

WTB 4-WIRELESS TRIGGER BOX 4



FOR MECHANICAL IMPACT SOURCES - WIRELESSLY TRIGGERS ANY SEISMOGRAPHS

The Wireless Trigger Box 4 (WTB 4) system detects a mechanical impact source firing, and triggers the seismograph.

A WTB 4 system has two components:

- One WTB 4, connected to the source, detects the trigger pulse from the source and then transmits it to the seismograph.
- The second WTB 4, connected to the seismograph, receives the message from the source and starts the seismograph.

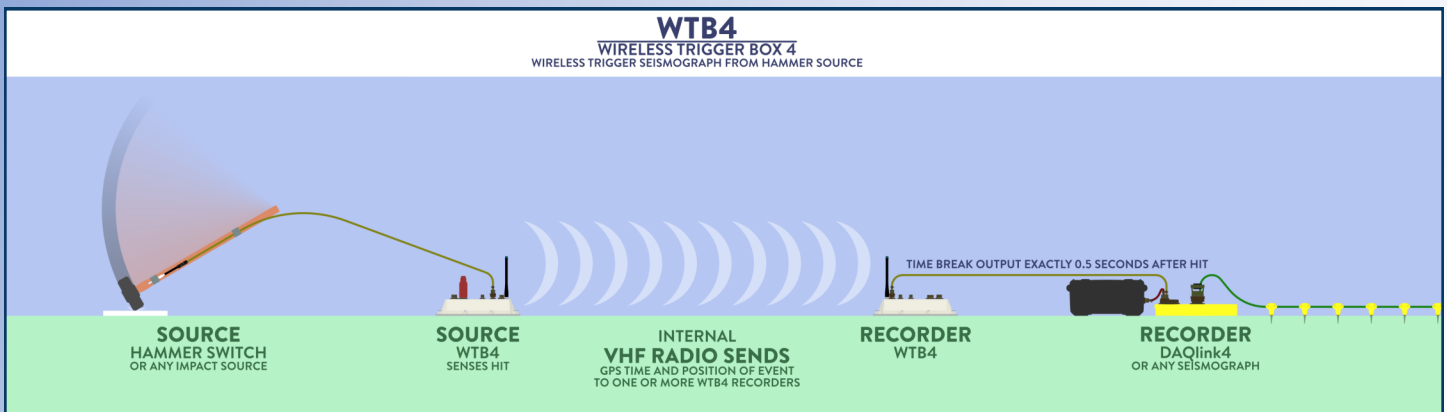
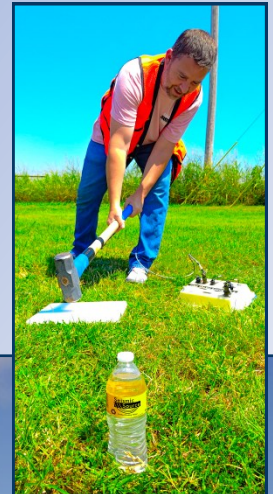
Each WTB 4 unit consists of:

- Internal Radio Trigger Module
- Internal 3 watt VHF radio
- Internal 99 watt-hour rechargeable battery
- Internal GPS module

The WTB 4 adds flexibility:

- The source WTB 4 can trigger multiple WTB 4 equipped seismograph.
- The recorder WTB 4 can receive trigger messages from multiple WTB 4 equipped sources.

Multiple source and seismograph systems can be deployed in 2D or 3D configurations.



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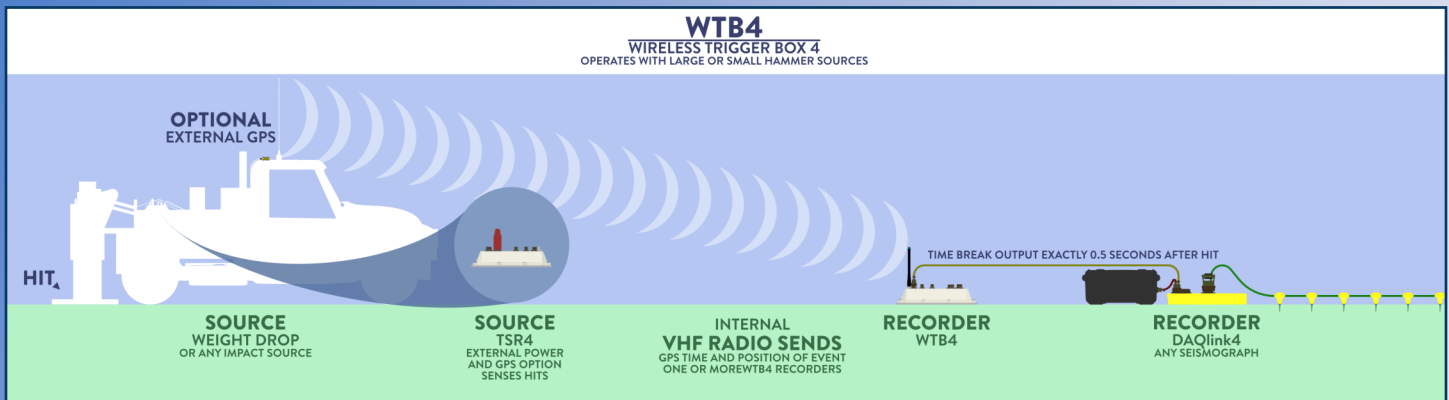


Theory of Operation:

Each Wireless Trigger Box 4 (WTB 4) unit must acquire a valid GPS lock from either the internal GPS or the optional external GPS unit.

The Source WTB 4 is connected to the source with a hammer switch or other device and detects the switch closure (the falling edge) of the signal. The Source WTB 4 calculates the GPS time of the event, then transmits that GPS time and position of the event to the Recorder WTB4 units via VHF radio. The Source WTB4 also saves the GPS time and position of the event on the optional Removable Ruggedized Memory Plug.

The Recorder WTB 4 receives the trigger time, then adds 1/2 second to it. The Recorder WTB 4 then sends a pulse exactly 1/2 seconds after the Source Trigger Time to trigger the seismograph. All seismographs then require a 1/2 second pre-trigger time offset to start recording



Wireless Trigger Box 4 Specs:

Trigger Signal.....	TTL or Switch Closure
Trigger Input.....	Detects Negative Edge
Trigger Output.....	TTL Negative Pulse
Radio Cycle Time	500 mSeconds
Accuracy.....	±1 µSeconds
Internal Wi-Fi.....	Standard
Radio	3 watt
Radio Range	1 mile (3 mile with optional 1/2 wave antenna) (depends on terrain)
Weight	4.5 lbs. (2 kilograms) With radio and battery
Size.....	11.5 x 7.25 x 3.0 inches (292 x 184 x 76 mm) Without antenna

Optional Features:

Removable External Memory	backs up time breaks at the source
External GPS Module.....	To mount the GPS unit outside the source
Internal Battery	99.9 watt-hour LION (runs 24 hours depending on use)
External 1/2 Wave Radio Antenna.....	Extends radio range to 3 miles (depends on terrain)
Navigation App.....	Allows Navigation and viewing of WTB4 status