



SciFish 2100:

Split-Beam, Broadband, and Multi-Frequency

Sonar Systems

The SciFish 2100 is a sonar system offered in four different models :

Model 2100-A (Split-Beam)

- Track fish for accurate counting
- Fish position used for behavior analysis and beam compensation
- Independently verified to count over 3,000 fish per hour
- Integrates with Echoview for data analysis

Model 2100-B (Broadband)

- Improved spatial resolution (resolves targets smaller than 2 cm)
- Spectral information (used for species and size discrimination)
- Exports to Matlab, data analysis, signal processing and classification scripts are provided

• Model 2100-C (Multi-Frequency)

- Utilize a subset of the available frequencies that are best for your specific fishery
- Up to three frequencies are available
- Integrates with EchoView to create Virtual Grams

• Model 2100-D (Combined)

- Provides the capabilities of Models 2100-A, 2100-B, and 2100-C in a single unit

• Each Unit includes:

- Sonar system and processor in a single unit
- 30 m cable (extension to 100 m available)
- Ethernet interface provides ability to network several sonar systems together into a single system
- Detailed signal processing description
- User Manual



Model 2100-A: Specifications

Transmit

Beam Shape / Width	6 degrees conical at 175 kHz
Frequency	175±10 kHz
Waveform	Continuous Wave
Source Level	214 dB at 175 kHz
Detection Range (min/max)	12 to 200 m at 175 kHz
Power Settings	16, from 0 (listen only) to 15 (max)
Pulse Length	200 usec
Ping Rate (min/max)	1 ping / 2 secs to 30 pings / sec

Receive

Bandwidth	10 kHz
Gain	16 settings
A/D Conversion	500 KSamples / Sec
Angular Resolution	0.1 degrees

Processor

Single Board Computer	1.1 GHz Pentium M
Digital Signal Processor	150 Mflop Floating Point
A/D & D/A Converter	4 channels, 2 Ms/sec
Network	TCP/IP Ethernet

Software

Data Storage	4 channels, raw data
Export Formats	EchoView (Simrad compatible)
Displays	Sonar Grams, Split-Beam

Dimensions

Sonar	22.8 cm Diam, 53.8 cm Length
Cable	30 m Length, OD 1.45 cm



Model 2100-B: Specifications

Transmit

Beam Shape / Width	6 degrees conical at 175 kHz
Frequency Bandwidth	135 kHz to 200 kHz
Waveform	Sweep
Source Level	214 dB at 175 kHz
Detection Range (min/max)	12 to 200 m at 175 kHz
Range Resolution	1.2 cm
Power Settings	16, from 0 (listen only) to 15 (max)
Pulse Length (compressed)	15.4 usec
Ping Rate (min/max)	1 ping / 2 secs to 30 pings / sec

Receive

Bandwidth	65 kHz
Gain	16 settings
A/D Conversion	500 KSamples / Sec

Processor

Single Board Computer	1.1 GHz Pentium M
Digital Signal Processor	150 Mflop Floating Point
A/D & D/A Converter	4 channels, 2 Ms/sec
Network	TCP/IP Ethernet

Software

Data Storage	1 channel (single beam)
Export Formats	Matlab (scripts provided)
Displays	Sonar Grams, Spectrograms

Dimensions

Sonar	22.8 cm Diam, 53.8 cm Length
Cable	30 m Length, OD 1.45 cm



Model 2100-C: Specifications

Transmit

Beam Shape / Width	6 degrees conical at 175 kHz
Frequency Bandwidth	5kHz band between 135 kHz to 200 kHz
Frequency	Any 3 non-overlapping 5 kHz bands between 135 kHz to 200 kHz
Waveform	Continuous Wave
Source Level	214 dB at 175 kHz
Detection Range (min/max)	12 to 200 m at 175 kHz
Power Settings	16, from 0 (listen only) to 15 (max)
Pulse Length	200 usec
Ping Rate (min/max)	1 ping / 2 secs to 30 pings / sec

Receive

Bandwidth	5 kHz
Gain	16 settings
A/D Conversion	500 KSamples / Sec
Number of Beams	Single

Processor

Single Board Computer	1.1 GHz Pentium M
Digital Signal Processor	150 Mflop Floating Point
A/D & D/A Convertor	4 channels, 2 Ms/sec
Network	TCP/IP Ethernet

Software

Data Storage	1 channel, raw data
Export Formats	Echoview
Displays	Virtual Grams

Dimensions

Sonar	22.8 cm Diam, 53.8 cm Length
Cable	30 m Length, OD 1.45 cm



Model 2100-D: Specifications

Transmit

Beam Shape / Width	6 degrees conical at 175 kHz
Frequency, Broadband	135 kHz to 200 kHz
Frequency, Split-Beam	175±10 kHz
Frequency, Multi-Frequency	Any 3 non-overlapping 5 kHz bands between 135 kHz to 200 kHz
Waveform, Broadband	Sweep
Waveform, Split-Beam & Multi-Frequency	Continous Wave
Source Level	214 dB at 175 kHz
Detection Range (min/max)	12 to 200 m at 175 kHz
Range Resolution, Broadband	1.2 cm
Power Settings	16, from 0 (listen only) to 15 (max)
Pulse Length, Broadband & Multi-Frequency	15.4 usec (compressed)
Pulse Length, Split-Beam	200 usec
Ping Rate (min/max)	1 ping / 2 secs to 30 pings / sec

Receive

Bandwidth, Broadband	65 kHz
Bandwidth, Split-Beam	10 kHz
Gain	16 settings
A/D Conversion	500 KSamples / Sec
Split-Beam Angular Resolution	0.1 degrees

Processor

Single Board Computer	1.1 GHz Pentium M
Digital Signal Processor	150 Mflop Floating Point
A/D & D/A Convertor	4 channels, 2 Ms/sec
Network	TCP/IP Ethernet

Software

Data Storage	4 channels, raw data
Export Formats	Echoview (multi-freq, split-beam)
Displays	Sonar Grams, Split-Beam

Dimensions

Sonar	22.8 cm Diam, 53.8 cm Length
Cable	100 m Length, OD 1.45 cm