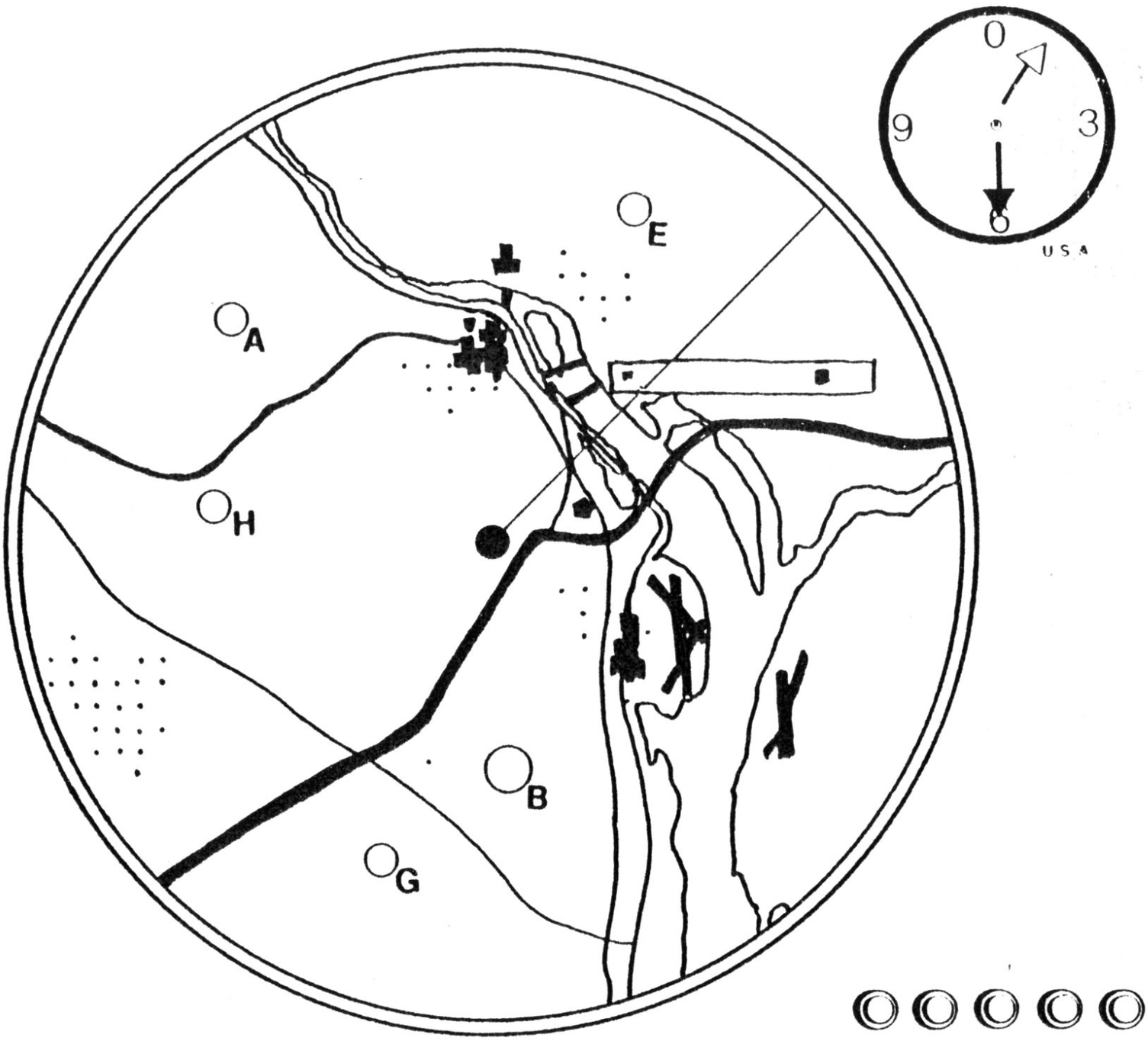


TOWER

CIVILIAN AIR TRAFFIC CONTROLLER

TI EXTENDED BASIC - NO PERIPHERALS REQUIRED.

TOWER
Civilian Air Traffic Controller

by Not-Polyoptics

TOWER presents a simulation of a Civilian Air Traffic Controller's duties at Washington's National Airport on a dark, lowering night - visibility poor, ceiling 400 feet or less. Washington's major airport is regarded as one of the most dangerous in the country, because of its tight flight paths and stringent noise standards. Your screen becomes a CRT scanning the heavily populated Northern Virginia and D. C. area. Suddenly the radio crackles: "Flight A requests immediate landing." There's the blip, coming in low over Rosslyn, a fluorescent cipher for hundreds of lives. Can you bring them in safely?

1. Setting Up

After the title screen and theme song, level of difficulty for the subsequent game is chosen. Input 1 for beginner, 2 for intermediate, or 3 for pro. Details of each level are explained in section 5.

As the game begins the screen displays the CRT view of the area surrounding Washington National Airport (see figure 1). The airport itself is located in the middle of the screen. The Potomac River is visible as an angular band running from the upper left corner of the display to the center bottom. The river is the main conduit for air traffic in the region, in order to minimize noise pollution in the surrounding areas. Various patches of ground clutter are also visible on the screen, and the Mall area, Pentagon, and high rise clusters of Rosslyn and Crystal City can be discerned. Located on the right side of the screen are the display's digital readouts. Flight ID, Course (in degrees), altitude (in feet), speed (in knots), type of plane, and flap position are shown. The top of the screen serves for messages from planes to the controller; the bottom of the screen is for messages from the controller to the planes.

Your duties as controller entail landing 5 planes (A through E) and allowing 5 planes to take off (F through J). As soon as the game begins the airborne planes will begin to appear from off screen. They are represented as small "blips" or white dots. To control these flights, the controller types in messages of various kinds. In addition, the planes will communicate messages to the controller. Three types of aircraft will attempt to use National: 727's (fast but hard to control), DC9's (intermediate) and CDC's or Private Planes (slow but maneuverable).. When they appear on the screen, they will be descending to 600 feet, flaps up, and travelling in a general course for the airport.

The game ends when 5 planes have been landed, when there has been an accident, or shortly after the fifth plane takes off.

2. Communications

There are two types of messages the controller can send, specific and general. A message intended for a single plane must be prefaced by "F" and the letter of the flight. Inputting "FD I" for example, asks flight D to identify itself. General messages are always 1 character long. All commands are activated by pressing ENTER.

HOLD KEYS DOWN UNTIL
ECHOED ON SCREEN

CONTROLLER MESSAGES

Specific

Altitude /F_ A*n*/ Change of altitude request for a flight. *n* is the altitude divided by 100 and can be up to 3 digits in length. /FA A1/ requests flight A to move to an altitude of 100 feet.

Course /F_ C*n*/ Change of course request for a flight. *n* is the new course and must be a number from 0 to 360. (0 and 360 are due north, 90 due east, 180 due south, and 270 due west.) /FA C90/ requests flight A to turn due east.

Identify /F_ I/ Request for a flight to identify itself. This flight's condition will be continuously updated on the digitals and its screen blip will be magnified. /FA I/ requests flight A to identify itself.

Hold /F_ H/ A request for a flight to fly in in a circular clockwise holding pattern until told otherwise. To end hold simply request a new course. /FA H/ requests flight A to circle the airport.

Flaps /F_ FU/ or /F_ FD/ Request for a flight to either raise (FU) or lower (FD) its flaps. All planes begin with flaps raised. A plane typically lowers its flaps to reduce speed in order to land. /FA FD/ instructs flight A to lower its flaps and reduce speed.

Take Off /F_ N/ or /F_ S/ Instruction to a ground plane to take off on the North (N) or South (S) runway. /FF N/ instructs flight F to take off on the North runway. A flight will only comply if it is ready to take off.

General

Identify /I/ Request for all flights within range to identify flight designations.

Ready to Take Off /T/ Request for all planes that are ready to take off to identify.

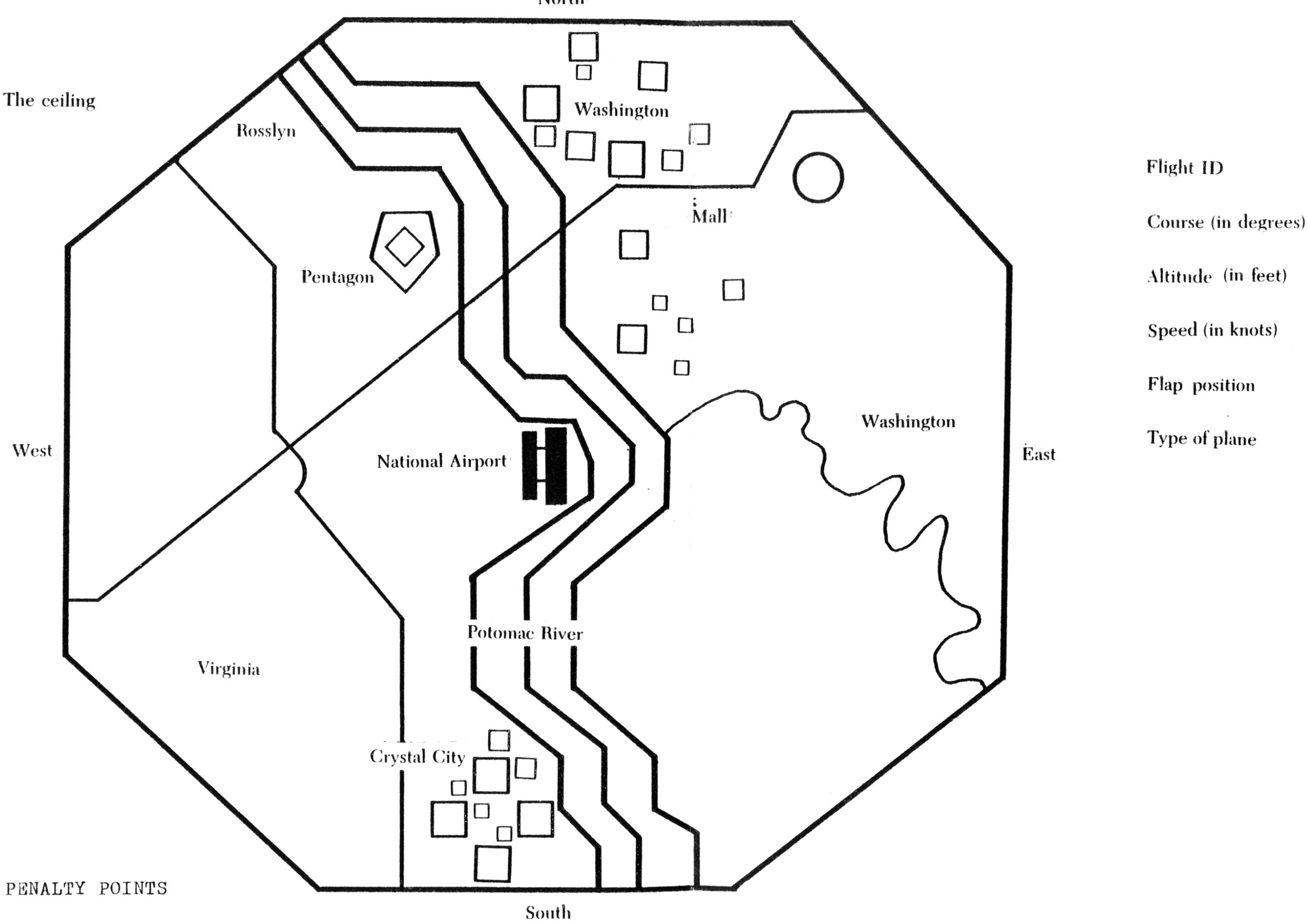
Landed /L/ Request for all planes that have landed to identify.

Pause /!/ Command to suspend the game until the player enters /!/ again. (Time Out)

Planes sending messages to the controller momentarily increase in size on the screen. A burst of static accompanies the message, which appears at the top of the screen.

* Leave a space between FA and command. etc.
eg FA I or FA FD

Figure 1



Flight ID

Course (in degrees)

Altitude (in feet)

Speed (in knots)

Flap position

Type of plane

PENALTY POINTS

CRT

Digitals

3. Landing and Take Off

Landing is accomplished by guiding a plane in a correct landing pattern to the edge of one of the runways. For a plane to land successfully, it must be 1) near enough to the runway, 2) on the correct course for that runway (180° for the North, 360° for the South with leeway according to the level of difficulty), 3) moving at or less than 150 knots, and 4) at or under the weather ceiling of that difficulty level (see Section 5). If the plane lands the controller will be thanked, and if the approach was faulty the controller will be told why.

If a flight communicates that it is ready to take off, the controller requests that it taxi to either the North or South runway, from which it will automatically take off. That plane should then be guided off the screen at either the north or south end of the Potomac.

4. Dangers and Obstacles

There are various obstacles that add points to the score or end the game prematurely. The plane's pilot will inform the controller of his predicament.

If a plane begins to run out of fuel it must be landed quickly or a crash will end the game and add 500 points penalty to the score.

If a plane is flying over Washington or Crystal City at over 500 feet 10 points will be added to the score. If it is flying at under 500 feet 35 points are added, and chances are a crash will occur that ends the game and adds another 500 points.

If a plane flies over the Pentagon at any altitude 35 points are added and there is a crash possibility that adds 250 points. If a plane to be landed (A to E) leaves the CRT screen 30 points are added. If any plane leaves the screen at a place that is not either the north or south end of the Potomac another 30 points is added.

If a plane gets caught in the moving storm (dark cloud sprite) its altitude and course are changed and 25 points are added.

Every turn that a plane which has asked to take off stands on the runway adds 5 points.

There are other dangers in the higher difficulty levels (see section 5).

5. Levels of Difficulty

Level 1

The weather ceiling is 450 feet and the leeway for approaching either runway is plus or minus 30 degrees.

Level 2

The weather ceiling is 300 feet and the leeway is plus or minus 20 degrees. The planes start with less fuel than in Level 1 and there is less distance between them as they enter the CRT range. In addition, the landing gear of one of the planes taking off (F to J) will fail and the runway it attempted to take off from will be blocked for the rest of the game. Landing or taking off from that runway will result in a crash, ending the game and adding 250 points.

Level 3

The ceiling is 150 feet and the leeway is 10 degrees either way. The amount of fuel each plane carries is less than in Level 2 and the planes come in with less distance between them. Also, in addition to the landing gear failure in Level 2, a random one of the planes taking off contains a terrorist, who demands to land immediately. This plane must be landed quickly or a crash results, ending the game and adding 600 points.

6. Scoring

At the end of the game, a report card for your performance is displayed. The grade at the bottom of the screen is a good indication of how you did, but random factors can make a game more or less difficult than average. It is important to remember however, that anything less than a B is not acceptable under any circumstances

Please keep the ALPHA LOCK key depressed for this game.

```
Although the program will handle ALMOST every
eventuality, on rare occaisions it can lock
out with repetitive 'Message Garbled' messages.
If this happens, you score F.
Use CLEAR and RUN again!!!
```

CASSETTE LOADING:

Maintain your recorder in good condition by regularly cleaning and demagnetising it.

NO DATA FOUND means the volume is far too high or far too low.
ERROR IN DATA means the volume is not quite correct.

THIS PROGRAM IS IN EXTENDED BASIC & requires the Extended Basic Module.

This is one of many Not Polyoptics programs available from Stainless Software.

U.K. DISTRIBUTOR:

STAINLESS SOFTWARE
10 Alstone Road, STOCKPORT,
Cheshire, SK4 5AH.

Send large SAE for current catalogue.