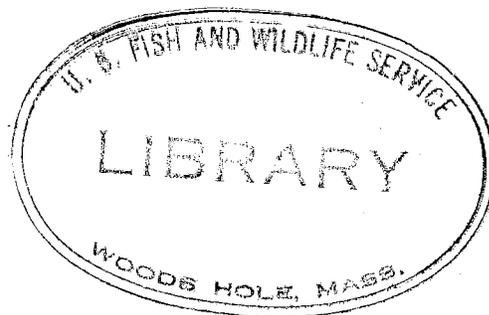


Conversion of the Simrad Asdic #580 for use with the Alden 419
Precision Graphic Recorder

by

James M. Crossen and Patrick J. Twohig



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Bureau of Commercial Fisheries
Biological Laboratory
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The Simrad Asdic 580 has been modified for operation with the Alden Precision Graphic Recorder (PGR) by Bureau of Commercial Fisheries' personnel aboard the R/V Albatross IV. The method of conversion of the Simrad is provided here for those who may wish the information.

The conversion allows use of the Simrad Asdic in its original mode of operation or as the transmitter-receiver for the PGR. It allows the key contacts of the PGR to program the Simrad at the desired pulse length and rate.

Two RG-58 coaxial cables connect the Simrad Asdic to the PGR (see figure 1). The external key cable is terminated in Switchcraft type phone plugs #245, and the signal cable is terminated in Switchcraft type phone plugs #270.

Mechanical

Two phone jacks are mounted (3/8 " hole) on the control panel of the Simrad electronics chassis. The external key line jack is a single closed circuit - 2 conductor type (Switchcraft, LF Jax, #LF 32A) and is mounted above and to the right of the function selector switch. The signal output record jack is an open circuit - 2 conductor type (Switchcraft, Littell-Jax, #LF-31) and is mounted above and to the left of the sensitivity switch. Make certain that the jacks will not interfere with the closing of the cabinet cover.

Electronic Circuits

Locate the lead from pin 13 of plug PL201 of the Simrad electronic chassis. Cut this lead and run leads from the external key jack as shown in figure 2A. Note that the tip terminal of the jack is connected to the junction of R266 and C241. The insertion of the keying plug into the jack now disconnects all internal keying circuits and allows keying to ground through the jack at the desired pulse length and rate.

Locate the X205 diodes as shown in figure 2B. Run a length of RG-58 coax from the junction of the diodes as indicated to the tip terminal of the signal jack. Ground the shield to the jack end only.

The Simrad Asdic will operate in its normal mode provided the external key plug is not connected. When using the PGR to program the Simrad, insert the external key plug into the keying jack and arrange the Simrad controls as follows:

Place the Range Selector switch in its neutral position (0).

All other controls are left in their normal operating position for the echo sounding mode.

Refer to the Preliminary Operating Instructions for setting up the Alden #419 PGR. Place the Zero Line switch of the PGR (see Section VI, page D8) in the opposite position of the channel being used. That is, if the channel 1 key contacts are being used, the Zero Line switch must be in the Channel 2 position.

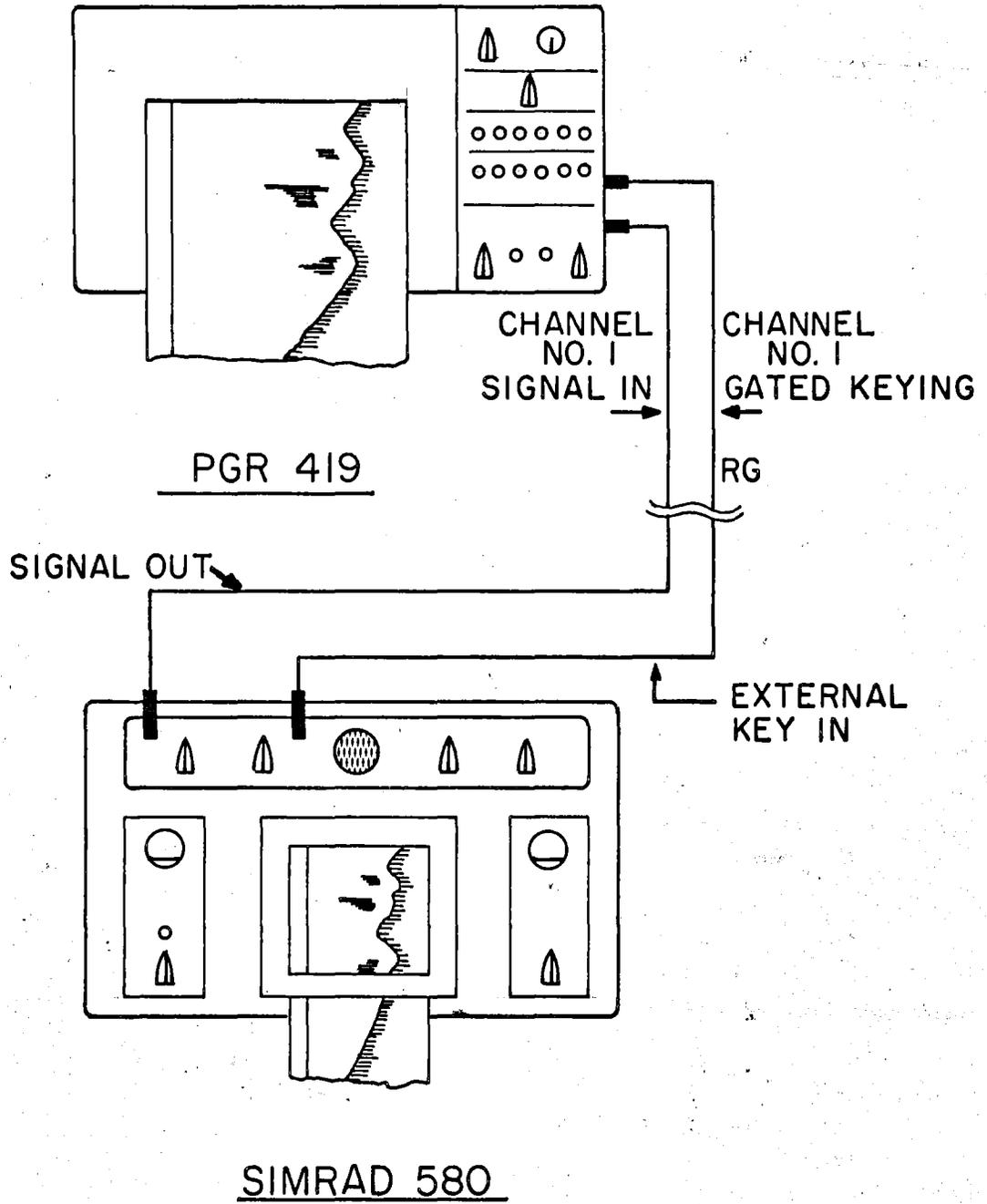
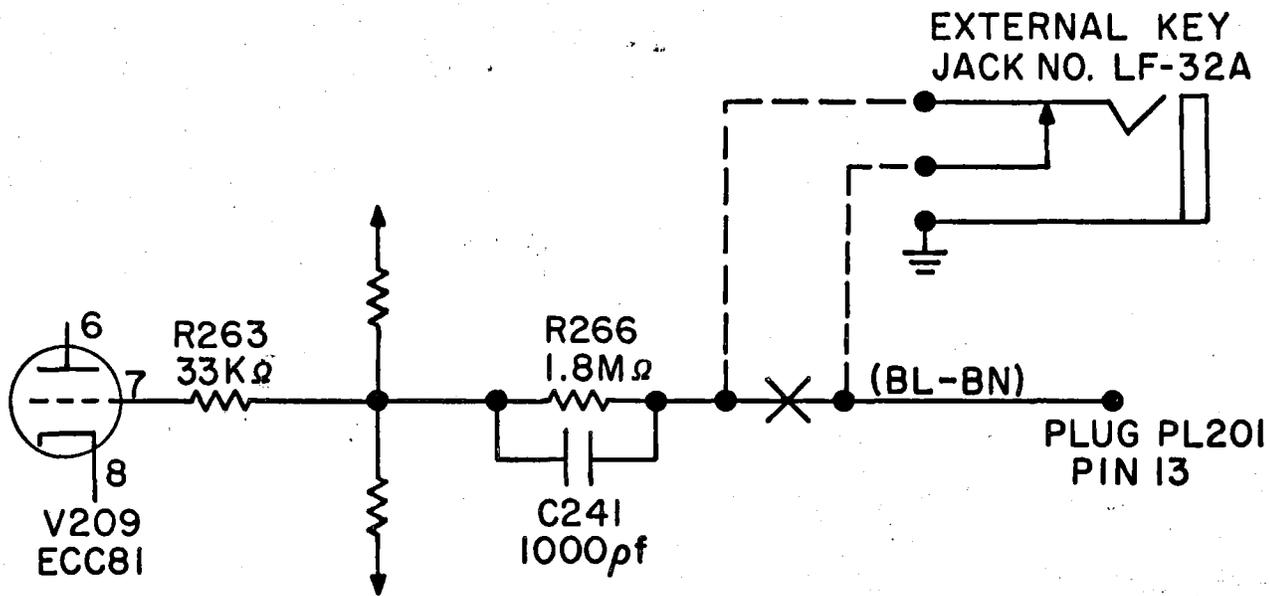
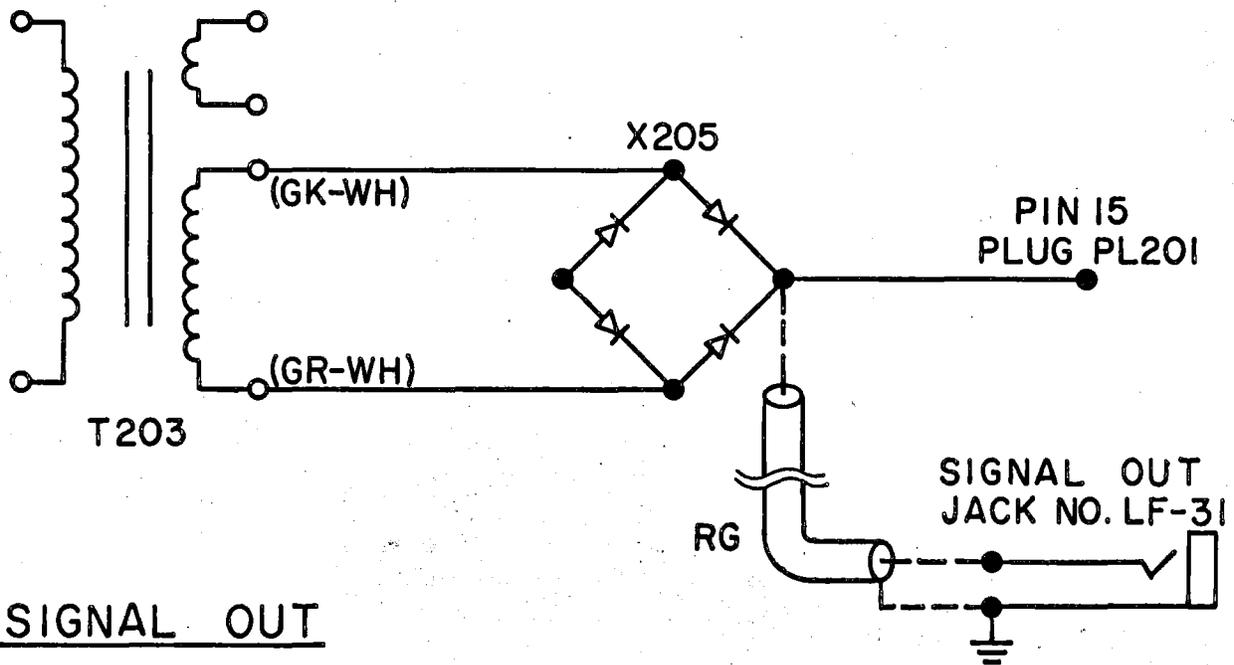


FIGURE I. BLOCK DIAGRAM - SIMRAD-PGR.



A. EXTERNAL KEY CIRCUIT.



B. SIGNAL OUT

FIGURE 2. MODIFICATION OF SIMRAD.

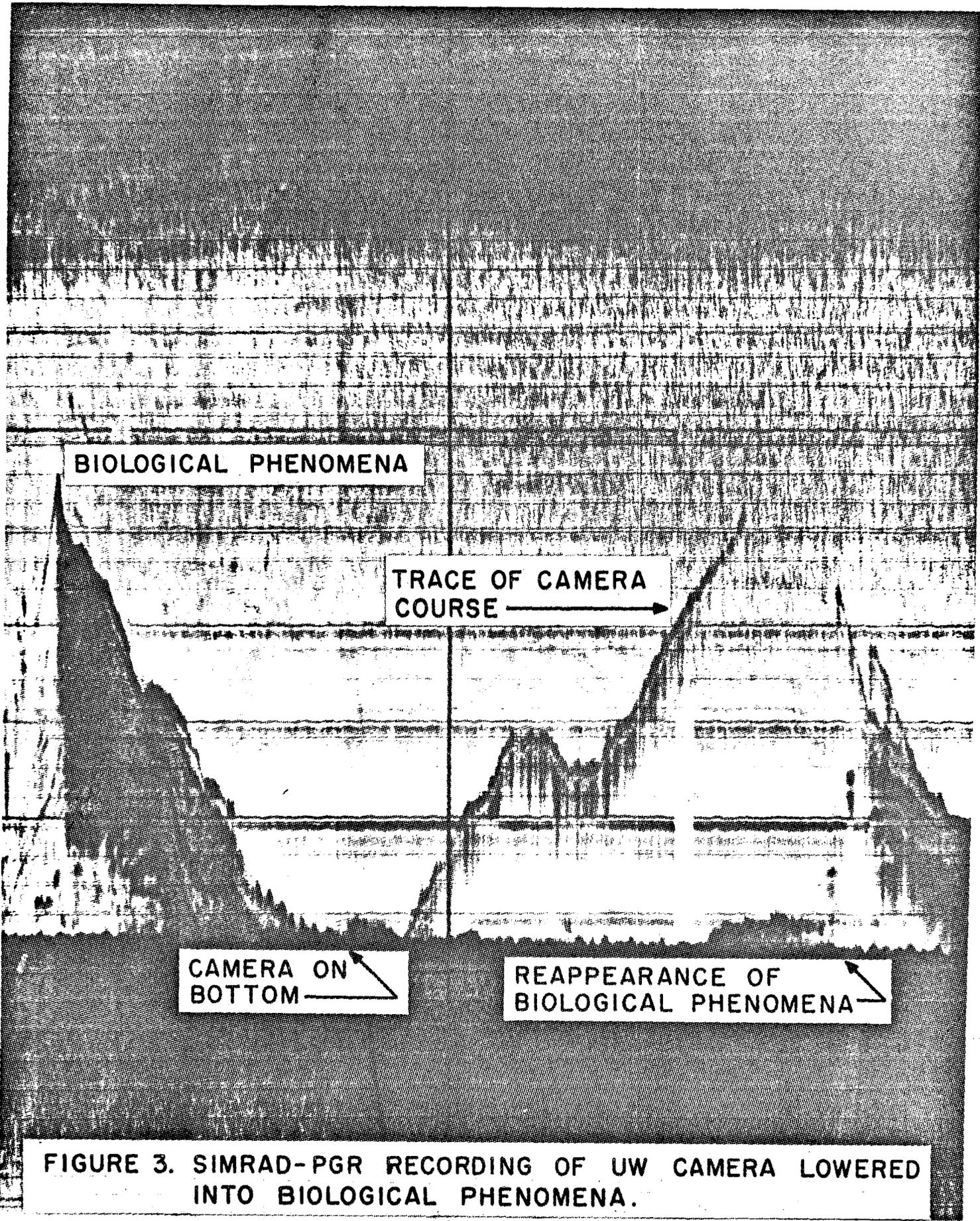


FIGURE 3. SIMRAD-PGR RECORDING OF UW CAMERA LOWERED INTO BIOLOGICAL PHENOMENA.

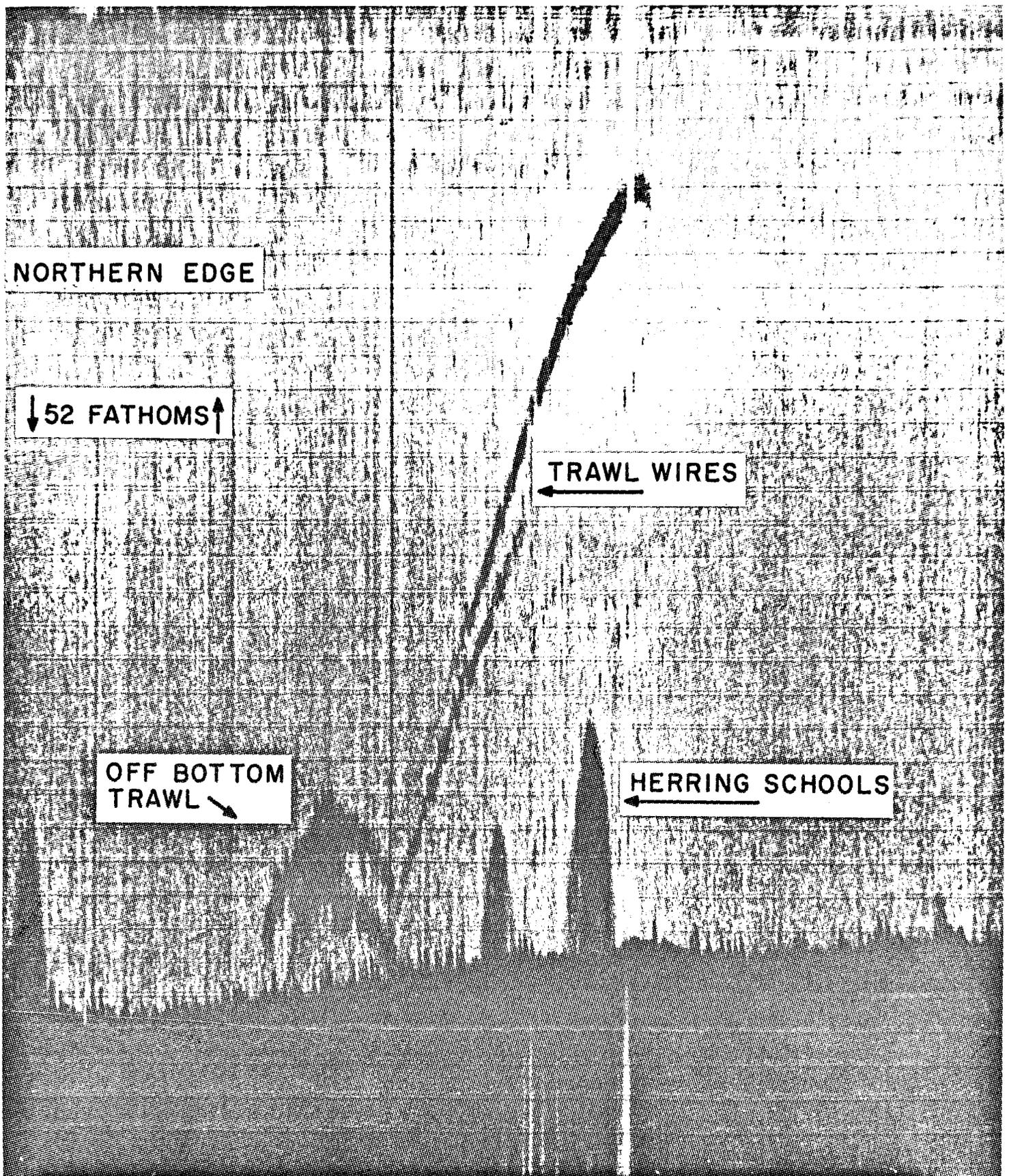


FIGURE 4. RUSSIAN TRAWLER NET AND HERRING SCHOOLS
GEORGES BANK—ALBATROSS IV CRUISE 64-8.