

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

RADIO/RADAR DEPTH INFO:

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)

Launch spds/depths:

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

F1 - Ship Controls



F3 – Radar (AN/SPS-16)



F5 - Nav Map



F7 - TMA



F9 - Sail Bridge/SAM



(SAM rng: 2-2.2 NM - 4500 yds)

Sonar – F2

Radio/ESM – F4
(ESM = WLQ-4)

Fire Control – F6

Periscope – F8

(put horz line at waterline
of ship for stadimeter rng)

Under Ice Op's:

0-4 ft – no damage
 4-8 ft – some damage
 8-10 ft – severe damage
 >10 ft – sinks ship
 - full stop; lower all masts/
 antenna's + bow planes

[Sub Navigation] (Silent to 20 kts)

Set Ahead Flank	0	(40 kts)
Set Ahead Full	9	(20 kts)
Set Ahead Standard	8	(15 kts)
Set Ahead 2/3	7	(10 kts)
Set Ahead 1/3	6	(5 kts)
Set All Stop	5	(ALL STOP)
Set Back 1/3	4	(4 kts rev.)
Set Back 2/3	3	(8 kts rev.)
Set Back Full	2	(12 kts rev.)
Set Back Emerg	1	(16 kts rev.)

Surface Ship	Shift + 1	(27 ft)
Snorkel Depth	Shift + 5	(54 ft)
Periscope Depth	Shift + 2	(61 ft)
Set Depth Shallow	Shift + 3	(195 ft)
Set Depth Deep	Shift + 4	(1,671 ft)

Left Full Rudder	[
Right Full Rudder]	
Rudder Amidships	,	
Weapon Free-Look	Space	

CAVITATION

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

* transitional depth

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

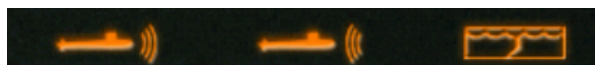
Countermeasures:

Shallow: 100 ft
 Deep: 800 ft

Revised: 02/04/07
 STOCK DW V1.04



Broadband Narrowband DEMON



Active Sonar Active Intrcpt SSP

(bottom is closest) (WLR-9)

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
 UUV: <4 kts, 30 min bat
 SNORKEL - <10 kts, <56 ft
 PERISCOPE - <63 ft

[Sub Navigation]

Set Ahead Flank	0	(35 kts)
Set Ahead Full	9	(20 kts)
Set Ahead Standard	8	(15 kts)
Set Ahead 2/3	7	(10 kts)
Set Ahead 1/3	6	(5 kts)
Set All Stop	5	(ALL STOP)
Set Back 1/3	4	(4 kts rev.)
Set Back 2/3	3	(8 kts rev.)
Set Back Full	2	(12 kts rev.)
Set Back Emerg	1	(16 kts rev.)

Surface Ship	Shift + 1	(32 ft)
Snorkel Depth	Shift + 5	(56 ft)
Periscope Depth	Shift + 2	(63 ft)
Set Depth Shallow	Shift + 3	(147 ft)
Set Depth Deep	Shift + 4	(1,254 ft)

Left Full Rudder	[
Right Full Rudder]
Rudder Amidships	'
Weapon Free-Look	Space

CAVITATION

Spd	Min Depth
7	surface
8	46 ft
9	55 ft
10	67 ft
11	78 ft
12	89 ft
13	100-140,160
14	111-140,179
15	122-140,198
16	133-140,217
17	236 ft
18	255 ft
19	274 ft
20	293 ft
21	312 ft
22	331 ft
23	350 ft
24	369 ft
25	388 ft
26	407 ft
27	426 ft
28	445 ft
29	464 ft
30	483 ft
31	502 ft
32	521 ft
33	540 ft
34	559 ft
35	578 ft

ACT. SONAR (BQQ-10): works <10kts, best <5kts; angle bow up mud bottom, down for rock

ACT. INTERCEPT (WLY-1): intercept of active sonar signals

T/A: rips off at >40 kts total speed - works <15 kts, best if <11 kts

PORT + STBD (TB-16): less sensitive, less washout

BOW PASSIVE: (BQQ-10) <5 kts to avoid washout

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

MAX OPERATING DEPTH: 1476 ft (crush:1600 ft), sail breaks surf. 49 ft, fully surf. 32 ft

F1 - Ship Controls



Sonar – F2

F3–Radar (AN/BPS-15)

Radio/ESM – F4
(ESM = AN/SLQ-32)

F5 - Nav Map

Fire Control – F6

F7 - TMA

Periscope – F8

F9 - Sail Bridge/SAM

(SAM rng: 2-2.2 NM - 4500 yds)

(put horz line at waterline
of ship for stadimeter 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

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: 9 mins

Unload/Reload: 17 mins

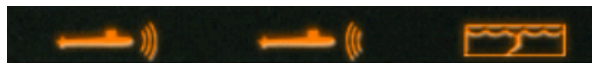
MIN 50% HP air to fire torp

Countermeasures:

Shallow: 100 ft
Deep: 800 ft



Broadband Narrowband DEMON



Active Sonar Active Intrcpt SSP
(bottom is closest)

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)
 Stream Short = shallow
 Stream Long = deep (below layer)
 Top: 0-399hz, Mid: 400-799hz, Bot: 800-1499hz

Helo Ops Info:

Max. 45 kts, 5 deg pitch, 10 deg roll
 (red line must be within grn 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
HELLFIRE/PENGUIN – must fire from Nav Map

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- tgts >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

F1 – Bridge

L-Helo, R- CM,Nixie,TA
 (frt 10 deg, rear 5 deg blind view)

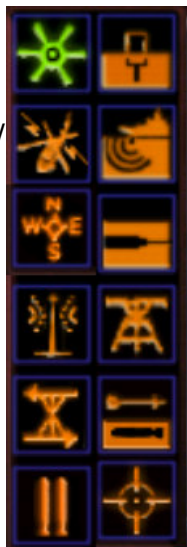
F3 – ASTAC (Sonobouy
 and Helo (AN/SPS 155) launch)

F5 - Navigation Map

F7 – ESM (AN/SLQ-32)

F9 – TMA Station

F11 – Torpedo Ctrl



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 tgts show on more than 1 beam)

Wpns Co-ord (RADAR CTRL/TGT SLCT^N) – 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 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

	Y
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

[FFG Countermeasures]

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

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 at 300 ft altitude, 500 ft swath either side of plane

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

INFARED 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 (<i>max 364 kts at <10,000ft, 470 kts at 29,000 ft</i>)	3
Return to Base	B

[P-3C Countermeasures]

Fire Flares	Space
Fire Chaff	Shift + Space

Radar/Line of Sight Range

<u>DISTANCE</u>	<u>MIN HGT</u>
16 Kyds (8 nm)	170 ft
32 Kyds (16 nm)	680 ft
64 Kyds (32 nm)	2710 ft
128 Kyds (64 nm)	10,900 ft
256 Kyds (128 nm)	43,320 ft

RADAR HORZ (NM) = 1.17 X sq.rt. of Hgt (ft)

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)

$$\text{Approx. SPD (kts)} = \frac{\text{dist (yds)} / \text{time (min)} / 60}{2025}$$

TMA/NAV MAP (dots at top of stack are most recent)

LOB COLOURS (SUB):

Bow/UUV passive sonar	White (LOB = 10 NM)
Hull/Flank/Conformal	Blue (LOB = 10 NM)
Towed sonar array	Purple (LOB = 10 NM)
Active/UUV Active sonar	Green (LOB = range)
Periscope or ESM	Red (ESM = 20NM, Vis = 10NM)
Radar + Active intercept	Yellow (LOB = range)

LOB COLOURS (FFG):

Hull passive sonar	White (LOB = 10 NM)
Sonobuoy (active + passive)	White (Pas=10NM, Act = mg)
Towed sonar array	Purple (LOB = 10 NM)
Hull active sonar	Green (LOB = range)
EW and Lookout	Red (EW=20NM, Vis=10NM)
Radar	Yellow (LOB = range)

CONTACT COLOURS:

Friendly/Assumed Friendly	Blue
Allied	Orange
Neutral	Green
Hostile/Assumed Hostile	Red
UNKNOWN	Yellow

Must assign target in B.B.
1st to use DEMON

Contact that moves when
turn T/A is ambiguous
contact

WAYPOINT MGMT:

Press INSERT to add, END to finish

CTRL + INS: add single waypt after ownship

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

Layer + 200 ft
= shadow zone
to hide in

SONOBUOYS

LIFESPAN: 2 hrs DEPLOY: Shallow 2 min, Deep – 4 min.

TRANSMISSION RANGE:

FFG – 12 NM

Aircraft – varies by altitude

Depth Charge: max 1640 ft (500m)

DIFAR:

Shallow: 90 ft

Deep: 400 ft

- max rng. 14 kyds (best 3 kyds)

- wk in high noise

- best in shallow water

VLAD:

Shallow: 600 ft

Deep: 1200 ft

- best used in

>1500 ft water

- max rng 16 kyds (best <8 kyds)

- good in high noise

DICASS:

Shallow: 90 ft

Deep: 800 ft

- short range

- active capable

LOFAR:

- not deployable

- no directional mode

Modes/Grams reqd.

OMNI: 1 gram

DIRECTNL: 2 grams

ACTIVE: 3 grams

MAX FREQ: 1200 Hz

Sea state (waves) >300 hz, Traffic <300 hz

U.S. – 60 hz low end, Russian – 50 hz low end

Active Freq's: 2-5 kHz – sub hull mounted sonars

(sonar) 3-8 kHz – surface hull mount sonar

12-15 kHz – dipping sonar

13-16 kHz – active sonobouys

> 20 kHz – torpedo homing sonar

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