Harpoon Solitaire

Detection

The detection procedure followed is based upon the sensor that is performing the detection check. At the end of the procedure one of the following results will have occurred:

1. No detection occurs
2. Detection occurs, with a bearing, course, and speed.

*Active/Passive Direct Sonar*

1. Roll d100 to get detection score.
2. TOD (time of distance) = current time / allowed time for scenario. (i.e. if the scenario is four days, and one day has already elapsed, then the TOD = 25%).
3. Check for detection on each sensor (don’t forget to take into account if you were attacked previously).
   1. Compare the detection score to the range of each sensor. The Range value is equal to the range of the sensor where the detection roll fits. (i.e. if the detection roll is 25%, then find the minimum/maximum range after following normal rules. So for a 25% detection roll, with a sonar range of 8.0 nmi [after applying all modifiers, ignoring modifiers that depend on the type of ship [i.e. noisy, etc]], the min/max ranges would be 12.0-14.4 nmi [down to 10%].
   2. Once the min/max range is determined, calculate the range of probable detection by multiplying (max-min) by TOD and adding it to the min. (i.e. in our example above, we would multiply 2.4nmi by 25%, getting .6 and adding that to the min getting a final range of probable detection = 12.6nmi.)
   3. Determine if the detection occurs at that range by rolling d100 and checking if it is <= TOD. If it is, then the detection occurs at that range.
   4. If detection occurs, determine course and speed as follows:
      1. for course, roll (3d12 \* 10) - 10, and add d10. (i.e. rolling 3d12 give 12, 4, 7, and the d10 roll gives a 6, therefore the course is 226)
      2. to determine the speed, roll a d100, and multiply (max speed / 2) by the roll. (i.e. a DDG has a max speed of 32kts, and the roll was 25%, therefore the speed is 4kts);
      3. to determine bearing, roll (3d12 \* 10) - 10, and add d10. (i.e. rolling 3d12 give 7, 1, 10, and the d10 roll gives a 2, therefore the bearing is 172)

*Active/Passive CZ Sonar*

1. Roll d100 to get detection score.
2. TOD (time of distance) = current time / allowed time for scenario. (i.e. if the scenario is four days, and one day has already elapsed, then the TOD = 25%).
3. Check for detection on each sensor.
   1. The number of CZ’s to check are based on sonar type: (LF = 1, VLF = 2).
   2. For speed modifiers, use the *Noisy*, noise rating.
   3. Continue CZ check as per the normal rules with the following caveats:
      1. Check for detection (using the detection score) at the outer most CZ first and work your way in. Detection is only confirmed if the detection roll is < the required detection value (following normal CZ detection rules) and the TOD roll < TOD.
      2. The only information you can gleam is bearing, and contact classification. Range, course, and speed is unavailable.
      3. to determine bearing, roll (3d12 \* 10) - 10, and add d10. (i.e. rolling 3d12 give 7, 1, 10, and the d10 roll gives a 2, therefore the bearing is 172).

*Radar*

Attacks

1. If a ship is already detected then consult it’s AI listed in the scenario, otherwise perform attack checks for each potential enemy until ‘potential for attack value’ (listed in scenario) is reached.
2. To determine if an attack occurs, first a detection check is made against the player (using the same steps as if the enemy was the player in detection above, except use the player’s ship values where needed for calculating modifiers).
   * Attacker speed probability is determined by scenario.
   * Sensors used in the detection is indicated in the scenario
   * If the player is detected go to step 2, otherwise stop here. No attack occurs.
3. Next, roll d100. If the roll is < TOD then the attack check continues, otherwise stop. No attack occurs.
4. The range of the attack occurs between the player’s max detection distance and the max range of the weapon. To determine the range at which the weapon is fired, multiply (max weapon range – max detection range) by (1-TOD) and add that to the player’s max detection range. (i.e. an SSM is fired that has a range of 100nmi by an undetected vessel. The max range of the player’s radar is 35nmi. The TOD is 50%, therefore the missile’s starting range for its attack run is ((100-35)\*(1-.5)) + 35, which is 67.5nmi.
5. Track the incoming weapons, the player cannot respond until the weapons are detected.