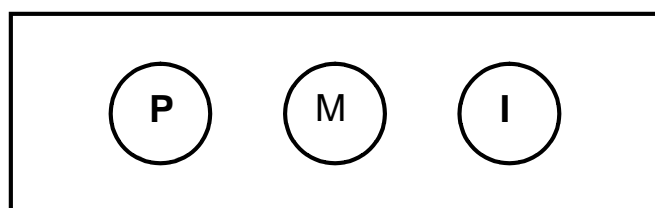
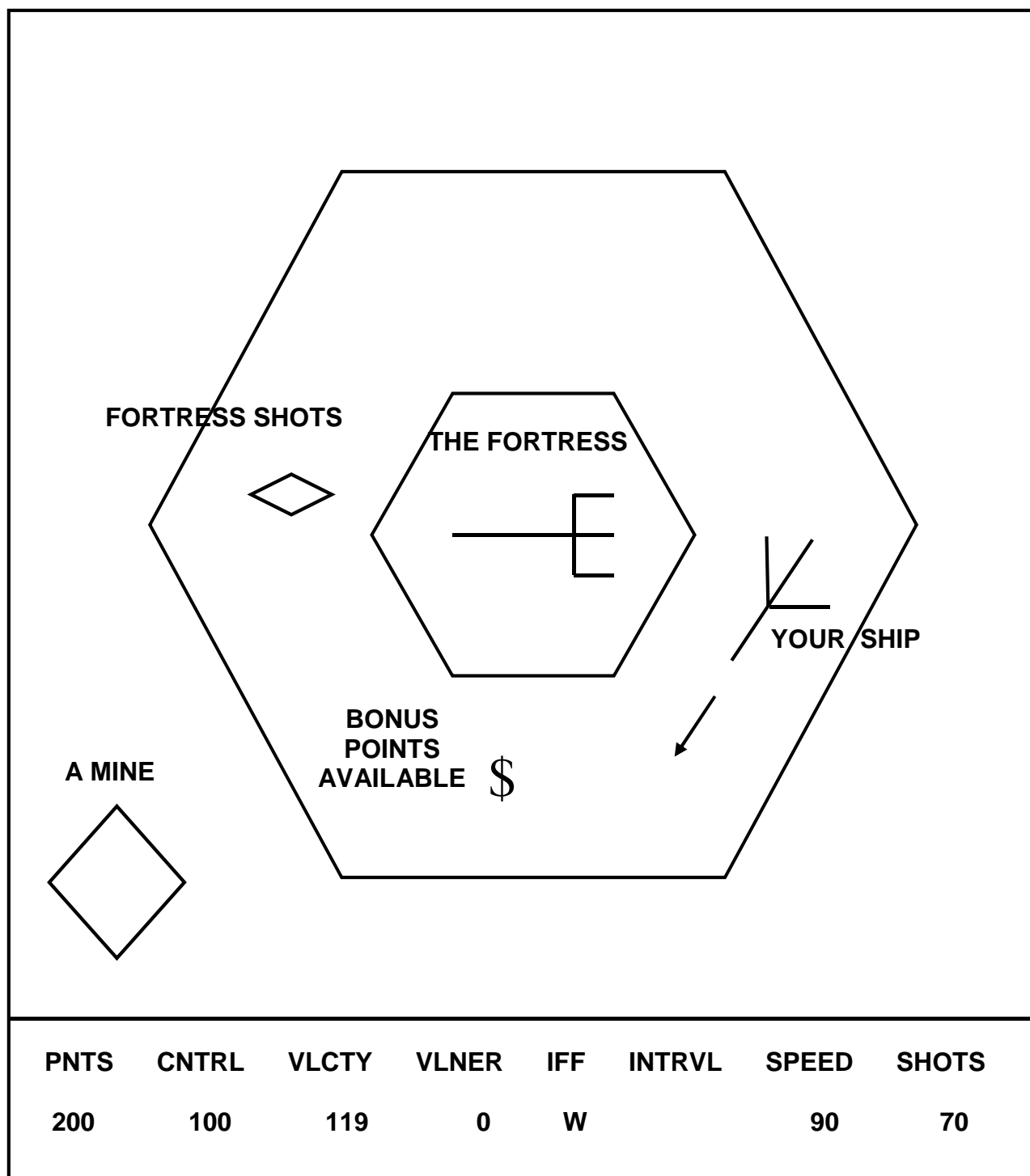
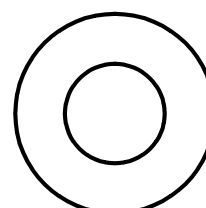


SPACE FORTRESS INSTRUCTION MANUAL: READ CAREFULLY



MOUSE BUTTONS



JOYSTICK

INSTRUCTIONS: SPACE FORTRESS

The game you will be playing is called “**Space Fortress**”. It is a complex and difficult game that requires a high degree of skill. You will be controlling a spaceship that is moving in a frictionless environment that includes hostile elements: a Space Fortress and mines that will try to damage or destroy your spaceship. Your primary goal is to maximize your game points. To accomplish this, you will have to **(1) Destroy the Fortress as many times as you can, (2) Hit as many mines as possible, and (3) Protect your own ship from being hit or damaged.**

On the computer display, the upper part represents the environment in which you will fly your ship to accomplish your mission. An instrument panel is located at the bottom of the display and provides important information necessary for flight and mission performance.

About Your Spaceship

You will be controlling the motion of your spaceship by operating a joystick. Remember that the ship is moving in a frictionless environment, and is very sensitive to stick inputs. Moving the stick forward will cause the ship to accelerate in the direction in which it is pointing. Moving the stick to the left or right will rotate the ship counter-clockwise or clockwise, respectively. Pulling the stick toward you will have no effect on the movement of the ship. You should realize that the ship will not slow down or stop unless you accelerate it in the direction opposite to which it is presently moving.

The boundaries of the region in which you should try to fly your ship are represented by two hexagons displayed on the screen (your designated “practice area”). *Please point to the hexagons now.*

Your ship will be moving in a hostile environment in which it is constantly threatened by the Fortress and mines. After your ship has been damaged three times, it will be destroyed and the game will start again automatically. To defend yourself, you are given weapons which you may fire at either the Fortress or mines. The firing button is located on the top of the control stick. When you press the button it will fire a missile in the direction in which the ship is pointing. At any given time, your ship can carry no more than 100 missiles.

The Fortress

In this game, your principal opponent is the Space Fortress which is stationed in the center of the screen. *Please point to the Fortress now.* The Fortress can rotate, track, and lock onto your ship, firing a shell at your ship. When a shell hits or passes close enough to your ship, it will damage or destroy it.

Your mission is to destroy the Fortress. In order to do this, you have to hit the Fortress with your missiles at least 10 times. The timing of these first 10 shots is critical. At least 250 milliseconds must occur between each shot. The number of successful Fortress hits is displayed in the “**Vulnerability Counter**” (**VLNER**) on the instrument panel. *Please point to the VLNER counter now.* Once you hit the Fortress 10 times (or more), with the timing between each shot at least 250 milliseconds, it becomes vulnerable. If you shoot at the Space Fortress too rapidly, the vulnerability of the Fortress will reset to zero and you must begin accumulating vulnerability points all over again. Once the vulnerability of Fortress reaches 10 (or more) you can destroy it by hitting it with a double shot. That is, two consecutive shots in less than 250 milliseconds. It is okay to wait until you have hit the Fortress more than 10 times before you attempt the double

shot. However, if you fire a double shot when the Fortress vulnerability counter is less than 10, the **VLNER** counter will reset back to zero and you have to start accumulating Fortress hits all over again.

To summarize, bring the **VLNER** counter up to 10 or more by shooting at the Fortress, with at least 250 milliseconds occurring between each shot. Then destroy the Fortress by firing a rapid double shot.

Mines

Mines constitute an additional threat to your ship. Every 4 seconds, a mine will appear somewhere on the screen. *Please point to the mine now.* Mines will actively pursue your ship and try to damage or destroy it if they get close enough.

If you do not destroy the mine, it will remain active for 10 seconds before it disappears. You will want to deal with mines as quickly as you can, because as long as there is a mine on the screen, you cannot damage the Space Fortress. There are two types of mines, and you must respond differently depending on which type it is.

A mine can be either a “friend” or a “foe”. Its type is identified by a letter that appears in the middle of the instrument panel under the label **IFF** (Identify Friend or Foe). *Please point to the IFF indicator now.* Before each 3-minute game, three letters will be displayed on the screen that designate the identity of “foe” mines. These identifiers will change from one game to the next. It is very important that you remember these letters. When you detect a mine on the display, check your instrument panel. If the letter is one of the three letters presented at the beginning of the game, the mine on the display is a “foe”. If the letter is not one of the three presented at the beginning, then it is a “friend”.

When you fire a missile at a “friendly” mine, you will “energize” it. Each time you energize a “friendly” mine you will receive 20 points and the vulnerability counter for the Space Fortress will increment by one point. Energizing friendly mines increases the vulnerability of the Space Fortress.

When you identify a mine as a “foe”, you must press the IFF button (the right button on the mouse) two times before you can destroy it. *Please point to the right button on your mouse now.* The interval between the two button presses must be between 250 and 400 milliseconds. Any interval that is shorter or longer than this range will not be effective. On the right side of the instrument panel, a counter displays the actual interval between your two button presses (**INTRVL**). *Please point to the INTRVL counter now.* If you did not succeed in hitting the two button presses at the right interval, you can try again. Each time you destroy a “foe” mine, you receive 30 points. Remember, you must press the **IFF** button twice, with the correct interval between the button presses, before you can destroy a “foe” mine. For a “friend” mine, you can shoot it right away.

To summarize: When a mine appears, check the letter under **IFF**. If the mine is a “friend”, aim and press the trigger. If it is a “foe”, press the right button on the mouse twice with the interval between each button press between 250-400 msec, then aim and pull the trigger.

IMPORTANT! When a mine appears on the screen, your weapon is not effective against the Fortress. However, once the mine disappears (or you have destroyed it), your weapons system automatically becomes effective against the Fortress again.

Possible Errors in Mine Identification:

1. **Error 1:** The mine is a “friend” and you press the IFF button.
If you press the IFF button for a friendly mine, Your weapon system becomes ineffective and all you can do is avoid the mine and the Fortress and wait until the mine disappears (10 seconds after its appearance).
2. **Error 2:** The mine is a “foe” and you do not press the IFF button.
Your weapon system becomes ineffective, but you can still press the IFF button and shoot the mine.
3. **Error 3:** The mine is a “foe”, you press the IFF button, but the interval between button presses was too long or too short.
Your weapon system is ineffective, but you can try the double button press again.

Resource Limitations

When the game begins, you have 100 missiles. The number of missiles your ship has remaining is displayed in the “**SHOTS**” counter on the right side of the instrument panel. Once your supply is depleted, you can still shoot, but every missile that you shoot will cost you 3 points. Underneath the Fortress, different symbols will appear. When a “\$” appears twice in a row, you have the opportunity to obtain more resources. You can choose to get up to 50 missiles, or 100 more points. The choice is yours. You will have to decide each time which choice will be of more benefit.

Select more **points** by pressing the left button on the mouse. *Please point to the left button now.* Select more **missiles** by pressing the middle button on the mouse. *Please point to the middle button now.*

If you press one of these buttons when the “\$” symbol appears for the second time, you will get the bonus that you selected. However, if you press one of these two buttons when the symbol appears for the first time you will get nothing. Furthermore, pressing the button again when the “\$” does appear a second time will have no effect. Whenever you have obtained either points or missiles, the word “**BONUS**” will flash near the Fortress.

Ship Control

You must learn to acquire control of the ship and fly it in a planned trajectory. Your goal is to fly the ship in a clockwise direction around the Fortress while staying within the hexagon boundaries. By doing this, you will maximize your ship control points. You must also not leave the edges of the game play area. When this happens, you wrap around to the other side of the screen. This is called entering “hyperspace”, and you lose points whenever you enter hyperspace.

Speed of Mine Handling

You will receive immediate feedback about your response time and success in handling each mine by the number of points added or lost to the **SPEED** score. Points will be subtracted from this score if you are slow to respond to a mine, or do not respond at all. You will always maximize your points in this area by handling mines quickly and appropriately.

Points

Your total number of points for this subscore is continuously updated and displayed on the instrument panel underneath the label “**PNTS**”. *Please point **PNTS** counter on the left side of the instrument panel now.*

Point will be added to your **Points** score as follows:

- Points when you hit the Fortress
- 100 points when you destroy the Fortress
- 20 points for “energizing” a “friendly” mine
- 30 points for destroying a “foe” mine
- 100 points if you select the points option when a bonus is available

Point will be subtracted from your **Points** score as follows:

- 3 points if you shoot a missile when you have none left
- 50 points if the Fortress damages your ship
- 50 points if a mine damages your ship
- 100 points if your ship is destroyed

Control

Your total number of points for this subscore is continuously updated and displayed on the instrument panel underneath the label “**CNTRL**”. *Please point to the **CNTRL** counter on the instrument panel now.*

Points will be added to your **Control** score as follows:

- Maximum points – when ship is on the screen, and within the hexagon boundaries
- Half as many point – when the ship is on the screen, but outside the hexagon
- Boundaries

Points will be subtracted from your **Control** score as follows:

- 35 points every time your ship leaves the screen into hyperspace
- 5 points every time your ship enters the inner hexagon

Velocity

Your total number of points for this subscore is continuously updated and displayed on the instrument panel underneath the label “**VLCTY**”. *Please point to the **VLCTY** counter on the instrument panel now.*

Points will be added to your **Velocity** score as follows:

7 points for moving at a low velocity (these points are accumulated continuously)

Points will be subtracted from your **Velocity** score as follows:

-7 points for moving at a fast velocity (these points are accumulated continuously)

Speed

Your total number of points for this subscore is continuously updated and displayed on the instrument panel underneath the label “**SPEED**”. *Please point to the **SPEED** counter on the instrument panel now.*

Points will be added to and subtracted from your **Speed** score as follows:

-50 to +100 points depending on how you deal with a “friendly” mine

-50 to +100 points depending on how you deal with a “foe” mine

Remember, your main goal is to obtain the highest Total Score. Your Total Score is a combination of the following four subscores: Points, Control, Velocity, and Speed. To maximize the points in each of these categories, you must do the following:

Points: Hit and destroy the fortress as many times as possible

Destroy as many mines as possible.

Avoid letting your ship get hit or destroyed by the fortress or mines.

Select the bonus points whenever possible except when the shots counter is below 50.

Control: Stay on the screen and move clockwise within the hexagon boundaries.

Velocity: Move the ship at a low velocity (speed).

Speed: Destroy mines quickly and appropriately.

You will not know your Total Score for a game until it has ended.

Optimal Strategies

1) Navigation

*circle the Space Fortress slowly in a clockwise direction while staying within the region enclosed by the two hexagons.

2) Mine Responses for Correctly Identified Mines

*let the mines come to the ship, then turn and fire when they are close.

3) Mine response for Incorrectly Identified Mines

*a friend mine becomes a deadly enemy if the foe response is made when it appears, that is, if the IFF button is pushed.

*if this happens, it cannot be destroyed and it can destroy the ship

*in this situation, it is best not to run from the mine, stay on your hexagon course and let the mine destroy your ship.

4) Missile Management

*when bonus opportunities occur, take points unless this ship has less than 50 missiles remaining.

5) Joystick Control

*the joystick is very sensitive, so use a light touch

*let the joystick return to the center when you are not actively maneuvering the ship so that you do not send unintentional signals to the computer that will adversely affect the ship's flight pattern.

SUMMARY OF INSTRUCTIONS

Ship Control:

- *Remember that the joystick is very sensitive, so grip it lightly and make small movements
- *The most efficient movements of the joystick are left, right, and forward.
- *You cannot slow down or stop the ship by pulling back on the joystick. Also, moving the joystick diagonally will not cause the ship to move diagonally.
- *To slow or stop the ship, remember to rotate the ship so that it is facing opposite its current direction and apply slight thrust.

Fortress:

- *Vulnerability score must reach 10 before the Fortress can be destroyed.
- *Vulnerability points are accumulated by shooting the Fortress and friend Mines.
- *When the vulnerability counter reaches 10 or more, a rapid double shot will destroy the Fortress.
- ***BUT**, if you fire a rapid double shot before the VLNER counter reaches 10, the counter will rest to 0.

Mines:

- *Every time a mine appears on the screen, a letter will appear under the IFF label on the instrument panel.
- *The 3 letters that represent foe mines are displayed on the screen before each game.
- *When the mine on the screen is a **FOE** mine, you must press the right mouse button twice with an interval between button presses of 250-400 milliseconds. This interval is displayed on the instrument panel under the label INTRVL next to the IFF label. If you do not obtain the correct interval, you may try again as many times as you can.
- *When the mine on the screen is a **FRIEND** mine, all you have to do is shoot it to energize it. **BUT**, if you press the IFF button on the mouse, you will **not** be able to destroy the mine.
- *Missiles are not effective against the Fortress while mines are on the screen.

Resources and Bonuses:

- *You begin each new game with 100 missiles.
- *During the game, various symbols will appear on the screen beneath the Fortress
- *Every time the **second \$** symbol of a pair appears on the screen, you can select a bonus of 100 points by pressing the **LEFT** mouse button, OR a bonus of 50 missiles by pressing the **MIDDLE** mouse button.
- ***BUT**, if the left or middle mouse buttons are pressed anytime before the second \$ symbol appears, the bonuses for that pair of \$ symbols are forfeited and you must wait for the next pair to appear.