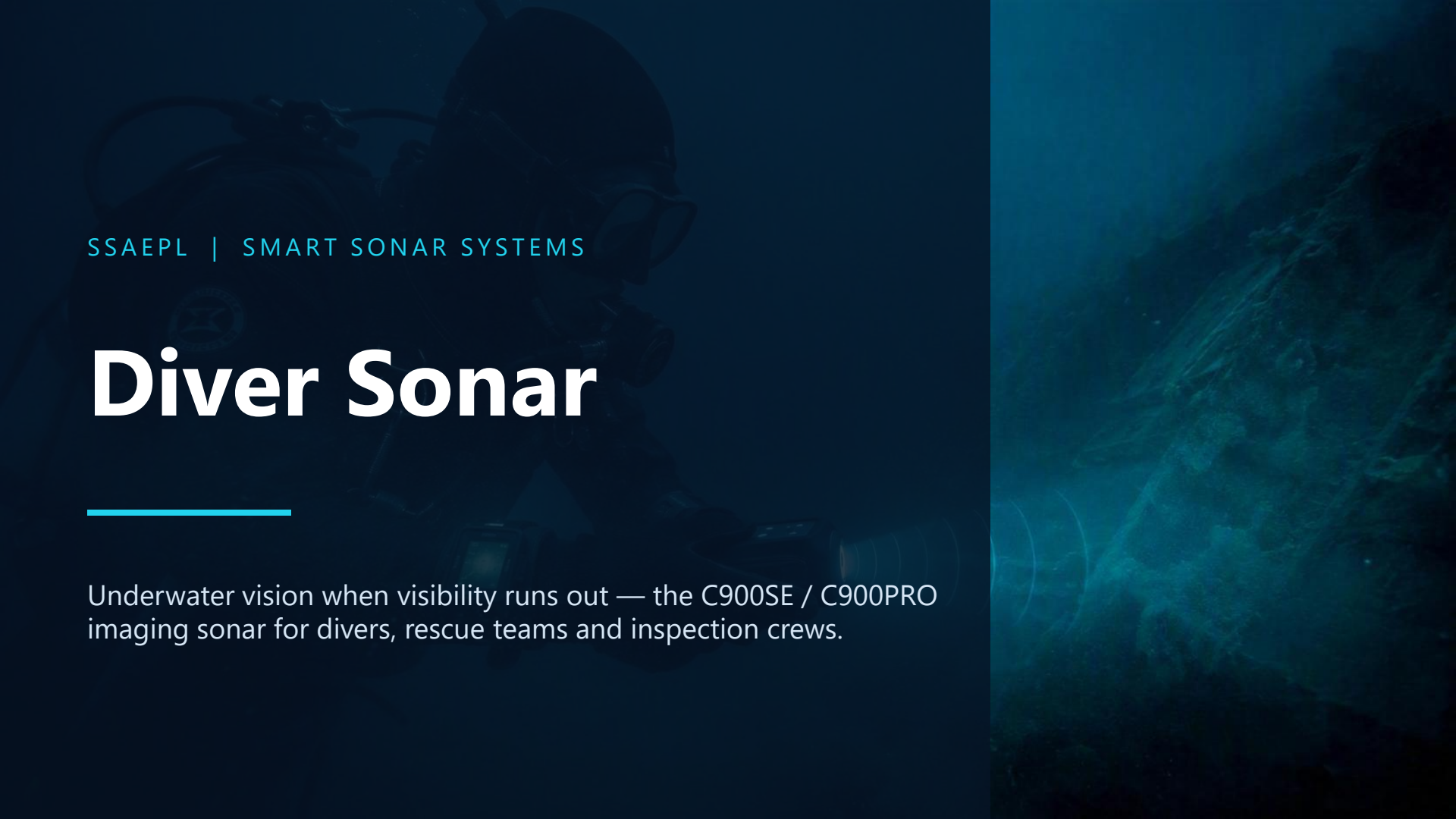




SSAEPL | SMART SONAR SYSTEMS

Diver Sonar

Underwater vision when visibility runs out — the C900SE / C900PRO imaging sonar for divers, rescue teams and inspection crews.

■ Diver Sonar for subsea vision

Underwater Positioning & Precision Search Acoustic-Optical Fusion: Visualizing Turbid Waters

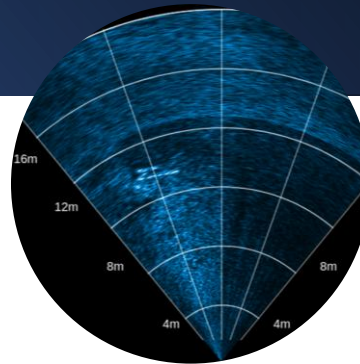


Handheld Diver Sonar

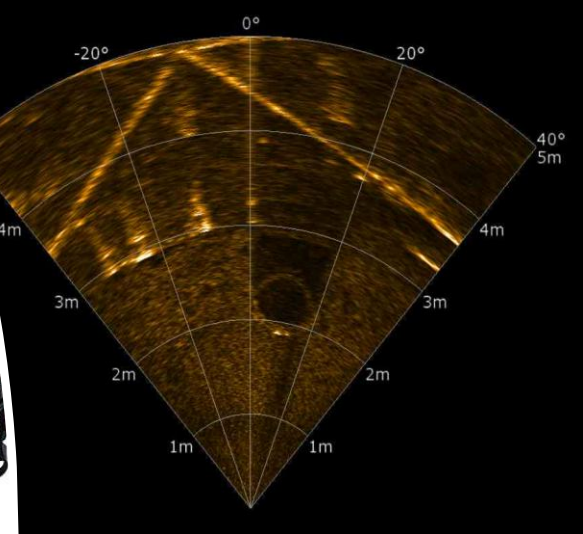


HMD Sonar Goggles

Diver Handheld Sonar & Navigator



- **Key Features:**
- Acousto-Optical Fusion Detection
- Autonomous Underwater Power Supply
- Mission Data Logging
- Effective in Low-Visibility and Turbid Waters
- Route Planning (Navigation Version)
- Underwater Navigation (Navigation Version)



HMD Sonar
Goggles
HMD

HMD Head-Mounted Display

Head-Mounted Underwater Binocular Display | Product Specification V1.0

PRODUCT



TYPICAL CONFIGURATION



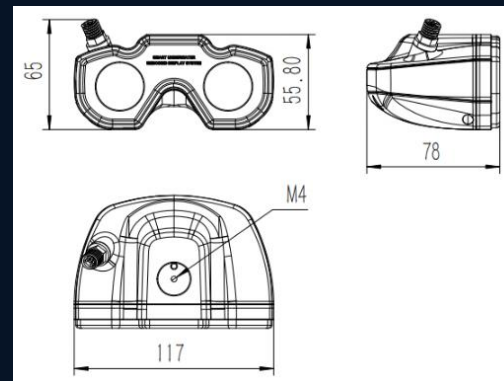
Standard shipment:
HMD main unit, 1-to-2
watertight cable,
battery pack,
dedicated charger,
soft helmet, helmet
adapter, and sonar
arm mounting
bracket.

KEY SPECIFICATIONS

Display resolution	1920 × 1080
Color	Full color
Dimensions	117 × 78 × 65 mm (L×W×H)
Weight	0.61 kg in air / 0.33 kg in water
Max operating depth	45 m
Operating temperature	-5 °C to +35 °C
Storage temperature	-10 °C to +55 °C
Power supply	DC 12 V–32 V, 50 W or above
Standard endurance ¹	2.5 h
Typical power draw ²	4 W
Standard battery pack	24 V 3.6 Ah (50 m waterproof)
Mounting	One M4 threaded hole on top (thread 3 mm, depth 4 mm)

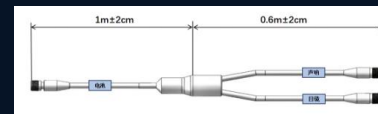
¹ Single battery pack with C900SE series sonar, 5 m range test. ² HMD unit only, sonar excluded.

DIMENSIONS & MOUNTING



WATERTIGHT CABLE

Standard 1-to-2 watertight short cable, model HY152 (connects battery pack and imaging sonar).



INTERFACE

Compatible imaging sonars: C750D Pro, C1200D and C900 series.



Divers work blind more often than not

THE PROBLEM

Turbidity kills vision

Silt, algae and night work cut usable visibility to under a metre — cameras and lights add nothing.

Search time is life

Grid swims by feel are slow, and in rescue work the first hour decides the outcome.

Risk to the diver

Nets, debris and structures appear only on contact; obstacle awareness is effectively zero.



Acoustic vision the diver can carry

THE SOLUTION

High-frequency imaging sonar renders the scene in sound, not light. Range, bearing and target shape appear in real time on a wrist display or in the diver's mask — in zero visibility, at night, in current.

SEE

Real-time acoustic imagery through silt, darkness and turbid water.

SEARCH

Sweep up to 80 m of water per scan instead of swimming a blind grid.

SURVIVE

Long-range obstacle warning before the diver reaches the hazard.

C900SE — the compact diver sonar

C900SE or C900PRO

A 900 kHz imaging sonar built for divers: small, 14 W, and easily mounted to a diver rig, ROV or AUV. Clear identification of multiple targets in rivers, lakes and coastal water.



Compact & energy efficient

14 W draw, 300 m depth rating, minimal drag on the diver.

Simple to operate

Single-diver deployment with clear real-time imagery, no specialist operator.

Open for integration

Fully self-developed with SDK support for secondary development.

C900SE C900PRO	SPEC
Operating frequency	900 kHz
Max range	80 m
Horizontal aperture	60° / 130° ultra-wide
Vertical aperture	20°
Typical power	14 W / 25 W
Depth rating	300 m / 500 m

HMD Sonar Goggles

THE DIVER SYSTEM

Handheld Sonar

Portable diver unit with integrated sonar and vision modules, real-time display and full data logging. IP68, 60 m, obstacle warning to ≥ 80 m with the C900SE or C900PRO



Sonar HMD

Head-mounted display fitted to mask or helmet, projecting sonar imagery into the diver's field of view. $\leq 130 \times 75 \times 65$ mm, 1920x1080, rated to 100 m.



SSAEPL Navigator

Cross-platform control and display software (Windows, Linux, ROS 1/2) with target ranging, image capture and multi-data replay.



Sonar head, diver display and software ship and support as one package.

Search and rescue: broad first, precise second

IN THE FIELD

01

Large-area search

Side-scan sonar sweeps the zone in a grid, flagging anomalies and narrowing the search box fast.

02

Precision verification

A RIB with the Underwater Life Detector spot-checks each contact, separating debris from real targets and fixing coordinates.

03

Diver confirmation

Divers go in with the Handheld Sonar or Sonar HMD for close-range confirmation, marking and recovery in low visibility.

Characteristics: wide coverage first, high verification accuracy second, and reliable confirmation where visibility fails.

Where diver sonar earns its place

APPLICATIONS

Water rescue

Drowning search, body and evidence recovery, flood response.

Underwater security

Port and hull inspection, diver detection, maritime police tasking.

Diving operations

Obstacle avoidance and navigation in nets, wrecks and structures.

Underwater survey

Channel, bridge and dam inspection; pipeline and cable checks.

Research & education

Acoustics teaching kits, dataset capture, algorithm development.

Marine engineering

Subsea construction support, salvage and offshore inspection.

Built, owned and supported end to end

WHY SSAEPL

60+ patents and software copyrights

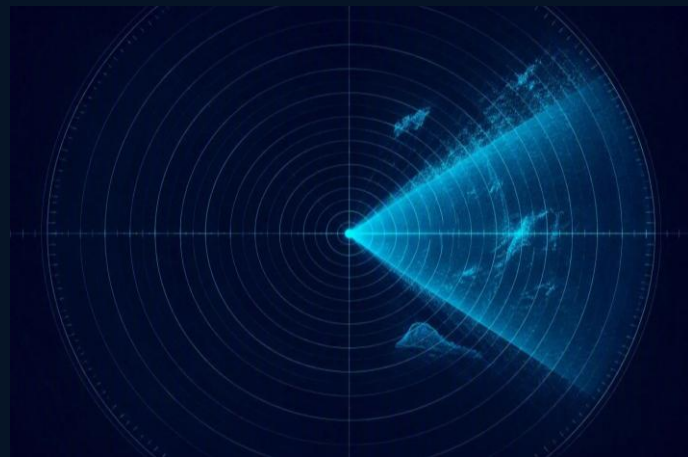
A decade of in-house work in underwater acoustics and system integration.

100% self-controlled technology

Full IP ownership, SDK access and support for secondary development.

Customisation and lifetime support

Tailored configurations, maintenance, upgrades and responsive technical service.



Next step: a live demo dive with the C900SE on your own water.

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