

GCB-700

Datasheet



GCB-700 is the perfect balance between deep penetration and high resolution. It was initially designed as a compromise between the high resolution of GCB-1000 and the deep penetration of GCB-500, but has proven to be more than just that as GCB-700 truly gives the best of both worlds. This makes GCB-700 the perfect choice for companies that have a wide variety of jobs to do by only using one antenna.

As with all other antennas manufactured by Geoscanners this antenna is fully compatible with the rest of the Geoscanners products. Furthermore, GCB-700 is also compatible with GSSI control units. This gives endless possibilities and allows the user to change antennas without having to purchase complete new systems.

There are surveys, like the shallow utility detection, when one would like to get additional resolution, even at the price of depth. On the other hand, there are surveys (like the deep concrete inspection) when one would trade the resolution for penetration. This is where GCB-700 comes in, to fill up the void between good penetration and high resolution. It is our answer to those ambiguous jobs needing the resolution and penetration at the same time.





Area of Application

- Utility detection
- Shallow engineering
- Environmental applications
- Forensics
- Close to surface void detection

Mechanical and Environmental Specifications

Dimensions LxWxD (mm/inches)	320x255x150 / 12.6x9.84x5.90
Weight (kg/pounds)	1.35 / 2.97
Fastening points LxW (mm/inches)	210x160 / 8.26x6.30
Ingress Protection	IP65
Operating Temperature (°C / °F)	from -25 up to +40 / from 14 up to 104
Relative Humidity (%)	99 (NC)

Electrical Specifications

Antenna Type	Quarter Wavelength RL bowtie
Shield Type	Top and Side Shield
Distance between the TX and RX (mm/inches)	80 / 3.14
Feed point impedance (Ohms)	269
Transmitted Pulse Amplitude (Volts)	128
Receiver Sensitivity (µVolts)	14
Dynamic Range (dB)	139
Antenna Bandwidth (at 10dB)	106%
Antenna Center frequency (MHz at 10dB BW)	675
Survey Wheel Output Voltage (Volts)	5.01

Recommended Specifications

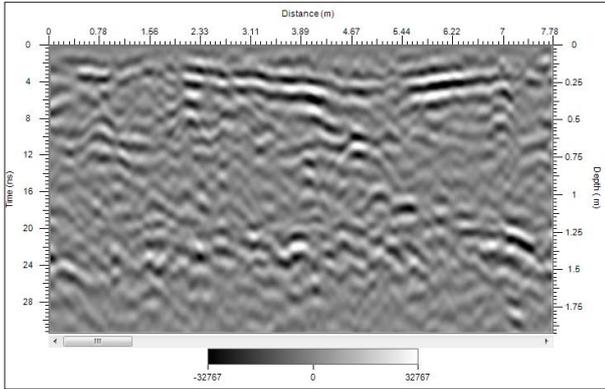
Pulse repetition Frequency, PRF (kHz)	≥100
Scan Rate, Traces/Second	100
Range (ns), (depends on soil penetration)	7-35
Low Pass Filter Cut-Off Frequency (MHz)	1400
High Pass Filter Cut-Off Frequency (MHz)	350
Gain	Adjust to 75% Swing

Accessories*

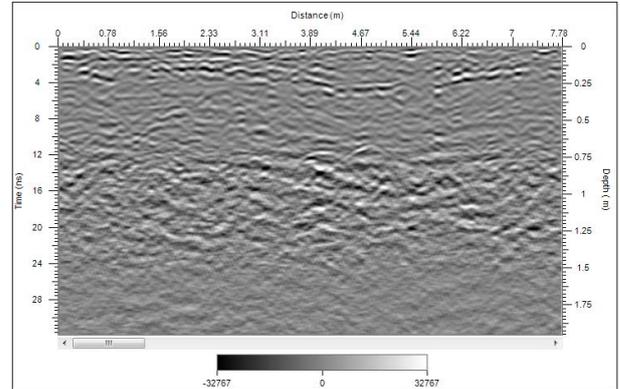
- Tray S47 antenna tray with belts
- SVC-820 4-wheel survey cart
- GSH-490 rough terrain survey trailer

*Accessories are not included

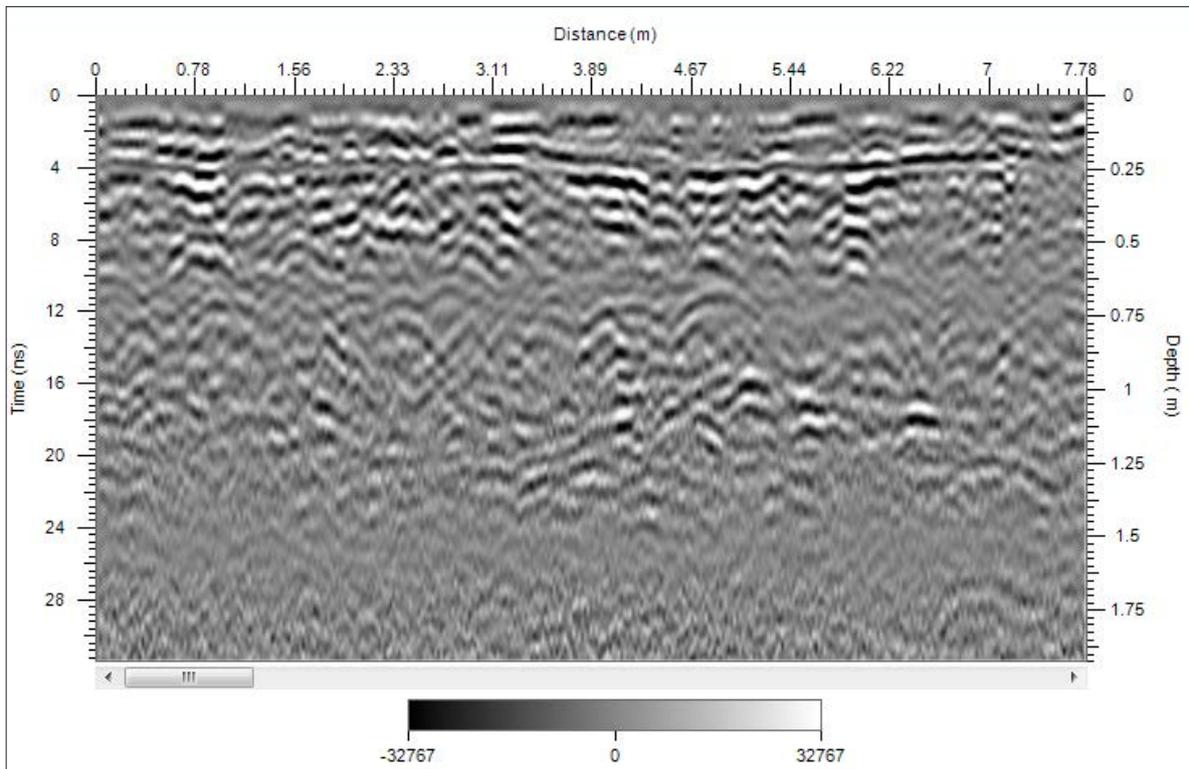
Specific surveys demand the finest possible balance between the depth of penetration and resolution. The images below compare data collected with the Geoscanners antennas GCB-500 (deep penetration), GCB-700 (balance between deep penetration and high resolution) and GCB-1000 (high resolution). By comparing Image 1 and Image 3, one can see that GCB-700 has slightly better resolution than GCB-500, which helps to interpret the data in more detail. When comparing Image 2 and Image 3, one can see that GCB-700 has slightly better penetration than GCB-1000, insuring that the goals of the survey are not just out of reach. This comparison shows that by using GCB-700, the user will get the best of the two requirements.



1. Comparison data collected with **GCB-500**



2. Comparison data collected with **GCB-1000**



3. Comparison collected with **GCB-700**

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