COLOR VIDEO SOUNDER

CVS - 208

OPERATION MANUAL

SI-TEX®

DOC NO.CVS-208 08-95

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1. IMPORTANT NOTICE

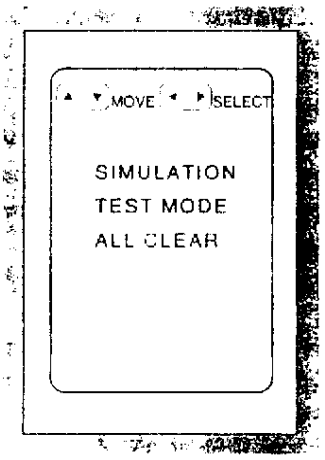
Congratulations on your purchase of the SI-TEX CVS-208, 8" Color Video Sounder.

IT IS RECOMMENDED THAT YOU READ THROUGH THE OPERATION MANUAL PRIOR TO INSTALLING AND OPERATING THE UNIT.

After reading the operation manual, if you still do not understand about the operation and installation of your unit, we recommend you contact your dealer or SI-TEX Marine Electronics Customer Service Department at 727-576-5734.

SIMULATOR

This unit contains a built-in simulator for practice, that you can access as below.



1) To get this display [MENU] + [ON]

Press and hold the **MENU** key and touch the **ON** key.

Do not release the **MENU** key until the display comes up.

2) To select the simulator

Press ▲ or ▼ of [▲ ZOOM ▼] key.

The selected item is indicated in yellow.

3) Press ◀ or ▶ of [◀ IMAGE SPEED ▶] key.

Reading this manual and practicing in the simulator mode will enhance your skill operating this unit.

Other items are used in the following situations.

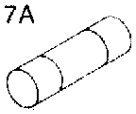
TEST MODE	Please refer to 9. ADJUSTMENT OF SCREEN.
ALL CLEAR	All contents will return to the initial conditions

WARNINGS!

A. Be sure to observe proper polarity when connecting the power cable to the battery. Black with white line wire is positive and solid black wire is negative.

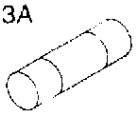
B. 7A and 3A fuses are provided for different power supply voltage. 7A should be used for power of 11 -20V. 3A for power of 20V - 40V.

7A



11 - 20V

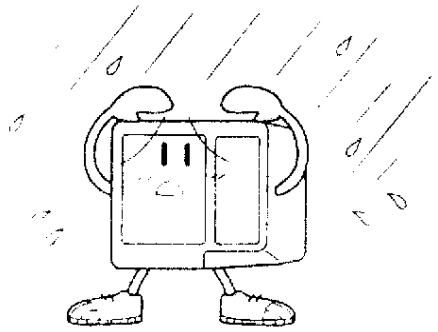
3A



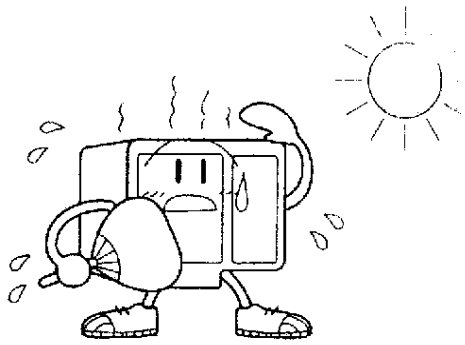
20 - 40V

7A fuse is installed on the unit at the factory.

C. The CVS-208 is not waterproof. When installing the unit, take this into consideration. Protect the unit from the elements whenever you can.



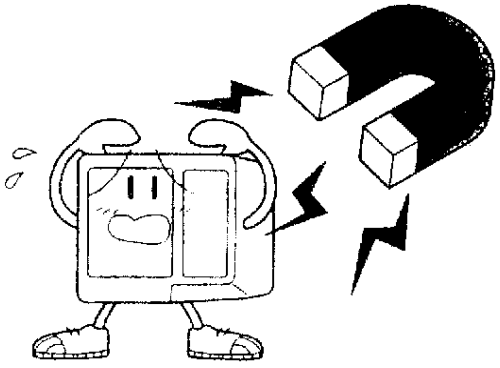
D. Long periods of direct sunlight on the display should be avoided, as the unit can be damaged.



E. We recommend you install the CVS-208 as far as possible from any antennas (Loran, VHF, etc.). This will help prevent noise interference.

F. Use of a transducer other than the one supplied by SI-TEX can degrade the performance of this unit.

G Do not install the unit near magnetic material as it will cause color distortions.



2. TRANSDUCER INSTALLATION AND MAINTENANCE

CAUTION

Mounting your transducer requires drilling holes into your boat hull, which can affect its water integrity and, therefore, should be attempted only by qualified personnel. If you are in doubt as to your ability to attempt this installation, we recommend you take your boat to a marine dealer and/or service center that has people qualified and experienced in transducer installations.

Saltwater Maintenance

Antifouling paint - If the vessel is kept in saltwater, sea growth can quickly accumulate on the transducer face and greatly reduce this unit's performance in a matter of weeks. It is recommended that at least the acoustic face of the transducer be coated with a special transducer antifouling paint. Alternatively, the entire transducer can be painted, and is easier to keep clean. All copper base paints are unsatisfactory and will not allow this unit to detect bottom or fish. If fouling does occur, use a stiff brush or putty knife to remove growth. Wet sanding of the transducer surfaces is O.K. with a #220 or finer grade wet or dry paper.

2-1. TRANSOM MOUNT

This is an example of transom mount transducer (#239-50-200ST).

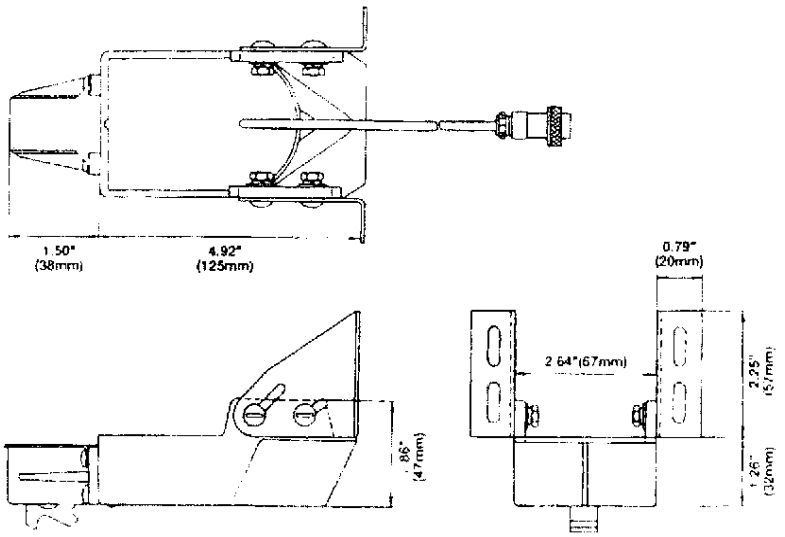


Figure 1 Transom Mount Transducer

As your echo sounder's performance depends on how well the transducer has been installed, please carefully read through the following mounting procedures:

1) For proper performance, the transducer's mounting location must be chosen carefully. The transducer should be mounted in a location that is free from turbulence and air bubbles created by movement of the boat as it travels through water. Air bubbles greatly reduce the efficiency of the transducer. It is also strongly recommended that the transducer be mounted in an area with the least amount of disturbed water coming off the transom. To determine the best mounting location, operate the boat at several different speeds and observe the water as it passes under the transom. Look for turbulence caused by the trim tabs, motor mounting, the keel and lifting strakes. Keep the transducer cable as far as possible from the boat's power cable, tachometer and other electrical cables.

2) This transducer has been designed to give you good performance installed on the transom of most boat types, however, the transom transducer should not be mounted on boats with in-board engines. For boats with poor water flow on the transom or in-boards, consider epoxying the transducer to the inside of the hull or select a thru-hull transducer. SI-TEX offers many styles of transducers for all applications.

3) Determine the transducer mounting place by referring to the above mentioned steps, 1 and 2. For best results, the transducer face should be level. Also the transducer face should be mounted from 1/8" to 1/4" below the surface of the hull. The trailing edge of the housing should be about 1/8" below the leading edge. The adjustable stainless steel bracket is designed to allow for "fine tuning" once the installation is completed.

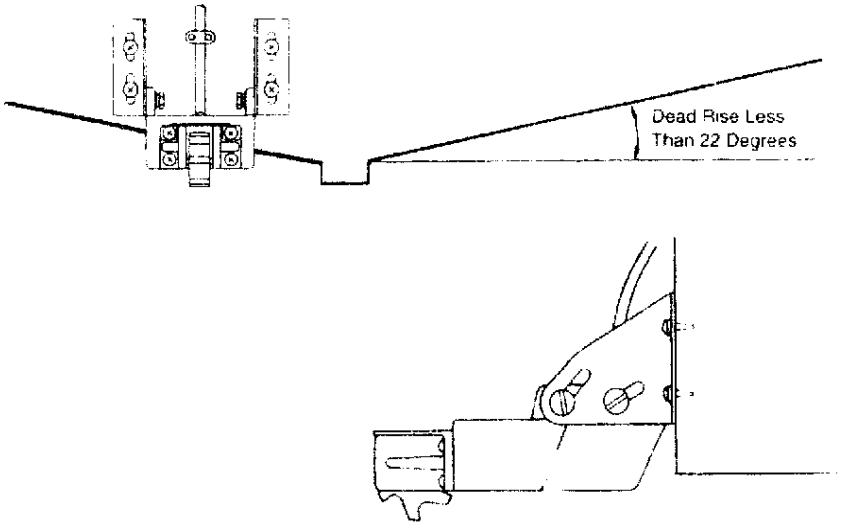


Figure 2 Transom Mounting

1) Install the two bracket plates to the transducer using 4 sets of screws, nuts and washers in the set as shown in the figure below:

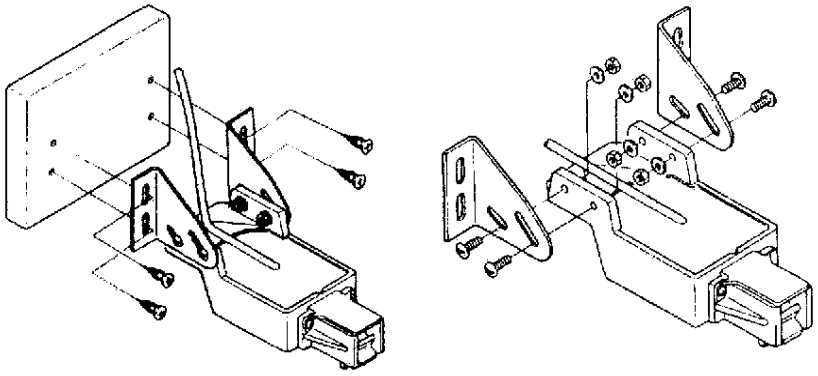


Figure 3 Transom Bracket

2-2. THRU-HULL MOUNT

This is an example of thru-hull mount transducer (#403-50-200ST).

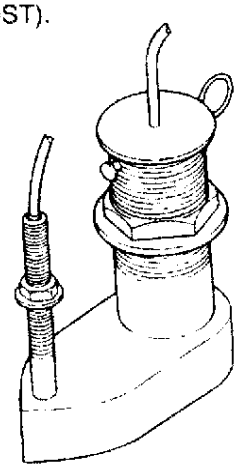
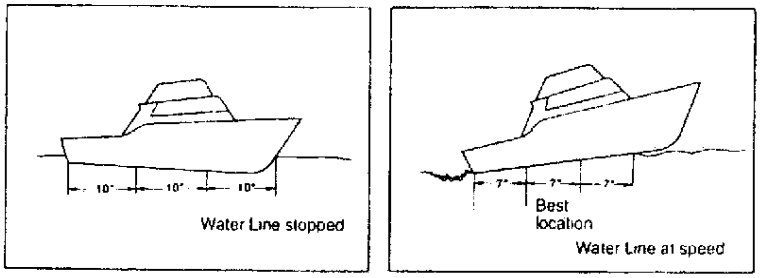


Figure 4 Thru-Hull Mount Transducer

1) The transducer should be installed in a place where no bubbles or disturbed water flows around it. Do not mount behind other thru-hulls such as water intakes or anything else that can cause a disturbed water flow.

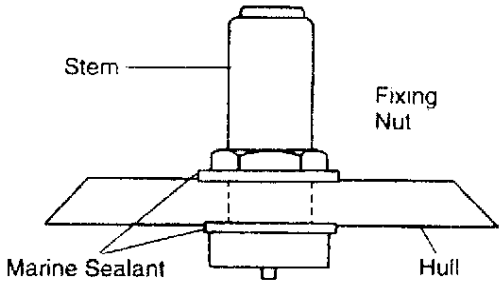
2) The transducer should be installed well in front of the engine,but not too close to the bow. Ideally, it should be installed in the middle 1/3 of the hull at speed, as shown below.



3) The transducer should be installed so as to maintain the transducer face pointed straight down. Therefore, some boat hulls may require fairing blocks for this alignment.

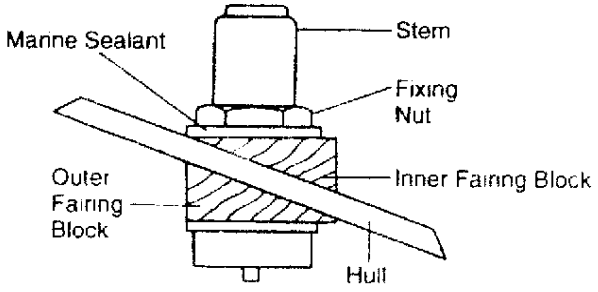
DEAD RISE ANGLE LESS THAN 5°

In this case, no fairing block is necessary. To prevent leakage, any gaps between the stem threads and the holes should be filled with marine sealant.



DEAD RISE ANGLE MORE THAN 5°

Apply fairing blocks inside and outside of the hull, and install the transducer with its face pointed straight down.
To prevent leakage, any gaps between the stem threads and the fairing block should be filled with marine sealant.



3. CVS-208 MOUNTING PROCEDURE

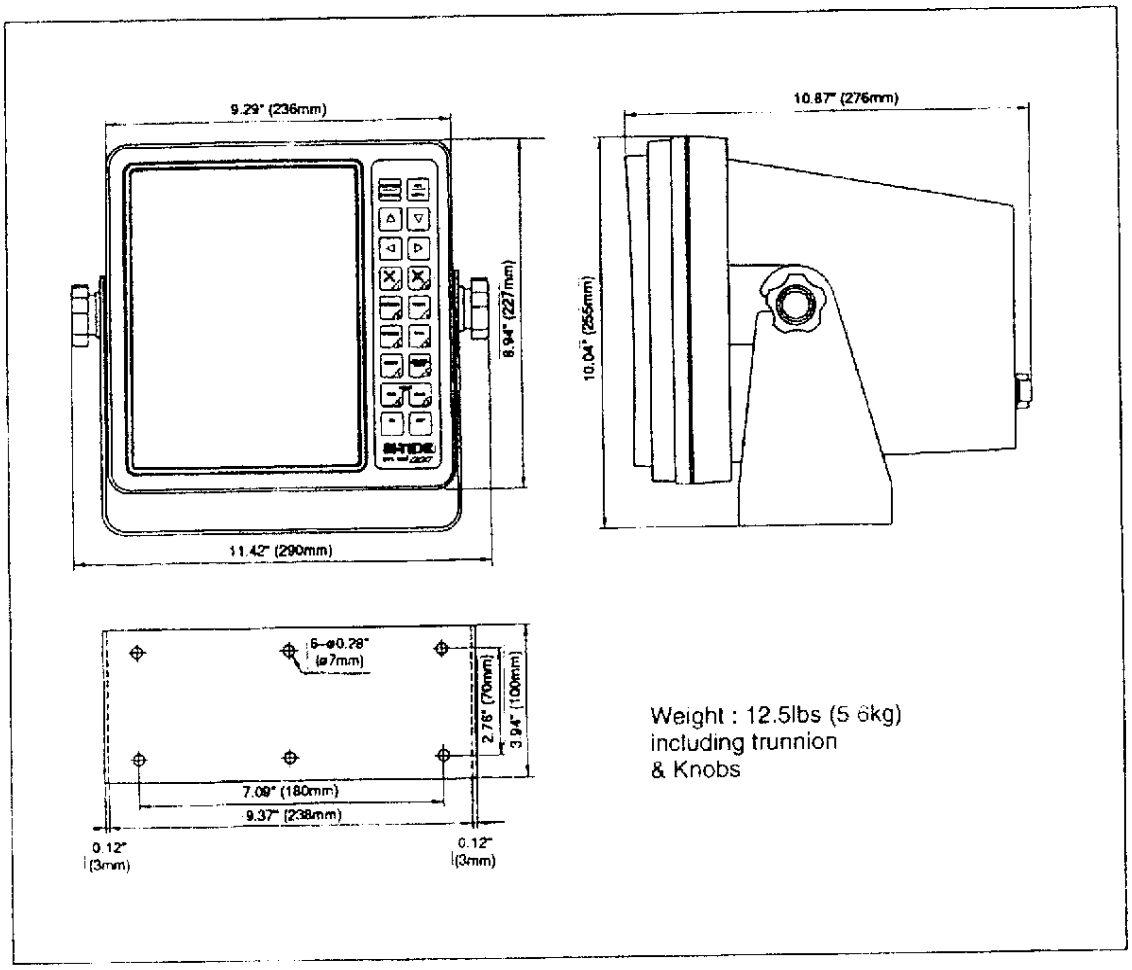


Figure 5 Dimensions/Weight

1) The CVS-208 should be installed on a flat, solid surface for maximum stability.
As interference among other marine electronics equipment on board is a serious problem, consider this when selecting your location and before you decide on a permanent mounting place.

2) Position the trunnion mount, mark and drill six 1/4" holes.
Secure it using stainless steel screws or through bolts with backup washer and lock washers.
Mount the trunnion with the slots facing forward.

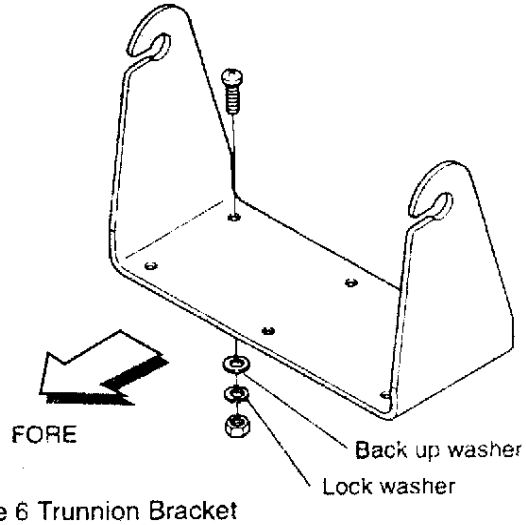


Figure 6 Trunnion Bracket

3) Place the display unit in its mount and secure it to the trunnion using trunnion knobs and washers as shown in Figure 7.

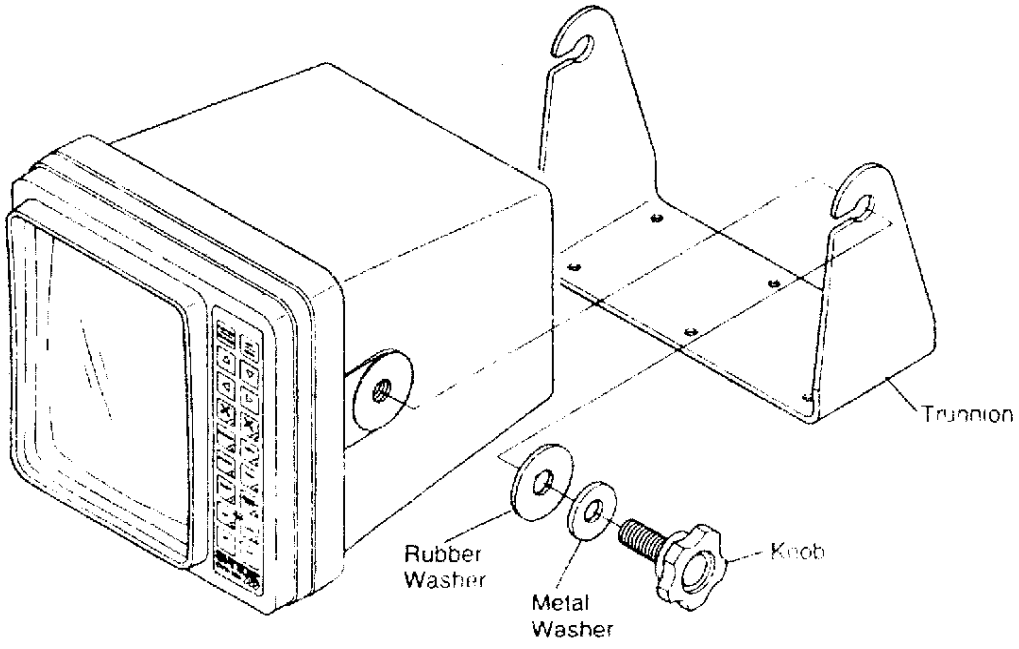
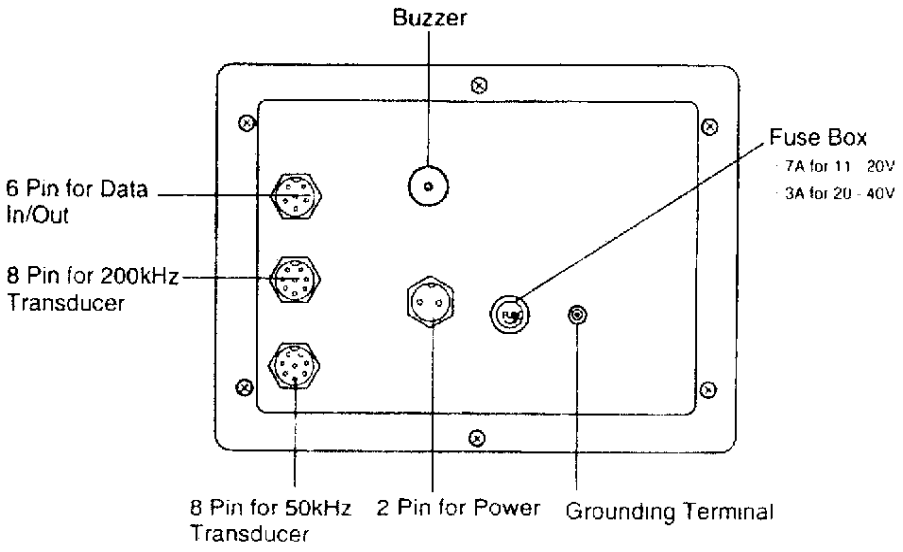


Figure 7 Mounting CVS-208

4. CONNECTOR CONNECTIONS



1) Transducer

The CVS-208 is a dual frequency unit of 50kHz and 200kHz, for which two 8 pin sockets are provided.

Four transducers are available.

Please select one depending on your application.

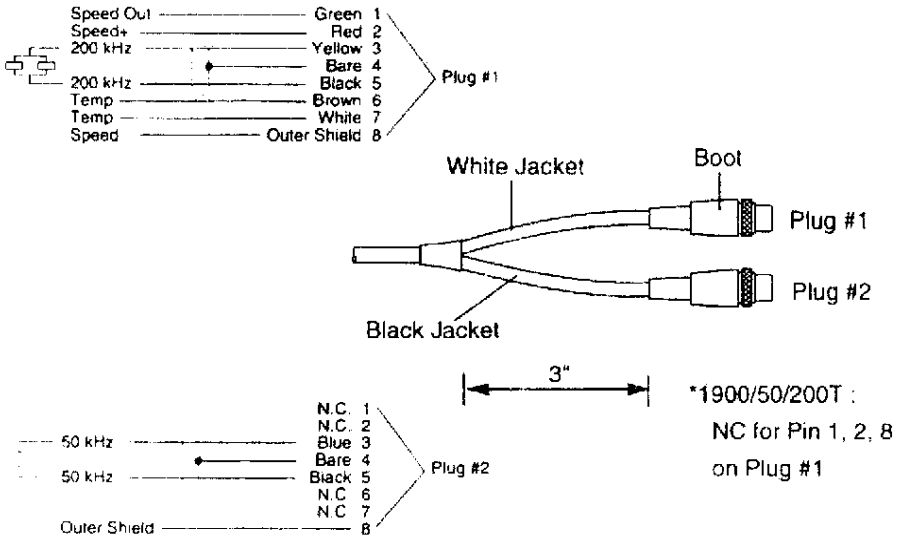
STANDARD	APPLICATION
239/50/200ST (Transom w/Temp and Speed) 403/50/200ST (Bronze Thru-Hull w/Temp and Speed)	Shallow Water

* Both are dual frequency single transducers.

OPTIONAL	APPLICATION
1900/50/200T (Bronze Thru-Hull w/Temp Only) 1900T & 705/200T (Bronze Thru-Hull w/Temp Only)	Deep Water

* 1900/50/200T: Dual Frequency Single Transducer
* 1900T & 705/200T: Two Separate Transducers

Cable of Dual Frequency Single Transducers



As the figure shows, the temperature and speed sensors are provided to the 200kHz side.When you use these transducers, you are advised to set for HF for them in menu 2.

SPEED	TEMP	HF	HF

2) Data Input/Output NMEA0183

1	Shield	
2	Signal	Data Out
3	Return	
4	Signal	Data In
5	Return	
6	+ 12V	

3) Power

1 (+)	Black with White Line
2 (-)	Solid Black

4) Fuse

We supply two kinds of fuse.One is 7A and the other is 3A.Please use them properly depending on the power supply voltage.

Power Voltage	Fuse to Use
11 - 20V	7 amp.
20 - 40V	3 amp

When you get the product, 7A fuse is installed. If you use the power supply of 20 - 40V, please change it to 3A fuse, which is included in the accessory box

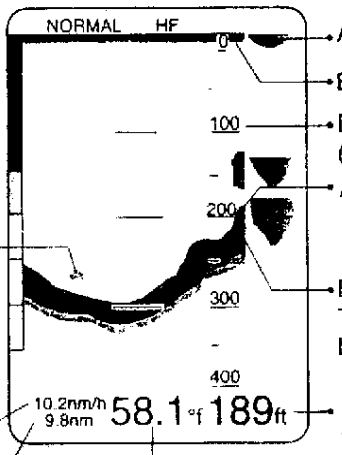
5. DISPLAYS AND OPERATION KEYS

5-1. SOUNDER DISPLAY

S.F.I. = Single Frequency Image
D.F.I. = Dual Frequency Image

Normal Display

[S.F.I.]



The color of the sea can be selected either in blue or black

The density of fish school is indicated in different colors. It can be changed to fish symbol ( ).

Boat Speed

Log

A Scope

B

Depth Calibration (Numbers in White)

A

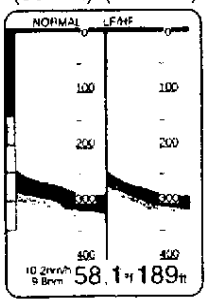
Bottom Contour
The colors show the bottom condition.

Digital Depth Indication
The bottom depth of the right end of the screen (A) is displayed.

Water Temperature
The temperature of the right end of the screen(B) is displayed.

[D.F.I.]

Normal (50kHz) Normal (200kHz)

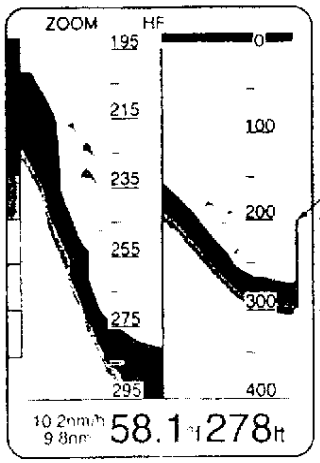


Normal + Zoom Display

Vertical display split

[S.F.I.]

Zoom Normal

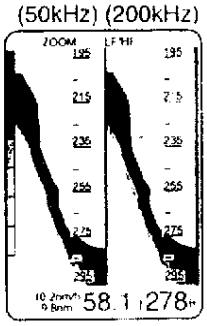


Zoom Bar

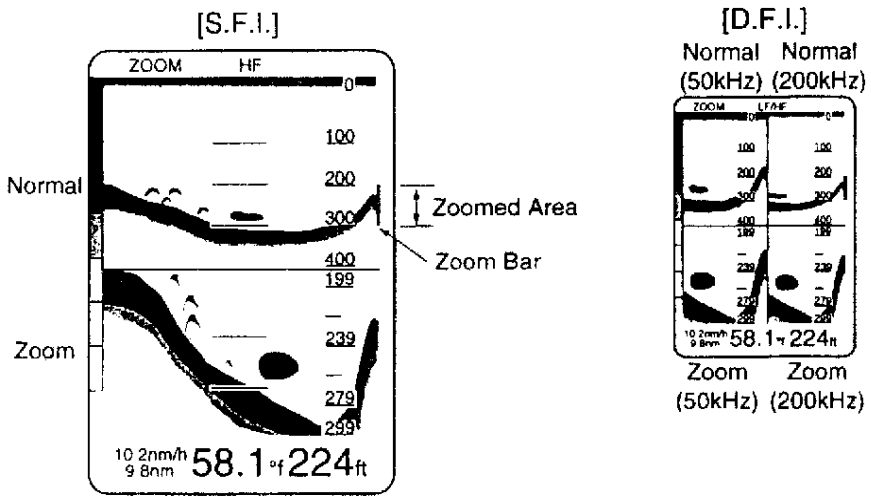
Zoomed Area

[D.F.I.]

Zoom (50kHz) Zoom (200kHz)



Horizontal display split



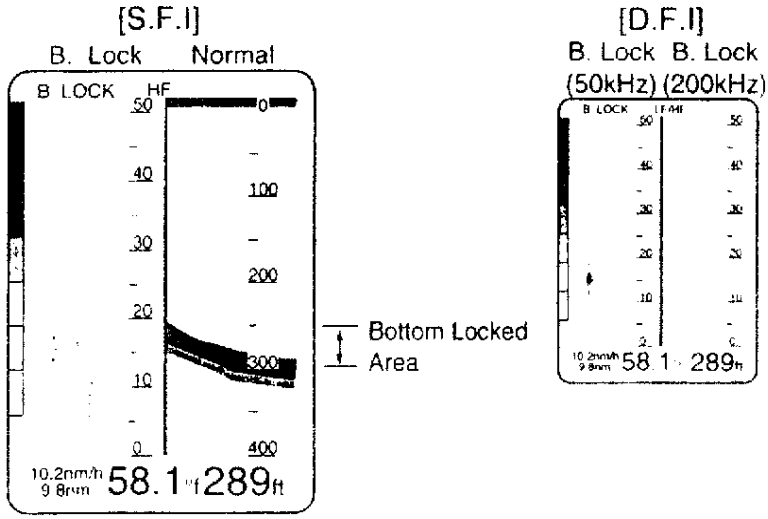
Normal + Bottom Lock Display

Selection of Bottom Lock or Bottom Zoom

It is done in Menu 2.

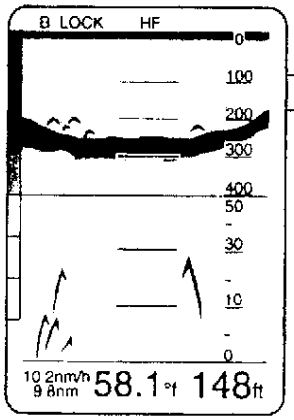
BOTTOM	ZOOM LOCK

Vertical display split



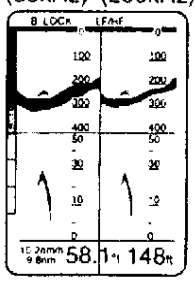
Horizontal display split

[S.F.I.]



[D.F.I.]

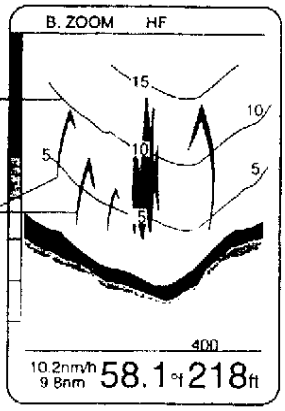
Normal (50kHz) Normal (200kHz)



B. Lock (50kHz) B. Lock (200kHz)

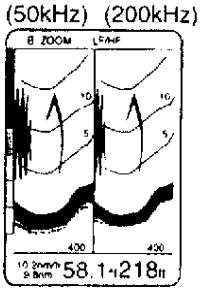
Bottom Zoom Display

[S.F.I.]



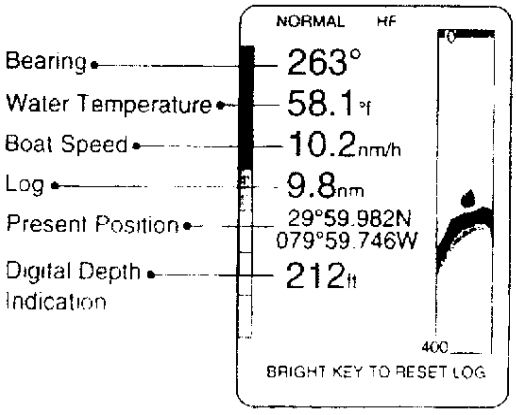
[D.F.I.]

B. Zoom (50kHz) B. Zoom (200kHz)

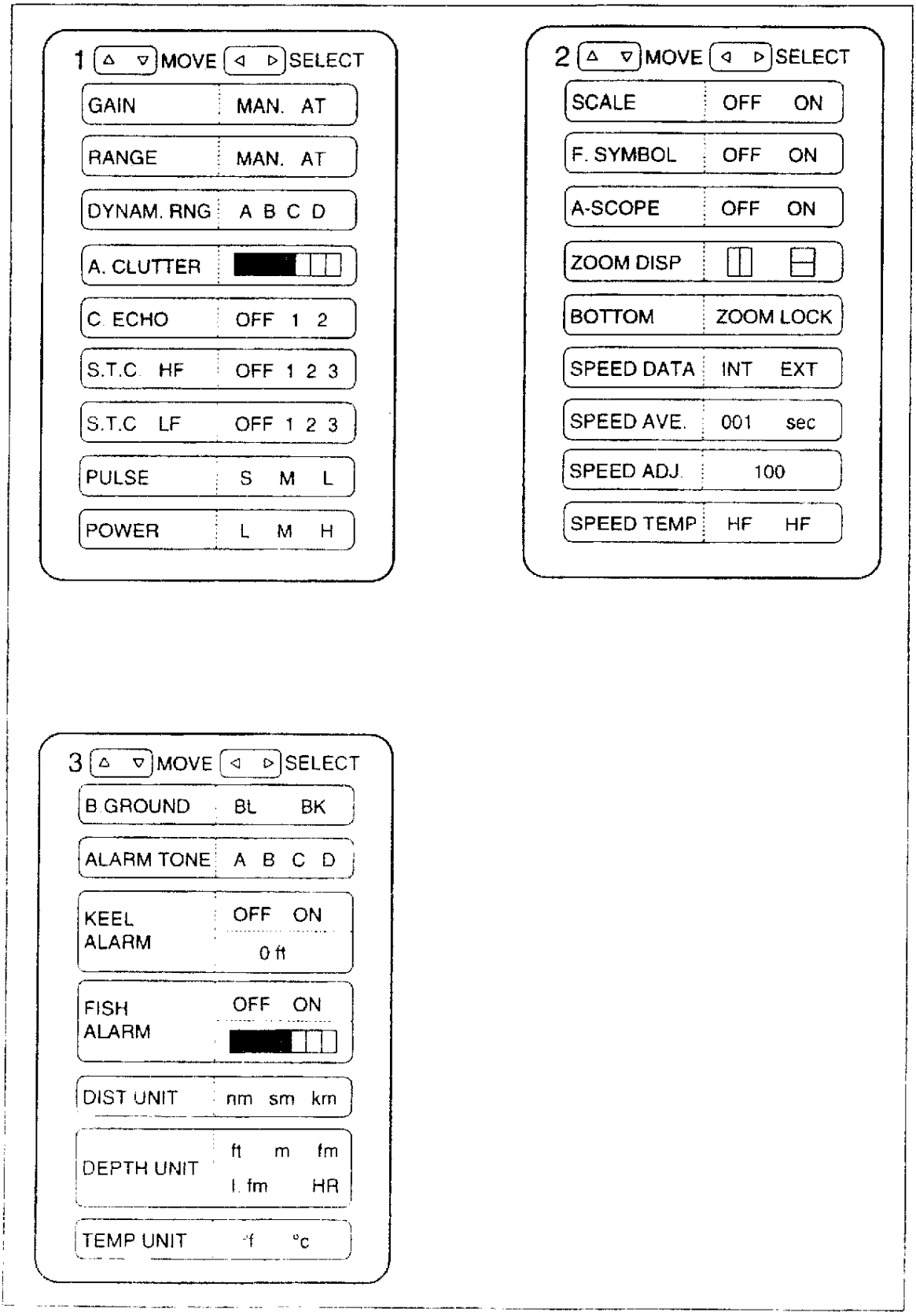


Big Number Display

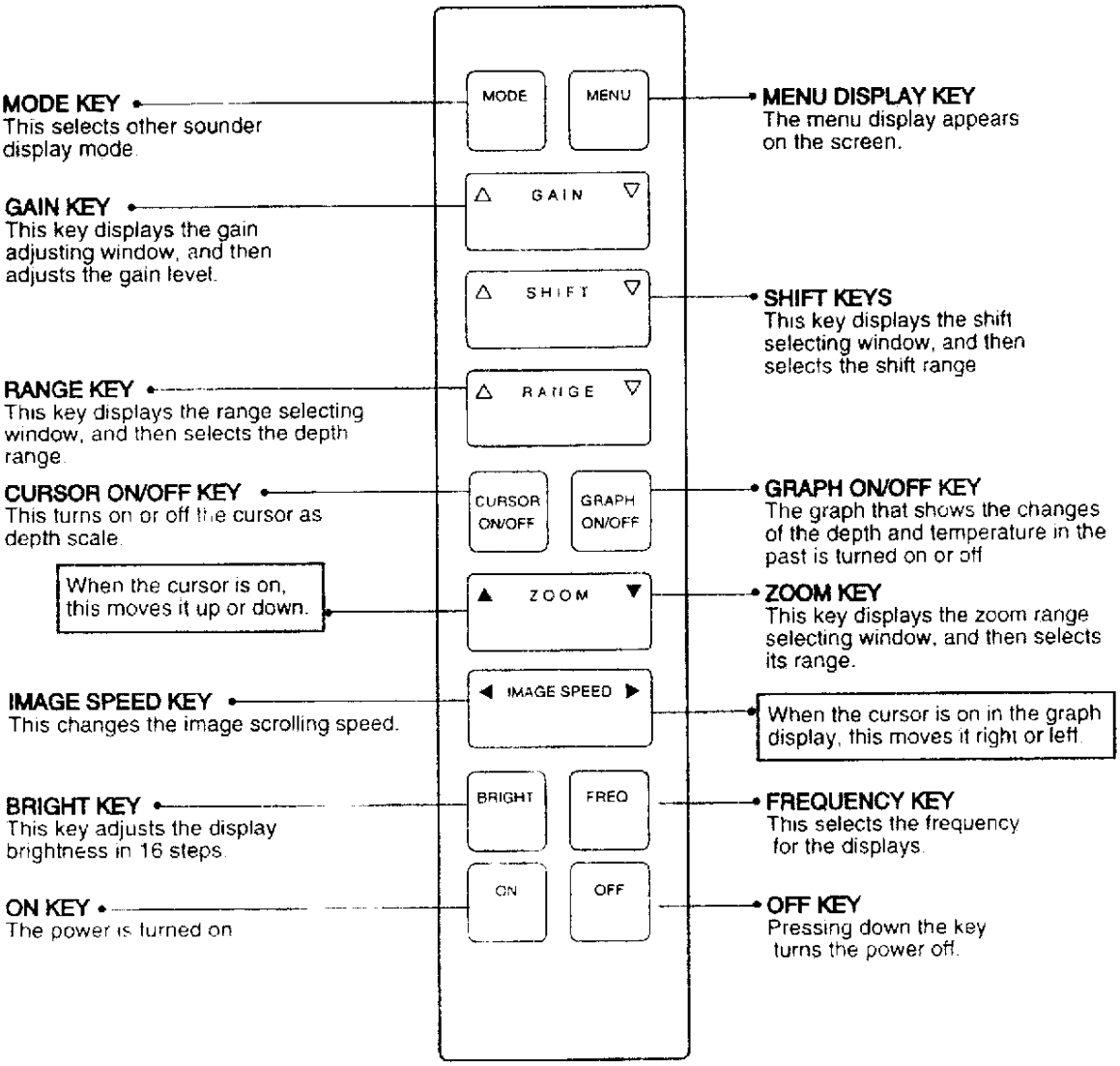
[S.F.I.] & [D.F I]



5-2 MENU DISPLAY



5-3. KEYBOARD


MODE KEY
This selects other sounder display mode.
GAIN KEY
This key displays the gain adjusting window, and then adjusts the gain level.
RANGE KEY
This key displays the range selecting window, and then selects the depth range.
CURSOR ON/OFF KEY
This turns on or off the cursor as depth scale.
When the cursor is on, this moves it up or down.
IMAGE SPEED KEY
This changes the image scrolling speed.
BRIGHT KEY
This key adjusts the display brightness in 16 steps.
ON KEY
The power is turned on.
MODE
MENU
△ GAIN ▽
△ SHIFT ▽
△ RANGE ▽
CURSOR ON/OFF
GRAPH ON/OFF
▲ ZOOM ▼
◀ IMAGE SPEED ▶
BRIGHT
FREQ
ON
OFF
MENU DISPLAY KEY
The menu display appears on the screen.
SHIFT KEYS
This key displays the shift selecting window, and then selects the shift range
GRAPH ON/OFF KEY
The graph that shows the changes of the depth and temperature in the past is turned on or off
ZOOM KEY
This key displays the zoom range selecting window, and then selects its range.
When the cursor is on in the graph display, this moves it right or left.
FREQUENCY KEY
This selects the frequency for the displays.
OFF KEY
Pressing down the key turns the power off.

6. OPERATION

6-1. SELECTION OF FREQUENCY MODE 17

6-2. SELECTION OF OTHER SOUNDER DISPLAYS 17

6-3. ADJUSTMENT OF GAIN 18

6-4. CHANGE OF DEPTH RANGE AND RANGE SHIFT 19

6-5. CHANGE OF ZOOM RANGE 21

6-6. DEPTH SCALE 22

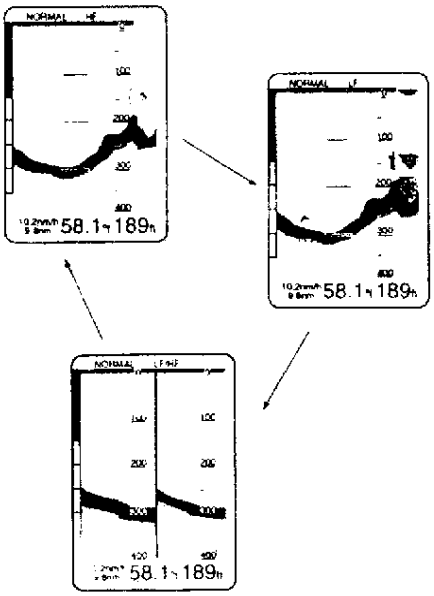
6-7. GRAPH MODE 23

6-8. IMAGE SCROLLING SPEED 25

6-9. SCREEN BRIGHTNESS 25

6-10. MENU FUNCTIONS 25

6-1. SELECTION OF FREQUENCY MODE

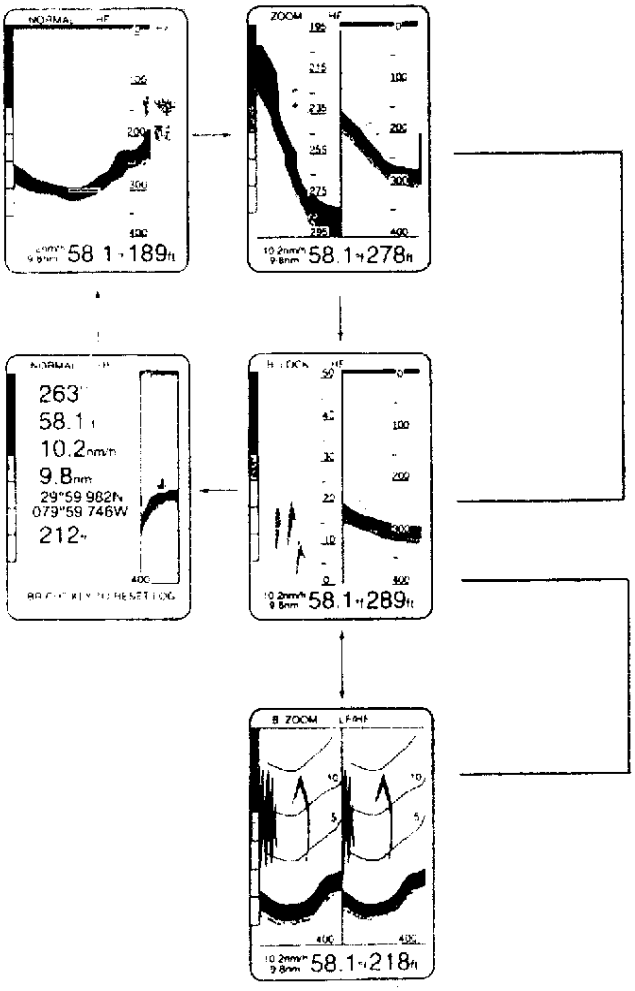


The CVS-208 is a dual frequency sounder of 200kHz (High Frequency) and 50kHz(Low Frequency).

You can display the images of one of two frequencies independently, or both images at the same time.

Pressing the FREQ key selects them in rotation.

6-2. SELECTION OF OTHER SOUNDER DISPLAYS



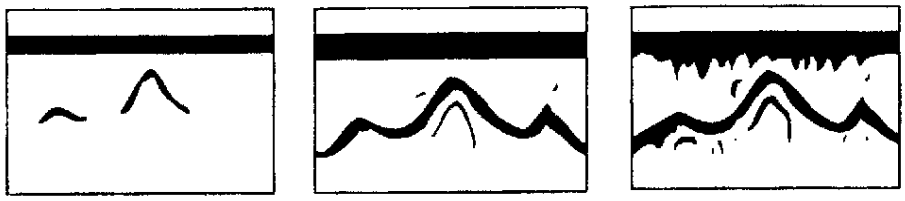
Pressing the MODE key selects one of four displays in rotation.

This selection is done in the Menu 2.

BOTTOM | ZOOM LOCK

6-3. ADJUSTMENT OF GAIN

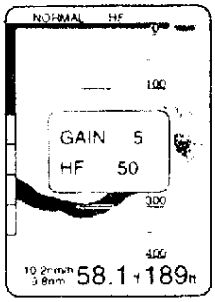
The gain should be adjusted so that the bottom is displayed in red.
The gain level changes depending on bottom depth, nature of soil, kinds of fish and way of transducer mount. Referring to the following drawings, please adjust it.



Poor Good High

NOTE:
The gain is set to Manual at the factory. Please adjust it to the proper level, or change to Auto mode in Menu 1.

[1] MANUAL GAIN ADJUSTMENT (While in Manual Gain Mode)

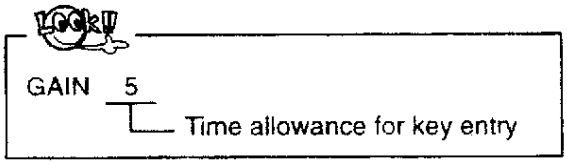


1) When you press the [△ GAIN ▽] key, you will get this window.

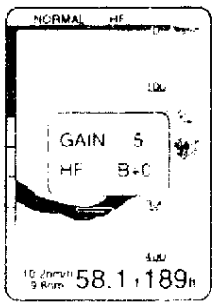
The frequency here indicates the one you selected in 6-1.

If you selected LF + HF, pressing the [FREQ.] key shows LF and HF alternately.

2)" △ " side increases the gain level and " ▽ " side decreases it between 0 and 50.



[2] AUTO GAIN ADJUSTMENT (While in Auto Gain Mode)



1) When you press the [△ GAIN ▽] key, you will get this window.

The frequency here indicates the one you selected in 6-1.

"B" shows the dynamic range level. (It is selected in Menu 1. Please refer to it.)

DYNAM. RNG	A B C D

2) Pressing the key selects the offset value between + 5 and -5.

Offset Value

This is for the fine adjustment of auto gain, which may be necessary to compensate for the change of gain due to the way and place of transducer mount, and the nature of bottom souil.

6-4. CHANGE OF DEPTH RANGE AND RANGE SHIFT

[1] DEPTH RANGE

You can select auto or manual range mode in Menu 1. It is set to manual at the factory.

Manual Range · As the depth range is fixed, you can see the change of the bottom contour at a glance.

Auto Range · Depending on the bottom depths, the depth range is selected automatically.This keeps displaying the bottom image on the screen without any manual intervention.

NOTE:

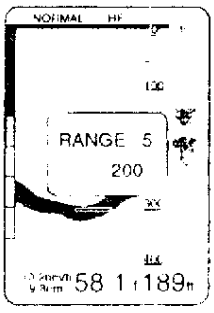
The following conditions may fluctuate the digital depth indication or select an improper depth range.

· ·Boat is running too fast.

· ·Gain is low.

· ·Depth is very shallow so that the transducer and the bottom are extremely close each other.

MANUAL RANGE SELECTION (While in Manual Range Mode)



1) When you press the [△ RANGE ▽] key, you will get this window.

2) Pressing the key selects a shallower or a deeper depth range.

Maximum Depth Range

The maximum depth range is 3,000 feet.

Available ranges

10, 20, 30, 40, 50, 60, 80, 100, 120, 140, 160, 200, 240, 300, 400 500, 600, 800, 1000, 1500, 2000, 3000

[2] RANGE SHIFT

Range shift function can be set for both auto depth range mode and manual depth range mode.

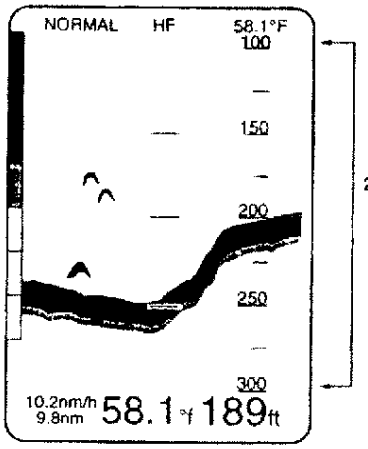
RANGE SHIFT IN MANUAL RANGE MODE

RANGE 5
200

1) Select a depth range to use with the RANGE key.

SHIFT 5
100

2) Select a shift range with the SHIFT key.



- Selected depth range
  - 200 feet
- Selected shift range
  - 100 feet

200 feet

The CVS-208 operates in 100-300 feet depth range as it is shifted by 100 feet.

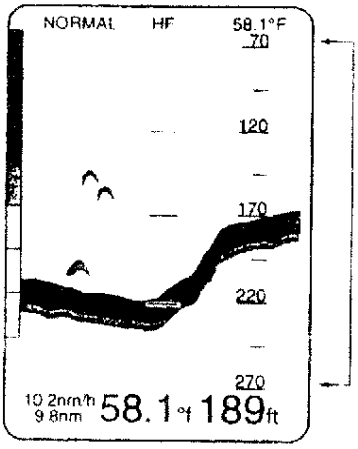
RANGE SHIFT IN AUTO RANGE MODE

RANGE 5
200

1) Select a depth range to use with the RANGE key.

SHIFT 5
100

2) Turn the shift function on by selecting any number other than "OFF" with the SHIFT key.

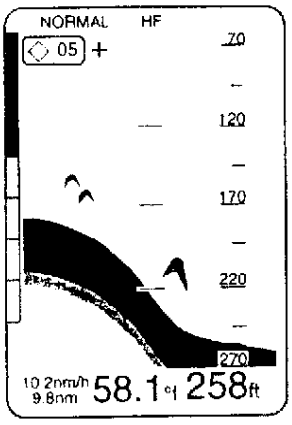


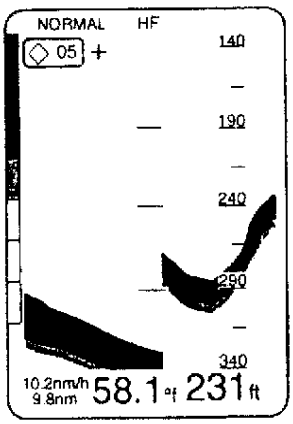
- Selected depth range
  - 200 feet
- Shift function on
  - "OFF" → "10"

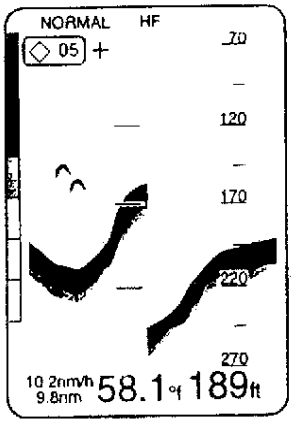
200 feet

The CVS-208 selects the best upper and lower limits with 200 feet range width.

When the bottom goes out of the screen, the new range is automatically selected to keep it on the screen.



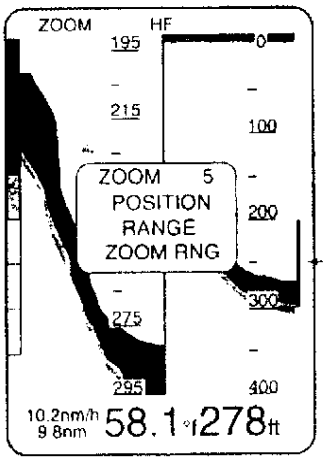




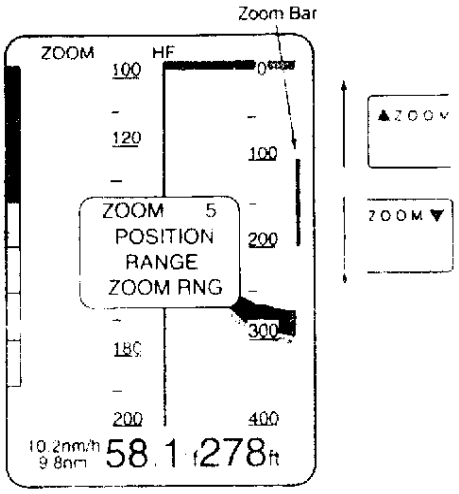
· The range width(200 feet) is unchanged.

6-5. CHANGE OF ZOOM RANGE

When you select zoom mode, the zoomed image of a certain area is displayed together with the normal image on the screen.
The area can be selected anywhere within the normal range.When you change the zoom range, you have to display the zoom mode.

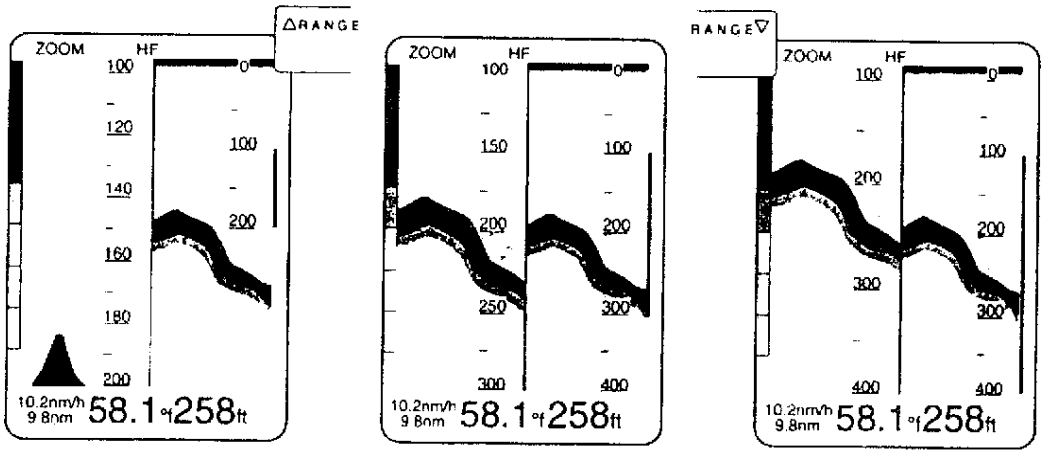


1) ▲ ZOOM ▼ key for displaying the window as indicated on the left.

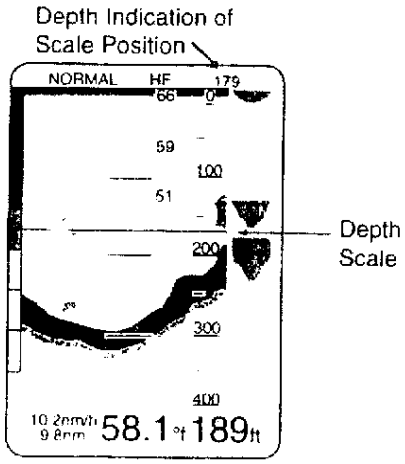


2) ▲ ZOOM ▼ key again for selection of the zoom range position. (The bar moves up and down.)

3) △ RANGE ▽ key for changing the zoomed area. (The length of the zoom bar changes.)



6-6. DEPTH SCALE



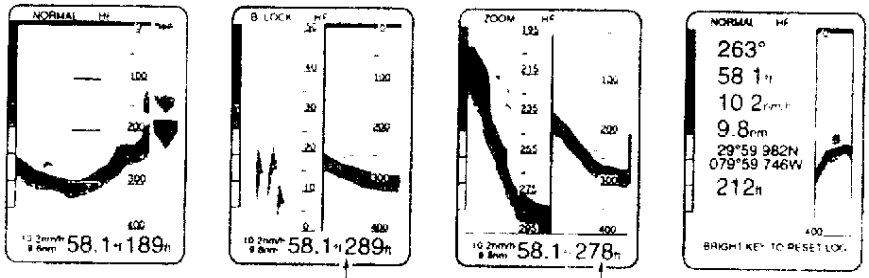
You can see the exact depth of a point, fish school, etc., using this scale.

Press CURSOR ON/OFF key. The depth scale is displayed.

1) ▲ ZOOM ▼ for moving the depth scale up and down.

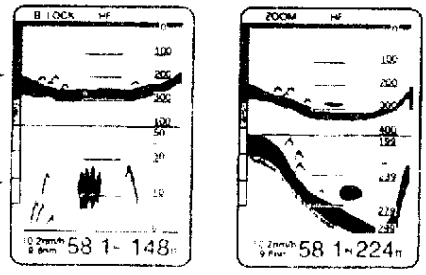
Displays where the depth scale is available.

[S.F.I]



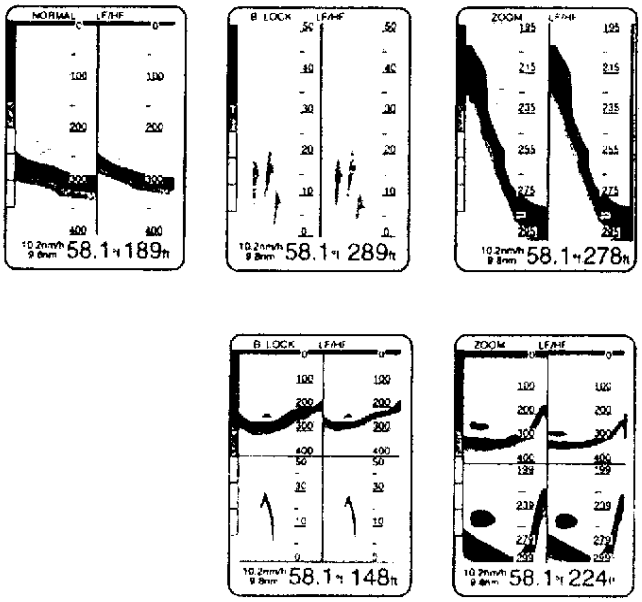
· Depth scale is active for normal displays

· Depth scale is active for both displays



· Depth scale is not available for Bottom Zoom display

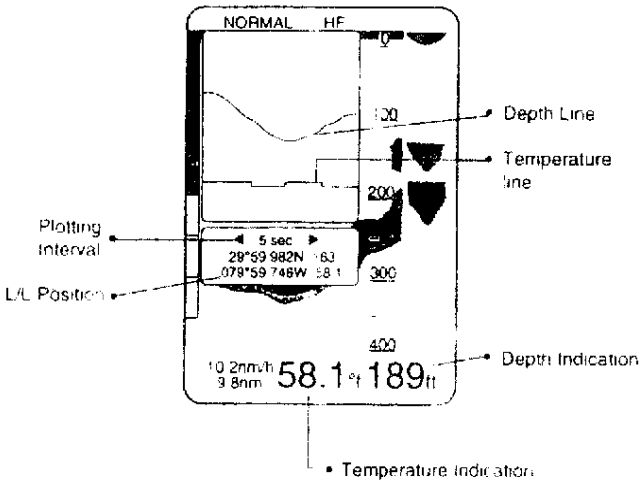
[D.F.I.]



·· Depth scale is not available for Bottom Zoom displays.

6-7. GRAPH MODE

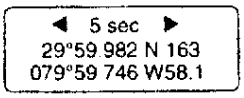
The graph mode shows the past history of the depths and water temperatures. It is effective to relocate a bottom.



Pressing the GRAPH ON/OFF key turns the graph display on as indicated. Pressing it again turns it off.

To get L/L position, you have to connect a GPS to the CVS-208.

1) Plotting Interval

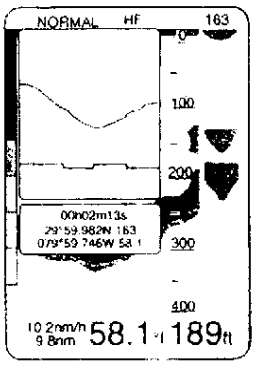


The interval to plot the depth and temperature on this graph can be changed by pressing the

key. It is initially set to 5 sec.

Available Intervals
1, 2, 3, 5, 8, 10, 20, 30, 40, 50 sec.,
1, 2, 3, 5, 8, 10 min.

2) Verifying the past point



Pressing the 

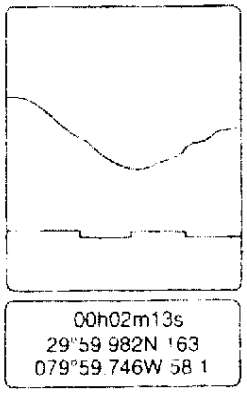
key turns the cursors on the sounder screen(=depth scale) and on the graph screen.

Depth Scale
Please refer to 6-6.

The scale on the graph screen can be moved to the right or left with the 

key.

Plotting Interval changes to Time.

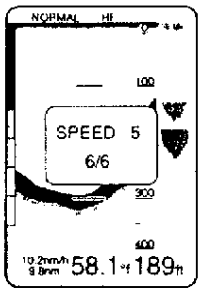


1) L/L : This indicates the cursor position. You can see the position in the past.

2) Time : This indicates how far it is from the present position to the cursor position in time.

3) Numbers: The upper number indicates the depth of the cursor position.
The lower number indicates the water temperature of that position

6-8. IMAGE SCROLLING SPEED



pressing the [◀ IMAGE SPEED ▶] key displays this window.

Pressing the key again adjusts the image scrolling speed.

Look!

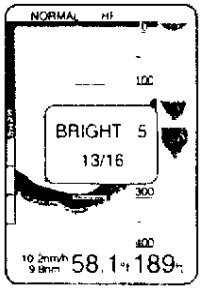
Image Scrolling Speed

STP -1/6 -2/6 -3/6 -4/6 -5/6 -6/6 -SPD

SPD

The image speed varies according to the boat speed.

6-9. SCREEN BRIGHTNESS

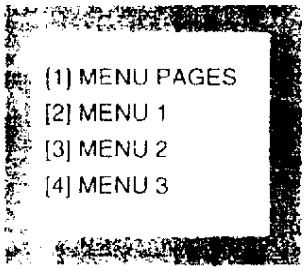


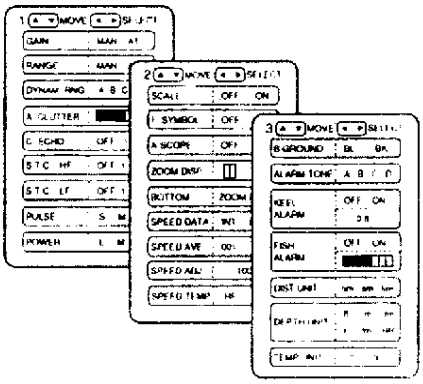
Pressing the [BRIGHT] key displays this window.

Pressing the key again adjusts the screen brightness in 16 steps.

6-10. MENU FUNCTIONS

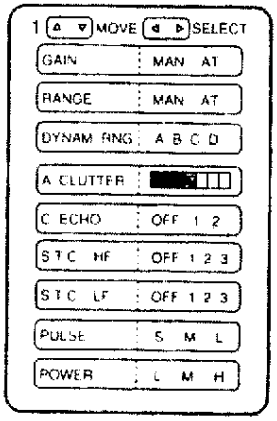
[1] MENU PAGES





Pressing the [MENU] key selects one of them.

[2] MENU1



GAIN MODE SELECTION

GAIN | MAN. AT

- AT → Auto gain mode is on.
- MAN → Manual gain mode is on.

Please refer to 6-3. ADJUSTMENT OF GAIN.

RANGE MODE SELECTION

RANGE | MAN. AT

- AT → Auto range mode is on.
- MAN → Manual range mode is on.

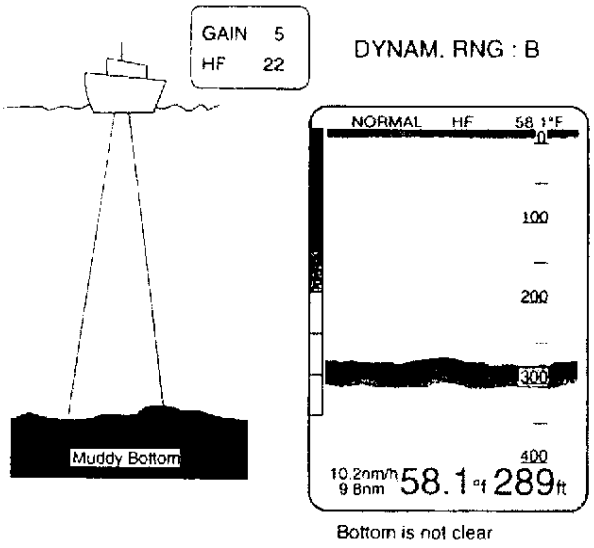
Please refer to 6-4. CHANGE OF DEPTH RANGE AND RANGE SHIFT.

DYNAMIC RANGE

DYNAM RNG | A B C D

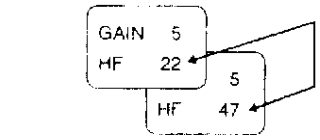
- Select a level according to the bottom condition.

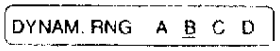
It is initially set to "B".



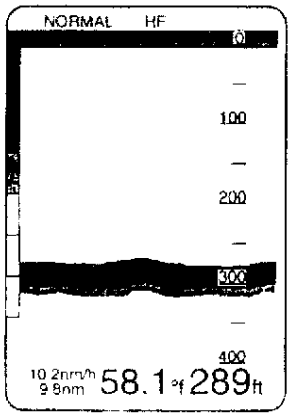
Bottom is not clear

When the bottom of the sea is soft like mud, the gain is usually increased to get the clear bottom image. However, it also causes noise on the screen. This function is provided to show the bottom clearly without the clutter on the screen.

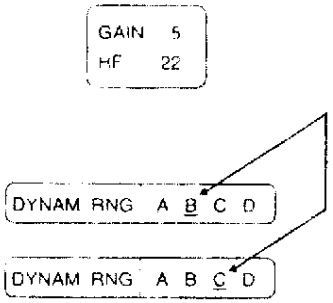




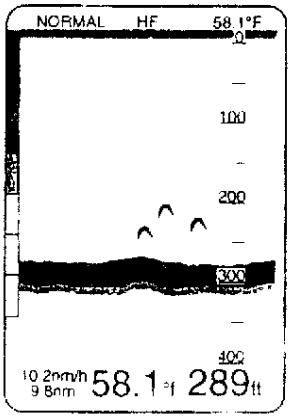
Gain was increased. Dynamic range is unchanged.



Bottom became clearer but the unwanted noise also appeared and it is difficult to see the screen.



Gain is unchanged. Higher level of dynamic range was selected(B →C).



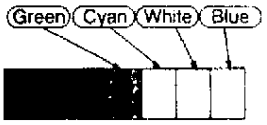
Bottom became clearer. No unwanted noise is displayed

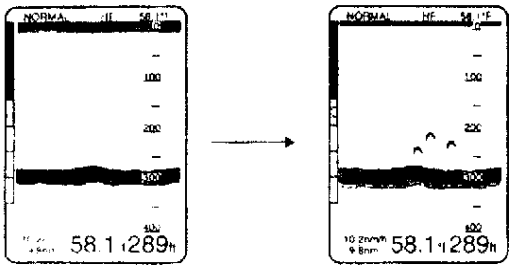
ANTI CLUTTER

The colors you want to delete can be selected.

Look!

Colors that can be deleted.





Look!

The anti clutter deletes unnecessary noise, and makes the screen easy to see.

Look!

The fish of weak level may disappear with the anti clutter function.

CLEAN ECHO

When there are lots of noise, use this level.

When there are some noise, use this level.

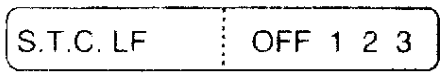
Clean echo function does not work.

Look!

The clean echo deletes the noise from other sounders or radios of nearby boats.

S.T.C.

For HF = high frequency (200kHz)



For LF = low frequency (50kHz)

The higher the number, the stronger the level

S.T.C. function does not work.

Look!

S.T.C. lowers the sensitivity near the water surface to prevent the clutter on the screen by the echoes from bubbles and planktons.

Look!

If selecting stronger level, the fish echoes may also be eliminated.

PULSE LENGTH SELECTION

PULSE	S M L

They indicate short, medium or long pulses.

Pulse Length	Long ←	Medium →	Short
Depth Resolution	Good ←		→ Bad
Fish Detection	Bad ←		→ Good
Purpose	Searching deep sea		Discriminating fish distribution

Please do not use S for deep sea. Fish or bottom may be lost.

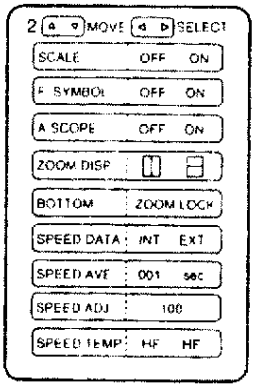
POWER SELECTION

POWER	L M H

They indicate low, middle or high powers.

Lowering power is effective to avoid the interference from other sounder with the same frequency.
Low power for the deep depths may lose the fish and the bottom.

(3) MENU 2

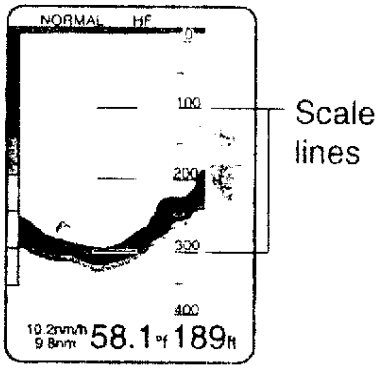


SCALE LINES

SCALE	OFF	ON

Scale lines are not displayed.

Scale lines are displayed on the screen.



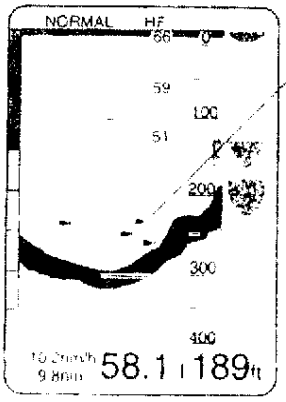
Scale lines

F. SYMBOLS

F. SYMBOL	OFF	ON

Fish are indicated with fish symbols.

Fish symbol function does not work.



Fish Symbols

Lock!

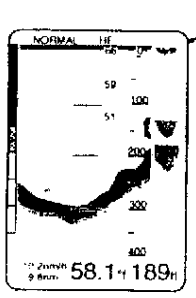
- **Fish symbols are displayed only in the normal mode.**
- **The noises caused by running or the bubbles may be displayed with fish symbols.**

	(Red)	(Blue)
Colors		
Echo Strength	Stronger	Weaker
Symbol Size	Larger	Smaller

A-SCOPE

A-SCOPE | OFF ON

- A-Scope is turned on.
- A-Scope is turned off.



A-Scope indicates the strength of returned echo directly under your boat with the width and color of the bar.

The wider the bar, the stronger the echo, and the widest bar is shown in red.

ZOOM DISPLAY SELECTION

ZOOM DISP | 

- The sounder display is split into two horizontally.
- The sounder display is split into two vertically.

- **Split displays**
  Normal + Zoom & Normal + Bottom Lock
- **Please refer to 5-1. SOUNDER DISPLAY.**

BOTTOM DISPLAY MODE SELECTION

BOTTOM | ZOOM LOCK

- Bottom lock mode is selected.
- Bottom zoom mode is selected.

Please refer to 5-1. SOUNDER DISPLAY.

SUPPLY OF SPEED DATA

SPEED DATA INT EXT

- The data from the connected equipment like a GPS is used.
- The data from the paddlewheel speed sensor is used.

SPEED AVERAGE

SPEED AVE. | 001 sec

The speed data for the selected time span are averaged.

Range for averaging

1 sec. to 100 sec.

When you pull a net with other boat, averaging the speed to avoid the frequent change of speed indication is useful.

SPEED ADJUSTMENT

SPEED ADJ. | 100

The indicated speed can be adjusted to the correct speed.

Range for adjustment

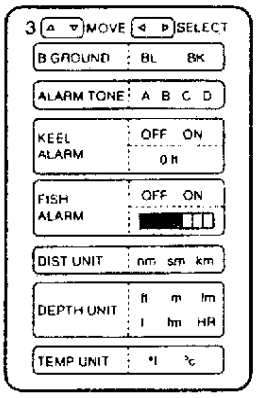
50% to 150%

FREQUENCY TO SUPPLY SPEED/TEMPERATURE DATA

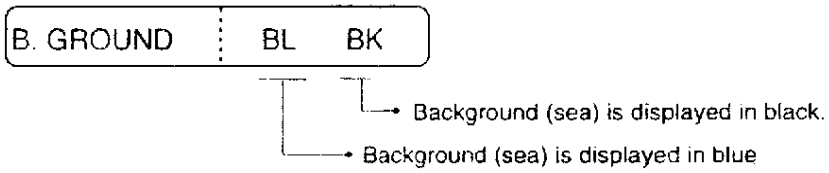
SPEED TEMP HF HF

- When you use speeed and temperature sensors, you have to indicate the frequency here from which their data are supplied.

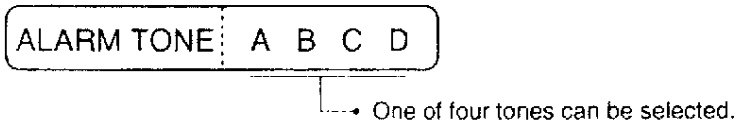
(4) MENU 3



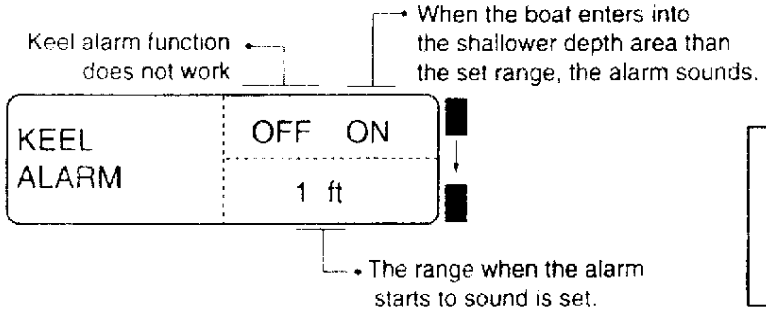
BACKGROUND COLOR SELECTION



ALARM TONE



KEEL ALARM

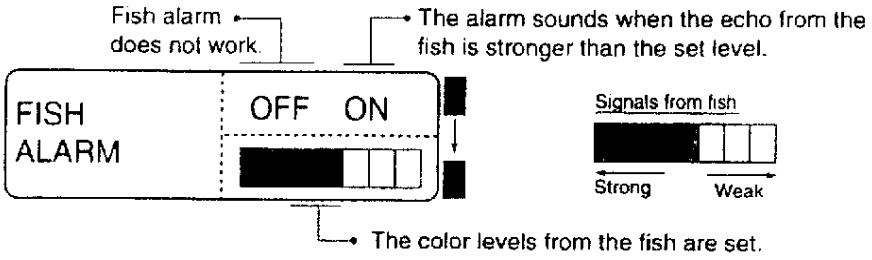


Keel alarm ranges

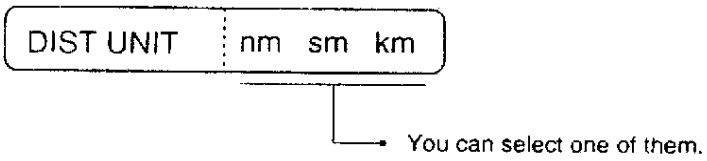
1 to 100 feet in one foot increments.

When the digital depth indication is unstable(in case of very shallow waters), this alarm may not function properly.

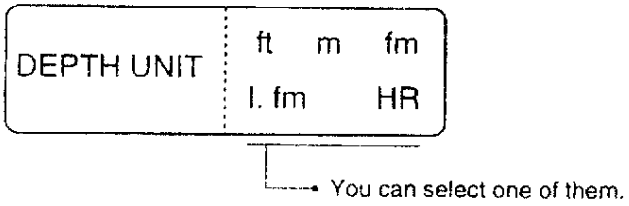
FISH ALARM



DISTANCE UNIT

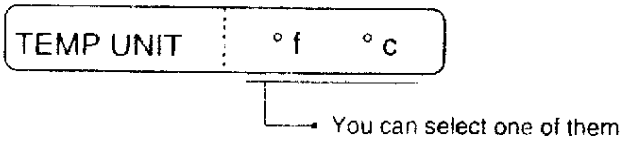


DEPTH UNIT



l.fm = Italian fathoms
HR = Japanese fathoms

TEMPERATURE UNIT



7. SPECIFICATIONS

CRT	8"Color
TEMPERATURE RANGE	0-50° C
POWER REQUIREMENT	11-40V DC (Approx. 36 watts)
FREQUENCY	200kHz/50kHz
OUTPUT POWER	H - 600 Watts RMS M - 150 Watts RMS L - 25 Watts RMS
PULSE LENGTH	L - 0.06 - 2.5 msec M - 0.04 - 2.5 msec S - 0.02 - 1.1 msec
DEPTH RANGES	0-10, 20, 30, 40, 50, 60, 80, 100, 120, 140, 160, 200, 240, 300, 400, 500, 600, 800, 1000, 1500, 2000, 3000 ft 0-5, 10, 20, 30, 40, 50, 60, 80, 100, 120, 140, 160, 200, 240, 300, 400, 500, 600, 800 m/fm
ZOOM RANGES	1/5, 2/5 & 3/5 for depth ranges 50 ft/m/fm or less 1/4, 2/4 & 3/4 for depth ranges 60 ft/m/fm or more
BOTTOM ZOOM(or LOCK) RANGES	Auto selection depending on depth ranges
DATA	7 Colors (Red, Orange, Yellow, Green, Cyan,White, Blue)
BACKGROUND	Blue or Black
BRIGHTNESS	Adjustable in 16 levels
DISPLAY MODE	Dual Frequency Mode: Normal + Normal, Zoom + Zoom, Bottom Lock + Bottom Lock (Bottom Zoom +Bottom Zoom), Big Number Single Frequency Mode: Normal, Normal + Zoom, Normal + Bottom Lock (Bottom Zoom), Big Number
A-SCOPE IMAGE	Selectable
ALARM	Keel Alarm - 100 ft/m/fm in one unit increments Fish Alarm - 7 levels
IMAGE SPEED	7 plus freeze including speed proportional to boat speed
OTHER FUNCTIONS	Temperature/Depth Graph, Range Shift, Clean Echo, Anti Clutter, S.T.C.
SERIAL DATA INPUT/OUTPUT	NMEA0183 Input xxGGA(GPS fix data) xxGLL(Lat/Long) xxVTG(Track made good & ground speed)

xxRMC(GPS/Transit data)
xxHDM(Heading)
Output
SDDBT(Depth)
SDVLW(Log)
SDMTW(Temp)

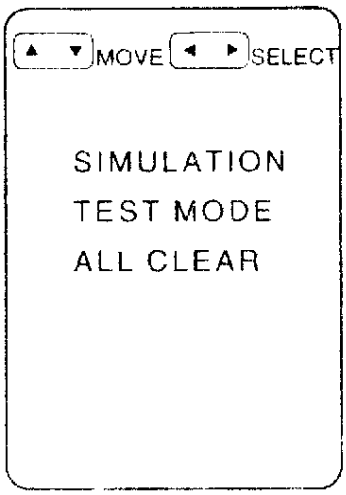
* Specifications subject to change without notice.

8. STANDARD EQUIPMENT

CVS-208 Control/Display Unit	1	11.5lbs
Trunnion	1	
Knobs	2	
Metal and Rubber Washers	2	
Transducer	1	
Transducer Plug	2	8 pin
Data Interfacing Plug	1	6 pin
Power Cable	1	
Fuse	1	7A (for Power Source 11-20V)
	2	3A (for Power Source 20-40V)
Sun Hood	1	
Operation Manual	1	

9. ADJUSTMENT OF SCREEN

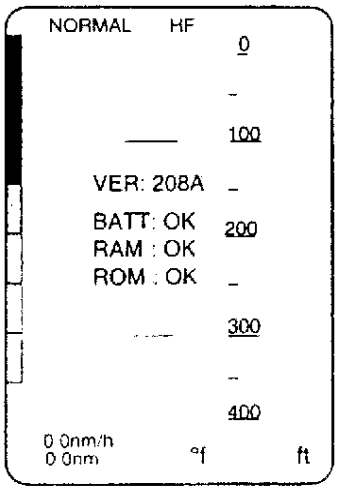
The display position can be adjusted up and down, or to right and left.



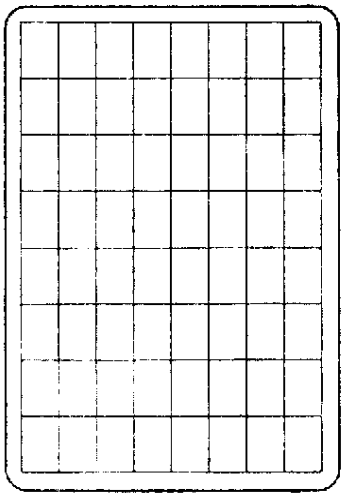
1) For this adjustment, get the display as shown.

First, press and hold the MENU key and touch the ON key.

[TEST MODE]



2) Press the [▲ ZOOM ▼] key to change "TEST MODE" in yellow. Then, press the [◀ IMAGE SPEED ▶] key and get the TEST MODE display.



3) Press the [MENU] key, and get the cross hatched pattern on the screen.

4) Adjust the position of cross hatched pattern with the [▲ ZOOM ▼] and [◀ IMAGE SPEED ▶] keys.

10. TROUBLESHOOTING

When the CVS-208 does not operate properly, please read this section carefully.
If you are unable to correct the problem by performing these procedures, contact your authorized SI-TEX dealer.

PROBLEMS	COUNTERMEASURES
No power.	Verify that the power connector is securely inserted, and check the fuse. If the polarity is reversed by mistake, the fuse will be blown. In this case, try to reverse the polarity and replace the fuse.
Power is on, but the sea bottom is not displayed.	Verify that the transducer connector is securely inserted or that the transducer cable is not broken. Enable auto gain and auto range.
Screen display is weak, loss of sensitivity.	Check the connection of the transducer. Make sure the transducer is properly mounted and pointed correctly. Verify that no marine creatures stick on the transducer face. They are susceptible to accumulate on it. Take care not to damage the transducer face when you scrape them off. Disable anti clutter or clean echo.
Excessive noise is present on display.	Check for interference from other boats. Also, check if the other equipment is operating properly. Verify that the unit is not affected by the engine noise, and make sure that it is not picking up noise due to its proximity to noise source.