


FURUNO GP-1670F OPERATIONAL PROCEDURE*

1) Turn the Power On, FURUNO GP-1670F

Press  to turn the power ON.



※ This figure is quoted from “FURUNO GPS PLOTTER/SOUNDER GP1670F, GP1870F OPERATOR’S MANUAL” of product GP-1670F of Furuno Electric Co., Ltd.

2) Menu Operation

This section shows how to operate the menu. There are eight menus, [General], [Map], [Plotter], [Alarms], [System], [Fish Finder], [Instruments] and [Interface].

Long-push of the **ESC/MENU** key will show the main menu. Select “FISH FINDER”



3) Select “BOTTOM RANGE SHIFT AREA” for RANGE selection



[RANGES]: The default range settings are suitable for most applications. However, the ranges can be customized to suit one's needs, i.e. [RANGE 1] - [RANGE 8]. Set the ranges in descending order. Make sure that each range is lower than its preceding range.

RANGES	
<	
RANGE 1	15 M
RANGE 2	20 M
RANGE 3	60 M
RANGE 4	100 M
RANGE 5	120 M
RANGE 6	200 M
RANGE 7	300 M
RANGE 8	500 M
ZOOM RANGE	30 M
BOTTOM LOCK RANGE	30 M

Select a display range

Range can be selected automatically or manually. Open the RotoKey menu then select [Auto Range] and [Auto] or [Manual].

Select manual operation, the [RANGE] window, which appears on the right. Turn the key clockwise to increase the range and counterclockwise to decrease the range. Select the Range at 20 m.

Range
15 m
20 m
60 m
100 m
120 m
200 m
300 m
500 m

4) Adjust the Gain

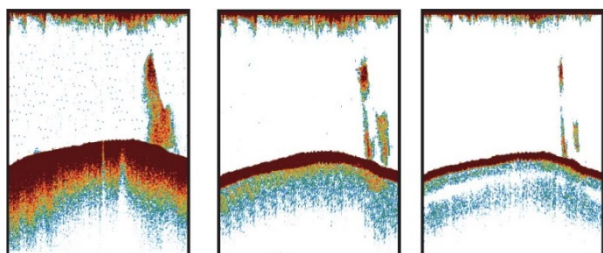
The gain controls how echoes of different strengths are displayed. Gain is automatically adjusted; however, the gain can be fine tuned accordingly to meet local characteristics, etc. Set the gain to show a slight amount of noise on the screen. Increase the gain for greater depths and lower the gain for shallow waters.

To adjust the gain, open the RotoKey menu then select [Gain 50k] or [Gain 200k] followed by the soft control labeled with the frequency that is desired to be adjusted, then the corresponding adjustment window appears. Rotate the key clockwise to increase the gain, counterclockwise to decrease it.

Adjust Gain 50kHz
+0

How to adjust the gain

Since the gain controls how echoes of different strengths are displayed, set the gain to show a slight amount of noise on the screen. Increase the gain for greater depths and lower the gain for shallow waters.



Gain too high

Gain proper

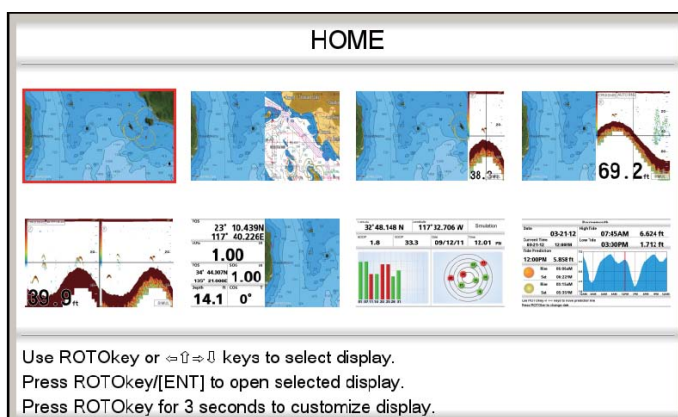
Gain too low

CAUTION

Adjust the gain correctly. Incorrect adjustment can lead to a dangerous situation especially if the boat is steered according to the depth indication.

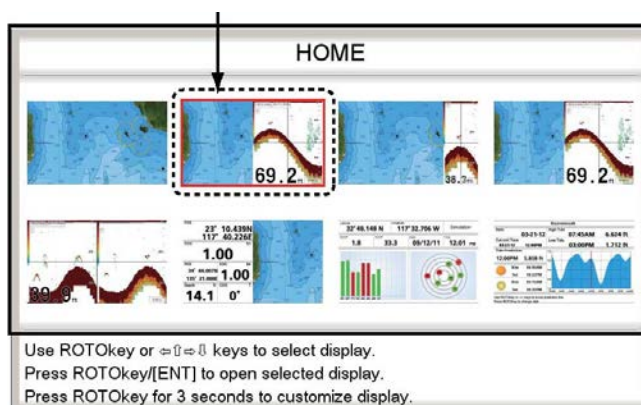
5) Home Screen (Display Selection)

Select a display from the home screen which has eight displays. Press the HOME/CTRL key to show the home screen. Operate the CursorPad or rotate the RotoKeyTM to select a display. The current selection is circumscribed by a red rectangle. Press the RotoKeyTM or ENT key to confirm your selection.



Select a display for the right half then push RotoKeyTM. For example, select the fish finder display. Control returns to the home screen. The result of your selection appears on the home screen.

Plotter, fish finder display



DATA COLLECTION OPERATION PROCEDURE

1) Turn on FURUNO GP-1670F

- Select the Range at 20 m.



2) Turn on Computer with Windows 7

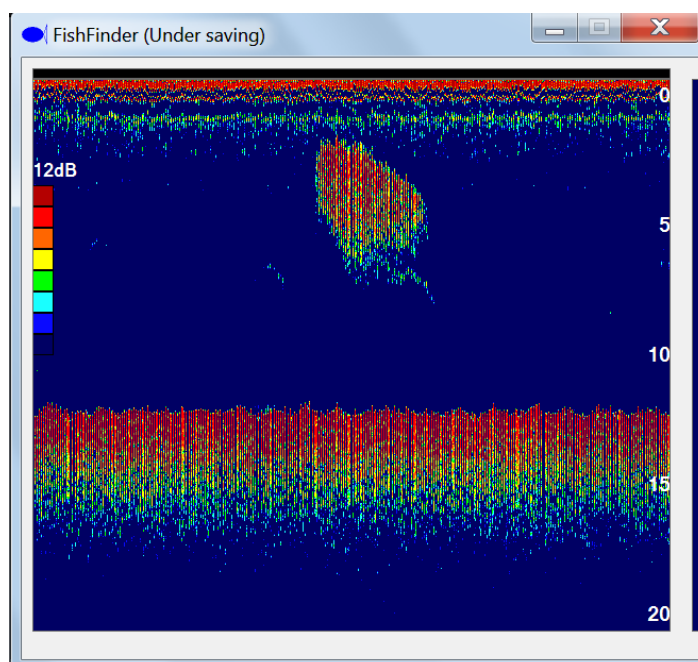
3) Start PicoScope 6



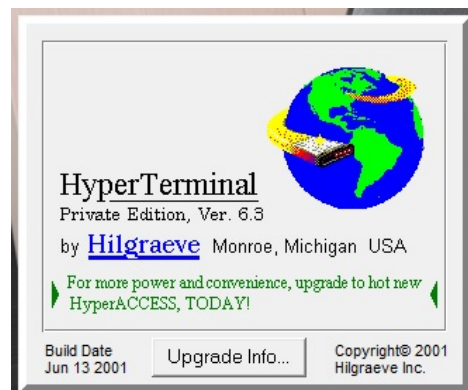
4) Start FishFinder V.3.6



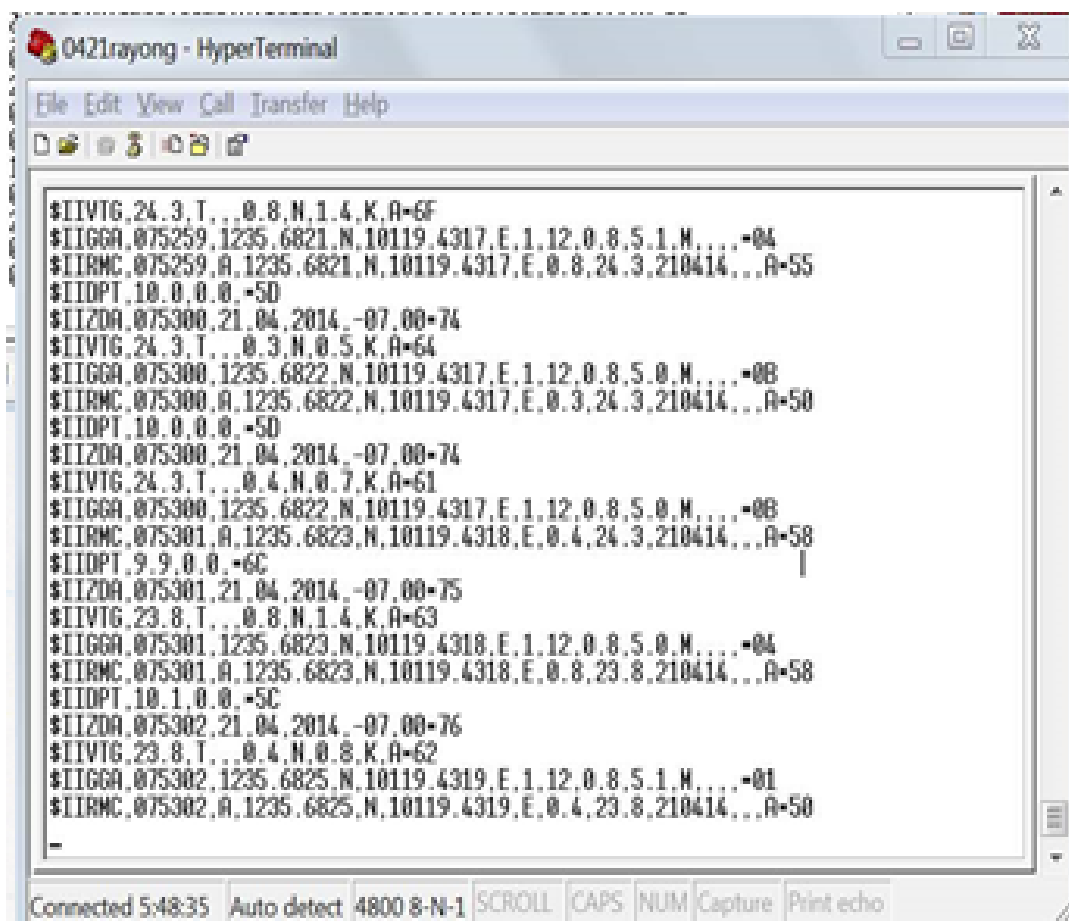
When FishFinder program is running, a window on monitor screen will display an echogram which is indicated by water depth range and echo color scale.



5) Start Hyper Terminal: (GPS – Hyper Terminal)

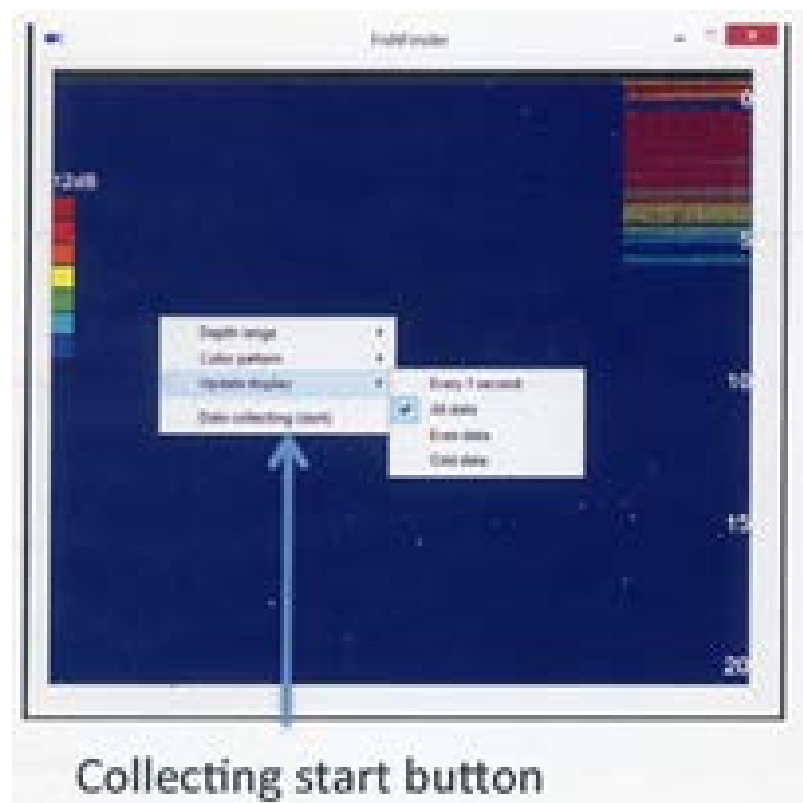


When Hyper Terminal program is running, a window on monitor screen will display echo sounder information in various format of terminal information.



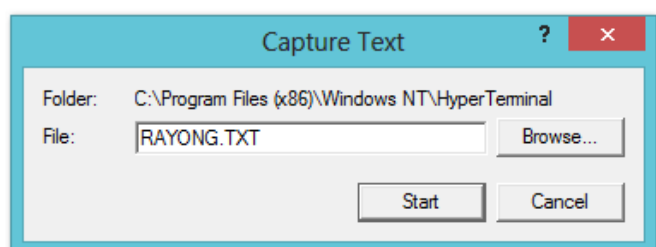
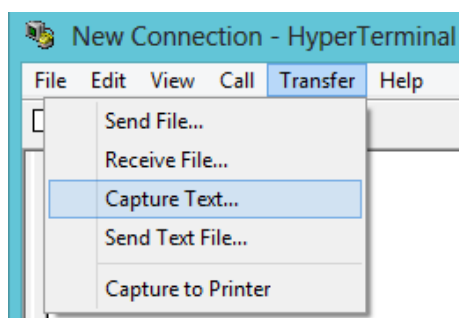
6) Echo sounder data collection

- Move mouse cursor into the echogram window and use right bottom mouse click for data collection drop down menu.
- Select “Collecting Start” button, left bottom mouse click. The echo sounder data will automatically create new data recorded file using current date and time as file name on Desktop folder. The format of file name will start with “FishFinder” followed by Date such as “FishFinder_yyyymmdd_hhmmss.csv”.
- To stop data recording, select “Collecting Stop” button, and use left bottom mouse click.

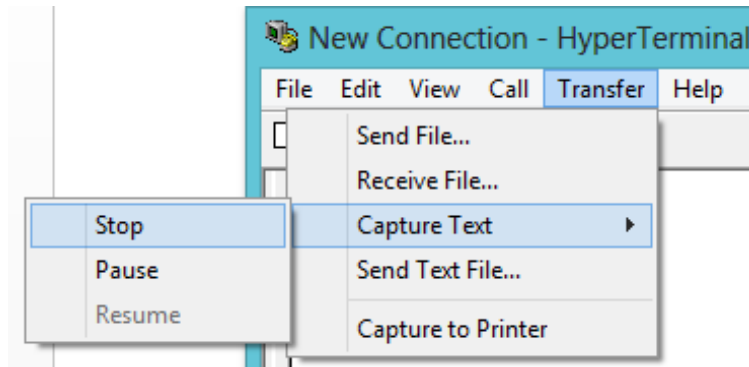


7) Ship position data collection

- In Hyper Terminal window, select drop down menu of “Transfer”, Capture Text” and enter Capture Text folder and file name.
- Select “Start” button. The echo sounder information text will automatically be recorded into defined data file name.



- To stop data recording, select “Transfer”, Capture Text” and “Stop”



ECHO SOUNDER DATA ANALYSIS PROCEDURE

The Echo Sounder Data Collection System (AQFI-1301) was designed to display echogram (Figure 17) and data recorded digital echo signal (50 kHz) into PC screen and hard disc. The Echo Sounder Data Collection System was set up at fixed sampling rate of 0.0512 msec with total 800 sampling echo data of digital value echo-signal recorded into the PC hard disc for each transmitting ping.

Collecting data specification

Sampling rate = 0.0512 msec = 3.84 cm

Depth range = sampling rate x 800 samplings = 40.96 ms

Maximum depth = 40.96 x 0.75 = 30.72 m

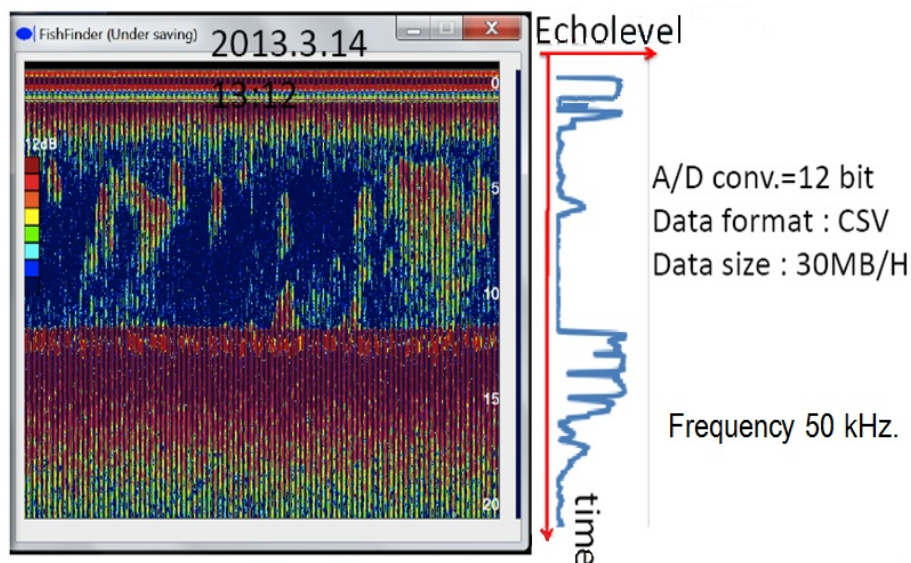


Figure 17. Echogram and A-scope display pattern shown on PC screen.