

## Operational description

### Fixed Mount Iridium Transceiver ST4120



#### Product description

The ST4120 Iridium transceiver is a Maritime satellite phone making use of the Motorola 9522 L-Band Transceiver (LBT). The LBT is a voice and data modem working in the 1610-1626MHz band.

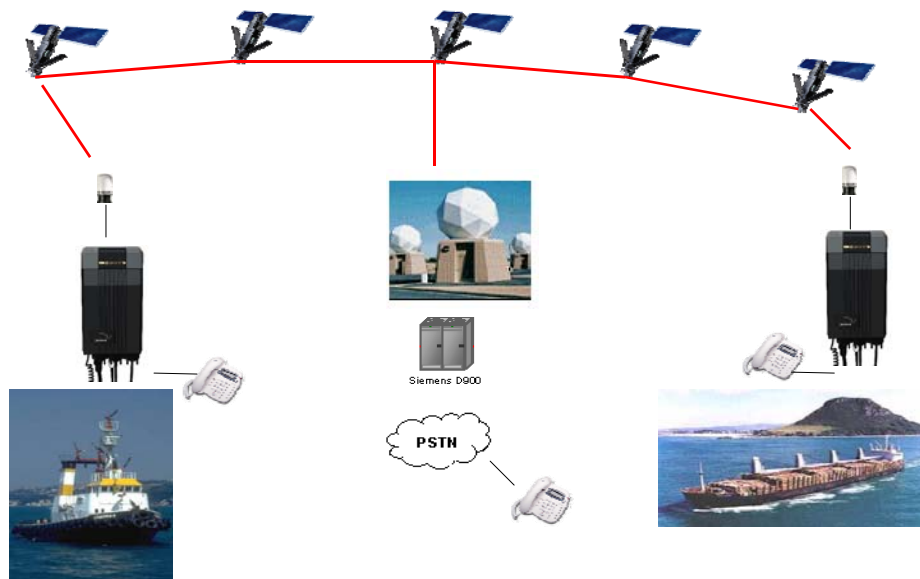
The ST4120 features connection of:

- 10-32VDC input (Build-in SMPS power supply)
- ST4150 Control Handsets
- PSTN analogue phone or PABX
- Data Terminal 2.4kb/s
- GPS NMEA 0183 input
- Antenna Unit

The ST4120 transceiver unit, ST4150 Control handsets and phones are meant for installation below deck. The Antenna Unit is build for installation above deck.

#### Iridium network

The Iridium Satellite System is the only provider of truly global, truly mobile satellite voice and data solutions with complete coverage of the Earth (including oceans, airways and Polar regions). Through a constellation of 66 low-earth orbiting (LEO) satellites operated by Boeing, Iridium delivers essential communications services to and from remote areas where terrestrial communications are not available. The service is ideally suited for industrial applications such as heavy construction, defense/military, emergency services, maritime, mining, forestry, oil and gas and aviation.



Voice and data calls can be made between two Iridium subscriber units over the satellite constellation. Calls from any Iridium subscriber unit can be originated to a land PSTN phone via the commercial Iridium gateway located in Tempe, Arizona, US.

### ST4120 Operational description

The ST4120 Iridium equipment is a modular system that consists of a transceiver unit, control handset unit, antenna unit and an optional analogue PSTN telephone/PABX.

You can make and receive voice calls on the control handset and the analogue PSTN telephone. You can connect up to four handsets and one analogue PSTN telephone or PBX switchboard to the system.

The system provides intercom for internal calls between any control handsets and between the analogue telephone and a control handset.

Via the data port on the transceiver, the unit can be used as a data modem for dial-up data calls, Internet access, SMS and E-mail messaging.

A GPS can be connected to the transceiver unit for displaying geographical location in the control handset.

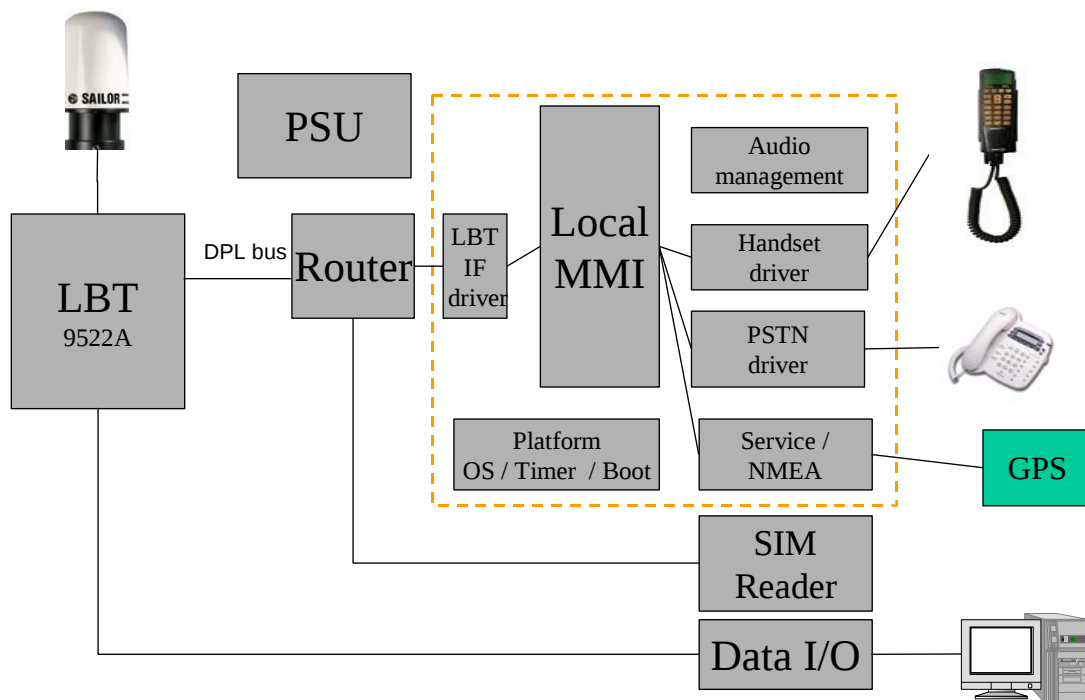
### Background for re-test

The present Motorola 9522 L-Band Transceiver is now obsolete due to obsolete components. A new version of the LBT has been developed by Iridium Satellite LLC. This version is called Daytona and the type designation is 9522A.

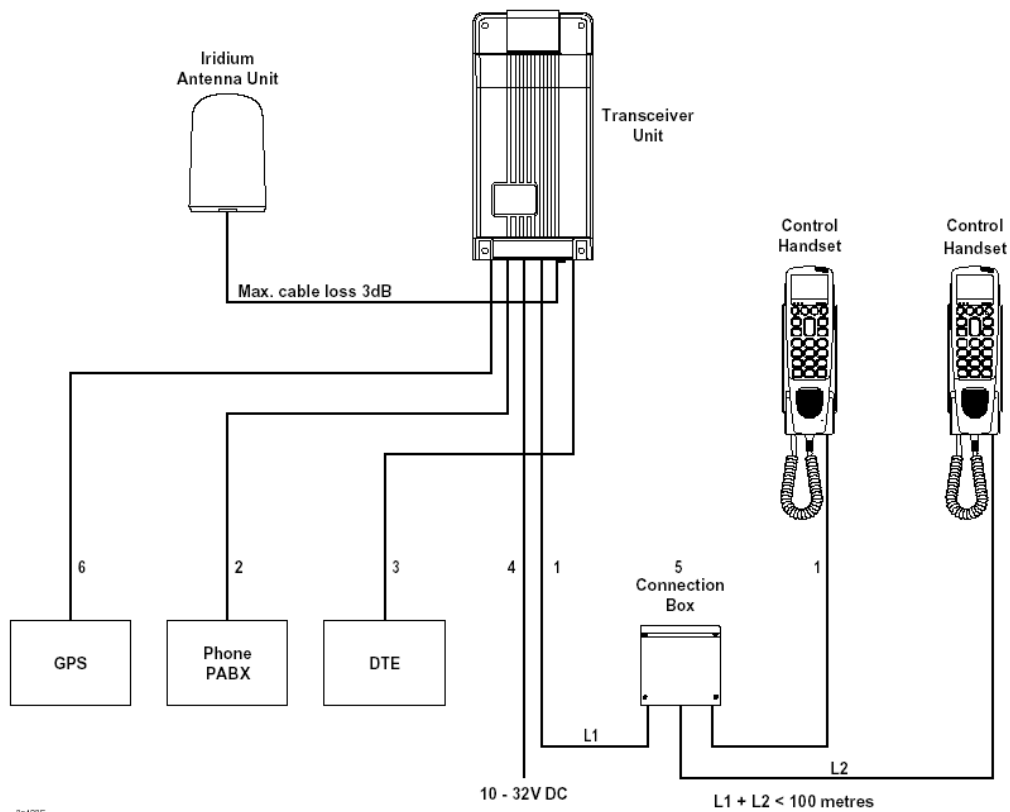
The specifications are all the same except for the communication interface to the LBT. The former multi node DSC bus is now replaced by a DPL bus, which is a point to point bus. Electrically the bus operates on RS232 levels.

The impact of this change is the need of a router that can route the signals between the LBT and the external SIM card reader and the phone interface on the EuroCom equipment. This router is made by use of an additional micro controller, which also will handle the interface to the SIM card reader.

### Block Diagram



## Configuration



Up to four control handsets can be connected via a connection box. The system is certified with only one handset connected via the connection box.