



Shallow Water Bottom Tracking

Recommended Applications

Current profiling and discharge measurements in shallow rivers and streams.

Shallow Water Bottom Tracking (Bottom Mode 7) improves the performance envelope of our standard bottom tracking. A 1200 KHz ZedHed system will work in as shallow as 30 cm. It has an improved bottom location algorithm that improves performance generally and in high backscatter environments. While its main improvement has been in shallow water performance it can be used to the full range of the instrument.

Basic Operation:

When Bottom Tracking is enabled (BP1 or more) the workhorse transmits pulses that are dedicated to determining the velocity of the workhorse relative to the bottom. The bottom pings are interleaved with the water pings with a separation determined by the TP command (time between pings).

Commands relevant to Shallow Water Bottom Tracking.

BP1 Enables Bottom Tracking

BM7 Selects Bottom Mode 7.

BX50 Selects maximum range for bottom detection. This can be adjusted to improve the time taken for bottom relocation in poor conditions in shallow water. The default for a 1200KHz ZedHed system is BX300 (30 meters). When debris or other factors are causing bottom tracking to be lost, the BX value can be reduced e.g. BX50 (5 meters). This will reduce the time for bottom relocation.

BV aaaaa,bbb,cc This command adjusts characteristics of Bottom Mode 7 and should be left at frequency dependant defaults. It should only be changed on the recommendation of RD Instruments Customer Service. Please refer to command reference for more details.



Environmental Limits:

Minimum Tracking depth for 1200KHz – 30cm

Maximum horizontal velocity measurement is +/- 9m/sec.

Other Considerations:

Ping times for Shallow Water Bottom Tracking (Bottom Mode 7) are longer than standard bottom tracking (Bottom Mode 5). If it is necessary to collect data as fast as possible, Bottom Mode 5 will give faster ping times but at the expense of shallow water performance.