

Turning on the system for first time

After complete assembly of the circuit and check the voltage and installation keys and LCD and micro program, IC 1 and 2 can be inserted in their sockets and turn on the circuit for the first time.

The only difference is that the first time a circuit the next time it is turned on, the LCD contrast adjustment.

LCD contrast adjustment because the system is completely digital technique, so for the first time is considered a specific process.

Thus, after the start of the circuit, by (Press OK!) Written in the first row and the lower row start counting the counter.

At the same time counting the degree of contrast of the screen changes. As soon as you could see the writing on one screen, you must press the OK button. The initial setting is made and stored so you can fine-tune the contrast more contrast through the menu to do later.

If you didn't successful entries on the screen in seconds, just wait a few seconds to start counting the counters. Or you can switch off and then back on.

However, careful until you cannot see the writing on the screen do not press the OK button, otherwise it is assumed that the contrast setting is acceptable for you and if you cannot see anything on the screen with the work and Even if the problem is somewhere else, and then remove the circuit, you have to start again with a micro fuse bits of the reset program settings, and then turn on your primary. In fact, every time the fuse bits micro reset program settings, the process will be repeated adjustment of contrast.

Device settings and menu

The menu can be entered by pressing the OK button.

This menu is the most unique menu design of the circuit is similar, low and high values to the left and right arrow keys simultaneously to display the desired setting.

The roll-back mode, as well as maintain the latest option by the operator, set the special features is the menu, to the maximum comfort and ease and speed settings there.

Note that at any moment the option selected by the cursor arrows, can be adjusted up or down with the arrow keys, change the desired options.

It should be noted that all settings in the device are stored in the internal memory micros' off until after the device is preserved.

However, in order to deal with the different settings in the current version of the software:

Frequency:

This setting determines the frequency pulse is the pulse detector.

Those who have worked with a variety of policy, are familiar with this concept, and therefore do not need much explanation.

Lower frequencies penetrate the soil more and less susceptible to soil type, but smaller and less sensitive to metals also quickly sense and are less explored. If the high frequencies are reversed.

At the same time power consumption also increases with increasing frequency.

It is recommended to use frequencies between 200 and 300 Hz, to get good answers for different situations.

Another interesting point in the frequency regulation gives us the possibility of noise in this way! Because the noise in the environment in terms of frequency can be less effective on some frequencies, it is testing and monitoring the various conditions set frequencies that noise, have the least sensitivity.

Pulse Width:

This setting is based on the concept of microseconds pulse width transmitter and the signal strength directly involved.

In fact, the setting of the tuning frequency of the regulation, which determine the conditions of pulse transmitter and digital pulse detector circuit is almost not the same, by setting the pulse width, it can be certain of the loop, even with the large size, and even better conditions than Ohm and capacity pulse power loop and soil type, adjusted.

A total of achieving the desired result in this case, need to experience.

More pulse width means a higher current in the loop as well, but the high current loops may be smaller and smaller targets, is problematic.

For example, small amounts of gold, with a high pulse width, almost no sense, if the goals of the larger, more pulse width, the better answer.

In general, in my view, regulation between 150 to 200 for the device in different situations is a good answer.

Note that most circuits, which are often designed to issue coins of a fixed pulse width of 100 microseconds, so this circuit is no doubt in considerable power regulation pulses. While values above 200, more to test and may only under certain specific circumstances and with some loops, or actually give a good answer over 200 varieties can even take a loss or significant loss of stability, or greater sensitivity land and minerals lead.

Note that the use of a maximum voltage of 500 V MOSFET Dawn Burke IRF830, or

1000 in MOSFET 11NK100, pulse width shouldn't be less than 150. Otherwise, the final voltage pulse is also reduced proportionally.

The nature of the problem, they are used to capacity and loop resistance and therefore better for loop actually adjust the pulse width is correct.

Delay:

This setting is related to the client device determines that the calculations sense of patrimony wave back, after how much time, in microseconds, after the end of the pulse to be done.

First, I note that this device has a unique method called Delay Finder software that can balance during the fraction of a second to find the Daily loop start, set the Delay left hand menu, in actually means that, starting from the moment of automatic Delay is equivalent to the amount of 0, we have much excess Delay in microseconds.

After the number is set, it actually means for the Daily Additional Delay is in addition to that amount.

This setting is important because, metals like gold, small, practically requires Delay less good sense, but in this case, metal detectors, are more susceptible to the effects of land and minerals will, then it is possible to soil type, better Delay lowered manually.

For example, +20 to +30 Manual Delay could have a good result.

But it should be noted, in the higher Delay, sensitivity to smaller metal, especially of gold less so, especially for smaller loops, which are used to sense small metals, setting up Delay is not helpful. So how to set Delay is quite experimental, and depends on the purpose of the operator, and the loop used, and soil type region.

It should be noted that, in the above Delay, Noise also increases the chance of entering the area, and may be destabilizing under certain environmental conditions, more. Therefore, I recommend the loops small, adjust AUT, which means Delay automatic, or just from the moment of the beginning of significant wave damping, and for loops big, in proportion to Delay above left, which can also reduce the effect of soil and minerals, to more Range and more sense to help a larger goals.

Integ.W: (Integration interval)

This setting, which is a unique and professional settings compared to other existing schemes is the fact that, in practice, the integration criterion metal sense, that is the return signal, what period in microseconds after Delay continues.

In some analog circuits such as the RX Width Set is called.

The exact range of integration, from the moment of automatic Delay + also manually Delay start, and the size of the set value for this setting, continues.

If Delay is set manually on the 10+, and Automatic Delay loop 15 will be announced, and adjust Integ.W on the 30, the 25 to 55 microseconds integral calculation, after the pulse transmitter will be done.

Delay adjusts this setting, in the sense with various metals, and sensitivity to certain minerals, as well as the influence of ambient noise is effective. It should be noted, reduce the excessive amount of regulation, leading to the loss of a large range, and as it may seem, however, to take a little more metal detectors, but at the same time, the possibility of the sensitivity of some minerals, as well as unaffected by the noise also increases.

For example, in some circuits which are used exclusively for gold finding, number about 20 microseconds, for this arrangement is considered. But because it took the loss, especially for other metals will, in my opinion, is better in general use or for larger targets, this set is more. So working with this setting, the need for high experience, and recommended, if you do not know the exact function, the default setting is used.

Another issue with this setup is that if you set up a large manual Delay used, the better the value of this setting, a little reduced, because no matter how the two Set Delay and more Integ.W, entrance to the noise, and the instability of the device also increases. In any case, the following values to less 20 to be sensible, is not recommended.

Ground: (automatically adapt to the ground)

This setting is similar with SAT (Self Adjusting Threshold), the advanced pulse detector, which has the potential improvements over the standard, more like a feature Tracking, GPX minelab series devices operate. This setting is very important during long searches, makes it a simple metal detector is with respect to many projects, and the operator when the search is much easier, because it eliminates the need to balance succession, so that if Explore the sudden change does not happen, or the device itself be hours, unlike most circuits, the metal detector will still remain in the set up mode.

Enable this setting also makes the device itself permanently, by changing weather conditions, which affect the stability of the circuit is synchronized, and always with the same sensibility that set, he expected to Metal Detecting offer.

OFF value means that this feature is disabled, and then repeated the need for balance in the exploration, there will be, instead, be a little more sensitive offers.

This feature is enabled other values means. Lower numbers, symbols automatically adapt faster and higher levels, adapting means slower and longer.

Set value, depending on the speed of the search operation and to some extent, a big loop and excavated soil type, and always obtain the best value in terms of experience.

For example, land that a variety of conditions and bad, lower is better, but slightly less range will be Metal Detecting, and to better land, more Ground numbers is better, and will also lead to an increased range. It should be noted, in the case of sudden changes in exploration, it may be necessary, balance button is pressed.

It should also be noted that if this option is enabled, the range test metals in the air, a little different. Because this is the ability to implement a gradual and automatic detector.

Near the metal, slowly and from a distance the loop, there is no accurate way may seem a range of metal detectors, slightly less regularly, although appropriate measures have been considered for this case, but for a maximum of sense, the boundary between the sense and antisense is not metal, not working, and therefore the final range with this test does not measure correctly. If enabled this option is the right way to take the test, the metal quickly enough of the loop is the same condition that happens when the real exploration, and indeed around the metal loop on the possibility that one.

The ability to adapt to such a design appropriate to the actual search.

It also can be used to test more accurate than the metal test loop was much closer and far away the metal's reaction, and then the sound cut off the sound to the maximum range of the loop measured.

Speed: (accelerate to sensing)

This setting is similar to feature in Motion series GPX Minelab metal detectors intended, and actually determines the speed of sense, or reaction with respect to the metal.

The metal detector did not function in normal programs, causes stability and noise, as there is very good, and while exploring additional horns have much lower.

Lower values mean less speed and maximum stability of sense and antisense noise and higher values mean more speed, which is less stable and therefore there will be more noise. Selection of this arrangement, the operator quickly and naturally explored to some extent, depends a great loop, and to achieve greater stability However, if needed, to sense the speed set on the lower level.

Naturally, the lower the need for slower speed loop, there is the possibility of losing goals or less, there will be.

In fact, set a lower value for the option, at the same time can automatically; eliminating the possibility of more small targets, and provides particles. It should

be mentioned, that the system in an intelligent and targeted response if possible, is much more powerful, it is not considered setting, and quickly, it will sense metal. Naturally, the more stable, and maintain complete silence by this arrangement, the degree of sensitivity of the device, the higher the ratio, and the more he achieved.

Iron Reject: (iron removal)

This setting is similar to the GPX Minelab series , And by a complex formula of iron diagnosis, is done.

OFF value means the ability to remove iron is disabled, and the values of 1 to 30 also enable this feature, specify the degree of iron removal.

Whatever the number, the higher the setting, making removal more difficult and can even lead to the removal of other metals.

If this setting is enabled, and the sense of iron is detected, the audio output will be cut off, but the graphs and meters as well as number sense and resolution, LCD screen will continue to show the objective sense.

Working with this parameter and calibration of the device, according to the conditions of manufacture, and loop environment to explore, with important points that will be described below.

Set this parameter for each loop is different, and should be in the right condition for the different loops and away from metal annoying, tested and see what degree, the iron removal loops do so for the same loop, set the same degree, Note that higher and put this parameter can be the result of confusion, and the elimination of non-ferrous materials as lead, after testing must be accurate and consistent, this parameter set.

Backlight:

This setting adjusts the degree of light LCD with digital, the value OFF means light off, and 10 is the maximum light from the LCD screen.

It should be noted that some types of LCD, with different lighting systems, in which case you need to manipulate the jumpers behind the LCD screen, so light does not work properly.

In this case, if the jumpers are not changed, the LCD should be used with other brands. It should be mentioned, the LCD light on the circuit is designed in such a way that, even in maximum light, power consumption will increase, and so the idea was not to worry.

Contrast:

This setting is very similar to the previous setting, but to control the amount of black on the LCD's contrast or intended. The figure below highlight means of

posts, and more data means more light is being written.

Considering the differences between LCD and also, with the point of view of the operator of the LCD screen to position LCD on the box, and the structure of the device depends on the operator would adjust so do, which is written in the best bit, the eye be the operator.

Volume:

This set of audio output power circuit OFF means that the sound is cut off completely, and 10 means maximum power of sound.

The plan also audio system, an incremental mode is intended for voice, thus when metal comes closer loop, the sound is a little stronger.

For more efficient use of this mode, it is recommended to set the sound volume on the lower levels. If the volume level is greater than 7, the operation will not significantly affect the volume.

Tone:

This regulation is concerned, the sound output mode to respond to sense the metal. The values 1, 2 and 3 each monologue in the voice, or bass, or bass levels 4, 5 and 6 are two sound and the amount of 7 three sound.

But the 8 is as 3 sounds and depending on the proximity to metal and power sense, works. This means that when a weaker sense, the voice is falsetto, and the closer to the metal's voice becomes stronger, where more bass, and finally when he is sensing metal strongest, most bass the sound is produced. The sound is strong goals help to identify more precisely the center.

Ingredients that prioritize voice and bass voices, more precise and safer for the sense intended purpose has helped to true and false targets or random noise should be recognized. The choice depends on the tastes of the operator's voice, but it is recommended to use combinations of voices. While in some cases 4, 5 and 6-speed voice, the voices modulate naturally depends on the operating frequency metal detector, but the monologue, as well as three 8 mode, there is no association between the frequency of the metal detector and sound.

**** A final point about the menu settings is that, after the corresponding adjustment that could be an option or a few options just press the OK button to exit the menu mode, all the settings have been saved. If the setting for frequency and pulse width and interval Delay and effective integration of metal detecting is altered, after leaving my balance once the process is performed automatically.*