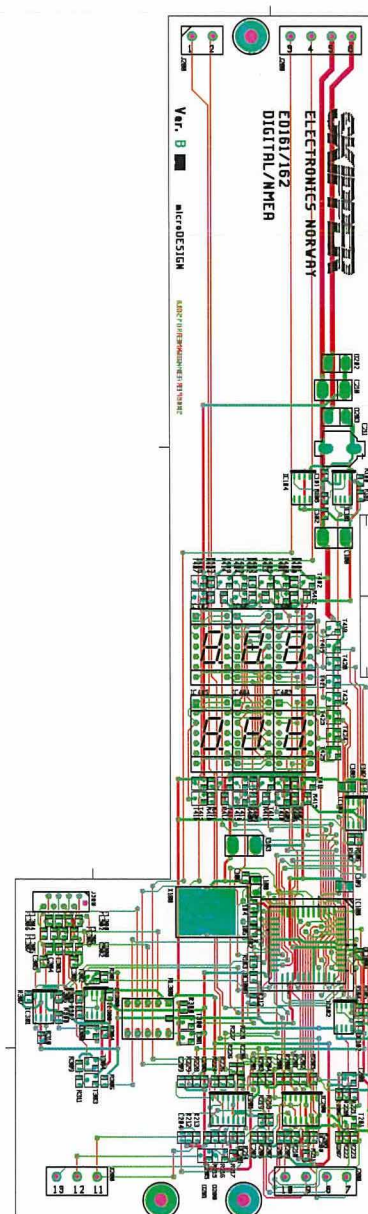
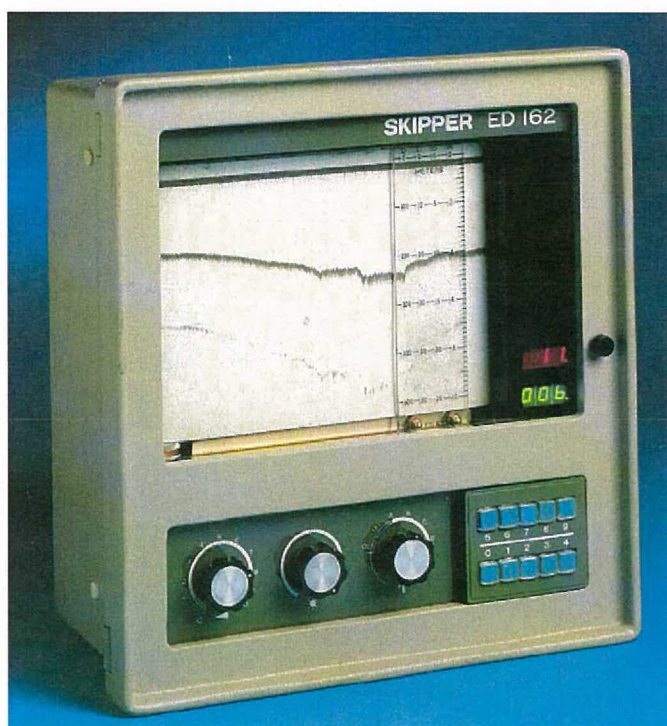


# SKIPPER ED 161 / 162 Digital/NMEA Board

## Installation and Operation Manual

Edition : 20040220



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**SKIPPER**

## Operation of Alarm & Digital PCB

### Setting of Depth Alarm

Keep “5” key pressed for more than 3 seconds to enter Alarm Mode. Alarm Entry Mode is identified by the letters “ALA” in the Red LED display.

Alarm limit is now entered normally.

Alarm depth is flashing (1 second/1 second) in the Green LED display

If no key has been pressed for 5 seconds, alarm entry mode is stopped.

Keep “0” key pressed for more than 3 seconds to reset alarm to zero

### Setting of Draught (Distance from Transducer to waterline –, negative value, or Distance from Transducer to Keel + positive value).

If draught is set, the Red Digital Depth LED display is flashing 3 seconds “ON”, 1 second “OFF”.

Draught is set from the Keyboard. Keep “9” key pressed for more than 3 seconds to enter Draught Mode. Draught Entry Mode is identified by the letters “drA” in the Green LED display. To set negative draught, the positive value must be entered first, as described above and then press and keep pressed for 3 seconds “4” and “9” keys (both at a time), draught value will change to negative, by repeating this step, draught will change back to positive.

If no key has been pressed for 5 seconds, draught entry mode is stopped.

Keep “4” key pressed for more than 3 seconds to reset draught to zero

### Alarm Relay.

Depth alarm will also operate the Alarm Relay. (Normal/No alarm condition is activated).

Audible alarm and Relay alarm conditions are reset by pressing any key, Green LED display continue to flash until depth is outside alarm limit.

### Marker.

Marker signal may be connected to the “Marker switch” to print a marker line on the paper.

Marker line is printed across the paper with 3 min. interval.

### LED brightness Control.

Brightness is entered from the digital Keyboard. Keep “2” key pressed for more than 3 seconds to select one of 4 different, preset brightness levels.

NMEA messages are generated.

The following NMEA message is generated, Depth information is the same as the digital indicated value:

\$SDDPT,x.x,x.x,x.x,x.x<CR><LF>

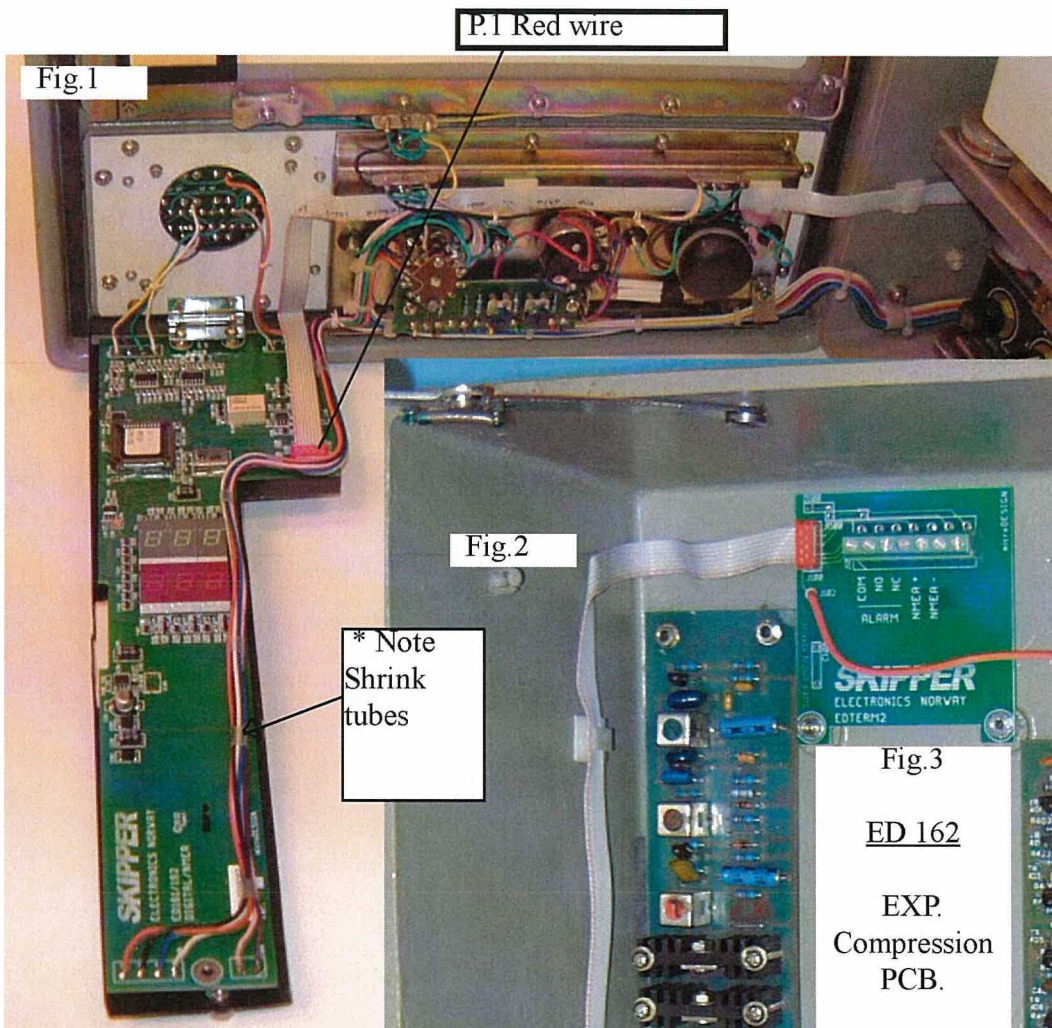
		--Maximum range scale in use
		-- Offset from transducer, meters (*)
		--Water depth relative to transducer, meters

\*)Positive “ = distance from transducer to waterline, “-“=distance from transducer to keel.

## Installation

1. Open the echo sounder and release the upper screw on the digital board cover.
2. Replace the digital/NMEA board ( fig,1) after the specified colour code table. Cut the enclosed shrink tube in suitable pieces and add on cables to terminal 1-6. Mount nicely so it will be possible to close the cover. (\*Note)
3. Mount the EDTerm2 board in the cabinet as shown in the picture (Fig.2). Use the treaded bolts, spring washers and nuts enclosed to fasten the board to the cabinet. Be aware that ED162 already have a board installed in the same attachment points. The treaded nuts enclosed are long enough to attach both boards. (Fig.3)
4. Install the flat cable that connects the EDTerm2 board with the digital/NMEA board. Pin one on the cable is marked red. Use the enclosed clips to ensure that cable does not obstruct the recorder unit.
5. Solder the orange wire from EDTerm2 on to the yellow wire of the marker switch. (Fig.4)
6. Be sure that all screws and cables are properly fasten and close the echo sounder.





\* Note Shrink tubes

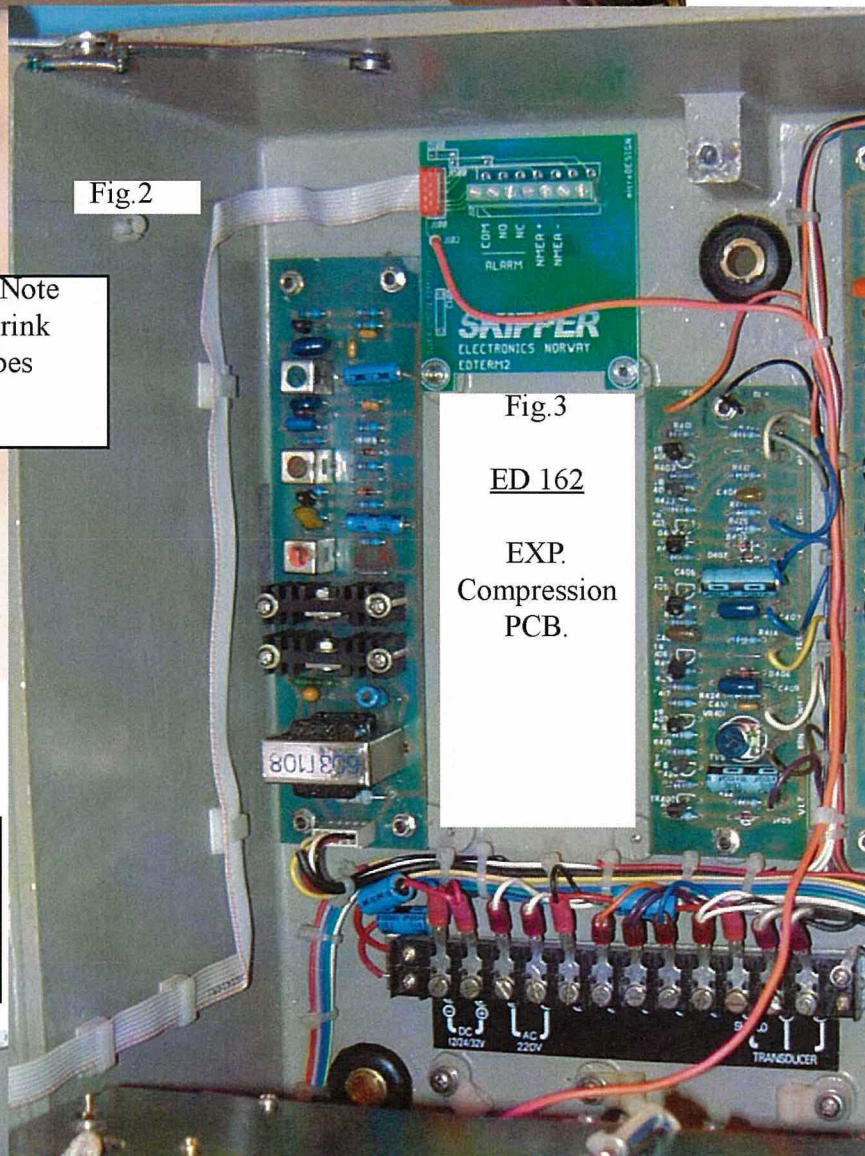


Fig.3  
ED 162  
EXP.  
Compression  
PCB.

Connect to yellow wire on  
marker switch.  
( not to the orange wire !)

