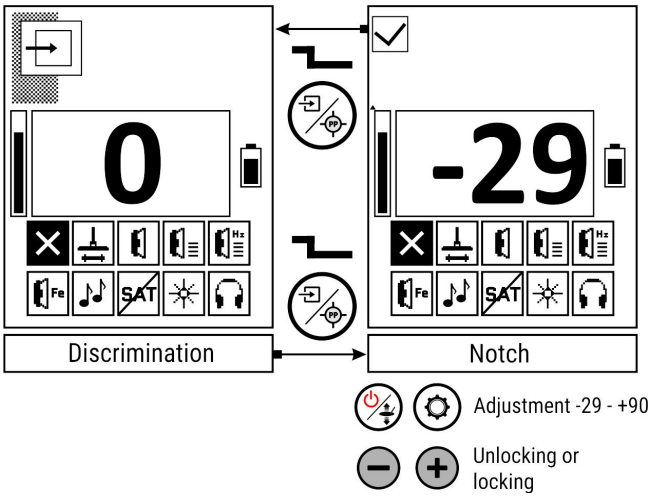
Sensitivity in the Versa detector may be adjusted across 30 levels. The Sensitivity level set by the user determines the detector's range and more importantly - it's stable operation. In areas which are littered, freshly ploughed or have heavy electromagnetic interference, operating with maximum Sensitivity is not possible. Sensitivity has to be adjusted in accordance to the terrain where the search is being conducted and using your own experience. New users should begin their searches with the detector set to Sensitivity levels between 15 and 20. Sensitivity levels above 25 are intended for advanced users.

DISCRIMINATION



Discrimination is a function which enables the removal of sound signals from unwanted objects, which have an identification number lower than the set Discrimination value. E.g. a Discrimination value set to -15 will result in a lack of the detector's reaction to most small steel objects. The Discrimination value can be set within the range from -29 to +90.

NOTCH



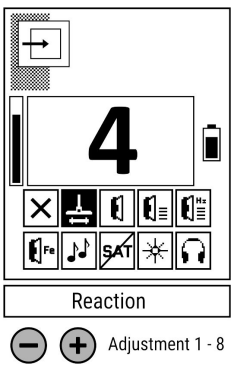
The Notch function is entered from the Discrimination adjustment by pressing and holding the button, exit by pressing and holding the button. The point of Notch is set using the and buttons and its unlocking or locking with the buttons and .

The detector has 120 points of Notch function. Each of which can be locked individually. This function is used to eliminate signals from objects with a specific identification point, which helps to search in places where there is a large amount of similar, unwanted objects. For example, to eliminate signals from spent cartridges littering a battlefield but not eliminating signals from other objects.

To make best use of this function, block readings from the unwanted object's value, and a few points above and below this. The size of this range should be adjusted based on the search conditions. In places where identification readouts are stable, the range of the blocked signals should be as narrow as possible.

NOTE: Using Notch it is important to remember that other objects with characteristics similar to the "unwanted" ones will also be eliminated. **For best results, only use this function in exceptional circumstances.**

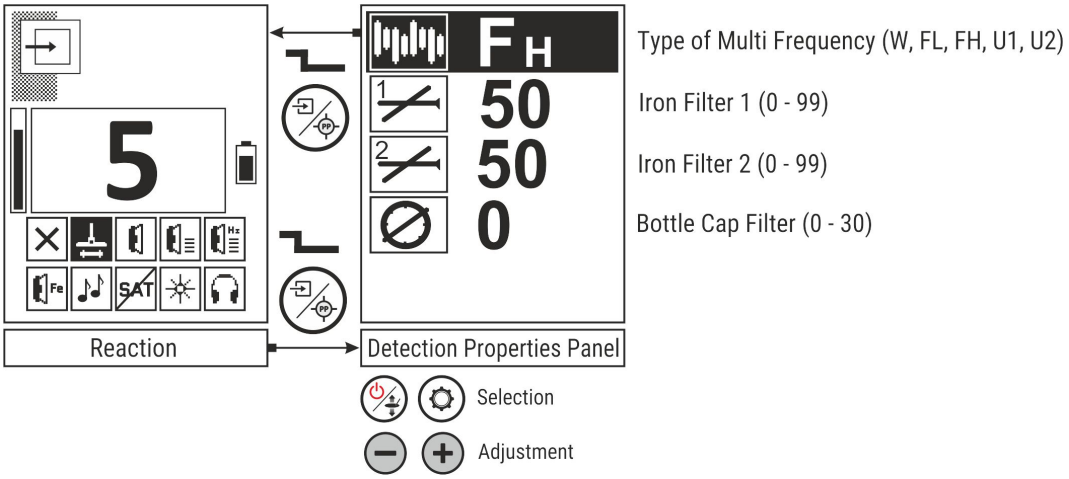
REACTION



This adjustment gives the ability to select the speed of soil filtering. It is an essential factor in the ability to detect large, deeply placed objects, the speed of detection and its resistance to soil mineral contents. **Filter 5 has the best detection properties for small objects such as coins.** Ground filters 1 and 2 are intended for searching for large objects. **Using Ground filters 1 and 2 to search for small objects is a mistake often made by searchers.**

Filters 1, 2	Used to search for large objects.
Filter 3, 4	A universal setting, if you are not sure which filter to use – choose this one.
Filters 5 – 8	Increasingly quicker filters should be used for searching of small, thin objects amongst steel junk or in conditions of high mineralization of the ground.

DETECTION PROPERTIES PANEL (ADVANCED SETTINGS)



The settings provided here are already fine-tuned for most search environments and items, making them ideal for beginners who don't need to make adjustments. However, experienced searchers looking for a more in-depth experience can explore advanced options.

Enter the Detection Properties panel from the Reaction option by pressing and holding the button. To exit, press and hold the same button. Navigate through settings using the and buttons, and modify a specific setting with the and buttons.

NOTE: Settings that are inactive in a given program are marked with a symbol ▬. In both Beach and Beach Dual programs, the only available Multi Frequency type is 'W'.

Type of Multi Frequency

The Versa features five distinct Multi Frequency modes, each with unique characteristics. While they all operate within the same frequency range, their information processing methods are fundamentally different. This affects detection capabilities, so it's essential to choose the Multi Frequency type based on your search location and objectives.

To select a Multi Frequency type, first choose one of the M channels (1 – 9) from the frequency screen, as detailed on page 18 of the manual.

NOTE: After changing the Multi Frequency Type, we recommend performing ground balancing.

W type operation – ideal for areas with conductive soil. This mode counteracts interference from seawater, acidic water, and other substances like coke and shale, ensuring more accurate object detection.

FL type operation (only in General, General Dual programs). Designed to locate 'low conductive' objects (e.g. small, thin silver coin). These are typically small items with ID readings below 25. This type of work will be most effective in conditions of high mineralization and littered with ceramics and bricks.



FH type operation (only in General, General Dual programs) – for general-purpose searches. It works perfectly in most cases.



U1 type (only in Fast, Fast Dual programs). Optimated for searching for non-ferrous metal objects in the presence of ferrous debris (nails). Level one is intended for users who prefer a low amount of excavated iron.

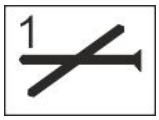


U2 type (only in Fast, Fast Dual programs). Level two is intended for users who value high efficiency in searching for coins under iron.

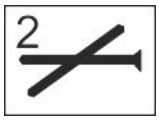
Multi Frequency Properties

Type of Multi Frequency	Maximum depth (air)	Iron rejection (discrimination)	Iron masking	Effectiveness of searching for small coins (in ground)
W	medium	high	high	medium
FL	high	high	medium	high
FH	high	high	medium	high
U1	high	medium	low	high
U2	high	medium	very low	very high

NOTE: In the Beach, Beach Dual, General and General Dual programs, the device utilizes two independently operating iron filters. This allows for flexible adjustment of the detector based on conditions and the target being sought. The boundary between Iron Filter No. 1 and Iron Filter No. 2 is set at ID 35. In the Fast and Fast Dual programs, only Iron Filter No. 2 is active, operating on all iron objects.



Iron Filter 1
A setting that affects the detection of small iron objects such as wires or small metal plates. Any iron objects that cause false readings by producing an ID value lower than 35 can be corrected using this setting.



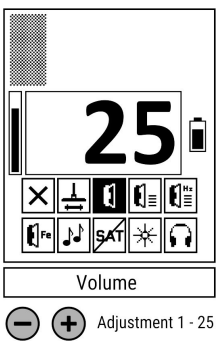
Iron Filter 2
A setting that affects the discrimination of nails and other ferrous objects. Setting to 0 - low masking, high effectiveness in highly mineralized soil. Setting to 99 - very effective iron discrimination.



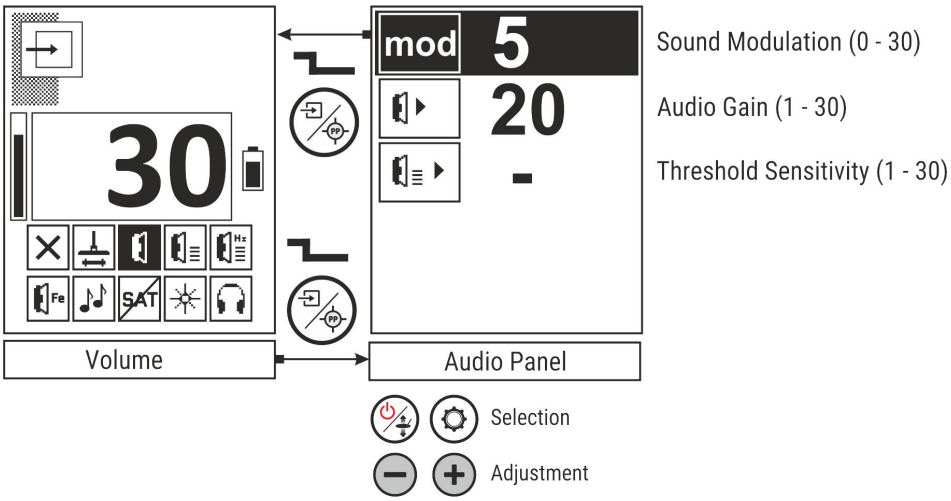
Bottle Cap Filter
It is an algorithm based on multi-frequency information, the analysis of which allows for effective identification of steel caps and other problematic iron objects. Steel caps are identified as objects with ID = -1. In the General and Fast programs, this function can be used to partially notch some iron objects that cheat discrimination.

VOLUME

Adjustment the volume of the sound received from objects. The level of the Threshold is not dependent on this setting.



AUDIO PANEL (ADVANCED SETTINGS)



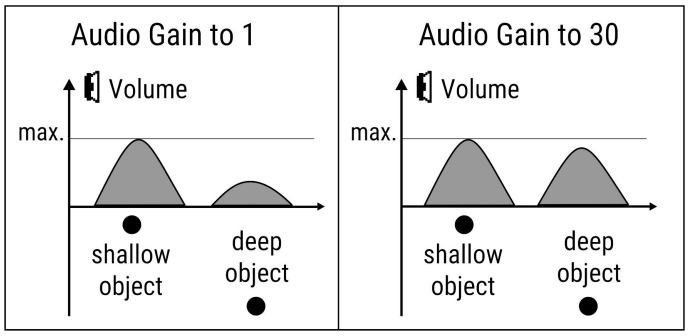
The settings in this panel are finely tuned for a wide range of search locations and objects, making them ideal for beginners who can use them as is. However, more experienced and advanced users seeking a deeper level of engagement and insight can customize these settings to suit their specific needs.
To enter the Audio panel, simply press and hold the button from the Volume adjustment screen. To exit, press and hold the same button. Navigate through the settings using the and buttons. Make adjustments to a specific setting using the and buttons.

Sound Modulation

In the Beach, Beach Dual, General and General Dual programs, this function allows for a slight change in tone depending on the object's depth. In the Fast and Fast Dual programs, the function operates differently: the audio signal becomes distorted on certain iron objects that would otherwise fool the discrimination system. This helps the user avoid digging up unwanted items.

Audio Gain

Adjustment to enhance the volume of deep objects. **When set to 1, deep objects will be silent and novice users may make the mistake of ignoring such signals.** In the initial period of use, we recommend setting this regulation to level 15 or higher.

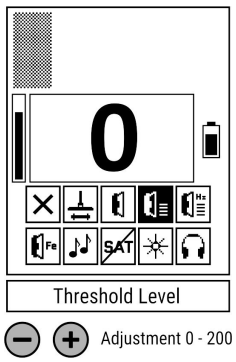


Threshold Sensitivity

The setting is only active in Dual programs. Its adjustment is used to change the sensitivity of the all metal channel. For low settings, the all metal channel will only respond to large objects and will have a small range, i.e. it can only serve an auxiliary function to determine the size of objects. At high settings (above 20), the range and sensitivity of the all metal channel is high, allowing the detection of deep objects beyond the range of the motion channel.

THRESHOLD LEVEL

The Threshold is a constant sound that can be heard while the detector is operating. It can be increased or decreased depending on the user's preferences and the level of noise at the search site. The level of the Threshold should be set so that it is only slightly audible – in this way you can be sure that you will hear even the quietest signals from objects. The Threshold is very important – it enables the All metal channel to be correctly reset by the user.



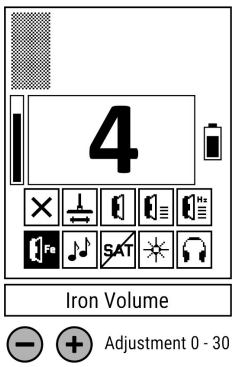
THRESHOLD TONE

The Threshold Tone should be set as you wish – each user will have their own preferences as to the sound frequency which is the most appropriate.



IRON VOLUME

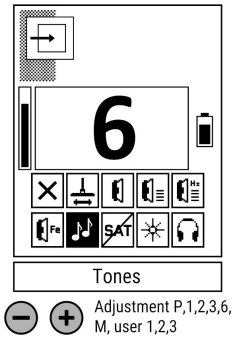
Iron Volume is a function that allows you to listen to signals from objects rejected by discrimination while the detector works as motion (programs: Beach, General, Fast). In this way, the user gets more information about the objects that are in the ground. Rejected objects are signalled by the tone not higher than 131 Hz, with a frequency modulated depending on the size of the object. The tone from discriminated objects is not dependent on the tones set in the audio profiles.



NOTE: Objects rejected by Notch are not signalled by the sound of iron, and the function of the Iron Volume works only in motion programs.

TONES

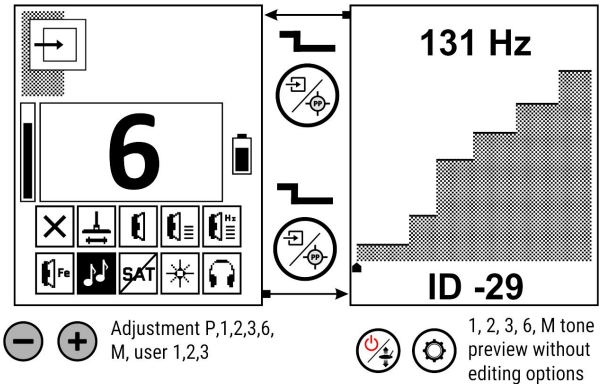
The user has at his disposal 9 sound profiles in motion programs or 8 in dual programs.



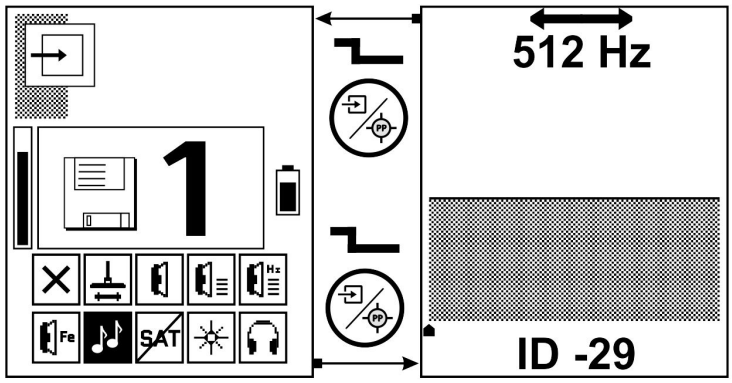
P	variable tone depending on signal strength - available only in motion programs (Beach, General, Fast)
1	one tone for all objects (523 Hz)
2	tone 131 Hz for objects with negative ID and 523 Hz for positive ID
3	tone 131 Hz for iron, 262 Hz for objects with ID below 45 and 523 Hz for objects with ID above 45
6	tone 131 Hz for objects with a negative ID, 262 Hz for objects with ID = 0 to 14 and successively higher tones for higher ID values
M	Multitones, tone 131 Hz for iron, tone 200–999 Hz for ID's from 0 upwards
1 – 3	user programs

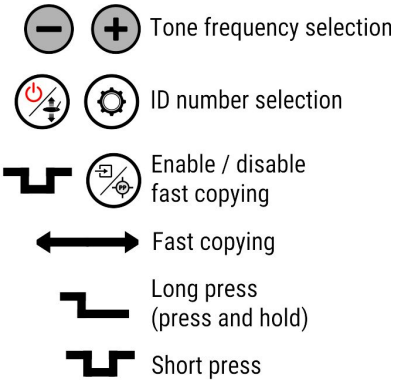
Tones preview

The user has the ability to preview tones from 1 to 6 and Multitones without the possibility of editing.



User tones programming

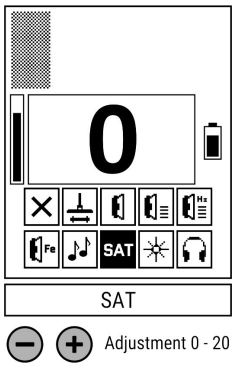




Tone range 60 - 999 Hz

Tone programming can be accessed when the current setting is Tones setting. Press and hold the button. Any sound frequency in the range from 60 Hz to 999 Hz can be assigned to each ID number. The ID numbers can be changed with the and buttons, the tone frequency can be changed with the and buttons. A short press of the button turns on and off the fast tone frequency copying mode when changing the ID number. In fast copy mode, changing the ID number automatically copies the tone frequency. In this way, you can quickly program a tone for a range of ID numbers without having to sequentially set the tone for each ID number. Copy mode is indicated by a "double arrow" at the top of the screen. Exiting tone programming – press and hold the button.

SAT

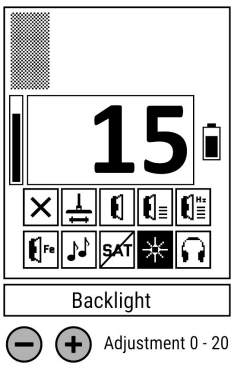


SAT is disabled in the Beach, General and Fast programs because it only applies to the All metal channel of the detector, which is disabled in these programs. The SAT function reduces the effects of external conditions on the operation of the All metal channel of the detector. To put it simply: by using this setting we can prevent the detector mistuning in the sun. Another important function of SAT is changing the response of the All metal channel. For high SAT settings (especially SAT = 20) the user has the ability to audibly differentiate between a large number of small objects laying at a shallow depth from one big object. When set to 20, the SAT function is maximally fast.

A setting of 0 means that the SAT circuit is completely turned off – detector is fully non motion. With this SAT setting, care must be taken to ensure proper and frequent Ground Balance because the detector will signal each change in soil mineralization, especially at the transition from e.g. forest to field, as well as under the roots of large trees or near animal dens. Similarly, the user should take care of the proper reset of the All metal channel - by short pressing the button, the All metal channel is reset - i.e. we enter the reference level against which the detector signals the presence of objects.

NOTE: For users who are inexperienced with detectors works in non motion or dual modes, we STRONGLY recommend working with SAT set to 20.

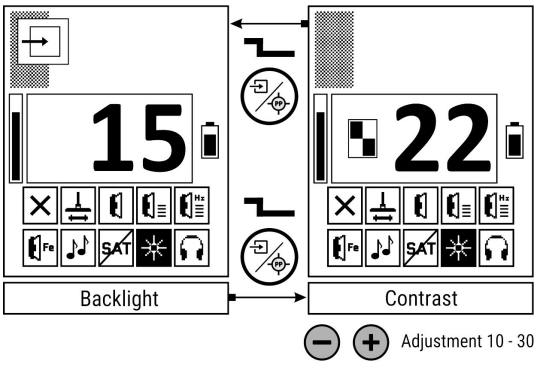
BACKLIGHT



Backlight adjustable from 0 to 20. When the backlight is set to 0, it turns on automatically in the Settings screen - this makes it easier to work in low light conditions.

CONTRAST

The Contrast function is entered from the Backlight adjustment by pressing and holding the button, exit by pressing and holding the button. We adjust the contrast to suit our needs.



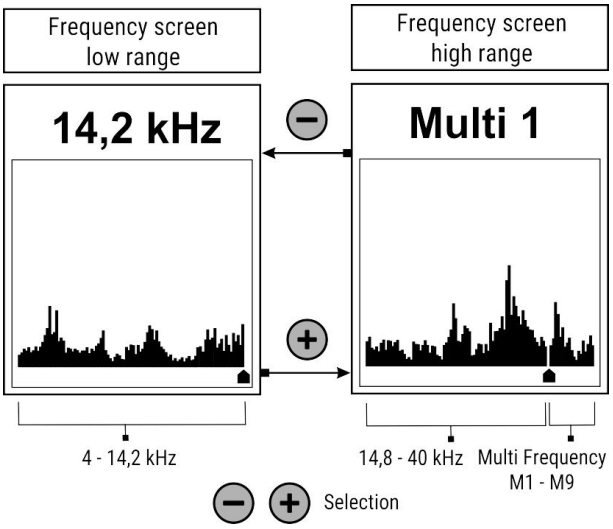
WIRELESS AUDIO

After pairing the detector with the SR-1 wireless headphones or the OS-2 wireless receiver, you need to set one of the ten channels. The symbol means that the transmitter is turned off.



FREQUENCY SCREEN

Frequency selection is made using the preview of the level of electromagnetic interference on given frequencies in the range of 4 – 40 kHz. The Frequency screen is entered from both the operation screen and the settings screen by pressing and holding the button, exit is by pressing and holding the button. The frequency is changed with the and buttons. In the range up to 14.2 KHz the jump is made every 0.2 kHz, above 14.8 kHz - every 0.6 kHz. The user should select such frequencies at which the level of interference presented in the form of a vertical line is as low as possible.



The choice of frequency used has a very big impact on the detector's ability to detect objects. The general rule is: use Multi Frequency type "L" to search for low-conductive objects, i.e. small coins and jewelry; use Multi Frequency type "W" on wet, conductive soils. Single frequencies could be used only when the ground conditions allow it. The rules for selecting a single frequency are as follows: the smaller the object, the higher frequency used. Frequency also influences the quality of Discrimination of flat shaped steel objects. The higher the frequency, the more the properties of the metal sheets resemble those of non-ferrous metals. At high frequencies - above 20 kHz, many steel targets are identified as targets with ID greater than 0 - this is normal. The frequency also has an influence on the power consumption of the device. The operating time at 4.0 kHz is much shorter than at 40 kHz. If you are not sure which frequency to work with – use Multi Frequency type "H" in the General program.

By moving the cursor beyond the single frequency range, the user can choose from 9 Multi Frequency channels (M1 - M9). The channel numbers mean different sets of frequencies that differ slightly from each other - selecting one of the 9 channels DOES NOT CHANGE the detection properties but is used to detune from interference. We change the detection properties of Multi Frequency operation by changing the Multi Frequency operation type (W, FL, FH, U1, U2) in the Detection Properties screen.

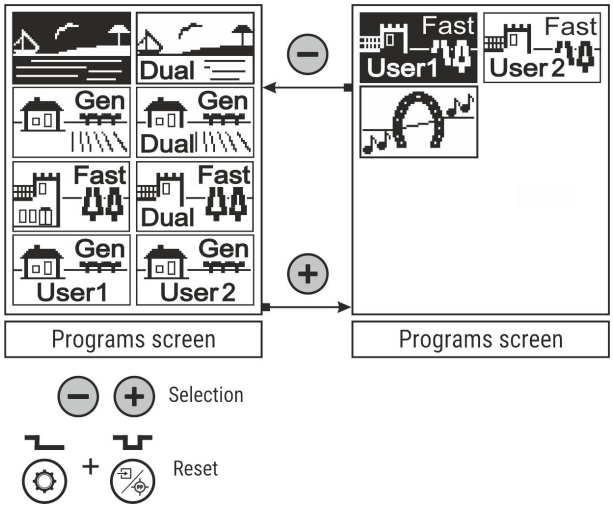
4.0 - 6.0 kHz	Deep searches for highly conductive objects e.g. large non-ferrous metal parts, large silver coins or large steel objects.
6.2 - 10 kHz	Universal search.
10 - 20 kHz	Searching for small, thin objects (coins).
Above 20 kHz	Searching for extremely small objects - e.g. small gold products with a size of several millimeters.

NOTE: The Beach and Beach Dual programs works only in W type of Multi Frequency.

NOTE: Non motion with discrimination and tone ID program works ONLY in the range of 7.6 to 9 kHz.

PROGRAMS SCREEN

The next screen after the frequency screen that appears when you press and hold the ⚙ button is the program screen. The program selection is made with the ⊖ and ⊕ buttons. Resetting the selected program to factory settings: press the ⚙ button and while holding it down, short press the ⏻ button.



If you are a new user or an inexperienced detectorist, start with these optimal designed programs, learn how the Versa works in these programs and only move onto the individual settings when you feel familiar with how the detector works.

Dual work is a combination of motion work (in which we have discrimination and identification) with All metal work. Thanks to this combination, we can use the advantages of both works - identification coming from motion work and the maximum range of All metal work.

Purpose and description of the programs:



Beach – program in motion work designed for operation in water environment and also in all places where water contained in the ground does not allow for operation in a single frequency. In addition, the user should use this program wherever non-metallic but conductive objects (e.g. coke) prevent or significantly interfere with the search. This program works only in W type of Multi Frequency.



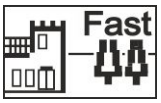
Beach Dual – has the same features as the Beach program, but also works with the All metal channel.



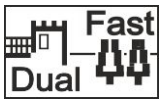
General – main program in motion work.



General Dual – dual work with features such as in the General program. Program with maximum depth, also recommended for searching for large objects in all terrain conditions.



Fast – fast program in motion work optimized for searching in a littered area and mineralized iron compounds. The priority in this program is low masking with iron, ceramics and bricks.



Fast Dual – dual work with features such as in the Fast program.

Versa also has 4 user programs, so that there is no need to modify the factory programs. The user can make modifications in the "User" programs and, if necessary, quickly switch between the factory program and the one modified by him.



General User1
(motion work)



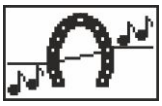
General User2
(non-motion work)



Fast User1
(motion work)



Fast User2
(non-motion work)



Non motion with discrimination and tone identification – program designed to search for extremely large objects. Not suitable for searching for coins and other small objects. The program works only in the frequency range from 7.6 kHz to 9 kHz. In this program, we recommend keeping the coil at a certain distance from the ground - pressing the coil to the ground is not recommended. An important feature of this program that the user must understand is that non motion identification and discrimination works differently than motion identification and discrimination. For objects made of iron, the identification digit shown on the screen may not match the type of sound heard through the speaker. Objects above the conventional iron limit are signaled with an increasing tone (relative to the set Threshold tone), objects below the iron limit are signaled with a decreasing tone, objects below the discrimination limit are muted. Thanks to this, if we set the discrimination to -15, and the Threshold tone to 200, the smallest iron objects will mute the sound, large iron objects will be signaled with a sound of increasing volume but lowering tone, and non-ferrous metal objects will be signaled with a sound of increasing volume and tone.

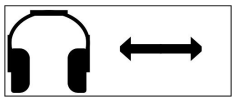
RADIO SCREEN



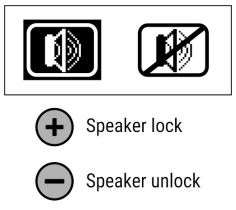
Radio screen

The last screen that we enter after a long press of the ⚙ button is the screen from which is possible to:

1. software update or change,
2. pairing detector with headphones or receiver,
3. enable permanent speaker lock.



Versa is ready to pair with the SR-1 headphones or OS-2 receiver. To pair one of these devices, switch the detector to the Radio screen and then turn on the receiver or headphones while holding them about 1 meter from the detector. Read the instructions for a particular device carefully to turn it on correctly. A double arrow symbol will briefly appear on the screen to indicate that pairing is successful. Then select one of the channels in the Wireless Audio setting.



In the Radio screen, you can turn the speaker on or off permanently using the ⊖ and ⊕ buttons. Connecting headphones to the 4-pin Audio/Charge jack does not automatically disconnect the speaker. To use the headphones without the speaker working (e.g. when wading in water), the speaker must be turned off permanently. When the speaker is locked, the  icon will appear in the lower right corner of the operation screen.

192.168.4.1 Versa is equipped with a WiFi module that has its own built-in processor and memory. Module turns on automatically when the Radio screen is called up. During normal operation of the detector the WiFi module is switched off. The module performs the following tasks: transfer software files from the device (laptop, tablet or phone) to the metal detector, storage of software files, main processor reprogramming.

NOTE: The Versa detector at the time of production is programmed with the current software version and may not have other software files in the WiFi module.

The process of downloading the software from our website, loading it into the detector and its reprogramming does not require advanced IT knowledge and is a basic computer operation.

Software change instructions

1. Using a laptop, tablet or phone with Internet access, open www.rutus.com.pl/en and download the appropriate version from the "Software" tab.

2. Save the software file (e.g. VersaNC5.51.rut) to a known location (Downloaded or desktop). Do not download the file more than once, as the system will add "(1)", "(2)", etc. to the end of the file name. If the file name is "VersaNC5.51(1).rut" instead of "VersaNC5.51.rut" then such a file will not be loaded.

3. Disconnect the coil before reprogramming the detector.

4. The WiFi module in Versa turns on automatically when the Radio screen is called up. If the battery level is too low, the battery symbol with an exclamation mark will appear, the battery should be recharged.

5. Expand the list of wireless networks on your laptop (tablet, phone) and connect to the MyRutusDetector network. If the device asks for the trust level of this network (e.g. "Is the network private or public?") then set this trust level as high as possible.

NOTE: Uncheck the "Connect Automatically" box next to your default network.

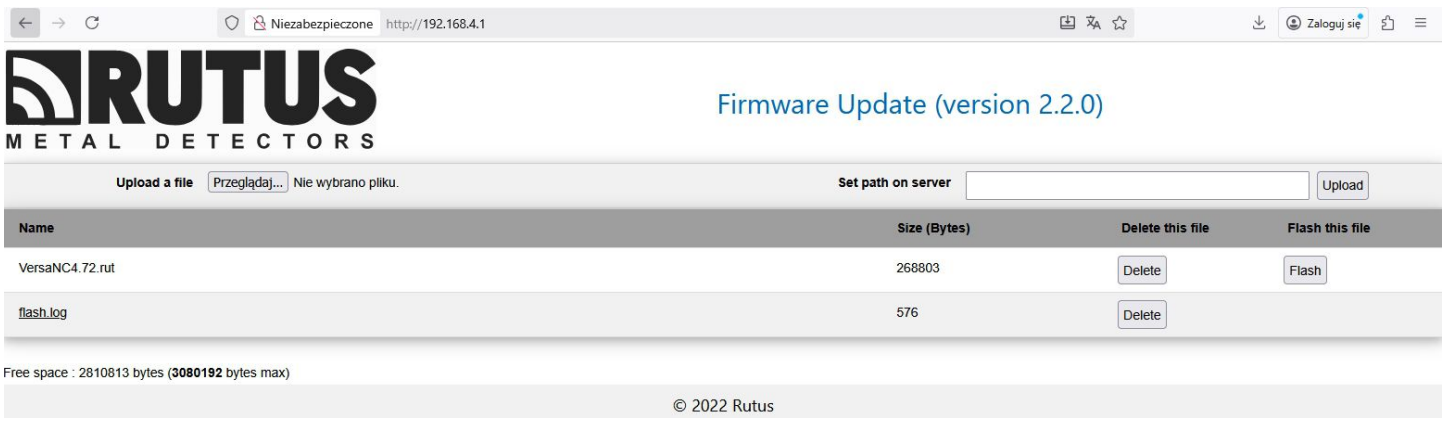
NOTE: If you are using a mobile phone, disable mobile data transmission on the phone before connecting to the MyRutusDetector network.

NOTE: Depending on what operating system your device you are using to connect to Versa is running, the wait time for the MyRutusDetector network to appear can be several tens of seconds. In some cases, you will need to refresh the list of wireless networks.

NOTE: The MyRutusDetector network connection is not an internet connection. The detector and the devices connected to it via WiFi do not have access to the world wide web.

6. Run any web browser (e.g. Firefox, Chrome etc.) on the laptop (tablet, phone) and enter 192.168.4.1 (without “www” or “https”) in the URL/Address bar and press Enter (or Go/Search depending on your browser/device).

7. A web page generated by the Versa WiFi module will open.



8. Using the "Browse" button, select the software file (e.g "VersaNC5.51.rut") from the saved location (e.g from Desktop).

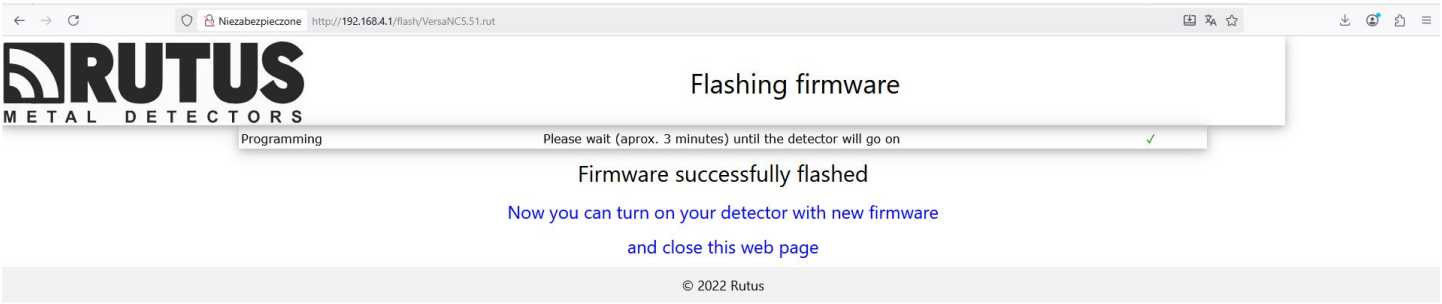
9. Use the "Upload" button to start uploading the file from your laptop (or tablet, phone etc.). Uploading a file can take up to a minute or two (the data transfer rate of the WiFi module is very low due to power saving).

10. If the message “500 Error! Failed to write file to storage” appears, it means that there are too many files in the WiFi module's memory, you must delete one of them by pressing the “Delete” button.

11. When the file is uploaded, it will appear on the list of stored files.

12. Press the “Flash” button to start the detector reprogramming process.

13. After starting the detector reprogramming process, a page with the inscription „Please wait (aprox. 3 minutes) until the detector will go on” will appear on the laptop (tablet, phone). During the reprogramming the image on the detector screen may disappear. After the reprogramming is completed, the detector will power off and the following page will display in your browser:



14. After reprogramming, turn off the detector, connect the coil and turn the detector back on.

NOTE: If an error occurs during the reprogramming process, the message "Something goes wrong" will appear instead of "Firmware successfully flashed. Please try again." Use the "Go Back" button to return to the first page and start the process again. If the WiFi connection to the detector breaks, wait until the detector shuts down, as the reprogramming process will still work correctly.

NOTE: The "flash.log" file that appears after the programming process is completed is a file intended for use by our company's service for diagnostic purposes of the WiFi module - in the event of problems with reprogramming. The user can delete this file from the device's memory at each subsequent reprogramming.

SEARCHING – USEFUL ADVICE

Searching is done by sweeping the search coil left and right as quickly as is comfortable and as close to the ground as possible. The exception to this rule is when searching for large objects using low Reaction values (1 or 2) and work in Non motion with discrimination and tone ID program – in this case it is best to keep the search coil 20 cm above the ground. Touching the ground with the search coil should be avoided, try to avoid hitting it against rocks and other objects protruding from the ground. While the search coil is designed to be resistant to damage when hit against hard objects, a more effective search will be had if this can be avoided. The search coil should be held parallel to the ground, as this is very important to ensure an effective search. This is especially important when reaching the end of each left and right swinging motion, as lifting here changes the distance from the ground. This changes the level of the soil signal, which results in the filters having to process this, giving a decrease in search efficiency. Over time try to get into the habit of moving the search coil parallel to the ground.

How fast you are able to search depends on your ability to sweep, however sweeping too fast can cause a drop in effectiveness also, especially in very littered terrain. In all programs except Non motion with Discrimination and tone ID, swinging the search coil too slowly will also decrease the effectiveness, especially at higher Reaction values. For these reasons sweeping should be no slower than 0.3 m/s and no faster than 1.5 m/s.

To achieve the most accurate identification of a tiny object, the centre of the search coil should move exactly over the buried object. To do this, use the Pinpoint function, start by moving the search coil 40 – 50 cm away from the location where the object was first identified. Lift the coil slightly and then press and hold the button, then move the coil back to the area where the object was detected and try pinpointing its exact location with the strongest signal. After determining where the object is buried, release the button, while remembering where the middle of the signal is, swing the search coil so that its middle moves over the object, in quick, short movements of between 15 – 20 cm. This will confirm that the detected signal is in the middle of the search coil – and not at its edge – which could cause false identification.

It is recommended to use headphones with this detector, as they will help in shielding external noise. This will allow you to listen more closely to detector's weakest signals, increasing the technical capabilities, especially in All metal programs, where the sounds are more subtle. When searching for the deepest objects, headphones should be an essential part of your equipment.

INTERFERENCES

The Versa detector is designed in such a way that it can be used with maximum sensitivity in places where there is no external interference. In order to achieve this highest possible stable sensitivity, two basic rules must be kept in mind:

1. Correct installation of the cable.

2. Moving the coil smoothly over the surface without jerking or hitting.

However, if there are any unwanted signals, it is worth trying to diagnose them yourself.

Checking the source of interference

Many signals appearing during searching are caused by improper settings or improper movement of the coil (jerking and hitting objects/ground). In order to verify whether the fault is user-caused or external, the following must be done:

Put the detector on the ground. If:

the detector hasn't false signals	It means that the source of the problems are settings incorrectly matched to the search conditions and NOT electromagnetic interference. In this case we recommend resetting the program to factory settings and to proceed Ground Balance. On wetlands, the Multi Frequency type W should be used. If the detector continues to make unnecessary sounds, reduce the sensitivity. This should, in most cases, resolve the issue.
the detector doesn't operate stably	Walk 5 metres away from the detector. If the signal count has decreased then the source of interference may be on you e.g a telephone, pinpointer or any other electronic device.
the detector continues to emit signals by itself	Approach the detector without a telephone or any electronic devices and check the level of signals that the detector sees by Noise level preview screen. If you see that the frequency at which you are operating has a lot of interference (the blue bar is high), you should change the frequency to another one where the interference is as low as possible. It may also be necessary to reduce the detector's sensitivity.

Sources of external interference include: houses and the electrical devices inside them, power lines, electric fences, other metal detectors, telephones, walkie-talkies and even stormy weather. To have certainty that the interference is external, even though there are no visible emitters within a radius of several hundred metres, you can conduct another interesting test.

Put the beeping detector on the ground, wait a few seconds to make sure it is still audible, approach again and lay the detector coil flat to the ground, then walk away again. If the signals decrease or become silent, we can be sure that the interference is caused by an external source that we are not able to see. The most common are lightning discharges, which can be up to 100 km away.

NOTES FOR MAINTENANCE

* Charge the battery before using the detector for the first time.

* The coil should be connected to the detector SWITCHED OFF. Otherwise, the transmission between the detector and the coil may be incorrect. In this case, a "COIL ERROR" screen may appear and the detector will shut down automatically. Don't worry about this situation, just turn the detector back on.

* Plug the connector to the search coil socket, tighten the ring, then press the plug again, tighten the ring. Repeat the steps until the plug is fully inserted into the socket - only at this point the waterproof of the connection is achieved.

* When not in use, the charging/audio jack should always be sealed with a silicone plug (or plastic cap for use in water).

* If you use wired headphones while working in water, make sure that the connection between the audio cable jack and the headphone plug is kept above the water level.

* Wireless headphones can be used for shallow wading, after the control module is submerged, the connection with the detector will be lost. Please note that wireless headphones are not waterproof.

* If you do not use wired headphones, e.g. during shallow wading, secure the charging/audio socket with a plastic cap attached to the detector - this is also to protect the socket from dirt and sand.

* Before attaching the silicone cover to the speaker, make sure that the recess in the housing for it is clean and free of sand. If it is dirty, rinse the detector in water, then remove the water from the cover recess.

* After working in salt water, be sure to rinse the entire detector with fresh water without the use of chemicals, the connection plugs from the cables can only be disconnected after this operation. Take care to prevent salt water from entering the plugs and sockets.

* Do not put a detector that is hot in the sun into water.

* The control module is not designed to be repeatedly inserted into the shaft structure.

* The device must not be stored with a discharged battery. During long-term storage, recharge the battery every two months.

* The detector must not be subjected to extreme temperatures – leaving the detector on a hot day in a car may damage it.

* Do not store the detector in an unheated room during the winter. The best place to store the detector is in a dry room, at room temperature.

* For long-term storage, leave the clamps loose (clamp levers open) - this will increase their service life.

* Cleaning the detector must be done using only water with soap on a damp sponge.

Do not use any solvents or petroleum products. Regularly clean the stems and camlocks.

* Correct maintenance of the detector will increase its reliability and longevity.

PROGRAMS FACTORY SETTINGS

BEACH PROGRAM	
Setting	Factory value
Sensitivity	25
Discrimination	0
Reaction	4
Type of Multi Freq.	W
Iron Filter 1	50
Iron Filter 2	50
Bottle Cap Filter	0
Sound Modulation	5
Audio Gain	20
Threshold Sensitivity	-
Threshold Level	0
Threshold Tone	200
Iron Volume	10
Tones	6
SAT	-
Frequency	Multi5

BEACH DUAL PROGRAM	
Setting	Factory value
Sensitivity	25
Discrimination	0
Reaction	4
Type of Multi Freq.	W
Iron Filter 1	50
Iron Filter 2	50
Bottle Cap Filter	0
Sound Modulation	5
Audio Gain	20
Threshold Sensitivity	25
Threshold Level	0
Threshold Tone	200
Iron Volume	-
Tones	6
SAT	20
Frequency	Multi5

GENERAL PROGRAM	
Setting	Factory value
Sensitivity	25
Discrimination	0
Reaction	5
Type of Multi Freq.	FH
Iron Filter 1	50
Iron Filter 2	50
Bottle Cap Filter	0
Sound Modulation	5
Audio Gain	20
Threshold Sensitivity	-
Threshold Level	0
Threshold Tone	200
Iron Volume	10
Tones	6
SAT	-
Frequency	Multi5

GENERAL DUAL PROGRAM	
Setting	Factory value
Sensitivity	25
Discrimination	0
Reaction	5
Type of Multi Freq.	FH
Iron Filter 1	50
Iron Filter 2	50
Bottle Cap Filter	0
Sound Modulation	5
WAudio Gain	20
Threshold Sensitivity	25
Threshold Level	0
Threshold Tone	200
Iron Volume	-
Tones	6
SAT	20
Frequency	Multi5

FAST PROGRAM	
Setting	Factory value
Sensitivity	20
Discrimination	0
Reaction	6
Type of Multi Freq.	U1
Iron Filter 1	-
Iron Filter 2	30
Bottle Cap Filter	0
Sound Modulation	5
Audio Gain	20
Threshold Sensitivity	-
Threshold Level	0
Threshold Tone	200
Iron Volume	10
Tones	6
SAT	-
Frequency	Multi5

FAST DUAL PROGRAM	
Setting	Factory value
Sensitivity	20
Discrimination	0
Reaction	6
Type of Multi Freq.	U1
Iron Filter 1	-
Iron Filter 2	30
Bottle Cap Filter	0
Sound Modulation	5
Audio Gain	20
Threshold Sensitivity	25
Threshold Level	0
Threshold Tone	200
Iron Volume	-
Tones	6
SAT	20
Frequency	Multi5

NON MOTION WITH DISC. & TONE ID PROGRAM		GENERAL USER PROGRAM		FAST USER PROGRAM	
Setting	Factory value	Setting	User value	Setting	User value
Sensitivity	25	Sensitivity		Sensitivity	
Discrimination	-15	Discrimination		Discrimination	
Reaction	3	Reaction		Reaction	
Type of Multi Freq.	-	Type of Multi Freq.		Type of Multi Freq.	
Iron Filter 1	-	Iron Filter 1		Iron Filter 1	
Iron Filter 2	-	Iron Filter 2		Iron Filter 2	
Bottle Cap Filter	-	Bottle Cap Filter		Bottle Cap Filter	
Sound Modulation	-	Sound Modulation		Sound Modulation	
Audio Gain	-	Audio Gain		Audio Gain	
Threshold Sensitivity	-	Threshold Sensitivity		Threshold Sensitivity	
Threshold Level	30	Threshold Level		Threshold Level	
Threshold Tone	150	Threshold Tone		Threshold Tone	
Iron Volume	-	Iron Volume		Iron Volume	
Tones	-	Tones		Tones	
SAT	5	SAT		SAT	
Frequency	8 kHz	Frequency		Frequency	

EU DECLARATION OF CONFORMITY

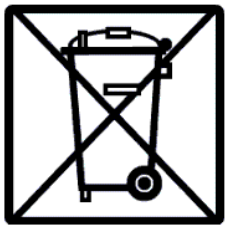
Manufacturer: RUTUS Arkadiusz Rutyna, ul. Krakowska 32, 84-230 Rumia, Poland

Product: Metal detector Versa

We declare under our sole responsibility that the mentioned product complies with all relevant provisions of the directives 2014/30/EU, 2014/35/EU, 2014/53/EU and complies with the following harmonized standards:

ETSI EN 300 328: v2.2.2:2019
ETSI EN 303 454 V1.1.1:2018
ETSI EN 301 489-1:2019 V2.2.3:2019
ETSI EN 301 489-17 V3.2.4:2020
ETSI EN 300440 v2.1.1:2017
EN 62311:2020
EN 62479:2010
EN 62368-1:2020+A11:2020

The symbol of a crossed out dustbin means that the product cannot be disposed of with household waste. It is the user's responsibility to take the used equipment to a waste disposal site which has the facilities to handle electrical and electronic equipment. By ensuring this equipment is handled correctly you help to protect the environment. For more information about how to recycle this product please contact your local authority, waste removal provider or the shop where this product was purchased.



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