



KONGSBERG

# Mini SSBL transponders

## MST 319, MST 324 and MST 342

### Transponder description

The **Mini SSBL transponders (MST)** are medium frequency mini-transponders. The MST transponders are to be used with the following underwater positioning and navigation systems:

- HiPAP system
- HPR series

It is to be used for applications where a small and lightweight unit is required.

A MST transponder is delivered with a moulded protective plastic coating. Uncoated units are available as an option.

- All switches and connectors are recessed within the end cap for added protection.
- The transponder comes with a pigtail with connector.

### Features

- External selection switches
- Channels for use with the:
  - HiPAP system / HPR 400 series
  - HPR 300
- Operator selectable source level to optimise battery life requirements
- Operator selectable sensitivity
- Fast battery charging
- Both transponder and responder function (external power supply)
- Expandability for the future addition of various sensors is built-in
- Fast battery charger (requires rechargeable battery)

### Design

The design makes extensive use of surface mount technology. This allows all of the hardware to be confined to two boards, thus increasing reliability and reducing spare part holding requirements.

The unit is designed with a modular construction. The electronics, battery pack, transducer and end cap can easily be replaced individually.



### Transponder identification

The transponder name includes; the model name, model number and option (the battery type included).

#### Name

MST: Mini SSBL Transponder

#### Number

Digit 1: frequency band  
Digit 2: depth rating (x000 m)  
Digit 3: beamwidth

#### Options

N: NiMH battery  
L: Lithium battery

### Models

MST 319/N and MST 319/L  
MST 324/N and MST 324/L  
MST 342/N and MST 342/L

### Example

MST 319/N - operating in the 30 kHz band, depth-rated to 1000 meters, with  $\pm 90^\circ$  beamwidth, and it includes a rechargeable NiMH battery.

## Specifications

### Source level (rel.1 $\mu$ Pa ref. 1 m)

MST 319 .....	190 dB
MST 324 .....	197 dB
MST 342 .....	203 dB

Source level can be reduced by 6 dB using an internal link (increases the battery lifetime).

Receiver sensitivity (rel. 1  $\mu$ Pa)..... 100 dB

Sensitivity can be decreased by 10 dB using an internal link.

### Basic data

Transponder type	Overall length	Weight in air / water	External diameter
MST 319	348 mm	2.4 kg / 1 kg	76 mm
MST 324	368 mm	2.7 kg / 1.2 kg	76 mm
MST 342	349 mm	4.1 kg / 2.0 kg	85 mm

### Transducer beam

MST 319 .....	$\pm 90^\circ$
MST 324 .....	$\pm 45^\circ$
MST 342 .....	$\pm 20^\circ$

### Housing material / coating

Hard anodised aluminium / Polyurethane.

### MF channels (30 kHz band)

HiPAP / HPR 400 .....	56 channels
HPR 300.....	14 channels

### Power supply options

Internal batteries:

- Rechargeable.....	NiMH
- Lithium .....	Primary Lithium battery
External .....	22-26 Vdc (40 W)

### Pigtail

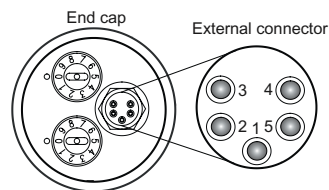
A Pigtail is included in the delivery.

### Batteries

	Lithium	Rechargeable
Battery type	Primary Lithium Thionyl Chloride	NiMH
Battery Part no	499-219504	290-089414
Quiescent time	40 days (same for all models)	20 days (same for all models)
No. of replies	MST 319: 129 600 MST 324: 129 600 MST 342: 64 800	MST 319: 64 800 MST 324: 64 800 MST 342: 32 400

### Connectors

- Transponder connector... Subcom MCBH5M (5 pin)
- Pigtail connector ..... Subcom MCIL5F (5 pin)

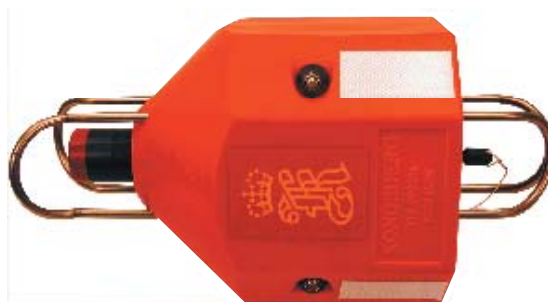


Pin no.	Function
1	Ext. trigger/charger LED 1
2	Ground
3	Charger power
4	Ext. power/charger LED 2
5	On/Off

### Floating collars

#### MST 319/MST 324:

Type no.....	119-099206
Depth rating.....	2000 m
Buoyancy: MST 319/MST 324.....	4.5 kg / 4 kg
Height with cage / diameter .....	549 mm / 275 mm



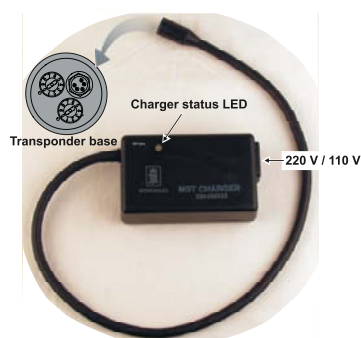
MST 324 w/floating collar

#### MST 342:

Type no.....	119-217083
Depth rating.....	4000 m
Buoyancy .....	3.5 kg
Height with cage / diameter .....	597 mm / 290 mm

### Battery charger

Charge method.....	constant current
Charge rate .....	0,5 C (fast charge)
Permit fast charge between .....	10° C and 40° C



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