



## DUAL FREQUENCY COLOR ECHO SOUNDER **MODEL V-138**

### MAJOR FEATURES:

**10"** dual-frequency professional echo sounder

**F**requency pair selectable from: 28, 38, 50 and 200 kHz

**V**ertical or horizontal split for dual frequency operation

**S**eparate range settings across high and low frequency split displays

**B**ottom expansion mode and mid-water expansion mode

**B**ottom tracking (automatic ranging or automatic phasing)

**A**-scope for both high- and low-frequency displays

**W**hite-line gain adjustable in 5 steps

**E**cho threshold level adjustable in 4 steps

**V**ariable range marker (VRM)

**F**ront panel-adjustable transmit power reduction level

**S**electable background color: blue and black

**F**ish alarm with selectable triggering level

**D**epth alarm for increasing/decreasing depth

**T**ransducer draft compensation

**A**adjustable velocity standard

**I**nterfaces with GPS sensor.

**I**nterfaces with T-200 water temperature sensor.

**F**ive selectable picture feed rates without affecting sounding rate

**T**hree noise reduction levels

**O**utputs NMEA-0183 formatted data.



**General Specifications**

**Display Screen:**

10 inch analog RGB, 320 x 256 pixels

**Basic Ranges:**

	MT	FM	BR	FT
A :	5	5	5	10
B :	10	10	10	20
C :	15	15	15	30
D :	20	20	20	40
E :	30	30	30	60
F :	40	40	40	80
G :	50	50	50	100
H :	80	80	80	150
I :	100	100	100	200
J :	150	150	150	300
K :	200	200	200	500
L :	300	300	300	1000
M :	500	500	500	2000
N :	1000	1000	1000	3000
O :	2000	2000	2000	6000

**Depth Range Calibrations:**

Meters (MT), fathoms (FM), braccia (BR) or feet (FT), selectable via menu

**Manual Range Phasing:**

One-unit steps

**Expansion Ranges:**

	MT	FM	BR	FT
A :	1	1	1	5
B :	2.5	2.5	2.5	10
C :	5	5	5	20
D :	10	10	10	50
E :	20	20	20	100
F :	50	50	50	250
G :	100	100	100	500
H :	200	200	200	1000

**Echo Display Modes:**

(1) Single Frequency Operation:

- Full screen mode: Normal echoes across full screen
- Expansion mode: Normal echoes across upper half screen an expanded echoes across lower half of screen

(2) Dual Frequency Operation:

- Horizontal Split Mode: High/low frequency echoes across upper lower halves of screen with same depth range settings
- Vertical Split Mode: High/low frequency echoes across right/ left halves of screen with same depth range settings
- Horizontal Trawl Mode: High/low frequency echoes across upper/ lower halves of screen with separately selectable basic ranges
- Vertical Trawl Mode: High/low frequency echoes across right/ left halves of screen with separately selectable basic ranges

(3) A-Scope Mode

The A-scope can be turned on/off for all above display modes.

(4) External Mode

An externally connected JMC/SKIPPER brand echo sounder can be used as a high or low frequency echo input source.

**Transmit Frequencies:**

Pair of frequencies from the following: 28, 38, 50, and 200 kHz

**Matched Transducers:**

- 28kHz: Type 6/2 (12-element) ferrite (standard)  
Type 8/3 (24-element) ferrite (option)
- 38kHz: SIMRAD/SKIPPER ceramic or nickel  
*NOTE: 38 kHz transducer is to be supplied by the user.*
- 50kHz: Type 4/2 (8-element) ferrite (standard)  
60 mm diameter single-element ceramic (option)
- 200kHz: 50 mm diameter single-element ceramic (standard)  
100 mm diameter single-element ceramic (option)

**Power to Transducer:**

- 28 kHz: Approx. 2 kW RMS
- 38 kHz: Approx. 2 kW RMS
- 50 kHz: Approx. 2 kW RMS (NOTE 1)
- 200 kHz: Approx. 500 W RMS (NOTE 2)

*NOTES: (1) with type 4/2 ferrite transducer connected. Power reduced to 600W for ceramic transducer  
(2) 2 kW version available with 100mm dia. ceramic transducer*

**Transmit Power Reduction:**

Continuously adjustable, 0 to full power

**Bottom Tracking Modes:**

- AUTO RANGE mode: Displays bottom echo across lower half screen at all times by automatically selecting appropriate basic ranges.
- AUTO SHIFT mode: Displays bottom echo across lower half screen at all times by automatically phasing up/down basic range selected.

**Display Colors:**

- Echoes: Analog colors: red, orange, yellow, green, yellowish green, light blue, and blue in order of echo strength.  
Change to an adjacent color represents approx. 6dB of change in strength.
- Background: Blue or black, user-selectable
- Data & Scale Lines: White

**Echo Threshold:**

Up to 4 weak colors can be turned off, starting with blue.

**White Line:**

Bottom echo can be suppressed in up to 5 levels, starting with red.

**Picture Feed Rates:**

1/1, 1/2, 1/4, 1/8, 1/16 and freeze while maintaining the sounding rate for the basic range selected

**Noise Reduction Levels:**

Low, Medium, and High

**Depth Alarm:**

Presetable for increasing depth or decreasing depth

**Digital Depth Readout:**

- 0.1 unit steps on shallow basic ranges
- 1 unit steps on deep basic ranges

**Velocity Standard:**

1500 meters/second (default)  
Adjustable over 1400-1600 m/sec. range in 10m steps

**Draft Compensation:**

Adjustable in 0.1 unit steps

**Data Interface:**

NMEA-0183 (standard), and RS-232C (option)

**Temperature Sensor:**

T-200 (option)

**Data Outputs:**

- NMEA-0183:
- Depth below transducer \$SDDBT
- Depth below surface \$SDDBS
- Water temperature \$WIMTW (NOTE 1)
- GPS position fix \$GPGGA (NOTE 2)
- Heading and speed \$GPVTG (NOTE 2)

**NOTES:**

- (1) Optional T-200 sensor connected
- (2) Optional GPS sensor connected

**Echo Sounder Interface:**

JMC-standard level echo and trigger input/output

**Control Panel Dimmer:**

Adjustable in 8 steps

**Display Brightness:**

Adjustable in 8 steps

**Power Requirements:**

10.5 to 40 VDC, floating ground  
Approx. 2.54A at 12V, 5A at 24V

**Ambient Temperature:**

0 to 45°C (operating) 95% RH with no condensation

**Weight:**

Approx. 12 kg (with mounting bracket attached)

**Dimensions:**

290(W) x 200(H) x 330(D) mm, less mounting bracket, knobs and connectors

*NOTE: Specifications are subject to change without notice or obligation.*



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