

The SC4X is a portable acoustic diver communications system specifically for the military market. A patented first of its kind product enabling subsea communications up to 3km, diver to diver and diver to surface. The SC4X is intuitive and straightforward to use, as the interface has been designed by divers for divers allowing operators to quickly interpret information presented via the simple menu interface and graphical display.

BENEFITS

Portable - The SC4X can be worn on the diver or mounted on a combat diver tactical swim / dive board. It can be operated with one hand. The top side system comes in a rifle case and can be assembled and deployed in a matter of minutes.

Low Risk - Utilising pre-set canned messages and patented signal design, all acoustic transmissions are low power and short burst in duration, significantly reducing the chance of detection from 3rd parties.

Additional Features - Tracking divers in the water and passively listened to 3rd party signals are other features that can be included within the SC4X.

FEATURES

- Up to 3km subsea range.
- Canned messaging system subsea and surface.
- AES-256 encryption.
- BLOS Satellite communication.
- Internal 2/3/4G (LTE) quad.
- Internal antenna array.
- Global surface coverage.
- Depth rated to 850 metres.
- Inertial 9 axis navigation, tracking and Digital Motion Processing.
- Rugged and portable.
- Dimmable user defined display.
- Internal rechargeable 5300mAh battery.
- BLE 5.1 (Low energy).
- 45.7mm dimmable display.
- Multiple secure lashing and mounting points.
- Ultimate waterproof charging port.
- Low battery alerts.
- Positively buoyant.
- 4 Pressure sensitive piezo buttons.
- Operable using neoprene gloves.
- Display and buttonology usable by combat diver when sub surface.
- Two-way messaging between divers and surface safety boat.



MECHANICAL SPECIFICATION

Dimensions	116 x 66 x 43mm
Weight	850g (Dialectic protective potting)

POWER PARAMETERS

Input voltage	5V
Indicator	Dimmable screen display

ENVIRONMENTAL SPECIFICATIONS

Operating temperature	-40°C to 85°C
Vibration	Milspec 810G
Depth rating	850M

BATTERY

Type	Li-ion
Capacity	5300mAh
Operational voltage	3.7V

GSM

LTE-M / NB-IoT / EGPRS
Best coverage with 23dBm output power
Future-Proof via LWM2M & uFOTA
5G Ready

GPS

SAW Filter
Fast Time to First Fix Cold Start 26s, Hot Start 1s (TTFF)
GPS Galileo, BeiDou, GLONASS Utilization (2m Accuracy)
72 channel U-Blox M8 Engine

IRIDIUM

Iridium 9603 module providing global communications
Canned messaging providing communication between devices and server
Short Burst Data (SBD)

SUBSEA COMMUNICATION

Supply Current (5V supply)	Listening: 2.5mA Receiving: 5mA Transmitting: max 300mA
Acoustic Frequency	24-32kHz
Acoustic Source Level	~168 dB re 1uPa @ 1m
Acoustic Directivity	Near omnidirectional (reduction around cable entry of potted unit).
Physical Layer	Aperiodic orthogonal code keying with BPSK modulation and error correction code.
Acoustic Data Rate (raw)	640 bits/s, unicast and broadcast data messages up to 64 bytes in length.
Acoustic Throughput (max)	463 bits/s
Addressing	Up to 256 units (addresses 0-255)
Ranging Increment	4.7 cm (c=1500m/s)
Ranging Variance	~10 cm

406 MHz SATELLITE TRANSMITTER

Frequency	406MHz
Tolerance	+1kHz
Modulation	Phase ± 1.1 radians (Peak)

STANDARDS

Cospas-Sarsat	T.001/T.007
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WI-FI

Certified by Wi-Fi Alliance, SRRC, FCC, CE (RED), TELEC, IC & KCC
Compliant with RoHS, REACH & CFSI

MOTION

World's lowest powered 9-Axis accelerometer
3-Axis gyroscope, 3-Axis accelerometer, 3-Axis compass, and a Digital Motion Processor

SECURITY

AES-356 Encryption
Canned messages
Cable and enclosure tamper alerts

BLUETOOTH - LONG RANGE

Communications configurable to 3KM (Line of Sight)
128-bit AES HW encryption

