The GunLink 2000 is the first phase of Seamap's range of new generation source control systems.
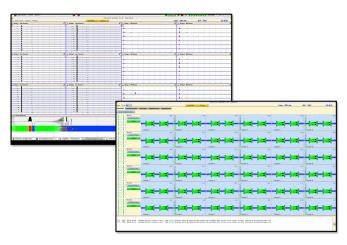

- Gun Capacity: Firing and Sensor Circuits for up to 256 guns (128 GI Guns).

- Near Field Phone Monitoring: Up to 512 near field phone 24 bit inputs sampled continuously at 0.1mS.

- Depth and High Pressure Inputs: 24 depth or high pressure inputs per Gun Control Unit with 7 compressor / manifold pressure inputs and one atmospheric pressure input accommodated via the Timing Control Unit.

- User Interface: Twin screen Graphical User Interface allows for simple operator monitoring and control as well as indicating deterioration of gun performance.

- MOB Interface: Direct interface to vessel's MOB system to disable gun firing if a MOB incident occurs.

- Fault Detection & Self Diagnosis: System software provides a full suite of on-line help, internal fault detection and diagnosis.

The system provides on-board firing control and sensor timing monitoring of up to 256 standard guns (128 GI guns) and is capable of receiving hydrophone data from up to 512 near field phones.

The GunLink 2000 comprises of a Host Computer, Timing Control Unit (TCU) and a number of Gun Control Units (GCU), each capable of controlling up to 16 guns. The TCU generates the system timing signals and interfaces with the seismic recording and navigation systems. Timing is derived from an internal GPS receiver and distributed to the GCU's. Each GCU contains circuitry to monitor individual gun fire times, near field phone data, gun depth, air line pressure and solenoid coil current. The GCU also provides the firing pulse to each gun at the calculated time for a programmable period and voltage. The analog circuitry allows each near field phone and firing sensor to be monitored continuously using a 24 bit A/D converter sampling at 0.1mS thus providing increased gun firing accuracy and auto-fire detection.

The Host Computer runs the main operating and control software under the LINUX operating system and provides the main system control and display functions. The software has been designed to be both intuitive and simple to use, providing the operator with real time data and easily recognizable indications of deteriorating gun performance.

SEAMAP GUNLINK 2000

ON-BOARD SOURCE CONTROLLER AND HYDROPHONE DATA ACQUISITION SYSTEM

Specifications:

General System Features	
Total Number of Guns	256 (128 GI Guns)
Monitored Variables	• Gun Fire Time • Near field phone signals (up to 2 per gun) • Depth sensor and air line pressure (up to 24 inputs per 16 gun control unit) • Solenoid coil current
Controlled Variables	• Gun fire time • Gun firing pulse length and voltage
Ancillary Monitored Variables	• Atmospheric Pressure • Up to 23 compressor and umbilical line pressure inputs
Remote Pressure Displays	Large format digital pressure displays to display umbilical pressures on the gun deck
Supported Guns	• Bolt 1500 and 1900 series Guns • Seamap Sleeve Guns • Sercel G and GI Guns
Safety Features	• Key controlled remote and local system disable • Bleed resistors on each solenoid output dump charge at system disable • Interface to vessel's MOB system

System Performance	
Timing Resolution	0.1 mS
Fire Detect Window	up to 1024 mS
Synchronization Modes	Automatic (Additional algorithms available as required)
Fire Detect Method	Sensor or Hydrophone selectable
Fire Time Pick Method	Zero crossing, level detect, peak detect or combinations of all three
Data Time Stamping	All date time stamped to GPS time

Software	
Graphical at-a-glance status screen	Continuous update for each gun to indicate gun fire; errors (faults); auto fire; double pops; depth; pressure and timing performance
Text Based Status in Tabular Format For Each Gun	Physical addressing; volume; timing error value; gun fire delay value; aim point offset value; depth value; array assignment; operational status and fault indication
Input Power/Voltage	110 to 240 Volt AC, 50/60 Hz
Mounting Heights	19" Rack Mount in Instrument Room; TCU = 2U; GCU = 7U