

LRLMAN'S MFD/LRL Generators
5010 BayouSide Drive Chauvin, La. 70344
Phone: 985-594-8294



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Field Test Report on the DEEPSTAR

Thursday, June 08, 2006

IMPORTANT NOTICE

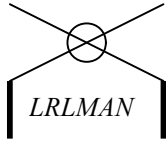
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By Tim Williams*



DEEPSTAR Pulse Machine & 11" Coil

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First Impression:

The detector is built tough! The electronics are housed in an aluminum box and the controls are well placed for easy access. The unit is made to carry around your neck with an adjustable strap. When I received the unit it had rechargeable NI-Cad battery pack. The batteries were heavy accounted for most of the weight. I replaced the 12 sub-c pack with a 12 pack AA 2500mah NM-HYD making the unit much lighter. I now believe the newer units are in a plastic box. I have to say this unit has the best features I have seen on a pulse machine. You should be able to overcome most any ground condition with the controls on this machine.

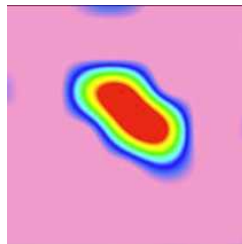


The air test on this machine will bring a smile to your face! Power high/low and Sat Speed is on the side of the housing and is not shown. Here is a couple of air test with the 11" coil with the settings shown above. Power is low and the Sat speed is set slow.

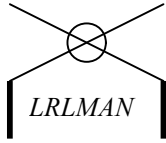
14k wedding band – 11.5 inches
5"x7" metal plate – 30"

Arc-Geo and Deepstar:

This unit is awesome with the Arc-Geo Logger! The plots are clean and the unit has a steady threshold. I have done some plots with this unit when I was in Kentucky. I did a grid over a pot belly stove buried about 2 feet in a persons test plot.



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The test 6x6 foot plot was done with the 11" coil. You can see the shape of the stove in the image. The Deepstar and Arc-Geo combination is a relic hunter's dream come true. The adjustable sweep speed really lets you have complete control over the target response time.

24" x 24" Square Coil:

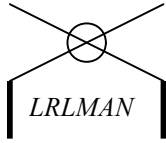


24"x24" Home Made Coil

At the time of this report I was getting ready to grid a very large area and wanted to test the Deepstar on this site. I wanted to cover, as much area as possible but the 11" coil was just too small. I used 1/2" hot water PVC pipes and made this coil. With this size I can still grid at one yard intervals with no problem. I used a 14 conductor #24ga wire with a shield as shown below.



6633-0500R GRY



Here's what I did. I cut a piece of cable long enough to go through all the pipes and fittings. On one corner fitting I drilled a hold for the connecting cable to the Deepstar. I marked down each color and connected each to the other in order.

Example: Red to black, black to green, green to blue, blue to blue/white and so on till you have a coil and two wires left on each end.

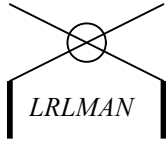
I cut the ground and shield back on one side and did not connect it. I did connect the shield wire to coil ground on the other end. I added an extra brace to the coil to use as a handle if I was to use it in a cave or to grid a large wall where is no room for the handle. Make sure you cut the wires just long enough to solder them together. Don't forget to use heat shrink over the solder connections. Make sure you cut the wires short enough to tuck inside the PVC and long enough to connect them! If the wires are too long you will have trouble.

Coil Bracket:



I cut the tee and used it as a pressure type clamp to hold on to the coil. It turned out to be stronger than I thought it would be. Cut the tee just enough so the tee has to open up some for the pipe to enter and the tee will snap on the pipe. I did this on each side to form the base for the rod.





Here you can see the tees with a small piece of pipe connected to a 45-degree elbow. Another short pipe of pipe connects to a $\frac{1}{2}$ to $\frac{3}{4}$ bushing. All this is glued in place. The snap on tees and the tee that the rod connects to are not glued. You can snap the rod holder anywhere on the coil. The $\frac{3}{4}$ side of the bushings are not glued so that you can adjust the rod to any angle you need! The bushings are pressed into the tee and the force is strong enough to keep the rod holder together. If you want to add something to keep the bushings from coming out you can. The coil does not weight that much. The coil wire does not come out the tee; I stuck it in the tee at the time the picture was taken.



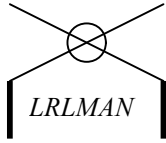
You can see here how the bushings press into the tee. The rod is glued to the tee. When you want to connect the rod to the coil, you just snap on the brackets and press the bushings into the rod tee and you are ready to go! If you want to glue the tee in place you can, just make sure the angle is what you want before gluing.

Handle:

For the handle I used a piece of $\frac{3}{4}$ " PVC with a counter weight on the end for balance. Because of the long plot times involved, I wanted to make a handle that is easy to carry and will allow my arm to be fully extended by my side with little effort to hold the coil during the grid. A 100x20-yard grid it takes about 45 minutes to plot. If you want to offset the handle part you can use 45-degree elbows. You can make any type handle you want.

Testing the Coil:

I emailed Eric and asked what the winding should be and general information for making your own coil. I was going to make a 1x1 meter coil but changed it to 24"x24" instead for testing first. Eric told me I would have to increase the reject a little but should be ok. I did have to raise the reject up $\frac{1}{3}$ for good response. The lower end causes the coil movement to be detected. Here is the air test on the coil so far using the same settings as above with the 11" coil and targets. The response is smooth for each target.



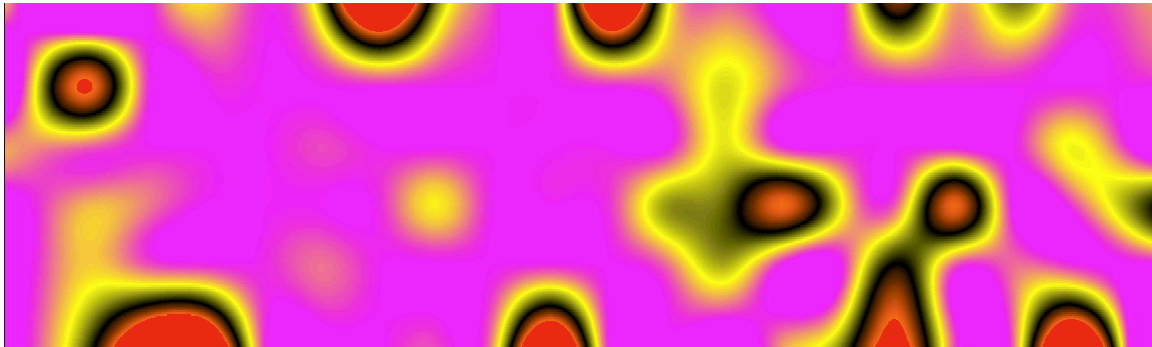
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14k wedding band – 18”
5”x7” metal plate – 4’ . 5”

Test Plots with the coil:



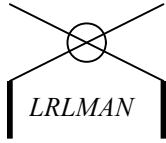
20x6 yard test plot in cane field shown here using ArcheoSurveyorLT. The top left is the start position.



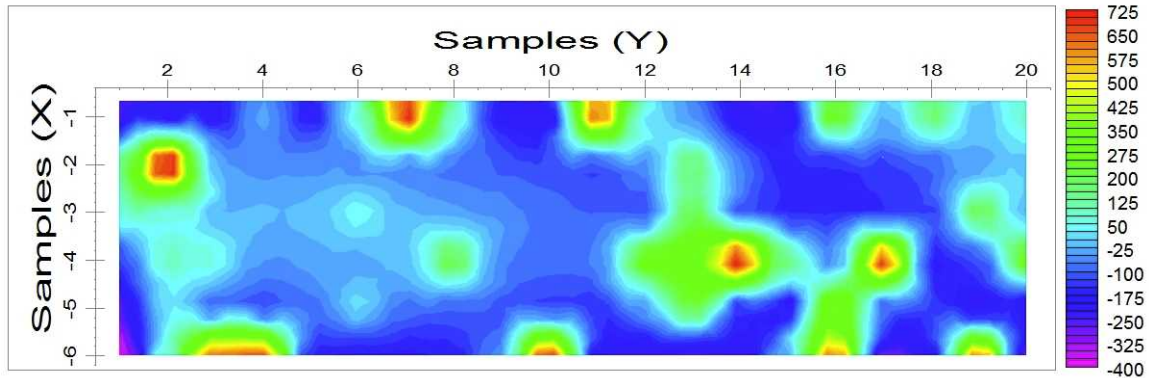
Walking on top of the row in cane fields testing the 24” square coil with the Arc-Geo Logger. You can see the cane behind me. The cane is about 3 feet tall at the time of this picture. They will cut the cane after hurricane season in mid October.

I could not dig targets in the field because of the cane. But only wanted to show the large coverage of the 24” coils. I was talking a sample every yard and some of the targets may be very deep. Shallow targets are ones where the signal drops very fast. A larger deeper target will drop off slower.

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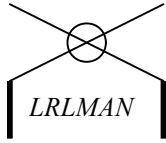


Small rusty nails and other iron objects in are scattered everywhere from years of plowing.



This plot is the same as the one above but done in a different program. The target at X1, Y7 is the smashed aluminum can! But the target at X4, Y11-13 is the one that is deeper and larger. Notice how the detector started to pick it up before it got over the strongest part of the target. Remember each sample is 1 yard! So this target could be a piece of cannon ball or just a blade from an old plow!

The Deepstar is the detector I use most in trouble areas where the Discovery TF-900 cannot be handled. You can also see the Deepstar really produces a very clean plot.



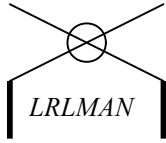
5.5" Coil!



This coil is very hot to small targets, but will also detect large targets deep! I wanted a smaller coil for searching walls of caves and homes and of course the beach!

Air Test: Reject=0, Sens=50%, Thresh=50%, Freq=0, Sat=Slow

- AAA Battery-----8-9"
- 14k Wedding Band-----8"
- Penny-----7"
- Quarter-----6"
- Dime-----6"
- Silver Dollar-----8"
- Soup Can-----20"
- Spoon SS-----12"



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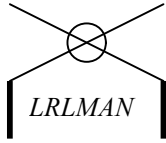
Speaking of the beach, I wanted to make my Deepstar somewhat waterproof and sand proof, so I changed the box.



The box is a Seahorse case 120 and the faceplate is designed by yours truly. I will have waterproof connectors on the side of the box for the coil and headphones. The unit will float and is not intended to be under water. I wanted to protect my unit and still be able to detect in the surf or in the rain. So this was the best direction for me at this time. I included a coil connection on the faceplate.



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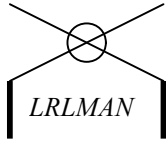


A view of the inside the box. I extended the volume control.



Watertight connections on the box.

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Connection on the 5.5" coil.

The headphone jack is the same as the coil jack, female. If you want to make them opposite from each other to keep from plugging the headphone into the coil you can. I hope I remember!

Notice the little test speaker plugged into the headphone jack. I can test the unit/coils with the small speaker.

Disclaimer: I am not suggesting that you convert your unit to a lighter box. Doing so may VOID the warranty. Contact Surfscanner for warranty details before doing any modifications to your Deepstar.

If you want to convert your unit you can contact Mr. Crabtree and ask about the warranty details. I will make faceplates and boxes available to those that want to convert. You can email me.

If you are interested in a Deepstar PI or any PI unit from Mr. Eric Foster you can contact Mr. Bill Crabtree or visit his site "Surfscanner Detectors" <http://www.surfscanner.com/>
Email: Mr.Bill@Surfscanner.com

Regards,

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