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**Subject:** Radar Custom Guard zone instructions

- 1) Find a fairly stiff piece of clear plastic like for overhead projector and place it over the computer screen. Get the WindPlot P-Sea Radar showing targets they way you want and place the plastic over the computer screen so it covers the two radar screens. Now outline the alarm zone with a felt pin and fill in the area where you want the guard zone to look at. Be sure not to include any stationary targets in the zone. The edge of the radar screen is right where the scan lights show up so turn on the green scan lights so you can see them and box in by drawing a line from one light to the next.
- 2) Stop the radar and open up Windows Paintbrush program. Select the paint brush menu "**Image**" and then select "**Attributes**". Set BOTH the Width and Height to the same as the pixel size of the radar screen (240 or 480) and click on OK.
- 3) Use the fill function to set the **background to solid black**. Place one of the mylar radar outlines over the paintbrush drawing area. It should match up with the outline of the radar. Now use the drawing functions to fill in the alarm zone area you outlined with the **dark red** color. Any target that gets in the red area will trigger the alarm.
- 4) Now save this file as a **16 color** bitmap image with a name of **ALARMZONE.BMP** in the P-Sea Radar **program's main directory** usually "PC-PLOTT". You may have to repaint the red in again after saving it as 16 color since sometimes it changes. If it isn't the right red, the targets going into the red will not be detected.
- 5) To load the alarm zone, click on VIEW in the radar menu bar and select (Un)LOAD ALARM ZONE then get the WindPlot P-Sea radar running again. Don't worry if you do not see the outline right away, as you should see the full outline in the radar screen AFTER the first sweep.
- 6) Click the blue alarm bell icon at the top of the radar display to activate the alarm. It will turn red while the alarm is active. Just click the bell again to turn the alarm off.
- 7) Click on "Adjustments" then "Chg.COM Ports" on the plotter window side and set the "MASTER OUTPUT" to the proper COM number and click the check box so it is on. Connect a transistor relay to the COM port you selected. Pin 5 is ground and pin 4 is the DTR signal we use to trigger the alarm on a 9 pin connector. The relay will stay on so long as there is a target in the guard zone.
- 8) You can clear the alarm zone via the RADAR "**VIEW**" menu. You will find the (un)Load radar zone at the bottom of the view menu. You can also set the **target alarm sensitivity** in the Radar "**Adjust**" menu. This is the number of sweeps that a target has to appear before it is considered a target. It also effects how fast it drops out.

**Radar Remote Control**

There is a NMEA 0183 sentence you can use to control some aspects of the radar like range and gain over a RS323 serial port. You can use the COM Port Tester program that is installed with WindPlot to control the radar. It will use the first available COM that isn't disabled to communicate with the radar.

**\$PCRCC, Update, TX, Gain, STC, FTC, Alarm, Auto Acquire, Disp Mode, Reset Targets, Full mode, XX, Total ARPA targets, Video Level**

<b>Radar Control</b>	<b>Values from radar to PC</b>	<b>Values sent to radar from PC</b>
UPDATE	0	1= request for updated radar data
TX	-1=TX on and 0 = TX off.	1=Tx is on and -1 is Tx is off
Range	Current range	-1=up & -2=down in range or actual Range #
Gain	Gain value	Gain value or 0 for no change
STC	STC value	STC value or 0 for no change
FTC	FTC Value	FtC value or 0 for no change
Alarm mode	1=on 0=off	-1=turn off, 1=turn on 0 = no change (for Auto zone only)
Clear Tracking	0	-1=clear all targets, 0= no action
Auto Acquire	-1=0n, 0=off	Not implemented yet
Display mode	1=NU, 2=CU, HU=3	Not implemented yet
???	Not decided yet	
Full mode	-1=full mode, 0=real mode	Not implemented yet
Total targets	Total acquired targes	0
Video Level	Total pixels on	0

**Auto-Start radar** add **RR** to the main EXE file. It bypasses entering SR# and launches radar in TX mode in about 3 minutes. If you make it **RRTX#** were # is a whole range then the radar will start in that range.