D e f i a n c e

A starship combat simulation by Warren L. Greene

Message from Starfleet Command:

You have been given command of the U.S.S. Defiance (NCC-1717), a
Constitution class MK-IXA heavy cruiser. A state of war exists
between the United Federation of Planets and the Klingon Empire.
Hostile forces have been reported advancing on Starbase Twelve. You
are authorized to take any action you think appropriate to defend
yourself and Federation interests in your area.

U.S.S. Defiance operating instructions:

It would be prudent, in the time remaining before that Klingon out
there decides to earn his next Beryllium Cross by blasting you into
interstellar dust, to familiarize yourself with the operation of your
ship.

---

1. Reading from the upper left of the tactical display you will see
the following information:

1.1 CONDITION - the alert condition of your crew. Under Red Alert the
weapons stations are manned. Under Intruder Alert the crew is
mobilized to deal with any unauthorized presence.

1.2 PORT - intermix temperature of the port warp engine. This changes
as a function of port engine power. Temperatures around 9000 degrees
will result in the destruction of the engine.

1.3 POWER - output power of the port and starboard engines (port/stbd)
in percent. Output power is a function of speed, maneuvering, shield
drain and weapon use. Power levels above 100 percent will cause a
continuous increase in engine temperature. For details of which
systems are powered from each engine, see the library computer

1.4 STBD - intermix temperature of the starboard warp engine.

1.5 MODE - reactor mode. When split, each engine powers its own
loads. When crossconnected (cross) the engines share the total load
equally.

1.6 TIME - hrs:min:sec of disk clock time

1.7 PHASERS STANDBY 0 - the ships six phaser banks fire together at
contacts between 225 and 135 degrees relative (shields 1, 2 and 4).

The maximum range is 6000. The probability of hitting the target decreases with range and target speed. The damage inflicted decreases with range. The initial weapon status is STANDBY which indicates the phasers are not prepared for operation. READY indicates phasers can be fired. RECHARGE indicates the phasers have fired and are automatically being returned to READY. INOPERATIVE indicates all six banks are damaged. The number to the right of the status is the phaser mode: 0 - Manual: fire by pressing the P key. 1 - Automatic: phasers will fire soon as they recharge if the intermix temperature of the port engine is below the temperature limit. 2 - Automatic with no temperature limit.

1.8 TORPEDOES STANDBY - the ship's four photon torpedo tubes fire together at contacts between 315 and 045 degrees relative (shield 1). The maximum range is 3000. The probability of hitting the target decreases with range and target speed. The damage inflicted is a constant. In STANDBY the torpedoes are not charged. CHARGED indicates they are ready to fire and are using power from the starboard engine to remain charged. COOLDOWN indicates the torpedoes have been fired and are being returned to STANDBY. They must be charged prior to each firing.

1.9 PRESENT SPEED 2 0 - the current speed of your ship in warp factors. The newtonian speed is the warp factor cubed times the speed of light. 0 Indicates normal mode. 1 Indicates cutback mode where speed will be reduced if port engine temperature exceedes the intermix temperature limit.

1.10 CONTACT SPEED - the speed of the contact in warp factors.

1.11 CONTACT RANGE - the distance to the contact in light-seconds. A light second is the distance light will travel in one second in a vacuum (2.98e8 meters).

1.12 NAV MANUAL - navigation mode. In MANUAL the arrow keys or a joystick can be used to turn your ship. This will result in an apparent movement of the contact. In FOLLOW mode the ship will turn so as to bring the contact directly ahead. In evade it will turn to bring the contact directly behind.

1.13 SHIELD 0 % - for each of the four shields the current strength is displayed in percent. The number after shield is the mode. 0 - Shields will not recharge. 1 - Shields will recharge 10% per second. 2 - Shields will be charged to 100% immediatly if the engine from which the shield is powered is below the temperature limit. 3 - The shield facing the contact will be charged to 100% if the engine from which it is charged is below the the temperature limit. 4 - As 3 but without temperature limit.

----

2. The bottom half of the tactical display is the viewscreen. This

is a projection of the 3-dimensional space around your ship similar to a Mercator projection of the earth onto a wall map. An object directly ahead will appear in the center of the screen. An object behind will be at the left or right edge. Objects above or below will be at the top or bottom respectively. Index marks at the top and bottom of the screen show the areas covered by the four shields. Shield 1 (forward) is in the center, shields 2 (starboard) and 4 (port) are to the right and left respectively and shield 3 (aft) is split between the extreme right and left. These marks also show the arcs of fire of the weapons, as explained above. With the viewscreen in normal mode, contacts will appear larger as the range decreases.

----

3.   Several INKEY$ functions are available from the tactical display:

3.1 Ordered speed - pressing the number keys 0 through 8 will cause your ship to accelerate or decelerate at .5 warp per second to the speed corresponding to the key pressed. The maximum sustained speed is warp 6, if no power is used for other systems. Warp 8 can be maintained for short periods.

3.2 Library data - pressing L will display a menu of available data pages. Press the number key for the desired page. Press L again to return to the menu, or any other key to return to the tactical display.

3.3 Mode changes - pressing M will display a list of systems and parameters. Press the key corresponding to the first letter of the listing. Most of these have been explained above. A few notes are in order:

3.3.1 Intermix temperature limit is set initially at 6000 degrees as required by Starfleet peacetime safety regulations. Under combat conditions you may find other settings more appropriate.

3.3.2 The maximum magnification viewscreen mode gives a closeup look at the contact, but is not useful tactically.

3.3.3 When navigation is in an automatic mode (FOLLOW or EVADE) the ship will not respond to key or joystick commands. The ship can turn faster in manual control than in auto. Arrow keys will repeat if held down.

3.4 Weapons - pressing shift/P will charge the phaser banks and change the status from STANDBY to READY. Pressing P will fire the phasers if the target is in range and in the firing arc. At the time of firing the phasers draw a large amount of power from the port engine. Pressing T will charge the torpedoes and draws a large amount of power from the starboard engine. Significant power is also required to keep the torpedoes charged. Pressing T will also fire the torpedoes if they are charged and the target is in range and in the firing arc. Pressing shift/T while the torpedoes are charged will discharge them and is useful for reducing power output if the target is not in

range.

3.5 Maneuver — the joystick and the arrow keys are used to maneuver if
navigation is in MANUAL. Push the stick forward (up arrow) to dive,
pull back (down arrow) to climb, left and right to turn left or
right.

_____

4.   The following is a summary of the inkey$ functions:

0-8   Ordered speed, warp 0 to 8
L   Library data
M   Mode changes
shift/P   Charge phasers
P   Fire phasers
shift/T   Charge torpedoes
T   Fire torpedoes
Up arr   Dive
Down arr   Climb
Left arr   Left
Right arr Right

_____

Intelligence datat

Datafile: 3.048.197
Security classification: b3
Subject: Klingon battlecruiser type d7
Ship specifications:
- Tonnage   110,000 metric tons
- Cruising speed   Warp 6
- Maximum speed   Warp 7
- Armament   10 disrupter banks
- Crew   454 personnel

Deployment: battlefleet close support, long range raiding and
interdiction, civil repression, diplomacy, exploration. Several D7
battlecruisers, possibly supported by heavy fleet units, have been
operating in Quadrant 3 North as part of the Klingon Empire's
expansionist policy.

Evaluation: the D7 design is optimized for fleet combat. While
defensive and damage control systems are good, offensive capability is
inferior to a Federation heavy cruiser. Scientific and survey
functions have clearly been sacrificed. Cruising speed is comparible
to contemporary Federation designs, but overload capability is
limited. Habitibility is extremely spartan.

_____

Player's notes:
The most important prerequsite for success in this simulation is
patience. Your Klingon opponents are not dumb and will use every
trick they can to overheat your engines, capitalize on your mistakes
or misfortunes, and goad you into hasty or ineffective attacks. Since

weapon hit probabilities decrease as range increases, and decrease as
target speed increases, you must develop tactics which will place the
enemy in the firing arc of your photon torpedoes at close range, while
allowing you to maintain a high speed — to minimize hits on yourself.
Once you have damaged the enemy, press your advantage. The Klingons
will repair damaged systems just as you do. Check your library
computer often and note how much damage you are inflicting. The
amount of damage a ship can absorb is not a constant. Watch the
contact course and try to undestand what he is doing. Using one of
the automatic modes will bring the contact into the x-y plane
(azimuth=0). The battle can be fought effectively in 2 dimensions if
you have trouble with 3. Just use left-right commands and avoid
dive-climb. The course and bearing system in 2 dimensions is
identical to 20th century naval practice.

_____
Designer's notes:

In this simulation I have attempted to place the player in the
position of a starship captain, making those tactical and
administrative decisions he would expect to make and leaving to the
computer those tasks, such as calculating torpedo courses and
restoring shield levels, which would naturally be handled by computers
or junior officers. The heavy emphasis on engineering functions
reflects my background in nuclear submarines. Many design features
such as weapon arcs, speeds and engine temperature limits were
dictated by the existing literature available on the subject, a
partial list of which is given in the bibliography. Where that
literature was inconsistent I exercised artistic licence.

_____
Bibliography:

Cole, Stephen V. Star Fleet Battles. Amarillo: Task Force Games,
1979.

Irwin and Love, ed. The Best of Trek. New York: Signet, 1974.

Joseph, Franz. Starfleet technical manual. New York: Ballantine
Books, 1975.

Trimble, Bjo. The Star Trek Concordance. New York: Ballantine Books,
1976.

Zocchi and Kurtick. Star Fleet Battle Manual. Gamescience, 1977.

Episodes:
Crawford, Oliver. Let that be your last battlefield. (Self destruct
codes).

Fontana, D. C. Journey to Babel. (Power distribution).

Sohl, Jerry. The Corbomite Maneuver. (Engine temperatures and
limits).