BEGIN

A Tactical Starship
Simulation

Advanced Strategy Manual

CLOCKWORK SOFTWARE

BEGIN

A Tactical Starship
Simulation

Version 1.65

Advanced Strategy Manual

CLOCKWORK SOFTWARE

PO Box 610338 San Jose, California 95161
415-598-0192

Printed Jan 89, Jan 90, Nov 91, Nov 93

Begin - Advanced Strategy Manual

Copies of this manual may be obtained from Clockwork Software. The price is $15 which includes version 1.65 of the Begin program on diskette.

Begin v2.0 is now available. Version 2.0 incorporates many new features such as Starbases, Docking, Tugs, Tractor beams, Cloaking devices, Boarding parties, and Shield reinforcing. You may now include up to sixty ships or bases in a single game as well as start games with random ship selections.

Docked ships repair at an increased rate and may repair any damaged or destroyed system. All ships now have a limited sensor range so that ships out of range are not revealed to you. Allies may now be placed into groups and given group commands. Many new ally commands have also been added such as Tow, Approach, Dock, Defend and Recover. This version now supports a graphical display (VGA only) which shows the direction and speed of all objects as well as shield strengths. Text only mode is still supported. See Appendix D for a detailed list of new feature.

Order your copy of v2.0 for just $19 plus $6 shipping/handling. If you purchased a previous version of Begin from Clockwork Software, you may upgraded for just $9 plus $6 shipping/handling. Visa and Mastercard excepted. You may order your copy by modem through First Online.

Please address any comments on this manual or orders for new manuals to Clockwork Software.

Clockwork Software
P.O. Box 610338
San Jose, CA 95161
(415) 598-0192

First Online
(415) 598-0398
1200/16800 24 Hours

INTRODUCTION

This is the Advanced Strategy Manual for Begin. Although the program Begin and the User's Guide that accompanies it can be freely distributed as shareware, this manual is copyrighted by Clockwork Software and may not be duplicated or transmitted in any form.

The Advanced Strategy Manual is divided into several parts. This part of the manual gives an overview of the simulation and a brief description of the various systems that are represented in the game.

Begin is actually a simulation of a simulator that tests your ability to command a fleet starship. For the first time, you will actually have the feeling that you are commanding a real starship, against real enemy captains.

Unlike almost all other space games of this type, Begin does not employ the unrealistic "quadrant-sectors" or the "Mass Hoard of aliens" approach. Instead, all ships are created equal with intelligent enemy strategy code being used to defeat the human player. For the novice, even a one-on-one scenario can be quite a challenge.

Begin also features four different nations, Federation, Klingon, Romulan and Orion, with the human player becoming the nation of their choice. The program also provides for numerous ship classes of varying design for each of the different nation.

There are not any artificial "difficulty levels" in Begin. If a player wishes for an easier scenario, they may command a fleet of up to seventeen ships against a smaller enemy force. For a more difficult scenario, include more enemy ships.

The object of Begin is (as usual) to destroy the enemy fleet before they destroy you. You will receive an evaluation of your performance at the end of the action. Your enemy is tough and experienced. He will do his utmost to destroy you with whatever fleet you give him.

Enjoy this new level of sophistication in computer entertainment.

OVERVIEW

The following section of the manual is a brief overview of Begin. Begin is actually made up of five separate parts that happen in sequence, introduction, setup, command input, strategy, and movement. A more detailed explanation of each of these can be found in a later section.

The first part, introduction, will happen only once. It will first prompt you for your name. Your name will be used as the prompt for all command input. Next you will be asked which nation you wish to ally yourself with, and the nation of your opponent.

The second part, setup, will also happen only once. Two status displays will be drawn, one of the ally fleet and one of the enemy fleet. At this point you will enter commands to configure the number and class of ships in each of the fleets. Once you are satisfied with the configurations, you may start the simulation.

Once the tactical displays have been drawn the program will be waiting for command input. You may enter commands for controlling your ships' weapon systems, defenses, status displays or for directing your ally ships. Input will allow you as much time as you need to decide your command. You may enter an entire command on one line or allow Begin to prompt you for each part.

After the entire command has been entered, the strategy of all enemy and ally ships is determined. These ships follow the same rules for commands that you must follow. After all ships have determined their strategy, the real time movement is performed.

Real time moves all objects according to the Begin laws of physics. Every item will be moved in sequence, ten times, to simulate simultaneous movement. Your crew will report most of the enemy and ally ships actions during this time, such as who is firing torpedoes and who has been hit. At the end of this cycle, before you are again asked for command input, the tactical displays will be updated.

One time through the above sequence is call a cycle, and is the basic unit of time in Begin. All time is measured in cycles but may sometimes be referred to as seconds, such as three seconds to self destruct.

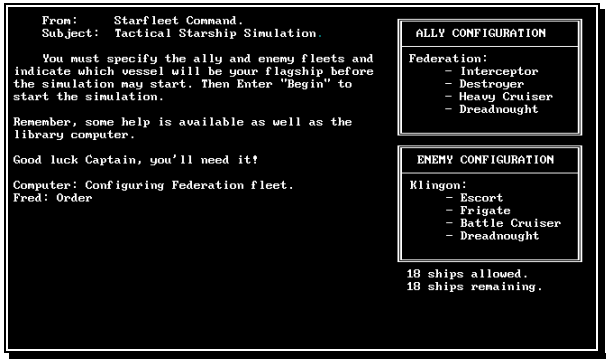
SETUP

After you have entered your name and have selected the ally and enemy nations, you will need to configure the ally and enemy fleets. The setup screen contains two fleet status displays. The top display shows the make-up of the ally fleet and the bottom display is that of the enemy. Also displayed is the total number of ships allowed along with the number of ships you have not yet allocated to either fleet. A dash before a ship class name in the fleet displays indicate you have not selected any ships of that class.

At this point you may enter ally and enemy configuration commands. With these commands you will specify the number and class of ships in each of the corresponding fleets (Refer to the Configure command in the Command Summary section). A single fleet may contain up to the total number of allowed ships minus one. If you need more details on each ship class before you configure the fleets, the library computer is available.

If you have more than one class of ship in the ally fleet you must specify the ship class of your flagship. The flagship is the type of ship you will be commanding your fleet from. The enemy does not need a specified flagship.

Once you are satisfied with the make-up of each fleet you must enter the command "Begin" to start the simulation.



Sample Setup Screen

The above sample setup screen is for Captain Fred who will command a Federation ally fleet against an enemy Klingon fleet.

SHIPS

All ships are controlled by a fixed number of attributes. These attributes control the ships speed, acceleration, turn rate, weaponry, shield strength etc. This section briefly explains how these attributes function.

Displays

The tactical displays are shown on the right side of the screen. The upper display is the position display. It shows the actual positions of all ships relative to your flagship. You may set the magnification of this display to allow for a finer resolution.

The lower display is the ships' Systems Status display. It shows the condition of five ship systems. They are the Phaser Banks, Torpedo Tubes, Probe Launchers, Warp Drives, and Shields.

Within the System Status display a period is used to indicate a system is discharged or turned off. If this symbol is blinking it tells you that the system has been damaged and is non-functional.

The dash, equal and triple equal symbols are used by the Bank and Tube systems to indicated the last three cycles of their charge time. The small 'o' symbol is used by the Tube and Launcher systems to indicated a loaded and ready condition.

The Warp Drives and Shields use the three shaded solid block symbols to indicated the state of these systems. For the Warp drive they indicated temperature, for the Shields they indicated strength. A blink block tells you a system is about to fail.

Display related commands are: Scan, Range.

Helm

The helm controls the direction and velocity of the ship. The ship will not always respond instantly to helm commands. Response depends on the size of the ship you are commanding and the current helm settings. Generally, the larger the ship or the faster the current speed, the slower the ship will respond to course and speed changes. The exception to this is that all ships respond instantly if the current speed and the requested speed are both warp one or less. For specific ship class attributes, consult your ships' library computer or refer to Appendix C.

Helm related commands are: Helm, Pursue, Elude, Report.

Weaponry

Available to you are a three different weapon systems that vary from ship class to ship class. Most ships have all three although of few of the smaller ships do not. These weapons are Phasers, Torpedoes and Probes.

All phasers banks and torpedo tubes may be locked on a specified ship or turned to a specified relative angle off the current heading (mark). The target or course of a probe is specified at launch time since probes are "smart" in that they may pursue a specified target or course and may be controlled after they leave the ship.

Phasers are short range weapons that hit their target instantaneously. The closer you are to the target, the better the hit.

Torpedoes travel at a specific velocity determined by the class of torpedo your ship carries although it is generally very fast. If the tube is locked on a target, the tube will "lead" the target to compensate for the target's course and velocity. Most classes of torpedo cannot change course once they are fired.

Probes are very slow in comparison to torpedoes. The advantage of a probe is the ability to pursue a target, and it's relatively large warhead. Probes may also be controlled after they are launched. They may be set to a specific heading or re-locked on to a target.

Consult your ships library computer for specifics on these weapons or refer to Appendix C.

Weaponry related commands are: Fire, Lock, Turn, Status, Torp, Phaser, Probe

Shields

Shields protect the ship from being damaged by enemy (or ally) weapons. A shield will weaken in proportion to the magnitude of the hit on that shield. This type of damage is actually only temporary and the shield will regenerate slowly over time. If the hit is larger than the shield can absorb, then the ship will sustain damaged.

The amount of damage will depend on the strength of the hit. Any of the ships systems may be damaged including the shields maximum strength. This damage is permanent and may only reduce the effectiveness of the system as in the case of reactors, engines or shields, or may totally disable the system as with phaser banks or torpedo tubes.

Shield related commands are: Raise, Lower, Status, Shields

Status

All commands will result in the ending of your "turn" except for commands that only display status. The status command will display the current state of the entire ship, phaser banks, torpedo tubes, probe launchers, shields or active probes. This also includes scanning enemy or ally vessels and ally reports.

Status related commands are: Report, Status, Banks, Tubes, Launchers

Computer

All ships are equipped with a library computer. The library computer will display information on any ship class, torpedo class or probe. Appendix C contains a copy of all information available throught the library computer.

Computer related commands are: Library, Computer, Help

Damage Control

All ships have a damage control crew which automatically makes repairs to any disabled ship system. The efficiency of damage control is related to the number of crew remaining. Once a system has been fully repaired you will receive a

message informing you that repairs have been completed. The condition of your damage control is displayed on the damage report.

Damage related commands are: Damage

ENEMIES AND ALLIES

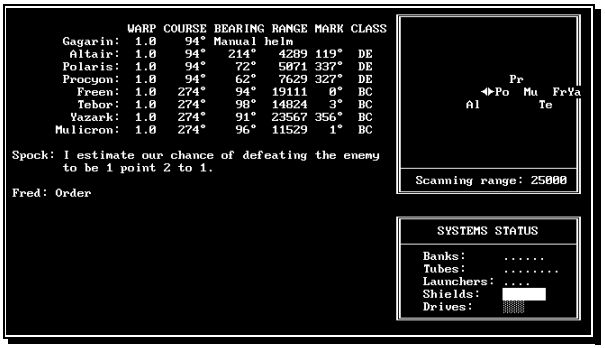
All ally and enemy ships are given a "personality" when they are created. This consists of a number of attributes that control their bravery, aggression, fanaticism and loyalty, and is based on the race of that enemy or ally.

During play, your ally ships will engage the enemy at will although you are allowed to give them a few general orders. These include who to attack, what course to follow, hold fire, etc. They will almost always follow these orders unless they are not very loyal or the order is very unreasonable. In any case, they will give a response to that order.

It is important to remember the orders you issued or you may render an ally useless. For example if you order an ally to follow a course, he will most likely follow that order until you cancel it.

If your ship sustains heavy damage (or even if it doesn't) you are allowed to trade ships with one of your allies.

Ally related commands are: Tell, Order, Fleet, Beam, Transport



Sample Play Screen

In the above sample play screen, Captain Fred commands a fleet of three Federation Destroyers from his Dreadnought Flagship, against an enemy Klingon fleet consisting of four Battle Crusiers.

COMMANDS

The following is a list of all the commands available to the player. In a number of cases there is more than one form of the same command. For example, "tubes" is the same command as "status tubes". Some commands can only be used during the setup portion of the game. These commands have { Setup only } after their names.

Each command description gives the general form of the command and a description of command operation. The description for each command is followed by one or more examples. Optional parts of the commands are enclosed in square brackets ([optional]). Certain words can be included in the command, but have no meaning. Words like "the", "at", "to", and others are ignored by the command parser.

CONFIGURE { Setup only }

Format:

[Configure] Ally <number> <ship class> [Flagship]... [<more ships>]
[Configure] Enemy <number> <ship class> [<more ships>]

The configure command is used during setup to select the enemy and ally fleets. You may configure up to the total number of allowed ships minus one in a single fleet. You may only have up to nine of any one ship class however. You must specify an ally flagship if the ally fleet is made up of more than one ship class. This may be done with this command or by using the Flagship command.

Examples:

Config Ally 3 Frigates Flagship
Ally 5 Destroyers 3 Interceptors
Enemy 6 Dreadnoughts

FLAGSHIP { Setup only }

Format:

Flagship <ship class>

The flagship command allows you to specify a flagship class after you have finished configuring the fleets. You must specify a flagship if there is more than one ship class in the ally fleet. The flagship is the ship that you will be aboard when the game begins.

Examples:

Flagship Destroyer

BEGIN { Setup only }

Format:

Begin

This command informs the program that you are finished configuring the enemy and ally fleets and are ready to start the simulation.

Examples:

Begin

HELM

Format:

Helm [Course] <course> [Warp] <warp>

The helm command controls the direction and velocity of your ship. The course is a heading between -360 degrees and +360 degrees. All vessels will take time to come to the new heading although it may sometimes seem immediate. The amount of time will depend on the turning ability of your ship and the ship's current speed.

When turning, the ship will always turn in the direction that is the smallest distance to the new heading.

The warp is the velocity you wish to maintain. The ship's velocity, like its heading, may require a certain amount of time to achieve.

Examples:

helm course 60 warp 6
helm 225 3

PURSUE

Format:

Pursue <ship> [Warp] <warp>

This command instructs the helm to follow a specific ship. The ship may be an enemy or an ally ship. pursue the other ship until a helm or elude command is issued.

Examples:

pursue the banshee warp 4
pursue proxima 2

ELUDE

Format:

Elude <ship> [Warp] <warp>

The Elude command will instruct the helm to point the ship away from a specific enemy or ally ship. Your ship will continue to run from the other ship until a helm or pursue command is issued.

Examples:

elude dragon warp 8
elude ganther 7

CHART

Format:

chart
chart on
chart off
chart <ship name>

Every cycle the chart from your ship will be automatically displayed. If the chart moves off the top of the screen, entering "chart" will redisplay the current chart.

```
          WARP    COURSE     BEARING     RANGE     MARK     CLASS
Caspan:   4.0      305.       Manual Helm
Asp:      3.0      125.       305.       15035       0.      FR
```

The chart displays the names of all ships with the flagship being the first ship. The current warp factor and course of each ship is displayed as is the range of each ship from the charted ship. The Bearing column show the bearing of each ship from the charted ship. The bearing is the course the charted ship must

follow to head directly at a specific ship. The Mark column contains the degrees off the heading of the charted ship to a specific ally or enemy ship, for example, a mark of zero indicates the charted ship is heading directly toward a ship. The Class column indicates the class of each of the charted ships.

The automatic display of the chart can be turned off by issuing the "chart off" command. "Chart on" will turn the display back on. "Chart <ship name>" will display a chart from the point of view of the named ship.

Examples:

chart
chart on
chart from the zantha

REPORT

Format:

report

The report command displays various information about your ship. You may also request a report from an ally ship with the "order" command.

```
SHIP NAME:          Ketoi
CLASS:              Destroyer
SURVIVORS:          200
CONDITION:          100% Functional
NAVCOM:             Manual Helm
COURSE:             270.desired     229.current
WARP:               6.0 desired     4.5 current
```

Examples:

report

STATUS DAMAGE
SCAN SHIP

Format:

[Status] Damage
Scan <ship>

The damage status will display the overall condition of your ship. The scan ship command will show the same information about an enemy or ally ship.

```
SHIP NAME:      Viper
CLASS:          Frigate
SURVIVORS:      18

REACTORS:      100%     5%     XX
BATTERIES:       75     75     68     XX
BANKS:           XX     XX     ch     ..     XX
TUBES:           ld     XX
LAUNCHERS:       XX
SHIELDS:         XX    70%     1%    18%     XX     XX
WARP:            XX
WARP TEMP:      |9mLIMIT: 40m

WARP POWER:           0
OTHER POWER:          262
RESIDUAL POWER:       6
```

The above scan reveals that the Klingon Frigate Viper is heavily damaged. All "XX" markers show the systems that are completely non-functional. The Viper still has two working phasers, one is charged and one is discharged. One torpedo tube is still functional and is currently loaded and one probe launcher is undamaged but unloaded. Three of the six shields are completely destroyed, one is in good shape and two are very weak. The warp drive has been destroyed with its temperature falling to zero. With the warp drive eliminated, there is not any warp power. The reactors are providing 262 units of power but the ship still used -6 units of battery power last cycle to keep the remaining shields up.

Examples:
damage
status damage
scan viper

RANGE
DISPLAY
SCAN RANGE

Format:
range <range>
display <range>
scan <range>

Any of these commands will set the position display range. The position display is always in the upper right corner of the screen. The display shows the location of all ships by placing the first two letters of the ship's name on the display along with any active torpedoes or probes.

The range specified will control the magnification of the position display and only objects within this range will be displayed.

Within the position display, the "<>" in the center indicates the location of your ship. On the monochrome monitor, all enemy object will be displayed "intensified" and all ally objects "normal". On the color monitor, all enemy objects will be "bright red" and all ally objects will be "Yellow".

Examples:
range 15000
display 15000
scan 15000

STATUS FLEET

Format:
[Status] Fleet [<options>]

The fleet status command will display the current orders of each of your ally ships.

```
ALLY      TARGET          MISSION
Caspan:   Zantha          ..
Asp:      (Bismark)       Retreat
```

The Target column displays which enemy ship the ally ship is currently engaging. If the target ship name is in parenthesis it indicates the ally was ordered to fire on that enemy ship. The Mission column displays the mission the ally was ordered to perform.

FIRE PHASERS

Format:
[Fire] Phasers [spread] <spread>
Fire [all] Phasers [spread] <spread>
[Fire] Phasers <list> [spread] <spread>

This command is used to fire one or more of your ship's phasers. Phasers will hit the target instantaneously but weaken with distance. The spread is the width of the phaser shot. The wider the area, the weaker the hit but you may damage more objects. The spread may be from 10 to 45 degrees and the list is which banks are to fire.

Examples:
fire phasers 1 2 3 spread 10
fire all phasers 45
phaser all 45

LOCK BANKS

Format:
Lock Banks [ON] <ship>
Lock All Banks [ON] <ship>
Lock Banks <list> [ON] <ship>

When you fire your ship's phasers, they must be pointing at the target if you expect to hit anything. The "lock banks" command allows you to keep one or all of the phaser banks pointed at a specified target at all times. Each phaser bank may be locked on a different target. If the target is completely destroyed, the phaser bank will revert to manual control.

Examples:
lock banks on zantha
lock all banks on agena
lock banks 1 2 and 3 on bismark

TURN BANKS

Format:

Turn Banks [TO] <mark>
Turn [ALL] Banks [TO] <mark>
Turn Banks <list> [TO] <mark>

In some circumstances you do not want the phaser banks to point at a specific target, but in a certain direction. The "turn banks" command will allow you to point one or all banks to a relative angle to your ship. This is referred to as the "mark". A mark of 0 indicates that the phasers will point forward, 180 indicates that the phasers will point straight backwards.

Examples:

turn banks to 180
turn all banks to 0
turn banks 1 2 to 90

STATUS BANKS

Format:

[Status] Banks

This command will display the current state of the phaser banks. Since the phasers automatically recharge after firing, you may wish to know how long until they are fully charged.

BANK STATUS:

```
Bank   Level     Control      Mark     Status      Target
  1     100%     locked        57      charged     Bluefin
  2     33%      locked        57      drained     Bluefin
  3     67%      manual        180     drained
  4     ..       damaged       ...     .....       ..
  5     ..       damaged       ...     .....       ..
```

The above bank status display is from a Klingon Frigate which has five phaser banks. The first two banks are locked on the Orion ship Bluefin that is currently at mark 57 degrees. The first bank is fully charged and ready for firing once the Bluefin is in phaser range. Bank two is currently drained and will no be ready for a number of cycles as indicated by the charge level The third bank is set to a fixed mark of 180 degrees which means it is always turned toward the rear of the ship. The last two tubes have both been damaged and will not be of any further use.

Examples:

status banks
banks

DISABLE BANKS

Format:

Disable All Banks
Disable Banks <list>

Once a bank is fired it will immediately begin its charge cycle. This may not be desirable if the ship has been heavily damaged and you need to conserve power.

This order will disable bank charging but will not affect the current charge of the bank.

Examples:
disable banks 6 7 8

ENABLE BANKS

Format:
Enable All Banks
Enable Banks <list>

This command will allow the tube charging to continue if it had been disabled.

Examples
enable all banks

FIRE TORPEDOES

Format:
[Fire] Torpedoes <list>
Fire [ALL] Torpedoes

This is the command to use to fire the torpedoes. Torpedoes travel at a specific velocity and will not hit a target unless the torpedo comes within its proximity of a ship. Locking the torpedo tubes on a ship does not guarantee hitting it. Also refer to the "load tubes" command.

Examples:
fire torpedo 1 2 3
fire all torpedoes
torp all

LOCK TUBES

Format:
Lock [All] Tubes [ON] <ship> [dispersion] <dispersion>
Lock Tubes <list> [ON] <ship>

Like the phaser banks, the torpedo tubes must point at the target you are trying to hit. The "lock tubes" command allows you to "lock" one or all tubes on a specified target. Once a tube is locked, it will "lead" the target that it is locked on. The amount of lead is automatically determined by the speed, course, and distance of the target. The dispersion can be used to spread a pattern of torpedoes around the lead angle. A large dispersion angle increases your chance of hitting a violently maneuvering target, but probably only one or two of the torpedoes will hit.

Examples:
lock tubes on eagle 0
lock tubes 4 5 6 7 on talon 24
lock all tubes on bluefin with a dispersion of 45

TURN TUBES

Format:

Turn Tubes [TO] <mark>
Turn [ALL] Tubes [TO] <mark>
Turn Tubes <list> [TO] <mark>

This command controls the torpedo tubes in the same way the "turn banks" command controls the phaser banks. The "turn tubes" command will allow you to point one or all tubes to a relative angle from the ship. This is referred to as the "mark".

Examples:

turn banks to 180
turn all banks to 0
turn banks 1 2 to 90

STATUS TUBES

Format:

[Status] Tubes

This command will display the current state of the torpedo tubes. The torpedo tubes, like the phasers, will be automatically reloaded after firing, although they must be charged before the torpedo may be loaded.

TUBE STATUS:

Tube	Level	Control	Mark	Content	Prox	Target
1	0%	locked	95	mkvii	500	Eagle
2	100%	locked	95	empty	...	Eagle
3	33%	manual	135	empty	...	...
4	...	damaged	...	.....	...	...

The above tube status display is from a Federation Destroyer which has four torpedo tubes. The first two tubes are locked on the Romulan ship Eagle that is currently at mark 95 degrees. Since both tubes are pointing at the same angle, a dispersion of 0 must have been used when they were locked. The first tube contains a "mkvii" class torpedo with its proximity fuse set to 500. Tube two is currently empty but the level indicates it will be loaded during the next cycle. The third tube is set to a fixed mark of 135 degrees and will not be ready to fire for a number of cycles since the charge level is now only 33 percent. Tube number four has been damaged and is of no further use.

Unlike the phaser banks which are ready once they reach a level of 100 percent, the torpedo tubes are not ready until the following cycle.

Examples:

status tubes
tubes

LOAD TUBES

Format

Load [All] Tubes [Proximity] <prox>
Load Tubes <list> [Proximity] <prox>

Initially the torpedo tubes are not enabled for loading. This command starts the loading process or allows you to change the proximity of the torpedoes loaded after issuing this order.

The proximity is the distance the torpedo must be from a ship before it will detonate. The minimum and maximum proximity depends on the class of torpedo.

Examples:

load tubes prox 500
load tubes 1 2 3 350
load all tubes prox 425

UNLOAD TUBES

Format:

Unload All Tubes
Unload Tubes <list>

This order will remove the current torpedoes, if any, from the tubes and allow new torpedoes to be loaded. This would allow a new proximity torpedo to be loaded without firing the current torpedoes although you would still have to wait for the tubes to be charged.

Examples:

unload tubes 1 2 3
unload all tubes

DISABLE TUBES

Format:

Disable All Tubes
Disable Tubes <list>

Once a tube is fired it will immediately begin its charge cycle. This may not be desirable if the ship has been heavily damages and you need to conserve power. This order will disable tube charging but will not effect any torpedoes that may already be loaded.

Examples:

disable tubes 6 7 8

ENABLE TUBES

Format:

Enable All Tubes
Enable Tubes <list>

This command will allow the tube charging to continue if it had been disabled.

Examples:

enable all tubes

FIRE PROBES

Format:

[Fire] Probes <list> [AT] <ship>
[Fire] Probes <list> [Course] <course>
Fire [All] Probes [AT] <ship>
Fire [All] Probes [Course] <course>

Once the probe launchers have been loaded, this command will launch the probes. Unlike torpedoes, the probes target or course is set when launched. Probes may also be controlled after they have been launched using the "lock" and "turn" commands, or prematurely exploded using the "destruct" command.

Examples:

fire probes 1 2 course 180
probe all at agena
probe all course 180

TURN PROBES

Format:

Turn Probe <code> [Course] <course>
Turn All Probes [Course] <course>

This command allows you to reset a specified probe or all probes to a new heading after launch. The "status probes" command will show the control codes of all your active probes.

Examples:

Turn probe af101 course 90
Turn all probes to course 270

LOCK PROBES

Format:

Lock Probe <code> [On] <ship>
Lock All Probes [On] <ship>

This command allows you to relock a specific probe or all probes on a new target after launch. The "status probes" command will show the control codes of all your active probes.

Examples:

Lock probe bg505 on rattler
Lock all probes on the mamba

LOAD PROBES
LOAD LAUNCHERS

Format:

Load Launchers <list> [Proximity] <prox> [Time] <time>
Load [All] Launchers [Proximity] <prox> [Time] <time>

Unlike the torpedo tubes, the probe launchers will not load automatically, they must be loaded manually with this command. Probes do not require any energy to load or launch, the only requirement is that the launcher must not be damaged.

At load time, all probes are assigned a control code which must be used to control a probe after it is launched.

Examples:
load launchers 4 5 6 prox 500 time 20
load all launchers 450 15
load probes 200 10

UNLOAD PROBES
UNLOAD LAUNCHERS

Format:
Unload Launchers <list>
Unload All Launchers

This command will unload the probes from all of the specified launchers.

Examples:
unload all launchers
unload launchers 2 4

DETONATE PROBES

Format:
Detonate [Probe] <code>
Detonate All [Probes]

This command will allow you to prematurely destruct any one of, or all of your active probes. The "status probes" command will show the control codes of all your active probes. You may also control any enemy or ally probe if the control code is known.

Examples:
Detonate all
Detonate vq637

STATUS PROBES

Format:
Status Probes

This command will display the status of all probes launched by your ship. The display will look like the following:

```
PROBE STATUS:

Code    Course   Bearing    Range    Time    Range/Target
ya101    345       165      1200      12      853    Zantha
zi102    120       300      2525      17      ...
```

In the above display, the probe "ya101" is currently following course 345 degrees with a bearing from our ship of 165 degrees. Its current range from us is 1200 and has 12 cycles until destruct. It is locked on the Zantha and has a distance of 853 from the Zantha. Probe "zi102" is not locked on any target, but is following a manual course of 120 degrees.

Examples:
status probes

STATUS LAUNCHERS

Format:
[Status] Launchers

This status command will display the current state of all probe launchers.

The following is a sample status display:

```
LAUNCHER STATUS:

Launcher     Status      Contents     Prox     Time     Code
    1        Ready         Pxii       500       20     dg350
    2        Damaged       ....       ...       ..     ....
    3        Ready         empty      ...       ..     ....
```

This display shows that launcher one contains a "Pxii" class probe with a proximity fuse set a range of 500, and a time fuse set to 20 cycles. The control code for this probe will be "dg350". Launcher two is damaged and is not functional but launcher three is ready to be loaded.

Examples:
status launchers
launchers

RAISE SHIELDS

Format:
Raise [Shields] <list>
Raise All [Shields]

This command allows you to raise all or specific shields if you lower them with the "lower" command. Initially all shields are "up".

Examples:
raise shields 1 2 3 4
raise all

LOWER SHIELDS

Format:
Lower [Shields] <list>
Lower All [Shields]
Drop [Shields] <list>
Drop All [Shields]

This command allows you to lower all or specific shields. Normally you will want to keep all shields up, as they are initially. This may not be the case if your ship has been damaged and you are short on power. Shields have the highest priority for power utilization from the reactors and batteries.

If you are using battery power, you may need to drop a number of shields to maintain the weapon systems. All shields require the same amount of power unless they are down or destroyed. Shields will not regenerate if they are down.

Examples:
lower all shields
drop shields 1 2 3
lower 1 2 3

STATUS SHIELDS

Format:
[Status] Shields

The shields status command will show you the current state of all the ship's shields.

```
SHIELDS STATUS:

Shield   Field   Status   Functional     Effective       Regen.
  1        0      UP     225eu    100% 225eu    100%  0.90%
  2       60     DOWN    225eu    100% 0eu        0%  0.00%
  3      300     DOWN    225eu    100% 0eu        0%  0.00%
  4      120      UP     225eu    100% 175eu     71%  0.64%
  5      240      UP     112eu     50% 56eu      25%  0.23%
  6       18    damaged             .. ...  ...  ...  (rear)
```

The above shield status display is from a Federation Heavy Cruiser. All ships have six shields, each shield protecting a specific portion of the ship called the shield's "field". Each field covers an area 60 degrees wide or 30 degrees to each side of the field values in the display. The status column of the display shows if the shield is UP, DOWN or 100 percent damaged. The column labeled "Functional" shows the maximum possible strength the shield may reach and the "Effective" column shows the current strength of each shield. The "Regen" column shows the rate at which the effective strength of each shield will regenerate or "grow" every cycle. Both the functional and effective columns contain two values. The first is the hit that the shield will protect the ship from. The second number is the percent of maximum strength for that shield.

In the shield status display, shield one is up and is 100 percent functional and 100 percent effective. Once a shield's effective strength reaches the functional strength, it will stop regenerating. Shields two and three are 100 percent function but have been lowered to conserve power making the effective strength

zero. Shield four is 100 percent functional but only 71 percent effective due to hits on that shield. The fifth shield is only 50 percent effective due to damage inflicted when hits reached the ship's hull through shield six. Shield number six is no longer functional and will no longer regenerate or consume power.

Examples:
status shields
shields

TRANSPORT
BEAM

Format:
Transport <ship>
Beam <ship>

The transport or beam command will allow you to trade ships with any functional ally ship with a range of 3000 or less.

Examples:
beam altair
beam to the agena
transport enterprise

SELF DESTRUCT

Format:
Self [Destruct] <time>
Destruct <time>

This command will set the self destruct timer to the number of cycles specified. Once started, the time will count down by one each cycle. Self destruct may be aborted if the time is greater than five cycles.

The size of the blast created when your ship explodes depends on the size and condition of your warp drives. If all of your warp drives have been destroyed, no blast will occur unless your ship is carrying a suicide bomb.

The ships of certain nations always carry a suicide bomb which will add to the size of the explosion if you self destruct. The bomb will not explode if you are destroyed by a probe or torpedo hit.

Examples:
self destruct 10
destruct 5

ABORT DESTRUCT

Format:
Abort
Destruct Abort

This command will abort a self destruct sequence if the destruct time is still greater than five cycles.

Examples:
abort
destruct abort

LIBRARY COMPUTER

Format
Computer Ship <nation> <ship class>
Computer Torpedo <torpedo class>
Computer Probe <probe class>

The library computer will display all specific information on any ship, torpedo or probe. Partial library computer commands may be entered. This will cause the computer to display the subjects that match the partially entered command.

Examples:
computer ship klingon frigate
computer torpedo mkvii
computer probe pxii
computer ship
computer

HELP

Format:
Help

The help command will display a brief list of all valid commands. It will not show you the format of any of the commands but will refer you to this manual.

Examples:
help

QUIT

Format:
Quit

This command will abort the simulation at the end of the current cycle.

Examples:
quit

ORDER ALLY
TELL ALLY

Format:

Tell <ally> Target <enemy>	Targeting Orders
Tell <ally> Hold [Fire]	
Tell <ally> Open [Fire]	
Tell <ally> Disengage	
Tell <ally> Escort <ally> [At] <range>	Mission Orders
Tell <ally> Course <course>	
Tell <ally> Retreat	
Tell <ally> Cancel	
Tell <ally> Torpedo <enemy>	Weapon orders
Tell <ally> Phaser <enemy>	
Tell <ally> Probe <enemy>	
Tell <ally> Attack <enemy>	Cancel and Target
Tell <ally> Report	

If you have ally ships, you may issue them any one of a number of general orders. Certain commands can be given at the same time as other commands. For example, a ship can escort and hold fire at the same time. However, the commands identified as "movement" commands conflict with each other. You cannot tell a ship to escort and run at the same time. If a movement command is given to a ship, it cancels the previous movement command.

The following is a more detailed description of the effect of each ally command.

Escort

An escort order results in the ship trying to maintain the escort distance from the ship is it supposed to escort. Once the escort distance is achieved (+-1000), the ship will follow the same course and speed as the ship it is escorting. Escort is a movement command.

Hold Course

Hold Course causes a ship to go in the general direction of the given course. Since zig-zagging is still done if there are any enemy ships with torpedoes in the area, the ship following the Hold Course order will rarely be following the exact course given. However, since the zig-zagging is done around the course given, the ship will indeed move in the direction it is supposed to. The zig-zagging is done for the ship's self-defense. A ship that moves in a straight line for very long is meat. A ship that is Holding Course will move at the best speed that it can. Hold Course is a movement command.

Run

A ship that is told to Run will avoid all enemy ships. It will attempt to move away from any target ship that it selects. It will still use its weapons as long as it is in range of an enemy ship. Run is a movement command. A ship may also select to Run on its own. This is usually because it has been damaged to the point where it can no longer attack effectively. Some cowardly captains may run before severe damage has occurred. Once a ship has decided to Run on its own, it is very difficult to persuade that ship to do anything else. If a ship repairs itself enough, it may stop Running and rejoin the battle. If you tell a ship to Run, it will never rejoin the battle unless you Cancel the Run command.

Withdraw

Withdraw causes a ship to avoid combat by moving away from all enemy ships. This is similar to the Run command. Unlike Run, however, the ship will only move so that is just out of torpedo range. This should ensure that the ship that is Withdrawing should be safe, but able to enter the battle at a moments notice. Ships that are Withdrawing can be considered to be in reserve. Withdraw is a movement command.

Hold Fire

The Hold Fire command causes a ship to stop using any weapons. This makes Hold Fire a very dangerous command to issue. The ally ship will still maneuver as if it could fire, in case you change your mind. This command can be given independently of the other commands. For example, a ship could ordered to withdraw AND to hold fire concurrently.

Open Fire

Open Fire is the opposite of hold fire. The ally ship will resume using its weapons. This, of course, is the normal state of affairs.

Attack

The Attack command cancels any movement commands currently in effect and assigns the specified enemy ship as a target of the ally ship that received the Attack order. Once a target is specified for an ally ship, it will usually attack that ship until destruction. Occasionally, it will be necessary to break off an attack on a specified ship due to pressing tactical considerations (i.e. the ally is getting pounded by a different ship and the one it is attacking is almost dead). If this occurs, you will be informed by the ally ship. The Attack command is really a shorthand for specifying the Cancel command and then the Target command.

Target

The Target command is a non-movement version of the Attack command. Thus, it can be issued after a movement command and will not cause cancellation of a movement command. For example, a ship could first be told to escort another ally, and then be told to target an enemy ship. The ship will continue escorting while it directs fire on the specified enemy ship.

Disengage

Disengage causes an ally ship to select its own target to attack. It is normally used after a Target command or an Attack command. After the Disengage command is issued, there is no restriction on the selection of the enemy ship that the ally ship will attack. In some cases, the same ship will be selected by the ally. This is not a movement command.

Cancel

The Cancel command stops the effect of any previous movement command. If a target has been selected by the Attack or Target commands, it will remain in effect. After this command is issued, the ally ship is free to choose its own course and speed for attacking the enemy.

Torpedo

The Torpedo command causes the ally ship to favor using its torpedoes against the enemy. It does not affect which enemy ship it should attack or any movement commands that are in affect. However, of no movement commands are in affect, the Torpedo command will cause the ally ship to move into torpedo range of the enemy it is fighting. This command can only be effective when given to ships that have torpedoes. This command overrides the Probe or Phaser commands.

Probe

Probe makes a ship want to send a probe after an enemy ship. This is not a movement command, But it will cause the ally ship to try to get within probe range if no other movement commands are given. The ally ship will only release the probe if there is a good chance it will hit the enemy ship. If the enemy ship can still move well, the ally ship may have to close to extremely close range in order to deliver the probe. This command overrides the Torpedo or Phaser command.

Phaser

The Phaser command causes a ship to favor using its phasers against its target. If the ally ship has no phasers, it must refuse to perform this command. Although this command is not a movement command, if no other movement commands are given the ally ship will attempt to get into phaser range to carry out this command. This command overrides the Torpedo or Probe command.

Report

The Report order will instruct an ally to transmit his current orders to your ship for viewing. This report looks very much like a Report command except it also contains the ally's current mission and target.

Examples:

tell the agena to attack the derango
order washington course 90
order enterprise escort armstrong at 5000
tell the terra report

GAME SCORING

Although Begin is meant to be played for the sheer fun of interstellar combat, many people are concerned with the evaluation they receive at the end of the game. This section of the manual explains how the game decides to end and how your evaluation is determined.

Determining When to End

As of version V1.65 of Begin, there are only three conditions that will cause the end of the simulation. The first condition is the player issuing the "quit" command. The second condition is the death of the player. The final condition is the death of all opposing enemy vessels. These are the only conditions that will end the game.

Scoring

Scoring (your evaluation) is determined by the relative condition of your ships versus the enemy ships. This is then multiplied by the odds that were determined at the beginning of the simulation. The highest possible score is obtained by a game with high odds against the player, combined with the death of all enemy vessels. It does not matter to the score if the enemy vessel is blown up or has a crew of zero. Both add the same to your score.

The odds are determined by a formula that totals up the offensive and defensive strength of a ship and arrives at a single number.

You can receive a negative score if you do not do well or allow an inferior force to damage your ships. A negative score indicates that you performed worse that the odds at the beginning of the game indicated.

The highest theoretical score in Begin changes from version to version. It is possible to score in the hundreds, however, by playing a weak single ship against a large fleet of powerful enemy ships. Of course, you have to win in order to get this high score.

ENEMY STRATEGY

This section of the manual describes the workings of the enemy strategy routine in Begin. Although the code is too complicated to list every possible behavior of the computer controlled ships, an attempt is made here to give the general guidelines that the routines use to determine what to do next.

Background Information

The code that controls the enemy strategy also controls your ally ships (unless you give them specific orders.) In the absence of specific orders, the ally ships use the same decision routines and tactics as enemy ships do. However, no two ships will use exactly the same strategy, since there are various modifications to the common strategy based on the loyalty, bravery, aggression, and fanaticism of the individual captain. The modifications based on these parameters are not always given in the following explanation, but almost every decision that the strategy code makes is influenced by one or more of these factors.

Strategies of Different Nations

Bravery, loyalty, aggression, and fanaticism are determined separately for each captain when the game starts. Although each captain is different, there are certain generalizations that are true for the various nations. Exceptions to these rules can occur, but anyone who strays far from the norm would have been eliminated from consideration for command. The exception to this is the Pirates. Since anyone can become a pirate, there are no generalizations that can be made about them.

Federation captains are very brave. This causes them to fight to the last weapon on their ships. You will rarely see a Federation ship leave the battle before it is completely wrecked. They will also be then first to return to the fray after their ship is slightly repaired. Federation captains are also very loyal. They will never question your orders, and will carry them out to the death. Since their fanaticism is very low, you will rarely see a federation ship self-destruct. They make good allies and tenacious enemies.

The Klingon captain is not as brave, on average, as the Federation captain. However, no one could call them cowards. They are extremely aggressive, which causes them to attack no matter what the odds. They also seem to prefer a good old-fashioned phaser battle instead of torpedoes. Klingons are loyal. They also can be somewhat fanatical. Once in a while, a healthy Klingon ship will self-destruct next to you in a blaze of glory. Klingons are good opponents. They also make good allies.

Romulans are not as good as the Klingons or the Federation when it comes to battle. They disdain short range combat and prefer to rely on their deadly plasma torpedoes. Romulans hate to lose, however. All of their ships carry a suicide bomb that can quickly even the odds at the end of a battle. They do not hesitate to use it. Otherwise, they are lackluster fighters. Most of them will retire if they lose their big gun, but since their ships move slowly, this makes them easy meat. If you can defend against plasmas, Romulans make easy opponents. As allies, they would like to obey your orders, but their slow ships and long charging time on their plasmas make them seem unresponsive to your commands.

There are no hard and fast rules about pirates. No two pirate ships are the same. The qualities that influence their behavior vary widely. Some pirate captains

will fight to the death, while others will turn and run at the sight of an enemy vessel. Some of them are aggressive, and some are timid. You will have to determine the characteristics of the captain you face in the heat of battle. Pirates make exasperating allies and frustrating enemies. What can you expect from a bunch of pirates, anyway?

Who to Fight

The first thing that a ship must do is decide on a target. If you have told an ally to attack a specific target (and he is loyal enough to do it), he will just pick that target. Otherwise, he goes through a process of determining the "threat level" of all the enemy ships in the simulation. The one with the highest threat level is the one he chooses to fight. The threat level of a ship is influenced by many factors. The range of the ship, the weapons it carries, and the number of ships already attacking the target ship all affect the threat level. There are other factors as well. Finally, a ship is more likely to choose a target that it is already attacking. This makes the attacker more determined to destroy a certain target before he chooses a different one.

Determining the Type of Attack

After a target is chosen, the prime weapon to use against the enemy is chosen. Once again, if you have ordered a ship to use a certain weapon against the enemy, he will try to use that weapon. If there are no specific orders, a comparison of relative strengths of the various weapons is made between the ship and its target. The weapon that gives the best chance for damage without being damaged back is the one that is chosen. For example, if the target ship has no phasers, and the attacking ship does, a phaser run would be the most effective tactic.

A special check is mode to see if a probe could finish off the target ship. If it can, a probe is prepared and launched.

Probes can also be used for defense, if the situation warrants.

The selection of the prime weapons system to use influences the movement of the ship. Once the weapon is selected, the ship will maneuver to gain the best position to use the prime weapons system. If the relative positions of the attacker and target prevent use of the prime weapon, the other weapons will still be used. For example, a ship that desires to make a phaser attack will still fire its torpedoes while it is closing for the phaser run.

Maneuvering

As explained above, maneuvering is mostly concerned with bringing the prime weapons system to bear. At the same time, a "zig-zag" movement is usually employed to avoid enemy torpedoes. Orders from the player can drastically affect the movement of a ship. The various orders, and the ship movements that they produce, are explained below. Of course, the loyalty of the ship determines whether or not it will actually follow your orders.

Following Orders

All ally ships will attempt to perform the orders that you give them. In most cases, orders cause the ship to modify certain priorities in order to achieve the desired goal. A side affect of this is that a ship may not instantly drop what it is

doing to carry out what you have told it to do -- sometimes it takes a few turns for the order to take affect. If a ship is loyal, it will do what you say. If it is not, it will tell you and refuse to do it. No ship will refuse to carry out an order without telling you first.

Since the immediate tactical situation that a ship is in can affect when the ship will be able to carry out your order, some people have called them "advice, not orders". While this is true to a certain extent, it usually means that it would have been too dangerous to carry out your order at the exact time you gave it. After all, the other ship captains are responsible for the lives of their crew, as well as doing what you say.

Besides battle tactics, there are other issues that are decided by the strategy routines. Some of them are explained below.

Phaser Incoming Ordinance

All computer controlled ships check to see if any incoming torpedoes can be disposed of by phaser fire. The phasers are not aimed specifically to destroy incoming torpedoes. If it happens that the phasers are pointing the proper way to destroy the torpedoes, the phasers are fired. This usually is sufficient, because the phasers are normally locked onto the target of the ship, and the target is usually the one that is firing at the ship.

Probe Avoidance

There is quite a bit of code dedicated to probe avoidance. The problem with probe avoidance is how to get around or destroy the enemy probe without abandoning your target. Computer controlled ships could easily dispose of all probes if they ignored enemy ships while doing it. Of course, this is not possible. So, probe avoidance is a compromise between the safety of the computer controlled ship and the maneuvering to attack the enemy target ship.

Normally, the ship will try to maneuver around any probes. If this is not possible, a phaser will be swiveled to point at the probe and the probe will be destroyed. This is a time consuming operation, however, so maneuvering around a probe is definitely preferred.

Engine Heat Control

Ships must also check on the temperature of their warp drives. If the drives are in danger of overheating, the ship will slow down to give them a chance to cool off. The ship will move slowly for several turns until the engine's temperature is safe. However, if there are engines that are in much better shape than the hot engine, the bad engine is allowed to overheat. This lets the ship travel at a greater average speed.

Energy Management

Computer controlled ships must also worry about managing the amount of energy the ship is using. If there is not enough energy to run the life support system, the ship will stop using the warp drive in order to use it's power to keep the crew alive. If only some of the shields can be raised in order to preserve power, the weakest shields are turned off to preserve the good ones.

Emergency Maneuvers

The normal maneuvering of the ship can be interrupted for a number of reasons. For example, if a self-destructing ship is nearby, it must be avoided. Also, if the rear shield has been destroyed on a retreating ship, the ship is turned to present the front shield to any attacker. If the computer controlled ship is self-destructing, it wants to get as close as possible to it's target before it blows up.

When to Exit

Ships must also decide when they have had enough. The basic formula for retreating is:

if damage to ship >= captain's bravery, then retreat

As you can see, if the captain is a chicken, it does not take much to get him to run. On the other hand, a brave captain will fight to the death, no matter what shape his ship is in. There is also a variation that can happen when a ship decides to retreat. If the captain's fanaticism is high and his ship can damage the enemy, he may choose to kill himself rather than retreat. Ships with suicide bombs will blow themselves up more because they can still hurt the enemy no matter what shape they are in.

Other Concerns

There are other things that influence the actions of a computer controlled ship as well. But some of them must remain secrets. After all, part of the excitement in begin is not knowing what your opponent will do next!

BEGIN PHYSICS

The modeling of time and space in Begin is handled by a group of routines collectively called "realtime". These routines make time pass, move objects through space, create new objects, destroy exploding objects, and damage existing objects. In short, they control the reality in the game.

The physical model of the universe used by Begin is very simple. The universe is imagined to be an infinite plane. Ships move on this plane in any direction. Ships can occupy the same space on this plane with no danger of collision.

Speed

The speed of objects in Begin is expressed in "Warps". Objects can move at multiples of warp speed, or at a speed of less that warp 1. Some objects (like ships) can also move backwards at speeds up to warp -1.

In some systems of measuring warps, warps are expressed logarithmically. This system is not used in Begin. In Begin, warp speeds are linear. This means that warp 2 is twice as fast as warp 1, and warp 4 is twice as fast as warp 2.

Time

The unit of time in Begin is the cycle. A cycle is the time used between game turns in Begin. One cycle elapses between the time you enter one command and are presented with another prompt. No matter how long it takes your computer to execute commands, 1 cycle passes in the game.

Distance

Many people have speculated on the identity of the unit of distance used in Begin. Some have suggested that ranges (which of course are measurements of distance) given in the game correspond to kilometers, miles, or even parsecs. Well, none of these units are correct. The unit of distance used in Begin is: the Unit! The definition of a Unit is: 1/100 of the distance covered by a ship moving at warp 1 for 1 cycle. Thus, we deftly avoid pinning down just how long a Unit "really" is. It doesn't matter to the game, only relative distances are important. So, if you want to think of something as being 10,000 kilometers away, go ahead!

Energy

The unit of measurement of energy in Begin is (surprise!) the Energy Unit. This is abbreviated as eu. Energy in Begin is generated by reactors and engines, stored in batteries, absorbed by shields, and used by every sub-system on a ship.

Temperature

Temperature in Begin is measured in degrees. There is only one temperature measurement that is important in Begin, and that is the temperature of your warp engines.

Time Quanta in Begin

The cycle is too gross a unit to directly model time in Begin. It was chosen to represent typical human reaction time and to leave enough time for things to "happen" at a decent rate. However, given the speed that objects move in Begin, it is not practical to model the game at a 1 cycle time quantum. For example, a torpedo traveling at warp 30 can travel 3000 units in one cycle. Assuming that its proximity fuse is set at 350 units, the torpedo will only explode if it happens to be within 350 units of its target at then end of a cycle. Otherwise, it will pass harmlessly over the enemy ship, not really existing at any point in between the 3000 unit jumps.

Ideally, Begin would model all objects continuously. This would provide the most realistic simulation possible. Equations do exist for continuous modeling, but they cannot account for movements that are influenced by other movements (such as following an object that you are locked on). Thus, they cannot be used in Begin.

Instead of continuous modeling, a cycle is divided into "sub-cycles". Objects are then moved appropriately for each sub-cycle. After each sub-cycle of movement proximity fuses are checked and locked-on objects change their heading. Time fuses are also decremented. If any object explodes at the end of the sub-cycle (due to a proximity or time fuse, or by being damaged in this sub-cycle) all the other objects are checked to see if they are damaged in the explosion. Since the explosion of an object can cause other objects to explode, each new explosion causes a further check of all the objects in the game. Currently, there are 10 sub-cycles of evaluation for each cycle.

DAMAGE IN BEGIN

Damage to objects in Begin can be caused by an antimatter explosion or the use of phaser banks. Either method causes a similar type of damage. Some objects in Begin can be damaged without exploding. Other objects will explode if they are damaged in any way. Ships, for example, can sustain much damage without exploding. They also have shields that will prevent damage as long as they can. Torpedoes, on the other hand, will explode if any energy reaches them from phasers or other explosions.

Phasers

Phaser energy can only be generated by "phaser banks". Phaser banks take in energy units and emit them in a form that can damage other objects. In Begin, only ships can carry phaser banks. The energy put out by the phaser is determined when the phaser is designed. The same number of eu that are needed to change the phaser are emitted when the phaser is fired. Thus the phaser (like all weapons in Begin) is 100% efficient.

The spread of the phaser beam can be determined when the phaser is fired. As the spread is made wider, more objects can be hit by the phaser beam, but less energy reaches the objects. Phaser energy decreases linearly with the distance from the phaser bank to the target. At the extreme limit of the phaser range, almost no energy reaches the intended target.

Antimatter

Antimatter explosions have a strength that depends on the amount of energy units that caused the explosion. If 10 energy units in a torpedo explode, all 10 units are converted into damaging energy. Unlike phasers, the reduction in strength of an antimatter explosion is reduced by the square of the distance from the explosion.

The effect of damaging energy on an object depends on the amount of energy and the object that is being damaged. Regular (non-plasma) torpedoes and probes will instantly explode if any energy reaches them. Plasma torpedoes will not necessarily explode. The amount of energy reaching them causes a corresponding amount of damage to the plasma torpedo. If the energy contained inside the plasma torpedo is reduced to zero, the torpedo will be removed from the game.

Shields

If a ship is hit by damaging energy, the amount of energy reaching the ship controls what happens to the ship. First, the damaging energy is reduced by any shields that are facing the explosion or phaser beam. Then, the amount of energy the make it through the shields is used to kill the crew of the ship and damage sub-systems on the ship. Different sub-systems on the ship are harder to damage than others. Also, damage to a sub-system may render it instantly inoperable (like torpedo tubes) or may simply reduce its efficiency (like warp drives or some reactor damage). A piece of damaged equipment may be further damaged by additional hits.

Damage to shields can come from absorbing energy or by damage to the shied generator in the ship. Shields will recover the temporary damage caused by absorbing energy on their own. Damage to the shield generators must be repaired by

the crew. The maximum absorbing strength of the shield is determined by the state of the shield generator.

OUTLINE OF A CYCLE

The following section gives a rough outline of the actions taken in Begin to perform one cycle. The actions given here do not necessarily represent the outline of the computer code used to implement a cycle, but instead are a simplified, non-optimized version designed to give understanding of the model of reality used by the game.

As stated before, a cycle is the amount of time that passed between turns. Some actions occur only once per cycle. Other actions (like movement) occur once per sub-cycle. The actions taken in a typical cycle are explained below.

Energy Tally

First, all the energy that is available to a ship is added up. There are two energy systems in Begin. They are the Warp Energy System (WES) and the Reactor Energy System (RES). Power from the WES is used to propel the ship through space. WES power is always used to try to accelerate the ship to the desired speed. If there is not enough WES power to drive the ship at the desired speed, the ship will travel at the maximum speed possible for the amount of WES power available.

If more WES power is available than is needed to propel the ship, WES power is converted into RES power at a rate of 4 WES eu = 1 RES eu. This is one of the few conversions of energy in Begin that suffers a loss of eu. Additional RES power is supplied from the reactors and batteries. Energy needed to run the rest of the ships systems is taken from this pool of RES power.

Life Support Energy

Energy is deducted for use in by the life support system. The amount of energy needed to run the system is:

number of original crew / 10 energy units

The number of crew that die in battle does not affect the energy needed to run the life support system. If not enough energy is available to run the life support system, the ship is in danger. After 3 cycles without a functional life support system, all the crew members aboard a ship will die.

Shield Energy

Next, energy is used by the shields. If there is not enough energy to keep all the shields up, no shields are activated this cycle. The amount of energy used by the shields is determined from the shield design.

Weapons Charge

If there is any energy left over, it is used to charge the phaser banks and the torpedo tubes. When a torpedo tube is completely charged, a torpedo is loaded into the tube with the proximity that was specified earlier. If a change in proximity is desired, the torpedo that is in the tube must be unloaded.

Aim Weapons

Any weapons that have been locked-on an object will now adjust their aiming direction to track the object. In the case of phasers, the banks are pointed directly at the target. In the case of torpedo tubes, the direction of aim is chosen to lead the target based in the targets current direction and speed. In this way, the target will be certain to be hit if it does not change direction or speed.

Fire Phasers

All ships that have indicated that they want to fire phasers now do so. Phaser fire is considered to be simultaneous by all ships. Phaser fire can cause damage to other objects as explained in the damage section. Phaser fire is considered to instantaneously reach its target.

Launch Torpedoes

Next, all the torpedoes tubes that are ready to fire do so. This involves creating new torpedoes, pointing them in the right direction, and giving them their initial speed. There is usually a small difference in the speed of individual torpedoes. The normal speed variation for a given torpedo class can be obtained from the library computer.

All torpedoes that are launched at once with the same bearing, proximity, and speed are placed in a torpedo group. This creates only one object in the game to speed up fuse checks, etc. This does not affect the damage caused by the torpedoes or the ability to defend against them.

Launch Probes

Probes are created for all ships that desire to launch them. The target information is downloaded into the probe, and the probe is then created and aimed at its target. All probes travel at their maximum speed at all times.

Sub-cycle Events

Certain events, as related above, occur more than once per cycle in order to better simulate reality. These events are explained below.

Sub-cycle Movement

Once per sub-cycle, all objects in the game are moved an the proper distance based on their heading and speed. Objects that track other objects do not update their heading in each sub-cycle.

Sub-cycle Fuse Checks

There are two fuse types in Begin -- proximity fuses and time fuses. All weapons in Begin use both types of fuses. During this part of the sub-cycle, both types of fuses are checked in order to see if the fuse should activate and destroy the weapon to which it is attached. The time fuse works by number of cycles. After the number of cycles set in the fuse have gone by, the fuse is activated. Proximity fuses activate when the fuse is brought within a specified range of an object. Only enemy

ships can set off the proximity fuse of a probe. All other proximity fuses will be set off by any object.

All fused weapons contain a arming switch. This prevents activation of the time or proximity fuse until a small number of cycles have gone by. This is what prevent ships from being blown up by their own torpedoes as they leave the tubes.

Engine Heating

Operating a warp engine at higher than its cruise setting will cause it to become hotter. As an engine is damaged, it will Begin to produce more heat for a given power setting. If there is time, your chief engineer will warn you as the temperature of your engines reaches dangerous levels. All ships in Begin will suffer loss of an engine if the temperature of the engine exceeds 40M degrees (note that the value of "M" is not specified).

Repair

Damaged systems can be repaired. Your crew will automatically repair all damaged systems. Some system take longer than others to repair. For example, Warp drives take longer to repair that phasers. As you lose crew members, it takes longer to repair systems. Your first engineer will tell you as systems are fully repaired.

Battery Charge

Any remaining RES power that has not been used by ship systems is placed in the ship's batteries. If the amount of left over power exceeds the capacity of the ship's batteries, the excess power is lost. Your engineer will advise you if the batteries contain a different amount of power than they did last cycle.

End of Cycle

This completes one cycle. Control is return to the routines that ask for your input and run the enemy strategy routines.

PLAYING TIPS

This section of the manual is just some random observations on playing Begin. It will mainly be useful to new players, but even old hands could find a tip or two here.

Torpedoes:

The first thing you must remember is: LOAD YOUR TUBES! After a few games, this will be second nature, but it is possible even for old timers to forget once in a while. Why don't they automatically load for you? It is so you can select your favorite proximity. Almost every player has his own favorite proximity for torpedoes.

Torpedo proximity is very important. At first, just start with about 3/4 or 4/5 or the maximum proximity. Or just use the maximum. The bigger the proximity, the better the chance for a hit. But the hits will be smaller (since the torps blow up farther away). Extremely small proximity's (100 or so) can be used to actually destruct an enemy hulk. However, proximity's of less than 10 times the speed of your torpedo have a very difficult time hitting a maneuvering enemy. You will have to experiment to find the proximity that you like the best.

All torpedo tubes lead the ships they are locked on like a hunter leads a duck. This means that if your target travels in anything approaching a straight line, it will be hit. The moral of this story is: DON'T MOVE IN A STRAIGHT LINE! YOU WILL BE HIT! Keep varying your course and/or speed to keep the enemy computers guessing. Keeping the same course and speed while traveling through a battle area will guarantee your destruction.

Watch for crossfire.

One of the worst things that can happen to you is to get caught between two enemy ships that are firing at you from a distance. You will probably be able to phaser the torps from one of the ships, but that makes you a great target for the other one. There is little you can do to defend against crossfire, so the best thing to do is get out of it. Try to make the ships line up so that your phasers can defend against both ships at once. If you can't do that, you can try splitting your phaser banks and firing the proper phaser to hit the torps. This is rather difficult. The bright side of this is that crossfire is an effective tactic to use against enemy ships. If one of you allies is engaging an enemy ship, line up on the other side of the ship and fire away. You can usually attack without fear of the ship you are firing at. Of course, you still have to watch for his friends.

Trade ships when you must.

Remember, you must live for the game to continue. Use that thought to rationalize your guilt when you palm off a floating hulk on one of your captains in exchange for a brand new vessel. Use the escort command to make sure that the hapless fellow gets close enough to you to transport over.

Know your enemy.

Use your scanners and the library computer to determine the weak points of an enemy ship. Attack weak shields. If he has lost all of a certain weapons class, use that weapon against him.

Don't forget your bomb.

Certain ships have a suicide bomb. This means even if your ship is practically destroyed, you can still inflict damage on the enemy. If your ship doesn't have one of these bombs, self-destruct is rarely a good tactic. By the time you want to use it, your engines are usually too damaged to make a big explosion. It is the power of your engines that determines the size of the blast when you "pull the pin".

Use your most effective weapon.

If the enemy has much better torpedoes than you do, then use your phasers. Of course, if you get very lucky on your way into phaser range, keep using your torps. Remember, if his shields heal at the same rate you damage them, you can never hurt him.

Effective Phaser Fire:

If you intend to phaser, make sure there are no other enemy ships nearby that would join in against you. If this is impossible, at least try to give each enemy a different shield to attack. Drop your speed for precision maneuvering to present different shields to the enemy or concentrate on an enemies' bad shield. If you are only attacking 1 ship and have no shields that are especially bad or good, pursuing the enemy at high speed will cause you to make high speed passes past the enemy, presenting him with a different shield (usually) each time.

Save your phasers. When in a phaser battle, try for the closest shot. Phaser hits at the extreme range of the phasers do very little damage. If a ship is closing, wait for a closer shot (within reason). Just remember, a phaser shot in the last tenth or so of the range is almost worthless.

Use probes offensively.

Probes aren't just for cleaning up disabled ships. In a high speed chase, probes can become deadly "speed bumps" for the enemy who is chasing you. Use a large proximity on the probe to make sure it has the best chance of damaging them. Be careful to wait long enough between probes so that destroying the first probe doesn't cause a chain reaction of exploding probes leading right back to you.

Also in a high speed chase, probes can be used to surgically remove enemies who have gotten into phaser range. Wait until they fire, chuck the probe out the back window, and wait one turn. The probe should now be behind them at a safe range from you. Now detonate the probe. Goodbye, enemy. WARNING: Don't try this against any destroyer class or larger ship. You will probably die in the resultant blast of the enemy ship.

If you have lost your warp drive and shield six is a shambles (an all too common occurrence), pursue your enemy at warp -1. This will place your good shield one facing the enemy, but still move away from him.

Watch your engines

Once engines become overheated, it is very difficult to get them cooled off. Know your cruise speed and use it for all general movement and chasing. Reserve your highest speed for emergencies. Make sure to use ALL your cruise speed.

Some ships have a non-integer cruise speed, so don't forget the extra part after the decimal.

Let really bad engines go. If one engine is in really bad shape and one engine is relatively good, let the bad engine overheat. You will be able to make better time on the one good engine. The bad engine will constantly overheat, otherwise, and your engineer will be telling you about it every turn.

In general, if you can't travel at greater than warp 2.0 with your damaged engines, use only warp 1 for your top speed. The energy your engines produce is more important than the tiny extra speed they produce. Conserve your energy for weapons and life support.

Finish them off

If possible, remove an enemy ship from the game before turning your attentions to a new one. A slightly damaged ship can repair quickly, and then you have to do the job all over again.

Appendix A: SAMPLE STRATEGIES

The next section describes some strategies that various people have used to play Begin. Note that these are not necessarily successful strategies, nor are they guaranteed to work for you. In some cases the strategies are more tactical in nature, in other cases they are battle plans to control the entire engagement.

Strategy 1: Divided They Fall

Send ALL ally ships against a single enemy ship. Once that ship is completely destroyed, send all the ally ships against a new target. The other enemy ships will not shoot at your allies because they are afraid of hitting their own ship. This strategy works well when fighting large ships with a greater number of smaller ships.

Strategy 2: Across the Universe

At the beginning of the game, turn and run from the enemy. They will usually chase you for a long time before giving up. As you run, drop probes and shoot torpedoes into their center. You are bound to hit something. By running, you effectively slow down their torpedoes and speed yours up due to the relative motion of the ships. This is an added advantage that makes it easier for you to phaser their torps. If there is a large group of enemy ships behind you, turn your tubes to 180 degrees instead of locking on a specific enemy. This increases your chance of a hit on an enemy vessel. This strategy works best without allies to get in the way.

Strategy 3: Birthday Present

Pursue an enemy ship at high speed. As you approach him, change from pursue to a course that will take you past him as close as possible. As you pass him at close range, exchange phaser blasts. After the enemy has fired and you are on your way past him, drop a probe in his face. Detonate the probe on the next cycle. You should be safely away by then.

Strategy 4: Death of a Salesman

Send ONE of your allies into the enemy camp. He is the bait. As he is torn to pieces, you and your remaining allies can fire at the ships that are attacking him. They will be busy crushing your first ally and can be crossfired at will. This works best when the ally you send is fast enough cut through the enemy fleet and make them chase him.

Strategy 5: Between the Hammer and the Anvill

Send half your allies through the enemy fleet to attack it from the other side. Once they are past the enemy, release them from their "hold course" so that they will turn to attack the enemy. You and your remaining friends attack from your side. There will be many of your torpedoes criss-crossing among the enemy ships.

Strategy 6: Starburst

Send each of your ally ships in a different compass direction. The enemy fleet will split up to follow them. You attack the small forces that split up one at a time. They will probably ignore you and concentrate on your ally.

Strategy 7: Second Team

Hold half your allies in reserve. Use the first` half to attack a single enemy ship. Once the enemy ship is hulled, move the first group to a new ship and send the reserves in to finish the first enemy. Repeat as necessary.

Strategy 8: Watch the Show

Simply send your ships against the enemy without any specific orders. You, meanwhile, withdraw to a safe spot to watch the show!

Strategy 9: Mega-ship

Gather 2 or 3 allies around you with the "escort" command. Select a target and tell your allies to attack the same ship. Your combined force should soon overwhelm the enemy ship. As an added bonus, your allies will phaser incoming torps for you. This strategy only works if your allies have a ship that is as least as powerful as yours.

Appendix B: BEGIN LEXICON

Battle Probe - A Probe with a large proximity (used offensively).

Big gun - Romulan plasma torpedo tube.

Blinking like a Christmas tree - What you see when you scan a ship that has a lot of damaged systems.

Blow a drive - When a you or another ship ignores the warp temperature and looses a warp drive.

Burn the paint - Hitting a ship on the hull with phasers.

Burned out - Warp drive failure.

Buzzing around like flys - What many small fast ships attacking a large slow ship do.

Clang- The non-existent noise that torpedoes make when they hit the hull of enemy ships. Very satisfying. Ex: "Clang!! Two more hull hits! Quick, scan him!"

Clean board - What your opponent has when every one of their systems has been "X"ed.

Clean win - All enemy ships destructed with no ally damage of any kind.

Cleaning up - Finishing off very damaged ships preferably by destructing them with probes.

Counter Probe - Using your own probes to destroy incoming enemy probes.

Cross fire - Two or more ships firing on the same target from different angles.

Dancing - Constantly alternating course changes to avoid enemy shots with the firing of weapons. Ex: "Quit dancing and take it like a humanoid!"

Dead Zone - One of the ranges between you and your enemy where he can phaser your torpedoes and you cannot phaser his.

Dinkin around - Maneuvering aimlessly with no clear battle plan. Ex: "I was just dinkin around when two frigates jumped me."

Dispersed on - When an enemy or ally ship uses none zero dispersion when firing their torpedo tubes.

Dodge ball - Constantly making course changes to avoid enemy shots.

Double Duty - A single hit that causes damage on more than one ship. (Triple, etc.) Ex: "Alright! Double duty on the Zantha and Yazark!"

Drill shields - Major damage to shields with a single low-proximity shot. Ex: "I set my proximity to 150 and drilled his shields."

Duking it out - Attacking the opponent head on. Ex: "We were duking it out for a half an hour before I hulled him."

Face - The forward quadrant of a ship. Ex: "Then he tossed a dink in my face!"

Fall asleep - An enemy or ally ship that seems to just sit there. In development versions, indicates strategy code problems. Ex: "I had two destroyers with me, but one of them fell asleep and we were meat."

Full Load - A load created using all tubes.

Getting dinked - Being hit by a Klingon DNK probe.

Got his guns - Disabled all of the opponents' tubes. May also refer to phaser banks when within phaser range.

Got his number - What a ship has when it's opponent does not change course to avoid torpedoes.

Guys - Ships. Ex: "My guys didn't stand a chance against that dreadnought."

Halfway Across the Galaxy - any large distance Ex: "I'll never catch him. He's halfway across the galaxy by now."

He's meat - When an ship is defenseless and it is being attacked. (I'm meat)

Hit with a full load - When a ship gets hit with a full load of torpedoes.

Hulled - Being hit on the hull. Ex: "They hulled me!"

Hurting - A ship which is very vulnerable to enemy attack with little or no defensive abilities. Ex: "He's hurting now!"

Iron Shields - Shields that withstand continuous bombardment. Ex: "I gave him three full loads, but he's got iron shields."

Load - A torpedo group with zero dispersion.

Out of gas - When there is no energy available.

Out-gunned - When one side is much weaker than the other.

Overkill - Many hits on a ship after it is already dead.

Paper Shields - Shields that cannot withstand even a single hit. Ex: "These darn frigates have paper shields!"

Peel the paint - Causing damage to a ship with phasers.

Pig Boat - A large poorly maneuverable ship. E.G. Dreadnought

Pop his shield - When a single torpedo load hits an untouched shield, weakening it enough to damage one or more ship systems.

Popcorn - A chain reaction of detonating ships. Ex: "Finally I detonated the probe. Popcorn. No survivors."

Promoting - Trading a shot up flagship with an unscratched ally, usually ensuring the death of the ally captain. Ex: "Sorry, Agena, I've got to promote your captain!"

Pull the pin - Self destruct.

Pushing all the buttons - When a ship performs many different actions one right after another.

Scan down - Change the position display to a smaller scan range.

Scan up - Change the position display to a larger scan range.

Single shot - Firing one tube,bank,launcher at a time. (half shot)

Sneak one in - When one or more torpedoes makes it past closely grouped ships to hit their target.

Sorry- What you say when you hit an ally ship with a load of torps. Ex: "Sorry, Agena! Watch where you're going!"

Swarm of Gnats - Many fast small ships grouped closely together.

Thanks - What you say when an ally ship hits you with a load of torps. Ex: "THANKS, Agena! What side are you on?!"

Tickle a shield- Hitting a ships' shield but causing no discernible damage. Ex: "All I can do is tickle his shields!"

Torpedo Group - All torpedoes launched from a single command.

Toss a probe - Firing a probe at an opponent when passing by quickly at close range.

Toying with - Engaging a weaker opponent without trying to inflict serious damage.

Units- The universal measurement that is used for all quantities in begin except time.

Unscratched - A ship with no damage and all shields at 100 percent.

Untouched - A ship or ship system that has no damage.

"X"ed ... - A ship that has all systems damaged. "X"ed his tubes means all of the ship's tubes are damaged.

NOTES

THE UNITED FEDERATION

CLASS: Interceptor (IN)
CREW: 105
D.W.T.: 70,000 Kilotons
POWER:
3 Reactors providing 35eu each.
6 Batteries with a capacity of 90eu each.
WEAPONRY:
6 Phaser banks with 2000 maximum range. Each having a total charge of 10eu and a charge time of 3 cycles
1 Torpedo tube of "mkvii" class. Each needing a buildup of 10eu and a load time of 3 cycles.
1 Probe launcher of "pxii" class.
DEFENSE:
6 Shield generators each supplying 150eu of protection with 40% absorption. Power usage is 10eu per shield with a regeneration of 0.90%.
PROPULSION:
2 Warp drives providing 150eu each with an efficiency of 85% per drive. Maximum warp is 12.0 and cruise is 10.2 with a turn rate ranging from 360° per cycle to 30° at maximum warp.

CLASS: Destroyer (DE)
CREW: 200
D.W.T.: 85,000 Kilotons
POWER:
5 Reactors providing 35eu each.
5 Batteries with a capacity of 90eu each.
WEAPONRY:
4 Phaser banks with 2000 maximum range. Each having a total charge of 10eu and a charge time of 3 cycles.
4 Torpedo tubes of "mkvii" class. Each needing a buildup of 10eu and a load time of 3 cycles.
2 Probe launchers of "pxii" class.
DEFENSE:
6 Shield generators each supplying 200eu of protection with 63% absorption. Power usage is 20eu per shield with a regeneration of 0.90%.
PROPULSION:
1 Warp drive providing 285eu each with an efficiency of 67% per drive. Maximum warp is 10.0 and cruise is 6.7 with a turn rate ranging from 200° per cycle to 20° at maximum warp.

CLASS: Heavy Cruiser (HC)
CREW: 450
D.W.T.: 190,000 Kilotons
POWER:
7 Reactors providing 35eu each.
6 Batteries with a capacity of 90eu each.
WEAPONRY:
4 Phaser banks with 2000 maximum range. Each having a total charge of 10eu and a charge time of 3 cycles.
6 Torpedo tubes of "mkvii" class. Each needing a buildup of 10eu and a load time of 3 cycles.
3 Probe launchers of "pxii" class.
DEFENSE:
6 Shield generators each supplying 225eu of protection with 72% absorption. Power usage is 25eu per shield with a regeneration of 0.90%.
PROPULSION:
2 Warp drives providing 285eu each with an efficiency of 67% per drive. Maximum warp is 9.0 and cruise is 6.0 with a turn rate ranging from 108° per cycle to 12° at maximum warp.

CLASS: Dreadnought (DN)
CREW: 500
D.W.T.: 295,000 Kilotons
POWER:
8 Reactors providing 35eu each.
8 Batteries with a capacity of 90eu each.
WEAPONRY:
6 Phaser banks with 2000 maximum range. Each having a total charge of 10eu and a charge time of 3 cycles.
8 Torpedo tubes of "mkvii" class. Each needing a buildup of 10eu and a load time of 3 cycles.
4 Probe launchers of "pxii" class.
DEFENSE:
6 Shield generators each supplying 250eu of protection with 85% absorption. Power usage is 30eu per shield with a regeneration of 0.90%.
PROPULSION:
3 Warp drives providing 285eu each with an efficiency of 67% per drive. Maximum warp is 9.0 and cruise is 6.0 with a turn rate ranging from 72° per cycle to 8°°at maximum warp.

TORPEDO: Federation Mark VII
CLASS: mkvii
SYMBOL: · ·
PARTICULARS:
The "mkvii" torpedo travels at a velocity of warp 30 ±7% and has a destructive force equivalent to 10 antimatter pods.
The torpedo arms after 1 cycle then remains stable for 6 cycles.
A single phaser hit will destruct this class of torpedo.

PROBE: Federation Probe XII
CLASS: pxii
SYMBOL: φ
PARTICULARS:
The "pxii" probe travels at a velocity of warp 3 and carries a 25 pod antimatter warhead.
The probe arms after 5 cycles and may remain stable anywhere between 5 and 20 cycles.
This class of probe is designed with a homing guidance system and will ignore all ally vessels.

THE KLINGON EMPIRE

CLASS: Escort (ES)
CREW: 95
D.W.T.: 65,000 Kilotons
POWER:
2 Reactors providing 47eu each.
6 Batteries with a capacity of 75eu each.
WEAPONRY:
4 Phaser banks with 2200 maximum range. Each having a total charge of 10eu and a charge time of 3 cycles.
1 Torpedo tube of "ktx" class. Each needing a buildup of 15eu and a load time of 3 cycles.
1 Probe launcher of "klpp" class.
DEFENSE:
6 Shield generators each supplying 100eu of protection with 40% absorption. Power usage is 10eu per shield with a regeneration of 0.70%.
PROPULSION:
2 Warp drives providing 125eu each with an efficiency of 74% per drive. Maximum warp is 11.0 and cruise is 8.1 with a turn rate ranging from 360° per cycle to 33°at maximum warp.

CLASS: Frigate (FR)
CREW: 175
D.W.T.: 70,000 Kilotons
POWER:
3 Reactors providing 47eu each.
4 Batteries with a capacity of 75eu each.
WEAPONRY:
5 Phaser banks with 2200 maximum range. Each having a total charge of 10eu and a charge time of 3 cycles.
2 Torpedo tubes of "ktx" class. Each needing a buildup of 15eu and a load time of 3 cycles.
2 Probe launchers of "dnk" class.
DEFENSE:
6 Shield generators each supplying 175eu of protection with 50% absorption. Power usage is 15eu per shield with a regeneration of 0.70%.
PROPULSION:
1 Warp drive providing 268eu each with an efficiency of 64% per drive. Maximum warp is 10.5 and cruise is 6.7 with a turn rate ranging from 275° per cycle to 26°°at maximum warp.

CLASS: Dreadnought (DR)
CREW: 500
D.W.T.: 275,000 Kilotons
POWER:
6 Reactors providing 47eu each.
8 Batteries with a capacity of 75eu each.
WEAPONRY:
6 Phaser banks with 2200 maximum range. Each having a total charge of 10eu and a charge time of 3 cycles.
8 Torpedo tubes of "ktx" class. Each needing a buildup of 15eu and a load time of 3 cycles.
4 Probe launchers of "dnk" class.
DEFENSE:
6 Shield generators each supplying 225eu of protection with 80% absorption. Power usage is 25eu per shield with a regeneration of 0.70%.
PROPULSION:
3 Warp drives providing 268eu each with an efficiency of 64% per drive. Maximum warp is 9.0 and cruise is 5.8 with a turn rate ranging from 72°per cycle to 8°at maximum warp.

TORPEDO: Klingon TX torpedo
CLASS: ktx
SYMBOL: · ·
PARTICULARS:
The "ktx" torpedo travels at a velocity of warp 27 ±7% and has a destructive force equivalent to 10 antimatter pods.
The torpedo arms after 1 cycle then remains stable for 6 cycles.
A single phaser hit will destruct this class of torpedo.

PROBE: Klingon Light Pak Probe
CLASS: klpp
SYMBOL: Φ
PARTICULARS:
The "klpp" probe travels at a velocity of warp 2 and carries a 20 pod antimatter warhead.
The probe arms after 6 cycles and may remain stable anywhere between 5 and 20 cycles.
This class of probe is designed with a homing guidance system and will ignore all ally vessels.

PROBE: Dreadnought Killer (dink)
CLASS: dnk
SYMBOL: ∞
PARTICULARS:
The "dnk" probe travels at a velocity of warp 4 and carries a 30 pod antimatter warhead.
The probe arms after 5 cycles and may remain stable anywhere between 5 and 12 cycles.
This class of probe is designed with a homing guidance system and will ignore all ally vessels.

THE ROMULAN EMPIRE

CLASS: War Eagle (WE)
CREW: 115
D.W.T.: 50,000 Kilotons
POWER:
3 Reactors providing 65eu each.
3 Batteries with a capacity of 225eu each.
WEAPONRY:
5 Phaser banks with 2500 maximum range. Each having a total charge of 10eu and a charge time of 4 cycles.
1 Torpedo tube of "plasma" class. Each needing a buildup of 400eu and a load time of 6 cycles.
1 suicide bomb equal to 50 antimatter pods.
DEFENSE:
6 Shield generators each supplying 400eu of protection with 30% absorption. Power usage is 12eu per shield with a regeneration of 4.20%.
PROPULSION:
2 Warp drives providing 70eu each with an efficiency of 84% per drive. Maximum warp is 3.5 and cruise is 2.9 with a turn rate ranging from 160° per cycle to 46° at maximum warp.

CLASS: Frigate (FR)
CREW: 160
D.W.T.: 75,000 Kilotons
POWER:
5 Reactors providing 65eu each.
4 Batteries with a capacity of 225eu each.
WEAPONRY:
4 Phaser banks with 2200 maximum range. Each having a total charge of 10eu and a charge time of 3 cycles.
2 Torpedo tubes of "Xplasma" class. Each needing
a buildup of 225eu and a load time of 5 cycles.
2 Probe launchers of "rmpp" class.
1 suicide bomb equal to 75 antimatter pods.
DEFENSE:
6 Shield generators each supplying 300eu of protection with 50% absorption. Power usage is 24eu per shield with a regeneration of 2.90%.
PROPULSION:
1 Warp drive providing 268eu each with an efficiency of 64% per drive. Maximum warp is 8.3 and cruise is 5.3 with a turn rate ranging from 275° per cycle to 33° at maximum warp.

CLASS: Bird of Prey (BP)
CREW: 275
D.W.T.: 150,000 Kilotons
POWER:
5 Reactors providing 65eu each.
6 Batteries with a capacity of 225eu each.
WEAPONRY:
3 Phaser banks with 2500 maximum range. Each having a total charge of 10eu and a charge time of 4 cycles.
2 Torpedo tubes of "plasma" class. Each needing a buildup of 400eu and a load time of 6 cycles.
2 Probe launchers of "rmpp" class.
1 suicide bomb equal to 75 antimatter pods.
DEFENSE:
6 Shield generators each supplying 325eu of protection with 40% absorption. Power usage is 17eu per shield with a regeneration of 3.70%.
PROPULSION:
2 Warp drives providing 176eu each with an efficiency of 72% per drive. Maximum warp is 6.0 and cruise is 4.3 with a turn rate ranging from 200° per cycle to 33° at maximum warp.

TORPEDO: Romulan Plasma Torpedo
CLASS: plasma
SYMBOL: ✞
PARTICULARS:
The "plasma" torpedo travels at a velocity of warp 15 ±12% and has a destructive force equivalent to 30 antimatter pods.
The torpedo arms after 1 cycle then remains stable for 12 cycles.
The "plasma" is of the homing variety and can change course almost instantaneously although decays in strength over time.
This class of torpedo may require multiple phaser hits to eliminate it.

TORPEDO: Plasma X Torpedo
CLASS: Xplasma
SYMBOL: ✞
PARTICULARS:
The "Xplasma" torpedo travels at a velocity of warp 21 ±9% and has a destructive force equivalent to 18 antimatter pods.
The torpedo arms after 1 cycle then remains stable for 11 cycles.
The "Xplasma" is of the homing variety and can change course almost instantaneously although decays in strength over time.
This class of torpedo may require multiple phaser hits to eliminate it.

PROBE: Romulan Pak Probe **CLASS:** rmpp **SYMBOL:** ⊖ **PARTICULARS:** The "rmpp" probe travels at a velocity of warp 2 and carries a 28 pod antimatter warhead. The probe arms after 6 cycles and may remain stable anywhere between 5 and 20 cycles. This class of probe is designed with a homing guidance system and will ignore all ally vessels.	

THE ORION PIRATES

CLASS: Assassin (AS)
CREW: 45
D.W.T.: 20,000 Kilotons
POWER:
3 Reactors providing 35eu each.
4 Batteries with a capacity of 45eu each.
WEAPONRY:
3 Phaser banks with 1800 maximum range. Each having a total charge of 8eu and a charge time of 2 cycles.
1 suicide bomb equal to 25 antimatter pods.
DEFENSE:
6 Shield generators each supplying 100eu of protection with 20% absorption. Power usage is 10eu per shield with a regeneration of 1.80%.
PROPULSION:
1 Warp drive providing 200eu each with an efficiency of 85% per drive. Maximum warp is 14.0 and cruise is 11.9 with a turn rate ranging from 380° per cycle to 27° at maximum warp.

CLASS: Raider (RA)
CREW: 95
D.W.T.: 35,000 Kilotons
POWER:
4 Reactors providing 35eu each.
6 Batteries with a capacity of 45eu each.
WEAPONRY:
5 Phaser banks with 1800 maximum range. Each having a total charge of 8eu and a charge time of 2 cycles.
1 suicide bomb equal to 25 antimatter pods.
DEFENSE:
6 Shield generators each supplying 125eu of protection with 30% absorption. Power usage is 12eu per shield with a regeneration of 1.80%.
PROPULSION:
1 Warp drive providing 200eu each with an efficiency of 85% per drive. Maximum warp is 12.0 and cruise is 10.2 with a turn rate ranging from 300° per cycle to 25° at maximum warp.

CLASS: Raider (RA)
CREW: 95
D.W.T.: 35,000 Kilotons
POWER:
4 Reactors providing 35eu each.
6 Batteries with a capacity of 45eu each.
WEAPONRY:
5 Phaser banks with 1800 maximum range. Each having a total charge of 8eu and a charge time of 2 cycles.
1 suicide bomb equal to 25 antimatter pods.
DEFENSE:
6 Shield generators each supplying 125eu of protection with 30% absorption. Power usage is 12eu per shield with a regeneration of 1.80%.
PROPULSION:
1 Warp drive providing 200eu each with an efficiency of 85% per drive. Maximum warp is 12.0 and cruise is 10.2 with a turn rate ranging from 300° per cycle to 25° at maximum warp.

CLASS: Anarchist (AN)
CREW: 145
D.W.T.: 60,000 Kilotons
POWER:
4 Reactors providing 35eu each.
8 Batteries with a capacity of 60eu each.
WEAPONRY:
5 Phaser banks with 2000 maximum range. Each having a total charge of 10eu and a charge time of 3 cycles.
3 Torpedo tubes of "opbt" class. Each needing a buildup of 10eu and a load time of 3 cycles.
1 Probe launcher of "klpp" class.
1 suicide bomb equal to 35 antimatter pods.
DEFENSE:
6 Shield generators each supplying 180eu of protection with 60% absorption. Power usage is 15eu per shield with a regeneration of 1.60%.
PROPULSION:
1 Warp drive providing 200eu each with an efficiency of 85% per drive. Maximum warp is 10.0 and cruise is 8.5 with a turn rate ranging from 260° per cycle to 26° at maximum warp.

TORPEDO: Orion Bullet Torpedo
CLASS: opbt
SYMBOL: · ·
PARTICULARS:
The "opbt" torpedo travels at a velocity of warp 20 ±22% and has a destructive force equivalent to 8 antimatter pods.
The torpedo arms after 1 cycle then remains stable for 5 cycles.
A single phaser hit will destruct this class of torpedo.

Appendix D: Begin V2.0 Preview

Version 2.0 of Begin is now available.

The price of v2.0 is $19 for the manual and diskette plus $6 shipping and handling. We will not offer a manual only for the new release.

All contributors to earlier versions of Begin may upgrade to version 2.0 for just $9 plus $6 for shipping and handling..

The *NEW* features

There are now Federation Starbases, Tankers, Tugs, Klingon Outposts, Orion Grapplers, Orion Armadillos. Romulans have cloaking devices. The graphics display shows shields/strengths, direction of travel, tractor beam connections.

Docked ships repair twice as fast and may repair anything, even previously unrepairable items. Computer ships don't yet know about reenforce or repair priority.

Also, docked ships may have a crew even if the life support is destroyed since it is docked. You may not normally board a life support deficient ship unless docked. There is also an impulse engine that, when damaged, will make you dead in space unless you still have a warp drive. All ships now have transporters that may be damaged that also limit the number of crew that may transport at once.

You may now group your allies for easier control. Groups names are simply numbers 1 thru N. You tell allies to join a group then give orders to the group number instead of the ship names.

Your sensors may now be damaged. If you have no allies near by you will be blind. Ships that get to far away disappear off of your scope. How far depends on your sensors and the size of their ship. A game started with the Random command will place most or all ships out of sensor range which forces you to look for them.

Cloaked Romulans appear as white objects on your screen and are displayed at their last known position. When cloaked ships fire or are hit they re-appear for one turn.

There are also different types of torps and probes. The Federation has MK7 and MK8 torps. The MK7s you already know. The MK8s are slower but have 50% more punch. They are good for close-in fighting. The Feds and the Klingons have Data Probes that travel at warp 20 but only carry small sensors good for locating lost enemy ships. The Klingon version also has a small warhead of course. The Orions now posses Shield-Bore torpedeos that damage your shields but not your ship. The Grappler class ships use these torps along with their large crew to board and capture ships.

The number of torpedeo tubes per ship has been reduced although the effective strength of the torps has been increase. This will hopefully make single tube ships more useful.

New Commands During Setup:

- Up to 60 ships,bases,etc. may be selected
- Random (instead of Begin) places random number of ships.

New Commands During Play:

- Repair <System> | All *Lets you select one item that has priority.*
- Tractor <ship> | Off *Lets you tow a ship.*
- Board <ship> *Lets you board a ship and capture it.*
- Dock <Name> On | Off *Lets you dock with a base, outpost, etc.*
- Cloak On | Off *If you are a Romulan*
- Reenforce <#> *Lets you reenforce a shield using much power*
- Tell <ally> board <ship> <number>
- Tell <ally> tow <ship> <destination>
- Tell <ally> tractor <ship>
- Tell <ally> release
- Tell <ally> approach <ship> <range>
- Tell <ally> dock <base>
- Tell <ally> undock
- Tell <ally> join <group #>
- Tell <ally> leave
- Tell <ally> stop
- Tell <ally> defend <ship>
- Tell <base> recover <ship>
- Tell <base> eject <ship>
- Tell <group #> <orders...>
- Group
- Chart all
- Chart by name
- Chart by distance
- Chart by nation
- Chart from <ship>
- Chart <ship> on
- Chart <ship> off
- Text
- Key <keyName> string *Allows <CR> in string. Keys are F# or ^x*

Reads Begin2.key on startup. Contains key definitions without the work Key in front.

To run Begin 2.0 in text mode, include the TEXT parameter on the command line. E.G. BEGIN TEXT

There will not be loadable scenerios in version 2.0 due to our desire to just get this program released. Also, only VGA graphics will be supported although you may still play in Text mode. This will be the last release that supports Text mode.

Much needs to be done to adjust computer ship strategy for all the new devices/commands. For example, ships when damaged still run rather than dock with a base (unless you tell them to dock)

NOTES