

# EUROPE ABLAZE

The Air War Over England and Germany 1939-1945



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## PLAYER'S MANUAL

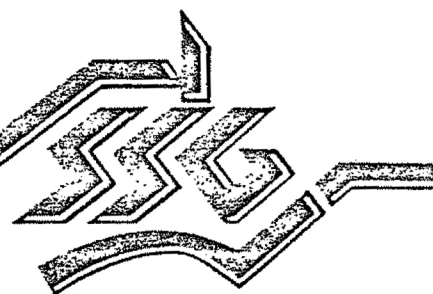
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336 Pitt St, Sydney. 2000.



## INTRODUCTION

*Europe Ablaze* is a simulation of aerial warfare in World War II.

Each player, and there can be as many as twelve or as few as none, takes on the role of Air Force Commander-in-Chief or Air Fleet Commander. Those positions not assumed by human players are controlled by the computer.

An intact game of *Europe Ablaze* should contain an album, a map card, a menu card, a Design Manual, a Player's Manual, a strip of save game labels and a game disk.

If this isn't the case, let us know. We'll replace defective or missing components immediately. Please return defective materials to us.

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## 2. THE TUTORIALS

The following tutorials will ease you into the game by gently introducing you to the menu structure and the range of activities available to you as a commander.

Once the menu structure and its manipulation have become familiar, you've mastered the game - really! This shouldn't take anymore than 15-20 minutes. After that it's just a matter of gaining experience in World War II air operations - this may take a bit longer!

There are three levels of command represented in *Europe Ablaze*, two of which are playable by humans. The Commander-in-Chief (C-in-C) furthers his nation's war aims by translating directives from the Supreme Command (always the computer) into operational objectives and procedures to be used by his subordinate Air Fleets. The Air Fleet Commander directs the various squadrons under his control to achieve these objectives.

Start up the disk using the procedure for your computer as given on the menu card.

The menu window on the right of the screen will show the

same information as Menu A in the Start Menus.

### Tutorial 1 - The C-in-C

Type (RET) until the cursor is positioned on the <GAME> line and then type (Y)(RET). The scenario menu (Menu E) appears. Type (RET) until the cursor is positioned on the <Scen 1> line (the *Their Finest Hour* scenario) and then type (Y) (RET). The player menu (Menu F) appears.

The screen displays the list of available commands and their controllers. The default value is human.

In this tutorial you will take the role of the Axis C-in-C, *Reichsmarschall* Hermann Goering. Position the cursor on the <EDIT> line in the menu window and type (Y)(RET).

The cursor is flashing on the <GOERING> line and you may replace his name with your own if you wish. Type (RET) and the cursor moves to the <N> to the right of Goering's name. As this is your role in the scenario, we'll leave it as it is; i.e. human controlled.

Type (RET) until the cursor is on the <N> to the right of the <LUFTFLOT 5> line then type (Y)(RET). As you can see, *Luftflotte 5* is now under computer control. If you make a mistake and move the cursor too far, use the up arrow key to move the cursor in the opposite direction. Using the same method, place the remaining two Axis Air Fleet Commanders and all the Allied Commanders under computer control.

Once this is done, type (ESC/f1) to go back to the player menu. Position the cursor on the <START> line and type (Y)(RET).

Examine the game menu card. Menu 4 is on the screen. This is the C-in-C menu and is accessed only at midnight; i.e. the C-in-C issues orders once per day and then sits back and watches the action.

There are no <RECORDS> as yet so there's not much point in viewing those screens. See Chapter 4 at a later date for more information.

Use the arrow keys to position the cursor over the <WEATHER> line and type (RET). More detail is available for weather areas in friendly territory as evidenced by the precise cloud and wind levels. Storms are likely in the highlighted areas. Weather estimates for enemy territory are less reliable.

About the only areas to make suitable bombing targets are the central and south-eastern parts of England. The poor weather over France may ground the bulk of your operations but, since this is an introductory tutorial and no-one is keeping score, we'll get stuck in anyway.

More information on the weather system is available in Chapter 4 as well as the Design Manual (p8).

Type (ESC/f1) to go back to Menu 4.

The most important part of the C-in-C's job is issuing orders to his Air Fleet Commanders. Position the cursor over the <ORDERS> line and type (RET).

The command display for *Luftflotte 5* appears on the screen. The arrow keys will cycle between the 3 German commands. We'll leave *Luftflotte 5* to the last since it's the least important command.

Use the arrow keys to select *Luftflotte 2*. Your current victory point total (score) appears above the menu window. It's negative to begin with as explained in Chapter 5 but don't worry about this now. A summary of the operational squadrons assigned to *Luftflotte 2* appears below the menu window.

The threshold value is the number of points which the Commander of *Luftflotte 2* must accrue before he contributes positive victory points to his C-in-C. His current score appears below this number.

Basically, you get points for successfully bombing your objectives and destroying enemy aircraft one way or another.

Now on to issuing orders and, if your Air Fleet Commanders are human, weathering their endless storm of abuse, pleading and whingeing.

It's August 10th, 1940 and the Battle of Britain is about to begin in earnest. *Luftflotten 2* and *3* are your main striking forces and we'll give them similar orders.

Type (RET) and the cursor will appear to the right of the <Priority> line. We'll enter all the orders before explaining their significance. Type (7)(RET) (0)(RET) (2)(RET) (N)(RET) (Y)(RET) (N)(RET) (N)(RET) (Y)(RET) (N)(RET) (Y)(RET) (Y)(RET) (Y)(RET) (Y)(RET).

The high priority will increase the likelihood of available replacements going to *Luftflotte 2*. No missions are allocated since the objectives for the moment are primarily tactical targets such as airfields and radar stations. Missions are more suited to strategic operations and are covered in detail in Chapter 4. The high activity level ensures maximum aircraft availability. In bad weather, it's usually more prudent to order an activity level of 0 and give everyone a good rest.

We have ordered *Luftflotte 2* to launch their attacks in daylight, to press home the attack in spite of fighter opposition and not to use their fighters as close escorts for their bombers. Please see Chapter 4 for a detailed treatment of fighter escort doctrine.

The multiplier next to each target type (more or less) indicates the relative victory point award for bombing it. By entering (N) for population and communications targets, we have prevented *Luftflotte 2* from accessing the routines for bombing these. Your subordinates cannot disobey you!

That's it for *Luftflotte 2*.

Type (ESC/f1) and then use the arrow keys to select *Luftflotte 3*. Enter the same orders as you did for *Luftflotte 2*.

Type (ESC/f1) and then use the arrow keys to select *Luftflotte 5*. Type (3)(RET) (0)(RET) (0)(RET) (N)(RET) (N)(RET) (N)(RET) (N)(RET) (N)(RET) (N)(RET) (N)(RET) (N)(RET) (N)(RET) (Y)(RET).

In other words, *Luftflotte 5* has been given a minor role.

When you have finished issuing orders, type (ESC/f1) to go back to Menu 4.

The final menu for which the C-in-C has responsibility is <FLAK>. This is the mechanism by which anti-aircraft gun assets are relocated to meet enemy attacks. There's no need to use it now. Consult Chapter 4 at your leisure for the details of its operation.

Type (ESC/f1) and you are asked whether you wish to end the C-in-C phase. This is an irrevocable decision and once made you will not be able to influence the game for another 24 hours. Position the cursor on the <YES> line and type (RET).

Menu H (the Game Master) is on the screen. You cannot give any orders here since this menu is for the use of Air Fleet Commanders. (You can access Menu 10 - the Combat Display - but see Chapter 4 before you try it.)

Position the cursor on the <RUN> line and type (Y)(RET).

The game is set in progress and will run without interruption for 24 hours unless you tell the clock to stop by typing (ESC/f1). Do this if the action gets really hot and then use <RUN 5> rather than <RUN>. This allows you to observe the battle in single 5 minute increments.

At 0000 hours on August 11th, the C-in-C routine will be accessed again. Have a look at your records (Chapter 4 will tell you what everything means), see what's happened to the weather and then issue whatever orders you think appropriate.

We recommend you continue this exercise for 3-4 days. It won't take you very long and it will give you a good general feel for the way the game runs.

## Tutorial 2 - Air Fleet Commander

Start up your computer to get Menu A on the screen. Select the *Their Finest Hour* scenario again and make all positions computer controlled except *Luftflotte 5* - this will be your job. Select <START> from Menu F and Menu H (the Game Master) will appear.

Select Menu 9 via Menu 1. The only Axis command which can be accessed is <COM 1>; the other two are computer controlled.

Select Menu 11. This is the midnight/mid-day interphase menu. All offensive operations are planned at this time

During the midnight interphase, only day trained squadrons are available for assignment. During the mid-day interphase, only night trained squadrons are available for assignment. The computer knows this and won't let you get the two mixed up.

The strategic map has been replaced by a summary of the orders issued to you by *Reichsmarschall* Goering. The **<Threshold>** value is the number of victory points you must achieve before you can contribute positively to your C-in-C's performance. Your score to date is 0.

From the summary below the menu window you can see your force consists of just 9 squadrons (or *Gruppen* if you wish to use the German word) which makes it ideal for tutorial purposes! You have 1 light bomber, 6 medium bombers, 1 single engine fighter and 1 twin engine fighter.

Your **<Priority>** will be between 2-4, almost certainly no missions will be allocated to you and your activity level will be either 0 or 1. Have a look at Chapter 4 for full details on activity at a later date.

You'll probably be given **<Resolute Attack>** orders; which is a pity, since your men are probably not up to it. Still, everyone must do their duty.

There are no **<RECORDS>** to look at yet, but it's always important to consult your weather report. Select **<WEATHER>** and you'll find the prediction to be execrable. Have a look at the map card. Our area of operations is north of Hull. Even with the bad weather, we may still be able to annoy the Brits.

Before launching our ops we'll look at the remaining interphase menus.

Select **<SQUADS>** then **<STATUS>**. None of our squadrons have been stood down as would be the case if they were tired and/or depleted. None are as yet assigned to operations. Note that squadron skills are given in the bottom display. Thus, of our 9 squadrons, 7 are trained for daylight operations and 2 are trained for night operations. The 2 night trained squadrons will not be available for assignment until the mid-day interphase. The specialist training skills are pathfinder, naval and recon. A given squadron can possess any number of these specialist skills.

Let's have a detailed look at our squadrons. Select **<RUN-TIME>** then **<REPORTS>**. Every squadron is listed according to its current status. Since we haven't given any orders yet and none of our men are stood down, all our squadrons can be examined by selecting **<AVAILABLE>**.

Use the arrow keys to cycle through the squadrons until you come to 1/ZG76. It's based at Sola as shown by the flashing cursor on the strategic map, the plane type is the Messerschmidt Bf 110C (*Zerstorer*), it's a twin engine fighter, its crew are fresh, veterans and some 20 of 26 aircraft are operational. It has no specialist skills.

Go back to Menu 11 and select **<TARGETS>**. The locations of all recons, sweeps, raids and missions planned for the day by your brother Air Fleet Commanders, *Feldmarshalls* Kesselring and Sperrle, can be examined.

Type (RET) to activate each selection. Note that missions flown to any centre facility will display the population symbol, regardless of the actual target type.

Computer controlled Air Fleet Commanders always issue their orders first so this screen is very useful for coordinating operations with them.

That's it for the preliminaries. It's time to get on the phone and drag your squadron ops officers out of their bunks. Go back to Menu 11 and select **<OPS>**. Menu 12 (the Strike Ops Menu) appears.

Because of the bad weather, we'll not risk too many casualties. For today, we'll assign 1 squadron to recon, 1 squadron to shipping lane harassment, 1 squadron to a sneak port raid and 1 fighter squadron to a standing patrol over our own shipping lanes to keep Coastal Command honest. During the mid-day interphase, we'll send 1 of our night trained squadrons on a 'gardening' (minelaying) operation.

As a general practice, it's best to issue orders to your specialist squadrons first. This way you won't waste their skills.

Select **<RECON>** from Menu 12. Note that complete details on all strike assignments are provided in Chapter 4 and they should be consulted at a later date.

The first step is to select a target centre. Recon operations are flown throughout the day by elements of a squadron and will gather information on the chosen centre as well as other centres within 3 hexes of it.

All Allied centres are identified on the strategic map and the arrow keys are used to cycle the national cursor through them. Select a centre which has a recon value of **<none>** in the vicinity of Sunderland, then type (RET). A target symbol appears over the chosen centre and the cursor moves to the location of the squadron identified in the right hand column. This squadron is trained for recon ops as shown in its data display. Normally, the arrow keys will cycle you through all the recon squadrons available. In this case, however, you've only got one so there's nowhere to cycle to!

Type (RET) to select 1/121F for the job. The squadron is now briefing for its operation. To confirm the assignment, type (ESC/f1) and recover Menu 12. To abort the assignment, type (RET) and answer the prompt.

Once you have confirmed the assignment and recovered Menu 12 it's too late to change your mind. The committed squadron is no longer available for selection; i.e. select **<RECON>** again and you'll be informed there are no available squadrons.

Select <HARASS> from Menu 12. There is a chance that Goering has ordered you not to attack shipping lanes. If this is the case, we'll postpone the harassment operation until tomorrow. Otherwise, position the cursor on the <SEA L> line and type (Y)(RET).

Enemy shipping lanes appear on the strategic map and all you have to do is select a squadron for the assignment. Harassments are flown throughout the day by elements of the squadron, the particular target being decided at the time of take-off by the squadron commander. Select 1/KG30 at Aalberg. Type (RET) to brief the operation, then (ESC/f1) to confirm it.

Select <RAID> from Menu 12. Raids are flown by a full squadron at a particular target and require an approach altitude and ETA (Estimated Time of Arrival). Select <PORTS> and type (Y)(RET).

Enemy ports appear on the strategic map and you should use the arrow keys to locate Edinburgh, an undamaged minor port.

Type (RET) then use the arrow keys to locate 3/KG26 at Stavenger. Type (RET), set an approach altitude of 1000ft, advance the ETA from 0240 hours to 0630 hours (i.e. daylight) and the squadron is now <Briefing>. The details of the assignment appear at the bottom of the display and if they're correct, type (ESC/f1) to confirm them.

The low altitude, combined with the bad weather, may allow us to sneak in under the British radar screen; if not we've got problems. There's not a lot of room at this altitude for your parachute to open.

We're ready to go. Standing patrols are not offensive operations so they can be mounted at any time.

Type (ESC/f1) until you get back to Menu H. Select <RUN> and type (Y)(RET).

Nothing much should happen before daylight. Stop the game around 0500 hours; i.e. type (ESC/f1). Select Menu 9 and type (Y)(RET) to obtain Menu 18 (the Run-Time Ops Select menu).

We will now mount a patrol over our shipping lanes. Select <PATROL> and type (RET). Select <SEALANE> and type (RET). Friendly shipping lanes are identified on the strategic map. Use the arrow keys to position the national cursor over shipping lane 53N. Note that density refers to the importance of the shipping lane and therefore the likelihood of locating targets there. The maximum density is 7. The tactical map below the menu window identifies the exact hex.

Type (RET) to fix the patrol area then use the arrow keys to locate 2/JG77, a Bf 109E fighter squadron. Type (RET) again to select the squadron, set a patrol altitude of 12,000 ft (for a detailed treatment of the importance of altitude in air operations, see Chapter 4), set the ETA to

0600 hours and type (Y) for the <STAND> line. Standing patrols will keep elements of the squadron on station from ETA until nightfall (or sunrise for night trained fighters). Full squadron patrols will place the entire squadron on station from ETA until their endurance runs out. Use standing patrols unless you expect an imminent, large scale attack.

Patrols are active in the station hex and the 6 hexes adjacent to it.

Recover Menu H and select <RUN>. Around daylight the action will begin to hot up. As all the Allied commanders are computer controlled, only sightings of Allied aircraft by Axis radar/observer corps will interrupt the game. Axis aircraft will be visible at all times.

From here on you're on your own. If any Allied aircraft are sighted near your theatre, use either of your fighter squadrons to intercept them. Chapter 4 gives full details of this procedure. During the mid-day interphase, remember to assign a night trained squadron to harass shipping lanes.

### 3. USING THE GAME MENUS

Having played through the introductory tutorials you have, we hope, discovered how easy the game menus are to operate. They can be divided into 4 types.

(a) **Branch Menus** - These menus signpost the route to other menus. [1,4,9,11,12,14,16,18,21] Note that those menus identified in bold face also provide some information.

(b) **Information Menus** - These menus provide information on the various forces and functions in the game. [7,8,15,17,22,23]

(c) **Action Menus** - These menus are the centre of the game system. All of the orders used in the game are given through them. [5,6,13,19,20]

(d) **Single Function Menus** - [2,3,10]

### 4. THE GAME MENUS

#### Menu 1 {Nationality Select}

This is a branch menu and is used to select Axis or Allied forces. If either nationality is completely computer controlled, then this menu is bypassed and menus 4 or 9 will be obtained directly from menu H.

## Menu 2 {Save Game Utility}

This single function menu is described on the Start Menu Card.

## Menu 3 {End Game Utility}

This single function menu permits a human player to finish game earlier than the established scenario end-point.

## Menu 4 {C-in-C}

At midnight, and only at midnight, this branch menu is accessed whenever a human is acting as the C-in-C of either nationality. It is used by the C-in-C to review his reports, issue orders to his Air Fleet Commanders and to redeploy flak assets as he sees fit.

## Menu 5 {Flak Adjustment}

This is an information/action menu. Only the C-in-C has access to this menu and the authority to redeploy the available flak assets. Consider *fig 1*.

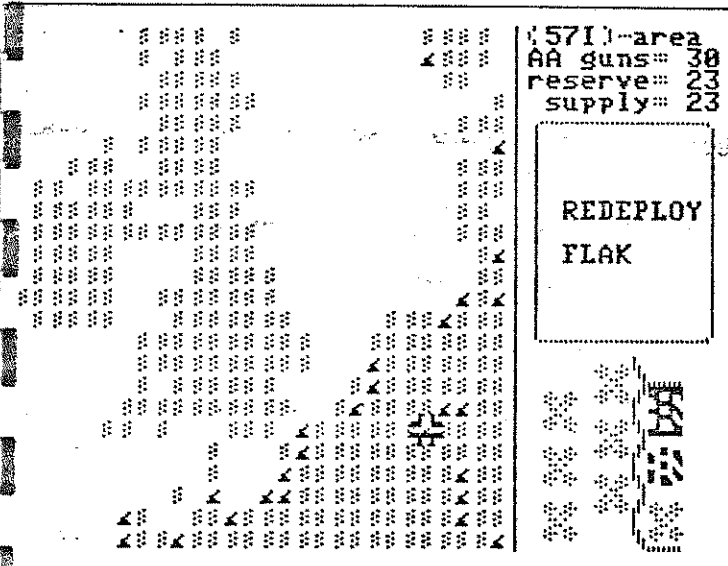


Fig 1

Flak unit A43 is identified by the German cursor. Its hex location is shown in the segment of the tactical map appearing under the menu window; i.e. the block cursor indicates the exact hex position. The arrow keys are used to cycle through each flak unit.

The top two lines of text above the menu window display information pertaining to the flak unit. The text displays the unit's ID code and whether it is point or area flak. Batteries with fewer than 20 guns are classified as point

flak and can only engage enemy aircraft flying into or through the hex they occupy. Larger batteries are classified as area flak and, in addition to the capabilities of point flak, a proportion of the battery may engage enemy aircraft flying into or through an adjacent hex.

The next two lines of text display the number of guns in reserve and the number of them which can be allocated to flak units. Flak units themselves don't move so that in order to reorganize your flak forces you must allocate guns from the reserve to those flak units you wish to reinforce. The *supply* value is the maximum number of guns which may be allocated to flak units each day.

Guns withdrawn from flak units become available for re-allocation on the following day. There is no limit to the number of guns which can be withdrawn on a particular day, except that the total number of guns in reserve may not exceed 255. Note, however, the *supply* value is calculated by summing 1/32 of the total guns deployed plus 1/8 of the guns currently in reserve and comparing this number to the number of guns in reserve. The lower value is that day's *supply* value. The significance of this mechanism is simply to make frantic redeployment of AA assets most inefficient.

A limited number of AA guns are added to the reserve as re-inforcements each day, the exact number being principally dependent upon the current situation; i.e. the more desperate the defense, then the more AA guns will arrive.

In addition to the AA fire of these heavy batteries, all targets have some light AA capability which is determined by the computer and applied against enemy aircraft where appropriate.

To alter the size of a flak unit, position the cursor over the chosen battery and type (RET). The message <enter AA adjusted value> appears below the menu window. Enter any value between 0 and the listed maximum, then type (RET) to complete the adjustment. Regardless of other factors, no flak unit may contain more than 255 guns.

## Menu 6 {Issue Orders}

This is the C-in-C's principal action menu. It is used to rank his commanders' priorities, assign missions, choose a level of operational activity, determine doctrine for each command and to regulate target selection.

The arrow keys are used to locate each command. In *fig 2*, the Axis C-in-C has selected *Luftflotte 2*.

At the top of the screen the commander's performance to date is displayed. The difference between score and threshold is the number of victory points currently awarded to the commander. Note that the number of VP's currently awarded to the C-in-C appears in the second line of text above the menu window. This second VP number

```

LUFTFLOT 2
Threshold = 1888
Score = 8

Orders--
Priority (7) = 5
Missions (4) = 0
Activity (2) = 1

Night operations (N)
Resolute attack (N)
Close escort (N)

Population 0
Industry 4
COMMUNICATIONS 1
Ports 6
Air Fields 6
Radar stations 6
Sea lanes 4

rult. targets
* (Y)
= (Y)
v (Y)
^ (Y)
# (Y)

score (= 0)
Conditions hv overcast

Select Command by arrow keys
(RET) to modify values

Squads
Dive BA 2
Light BA -
Med. BA 22
Heavy BA -
SE fight 15
TE fight 7
SR recon -
LR recon -
    
```

Fig 2

may be negative.

**Assigning Priority.** A priority between 0-7 must be assigned to each command. The number displayed on the right of the <Priority> line is the value entered last turn (or the value set at the beginning of the scenario). The commander's priority determines the likelihood of receiving replacement aircraft. Note that if all commands are given the same priority, then available replacements will be more or less divided equally between commands; i.e. altering priorities does not increase the number of replacements available, it merely changes their distribution. Note that the priority assigned to each command at the beginning of a scenario is used to determine the operational readiness of the command.

**Allocating Missions.** The C-in-C must assign a number of missions to each command. The range of values allowed is 0-5, which may be over-riden by the total missions available as prescribed by the scenario. The text below the menu window summarizes the number of operable squadrons available to the command for that day and is a useful guide to assigning missions, especially for inexperienced players. Note that these numbers may change when the *Activity Level* is adjusted. As a general rule, you should assign one mission for every 8-15 medium or heavy bomber squadrons on hand. Note that exhausted squadrons, and those with less than 25% of their official establishment, are always stood-down and therefore inoperable.

Furthermore, missions may only be directed against centres so don't waste missions on a command which will be directed to attack other targets.

**Activity Level.** Each command must be assigned a level

of activity and, as with missions, the number on the right of the <Activity> line is the previous day's activity level. There are three levels of activity. Enter (0), (1) or (2) for low, standard or high activity levels respectively. Under low activity conditions, only fresh and fit squadrons are kept available; all others are stood-down. Under standard activity conditions, tired and exhausted squadrons are stood-down while for high activity, only exhausted squadrons are stood-down.

Squadrons under stand-down orders are not available for operations (i.e. their crews are off boozing in the local pub). However, fatigue recovery and aircraft repair are both considerably enhanced while a squadron is stood-down.

As a general rule, use the weather prediction in the fourth line of text above the menu window as a guide to determine your level of activity for the day. If weather conditions are bad, select a low activity level and allow your men to recuperate.

**Day/Night Operations.** A (Y) or (N) should be entered on the <Night Operations> line. Every command is considered to be either a day command or a night command. This information comes from the scenario set up. It is a major decision to switch a command from a day role to a night role or vice versa.

When the decision is made to switch to a night role, certain squadrons in the command will alter their squadron training status to night ops. The exceptions to this are -

- (a) all squadrons already trained for night ops,
- (b) all squadrons trained for naval ops,
- (c) all squadrons with a crew size of three or fewer unless the plane type is night modified and
- (d) all recon squadrons.

When the decision is made to switch to a day role, the reverse is true.

Throughout the course of the war, daylight bombing, even when escorted, usually resulted in unacceptably high bomber losses. The only exceptions to this were the operations of the US 8th and 15th Air Forces. A combination of exceptionally tough and durable bombers, high-performance, long-range escorts and a clear numerical superiority were all needed to achieve this phenomenon. More usually, air forces were forced by mounting losses to switch to night bombing operations with the consequent drop in accuracy (and results).

What this means is don't switch a night command to a day command unless you enjoy the advantages possessed by the US in 1944-45. Furthermore, be prepared to go to night bombing when your losses start to outweigh your bombing performance. This is an especially bitter pill for Germany in 1940 as bombing accuracy at night is woeful once the British have jammed out the beam navigation.



Squadrons which switch to night ops (and vice versa) are not immediately available in their new role. A period of 1-3 days must pass before the modifications and training are complete and the squadrons again ready for operations.

**Bombing Doctrine.** A (Y) or (N) should be entered on the <Resolute Attack> line. A resolute attack is an instruction to your bombers to press home the assault in spite of heavy enemy resistance. The alternative instruction will result in fewer aircraft losses and fewer bombs dropped on the target. For example, Bomber Command in 1940-41 instructed its aircrews to abort operations in the face of fighter opposition while the Luftwaffe issued the opposite order. Their aircrews were expected to hit the target regardless of enemy presence. It is only while conducting day operations that this decision is important. At night you can give resolute attack orders quite safely as the chance of fighter interception is much lower.

**Escort Doctrine.** A (Y) or (N) should be entered on the <Close Escort> line. Commands which are made up primarily of bomber aircraft (i.e. type 2) are not permitted to fly offensive patrols (sweeps) if they have been given a *close escort* order. Their fighters should be used for direct escorting of missions. This decision should be made if bomber losses get out of proportion to the results they achieve. Night commands should never be given a *close escort* order.

**Target Regulation.** The final seven Y/N entries are used to regulate the target types which may be attacked by the command. A target type with an (N) entry cannot be attacked by that command. The multiplier column will inform you of the current importance assigned to each target type by your nation's supreme commander. It is advisable to enter (Y) for the target types with the higher multipliers, (N) for the others. Keep in mind the number of missions and level of activity accorded to the command when allocating potential targets. The Air Fleet Commander will not see the multipliers when he is briefing his operations so be careful not to confuse him with too many target selections. On the other hand, you must give him sufficient flexibility to have some chance of deceiving the enemy as to his intentions.

## Menu 7 {Weather Report}

This is an information menu. The strategic map is divided into 12 regions, each region being given a predicted cloud cover and wind strength.

The exact wind and cloud values are given for areas in friendly territory. A generalized comment appears for those areas outside friendly territory.

Areas likely to be experiencing storms and/or fog are highlighted. Further information on the weather system is

provided in the Design Manual (p8).

Weather updates occur every twelve hours and are based on the weather forecast (displayed above the menu window) and the time of year.

Fig 3 shows a typical weather report.

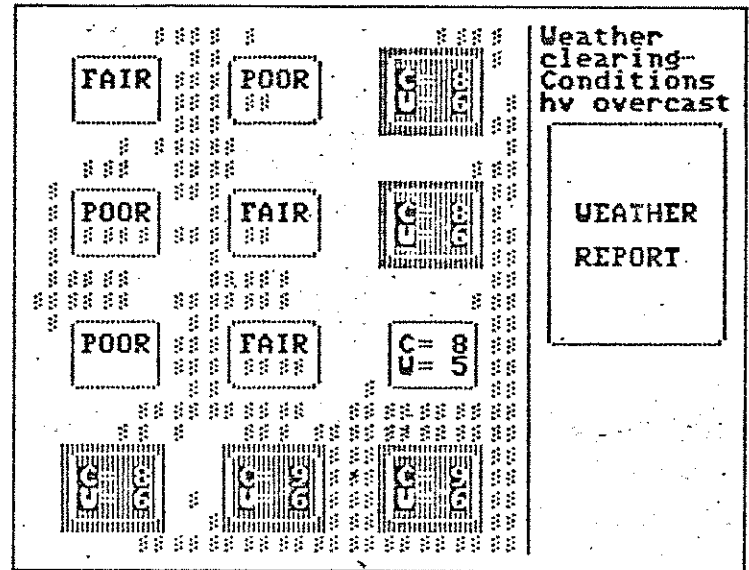


Fig 3

## Menu 8 {Record Summary}

This is an information menu. There are four components to the *Records* display. These menus are accessible by both C-in-C and Air Fleet Commanders. Use the arrow keys to cycle through them.

**Aircraft Status.** This display provides a detailed breakdown of the status of friendly aircraft as well as an estimate of enemy aircraft losses to date. There is only one page to this report. Consider fig 4.

**Airfield Status.** This display provides information on damaged friendly airfields. The command to which they belong, their damage control rating and the current damage level are shown. The report will not appear unless there is at least one damaged airfield. There may be more than one page to this report; use the arrow keys to select the next page. See the end of this section for a note on damage reporting for colour and black and white monitors.

**Friendly Centre Status.** This display provides information on damaged friendly centres. The damage to each facility is reported separately. At the beginning of the scenario, this display is blank. The report will not appear unless there is at least one damaged centre. There may be more than one page to this report; use the arrow keys to select the next page. See the end of this section for a note on damage reporting for colour and black and

(PLANE STATUS)			NO (tr Noon) 0800 hours 18 Aug 1948 Night
OPERN	TOTAL	LOST	
bombers			RECORD SUMMARY
DIVE	159	231	
LIGHT	26	48	
MEDIUM	888	1122	
HEAVY	--	--	
fighters			
SE	472	662	
TE	198	256	
recons			
SR	--	--	
LR	--	--	
REPORTED ENEMY PLANE LOSSES--			
bombers		fighters	8 of 26
DIVE	--	SE	
LIGHT	--	TE	days gone
MEDIUM	--	recons	
HEAVY	--	SR	
		LR	

Fig 4

(DAMAGE CENTRES)				Conditions if overcast
ENEMY				
SWANSEA	(1 +	72	64)	RECORD SUMMARY
*1	-1	=1-SLT	↓1-HVY	
SOUTHAMPTON	(0 +	133	81)	
*2	-2	=1-HVY	↓2-RUN	
BRIGHTON	(0 +	36	5)	
*1	-1	↓1-SLT		
DOVER	(3 +	14	10)	
*1		↓1-HVY		
1 of 26 days gone				

Fig 5

white monitors.

**Enemy Centre Status.** This display lists only those enemy centres against which operations have been conducted to date. At the beginning of the scenario, this display is blank. The information provided lists the reported damage sustained by each facility in the enemy centre, its current recon state, the number of sorties flown against it and the reported tonnage of bombs dropped on the target. (Note that each plane which completes an operation against a centre is a sortie.) There may be more than one page to this report; use the arrow keys to select the next page. See the end of this section for a note on damage reporting for colour and black and white monitors. Consider *fig 5*.

In this example, you can see that Swansea is a minor centre for population, industry, communications and port. Its current recon level is poor (1), 72 sorties have been flown against it to date and 64 tons of bombs have been (reportedly) dropped on the target. The communication facilities are reported to be slightly damaged, the port facilities to be heavily damaged. Population and industry are as yet unaffected. Similarly the port facilities in Southampton are in ruin.

This example shows the way a black and white screen will appear. The colour bars on a colour monitor correspond to the four levels of damage. Green - none, blue - slight, purple - heavy, brown - in ruins.

### Menu 9 {Air Fleet Commander}

This branch menu selects the particular Air Fleet/Fleets commanded by the player. Computer controlled forces are

distinguished by a C. This menu is bypassed if there is only one human player per nationality.

### Menu 10 {Combat Display}

This is a single function menu. Selecting (Y) activates the combat display mode. The results of air-to-air combat, AA fire, bomb runs and radar sightings initiated by a given side are displayed as they occur.

Either or both sides may activate the display.

Each component in the combat display can be activated independently of the others. Use the arrow keys to cycle through the four components in the menu window then type (RET) to switch the display. Consider *fig 6*.

We recommend you turn on all four components of the combat display for your first few games, especially while becoming familiar with the game mechanics. After that, however, turn off all but the radar detection display; you will add heaps more suspense to the game.

(a) **The Intercept (Air to Air) Report** - Axis and Allied aircraft involved in a dog-fight are displayed in the right-hand column. Both the number destroyed (down) and the number damaged are reported. Reports are accurate for aircraft destroyed over friendly territory and less reliable for aircraft destroyed over enemy territory. Note that in the plane losses summary in Menu 8, all friendly losses are accurate, enemy losses less so.

(b) **The After Action Report (AAR)** - This report displays the number of friendly bomber sorties from a particular squadron which reach the target. The number of these aircraft destroyed or damaged by the light AA

COMBAT PAUSES	
air to air combat	<input type="checkbox"/> ON
bomb damage report	<input type="checkbox"/> ON
flak barrage report	<input type="checkbox"/> ON
radar detection	<input type="checkbox"/> ON

COMBAT DISPLAY
IN <sup>CEPT</sup> BOMBING FLAK RADAR

Fig 6

capability of the target is given as is the number of crews to report a successful bombing mission. Whether or not bombing missions were actually successful is another matter.

**The Flak Report** - First of all, don't confuse this report with the light AA casualties inflicted by the target. Flak (heavy AA) reports are given whenever friendly flak hits score (or think they score) against enemy aircraft.

**The Sighting Report** - This report appears whenever enemy aircraft are detected by friendly ground radar installations or observer corps. The information is self-explanatory.

### Menu 11 {0000/1200 Ops Select}

This branch menu is accessed at midnight and mid-day only. It allows each Air Fleet Commander to view his records, view the weather prediction for the next 12 hours, brief his operations, examine his squadrons, and review the operations assigned to all forces belonging to his side. The display screen shows a summary of the orders given by the C-in-C. It cannot be edited. See fig 7 for an example.

### Menu 12 {Strike Ops Select}

This branch menu is used to determine the type of strike to be flown against the enemy. The operations which can be conducted are defined as Recon, Sweep, Harass, Raid and Mission.

LUFTFLOT 2	
Threshold =	1800
Score =	8
Orders--	
Priority (7)	= 6
Missions (4)	= 1
Activity (2)	= 2
Night operations (N)	
Resolute attack (Y)	
Close escort (N)	
Population	mult. targets
Industry	Y
Communications	Y
Ports	Y
Air Fields	Y
Radar stations	Y
Sea lanes	Y
Conditions hv overcast	
COMMAND	
RECORDS	
WEATHER	
OPS	
SQUADS	
TARGETS	
RUN-TIME	
Squads	
Dive BA	2
Light BA	--
Med. BA	22
Heavy BA	--
SE fight	15
TE fight	7
SR recon	--
LR recon	--

Fig 7

### Menu 13 {Set Strike Op}

These are the major action menus of the game. They are used by Air Fleet Commanders to put in motion all their (strike) offensive air operations. They are essentially similar to use although each has its particular purpose and peculiarities. Before explaining the procedure for launching each type of op, we'll present a general description of each together with a guide for their use.

**Recon Ops.** The purpose of a reconnaissance operation is to update the intelligence on enemy centres. Strikes directed against centres on which recent intelligence is available will have a greater chance of success. There are four levels of intelligence; good (3), fair (2), poor (1) and none (0). The intelligence report for each enemy centre appears in the four lines of text above the menu window on the appropriate *Set Strike Op* displays. A single centre is selected and a squadron assigned to recon it. Throughout the day, elements of that squadron will take off to recon that centre together with others centres within a three-hex radius of the target centre. Only squadrons trained for recon ops can be used for this purpose. Recon ops should be flown to an enemy centre on the day *before* a major operation is planned against it.

**Sweeps.** These are offensive fighter patrols and are plotted in the same way as raids. A single squadron is detailed to sweep an enemy facility (at a particular time and altitude). It will fly to that location and patrol for as long as its endurance holds out and then return to base. Fighter and fighter-bomber aircraft only may be assigned to this op. They are best used in conjunction with bombing ops, especially raids and harassments, to provide some fighter protection.

**Harass Ops.** Harassment operations are flown by elements of a squadron against particular target types. For example, a particular *Stuka* squadron may be assigned to harass enemy ports for the day. During the day (or night if the squadron is night trained), elements of that squadron will mount hit and run strikes against the target type selected. The aim of such ops, in addition to the damage inflicted, is to create as much confusion as possible for the enemy fighter controller. Harassment ops may not be flown against population centres. They may be flown against any other target type approved by the C-in-C. Any squadron with a payload greater than 0 can fly this op. They are best used in conjunction with large scale raids and missions.

**Raids.** Raids are flown by single squadrons against particular targets. An Estimated Time of Arrival (ETA) or Time Over Target (TOT) and an approach altitude are set for each squadron. They are the most suitable op for dive-bombers and fighter-bombers as well as shorter ranged light and medium bombers. Any squadron other than recon squadrons with no payload may fly raids. They should be flown in conjunction with fighter sweep ops wherever possible.

**Missions.** These are the most important air op in the game. A number of bomber squadrons, with or without an escort, are grouped together into a single strike directed against a particular facility at an enemy centre. A form up point must be selected, one or two legs can be plotted and an ETA must be set. There are two methods by which the squadrons to participate in the mission can be selected, both of which are described later in this section. The end result, however, is the same. The number of missions available to each command is determined by the C-in-C and it is advisable to use every one of them, weather permitting. They cannot be used later. They are the ideal means of employment for long range, strategic bombers preferably coupled with high performance, long range escort fighters. Always include a pathfinder squadron in the mission if one is available. Any squadron which meets the range requirement may be included in a mission.

#### Availability for Strike Ops.

Daylight strike ops are briefed during the midnight interphase and only day trained squadrons are available for selection. Similarly, night strike ops are briefed during the mid-day interphase and only night trained squadrons are available for selection.

#### Strike Op Procedures.

The procedure for launching a mission will be given first. The other strike ops are more or less shorter variants of the same technique. For the purpose of these explanations, all the examples below are from the *Their Finest Hour*

scenario, first day, midnight interphase.

**Setting a Mission.** On selecting the <MISSION> line from Menu 11, you will be presented with a screen similar to *fig 8*. As instructed in the menu window, the first step is to select a target type.

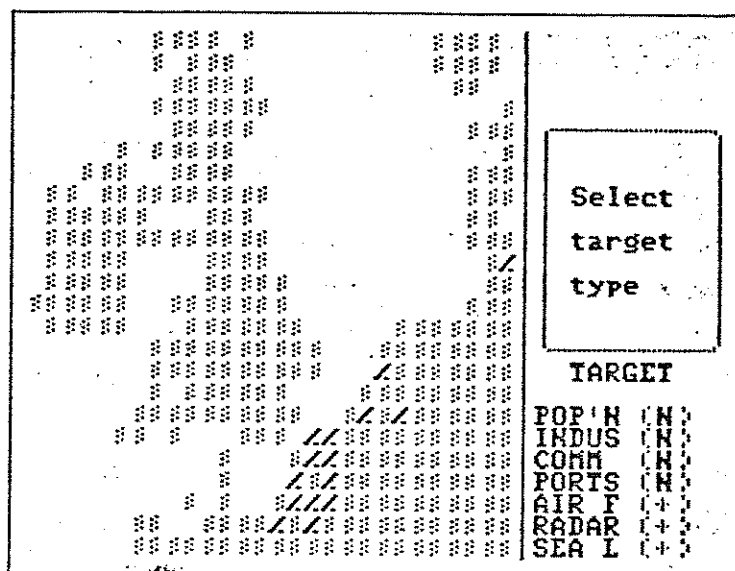


Fig 8

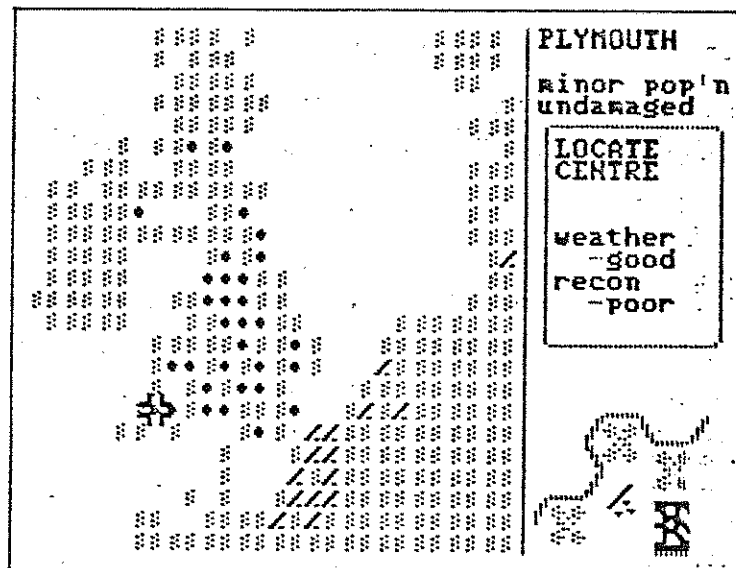


Fig 9

The display screen shows the strategic map upon which is super-imposed the location of your Command's airfields. Below the menu window are listed the possible target

types. Note that airfields, radar stations and shipping lanes are never available as mission targets, and that certain centre facilities (in this example none) may also be denied as potential targets.

In this example we're going to select <POP'N> as the target type. Position the cursor on the <POP'N> line and type (Y)(RET). The display screen now shows, in addition to your Command's airfields, all enemy centres which have a population level greater than 0. The national cursor (in this case the German maltese cross) appears over the first centre, Plymouth, as illustrated by *fig 9*. The four lines of text above the menu window provide information about the centre, the text inside the menu window gives the weather prediction and the recon level and the portion of the tactical map below the menu window shows the hex location of the target centre.

In this example, the plan is to strike London. Use the arrow keys to locate London and type (RET). The next step is to set a form up point for the mission. This point must be over friendly territory. Use the I,J,K,M keys to position the strategic cursor to the location shown in *fig*

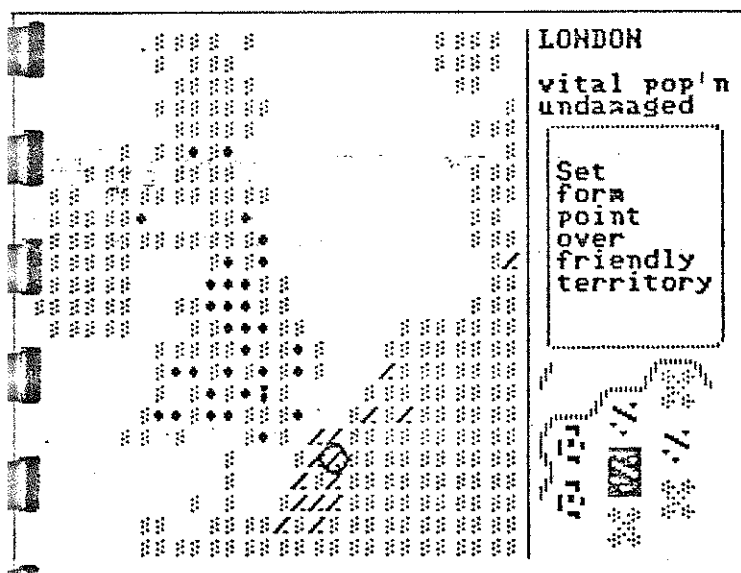


Fig 10

Note that the target centre, London, is now identified by a cute target symbol. As a general rule, it's best to position your form up point somewhere around the geographical centre of your airfield locations, especially for large missions. This way, no single squadron has too far to go to reach the form up point.

Once the form up point is in position, type (RET). An <F> appears inside the strategic cursor and you are instructed to set a first leg. This is not compulsory. You may type

(RET) at this point and the course set for the mission will be a straight line from the form up point to the target. In this example, we are going to plot a first leg. Use the I,J,K,M keys to position the strategic cursor in the location shown in *fig 11* and type (RET).

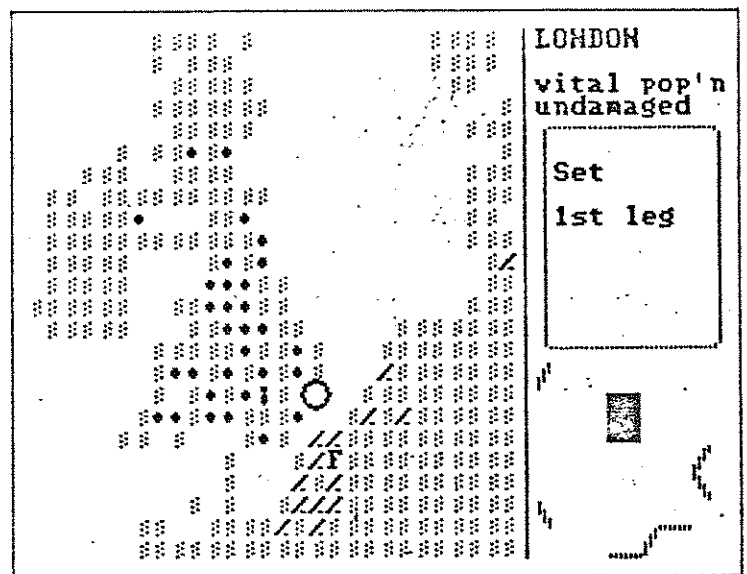


Fig 11

The first leg is set, as indicated by the presence of a <1> inside the strategic cursor, and we have the option of setting a second leg. There is no great need for a second leg in this example as, hopefully, the course plotted will confuse the British fighter defences into thinking we're headed for Norwich or perhaps the Midlands.

Type (RET) and the strategic cursor disappears leaving the form up and first leg points to indicate the projected course. We must now set a *Time Over Target* (or ETA) for the mission. The default value is mid-day (1200 hrs) as shown below the menu window. (If we were setting the mission in the mid-day interphase, the default value would be midnight.)

In this example we will select an ETA of 1000 hrs; i.e. we'll give the British time to eat their muffins before we bomb them to bits. Enter (10) and the screen should look like *fig 12*.

Type (RET) to set the ETA and obtain the mission summary screen. The strategic map has been replaced by a text screen which details the availability or otherwise of fighter and bomber squadrons. Examine *fig 13*.

In this example, *Luftlotte 2* has 23 bomber squadrons and 21 escort (fighter) squadrons available for use in the mission. All of the medium bombers can carry a full payload to the target while the 2 dive bomber squadrons can only carry a quarter payload. There are no squadrons

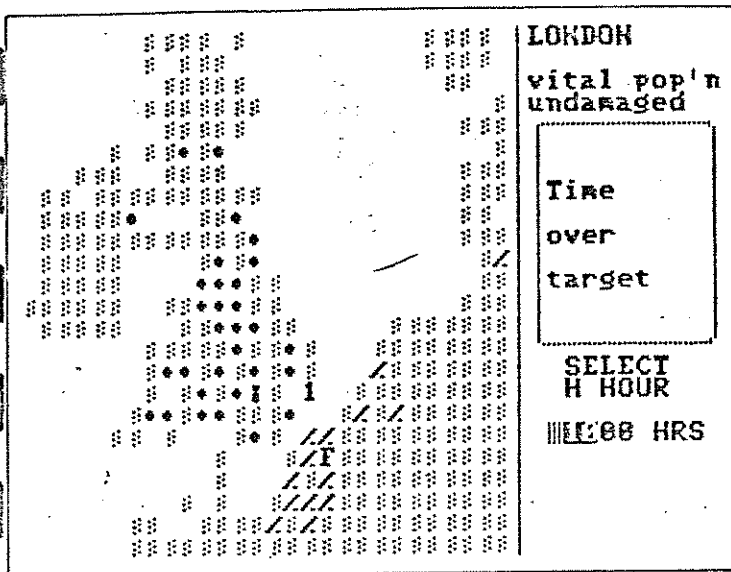


Fig 12

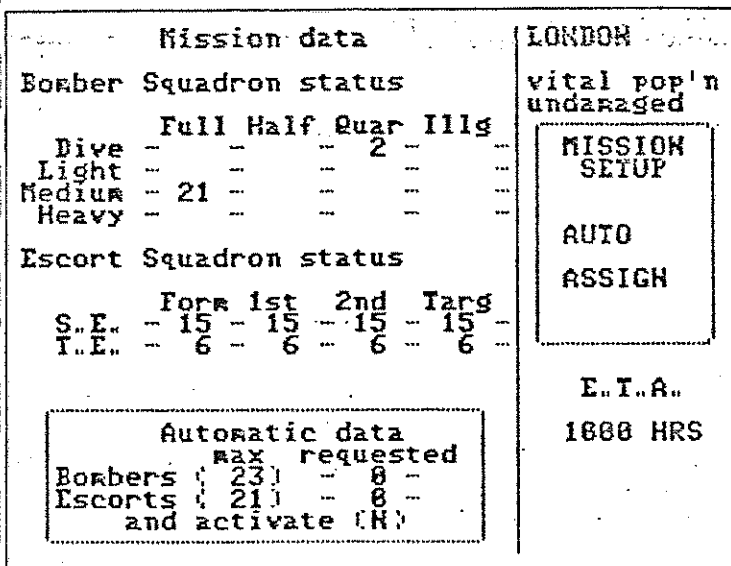


Fig 13

in the Illegal (Illg) column. There are two reasons which can place an unassigned squadron in the illegal column. The first is insufficient range to reach the target and the second is insufficient time to reach the form up point before the mission departs for its target.

Escort squadrons are displayed by type (single and twin engined) and endurance. Endurance is measured by how long the escorts can remain in company with the bombers; i.e. a given escort squadron may be able to reach the form

up point, the first leg plot mark, the second leg plot mark or escort all the way to the target. An escort squadron unable to complete the full mission will turn back for home once its endurance is exhausted. In our example, all 15 SE fighter squadrons and 6 TE fighter squadrons can escort the mission all the way to the target.

There are two methods of allocating squadrons to missions. They are displayed in the menu window. Use the arrow keys to select the chosen method. Using <AUTO> is much quicker and highly recommended for beginners. To use automatic mission selection, position the cursor on the <AUTO> line and type (RET).

The cursor is now flashing in the boxed information display at the bottom of the mission data screen. All that the player need do is decide how many bomber and fighter squadrons he wishes to use in the mission. In this example, we'll send 10 bomber and 6 fighter squadrons. Type (10)(RET) (6)(RET) (Y)(RET).

**Important Note.** Once you have typed (Y)(RET) in the <Activate Mission> line, the mission itself cannot be aborted. All you can do is abort individual squadrons from it. The method for aborting individual squadrons is explained below. Once you have aborted every squadron from a mission, the mission can be re-used. However, at any point prior to activating the mission, you can correct errors or change your mind by typing (ESC/f1) to recover the previous step and re-enter your new decisions.

You can now review the squadrons committed to the mission. The mission data screen has been replaced by the strategic map. The arrow keys are used to cycle through the squadrons assigned to the command. Squadrons assigned to the mission are identified by the word <briefing> appearing under the squadron data. The national cursor indicates the map location of the squadron under review. Consider fig 14.

Squadron 1/KG1, based at Montdidier, is under review. Its plane type is He 111H, it's a medium bomber, its crew is fit, they're veterans, they have no special training skills and they are briefing for the mission just set. Details of the mission appear in the lower part of the display. The distance is 10 (200 miles), ETA is 1000 hrs, a full payload of 7,200 lbs is carried and a total of 16 squadrons have been assigned to this mission. To abort this squadron from the mission, type (RET) then (Y)(RET) in response to the <ABORT> question asked. The default value is (N).

Type (ESC/f1) to complete the mission and recover Menu 11.

The computer does not choose randomly when assigning squadrons to a mission under an <AUTO> order. Bomber squadrons are selected according to the following priority.

- (a) One pathfinder squadron, if available.
- (b) Heavy and/or medium bombers with a full payload.

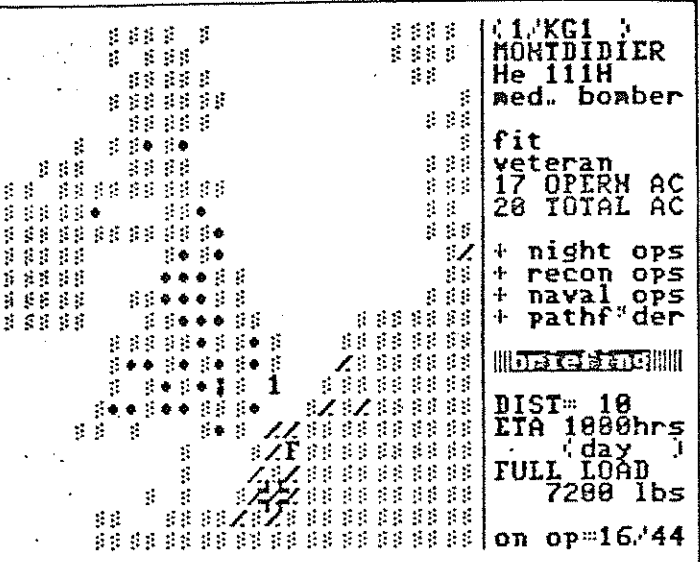


Fig 14

higher altitudes so you risk being bounced in a very vulnerable condition. Selecting lower altitudes will increase the likelihood of interception and Observer Corps detection but may allow you to avoid detection by certain radar sets. Furthermore, the lower the altitude of your bombers then the less room there is for evasive manoeuvring. This will usually result in higher aircraft losses.

You are now given the opportunity to abort the squadron. The procedure for this is the same as the previous method. That's it for missions.

Setting a Raid. Much of the procedure for setting a raid is the same as for setting a mission. Select the <RAID> line from Menu 11 and you will obtain a screen almost identical to fig 8. The one difference is that tactical targets (i.e. airfields, radar stations and shipping lanes) are selectable provided, of course, the C-in-C has not ordered otherwise.

For this example, let's bomb an airfield. Locate the <AIR F> line and type (Y)(RET). Every enemy airbase is displayed on the strategic map and the arrow keys are used to cycle the national cursor through each one. The text above the menu window identifies the airbase while a weather prediction for its location is presented in the menu window itself. There is no recon value for airfields (or radar stations and shipping lanes). They are considered to be reconned for strike purposes at all times.

Biggin Hill is an important sector airfield for Fighter Command so we'll choose it as the target for our raid. Use the arrow keys to locate it. Fig 15 illustrates the resultant screen.

- (c) Heavy and/or medium bombers with any payload.
  - (d) Other bombers with a full payload
  - (e) Any bomber that can make it.
- Priority for fighter squadrons is as follows.
- (a) Fighters which can reach the target.
  - (b) Fighters which can reach the second leg plot mark.
  - (c) Fighters which can reach the first leg plot mark.
  - (d) Fighters which can reach the form up point.
- Other points to note when forming a mission are listed below.
- (a) Fighter-bomber squadrons can only be used in an escort role.
  - (b) Bomber squadrons will usually fly at their optimum altitude. Occasionally they will attempt to sneak in low, especially against port and communication facilities.
  - (c) Fighter squadrons will escort at variable altitudes to provide the best protection possible.

The second method for assigning squadrons will throw you directly into the squadron selection routine. As with the view just made, the arrow keys are used to cycle through the available squadrons. To select a particular squadron, locate its I.D. code with the arrow keys and type (RET).

You are required to select an approach altitude. The default value is the optimum altitude for that plane type and, as a general guide, it's best to leave it as such. Selecting higher altitudes will reduce AA losses and may allow you to sneak past interceptors at a lower altitude. However, flight characteristics deteriorate rapidly at

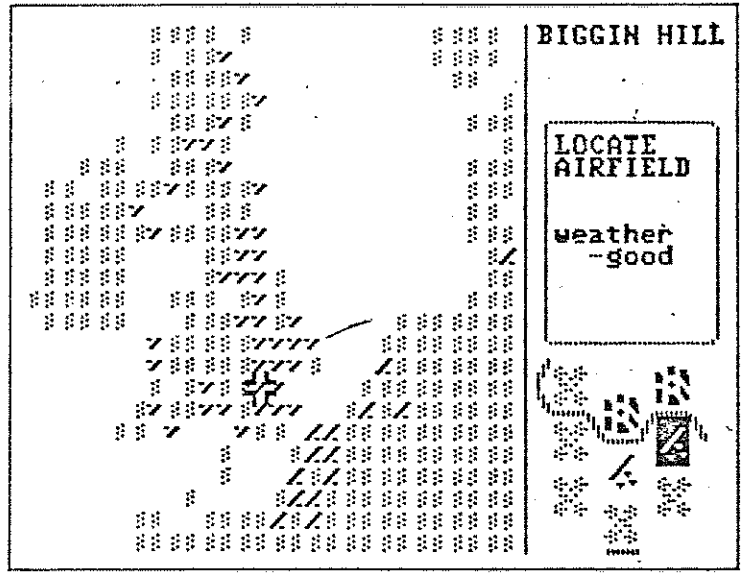


Fig 15





You may type (RET) once the squadron is *briefing* if you wish to abort the sweep.

Fighter squadrons are unavailable for other assignments until their sweeps are completed. Once they have landed, rearmed and refuelled, then they are available for defensive duties; namely intercepts and patrols.

Use sweeps wherever possible as they are the best protection (other than cloudy skies) for raids and harassments. Be careful not to assign too many fighter squadrons, however, lest you run out of interceptors to protect your own targets.

**Setting a Recon.** These are the least exciting, but probably most important strikes of the game. In the absence of current intelligence, strikes against centres will produce dismal results.

Select the <RECON> line from Menu 11. All enemy centres are displayed on the strategic map and the arrow keys are used to cycle the national cursor through them. Only recon centres can be reconned. Locate the chosen centre and type (RET) to enter the squadron selection routine. Only recon trained squadrons are eligible. Use the arrow keys to locate the chosen squadron and type (RET) to assign it to the recon. You may type (RET) once the squadron is *briefing* if you wish to abort the recon.

Recon ops are similar to harassments. Throughout the day, elements of the squadron will continuously recon the chosen centre or any other centre within three hexes of it.

We highly recommend that you prepare all your recon ops before making any other plans for the day. And remember, you really do have to recon a centre the day before you plan an operation against it if you want to get the best results.

### Menu 14 {Squad Status Select}

This branch menu is used select the format in which you wish to review your squadron summary. You may elect to review them by type of strike flown (Ops) or availability (Status).

### Menu 15 {Squadron Report}

Both these menus are information menus.

The <STATUS> of each squadron is displayed by both type and role.

The <OPS> for which each squadron has been assigned are displayed in three categories; recon ops, mission ops, and other (harassments, sweeps and raids) ops.

### Menu 16 {Enemy Target Select}

This branch menu allows a Commander to review a summary of all operations planned by every commander on

his side. Note that computer controlled commanders will issue their orders before human commanders. This menu is accessible during the midnight/mid-day interphase.

### Menu 17 {Review Strike Targets}

This is an information menu. On selecting a strike type from Menu 16 you are presented with a summary of all strikes of that type on the strategic map.

This information is primarily of use when human commanders are attempting to co-ordinate attacks with computer commanders. It should be consulted prior to assigning ops.

### Menu 18 {Run-Time Ops Select}

This branch menu is accessible throughout the day. It allows each Air Fleet Commander to launch intercepts, set defensive patrols, view reports, examine enemy strike plots on the tactical display and view the weather report.

### Menu 19 {Assign Intercept}

This action menu is the means by which friendly fighter squadrons are vectored onto enemy aircraft for the purpose of, hopefully, shooting them down. The proper use of this menu is best explained with the aid of an example.

We are controlling 11 Group of Fighter Command. Three enemy air formations have been detected by and are identified on the screen by miniature maltese crosses. Note that the game stops immediately on every new sighting, whether radar or observer corps unless the radar detection combat key is switched off.

Select Menu 19. The strategic map is displayed showing the position of enemy air formations and friendly airfields. The national cursor has identified one of the enemy air groups and information pertaining to it appears in the right hand column. Enemy air formations will generally be identified as incoming or outgoing. As yet there are no interceptors assigned to this sighting.

Incoming Axis aircraft are identified by a + icon.

Outgoing Axis aircraft are identified by a small plane icon facing to the left of the screen.

Incoming Allied aircraft are identified by a o icon.

Outgoing Allied aircraft are identified by a small plane icon facing to the right of the screen.

All interceptors are identified by a small diamond icon.

Remember that incoming enemy represent a much greater threat than those returning home. Consider *fig 18*.

The enemy air formation is a group of approximately 20 aircraft at 20000 ft and incoming. Use the arrow keys to cycle through the remaining enemy air formations.

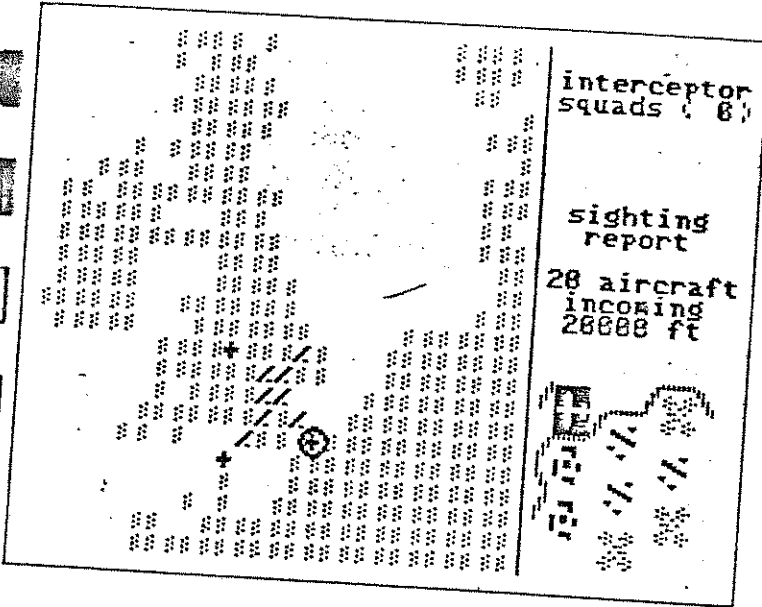


Fig 18

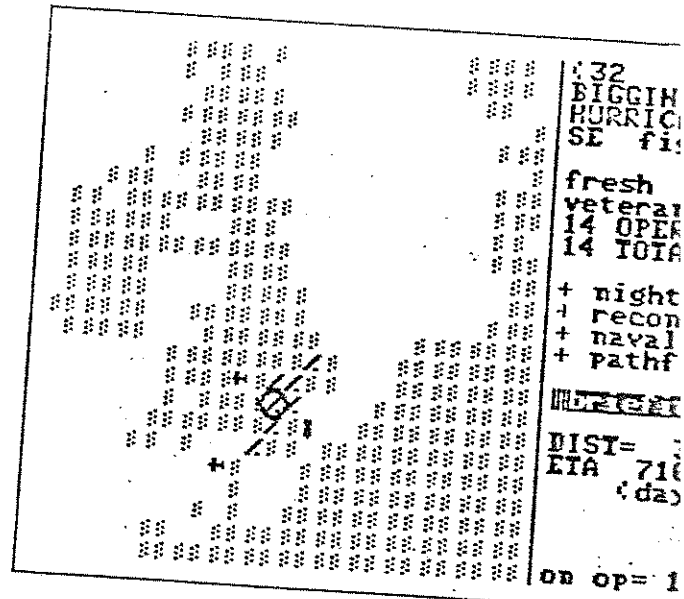


Fig 19

It's hard to guess where they're headed since they are still on their side of the Channel. Rather than exhaust the endurance of our short range fighters, we'll observe them until they come a little closer.

It's best to use the <RUN 5> line (i.e. advance the time by single 5 minute increments) when action is imminent. Within 5 minutes the bogies have crossed the Channel and it's time to *Reach for the Sky!* We select Menu 19 again and locate the same group of enemy aircraft. Type (RET) to select that formation as the target for our interception.

The targetted enemy formation is identified by the target icon while the cursor has moved to the upper right hand column to permit automatic fighter interception. In this example, 12 fighter and/or fighter bomber squadrons are in close (optimum - less than 60 miles) intercept range while a further 8 squadrons are at maximum intercept range; i.e. within 150 miles.

Note that squadrons on patrol are available for intercept assignment.

Continuing with the example, we'll assign one squadron to intercept. Note that the computer will select a close range squadron before one at maximum range. Enter (1) and type (RET) to obtain the squadron data display in the right hand column. Use the arrow keys to cycle through the available squadrons until we locate the assigned squadron as illustrated in fig 19.

The 14 Spitfires of 32 squadron are briefing to intercept. The distance to intercept is 3 hexes (60 miles) and as it will take 10 minutes for the Spitfires to reach the 20,000 ft altitude of the bogies, this squadron is ideally suited to be used. (Consult the Design Manual if you wish to know

more about aircraft characteristics.) Note that the plot does not assign an altitude to an interceptor.

Type (ESC/f1) to confirm the intercept. Type (RET) to access the abort routine.

If you do not wish to use the automatic intercept routine leave the assigned squadron number at (0) and type (RET). The squadron data display appears and the arrow keys are used to locate the desired intercept squadrons. Type (RET) to brief, use the arrow keys to select further intercepts if so desired, then type (ESC/f1) to confirm. The abort routine is accessed by typing (RET) once a squadron briefing.

Defending against a large enemy attack is a nerve wracking experience. We recommend that you use the automatic intercept routine for your first few games.

### Menu 20 {Set Patrol}

This action menu is the means by which friendly fighter squadrons are put on defensive patrol over friendly territory. Patrols are set using exactly the same procedure as used for setting a *sweep*. The differences are that they are placed over friendly centres and facilities and a decision must be made between a standing patrol and a full squadron patrol. Standing patrols are maintained by elements of the squadron from the specified ETA until nightfall or daylight, whichever is applicable. Full squadron patrols protect the area from the specified ETA until their endurance runs out.

Standing patrols are a general precaution while full squadron patrols should be used when serious enemy

action is all but certain.

Note also that patrols may be set at any time throughout the day while sweeps are set only at midnight and mid-day. As a general rule, offensive operations require much greater preparation and briefing time.

A defensive patrol may be converted to an intercept at any time. When using the intercept menu (Menu 19), squadrons available for use include any on defensive patrol and within range. Be careful not to confuse patrolling squadrons with those awaiting orders on the ground.

### Menu 21 {Squadron Report Select}

This branch menu is accessible throughout the day. It divides squadrons into convenient categories for detailed examination. These categories are -

- (a) **Available.** All fighter and fighter-bomber squadrons waiting an intercept or patrol assignment.
- (b) **Active.** All fighter and fighter-bomber squadrons currently in the air on intercept or patrol assignments.
- (c) **Outgoing.** All strike squadrons (i.e. those with mission, raid, harassment, sweep or recon assignments) currently in the air and which have not as yet reached their targets.
- (d) **Returning.** All squadrons which have completed their assignment or run out of endurance, whether offensive or defensive, and have not as yet landed and become available for a further assignment.
- (e) **Stood Down.** All squadrons which have been given rest and recuperation orders for this 12 hour period. These squadrons are not available for any combat purpose.

### Menu 22 {Examine Squadron}

This information menu provides detailed information on each squadron, including such combat information as number of aircraft lost and/or damaged and the particulars of their current assignment.

Select the category (from Menu 21) you wish to examine and type (RET). The arrow keys are used to cycle through all the squadrons in that category.

### Menu 23 {View Enemy Flight Paths}

This information menu is used to assess the likely intentions and flight paths of enemy air formations.

On selecting this menu, the national cursor appears in the centre of the strategic map. Use the I,J,K,M keys to move the cursor to the part of the map you are interested in and type (RET) to obtain the tactical map. Fig 20 shows the flight path of an enemy air formation.

Every 15 minutes the flight paths are cleared to minimize

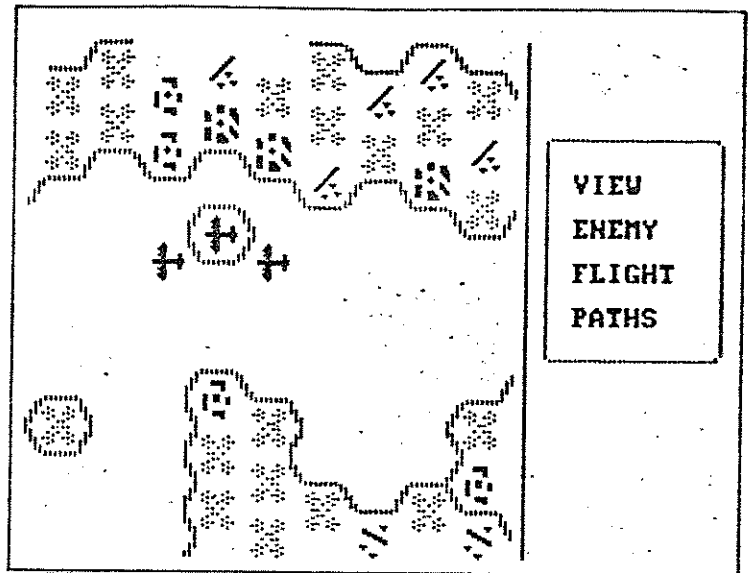


Fig 20

the likelihood of multiple flight paths producing confusion.

Be aware, however, that during periods of feverish activity in a single area, there will be inevitable confusion created. You will understand pretty quickly why so many ground controllers got ulcers.

## 5. THE COMPUTER'S ROLE

### 5.1 General Administration.

In addition to resolving combat, the computer performs a large number of administrative functions at regular intervals throughout the day.

**Fatigue and Recovery.** Every assignment given to a squadron will increase the fatigue level of its pilots/crews. The size of this increase is related to the type of plane, type of assignment, amount of combat and pilot/crew skill. Available and stood down squadrons are eligible for fatigue recovery. Stood down squadrons (i.e. those given leave) recover at a much faster rate.

**Promotion.** There are three levels of pilot/crew skill in the game - veteran, experienced and trained. As a result of combat, there will be a steady loss of the more skilled pilots, especially over enemy territory where pilot/crew recovery is almost non-existent. To replace these men, a variable proportion of trained pilots/crew will be upgraded in skill. During periods of fierce combat, the overall level of pilot/crew competence will usually fall, most markedly when the bulk of the action is over enemy territory.

**Reinforcements.** There are no reinforcements as such in the game. Squadrons which are to become operational during the course of a scenario begin the game without aircraft and/or with maximum fatigue. They use the general replacement and recovery procedures to bring themselves up to strength.

**Fog and General Mishaps.** The prevalence or otherwise of fog is dependent upon the season, current weather, time of day and proximity to the coast. Aircraft attempting to take off from a fog-bound airfield may be delayed from doing so until the fog clears. Too long a delay may result in the assignment being cancelled. Aircraft attempting to land on a fog-bound airfield will be diverted to nearby fog-free airfields. This will result in a longer period elapsing before the squadron is again available for assignment.

Throughout the course of WWII, the number of aircraft and crew lost in accidents was at least equal to the number lost in combat and to reflect this the computer is continually analysing the status of each squadron to determine if any calamity has befallen. Causes of accidents include take-offs, landings, running out fuel, magneto drop, sneaking off to Switzerland or Sweden and just plain bad luck. The likelihood of such misfortunes is dependent upon a myriad of factors, including crew experience and special training, weather, fatigue, time of day and, again, luck.

Not every accident results in the loss of plane and crew; in fact most result in a damaged aircraft and an intact crew. The number of damaged aircraft on a squadron's roster is calculated by subtracting the number of operational aircraft from the total aircraft number.

**Aircraft Repair.** Damaged aircraft are continually being repaired throughout the day by the squadron's ground personnel. Each midnight and mid-day interphase, repaired aircraft are added to, and cannibalized aircraft removed from, a squadron's operational roster.

Repairs are at their speediest when a squadron is stood down. All of the ground personnel are used to get the corks back on deck.

## 5.2 Victory Determination

There are two ways to win in *Europe Ablaze*. The C-in-C's victory points are the sum (positive or negative) of his Commanders' achievements. The side with the highest C-in-C total is the side that wins the scenario.

However, the Commander (on either side) with the highest individual number of points is the player who wins the game.

A player must have a positive point total to get any kind of victory.

Note that a game ended earlier than the established

scenario end point by the use of Menu 3 (End Game Utility) will access the same victory routine as a game ended by the expiry of time.

Victory points are awarded to Air Fleet Commanders for the destruction of enemy aircraft and the successful bombing of enemy targets. Bonus victory points are achieved by exceptionally effective bombing missions.

A C-in-C's victory point total is the sum of his Air Fleet Commanders' totals, with any negative scores counting double. Furthermore the C-in-C receives the victory points awarded for the destruction of enemy aircraft by flak units.

## 5.3 Miscellaneous Matters

**Transfers.** Operational transfers, in general, fall outside the scope of the game; the scenarios are too short to bother with them. Tactical transfers, however, such as *shuttle* strikes (i.e. England to Italy and back again) and fighter staging (as practised by the *Luftwaffe* in 1944-1945) proved too costly in memory for the benefit they could add to the game.

**Squadron Size.** In the third scenario there are some 6,500 aircraft. To organize them into the 255 squadrons allowed has meant some squashing. For example, a US heavy bomb group contains 4 squadrons, each of 16 aircraft. We have combined them into 2 half bomb groups of 31 aircraft each.

**The Orders of Battle.** Complete OB information is always hard to find and much of what is available is conflicting. German sources, especially for the later scenarios, is sketchy. We are fairly confident that our unit ID's and plane types are correct. Exact numbers and, to a lesser extent, precise locations are less certain. If you can find more accurate information, use it - and let us know.

**Mistakes.** We've just found this one. It's not serious, but could be a bit confusing to novice scenario designers. When you are creating a new map, use the <CLEAR DATA> routine before the <CLEAR MAP> routine. If you don't you will find the facilities from the old scenario will appear on the new map until you replace them with new facilities.

## 6. THE SCENARIOS

There are three historical scenarios included with the game system. The inside surfaces of the game album give a brief resume of the situation they cover. We have not included a detailed listing of available air assets in this manual since (as you will have discovered) complete OB information is available to the players via Menus 5, 6, 8,

14 and 21 as well as a thorough examination through the Design Manual.

The threshold values for each command have been calculated to give each Air Fleet Commander an equal chance for victory. The best chance to win big is, of course, with a major command - conversely, you won't come last playing Coastal Command.

## 7. DESIGNER'S NOTES

Well, we are only three months late with *Europe Ablaze*. Which is a whole lot better than the seven month delay with *Carriers at War*. At this rate we might even get *Road to Appomattox* out on time - but I doubt it!

We have trouble leaving good enough alone. What started out as an operational simulation of the strategic air war in Europe has ended up, in addition, as a game with a huge number of subtle tactical options. The wide variety of assignments, target diversity and the relationships between them will provide enough work for even the most

dedicated gamer.

In fact, it was this combination of strategic and tactical decision making that led us to experiment with the two-level command structure.

By taking the C-in-C's role, you can direct an air offensive without issuing orders to a single plane. Conversely you can direct, in intimate detail, the operations of a component of that air offensive by taking a Commander's role.

Or you can do both and try to run everything. If you're a glutton for punishment, then this is a job for you.

One very important piece of advice. Trust the computer to be a worthwhile ally in either a defensive or offensive role. You can be pretty sure it won't let you down - we just hope you don't let the computer down!

Roger Keating

Eric Baker

Ian Trout

Sydney, Australia

1985

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STRATEGIC STUDIES GROUP PTY LTD

336 Pitt St, Sydney, 2000.



# EUROPE ABLAZE

The Air War Over England and Germany 1939-1945

## DESIGN MANUAL

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## 1. INTRODUCTION

By the time you get around to reading this booklet you should have some idea of how the game works and what we are attempting to simulate.

Like any new thing, creating your first original scenario, even a scenario variant, is a time-consuming and no doubt confusing experience. It will be next to impossible if you haven't at least played the introductory tutorial. We further recommend that you play the historical scenarios two or three times as well. The more you know about the game, the more self-explanatory will be the design routines. Those of you who have used the design routines from our first historical simulation *Carriers at War* will find them just about identical to those used in *Europe ablaze*.

## 2. USING THE DESIGN MENUS

Examine the back page of this booklet. It is a schematic display of the design menus. They operate in the same way as the Start and Game menus you are already familiar with.

Boot your disk and select Menu J from the Start menus. This is the master menu from which all the design menus depend.

The design menus are grouped into four main categories.

(a) **Branch Menus** (No's 3,4,13). No editing of these menus is possible. They signpost the route to other menus.

(b) **Direct Function Menus** (No's 2,6). These menus perform a single function upon being selected.

(c) **Direct Edit Menus** (No's 1,5,7,8,9,10,11,12). These menus are used for editing a *once only* routine. The relevant section in the Design Handbook describes their use.

(d) **Create Menus** (No's 14,15,16,17,18,19,20). The general procedure for editing a create menu is explained below.

**NUM** - This is the number you allocate to an item.

**CLEAR** - This will clear the display screen.

**LIST** - This will give you a look at all the items of this type you have created so far.

**LOAD** - This will load into the display screen whatever data (if any) has already been assigned to that particular **<NUM>**.

**EDIT** - This will throw the cursor into the display screen. Use (RET) to cycle through the values, entering data as appropriate. The (UP) arrow key will move the cursor in

the opposite direction. Type (ESC/f1) to go back to the menu window from the display screen.

**SAVE** - Select this when you are happy with the data you have entered in the display screen. Note you will still need to save everything to disk before switching off your computer.

**MAP** (Menus 16-20) - Certain facilities in the game must be located on the map. The x and y values can be entered using the **<EDIT>** routine described earlier OR the **<MAP>** routine can be utilized instead. Type (Y)(RET) to obtain the strategic map. Use the I,J,K,M keys to position the strategic cursor in the approximate location and then type (RET) to obtain the tactical map. Position the tactical cursor in the exact hex and type (RET). The x and y values will be entered in the display screen.

## 3. PREPARING A DISK

Whether making a variation to an historical scenario or creating an original scenario, the procedure for preparing a scenario disk is essentially the same. Examine the Start and Design menus.

When making a change to an historical scenario, select the **<CREATE>** line from Menu A and type (Y)(RET) to obtain Menu I. Select the scenario you intend to modify and type (Y)(RET) to obtain Menu J (the Master Design menu).

Select the **<DISK>** line to obtain Menu 1 and then select the **<INIT>** line. Type (Y)(RET) and follow the instructions on the screen until the initialization procedure is complete. (You can omit the initialization procedure if you have already prepared an initialized save game disk.)

Select the **<EDIT>** line and type (Y)(RET) to enter the screen display. Position the cursor on the **<SAVE>** line of the first empty location and type (Y)(RET). Enter a comment at your discretion (up to 17 characters) and type (RET). The scenario variation has been flagged as a creation file.

Type (ESC/f1) to go back to Menu J. Select the **<CREATE>** line and edit the menus you wish to modify. When you have completed the scenario variation, go back to Menu 1 and *resave* in the same location. The modified scenario is ready for play. Simply select the **<LOAD>** line on the display screen corresponding to the modified scenario's location and type (Y)(RET). Select the **<GAME>** line when prompted and that's it. Or you can use the procedure on the menu data card.

When you wish to create an original scenario, repeat the above procedure but before entering data use the **<CLEAR>** line in Menu J to erase the map and/or data bases.

## VARYING A SCENARIO

Before attempting to create an original scenario, it's a good idea to make a few simple changes to an historical scenario to get the feel for the design mechanics. The following example together with some screen illustrations will show you how.

In 1935, Generals Wever (Chief of Staff) and Milch (Secretary of State for Air), proposed the creation of a strategic bomber force for the *Luftwaffe*. Both Dornier and Junkers produced prototypes, the latter being much superior.

Unfortunately for the Allies, this project was abandoned soon after Wever's accidental death and Milch's falling out with Goering. The Ju89 four-engined heavy bomber never saw action in its intended role, the pre-production models being used as transports.

This scenario variation postulates that the *Luftwaffe's* heavy bomber programme had been more resolutely carried out and that a *Kampfgeschwader* (KG) was operational by August 1940 and available for use against England in the 'Battle of Britain'.

Follow the directions for changing an historical scenario from the previous chapter (using the 'Their Finest Hour' scenario as the base) until you reach the point where a comment to identify the scenario can be entered. Type in (WEVER'S PLAN) then (RET).

Fig 1 illustrates what should be on your screen.

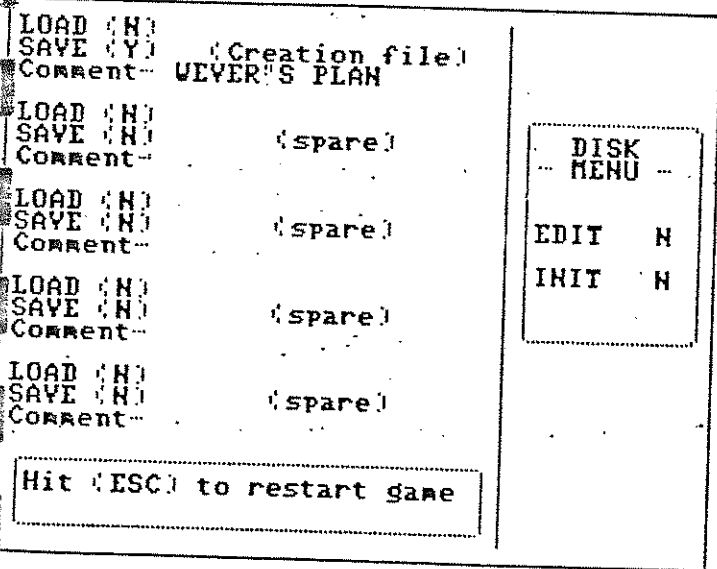


FIG 1

Type (ESC/f1) to go back to Menu J from the design menus. Select <CREATE> and type (Y)(RET) to obtain Menu 3. Select <DATA> and type (Y)(RET) to obtain Menu 13.

The first thing we will make is the Ju89 itself. Select <PLANES> and type (Y)(RET). A blank plane creation display awaits your attention. Select <LIST> and type (Y)(RET). The creation display is replaced with a list of all the plane types in the scenario. There is no plane type 37. We will use this number for the Ju89. Type (ESC/f1) to go back to the plane creation display.

Select <NUM> and type (37). Select <EDIT> and type (Y)(RET) to enter the plane creation display. Type in this data (Ju89)(RET) (2)(RET) (6)(RET) (170)(RET) (46)(RET) (19)(RET) (12)(RET) (15)(RET) (9)(RET) (2)(RET) (4)(RET) (0)(RET) (4)(RET) (3)(RET) (2)(RET) (0)(RET) (N)(RET) (N)(RET).

The cursor should have returned to the top of the display and your screen should look like that illustrated by fig 2. If it does, type (ESC/f1) to exit the display. Otherwise, try again.

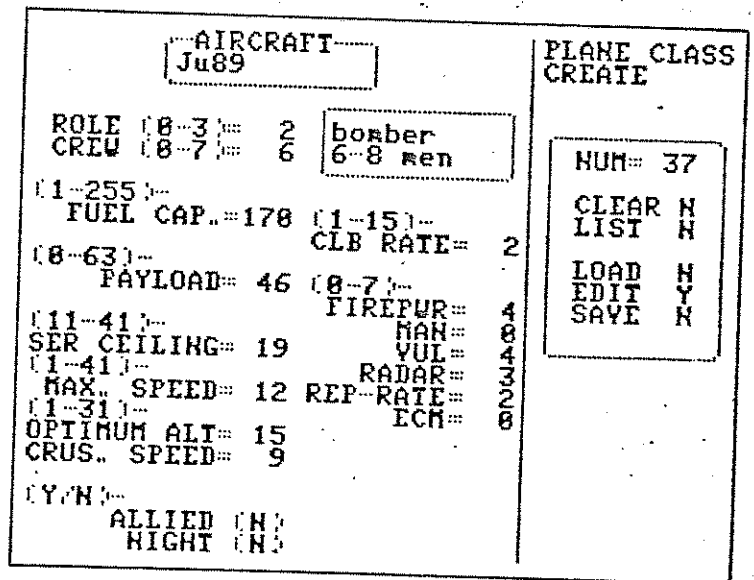


FIG 2

Select <SAVE> and type (Y)(RET). If you don't do this, the data entered for the Ju89 will be lost!

The next step is to create the squadrons which will fly the new plane. Type (ESC/f1) to go back to Menu 13. Select <SQUADS> and type (Y)(RET) to obtain a blank squadron





**OCEAN HEXES (T1)** - Type (T1) to create an ocean or lake hex. Coastal hex-sides are entered automatically where appropriate. The default hex on a blank map is an ocean hex. Ocean hexes are treated as neutral territory for game purposes.

**LAND HEXES (T2-T3)** - Each land hex must be identified as Axis or Allied. Thus (T2)=Axis land, (T3)=Allied land. hex-side border will be created automatically between Axis and Allied hexes. Observer Corps detection is not possible over enemy territory and pilot recovery rates are much improved in friendly territory. Note that facilities such as centres, airbases, radar stations etc, are not entered by this routine but rather placed by the computer once they have been built up in their appropriate location routines.

**RIVER HEX-SIDES (S1-S3)** - River hex-sides may be created between any two land hexes. They play an important role in navigation and target location. Type (S1)-(S3) to build north, north-eastern and/or south eastern hex-sides respectively. Note that the south hex-side of one hex is the north hex-side of the hex directly below it. In this way, all 6 hex-sides can be edited. Type (S0) to clear all hex-sides from a particular hex.

The terrain elements on the strategic map are built up as a consequence of the topography of the tactical map. The priority given to the strategic display is facilities, land, ocean.

## 5.21 Plane Class Creation {Menu 14}

This routine is used to define the characteristics and performance of the various aircraft types employed in the scenario. Examine *Appendix A* for a completed example. A maximum of 37 aircraft types may be created per scenario.

**PLANE NUMBER** - Assign a number from 1-37 to the aircraft type. Each aircraft type must have a different number assigned to it.

**PLANE TYPE** - Enter any combination of letters or numerals (to a maximum of 11) which will distinguish the aircraft (e.g. Hurricane I).

**COMBAT ROLE** - Enter the primary role for which the aircraft was designed. 0=fighter, 1=fighter-bomber, 2=bomber, 3=recon.

**CREW NUMBER** - Enter the usual crew size for the aircraft type. 0=no crew (i.e. pilotless plane or rocket), 1=one man crew, 2=two man crew, 3=three man crew, 4=four man crew, 5=five man crew, 6=six to eight man crew, 7=nine-plus crew members.

**FUEL CAPACITY** - This value measures the length of time a plane type with minimum combat loading can remain airborne. The unit of measurement is a five minute time period. To calculate the value, divide the maximum operational range (in miles) of the aircraft by its cruising speed (in mph) and multiply the result by 12. The maximum value is 255 (21.5 hours) and the minimum value is 1 (5 minutes). Note that any value under 12 would be completely useless in practice.

**PAYLOAD** - This characteristic is measured in increments of 300lbs of bombs. For example, a payload of 10,000lb has a value of 34. The maximum value which can be entered is 63. Aircraft without a bombing capability are given a value of 0. Round up any fraction.

**SERVICE CEILING** - Enter the service ceiling (maximum operable altitude) for the aircraft type. The unit of measurement is '000ft. The maximum value is 41 (41,000ft) and the minimum value is 11 (11,000ft).

**MAXIMUM SPEED** - Enter the aircraft's maximum speed. The unit of measurement is hexes per hour. Note that each hex is 20 statute miles across. To calculate the value, divide the maximum speed of the aircraft by 20. The maximum value is 41 (820 mph) and the minimum value is 1 (20 mph). Round off fractions to the nearest value.

**OPTIMUM ALTITUDE** - Enter the altitude at which the aircraft achieves its maximum speed. The unit of measurement is '000ft. The maximum value is 31 (31,000ft) and the minimum value is 1 (1,000ft).

**CRUISING SPEED** - Enter the aircraft's most economic air speed. The unit of measurement is hexes per hour. To calculate the value, use the same formula as that used to determine maximum speed. The maximum value is 31 (620 mph) and the minimum value is 1 (20 mph). Round off fractions to the nearest value.

**CLIMB RATE** - This value measures the time taken for an aircraft to gain altitude. The unit of measurement is '000ft per five minutes. The maximum value is 15 (15,000ft/5 mins) and the minimum value is 1 (1,000ft/5 mins).

**FIREPOWER** - This characteristic measures the quality and quantity of the aircraft's armament. Generally 1 point is awarded for every 1-2 fixed forward guns and/or 2-6 flexible guns. The value obtained is modified (+/-1) by the suitability of the aircraft as a firing platform and/or the type of mounting provided for the flexible guns. The maximum value is 7. Only unarmed aircraft should be given a value of 0.

**MANOEUVERABILITY** - This characteristic measures the aircraft's agility primarily through an evaluation of wing loading. In general the lower the wing loading the more manoeuvrable the aircraft will be. Pilot reports and comments, where available, are also a useful source

of information. The maximum value is 7. The minimum value is 0.

**VULNERABILITY** - This characteristic measures the protection afforded the crew, the fuel tanks and other vital equipment as well as an overall estimate of the airframe's structural soundness. The maximum value is 7. The minimum value is 0.

**RADAR** - This characteristic measures the effect of any electronic assistance afforded the aircraft. In the case of fighters, the value represents their ability to electronically detect enemy aircraft, including any assistance afforded by Ground Controlled Interception (GCI) facilities. In the case of bombers and recons, the value represents their ability to electronically locate their ground target, again incorporating any ground-linked facilities; for example *Oboe* and *X-gerat*. The maximum value is 7. The minimum value is 0. As an aid to design, *Appendix B* is our evaluation of WWII airborne and ground radar systems formatted into game terms.

**REPLACEMENT RATE** - This characteristic measures the number of aircraft of each type available each day as reinforcements. 0=1 plane/4 days, 1=1 plane/2 days, 2=1 plane/day, 3=2 planes/day, 4=4 planes/day, 5=8 planes/day, 6=16 planes/day, 7=32 planes/day.

**ECM** - This characteristic measures the extent of any electronic counter-measures available to the aircraft. It represents their ability to avoid detection by electronic instruments. This value has nothing to do with ground based counter-measure systems. Again, *Appendix B* is our evaluation of such equipment in game terms. The maximum value is 7. The minimum value is 0.

**ALLIED** - (Y)es or (N)o.

**NIGHT** - Is the aircraft designed to operate primarily at night? (Y)es or (N)o.

## 5.22 Squadron Creation {Menu 15}

This routine is used to assign the aircraft types created in the previous section to their historical organizations. Examine *Appendix A* for a completed example. Up to 255 individual squadrons may be created, each one of which can accommodate up to 31 aircraft. All aircraft in a particular squadron must be of the same type.

**SQUADRON NUMBER** - Assign a number from 1-255 to the squadron. Each squadron must have a different number assigned to it.

**SQUADRON IDENTIFICATION** - Enter any combination of letters or numerals (to a maximum of 6) which will distinguish the squadron (e.g. 3/KG54).

**AIRCRAFT TYPE** - Enter the <NUM> corresponding to the aircraft type created in the previous routine.

**OFFICIAL ESTABLISHMENT** - Enter the maximum number of aircraft which may be assigned to the squadron. This number is usually the historical squadron size. The maximum value is 31. The minimum value is 1.

**INITIAL ESTABLISHMENT** - Enter the number of aircraft (operational or otherwise) to be assigned to the squadron at the start of the scenario. The maximum value is 31. The minimum value is 1.

**VETERAN PILOTS/CREWS** - Enter the number of veteran pilots or crews in the squadron. A veteran pilot is an 'ace' (5+ kills). A veteran crew has completed 15+ bombing missions.

**EXPERIENCED PILOTS/CREWS** - Enter the number of experienced pilots or crews in the squadron. An experienced pilot has combat experience. An experienced crew has completed 3-15 bombing missions.

**FATIGUE** - This value measures the level of exhaustion/strain on the squadron's combat and ground personnel. Enter a number between 0 and 7. 7=bright-eyed and bushy tailed, 0=too tired to stand.

**NIGHT OPERATIONS** - Is the squadron trained and equipped for night operations? (Y)es or (N)o.

**RECON OPERATIONS** - Is the squadron trained and equipped for reconnaissance operations? (Y)es or (N)o.

**NAVAL OPERATIONS** - Is the squadron trained and equipped to attack shipping? (Y)es or (N)o. Note that naval operations performed at night are minelaying operations.

**PATHFINDER SQUADRON** - Is the squadron especially trained and equipped to locate ground targets? (Y)es or (N)o.

## 5.23 Airbase Creation {Menu 20}

This routine is used to establish airfields. Examine *Appendix A* for a completed example. A total of 127 airfields may be created for each scenario. Any number of airfields may be located in the same hex.

**AIRFIELD NUMBER** - Assign a number from 1-127 to the airfield. Each airfield must have a different number assigned to it.

**NAME** - Enter any combination of letters or numerals (to a maximum of 11) which will distinguish the airfield (e.g. Biggin Hill).

**LOCATION** - Enter the x and y map values of the airfield. These can be obtained from a reference to your draft map or by using the MAP option in the menu. The range of values is: x:0-41, y:0-35.

**THEATRE/COMMAND** - Up to 5 separate commands per side can be created for each scenario. These commands are essentially independent from each other. Each airfield

must be assigned to a particular command. 1=theatre 1....  
5=theatre 5.

**ASSIGNED SQUADRONS** - Enter the <NUM>'s of the squadrons which are to be assigned to this airfield. The number of squadrons assigned to the airfield cannot exceed four.

**DAMAGE STATUS** - This value measures the degree of damage currently sustained by the airfield. 0=inoperable, 1=5=pristine. Air operations are seriously affected by damage levels below 10 and almost impossible when the damage level is below 5. Furthermore, aircraft may be temporarily prevented from launching by any damage level.

**DAMAGE CONTROL** - This value measures the experience and effectiveness of the airfield's personnel in repairing damage to their airfield. 0=hopeless, 1=adequate, 2=good, 3=excellent.

**SEALED** - Is the airfield an all-weather surface? (Y)es or (N)o.

**ALLIED** - (Y)es or (N)o.

## 5.24 Centre Creation {Menu 19}

This routine is used to create the various types of centres available to each side as targets. Examine *Appendix A* for a completed example. Up to 63 centres may be created. However, only one may be deployed in each hex.

**CENTRE NUMBER** - Assign a number from 1-63 to the centre. Each centre must have a different number assigned to it.

**NAME** - Enter any combination of letters or numerals (to a maximum of 11) which will distinguish the centre (e.g. Birmingham).

**LOCATION** - Enter the x and y map values of the centre. These can be obtained from a reference to your draft map or by using the MAP option in the menu. The range of values is x:0-41, y:0-35.

**POPULATION SIZE** - This value measures the population density of the centre. 0=insignificant, 1=minor, 2=major, 3=vital. A vital population centre is no larger than a major centre but rather is one of especial importance in the particular scenario. More victory points are awarded for the destruction of vital centres than major centres.

**INDUSTRY** - This value measures the industrial capacity of the centre. 0=insignificant, 1=minor, 2=major, 3=vital. A vital industrial centre is no larger than a major centre but rather is one of especial importance in the particular scenario. More victory points are awarded for the destruction of vital centres than major centres.

**PORT FACILITIES** - This value measures the extent of port facilities at the centre. 0=none, 1=minor, 2=major,

3=vital. A vital port facility is no larger than a major port facility but rather is one of especial importance in the particular scenario. More victory points are awarded for the destruction of vital port facilities than major port facilities.

**COMMUNICATIONS** - This value measures the importance of the road, rail and/or river transportation facilities in or close by the centre. 0=insignificant, 1=minor, 2=major, 3=vital. A vital communications centre is no larger than a major centre but rather is one of especial importance in the particular scenario. More victory points are awarded for the destruction of vital centres than major centres.

**ALLIED** - (Y)es or (N)o.

## 5.25 Radar Station Create {Menu 18}

This routine is used to create the radar station facilities available to each side. These radar stations are ground installations designed to detect enemy aircraft. Don't confuse them with the radar rating assigned to plane types. Examine *Appendix A* for a completed example. Furthermore, *Appendix C* lists by nationality the major ground radar installations in use throughout WW2. Up to 63 stations may be created and there is no restriction on the number which may be placed in each hex.

**STATION NUMBER** - Assign a number from 1-63 to the radar station. Each radar station must have a different number assigned to it.

**TYPE** - Enter a single letter or number to distinguish the type of station (e.g. F for *Freya* sets, W for *Wurzburg* sets). Note that the <NUM> assigned to the station will appear after the type designation to facilitate identification.

**LOCATION** - Enter the x and y map values of the radar station. These can be obtained from a reference to your draft map or by using the MAP option in the menu. The range of values is x:0-41, y:0-35.

**MINIMUM DETECTION ALTITUDE** - This value measures the minimum altitude at which the radar station is operational. The station will not detect aircraft below this altitude. The unit of measurement is '000ft. The maximum value is 15 (15,000ft). The minimum value is 1 (1,000ft).

**MAXIMUM DETECTION ALTITUDE** - This value measures the maximum altitude at which the radar station is operational. The station will not detect aircraft above this altitude. The unit of measurement is '000ft. The maximum value is 41 (41,000ft). The minimum value is 1 (1,000ft).

[Note that if you enter a *greater* minimum detection altitude than maximum detection altitude, then very peculiar results will occur!]

**DETECTION RANGE** - This value measures the distance (in hexes) out to which the radar station is operational. The maximum range is 8 hexes. The minimum range is 1 hex.

**RELIABILITY** - This value is a subjective assessment of the quality of the equipment and the competence of its users. 0=hopeless, 1=adequate, 2=good, 3=excellent.

**DAMAGE STATUS** - This value measures the degree of damage currently sustained by the radar station. 0=inoperable, 15=undamaged. Detection is seriously affected by damage levels below 10 and not possible when the damage level is below 5.

**DAMAGE CONTROL** - This value measures the experience and effectiveness of the radar station's personnel in repairing damage to their equipment. 0=hopeless, 1=adequate, 2=good, 3=excellent.

**360 SCAN** - Most ground radars of this period could detect aircraft at any direction from their origin. Some could not and in these cases it was necessary to deploy several in order to get a full coverage. The most notable examples were the British Chain Home radar sets. Rather than assign an arc of detection (and use huge amounts of memory handling some nasty programming problems), radar stations defined as unable to scan 360 degrees will only detect aircraft over neutral and enemy territory. In practice, this solution works very neatly. (Y)es or (N)o.

**ALLIED** - (Y)es or (N)o.

## 5.26 Shipping Lane Create {Menu 17}

This routine is used to create the shipping lanes used by each side. They are a subjective measure of the relative importance of certain hex paths in channelling merchant shipping. Examine *Appendix A* for a completed example. Up to 63 such hexes may be created per scenario.

**SHIPPING LANE NUMBER** - Assign a number from 1-63 to the shipping lane. Each shipping lane must have a different number assigned to it.

**TYPE** - Enter a single letter or number to distinguish the port of origin of the shipping lane (e.g. P for Portsmouth, K for Kiel). Note that the <NUM> assigned to the shipping lane will appear after the identification code.

**LOCATION** - Enter the x and y map values of the shipping lane. These can be obtained from a reference to your draft map or by using the MAP option in the menu. The range of values is x:0-41, y:0-35.

**SHIPPING DENSITY** - This value is a subjective measure of the likelihood of locating merchant shipping in the shipping lane. 0=unlikely, 7=almost certain.

**ALLIED** - (Y)es or (N)o.

## 5.27 Flak Unit Creation {Menu 16}

This routine is used to create the flak units used by each side. They are used to organize and deploy the anti-aircraft batteries available to each side. Examine *Appendix A* for a completed example. Up to 63 such flak units may be created per scenario.

**FLAK UNIT NUMBER** - Assign a number from 1-63 to the flak unit. Each flak unit must have a different number assigned to it.

**TYPE** - Enter a single letter or number to distinguish between regional groupings of flak units. For example, designate all flak units in the Ruhr region as R. Note that the <NUM> assigned to the flak unit will appear after the identification code.

**LOCATION** - Enter the x and y map values of the flak unit. These can be obtained from a reference to your draft map or by using the MAP option in the menu. The range of values is x:0-41, y:0-35.

**NUMBER OF HEAVY AA GUNS** - This value is a measure of the size of the flak unit. Award 1 point for each pair of AA guns. The maximum value is 255. The minimum value is 0. Note that flak units are stationary. However, by reallocating AA guns via the flak reserve, the C-in-C can respond to new enemy thrusts.

**ALLIED** - (Y)es or (N)o.

## 5.3 The Review Utility {Menu 6}

This utility allows a quick and easy review of the data created in menus 14-20. Select Menu 6. Select the data base of your choice. Use the arrow keys to review each item in the data base.

## 5.4 Weather Creation {Menu 5}

Select Menu 5 to enter the weather creation routine. Examine *Appendix A* for a completed example. Superimposed on the strategic map are 12 *weather boxes*. The weather box indicates the probable weather condition for the area described. The actual weather condition in a particular hex is determined by the computer when necessary. The cloud cover and wind strength values.

final score. Enter a point value between 1-250 (10-2500). A value of 0 should be given to non-active commanders.

To balance a scenario, it is best to assign each commander an initial threshold of 1. Make all commands computer controlled and run through the scenario 10-25 times, recording the final scores in each case. Average these results, enter them, then make a further three or four test runs. Make further changes only if you achieve peculiar results.

**PRIORITY** - This value serves two separate and unrelated purposes. The values entered in the creation screen affect only the first of these purposes. Air formations (squadrons) begin a scenario with an initial establishment which represents the total number of aircraft assigned to them. The number of these aircraft which begin the scenario in an operational condition is determined by the priority rating awarded to their commander. 0=20%-40%, 1=30%-50%, 2=40%-60%, 3=50%-70%, 4=60%-80%, 5=70%-90%, 6=80%-100%, 7=90%-100%.

The second purpose of the priority rating is used during the play of the scenario. Each C-in-C has access to the priority ratings of his commanders and may manipulate them as he sees fit. The differences in importance assigned to these ratings determine the priority accorded for replacement aircraft and the exchange between commands of exhausted for fresh squadrons.

## 5.9 Doctrine Creation {Menu 12}

Select menu 12 to enter the doctrine creation routine. Examine *Appendix A* for a completed example. This routine is used to enter a mixed bag of information, all of which is described below.

**THE MULTIPLIER** - Every target type in a scenario must be given a *multiplier*. These values are crucial in that they determine the importance of the various target types as appreciated by the respective high commands *at the time of the scenario*. For example, ports and shipping lanes were a much more vital target for the RAF in 1940 than they were in 1944. In game terms, the multiplier modifies the points gained from the bombing of the various target types; i.e. to win the game you must direct your operations primarily against high priority targets. 0=0.125, 1=0.25, 2=0.5, 3=1, 4=1.5, 5=2, 6=4; 7=8.

Note that these multipliers will not remain constant throughout the scenario. Insufficient operations against a particular target type may decrease its multiplier.

**SUPREME COMMAND** - This value represents the competence of the supreme commander; generally the national leader or the person ultimately responsible for the direction of the nation's war effort. He is always a computer controlled personality. The rating awarded to the supreme commander will determine how accurately he will appreciate and implement his sides' multipliers. 0=complete nincompoop..... 7=military genius (i.e. never makes a mistake - just like RJK!). In practice, target types ranked lower by the supreme command than their actual place will have their multipliers reduced by the extent of their displacement; target types ranked higher will gain no benefit.

**COMMANDER IN CHIEF** - This value represents the competence of the C-in-C when computer controlled. A human C-in-C can make his own decisions. The rating awarded to the C-in-C will determine how much latitude he allows his subordinates to have. 0=literal and narrow-minded..... 7=perceptive and liberal. In practice, incompetent C-in-C's will make it much more difficult to deceive and/or surprise your opponent.

**GROUND ECM** - This value represents the extent to which ground-based ECM equipment could protect targets from electronic detection by enemy aircraft. Appendix C provides a listing of ground-based ECM systems evaluated into game terms. The maximum value is 7. The minimum value is 0.

**ORDNANCE EFFECT** - This characteristic measures the quality of the high explosive available at the time of the scenario. 0=hopeless, 1=adequate, 2=good, 3=excellent.

**AA FIRE CONTROL** - This value measures the experience and target locating equipment available to the AA forces at the time of the scenario. 0=hopeless, 1=adequate, 2=good, 3=excellent.

## 6. ROCKETS & PILOTLESS PLANES

None of the scenarios in the game cover periods of time when self-propelled rockets or pilotless planes were in use. Nonetheless, the game system has the facilities to simulate their use and effect. These guidelines will help you organize and deploy them.

An aircraft type, regardless of its other characteristics, will be considered a rocket/pilotless plane if its crew number is set to 0. There is no limit (other than 31) on the number of such missiles which can be assigned to a

squadron. However, to best simulate the V1/V2 attacks, squadron size should be kept to a maximum of three.

Rocket squadrons fly harassment ops against enemy population centres under the computer's direction. It is not possible for a human player to manipulate rocket squadrons in any way.

Obviously there are no survivors from a rocket op so you will need to allow a generous replacement rate if you wish to keep up a good level of attack.

## 7. GENERAL MATTERS

Unlike *Carriers at War*, there are no special map constraints in *Europe Ablaze*. In fact, we can't think of any constraints at all. Those of you who use the map creation facilities will notice that more than one type of land hex can be built. You can use these for aesthetic purposes if you wish. They have no function in the game. Thus, T2/T3 = clear, T4/T5 = wooded, T6/T7 = rough, T8/T9 = mountainous.

The data entry routines are for the most part 'self-checking' in the sense that you will not be able to enter values outside the given parameters. Other mistakes may show up in peculiar ways, so be careful.

One word of warning, however. The game's design revolves around more or less realistically evaluated forces. If you decide to create fantasy scenarios with 'amazing' aircraft, be prepared for some amazing results.

## 8. THE 'MTO' SCENARIO

In late 1943, the Allied forces in Italy were sufficiently well established to begin a major strategic air offensive against targets in Southern Germany, Austria, France, Italy, Bulgaria, Greece, Hungary, Yugoslavia and Rumania. Most of these targets had hitherto been beyond the range of Britain-based air groups. Now there was virtually no region in the Third Reich which would enjoy immunity from Allied air attack.

The principal weapon the Allies were to use to spearhead this southern thrust was the US Fifteenth Air Force, formed in November 1943 under the command of Maj. Gen. James H. Doolittle, from the heavy bomber core of the Twelfth Air Force.

We pick up the story in March 1944. Maj. Gen. Nathan F. Twining has replaced Doolittle and the Fifteenth has some 15 heavy bomber groups and 4 fighter groups to carry the war to the Axis.

Bad weather has seriously hampered operations for most of the past two months. German ground forces tenaciously cling to their defensive line south of Rome and two frontal assaults against the fortified Monte Cassino bastion have been bloodily repulsed.

The amphibious invasion behind enemy lines at Anzio has failed to realize the breakthrough expected of it and survives principally on massive air and naval support.

The Fifteenth, supported by the Twelfth, has a lot to do. It must support ground operations in Italy through attacks against communication facilities, air fields and, wherever possible, the *Luftwaffe* itself. Furthermore, it must contribute to the Combined Bombing Offensive (CBO) by striking at vital industrial and communications targets, especially in Austria and Rumania.

Opposing these efforts will be two formidable obstacles. Bad weather is certain to frustrate some 50%-60% of all missions flown. The *Luftwaffe's* fighter strength, albeit scattered, is not inconsiderable, especially in those regions beyond the escort protection afforded by the P-38's and P-47's.

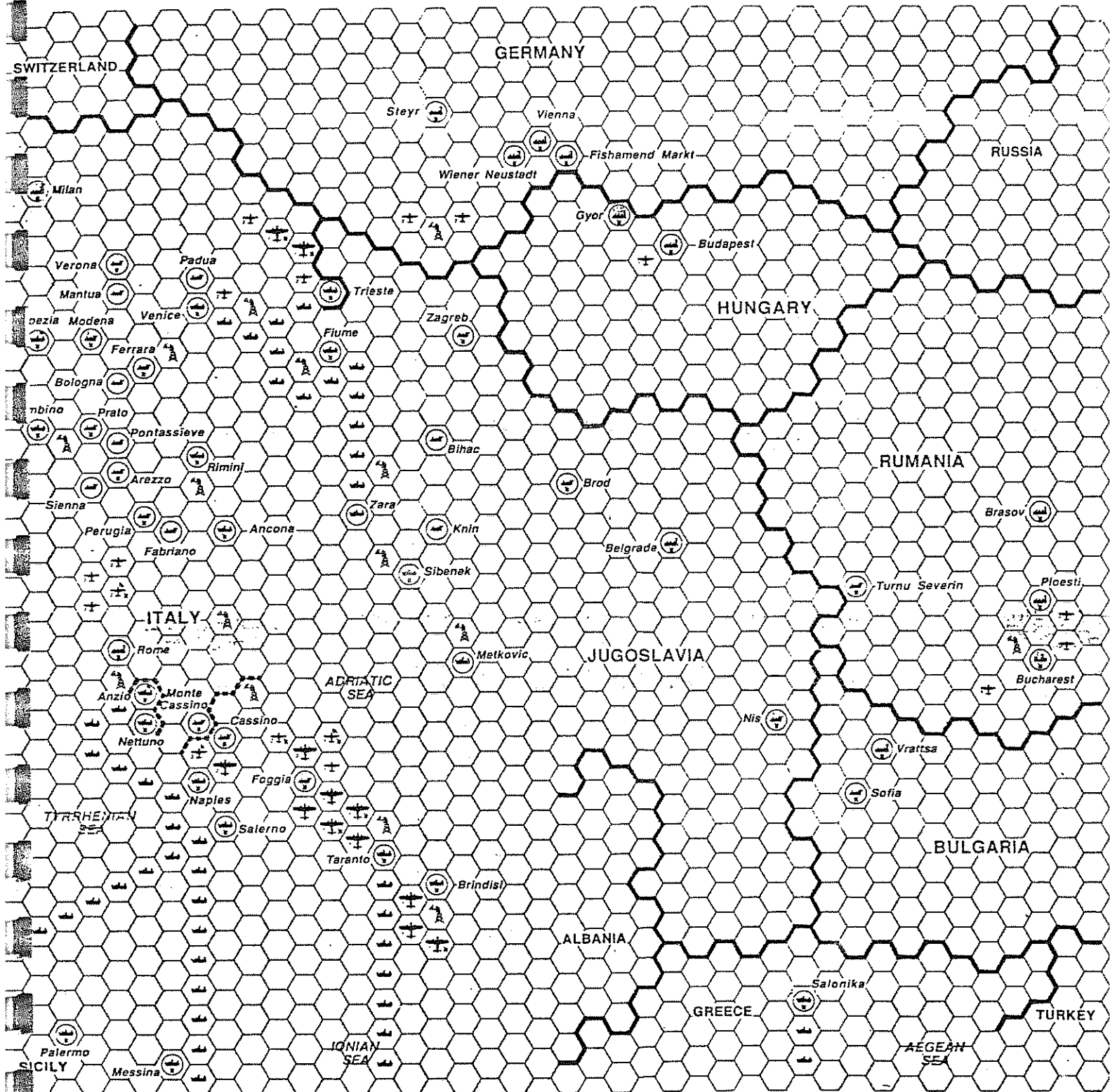
Defending the Reich are elements of two German Air Forces; *Luftflotten* 1 and 2. *Luftflotte* 1, spread between Bucharest in the east, Salonika in the south and Budapest in the north, is a purely fighter force and its principal concern is the protection of the vital oil facilities at Ploesti and Brasov.

*Luftflotte* 2 contains all of the limited Axis striking power committed to the Mediterranean theatre. Some 200 bombers and fighter-bombers are deployed in the Udine-Villaorba and Orvieto areas. This force must achieve some positive results, both against Allied shipping and communications.

The principal components of *Luftflotte* 2 are the fighter groups (*Jagdgeschwaden*), also based in the Udine area. Together with aircraft from the fascist Republica Sociale Italiana (RSI) they must defend the industrial areas of Southern Germany and Austria as well as provide protection for the vulnerable bombers.

The scenario runs for only 17 days so neither side has time to waste. Every opportunity to inflict casualties needs be taken, most especially by the Americans.

# Appendix A



## SCENARIO FOUR 'MTO'

### Allied Commands

- #1 15th Air Force
- #2 12th Air Force

### Axis Commands

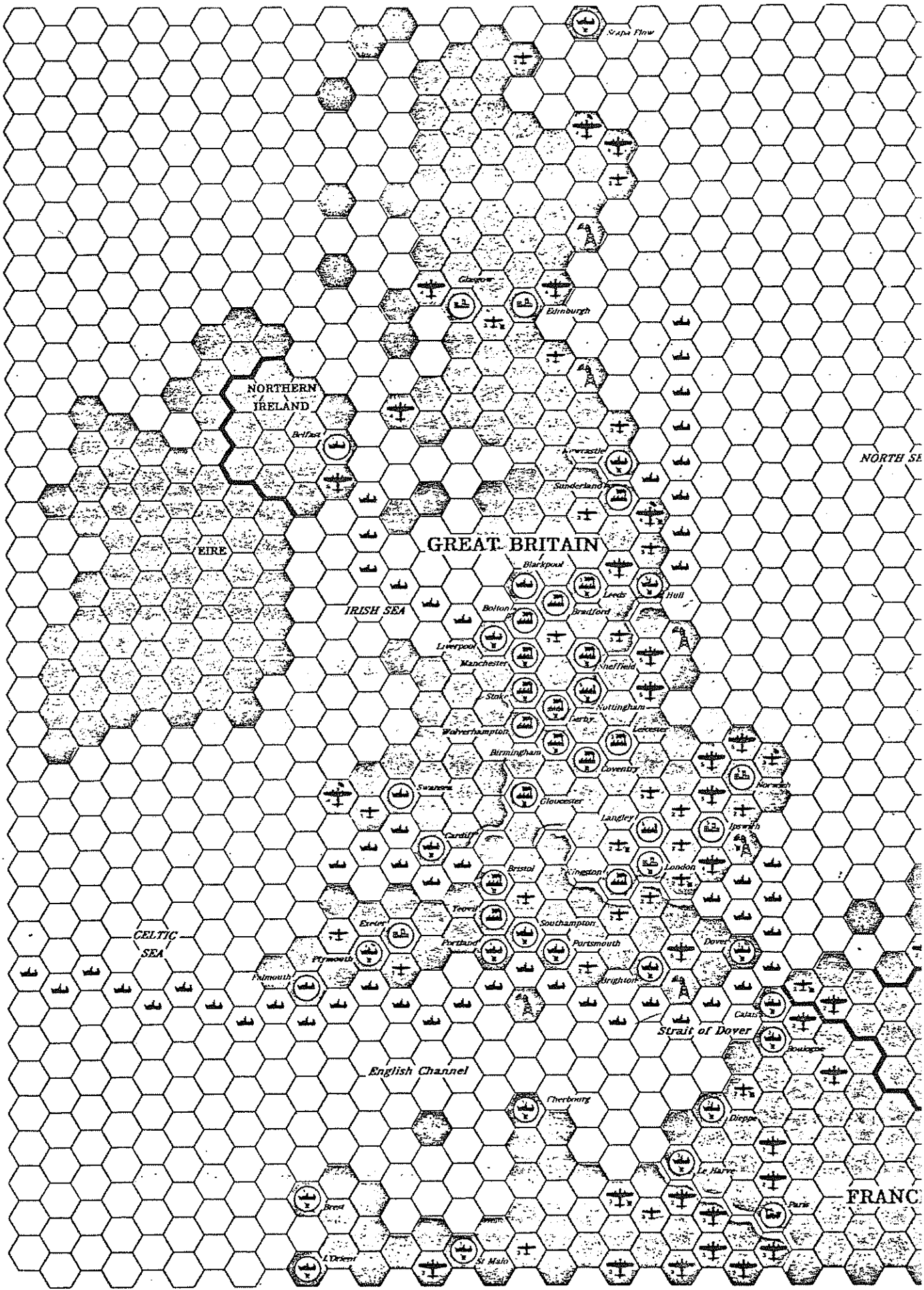
- #1 Luftflotte 1
- #2 Luftflotte 2

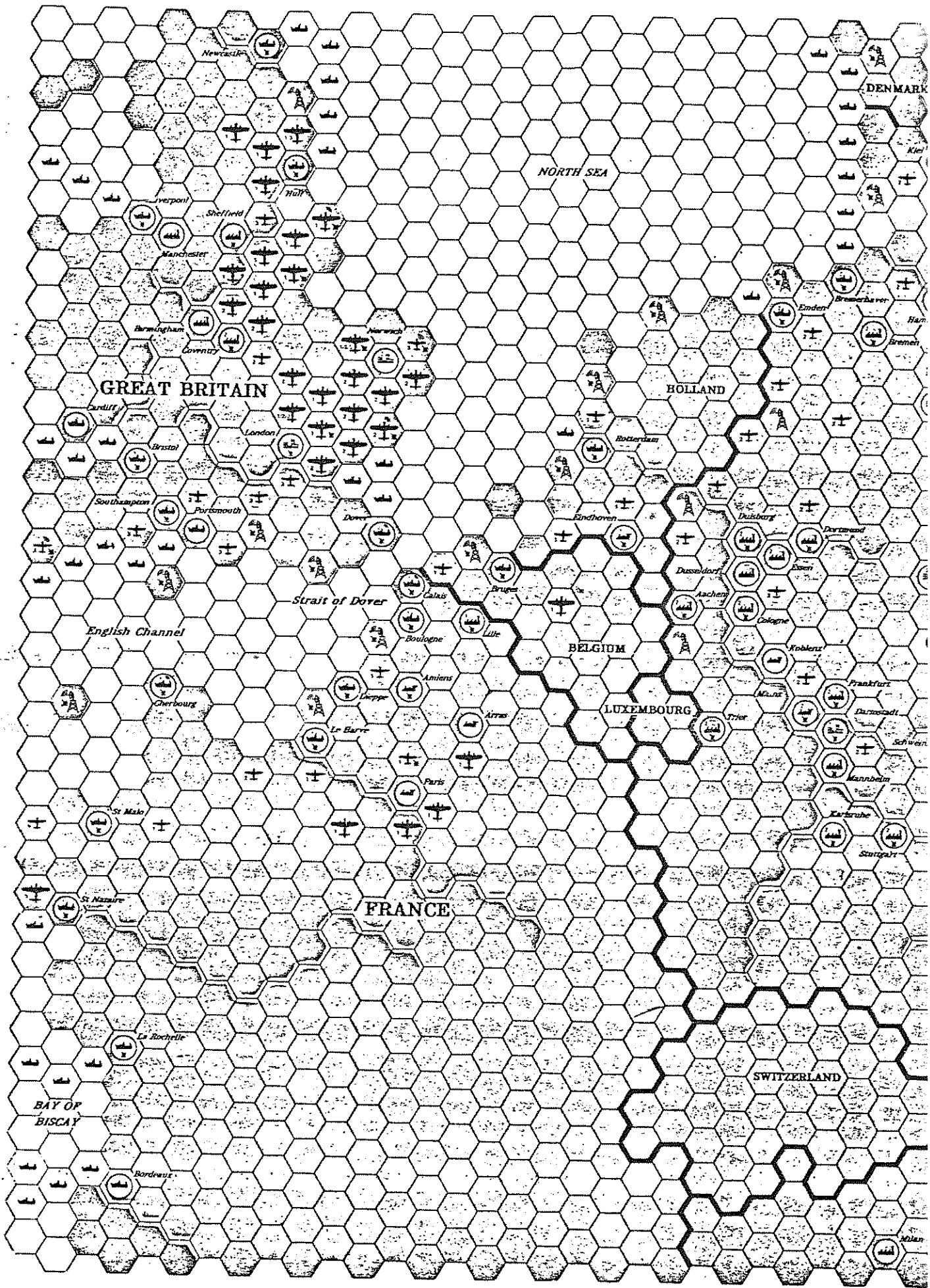
## MAP KEY

See Map Key on scenario card. Note that a border hex-side is shown as follows -



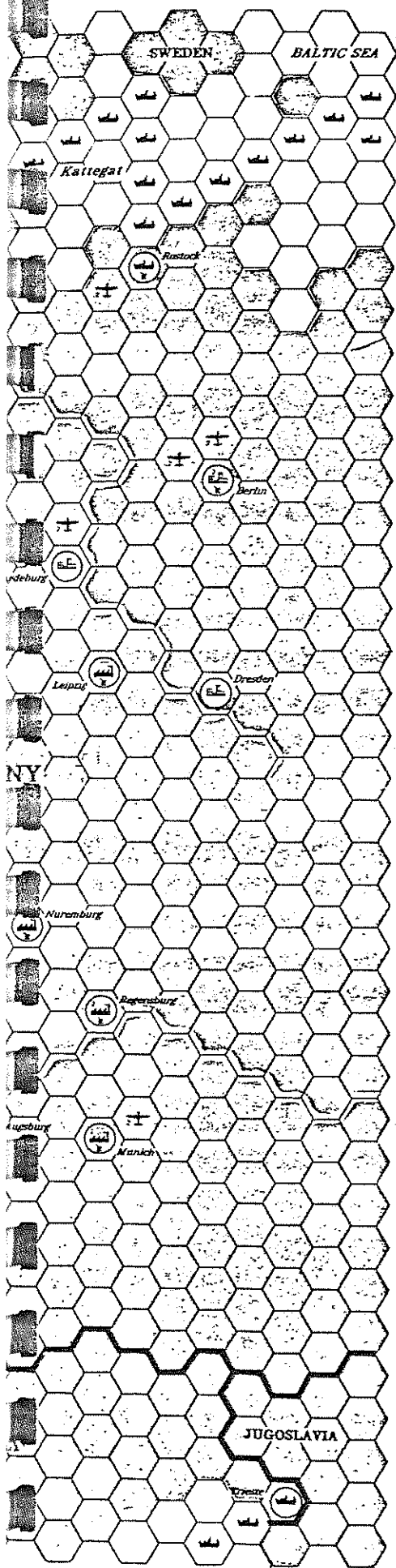






# EUROPE ABLAZE

The Air War Over England and Germany 1939-1945



## MAP KEY



Population Centre



Industrial Centre



Communications Centre



Port Facility Centre



Bomber Base (with Cmd #)



Fighter Base (with Cmd #)



Radar Station



Shipping Lane



Flak Unit

Multiple facilities may be present in the same hex



Port + Airbase (#3)  
+ Radar Station +  
Flak Unit



Airbase (#2) +  
Radar Station  
+ Flak Unit

## SCENARIO TWO

'Enemy Coast Ahead'

Allied Commands

Axis Commands

#1 Bomber Command

#1 Luftlotte 3

#2 8th Air Force

#2 Reichsvert.

#3 Fighter Command

## SCENARIO THREE

'Piercing the Reich'

Allied Commands

Axis Commands

#1 Bomber Command

#1 Luftlotte 3

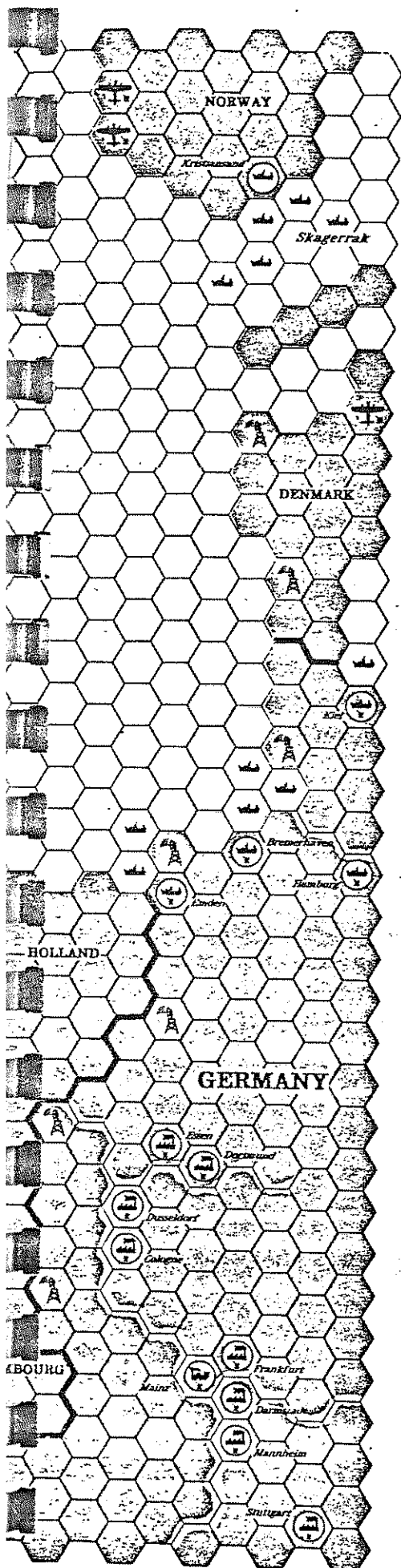
#2 8th Air Force

#2 Reichsvert.

#3 2nd TAC Air Force

# EUROPE ABLAZE

The Air War Over England and Germany 1939-1945



## MAP KEY

	Population Centre		Bomber Base (with Cmd #)
	Industrial Centre		Fighter Base (with Cmd #)
	Communications Centre		Radar Station
	Port Facility Centre		Shipping Lane
			Flak Unit

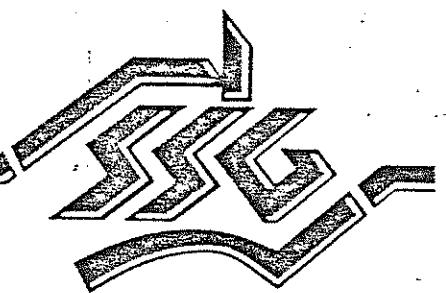
Multiple facilities may be present in the same hex

	Port + Airbase (#3) + Radar Station + Flak Unit		Airbase (#2) + Radar Station + Flak Unit
--	---	--	--

## SCENARIO ONE

"Their Finest Hour"

Allied Commands	Axis Commands
#1 10 Gp, Fighter Cmd	#1 Luftlotte 5
#2 11 Gp, Fighter Cmd	#2 Luftlotte 2
#3 12,13 Gps, Fgtr Cmd	#3 Luftlotte 3
#4 Coastal Command	
#5 Bomber Command	





# Appendix A

## SQUADRONS (CONT)

55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72
762 HB	763 HB	772 HB	773 HB	774 HB	775 HB	27 F	71 F	94 F	37 F	48 F	49 F	95 F	96 F	97 F	317 F	318 F	319 F
2	2	1	1	1	1	6	6	6	6	6	6	6	6	6	7	7	7
16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
15	14	15	16	14	16	9	10	11	8	10	10	11	12	14	12	14	12
0	0	1	1	0	1	1	2	2	3	3	2	3	1	2	1	1	2
1	2	0	1	2	0	7	7	8	5	6	8	10	8	3	4	3	
7	7	7	7	7	7	5	5	5	5	5	5	6	6	6	6	6	6
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	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

73	74	75	76	81	82	83	84	85	86	87	88	89	90	91	92	93	94
154 WRS	32 PRS	32 PRS	15 AF	445 MB	446 MB	447 MB	448 MB	486 MB	487 MB	488 MB	489 MB	84 LB	85 LB	86 LB	87 LB	522 F	523 F
12	12	12	2	1	3	3	3	3	3	3	3	4	4	5	5	9	9
16	10	10	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
13	9	10	12	10	11	8	12	10	14	11	10	12	13	10	10	8	7
2	1	1	2	3	0	3	1	2	1	0	0	4	2	2	3	3	3
4	2	3	3	2	1	5	2	0	1	2	5	4	2	3	1	2	0
6	6	6	7	6	6	6	6	6	6	6	6	5	5	5	5	5	5
N	N	N	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	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

95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112
524 F	307 F	308 F	309 F	64 F	65 F	66 F	85 F	86 F	87 F	525 F	526 F	527 F	314 F	315 F	316 F	100 F	301 F
9	8	8	8	7	7	7	7	7	7	7	7	7	9	9	9	7	7
16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
8	14	8	14	10	13	9	12	8	12	10	14	11	7	8	10	7	11
0	1	2	1	0	1	2	3	0	1	0	1	1	1	3	1	2	1
1	1	3	2	4	3	2	1	3	3	1	3	2	3	3	1	3	3
5	6	6	6	6	6	6	6	6	6	7	7	7	5	5	5	6	6
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	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

113	114	115	116	117	141	142	143	144	145	146	147	148	149	150	151	152	153
302 F	415 NF	416 NF	15 PRS	15 PRS	4/JG27	4/JG27	4/JG27	3/JG53	3/JG53	3/JG53	3/JG27	1/JG52	1/JG4	1/JG53	1/JG77	2/JG77	1/RSI
7	11	10	12	12	17	17	17	17	17	17	17	18	17	17	17	17	19
16	20	20	10	10	9	9	9	9	9	9	9	30	30	30	30	30	15
8	13	14	8	10	7	7	6	4	8	8	9	28	18	21	22	16	15
3	4	4	1	1	2	1	3	2	1	2	3	6	5	7	5	4	1
2	6	7	3	4	2	3	2	1	2	2	2	15	6	6	7	6	10
6	7	7	7	7	4	4	3	3	4	4	5	6	4	4	5	4	6
N	Y	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
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	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

154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171
2/RSI	3/RSI	1/SG4	2/SG4	1/SG10	3/SG10	4/SG10	1/LG1	3/LG1	KG30pt	1/KG76	3/F/121	2/F/100	2/F/100	2/JG53	2/JG53	2/ZG26	2/ZG26
20	20	15	15	15	15	15	13	13	13	13	14	14	14	14	17	17	23
18	18	30	30	30	30	30	30	30	20	30	10	10	10	18	12	9	9
16	17	12	14	16	12	15	11	14	14	18	7	7	8	16	11	9	6
1	0	3	5	4	2	1	2	2	3	2	3	1	1	4	2	2	1
1	4	2	4	4	4	4	6	5	7	3	2	3	4	3	3	3	3
6	6	5	6	6	6	6	6	6	6	6	6	6	6	6	6	7	7
N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	Y	Y	Y
N	N	N	N	N	N	N	N	N	N	N	Y	Y	Y	N	N	N	N
N	N	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	N	N	N	N	N	N	N	N

172	173	174	175	176	177	178	179	180	181
2/JG51	3/JG27	3/JG77	R1/JG2	R6/JG2	3/NJG6	3/NJG6	3/NJG6	KS1100	KS1101
17	17	17	21	21	24	23	22	16	16
30	9	30	20	20	12	6	10	12	16
26	7	30	15	17	12	6	10	10	14
2	0	3	1	1	2	0	2	1	3
8	2	10	3	1	3	2	2	2	5
6	7	6	6	6	7	7	Y	7	6
N	N	N	N	N	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	N	N	N	N	N	N	N	N	N

## WEATHER

C 6	C 7	C 7
W 5	W 7	W 5
C 5	C 6	C 7
W 4	W 5	W 6
C 5	C 4	C 4
W 4	W 4	W 5
C 4	C 3	C 3
W 3	W 3	W 3



# Appendix A

## CENTRES (CONT)

44	45	46	47	48	49	50	51	52	53	54
Salonika	Turnu Sev	Bucharest	Ploesti	Brasov	Budapest	Gyor	Fishamend	Vienna	Wiener Neu	Steyr
30,33	32,19	39,21	39,19	39,16	25,7	23,6	21,4	20,4	19,4	16,3
0	0	2	0	0	2	1	0	2	1	1
0	0	2	3	2	2	2	2	2	3	2
1	0	0	0	0	0	0	0	0	0	0
1	2	2	2	1	2	1	1	2	2	1
N	N	N	N	N	N	N	N	N	N	N

## RADAR STATIONS

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
U	U	U	U	U	U	F	F	F	F	F	F	F	F	F	F	F	F	F	F
7,24	5,22	9,22	12,24	14,27	16,30	1,10	2,13	4,19	4,22	8,20	7,15	8,11	9,9	11,11	16,7	14,15	14,18	17,20	38,21
2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41
6	6	6	6	6	6	5	5	5	5	5	5	5	5	5	5	4	4	4	4
2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1
15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
3	3	3	3	3	3	2	2	2	2	2	2	2	2	2	2	1	1	1	1
Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	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	N

## SHIPPING LANES

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
0,31	1,30	2,30	3,29	4,29	5,28	6,28	6,27	6,26	5,25	4,25	3,24	3,23	4,23	7,27	7,28	7,29	7,30	7,31	7,32	7,33	7,34
5	5	5	5	5	5	6	6	7	6	6	6	7	7	3	3	3	3	3	3	3	3
Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

23	24	25	26	27	28	29	30	32	33	34	35	36	37	38	39	40	41	42	43	44	45
W	E	E	E	E	E	E	E	A	A	A	A	A	A	A	A	A	A	A	A	G	G
7,35	14,29	14,30	14,31	14,32	14,33	14,34	14,35	9,10	10,10	11,9	10,11	10,12	11,12	12,12	13,11	13,12	13,13	13,14	13,15	30,34	30,35
3	3	3	3	2	2	2	2	2	3	3	2	1	1	2	2	1	1	1	1	2	2
Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N

## FLAK UNITS

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
2,34	6,35	8,27	7,25	8,24	5,23	5,22	10,24	12,24	11,25	13,26	14,28	16,29	16,31	1,5	4,8	1,10	3,10	3,13	4,15	4,19	4,21
8	8	16	24	72	56	48	12	16	8	8	8	8	8	6	6	14	6	12	20	42	38
Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N	N	N

23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44
I	I	I	I	I	I	I	I	I	J	J	J	J	J	J	J	J	J	G	B	B	R
7,23	8,17	5,16	7,14	5,11	7,9	10,7	11,7	12,9	12,11	17,10	16,14	21,15	16,17	15,18	17,21	25,17	25,23	30,33	32,26	33,24	39,21
66	12	8	6	6	22	48	44	28	12	24	6	6	8	8	6	32	15	12	26	6	68
N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

45	46	47	48	49	50	51	52	53
R	R	R	H	H	A	A	A	A
39,19	39,16	32,19	25,7	23,6	21,4	20,4	19,4	16,3
42	12	12	30	14	12	54	26	32
N	N	N	N	N	N	N	N	N

## ALLIED COMMAND DETAILS

	NAME	CURSOR	THRESHOLD	PRIORITY
	(11)	0-4	0-250	0-7
C-IN-C	TWINING	2		
COM #1	15 AF	2		5
COM #2	12 AF	2		4
COM #3				
COM #4				
COM #5				

## DOCTRINE

		AXIS	ALLIED
MISSIONS	0-15	2	7
POP	0-7	3	1
IND	0-7	2	6
COM	0-7	7	6
PORT	0-7	7	4
AIRFIELDS	0-7	4	7
RADAR	0-7	2	2
SHIPPING	0-7	7	3
SUPCOM	0-7	4	5
C-IN-C	0-7	4	5
GRECM	0-7	3	5
ORDEFF	0-3	2	3
AAFC	0-3	2	2

## START DETAILS

DATE	1-31	14
MONTH	1-12	3
YEAR	0-63	44
LENGTH	1-31	17
DAWN	3-10	6
DUSK	15-22	18
MOON	0-27	9
PCAST	0-3	1

## AXIS COMMAND DETAILS

	NAME	CURSOR	THRESHOLD	PRIORITY
	(11)	0-4	0-250	0-7
C-IN-C	KESSELRING	3		
COM #1	Luftflotte 1	3		4
COM #2	Luftflotte 2	3		4
COM #3				
COM #4				
COM #5				



## Appendix B

### Airborne Radar/ECM Values (5.21)

		1939	1940	1941	1942	1943	1944	1945
<b>UK</b>	RADAR (fighters) <sup>1</sup>	4/0	6/0	6/1	6/2	6/2	7/3	7/3
	RADAR (others) <sup>2</sup>	0	0	0	3	4	6	6
	ECM (airborne) <sup>3</sup>	0	0	0	0	3	3	3
<b>US</b>	RADAR (fighters) <sup>1</sup>	2/0	2/0	2/0	4/0	6/2	7/3	7/3
	RADAR (bombers) <sup>2</sup>	0	0	0	0	4	4	4
	ECM (airborne) <sup>3</sup>	0	0	0	0	3	3	3
<b>Ge</b>	RADAR (fighters) <sup>1</sup>	2/0	3/0	3/1	4/2	4/3	5/4	5/4
	RADAR (bombers) <sup>2</sup>	2	3	4	4	4	4	4
	ECM (airborne) <sup>3</sup>	0	0	0	0	2	2	2
<b>It</b>	RADAR (fighters) <sup>1</sup>	1/0	1/0	2/0	3/0	3/0	-	-
	RADAR (bombers) <sup>2</sup>	0	0	0	0	0	-	-
	ECM (airborne) <sup>3</sup>	0	0	0	0	0	-	-

- NOTES**
- The number to the left of the slash applies to day fighters, the number to the right of the slash applies to night fighters.
  - Target-locating radar was generally only available to medium and heavy bombers.  
 UK - GEE (3), H2S (4), Oboe (6). GEE and H2S were fitted to the majority of bomber command aircraft; Oboe was fitted to specialist pathfinding Moquito aircraft.  
 US - H2X (4). A slightly improved modification of the British H2S.  
 Ge - Knickebein (2), X-Gerat (3), Y-Gerat (4). Unlike most Allied target locating radar, German sets were not mounted in the aircraft but rather beam transmissions along which the attacking aircraft navigated.
  - The only airborne ECM available during WWII was Window (Duppel); small aluminium strips which confused radar identification. The higher Allied rating is due to an additional noise jamming component.

## Appendix C

### Ground Radar (5.24)

	ALLIED		AXIS		
	'39-'42	'43-'45	'40-'42	'43-'45	
MIN DETECTION ALT	5	1	1	5	
MAX DETECTION ALT	41	10	41	41	
DETECTION RANGE	6	3	7	5	
RELIABILITY <sup>1</sup>	2	2	3	1	2
360 DEGREE SCAN	N	N	Y	Y	Y

- NOTES**
- German radar sets in Axis satellite hands were usually much less reliable.

### Ground ECM (5.9)

1939	0
1940	2
1941	3
1942+	4

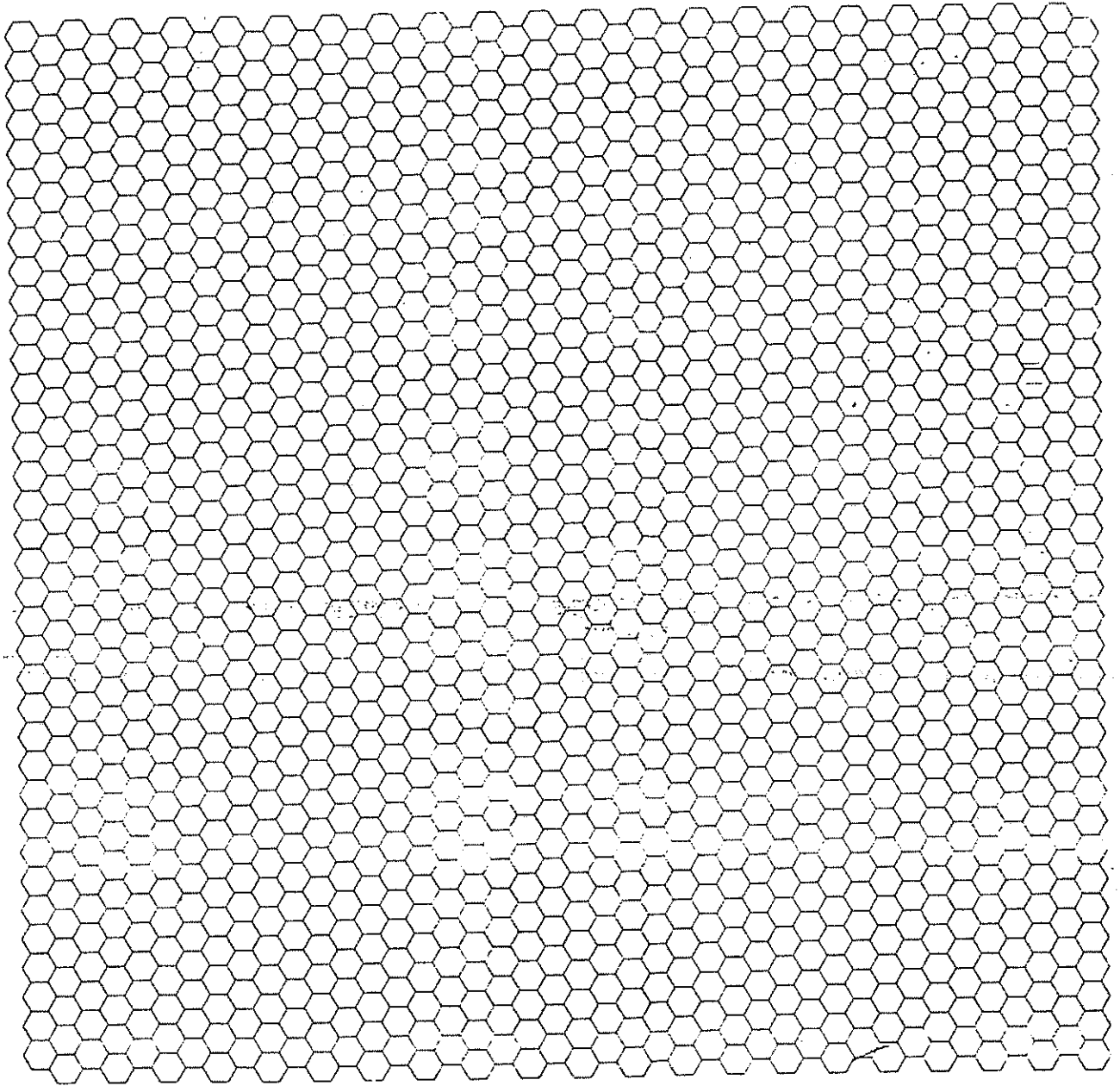
#### Allied Only.

The Axis never developed an effective counter measure to Allied radar target locating.

# APPENDIX D

## Blank Design Forms

### MAP AND WEATHER




C <input type="checkbox"/> W <input type="checkbox"/>	C <input type="checkbox"/> W <input type="checkbox"/>	C <input type="checkbox"/> W <input type="checkbox"/>
C <input type="checkbox"/> W <input type="checkbox"/>	C <input type="checkbox"/> W <input type="checkbox"/>	C <input type="checkbox"/> W <input type="checkbox"/>
C <input type="checkbox"/> W <input type="checkbox"/>	C <input type="checkbox"/> W <input type="checkbox"/>	C <input type="checkbox"/> W <input type="checkbox"/>
C <input type="checkbox"/> W <input type="checkbox"/>	C <input type="checkbox"/> W <input type="checkbox"/>	C <input type="checkbox"/> W <input type="checkbox"/>

# Appendix D

## PLANE TYPES

NUM	1-37								
TYPE	[11]								
ROLE	0-3								
CREW	0-7								
FUEL	1-255								
PAYLOAD	0-63								
CEILING	11-41								
MAX SPD	1-41								
OPT ALT	1-31								
CRSSPD	1-31								
CLIMB	1-15								
FIRE	0-7								
MAN	0-7								
VUL	0-7								
RADAR	0-7								
REPL	0-7								
ECM	0-7								
ALLIED	Y/N								
NIGHT	Y/N								

## RADAR STATIONS

NUM	1-63								
TYPE	[1]								
LOC	[x,y]								
MIN ALT	1-15								
MAX ALT	1-41								
RANGE	1-8								
REL	0-3								
DAMST	0-15								
DAMCON	0-3								
360°	Y/N								
ALLIED	Y/N								

# Appendix D

## SQUADRONS

NUM	1-255								
SQD I.D.	[6]								
PL TYPE	1-24								
O.E.	1-31								
I.E.	1-31								
VET	1-31								
EXP	1-31								
FAT	0-7								
NITE OPS	Y/N								
REC OPS	Y/N								
NAV OPS	Y/N								
PATHFR	Y/N								

## SQUADRONS

NUM	1-255								
SQD I.D.	[6]								
PL TYPE	1-24								
O.E.	1-31								
I.E.	1-31								
VET	1-31								
EXP	1-31								
FAT	0-7								
NITE OPS	Y/N								
REC OPS	Y/N								
NAV OPS	Y/N								
PATHFR	Y/N								

## SHIPPING LANES

NUM	1-63								
TYPE	[1]								
LOC	[x,y]								
DENSITY	0-7								
ALLIED	Y/N								

# Appendix D

## AIRFIELDS

NUM	1-127								
NAME	[11]								
LOC	[x,y]								
THEATRE	1-5								
AS. SQDS	[4]								
DAMST	0-15								
DAMCON	0-3								
SEALED	Y/N								
ALLIED	Y/N								

## FLAK UNITS

NUM	1-63								
TYPE	[1]								
LOC	[x,y]								
AA GUNS	0-255								
ALLIED	Y/N								

## FLAK UNITS

NUM	1-63								
TYPE	[1]								
LOC	[x,y]								
AA GUNS	0-255								
ALLIED	Y/N								

## CENTRES

NUM	1-63								
NAME	[11]								
LOC	[x,y]								
POP	0-3								
IND	0-3								
PORT	0-3								
COMM	0-3								
ALLIED	Y/N								

# Appendix D

## AXIS COMMAND DETAILS

	NAME	CURSOR	THRESHOLD	PRIORITY
	[11]	0-4	0-250	0-7
C-IN-C				
COM #1				
COM #2				
COM #3				
COM #4				
COM #5				

## ALLIED COMMAND DETAILS

	NAME	CURSOR	THRESHOLD	PRIORITY
	[11]	0-4	0-250	0-7
C-IN-C				
COM #1				
COM #2				
COM #3				
COM #4				
COM #5				

## DOCTRINE

		AXIS	ALLIED
MISSIONS	0-15		
POP	0-7		
IND	0-7		
COM	0-7		
PORT	0-7		
AIRFIELDS	0-7		
RADAR	0-7		
SHIPPING	0-7		
SUP COM	0-7		
C-IN-C	0-7		
GRECM	0-7		
ORDEFF	0-3		
AA FC	0-3		

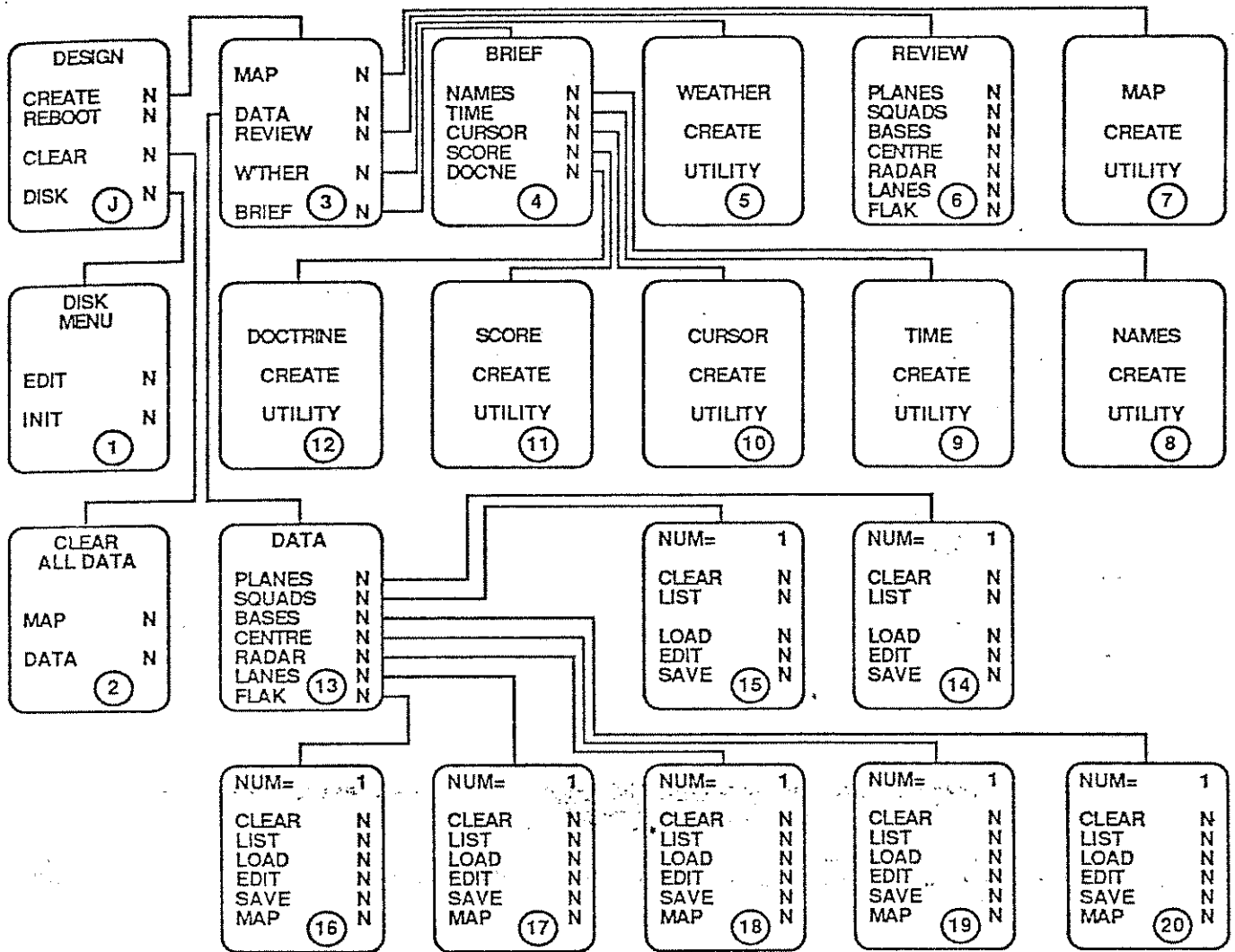
## START DETAILS

DATE	1-31	
MONTH	1-12	
YEAR	0-63	
LENGTH	1-31	
DAWN	3-10	
DUSK	15-22	
MOON	0-27	
FCAST	0-3	

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# DESIGN KIT MENU DISPLAY



## INDEX TO DESIGN MENUS

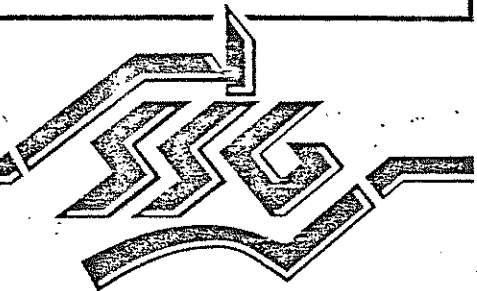
- |                       |                       |
|-----------------------|-----------------------|
| 1 - DISK EDIT UTILITY | 11 - SCORE UTILITY    |
| 2 - CLEAR SELECT      | 12 - DOCTRINE UTILITY |
| 3 - DESIGN SELECT     | 13 - DATA SELECT      |
| 4 - BRIEFING SELECT   | 14 - PLANE CLASS EDIT |
| 5 - WEATHER UTILITY   | 15 - SQUADRON EDIT    |
| 6 - REVIEW UTILITY    | 16 - FLAK UNIT EDIT   |
| 7 - MAP UTILITY       | 17 - SEA LANE EDIT    |
| 8 - NAMES UTILITY     | 18 - RADAR EDIT       |
| 9 - TIME UTILITY      | 19 - CENTRE EDIT      |
| 10 - CURSOR UTILITY   | 20 - AIRFIELD EDIT    |

## KEY SUMMARY

To cycle within a menu, type (RET).  
 To select from a menu, type (Y)(RET).  
 To edit a menu, type (RET) to locate entry line then (#)(RET) or (Y/N)(RET). To go back to the previous menu, type (ESC) [(f1) on C-64].  
 To move the cursor on the strategic map, use the I,J,K,M keys. To move the cursor on the tactical map, use the 1-6 keys.

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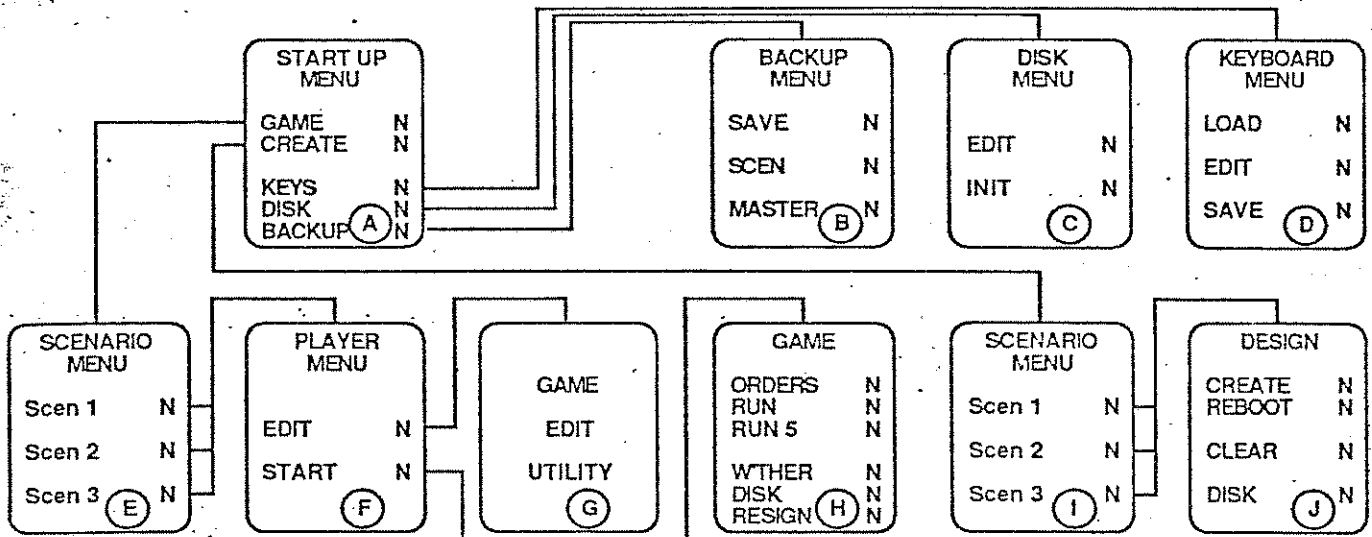
## KEY SUMMARY

To cycle within a menu, type (RET). To select from a menu, type (Y)(RET). To recover the previous menu, type (ESC). Note that the START MENU cannot be recovered from the GAME MENU (H) or the DESIGN MENU (J).

## START MENUS

## INDEX TO START MENUS

A - START UP MENU	F - PLAYER MENU
B - BACKUP SELECT	G - GAME EDIT UTILITY
C - DISK UTILITY	H - GAME MASTER
D - KEYBOARD SELECT	I - SCENARIO SELECT
E - SCENARIO SELECT	J - DESIGN MASTER



## STARTING THE GAME

Place the *Europe Ablaze* disk into your disk drive. Be sure the Master side is facing up. Close your disk drive and turn on your computer. Menu A (the Start Up Menu) will appear on your screen.

## SYSTEM SET UP

The Master disk is configured for Apple IIc's and IIe's with one disk drive and no printer. If this description fits your system, please skip this section. To change the set up, type (RET) until the cursor is on the <KEYS> line and then type (Y)(RET) to obtain Menu D (the Keyboard Menu). Now type (RET) until the cursor is on the <EDIT> line in Menu D then type (Y)(RET) to enter the keyboard display. Change whichever of the following are necessary.

(a) The Arrow Keys. Early Apple II owners will have to select keys to substitute for the (UP) and (DOWN) arrow keys. We suggest the (') and (/) keys. This substitution is made by typing (X)(RET)(RET)(/).

(b) The Data Drives. If you have two drives, position the cursor on the <Data Drive> line and type (2). This will instruct the computer to look at the second disk drive for scenario, save game and backup disks.

(c) The Print Slot and Dump Code. Cntl(P) will activate a high resolution screen dump routine reproducing the current screen image onto an attached printer. Enter the slot # of your printer. The words <Enter dump code now> will appear and you should enter the appropriate dump code for your printer. For example, our C-ITOH 8510 Prowriter with a Digitek card uses the code Cntl(I)(G). Type (RET) when you have finished entering the code. Note that Cntl characters appear in inverse. Turn on your printer and type Cntl(P). The keyboard display should be dumped to the printer. An incorrect entry may cause the program to hang so please check that you know the correct dump code for your printer. (See your printer manual or ask at a computer store).

## SAVING YOUR SYSTEM SET UP

Type (ESC) to go back to Menu D. Type (RET) until the cursor is on the <SAVE> line and then type (Y)(RET). The set up information is saved to your Master disk.

## BLACK AND WHITE MONITORS

If your system uses a monochrome monitor we recommend you type Cntl(B) as soon as Menu A appears.

## BACKING-UP YOUR DISKS

The Master disk may be backed up once. Type (ESC) to go back to Menu A, type (RET) until the cursor is on the <BACKUP> line and then type (Y)(RET) to obtain Menu B (the Backup Menu). Position the cursor on the <MASTER> line and type (Y)(RET). Follow the instructions given on the screen until the duplication is complete and Menu A is recovered. The Scenario disk, on the reverse side of the Master disk, may be backed up any number of times. At least one backup of the Scenario disk is essential if you wish to make use of the two disk drive option.

As an additional precaution we suggest you *write-protect* your disks once your backups have been made.

## SAVING OR RESTARTING A GAME

There is no need to go through this procedure until you have a need for it.

(a) Saving a Game. Select Menu H, position the cursor on the <DISK> line and type (Y)(RET) to obtain Menu 4 from the Game Menus. Place a blank disk in the correct disk drive. Select the <INIT> line and type (Y)(RET) to initialize the disk if you have not previously done so. Select the <EDIT> line and type (Y)(RET). Your save game disk is formatted to hold 5 saved games. Type (RET) until the cursor is positioned on the <SAVE> line of any unused save location and then type (Y)(RET). You may enter a comment of up to 17 characters, then type (RET). Note that the scenario from which the game is saved will appear below the <Comment> line. Type (ESC) to continue playing the game.

(b) Restarting a Saved Game. Select Menu C from Menu A. Select <EDIT> then position the cursor on the <LOAD> line of the chosen saved game. Type (Y)(RET) then (ESC) to restart the game.

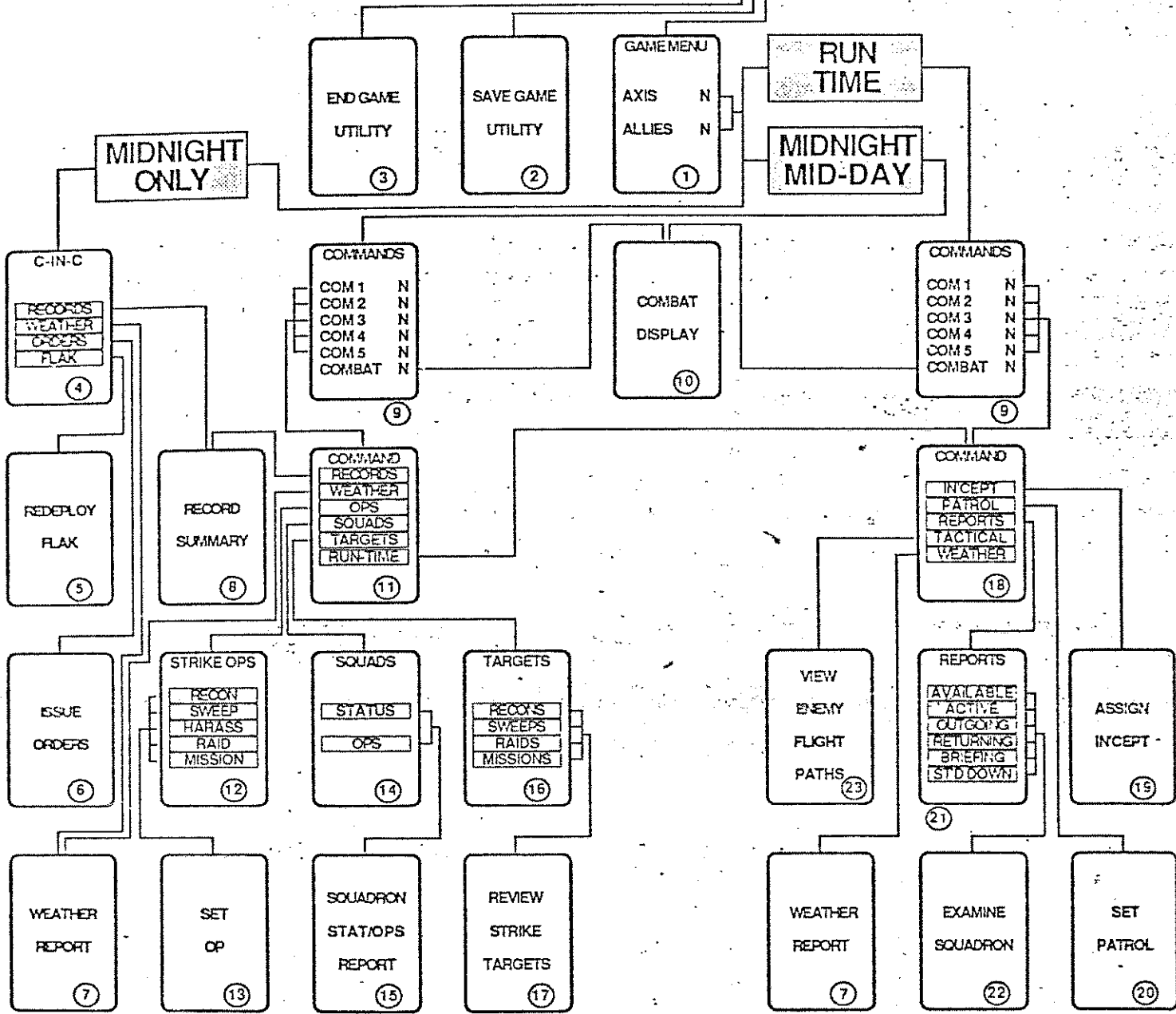
Once these instructions have been completed, please proceed to the introductory tutorials in the Player's Manual.

# EUROPE ABLAZE

The Air War Over England and Germany 1939-1945

GAME  
 ORDERS N  
 RUN N  
 RUN 5 N  
 DISK N  
 END N  
 (H)

## GAME MENUS



### INDEX TO GAME MENUS

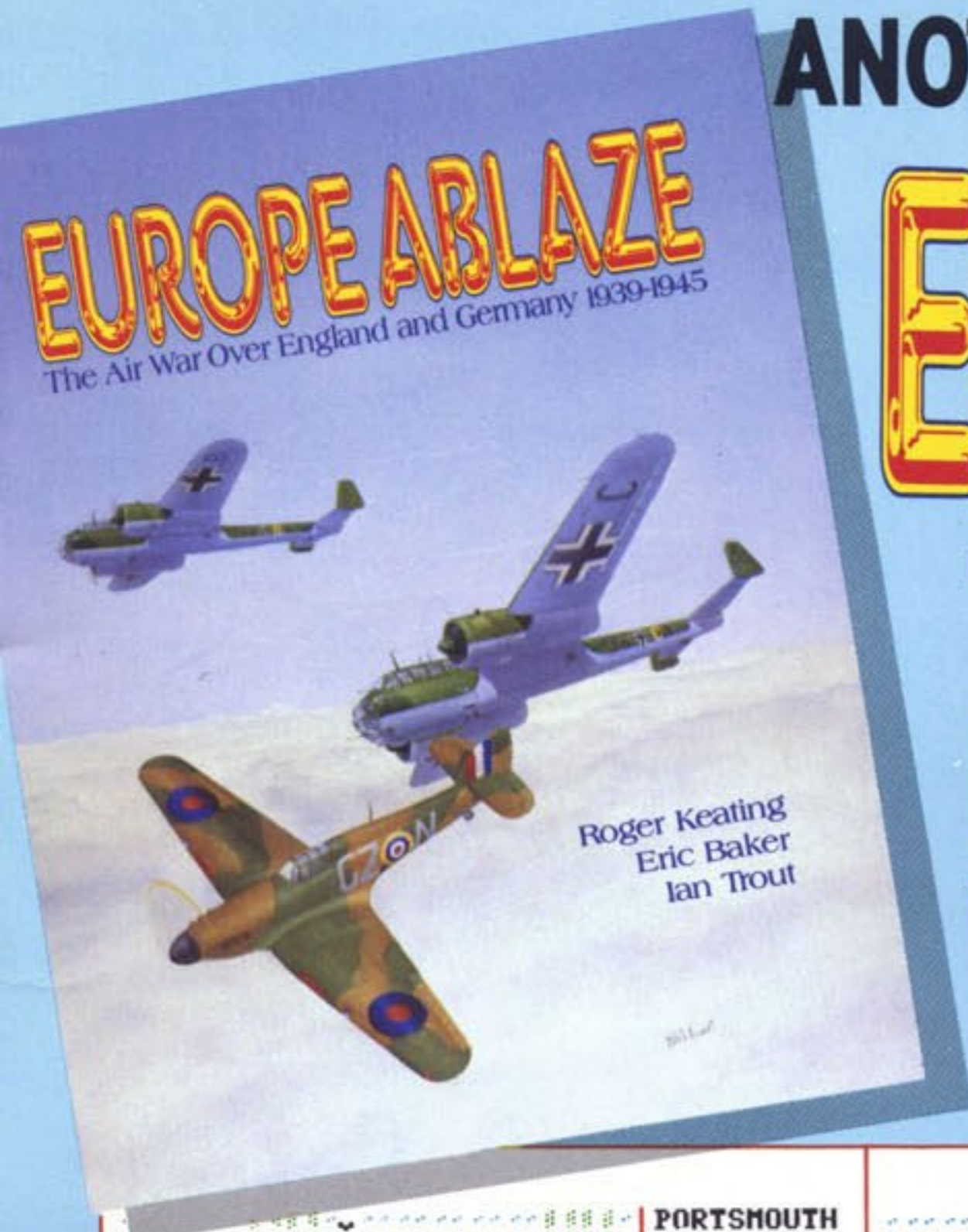
- |                           |                              |
|---------------------------|------------------------------|
| H - GAME MASTER           | 12 - STRIKE OPS SELECT       |
| 1 - NATIONALITY SELECT    | 13 - SET STRIKE OP           |
| 2 - SAVE GAME UTILITY     | 14 - SQUAD STATUS SELECT     |
| 3 - END GAME UTILITY      | 15 - SQUADRON REPORT         |
| 4 - C-IN-C                | 16 - ENEMY TARGET SELECT     |
| 5 - FLAK ADJUSTMENT       | 17 - REVIEW STRIKE TARGETS   |
| 6 - ISSUE ORDERS          | 18 - RUN-TIME OPS SELECT     |
| 7 - WEATHER REPORT        | 19 - ASSIGN INTERCEPT        |
| 8 - RECORD SUMMARY        | 20 - SET PATROL              |
| 9 - AIR FLEET COMMANDER   | 21 - SQUADRON REPORT SELECT  |
| 10 - COMBAT DISPLAY       | 22 - EXAMINE SQUADRON        |
| 11 - 0000/1200 OPS SELECT | 23 - VIEW ENEMY FLIGHT PATHS |

### KEY SUMMARY

To cycle within a menu, type (RET) if Y/N; use the arrow keys if not.  
 To select from a menu, type (Y)(RET) if Y/N; just (RET) if not.  
 To recover the previous menu, type (ESC).

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STRATEGIC STUDIES GROUP INVITE YOU TO ENJOY  
ANOTHER FINE HISTORICAL SIMULATION



# EUROPE ABLAZE

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

	<p>PORTSMOUTH</p> <p>STRIKE OPS RECON HARASS RAID MISSION ABORT</p>		<p>(2 KG2) CAMBRAI Do 17Z med. bomber</p> <p>CREW fresh veteran AIRCRAFT OPERN=18 TOTAL=18</p> <p>DIS= 9</p> <p>ETA 1850hrs (dusk)</p> <p>FULL LOAD 2400 lbs on op= 4/46</p>		<p>1850 hours 9 Jun 1940 Dusk</p> <p>Running</p>
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**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 JULY 1985 FOR THE **APPLE II FAMILY (64K)**  
AND AUGUST 1985 FOR THE **COMMODORE 64**.

Only \$50.00 at all good software and game retailers or direct from Strategic Studies Group, 336 Pitt St, Sydney, 2000, Australia. (02) 264-7560. Customers in the United States can send their cheque or money order to: SSG (US), 1747 Orleans Ct, Walnut Creek, CA. 94598.