DANGEROUS WATERS QUICK REFERENCE SHEETS

CURRENTLY INCLUDES: Seawolf, 688i, FFG, P-3C

These sheets are a quick reference of controls for various platforms in Dangerous Waters. The information included has been compiled from a number excellent and detailed guides developed by others (see www.subguru.com for links to most of them – many thanks to the authors) to serve as a 1 page reference for in game play. The weapons and stats are based on STOCK DW V1.04. Much of the information (other than ranges) likely apply to LWAMI and other non-stock mods.

Data based on STOCK DW V1.04
Revised: 04/14/07
By: Robert Moloney
### SUB INFO: SEAWOLF

#### Launch spds/deptths:
- Spec Ops/DSRV: <3 kts, <63 ft
- TLAM/TASM/Harpoon: <6kts, <150 ft
- UUV: <4 kts, 30 min bat
- SNORKEL - <10 kts, <54 ft
- PERISCOPE - <10 kts, <61 ft

#### ACTIVE SONAR (BSY-2 ACT):
- works <10kts, best <5kts; angle bow up mud bottom, down for rock
- HF ACTIVE: 5,000 yd rng – mainly for minefield and ice detection

#### ACTIVE INTERCEPT (WLR-9):
- intercept of active sonar signals
- T/A: rips off at >40 kts total speed - works <15 kts, best if <11 kts
- PORT (TB-29) : more sensitive to low freq, more washout
- STRBRD (TB16): less sensitive, less washout

#### BOW PASSIVE:
- (BSY-2 PBB) <5 kts to avoid washout

#### WAA (BSY-2 WAA):
- max rng 15 Kyds (7.5nm), RAPLOC sends WAA rng to TMA

#### DEMON:
- click left-most line to determine contact speed (uses Broadband contacts)

### MAX OPERATING DEPTH:
- 1968 ft, sail breaks surf. 46 ft, fully surf. 27 ft

#### [Sub Navigation] (Silent to 20 kts)
<table>
<thead>
<tr>
<th>Set Ahead Flank</th>
<th>0 (40 kts)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Set Ahead Full</td>
<td>9 (20 kts)</td>
</tr>
<tr>
<td>Set Ahead Standard</td>
<td>8 (15 kts)</td>
</tr>
<tr>
<td>Set Ahead 2/3</td>
<td>7 (10 kts)</td>
</tr>
<tr>
<td>Set Ahead 1/3</td>
<td>6 (5 kts)</td>
</tr>
<tr>
<td>Set All Stop</td>
<td>5 (ALL STOP)</td>
</tr>
<tr>
<td>Set Back 1/3</td>
<td>4 (4 kts rev.)</td>
</tr>
<tr>
<td>Set Back 2/3</td>
<td>3 (8 kts rev.)</td>
</tr>
<tr>
<td>Set Back Full</td>
<td>2 (12 kts rev.)</td>
</tr>
<tr>
<td>Set Back Emerg</td>
<td>1 (16 kts rev.)</td>
</tr>
<tr>
<td>Surface Ship</td>
<td>Shift + 1 (27 ft)</td>
</tr>
<tr>
<td>Snorkel Depth</td>
<td>Shift + 5 (54 ft)</td>
</tr>
<tr>
<td>Periscope Depth</td>
<td>Shift + 2 (61 ft)</td>
</tr>
<tr>
<td>Set Depth Shallow</td>
<td>Shift + 3 (195 ft)</td>
</tr>
<tr>
<td>Set Depth Deep</td>
<td>Shift + 4 (1,571 ft)</td>
</tr>
<tr>
<td>Left Full Rudder</td>
<td>[               ]</td>
</tr>
<tr>
<td>Right Full Rudder</td>
<td>[            ]</td>
</tr>
<tr>
<td>Rudder Amidships</td>
<td>[        ]</td>
</tr>
<tr>
<td>Weapon Free-Look</td>
<td>Space</td>
</tr>
</tbody>
</table>

### WEAPONS INFO:
- **MK48 – 27 nm (54.7 Kyds) range**
  - no escape range approx. 8 nm
  - must pass >200ft deep to not hit ship
- **HARPOON – min 5nm (10 Kyds), max 70 nm**
- **TASM – min 5nm, max 250 nm**
- **Mk 67-SLMM – range 11.5 nm**
  - (23 Kyds). depth: 13-492 ft
- **SAM (FIM-92):** range 2-2.2 nm (4500 yds)
  - Torp Reload: 8 mins
  - Unload/Reload: 16 mins
  - MIN 50% HP air to fire torp

### CAVITATION
- Spd  | Min Depth
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>surface</td>
</tr>
<tr>
<td>8</td>
<td>surface</td>
</tr>
<tr>
<td>9</td>
<td>surface</td>
</tr>
<tr>
<td>10</td>
<td>41 ft</td>
</tr>
<tr>
<td>11</td>
<td>50 ft</td>
</tr>
<tr>
<td>12</td>
<td>61 ft</td>
</tr>
<tr>
<td>13</td>
<td>72 ft</td>
</tr>
<tr>
<td>14</td>
<td>83 ft</td>
</tr>
<tr>
<td>15</td>
<td>94 ft</td>
</tr>
<tr>
<td>16</td>
<td>105-135,153</td>
</tr>
<tr>
<td>17</td>
<td>117-135,171</td>
</tr>
<tr>
<td>18</td>
<td>133-140,217</td>
</tr>
<tr>
<td>19</td>
<td>206 ft</td>
</tr>
<tr>
<td>20</td>
<td>223 ft</td>
</tr>
<tr>
<td>21</td>
<td>240* ft</td>
</tr>
<tr>
<td>22</td>
<td>258 ft</td>
</tr>
<tr>
<td>23</td>
<td>275* ft</td>
</tr>
<tr>
<td>24</td>
<td>293 ft</td>
</tr>
<tr>
<td>25</td>
<td>310* ft</td>
</tr>
<tr>
<td>26</td>
<td>328 ft</td>
</tr>
<tr>
<td>27</td>
<td>345 ft</td>
</tr>
<tr>
<td>28</td>
<td>363 ft</td>
</tr>
<tr>
<td>29</td>
<td>380 ft</td>
</tr>
<tr>
<td>30</td>
<td>398 ft</td>
</tr>
<tr>
<td>31</td>
<td>415 ft</td>
</tr>
<tr>
<td>32</td>
<td>432* ft</td>
</tr>
<tr>
<td>33</td>
<td>450 ft</td>
</tr>
<tr>
<td>34</td>
<td>467* ft</td>
</tr>
<tr>
<td>35</td>
<td>485 ft</td>
</tr>
<tr>
<td>36</td>
<td>502* ft</td>
</tr>
<tr>
<td>37</td>
<td>520 ft</td>
</tr>
<tr>
<td>38</td>
<td>537 ft</td>
</tr>
<tr>
<td>39</td>
<td>555 ft</td>
</tr>
<tr>
<td>40</td>
<td>572 ft</td>
</tr>
</tbody>
</table>

### Countermeasures:
- Shallow: 100 ft
- Deep: 800 ft

#### RADIO: <10 kts, <59 ft
#### RADAR: <8 kts, <51 ft
#### ESM: <10 kts, <58 ft

#### Streaming Wire – breaks at 18 kts – (may need <5 kts to get wire to surface)

#### Radio/ESM – F4
(ESM = WLQ-4)
SUB INFO: 688i

**RADIO/RADAR DEPTH INFO:**
- **RADIO:** <10 kts, <63 ft
- **Radar:** <8 kts, <54 ft
- **ESM:** <10 kts, <61 ft
- Streaming Wire – breaks at 18 kts – (may need <5 kts to get wire to surface)

**Launch spds/depths:**
- Spec Ops/DSRV: <3 kts, <63 ft
- TLAM/TASM/Harpoon: <6kts, <150 ft
- SNORKEL: <10 kts, <56 ft
- PERISCOPE: <63 ft

**Sonar – F2**
- **Radio/ESM – F4**
  (ESM = AN/SLQ-32)

**Fire Control – F6**
- **Periscope – F8**
  (put horz line at waterline of ship for stadiometer rng)

**Weapons Info:**
- **MK48** – 27 nm (54.7 Kyds) range
  - no escape range approx. 8 nm
  - must pass >200ft deep to not hit ship
- **HARPOON** – min 5nm (10 Kyds),
  max 70 nm
- **TASM** – min 5nm, max 250 nm
  (23 Kyds). depth: 13-492 ft
- **Mk 67-SLMM** – range 11.5 nm
  – (23 Kyds).
- **SAM (FIM-92):** range 2-2.2 nm (4500 yds)
- Torp Reload: 9 mins
- Unload/Reload: 17 mins
- MIN 50% HP air to fire torp

**Countermeasures:**
- Shallow: 100 ft
- Deep: 800 ft

**Revised:** 02/04/07
**STOCK DW V1.04**
**FFG INFO/CONTROLS**

**Towed Array Info (max usable 15kts)**
- max 15 kts best recept., 20kts washout
- TOP of waterfall = front of array
- BOTTOM of waterfall = back of array
- TURN + TGT DOWN: resolve to stbd
- TURN + TGT UP: resolve to port
- (true unless cross line of brg of target)
- Top farther away, left/right +/- 180 deg.
- HF SONAR – marking marks all contacts

**General Sonar Info (hull max. 5 kts):**
- Active range: 12 NM
- Channels: Helo - A-D; FFG - E-H
- Directional/Active must be in A-D
- Top farther away, left/right +/- 180 deg.
- HF SONAR – marking marks all contacts

**Weapons Info:**
- HARPOON – min 5 nm (10 Kyds), max 70 nm
- SM-2 – 3nm (6,100yds) to 25nm (50 Kyds)
  - (radar limited) - max 81 nm
- CIWS – 2nm (4050yds) acq; 2.5-3nm-20 min reload
  - Auto- tgs <200kts, Full Auto – all inbound
  - 76mm GUN – 10nm (20 Kyds), 20 min reload
- MACHINE GUN – 2nm (4,000yds)
- Mk46: 6nm (12 Kyds), 1500ft, 45 kts; 30 min reload, can’t
- Mk50: 7nm (14 Kyds), 3600ft, 55 kts/ cancel in last 15 min
- Mk48 (HELO) – only ASW (no ASuW capabilities)

**Apu’s – deploy at max. 5 kts**
- arrow points in direction of thrust

**Helo Ops Info:**
- Max. 45 kts, 5 deg pitch, 10 deg roll
  - (red line must be within gm envelope)
  - 60 min from cold/dark to launch
  - only 1 on deck at +15 or +5 at a time
  - at +5 rotors turning/burning fuel
- TO SYNC – must be selected in ASTAC
- REMRO – turns on marking HELO contacts

**FFG Navigation**
- Left Hard Rudder
  - Shift + 1
- Left Full (20) Rudder
  - Shift + 2
- Left Standard (15) Rudder
  - Shift + 3
- Left 10 Degrees Rudder
  - Shift + 4
- Left 5 Degrees Rudder
  - Shift + 5

**Rudder Amidships**
- Right 5 Degrees Rudder
  - Shift + 6
- Right 10 Degrees Rudder
  - Shift + 7
- Right Standard (15) Rudder
  - Shift + 8
- Right Full (20) Rudder
  - Shift + 9
- Right Hard Rudder
  - Shift + 0

**Set Engine Ahead Flank**
- 0 (29 kts)

**Set Engine Ahead Full**
- 9 (20 kts)

**Set Engine Ahead Standard**
- 8 (15 kts)

**Set Engine Ahead 2/3**
- 7 (10 kts)

**Set Engine Ahead 1/3**
- 6 (5 kts)

**Set Engine All Stop**
- 5

**Set Engine Back 1/3**
- 4 (3 kts)

**Set Engine Back 2/3**
- 3 (5 kts)

**Set Engine Back Full**
- 2 (10 kts)

**Right click throttle to move independently**

**APU’s – deploy at max. 5 kts**
- arrow points in direction of thrust

**Acoustics – F2 (Helo: A-D; FFG: E-H)**
- (sonobouy monitoring – helo in rdr can’t send)

**Hull Sonar (AN/SQS-56) – F4**
- (active effective to 12nm (24 Kyds))

**Towed Array (AN/SQR-19) – F6**
- (Short rng tgs show on more than 1 beam)

**Wpns Co-ord (RADAR CTRL/TGT SLCT) – F8**
- ADT (SPS-49)-air (250nm), SDT (SPS-55) -surf (50nm)

**Wpns Control (FIRE WPNS) – F10**
- SAM/Missiles/CIWS/Deck Gun

**Deck View/M.G. – F12**

**[FFG Countermeasures]**

| Fire Port Flares | Alt + Space |
| Fire Starboard Flares | Shift + Space |
| Fire Port Chaff | Ctrl + Space |

**Max 9 kts to avoid cavitation**
**Max 4 kts against wakehomer torps**

**CAS – guides SM2 or gun**
**STIR – only guides SM2**
**SURF RADAR – 40nm range**

**Revised: 01/16/07**

**STOCK DW V1.04**
**P-3C ORION CONTROLS**

**SENSOR Ops Info:**
- **MAD:** use at 250-300 ft alt, low spd (max 1,000 ft)
  - turns 1-2 nm apart, 10 nm long
  - MAD shows surf. contacts
  - detects to max 1,000 ft depth
- **SAD:** less sensitive than MAD, to max 750 ft depth
  - SAD doesn’t show surf. contacts

**NEW MAD CONTACT UPDATES AND MOVES CONTACT MARKER ON NAV MAP**

**SONOBOUYS:** drop at <300 ft, prefer 154 kts, max. 180 kts

**INFRARED CAMERA:** detect sub max. 200 ft – may have moved from hot spot by time detect it

---

**Weapons Info:**
- **AGM-65 MAVERICK** – max 50 nm
  - 30 deg. sensor cone
  - only contacts designated as surface
- **AGM-84 SLAM-ER** – max 150 nm
  - land targets only
- **Mk46** – 6nm (12 Kyds), 1500 ft depth, 45 kts
- **Mk50** – 7nm (14 Kyds), 3600 ft depth, 55 kts
- **TORPS** initially drop to 300 ft (100m) depth
  - CAN’T attack landing craft
  - initial turns are to starboard
  - CIRCLE: 35 kts = 1000 yds
    - 45 kts = 900 yds
    - 55 kts = 850 yds
  - 1,000 lb/2,000 lb mine – variable depth settings

**DEPTH:**
- **SURF** – just below surface
- **SHALLOW** – 83 ft deep
- **DEEP** – 436 ft deep
- **BOTTOM** – rest on sea bottom

Wpns on pylons 1,3,5,7 in internal bays can’t be fired until 2,4,6 or 8 (as applicable) have been fired

---

**[P-3C Navigation]**
- Set MAD search altitude (300 ft) **Shift + 1**
- Set LOW altitude (677 ft) **Shift + 3**
- Set MED altitude (13,598 ft) **Shift + 4**
- Set HIGH altitude (28,989 ft) **Shift + 5**
- Set LOW speed (154 kts) **1**
- Set MED speed (263 kts) **2**
- Set HIGH speed (max 364 kts) **3**
  - at <10,000 ft, 470 kts at 29,000 ft
- Return to Base **B**

**[P-3C Countermeasures]**
- Fire Flares **Space**
- Fire Chaff **Shift + Space**

---

**Radar/Line of Sight Range**

<table>
<thead>
<tr>
<th>DISTANCE</th>
<th>MIN HGT</th>
</tr>
</thead>
<tbody>
<tr>
<td>16 Kyds (8 nm)</td>
<td>170 ft</td>
</tr>
<tr>
<td>32 Kyds (16 nm)</td>
<td>680 ft</td>
</tr>
<tr>
<td>64 Kyds (32 nm)</td>
<td>2710 ft</td>
</tr>
<tr>
<td>128 Kyds (64 nm)</td>
<td>10,900 ft</td>
</tr>
<tr>
<td>256 Kyds (128 nm)</td>
<td>43,320 ft</td>
</tr>
</tbody>
</table>

**Radar Horz (NM) = 1.17 X sq.rt. of Hgt (ft)**

---

Approx. **SPD (kts) = dist (yds) / time (min) / 60**

2025

---

**F1 – Cockpit**
- (countermeasures, jettison wpns, gear up/down)

**F3 – Radar**
- (AN/SPS-137)

**F5 – Navigation Map**

**F7 – Camera**
- LLTV, infrared, normal

---

Acoustics – F2
- (sonobouy monitoring)

ESM (ALR-66) + MAD/SAD – F4

TACCO – F6
- (Wpns/Wypt ctrl, left side launch sonobouys)

Revised: 04/14/07

STOCK DW V1.04
**TMA/NAV MAP** (dots at top of stack are most recent)

<table>
<thead>
<tr>
<th>LOB COLOURS (SUB):</th>
<th>LOB COLOURS (FFG):</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bow/UUV passive sonar</td>
<td>White (LOB = 10 NM)</td>
</tr>
<tr>
<td>Hull/Flank/Conformal</td>
<td>Blue (LOB = 10 NM)</td>
</tr>
<tr>
<td>Towed sonar array</td>
<td>Purple (LOB = 10 NM)</td>
</tr>
<tr>
<td>Active/UUV Active sonar</td>
<td>Green (LOB = range)</td>
</tr>
<tr>
<td>Periscope or ESM</td>
<td>Red (ESM = 20NM, Vs = 10NM)</td>
</tr>
<tr>
<td>Radar + Active intercept</td>
<td>Yellow (LOB = range)</td>
</tr>
<tr>
<td>Hull passive sonar</td>
<td>White (LOB = 10 NM)</td>
</tr>
<tr>
<td>Sonobuoy (active + passive)</td>
<td>White (Pas=10NM, Act = mg)</td>
</tr>
<tr>
<td>Towed sonar array</td>
<td>Purple (LOB = 10 NM)</td>
</tr>
<tr>
<td>Hull active sonar</td>
<td>Green (LOB = range)</td>
</tr>
<tr>
<td>EW and Lookout</td>
<td>Red (EW=20NM, Vs=10NM)</td>
</tr>
<tr>
<td>Radar</td>
<td>Yellow (LOB = range)</td>
</tr>
</tbody>
</table>

**CONTACT COLOURS:**
- Friendly/Assumed Friendly: Blue
- Allied: Orange
- Neutral: Green
- Hostile/Assumed Hostile: Red
- UNKNOWN: Yellow

**WAYPOINT MGMT:**
- Press INSERT to add, END to finish
- CTRL + INS: add single waypt after ownership
- ALT + INS: add single waypt after last waypt
- SHFT + INS: add waypt after selected waypt.
- LOOP: select last waypt, press ALT+INS, hold ALT and click on starting waypt.
- WAYPT PROPERTIES: double click to open.
- RESUME FOLLOWING: give order thru orders menu

**SONOBUOYS**

- **LIFESPAN:** 2 hrs  
  - DEPLOY: Shallow 2 min, Deep – 4 min.
- **TRANSMISSION RANGE:**
  - FFG – 12 NM
  - Aircraft – varies by altitude

**Layer + 200 ft = shadow zone to hide in**

**ACTIVE FREQ'S:**
- 2-5 kHz – sub hull mounted sonars
- 3-8 kHz – surface hull mount sonar
- 12-15 kHz – dipping sonar
- 13-16 kHz – active sonobouys
- > 20 kHz – torpedo homing sonar

- **DICASS:**
  - Shallow: 90 ft
  - Deep: 800 ft
  - Short range
  - Active capable

- **DICASS:**
  - Shallow: 90 ft
  - Deep: 800 ft
  - Short range
  - Active capable

- **LOFAR:**
  - Not deployable
  - No directional mode

- **Modes/Grams rqd.**
  - OMNI: 1 gram
  - DIRECTNL: 2 grams
  - ACTIVE: 3 grams
  - MAX FREQ: 1200 Hz

- **Depth Charge:** max 1640 ft (500m)

- **DIFAR:**
  - Shallow: 90 ft
  - Deep: 400 ft
  - Best used in:
    - >1500 ft water
  - - Best used in
    - Max mg 16 kys (best <8 kys)
  - - Good in high noise

- **DICASS:**
  - Shallow: 90 ft
  - Deep: 800 ft
  - Short range
  - Active capable

- **Contacts that moves when turn T/A is ambiguous contact**

**CONVERGENCE ZONES:**
- Need >656 ft (200m) between bottom of layer and sea-floor – 20-30 NM distances

**ESCAPING TORP:** flat out for 8-10 min to get out of seeker rng

Revised: 01/16/07

STOCK DW V1.04