run 5

THE JOURNAL OF STRATEGIC STUDIES GROUP

Issue 2

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SCENARIO DESIGN CONTEST
$1000 IN PRIZES
DETAILS INSIDE

Featured in this Issue

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- ★ **Case White** — the destruction of the Polish Air Force
- ★ Roger Keating gives us another look at his programming techniques
- ★ Part 2 of our directory of WWII warships in *Carriers at War* format.
- ★ Chris Crawford's *Balance of Power* reviewed

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Run 5

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April, 1986

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Run 5 is available wherever you buy our games or you can order it direct from SSG. The subscription rates are shown elsewhere on this page.

EDITOR'S CHANCE

So far, so good. We've made it to a second edition. It's 48 pages this time (the Japan Sweeps South scenario takes up a lot of space!) but as to the size of future issues, it really depends on what we've got to put in. We can guarantee, however, not to let the size get below 11 pages or above 255!

I'd like to take a bit of space this issue and put down on paper some of my thoughts on the strengths of computer strategy gaming, the direction it's heading in and what Roger and I are attempting to achieve in our game designs.

Before I get started, however, please read the note on scenario disks. I'll append my remarks at the very end so you can read the important things first.

SCENARIO DISKS

In the three months or so since the first issue of *Run 5* was published we have received, somewhat unexpectedly, a large number of enquiries regarding scenario disks for the magazine games. I guess not everybody gets a kick out of typing in all those numbers.

Whatever, it's not practical for us to produce scenario disks for retail sale. What we can offer, however, is a magazine/disk subscription.

To subscribe, consult the schedule of fees below and make sure you include your computer type (Apple or C-64) with your cheque or money order. A disk subscription entitles you to however many disks are necessary to complement all the scenarios in the magazine. There will be no blank save location files on a scenario disk; we'll fill them up with entertaining variations.

For those of you who don't want to spend this extra money. . . don't worry. All the data necessary to build the magazine scenarios will still be provided for you.

The following table summarizes the various subscription costs. A subscription is four issues (one year).

US subscribers should send a cheque or money order to our US office. Everyone else should send their cheque, money-order, Visa or Mastercard to our Australian office.

As a special offer to all current subscribers, an additional fee of $35.00 will upgrade their subscription. The scenario disks for all previous issues will be included with this package.

Finally, individual scenario disks can be purchased for $15.00 each.

That just about covers the disk offer. We hope it will prove a worthwhile service.

IN AUSTRALIA

Magazine/disk sub. = $AUD 65.00
Magazine only sub. = $AUD 15.00

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Magazine/disk sub. = $USD 65.00
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THE DESIGN CONTEST

So far we have 27 entries, mostly for *Carriers at War*. By far the most popular topic is the Leyte Gulf massacre; we have 10 entries on that alone.

There's still plenty of time to enter (and plenty of untouched topics to cover, especially for *Europe Ablaze*). All the details are on page 33. Have a go. . . it's really quite a lot of fun.

ORIGINS '86

This year the Origins game convention is going to be held in Los Angeles. We'll be there in strength (that means the two of us) and will be delighted to talk to any of you who take the trouble to locate us in the exhibitor's hall.

For more information on the convention, get in contact with Alan Emrich at DTI [L.A. Origins '86, P.O. Box 8399 Long Beach, CA. 90808. (213) 420-3675].

We expect to have our new *Battlefront* game for sale as well as the third issue of *Run 5*. See the work in progress notes for more details. We'll also be giving a couple of seminars, one on the state of *Road to Appomattox* and another more general one on computer game design.

WORK IN PROGRESS

We have two games under serious development at the moment; *Road to Appomattox* and *Battlefront*. We expect to release *RTA* around October-November and *Battlefront* for the Origins Games convention in Los Angeles this July.

Road to Appomattox

The game design is shaping up splendidly. The tactical battle system is finished, the operational movement mechanisms are designed and to a large part implemented (including rail and river transport), the economic system is in a preliminary design form while the political structure is in sketch form only. The cover artwork has been completed.

There will be separate positions for about 88 players! Two Presidents, two Secretaries of War and 84 generals (46 Union and 38 Confederate). We've altered the basic unit of manpower from 1,000 men to 100 men. This allows a lot more flexibility with the tactical battle system.

Briefly, the tactical battle system works like this. Each hex on the map wherein a possible confrontation can occur is flagged by the computer. Battles are resolved one at a time. The senior commander present for each side elects to fight (attack or defend) or flee (fleeing not always being allowed, especially if you're trapped up against a river or beseiged in a fixed fortification). If a battle does ensue (i.e. at least one commander has picked attack), the computer determines the time of day it starts, the weather and the initial forces available to both sides. Information on the identity and time of arrival of reinforcements is not always reliable.

Initial deployments are now made on the battle display with each commander directing his immediate subordinates to one or more positions in the graphic display; from centre to flank, out-flank and turning movement boxes or to a general reserve.

For example, McClelland at Antietam orders Hooker's I Corps to the right flank and right out-flank boxes and Mansfield's XI Corps to the right flank and reserve boxes. Each Corps is given an attack order.

When it comes time for Hooker to deploy his divisions, he will only be permitted to deploy them in the right-flank, right out-flank or general reserve boxes. He will also give each division an attack order.

If the division has a player commander, then he may modify the attack order. He cannot alter his deployment order.

Finally every commander must make a personal decision on how visible they will be during the battle; i.e. cautious, bold or reckless. Unlucky generals will be seriously wounded or killed (and there are no magic spells to bring dead men back to life in this game).

The only movement allowed during the course of the battle is from the reserve to a battle box and vice-versa. The time increments are one hour and while movement to and from the centre and flank boxes is usually immediate, the time taken to reach the out-flank and turning movement boxes can be quite variable.

Basically, combat occurs between opposite boxes with substantial advantages accruing to troops attacking the more central boxes from distant ones. The objective is to drive your opponent from the central box. Once this is done the battle is over and the side losing its centre box has lost the battle regardless of other considerations.

This is an outline of the basic system; there are literally dozens of factors taken into account when resolving combat which we think has produced an accurate and entertaining procedure. The tactical battle system is quite a challenge on its own.

We will be demonstrating this feature at Origins in July. Come along and have a look.

As for the rest of the game, there'll be more in the next issue of the magazine.

Battlefront

What is it and why are we releasing it before *Road to Appomattox*?

RTA is going to simulate, in considerable detail, a four year historical event on a day to day basis! To say the least, there is a lot of testing and checking to be done. One or two small miscalculations in the economic system could easily lead to some ridiculous manufacturing performances.

Battlefront is a study of corps level command on the World War II battlefield. There will be 4-8 historical scenarios included with the game as well as the most comprehensive design kit we have ever developed.

The basic unit of manoeuver will be the battalion. The battlefield will be a software variable hex grid using a scale between 0.5 and 2 miles per hex depending on terrain and theatre of operations.

The player is cast in the role of a Corps Commander. He has at his disposal a maximum of three divisions each of which may comprise up to four regiments of four battalions as well as up to four independent battalions per division.

A full range of troop types is provided for; infantry (motorized or foot), tank, tank destroyer, assault gun, anti-tank, artillery, machine-gun, marine, airborne etc.

Orders are issued via divisional headquarters to regimental headquarters. The actual movement of the battalions is controlled by the regimental HQ.

To allow this to work properly, Roger put his brain into top gear for nearly a week. The result is an amazing routine that allows the computer to find its way from point x to point y on a hex grid, no matter how cluttered it is with impassable hexes or hex-sides. (There does have to be some solution to the maze; the computer is only nearly omnipotent.) What's more, the route it takes is never more than a hex or two longer than the most direct route.

In calculating distance, the routine takes into account the movement point cost of the terrain as well as any additional costs incurred by the presence of enemy units or hexes.

Every hex on the battlefield is either friendly to the Axis or Allied player or disputed. Movement in enemy territory is inherently much slower than friendly territory. Note that the ownership status of each hex is continually updated so that occupied territory reverts to friendly control.

The design kit allows complete freedom in the generation of units, including their movement allowances and the awarding of victory points for their destruction.

The map is composed of 13 by 7 hex elements which may be combined in rows and columns to produce a total area of 39 by 28 hexes.

Objective hexes for each side and the victory points awarded for their control are decided.

The movement point costs and combat effects for the various terrain types are selectable; even their names can be changed.

Continued on page 47

JAPAN SWEEPS SOUTH

The Conquest of South East Asia
December 1941 - March 1942

THREE SCENARIOS FOR
CARRIERS AT WAR

By Ian Trout

On the morning of December 8th, 1941, Japanese amphibious forces came ashore at Kota Bharu on the northeastern coast of the Malayan Peninsula. Force Z, comprising the powerful capital ships HMS Prince of Wales and HMS Repulse, sortied north to put an end to the invasion and sink as many of the interlopers as possible.

HMS Repulse took fourteen torpedoes and a single 550-pound bomb in the space of fifteen minutes and promptly sank. HMS Prince of Wales took an hour to sink after receiving seven torpedo hits, two 1,100-pound bomb hits and several near misses. The world was stunned by the enormity, and unexpectedness, of the disaster.

It was a blow from which the Allies did not recover. . .

The cover painting, by Mitch Lovett, shows HMS Prince of Wales under attack from G4M1's (the famed Betty bomber) of the Kanoya Naval Air Group.

THE SITUATION

At the opening of hostilities with Japan, Great Britain had been at war in Europe for two years. An almost unbroken succession of disasters against the combined might of Germany and Italy had guarranteed that precious little manpower or material could be spared for the far eastern theatre, notwithstanding the ominous and certain menace posed by an aggressive and oil-starved Japan.

The forces available to the British in Malaya to contest the Japanese advance were imbalanced and inadequate for the task. There was a complete absence of modern fighter aircraft; only a handful of obsolescent Brewster Buffaloes were operational. Of the bomber types available, the Blenheim IV was of a more or less modern design, but a chronic shortage of big, effective bombs together with crew inexperience and the lack of long range escort protection would make their employment extremely hazardous.

In terms of numbers there were more than enough ground troops to provide an adequate defense. Many of these however, especially the Indian brigades, had barely received basic training and were short of heavy weapons equipment. There were no tracked vehicles anywhere. The fortifications protecting Singapore were some of the strongest in the world. There were, alas, no high

ORDERS OF BATTLE

SCEN. 9a Japanese

NAVAL FORCES

TASK FORCE 0 (Kondo)

Task Group 4
1 CA - Ashigara**(CA 5)
2 DD

Task Group 1
1 CL - Natori*(CL 12)
5 DD
6 TR

Task Group 2
1 CL - Naka*(CL 16)
7 DD
6 TR

Task Group 3
2 CAV - Chitose, Mizuho
1 CL - Nagara*(CL 11)
6 DD
7 TR

Task Group 5
1 CVL - Ryujo
3 CA - Haguro (CA 6), Myoko* (CA 7), Nachi (CA 8)
1 DD

Task Group 11
1 CL - Jintsu*(CL 15)
6 DD

TASK FORCE 1 (Ozawa)

Task Group 10
2 BC - Haruna (BC 1) Kongo (BC 4)
3 CA - Atago**(CA 9) Chokai (CA 10) Takao (CA 12)

Task Group 6
1 CL - Sendai*(CL 17)
4 DD
3 TR

Task Group 7
4 DD - Sagiri*(DD 45)
11 TR

Task Group 8
3 DD - Shirakumo*(DD 49)
5 TR

Task Group 9
4 CA - Kumano*(CA 13), Mikuma (CA 14), Mogami (CA 15), Suzuya (CA 16)
3 DD

AIR FORCES

NAVAL AIR

Task Force 0
Ryujo - 9 Zero, 9 Claud, 15 Val
Seaplanes - 36 Pete

Task Force 1
Seaplanes - 6 Pete, 10 Dave, 4 Jake

LAND BASED AIR

Theatre 0
Tainan - 45 Zero, 12 Claud, 29 Nell, 6 Babs
Kangshan - 45 Zero, 12 Claud, 54 Betty, 6 Babs
Taichung - 27 Betty, 24 Mavis
Pingtung - 36 Nate, 9 Dinah, 13 Babs
Hengchan - 36 Nate, 27 Lily, 18 Sally, 9 Babs

Theatre 1
Saigon - 54 Zero, 92 Nell, 48 Betty, 6 Babs
Kompong - 18 Nate, 18 Oscar, 81 Sally, 9 Babs
Takeo - 45 Nate, 18 Oscar, 81 Lily, 9 Babs

Allied

NAVAL FORCES

TASK FORCE 0 (Phillips)

Task Group 1
1 BB - Prince of Wales**(BB 53)
1 BC - Repulse (BC 34)
4 DD

Task Group 2
3 CL - Danae (CLI44), Dragon* (CLI46), Durban (CLI99)
2 DE

Task Group 3 (Optional)
1 CV - Indomitable*
1 CL - Mauritius (CL 80)
3 DD

TASK FORCE 1 (Hart)

Task Group 6
1 CA - Houston**(CA 30)
1 CL - Boise (CL 47)
4 DD

Task Group 7
1 CL - Marblehead*(CL 12)
4 DD

Task Group 8
5 DD - Parrott*(DD218)

TASK FORCE 2 (Doorman)

Task Group 13
2 CL - Java (CL 1), De Ruyter** (CL 2)
5 DD

Task Group 14
1 CL - Tromp* (CL 3)
2 DD

TASK FORCE 3 ('Transports')

Task Group 4
1 AMC - Manoora**(AMC 1)
3 TR

Task Group 5
1 AMC - Kanimbla*(AMC 2)
3 TR

Task Groups 9-12,15
7 TR

AIR FORCES

NAVAL AIR

Task Force 0
Indomitable - 18 F4F-4, 9 Fulmar, 12 Albacore
Seaplanes - 3 Walrus, 1 Seafox

LAND BASED AIR

Theatre 0
Alor Setar - 12 F2A-3, 12 Blen 1F, 11 Blen IV
Singapore - 48 F2A-3, 24 Blen IV, 4 Hudson, 6 Vildebeest, 3 PBY-4
Kota Bharu - 12 Hudson, 12 Vilde
Kuantan - 8 Hudson, 6 Vildebeest

Theatre 1
Clark Field - 18 P-40B, 36 P-40E, 18 B-17C
Nichols - 12 P-26A, 18 P-35A, 18 P-40E
Davao - 18 B-17C
Subic Bay - 30 PBY-4
Darwin - 12 Hudson

SCEN. 9b Japanese

NAVAL FORCES

TASK FORCE 0 (Takagi)

Task Group 1
1 CL - Jintsu*(CL 15)
8 DD
10 TR

Task Group 2
2 CA - Haguro (CA 6), Nachi** (CA 8)
2 DD

Task Group 3
2 CAV - Chitose, Mizuho
1 CL - Nagara*(CL 11)
2 DD

TASK FORCE 1 (Nishimura)

Task Group 5
1 CL - Naka*(CL 16)
7 DD
12 TR

Task Group 7
1 CV - Ryujo
5 CA - Chokai**(CA 10), Kumano (CA 13), Mikuma (CA 14), Mogami (CA 15), Suzuya - (CA 16)
2 DD

TASK FORCE 2 (Abe)

Task Group 9
1 DD - Asagumo**(DD 77)
3 TR

TASK FORCE 3 (Kondo)

Task Group 4
2 CV - Soryu, Hiryu
1 CVL - Zuiho
1 CA - Maya*(CA 11)

Task Group 6
2 BC - Haruna (BC 1), Kongo (BC 4)
2 CA - Atago**(CA 9), Takao (CA 12)

Task Group 8
1 CL - Yura*(CL 13)
5 DD

ORDERS OF BATTLE (Cont.)

AIR FORCES

NAVAL AIR

Task Force 0

Seaplanes - 30 Pete, 2 Dave

Task Force 1

Ryujo - 9 Zero,9 Claud, 15 Val
Seaplanes - 6 Pete, 2 Dave, 2 Jake

Task Force 3

Soryu - 18 Zero, 27 Val, 18 Kate

Zuiho - 9 Zero, 9 Val, 9 Kate
Seaplanes - 10 Pete, 2 Jake

LAND BASED AIR

Theatre 0

Alor Setar - 17 Nate, 43 Sally, 21 Lily, 6 Babs
Penang - 17 Zero, 14 Nate, 17 Sonia, 7 Babs
Kota Bharu - 13 Zero, 11 Oscar, 8 Nate, 18 Ann
Kuantan - 14 Zero, 11 Oscar, 10 Nate, 11 Mary, 5 Babs
Miri - 16 Zero, 30 Nell

Theatre 1

Davao - 59 Zero, 42 Betty, 23 Nell, 9 Babs
Sandarkan - 18 Zero, 14 Nell
Tarakan - 9 Zero, 4 Mavis
Menado - 12 Zero, 7 Mavis

Allied

NAVAL FORCES

TASK FORCE 0 (Sommerville)

Task Group 1 (Optional)

1 CVL - Hermes
1 BB - Revenge*(BB 06)
1 CL - Enterprise (CLI52)
1 DD
1 DE

Task Group 2 (Optional)

3 CA - Cornwall (CA 56), Canberra (CAI33), Dorsetshire*(CA 40)
3 CL - Leander (CL 75), Perth (CLI29), Achilles (CL 70)
2 DD
2 DE

Task Group 5 (Optional)

2 CV - Formidable,
2 CV - Indomitable**
1 CL - Mauritius (CL 80)
2 DD

TASK FORCE 1 ('Convoys')

Task Group 3

1 CA - Exeter (CA 68)
1 CL - Dragon**(CLI46)
6 DD
7 TR

Task Group 4

2 CL - Danae (CLI44), Durban**
2 CV - (CLI99)
2 DD
6 TR

TASK FORCE 2 (Helfrich)

Task Group 6

1 CA - Houston (CA 30)
3 CL - Boise (CL 47), Java (CL 1) De Ruyter**(CL 2)

Task Group 7

1 CL - Marblehead*(CL 12)
6 DD

Task Group 8

5 DD - John D Edwards*(DD216)

Task Group 9

1 CL - Tromp*(CL 3)
5 DD

TASK FORCE 3 ('Transports')

Task Group 10

2 TR

AIR FORCES

NAVAL AIR

Task Force 0

Formidable - 9 F4F-4, 9 Fulmar, 12 Albacore
Indomitable - 18 F4F-4, 9 Fulmar, 12 Albacore
Hermes - 22 Albacore
Seaplanes - 3 Walrus, 2 Seafox

LAND BASED AIR

Theatre 0

Singapore - 9 F2A-3, 5 Blen 1F, 18 Hurricane, 5 Hudson 8 Vildebeest
Djambi - 10 Blen IV, 11 Hudson
Palembang - 25 Blen IV

Theatre 1

Sinkawang - 8 M139W
Batavia - 14 F2A-3, 16 P-36A, 16 M139W, 7 PBY-4
Bandoeng - 10 P-36A, 12 M139W
Soerabaja - 10 F2A-3, 12 P-36A, 12 B-17C, 6 PBY-4
Balikpapan - 4 PBY-4
Kendari - 4 PBY-4
Amboina - 13 Hudson
Darwin - 10 P-40E, 10 Hudson

SCEN. 9c Japanese

NAVAL FORCES

TASK FORCE 0 (Kurita)

Task Group 5

1 CL - Natori*(CL 12)
9 DD
4 TR

Task Group 8

1 CL - Yura*(CL 13)
7 DD
5 TR

Task Group 9

1 CVL - Ryujo*
1 DD

Task Group 10

4 CA - Kumano**(CA 13), Mikuma (CA 14), Mogami (CA 15), Suzuya (CA 16)
3 DD

TASK FORCE 1 (Takagi)

Task Group 4

1 CL - Naka*(CL 16)
8 DD
3 TR

Task Group 6

2 CA - Haguro**(CA 6), Nachi (CA 8)
1 DD

Task Group 7

1 CL - Jintsu*(CL 15)
7 DD
4 TR

TASK FORCE 2 (Kondo)

Task Group 1

4 CV - Kaga, Akagi, Soryu, Hiryu
2 CA - Chikuma (CA 17), Tone** (CA 18)

Task Group 2

1 CL - Abukuma*(CL 8)
7 DD

Task Group 3

2 BC - Haruna (BC 1), Kongo (BC 4)
3 CA - Atago*(CA 9), Maya (CA 11), Takao (CA 12)
3 DD

AIR FORCES

NAVAL AIR

Task Force 0

Ryujo - 9 Zero, 9 Claud, 15 Val
Seaplanes - 6 Pete, 2 Jake

Task Force 1

Seaplanes - 2 Pete, 2 Dave

Task Force 2

Kaga - 18 Zero, 27 Val, 27 Kate
Akagi - 18 Zero, 27 Val, 27 Kate
Soryu - 18 Zero, 27 Val, 18 Kate
Hiryu - 18 Zero, 27 Val, 18 Kate
Seaplanes - 12 Pete, 10 Jake

LAND BASED AIR

Theatre 0

Singapore - 12 Oscar, 17 Nate, 26 Sally, 20 Lily
Palembang - 31 Zero, 28 Nell
Oosthaven - 6 Pete, 4 Mavis
Kuching - 10 Mavis
Banjarmasin - 26 Zero, 22 Betty, 20 Nell
Bali - 9 Zero
Makassar - 14 Nell, 9 Babs
Kendari - 16 Zero, 35 Betty, 9 Babs
Amboina - 6 Mavis
Dili - 12 Zero, 6 Babs

Allied

NAVAL FORCES

TASK FORCE 0 (Sommerville)

Task Group 1 (Optional)

4 BB - Royal Sovereign (BB 05), Revenge*(BB 06), Ramilles (BB 07), Resolution (BB 09)
4 DD

Task Group 2 (Optional)

3 CA - Cornwall (CA 56), Canberra (CAI33)
- Dorsetshire*(CA 40)
6 DD
1 DE

Task Group 3 (Optional)

5 CL - Danae (CLI44), Capetown (CLI88), Emerald*(CLI66) Achilles (CL 70), Glasgow (CL 21)
5 DD
1 DE

*** denotes TG Flagship**
**** denotes TF Flagship**

ORDERS OF BATTLE (Cont.)

Task Group 4 (Optional)
2 CV - Formidable*
Indomitable**
2 CL - Leander (CL 75)
Mauritius (CL 80)
2 DD

Task Group 8
2 CA - Houston (CA 30), Exeter (CA 68)
4 CL - Perth (CLI29), Java (CL 1), De Ruyter**(CL 2), Tromp (CL 3)
11 DD

Task Group 7
1 CL - Enterprise*(CLI52)
2 TR

Task Group 10
1 CL - Marblehead**(CL 12)
2 DD

Task Group 9
1 TR

Indomitable - 18 F4F-4, 9 Seafire, - 12 Albacore
Hermes - 22 Albacore
Seaplanes - 3 Walrus, 1 Seafox

TASK FORCE 1 (Helfrich)
Task Group 5
3 CL - Ceres (CLI59), Dragon* - (CLI46), Durban (CLI99)
2 DD

TASK FORCE 2 ('Transports')
Task Group 6
1 CL - Colombo*(CLI89)
3 TR

AIR FORCES
NAVAL AIR
Task Force 0
Formidable - 9 F4F-4, 9 Seafire, - 12 Albacore

LAND BASED AIR
Theatre 0
Batavia - 14 Hurri, 10 P-36A, 11 M139W, 6 PBY-4
Bandoeng - 11 Hurri, 5 Hudson, 9 Blen IV
Tjilatjap - 9 F2A-3, 6 PBY-4
Soerabaja - 10 P-40E, 8 P-36A, 5 B-17C, 4 PBY-4
Darwin - 8 Hudson, 6 PBY-4

JAPAN SWEEPS SOUTH - Bases (9a)

BASE NUMBER	1-23	1	2	3	4	5	6	7	8	9	10	11	12	13	14
BASE NAME	[11]	Alor Setar	Singapore	Kota Bharu	Kuantan	Clark	Nichols	Davao	Subic Bay	Singora	Patani	Vigan	Aparri	Legaspi	Soerabaja
LOCATION	(x,y)	14,39	21,48	17,39	19,43	60,19	62,20	71,33	59,18	15,37	16,38	60,15	61,12	67,21	40,67
ASSIGNED SQNS	[10]	1-3	4-10	11,12	13,14	23-27	28-30	31,32	33,34	-	-	-	-	-	-
HEAVY AA	0-31	2	5	1	1	9	5	2	0	0	0	0	0	2	4
LIGHT AA	0-31	8	14	8	6	15	12	6	3	0	2	3	2	7	8
SPOT NUMBER	0-31	6	25	4	4	24	12	10	3	6	4	3	3	4	16
DAMAGE STATUS	0-15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
AIRSTRIP	0-7	3	5	2	2	7	4	3	0	2	1	1	1	2	5
RADAR	0-7	0	3	0	0	1	0	0	0	0	0	0	0	0	0
AA ACCURACY	0-3	1	1	1	1	0	0	0	0	0	0	0	0	0	0
DAMAGE CONTROL	0-3	1	2	1	1	1	1	1	1	0	0	0	0	0	0
THEATRE	0-1	0	0	0	0	1	1	1	1	0	0	1	1	1	1
ALLIED	Y/N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
FIGHTER FAC.	Y/N	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y
BOMBER FAC.	Y/N	Y	Y	Y	Y	Y	N	Y	N	N	N	N	N	N	Y
PORT FACILITIES	Y/N	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y
SEARCH PATTERN	Y/N	-	N,NE,E,SE	N,NE,E	NE,E	NW,N,NE	-	N,NE,E	W,NW,N,NE	-	-	-	-	-	-

JSS - Bases (9b)

BASE NUMBER	1-23	15	16	17	18	19	20	21	22	23
BASE NAME	[11]	Darwin	Tainan	Kangshan	Taichung	Pingtung	Hengchan	Saigon	Kompong	Takeo
LOCATION	(x,y)	82,71	58,3	58,3	59,1	58,3	59,4	29,30	28,31	28,31
ASSIGNED SQNS	[10]	19	35-39	40-45	46-47	48-51	52-56	57-65	66-71	72-78
HEAVY AA	0-31	1	12	6	4	4	6	8	6	6
LIGHT AA	0-31	4	20	14	10	11	12	20	14	14
SPOT NUMBER	0-31	10	24	20	14	12	20	28	20	20
DAMAGE STATUS	0-15	15	15	15	15	15	15	15	15	15
AIRSTRIP	0-7	2	5	5	4	4	5	7	5	5
RADAR	0-7	0	0	0	0	0	0	0	0	0
AA ACCURACY	0-3	0	1	1	1	1	1	1	1	1
DAMAGE CONTROL	0-3	0	2	2	2	2	2	2	2	2
THEATRE	0-1	1	0	0	0	0	0	1	1	1
ALLIED	Y/N	Y	N	N	N	N	N	N	N	N
FIGHTER FAC.	Y/N	Y	Y	Y	Y	Y	Y	Y	Y	Y
BOMBER FAC.	Y/N	N	Y	Y	Y	Y	Y	Y	Y	Y
PORT FACILITIES	Y/N	Y	Y	N	Y	N	N	Y	N	N
SEARCH PATTERN	Y/N	N,NW	E,SE,S,SW	SE,S,SW	SE,S,SW	SE,S,SW	E,SE,S,SW	SE,S,SW	SE,S,SW	SE,S,SW

BASE NUMBER	1-23	1	2
BASE NAME	[11]	Singapore	Djambi
LOCATION	(x,y)	21,48	19,54
ASSIGNED SQNS	[10]	6-10	11-12
HEAVY AA	0-31	9	3
LIGHT AA	0-31	24	10
SPOT NUMBER	0-31	25	12
DAMAGE STATUS	0-15	15	15
AIRSTRIP	0-7	5	3
RADAR	0-7	3	0
AA ACCURACY	0-3	2	2
DAMAGE CONTROL	0-3	2	1
THEATRE	0-1	0	0
ALLIED	Y/N	Y	Y
FIGHTER FAC.	Y/N	Y	Y
BOMBER FAC.	Y/N	Y	Y
PORT FACILITIES	Y/N	Y	N
SEARCH PATTERN	Y/N	NW-SE	-

BASE NUMBER	1-23	3	4	5	6	7	8	9	10	11	12	13	14	15	16
BASE NAME	[11]	Palembang	Sinkawang	Batavia	Bandoeng	Soerabaja	Balikpapan	Banjar...	Kendari	Makassar	Amboina	Darwin	Alor Setar	Penang	Kota Bharu
LOCATION	(x,y)	22,57	35,50	26,64	28,65	40,67	51,52	46,59	64,58	56,60	78,56	82,71	14,39	14,41	17,39
ASSIGNED SQNS	[10]	13-14	15	16-19	20-21	22-25	26	-	27	-	28	29-30	39-43	44-46,99	47-49,100
HEAVY AA	0-31	5	0	8	3	4	4	0	2	0	0	1	3	2	2
LIGHT AA	0-31	13	6	14	8	15	10	4	8	4	10	4	14	10	12
SPOT NUMBER	0-31	14	6	16	20	16	12	8	16	8	12	10	10	8	8
DAMAGE STATUS	0-15	15	15	15	15	15	13	15	12	15	15	15	15	15	15
AIRSTRIP	0-7	4	2	5	5	5	3	2	4	1	3	3	4	3	3
RADAR	0-7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AA ACCURACY	0-3	2	1	1	1	1	2	1	1	1	1	1	1	1	1
DAMAGE CONTROL	0-3	1	0	1	1	1	1	0	0	0	0	0	2	2	1
THEATRE	0-1	0	1	1	1	1	1	1	1	1	1	1	0	0	0
ALLIED	Y/N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	n
FIGHTER FAC.	Y/N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
BOMBER FAC.	Y/N	Y	Y	Y	Y	Y	N	Y	Y	N	Y	N	Y	Y	Y
PORT FACILITIES	Y/N	N	N	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
SEARCH PATTERN	Y/N	-	-	NW-NE	-	NW-NE	NW-NE	-	NW-NE	-	NW-NE	NW-N	SW-NW	S-W	S-SW

JSS - Bases (9c)

BASE NUMBER	1-23	17	18	19	20	21	22	23
BASE NAME	[11]	Kuantan	Miri	Kuching	Davao	Sandarkan	Tarakan	Menado
LOCATION	(x,y)	19,43	45,42	35,48	71,33	53,38	53,43	70,46
ASSIGNED SQNS	[10]	50-53,98	54-56	-	57-64	65-67	68-69	70-71
HEAVY AA	0-31	2	0	0	5	0	3	4
LIGHT AA	0-31	10	8	2	22	10	12	15
SPOT NUMBER	0-31	10	6	4	14	10	8	6
DAMAGE STATUS	0-15	15	10	4	15	12	7	10
AIRSTRIP	0-7	4	3	2	4	3	2	3
RADAR	0-7	0	0	0	0	0	0	0
AA ACCURACY	0-3	1	1	1	1	1	1	1
DAMAGE CONTROL	0-3	1	2	0	2	1	0	1
THEATRE	0-1	0	0	0	1	1	1	1
ALLIED	Y/N	N	N	N	N	N	N	N
FIGHTER FAC.	Y/N	Y	Y	Y	Y	Y	Y	Y
BOMBER FAC.	Y/N	Y	N	N	Y	Y	N	Y
PORT FACILITIES	Y/N	Y	Y	Y	Y	Y	Y	Y
SEARCH PATTERN	Y/N	SE-S	S-SW	-	SE-SW	SE-S	SE-S	SE-S

BASE NUMBER	1-23	1	2	3	4
BASE NAME	[11]	Batavia	Bandoeng	Merak	Bantam Bay
LOCATION	(x,y)	26,64	28,65	24,64	25,63
ASSIGNED SQNS	[10]	7-10	11-13	-	-
HEAVY AA	0-31	8	3	0	0
LIGHT AA	0-31	14	8	4	7
SPOT NUMBER	0-31	16	20	5	5
DAMAGE STATUS	0-15	11	15	15	15
AIRSTRIP	0-7	5	5	1	1
RADAR	0-7	0	0	0	0
AA ACCURACY	0-3	1	1	0	0
DAMAGE CONTROL	0-3	1	1	0	0
THEATRE	0-1	0	0	0	0
ALLIED	Y/N	Y	Y	Y	Y
FIGHTER FAC.	Y/N	Y	Y	N	N
BOMBER FAC.	Y/N	Y	Y	N	N
PORT FACILITIES	Y/N	Y	N	Y	Y
SEARCH PATTERN	Y/N	NW-NE	-	-	-

BASE NUMBER	1-23	5	6	7	8	9	10	11	12	13	14	15	16	17	18
BASE NAME	[11]	Tjilatjap	Kragan	Soerabaja	Darwin	Singapore	Palembang	Oosthaven	Kuching	Banjarmasin	Bali	Makassar	Kendari	Amboina	Dili
LOCATION	(x,y)	32,66	39,65	40,67	82,71	21,48	22,57	22,62	35,48	46,58	44,68	56,60	64,58	78,56	70,67
ASSIGNED SQNS	[10]	14-15	-	16-19	20-21	30-33	34-37	38-39	40	41-44	45	46-47	48-51	52	53-54
HEAVY AA	0-31	2	0	4	1	6	2	0	0	2	0	2	5	0	0
LIGHT AA	0-31	9	2	15	4	15	12	5	6	9	5	9	12	4	3
SPOT NUMBER	0-31	10	3	16	10	25	14	4	4	12	6	8	16	12	10
DAMAGE STATUS	0-15	15	15	13	9	15	15	15	15	15	8	13	15	15	9
AIRSTRIP	0-7	3	1	5	3	5	4	0	2	3	2	2	4	3	2
RADAR	0-7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AA ACCURACY	0-3	1	0	1	1	1	1	1	1	1	1	1	1	1	1
DAMAGE CONTROL	0-3	1	0	1	1	2	2	1	1	1	1	1	2	1	1
THEATRE	0-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ALLIED	Y/N	Y	Y	Y	Y	N	N	N	N	N	N	N	N	N	N
FIGHTER FAC.	Y/N	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
BOMBER FAC.	Y/N	N	N	Y	N	Y	Y	N	N	Y	N	Y	Y	N	N
PORT FACILITIES	Y/N	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y
SEARCH PATTERN	Y/N	E-SE	-	NW-E	NW-N	SE-W	-	S-NW	SE-SW	-	-	SE-SW	SE-SW	SE-SW	E-SW

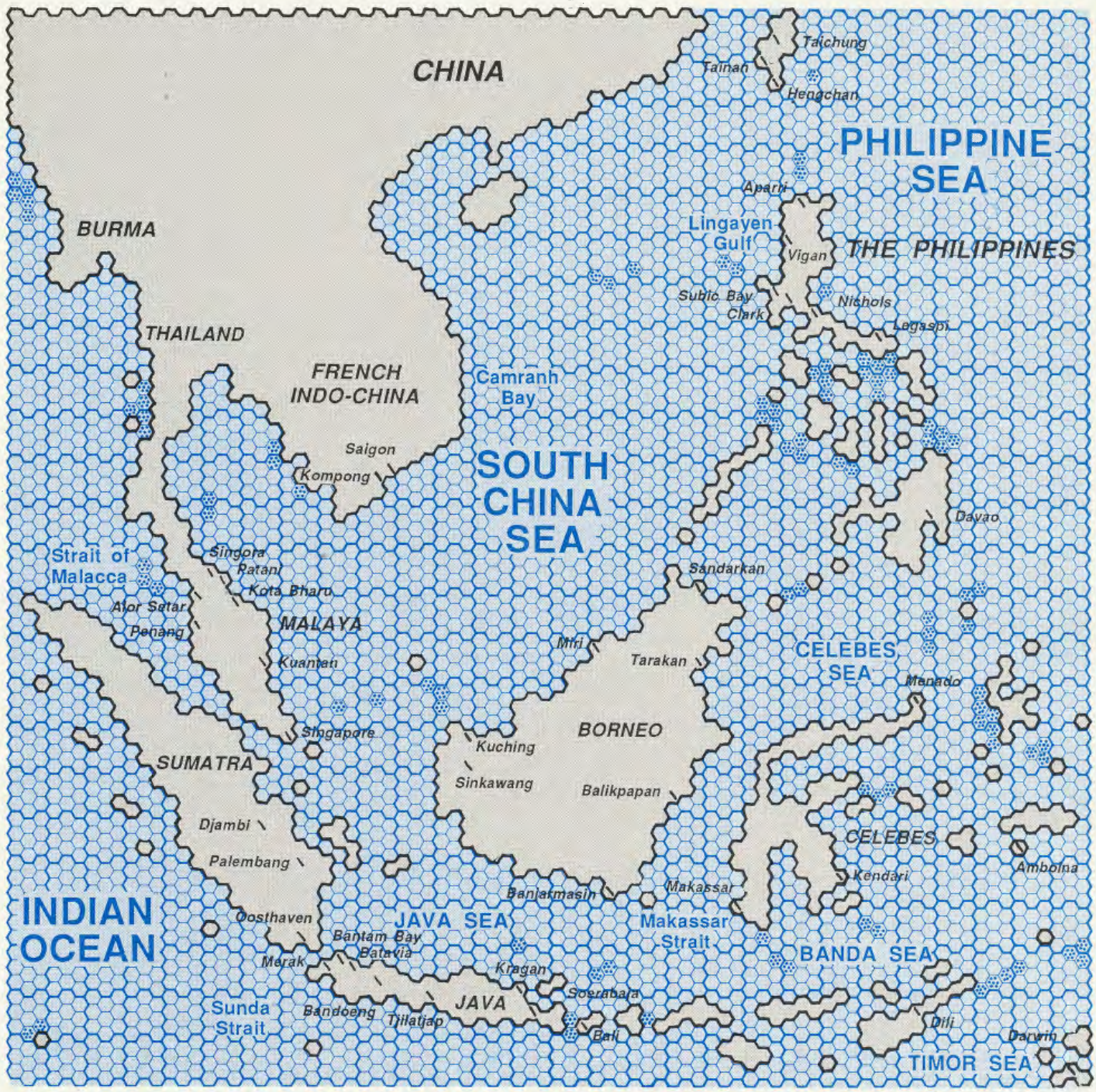
JAPAN SWEEPS SOUTH - Plane Types (All Scenarios)

PLANE NUMBER	1-63	1	2	3	4	5	6	7	8	9	10	11	12	13	14
PLANE TYPE	[5]	F2A-3	F4F-4	P-35A	P-36A	P-40B	P-40E	FUL 1	SEA 3	HUR 2	BL 1F	P-26A	ALBA	HUD3A	BL IV
ROLE	0-2	0	0	0	0	0	0	0	0	0	0	0	1	1	1
CREW	0-5	0	0	0	0	0	0	1	0	0	2	0	2	3	2
RANGE (n,e,t)	0-31	3,6,7	3,5,7	3,4,5	3,3,4	4,4,4	3,3,3	3,3,4	2,3,5	1,3,5	4,6,7	1,3,4	4,5,6	7,10,12	5,7,8
ALTITUDE (h,m,l)	0-3	2,3,3	2,3,2	2,3,3	2,3,3	2,3,3	1,3,3	1,3,3	2,3,3	3,3,2	1,3,3	0,3,3	0,3,3	1,3,3	0,3,3
CRUISING SPEED	0-15	5	5	7	8	7	8	7	6	6	7	6	4	6	7
BOMB LOAD	0-63	1	1	1	0	0	0	0	2	4	0	1	7	6	4
CHAR. (f,v,m,p)	0-7	4,3,5,3	5,4,5,3	2,3,6,1	3,2,6,2	5,3,6,3	5,4,6,3	6,3,4,2	5,4,5,3	4,3,5,3	5,3,2,2	2,2,7,0	1,2,4,0	2,3,3,1	3,3,2,1
ALLIED	Y/N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
CARRIER	Y/N	N	Y	N	N	N	N	Y	Y	N	N	N	Y	N	N
SEAPLANE	Y/N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
TORPEDO	Y/N	N	N	N	N	N	N	N	N	N	N	N	Y	N	N
NIGHT	Y/N	N	N	N	N	N	N	N	N	N	N	N	Y	N	N
ANTI SUBMARINE	Y/N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

PLANE NUMBER	1-63	15	16	17	18	19	20	21	23	24	25	26	27	28	29
PLANE TYPE	[5]	M139W	B-17C	PBY-4	VILDE	S FOX	WAL 2	BFT 1	F1M2	A6M2	G4M1	E8N2	B5N2	A5M4	G3M2
ROLE	0-2	1	1	2	1	2	2	1	2	0	1	2	1	0	1
CREW	0-5	3	5	4	1	1	3	3	1	0	4	1	2	0	4
RANGE (n,e,t)	0-31	6,8,10	5,11,16	15,19,24	7,9,12	4,4,4	6,6,7	8,10,13	3,4,4	7,8,10	12,16,18	5,5,6	8,10,11	3,4,6	9,13,16
ALTITUDE (h,m,l)	0-3	0,3,3	3,3,2	0,3,3	0,2,3	0,1,3	0,2,3	0,2,3	2,3,3	2,3,3	1,3,3	0,3,3	1,3,3	2,3,3	1,3,3
CRUISING SPEED	0-15	6	7	3	4	3	3	4	5	7	6	3	5	6	6
BOMB LOAD	0-63	8	35	7	4	1	2	5	1	0	6	1	6	1	6
CHAR. (f,v,m,p)	0-7	1,2,3,0	3,3,0,2	2,2,0,0	1,2,2,0	1,1,4,0	1,2,1,0	3,3,3,1	2,2,5,0	4,2,7,3	2,1,1,1	2,1,3,0	1,2,3,0	2,2,6,1	2,1,1,0
ALLIED	Y/N	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N	N
CARRIER	Y/N	N	N	N	N	N	N	N	N	Y	N	N	Y	Y	N
SEAPLANE	Y/N	N	N	Y	N	Y	Y	N	Y	N	N	Y	N	N	N
TORPEDO	Y/N	N	N	N	Y	N	N	Y	N	N	Y	N	Y	N	Y
NIGHT	Y/N	N	N	Y	N	N	N	N	N	N	N	N	N	N	N
ANTI SUBMARINE	Y/N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

PLANE NUMBER	1-63	30	31	32	33	34	35	36	37	38	39	40	41	42	43
PLANE TYPE	[5]	G3M3	D3A2	E13A1	H6K4	C5M2	Ki48b	Ki15	Ki21b	Ki30	Ki46	Ki51	Ki27	Ki43a	Ki32
ROLE	0-2	1	1	2	2	2	1	2	1	1	2	1	0	0	1
CREW	0-5	4	1	2	5	1	3	1	4	1	1	1	0	0	1
RANGE (n,e,t)	0-31	9,16,21	6,7,9	7,13,15	16,25,27	10,10,12	3,8,8	10,10,12	5,8,10	5,5,7	6,6,8	4,4,6	2,4,6	2,4,4	4,6,7
ALTITUDE (h,m,l)	0-3	2,3,2	3,3,2	1,3,3	2,3,3	3,3,3	2,3,3	3,3,3	2,3,3	1,3,3	3,3,2	1,3,3	1,3,3	3,3,3	1,3,3
CRUISING SPEED	0-15	6	5	4	4	6	7	6	7	7	8	7	7	6	5
BOMB LOAD	0-63	6	3	2	8	0	6	0	8	3	0	2	1	1	4
CHAR. (f,v,m,p)	0-7	2,1,1,1	2,2,5,1	1,2,3,0	3,3,0,0	1,2,5,3	1,3,2,3	1,2,5,3	3,2,2,2	1,2,4,1	1,2,4,4	2,2,5,1	2,2,6,2	2,3,6,2	1,1,5,1
ALLIED	Y/N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
CARRIER	Y/N	N	Y	N	N	N	N	N	N	N	N	N	N	N	N
SEAPLANE	Y/N	N	N	Y	Y	N	N	N	N	N	N	N	N	N	N
TORPEDO	Y/N	Y	N	N	Y	N	N	N	N	N	N	N	N	N	N
NIGHT	Y/N	N	N	N	Y	N	N	N	N	N	N	N	N	N	N
ANTI SUBMARINE	Y/N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

JAPAN SWEEPS SOUTH - Map



SCENARIO 9a ***Japan Sweeps South*** ***7-11 Dec, 1941***	**ALLIED BASES** -	Alor Setar, Singapore, Kota Bharu, Kuantan, Clark, Nichols, Davao, Subic Bay, Singora, Patani, Vigan, Aparri, Legaspi, Soerabaja, Darwin
	IJN BASES -	Tainan (Kangshan, Pingtung), Taichung, Hengchan, Saigon, Kompong (Takeo)
SCENARIO 9b ***Closing the Ring*** ***20-24 Jan, 1942***	**ALLIED BASES** -	Singapore, Djambi, Palembang, Sinkawang, Batavia, Amboina, Darwin Soerabaja, Balikpapan, Banjarmasin, Kendari, Makassar, Bandoeng
	IJN BASES -	Alor Setar, Penang, Kota Bharu, Kuantan, Miri, Kuching, Davao, Sandarkan, Tarakan, Menado
SCENARIO 9c ***The Last Bastion*** ***27 Feb-4 Mar, 1942***	**ALLIED BASES** -	Batavia, Bandoeng, Merak, Bantam Bay, Tjilatjap, Kragan, Soerabaja, Darwin
	IJN BASES -	Singapore, Palembang, Oosthaven, Kuching, Banjarmasin, Bali, Makassar, Kendari, Amboina, Dili

JAPAN SWEEPS SOUTH - Ship Classes (All Scenarios)

CLASS # (9a-9c)	1-63	-/1/1	1/2/2	-/3/3	-/4/4	2/-/-	3/-/-	-/5/5	-/6/6	-/7/7	-/8/8	-/-/9	4/9/10	-/-/11	-/10/12
SHIP CLASS NAME	[8]	CV 1937A	CV 1937B	CVL1918	BB 1913	BB 1937	BC 1915	CA 1924	CA 1924v	CA 1927B	CA 1928	CL 1916B	CL 1916C	CL 1917	CL 1918
ALLIED	Y/N	Y(CW)	Y(CW)	Y(CW)	Y(CW)	Y(CW)	Y(CW)	Y(CW)	Y(CW)	Y(CW)	Y(CW)	Y(CW)	Y(CW)	Y(CW)	Y(CW)
SEAPLANE	Y/N	N	N	N	N	Y	Y	Y	N	Y	Y	N	N	N	N
SHIP TYPE	0-4	0	0	0	1	1	1	1	1	1	1	2	2	2	2
MAXIMUM SPEED	0-45	21	21	17	15	19	21	21	21	21	21	20	19	19	22
DISPLACEMENT	0-31	12	12	5	14	17	16	6	6	6	4	2	2	2	4
HEAVY AA	0-31	16	16	3	8	16	6	8	8	8	4	8	3	1	5
LIGHT AA	0-31	6	6	2	2	4	2	2	1	2	0	1	1	2	2
ARMOUR	0-15	5	5	3	13	15	7	5	5	4	4	3	3	3	3
PRIMARY GUNS	0-15	0	0	0	8	10	6	8	8	8	6	0	0	0	0
SECONDARY GUNS	0-15	0	0	6	12	8	12	4	4	4	2	4	6	5	7
TORPEDO TUBES	0-15	0	0	0	0	0	8	0	0	8	6	0	12	8	15
VULNERABILITY	0-7	5	5	4	5	7	5	4	4	6	5	4	3	3	4
ANTI-SUBMARINE	0-7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TORPEDO LOADS	0-3	0	0	0	0	0	3	0	0	2	2	0	1	2	1

CLASS # (9a-9c)	1-63	-/11/13	-/12/14	-/13/15	-/-/16	5/14/17	6/-/-	7/15/18	-/16/19	-/17/20	8/18/21	9/19/22	10/20/23	-/-/24	11/21/25
SHIP CLASS NAME	[8]	CL 1931	CL 1931v	CL 1933B	CL 1934	CL 1938	AMC misc	DD 1917	DD 1928	DD 1930	DD 1933	DD 1934	DD 1937	DD 1939	DE 1916
ALLIED	Y/N	Y(CW)	Y(CW)	Y(CW)	Y(CW)	Y(CW)	Y(CW)	Y(CW)	Y(CW)	Y(CW)	Y(CW)	Y(CW)	Y(CW)	Y(CW)	Y(CW)
SEAPLANE	Y/N	N	N	Y	Y	Y	N	N	N	N	N	N	N	N	N
SHIP TYPE	0-4	2	2	2	2	2	4	2	2	2	2	2	2	2	2
MAXIMUM SPEED	0-45	22	22	22	21	21	10	23	23	24	24	25	24	25	24
DISPLACEMENT	0-31	4	4	4	5	4	6	1	1	1	1	1	1	1	0
HEAVY AA	0-31	8	4	4	8	8	1	1	0	1	0	0	6	4	1
LIGHT AA	0-31	1	1	1	2	3	1	0	1	1	1	1	2	1	0
ARMOUR	0-15	4	4	4	5	4	0	0	0	0	0	0	0	0	0
PRIMARY GUNS	0-15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SECONDARY GUNS	0-15	8	8	8	12	9	8	2	2	2	2	2	3	0	2
TORPEDO TUBES	0-15	8	8	8	6	6	0	4	8	8	8	8	10	8	4
VULNERABILITY	0-7	5	5	6	5	6	1	3	4	4	5	5	5	5	3
ANTI-SUBMARINE	0-7	0	0	0	0	0	0	1	1	1	1	2	3	4	1
TORPEDO LOADS	0-3	2	2	2	2	2	0	1	1	1	1	1	1	1	1

CLASS # (9a-9c)	1-63	-/22/-	12/23/26	13/24/27	14/25/-	15/26/28	16/27/-	17/28/29	18/29/-	19/30/30	20/31/31	21/32/32	22/33/33	23/34/34	24/35/35
SHIP CLASS NAME	[8]	SS 1929	CA 1929B	CL 1920	CL 1936	DD 1917	SS 1918	SS 1935	SS 1937	SS 1938	CL 1916	CL 1930	CL 1935	DD 1925	DD 1927
ALLIED	Y/N	Y(CW)	Y(US)	Y(US)	Y(US)	Y(US)	Y(US)	Y(US)	Y(US)	Y(US)	Y(NE)	Y(NE)	Y(NE)	Y(NE)	Y(NE)
SEAPLANE	Y/N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
SHIP TYPE	0-4	3	1	2	2	2	3	3	3	3	2	2	2	2	2
MAXIMUM SPEED	0-45	12	22	23	22	23	10	13	14	14	21	21	23	24	24
DISPLACEMENT	0-31	1	5	3	5	1	0	1	1	1	3	3	2	1	1
HEAVY AA	0-31	0	8	4	8	1	0	0	0	0	0	0	6	1	1
LIGHT AA	0-31	1	0	1	1	1	0	1	1	1	3	5	3	1	2
ARMOUR	0-15	0	3	0	5	0	0	0	0	0	3	2	1	0	0
PRIMARY GUNS	0-15	0	9	0	0	0	0	0	0	0	0	0	0	0	0
SECONDARY GUNS	0-15	1	0	12	15	2	1	1	1	1	10	7	6	2	2
TORPEDO TUBES	0-15	8	0	6	0	12	4	8	8	8	0	0	6	6	6
VULNERABILITY	0-7	4	3	2	4	2	0	3	3	4	3	4	5	4	4
ANTI-SUBMARINE	0-7	0	0	0	0	1	0	0	0	0	0	0	0	1	2
TORPEDO LOADS	0-3	2	0	2	0	1	2	3	3	3	0	0	1	1	1

CLASS # (9a-9c)	1-63	-/36/36	25/37/37	26/-/38	27/38/39	28/39/40	29/40/41	-/-/42	-/-/43	-/41/44	-/42/45	30/43/46	-/44/-	31/45/-	32/46/-
SHIP CLASS NAME	[8]	SS 1919	SS 1930	SS 1934	TR SMALL	TR MED	TR LARGE	CV 1921	CV 1925	CV 1935	CV 1937	CVL1931	CVL1935	CAV1936	CAV1938
ALLIED	Y/N	Y(NE)	Y(NE)	Y(NE)	Y	Y	Y	N	N	N	N	N	N	N	N
SEAPLANE	Y/N	N	N	N	N	N	N	N	N	N	N	N	N	Y	Y
SHIP TYPE	0-4	3	3	3	4	4	4	0	0	0	0	0	0	0	0
MAXIMUM SPEED	0-45	10	11	12	8	7	7	19	21	23	23	19	19	19	15
DISPLACEMENT	0-31	0	0	0	1	3	7	17	17	8	9	4	6	5	5
HEAVY AA	0-31	1	1	1	0	0	1	16	12	12	12	8	8	4	6
LIGHT AA	0-31	1	1	1	1	1	2	3	4	4	4	4	1	2	2
ARMOUR	0-15	0	0	0	0	0	0	11	10	2	2	1	0	0	0
PRIMARY GUNS	0-15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SECONDARY GUNS	0-15	0	0	0	0	0	0	14	6	6	6	0	4	2	3
TORPEDO TUBES	0-15	6	8	8	0	0	0	0	0	0	0	0	0	0	0
VULNERABILITY	0-7	2	3	4	2	2	3	0	1	2	2	1	1	2	2
ANTI-SUBMARINE	0-7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TORPEDO LOADS	0-3	2	2	2	0	0	0	0	0	0	0	0	0	0	0

CLASS # (9a-9c)	1-63	33/47/47	34/48/48	35/49/49	36/50/50	-/-/51	38/52/52	39/53/53	40/-/54	41/-/55	42/-/56	43/54/57	44/55/58	-/56/59	45/57/60
SHIP CLASS NAME	[8]	BC 1912	CA 1927	CA 1930	CA 1934	CA 1937	CL 1921	CL 1923B	DD 1919	DD 1922B	DD 1925	DD 1927	DD 1931	DD 1932	DD 1935
ALLIED	Y/N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
SEAPLANE	Y/N	Y	Y	Y	Y	Y	N	N	N	N	N	N	N	N	N
SHIP TYPE	0-4	1	1	1	1	1	2	2	2	2	2	2	2	2	2
MAXIMUM SPEED	0-45	20	23	23	23	23	24	23	27	25	25	23	23	22	23
DISPLACEMENT	0-31	15	6	6	6	6	2	3	1	1	1	1	1	1	1
HEAVY AA	0-31	8	8	8	8	8	1	1	0	3	2	6	4	5	5
LIGHT AA	0-31	3	1	2	2	2	1	1	1	1	2	1	2	1	1
ARMOUR	0-15	8	4	5	6	6	3	3	0	0	0	0	0	0	0
PRIMARY GUNS	0-15	8	10	10	10	8	0	0	0	0	0	0	0	0	0
SECONDARY GUNS	0-15	14	4	4	4	4	4	4	2	2	1	3	2	3	3
TORPEDO TUBES	0-15	0	8	15	12	12	8	8	6	4	6	9	9	6	8
VULNERABILITY	0-7	4	4	4	3	5	3	3	1	2	3	3	3	4	4
ANTI-SUBMARINE	0-7	0	0	0	0	0	0	0	1	2	4	2	3	2	2
TORPEDO LOADS	0-3	0	3	2	2	2	2	2	2	1	1	1	2	2	2

JSS - Ship Classes (cont.)

CLASS # (9a-9c)	1-63	46/58/61	47/59/62	48/60/-	49/61/-	50/62/-	51/63/63
SHIP CLASS NAME	[8]	DD 1936	DD 1938	SS 1931	TR SMALL	TR MED	TR LARGE
ALLIED	Y/N	N	N	N	N	N	N
SEAPLANE	Y/N	N	N	N	N	N	N
SHIP TYPE	0-4	2	2	3	4	4	4
MAXIMUM SPEED	0-45	23	23	14	7	6	6
DISPLACEMENT	0-31	1	1	1	1	2	4
HEAVY AA	0-31	6	6	1	0	0	0
LIGHT AA	0-31	1	1	1	1	1	2
ARMOUR	0-15	0	0	0	0	0	0
PRIMARY GUNS	0-15	0	0	0	0	0	0
SECONDARY GUNS	0-15	3	3	0	0	0	0
TORPEDO TUBES	0-15	8	8	6	0	0	0
VULNERABILITY	0-7	4	5	3	2	1	1
ANTI-SUBMARINE	0-7	2	2	0	0	0	0
TORPEDO LOADS	0-3	2	2	2	0	0	0

JSS - Names

SCENARIO	9a	9b	9c
AXIS THEATRE 0	YAMASHITA	YAMASHITA	OZAWA
AXIS THEATRE 1	HOMMA	OZAWA	-
AXIS FORCE 0	KONDO	TAKAGI	KURITA
AXIS FORCE 1	OZAWA	NISHIMURA	TAKAGI
AXIS FORCE 2	-	ABE	KONDO
AXIS FORCE 3	-	KONDO	-
ALLIED THEATRE 0	PERCIVAL	PERCIVAL	WAVELL
ALLIED THEATRE 1	MACARTHUR	WAVELL	-
ALLIED FORCE 0	PHILLIPS	SOMERVILLE	SOMERVILLE
ALLIED FORCE 1	HART	CONVOYS	HELFRICH
ALLIED FORCE 2	DOORMAN	HELFRICH	TRANSPORTS
ALLIED FORCE 3	TRANSPORTS	TRANSPORTS	-

JAPAN SWEEPS SOUTH - Carriers

CARRIER # (9a-9c)	1-63	-/1/1	1/2/2	-/3/3	-/-/4	-/-/5	-/4/6	-/5/7	2/6/8	-/7/-	3/8/-	4/9/-
CARRIER NAME	[8]	Formidable	Indomitable	Hermes	Kaga	Akagi	Soryu	Hiryu	Ryujo	Zuiho	Chitose	Mizuho
AIR CAPACITY	Y/N	33	45	20	90	90	71	73	48	30	24	24
CLASS # (9a-9c)	Y/N	-/1/1	1/2/2	-/3/3	-/-/42	-/-/43	-/41/44	-/42/45	30/43/46	-/44/-	31/45/-	32/46/-
TASK GROUP	0-4	-/5/4	3/5/4	-/1/1	-/-/1	-/-/1	-/4/1	-/4/1	5/7/9	-/4/-	3/3/-	3/3/-
ASSIGNED SQNS (9a)	0-45	-	15-18	-	-	-	-	-	79-81	-	82	83
ASSIGNED SQNS (9b)	0-31	31-33	34-37	38	-	-	72-74	75-77	78-80	81-83	96	97
ASSIGNED SQNS (9c)	0-31	22-24	25-28	29	55-57	58-60	61-63	64-66	67-69	-	-	-
SPOT NUMBER	0-31	3	4	2	7	7	6	6	4	4	1	1
DAMAGE STATUS	0-15	15	15	15	15	15	15	15	15	15	15	15
RADAR	0-15	3	3	1	0	0	0	0	0	0	0	0
DAMAGE CONTROL	0-15	2	2	2	1	1	1	1	1	1	1	1
AA ACCURACY	0-15	2	2	2	1	1	1	1	1	1	1	1

JAPAN SWEEPS SOUTH - Squadrons (9a)

SQUADRON NUM.	1-126	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
PLANE TYPE	1-63	14	10	1	14	14	1	1	13	18	17	18	13	18	13	2	2	7	12	13	19	20	20	5	16	16	6	6	6	3	11	16	16	17	17	29	24	24	28	34	25	25
# AIRCRAFT	1-63	11	12	12	8	16	32	16	4	6	3	12	12	6	8	9	9	9	12	12	1	1	1	18	9	9	18	18	18	18	12	9	9	15	15	36	27	18	12	6	27	27
EXHAUSTION	0-7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
EXPERIENCE	0-3	2	1	1	1	2	1	1	2	1	2	1	2	1	2	2	2	3	2	2	2	2	1	2	2	1	1	1	1	1	0	1	1	1	1	3	2	3	3	3	3	2
ADMIN	0-3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	0	1	1	1	1	2	2	2	2	2	2	2
RECON OPS	Y/N	N	N	N	N	N	N	N	Y	N	Y	N	Y	N	Y	N	N	N	Y	Y	Y	Y	Y	N	N	N	N	N	N	N	N	N	N	Y	Y	N	N	N	N	Y	N	N
NIGHT OPS	Y/N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
CARRIER OPS	Y/N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	Y	Y	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

SQUADRON NUM.	1-126	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82
PLANE TYPE	1-63	24	24	28	34	25	33	36	39	41	41	35	37	36	41	41	29	29	30	30	25	25	24	24	35	37	37	37	42	41	36	35	35	35	42	41	41	36	24	28	31	23
# AIRCRAFT	1-63	27	18	12	6	27	24	13	9	18	18	27	18	9	18	18	20	22	24	24	24	24	27	27	6	27	27	27	18	18	9	27	27	27	18	18	27	9	9	9	15	12
EXHAUSTION	0-7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
EXPERIENCE	0-3	3	3	3	3	3	2	2	2	3	3	3	3	2	3	3	3	3	3	2	3	3	2	3	3	3	2	3	3	2	3	3	3	3	3	3	3	3	3	3	3	3
ADMIN	0-3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
RECON OPS	Y/N	N	N	N	Y	N	Y	Y	Y	N	N	N	N	Y	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	Y	N	N	N	N	N	N	Y	N	N	N	Y
NIGHT OPS	Y/N	N	N	N	N	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
CARRIER OPS	Y/N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	Y	Y	N

JSS - Squadrons (9b)

SQUADRON NUM.	1-126	83	84	85	86	87	88	89	90	91	92	93	94	95	96
PLANE TYPE	1-63	23	23	23	23	23	23	23	26	26	26	26	26	32	32
# AIRCRAFT	1-63	16	3	3	2	2	2	2	2	2	2	2	2	2	2
EXHAUSTION	0-7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
EXPERIENCE	0-3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
ADMIN	0-3	2	2	2	2	2	2	2	2	2	2	2	2	2	2
RECON OPS	Y/N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
NIGHT OPS	Y/N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
CARRIER OPS	Y/N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

SQUADRON NUM.	1-126	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
PLANE TYPE	1-63	20	20	20	19	19	18	13	9	1	10	14	13	14	14	15	15	17	4
# AIRCRAFT	1-63	1	1	1	1	1	8	5	18	9	5	10	11	18	7	8	16	7	16
EXHAUSTION	0-7	7	7	7	7	7	5	6	7	4	6	6	7	7	5	6	7	6	7
EXPERIENCE	0-3	2	2	2	2	2	2	2	1	2	2	2	2	1	2	1	1	1	1
ADMIN	0-3	2	2	2	2	2	1	1	1	0	0	0	0	0	0	1	1	1	1
RECON OPS	Y/N	Y	Y	Y	Y	Y	N	Y	N	N	N	N	Y	N	N	N	Y	N	N
NIGHT OPS	Y/N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	N
CARRIER OPS	Y/N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

SQUADRON NUM.	1-126	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59
PLANE TYPE	1-63	1	15	4	16	17	4	1	17	17	13	13	6	2	7	12	2	2	7	12	12	37	37	35	41	36	40	41	36	38	41	42	43	42	41	36	29	29	24	29	25	24
# AIRCRAFT	1-63	14	12	10	12	6	12	10	4	4	13	10	10	9	9	12	9	9	9	12	22	24	19	21	17	6	17	14	7	18	8	11	12	11	10	5	16	14	16	23	21	30
EXHAUSTION	0-7	7	7	7	5	6	7	7	6	6	7	7	7	7	7	7	7	7	7	7	7	6	5	6	5	7	6	5	6	4	5	6	7	5	5	7	5	5	4	6	6	5
EXPERIENCE	0-3	1	1	1	3	2	1	1	2	1	1	1	1	2	2	3	2	2	2	3	2	3	3	3	3	3	3	3	3	3	3	2	3	3	3	3	3	3	3	3	3	3
ADMIN	0-3	1	1	1	1	1	1	1	1	0	1	1	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	2	2	2	2	2
RECON OPS	Y/N	N	N	N	N	Y	N	N	Y	Y	Y	Y	N	N	N	Y	N	N	N	Y	Y	N	N	N	N	Y	N	N	Y	N	N	N	N	N	Y	N	N	N	N	N	N	N
NIGHT OPS	Y/N	N	N	N	N	Y	N	N	Y	Y	N	N	N	N	N	Y	N	N	N	Y	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
CARRIER OPS	Y/N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

SQUADRON NUM.	1-126	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
PLANE TYPE	1-63	24	34	25	24	24	30	24	24	24	33	24	33	24	31	27	24	31	27	24	28	31	24	31	27	23	23	23	32	23	23	26	23	26	26	26	32	23	23	24	24	24
# AIRCRAFT	1-63	23	9	21	17	12	14	7	11	9	4	12	7	18	27	18	18	27	18	9	9	14	9	9	9	3	3	2	2	2	2	2	2	2	2	2	12	16	14	17	13
EXHAUSTION	0-7	6	6	6	5	5	5	4	5	5	6	4	6	7	7	7	7	7	7	5	6	5	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	6	6	5
EXPERIENCE	0-3	3	3	3	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	2	2	2	3	3	3	3	3	2	3	3	3	3	3	3	3	3	3	3	3	3
ADMIN	0-3	2	2	2	2	2	1	1	1	0	1	0	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1
RECON OPS	Y/N	N	Y	N	N	N	N	N	N	N	Y	N	Y	N	N	N	N	N	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N
NIGHT OPS	Y/N	N	N	N	N	N	N	N	N	N	Y	N	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
CARRIER OPS	Y/N	N	N	N	N	N	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

JSS - Squadrons (9c)

SQUADRON NUM.	1-126	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
PLANE TYPE	1-63	20	20	20	19	19	20	9	4	15	17	9	13	14	1	17	6	4	16	17	13	17	2	8	12	2	2	8	12	12	37	35	42	41	24	24	29	29	23	33	33	24
# AIRCRAFT	1-63	1	1	1	1	1	1	14	10	11	6	11	5	9	9	6	10	8	5	4	8	6	9	9	12	9	9	9	12	22	26	20	12	17	17	14	12	16	6	4	10	12
EXHAUSTION	0-7	7	7	7	7	7	7	5	6	6	6	5	5	6	6	6	7	5	5	6	7	7	7	7	7	7	7	7	7	7	6	7	7	6	6	5	6	6	7	7	7	6
EXPERIENCE	0-3	2	2	2	2	2	2	2	2	1	2	2	3	2	1	2	1	2	3	2	1	1	2	2	2	2	2	2	3	2	3	3	3	3	3	3	3	3	2	2	2	3
ADMIN	0-3	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	2	1
RECON OPS	Y/N	Y	Y	Y	Y	Y	Y	N	N	N	Y	N	Y	N	N	Y	N	N	N	Y	Y	Y	N	N	Y	N	N	N	Y	Y	N	N	N	N	N	N	N	Y	Y	Y	N
NIGHT OPS	Y/N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	Y	N	N	N	Y	N	Y	N	N	Y	N	N	N	Y	Y	N	N	N	N	N	N	N	N	Y	Y	N
CARRIER OPS	Y/N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N	N	N	N	N	N	N

SQUADRON NUM.	1-126	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	84	85	86	87	88	89	90	91	92	93	94	95	96
PLANE TYPE	1-63	24	30	25	24	29	34	24	25	25	34	33	24	34	24	31	27	24	31	27	24	31	27	24	31	27	24	28	31	23	23	23	23	23	23	26	26	26	26	26	32	32
# AIRCRAFT	1-63	14	20	22	9	14	9	16	19	16	9	6	12	6	18	27	27	18	27	27	18	27	18	18	27	18	9	9	15	3	3	2	2	2	2	2	2	2	2	2	5	5
EXHAUSTION	0-7	5	6	7	5	6	7	5	6	6	7	7	6	6	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
EXPERIENCE	0-3	3	3	3	3	3	2	3	3	3	2	2	3	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
ADMIN	0-3	1	1	1	0	1	1	2	2	2	2	1	0	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
RECON OPS	Y/N	N	N	N	N	N	Y	N	N	N	Y	Y	N	Y	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
NIGHT OPS	Y/N	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
CARRIER OPS	Y/N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N	N	N	N	N	N	N	N

JAPAN SWEEPS SOUTH - Brief

NATIONALITY		AXIS			ALLIES		
SCENARIO	9a-9c	9a	9b	9c	9a	9b	9c
MORALE	0-3	3	3	3	1	2	1
PASSIVE ASW	0-3	0	0	0	0	0	0
FIRE CONTROL	0-3	2	2	2	2	2	2
INVASION MULT.	0-3	2	2	3	0	0	0
RADAR TECH.	0-3	0	0	0	1	1	1
AERIAL TORPS	0-3	3	3	3	2	2	2
SURFACE TORPS	0-3	3	3	3	2	2	2
SUB. TORPS	0-3	3	3	3	1	1	1
ABORT DIRECTION	0-7	0	0	0	4	4	4
SURPRISED	Y/N	N	N	N	Y	N	N
PARA-FRAGS	Y/N	N	N	N	N	N	N
CLEAR POINTS	Y/N	Y	Y	Y	Y	Y	Y
COASTWATCHER 1	(x,y)	-	-	-	63,12	55,48	-
COASTWATCHER 2	(x,y)	-	-	-	70,23	58,50	-
COASTWATCHER 3	(x,y)	-	-	-	60,23	69,52	-
COASTWATCHER 4	(x,y)	-	-	-	-	-	-
COASTWATCHER 3	(x,y)	-	65,51	-	-	-	-
COASTWATCHER 4	(x,y)	-	63,55	-	-	-	-

JSS - Weather (All Scenarios)

MAP SECTOR	[12]	1	2	3	4	5	6	7	8	9	10	11	12
CONDITION	0-3	0	1	0	1	0	3	1	0	1	2	1	1
DIRECTION	0-7	7	7	7	7	1	1	1	1	2	2	2	2
RELIABILITY	0-1	0	0	0	0	0	0	0	0	0	0	0	0

JSS - Length

SCENARIO	9a-9c	9a	9b	9c
START HOUR	0-23	23	23	23
DAY	1-31	7	20	27
MONTH	1-12	12	1	2
YEAR	0-55	41	42	42
DAWN	3-10	6	6	6
DUSK	15-22	19	19	19
END HOUR	0-23	22	22	33
END DAY	1-9	3	3	5
FORECAST	0-3	0	0	1

explosive shells for the 10 inch naval rifles emplaced within them which would render the guns fairly useless in the event of a land attack.

The naval forces in Singapore harbour at the outbreak of war were by far the greatest asset available to General Percival, the British Commander-in-Chief in the Far East. *HMS Prince of Wales*, one of the most modern and powerful battleships afloat and more than a match for any Japanese capital ship at that time in service, together with the refurbished battlecruiser *HMS Repulse*, presented a formidable threat to any invasion attempt. The fleet aircraft carrier, *HMS Indomitable*, had run aground in the Bahamas in early November and was still under repair. The absence of air defence for the British fleet was to cost dearly.

Fifteen hundred miles to the north-east of Singapore, at Manila, was the headquarters of the United States forces in the far east, under the Command of General MacArthur.

The air forces of the USAAFFE (United States Army Air Forces Far East), while a bit on the thin side, were generally of modern types. The one hundred Curtiss Warhawk fighters would present a serious obstacle to Japanese airstrikes from Formosa, particularly in view of the distance separating the bases. Furthermore some thirty-five four-engined Boeing bombers, the redoutable Flying Fortresses, were available. Their high flight ceiling, rugged construction, formidable armament and huge payload capacity made them the doyen of the skies. The most pressing concern for the air force, and indeed the army, would be the acquisition of replacements so far from home.

As part of the Washington Naval Treaty, the United States had refrained from strengthening the permanent fortifications in the Bataan/Corregidor area. Work did recommence in early 1941 but it was another case of *too little, too late*. A more cynical view of American tardiness would suggest that many of the shortcomings facing the US Combined Chiefs on the outbreak of war were the responsibility of a parsimonious congress rather than attributable to rigid adherence to the Naval Treaty.

The surface naval forces available to MacArthur were woefully inadequate to contest any Japanese amphibious operation. However, the twenty-two modern fleet submarines based at Cavite (the principal US naval base in the Philippines just to the south of Manila) were expected to play havoc with enemy lines of communication... and perhaps they would have, were it not for the functionally useless magnetic torpedoes with which they were equipped.

To the south, and centrally located between the American and British forces, were the Netherlands East Indies. With both the government and Royal Family in exile in London, the Dutch forces were grimly determined to do what they could to protect their prized possession.

The Japanese invasion forces for the conquest of Malaya embarked on December 4th at Samah Bay on the island of Hainan. They were detected a day later by Allied reconnaissance and while it was hoped that their destination might be Thailand, the more pragmatic observers realized that war was imminent.

American, British and Dutch authorities were well aware of the situation and the expected attack.

The naval and amphibious forces available to Japan were substantial and well trained. They were not overwhelming. That they were able to destroy every enemy element sent to oppose them at a trifling cost in just three months makes this campaign the most incredible and baffling of the war.

The area in question is huge; some 5 million square miles. At no time until the fall of Singapore did the Japanese ground forces outnumber their Allied opponents, nor were they well supplied with artillery or other heavy weapons.

It was the combination of resolute naval and air support together with aggressive and determined leadership which best exemplified the major elements behind the Japanese successes.

It is harder to assess the reasons for the Allied failure.

The United States had not fought a serious naval war since the turn of the century, nor had any capital ship in the fleet fired a shot in anger. Only a tiny proportion of US servicemen had had any experience of war. And most importantly, the evidence of the last century would suggest that resolute decision making does not seem to be encouraged in peace-time democratic armies.

There are no such excuses for the abysmal performance of the British forces. Two years of desperate warfare, including a great many naval actions, should have been more than enough preparation for the trials to come. A combination of timorous leadership, dispirited troops, inadequate and undirected support together with a totally unwarranted contempt for a supposedly inferior Asiatic foe seem to be the main ingredients in the fiasco.

How ambitious, even unrealistic, would have been the Japanese plans in the face of determined and vigorous Allied resistance?

THE SCENARIOS

Before beginning any of the scenarios, please read these remarks.

The ground scale used in these scenarios is 30 nautical miles to the hex rather than the usual 20 nautical miles. Aircraft cruising speed, ship maximum speed, radar range and task group endurance are the only variables which have to be altered to reflect the change in scale. In fact, providing these four variables are properly accounted for, the game system can handle a ground scale anywhere from 15-50 nm per hex without getting out of hand.

If the task of entering the data for these scenarios appears too daunting, there is an alternative. Read the editorial to this issue for the details of our scenario disk offer. We've had too many requests for this service to ignore the demand.

For those who like typing or keeping their money in the pocket (like me), there are some helpful suggestions in the Notes section to minimize the time and effort necessary to get the scenarios up and running.

SCENARIO 9A
Japan Sweeps South

Japanese first phase invasions have been planned for Singora, Patani and Kota Bharu on the Malayan Peninsula and for Aparri, Vigan and Legaspi in the Philippines. The invasion fleets are already en route to their targets as the scenario begins at 2300 hours on Dec 7, 1941. (For comparison, the time on the Hawaiian Islands is 0400 hours, Dec 7.)

The operations against Malaya are quite separate from those against the Philippines. Each task force has to rely on separate air cover. With Allied unpreparedness in effect, sufficient damage can be done with the initial strikes that neither objective can mount an effective counter-attack.

The Allied situation is pretty well hopeless. The best that can be expected is the possibility of inflicting some damage on Japanese capital ships with the *Prince of Wales* and *Repulse* (which become available on the morning of the ninth).

Variations

1. Assume the Allied forces are unsurprised. Type (N) on the <SURPRISED> line of Menu 9.

2. Assume the British had sent some proper fighters to Singapore in time to be of some use. Add 3 squadrons of Hurricanes (Plane Type 9), each 16 aircraft, 7 fatigue, 2 training, 1 admin to the British OB. Deploy 2 squadrons in Singapore and 1 in Alor Setar. Menus 15 through 17 will need to be edited.

3. Task Group 3 in the Allied OB is an optional reinforcement as evidenced by the fact it is scheduled to appear on day 9 (well after the scenario has ended). Locate this task group using Menu 8 and alter the <REINFORCE> line to 0. Furthermore, locate Allied task groups 1 and 2 and alter the <REINFORCE> line for each to 0. This will create a powerful force and offers the British player a real chance to inflict some serious damage on the Japanese armada.

Finally, by combining all three variations, it is possible to cause a real set-back to Japanese plans.

SCENARIO 9B
Closing the Ring

Japanese amphibious forces have been split into two groups. A central invasion force, despatched from Tarakan, is sailing through the Makassar Strait en route to Balikpapan in Dutch Borneo while an eastern invasion force is preparing to depart Menado at the northern tip of the Celebes for the capture of Kendari, an important settlement at the southern end of the same island boasting the best airfield in the region outside of Java.

Carrier Division 2, comprising *Soryu* and *Hiryu*, form the spearhead of Vice-Admiral Kondo's cover force. These air groups are the best protection available for the vulnerable transports.

There is some land-based air on forward airbases but the generally poor condition of most strips is going to result in a high attrition rate.

Finally, there are substantial JAAF and JNAF aircraft operating from captured airfields in Malaya. Their principal job is the reduction of the remnants of British air strength still operating from the beleagured island of Singapore.

For the Allies, it's another impending disaster. There are convoys of reinforcements en route to Singapore which must be protected, sorties to be mounted againt the invasion flotillas and air defense provided both for Singapore and Java. The British air forces have been somewhat stiffened by the arrival of some Hurricane fighters but the loss of almost all the American air forces have more than countered this gain.

Variations

1. Assume that the Japanese Navy's Car Div 2 had got into some difficulties in the Wake Island operation. This variation is especially appropriate for those readers who have managed to damage these ships in last issue's scenario. Enter

Menu 8 and alter the <REINFORCE> line for Japanese Task Group 4 to 9. This will ensure it doesn't arrive during the course of the scenario.

2. The British have three optional task groups available; TG's 1,2 and 5. Enter Menu 8 and alter the <REINFORCE> line of each from 9 to 0. These forces appear in the Indian Ocean to the south of Sumatra.

SCENARIO 9C
The Last Bastion

By the end of February, 1942, Java was the last bastion of effective Allied resistance in South East Asia except for a dwindling force of American soldiers, abandoned by their commander, still holding out on the Bataan peninsula in the Philippines.

The Japanese plan to conquer the island involved simultaneous landings at the eastern and western ends combined with a ferocious air assault from both land based and carrier based aircraft. The western invasion force has sortied from Camranh Bay in French Indo-China and begins the scenario in the South China Sea some 200 nautical miles east of Singapore. The eastern arm of the pincer is scheduled to depart Balikpapan on the morning of the 27th.

Supporting the invasion is a heavy carrier strike group made up of *Kaga*, *Akagi*, *Soryu* and *Hiryu* together with almost a dozen capital ships.

The writing is on the wall for the Allied player. There is nowhere to run. The only option left to the Allied player is to do his duty.

Variations

1. American air reinforcements, arriving in Australia, were too late to affect the outcome of this campaign. We can assume they arrived a little earlier. Add 3 squadrons of P-40E warhawks (each 16 aircraft, 7 fatigue, 1 experience and 1 admin), 2 squadrons of Hud3As (each 12 aircraft, 7 fat, 1 exp, 1 admin) and 1 squadron of B-17Cs (16 aircraft, 7 fat, 1 exp, 1 admin) to any airbases on Java.

2. Again the Allied player can make use of an optional task force, this time comprising 4 task groups. Schedule TG's 1-4 to arrive on day 0 instead of day 9. This force, provided it steers clear of the Japanese carriers, can make some splendid problems for the enemy transports.

EXTENDED VARIATIONS

In addition to the scenarios provided here, there is plenty of opportunity to experiment further with this campaign, both in terms of combining them in the sense that losses from previous scenarios are unavailable in subsequent ones and introducing additional forces to the affray.

The other important campaign which can be covered using this map of Greater South East Asia is the Philippines invasion of late 1944.

In a future issue we'll explore these possibilities further.

NOTES ON THE DATA

1. Prohibited Ocean Hexes. Due to the convoluted shape of some islands, there are a number of ocean hexes which must be designated as prohibited (i.e. terrain type T1 as explained in the map creation section in the Design Handbook). Rather than try to identify these hexes on the map, which could get a bit confusing given the profusion of small islands, channels and shoals, a list of the no-go hexes appears below.

Mainland China - 22,30 24,32 45,5

Sumatra - 13,46, 19,51 19,52

Java - 24,65 40,68

The Philippines - 62,18 62,19 63,19 63,21 67,31 68,31 65,35 66,35 67,35

Borneo - 38,48 52,38 54,39 53,44 45,58 38,59 34,54

Celebes - 59,58 60,58 61,58 66,49 65,49 65,50 62,54 78,45 79,46 78,48

2. Creating the Weather. Menu 14 (the weather forecast) is the same for all scenarios. To generate the location of the initial weather elements, enter Menu 13 and type (RET) a couple of times to get an interesting pattern. Save this creation as the weather pattern for the scenario. Note that this is the same procedure as recommended in the Wake Island scenario.

3. Entering the Data. Create all of scenario 9a except for the weather pattern. In those routines with separate entries for each scenario, be careful to enter only those values assigned to scenario 9a. Save the result of this labour in three locations as 9a, 9b and 9c. Complete the weather pattern for 9a and you're ready to play that scenario. To create scenario 9b, edit those routines which have different data from 9a and save the result in the 9b location. Complete scenario 9c the same way.

4. Clearing Map Points. This is another reminder that you must type (Y) on the <CLEAR MAP POINTS> line. Otherwise, every coastwatcher and anchor point will end up in hex location 0,0. This applies even if a side has no coastwatchers or anchor points at all.

CHRONOLOGY OF EVENTS

Dec 8	US air forces in the Philippines decimated
	Invasion of Malaya
Dec 9	Thailand surrenders
Dec 10	Aparri captured (Phil.)
	Prince of Wales and Repulse sunk
Dec 12	Legaspi captured (Phil.)
Dec 16	Miri captured (British Borneo)
Dec 19	British Borneo surrenders
Dec 20	Davao captured (Phil.)
Dec 22	Japanese Main Force lands at Lingayen Gulf (Phil.)
Jan 2	Manila captured (Phil.)
Jan 10	ABDA Command established
Jan 11	Japan declares war on Holland
	Menado captured (Celebes)
Jan 12	Tarakan captured (Dut. Bor.)
Jan 23	Balikpapan captured (")
Jan 24	Kendari captured (Celebes)
	USN destroyers raid Japanese transports at Balikpapan
Jan 30	Ambon Is. captured
Feb 4	Battle of Makassar Strait
Feb 15	Singapore surrenders
	Palembang captured (Sum.)
Feb 16	Banjarmasin captured (Dut. Borneo)
Feb 19	Bali captured
	Timor captured
	Darwin struck by Nagumo's Carrier Force
Feb 20	Battle of Badung Strait
Mar 1	Battle of the Java Sea
Mar 8	Netherlands East Indies surrenders
	Rangoon captured (Burma)
Mar 28	Japanese occupy remainder of Sumatra
May 6	All US forces in the Philippines surrender

JAPAN SWEEPS SOUTH - Other Ships

SHIP NUM. (9a)	1-215	-	-	-	-	1	2	-	-	-	-	-	3	4	5
SHIP NUM. (9b)	1-215	-	1	-	-	-	-	2	3	4	5	-	6	7	8
SHIP NUM (9c)	1-215	1	2	3	4	-	-	5	6	7	8	9	10	11	12
PENNANT NUMBER	[5]	BB 05	BB 06	BB 07	BB 09	BB 53	BC 34	CA 56	CAI33	CA 40	CA 68	CL 59	CLI44	CLI46	CLI99
SHIP CLASS	1-63	-/-/4	-/4/4	-/-/4	-/-/4	2/-/-	3/-/-	-/5/5	-/6/6	-/7/7	-/8/8	-/-/9	4/9/10	4/9/10	4/9/10
DAMAGE STATUS	0-15	15	15	15	15	15	15	15	15	15	15	15	15/15/13	15/15/12	15
CARGO	0-15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RADAR	0-7	1	1	1	1	2	2	1	0	1	1	0	0	0	0
DAMAGE CONTROL	0-3	2	2	2	2	2	2	2	2	2	2	2	2	2	2
AA ACCURACY	0-3	1	1	1	1	2	2	2	1	2	2	2	2	2	2
TASK GROUP	1-23	-/-/1	-/1/1	-/-/1	-/-/1	1/-/-	1/-/-	-/2/2	-/2/2	-/2/2	-/3/8	-/-/2	2/4/3	2/3/5	2/4/5
ASS. SUB PATROL	(x,y)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SUB DEPTH	0-7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SUB SPEED	0-7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SEAPLANE SQN	[1]	-	-	-	-	21/-/-	22/-/-	-/1/1	-	-/2/2	-/3/3	-	-	-	-

SHIP NUM. (9a)	1-215	-	-	-	-	-	-	-	-	6	7	8	-	9	-
SHIP NUM. (9b)	1-215	-	-	9	-	10	11	12	-	13	-	-	14	15	16
SHIP NUM (9c)	1-215	13	14	15	16	17	18	19	20	21	-	-	22	23	24
PENNANT NUMBER	[5]	CL 88	CL 89	CL 52	CL 66	CL 75	CL 70	CLI29	CL 21	CL 80	AMC 1	AMC 2	DDD31	DDD68	DDD69
SHIP CLASS	1-63	-/-/11	-/-/11	-/10/12	-/-/12	-/11/13	-/12/14	-/13/15	-/-/16	5/14/17	6/-/-	6/-/-	-/15/18	7/15/18	-/15/18
DAMAGE STATUS	0-15	15	15	15	15	15	15	15	15	15	15	15	15	15/15/12	15
CARGO	0-15	0	0	0	0	0	0	0	0	0	6	7	0	0	0
RADAR	0-7	0	0	0	0	0	0	0	2	1	0	0	0	0	0
DAMAGE CONTROL	0-3	2	2	2	2	2	2	2	2	2	1	1	2	2	2
AA ACCURACY	0-3	2	2	2	2	2	2	2	2	2	0	0	2	2	2
TASK GROUP	1-23	-/-/3	-/-/6	-/1/7	-/-/3	-/2/4	-/2/3	-/2/8	-/-/3	3/5/4	4/-/-	5/-/-	-/3/5	1/1/2	-/3/5
ASS. SUB PATROL	(x,y)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SUB DEPTH	0-7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SUB SPEED	0-7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SEAPLANE SQN	[1]	-	-	-	-	-	-	-/4/4	-/-/5	20/5/6	-	-	-	-	-

SHIP NUM. (9a)	1-215	-	-	10	11	12	-	-	13	-	-	14	-	-	-
SHIP NUM. (9b)	1-215	17	18	19	20	21	22	23	24	-	25	26	-	-	-
SHIP NUM (9c)	1-215	25	26	27	28	29	30	31	32	33	34	35	36	37	38
PENNANT NUMBER	[5]	DDH42	DDH75	DDH10	DDH27	DDH61	DDH69	DDH70	DDD87	DDH01	DDH31	DDF85	DDG02	DDG49	DDG97
SHIP CLASS	1-63	-/16/19	-/17/20	8/18/21	8/18/21	8/18/21	-/18/21	-/18/21	9/19/22	-/-/22	-/19/22	10/20/23	-/-/23	-/-/23	-/-/23
DAMAGE STATUS	0-15	15	15	15/15/13	15	15	15	15	15	15	15	15	15	15	15
CARGO	0-15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RADAR	0-7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DAMAGE CONTROL	0-3	2	2	2	2	2	2	2	2	2	2	2	2	2	2
AA ACCURACY	0-3	2	2	2	2	2	2	2	2	2	2	2	2	2	2
TASK GROUP	1-23	-/3/1	-/3/1	3/3/3	1/2/2	1/2/2	-/4/1	-/5/1	3/3/2	-/-/3	-/5/2	3/4/3	-/-/3	-/-/2	-/-/3
ASS. SUB PATROL	(x,y)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SUB DEPTH	0-7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SUB SPEED	0-7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SEAPLANE SQN	[1]	-	-	-	-	-	-	-	-	-	-	-	-	-	-

SHIP NUM. (9a)	1-215	-	-	15	16	17	-	18	19	20	21	22	23	24	25
SHIP NUM. (9b)	1-215	-	-	27	28	29	30	31	32	33	34	-	35	36	-
SHIP NUM (9c)	1-215	39	40	41	-	42	-	44	45	-	-	46	47	-	48
PENNANT NUMBER	[5]	DDG41	DDG69	DEH04	DEH29	DEH51	SSN62	CA 30	CL 12	CL 47	DD211	DD213	DD216	DD217	DD218
SHIP CLASS	1-63	-/-/24	-/-/24	11/21/25	11/21/-	11/21/25	-/22/-	12/23/26	13/24/27	14/25/-	15/26/-	15/-/28	15/26/28	15/26/-	15/-/28
DAMAGE STATUS	0-15	15	15	15	15	15	15	15/15/12	15	15	15	15	15/15/12	15	15
CARGO	0-15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RADAR	0-7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DAMAGE CONTROL	0-3	2	2	2	2	2	1	1	1	1	1	1	1	1	1
AA ACCURACY	0-3	2	2	2	2	2	2	1	1	1	1	1	1	1	1
TASK GROUP	1-23	-/-/4	-/-/4	1/1/3	2/2/-	2/2/2	-	6/6/8	7/7/10	6/6/-	8/8/-	7/-/10	8/8/8	8/8/-	8/-/8
ASS. SUB PATROL	(x,y)	-	-	-	-	-	30,49	-	-	-	-	-	-	-	-
SUB DEPTH	0-7	-	-	-	-	-	6	-	-	-	-	-	-	-	-
SUB SPEED	0-7	-	-	-	-	-	4	-	-	-	-	-	-	-	-
SEAPLANE SQN	[1]	-	-	-	-	-	-	-	-	-	-	-	-	-	-

SHIP NUM. (9a)	1-215	26	27	28	29	30	31	32	33	34	35	36	37	-	38
SHIP NUM. (9b)	1-215	-	37	38	-	39	40	41	42	-	-	-	-	43	-
SHIP NUM (9c)	1-215	-	49	50	51	-	52	53	54	-	-	-	-	-	-
PENNANT NUMBER	[5]	DD219	DD222	DD224	DD225	DD226	DD227	DD228	DD230	S-36	S-37	S-38	S-39	S-41	SS175
SHIP CLASS	1-63	15/-/-	15/26/28	15/26/28	15/-/28	15/26/-	15/26/28	15/26/28	15/26/28	16/-/-	16/-/-	16/-/-	16/-/-	-/27/-	17/-/-
DAMAGE STATUS	0-15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
CARGO	0-15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RADAR	0-7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DAMAGE CONTROL	0-3	1	1	1	1	1	1	1	1	1	1	1	1	1	1
AA ACCURACY	0-3	1	1	1	1	1	1	1	1	1	1	1	1	1	1
TASK GROUP	1-23	8/-/-	7/8/10	7/8/8	6/-/8	6/7/-	6/7/8	6/7/8	7/7/8	-	-	-	-	-	-
ASS. SUB PATROL	(x,y)	-	-	-	-	-	-	-	-	57,16	59,22	62,23	57,20	58,41	60,9
SUB DEPTH	0-7	-	-	-	-	-	-	-	-	2	2	2	2	2	4
SUB SPEED	0-7	-	-	-	-	-	-	-	-	6	6	6	6	6	3
SEAPLANE SQN	[1]	-	-	-	-	-	-	-	-	-	-	-	-	-	-

SHIP NUM. (9a)	1-215	-	-	-	39	40	-	41	-	-	-	-	-	42	43
SHIP NUM. (9b)	1-215	44	-	45	-	-	-	-	46	47	-	-	-	48	49
SHIP NUM (9c)	1-215	-	55	-	-	-	56	-	-	-	57	58	59	60	61
PENNANT NUMBER	[5]	SS176	SS178	SS182	SS183	SS186	SS188	SS189	SS190	SS192	SS194	SS196	SS197	CL 1	CL 2
SHIP CLASS	1-63	-/28/-	-/-/29	-/29/-	18/-/-	18/-/-	-/-/30	19/-/-	-/30/-	-/30/-	-/-/30	-/-/30	-/-/30	20/31/31	21/32/32
DAMAGE STATUS	0-15	15	15	15	15	15	15	15	15	15	15	15	15	15	15/12/12
CARGO	0-15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RADAR	0-7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DAMAGE CONTROL	0-3	1	1	1	1	1	1	1	1	1	1	1	1	2	2
AA ACCURACY	0-3	1	1	1	1	1	1	1	1	1	1	1	1	1	1
TASK GROUP	1-23	-	-	-	-	-	-	-	-	-	-	-	-	13/6/8	13/6/8
ASS. SUB PATROL	(x,y)	60,47	48,64	72,37	65,11	69,19	27,59	58,13	56,45	53,36	46,66	32,55	56,50	-	-
SUB DEPTH	0-7	4	4	4	4	4	5	5	5	5	5	5	5	-	-
SUB SPEED	0-7	3	3	4	4	4	4	4	4	4	4	4	4	-	-
SEAPLANE SQN	[1]	-	-	-	-	-	-	-	-	-	-	-	-	-	-

JSS - Other Ships (cont.)

SHIP NUM. (9a)	1-215	44	45	46	47	48	49	50	51	-	-	-	52	-	-
SHIP NUM. (9b)	1-215	50	51	52	53	54	55	56	57	58	-	59	-	-	-
SHIP NUM (9c)	1-215	62	63	-	64	-	65	-	66	-	67	-	-	68	69
PENNANT NUMBER	[5]	CL 3	DD 1	DD 2	DD3	DD 4	DD 5	DD 6	DD 7	K-11	K-12	K-13	K-14	K-15	K-16
SHIP CLASS	1-63	22/33/33	23/34/34	23/34/-	23/34/34	23/34/-	24/35/35	24/35/-	24/35/35	-/36/-	-/-/36	-/36/-	25/-/-	-/-/37	-/-/37
DAMAGE STATUS	0-15	15	15	15	15	15	15/15/13	15	15	15	15	15	15	15	15
CARGO	0-15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RADAR	0-7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DAMAGE CONTROL	0-3	2	2	2	2	2	2	2	2	2	2	2	2	2	2
AA ACCURACY	0-3	1	1	1	1	1	1	1	1	1	1	1	1	1	1
TASK GROUP	1-23	14/9/8	14/9/8	13/9/-	14/9/8	13/7/-	13/7/8	13/9/8	13/9/8	-	-	-	-	-	-
ASS. SUB PATROL	(x,y)	-	-	-	-	-	-	-	-	23,52	47,60	52,54	32,56	21,50	26,59
SUB DEPTH	0-7	-	-	-	-	-	-	-	-	2	2	2	3	3	3
SUB SPEED	0-7	-	-	-	-	-	-	-	-	3	3	3	4	4	4
SEAPLANE SQN	[1]	-	-	-	-	-	-	-	-	-	-	-	-	-	-

SHIP NUM. (9a)	1-215	-	-	53	-	54	-	-	55	56	57	58	59	60	61
SHIP NUM. (9b)	1-215	60	61	-	-	-	-	-	62	63	64	65	66	-	-
SHIP NUM (9c)	1-215	-	-	-	70	-	71	72	73	74	-	-	-	-	-
PENNANT NUMBER	[5]	K-17	K-18	O-16	O-17	O-18	O-19	O-20	TR 1	TR 2	TR 3	TR 4	TR 5	TR 6	TR 7
SHIP CLASS	1-63	-/37/-	-/37/-	26/-/-	-/-/38	26/-/-	-/-/38	-/-/38	27/38/39	27/38/39	27/38/-	27/38/-	27/38/-	27/-/-	27/-/-
DAMAGE STATUS	0-15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
CARGO	0-15	0	0	0	0	0	0	0	3	3	3	3	3	3	3
RADAR	0-7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DAMAGE CONTROL	0-3	2	2	2	2	2	2	2	0	0	0	0	0	0	0
AA ACCURACY	0-3	1	1	1	1	1	1	1	0	0	0	0	0	0	0
TASK GROUP	1-23	-	-	-	-	-	-	-	4/3/6	4/4/7	5/4/-	9/10/-	10/10/-	11/-/-	11/-/-
ASS. SUB PATROL	(x,y)	63,62	68,54	51,58	46,66	56,44	73,62	26,59	-	-	-	-	-	-	-
SUB DEPTH	0-7	3	3	5	5	5	5	5	-	-	-	-	-	-	-
SUB SPEED	0-7	4	4	4	4	4	4	4	-	-	-	-	-	-	-
SEAPLANE SQN	[1]	-	-	-	-	-	-	-	-	-	-	-	-	-	-

SHIP NUM. (9a)	1-215	62	63	64	65	-	-	-	66	67	-	-	68	69	70
SHIP NUM. (9b)	1-215	-	67	68	69	70	71	72	73	74	75	76	77	78	-
SHIP NUM (9c)	1-215	-	75	76	77	-	-	-	78	-	-	-	79	80	-
PENNANT NUMBER	[5]	TR 8	TR 9	TR 10	TR 11	TR 12	TR 13	TR 14	TR 15	TR 16	TR 17	TR 18	BC 1	BC 4	CA 5
SHIP CLASS	1-63	27/-/-	28/39/40	28/39/40	28/39/40	-/39/-	-/39/-	-/39/-	29/40/41	29/40/-	-/40/-	-/40/-	33/47/47	33/47/47	34/-/-
DAMAGE STATUS	0-15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
CARGO	0-15	3	6	6	6	6	6	6	10	10	10	10	0	0	0
RADAR	0-7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DAMAGE CONTROL	0-3	0	0	0	0	0	0	0	0	0	0	0	2	2	2
AA ACCURACY	0-3	0	0	0	0	0	0	0	0	0	0	0	1	1	1
TASK GROUP	1-23	15/-/-	5/3/6	5/3/6	10/3/7	-/3/-	-/4/-	-/4/-	4/3/9	12/3/-	-/4/-	-/4/-	10/6/3	10/6/3	4/-/-
ASS. SUB PATROL	(x,y)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SUB DEPTH	0-7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SUB SPEED	0-7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SEAPLANE SQN	[1]	-	-	-	-	-	-	-	-	-	-	-	84/84/84	85/85/85	86/-/-

SHIP NUM. (9a)	1-215	71	72	73	74	75	-	76	77	78	79	80	-	-	-
SHIP NUM. (9b)	1-215	79	-	80	81	82	83	84	85	86	87	88	-	-	-
SHIP NUM (9c)	1-215	81	-	82	83	-	84	85	86	87	88	89	90	91	92
PENNANT NUMBER	[5]	CA 6	CA 7	CA 8	CA 9	CA 10	CA 11	CA 12	CA 13	CA 14	CA 15	CA 16	CA 17	CA 18	CL 8
SHIP CLASS	1-63	34/48/48	34/-/-	34/48/48	35/49/49	35/49/-	-/49/49	35/49/49	36/50/50	36/50/50	36/50/50	36/50/50	-/-/51	-/-/51	38/52/52
DAMAGE STATUS	0-15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
CARGO	0-15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RADAR	0-7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DAMAGE CONTROL	0-3	2	2	2	2	2	2	2	2	2	2	2	2	2	2
AA ACCURACY	0-3	1	1	1	1	1	1	1	1	1	1	1	1	1	1
TASK GROUP	1-23	5/2/6	5/-/-	5/2/6	10/6/3	10/7/-	-/4/3	10/6/3	9/7/10	9/7/10	9/7/10	9/7/10	-/-/1	-/-/1	-/-/2
ASS. SUB PATROL	(x,y)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SUB DEPTH	0-7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SUB SPEED	0-7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SEAPLANE SQN	[1]	87/86/86	88/-/-	89/87/87	90/88/88	91/89/-	-/90/89	92/91/90	93/92/91	94/93/92	95/94/93	96/95/94	-/-/95	-/-/96	-

SHIP NUM. (9a)	1-215	81	82	-	84	85	86	87	88	89	90	91	92	93	-
SHIP NUM. (9b)	1-215	89	-	156	90	91	-	-	-	-	-	-	-	-	92
SHIP NUM (9c)	1-215	-	93	161	94	95	-	96	97	98	99	100	101	102	103
PENNANT NUMBER	[5]	CL 11	CL 12	CL 13	CL 15	CL 16	CL 17	DD 6	DD 16	DD 17	DD 23	DD 27	DD 30	DD 31	DD 35
SHIP CLASS	1-63	38/52/-	38/-/52	-/52/52	39/53/53	39/53/53	39/-/-	40/-/54	41/-/55	41/-/55	42/-/56	42/-/56	42/-/56	42/-/56	-/54/57
DAMAGE STATUS	0-15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
CARGO	0-15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RADAR	0-7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DAMAGE CONTROL	0-3	2	2	2	2	2	2	2	2	2	2	2	2	2	2
AA ACCURACY	0-3	1	1	1	1	1	1	1	1	1	1	2	1	1	1
TASK GROUP	1-23	3/3/-	1/-/5	-/8/8	11/1/7	2/5/4	6/-/-	5/-/9	1/-/5	1/-/5	1/-/5	1/-/5	1/-/5	1/-/5	-/4/5
ASS. SUB PATROL	(x,y)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SUB DEPTH	0-7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SUB SPEED	0-7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SEAPLANE SQN	[1]	-	-	-	-	-	-	-	-	-	-	-	-	-	-

SHIP NUM. (9a)	1-215	94	95	96	97	98	99	100	101	-	102	103	104	105	106
SHIP NUM. (9b)	1-215	-	-	93	-	94	95	96	-	97	98	-	99	100	-
SHIP NUM (9c)	1-215	104	105	-	106	107	-	108	-	110	-	-	111	112	-
PENNANT NUMBER	[5]	DD 36	DD 37	DD 38	DD 39	DD 40	DD 41	DD 43	DD 45	DD 46	DD 47	DD 48	DD 49	DD 50	DD 51
SHIP CLASS	1-63	43/-/57	43/-/57	43/54/-	43/-/57	43/54/57	43/54/-	43/54/57	43/-/-	-/54/57	43/54/-	43/-/-	43/54/57	43/54/57	43/-/-
DAMAGE STATUS	0-15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
CARGO	0-15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RADAR	0-7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DAMAGE CONTROL	0-3	2	2	2	2	2	2	2	2	2	2	2	2	2	2
AA ACCURACY	0-3	1	1	1	1	1	1	1	1	1	1	1	1	1	1
TASK GROUP	1-23	7/-/10	7/-/10	6/7/-	9/-/8	9/8/8	6/7/-	8/8/8	7/-/-	-/4/5	6/8/-	8/-/-	8/8/8	9/8/8	6/-/-
ASS. SUB PATROL	(x,y)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SUB DEPTH	0-7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SUB SPEED	0-7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SEAPLANE SQN	[1]	-	-	-	-	-	-	-	-	-	-	-	-	-	-

JSS - Other Ships (cont.)

SHIP NUM. (9a)	1-215	-	107	-	-	108	109	-	110	111	112	113	114	115	116
SHIP NUM. (9b)	1-215	101	-	102	103	104	105	106	107	108	-	109	110	111	112
SHIP NUM (9c)	1-215	113	114	115	116	117	-	118	119	-	120	121	-	-	122
PENNANT NUMBER	[5]	DD 52	DD 54	DD 55	DD 56	DD 57	DD 58	DD 59	DD 65	DD 66	DD 67	DD 68	DD 71	DD 72	DD 73
SHIP CLASS	1-63	-/54/57	43/-/57	-/55/58	-/55/58	44/55/58	44/55/-	-/56/59	45/57/60	45/57/-	45/-/60	45/57/60	45/57/-	45/57/-	45/57/60
DAMAGE STATUS	0-15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
CARGO	0-15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RADAR	0-7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DAMAGE CONTROL	0-3	2	2	2	2	2	2	2	2	2	2	2	2	2	2
AA ACCURACY	0-3	1	1	1	1	1	1	1	1	1	1	1	1	1	1
TASK GROUP	1-23	-/4/5	7/-/10	-/6/8	-/6/8	4/2/-	4/2/6	-/4/2	2/5/4	3/3/-	2/-/4	2/5/4	3/5/-	3/5/-	3/3/4
ASS. SUB PATROL	(x,y)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SUB DEPTH	0-7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SUB SPEED	0-7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SEAPLANE SQN	[1]	-	-	-	-	-	-	-	-	-	-	-	-	-	-

SHIP NUM. (9a)	1-215	117	118	-	119	120	121	-	-	-	122	123	-	124	125
SHIP NUM. (9b)	1-215	113	114	-	115	116	117	118	119	-	120	121	-	122	123
SHIP NUM (9c)	1-215	123	124	125	126	127	128	129	130	131	132	133	134	135	-
PENNANT NUMBER	[5]	DD 74	DD 77	DD 79	DD 81	DD 82	DD 85	DD 86	DD 87	DD 88	DD 89	DD 90	DD 91	DD 93	DD 95
SHIP CLASS	1-63	45/57/60	46/58/61	-/-/61	46/58/61	46/58/61	47/59/62	-/59/62	-/59/62	-/-/62	47/59/62	47/59/62	-/-/62	47/59/62	47/59/-
DAMAGE STATUS	0-15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
CARGO	0-15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RADAR	0-7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DAMAGE CONTROL	0-3	2	2	2	2	2	2	2	2	2	2	2	2	2	2
AA ACCURACY	0-3	1	1	1	1	1	1	1	1	1	1	1	1	1	1
TASK GROUP	1-23	2/5/4	2/9/4	-/-/2	2/5/4	2/5/4	11/1/7	-/6/3	-/6/3	-/-2	11/1/7	11/1/7	-/-/2	11/1/7	11/1/-
ASS. SUB PATROL	(x,y)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SUB DEPTH	0-7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SUB SPEED	0-7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SEAPLANE SQN	[1]	-	-	-	-	-	-	-	-	-	-	-	-	-	-

SHIP NUM. (9a)	1-215	-	126	-	-	127	-	128	129	130	131	132	133	134	135
SHIP NUM. (9b)	1-215	124	125	-	-	126	-	127	128	129	130	131	132	133	134
SHIP NUM (9c)	1-215	136	137	138	139	140	141	142	-	-	-	-	-	-	-
PENNANT NUMBER	[5]	DD 96	DD 97	DD 98	DD 99	DD100	DD101	DD102	I-165	I-166	I-167	TR 1	TR 2	TR 3	TR 4
SHIP CLASS	1-63	-/59/62	47/59/62	-/-/62	-/-/62	47/59/62	-/-/62	47/59/62	48/60/-	48/60/-	48/60/-	49/61/-	49/61/-	49/61/-	49/61/-
DAMAGE STATUS	0-15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
CARGO	0-15	0	0	0	0	0	0	0	0	0	0	2	2	2	2
RADAR	0-7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DAMAGE CONTROL	0-3	2	2	2	2	2	2	2	1	1	1	0	0	0	0
AA ACCURACY	0-3	1	1	1	1	1	1	1	1	1	1	0	0	0	0
TASK GROUP	1-23	-/6/3	11/1/7	-/-/2	-/-/2	3/1/7	-/-/2	3/1/7	-	-	-	1/1/-	1/1/-	1/1/-	2/1/-
ASS. SUB PATROL	(x,y)	-	-	-	-	-	-	-	22,44	21,64	58,23	-	-	-	-
SUB DEPTH	0-7	-	-	-	-	-	-	-	3	3	3	-	-	-	-
SUB SPEED	0-7	-	-	-	-	-	-	-	3	3	3	-	-	-	-
SEAPLANE SQN	[1]	-	-	-	-	-	-	-	-	-	-	-	-	-	-

SHIP NUM. (9a)	1-215	136	137	138	139	140	141	142	143	144	145	146	147	148	149
SHIP NUM. (9b)	1-215	135	136	137	138	139	140	141	142	143	144	145	146	-	-
SHIP NUM (9c)	1-215	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PENNANT NUMBER	[5]	TR 5	TR 6	TR 7	TR 8	TR 9	TR 10	TR 11	TR 12	TR 13	TR 14	TR 15	TR 16	TR 17	TR 18
SHIP CLASS	1-63	49/61/-	49/61/-	49/61/-	49/61/-	49/61/-	49/61/-	49/61/-	49/61/-	49/61/-	49/61/-	49/61/-	49/61/-	49/-/-	49/-/-
DAMAGE STATUS	0-15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
CARGO	0-15	2	2	2	2	2	2	2	2	2	2	2	2	2	2
RADAR	0-7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DAMAGE CONTROL	0-3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AA ACCURACY	0-3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TASK GROUP	1-23	2/1/-	2/1/-	3/1/-	3/5/-	3/5/-	3/5/-	6/5/-	6/5/-	7/5/-	7/9/-	7/9/-	7/9/-	7/-/-	7/-/-
ASS. SUB PATROL	(x,y)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SUB DEPTH	0-7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SUB SPEED	0-7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SEAPLANE SQN	[1]	-	-	-	-	-	-	-	-	-	-	-	-	-	-

SHIP NUM. (9a)	1-215	150	151	152	153	154	155	156	157	158	159	160	161	162	163
SHIP NUM. (9b)	1-215	-	-	-	-	147	148	149	150	151	152	-	-	153	154
SHIP NUM (9c)	1-215	-	-	-	-	-	-	-	-	-	-	-	-	145	146
PENNANT NUMBER	[5]	TR 19	TR 20	TR 21	TR 22	TR 23	TR 24	TR 25	TR 26	TR 27	TR 28	TR 29	TR 30	TR 31	TR 32
SHIP CLASS	1-63	49/-/-	49/-/-	49/-/-	49/-/-	50/62/-	50/62/-	50/62/-	50/62/-	50/62/-	50/62/-	50/-/-	50/-/-	51/63/63	51/63/63
DAMAGE STATUS	0-15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
CARGO	0-15	2	2	2	2	4	4	4	4	4	4	4	4	7	7
RADAR	0-7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DAMAGE CONTROL	0-3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AA ACCURACY	0-3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TASK GROUP	1-23	8/-/-	8/-/-	8/-/-	8/-/-	1/1/-	1/1/-	2/5/-	2/5/-	6/5/-	7/5/-	7/-/-	8/-/-	1/1/4	2/5/4
ASS. SUB PATROL	(x,y)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SUB DEPTH	0-7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SUB SPEED	0-7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SEAPLANE SQN	[1]	-	-	-	-	-	-	-	-	-	-	-	-	-	-

SHIP NUM. (9a)	1-215	164	165	166	167	168	169	-	-	-	-	-	-	-	-
SHIP NUM. (9b)	1-215	155	-	-	-	-	-	-	-	-	-	-	-	-	-
SHIP NUM (9c)	1-215	147	148	149	150	151	152	153	154	155	156	157	158	159	160
PENNANT NUMBER	[5]	TR 33	TR 34	TR 35	TR 36	TR 37	TR 38	TR 39	TR 40	TR 41	TR 42	TR 43	TR 44	TR 45	TR 46
SHIP CLASS	1-63	51/63/63	51/-/63	51/-/63	51/-/63	51/-/63	51/-/63	-/-/63	-/-/63	-/-/63	-/-/63	-/-/63	-/-/63	-/-/63	-/-/63
DAMAGE STATUS	0-15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
CARGO	0-15	7	7	7	7	7	7	7	7	7	7	7	7	7	7
RADAR	0-7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DAMAGE CONTROL	0-3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AA ACCURACY	0-3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TASK GROUP	1-23	3/5/4	3/-/5	3/-/5	7/-/5	7/-/5	7/-/7	-/-/7	-/-/7	-/-/7	-/-/8	-/-/8	-/-/8	-/-/8	-/-/8
ASS. SUB PATROL	(x,y)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SUB DEPTH	0-7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SUB SPEED	0-7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SEAPLANE SQN	[1]	-	-	-	-	-	-	-	-	-	-	-	-	-	-

JAPAN SWEEPS SOUTH - Allied Task Groups

TASK GROUP NUM.	1-23	1 (9a)	2 (9a)	3 (9a)	4 (9a)	5 (9a)	6 (9a)	7 (9a)	8 (9a)	9 (9a)	10 (9a)	11 (9a)
FLAGSHIP	[-]	BB 53	CLI46	Indomitable	AMC 1	AMC 2	CA 30	CL 12	DD218	TR 4	TR 5	TR 6
TOTAL SHIPS	[-]	6	5	5	4	4	6	5	5	1	2	2
OBJECTIVE	1-23	0	0	0	1	1	7	7	7	2	2	2
MISSION	0-7	0	0	1	5	5	0	0	0	5	5	5
HEADING	0-7	0	0	0	0	0	4	1	1	2	2	7
ENDURANCE	0-31	15	12	12	10	8	11	13	9	7	9	9
TF NUMBER	0-3	0	0	0	3	3	1	1	1	3	3	3
TF ADMIN	0-3	1	2	2	0	0	1	1	1	0	0	0
REINFORCEMENT	0-9	2	3	9 (0)	0	0	0	0	0	0	0	0
TF COMMAND	Y/N	Y	N	N	Y	N	Y	N	N	N	N	N
START AREA	(x,y)	21,48	21,48	21,48	15,46	13,42	65,26	55,44	54,51	4,37	1,36	32,63
SEARCH PATTERN	Y/N	N,NE,NW	-	N,NE,NW	-	-	-	-	-	-	-	-

TASK GROUP NUM.	1-23	12 (9a)	13 (9a)	14 (9a)	15 (9a)	1 (9b)	2 (9b)	3 (9b)	4 (9b)	5 (9b)	6 (9b)	7 (9b)
FLAGSHIP	[-]	TR 16	CL 2	CL 3	TR 8	BB 06	CA 40	CLI46	CLI99	Indomitable	CL 2	CL 12
TOTAL SHIPS	[-]	1	7	3	1	5	10	15	10	5	4	7
OBJECTIVE	1-23	14	0	0	14	0	0	1	1	0	0	0
MISSION	0-7	5	0	0	5	0	0	5	5	0	0	2
HEADING	0-7	4	0	0	4	2	2	0	0	1	1	1
ENDURANCE	0-31	14	17	15	18	12	14	9	8	14	17	12
TF NUMBER	0-3	3	2	2	3	0	0	1	1	0	2	2
TF ADMIN	0-3	0	2	2	0	1	1	0	0	2	1	1
REINFORCEMENT	0-9	0	0	0	0	9 (0)	9 (0)	0	0	9 (0)	0	0
TF COMMAND	Y/N	N	Y	N	N	N	N	Y	N	Y	Y	N
START AREA	(x,y)	58,22	40,67	40,67	60,21	6,65	8,65	21,67	26,61	10,68	40,70	40,70
SEARCH PATTERN	Y/N	-	-	-	-	NE,E,SE	E	NE	-	N,NE,E	-	-

TASK GROUP NUM.	1-23	8 (9b)	9 (9b)	10 (9b)	1 (9c)	2 (9c)	3 (9c)	4 (9c)	5 (9c)	6 (9c)	7 (9c)	8 (9c)
FLAGSHIP	[-]	DD216	CL 3	TR 4	BB 06	CA 40	CL 66	Indomitable	CLI46	CL 89	CL 52	CL 2
TOTAL SHIPS	[-]	5	6	2	9	10	11	6	5	4	3	17
OBJECTIVE	1-23	0	0	13	0	0	0	0	0	0	0	0
MISSION	0-7	0	0	5	1	3	2	0	0	5	5	0
HEADING	0-7	0	0	3	2	2	2	2	0	6	6	0
ENDURANCE	0-31	18	18	14	11	10	9	11	8	10	9	7
TF NUMBER	0-3	2	2	3	0	0	0	0	1	2	2	1
TF ADMIN	0-3	1	2	0	1	1	1	2	1	0	0	1
REINFORCEMENT	0-9	3	2	0	9 (0)	9 (0)	9 (0)	9 (0)	0	0	0	1
TF COMMAND	Y/N	N	N	N	N	N	N	Y	N	N	N	Y
START AREA	(x,y)	40,67	40,67	64,58	9,61	13,62	10,62	10,62	26,64	20,69	25,70	40,67
SEARCH PATTERN	Y/N	-	-	-	NE-SE	NE-SE	-	NE-SE	-	-	-	-

JSS - Axis Task Groups

TASK GROUP NUM.	1-23	9 (9c)	10 (9c)
FLAGSHIP	[-]	TR 15	CL 12
TOTAL SHIPS	[-]	1	3
OBJECTIVE	1-23	5	0
MISSION	0-7	5	0
HEADING	0-7	7	6
ENDURANCE	0-31	6	10
TF NUMBER	0-3	2	2
TF ADMIN	0-3	0	1
REINFORCEMENT	0-9	0	0
TF COMMAND	Y/N	N	Y
START AREA	(x,y)	41,71	12,64
SEARCH PATTERN	Y/N	-	-

1 (9a)	2 (9a)	3 (9a)	4 (9a)	5 (9a)	6 (9a)	7 (9a)	8 (9a)
CL 12	CL 16	CL 11	CA 5	CA 7	CL 17	DD 45	DD 49
13	14	16	3	5	8	15	8
12	11	13	0	7	3	9	10
5	5	5	0	0	5	5	5
4	4	6	3	6	4	4	4
12	12	9	13	11	12	11	11
0	0	0	0	0	1	1	1
2	2	2	2	2	2	1	1
0	0	0	0	0	0	0	0
N	N	N	Y	N	N	N	N
56,4	55,3	80,25	55,4	79,28	20,35	20,34	19,33
-	-	S-NW	S	S-NW	-	-	-

TASK GROUP NUM.	1-23	9 (9a)	10 (9a)	11 (9a)	1 (9b)	2 (9b)	3 (9b)	4 (9b)	5 (9b)	6 (9b)	7 (9b)	8 (9b)
FLAGSHIP	[-]	CA 13	CA 9	CL 15	CL 15	CA 8	CL 11	CA 11	CL 16	CA 9	CA 10	CL 13
TOTAL SHIPS	[-]	7	5	7	19	4	5	8	20	9	8	6
OBJECTIVE	1-23	0	0	0	10	0	0	0	8	0	0	0
MISSION	0-7	0	0	0	5	0	1	0	5	0	0	2
HEADING	0-7	4	4	6	4	4	4	4	3	4	4	4
ENDURANCE	0-31	14	14	13	13	17	12	16	12	17	18	10
TF NUMBER	0-3	1	1	0	0	0	0	3	1	3	1	3
TF ADMIN	0-3	2	2	2	2	2	2	2	1	2	2	2
REINFORCEMENT	0-9	0	0	0	0	0	0	0	2	0	0	0
TF COMMAND	Y/N	N	Y	N	N	Y	N	N	N	Y	Y	N
START AREA	(x,y)	19,32	20,33	80,24	70,46	72,46	71,43	76,41	53,43	72,38	57,37	72,38
SEARCH PATTERN	Y/N	SE-SW	SE-SW	-	-	SE-SW	E-SW	SE-SW	-	SE-SW	SE-SW	-

TASK GROUP NUM.	1-23	9 (9b)	1 (9c)	2 (9c)	3 (9c)	4 (9c)	5 (9c)	6 (9c)	7 (9c)	8 (9c)	9 (9c)	10 (9c)
FLAGSHIP	[-]	DD 77	CA 18	CL 8	CA 9	CL 16	CL 12	CA 6	CL 15	CL 13	Ryujo	CA 13
TOTAL SHIPS	[-]	4	6	8	8	12	14	3	12	13	2	7
OBJECTIVE	1-23	19	0	0	0	6	4	0	6	3	0	0
MISSION	0-7	5	0	2	1	5	5	0	5	5	1	0
HEADING	0-7	5	4	4	4	4	4	4	4	4	4	4
ENDURANCE	0-31	10	13	9	12	11	10	12	9	10	11	13
TF NUMBER	0-3	2	2	2	2	1	0	1	1	0	0	0
TF ADMIN	0-3	1	2	2	2	2	2	2	2	2	2	2
REINFORCEMENT	0-9	0	0	0	0	2	0	0	0	0	0	0
TF COMMAND	Y/N	Y	Y	N	N	N	N	Y	N	N	N	Y
START AREA	(x,y)	45,42	55,64	55,64	56,63	51,52	28,44	55,52	51,52	29,45	27,45	27,47
SEARCH PATTERN	Y/N	-	E-W	-	S-W	-	-	SE-SW	-	-	-	SE-SW

CASE WHITE

The Destruction of the Polish Air Force 1st - 5th September, 1939

A SCENARIO FOR
EUROPE ABLAZE

By Ian Trout

The opening shots of World War II were fired on the early morning of September 1st, 1939,somewhere above the city of Kracow in southwestern Poland. No. 123 sqn, flying PZL 11c's, from the III/3 Fighter Dyon of the Polish Air Force had tangled with some Ju 87B's of I Gruppe, Stukageschwader 2.

Poland's struggle would be brief, if bloody. For the rest of the world, six years of grim war lay ahead. . .

THE SITUATION

The Luftwaffe forces assigned to the solution of the 'Polish Question' were deployed between Kesselring's Luftflotte 1 in the north and Lohr's Luftflotte 4 in the south. Some 1,200 front line aircraft were available for employment, backed up by substantial reserves of both pilots and planes. A further 1,000 aircraft were based in western Germany, including a large number of modern fighters, as a precaution against possible British and French intervention. The bulk of the medium bomber gruppen and nearly all of the dive bombers, however, were arraigned against Poland.

The Polish Armed Forces were considered by many to be among the best in Europe. In both civil and military spheres, aviation had been accorded an important place. The burgeoning aircraft industry, centered in the industrial region to the south of Warsaw, was capable of completing some 150 aircraft per month at the time hostilities began.

On August 22nd, the result of four months of intense diplomatic wrangling was revealed to the world. The Soviet-German Non-Aggression Treaty was ratified. Hitler had succeeded in isolating Poland from every potentially useful ally. Poland's mutual defense pacts with England and France promised some long-term assistance; precious little could be done for her imminent peril.

The Poles did the best they could. Their Air Force was deployed in two components. A combined fighter and bomber group were held in reserve in Warsaw while the remaining strength was apportioned to the various armies protecting the frontier. Some 500 aircraft were operational, of which only the PZL P37los bomber was of modern design. The Polish fighters, especially, would be outclassed by their more powerful opponents.

Within thirty days the Polish Army was destroyed or in flight, the Air Force wrecked and the Government dispersed.

THE SCENARIO

Before starting play, please read these remarks.

The forces available to Soviet Russia are optional and their use is covered under the appropriate variation. Only the forces of Germany and Poland are used in the historical scenario. Land hexes in Poland, Latvia, Lithuania and Rumania should be identified as Allied. All others should be identified as Axis.

CASE WHITE - Centres

CENTRE NUMBER	1-63	1	2	3	4	5	6	7	8	9	10	11
CENTRE NAME	[11]	Warsaw	Modlin	Ciechanow	Torun	Danzig	Gdynia	Poznan	Kalisz	Lodz	Piotrkow	Radom
LOCATION	(x,y)	18,16	17,15	16,14	14,15	13,9	12,9	11,15	13,18	15,18	16,20	18,19
POPULATION	0-3	3	1	0	1	1	1	2	0	2	0	1
INDUSTRY	0-3	3	0	0	1	0	0	1	0	2	1	3
PORT FACILITIES	0-3	0	0	0	0	3	2	0	0	0	0	0
COMMUNICATIONS	0-3	3	2	2	2	0	0	2	1	2	1	1
ALLIED	Y/N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

CENTRE NUMBER	1-63	12	13	14	15	16	17	18	19	20	21	22
CENTRE NAME	[11]	Zwolen	Deblin	Sandomierz	Kracow	Gorlice	Przemysl	Lwow	Tarnopol	Chelm	Brest	Pinsk
LOCATION	(x,y)	19,19	20,19	19,21	17,24	19,24	22,25	25,25	29,25	23,20	24,18	28,17
POPULATION	0-3	1	2	1	2	1	0	2	0	1	1	1
INDUSTRY	0-3	2	3	2	1	1	0	1	0	0	0	0
PORT FACILITIES	0-3	0	0	0	0	0	0	0	0	0	0	0
COMMUNICATIONS	0-3	0	0	1	2	2	1	3	2	1	3	2
ALLIED	Y/N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

CENTRE NUMBER	1-63	23	24	25	31	32	33	34	35	36	37	38
CENTRE NAME	[11]	Bialystok	Grodno	Vilna	Memel	Konigsburg	Johanisburg	Osterode	Butow	Schlochau	Schneiderml	Berlin
LOCATION	(x,y)	21,14	23,11	26,8	18,7	16,9	19,11	16,12	11,9	10,12	9,13	3,12
POPULATION	0-3	1	1	1	1	2	0	0	0	0	0	3
INDUSTRY	0-3	1	0	1	0	1	0	0	0	0	0	3
PORT FACILITIES	0-3	0	0	0	2	3	0	0	0	0	0	0
COMMUNICATIONS	0-3	1	2	0	0	1	2	2	1	2	2	3
ALLIED	Y/N	Y	Y	Y	N	N	N	N	N	N	N	N

CENTRE NUMBER	1-63	39	40	41	42	43	44	51	52	53	54	55
CENTRE NAME	[11]	Frankfurt	Glogau	Breslau	Ostrava	Vienna	Lubovina	Polotsk	Minsk	Korosten	Kiev	Zhitomir
LOCATION	(x,y)	5,16	8,18	12,21	12,24	8,29	19,26	33,8	31,11	33,17	37,19	33,20
POPULATION	0-3	2	1	2	0	3	0	1	2	0	3	0
INDUSTRY	0-3	2	1	1	0	3	0	1	2	0	3	0
PORT FACILITIES	0-3	0	0	0	0	0	0	0	0	0	0	0
COMMUNICATIONS	0-3	1	2	2	1	1	1	2	2	2	2	2
ALLIED	Y/N	N	N	N	N	N	N	N	N	N	N	N

CW - Time

DATE	1-31	1
MONTH	1-12	9
YEAR	0-63	39
LENGTH	1-31	5
DAWN	3-10	6
DUSK	15-22	17
MOON	0-27	12
FORECAST	0-3	1

CW - Weather

C = 4 W = 4	C = 3 W = 4	C = 2 W = 3
C = 4 W = 5	C = 5 W = 6	C = 5 W = 6
C = 5 W = 5	C = 5 W = 4	C = 4 W = 2
C = 4 W = 1	C = 4 W = 0	C = 3 W = 0

CASE WHITE - Doctrine

NATIONALITY		AXIS	ALLIES
MISSIONS	0-15	0	0
POPULATION	0-7	3	0
INDUSTRY	0-7	6	2
COMMUNICATIONS	0-7	5	7
PORT FACILITIES	0-7	0	0
AIRFIELDS	0-7	7	7
RADAR	0-7	0	0
SHIPPING LANES	0-7	0	0
SUPREME COM.	0-7	5	4
C-IN-C	0-7	4	3
GROUND ECM	0-7	1	0
ORDNANCE EFFECT	0-3	2	2
AA FIRE CONTROL	0-3	2	0

CW - Axis Commands

	NAME	CURSOR	THRSH.	PRIOR.
C-IN-C	GOERING	3	N.A.	N.A.
COMMANDER #1	KESSELRING	3	60	7
COMMANDER #2	LOHR	3	50	6
COMMANDER #3	(ALKSNIS)	(2)	(20)	(4)
COMMANDER #4	-	-	-	-
COMMANDER #5	-	-	-	-

CW - Allied Commands

	NAME	CURSOR	THRSH.	PRIOR.
C-IN-C	HELLER	1	N.A.	N.A.
COMMANDER #1	PAULIKOWSKI	1	60	5
COMMANDER #2	(ALKSNIS)	(2)	(30)	(4)
COMMANDER #3	-	-	-	-
COMMANDER #4	-	-	-	-
COMMANDER #5	-	-	-	-

Take note that there are no radar stations or shipping lanes for either side in this scenario.

Enemy aircraft will not be detectable until they overfly friendly territory. This makes it imperative to keep regular patrols on the border. Keep them just inside your own territory to avoid their detection.

If the task of entering the data for this scenario appears too daunting, there is an alternative. Read the editorial to this issue for the details of our scenario disk offer. For those who choose to type up the scenario themselves, there are some helpful suggestions in the Notes section to minimize your work-load.

The German Air Force has the task of eliminating both the Polish Air Force and aircraft industry. It may not be as easy to accomplish as expected. Contrary to most contemporary assessment and established myth, the over-riding element in the destruction of Poland was the innovative and resolute use of armoured formations supported, certainly, by an airborne artillery barrage.

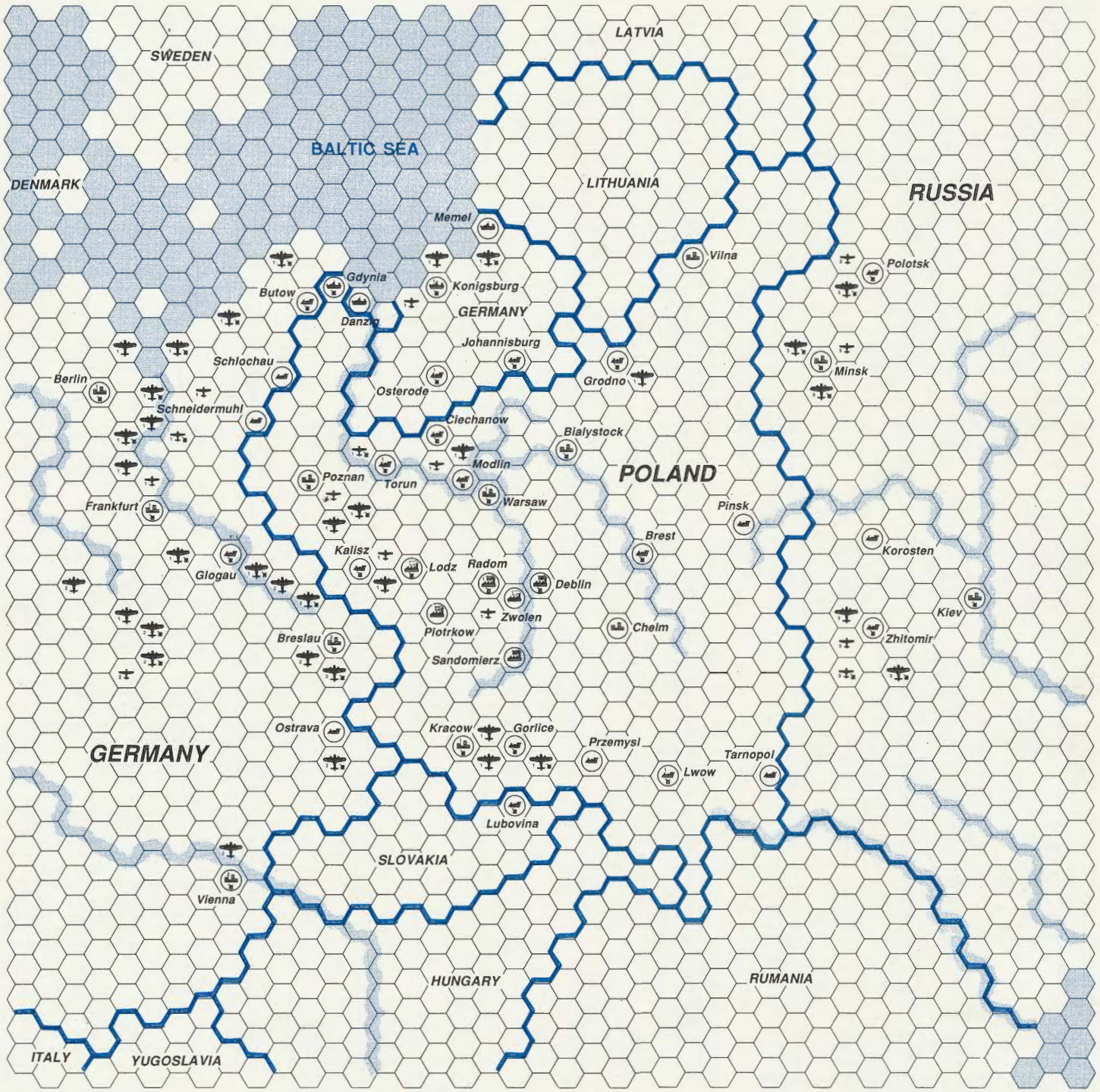
The Polish Air Force was, in the end, annihilated. But for the first week or so, it offered some spirited resistance. Keep in mind that most of the German bombers are very vulnerable to any sort of fighter resistance.

As the Polish commander, you will have all sorts of problems. The best tactic is to concentrate on single German raids. Avoid all contact with the Bf 109E; it's just too tough.

Variations

1. Assume the Poles had had the foresight to acquire some modern aircraft designs from her Allies. Add plane types 18-20 to the data base. Add squadrons 43-48 (Hawker Hurricanes, Morraine Saulnier 406s and Fairy Battles) to any airbases in Poland. The best airfield choices are 6-8 and 17-19. Increase the

CASE WHITE - Map



SCENARIO SIX
'CASE WHITE'

Allied Commands	Axis Commands
# 1 Pawlikowski	# 1 Kesselring
# 3 (Alksnis)	# 2 Lohr
	# 3 (Alksnis)

MAP NOTE

Land hexes in Poland, Latvia, Lithuania and Rumania are considered Allied for the purposes of Observer Corps detection and pilot/crew recovery.

CASE WHITE - Squadrons

SQN NUMBER	1-255	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
SQN I.D.	[6]	111F	112F	113F	114F	123F	211B	212B	216B	217B	21B	22B	64B	65B	16R	141F	142F	42B
PLANE TYPE	1-37	2	2	2	2	1	4	4	4	4	3	3	3	3	5	2	2	3
OFFICIAL EST.	1-31	12	12	12	12	12	9	9	9	9	12	12	12	12	9	12	12	12
INITIAL EST.	1-31	12	11	10	12	10	9	9	9	9	10	10	10	10	7	12	10	10
VETERAN	0-31	0	1	0	2	0	0	0	0	0	0	1	0	0	0	0	0	0
EXPERIENCED	0-31	12	11	9	11	10	8	9	9	9	9	8	9	10	7	11	10	9
FATIGUE	0-7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
NIGHT OPS	Y/N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
RECON OPS	Y/N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	N	N	N
NAVAL OPS	Y/N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	N	N	N
PATHFINDER	Y/N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

SQN NUMBER	1-255	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
SQN I.D.	[6]	43R	46R	131F	132F	34B	33R	36R	161F	162F	32B	63R	66R	121F	122F	24B	23R	26R
PLANE TYPE	1-37	5	5	2	2	3	5	5	2	1	3	6	5	2	2	3	6	5
OFFICIAL EST.	1-31	9	9	12	12	12	9	9	12	12	12	9	9	12	12	12	9	9
INITIAL EST.	1-31	8	6	12	10	10	7	7	12	10	10	7	7	10	10	10	7	7
VETERAN	0-31	0	0	0	0	0	0	0	1	1	0	0	0	0	1	1	0	0
EXPERIENCED	0-31	7	6	10	9	9	7	6	10	8	9	5	7	9	9	12	7	7
FATIGUE	0-7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
NIGHT OPS	Y/N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
RECON OPS	Y/N	Y	Y	N	N	N	Y	Y	N	N	N	Y	Y	N	N	N	Y	Y
NAVAL OPS	Y/N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
PATHFINDER	Y/N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

SQN NUMBER	1-255	35	36	37	38	39	49	50	51	52	53	54	55	56	57	58	59	60
SQN I.D.	[6]	152F	41B	53R	31B	56R	1/JG1	S/JG1	1/JG21	1/JG2	S/JG2	N/JG2	1/JG20	1/JG3	S/JG3	1/ZG1	2/ZG1	1/KG1
PLANE TYPE	1-37	2	3	6	3	5	8	8	7	8	8	7	7	8	8	9	7	15
OFFICIAL EST.	1-31	12	12	9	12	9	31	9	31	31	9	9	31	31	9	31	31	31
INITIAL EST.	1-31	10	10	7	10	7	31	9	29	31	9	9	21	31	9	31	31	31
VETERAN	0-31	0	0	0	0	0	12	6	8	10	4	1	4	10	5	8	5	6
EXPERIENCED	0-31	9	8	6	9	6	17	3	18	18	5	4	14	20	4	20	21	22
FATIGUE	0-7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
NIGHT OPS	Y/N	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	N
RECON OPS	Y/N	N	N	Y	N	Y	N	N	N	N	N	N	N	N	N	N	N	N
NAVAL OPS	Y/N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
PATHFINDER	Y/N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

SQN NUMBER	1-255	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77
SQN I.D.	[6]	2/KG1	S/KG1	1/KG2	2/KG2	S/KG2	2/KG3	3/KG3	S/KG3	2/KG26	1/KG27	2/KG27	3/KG27	S/KG27	1/KG53	1/SG1	2/SG2	3/SG2
PLANE TYPE	1-37	17	15	12	14	14	14	14	14	17	16	16	16	16	17	10	10	10
OFFICIAL EST.	1-31	31	9	31	31	9	31	31	9	31	31	31	31	9	31	31	31	31
INITIAL EST.	1-31	31	9	31	31	9	31	31	9	31	31	26	28	9	31	31	31	31
VETERAN	0-31	8	4	8	10	3	7	9	2	6	8	6	5	3	7	10	7	8
EXPERIENCED	0-31	20	5	20	22	6	25	20	7	22	23	19	20	5	26	22	23	25
FATIGUE	0-7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
NIGHT OPS	Y/N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
RECON OPS	Y/N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
NAVAL OPS	Y/N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
PATHFINDER	Y/N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

SQN NUMBER	1-255	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94
SQN I.D.	[6]	S/SG2	1Z/LG1	2K/LG1	3K/LG1	4S/LG1	1J/LG2	N/LG2	1F/120	1F/121	2F/121	3F/121	4F/121	1/JG76	S/JG76	1/JG77	2/JG77	S/JG77
PLANE TYPE	1-37	10	9	17	17	10	8	7	13	13	13	13	13	8	8	8	8	8
OFFICIAL EST.	1-31	9	31	31	31	31	31	9	12	12	12	12	12	31	9	31	31	9
INITIAL EST.	1-31	9	31	31	31	31	31	9	12	11	10	12	11	31	9	31	31	9
VETERAN	0-31	3	6	10	8	8	9	0	2	1	0	1	0	9	3	10	11	4
EXPERIENCED	0-31	5	21	25	28	31	27	7	11	10	9	11	11	30	7	31	31	6
FATIGUE	0-7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
NIGHT OPS	Y/N	N	N	N	N	N	N	Y	N	N	N	N	N	N	N	N	N	N
RECON OPS	Y/N	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	N	N	N	N	N
NAVAL OPS	Y/N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
PATHFINDER	Y/N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

SQN NUMBER	1-255	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111
SQN I.D.	[6]	1/ZG2	1/ZG76	1/KG4	2/KG4	3/KG4	S/KG4	1/KG76	3/KG76	S/KG76	1/KG77	2/KG77	3/KG77	S/KG77	1/SG2	1/SG77	2/SG77	S/SG77
PLANE TYPE	1-37	7	9	16	16	16	16	14	12	14	14	14	14	14	10	10	10	10
OFFICIAL EST.	1-31	31	31	31	31	31	9	31	31	9	31	31	31	9	31	31	31	9
INITIAL EST.	1-31	31	31	31	31	31	9	31	31	9	31	31	31	9	31	31	31	9
VETERAN	0-31	4	6	12	9	9	5	9	7	3	8	11	10	4	11	6	9	3
EXPERIENCED	0-31	21	24	20	22	24	6	25	26	7	26	23	26	7	27	25	24	6
FATIGUE	0-7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
NIGHT OPS	Y/N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
RECON OPS	Y/N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
NAVAL OPS	Y/N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
PATHFINDER	Y/N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

SQN NUMBER	1-255	112	113	114	115	116	117	118	119	120	40	41	42	43	44	45	46	47
SQN I.D.	[6]	1/SG76	S/SG76	2S/LG2	2F/122	3F/123	1F/124	4S/186	5J/186	6J/186	55B	151F	51B	1F/FP	2F/FP	3F/FP	4F/FP	5F/FP
PLANE TYPE	1-37	10	10	11	13	13	13	10	7	7	3	1	3	18	18	20	20	20
OFFICIAL EST.	1-31	31	9	31	12	12	12	12	12	12	12	12	12	12	12	12	12	12
INITIAL EST.	1-31	31	9	31	12	12	11	12	12	12	10	10	10	12	12	12	12	12
VETERAN	0-31	9	4	12	1	2	2	2	1	0	0	1	0	1	1	2	1	0
EXPERIENCED	0-31	21	6	31	10	9	10	6	7	7	10	9	9	12	10	9	11	12
FATIGUE	0-7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
NIGHT OPS	Y/N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
RECON OPS	Y/N	N	N	N	Y	Y	Y	N	N	N	N	N	N	N	N	N	N	N
NAVAL OPS	Y/N	N	N	N	N	N	N	Y	N	N	N	N	N	N	N	N	N	N
PATHFINDER	Y/N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

CW - Squadrons (Cont.)

SQN NUMBER	1-255	48	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140
SQN I.D.	[6]	1B/FP	1F/3A	2F/3A	3F/3A	1L/3A	2L/3A	3L/3A	1R/3A	1B/3A	2B/3A	3B/3A	2R/3A	1F/11A	2F/11A	3F/11A	4F/11A	5F/11A
PLANE TYPE	1-37	19	23	22	22	28	28	28	27	24	24	24	27	21	23	22	22	23
OFFICIAL EST.	1-31	12	16	16	16	12	12	12	12	12	12	12	12	16	16	16	16	16
INITIAL EST.	1-31	12	15	15	15	12	12	12	12	12	12	12	12	15	15	15	15	15
VETERAN	0-31	0	2	2	0	1	0	0	0	1	1	0	0	2	0	1	0	1
EXPERIENCED	0-31	11	12	8	10	7	8	6	10	8	5	9	9	10	9	7	8	10
FATIGUE	0-7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
NIGHT OPS	Y/N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
RECON OPS	Y/N	N	N	N	N	N	N	N	Y	N	N	N	Y	N	N	N	N	N
NAVAL OPS	Y/N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
PATHFINDER	Y/N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

SQN NUMBER	1-255	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157
SQN I.D.	[6]	6F/11A	1L/11A	2L/11A	3L/11A	1R/11A	1B/11A	2B/11A	3B/11A	2R/11A	1F/10A	2F/10A	3F/10A	4F/10A	5F/10A	6F/10A	1L/10A	2L/10A
PLANE TYPE	1-37	23	28	28	28	27	24	24	24	27	23	23	23	22	21	21	28	28
OFFICIAL EST.	1-31	16	12	12	12	12	12	12	12	12	16	16	16	16	16	16	12	12
INITIAL EST.	1-31	15	12	12	12	12	12	12	12	12	15	15	15	15	15	15	12	12
VETERAN	0-31	0	0	1	0	1	1	0	0	0	0	2	1	1	3	2	0	0
EXPERIENCED	0-31	7	7	9	7	11	11	9	6	10	10	10	8	10	11	10	8	10
FATIGUE	0-7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
NIGHT OPS	Y/N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
RECON OPS	Y/N	N	N	N	N	Y	N	N	N	Y	N	N	N	N	N	N	N	N
NAVAL OPS	Y/N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
PATHFINDER	Y/N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

SQN NUMBER	1-255	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174
SQN I.D.	[6]	3L/10A	1R/10A	1B/10A	2B/10A	3B/10A	4B/10A	5B/10A	6B/10A	2R/10A	1HB/3G	2HB/3G	3HB/3G	1RB/3G	1HB/7G	2HB/7G	3HB/7G	1RB/7G
PLANE TYPE	1-37	28	27	24	24	24	24	24	24	27	26	26	26	26	25	25	25	25
OFFICIAL EST.	1-31	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
INITIAL EST.	1-31	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
VETERAN	0-31	1	0	0	2	1	0	0	0	0	1	0	0	0	0	0	2	0
EXPERIENCED	0-31	9	9	11	11	9	7	8	5	9	12	12	10	12	10	11	9	11
FATIGUE	0-7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
NIGHT OPS	Y/N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
RECON OPS	Y/N	N	Y	N	N	N	N	N	N	Y	N	N	N	Y	N	N	N	Y
NAVAL OPS	Y/N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
PATHFINDER	Y/N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

CASE WHITE - Plane Types

PLANE NUMBER	1-37	1	2	3	4	5	6	7	8	9	10	11	12	13	14
PLANE TYPE	[11]	PZL P7a	PZL P11c	PZL P23b	PZL P37b Lub	R-XIII	RWD 14	Bf 109D	Bf 109E	Bf 110C	Ju 87B	Hs 123	Do 17E	Do 17P	Do 17Z
ROLE	0-3	0	0	2	2	3	3	0	0	1	2	2	2	3	2
CREW	0-7	1	1	3	4	2	2	1	1	3	2	1	3	3	4
FUEL	1-255	25	26	51	122	36	36	19	18	48	27	29	74	88	69
PAYLOAD	0-63	0	1	6	19	1	1	0	0	4	4	4	6	0	8
SERVICE CEILING	11-41	27	26	24	30	15	16	29	34	33	27	30	20	23	23
MAXIMUM SPEED	0-41	10	12	9	14	7	7	16	18	17	12	11	11	13	13
OPT. ALTITUDE	0-31	13	18	7	11	5	7	12	12	20	14	4	7	13	13
CRUISING SPEED	0-31	9	10	8	11	6	6	13	14	11	11	10	8	11	11
CLIMB RATE	0-15	10	14	7	6	3	5	13	15	10	8	13	3	4	3
FIREPOWER	0-7	2	2	1	1	1	1	4	5	5	1	2	2	1	2
MANOEUVER.	0-7	7	7	4	3	6	6	5	5	3	4	6	3	3	3
VULNERABILITY	0-7	3	4	3	4	2	3	3	4	3	2	3	2	3	3
RADAR	0-7	1	1	0	0	0	0	3	3	3	0	0	0	0	0
REPL. RATE	0-7	2	4	4	3	2	2	2	3	3	3	3	1	1	3
ECM	0-7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ALLIED	Y/N	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N	N	N
NIGHT	Y/N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

PLANE NUMBER	1-37	15	16	17	18	19	20	21	22	23	24	25	26	27	28
PLANE TYPE	[11]	He 111E	He 111P	He 111H	Hurricane	Battle	MS 406	I-15b	I-153	I-16	SB-2	TB-3	DB-3B	R-5	Po-2
ROLE	0-3	2	2	2	0	2	0	0	0	0	2	2	2	3	2
CREW	0-7	4	4	5	1	3	1	1	1	1	3	5	3	2	2
FUEL	1-255	56	68	83	30	57	23	33	29	28	44	145	141	42	39
PAYLOAD	0-63	16	16	24	0	4	0	1	1	0	8	29	18	3	2
SERVICE CEILING	11-41	23	26	26	34	25	31	32	35	30	28	25	32	21	13
MAXIMUM SPEED	0-41	12	12	13	15	13	15	12	14	14	13	9	13	7	5
OPT. ALTITUDE	0-31	13	15	16	18	15	15	15	16	15	13	18	22	10	3
CRUISING SPEED	0-31	11	11	11	10	10	12	9	11	9	10	8	10	7	5
CLIMB RATE	0-15	2	2	2	14	6	12	13	14	15	6	2	9	8	7
FIREPOWER	0-7	1	2	3	4	1	3	3	3	4	2	2	1	1	1
MANOEUVER.	0-7	3	3	3	5	3	5	6	6	5	3	0	3	5	5
VULNERABILITY	0-7	2	3	3	3	3	4	2	3	3	3	2	4	2	1
RADAR	0-7	0	0	0	1	0	1	1	1	1	0	0	0	0	0
REPL. RATE	0-7	2	2	5	2	2	3	3	4	5	5	2	4	2	4
ECM	0-7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ALLIED	Y/N	N	N	N	Y	Y	Y	N	N	N	N	N	N	N	N
NIGHT	Y/N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

CASE WHITE - Airfields

AIRFIELD NUMBER	1-127	1	2	3	4	5	6	7	8	9	10	11
AIRFIELD NAME	[11]	Okecie	Warsaw	Kracow	Lwow	Lida	Widzew	Sokolniki	Lublinek	Igolomie	Klimontow	Palczowice
LOCATION	(x,y)	18,16	18,16	17,24	25,25	24,12	14,18	14,19	14,18	17,24	18,24	18,25
ASSIGNED SQNS	[4]	1-4	6-9	5,10-11	12-13	14,40	25-26	27	28-29	30-31	32	33-34
THEATRE	1-5	1	1	1	1	1	1	1	1	1	1	1
DAMAGE STATUS	0-15	15	15	15	15	15	15	15	15	15	15	15
DAMAGE CONTROL	0-3	1	1	1	1	1	1	1	1	1	1	1
SEALED	Y/N	Y	Y	N	N	N	N	N	N	N	N	N
ALLIED	Y/N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

AIRFIELD NUMBER	1-127	12	13	14	15	16	17	18	19	20	21	22
AIRFIELD NAME	[11]	Werynian	Mrowla	Szpondowo	Zdunowo	Sokolowek	Markowo	Zduny	Niedzwielz	Dzieznica	Mierzewo	Sielec
LOCATION	(x,y)	20,25	20,25	16,15	17,14	17,14	13,14	14,15	13,14	12,16	13,16	13,16
ASSIGNED SQNS	[4]	38	39	35	36	37	15-16	17	18-19	20-21	22	23
THEATRE	1-5	1	1	1	1	1	1	1	1	1	1	1
DAMAGE STATUS	0-15	15	15	15	15	15	15	15	15	15	15	15
DAMAGE CONTROL	0-3	1	1	1	1	1	1	1	1	1	1	1
SEALED	Y/N	N	N	N	N	N	N	N	N	N	N	N
ALLIED	Y/N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

AIRFIELD NUMBER	1-127	23	24	25	30	31	32	33	34	35	36	37
AIRFIELD NAME	[11]	Gwiazdowo	Zalesie	Wierzbowo	Prenzlau	Muhlen	Stolp	Lottin	Schonfeld	Kolberg	Pinnow	Gabbert
LOCATION	(x,y)	12,17	18,20	18,19	5,12	4,14	10,8	7,12	4,15	8,10	6,11	4,15
ASSIGNED SQNS	[4]	24	41	42	86,88	58	76-78,82	83	74,87	60,62	61	69
THEATRE	1-5	1	1	1	1	1	1	1	1	1	1	1
DAMAGE STATUS	0-15	15	15	15	15	15	15	15	15	15	15	15
DAMAGE CONTROL	0-3	1	1	1	1	1	1	1	1	1	1	1
SEALED	Y/N	N	N	N	N	N	Y	N	N	Y	N	N
ALLIED	Y/N	Y	Y	Y	N	N	N	N	N	N	N	N

AIRFIELD NUMBER	1-127	38	39	40	41	42	43	44	45	46	47	48
AIRFIELD NAME	[11]	Werneuchen	Neubrandenb.	Konigsburg	Neuhausen	Insterburg	Jesau	Elbing	Furstenwald	Cottbus	Liegnitz	Heiligenbeil
LOCATION	(x,y)	5,13	4,11	16,9	4,20	18,8	16,12	15,9	5,15	6,18	9,18	4,14
ASSIGNED SQNS	[4]	70,73	71	72	85	75	49-50,89	51,79	59	63,65	64	66-68
THEATRE	1-5	1	1	1	1	1	1	1	1	1	1	1
DAMAGE STATUS	0-15	15	15	15	15	15	15	15	15	15	15	15
DAMAGE CONTROL	0-3	1	1	1	1	1	1	1	1	1	1	1
SEALED	Y/N	N	Y	N	N	N	Y	N	N	Y	Y	N
ALLIED	Y/N	N	N	N	N	N	N	N	N	N	N	N

AIRFIELD NUMBER	1-127	49	50	51	52	53	54	55	56	57	58	59
AIRFIELD NAME	[11]	Powunden	Doberitz	Zerbst	Straussberg	Greifswald	Brusterort	Breslau	Neisse	Oels	Langenau	Zipser Neu.
LOCATION	(x,y)	5,16	3,12	5,16	6,14	4,11	16,8	12,21	11,21	5,21	5,20	8,28
ASSIGNED SQNS	[4]	80-81	52-54	56-57	55	84	118-120	92,94,116	115	98,100	97,99	101,103
THEATRE	1-5	1	1	1	1	1	1	2	2	2	2	2
DAMAGE STATUS	0-15	15	15	15	15	15	15	15	15	15	15	15
DAMAGE CONTROL	0-3	1	1	1	1	1	1	1	1	1	1	1
SEALED	Y/N	N	Y	N	N	N	N	N	N	N	N	N
ALLIED	Y/N	N	N	N	N	N	N	N	N	N	N	N

AIRFIELD NUMBER	1-127	60	61	62	63	64	65	66	67	71	72	73
AIRFIELD NAME	[11]	Vienna	Grottkau	Brieg	Ohlau	Nieder Ell.	Altseidel	Neudorf	Pilsen	Druya	Glubokoye	Polotsk
LOCATION	(x,y)	8,29	10,19	11,19	2,19	12,22	12,22	12,25	4,22	32,8	32,9	33,8
ASSIGNED SQNS	[4]	90-91,102	105,107	104,106	96,117	108,112-113	95,114	109-111	93	125-127	128-131	132-135
THEATRE	1-5	2	2	2	2	2	2	2	2	3	3	3
DAMAGE STATUS	0-15	15	15	15	15	15	15	15	15	15	15	15
DAMAGE CONTROL	0-3	1	1	1	1	1	1	1	1	0	0	0
SEALED	Y/N	Y	N	N	N	N	N	N	N	N	N	N
ALLIED	Y/N	N	N	N	N	N	N	N	N	N	N	N

AIRFIELD NUMBER	1-127	74	75	76	77	78	79	80	81	82	83	84
AIRFIELD NAME	[11]	Borisov	Minsk	Uzda	Yaslavl	Chudunov	Khmelnik	Zhitomir	Skvira	Barashi	Kiev	Vasilkov
LOCATION	(x,y)	32,11	31,11	31,12	30,11	32,21	32,22	33,20	34,22	32,20	37,19	37,19
ASSIGNED SQNS	[4]	136-138	139-141	142-145	146-149	150-152	153-155	156-159	160-162	163-166	167-170	171-174
THEATRE	1-5	3	3	3	3	3	3	3	3	3	3	3
DAMAGE STATUS	0-15	15	15	15	15	15	15	15	15	15	15	15
DAMAGE CONTROL	0-3	0	0	0	0	0	0	0	0	0	0	0
SEALED	Y/N	N	N	N	N	N	N	N	N	N	Y	N
ALLIED	Y/N	N	N	N	N	N	N	N	N	N	N	N

CASE WHITE - Flak Units

FLAK UNIT NUM.	1-63	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
I.D. CODE	[1]	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
LOCATION	(x,y)	18,16	17,15	16,14	14,15	13,14	12,9	11,15	13,16	13,18	15,18	18,19	20,19	17,24	19,24	20,25	25,25	24,18
AA GUNS	1-255	44	12	9	7	8	16	28	6	4	22	14	6	18	6	6	14	6
ALLIED	Y/N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

FLAK UNIT NUM.	1-63	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
I.D. CODE	[1]	P	P	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
LOCATION	(x,y)	21,14	23,11	19,11	16,12	18,8	16,9	11,9	10,8	8,10	6,11	5,12	3,12	6,14	4,14	5,16	6,18	8,18
AA GUNS	1-255	12	16	12	12	6	36	12	18	12	12	6	66	12	6	36	12	24
ALLIED	Y/N	Y	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

FLAK UNIT NUM.	1-63	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51
I.D. CODE	[1]	G	G	G	G	G	G	G	G	G	R	R	R	R	R	R	R	R
LOCATION	(x,y)	9,18	5,20	5,21	11,19	12,21	12,22	12,25	19,26	8,29	32,9	33,8	30,11	31,11	32,22	33,20	34,22	37,19
AA GUNS	1-255	12	6	6	12	30	18	18	12	42	4	12	8	16	4	12	4	40
ALLIED	Y/N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

victory threshold of the Polish Air Force to 30!

2. In the time covered by the scenario, Soviet air operations against Poland were minimal. The Air Force organization, still recovering from the purges of the past three years, was not ready for battle. We can see what contribution they could have made. Add plane types 21-28, squadrons 125-174, airfields 71-84, centres 51-55 and flak units 44-51 to the the data base. The victory threshold of the Soviet Air Force is 20.

3. Another possibility is to explore the consequences which may have arisen from a more cordial Allied treatment of the Soviet call for a Triple Alliance against Germany in April of 1939. Both France and England vacilated over the Soviet proposal, fearful of the repercussions it could hold for the independent Eastern European states of Latvia, Lithuania, Estonia and Finland. These minor countries didn't want Russian troops marching through their territory.

Soviet obligations, under their own proposal, would have required them to come to Poland's aid in the event of German aggression. Add the Soviet data as described in the variation above, but with the following modifications. Soviet plane types, airfields, centres and flak units will need to be identified as Allied instead of Axis and all land hexes in Russia will have to be changed to Allied.

Any Soviet squadrons (except the 2 heavy bomber regiments at Kiev) may be based forward on Polish airfields. Allocate up to 40 additional flak points to any Polish flak units. Alter the victory threshold of the Allied controlled Soviet Air Force to 30. Reduce the threshold of each German command by 10.

NOTES ON THE DATA

1. Create the basic scenario first; i.e. with just the Polish and German units. Save this in four separate locations, naming them (in order) CASE WHITE, CW REINF, CW USSR (Axis), CASE WHITE USSR (Allied). Modify the save locations as instructed by the scenario variations.

2. As an aid to identifying the borders between the beligerents on the strategic map, you may wish to use a different terrain symbol for the major powers.

We suggest T3 for Poland, T4 for Germany, T6 for Axis Russia (or T7 for Allied Russia), T8 for Axis neutrals (Italy, Yugoslavia, Denmark, Sweden) and T9 for Allied neutrals (Lithuania, Latvia, Rumania)

PRINTING WITH APPLE

The connection of peripherals such as printers has often been an area of confusion and trouble in the industry. These notes will attempt to explain the situation with our games and the Apple II family.

To successfully print from an Apple, three elements must be coordinated. They are the computer itself (as controlled by the program running at the time), the printer controller card and the printer itself. Since the elements in this chain can come from up to three suppliers (four if you count the controlling program), some care is needed to negotiate through to a successful conclusion.

In the case of ***CAW*** and ***EA*** the goal is the printing of the Apple's hi resolution graphics page. This process is called graphics printing or as the jargon has it, 'bit image printing'. It is called this because the printed image is done as a dot by dot reconstruction of the original. Some printers may not be capable of this, for instance most daisywheel printers can only print the predefined characters on their print wheel, and even some dot-matrix printers (mostly old models) can only print the characters pre-defined in their ROM. However the vast majority of dot-matrix printers can print graphics and it is to these that we will further address ourselves.

As constructed, the Apple knows nothing about printing. To get any printer to run on Apple some sort of extra controlling circuitry must be added. This is usually called an interface card, and it is the link between your computer and your printer. If you have any sort of Apple except a IIc then you must have one of these cards to print anything at all. The card is installed in one of the expansion slots of the Apple, usually slot 1. (The Apple IIc is a special case which we will come to in a moment.)

When any Apple program wants to print it must do so through the medium of the printer card. Most printer cards have a built in capability to deal with Apple hi-res graphics. When given the appropriate instruction, they are smart enough to reach in and get a hi-res graphics page in memory and print it out on a compatible printer. (This is often referred to as 'dumping' the hi-res page or a 'graphics dump'.)

It is this capability that ***CAW*** and ***EA*** rely upon being available for them to print. The 'appropriate instruction' is the code that tells your printer card to print a hi-res graphics page. If you identify this code and tell the program in the 'printer set-up' routine, then pressing (CNTL)(P) inside ***CAW*** or ***EA*** will, in effect, issue this code and start printing.

There is unfortunately no absolute standard for this code although (CNTL)(I)(G) is the most common. The main thing to realise is that the code is an artefact of the interface card, not the printer.

The Apple IIc is, as stated, an exception. Having no expansion slots it has no interface card as such. It does have a built in printer port and some controlling circuitry that performs the same functions, with one noted exception. There is **no** built in graphics dump. Thus, there is no way for either CAW or EA to print from an Apple IIc.

To print from CAW or EA you need; a printer capable of (bit image) graphics, a printer interface card capable of a 'graphics dump' and most importantly, the code that causes the card to perform the graphics dump. If you don't know the code, it should be listed in the documentation for the printer interface card. If that is not available, try the retailer who sold it or the manufacturer of the card. In any case, you should try (CNTL)(I)(G) as it may well work. (Do try these things out on an experimental basis, not three hours into a serious game.)

Strategic Studies Group will endeavour to publish a list in a future issue of *Run 5* of known card, code and printer combinations. However, given the sheer volume of product that has appeared over the long history of the machine, we will need **your** help for this to be ultimately successful. If you have a card, code and printer combination that works, please drop us a short line and let us know. Give as full a description as possible of the equipment. The fruits of your research will be appear in our list in *Run 5* and may help others to get the most out of their programs.

PROGRAMMING AND GAME DESIGN

By Roger Keating and his Computer

Reach for the Stars was designed about three years ago and remains one of my favourite computer games. It has been used on many occassions as a tournament game and is still recognised for the tough opposition to be found in its 54 star system universe.

Many of the game's features and mechanics have never been exposed so I am putting pen to paper (or fingers to keyboard) to remedy the situation.

GENERAL STRATEGY IN REACH FOR THE STARS

Many times in the last three years I have been accused of cheating in *Reach For The Stars*. Somehow the computer has access to the random generator; or somehow has its production enhanced! The truth is that all these devices were planned. . . originally.

It became embarrasing during the last weeks of testing to discover that beginner opponents (all the computer players were beginners then) were beating the playtesters.

If the experienced and veteran computer opponents were to achieve their superiority by artful deception (aka cheating), it appeared there would be no reasonable way for the average (mere) human to beat them.

The solution was to introduce a *hate* index. Beginners were made mild mannered developers. If a player (human or computer) took a planet from them the beginner would shrug its shoulders and begin again. Veterans, on the other hand, were taught to hate. They hate (in no particular order) anyone who is winning (except themselves!), all human players, anyone else who occupies a planet in the same star system, anyone who is causing aggravation and/or anyone who is close and vulnerable.

Once the veteran player has selected a victim, it will harass and attack him mercilessly until he is rubbed out or is supplanted by a new opponent with a higher *hate* index.

Even with these adjustments, beginners were still too tough. They were taught to make mistakes in their production and to overspend on certain items. This finally produced the balance I was looking for.

The only factor that I could not compensate for was the handling of population and veteran players get some assistance with birth control mechanisms to make sure that their planets do not get out of control.

On Production

To evaluate its progress, each computer player checks the number of planets in the following categories

- planets with less than six industries
- planets with more than six but less than 19 industries
- planets with 20 or more industries
- planets that it has conquered
- own planets conquered by other players

In addition to this information the current state of military operations against other players are assessed. Armed with this knowledge, priorities are assigned to production.

Production is performed in two cycles. Developing planets are accounted for first (and have the first refusal of any global RPs available) and are brought up to a survival level. Other planets are taken in whatever order they come.

Once the production needs of a planet have been established, one of each unit type is produced until the needs are met or the RPs exhausted.

On Fleet Operations

Warships are allocated to exploring, protecting planets, harassing other planets and to strike groups. A convenient star system is selected as a *form point* for the strike group and all ships allocated to this mission are sent there while awaiting the selection of a suitable target system.

The computer player's choice of target system is based on *hate* indices, estimated vulnerability and industrial status (and for the beginner player a great deal of luck!).

An *attack form point* is selected within striking distance of the target. If the target has been slated for planetary conquest, the production system is flagged to manufacture the required space marines. They are also directed to the form-up point. All planets (except developing ones) are instructed to maximize military production and a counter is set which limits the computer to a timetable to carry out the invasion.

If time runs out the attack is aborted and the development phase resumed. A new *form point* is selected while the warships await the choice of a new target.

When estimated sufficient force has been accumulated at an *attack form point*, the strike is launched. Usually, it is timed to arrive just prior to a production phase. The decision to strike is announced with the ringing of the attack bells.

Finally, all attack flags are cleared so that while one invasion is underway another can be forming.

```
Final Victory Display      Turn  40 of  40
 SUBSTANTIAL  VICTORY TO Killer Keating
 Develop··Battles··Conqu"t··Destr"t··   Total
Killer Keating
   (2)      (2)      (2)      (2)        2622
    327 ···  368 ···  827 ···  1100 ···   2622
Bad Boy Baker
   (2)      (2)      (2)      (2)        1761
    698 ···  538 ···   61 ···   464 ···   1761
The Duke
   (2)      (2)      (2)      (2)         836
    329 ···  130 ···   97 ···   280 ···    836
Attila le Trout
   (2)      (2)      (2)      (2)         529
    195 ···  160 ···   78 ···    96 ···    529

(C)ontinue  (E)xamine  (Q)uit
```

At last I get a chance to publish the evidence! In the game played to illustrate the design notes to the second edition of ***Reach for the Stars****, I really did win. There just wasn't room in the manual to publish the final victory screen. So here it is. . .*

THE OPTIONS

Novas

At the end of a turn, the computer scans each planet. If a planet belongs to a player on level 3 technology, then there is a small chance that the star system will become unstable and threaten to go nova.

Each turn, for each star threatening to go nova, there is a 25% chance that the star will revert to normal, a 50% chance that it will continue to threaten and a 25% chance that it will become a black hole. On creating a black hole, all planets in the system are destroyed and any fleets arriving there join them in oblivion.

There is a limit of 5 star systems that can become black holes (we didn't want the entire universe to disintegrate in the course of a long game.

Natural Disasters

There is a small chance every turn that a planet will suffer a reduction in industrial capacity, population or environment. This has proved to be one of the least popular options.

Xenophobes

Originally thought of as 4 pirate fleets that would travel the universe destroying planets, they finally emerged as 4 infestations that are created, move around the universe and eventually die. When one of them infests a star system, access to global RPs is denied and combat in that system becomes deadlier.

Solar Debris Effect

If a task force strikes a gas cloud it stops immediately and begins moving again on the next turn. It pays to scout out the best space lanes between the gas clouds when using this option.

Random Star Map

For those players who really like to keep track of everything this is definitely the option. Star systems are never adjacent to each other which avoids the possibility of multiple combats in a single turn.

Task Force Set-Up

The luck element is enhanced in this option. Very few games last much longer than 40 turns unless some additional global RPs (say 500) are issued at the beginning of the game.

Auto Explorer Move

After playing many games of *Reach For The Stars* this option became essential. I always use it. Some players like to track the movement of every explorer under the idea that it gives them an edge but I would rather concentrate my energy on developing a good economic system and a large fleet as these do a great deal more damage than the knowledge gained from tediously tracking explorers.

Hidden Victory Conditions

When Ian and I play we agree not to look at the victory screen during the course of the game. It adds considerably to the excitement, especially in the last few turns when a risky strategy can snatch defeat from certain victory! This is an essential option during tournaments.

Enhanced Computer Players

Each production phase the computer players are given a few additional production points to accelerate their development. With this edge they become most formidable opponents and their defeat demands careful planning and a great deal of luck. I always select this option and can win about 50% of the time against the veterans.

Random Game

I prefer to have a small amount of uncertainty in each game and generally select this option. Production values and movement allowances are varied from the standard figures but not so much as to unbalance the game.

Variable Cost Option

This option allows substantial changes to the basic production and movement values. The game can be heavily biased toward development, conquest or destruction.

Multipliers

This is a little used option that allows each player to enhance certain victory conditions at the expense of others.

It has been my experience that a large number of RFTS players never venture into the options and will only play the traditional game. They are missing out on quite a lot.

Many suggestions, however, on additional features have been forthcoming and the temptation to do another space game has had to be tempered by the work in progress.

QUESTIONS AND ANSWERS

Over the past eighteen months or so we have received quite a few queries on various aspects of our games. As a regular feature we intend to answer some of these questions. This first batch deals mostly with Carriers at War and concludes with some player's notes which we hope will be of use to you.

We invite you to take advantage of this forum and write to us if there is anything in our games you would like clarification on.

Q. Why does it take a couple of hours to launch some strikes in *CAW*?

A. Each carrier has a spot number which represents the number of aircraft that can be on deck at any one time. This capacity is specified in the design manual in menu 18 {Carrier Creation}. Each point of the number in the design manual represents four aircraft. Planes in excess of the spot number must wait for the decks to be cleared before they themselves can be launched.

Q. How do I launch my seaplanes? Why do I keep getting a *Seaplane tender at Sea* message?

A. The planes on a tender can only be launched while the tender is anchored, either at a designated anchor point or in port. It is specified in the design kit under menu 9 {Scenario Briefing}. If a task group containing a seaplane tender is given an "anchor" order, it will go straight to the nearest anchor point or port, anchor and start searching if a search direction has been specified.

Q. Why can't I launch planes unless there is a sighting? Why can't I launch my carrier fighters at squads that I see attacking my own port?

A. Each strike launched will result in attrition (planes getting lost, bent on takeoff or landing etc) and place the carrier task group in a vulnerable condition while it stooges around waiting for the strike to return. It was never a decision to be taken lightly.

Carrier aircraft flying from carriers were not used to directly defend land targets as there were no Ground Control Interception facilities for them. However, planes flying CAP are capable of intercepting enemy aircraft up to 7 hexes away, depending on the radar value of the carrier.

Q. How do I launch a search? How do I launch CAP?

A. Searching and CAP are both done automatically by the computer. The computer will launch search planes when at least one element of the search rosette is turned on and there are planes available. The computer will endeavour to keep one plane outgoing along each activated search arc.

Search planes which detect enemy vessels will attempt to shadow them until they lose contact, their endurance is exhausted or they are shot down. Another plane, if available, will now be allocated to that search arc.

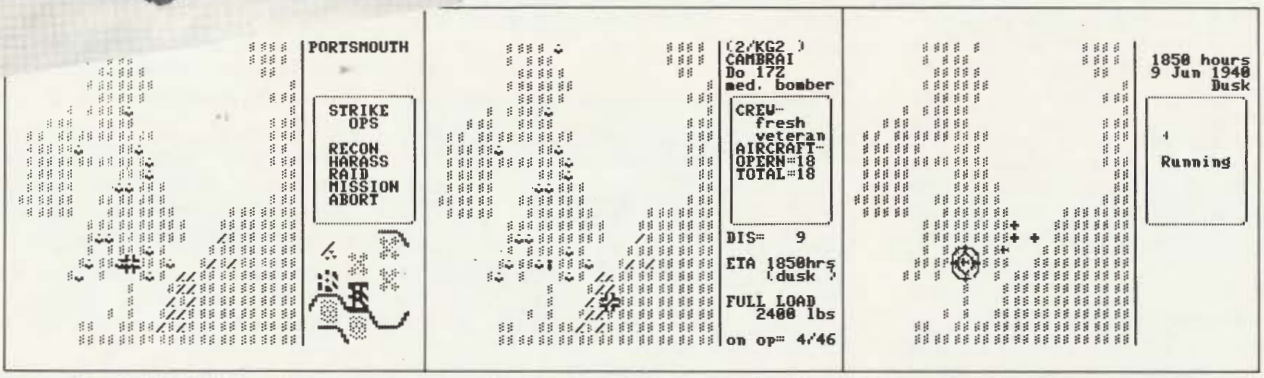
A lot of capital ships carried float planes and the task groups carrying these should always have the search rosette turned on.

Remember, the searching is done as a function of each task group. You will have to decide whether to use the search resources (if any) for each individual Task Group. The computer will use carrier planes, even fighters if there is nothing else, so searching will always be carried out if physically possible. However, strike planes and crews should be conserved as much as possible, so only search those arcs you really need to.

STRATEGIC STUDIES GROUP INVITE YOU TO ENJOY ANOTHER FINE HISTORICAL SIMULATION

EUROPE ABLAZE

THE AIR WAR OVER ENGLAND AND GERMANY 1939-1945...



EUROPE ABLAZE is a complete game system designed to bring to life the vital struggle in the air which raged over Europe for almost five years.

Three major scenarios, selected from the various phases of the war, are presented to simulate the changing fortunes of battle as Britain, at first beleaguered by an overwhelming Luftwaffe, finally becomes the bastion from which American and British bombing forces wreak havoc upon the German war machine.

Each scenario offers up to six command positions per side, any or all of which may be computer controlled. The player takes the roll of C in C (Air Forces) and/or up to five subordinate commands. The result is an entertaining and rewarding experience for either solitaire or group play.

Major bombing missions are planned twice per day (daylight ops at midnight, night ops at noon) and require target selection, course plotting, speed and H hour determination and finally squadron allocation. Other operations available to strike aircraft include harassment, raid, and recon missions.

Fighter aircraft perform intercept and patrol (both standing patrols and intruder patrols) ops in response to ground and radar sightings. These ops can be launched at any time.

Targets range from city centres (population, industry, communications and port facilities) to radar stations, airfields and shipping lanes.

The weather routines have been carefully integrated into the game system and such occurrences as storm fronts, ground fog and moonlight are certain to frustrate the would-be mission controller.

Each air commander is blessed (or cursed) with a comprehensive doctrine which may restrict his target selection, limit his escort allocation and/or determine the combat actions of his air formations. Sometimes it's not just the enemy which must be overcome, but also your own higher command.

The depth and detail of this carefully researched simulation is made possible solely through the machine code programming skills of Roger Keating and his unique talent for squeezing out the last ounce of R.A.M. The game features superb hi-res graphics and a very user friendly order structure.

And furthermore... we have provided the creative gamer and historian with a complete ***game design kit.***

This exceptional tool will allow you to create your own scenario variants as well as designing original campaigns. To explain their use, the design routines are illustrated with an entirely new scenario recreating the operations of the US 15th Air Force from Italy in May 1944.

Available for the Apple II Family and the Commodore 64 for $50 at all good software and game retailers or direct from STRATEGIC STUDIES GROUP

In the US - 1747 Orleans Ct, Walnut Creek. Ca. 94598
In Oz - 336 Pitt St, Sydney. 2000. (02) 264-7560

CAP is a totally automatic function, and the computer does a very good job of it. Remember all available fighters will be used in emergency CAP if you do see something coming.

Q. Why do I always seem to sink many times the known totals of enemy ships, especially carriers?

A. The whole question of sighting and battle reporting was a matter of great unreliability for both sides. Historical commanders continually received inaccurate and exaggerated reports and so will you. Let us suppose that you receive a sighting report of 4CV, 3BB, 7DD, 1AX. It is entirely possible that there are no CV's there at all. Capital ships, transports, oilers could be and were mistaken for carriers. Let us say that you send a strike and that there are actually two carriers in the group. A typical battle report could well be 4CV sunk. If you attack the same group the next day you get another 4CV sunk report. Obviously incorrect but quite typical.

It would usually take a day or two for the Intelligence Officer to prepare an accurate estimate of a day's operations. Most *CAW* players will probably have at least a dozen carrier battles. This is four times the number fought by any of the the commanders in the historical scenarios! To have provided players with an edited *action report* would have been to dispel (for an experienced user) the uncertainty so characteristic of Pacific carrier battles.

Q. What is the current version of *CAW* and what is your upgrade policy?

A. The current version is 1.1. If this number doesn't appear in the bottom right hand corner of the start-up screen, you can send your disk for replacement to either our American or Australian office. It's not so important for Apple owners but Commodore 64 users may (will) find some problems with the design routines.

Q. What is the current version of *EA* and what is your upgrade policy?

A. The current version is 1.0; i.e. the original release version. Everything seems to be working fine (touch wood).

Q. Are ETA's (in *CAW*) always correct or can a strike take longer than the listed ETA.

A. The ETA will be correct with the following exceptions. If the number of planes in a strike exceeds the spot number, then there will be a delay, depending on the number of planes that you are trying to launch. If the strike is cohesive, then everyone waits for the last squadron to take off. If a strike does not immediately find its target, then it will go looking for it. Obviously, this will add to the flight time.

Q. Why does my score drop to zero if I am doing very well in *EA*?

A. The magic number in Apples and Commodores is 65536. This is the largest integer than can be addressed without going to a lot of extra trouble and memory. EA calculates VP's in sixteenths, to give us some flexibility when allocating them. Dividing 65536 by 16 gives us 4096. If you happen to exceed this score, it rolls over to 0 and starts again. It is most unlikely that this will happen, and if you ever get that high a score you certainly will have won in any case.

Questions and Answers

A forum of advice for our customers

Q. I create a scenario in *CAW* like 'Raid on Ceylon' and then find that I can't access my new scenario. What is going on?

A. You have undoubtedly saved a save game file over your newly created scenario file. As you start to build a scenario you will save your work from time to time. This is put in a file called a 'Creation file'. This file holds all the information needed to start your scenario going. If you start a game of a created scenario, you may want to save it at some stage. There is no problem with this so long as you do not write the saved game file to the same space on the disk that was occupied by your creation file. The save game routines give you complete freedom over which slot on the disk to use. Choose anything except the one currently listed as a 'Creation file'. If you do you will wipe out your scenario and not be able to do anything except restart that one saved game. Since typing in a new scenario represents so much work you should keep a copy on another disk.

Q. I create a squadron of 27 Zeros in *CAW*. When I go to play the game I find there are 28 of them. Why?

A. It is almost certain you have more than 1012 planes in the scenario. When this happens, the computer handles aircraft in multiples of two. Any odd numbers entered in the creation routines will be adjusted prior to the start of the game.

Note that the originally entered number will appear in the creation routine.

Scenarios involving more than 2024 aircraft will find planes treated in multiples of three. . . and so on up to a maximum of eight.

Q. Please explain the meanings of the beeps, buzzes and burps which indicate the progress of combat?

A. Air to air combat is recognisable by a brief flicker of the strategic cursor over the battle area and one or more short beeps.

Armour-piercing or high explosive bomb attacks are announced by several long beeps and a distinctive flashing of the strategic cursor over the battle area.

Torpedo attacks are announced by a long beep-burp combination, again with the distinctive flashing of the strategic cursor.

Surface combat between warships is announced by a long series of sharp beeps and the flashing of the large ship cursor.

Submarine attacks have the same sound as surface combat but show the flashing torpedo cursor.

On clearing airfields and carriers, squadrons trigger a sharp beep.

This explanation mayn't be all that satisfactory to some of you. Beeps, burps and whatever are hard to describe in words.

What's at fault here is a less than adequate display of combat actions. The optional system of reports featured in *EA* should have been included in *CAW*. We just didn't think of it. If we ever bring out a second edition. . .

Q. What actually happens in air-to-air and air-to-surface combat in *CAW*?

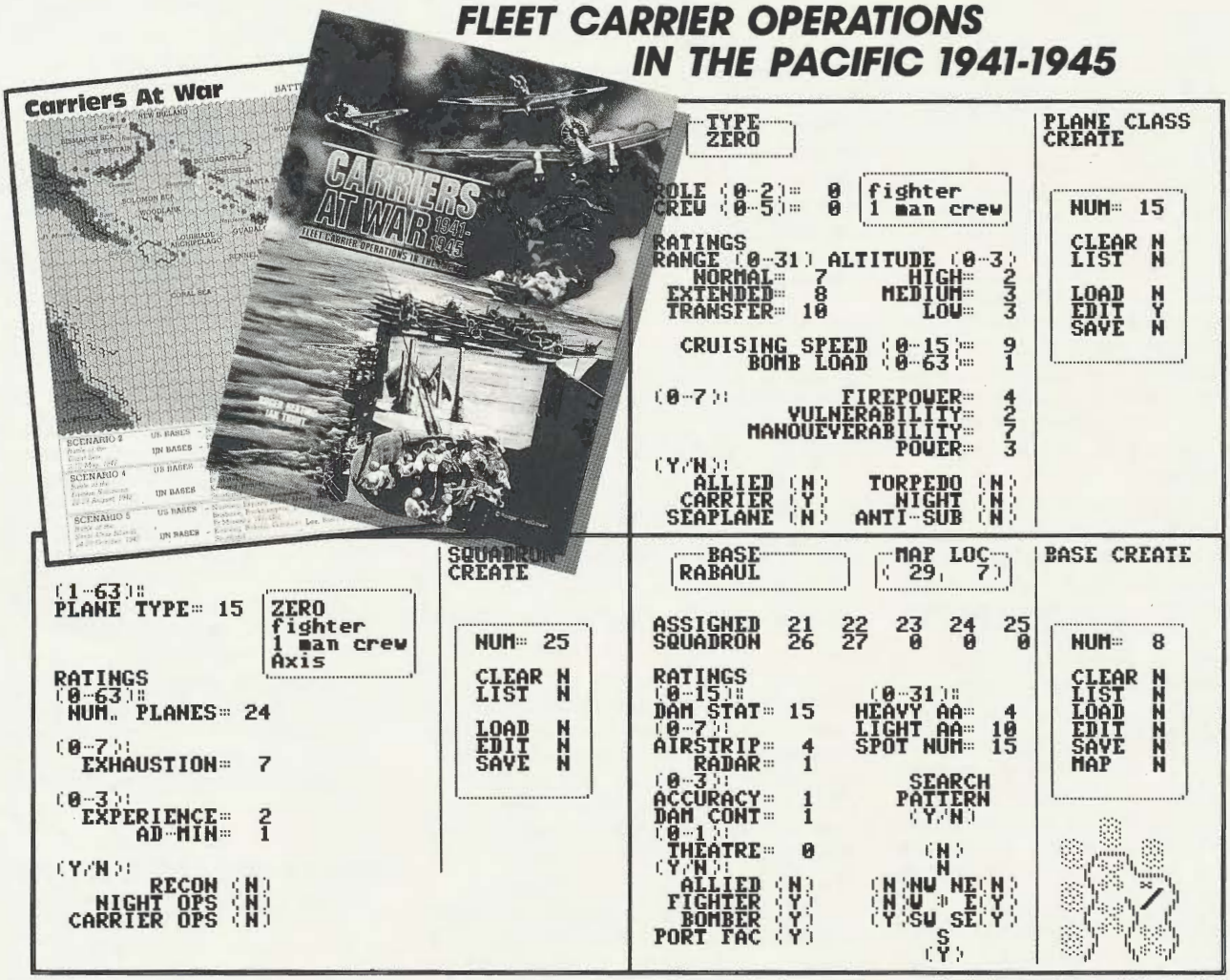
A. You get a long answer to this question!

Let's consider a single squadron of torpedo carrying Betty bombers en route to attack *HMS Prince of Wales* . On take-off the squadron is checked to determine

STRATEGIC STUDIES GROUP PROUDLY ANNOUNCES THE RELEASE OF ROGER KEATING AND IAN TROUT'S GREATEST GAMING ACHIEVEMENT . . .

Carriers At War

FLEET CARRIER OPERATIONS IN THE PACIFIC 1941-1945



'CARRIERS AT WAR' **will recreate for you the 5 crucial carrier battles which shaped the course of the Pacific War. Up to six players per side can take the roles of, amongst others, Yamamoto, Ozawa, Nagumo and Mikawa or Nimitz, MacArthur, Halsey and Fletcher. In addition, an introductory scenario simulating the destruction of the US Pacific Fleet at Pearl Harbour will gently introduce new gamers to a satisfying and rewarding experience.**

The complex interactions between air and naval operations which characterized this period are faithfully presented in the style only Roger Keating's swift and precise machine coding can reproduce. Driven by an easy to use order menu, the game systems encourage players to concentrate upon the developing conflagration; not upon the game mechanics necessary to implement their strategic decisions.

'CARRIERS AT WAR' is an exacting historical simulation, a programming masterpiece and, above all, a delight to play.

BUT THAT'S NOT ALL . . . Every creative gamer with even a passing interest in the Pacific War will appreciate the comprehensive GAME DESIGN KIT which complements the historical scenarios. You can use this kit to create simple or complex variations to the historical scenarios . . . or you can create entirely new scenarios set in any theatre of WWII. At your disposal for each scenario are . . . ★ an 84 by 72 hex-grid at 20 nautical miles per hex which reproduces an area in excess of 3 million square miles ★ 63 individual aircraft types ★ 127 air squadrons which can accommodate over 4000 aircraft ★ 24 land bases ★ 63 ship classes ★ 48 task groups into which are allocated up to 32 carriers and 215 other ships ★ 2 land and 4 naval command positions per side ★ detailed weather creation and forecasting routines ★ national doctrine and scenario briefing routines ★ . . . ***You really can do it yourself.*** **To prove it, and to show how easy it is to use, the design routines are graphically illustrated with an entirely new scenario recreating the Japanese carrier raid on Ceylon, April 1942.**

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if any planes suffered damage and have to be recalled. If so, they land and await repair.

During the flight to the target, the squadron is regularly checked to determine if any aircraft have incurred an in-flight mishap (the ever present magneto drop perhaps). Aircraft suffering such misfortune abort and attempt to return to base. The further from home they are, then the more likely they are to end up in the drink. Each aircraft is actually a discrete element and flies individually, hex by hex, back to base. You may have noticed the odd, single aircraft in the landing pattern on the base display. It may well have been a returning aircraft; or a search plane.

Furthermore, during flight the squadron is continually on the lookout for possible targets including, of course, the one they were assigned to. The decision to attack a target of opportunity rather than the assigned target is related to the type of warships present as well as a certain random element.

For the purpose of this example, our Bettys reach the reported target location without incident. Now they begin looking for the target. This search is influenced by the weather, time of day, crew ability and the real target location. And a random element. Every decision made by the computer includes a random element!

Assume our Bettys find the target after a bit of stooging around. There is no CAP present. The Bettys form into air divisions of 3-6 planes each and begin an attack approach. Not all air divisions will necessarily attack in the same five minute time interval; in fact, it is most unlikely that they will.

Each air division is subjected to heavy AA fire from the task group. (The effectiveness of this fire is related to the number of ships present, their heavy AA strengths, the task group admin value, the number of attacking air divisions, weather and time of day.) As a consequence of this fire, the attacking aircraft are placed in one of four categories; destroyed aircraft, damaged aircraft unable to drop their ordnance, damaged aircraft able to complete an attack and undamaged aircraft.

The last two categories of aircraft complete their attack. A target ship is selected and light AA fire is resolved with the light AA value of the target ship being the prime component of the fire. Aircraft are either prevented from making an attack (destroyed or damaged), harassed or unaffected. Harassed aircraft (which may be damaged) make their attack at reduced effectiveness while unaffected aircraft attack at full strength.

Once each air division has completed its attack, the survivors are told off and ordered to head for home. They do this individually with disabled aircraft exposed to the same risk of accident as aircraft damaged by mishap.

The presence of combat air patrol (with or without mission escorts) adds another layer of complexity.

The distance from target (up to 7 hexes) at which interception may occur is primarily determined by radar values. Weather and time of day affect pretty well everything so I won't bother mentioning them again.

Questions and Answers

A forum of advice for our customers

Once a squadron has been flagged as intercepting an enemy mission in a given five minute time increment, the number of intercepting planes are determined. This is based, among other things, on the size of both forces, pilot experience and the quality of the radar detection.

Intercepting aircraft are allocated to engage the mission escorts or strike aircraft. Fighter aircraft can be destroyed, damaged or unaffected. In either of the last two cases they can be out of amunition in which event they abort, as do damaged aircraft. Surviving fighters are available for combat in subsequent five minute intervals.

Strike aircraft can be destroyed, damaged, harassed or unaffected by the interceptors. Damaged aircraft abort; they do not make strike runs.

Once the air-to-air gauntlet has been run, surviving strike aircraft have to get through the flak as detailed above.

Q. I get strange results in some scenarios I have created involving transport missions. They seem to abort for absolutely no reason whatsoever (i.e. they have not been damaged at all).

A. There is a peculiarity in the way the computer treats nationalities without a carrier. Basically the computer checks on a side to see how many carriers it has left to decide if disaster has befallen and a general withdrawal order should be issued. If it finds zero carriers it is apt to get nervous and issue a run away order. The fact that you started the scenario with zero carriers is not counted. The solution is easy. Design a CV class and one CV. Place them in a Task Group and schedule this Task Group to arrive one or more days *after* the end of the scenario. The surrogate CV will play no part whatsoever in the game, but the computer will be mollified. Remember, this only should be done for nationalities with no carriers at all.

A Special Note for Commodore Users

There is a small problem with early versions of *CAW* for the Commodore 64 only. If you do not have the version number 1.1 appearing in the bottom right hand corner of the title screen then you may have a problem in the creation routines. The problem manifests itself as a scrambling of some creation routine displays, (the data itself is unaffected). If you have noticed this and wish it corrected then please send your original disk to the appropriate SSG office for a free replacement. (US residents should use our US office, it will be quicker and cheaper.) Remember, this is for the C-64 only.

SOME PLAYER'S NOTES FOR CARRIERS AT WAR

It's probably easiest to begin these notes with a list of things you shouldn't do.

Do not launch strikes that will return after nightfall. Strikes trying to find a carrier at night will suffer ferocious rates of attrition. The ETA given for each strike can be exceeded if the strike size exceeds the carrier's spot number or if the strike cannot immediately find its target.

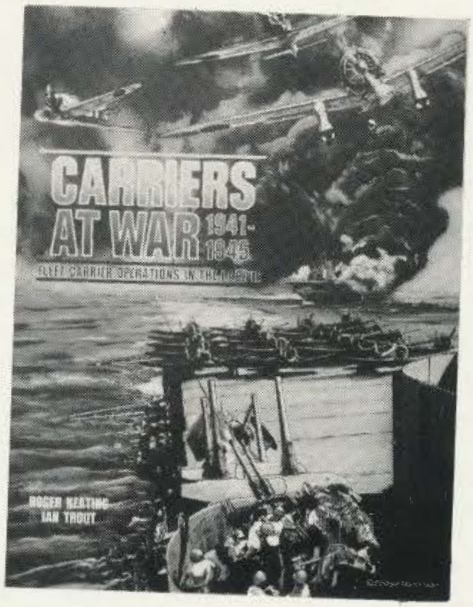
Do not launch strikes in lousy weather; they probably won't find anything and again, aircraft losses will be high. Never believe your own battle reports, especially those from carrier pilots (of either side). These reports are merely

Continued on Page 46

Turn your creative talent to cash with our

SCENARIO DESIGN CONTEST

Two prizes of $500 each are to be awarded for the best Carriers at War and Europe Ablaze scenarios submitted to us by June 30th, 1986



There is still plenty of time to enter our Scenario Design Contest. We'd love to hear from you.

There is no restriction as to subject matter, size or anything else. All we require is that you submit your entry (or entries) on a floppy disk together with a typed (or very clearly written) briefing for the scenario.

The judging panel will include Roger Keating and Ian Trout, their decision will be final and, as always with this kind of thing, no correspondence will be entered into. . . leastways about our choice of winners.

The winning scenarios will be published in Issue 4 of *Run 5* (not Issue 3 as previously advertised).

All entries become the property of Strategic Studies Group Pty Ltd. However, a payment of $100 will be made to the author of any scenario selected for publication. This payment is not in addition to the prizes described above.

Please be sure you include your name and address in a legible form.

All submissions must be sent to

Strategic Studies Group Pty Ltd
P.O. box 261, Drummoyne. 2047
AUSTRALIA.

(Overseas entrants are advised to wrap the disk in foil as a precaution against magnetic erasure)

BALANCE OF POWER
Geopolitics in the nuclear age

A critical assessment of Chris Crawford's latest game for the Macintosh

A few months ago I read, in a national newspaper, some remarks attributed to Chris Crawford which concerned the computer gaming world. Among other things he asserted that all of the world's best computer game designers were American. Don't worry, Chris, I haven't let myself be unduly influenced by your observations in editing this review!

The Editor

THE PACKAGE

Balance of Power is professionally presented in a crush-proof album. The cover illustration is attractive if perhaps a little on the dull side.

The author is given due recognition on the **front** cover. The 3.5" disk is protected in a sealed plastic sleeve. The 88 page instruction manual hooks into the album by its stiffened end paper.

THE GAME

Balance of Power is, as it says on the cover, a simulation of Geopolitics in the Nuclear Age. As a player you control either the US or the USSR in a global contest for prestige and power.

Each superpower is evaluated for diplomatic prestige which is calculated by summing the effects (positive or negative) of its relationship with each of the sovereign states in the world.

For any particular state, a superpower can seek to improve its relationship with the existing government, usually by giving it aid of some sort. As an alternative to this paternal approach, hostile or intractable governments can be subverted by the age-old policies of aiding internal enemies and/or sending in the marines.

It should be realized right from the start that as befits a *Realpolitik* view of the world, both sides are presented as imperial powers in the classic tradition. They are both trying to extend their power and influence over as much of the world as possible. And to do this they will undermine governments or use the *big stick* without qualms. Perhaps to underline this fact, the first example in the manual is Nicaragua. . . a case we will return to in our own examples.

The world is represented by an exquisitely drawn Mercator projection (as shown in the accompanying illustrations), a splendid example of the potential for enhancing games made possible by *Mac's* graphics. By selecting from a menu, the map is redrawn to show the current state of the requested variable.

One of the vital aspects of the game is *Spheres of Influence*. Each country will fall, to some degree, within the sphere of influence of one or the other superpower. Clear and precise graphics readily display this information.

Double-clicking on any one country brings up a briefing window with detailed information on the type and strength of the government and its opposition, intervention by either superpower (if any), prestige point distribution and diplomatic climate. The amount of information available to the player is staggering though game play revolves around the use of a few key variables.

There are certain basic assumptions built into the game. Every country has an opposition to the current form of

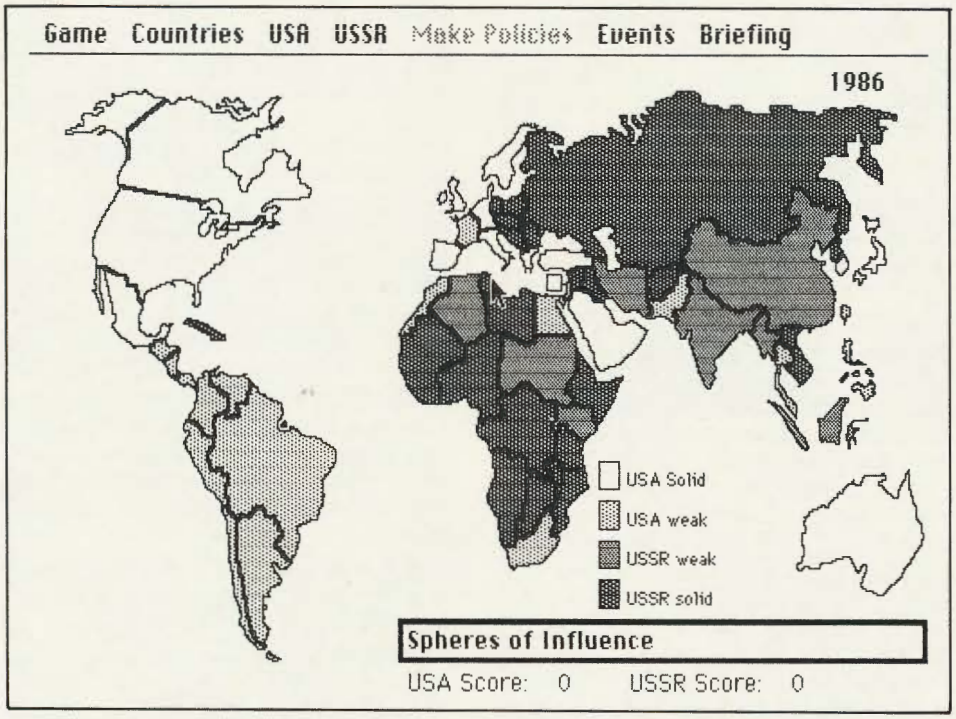
TITLE	-	**Balance of Power**
AUTHOR	-	**Chris Crawford**
PUBLISHER	-	**Mindscape Inc.**
	-	**3444 Dundee Road**
	-	**Northbrook, Ill. 60062**
	-	**U.S.A.**
FORMAT	-	**Macintosh 128K,**
	-	**single drive.**
PRICE	-	**$50 (US), $80 (AUST)**
REVIEWED BY	-	**Greg Whiley**

government, called an insurgency. An insurgency comes in differing strengths from totally ineffectual to outright civil war. Superpowers can choose to support either the government or the insurgency; with men, money or both.

There are, however, lots of restrictions to this seeming carte blanche. Consider yourself to be playing the Americans.

A government hostile to you (like Libya) is unlikely to suddenly accept military aid. A friendly government (say France) may still be unwilling to take American troops, as opposed to mere money.

Some governments are so strong that no amount of funding will ever suffice to change their structure. But there are certainly opportunities for you.



	USA Value	USSR Value
Relationship:	enemy	warm
Prestige Value:	-3	3 (5)
Military Aid:	($0 million)	↑ $1 billion
Insurgency Aid:	↑ $20 million	$0 million
Intervene--govt:	(0 men)	(0 men)
Intervene--rebels:	0 men	0 men
Economic Aid:	($0 million)	↑ $400 million
Destabilization:	↑ Fund opposition	No activity
Pressure:	↑ Public Posturing	none
Treaty:	No relations	Trade relations
Finlandization?	Invulnerable	Invulnerable
Annual Change:	tiny decrease	tiny decrease

Values in (brackets) are maximum possible

Insurgency: major guerrilla war -- insurgency growing
Govt Philosophy: extreme left
Military Power: Insignificant
Sphere of Influence: Slightly USA
Govt Stability: very strong -- weakening slowly
Capital: Managua **Insurgency:** Contra

Let us say that as a well read person, you decide that Afghanistan would be an ideal place to intervene; civil war is raging, no trouble finding willing opponents to the nasty Russians. Wrong! Afghanistan is firmly within Russia's sphere of influence. They have a large amount of *face* at stake as well as money and troops committed to supporting the current government. They would be greatly peeved if large quantities of American weapons started reaching the Mujahadeen, let alone if the RDF swept across the border from Pakistan.

So let them talk you say; we'll send the rebels some SAMs (handy for hitting helicopters). The first response is a private word from the Russians. They are not happy. At this point you can back down and nobody else will know about it. But you decide to hang in there.

The Russians go public. "The USSR deplores the actions of CIA financed criminals against the legitimate government of the Afghan peoples" or some such. Now the whole world is watching as you and the USSR go head to head in a diplomatic showdown.

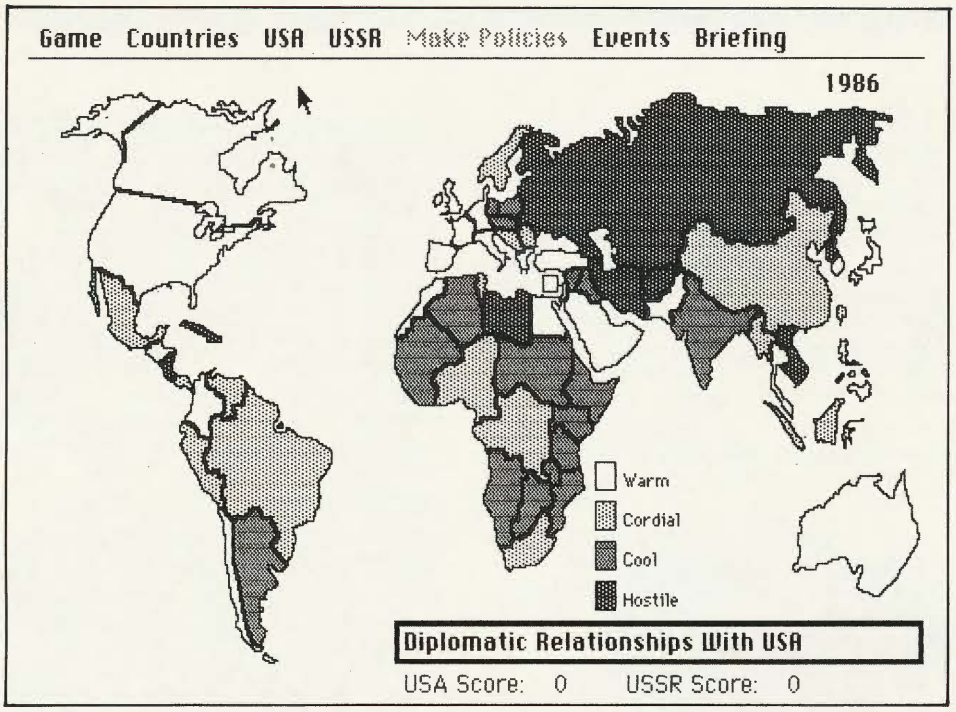
Prestige points are involved and the person who backs down will lose them, as well as some respect from the world community. The thing escalates, more points at stake and increasing levels of military involvement as superpower forces get put on higher degrees of readiness.

Eventually, if neither side breaks down, nuclear war ensues and the world is destroyed.The game is at some pains to point out that if this happens you have lost. There is no such thing as a draw when you have been annihilated!

So what can you do? Let us return to Nicaragua, a government hostile to you which has been foolish enough to be located in Central America. This is your backyard! The Russians are unlikely to interfere and if they did you should be able to bluff them out. Unlike Afghanistan, Central America is your sphere of influence and the computer knows this as well as you do.

So you can give the Contras as much money as they want and if you have troops in a neighbouring country (Honduras would do nicely) you can use them to intervene alongside the Contras. If the government falls, it will be replaced by one that is (probably) more friendly and your prestige will go up accordingly.

There are four levels of difficulty; from



	USA Value	USSR Value	
Relationship:	cold	cordial	
Prestige Value:	-73	41	(133)
Military Aid:	(\$0 million)	↓ (\$1 billion)	
Insurgency Aid:	↓ \$20 million	\$0 million	
Intervene--govt:	(0 men)	↑ (500,000 men)	
Intervene--rebels:	0 men	0 men	
Economic Aid:	(\$0 million)	↑ \$400 million	
Destabilization:	No activity	No activity	
Pressure:	none	none	
Treaty:	No relations	(Nuclear defense)	
Finlandization?	Invulnerable	Moderate	
Annual Change:	tiny decrease	tiny decrease	

Values in (brackets) are maximum possible

Insurgency: major guerrilla war -- insurgency growing
Govt Philosophy: extreme left
Military Power: Moderate
Sphere of Influence: Very strongly USSR
Govt Stability: very strong -- weakening slowly
Capital: Kabul **Insurgency:** Mujahedin

beginner up to the aptly named nightmare level. Each level introduces more methods of projecting your power, such as coup-d'etat, Finlandization, and diplomatic pressure.

Each higher level is characterized by the decreasing validity of political advice received from the State Department (which is a great help at the beginner levels), until you are on your own in assessing the situation.

At the end of each year you can object to any Soviet actions and they get an equal chance to object to yours. Since the game lasts eight years, there are an awful lot of potential crises to survive, each one requiring some fine judgement.

A most important feature in the game is the calibre of play offered by the computer. It is aggressive, determined and clever; forever trying some new sneaky trick to stir up trouble somewhere. Heaven help the unwary wretch who doesn't keep an eye on everything.

It is hard to capture the essence of this game in a few words. Like all good games the rules are simple, but the choices are difficult. At the highest levels, surviving is a real tightrope act; which, in a nuclear world, means working without a net.

The game is not a complete, or perfect, simulation. Nor does it claim to be. A number of the world's smaller countries have disappeared to make things easier. Moreover, your authority as President is unhindered by any domestic considerations; valid enough, I suppose, for the USSR, but hardly an accurate assessment of US Presidential relations with Congress. Some unthinkables, such as cutting aid to Israel, are quite possible.

International trade has been deliberately omitted from the list of factors affecting world politics. In the Macintosh environment, 128K is not a lot to play with and I suspect the underlying reason for the omission rests with the mundane problem of memory constraint. (How well we appreciate THAT problem. Ed.)

This is a pity for perhaps the greatest advantage the US enjoys in the pursuit of its global policies is the enormous power stemming from her huge industrial base.

In play balance terms, it may well be that this US disadvantage is offset by an ever docile and uncritical legislature.

The decision making environment of the Soviet President is quite different to that in which the US President must operate. In *Balance of Power*, the environments are the same.

IN SUMMARY

The above criticisms are simply observations. It is much easier to notice faults and omissions in a game you have enjoyed and expect to play again.

In the end, Balance of Power is quite an achievement. The game contains an astounding amount of detail without ever allowing the luxury of certainty. Your only responsibility as a player is decision making. The information to base these decisions on is readily available.

Anyone with an interest in world affairs and tough, demanding games should definitely get hold of this. Be warned, however. It is not a simplistic game to play. Inattentive or part-time Presidents are headed for early oblivion.

CARRIERS AT WAR

TECHNICAL DATA ON SHIP CLASSES

PART TWO

US Warships in Service (1943-45)
Commonwealth Warships in Service (1939-1945)

With the exception of a small number of Dutch warships, the technical data so far presented in this series covers all of the warships (of destroyer escort size or larger) which saw action in the Pacific Theatre.

This second installment of our ship data feature completes the roster for United States warships as well as listing British and other Commonwealth warships. Surface vessels smaller than destroyer escorts are not included.

Ships not completed in time to take part in the war have, for the most part, been excluded from this directory. A few exceptions however, specifically the more interesting capital ships, have slipped through.

Part One appeared in our January '86 issue and can be ordered from our Australian or US office while stocks last.

Our next issue will contain the final chapter. It will provide the specifications for German, Italian, French, Russian and selected minor country navies as well as some general data for support vessels and auxilliaries of all nationalities.

To make use of the information, locate the required ship from the listing and note the ship class to which it belongs. Now find this ship class from the appropriate table and enter these values either directly into your computer or (recommended) onto a blank design sheet.

Note that the pennant numbers for CV's are included even though there is enough space in the carrier creation routine to enter most names in full.

The ship class tables also include the specialized data needed to create aircraft carriers and submarines. This information appears in the top row, in brackets, beside the number of ships in the class. For aircraft carriers, air capacity and spot number are read as (A,S). For submarines, depth and speed are read as (D,S).

We can illustrate the procedure with some examples. To design a scenario on the 1941 battles in the Mediterranean you will require, among others, both the *Queen Elizabeth* and the *Ark Royal*. Consult the Commonwealth ship listings (under battleships) and you'll find the pennant number of the *Queen Elizabeth* is BB 00 and the ship class is BB 1912. Locate BB 1912 in the ship class tables and enter the data found there onto a blank design sheet.

The *Ark Royal* is an aircraft carrier belonging to ship class CV 1935. The bracketed numbers in the top row of the class data are the carrier's air capacity and spot number, namely (60,4) These two values are needed for the carrier creation routine. *Ark Royal's* pennant number (CV 91) is provided for historical interest only.

The pennant numbers of Commonwealth warships were not, unfortunately, organized in the orderly, sequential fashion adopted by the United States Navy. All warships were awarded a 2 (sometimes 3) digit number with the pennants of smaller ships and those of colonial navies being preceded by a single letter of the alphabet (Flag Superior). Furthermore, these flags underwent one, sometimes two, changes in the course of the war.

The pennant numbers given to Commonwealth ships in this directory are those held in September 1939 or the date of commission for vessels entering service during the war.

Nineteen bulk transports/oil tankers were converted into merchant aircraft carriers (CVM 1942) from 1942 to early 1943. Only their air crew were naval personnel and they were otherwise commanded and manned by merchant marine seamen. On this account they did not receive pennants. With the arrival of purpose built escort carriers in the latter part of the war, these ships were phased out of service. If you need to use any of them, assign a scratch pennant in the range CVM 1-19.

Some 56 armed merchant cruisers were commissioned in the war years. A representative selection (AMC misc) of them have been included in this directory.

The 50 destroyer escorts of class DE 1918 are those provided on lend-lease by the United States in exchange for port facilities in the West Indies.

Between 1940 and 1942, British submarines were issued P pennant numbers without names. This practice was discontinued in 1943 primarily because of the confusion in ship recognition. Names are much easier to remember, and relate to, than numbers. The submarines without names are those sunk in the interim.

Royal Naval vessels were, in general, better sea boats than their USN counterparts being principally designed for the rigours of the Atlantic rather than the placid waters of the Pacific.

Anti-aircraft armament in British ships improved rapidly throughout the war although re-equipment proceeded at a slower pace than in the USN, primarily because of a chronic shortage of modern weapons. AA armament in capital ships increased by some 50% per year between 1942 and 1945, while the armament of smaller ships averaged only a 10-25% increase for the same periods. Many older ships received nothing at all.

UNITED STATES CAPITAL SHIPS

BB 1942	BB 63	Missouri
	BB 64	Wisconsin
BC 1941	BC 1	Alaska
	BC 2	Guam
CA 1942	CA 70	Canberra
	CA 71	Quincy
	CA 72	Pittsburgh
	CA 130	Bremerton
	CA 131	Fall River
	CA 135	Los Angeles
	CA 136	Chicago

UNITED STATES LIGHT CRUISERS

CLA1941	CLA97	Flint
	CLA98	Tucson
CL 1941	CL 65	Pasadena
	CL 66	Springfield
	CL 67	Topeka
	CL 80	Biloxi
	CL 81	Houston
	CL 86	Vicksburg
	CL 87	Duluth
	CL 89	Miami
	CL 90	Astoria
	CL 91	Oklahoma City
	CL 92	Little Rock
	CL 101	Amsterdam
	CL 103	Wilkes-Barre
	CL 104	Atlanta
	CL 105	Dayton

UNITED STATES AIRCRAFT CARRIERS

CV 1942	CV 10	Yorktown
	CV 11	Intrepid
	CV 12	Hornet
	CV 13	Franklin
	CV 14	Ticonderoga
	CV 15	Randolph
	CV 18	Wasp
	CV 19	Hancock
	CV 20	Bennington
	CV 31	Bon H. Richard
	CV 36	Antietam
	CV 38	Shangri-La
CVB1945	CVB 41	Midway
	CVB 42	F. D. Roosevelt
	CVB 43	Coral Sea
CVL1942	CVL 25	Cowpens
	CVL 26	Monterey
	CVL 27	Langley
	CVL 28	Cabot
	CVL 29	Bataan
	CVL 30	San Jacinto
CVE1943	CVE 55	Casablanca
	CVE 56	Liscome Bay
	CVE 57	Anzio
	CVE 58	Corregidor
	CVE 59	Mission Bay
	CVE 60	Guadalcanal
	CVE 61	Manila Bay
	CVE 62	Natoma Bay
	CVE 63	St Lo
	CVE 64	Tripoli
	CVE 65	Wake Island
	CVE 66	White Plains
	CVE 67	Solomans
	CVE 68	Kalinin Bay
	CVE 69	Kasaan Bay
	CVE 70	Fanshaw Bay
	CVE 71	Kitkun Bay
	CVE 72	Tulagi
	CVE 73	Gambier Bay
	CVE 74	Nehenta Bay
	CVE 75	Hoggatt Bay
	CVE 76	Kadashan Bay
	CVE 77	Marcus Island
	CVE 78	Savo Island
	CVE 79	Ommaney Bay
	CVE 80	Petrof bay
	CVE 82	Saginaw Bay
	CVE 83	Sargent Bay
	CVE 84	Shamrock Bay
	CVE 85	Shipley Bay
	CVE 86	Sitkoh Bay
	CVE 87	Steamer Bay
	CVE 88	Cape Esperance
	CVE 89	Takanis Bay
	CVE 90	Thetis Bay
	CVE 91	Makassar Strait
	CVE 92	Windham Bay
	CVE 93	Makin Island
	CVE 94	Lunga Point
	CVE 95	Bismarck Sea
	CVE 96	Salamaua
	CVE 97	Hollandia
	CVE 98	Kwajalein
	CVE 99	Admiralty Islands
CVE1944	CVE 105	Commencement B.
	CVE 106	Block Island
	CVE 107	Gilbert Islands
	CVE 108	Kula Gulf

UNITED STATES DESTROYERS

DD 1942	DD 516	Wadsworth
	DD 517	Walker
	DD 522	Luce
	DD 534	McCord
	DD 535	Miller
	DD 536	Owen
	DD 537	The Sullivans
	DD 538	Stephen Potter
	DD 539	Tingey
	DD 540	Twining
	DD 541	Yarnall
	DD 546	Brown
	DD 547	Cowell
	DD 555	Haggard
	DD 556	Hailey
	DD 557	Johnston
	DD 558	Laws
	DD 559	Longshaw
	DD 560	Morrison
	DD 561	Prichett
	DD 562	Robinson
	DD 563	Ross
	DD 564	Rowe
	DD 565	Smalley
	DD 566	Stoddard
	DD 567	Watts
	DD 568	Wren
	DD 584	Halligan
	DD 585	Haraden
	DD 586	Newcomb
	DD 590	Paul Hamilton
	DD 591	Twiggs
	DD 592	Howorth
	DD 593	Killen
	DD 594	Hart
	DD 595	Metcalfe
	DD 596	Shields
	DD 597	Wiley
	DD 629	Abbot
	DD 630	Braine
	DD 631	Erben
	DD 642	Hale
	DD 643	Sigourney
	DD 644	Stembel
	DD 649	Albert W Grant
	DD 650	Caperton
	DD 651	Cogswell
	DD 652	Ingersoll
	DD 653	Knapp
	DD 654	Bearss
	DD 655	John Hood
	DD 656	Van Valkenburgh
	DD 657	Charles J Badger
	DD 658	Colahan
	DD 659	Dashiell
	DD 660	Bullard
	DD 661	Kidd
	DD 662	Bennion
	DD 663	Hey. L Edwards
	DD 664	Richard P Leary
	DD 665	Bryant
	DD 666	Black
	DD 667	Chauncey
	DD 668	Clar. K Bronson
	DD 669	Cotten
	DD 670	Dortch
	DD 671	Gatling
	DD 672	Healy
	DD 673	Hickox

	DD 674	Hunt
	DD 675	Lewis Hancock
	DD 676	Marshall
	DD 677	McDermut
	DD 678	McGowan
	DD 679	McNair
	DD 680	Melvin
	DD 681	Hopewell
	DD 682	Porterfield
	DD 683	Stockham
	DD 684	Wedderburn
	DD 685	Picking
	DD 686	Halsey Powell
	DD 687	Uhlmann
	DD 688	Remey
	DD 689	Wadleigh
	DD 690	Norman Scott
	DD 691	Mertz
	DD 792	Callaghan
	DD 793	Cassin
	DD 794	Irwin
	DD 795	Preston
	DD 796	Benham
	DD 797	Cushing
	DD 798	Monssen
	DD 799	Jarvis
	DD 800	Porter
	DD 801	Colhoun
	DD 802	Gregory
	DD 803	Little
	DD 804	Rooks
DD 1943	DD 692	Allen M Sumner
	DD 693	Moale
	DD 694	Ingraham
	DD 695	Cooper
	DD 696	English
	DD 697	Charles S Sperry
	DD 698	Ault
	DD 699	Waldron
	DD 700	Haynsworth
	DD 701	John W Weeks
	DD 702	Hank
	DD 703	Wallace L Lind
	DD 704	Borie
	DD 722	Barton
	DD 723	Walke
	DD 724	Laffey
	DD 725	O'Brien
	DD 726	Meredith
	DD 727	De Haven
	DD 728	Mansfield
	DD 729	Lyman K. Swenson
	DD 730	Collett
	DD 731	Maddox
	DD 732	Hyman
	DD 733	Mannert L Abele
	DD 734	Purdy
	DD 744	Blue
	DD 745	Brush
	DD 746	Taussig
	DD 747	Samuel N Moore
	DD 748	Harry E Hubbard
	DD 752	Al. A Cunningham
	DD 757	Putnam
	DD 758	Strong
	DD 759	Lofberg
	DD 770	Lowry
	DD 774	Hugh W Hadley
	DD 775	Willard Kieth
	DD 776	James C Owens
	DD 777	Zellars
	DD 778	Masey
	DD 779	Douglas H Fox
	DD 780	Stormes

UNITED STATES DESTROYER ESCORTS

DE 1942	DE 7-11, 23-45, 47-50, 256-265, 301-307, 527-530	
DE 1943A	DE 51	Buckley
	DE 53	Charles Lawrence
	DE 54	Daniel T Griffin
	DE 56	Donnell
	DE 57	Fogg
	DE 59	Foss
	DE 60	Gantner
	DE 62	George W Ingram
	DE 63	Ira Jeffery
	DE 65	Lee Fox
	DE 66	Amesbury
	DE 68-70, 153-161, 198-223, 575-578, 633-644, 665-667, 675-683, 693-705, 789-800	
DE 1943B	DE 224	Rudderow
	DE 225	Day
	DE 230	Chaffee
	DE 231	Hodges
	DE 339	John C Butler
	DE 340	O'Flaherty
	DE 341	Raymond
	DE 342	Richard Seusens
	DE 343	Abercrombie
	DE 344	Oberrender
	DE 345-379, 402-424, 438-452, 508-510, 531-554, 579-589, 684-686, 706-709	
DE 1943C	DE 99	Cannon
	DE 100	Christopher
	DE 101	Alger
	DE 102	Thomas
	DE 103	Bostwick
	DE 104	Breeman
	DE 105	Burrows
	DE 112	Carter
	DE 113	Clarence L Evans
	DE 129	Edsall
	DE 130-152, 162-197, 238-255, 316-338, 382-401	

NOTES TO SHIP LISTS

1.There was a bit of a mess-up in the ship lists of US submarines in Part 1. The pennant numbers identified with an asterisk (*) were given incorrect names. The correct names appear herewith.

2. Ships with a bracketed letter after their name correspond to the similarly identified data in the ship class tables. For example, the light cruiser Bonaventure (CL 31) has a heavy AA rating of 8 (instead of 10) and a secondary armament of 4 (instead of 5).

UNITED STATES SUBMARINES

SS 1941	SS 240	Angler
	SS 241	Bashaw
	SS 242	Bluegill
	SS 243	Bream
	SS 244	Cavalla
	SS 245	Cobia
	SS 246	Croaker
	SS 247	Dace
	SS 248	Dorado
	SS 249	Flasher
	SS 250	Flier
	SS 251	Flounder
	SS 252	Gabilan
	* SS 253	Gunnel
	* SS 254	Gurnard
	* SS 255	Haddo
	* SS 256	Hake
	* SS 257	Harder
	* SS 258	Hoe
	* SS 259	Jack
	* SS 260	Lapon
	* SS 261	Mingo
	* SS 262	Muskallunge
	* SS 263	Paddle
	SS 264	Pargo
	* SS 265	Peto
	* SS 266	Pogy
	* SS 267	Pompon
	* SS 268	Puffer
	* SS 269	Rasher
	SS 270	Raton
	SS 271	Ray
	SS 272	Redfin
	SS 273	Robalo
	SS 274	Rock
	* SS 275	Runner
	* SS 276	Sawfish
	* SS 277	Scamp
	* SS 278	Scorpion
	* SS 279	Snook
	* SS 280	Steelhead
	* SS 281	Sunfish
	* SS 282	Tunny
	* SS 283	Tinosa
	* SS 284	Tullibee
	* SS 285	Balao
	* SS 286	Billfish
	* SS 287	Bowfin
	* SS 288	Cabrilla
	SS 289	Capelin
	* SS 290	Cisco
	SS 291	Crevalle
	SS 292	Devilfish
	SS 293	Dragonet
	SS 294	Escolar
	SS 295	Hackleback
	SS 296	Lancetfish
	SS 297	Ling
	SS 298	Lionfish
	SS 299	Manta
	SS 300	Moray
	SS 301	Roncador
	SS 302	Sabalo
	SS 303	Sablefish
	SS 304	Seahorse
	SS 305	Skate
	SS 306	Tang
	SS 307-334, 361-374, 381-414, 417-422	

COMMONWEALTH AIRCRAFT CARRIERS

CV 1922	CV 47	Furious
CV 1924	CV 50	Courageous
	CV 77	Glorious
CV 1935	CV 91	Ark Royal
CV 1937A	CV 38	Victorious
	CV 67	Formidable
	CV 87	Illustrious
CV 1937B	CV 92	Indomitable
CV 1939	CV 10	Indefatigable
	CV 86	Implacable
CVL1913	CVL94	Eagle
CVL1914	CVL49	Argus
CVL1918	CVL95	Hermes
CVL1939	CVL72	Unicorn
CVL1942	CVL15	Colossus
	CVL62	Glory
	CVL69	Venerable
	CVL71	Vengence
CVE1938A	CVE10	Audacity
CVE1938B	CVE61	Pretoria Castle
CVE1938C	CVE78	Archer
CVE1939	CVE14	Avenger
	CVE37	Dasher
	CVE97	Biter
CVE1941A	CVE02	Attacker
	CVE12	Striker
	CVE18	Battler
	CVE32	Chaser
	CVE64	Fencer
	CVE73	Pursuer
	CVE80	Trailer
	CVE91	Stalker
CVE1941B	CVE48	Campania
CVE1942A	CVE05	Nairana
	CVE15	Vindex
CVE1942B	CVE01	Ameer
	CVE03	Ranee
	CVE07	Patroller
	CVE09	Trumpeter
	CVE10	Rajah
	CVE19	Queen
	CVE21	Shah
	CVE23	Premier
	CVE24	Tracker
	CVE26	Slinger
	CVE31	Arbiter
	CVE38	Begum
	CVE40	Searcher
	CVE42	Empress
	CVE48	Thane
	CVE51	Atheling
	CVE55	Smiter
	CVE62	Khedive
	CVE70	Ravager
	CVE72	Ruler
	CVE77	Nabob
	CVE79	Puncher
	CVE82	Reaper
	CVE85	Trouncer
	CVE90	Speaker
	CVE98	Emperor
CVM1942	Empire MacAlpine, E. MacKendrick, E. MacRae, E. MacAndrew, E. MacColl, E. MacDermott, E. MacCabe E. MacCallum, E. Mackay, E. MacMahon Adula, Alexia, Amastra, Ancylus, Gadila, Macoma, Miralda, Acavus, Rapana	

COMMONWEALTH BATTLESHIPS

BB 1912	BB 00	Q. Elizabeth (b)
	BB 01	Malaya
	BB 02	Valiant (b)
	BB 03	Warspite (a)
	BB 04	Barham
BB 1913	BB 05	Royal Sovereign
	BB 06	Revenge
	BB 07	Ramilles
	BB 08	Royal Oak (a)
	BB 09	Resolution
BB 1922	BB 28	Nelson
	BB 29	Rodney
BB 1937	BB 17	Duke of York
	BB 32	Howe
	BB 41	King George V
	BB 53	Prince of Wales
	BB 79	Anson
BB 1941	BB 23	Vanguard
BC 1915	BC 34	Repulse (a)
	BC 72	Renown
BC 1916	BC 51	Hood

COMMONWEALTH HEAVY CRUISERS

CA 1916	CA 181	Frobisher (b)
	CA 186	Hawkins
	CA 198	Effingham (a)
CA 1924	CA 133	Canberra (ad)
	CA 54	Kent
	CA 55	Suffolk (d)
	CA 56	Cornwall
	CA 57	Cumberland (d)
	CA 65	Berwick
	CA 184	Australia (bcd)
CA 1926	CA 39	Devonshire
	CA 69	London
	CA 73	Shropshire
	CA 96	Sussex
CA 1927A	CA 90	York
CA 1927B	CA 40	Dorsetshire
	CA 78	Norfolk
CA 1928	CA 68	Exeter

COMMONWEALTH MERCHANT CRUISERS

AMC misc	F17	Alaunia
	F22	Patroclus
	F30	Forfar
	F35	Rajputana
	F40	Jervis Bay
	F42	Laconia
	F45	Hector
	F47	Voltaire
	F49	Comorin
	F51	Laurentic
	F55	California
	F65	Transylvania
	F71	Asturias
	F88	Alcantara
	F94	Salopian
	F95	Westralia

COMMONWEALTH LIGHT CRUISERS

CL 1912	CL 147	Adelaide
CL 1916A	CL 153	Caledon
	CL 160	Caradoc
	CL 161	Calypso
CL 1916B	CL 141	Curacoa (a)
	CL 142	Curlew (a)
	CL 143	Coventry (a)
	CL 158	Cardiff
	CL 159	Ceres
CL 1916C	CL 130	Despatch
	CL 144	Danae
	CL 145	Dauntless
	CL 146	Dragon
	CL 174	Delhi
	CL 192	Diomede
	CL 193	Dunedin
	CL 199	Durban
CL 1917	CL 167	Carlisle (a)
	CL 182	Calcutta (a)
	CL 187	Cairo (a)
	CL 188	Capetown
	CL 189	Colombo
CL 1918	CL 152	Enterprise
	CL 166	Emerald
CL 1931	CL 20	Neptune
	CL 22	Ajax
	CL 70	Achilles (a)
	CL 75	Leander
	CL 85	Orion
CL 1933A	CL 12	Aurora (ac)
	CL 26	Arethusa
	CL 71	Galatea
	CL 97	Penelope (ab)
CL 1933B	CL 129	Perth
	CL 148	Sydney
	CL 163	Hobart
CL 1934	CL 19	Birmingham
	CL 21	Glasgow
	CL 24	Sheffield
	CL 76	Newcastle
	CL 83	Southampton
CL 1936A	CL 11	Liverpool
	CL 15	Manchester
	CL 62	Gloucester
CL 1936B	CL 16	Edinburgh
	CL 35	Belfast
CL 1937	CL 31	Bonaventure (a)
	CL 33	Cleopatra
	CL 37	Dido (a)
	CL 42	Euryalus
	CL 43	Phoebe (a)
	CL 61	Argonaut
	CL 74	Hermione
	CL 82	Sirius
	CL 88	Charybdis (a)
	CL 93	Naiad
	CL 98	Scylla (a)
CL 1938	CL 14	Kenya (b)
	CL 30	Ceylon (a)
	CL 44	Jamaica
	CL 46	Trinidad
	CL 48	Gambia
	CL 52	Bermuda
	CL 58	Fiji (b)
	CL 59	Newfoundland (a)
	CL 60	Nigeria
	CL 66	Uganda (a)
	CL 80	Mauritius
CL 1939	CL 63	Bellona
	CL 89	Royalist
	CL 95	Spartan

COMMONWEALTH DESTROYERS

DD 1917	DD	D22 Waterhen
	DD	D30 Whirlwind
	DD	D31 Voyager
	DD	D43 Wessex
	DD	D53 Venetia
	DD	D68 Vampire
	DD	D69 Vendetta
	DD	D88 Wren
	DD	D96 Worcester
	DD	H88 Wakeful
DD 1924	DD	D38 Ambuscade
	DD	D39 Amazon
DD 1928	DD	D06 Kieth
	DD	D59 Skeena
	DD	D65 Codrington (a)
	DD	D79 Saguenay
	DD	H09 Acasta
	DD	H11 Basilisk
	DD	H12 Achates
	DD	H14 Active
	DD	H30 Beagle
	DD	H36 Antelope
	DD	H40 Anthony
	DD	H41 Ardent
	DD	H42 Arrow
	DD	H45 Acheron
	DD	H47 Blanche
	DD	H65 Boadicea
	DD	H77 Boreas
	DD	H80 Brazen
	DD	H84 Brilliant
	DD	H91 Bulldog
DD 1930	DD	D18 Assinboine
	DD	D99 Duncan
	DD	H00 Restigouche
	DD	H07 Defender
	DD	H16 Daring
	DD	H22 Diamond
	DD	H38 Delight
	DD	H48 Fraser
	DD	H49 Diana
	DD	H53 Dainty
	DD	H60 Ottawa
	DD	H64 Duchess
	DD	H75 Decoy
	DD	H83 St Laurent
DD 1933	DD	H02 Exmouth (a)
	DD	H08 Eclipse
	DD	H10 Encounter
	DD	H15 Esk
	DD	H17 Escapade
	DD	H23 Echo
	DD	H27 Electra
	DD	H61 Express
	DD	H62 Faulknor (a)
	DD	H66 Escort
	DD	H67 Fearless
	DD	H68 Foresight
	DD	H69 Foxhound
	DD	H70 Fortune
	DD	H74 Forester
	DD	H76 Fury
	DD	H78 Fame
	DD	H79 Firedrake
DD 1934	DD	H01 Hotspur
	DD	H03 Grenville (a)
	DD	H05 Greyhound
	DD	H05 Ithuriel (b)
	DD	H06 Hurricane (b)
	DD	H19 Harvester (b)
	DD	H24 Hasty
	DD	H31 Griffin
	DD	H32 Havant (b)
	DD	H35 Hunter
	DD	H37 Garland
	DD	H43 Havoc
	DD	H44 Highlander (b)
	DD	H49 Inconstant (b)
	DD	H55 Hostile
	DD	H57 Hesperus (b)
	DD	H59 Gallant
	DD	H63 Gypsy
	DD	H86 Grenade
	DD	H87 Hardy (a)
	DD	H88 Havelock (b)
	DD	H89 Grafton
	DD	H92 Glowworm (b)
	DD	H93 Hereward
	DD	H97 Hyperion
	DD	H99 Hero
	DD	D02 Inglefield (ab)
	DD	D03 Icarus (b)
	DD	D09 Imperial (b)
	DD	D10 Intrepid (b)
	DD	D11 Impulsive (b)
	DD	D16 Ivanhoe (b)
	DD	D44 Imogen (b)
	DD	D61 Ilex (b)
	DD	D87 Isis (b)
DD 1936	DD	F03 Cossack
	DD	F07 Afridi
	DD	F18 Zulu
	DD	F20 Gurkha
	DD	F21 Punjabi
	DD	F24 Maori
	DD	F26 Matabele
	DD	F31 Mohawk
	DD	F33 Somali
	DD	F36 Nubian
	DD	F43 Tartar
	DD	F51 Ashanti
	DD	F59 Mashona
	DD	F67 Bedouin
	DD	F75 Eskimo
	DD	F82 Sikh
	DD	G07 Athabaskan (a)
	DD	G24 Huron (a)
	DD	G63 Haida (a)
	DD	G89 Iroquios (a)
	DD	I30 Arunta (a)
	DD	I44 Warramunga (a)
	DD	I91 Bataan (a)
	DD	R04 Cayuga (a)
	DD	R10 Micmac (a)
	DD	R96 Nookta (a)
DD 1937	DD	F00 Jarvis
	DD	F01 Kelly
	DD	F12 Kashmir
	DD	F22 Jackal
	DD	F28 Kandahar
	DD	F34 Jaguar
	DD	F37 Kelvin
	DD	F45 Khartoum
	DD	F46 Juno
	DD	F50 Kimberley
	DD	F53 Janus
	DD	F61 Javelin
	DD	F64 Kingston
	DD	F72 Jersey
	DD	F85 Jupiter
	DD	F91 Kipling
	DD	G02 Nestor
	DD	G16 Nonpareil
	DD	G25 Norseman
	DD	G38 Nizam
	DD	G49 Norman
	DD	G65 Nerissa
	DD	G84 Noble
	DD	G97 Napier
DD 1938	DD	F15 Loyal
	DD	F32 Lookout
	DD	F40 Lively (a)
	DD	F55 Lightning (a)
	DD	F63 Gurkha (a)
	DD	F74 Legion (a)
	DD	F87 Lance
	DD	F99 Laforey
	DD	G14 Milne
	DD	G23 Mahratta
	DD	G35 Marne
	DD	G44 Martin
	DD	G52 Matchless
	DD	G73 Meteor
	DD	G86 Musketeer
	DD	G90 Myrmidon
DD 1939	DD	G04 Onslaught
	DD	G06 Pakenham
	DD	G10 Pathfinder
	DD	G17 Onslow
	DD	G29 Offa
	DD	G30 Partridge
	DD	G39 Obdurate
	DD	G41 Panther
	DD	G48 Obedient
	DD	G56 Petard
	DD	G66 Oribi
	DD	G69 Paladin
	DD	G77 Penn
	DD	G80 Opportune
	DD	G93 Porcupine
	DD	G98 Orwell
DD 1940	DD	G09 Quilliam
	DD	G11 Quadrant
	DD	G45 Quail
	DD	G62 Quality
	DD	G70 Queenborough
	DD	G78 Quentin
	DD	G81 Quiberon
	DD	G92 Quickmatch
	DD	H09 Rotherham
	DD	H11 Racehorse
	DD	H15 Raider
	DD	H32 Rapid
	DD	H41 Redoubt
	DD	H85 Relentless
	DD	H92 Rocket
	DD	H95 Roebuck
DD 1941	DD	G01 Scourge
	DD	G03 Shark
	DD	G12 Saumarez
	DD	G20 Savage
	DD	G26 Success
	DD	G46 Swift
	DD	G72 Scorpion
	DD	G94 Serapis
	DD	R00 Troubridge
	DD	R03 Kempenfelt
	DD	R05 Urania
	DD	R08 Hardy
	DD	R11 Tumult
	DD	R17 Valentine
	DD	R22 Ursa
	DD	R23 Teazer
	DD	R28 Verulam
	DD	R33 Terpsichore
	DD	R37 Whelp
	DD	R41 Volage
	DD	R42 Undine
	DD	R45 Tenacious
	DD	R48 Wrangler
	DD	R50 Venus
	DD	R53 Undaunted
	DD	R56 Tuscan

	DD	R59 Wakeful
	DD	R64 Vixen
	DD	R67 Tyrian
	DD	R69 Ulysses
	DD	R72 Wizard
	DD	R75 Virago
	DD	R78 Wessex
	DD	R83 Ulster
	DD	R87 Whirlwind
	DD	R89 Termagant
	DD	R93 Vigilant
	DD	R97 Grenville
	DD	R98 Wager
	DD	R99 Urchin
DD 1942A	DD	R01 Caprice
	DD	R02 Zest
	DD	R06 Myngs
	DD	R07 Caeser
	DD	R15 Cavendish
	DD	R19 Zephyr
	DD	R25 Carysfort
	DD	R30 Carron
	DD	R39 Zealous
	DD	R54 Zodiac
	DD	R62 Cassandra
	DD	R66 Zambesi
	DD	R73 Cavalier
	DD	R81 Zebra
	DD	R85 Cambrian
	DD	R95 Zenith
DD 1942B	DD	R14 Armada
	DD	R32 Camperdown
	DD	R44 Lagos
	DD	R55 Finisterre
	DD	R70 Solebay
	DD	R74 Hogue
	DD	R77 Trafalgar
	DD	R80 Barfleur
	DD	R84 Saintes

COMMONWEALTH DESTROYER ESCORTS

DE 1916	DE	D85 Shikari
	DE	D86 Thracian (a)
	DE	H04 Tenedos (a)
	DE	H18 Sabre
	DE	H21 Scimitar
	DE	H26 Sardonyx
	DE	H28 Sturdy
	DE	H29 Thanet (a)
	DE	H39 Skate
	DE	H50 Stronghold
	DE	H51 Scout
	DE	H54 Saladin
DE 1917	DE	D23 Vimiera (a)
	DE	D25 Warwick
	DE	D26 Watchman
	DE	D27 Walker
	DE	D28 Vanity (a)
	DE	D29 Vanessa
	DE	D32 Versatile
	DE	D33 Vimy
	DE	D34 Velox
	DE	D35 Wrestler
	DE	D36 Vivacious
	DE	D37 Vortigern
	DE	D41 Walpole
	DE	D42 Windsor
	DE	D46 Winchelsea
	DE	D47 Westcott
	DE	D48 Vidette
	DE	D49 Valentine (a)
	DE	D52 Vega (a)
	DE	D54 Vanquisher
	DE	D62 Wildswan
	DE	D63 Verity
	DE	D64 Vansittart
	DE	D66 Wivern
	DE	D67 Wishart
	DE	D71 Volunteer
	DE	D72 Veteran
	DE	D74 Wanderer
	DE	D75 Venomous
	DE	D76 Witherington
	DE	D77 Whitshed
	DE	D78 Wolverine
	DE	D89 Witch
	DE	D92 Viscount
	DE	D93 Verdun (a)
	DE	D94 Whitehall
	DE	H33 Vanoc
	DE	L00 Valorous (a)
	DE	L33 Vivien
DE 1918	DE	G05 Lancaster
	DE	G08 Newark
	DE	G19 Leamington
	DE	G27 Leeds
	DE	G42 Lincoln
	DE	G47 Newmarket
	DE	G54 Newport
	DE	G57 Ludlow
	DE	G58 Rockingham
	DE	G60 Ramsey
	DE	G68 Lewes
	DE	G71 Reading
	DE	G76 Mansfield
	DE	G79 Ripley
	DE	G88 Richmond
	DE	G95 Montgomery
	DE	H46 Belmont
	DE	H64 Beverley
	DE	H72 Bradford
	DE	H81 Broadwater
	DE	H82 Burnham
	DE	H90 Broadway
	DE	H94 Burwell
	DE	H96 Buxton
	DE	I04 Annapolis
	DE	I05 Cameron
	DE	I07 Roxburgh
	DE	I08 Brighton
	DE	I12 St Mary's
	DE	I14 Clare
	DE	I15 St Albans
	DE	I17 Bath
	DE	I20 Caldwell
	DE	I21 Charleston
	DE	I23 Castleton
	DE	I24 Hamilton
	DE	I28 Chesterfield
	DE	I35 Chelsea
	DE	I40 Georgetown
	DE	I42 Campbeltown
	DE	I45 Churchill
	DE	I49 Colombia
	DE	I52 Salisbury
	DE	I57 Niagara
	DE	I65 St Clair
	DE	I73 Stanley
	DE	I80 Sherwood
	DE	I81 St Croix
	DE	I93 St Francis
	DE	I95 Wells
DE 1939A	DE	L05 Atherstone
	DE	L11 Fernie
	DE	L17 Berkeley
	DE	L20 Garth
	DE	L24 Blencathra
	DE	L25 Southdown
	DE	L35 Cattistock
	DE	L37 Hambledon
	DE	L42 Brocklesby
	DE	L45 Whaddon
	DE	L46 Cleveland
	DE	L48 Holderness
	DE	L54 Cotswold
	DE	L58 Quantock
	DE	L60 Mendip
	DE	L61 Exmoor
	DE	L66 Quorn
	DE	L78 Cottesmore
	DE	L82 Meynell
	DE	L87 Eglinton
	DE	L92 Pytchley
	DE	L96 Tynedale
	DE	100 Liddesdale
DE 1939B	DE	L03 Badsworth
	DE	L06 Avon Vale
	DE	L08 Burton
	DE	L10 Southwold
	DE	L14 Beaufort
	DE	L26 Bedale
	DE	L28 Hurworth
	DE	L30 Blankney
	DE	L31 Chiddingfold
	DE	L34 Bicester
	DE	L43 Blackmore
	DE	L51 Bramham
	DE	L52 Cowdray
	DE	L59 Zetland
	DE	L62 Croome
	DE	L63 Dulverton
	DE	L68 Eridge
	DE	L70 Farndale
	DE	L71 Calpe
	DE	L72 Oakley
	DE	L74 Middleton
	DE	L77 Grove
	DE	L84 Hursley
	DE	L85 Heythrop
	DE	L88 Lamerton
	DE	L90 Ledbury
	DE	L95 Lauderdale
	DE	L98 Tickham
	DE	L99 Tetcott
	DE	108 Puckeridge
	DE	115 Silverton
	DE	122 Wheatland
	DE	128 Wilton
DE 1940	DE	L07 Airedale
	DE	L09 Easton
	DE	L12 Albrighton
	DE	L15 Eggesford
	DE	L16 Stevenstone
	DE	L18 Talybont
	DE	L19 Haldon
	DE	L22 Aldenham
	DE	L27 Goathland
	DE	L32 Belvoir
	DE	L36 Eskdale
	DE	L39 Rockwood
	DE	L44 Glaisdale
	DE	L47 Blean
	DE	L50 Bleasdale
	DE	L53 Hatherleigh
	DE	L56 Holcombe
	DE	L57 Limbourne
	DE	L65 Bolebroke
	DE	L67 Border
	DE	L69 Tanatside
	DE	L73 Melbreak
	DE	L75 Haydon
	DE	L81 Catterick

	DE	L83 Derwent
	DE	L86 Wensleydale
	DE	L89 Penylan
	DE	L91 Modbury
DE 1941	DE	L76 Brecon
	DE	L79 Brissenden

COMMONWEALTH SUBMARINES

SS 1924	SS	N21 Oberon
SS 1925	SS	N51 Otway
	SS	N55 Oxley
SS 1927	SS	N35 Olympus
	SS	N46 Orpheus
	SS	N58 Oswald
	SS	N67 Osiris
	SS	N84 Odin
	SS	N92 Otus
SS 1928	SS	N29 Proteus
	SS	N36 Perseus
	SS	N42 Pandora
	SS	N75 Parthian
	SS	N96 Phoenix
SS 1929	SS	N16 Rainbow
	SS	N41 Regent
	SS	N62 Rover
	SS	N88 Regulus
SS 1930	SS	N61 Swordfish
	SS	N73 Sturgeon
	SS	19S Starfish
	SS	98S Seahorse
SS 1931A	SS	N12 Clyde
	SS	N57 Severn
	SS	N71 Thames
SS 1931B	SS	37M Seal
	SS	N14 Porpoise
	SS	N45 Narwhal
	SS	N56 Grampus
	SS	N74 Rorqual
	SS	N83 Cachalot
SS 1933	SS	N22 Sterlet
	SS	N39 Snapper
	SS	N47 Seawolf
	SS	N54 Shark
	SS	N65 Salmon
	SS	N69 Spearfish
	SS	N72 Sealion
	SS	N81 Sunfish
SS 1936	SS	N15 Triton
	SS	N17 Tarpon
	SS	N18 Triumph
	SS	N24 Thistle
	SS	N38 Taku
	SS	N52 Trident
	SS	N53 Triad
	SS	N63 Tigris
	SS	N68 Truant
	SS	N76 Tribune
	SS	N77 Tetrarch
	SS	N78 Talisman
	SS	N79 Torbay
	SS	N94 Tuna
	SS	11T Thetis (Thunderbolt)
SS 1937	SS	N48 Undine
	SS	N59 Ursula
	SS	N66 Unity
SS 1939A	SS	N11 Thorn
	SS	N37 Thrasher
	SS	N45 Trusty
	SS	N48 Traveller
	SS	N86 Tempest
	SS	N91 Trooper
	SS	N98 Turbulent
	P311	(-)
	P312	Trespasser
	P314	Tactician
	P315	Truculent
	P316	Templar
	P317	Tally Ho
	P318	Tantalus
	P319	Tantivy
	P339	Taurus
SS 1939B	SS	N17 Urge
	SS	N19 Utmost
	SS	N55 Undaunted
	SS	N56 Union
	SS	N65 Usk
	SS	N82 Umpire
	SS	N87 Una
	SS	N89 Upright
	SS	N93 Unbeaten
	SS	N95 Unique
	SS	N97 Urchin
	SS	N99 Upholder
	SS	P31 Uproar
	SS	P32 (-)
	SS	P33 (-)
	SS	P34 Ultimatum
	SS	P35 Umbra
	SS	P36 (-)
	SS	P37 Unbending
	SS	P38 (-)
	SS	P39 (-)
	SS	P41 Uredd
	SS	P42 Unbroken
	SS	P43 Unison
	SS	P44 United
	SS	P45 Unrivalled
	SS	P46 Unruffled
	SS	P47 Dolfijn
	SS	P48 (-)
	SS	P49 Unruly
	SS	P51 Unseen
	SS	P52 Dzik
	SS	P53 Ultor
	SS	P54 Unshaken
	SS	P55 Unsparing
	SS	P56 Usurper
	SS	P57 Universal
	SS	P58 Untamed
	SS	P59 Untiring
	SS	P61 Varangian
	SS	P62 Uther
	SS	P63 Unswerving
	SS	P64 Vandal
	SS	P65 Upstart
	SS	P66 Varne
	SS	P67 Vox
SS 1940	P211	Safari
	P212	Sahib
	P214	Satyr
	P215	Sceptre
	P216	Sea Dog
	P217	Sybil
	P218	Sea Rover
	P219	Seraph
	P221	Shakespeare
	P222	(-)
	P223	Sea Nymph
	P224	Sickle
	P225	Simoom
	P226	Sirdar
	P227	Spiteful
	P228	Splendid
	P229	Sportsman
	P231	Stoic
	P232	Stonehenge
	P233	Storm
	P234	Stratagem
	P235	Strongbow
	P236	Spark
	P237	Scythian
	P238	Stubborn
	P239	Surf
	P241	Syrtis
	P242	Shalimar
	P243	Scotsman
	P244	Sea Devil
	P245	Spirit
	P246	Statesman
	P247	Saracen
SS 1941	P321	Telemachus
	P322	Talent
	P323	Terrapin
	P324	Thorough
	P325	Thule
	P326	Tudor
	P327	Tireless
	P328	Token
	P329	Tradewind
	P331	Trenchant
	P332	Tiptoe
	P333	Trump
	P334	Taciturn
	P335	Tapir
	P352	Totem
	P353	Truncheon
	P354	Turpin
SS 1942A	P248	Sturdy
	P249	Stygian
	P251	Subtle
	P252	Supreme
	P253	Sea Scout
	P254	Selene
	P261	Sleuth
	P262	Solent
SS 1942B	SS	P18 Vagabond
	SS	P29 Votary
	SS	P68 Venturer
	SS	P69 Viking
	SS	P71 Veldt
	SS	P72 Vampire
	SS	P73 Vox
	SS	P74 Vigorous
	SS	P75 Virtue
	SS	P76 Visigoth
	SS	P77 Vivid
	SS	P78 Voracious
	SS	P79 Vulpine
	SS	P81 Varne
	SS	P82 Upshot
	SS	P83 Urtica
	SS	P84 Vineyard
	SS	P85 Variance
	SS	P86 Vengeful
	SS	P87 Vortex
	SS	P95 Virulent
	SS	P96 Volatile

COMING IN OUR NEXT ISSUE . . .

the naval forces of. . .

GERMANY
ITALY
FRANCE
RUSSIA

UNITED STATES SHIP CLASSES - *A CARRIERS AT WAR DESIGN FEATURE*

NUMBER IN CLASS	#	15(98,9)	3(127,11)	9(45,5)	44(27,2)	4(33,3)	4	9	8	24	2	176
SHIP CLASS NAME	[8]	CV 1942	CVB1945	CVL1942	CVE1943	CVE1944	BB 1942	CA 1942	CLA1941	CL 1941	BC 1941	DD 1942
ALLIED	Y/N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
SEAPLANE	Y/N	N	N	N	N	N	N	N	N	N	N	N
SHIP TYPE	0-4	0	0	0	0	0	1	1	2	2	1	2
MAXIMUM SPEED	0-45	33	33	32	19	19	33	33	33	33	33	35
DISPLACEMENT	0-31	14	24	6	4	9	23	7	3	6	14	1
HEAVY AA	0-31	12	18	0	2	2	20	12	16	12	12	5
LIGHT AA	0-31	14	29	12	4	12	28	15	8	9	19	4
ARMOUR	0-15	4	8	0	0	0	12	6	4	5	9	1
PRIMARY GUNS	0-15	0	0	0	0	0	9	9	0	0	9	0
SECONDARY GUNS	0-15	6	0	0	1	1	10	6	8	15	6	2
TORPEDO TUBES	0-15	0	0	0	0	0	0	0	8	0	0	10
VULNERABILITY	0-7	2	4	2	2	3	7	6	4	5	5	5
ANTI-SUBMARINE	0-7	0	0	0	0	0	0	0	0	0	0	3
TORPEDO LOADS	0-3	0	0	0	0	0	0	0	1	0	0	1

NUMBER IN CLASS	#	43	67	102	128	130	171(6,5)
SHIP CLASS NAME	[8]	DD 1943	DE 1942	DE 1943A	DE 1943B	DE 1943C	SS 1941
ALLIED	Y/N	Y	Y	Y	Y	Y	Y
SEAPLANE	Y/N	N	N	N	N	N	N
SHIP TYPE	0-4	2	2	2	2	2	3
MAXIMUM SPEED	0-45	37	20	24	23	20	21
DISPLACEMENT	0-31	1	1	1	1	1	1
HEAVY AA	0-31	6	2	2	2	2	0
LIGHT AA	0-31	5	2	2	3	2	1
ARMOUR	0-15	0	0	0	0	0	0
PRIMARY GUNS	0-15	0	0	0	0	0	0
SECONDARY GUNS	0-15	3	0	0	1	0	1
TORPEDO TUBES	0-15	10	0	2	3	3	10
VULNERABILITY	0-7	4	3	3	3	3	5
ANTI-SUBMARINE	0-7	4	5	6	6	6	0
TORPEDO LOADS	0-3	1	0	1	1	1	2

NOTES TO US SHIP CLASSES

1. A complete list of the pennant numbers of US destroyer escorts and submarines is provided; however, only a representative selection from each class have been named.

2. The Midway class carriers (CVB 1945) had a normal air capacity of just on 140 aircraft. 127 is the maximum value the creation routine will accept.

COMMONWEALTH SHIP CLASSES - *A CARRIERS AT WAR DESIGN FEATURE*

NUMBER IN CLASS	#	1(36,3)	2(48,3)	1(60,4)	3(33,3)	1(45,4)	2(60,5)	1(21,2)	1(20,2)	1(20,2)	1(35,2)	4(42,3)
SHIP CLASS NAME	[8]	CV 1922	CV 1924	CV 1935	CV 1937A	CV 1937B	CV 1939	CVL1913	CVL1914	CVL1918	CVL1939	CVL1942
ALLIED	Y/N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
SEAPLANE	Y/N	N	N	N	N	N	N	N	N	N	N	N
SHIP TYPE	0-4	0	0	0	0	0	0	0	0	0	0	0
MAXIMUM SPEED	0-45	31	31	31	31	31	32	24	20	25	24	25
DISPLACEMENT	0-31	11	11	11	12	12	13	11	6	5	8	7
HEAVY AA	0-31	12	16	16	16	16	16	4	6	3	8	0
LIGHT AA	0-31	3	3	4	6	6	6	2	1	2	6	11
ARMOUR	0-15	3	3	5	5	5	5	5	0	3	0	0
PRIMARY GUNS	0-15	0	0	0	0	0	0	0	0	0	0	0
SECONDARY GUNS	0-15	0	0	0	0	0	0	12	0	6	0	0
TORPEDO TUBES	0-15	0	0	0	0	0	0	0	0	0	0	0
VULNERABILITY	0-7	2	3	4	5	4	6	3	2	4	4	5
ANTI-SUBMARINE	0-7	0	0	0	0	0	0	0	0	0	0	0
TORPEDO LOADS	0-3	0	0	0	0	0	0	0	0	0	0	0

NUMBER IN CLASS	#	1(6,1)	1(12,1)	1(16,2)	3(15,2)	8(24,2)	1(18,2)	2(18,2)	26(24,2)	19(4,1)	5	5
SHIP CLASS NAME	[8]	CVE1938A	CVE1938B	CVE1938C	CVE1939	CVE1941A	CVE1941B	CVE1942A	CVE1942B	CVM1942	BB 1912	BB 1913
ALLIED	Y/N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
SEAPLANE	Y/N	N	N	N	N	N	N	N	N	N	Y	N
SHIP TYPE	0-4	0	0	0	0	0	0	0	0	0	1	1
MAXIMUM SPEED	0-45	15	17	17	17	18	17	16	18	12	24	22
DISPLACEMENT	0-31	4	9	5	6	6	6	6	6	3	15	14
HEAVY AA	0-31	2	4	3	3	2	2	2	2	1	8(10a,20b)	8
LIGHT AA	0-31	2	4	2	2	5	6	6	8	2	2(4a,6b)	2
ARMOUR	0-15	0	0	0	0	0	0	0	0	0	13	13
PRIMARY GUNS	0-15	0	0	0	0	0	0	0	0	0	8	8
SECONDARY GUNS	0-15	0	0	0	0	0	0	0	1	0	14(8a,0b)	12
TORPEDO TUBES	0-15	0	0	0	0	0	0	0	0	0	0	0(4a)
VULNERABILITY	0-7	2	2	2	2	3	2	2	1	1	4(5a,6b)	5(4a)
ANTI-SUBMARINE	0-7	0	0	0	0	0	0	0	0	0	0	0
TORPEDO LOADS	0-3	0	0	0	0	0	0	0	0	0	0	0(3a)

COMMONWEALTH SHIP CLASSES (CONT.)

NUMBER IN CLASS	#	2	5	1	2	1	3	7	4	1	2	1
SHIP CLASS NAME	[8]	BB 1922	BB 1937	BB 1941	BC 1915	BC 1916	CA 1916	CA 1924	CA 1926	CA 1927A	CA 1927B	CA 1928
ALLIED	Y/N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
SEAPLANE	Y/N	Y	Y	N	Y	N	N	Y(Na)	Y	Y	Y	Y
SHIP TYPE	0-4	1	1	1	1	1	1(2a)	1	1	1	1	1
MAXIMUM SPEED	0-45	23	28	30	31	31	30	32	32	32	32	32
DISPLACEMENT	0-31	17	17	20	14(16a)	18	5	6	6	4	6	4
HEAVY AA	0-31	6	16	16	20(6a)	8	4(5b)	8	8	4	8	4
LIGHT AA	0-31	3	4	19	3(2a)	5	0(2b)	2(1d)	0	1	2	0
ARMOUR	0-15	14	15	14	9(7a)	12	3	5(4c)	4	4	4	4
PRIMARY GUNS	0-15	9	10	8	6	8	7(0a,5b)	8	8	6	8	6
SECONDARY GUNS	0-15	12	8	8	10(12a)	6	0(9a)	4	4	2	4	2
TORPEDO TUBES	0-15	2	0	0	8	4	6(4a)	0(8b)	8	6	8	6
VULNERABILITY	0-7	6	7	7	4(5a)	4	3(4a)	4	5	5	6	5
ANTI-SUBMARINE	0-7	0	0	0	0	0	0	0	0	0	0	0
TORPEDO LOADS	0-3	3	0	0	3	3	2	0(2b)	2	2	2	2

NUMBER IN CLASS	#	56	1	3	5	8	5	2	5	4	3	5
SHIP CLASS NAME	[8]	AMC misc	CL 1912	CL 1916A	CL 1916B	CL 1916C	CL 1917	CL 1918	CL 1931	CL 1933A	CL 1933B	CL 1934
ALLIED	Y/N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
SEAPLANE	Y/N	N	N	N	N	N	N	Y	Y	Y(Nc)	Y	Y
SHIP TYPE	0-4	4	2	2	2	2	2	2	2	2	2	2
MAXIMUM SPEED	0-45	14-18	24	29	29	29	29	33	33	32	33	32
DISPLACEMENT	0-31	4-10	2	2	2	2	2	4	4	3	4	5
HEAVY AA	0-31	0-2	3	1	1(8a)	3	1(8a)	5	8(4a)	4(8a)	4	8
LIGHT AA	0-31	1-2	0	1	1	1	2	2	1	1(0b)	1	2
ARMOUR	0-15	0	3	3	3	3	3	3	4	2	4	5
PRIMARY GUNS	0-15	0	0	0	0	0	0	0	0	0	0	0
SECONDARY GUNS	0-15	4-9	8	5	5(4a)	6	5(4a)	7	8	6	8	12
TORPEDO TUBES	0-15	0-4	0	8	8(0a)	12	8(0a)	15	8	6	8	6
VULNERABILITY	0-7	1	3	3	3(4a)	3	3(4a)	4	5	5	6	5
ANTI-SUBMARINE	0-7	0	0	0	0	0	0	0	0	0	0	0
TORPEDO LOADS	0-3	0-1	0	2	2(0a)	1	2(0a)	1	2	2	2	2

NUMBER IN CLASS	#	3	2	11	11	5	2	10	2	20	14	18
SHIP CLASS NAME	[8]	CL 1936A	CL 1936B	CL 1937	CL 1938	CL1939	CL 1941	DD 1917	DD 1924	DD 1928	DD 1930	DD 1933
ALLIED	Y/N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
SEAPLANE	Y/N	Y	Y	N	Y(Nb)	N	N	N	N	N	N	N
SHIP TYPE	0-4	2	2	2	2	2	2	2	2	2	2	2
MAXIMUM SPEED	0-45	32	33	32	32	32	32	34	37	35	36	36(37a)
DISPLACEMENT	0-31	5	6	3	4	3	5	1	1	1	1	1
HEAVY AA	0-31	8	12	10(8a)	8	8	10	1	0	0	1	0
LIGHT AA	0-31	2	3	1	3(2a)	2	4	0	1	1	1	1
ARMOUR	0-15	5	5	3	4	3	4	0	0	0	0	0
PRIMARY GUNS	0-15	0	0	0	0	0	0	0	0	0	0	0
SECONDARY GUNS	0-15	12	12	5(4a)	9(12a)	4	9	2	2	2(3a)	2	2(3a)
TORPEDO TUBES	0-15	6	6	6	6	6	6	4	6	8	8	8
VULNERABILITY	0-7	2	6	5	6	6	6	3	4	4	4	5
ANTI-SUBMARINE	0-7	0	0	0	0	0	0	1	1	1	1	1
TORPEDO LOADS	0-3	2	2	2	2	2	2	1	1	1	1	1

NUMBER IN CLASS	#	27	27	24	16	16	16	40	16	9	12	44
SHIP CLASS NAME	[8]	DD 1934	DD 1936	DD 1937	DD 1938	DD 1939	DD 1940	DD 1941	DD 1942A	DD 1942B	DE 1916	DE 1917
ALLIED	Y/N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
SEAPLANE	Y/N	N	N	N	N	N	N	N	N	N	N	N
SHIP TYPE	0-4	2	2	2	2	2	2	2	2	2	2	2
MAXIMUM SPEED	0-45	37	36	36	36	37	37	37	37	36	36	34
DISPLACEMENT	0-31	1	1	1	1	1	1	1	1	1	0	1
HEAVY AA	0-31	0	8(6a)	6	6(8a)	4 or 5	4	4	4	4	1	1(4a)
LIGHT AA	0-31	1	1	2	2	1	2	2	2	3	1(0a)	0(1a)
ARMOUR	0-15	0	0	0	0	0	0	0	0	0	0	0
PRIMARY GUNS	0-15	0	0	0	0	0	0	0	0	0	0	0
SECONDARY GUNS	0-15	2(3a)	4(3a)	3	3(0a)	0	2	2	2	2	1(2a)	2(0a)
TORPEDO TUBES	0-15	8(10b)	4	10	8	8 or 4	8	8	8	8	0(4a)	3(0a)
VULNERABILITY	0-7	5	5	5	6	5	6	6	7	7	3	3(4a)
ANTI-SUBMARINE	0-7	2	2	3	3(5a)	4	4	5	5	4	3(1a)	3(0a)
TORPEDO LOADS	0-3	1	1	1	1	1	1	1	1	1	0(1a)	1(0a)

NUMBER IN CLASS	#	50	23	33	28	2	1(4,3)	2(4,4)	6(6,3)	5(6,4)	4(6,4)	4(4,5)
SHIP CLASS NAME	[8]	DE 1918	DE 1939A	DE 1939B	DE 1940	DE 1941	SS 1924	SS 1925	SS 1927	SS 1928	SS 1929	SS 1930
ALLIED	Y/N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
SEAPLANE	Y/N	N	N	N	N	N	N	N	N	N	N	N
SHIP TYPE	0-4	2	2	2	2	2	3	3	3	3	3	3
MAXIMUM SPEED	0-45	35	28	27	27	26	14	15	18	18	18	14
DISPLACEMENT	0-31	0	1	1	1	1	1	1	1	1	1	0
HEAVY AA	0-31	1	4	6	4	6	0	0	0	0	0	0
LIGHT AA	0-31	1	1	2	2	1	0	0	1	1	1	1
ARMOUR	0-15	0	0	0	0	0	0	0	0	0	0	0
PRIMARY GUNS	0-15	0	0	0	0	0	0	0	0	0	0	0
SECONDARY GUNS	0-15	2	0	0	0	0	1	1	1	1	1	1
TORPEDO TUBES	0-15	3	0	0	2	3	8	8	8	8	8	6
VULNERABILITY	0-7	3	5	5	5	5	2	2	2	3	4	3
ANTI-SUBMARINE	0-7	3	3	3	2	2	0	0	0	0	0	0
TORPEDO LOADS	0-3	1	0	0	1	1	2	2	2	2	2	2

NUMBER IN CLASS	#	3(4,5)	6(4,4)	8(4,5)	15(4,4)	3(2,5)	16(4,4)	46(3,5)	33(5,4)	17(5,4)	8(5,4)	22(4,5)
SHIP CLASS NAME	[8]	SS 1931A	SS 1931B	SS 1933	SS 1936	SS 1937	SS 1939A	SS 1939B	SS 1940	SS 1941	SS 1942A	SS 1942B
ALLIED	Y/N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
SEAPLANE	Y/N	N	N	N	N	N	N	N	N	N	N	N
SHIP TYPE	0-4	3	3	3	3	3	3	3	3	3	3	3
MAXIMUM SPEED	0-45	22	16	15	15	11	15	11	15	15	15	11
DISPLACEMENT	0-31	1	1	0	1	0	1	0	0	1	0	0
HEAVY AA	0-31	0	0	0	0	0	0	0	0	0	0	0
LIGHT AA	0-31	1	1	1	1	1	1	1	1	1	1	1
ARMOUR	0-15	0	0	0	0	0	0	0	0	0	0	0
PRIMARY GUNS	0-15	0	0	0	0	0	0	0	0	0	0	0
SECONDARY GUNS	0-15	1	1	1	1	1	1	0	1	1	1	1
TORPEDO TUBES	0-15	6	6	6	10	6	11	4	7	11	6	4
VULNERABILITY	0-7	4	4	4	5	4	4	5	5	5	5	6
ANTI-SUBMARINE	0-7	0	0	0	0	0	0	0	0	0	0	0
TORPEDO LOADS	0-3	2	2	2	2	2	2	2	2	2	2	2

Questions and Answers

A forum of advice for our customers

Continued from Page 32

indications of an ultimate truth, something that will not be known until the end of the game. Use them in conjunction with other evidence and your own hunches as to what happened, but never trust them. Obviously, as you play more games you will get better at reading between the lines.

Unless you are a masochist or in a multi-player game, the effort of playing the land theatres is probably not worth it. Let the computer remember to wake up the bomber crews at 3 a.m., you have better things to do. Sighting reports are more reliable in one sense; there will be something there. Whether it is the CV's typically reported is another matter. However, this imprecision can be used to your advantage. Any admiral of the time would gladly have swapped two capital ships for two enemy carriers. Use your capital ships to screen your carriers. They stand a good chance of being reported as carriers and might suck in a strike. This has lots of advantages.

Capital ships, especially battleships,are less vulnerable than carriers, and will shoot down their share of planes. The first strike from a carrier is always the most efficient simply because the act of launching has guaranteed casualties as planes get lost, are hit by flak or damaged/lost on landing, and if you can absorb that first strike without losing either planes or carriers yourself, you have definitely shifted the odds in your favour.

You may find yourself in an ideal position for a counter strike since the enemy will have to go on station (i.e. remain in the same hex) for an absolute minimum of two hours until their strike returns. Even if you don't spot the enemy carriers, you should have a much better idea of where they are, while they may have no idea where you are.

Keep a close watch on the status of your task groups, the 'spotted' flag indicates that you have seen the enemy search plane who has spotted you. (This is by no means guaranteed to happen, you will often remain blissfully unaware of your new status as a target.) If you are spotted, and think the enemy is inside his strike range, you must act. Is there some bad weather you can hide in?. Are there substitutes you can leave behind while the carriers try to get away (transports or oilers will do as well as capital ships)? If not, you are in trouble.

Try to launch your strikes at targets within normal range of your torpedo bombers and your fighter escort. Strikes are best done as 'cohesive' unless there are overwhelming reasons. Unescorted strikes up against CAP have a tough time, and the bombing efficiency of the survivors will be reduced. If you have to change search pattern arcs during play, it's best to do it at night time to minimize the confusion which may occur during the change over.

EDITOR'S CHANCE

Continued from Page 3

The scenario briefing includes weather, availability of air/naval support, length and national characteristics.

Provision has been made for amphibious and airborne assaults.

The scenarios selected for the initial release will probably include, among others, Bastogne, Crete, Wainwright's defense of Luzon in 1941-2, Battleaxe and a tank battle from the Kursk clash in 1943.

Issue 3 of Run 5 will also include a scenario for the game.

We expect anyone interested in World War II land combat will find something of value in our creation.

GENERAL REMARKS

As I was saying at the beginning.

The greatest strength of the computer as a tool for simulating historical events is that both the event **and** the decision making processes of the protagonists can be recreated.

There are many board games on the market today which do a terrific job of simulating an historical event. The mechanics, however, by which this achievement is made have little or nothing to do with military decision making.

By their very nature, the player must not only make the decisions of every level of command in the game but must also implement these decisions. The skills encouraged for the manipulation of these mechanics have more to do with logic than strategy.

That's not to say they are not enjoyable; they just don't involve strategic decision making.

Before I get any further into deep water, I'd best clear up one thing.

Strategy board games are splendid entertainments; both Roger and I play them in preference to computer games. What I'm trying to explain is the nature of their limitations. In terms of maximizing their potential, state-of-the-art board games today have probably achieved a 90% success. Using the same criteria, strategy computer games would be lucky to have reached 10% of their potential. And I certainly don't exclude our games from this evaluation.

The media are just different and, as I suspect, time will judge which has the most potential for the future.

I am constantly dismayed by the number of computer games which *strive* to be imitations of board games! By necessity, units must be moved hex by hex across the map in a board game; there is no proper reason to perpetuate that compromise in a computer game. Troops get told to go somewhere and do something. . . then it's up to them. Furthermore, the use of hex by hex movement routines make it almost impossible for the computer to control its forces sensibly.

The routines by which a human implements his decisions in the game must be ones that the computer can emulate. Unless the computer is capable of controlling any and every part of the forces on either side, it's not possible to cast the player in a role; he must still be the commander of every unit.

What we're trying to do, albeit with limited success, is to build a game environment wherein a player need only be responsible for the forces of the personage he represents. He is not responsible for the direct operation of the forces superior and subordinate to him. Moreover, these other personages must be able to communicate with him and he with them.

It will be interesting to see just how successfully our next two games do this. It's always much easier to point out what's wrong than to fix it up!

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BATTLEFRONT

Corps Level Command in World War II

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THE FINAL COUNTDOWN

An Adventure in Time
7th December 1941/1981

A SURPRISE SCENARIO FOR
CARRIERS AT WAR

Those of you who have seen the movie of the same name will doubtlessly know what this scenario is all about. For those who haven't, here's a capsule summary.

USS Nimitz, Kirk Douglas commanding, runs into some funny weather north of Hawaii. The time was 1981 but as events transpire it's now somehow 6th December, 1941. They've found that elusive hole in time (space?); a phenomenon available, unfortunately, only to movie makers.

After about half a movies' worth of moralizing, the *USS Nimitz* decides to get those Japs. Too late! The time hole pops up again and our heroes return to the present.

With *Carriers at War* we can (more or less) examine what could have happened had the Tomcats got among pidgeons so to speak.

The following data needs to be added to the Pearl Harbour scenario.

1. Plane Types. Add #23. (F-14, 1, 0, 14, 14, 20, 3, 3, 3, 15, 63, 7, 7, 7, 7, Y, Y, N, Y, N, N). Add #24. (E-2A, 2, 4, 31, 31, 31, 3, 3, 3, 15, 0, 0, 7, 7, 7, Y, Y, N, N, Y, N).

2. Squadrons. Add # 65-68. (Each 23, 18, 7, 3, 3, N, N, Y). Add #69 (24, 12, 7, 3, 3, Y, Y, Y).

3. Ship Class. Add #36. (CV TOUGH, Y, N, 0, 38, 54, 31, 31, 15, 0, 0, 0, 7, 7, 0).

4. Carrier. Add #9. (NIMITZ, 100, 36, 8, 65, 66, 67, 68, 69, 20, 15, 7, 3, 3).

5. Task Group. Add #8 Ally. (NIMITZ, 0, 0, 5, 31, 3, 3, 1, Y, x,y = 81,32, search = S-SW).

6. Brief. Make the following changes to the Allied data. Morale = 3, Radar Tech = 3, Aerial torpedoes = 3, Surprised = N).

7. Names. Add K. Douglas as the commander for Allied Task Force 3.

It's probably going to be a trifle hard to find someone to surprise with this entertainment, but if you can it should be amusing.

Don't forget the Origins Convention in Los Angeles from 3rd-6th July

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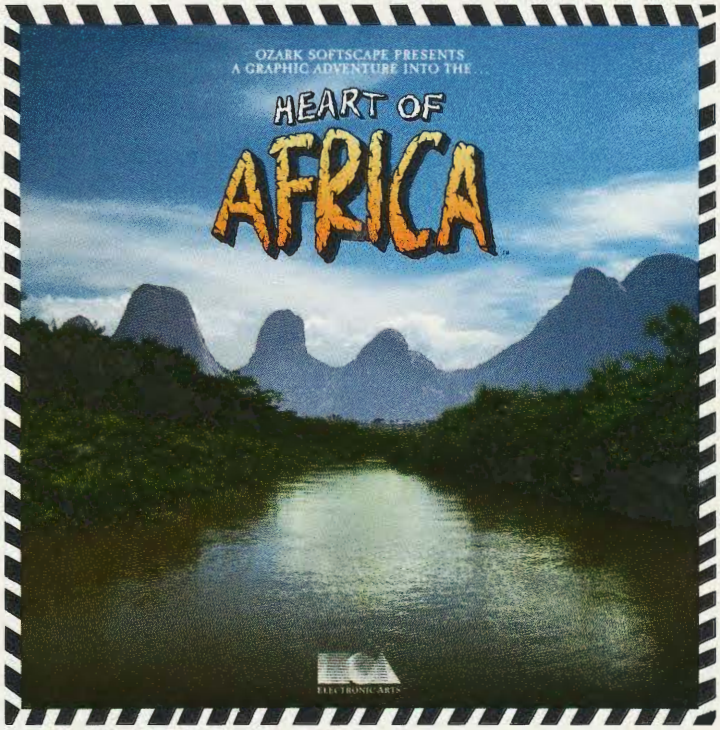

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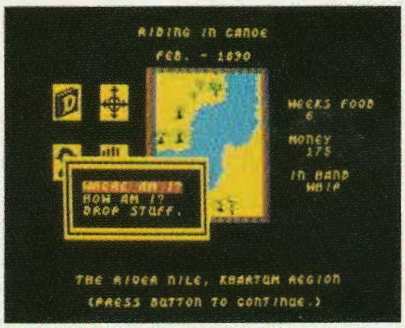

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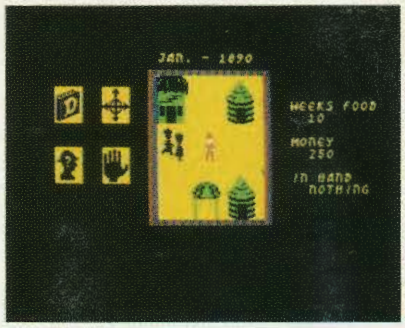

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