

Figure 1-4 View of card cage.

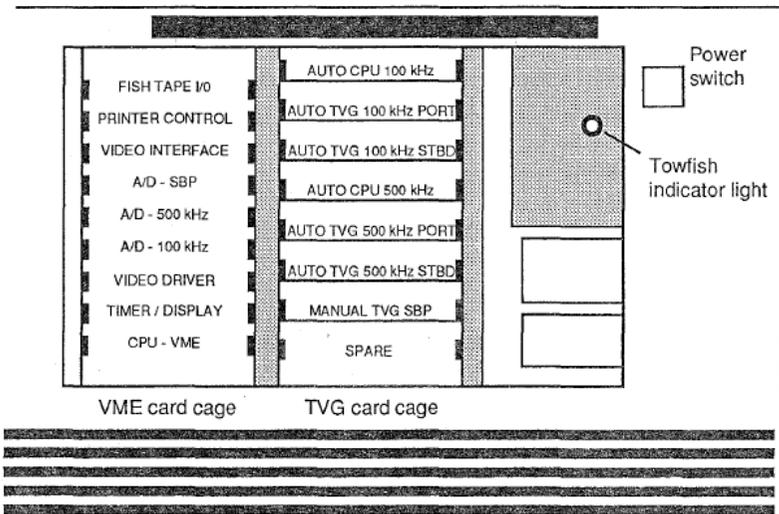
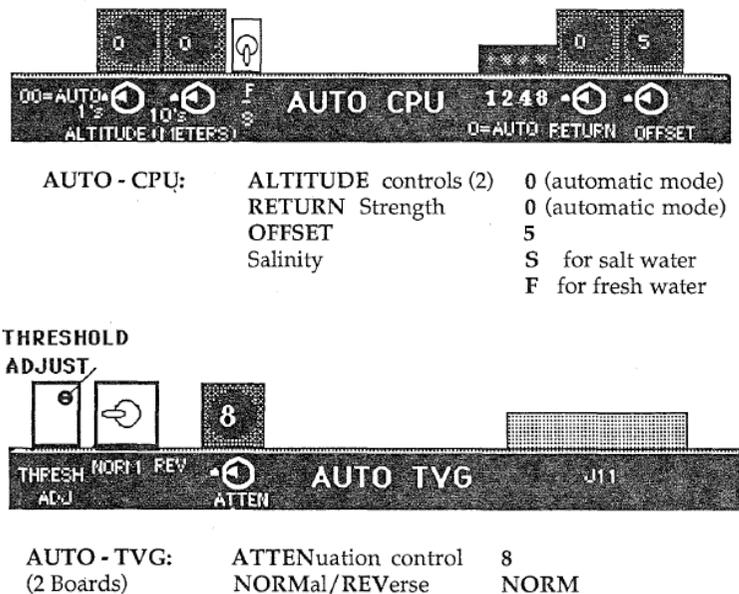


Figure 3-7 Initial control setting of Hands-Off-Tuning II.



Auto CPU – Return: 0 = Auto manual 1,2,3,4,5,6,7,8,A,B,C,D,E,F (1=Mud through to F=Rocks)

The major factor that we cannot predict is what the bottom is actually like, and what the strength of the sonar returns from it will be. The adaptive portion of the system monitors the returning sonar signals to determine an average return strength for the current bottom conditions. This value is used in fine tuning the TVG curve. The Return/SLOPE control primarily affects the overall evenness of the sonar record across the full range

Auto CPU – OFFSET - INIT GAIN - initial bottom return

Adjust the OFFSET control on the CPU board for the best record at the initial bottom return. Increasing the OFFSET setting darkens the record

The OFFSET/ INIT GAIN control primarily affects the record in the nearer portions of the range, from the initial bottom return out to about one quarter of the full range

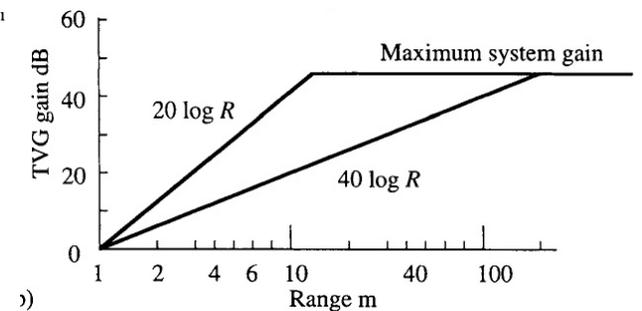
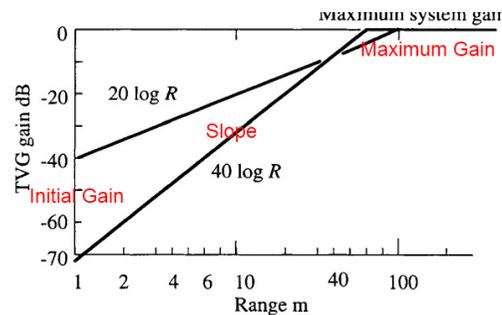
Auto TVG- TVG Threshold (should not be adjusted unless they overall system has changed)

Moves the entire Gain curve up or down – Overall Gain

Observe the recorder printout while adjusting the threshold. Turn the THRESHOLD control clockwise until a light gray printing tone appears on the printout. Now turn the THRESHOLD control counter clockwise until the printing tone just disappears and the paper is white. It is 'critical to set the THRESHOLD control just below the print threshold. This is accomplished by adjusting the control back and forth (from white to gray) for fine adjustment. If the threshold is set too low, the sonar record tuned by the Hands-Off-Tuning II Automatic TVG system will not be optimum.

Auto TVG - ATEN – Attenuation Control -Maximum Gain (i.e. the gain at the far extents)

The Attenuation switch on each TVG board for the best record at the far end of the range increasing the ATEN setting darkens the record. The MAX GAIN control primarily affects the outer portion of the record



Klein Tuning Method

Hands-Off-Tuning II calibration

1. Deploy the towfish to a safe depth, at a tow speed of 2 - 4 knots. Once you have a record, lower the towfish until it is 10 - 15 meters above the bottom (assuming the range scale is set to the default value of 100 meters).
2. Observe the record for about two minutes to allow the CPU to stabilize. Allow a minute for the system to stabilize after each adjustment that follows.
3. Adjust the ATTEN switch on each TVG board for the best record at the far end of the range. Increasing the ATTEN setting darkens the record.
4. Adjust the OFFSET control on the CPU board for the best record at the initial bottom return. Increasing the OFFSET setting darkens the record.
5. Repeat steps 3 and 4, as necessary, to obtain the best possible record.

Hunter Information

Here's a few things to reference in Hunter as you're using it:

Hunter:

Event Top of screen: Ins

Event anywhere : Shift-Left click

Height: Ctrl-click & drag

Hardware: Ctrl & M

Check the Lines/sec at the bottom of the screen to make sure that it's pinging at the proper rate and the hardware/software are synced correctly.

M	Lines/Sec
25	30.00
50	15.00
75	10.00
100	7.50
150	5.00
200	3.75
300	2.50

Mark's Tuning Method

Set all the dials at zero (automatic) except the Offset and Attn. Set the range to

100M, the Offset to 6, the Attn to 1, and turn on the trace:



Offset pot adjustment

Set to at least 100M

Attn: 1

Offset: 6

Now adjust the blue trim pot on each channel of the frequency you're using so that the red trace to left and right disappears from sight and below the box. You should still see the output pulse at the center of the trace screen. Now crank up the attenuation until you just start to see a little red showing up and do a rub test.

Now when you drop the fish in and get things setup if the first bottom return is light then turn up the Offset, you may need to drop the Attn setting. Basically Offset is the initial Gain, the Attn is the Max (overall) Gain. You want to get the record so it's as even across as possible.

Offset: Initial Gain

Attn: Max Gain

Return: 1=Mud

F=Rocks

When you drop the fish in and are get things setup if the first bottom return is light then turn up the Offset (initial gain), you may then need to drop the Attn (max gain) setting. Basically Offset is the initial Gain; the Attn is the Max (overall) Gain. You want to get the record so it's as even across as possible.