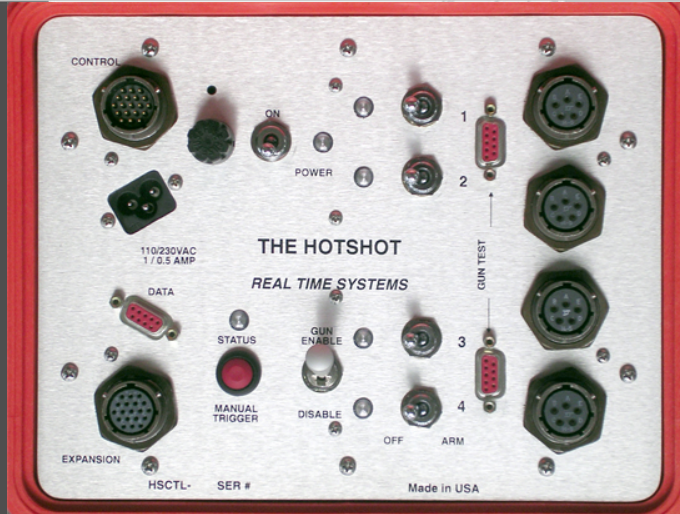


New!

# HOT SHOT Seismic Source Synchronizer

- Radio remote shooting
- Transition Zone
- VSP surveys



## Gun Control Radio Link HOT LINK

Tailored to the needs of check shot, VSP and small array transition zone surveys.

### Standard Features

- Synchronize 1 to 16 guns with 0.1 msec resolution.
- Laptop graphic display of all gun signatures.
- Sensor configuration for hydrophone, shuttle, or PCB sensor.
- Intuitive menu-driven user interface.
- Real-Time Q/C Alarms for gun timing errors and autofire detection.
- Line Q/C and Statistics Reports.
- Master/Slave Multiple Offset Shooting. 16 Bit HydroPhone Signature, Gun Depth, and Manifold Pressure optional

### System Components

#### Laptop Computer

- Windows based Graphical User interface.
- Shot Data Log and Reports.
- Sensor signature display
- Gun Performance graphs and history.

#### Solenoid Power Supply

- Four Channel Solenoid Power Supply. Daisy Chains to 16 channels.
- Sensor test mode for system self-test.
- Sealed case for water tight transport.
- 150 VDC firing voltage.

#### Remote Radio Link

- Multiple gun location control.
- Real Time Field Time Break.
- Digital gun data transmission.
- Digital hydrophone transmission.



**RTS** Real Time Systems

830-990-2340

www.real-time-sys.com

# Hot Shot Specifications

---

## General Specifications

Number of Guns	1-4 (or 16) guns
Gun Types	Bolt, Sleeve, G and G.I.
Sensor Types	Shuttle, Accelerometer, HydroPhone, PCB
Timing Resolution	0.1 msec
Radio Sync Accuracy	50 usecs (1 usec in GPS mode)
Control Software	Windows 95, 98 and 2000
Radio Link Accuracy	50 µsec

## I/O Pins

Sensor IN	Military Style
Trigger IN	Closure, TTL Low or Optoisolated
HydroPhone (1 chan) IN	Differential (Header programmable Input)
Pressure (1 chans) IN	4 - 20ma
Gun Depth (1 chans) IN	Freq Coded (Sercel, AG or I/O transducer)
Analog Radio (I/O)	For Analog Radio Link
Fire Pulse Out Connector Type	Military Style
Record Out	5 msec TTL or closure (programmable time)
Predicted Fire Out	5 msec TTL high going
Field Time Break Out	Analog Summed Sensor or HydroPhone
Local or Remote HydroPhone Signature	16 bit D/A

## Menu Programmable Features (a sampling of important ones)

Aim Point	25 - 75 msec after trigger (800 msec for Radio Link)
Fire Pulse Width	1 - 60 msec
Delta Error Q/C Limits	0.1 - 5.0 msec
Auto-Fire Detect Level	0 - 10 volts
Sensor Signal Gain	0 - 60 dB
Sensor Detection Look window	2 - 10 msec
Sensor Peak Threshold	0 - 10 volt
Sensor Pick Type	Threshold, Peak or Zero Cross

## Size

Controller Dimensions	10.625/5.75 in. by 7in. deep
Controller Weight	5 lbs

## Power

4 Channel Supply	12VDC or 120/240 VAC (avg 20 Watts )
------------------	--------------------------------------

# LONG SHOT

## Seismic Source Synchronizer

- Radio remote shooting
- Shallow water gun boats
- High resolution surveys
- Multi-Vessel Shooting
- VSP surveys



### Tailored to the needs of small and medium seismic sources.

#### Standard Features

- Synchronize 1 to 32 guns with 0.1 msec resolution.
- Simultaneous graphic display of all gun signatures.
- 16 Bit Hydrophone Signature, Gun Depth, and Manifold Pressure.
- Sensor configuration for hydrophone, shuttle, or PCB sensor
- Injector Solenoid and Bubble Detection for G.I. Guns.
- Intuitive menu-driven user interface.
- Real-Time Q/C Alarms for gun timing errors and autofire detection.
- Line Q/C and Statistics Reports.
- Master/Slave Multiple Offset Shooting.



#### System Components

##### Control Processor

- Embedded 486-100 DX4 for powerful GUI interface.
- Real Time Control Processor for data acquisition and timing.
- State-of-the-art radio modem technology for error free radio transmission.
- Modular design approach for simple upgrades (4/8 channel increments).
- Many standard features that are typically options on other units.

##### Solenoid Power Supply

- Four/Eight Channel Solenoid Power Supply.
- Sensor test mode for system self-test.
- Automatic Leakage/Continuity Testing of Sensor and Firing Lines.
- 150 VDC firing voltage for long umbilicals.

**RTS** *Real Time Systems*

830-990-2340

[www.real-time-sys.com](http://www.real-time-sys.com)

# Long Shot Specifications

---

## General Specifications

Number of Guns	1 - 40 guns
Gun Types	Bolt, Sleeve, G and G.I.
Sensor Types	Shuttle, Accelerometer, Hydrophone, PCB
Timing Resolution	0.1 msec
Radio Sync Accuracy	50 usecs (1 usec in GPS mode)
Control Software	DOS 5.0 and up
Embedded Processors	486-100 and Motorola 68332

## I/O Pins

Sensor IN	Military Circular Style
Trigger IN	Closure, TTL Low or Opto-isolated TTL High-going
Hydrophone (1 -3 chans) IN	Differential (Header programmable Input)
Pressure (2 chans) IN	4 - 20ma
Gun Depth (1 -8 chans) IN	Freq Coded (Sercel, AG or I/O transducer)
Navigation Pass thru (I/O)	RS232 level
Analog Radio (I/O)	For Analog Radio Link
GPS	RS232 and 1 PPS
Fire Pulse Out Connector Type	Military Circular Style
Record Out	5 msec TTL or closure (programmable time)
Predicted Fire Out	5 msec TTL high going
Field Time Break Out	Analog Summed Sensor or Hydrophone
Local or Remote Hydrophone Signature	16 bit D/A
Navigation String I/O	RS232
Serial Status String (out)	RS232

## Menu Programmable Features (a sampling of important ones)

Aim Point	25 - 10,000 msec after trigger
Fire Pulse Width	1 - 80 msec
Delta Error Q/C Limits	0.1 - 5.0 msec
Auto-Fire Detect Level	0 - 10 volts
Sensor Signal Gain	x.1 - x5
Sensor Detection Look window	2 - 40 msec
Sensor Peak Threshold	0 - 10 volt
Sensor Pick Type	Threshold, Peak or Zero Cross

## Size

Controller Dimensions	3.47/5.25 in. by 18 in. deep (19 in. rack mount)
Controller Weight	9 lb.
4 Channel Supply Dimensions	3.47 in. by 12 in. deep
Power Supply weight	8 lb.
8 Channel Supply Dimensions	3.47 in. by 12 in. deep (19 in. rack mount)
Power Supply weight	16 lb.

## Power

Controller	90-240 VAC 55 Watts
8 Channel Supply	120/240 VAC 55 Watts (355 Watts Peak)



108 East Austin Street  
Fredericksburg, Tx 78624  
tel: 830-990-2340 fax: 830-990-2300

www.real-time-sys.com  
anance@ktc.com