

Boom Box 3 Seismic Blasting System



Autonomous Mode

**No Radios
No Repeaters
No Problem!**



The Boom Box 3 is a New Generation of Seismic Blasters. These units can use GPS timing synchronization for the firing of the shots. This allows the shooters to shoot in Autonomous mode without any VHF Radio communication with the Central Recording System. Individual "Time Slots" are allocated to prevent multiple shooters from firing at the same time. All of the shot information is saved on a non-volatile CF card for later download and analysis.

A built in Wi-Fi unit allows all of the data to be viewed and saved on a small notepad tablet or even a cell phone. This allows critical redundant storage of the shot time (micro second accuracy), up-hole times, and GPS position of the shot. The Boom Box 3 Autonomous unit includes a standard Boom Box 3 plus a removable battery pack with built in GPS and an additional "Safety" fire button. This package provides a complete, compact, light-weight and rugged blaster unit.

An Integrated System

The Boom Box 3 system is a complete integrated solution for seismic exploration. In Autonomous mode, the SourceLink software allows for all of the daily pre-planned shots to be uploaded to the Boom Box 3 Units. The Boom Box 3 will then only fire the allowed shots; this prevents the shooter from firing shots that are not part of the active patch. The navigation option and near flag detection of the notepad or cellphone software allows the shooter to easily find the shot hole and select the correct source flag.

At the end of the day, all of the shot information from all the shooters can be uploaded to the SourceLink software for complete production reports and analysis. SourceLink also generates the shot time and location files that are required to process the seismic data on the new generation of seismic recording systems. The list of supported recording systems includes the iSeis Sigma, Fairfield Nodes, Geospace GSR and Sercel Unite.



Boom Box 3

Hyper-Productivity Solutions



Autonomous Mode Support

Seismic Source Boom Boxes support "Autonomous Acquisition mode" recording.

- Shooters all operate independently
- No radios required - No radio troubles
- Observer generates lists of shot points and assigns them to the shooters
- BB3's all record shot locations and information for offloading at the end of the day
- SourceLink software offloads BB3 units, displays acquired shot locations, and generates daily production reports



Legacy Mode Support

Seismic Source Boom Boxes have been used by crews all over the world for many years. Most of these units are currently in "Legacy Mode".

- Supports a central recording system encoder
- Supports VHF radio
- Supports
 - Start Messages
 - Ready Messages
 - Shot Quality Control (PFS) Messages
- GPS Information and Up-Hole times sent to the Observer in Real-Time.

Digital Blasting Cap Support

The Seismic Source Boom Box 3 also supports digital cap technology. Switching to a digital blasting cap adds another layer of safety to a field crew.

- Supports multiple manufacturers:
 - Dyno Nobel **GeoShot** (internal module)
 - Orica **OSEIS** and **OSEIS II** (internal module)
 - Maxam **Riotronic Xs** (external module)
 - plus others supported as available
- Digital control boards can be integrated into the BB3 for a smaller, streamlined, and more useful field package.
- BoomBox 3 units removes digital cap delays from internal modules. It then sends a CTB (Confirmation Time Break) to the recording system
- Timing specifications identical to standard electric blasting caps
- Adds the safety of digital caps to any field crew.



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Boom Box 3

BB3 in Autonomous Mode



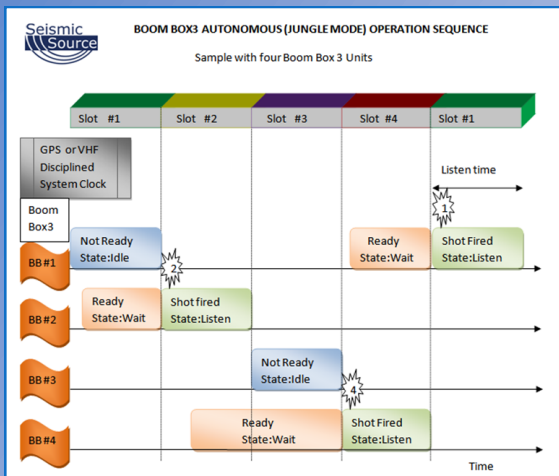
No Radios No Repeaters *No Problem!*

No Radios - One of the most important parts in any crew are the radios. Crews depend on radios for the source equipment to communicate with the doghouse. And autonomous acquisition removes those limits.

No Limits - Removing the limits imposed by radios accelerates the acquisition process. Removing the limits frees the sources to shoot at their own rate. It also lets sources operate in locations with tough terrain and thick vegetation. Terrain and vegetation that would halt a conventional crew.



Acquisition with BB3 Autonomous Blaster



Autonomous BB3 Operation

- Multiple shooters operate in time windows
- GPS timing lets BB3s fire in non-overlapping time slots
- Ideal for use with Continuously Recording systems
- For use in thick vegetation, rugged terrain, or anywhere with poor radio reception
- Accurate shot time and position stored in CompactFlash
- Notebook/Tablet/Cell phone interface for real time QC and redundant shot info backup
- Software support to automatically or manually select nearest source Flag
- Complete software package to combine and process shot information from shooters and generate advanced reports
- Lightweight solution with swappable clip-on battery pack and built-in GPS.

Autonomous BB3 Features

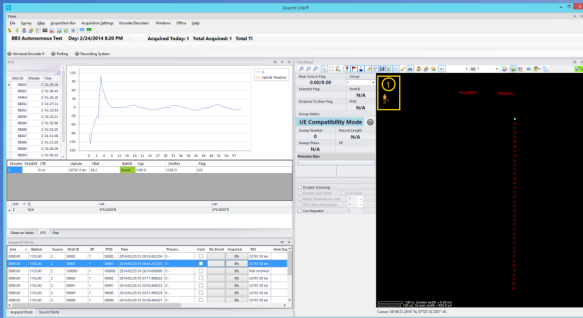
- Large graphical display shows setup information and uphole data
- Diagnostic LEDs shows:
 - Status (for Geophone Resistance and Cap Test)
 - GPS (for Unit Position and DGPS Verification)
 - High Voltage (Cap charged)
- Built-in Wi-Fi for wireless communication with notebook, tablet or phone
- Built-in GPS measures the precise time of each shot with microsecond resolution
- Built-in GPS assists shooter in finding correct shot point
- 32-bit ADC samples uphole data from shot
- Unit stores all shot, GPS and uphole information to Flash Memory card
- Built-in Wi-Fi communication module for fast data downloading.



Boom Box 3 Specifications and Options



SourceLink Software



- Complete software solution for Autonomous or Conventional crew operation
- Import Shot Data from multiple Boom Box3 units and generate advanced reports
- Option to pick near Source Point automatically at a later time, based on Shot position, even if shooter did not assign Shot Point to shots during the shooting process.
- Simple Shot data import process for specified time or date range
- Advanced map view allows analysis of acquired shots and planning future shots
- Support for different co-ordinate systems
- Feature to load selected patch of source flags to BoomBox3 memory from a large prospect for no tablet operation
- Upload/Download Boom Box parameters and settings
- Assign Autonomous Fleet and slot interval information to Boom Box 3



Expandability and Flexibility

The Boom Box 3 is compatible with the entire line of Seismic Source Co source control electronics as well as the iSeis line of nodal seismographs. This includes the Universal Encoder 3, Force 3 Vibroseis controller, and the RTM 3 remote trigger module. Boom Box 3 units are also compatible with DAQlink seismographs plus Sigma 3, Sigma 4 and R1/R1+ nodes.



Boom Box Specification

Physical	
Number of Data Channels	3
Temperature	-40°C to +60°C
Humidity	0 to 99%
Size	12.0" x 5.6" x 3" (305 x 144 x 76 mm)
Weight	3.1 lbs (1.4 kg)
LEDs	Status / GPS / High voltage

Electrical	
Firing Voltage	400 Volts
Firing Current	> 200A (0.5 Ohm Load)
Firing Accuracy (radio)	± 20 microseconds
Firing Accuracy (GPS)	± 1 microseconds
Sample Rates	0.25, 0.5, 1, or 2 ms user selectable
Data Storage (Internal 8GB CF)	480 hours (3channels @ 2ms)