

# Wärtsilä ELAC UT 2200

Underwater communication system



The ELAC UT 2200 is a small military standard underwater telephone system for analogue through-water information exchange.

Analogue communication relates to the traditional single-side band (SSB) communication modes like telephony (voice) or telegraphy (Morse coding). In the telegraphy mode, the ELAC UT 2200 works with a limited bandwidth, resulting in an optimal signal-to-noise ratio (SNR) and consequently in achieving a greater range.

14 different operating frequencies in the range from 8.0875 to 45 kHz are available. Up to three operating frequencies, depending on the transducer in use, can be chosen by the customer and will be pre-set by Wärtsilä ELAC Nautik.

An additional pinger mode enables the ELAC UT 2200 to operate as a beacon for signalling purposes or emergency transmission. The ELAC UT 2200 can be powered by 28 V DC ships power supply and is further equipped with a built-in Lithium battery-pack allowing communication for several days. The basic application of the ELAC UT 2200 is as an emergency telephone for submarines in distress situations.

## Key features

- Compact underwater telephone for surface ships and submarines
- Emergency telephone for submarines
- Full compatibility with all NATO underwater telephones
- Communication according to STANAG 1074 and 1298
- Sonar beacon operation according to STANAG 1382
- Tested according to military standards

## Safety

- Optimal environmental protection by rugged mechanical construction
- Emergency operation without accessories by additional microphone and press-to-talk switch integrated in the housing

## Reliability

- Lowest power consumption
- Integrated test system
- Long operating time with internal Lithium battery
- Optional uninterruptable power supply (UPS)
- MTBF > 10,000 hours



# Specifications and technical data

## Wärtsilä ELAC UT 2200 at a glance

Technical data	
<b>Carrier frequency</b>	Three selectable frequencies for all operation modes; frequencies can be chosen out of 14 possible frequencies between 8.0875 and 42 kHz (including frequencies defined in the STANAG 1074)
<b>Modulation</b>	Amplitude modulation (AM) with upper sideband and suppressed carrier (SSB)
<b>Operating modes</b>	Telephony 300 - 3,000 Hz (audio bandwidth) Telegraphy 800 Hz (audio tone) Pinger 150 ms (pulse length) 1 min (repetition time)
<b>Built-in test</b>	Functional and battery test (test modes)
<b>Receiver data</b>	Output power volume max. 1 W at 4 $\Omega$ Audio outputs range > 60 dB (adjustable by gain) Squelch Internal loudspeaker, disconnectable headphone; settings: ON / OFF
<b>Transmitter data</b>	Output power max. 100 W at 35 $\Omega$ Switchable 0 / -10 / -20 dB
<b>Operating time</b>	Normal operation Unlimited (at ship's 28 V DC supply) Emergency mode 1 ping / min (pinger operation acc. to STANAG 1298) 450 hours ( $\geq$ 14 days) supplied by internal Lithium battery
<b>Power supply</b>	Standard version 8 V DC ship's supply acc. to STANAG 1008 Emergency version 28 V / 13 Ah (28 V DC ship's supply and internal Lithium battery)
<b>Standard configuration</b>	Operation and display unit SEE 31 Headset (phones, microphone and PTT / key) TF 18
<b>Omni-directional transducer</b>	for LF and HF operation TSE 7, TSE 8 for LF operation TSE 5
<b>Optional attachments</b>	Morse key TT 1 Microphone MI 13



Mobile version of the ELAC UT 2200



Case with transducer TSE 7 (left) and rechargeable battery (right)

Environmental data	
EMC	acc. to BV 0120 / VG 95 373
Non-magnetic design	acc. to VG 95 577
Airborne noise	DIN 45 635
Temp. / damp heat	acc. to DEF-STAN 07-55
Shock	acc. to BV 0430
Vibration	acc. to BV 0240