Credits:

Clay Fowler	Architecture / Programming / Game Design
Stan Marks	Programming / AI / Game Design
Rodney Foley	Programming / GUI
Marco Bergman	Unit Textures / Graphics
Gordon Molek	Camouflage and Texture Touch-up
Matt Huston	3D Models
3DRT	3D Models
Mike Clark	Background Story / Game Design
Matt Faller	Sound Design
Steve Grammont	Game Design / Testing
Martin van Balkom	Testing / Marketting
Tim Orosz	Testing / Public Test Server Administration
Robert Knight	Testing / Scenario Design / Unit insignias
Dan Olding	Terrain and Effects Textures
Fernando Carrera	Artwork
Testing / Feedback:	
Gregory Anderson, Dave Koop, Ken Fowler, Brian Hickey, Berlichtingen, Craig Harvey, Ian Straw, Ian Greer, Sharkiee, Nick, Rob, Chris, and Cheryl.	

BACKGROUND

The Mu Arae Entente was a crown jewel in the accomplishments of man: a great interstellar government that managed wisely, fairly and with a light hand. The Entente inaugurated a golden age that lasted hundreds of years, and oversaw the colonization of thousands of planets in the Mu Arae arm.

The strength of the Entente came from three sources. The first was a simple social contract that insured the fundamental rights of man, the second was the nonconscript Entente Elements (the combined police, military and aid organizations of the Entente), and the third was the flotilla of great Liveships of the trading houses. These three elements bound the Entente together in a shared culture spread across thousands of light years.

But like all things created by man, it began to decay at the core as lesser men of limited vision came to the helm and excessive regulation, corruption, and lust for power began to erode the simple foundations of the Entente.

With the coming of the decay there was a trickle, then a flood, of colonization beyond the Entente's boundaries to places where the Entente played no part in the founding or support of the colonies, places where the Entente was not welcome.

The trading houses moved some of their operations to the new rim of colonized worlds, sensing a chance at greater profit in newer, rawer places. The great Liveships were modified and their templates changed so that the ships became mobile factories along with the bulk cargo that they could carry, bringing the advanced technology of the Entente to the new Rim worlds.

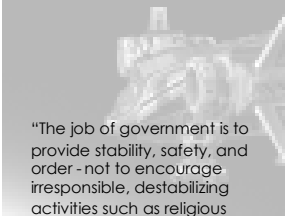
Conflicts arose between the worlds of The Rim, and the traders did quite well in selling arms and manufacturing capacity to The Rim worlds engaged in conflicts. As the Liveships of the traders manufactured a seemingly endless stream of war machines, these conflicts became increasingly violent.

The Entente was alarmed at the conflicts raging on its borders and decided to try to stop the violence by assimilating The Rim worlds into the Entente by force.

The Rim Worlds handily rebuffed their first few attempts, having known war in the raw for a generation. The rest of the civilized galaxy was shocked to learn that the people of The Rim so quickly and efficiently prioritized their collective

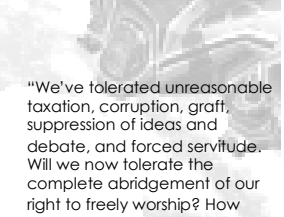
"Posterity, we have limited this government's power for your sake at great personal cost. Will you pay homage to our sacrifice by remaining free or will you slowly trade this hard-won freedom away in return for false promises of security as our ancestors did?"

- From Harbin David's address at the inauguration of the first Mu Arae government



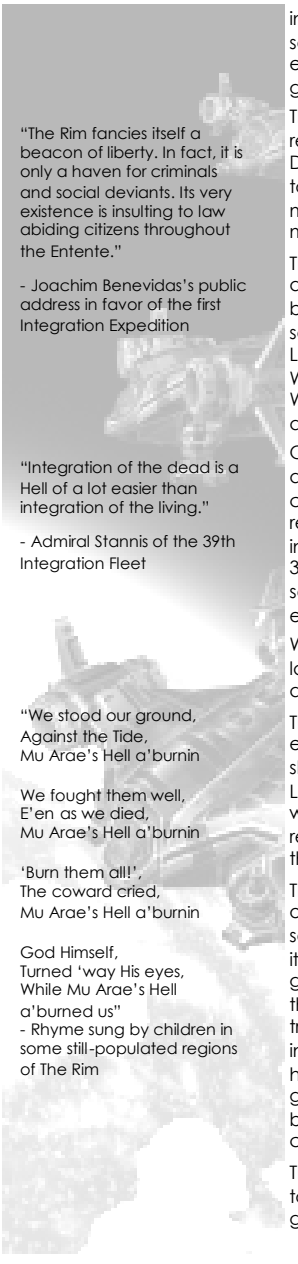
"The job of government is to provide stability, safety, and order - not to encourage irresponsible, destabilizing activities such as religious worship: an activity which invariably leads to violence born of superstitious passions. Sometimes the people must be protected from themselves. "

- Senator Rodha during debate on the passage of laws restricting religious freedom throughout Mu Arae space



"We've tolerated unreasonable taxation, corruption, graft, suppression of ideas and debate, and forced servitude. Will we now tolerate the complete abridgement of our right to freely worship? How many of you will renounce Christ as cowards rather than come with me to the free worlds of The Rim?"

-Joachim Benevidas's last pirate-broadcasted communiqué before being captured and virally indoctrinated by the Mu Arae Triumvirate



"The Rim fancies itself a beacon of liberty. In fact, it is only a haven for criminals and social deviants. Its very existence is insulting to law abiding citizens throughout the Entente."

- Joachim Benevidas's public address in favor of the first Integration Expedition

"Integration of the dead is a Hell of a lot easier than integration of the living."

- Admiral Stannis of the 39th Integration Fleet

"We stood our ground,
Against the Tide,
Mu Arae's Hell a'burnin

We fought them well,
E'en as we died,
Mu Arae's Hell a'burnin

'Burn them all!',
The coward cried,
Mu Arae's Hell a'burnin

God Himself,
Turned 'way His eyes,
While Mu Arae's Hell a'burned us"
- Rhyme sung by children in some still-populated regions of The Rim

independence above their own internal squabbles. Casualties were heavy as the experienced Rim Worlders mowed down the green flower of the Entente Integrators.

The Entente recovered, of course, but in the recovery had to rely on conscription to fill its ranks. During the sixth offensive, the Entente's goal shifted to extermination of the Liveships, since they were a major logistical component of the Rim Worlds' war making ability and relatively vulnerable.

The trader crews were outraged and fearful. Some decided to withdraw from the conflict, a Liveship being unsuitable for the fire of combat (there were some unsuccessful attempts to grow a combat Liveship). Some decided to stay with the Rim Worlds and some were outright seized by the Rim Worlds, their crews held hostage to prevent the departure of critical war manufacturing capability.

Of the Liveships that stayed, the last were destroyed in the 14th campaign, which culminated in the burning of Landis III, a recalcitrant world that refused to be assimilated into the Entente, by the Mad Admiral Stannis of the 39th Integration fleet. He is famously quoted as saying "Integration of the dead is a hell of a lot easier than Integration of the living".

With the destruction of the defenseless Landis, the last of the Rim worlds surrendered in the conflict and agreed to become part of the Entente.

The conflict was over, but the Entente was exhausted and its moral contract had been shattered by the conflict with The Rim. The Liveships were gone and its battle-hardened fleet was now looking for loot, both conscripts and regulars having given up on the moral rightness of their cause.

The fleets turned on the Entente, under command of the Mad Admiral Stannis, and attempted to seize control of the Entente by force. The Entente itself fell into a civil war that has lasted for generations up to the present day, ripping away the veil of civilization. Eventually, easy interstellar travel was lost with the destruction of the interstellar antimatter fueling stations, and much high technology fell into disuse. Perhaps the greatest blow was the devastation of humanity's birthplace and at the time the greatest concentration of humans in the universe.

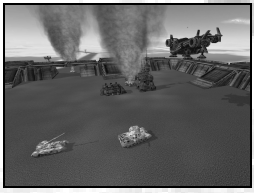
The Liveships and traders that fled The Rim conflict to hide in the small dark places where no one goes had a rough time of it. Their Liveships grew

old, budding new generations, and knowledge was gradually lost until only basic things were retained by the Liveships' nanofacture plants. Knowledge transfer had been a trade secret, not built into the budding mechanism for the new born Liveships.

The trading houses themselves split into factions and organized into feudal kingdoms based on clan affinities. Living was hard on resource poor worlds, and though they survived, they never became accustomed to the resource limitations of the worlds where they were hiding.

More time passed and a powerful, hard man arose amongst the descendants of the traders to lead several trader kingdoms back into contact with the waiting Liveships. Ties of blood were renewed and he took the Liveship Nielle back to The Rim worlds and into history. After the failure of the first attempts to trade in the old way (most of the high technology and manufacturing capability having been lost over the generations) the man, Captain James Roberts, asked, "Why should we trade, when we can take?" Even the young Liveships had retained the templates for manufacture of the simpler weapons from past wars. His raid was successful and profitable. Upon his return, his younger brother, who wanted control of the house's Liveship Nielle, assassinated him. The Space Vikings, and their way of life, was born in blood.

Now the descendants of traders have returned in great numbers to The Rim with their mysterious Liveships, having honed their military lifestyle of raid and plunder into a disciplined science. The old trading houses have evolved over generations into feudal, military clan houses. Though most knowledge and higher technology is lost, their Liveships endlessly manufacture the basic machines of war and carry the raiders between the worlds of The Rim in search of the resources needed to sustain life (both human and ship) . They prey on the scattered remnants of Entente colonies throughout The Rim, and often on one another. Some see themselves as the rightful heirs to the former glory of The Entente, forging new civilization from the ruins of the past. Others simply lust for power and whatever wealth they can scrape from the charred corpses of colonies left in their path.



The culture of the Space Viking is feudal and is centered squarely on the Liveship that defines his life. The captain of each Liveship, in essence a

The howl of the reentry threatened to overload Melkamp's auditory nerves, and he was pressed back hard into the minimally padded command chair of his light tank as the dropship screamed through the upper atmosphere on it's way to the hot DZ. Temporarily out of contact during the drop with the three other members of his recon team, his thoughts turned to the coming raid. Intelligence said that the DZ was covered by ancient robotic defenses, and would easily be overwhelmed by the simultaneous drop of the four elements of his Steely Eye recon team and a barrage of drop decoys. Melkamp wondered, this being his first drop, how in the hell intelligence made recommendations like that, and if the intelligence staffers ever had problems sleeping at night.

The dropship's engines changed their song to the deep throated roar of full deacceleration and he was pushed even more sharply against his command chair. His command console started to receive status info from the other team members of Steely Eye and they were all green and good to go. "30 seconds to landing" the dropship pilot sang out and began final maneuvering. One of the console readouts went red briefly, then black, and Melkamp felt a deep rumble through the dropship as one of his teammates was hit by the DZ defenses.

Intelligence was wrong. The door to Hell opened wide to the scene of a burning dropship with enemy tracer fire lighting the sky.

feudal warlord, guides his people across the stars to victory or defeat, and he trusts no other captain.

The best of the clan are its warriors. They are professional soldiers who fight with courageous, disciplined, highly trained rigor. They are the lifeblood of the Liveship and the clan, dropping onto the surfaces of alien worlds in order to conquer and wrest the raw resources of life from whoever holds them. Their elite military units, the Drop Teams, are the most fearsome soldiers ever known in the galaxy. Though they are limited to the relatively crude war machines remembered by their Liveships, they fight with skill, cunning, and audacity.

Some in The Rim look into the distant heart of the galaxy, toward the stars of The Entente from whence their ancestors came, where civil war still rages with weapons of incredible technology, so advanced that the colonist-descendants of The Rim would perceive it as magic. Some of them wait for the return of Integration Fleets, bringing the law, order, and technology that past generations knew. But for most of them such things are the stuff of ancient legend, and they strive only to survive the next raid by plundering Vikings from the stars.

BASIC GAMEPLAY

This is a quick introduction to the major features of DropTeam. Everything here is covered in more detail in later sections.

SCENARIOS

Each game of DropTeam is played as a single battle "scenario". The scenario defines the environment where the battle takes place and the objectives of each team in the battle.

Since scenarios take place on various planets in The Rim, each scenario defines its own environmental parameters such as gravity, atmospheric density, and terrain properties. You must adapt your tactics to these varying environmental conditions for each scenario.

Each scenario can be played as one of the several possible “Game Types”. The type of the scenario defines the objectives of each team in the battle. A team must meet its objectives in order to score team points.

A scenario is played for a certain amount of time, usually on the order of thirty minutes. At the end of this time, the team with the most points wins the scenario and the game ends.

This means that it is important to focus on the specific objectives of the scenario that you're playing. Simply destroying enemy units may or may not actually advance your team's chance of victory.

Only scoring points based on the scenario objectives will do this. The limited time of a scenario makes this doubly true: every minute spent in pursuit of non-vital activities, such as killing an enemy unit, is a minute not spent accomplishing the scenario's primary objectives. To win at DropTeam, keep yourself focused on the objectives, and even more importantly, keep the rest of your team focused, too!

GAME TYPES

Scenario objectives are based on the game type of the scenario. Some scenarios may be played as one of several different game types, while others only allow a single game type.

For example, the scenario called "Haven" defines a lush, green landscape on the planet Juda's Reach. This same scenario can be played as either the "Objective" game type or as the "Capture the Flag" game type. In either case, the scenario still takes place in the same lush region, on the same terrain. Only the objective of the game changes depending on which game type is chosen when the scenario is started.

Each game type is explained below. The later "Tactics Guide" section goes into more detail about how to approach each of these different game types from a tactical perspective.

OBJECTIVE

In the "Objective" game-type, one team plays the role of "Attackers" and the other team plays the role of "Defenders." An important object or valuable strategic position is marked on the map for both teams to see. When the scenario begins, the defending team is in possession of this valuable point or object. The attacking team must try to gain control of the objective by force. During the deployment phase of this game type, only the defending team is allowed to deploy units. The attackers must wait until the deployment phase is over before they are allowed to drop any units into combat. This means that the defending team has time to deploy defenses around the objective before the battle begins.

The attacking team begins the scenario with zero points. They are awarded points for occupying ground within a few hundred meters of the

Tips for the Objective game type:

Use the deployment phase to formulate a plan with your team mates! When the deployment phase ends, everyone should know what he is doing.

As the defender, place mines to limit the number of directions of enemy attack.

As the defender, don't cluster all of your deployables near the objective itself where one good fire mission might eliminate them all.

As the attacker, hit the objective from at least two directions.

Take advantage of your support assets. Many teams forget to do this in the heat of intense Objective battles.

As the defender, take advantage of the fact that you can deploy anywhere on the map.

Limit entire regions from the attacker's potential drop zones with AA turrets and prepare your team to engage him at the remaining drop sites. Stop him cold at his drop zones instead of waiting for him to get close to the objective.

As the attacker, don't be in a rush to engage. Take your time and deploy your forces behind cover of terrain so you can use mortars to soften up a path to the objective.

Don't let the enemy draw you into meaningless "side-battles". Focus on the objective!

objective. Every attacking unit that occupies this space earns team points over time. Therefore, to gain the most possible points, the attackers should try to not only take this ground, but to hold it for as long as possible.

The defending team begins the scenario with a fixed number of points. They never earn any more points after the battle begins. Therefore, the only way for the defenders to win the scenario is to prevent the attackers from scoring points, which means preventing them from occupying ground near the objective.

Tips for the Territory game type:

If your team gains a significant lead in points then it's better to destroy facilities rather than going to the effort of capturing them.

Regardless of points, it almost always pays to control AA towers.

Use deployables to secure captured facilities while the bulk of your forces attack uncaptured ones. You usually don't have enough manpower to keep guard on all captured facilities with team mates alone.

TERRITORY

The "Territory" game type is a struggle for control of intact Mu Arae structures containing valuable technology and resources. Scenarios for this game type usually contain several large Mu Arae colony buildings. The goal of the game is to capture these valuable facilities for your team.

Each team begins the scenario with zero points. To score points, teams must capture intact facilities (this is done by using engineering units, as explained in section "Controlling a Unit" below). When a facility has been captured, it awards points to the owning team over time. If it should be recaptured by the opposing team then it will award points to that team instead, but any points gained by the original owners are kept. If a facility should be destroyed then neither team will receive additional points from it, regardless of who owned it originally.

Therefore, the goal in a Territory game is to capture facilities and hold them for as long as possible.

Tips for the CTF game type:

If you have enough players on your team, devote one of them to maintaining deployable defenses throughout the entire game.

If your team gains a significant lead in points then put everyone on your team on defense. Consolidate your win rather than risking it by continuing to attempt unnecessary captures.

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CAPTURE THE FLAG

The goal of the "CTF" game type is to capture the enemy team's flag while preventing them from capturing your flag.

The "flags" in a game of CTF are a high level abstraction of the struggle to control "loot" that can be found amongst the ruins of former Rim and Mu Arae colonies.

Each team begins the scenario with zero points. Two flags are placed on the terrain, one for each team. A flag is usually placed in a "base" area where its team can deploy defenses for it. This original starting position for each flag is called the flag's "home."

Flags can be picked up and carried by enemy units. If a unit carrying a flag is destroyed, then the flag is dropped onto the terrain. If a friendly unit

touches the flag, then it is returned to its home position.

To score points, a team must pickup the enemy's flag and carry it back to their own flag. When someone carrying the enemy flag touches their own flag, their team is awarded points for a capture and the enemy flag is immediately returned home.

In order to capture the flag in this way, the friendly flag must be at rest at its home position. Therefore, if the enemy has carried a flag away from its home, then the friendly flag must be returned home and *then* touched by the flag carrier.

CUSTOM

Scenarios can define their own, completely custom game types that do not fit the standard game types above. These game types will have whatever name the author of the scenario has given them, along with an explanation of what the scenario objectives are. These custom game types might even have multiple objectives for one or both teams.

This "custom" game type is primarily used by "modders" who have created their own extensions to DropTeam and by single player campaign game scenarios.

STARTING A GAME

Follow these steps to get a simple, single player game up and running.

RUN THE CLIENT

On Microsoft Windows, click Start. Select Programs/BattleFront/DropTeam/DropTeam from the Start menu to run the game.

On Mac OS X, double-click on the DropTeam icon in your Applications folder to start the game.

On Linux, first open a shell and change to the directory where you installed DropTeam. Then type: ./RunClient

When you've run the client you will see the lobby screen appear.

SELECT A SCENARIO AND GAME TYPE

Switch to the "StandAlone" tab by clicking on it.

On the standalone tab, you will see a list of scenarios on the left. Pick the scenario you would like to play by clicking on it. When you've picked a scenario, a list of game types for that scenario will appear on the right. Pick your desired game type by clicking on it.

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Coordinate with support and team mates to get the enemy flag. For example, have the commander place an EMP fire mission on their defenses just prior to your arrival at the enemy flag.

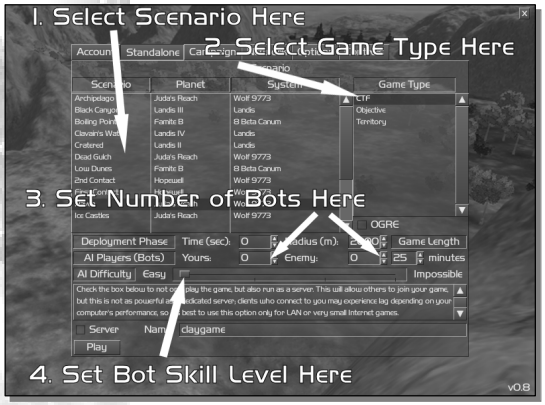
Use the Viper to carry team mates who have the flag.

Use engineers to modify the terrain and make your own flag hard to reach.

Focus on the flag, not on individual combat. It's better to throw your own life away in defense of a team mate carrying the flag than it is to "win" any particular fight.

Don't get distracted with activities that don't help your team capture the enemy flag. Everything else is wasted time.

Since you are playing standalone instead of on the network, you will want the computer to provide some opponents and team mates for you. These computer-controlled players are called "bots." Use the spinner arrows to set the number of bots on your team and the number of bots on the enemy team. Use the skill level slider to decide how skilled the bots in the game will be.



START THE GAME

Finally, click the "Play" button at the bottom of the standalone tab to start the selected scenario. While the scenario is loading you will be presented with a synopsis of the scenario, telling you where the scenario takes place and a bit of background story behind the scenario.

BASIC INTERFACE

When the scenario first begins, you will see a 3D view of the battlefield with several HUD (heads up display) elements overlaid on top of it. Here's a quick breakdown of these elements:

You can move windows in DropTeam by dragging their title bars.

1 - Deployment Phase Timer: This is a timer showing the amount of time remaining in the "Deployment Phase".

The deployment phase is explained below. Once this timer counts down to zero, it will disappear and at that point the deployment phase is over and the battle begins.

You can minimize the drop window by clicking the icon in the upper right of its title bar.

2 - Compass: This is a direction compass showing the compass direction that your camera is currently facing. You can use this to help orient yourself on the battlefield.

Press CTRL-M to expand or collapse the minimap.

3 - Minimap: This is a condensed map of the battlefield. The position and facing of your camera is indicated by the glowing yellow view cone overlaid on this map. The cone depicts your camera's field of view.

4 - Drop Request Window: This window appears whenever you don't have a unit to control. It is prompting you to select a unit to be deployed or dropped from a dropship. Simply pick a unit from the list by clicking on it. When you pick a unit, you will see information about the selected unit in the

pane at the bottom of this window. Select a few different units until you find one that you want to control, then click the "Drop" button at the bottom of this window to deploy or drop the selected unit. Once the unit appears on the battlefield, you will automatically take control of it.

5 - Message Area: This is a list of messages that scroll up vertically as new messages arrive. These messages include chat messages from other players, from bots, or messages from the system about the state of the game.

Press <ENTER> (or <RETURN> on Macintosh) to send a chat message to your team mates. Press <CTRL> <ENTER> to send a chat message to everyone on both teams.

6 - State Bar: The state bar summarizes the current state of the game. From left to right, it tells you what support assets are available for your team at the moment, how much time is remaining in the current scenario, the current range of your selected weapon, and the current score for each of the two teams in the game. Your team's score is always displayed in green while the enemy team's score is always displayed in red.

OBSERVER MODE

While in this 3D view of the battlefield, you're always in one of two modes: "observer" or "locked". When the scenario starts you are initially in observer mode.

In observer mode you are free to fly your camera over the terrain and look around. Move the mouse cursor to the top and bottom edges of the screen to move the camera forward and back and move it to the sides of the screen to rotate the camera left and right. As you do this you will see your view cone moving on the minimap. You can instantly move the camera to a distant point on the terrain by holding down the CONTROL key and left clicking on the terrain or by holding down the CONTROL key and left clicking on the minimap. You can also raise the camera higher up from the ground by holding the 'Q' key and lower it by holding the 'Z' key. You might want to fly the camera around a bit to get a feel for your surroundings before proceeding.

"I'm learning some new tricks/nuances all the time. Resupply ships are awesome temporary defensive platforms with their ion beams. Mace's nifty trick of dropping mines on someone was beautiful. Counterbattery fire is necessary and deadly. And once again, teamwork is key."

- Harv

Once you have picked a unit in the Drop Window and deployed it, the camera will switch from observer mode to locked mode, which is explained in the section "Controlling a Unit" below. For now, just remember that you can switch back to observer mode by pressing the Tab key.

TACTICAL DISPLAY

In addition to the initial 3D battlefield view, you can also view the battlefield from a command

and control perspective. To do this, press the space bar to toggle to the Tactical Display.

The Tactical Display shows a map of the entire battlefield on a single screen, as well as the position and status of other units on your team. From the Tactical Display you can issue orders to your team mates, place waypoints for everyone on your team to see, and organize the tactics of your team. All of this functionality is discussed fully in the section called "Command and Control", but for now you can use the Tactical Display as a simple way to see where you and your team mates are at any time.

Press space bar again to return to the 3D battlefield view.

DEPLOYMENT PHASE

The Deployment Phase is an initial starting period during which the teams deploy their units in preparation for the battle. During this time, you can place units on the battlefield instantly without having to wait for a dropship to bring them to the battlefield (after the deployment phase has ended, the only way to get new troops onto the field is to drop them from dropships.)

During the deployment phase no one is allowed to shoot. This is because the deployment phase represents the preparation time that has taken place before the battle begins. Therefore, you can use this time not only to place units on the battlefield, but also to formulate a plan with your team mates before the battle actually starts.

DROPPING

When you need a new unit to be flown down from your team's orbiting Liveship to the battlefield, you make a Drop Request from the Drop Request Window.

There are two circumstances under which you will need to do this.

First, any time you do not currently have a unit to control you will automatically be prompted to make a drop request. So when the scenario first begins, or any time the unit you're currently controlling is destroyed or extracted from the battlefield, you will be prompted to make a drop request for a new unit to control.

Second, you may choose to make drop requests for other players on your team. You will only do this when acting as your team's commander. In this case, you can call up the Drop Request Window for a team mate and pick a unit to be dropped on

"Aside from the muted sheep noises (Mace perhaps?) I heard nothing and as far as I know nobody heard me either. Not that there's anything wrong with that, but losing to a team with a BattleNoodle on it is embarrassing."

- Harv, speaking of his team's lack of coordination in a beta test game

"Hehe... well it was fun blowing Harv into little pieces. Everybody needs a hobby, right? Oh, and it is Mr. Battlenoodle to you!"

- Steve's consoling response

"Much like a MG's primary function is suppression, I think the ion beam is best used in the same way. "

- Steve

"Actually this works for anything, but it's only useful in rare circumstances for direct fire weapons. Once in a while, I will use it to arc bursts of 20mm over the lip of a hill in a desperate effort to rain down onto the top armor of people on the other side of the hill. Of course, I never know whether it's working or not because, by definition, there's a hill between me and them. ;-)"

- Clay

his behalf. In this way, you can place the positions and types of units under your team mates' control.

Here is a breakdown of the elements on the Drop Request Window:

1 - Unit List: This is a list of all types of units that are available in the current scenario. Each row in the list contains information about one type of unit that can be dropped. You can sort the list by any column by clicking on that column's header. Each row contains the following information about a type of unit:

Name - the unit's name

Role - the usual role for the unit

Primary - the primary weapon on the unit

FP - the firepower of the unit in relative terms

A - the armor thickness of the unit in relative terms

S - The speed of the unit in relative terms

2 - Available: This is the number of units of the selected type that are currently available for use by your team. It is sometimes called the "inventory" of that unit type. As units are dropped onto the battlefield, this number will go down. Once it has reached zero, no more of that type of unit will be available. Depending on the game type settings,

this number might automatically be increased over time by various actions.

3 - Ratings: These are meters that visually depict the selected unit type's firepower, armor, and speed relative to other units. They serve only as a rough guide.

4 - Unit Picture: This is a picture of the selected unit type.

5 - Buttons: Click the drop button to drop the selected unit type. Press the cancel button to dismiss the Drop Request Window.

Once you've chosen the type of unit you want to deploy and pressed the "Drop" button, the Drop Request Window will disappear and you will be prompted to click on the location where the unit should be dropped. You may click on the ground in the 3D battlefield view or on the minimap or you can switch to the Tactical Display and click on the map. Either way, a new unit of the selected type will be deployed to the location that you've picked.

If the deployment phase is still active, then the new unit will immediately appear, ready to fight. Otherwise, a dropship will appear, descending from above. Once the dropship gets close to the ground it will release the new unit from its cargo bay. When the new unit hits the ground, it will then be ready to fight.

DROPSHIPS

Once you have submitted a drop request, a dropship will be scrambled from your team's Liveship to deliver the requested unit to the battlefield. Dropships are launched from the Liveship at relativistic velocities, decelerating at hundreds of G's on their way down to the planetary surface (full details on this process are available in the "Units" section), so they will arrive at your chosen drop point shortly after you make the drop request.

Dropships are vulnerable to many kinds of enemy fire, but most particularly to enemy air defense turrets and facilities. If a dropship is destroyed on its way down then both it and the unit it was carrying are lost. Therefore, you should take care when picking a landing point for your drop request.

The Tactical Display can help with this problem. It shows red circles demarking zones where enemy air defenses are likely to destroy your dropship. You should always try to pick drop locations outside of these red zones. It is also smart to drop out of sight of conventional enemy units, since even a well-

"Actually, I think the truth is that Thor 120's are not rarely used at all, but your observation that they're rare is still true. This is because they tend to get 'used up' within the first 5 to 10 minutes of every scenario when we play multiplayer lately. For example, in that first Objective game last time, our entire team mounted up with Thor 120's (except for me in a Paladin EWV behind the main group) and crested the ridge north of your base, taking all of your defenses under fire with our big guns from hull down positions on that ridge. Thanks in large part to Mace on a distant hill with a ATGM launcher, our team ran out of Thor 120's within just a few minutes so you didn't see any more of them for the remaining ~20 minutes of the game. (Of course, they served their purpose, so it was well worth it!)"

- Clay

aimed round from a tank's gun can bring a dropship down.

Dropships that are delivering units from the Liveship are always autonomously controlled.

CONTROLLING A UNIT

The deployment phase is not just for placing units on the map. This is the best time to talk with your team and formulate a plan.

Once a dropship delivers the unit you've requested to the battlefield, you will automatically leave observer mode and your camera will be locked onto the unit. You are now in direct control of the unit. You can drive the unit across the terrain, use its weapon systems, and activate any special features the unit may have.

Once you are in control of a unit, some new HUD elements appear on the display:

1 - Component Status Panel: This panel shows an icon for each vital component inside of the unit that you are controlling, typically including such things as the driver, gunner, engine, fuel supply, ammunition magazine, computer, etc. (for a comprehensive reference of all components see the "Units" section). Initially, there is a green light next to each component indicating that it is undamaged and functioning normally.

"Use CTRL-M to expand the mini-map and get crosshairs. Move the crosshairs over the target and shoot. Very easy. ☺ This works only for indirect fire mortar weapons and the Command Track."

- Steve

As the unit takes damage during combat, these lights will change from green to yellow, indicating

impaired functionality, to red, indicating complete system failure.

2 - Ammo Panel: This panel shows the types of ammunition available and the number of rounds remaining for each type. It also indicates which type of ammunition is currently selected by showing the currently selected type's initials beneath its image. For example, in the image above, we can see that armor-piercing is the currently selected ammo type based on its "AP" initials appearing beneath the image of an AP round.

In locked mode, the normal mouse cursor is gone and in its place is an aiming reticle. Moving the mouse will swivel the aiming reticle. The unit that you're controlling will rotate its turret and elevate its guns accordingly to aim at the point indicated by the aiming reticle. This behavior is important to keep in mind even when targeting isn't your first priority; use this to face the thick front armor of your turret toward incoming threats.

DRIVING

By default, you drive your unit by using the keyboard. Hold down the W key to accelerate forward. The longer you hold the key down, the more throttle is applied to the engine. Once you've held it down for a few seconds, the vehicle will be running at maximum throttle. Similarly, you can hold down the S key to reverse, the X key to apply brakes, and the A and D keys to turn left and right.

Many new players find that their vehicles frequently flip over while driving across the terrain. This is usually because, when viewed objectively, they're driving like mad men. Here are a few tips to help you avoid this fate:

- Don't drive everywhere at maximum throttle. Can you imagine what would happen to a real vehicle if the driver always kept the accelerator pedal completely down while driving on unimproved ground? If playing with the keyboard, this means you should periodically stroke the W key for throttle instead of constantly holding it down.
- Pay attention to the terrain. You are usually not driving on nice paved roads. When driving across rough, broken ground, don't be surprised that you need to slow down in order to negotiate it successfully! When driving on a slope you may need to steer into the pull of gravity from time to time.

"Yes, the Apollos are pretty rare because, I guess, most people opt for one of the Paladins when they want medium armor/medium speed instead of the tracked Apollo. Tracks are very nice to have sometimes, though. Hellfish is an exception; I often find him in one of the Apollo variants and he is often putting it to good use. I particularly think the Apollo 120 is generally underused - this thing has high mobility, a big gun, and the front armor of its *TURRET* is very thick. Played skillfully (racing from one hull down spot to another) this thing can be a real killer. I suspect that some people try it out, drive into the open where their weakly armored chassis gets shot, and think to themselves "wow this thing sucks" and then move on to the Paladin...

On scenarios with long engagements distances, good firing lines, and a good team, my favorite unit type is the Thor IC. Tough frontal armor means you can park at extreme range from the enemy, where his AP definitely won't hurt (and his HEAT can't get through anyway), then begin the process of slowly stabbing him to death with a million pricks from a sewing needle. If he not equipped with a ATGM, then there's *nothing* he can do about it except:

1. Hide from you behind terrain or obstacles (in which case you've disrupted whatever he really wanted to be doing)
2. Extract (ditto above)
3. Advance toward you to close within short enough range for his AP to punch through (ditto above)
4. Move to try to flank you and get a shot into your sides or rear, which at this extreme range is going to take him a long time (ditto above)
5. Ask his team mates to do #4 for him (so now you've disrupted whatever they really wanted to be doing).

- Steer into skids and rolls, just as you would in a real vehicle.
- Be patient. If you flip your vehicle over, it is probably because you were in such a rush that you disregarded the tips above. It is usually better to move slowly and deliberately, using terrain as cover, than to burn across the landscape like a freshly fired plasma bolt.

Also remember while driving that almost all fighting vehicles have thicker frontal armor, medium to weak side armor and very weak rear armor. Keeping this single fact in mind as you play makes a world of difference in your survival rate on the battlefield. Use this piece of knowledge to keep your own frontal armor facing toward threats, and use it to try to position yourself on the flank and rear of enemy units.

Also remember that most fighting vehicles have thicker turret armor than chassis armor. This means that getting "hull down" to the enemy is of vital importance. To be "hull-down" means to expose only your turret and gun to the enemy, with the bulk of your chassis hidden safely behind the terrain.

New players who find themselves constantly bursting into flames are often guilty of ignoring these two simple edicts: face your front to the enemy and stay hull down.

"I typically avoid the beam weapons, they take too long to kill most of the time. I typically stick with the 120mm gun units, especially the Thor. I like the mortar units, but these I use mainly for defense and support. If I make a run for a flag I use something fast like a Paladin (I especially like the AA/EW for this).

However, I usually do not win (unless I am on Claytonious's team) so what do I know..."

- Rodney

"My preference is for the Hurricane. It's fast and hits very hard. That not being available, I'll use the Paladin AA and Paladin ATGM. Again, they are fairly fast and each hits hard at what it's intended for. The Shrike is an absolute piece of junk and I won't use it unless there are no other options. It should be fast, but even on a smooth road it's likely you'll flip it. Obviously designed by the lowest bidder..."

- Berlichtingen

BASIC GUNNERY

Basic gunnery is as simple as using the mouse to position your aiming reticle on the terrain or an enemy unit and clicking the left mouse button to fire. Your unit's ballistics computer will do the necessary number crunching to automatically elevate the gun to the proper angle to account for the outgoing projectile's ballistic trajectory, air resistance, etc. and lay the round directly on target (usually). This simple interface belies the complexity of gunnery and ballistics in DropTeam, which are covered in more detail in the "Gunnery" section below.

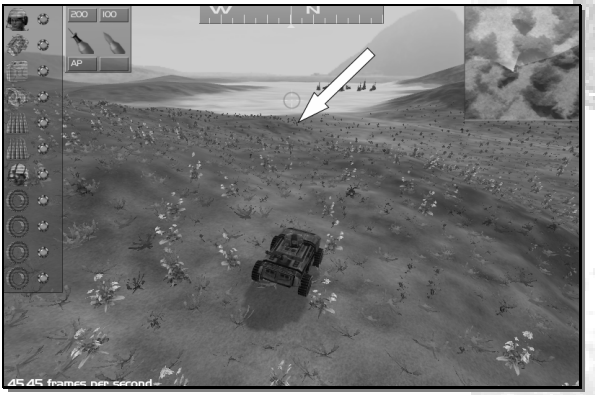
When aiming at a target, be sure to use the gunner's view, which by default is accessed by holding down the E key. This mode puts you right in the gunner's seat with a view directly down the sights of the weapon.

There is a lot more to say about gunnery, ballistics and various weapon systems in DropTeam. It is all covered in greater detail in the "Gunnery" section.

LINE OF SIGHT

You can generally only see enemy units that are within "line of sight". An enemy unit is in line of sight if there is no terrain obstructing a straight viewing line between the unit you're controlling and the enemy unit. Note that the line is between the unit you're controlling and the enemy unit, not between the camera and the enemy unit. This is a very important distinction! Consider the following example. In the setting pictured below, an enemy tank is sitting inside of the depression just ahead of our unit, but we can't yet see the enemy tank because our vehicle does not have a line of sight to it, even though our camera can see into the depression:

If we move our vehicle just slightly forward, so that our vehicle can see into the depression, then the enemy tank becomes visible:



Honestly, there are conditions under which I would use any of the units in the game. I can't point to any one unit type and say "I would never use that" or "I would always prefer this over that." The Shrike is *almost* in that category, since I would usually choose a Paladin ATGM instead due to its thicker armor and tougher internal components. I would only pick a Shrike over a Paladin to do something like a flag run (or maybe even a kamikaze Objective run) on almost perfectly flat ground or good roads."

- Clay

Keep this in mind as you maneuver about the battlefield. If you're surprised at first to see enemy units appear suddenly out of thin air, consider the line of sight situation. They're probably appearing because you're only at that moment acquiring a line of sight to them.

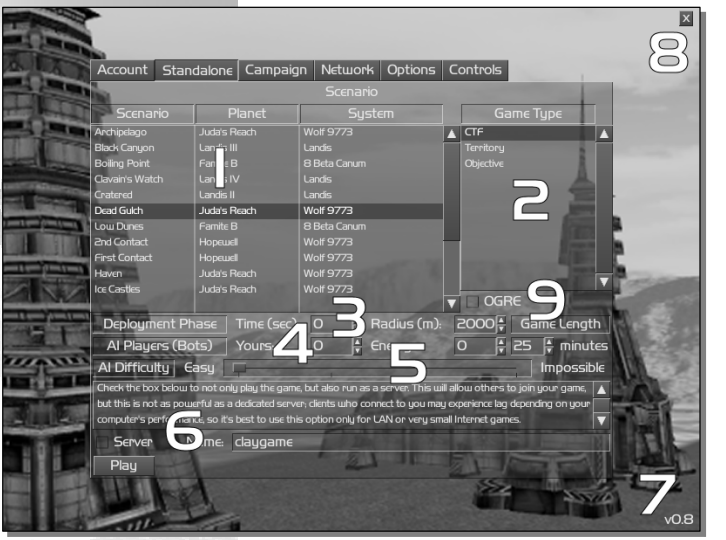
RUNNING DROPTEAM

LOGGING IN

When DropTeam first launches you will see the account panel where you can enter your login name and password. You only need to fill these fields in if you want to play DropTeam on the Internet or a LAN with other human players. To get a login name and password you must register your copy of DropTeam by pressing the Register new Account button.

STANDALONE PLAY

Use the standalone tab to run a game of DropTeam on your own local computer. Here is a breakdown of the fields on this tab:



The list of game types on the right will change as you select different scenarios. This is because each scenario offers its own set of game types.

1 - Scenario List: This is a list of all scenarios that are installed on your computer. Pick the scenario to play by left clicking on it.

2 - Game Types: This is a list of game types that can be played with the currently selected scenario. Pick the game type to play by left clicking on it.

3 - Deployment Options: These fields set the deployment rules for the scenario. The Time field specifies how long the deployment phase should last. Setting this to zero specifies that there is no deployment phase at all. The Radius field specifies how large the deployment area should be. The Game Length field specifies how long the scenario should last in minutes.

4 - Bot Options: These fields control the number of bots on the two teams. You can specify how many bots are on each team by using the spinner buttons.

5 - AI Difficulty: This slider controls how skilled bots are. Moving the slider to the right increases the skill level of bots, while moving it to the left decreases their skill level. This skill level affects the bots' shooting accuracy, reload and aim times, and decision making ability. Unskilled bots might make simple mistakes such as accidentally dropping within the radius of enemy air defenses, crashing a vehicle due to bad driving, etc.

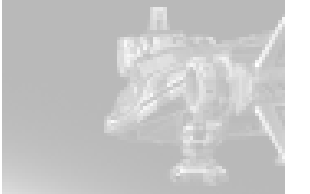
6 - Standalone Server: Turning this checkbox on causes the game to not only run on your computer, but to also act as a server so that other players on your LAN or on the Internet can join your game. This kind of standalone server is not as powerful as a true, dedicated game server, so anyone who connects to your game might experience network lag or jerkiness during the game. Therefore, this option is best used only for LAN games or for small, private Internet games. The "Name" field sets the server name that others on the network or Internet will see when they look at your server.

7 - Version Number: This number indicates the version of DropTeam that you are currently running. As you install patches and upgrades over time this version number will change. You must have the same version of DropTeam as anyone else who you wish to play with on the network or Internet.

8 - Quit Button: Clicking this X button will close DropTeam completely.

9 - OGRE: Turning this checkbox on puts the scenario in OGRE mode. In this mode, one team is only allowed to have a single player and all other players are placed on the opposite team. The lone player has control of a single unit during the entire game: a massive Mu Arae OGRE tank.

Running a standalone server is a simple way to play on a LAN with friends, but it's not the ideal way to run a server. Dedicated servers will always offer better performance for clients who connect to the game.



If your version of DropTeam is out of date, quit the game and run the Update program to automatically patch your install and bring it up to the latest version.

When new campaigns are released for DropTeam, they will automatically become available when you hit the "Start New Campaign..." button.

Making a run for the flag is best done with a wheeled vehicle, unless the planet's gravity is low or the return path is extremely bumpy. For low gravity I use either the Hurricane or the Tempest or the Apollo. If the return path sucks, then the Apollo is the best pick. If the gravity is OK I will risk a Paladin on rough terrain, but nobody had better be shooting at me because driving takes a lot of concentration.

CAMPAIGN GAMES

In addition to simple, one-shot standalone games, DropTeam can also be played as a campaign. A campaign is a single player game that spans several scenarios. This series of scenarios collectively comprise a campaign, depicting a complete military action where you play as a participant in the conflict. As you win each scenario in the campaign you will advance to the next one until all scenarios in the campaign have been completed.

To play a campaign game, use the Campaign tab:

ATGMs are excellent for the more open maps, but in a knife fight scenario or one with lots and lots of terrain to hide behind they aren't very good. Takes too long to get a lock.

This tab shows a list of all campaigns that are currently in progress. Initially the list will be empty because you have not yet started any campaigns.

To start a new campaign, press the "Start New Campaign" button at the bottom of this tab. You will be presented with a list of campaigns to choose from. Pick the one that you want to play from this list. The selected campaign will now appear in the list of campaigns in progress.

To play the next scenario in a campaign, first select the campaign in the list of campaigns in

progress by left clicking on it to highlight it. Then press the "Play Selected Campaign" button.

To delete a campaign that is in progress, select it from the list and press the "Delete Selected Campaign" button.

NETWORK PLAY

Use the network tab to find and connect to a server and play against other players on your LAN or on the Internet.

Use the "Buddies" tab to find out what server your friends are currently playing on.

Initially this tab is empty. If you are connected to the Internet, then pressing the "Refresh Servers" button will populate the list with all currently running DropTeam servers that are available on the Internet. Each row in the list is a server that you can connect to, with the following information in each column:

- The server's name
- The name of the scenario currently running on the server
- The "ping" of the server. This is a number indicating how fast messages travel between your computer and the server. A lower number indicates a faster pathway between you and the server, so you should try to play on servers with the lowest possible ping. Pings of greater than 200 will not offer a good game play experience.

You can sort the server list by any column by clicking on that column's header. It's usually best to sort by ping so you can join a server with the lowest possible ping.

Be sure to choose a server with a low ping for good game play.

If a server only has a minute or two remaining in the current game, you might want to wait for the next game to start before you join. Otherwise, you will load the current scenario just as the game is ending, and have to load the next one right away

When using the "Direct Play" option, you also enter known host names in addition to IP addresses. For example, if you're connecting to a Windows server on your LAN you can enter its host name instead of its IP address.

"Be as annoying as you can."

- Jonathan

- The number of players currently playing on the server. This count only includes actual human players, not bots.
- The time remaining in the current scenario on the server

To connect to a server highlight it in the list by left clicking on it then press the "Join Game" button.

To connect to a server directly by its IP address (such as a server on your LAN or a server that isn't shown in the list of servers), click the "Direct Play" button. You will be prompted to enter the IP address of the server to connect to.

OPTIONS

Use the options tab to change many gameplay, graphics, and audio options for DropTeam:

Tips for improving performance:

Reducing Terrain Quality can greatly improve performance

If you're running on older hardware with only 32MB or less of video RAM, try disabling Terrain VBO

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Skin: You can pick a skin for the GUI within DropTeam. Skins allow the colors, style, fonts, and overall theme of the GUI to be customized.

Voice: The voice that you select controls the way you sound to other players in network games when you use voice macro commands.

Video Mode: You may pick your preferred screen resolution and color depth by picking from this list. After changing the video mode, you will be prompted to restart DropTeam before starting a game.

Terrain Quality: Use this slider to set the visual level of detail of the terrain. Higher values will lead to less "popping" of the terrain as the camera moves

around, but at the expense of a slower frame rate. If you're having performance problems then reducing the terrain quality can help significantly.

View Distance: This slider controls the maximum view distance. Higher values allow you to see farther in the 3D battlefield view but require more CPU power. Reduce this value if you're experiencing performance problems.

LOD Bias: Normally, natural elements such as trees and rocks render at higher detail when the camera is close to them, and gradually render at lower detail as the camera gets farther away from them. You can use this slider to force them to render at higher levels of detail even when the camera grows distant from them. Higher values require more CPU power so they might slow the game down.

Full Screen: Use this checkbox to specify whether DropTeam should run full screen or in a window.

Sound: Enables or disables all sound.

Extra Sounds: Enabled or disables some extra sounds that aren't a vital part of the game, such as the Doppler "zip" of projectiles passing near the camera. Enabling these extra sounds uses extra CPU power.

Ambient Sound: Enables or disables ambient "background" sound such as blowing wind and water waves.

Bot Voices: Specifies whether or not bots should use voice macros to communicate.

Terrain VBO: Specifies whether or not to use Vertex Buffer Objects for rendering the terrain. This option provides an enormous speed boost on modern video cards with lots of video memory but can cause horrible performance loss on older video cards or on video cards with less than 64MB of video RAM. If you have performance or graphics rendering problems, you should try disabling this option.

Shaders: Enables or disables vertex and fragment shaders. These shaders are only available on modern video cards and they provide some nice visual effects that aren't otherwise possible. You should generally leave this option turned on if it's available to your video hardware.

Particles: Enables or disables particle graphics effects such as smoke and dust. Turning this off can drastically improve performance on some low-end systems but definitely makes the game look worse.

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You should generally leave Shaders on if they're available. In addition to making things look nicer during the game, they will probably improve performance.

You can disable Texture Caching if playing on a system that doesn't have much RAM. This will save memory, but the game will stutter and pause when new units are loaded.

Turning on HDR makes the game look much nicer, but you should stick with lower resolutions such as 800x600 or 1024x768 if you play with this option. HDR does a lot of image "post-processing", so playing at high resolutions with this option will require an enormous amount of video power from your system. Fullscreen anti-aliasing makes higher resolutions unnecessary, anyway.

You might want to disable ambient sound when playing your own background music during the game. You can provide your own custom, soundtrack by placing .ogg music files in the data/sound/music folder of your DropTeam installation. The game will stream them at runtime.

Disabling sounds for the sake saving CPU cycles is only necessary on really low end hardware.

Shaders should always be left on unless your video hardware has bugs that prevent them from working properly. They not only make the game look better but also run faster.

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Terrain VBO almost always makes the game run faster. The only time you would want to turn this option off is when playing on a very low end video card – a card that has less than 64 megs of VRAM. In this case, turning off Terrain VBO can save some of your precious video memory, but at the expense of slower terrain rendering

Turning off particles can yield significant performance gains on low-end hardware. The game definitely looks FAR worse without them, though!

Turning off texture caching will save you a small amount of video RAM but will cause frequent stutters while playing the game. You should only turn this option off when playing on a video card with less than 64 megs of VRAM, and even then only if you really need to

Shadows can be costly on some video cards, but if you can still get a playable frame rate with them on, then use them. They drastically improve the visual depth and quality of the game.

Foliage: Specifies whether or not to render grass, bushes, and other vegetation. Turning this off can significantly improve performance.

Texture Caching: Enables or disables preloading of textures and models. Enabling this option makes loading scenarios slower but provides smoother play once a scenario has begun. With this option off you may experience frequent pauses or "stutters" during play.

Sky Box: Enables or disables the background image in the 3D battlefield view.

LOS: Enables or disables limited intelligence. This option only applies to standalone and campaign single player games that you play on your own computer. If this option is disabled then enemy units are always visible even if they are not within line-of-sight or on your team's sensor network.

Color Blind: Enable this option if you are red/green color blind. An alternate set of colors and icons will be used that should be easier to see.

Shadows: Enable this option to allow shadows to be rendered in the 3D battlefield view. Use of this option requires a modern video card with the latest OpenGL drivers.

Collision Damage: Enables or disables damage to vehicles due to collisions. This option only applies to standalone and campaign single player games that you play on your own computer.

CUSTOMIZING CONTROLS

Use the Controls tab to customize commands. You can use the keyboard, mouse, or any device which acts like a joystick with DropTeam.

This tab contains a list of all customizable commands. The list shows one row for each command with the following information in the row:

- The name of the command
- The device that issues the command; this is either keyboard, mouse, or joystick
- The device key, button, or action that is mapped to the command

To customize the commands you must first create a new control scheme. A control scheme is a set of customized commands. By default, you are using the "defaultkeyboard" control scheme as indicated in the field at the top of this tab.

To create your own control scheme, press the "Save As" button at the top of this tab. You will be prompted to name your new control scheme. Once you have done this, the buttons at the bottom of the tab become enabled so that you can use them. Customize commands in the list by selecting the command to be customized then pressing the "Keyboard", "Mouse", or "Joystick" button depending on which device you want to use for the selected command.

In addition to customizing commands, you can also customize a set of 10 chat macros. Click the "Macro" button on this tab to do so. This list of 10 macros gives you a quick way to send common chat messages during network play without having to type them in the heat of the action. While playing, simply hit the number keys on your keyboard to send chat macros.

To customize your controls, first hit "Create New", pick a name for your new set of controls, and then start customizing them in the list.

To customize a control, select it in the list then click the "Keyboard", "Mouse" or "Joystick" buttons at the bottom to set that control's value.

When playing, remember to use not only your chat macros but also the voice macro commands which can be accessed by hitting the V key while in the game.

COMMAND AND CONTROL

The basic mechanics of DropTeam involve driving and shooting with a single vehicle. However, its real core is in the coordinated tactics of a team. Effective team tactics depend on strong leadership. This section explains DropTeam's command and control features – features that allow you to manage all of the units, players and bots on a team in an effective, tactical way.

Hit space bar to access the tactical display while in the game. From there you can see the overall tactical situation and issue commands to your team mates.

TEAM COMMANDERS

Each team may elect one player to be the team's commander. The team commander coordinates the actions of his team mates, has sole control over his team's support assets such as artillery and air support, and has control over all deployable items for his team.

If you join a team online that does not yet have a commander, then go ahead and elect yourself! Someone should step up to the plate and command the team or the chances of winning are minimal.

A player can be promoted to become the team's commander by popular vote. To initiate a vote to

When a vote window appears in the game, press the Y key to vote yes and press the N key to vote no.

Remember to vote yes on your own votes! Even if you're the person who initiates a vote, your vote is not counted until you press the Y key.

When updating to a new release of DropTeam, you might need to switch back to the "defaultkeyboard" control scheme and recustomize your controls.

"The Hurricane is an interesting vehicle. It is super fast on flat terrain, decent on rough terrain, but horrible on hilly, forrested, or urban environments. It can kill quickly and at long ranges, but it can only do that a few times before it is out of ammo. Snap firing from one of these puppies takes some practice. Near misses often cause harm, but whenever you miss completely it matters because of the small ammo loadout. Also, you can't go using this thing near friends because of the risk of nailing them. Well, OK, I use it anyway... but I really am sorry about it afterwards.

The Command Track is specialized and has a more limited, though obvious, use.

The Viper is a complete waste of time for me. I couldn't control that thing if my life actually dependend on it. I even tried it again today and it just doesn't work for me. So I'll stick with the terrestrial vehicles for evermore. Plus, I don't think you can Extract and that is something I want as an option because I suck at flying that thing so badly."

- Steve

make a player the team commander, press <ESC> to open the Options Window and click the "Promote" button. You will be prompted to pick a player from a list of all players on your team. All players on your team will then be prompted to vote yes or no to promote the selected player to team commander. If a majority of the team votes yes, then the selected player becomes the team commander.

It is usually a good idea to use the quiet time of the deployment phase to decide who is going to be team commander. If you want to win, it is vital to have an effective commander. Without one, your team will simply be a lot of individuals pointlessly driving around and shooting. With one, your team has the potential to be a coordinated military force.

You can always see who is currently the team commander by pressing <ESC> and looking at the Options Window. If a team has a commander, then that player's name will have the tag "-CMDR" appended to it.

COMMANDER RESTRICTIONS

When a team has no commander, then anyone on the team is allowed to perform any of the actions normally performed by a commander. Once a team has a commander, then only the commander is allowed to perform certain actions. Those actions are:

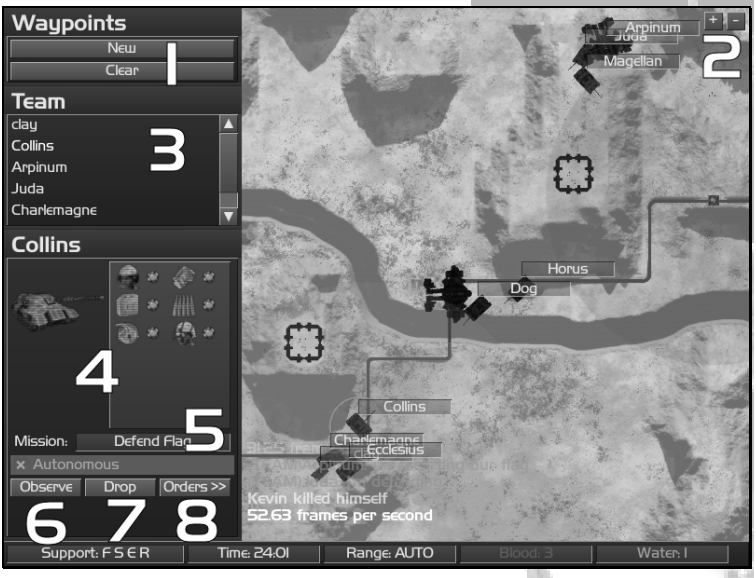
- Drop any deployable item
- Place mines
- Issue orders to players or bots
- Set the drop instructions for players or bots
- Take control of bot-controlled units
- Call in fire, smoke, EMP, or resupply missions
- Create waypoints

So as an example, before a team has a commander, anyone on the team can create waypoints. Once someone is promoted to the role of team commander, only that player can create waypoints.

Therefore, many of the command and control features of DropTeam can be used as described in this section even if your team does not have a commander. Having a commander simply places all of these features into a single player's hands so that he can focus on the job of tactical control rather than splitting his attention between that and the busy intensity of direct combat.

TACTICAL DISPLAY

Effective command and control relies heavily on the Tactical Display, which is broken down here:



1 – Waypoints: Using the "New" and "Clear" buttons here, you can create and remove waypoints. The Clear button will remove *all* waypoints. You can remove individual waypoints by selecting them on the map with the left mouse button and them hitting the <DEL> key.

2 – Zoom Buttons: Using the + and – buttons you can zoom in and out on the tactical display. You can also use the mouse scroll wheel to zoom in and out. This allows you to focus on a smaller area of the battlefield, such as a place where many units might be clustered together making it impossible to see from the higher scale display. Once the tac display is zoomed in, you can use the normal movement keys (W,A,S,D by default) to pan the map up, down, left and right.

3 – Team Window: The team window lists everyone on your team. You can click a name in this window to select that player (see "Selecting Units" below).

4 – Status Window: This window shows the status of the currently selected unit. It is a miniaturized version of the same component status HUD that players see while controlling units in the 3D

Waypoints are essential to team communication. If you have anything to say regarding a location then placing a waypoint is far better than saying "next to the big hill".

Using the Team Window in conjunction with the hot keys for commands is a very rapid way to issue orders. Simply select a name in the team list and hit the hot key for the command. This alleviates the need to select a unit on the map and right click to bring up the orders menu.

A good commander uses the status window to keep track of who needs resupply and/or extraction.

battlefield view, but here on the Tactical Display it can be used to see the status of anyone on your team. The name of the player controlling the selected unit appears at the top of this window.

Good commanders make heavy use of the Observe button. Watching the actions of the units under your command in the 3D view is the best way to quickly assess what's happening on the ground. Switching between the tac display and the Observe mode is quick and useful.

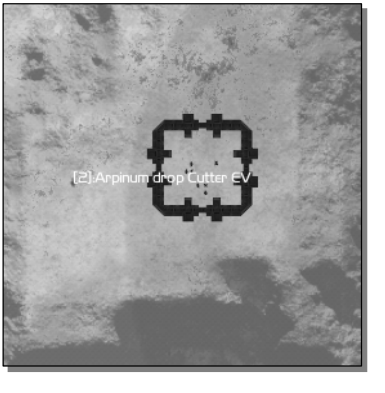
5 – Mission: This field shows the current mission of the selected unit, such as "Defend" or "Move" (see the "Commands" section below for more on these missions). It also shows a checkbox labeled "Autonomous". This checkbox indicates whether or not the selected unit's controlling player should make his own decisions about dropping units. If it is checked, then when that player needs to drop a new unit, he should decide on his own what to drop and where to drop it. If it is unchecked then this indicates that the commander has assigned that player specific drop instructions – he has been told what to drop and where to drop it (see the "Drop" button description below for an explanation of how this is done).

The Observe mode works best when you already have your own controllable unit on the ground. If you don't have a unit on the ground, then your observation may be interrupted by the drop window popping up or by the camera becoming unlocked. Place your own unit in a safe place behind friendly lines before making heavy use of the Observe mode.

6 – Observe: Clicking this button will switch to the 3D battlefield view with the camera locked onto the selected unit. While in this mode, you can still use the mouse to swivel the camera but you are not controlling the unit. You are simply acting as an observer, watching the local situation near that unit. Effective commanders spend most of their time on the tactical display and in this unit observation mode instead of directly controlling their own combat units. Pressing space bar returns to the tactical display.

7 – Drop: Click this button to set specific drop instructions for the selected player. The Drop Dialog will appear just as it does when you are prompted to drop your own unit. Here, though, you are not picking your own unit to drop, but are picking the unit that the selected player should drop. After selecting a unit type from the Drop Dialog, you will be prompted to set the location for

The letters on the right side of the Orders menu are hot keys. Pressing ALT + the letter on the right side of a command issues that command to the selected units without bringing up the orders menu. This can be a lot faster than using the orders menu itself. This also allows you to issue a command to many units at once.



the drop. Click anywhere on the terrain to set the drop location. A command will be issued to the selected player telling him of your new drop instructions and a special waypoint marker will appear on the map showing the player's new drop instructions.

8 – Orders: Click the orders button to open a menu of commands that can be issued to the selected unit. See the "Commands" section below for a complete description of these commands.

WAYPOINTS

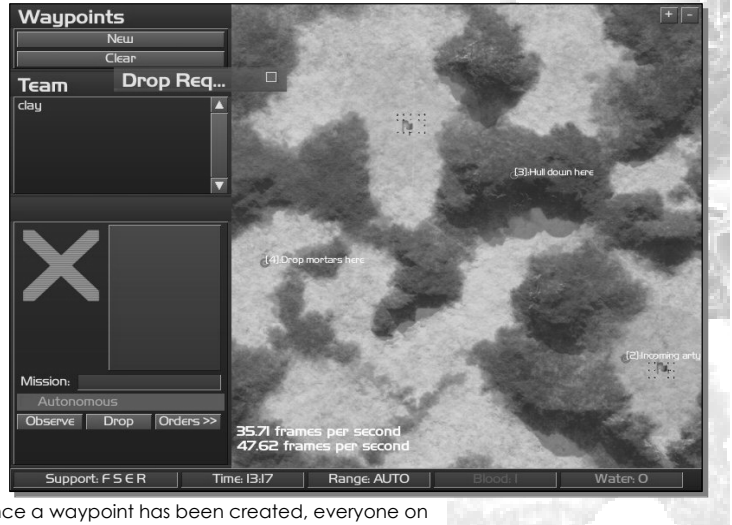
Waypoints are labeled markers on the terrain that everyone on your team can see. They can be used to communicate ideas to your team mates, such as locations of interest or locations where enemy troops have been spotted, or anything else you can think of. Waypoints can also be used to help your team mates bring their weapons to bear on a specific point.

Create a new waypoint by clicking the "New" button in the waypoints window on the tactical display. You will be prompted to click a point on the terrain where the new waypoint should appear and then you will be prompted to type in the label text for the waypoint.

Aim your crosshairs at a waypoint to see its full text.

Waypoints can indicate orders or information that the waypoint's creator thought would be useful to the team.

The range indicated on waypoints can be used for targeting. You can enter the waypoint's range into your vehicle's ballistic computer in order to place fire on or near the waypoint.



Once a waypoint has been created, everyone on your team can see it both on the Tactical Display and in the 3D battlefield view. You will also notice that a number has been prepended to the label you typed for the waypoint. This is called a

Left click a unit to select it.

Right click a unit to select it and open the orders menu for it.

Drag a window to select many units at once.

"footnote" number. It serves as a way to abbreviate the waypoint on the 3D battlefield view so that the view doesn't become cluttered with long labels. In the tactical display, waypoints always show their footnote number as well as their label text. In the 3D battlefield view, waypoints only show their footnote number unless you point the camera directly at them in which case they show their label text until the camera moves away from them.

Here's an example of how waypoints look on the tactical display and on the 3D battlefield view:

Use hot keys to quickly issue commands to all selected units.

Consider using voice chat to quickly tell team mates what to do instead of using the orders interface.

Notice that on the 3D battlefield view the waypoints are abbreviated to show only their footnote numbers. Also notice the numbers beneath them. This number is the range in meters to the waypoint from the camera's current position. Your teammates can use this range number to manually set the range on their weapons and engage in indirect fire against the waypoint's location.

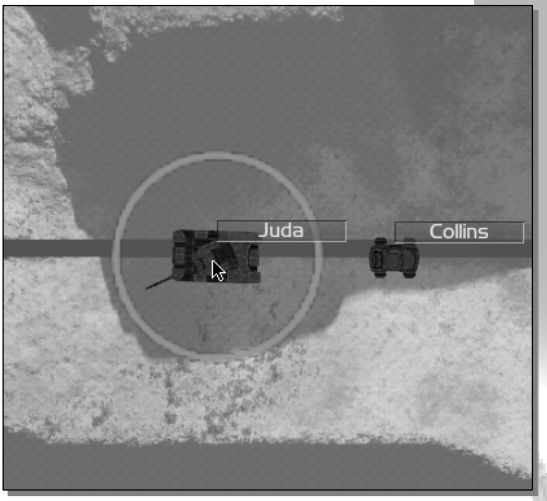
Also note that waypoints appear in the minimap as footnote numbers.

SELECTING UNITS

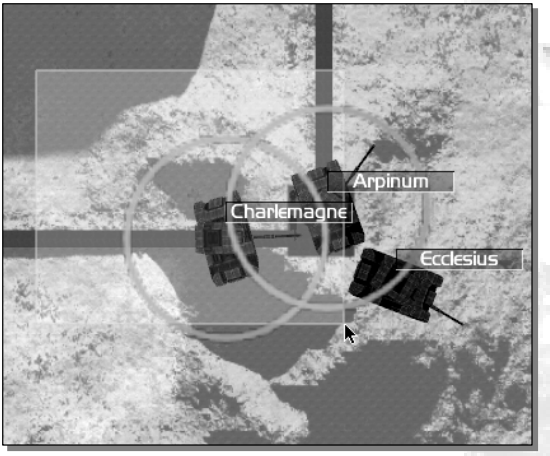
Coordinating your team usually involves selecting a unit or group of units. Selecting a unit allows you

to see that unit's status in the Status Window and issue commands to it.

To select a unit simply click on it. When your mouse cursor hovers near a friendly unit that can be selected, a feint green ring will become visible around the unit. Left clicking will select the unit.



Sometimes it is useful to select multiple units at once. This can be used, for example, to issue an order to multiple units at the same time instead of selecting each of the units one at a time. There are two ways to select multiple units.



When issuing commands to multiple bots at once, the selected bots will attempt to act as a "group". For example, if you select three bots that are arranged in a line and tell them to move to a location, they will try to remain in a line upon arrival at that location.

"Run away from Mace."

- Fytinghellfish

"If Harv shows up with a sheep, be afraid...."

- Rune

First, you can use "window select." Place your mouse cursor near the group of units to be selected and hold down the left mouse button. While still holding the mouse button down, drag a window around the entire group of units to be selected. As you drag you will see units becoming selected as they fall inside of the selection window that grows with your mouse cursor.

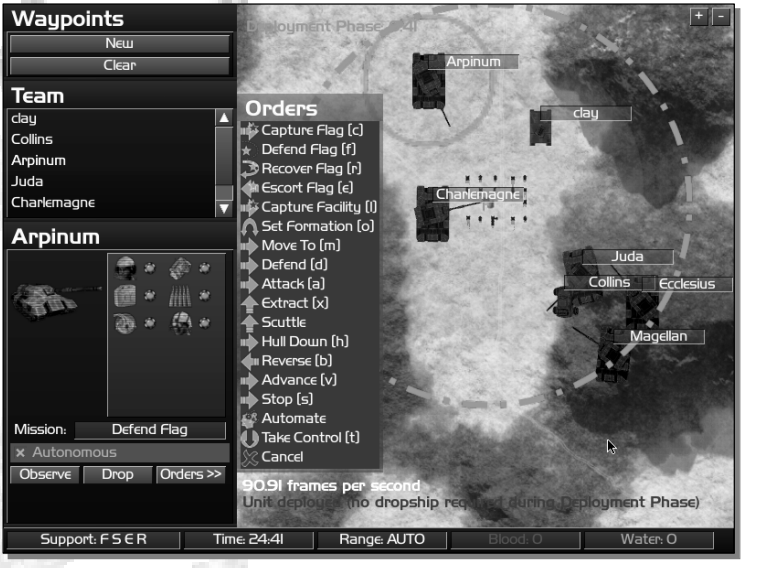
Once all of the units you want are selected, release the left mouse button

Once the units are selected, the Status Window on the left of the Tactical Display will be populated with the name of the player controlling the unit and the unit's current status. Any orders that are issued through the "Orders" button will now be sent to this selected unit..

The second way to select multiple units is to hold down the CONTROL key while left clicking on units. Each time you click on a unit while holding CONTROL, that unit will either be added to the current set of selected units (if it wasn't already selected) or removed from the set of selected units (if it was already selected.)

COMMANDS

Clicking the "Orders" button or right-clicking in the Tactical Display will popup the orders menu:



Using this menu you can send commands to all of the currently selected units. Each of the possible commands is described below. Some of the commands prompt you to pick a point or target for the command while others don't require any additional input. Some commands are only available for certain game types so this menu may look different when you play different game types.

CAPTURE FACILITY

This command directs the selected units to capture the specified facility with engineering units. It will prompt for a target facility.

Engineering vehicles are required in order to capture facilities. Therefore, issuing this command to a bot might cause the bot to drop an engineering vehicle.

MOVE TO

This command will prompt for a target location on the terrain. The selected units will move to the specified point by the most efficient path possible.

DEFEND

This command will prompt for a target point or object. The selected units will try to defend the location or object by loitering nearby and attacking any enemy units that come into view.

The defend command gives bots considerable leeway in deciding their own movements. If you want them to stay in a specific location then its better to use the Move To or Hull Down commands

ATTACK

This command prompts for a target point or object. The selected units will move toward the target point or object, engaging any enemy units they find along the way.

SET FORMATION

This command will prompt for a target unit to serve as formation leader. All selected units will use the specified leader as a formation leader – they will maintain a constant relative offset and facing from that leader, even when that leader moves or turns. Therefore, to setup a formation, you should follow these steps:

- Position all units into the desired formation by giving them move orders or directly driving them
- Once all units are in position, select all except for one of the units.
- Press ALT-O or click Orders and select the Set Formation command.
- Click the one unit that was not selected.
- Select only the formation leader and issue move, attack, or other orders to him. The rest of the units will automatically follow along in the specified formation, keeping their same relative positions in the formation.

It is also sometimes useful to make your own controllable unit the formation leader. Do this the same way as in the steps above, but click on your own unit for the formation leader instead of on another unit. As you drive on the battlefield you

Formations are particularly useful for creating useful mixes of unit types. For example, use a formation command to keep a Paladin EWV near your tanks. This will provide sensor jamming and air cover for the tanks

Formations are obeyed quite literally by bots, so use them carefully.

Extracting a unit from the battlefield allows it to be repaired and returned to the team inventory for future use. Scuttling a unit destroys it permanently. Therefore, extraction is always better if you have the time and ability to use it. Scuttling can be an unfortunate necessity if a unit is disabled within enemy air defense or near enemy units who would prevent a successful extraction.

will see the other units following you in the specified formation.

Beware that bots who follow in formation take their formation orders quite literally. While driving in formation, they will not do their usual path finding so it is possible to drive them into terrain obstructions that they would otherwise avoid while in this mode.

EXTRACT

This command calls for a dropship to extract the selected units from the battlefield and carry them safely back to the Liveship in orbit. See the "Battlefield" section for details on the benefits and risks of extraction.

SCUTTLE

This command instructs the selected units to self destruct.

HULL DOWN

This command will prompt for a target point on the terrain. The selected units will move forward toward the target point in as close to a straight-line path as possible until they have line-of-sight to the target point. As soon as they have LOS to the target point they will stop moving and continue to face the target point. Ideally, this will mean the selected units are now "hull down" to the target point, with only their turrets and guns exposed (see the "Tactics" section for a description of what it means to be "hull down").

Prefer the Hull Down command over simple movement commands when you know where the enemy is. Hull Down gives you an ideal way to engage the enemy from advantageous ground.

REVERSE

This command will prompt for a target point on the terrain. The selected units will move backwards to that point by the most efficient path possible. This can be very useful for withdrawing units from enemy fire while keeping their strong frontal armor faced toward the threat.

Use the Reverse command to keep a vehicle's thicker front armor faced toward the enemy during movement.

ADVANCE

This command will prompt for a target point on the terrain. All selected units will move toward the target point in as close to a straight-line path as possible until any enemy unit comes into their line of sight at which point they will stop and engage the target.

Use the Advance command to move units just close enough to engage the enemy without closing to close range.

STOP

This command tells all selected units to stop moving. They will still engage targets within their line of sight but will not move.

AUTOMATE

This command instructs the selected units to clear any previously set drop assignments and orders and to instead make their own decisions about

Use the Automate command when you're simply too busy to worry about a player under your command.

Don't hesitate to take direct control of units under your command. Even as the commander you sometimes need to take a "hands-on" approach to a particular problem. For example, it might make sense to take control of a bot who is having a hard time hitting a particular enemy target just long enough to eliminate the threat, then return control back to your original unit.

what to drop, where to drop it, and what mission to perform.

TAKE CONTROL

This is more of an action than a command. If the selected unit is a bot, then selecting "Take Control" will place the unit under the player's direct control. If the player was already in control of a unit, then the bot will assume control of the player's original unit. This command can be used by a commander or other player to "be many places at once" on the battlefield. It can be used to jump into the heart of the action as needed.

CAPTURE FLAG

This command instructs the selected units to endeavor to capture the enemy flag. They will decide their own movement paths and attack strategies for doing so.

DEFEND FLAG

This command instructs the selected units to defend the friendly flag. They will decide their own movement paths and attack strategies for doing so.

RECOVER FLAG

This command instructs the selected units to recover the friendly flag and bring it back home. They will decide their own movement paths and attack strategies for doing so.

CANCEL

Clicking on "Cancel" will close the Orders menu without sending any orders to the selected units.

Orders can also be issued by using hotkeys instead of the orders menu. To do, hold ALT and press the hotkey for the command in question. You can see the hotkey for each command on the right side of the orders menu.

HUMANS VS. BOTS

You can select any unit and issue commands to it whether it is a bot or another human player on the network. In the case of bots, they will obediently follow your command as described above. In the case of a human player, he will be given a waypoint showing and/or a chat message describing your command, but nothing forces that player to comply with your order.

COMMAND UNITS

There some special types of units such as the Mercury Command Track that have integrated command and control systems on them, making them useful for coordinating the team and issuing orders. The full capabilities of these units are described in the "Units" section, but briefly stated:

The Capture and Defend Flag commands give bots a lot of autonomy. If you like to micromanage then consider using other, more fine-grained commands such as Move To and Hull Down in order to accomplish flag captures and defense.

"Learn to shoot then scoot. Being stationary for an extended time can be detrimental to your long-term health!"

-Mace

"In my case, I used the Paladin ATGM because it's reasonably quick, has a bit of armor and the fire and forget missile mode is easier (at the moment) than trying to estimate lead with a projectile weapon.

My other choice was the Paladin AA/EW that I thought would be good for escorting other units, but we were disorganized enough that I was never in the right place at the right time to help or shoot down any dropships."

-Harv

A useful trick is to tell one of your team's bots to drop a Mercury Command Track behind friendly lines and give him a Stop command. This way there is always a command track available for you to take control of temporarily when you need it. You can take control of the command track, issue a support request, then return control to your normal unit as needed.

Waypoints are a good way to call for support if you need to ask a team mate for it.

When calling for support, you should place a waypoint for your team mates to see. This way they can stay clear of incoming artillery or head toward resupply ships.

Try to obtain line of sight to the target point when calling for artillery. Otherwise the artillery will be slower to arrive and more widely scattered.

HE Fire Missions are good against a variety of targets but they usually won't kill heavily armored targets such as MBT's.

EMP artillery strikes are only useful when combined with team coordination. Your EMP rounds will temporarily disable enemy units so you need to be ready to immediately follow up on the artillery strike and hit those enemy units while they're still disabled. Help your team get ready for the strike before it happens so you can maximize your gains from the strike.

if a player drops such a command unit, he automatically shares intelligence data with all other members of his team. This means that anytime someone on your team can see an enemy unit, then you can also see that enemy unit, even if you do not have direct line-of-sight or sensor detection of that enemy unit.

Such command units are an ideal choice for players who are acting as team commanders. Without this intelligence sharing, the team commander can only issue orders based on rough guess work about the enemy disposition.

SUPPORT ASSETS

In addition to direct combat units, each team can also call upon off-map support assets such as artillery and air support as described in this section.

In order to call for support, a player must be in control of a command and control unit such as the Mercury Command Track.

HE FIRE MISSIONS

Your team's Liveship can provide orbital artillery support. Fire missions are catapulted within reentry packages from the Liveship at relativistic velocities much the way that Dropships are launched. The package deploys at an altitude of a few thousand meters and the actual artillery rounds complete the journey to the ground at barely supersonic speeds. HE fire missions hit the target area with a spread of very large caliber high-explosive rounds. These rounds are packed for maximum fragmentation so they're effective against a variety of targets including structures, infantry, and lightly armored AFV's.

Fire missions are called from command and control units on the ground. When you call for a fire mission, if you do not have line of sight to the target point, then the fire mission will have greatly reduced accuracy and a longer delay time before arriving on target. Therefore, if circumstances warrant the extra risk, it is best to expose yourself to get line of sight to the target before calling for a fire mission.

EMP FIRE MISSIONS

EMP fire missions are delivered similarly to HE fire missions but the package contains EMP canisters instead of HE warheads. The canisters fire while still a few dozen meters above the ground, unleashing powerful electromagnetic pulses into the environment. These pulses serve to temporarily stun electronic systems within the local area, paralyzing most types of units for a short time.

SMOKE/CHAFF MISSIONS

Smoke missions are delivered similarly to HE fire missions but their packages consist of dozens of self-contained chemical reaction packets that generate a haze of smoke and chaff as they burn themselves out. These clouds of smoky chaff can be used to block line of sight and some types of sensors.

Smoke/Chaff can be a more effective defense than killing an enemy unit. By rendering his comfortable, hull down position useless and forcing him to move slowly to a new position, you've effectively defeated an enemy MBT.

RESUPPLY

The Liveship can dispatch a Galaxy class dropship to the battlefield on request. The Galaxy dropship is a behemoth, loaded with ammunition and fuel that can be used to resupply friendly units on the ground and bristling with point defense ion cannons. These point defense cannons are driven by a fast, hardened AI sub-persona with a rich sensor suite, enabling it to shoot down enemy projectiles in mid-flight.

When you call for a resupply mission you will be prompted to pick a landing point for the Galaxy dropship. The Galaxy will descend and attempt to land at the specified point. As soon as it touches down, it will automatically attach its umbilical to the nearest friendly unit that is within the umbilical's range and begin supplying additional ammunition and fuel to the unit (up to its maximum capacity). It will also automatically engage incoming enemy fire with its point defense cannons. The Galaxy will loiter at the landing zone for up to two minutes before retracting its umbilicals and dusting off to return to the Liveship.

Galaxy dropships are useful for more than just resupply. Use them as a defensive platform to cover the advance of your team into enemy territory or as a firebase for your team's artillery units

This means that resupply missions can be used in a variety of ways. The defense afforded by its ion cannons makes it tactically useful even beyond its original mission of resupply. It can be used creatively to cover friendly forces in offensive or defensive roles.

Support is a scarce resource shared by your team so don't waste it.

SUPPORT AVAILABILITY

The various types of support assets described above are only available to a team at certain times during the game. Generally, they can only be used periodically – after calling for a certain type of support a period of time must pass before that type of support can be called on again.

A team without a commander is likely to waste its support assets since anyone on the team can call for them.

The state bar always shows your team's current availability of support assets in the left-most pane. This pane shows a single slot for each type of support asset. Each slot either contains a letter, indicating that support is now available, or a dash, indicating that your team is still waiting for that type of support to become available. The letters used are:

Coordinate with your team to decide how to consolidate gains in the wake of support rather than expecting the support to accomplish significant gains on its own.

F – HE Fire Mission

S – Smoke Mission

E – EMP Mission

R – Resupply Mission

THE BATTLEFIELD

LINE OF SIGHT, SENSORS AND DETECTION

Until the collapse of high technology in The Rim, having line of sight to any object meant that you could instantly kill it. This was the primary reason that aircraft fell out of service. Ground units that could use the terrain as cover were the only practical way to fight. Now that battlefields in The Rim have grown more primitive, armed aircraft have begun to once again see use, especially amongst native indigenous defense forces who only need to operate in a single atmosphere.

Line of sight plays as important a role on battlefields in The Rim as it did on more primitive battlefields in the past. The electromagnetic spectrum on the battlefield is ablaze with noise from the weapons, antimatter devices, and jamming activities of military forces on both sides. Armored fighting vehicles are equipped with a bewildering variety of sensors ranging from optical recognition systems driven by neural networks to high sensitivity magnetic resonance and gravitometric devices. They're also equipped with at least as many devices designed to confuse similar sensors employed by the enemy. The tactical sub-persona computer in the AFV parses through a continuous avalanche of incoming data at incredible speeds, madly analyzing it to try to find the needle in a haystack which represents a real enemy threat amongst the noise, confusion, and outright deception that riddles the data.

Given true line of sight to an enemy unit the tactical sub-persona is generally able to properly discern an enemy threat. In the absence of line of sight the sub-persona can only make a guess, sometimes discerning the presence of an enemy unit but usually failing.

Denying intelligence to the enemy team is very important. Staying behind terrain is the primary way to do this. From a really good hull down position you might be able to put fire on the enemy without being spotted.

Therefore, enemy units will almost always only be visible to you when you have line of sight to them.

Enemy units that use antimatter as a fuel source (which includes almost all types of AFV's) can also be spotted by sensors that detect the unique exhaust signature from antimatter reactions. Your team can deploy these sensors onto the terrain and they will automatically detect enemy units within their radius. This is an effective way to "see" enemy units without needing a line of sight to them.

Enemy units that are positively identified by AFV or deployable sensors are added to your team's sensor network. These units are said to be "detected". Detected enemy units are overlaid with a red triangle in the HUD of the 3D battlefield view like this:

The tactical sub-persona of most AFV's is able to interpolate positions in 3D space based on sensor data and place such detection pippers on your HUD even when enemy units are behind obstructions. Therefore, as long as enemy units are on your sensor network, you will see these red triangles even if they are behind intervening terrain.

Sensor jammers can be deployed to remove units from the opposing team's sensor network. There are also some AFV's that are equipped with integrated sensor jammers. The underlying principles of these jammers is described fully in the "Units" section but their basic function is to remove all friendly units within their radius from the enemy team's sensor network. Units within a jammer's radius are no longer detected, so they will not appear on the enemy team's Tactical Displays, they will not be overlaid with red pippers in the enemy team's HUD's, and they will not be targettable by some guided weapons. These are enormous advantages.

Enemy units that are within line of sight, but that are not detected, are still visible, but it is surprising how often a unit can go "unnoticed" when it doesn't have the red threat pipper overlaid on it.

"Defensive ion beams can be overwhelmed by mass fire. Have a teammate or two pepper a flack tower with 20mm shots and then pound targets with ATGMs and 120mm rounds. Some will now get through instead of none."

- Steve

"Close co-operation with your team mates rules the battlefield."

- Mace

Tactical use of jammers can make a decisive difference.

ARMOR PENETRATION AND DAMAGE

When a projectile strikes an object, DropTeam's simulation engine first calculates whether or not the projectile is able to penetrate the object's armor. If the projectile isn't able to penetrate, then it will either ricochet off of the armor (potentially hitting something else afterward) or it will explode, depending on the type of projectile. If it does penetrate, the effect of the penetration is modeled in detail.

"Ion weapons are extremely effective turret/sensor killers. When softening up the enemy's defensives, it is a good idea to have at least one ion gun in there plugging away."

- Steve

The decision about whether or not a projectile penetrates is based on 3 factors: the projectile's penetrating power, the thickness of the armor being penetrated, and the angle at which the projectile has struck the armor, each of which is covered below.

PENETRATING POWER

There are three basic types of projectiles in DropTeam (not including beam weapons and other non-projectile weapons): high velocity armor piercing slugs (AP), high explosive anti-tank (HEAT), and high explosive (HE.) Artillery and mortars combine multiple projectile types in one attack (their blast is modeled as HE and their fragmentation is modeled as a high number of small AP projectiles.) Each type of projectile has its own means of penetrating armor.

"Always have a Hermes escort a task group. Always."

- Harv

AP projectiles have a penetrating power that is dependent on the projectile's velocity. These munitions are simply dense, heavy slugs that use kinetic energy to kill their targets. The projectiles have high penetrating power at short range, but gradually lose penetrating power as they fly through atmosphere because air drag slows them down during flight. Their penetrating power is therefore highly dependent on the atmospheric density of the scenario being played. With little or no atmosphere, AP rounds can kill at extreme ranges. In high density atmospheres, however, these projectiles lose penetrating power very quickly.

"No vehicle is immune to the enemy's fire. Remember that as you hear things plinking off your armor! If they are hitting you chances are they can kill you, sooner rather than later."

- Steve

In contrast, HEAT and HE projectiles have fixed penetrating power that doesn't change over distance. These types of projectile derive their penetrating power from explosive warheads. HEAT rounds have shaped charge warheads that spray hot plasma in a forward-facing cone when they explode. This configuration is ideal for penetrating as much armor as possible but severely limits the warhead's area effect. HE rounds rely on

concussion and fragmentation to cause damage in a wide area, though it has little chance of ever penetrating well armored targets, even in the case of a direct hit. Both HEAT and AP rounds are generally less accurate than AP simply because they fire at lower velocities.

In summary, AP rounds have the highest penetrating power, at least at short ranges. Depending on the scenario's atmospheric density, at some range HEAT rounds will become more effective than AP. HE rounds are best used against soft or scattered targets.

ARMOR THICKNESS AND ANGLE

The penetrating power of a projectile must be greater than the Effective Armor Thickness of the target in order to penetrate its armor. The Effective Armor Thickness is determined by the actual thickness of the target's armor at the impact point and also by the angle at which the projectile is striking that armor.

If a projectile hits a slanted surface, then it must penetrate more armor than if it had hit the surface at a perpendicular angle. Therefore, the more "sloped" the impact point is on the target, the higher the Effective Armor Thickness will be.

These calculations of penetration normals by projectiles against armor are done on the literal, detailed shape that you see rendered on screen for the unit itself, not some kind of simplified "map". Therefore, that nice sloped glacis on the front of the Paladin really does help it survive. When you're shooting at a Paladin, you might see your shots bouncing off of its glacis up into the air, but if you lower your aim a little to the flatter area under the glacis, you might find that those same projectiles are now penetrating and doing damage. This is because you're hitting the armor at a more perpendicular angle, so you have less armor to penetrate.

EFFECTS OF PENETRATION

When a projectile penetrates a unit's armor, the simulation engine actually traces its path through the interior of the object to see which, if any, internal components (such as engine, crew compartments, ammo magazines, etc.) are hit by the projectile. Every component has a "Toughness Factor" and projectiles have their own "Direct Kill Factor" (this value is different for each type of projectile.) These values together decide if the projectile damages, kills, or fails to significantly harm an internal component that it hits.

"If Mace shows up without a sheep, be very, very afraid..."

- Harv

"Learning to fire on the FAST move with a Hurricane is the key to good Hurricane use."

- Mace

"Take advantage of the deployment time by dropping turrets/sensors in good spots that dropships would otherwise have a hard time with. For example, nooks high up on a mountain or a gully with high walls."

- Steve

"Don't deploy all your turrets, sensors and mines during the deployment phase, but keep a reserve. The dropship can then deposit your reserve nearly anywhere on the map during a game."

- Mace

"Don't bother shooting Clay, it just annoys him."

- Fyghtinghellfish

"If you are in a slow vehicle, drop closer to the enemy to reduce transit time."

- Rune

"Well placed defenses may not completely stop an enemy, but can slow the enemy down so you can react and maneuver counter to them."

- Mace

"The neutral air defense tower is your friend. Assimilate it using the cutter into your defenses as soon as possible!"

- Mace

"Always target the opposition Hermes EWV first, or your ATGM carriers will be effectively neutered."

- Harv

All depends on the particular planet, overall mission, and specific intent within a mission. For example, beam weapons are awesome for taking out turrets. So if you are going turret hunting, a Tempest or Paladin with the Ion beam is super duper good. Especially if the terrain is fairly flat and exposed.

In addition to this kind of direct kill, projectiles which penetrate also cause fragmentation damage. Each type of projectile has a "Fragmentation Factor." This factor combined with the amount of armor that was penetrated determines how much fragmentation is caused by the projectile's entrance into the interior of the victim object. Fragmentation will usually only damage the squishy internal components, such as drivers and gunners. It can damage components that are not directly in the projectile's flight path due to the chaotic spray of fragments entering the interior of the victim.

Each internal component and each type of projectile also have their own "Burn Factors." For example, fuel and ammo magazines have high burn factors, engines have a very low one, and many other components have zero. Based on the burn factor of the projectile and the component being hit, there is a chance that the unit will be ignited and a smaller chance that the unit will catastrophically explode.

Also, AP projectiles with extremely high velocity have their own chance of igniting an armored object that they penetrate due to simple kinetic friction. This can possibly ignite the victim regardless of which components are hit.

FACILITIES

Settlements and small colonies are scattered throughout The Rim. Some of them are the long forgotten ruins of colonies of the original settlers of The Rim from Mu Arae space. Others are the charred remnants of towns and cities that were destroyed during the war with the Mu Arae Entente and just a few are settlements where people still live.

The original settlers of The Rim built their colonies with reusable construction templates of Mu Arae design. Some of these small colonial structures can provide benefits to teams who control them during a scenario. Since they're all built from the same Mu Arae design templates, they can be "captured" by engineers during the scenario - engineers interface with the software systems that control these facilities and inject control routines into them that place them under the team's control.

A detailed listing of specific facilities and their benefits is available in the "Units" section.

GRAVITY

Combat in The Rim takes place on a variety of planets ranging from Earth-like environments to

tiny planetoids. One of the important variables that changes from one battle to the next is the gravity of the planet being fought on.

Changes in gravity have many important effects on combat, including the following:

- The maximum range of most projectiles will vary with changes in gravity; remember that projectiles in DropTeam follow true parabolic trajectories, so high gravity will lead to shorter maximum range for many weapons .
- Higher gravity causes higher ground pressure where the wheels and tracks of vehicles contact the ground. This makes bogging easier and steering more sensitive. Reduced ground pressure due to low gravity makes tires and tracks slip badly on the ground, robbing them of much of their traction. In this case, you might find that it's difficult to pickup speed with anything but a hover vehicle.
- Higher gravity can make slopes more treacherous due to easier rolls and flips.

These are just a few important effects of gravity. DropTeam's physics model is a literal simulation, so over time you will notice many other effects caused by changes in gravity.

ATMOSPHERIC DENSITY

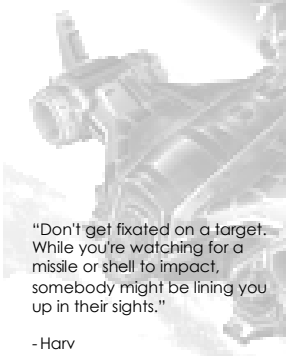
Another factor that varies from one battlefield to the next in The Rim is the density of the atmosphere. Variations in atmospheric density change the air resistance felt by objects moving through it, so projectiles will decelerate more rapidly in a denser atmosphere, making armor piercing rounds less effective at long ranges. Increased air-resistance tends to dampen the velocity of vehicles moving through it, especially of hover craft and dropships.

TERRAIN TYPES

In every scenario you will see various types of ground spread out over the terrain, ranging from grass to loose dirt to patches of ice. These different types of terrain are not purely aesthetic; they can have a dramatic impact on units traversing them. In particular, each type of terrain has its own friction coefficient. This means that driving a wheeled vehicle onto ice might cause you to lose control as the wheels slip across the ice without traction. Other types of terrain can have directly harmful effects on nearby units such as boiling lava flows or irradiated materials that can eventually kill the human crew of a vehicle.

"Ion weapons are the best super long range weapon in the game. You can hit anything you see with near certainty. Yes, the hits might take some time to do real damage, but you'll find the enemy doesn't want to wait for that to happen. Getting the enemy to move often is as good as blowing them up."

-Steve



"Don't get fixated on a target. While you're watching for a missile or shell to impact, somebody might be lining you up in their sights."

-Harv

DIRECT CONTROL

GUNNERY

DropTeam has a detailed, accurate ballistics model. Projectiles travel at realistic velocities over realistic distances following realistic parabolic flight paths. This can frustrate your efforts to lay a round on a target if you're not armed with adequate information about how this system works and the tools at your disposal for performing accurate fire.

"To best place your defences, study the terrain and work out the routes that can be used by the enemy to approach your defences. Block these with turrets if you plan to use the same paths, or mine them otherwise."

- Mace

AUTO VS. MANUAL RANGING

When controlling a unit armed with conventional guns, you can fire the weapon in one of two modes: auto range or manual range. These two modes determine how your vehicle's battle computer will elevate your gun.

Projectiles in DropTeam follow realistic trajectories. This can make hitting a target at extreme ranges difficult if you don't use the right tool for the job: your vehicle's on board ballistics computer

If the gun simply pointed directly at the target point, then the projectile would fall short due to the pull of gravity. Therefore, the gun must be elevated for each shot so that the outgoing projectile will hit the point that you're aiming at. The projectile will leave the weapon at an upward inclination so that the end of its parabolic path intersects your aim point. The angle between the ground plane and this upward flight path is called the gun's "elevation" - it is the amount that the gun is "raised" in order to score a hit.

This elevation angle is calculated based on gravity, the target's position, and the distance to the target. The range mode determines what range will be used in this calculation.

"A hidden but well placed sensor can be an important asset for determining your enemy's movement."

- Mace

In auto mode, the range is automatically computed as being the range from the gun to the whatever point your aiming reticle is pointing at. Therefore, if you're using the auto mode and your aiming reticle is pointing at the ground 1,000 meters away, then the elevation will be computed with a range of 1 ,000 meters. If you're aiming at an enemy unit that is 2,000 meters away, then the elevation will be computed with a range of 2,000 meters. This means that in auto range mode, you can simply point your gun at a target and shoot without worrying about the details of gun elevation - you will see the outgoing round automatically shot at the correct elevation to hit your target. This is the default mode and it is the mode that you will probably use most often.

"A forward deployed sensor jammer (or Hermes) can allow a strike group to be dropped unnoticed behind the enemy."

- Harv

In manual mode, you can specify the range that should be used in the elevation computation. Regardless of what your aiming reticle is pointing

"Don't rely on the minimap or enemy indicator icons for situational awareness, as they can be easily jammed. Keep in constant communication with your teammates about enemy threats, and continually scan the battlefield."

- Harv

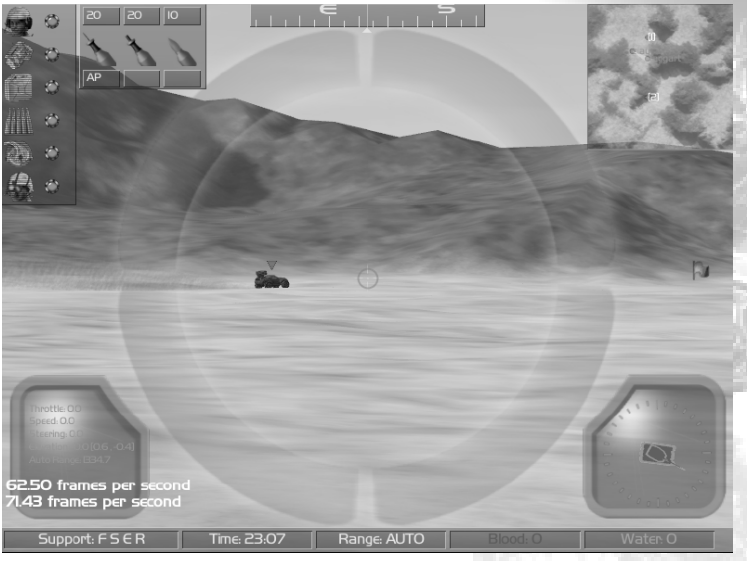
at, your manually entered range will be used to calculate the outgoing projectile's elevation angle. This doesn't mean that the position of your aiming reticle is irrelevant! The gun will still be aimed along the line of your aiming reticle which is critical; but the range the target will not be assumed to be the range to the point your reticle is aiming at. You set the range for manual ranging mode by right clicking. The range will be manually set to the range to whatever your reticle is currently aiming at. Alternatively, you can use the square bracket] [keys to set the manual range for manual mode. Click the middle mouse button to return to auto mode.

Use Manual Mode when shooting at fast moving targets or arcing your shots over intervening terrain.

Based on the above description, manual range mode sounds useless at best, but it isn't. There are a few circumstances under which manual mode is a far superior choice to auto mode.

The first is when firing at moving targets. Consider an example where you're firing at an enemy vehicle that is moving fast and is moving perpendicular to your facing, as pictured below:

A tricky way to kill enemy units as they drop: when you see an enemy dropship descending in the distance, right click on it to lock in its range. Once it disappears below the horizon, lower your reticle to ground level and fire. If your timing is good, your outgoing round will greet the enemy unit just as it disembarks from the dropship.



Since the target is over a kilometer away, a significant fraction of a second will pass before our shot reaches him. And since the target is moving fast from left to right, if we were to aim right at him

"Try to always keep your strongest armor to your strongest enemy."

- Rune

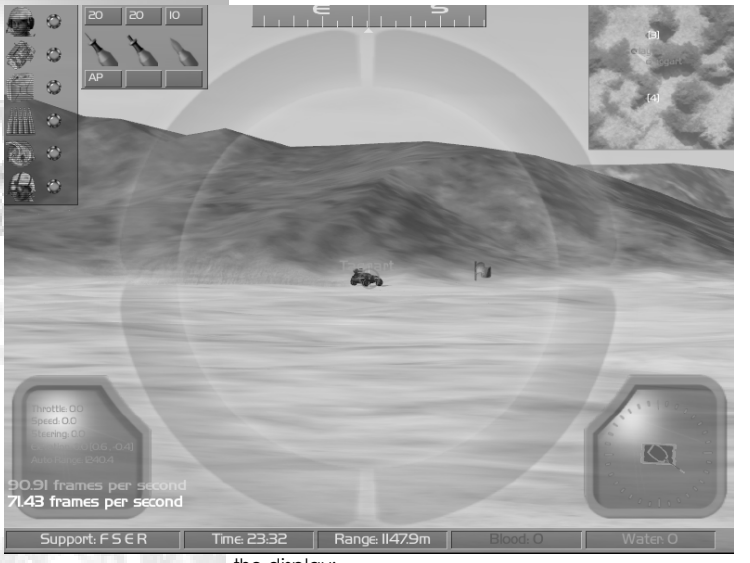
Effective gunnery in DropTeam requires you to think in 3 dimensions. Firing at a range that's beyond the target will result in your projectile arcing over the targe

Sometimes it's hard to tell whether your round has hit the target or not and whether is has done any damage.

There are some visual cues that help with this: if you see a spray of hot sparks then your round has penetrated the target. If you look closely you will see your round ricochet into the distance when it fails to penetrate (unless your round has a warhead).

the projectile would pass behind him. We need to aim just slightly ahead of him in order to score a hit. In order to aim ahead of him (or "lead our shot") we need to place the aiming reticle slightly to the right of him, pointing at the terrain at the base of the big hill behind him. This poses a serious problem because in auto range mode, our tactical computer will calculate a gun elevation angle based on the point that our aiming reticle is pointing at. In this example, we're aiming at a point that is far behind the target at the base of the green hill. This is hundreds of meters past the target, so our computer will elevate the gun so much that even if we aim correctly and fire at just the right moment, our outgoing shot will probably pass over the target and hit the base of the hill behind him!

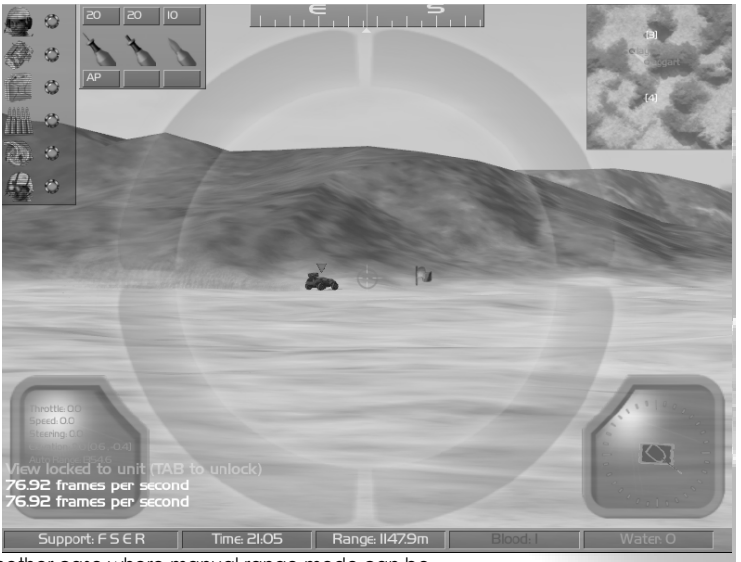
The solution to this dilemma is to use manual range mode. First, we aim directly at the target and right click on him to enter a manual range. Notice how the range in meters is displayed at the bottom of



the display:

To hit a target on the move, right click on it to get its range then lead your shot.

Now that the range to the target is entered and we are in manual mode, we can aim to the right of the target and squeeze off a perfect shot:



Another case where manual range mode can be useful is when performing indirect fire. By setting the range manually, you can aim at a point that is behind intervening obstacles and let the tactical computer elevate your gun to clear the obstacles for you. This is most useful with high trajectory weapons such as mortars.

Consider this example where we want to put mortar rounds onto the waypoint, but there is a large hill in the way:

Indirect fire over intervening terrain is a great way to engage enemy defenses including facilities.

By using the bracket] [keys, we can manually set our mortar's range to the distance to the waypoint and fire at the waypoint like this:

Use the manual guidance mode when you want to be creative with the weapon. For example, you might deliberately want to fly a missile into the side of a target instead of letting the missile do its normal top attack. The automatic top attack of the missile might also be a bad choice if the target is beneath obstructions, such as sitting under a bridge. In this case you should manually guide the missile beneath the bridge so it doesn't try to pop up and impact on the bridge before reaching the target.

Manual mode's also useful for taking quick shots. Sometimes it just takes too long to get a lock.

When we fire, the gun will automatically be elevated to the hit the waypoint, making our projectile arc high over the intervening hill. This would not be possible in auto range mode since the gun elevation would get set to hit the hill that we're pointing our reticle at.

Be sure to middle click to set your range mode back to auto after using the manual mode! New players sometimes forget to do this and are unable to hit anything because they forget that they're in manual range mode. You can always look at the indicator at the bottom of the display to see if you're auto or manual range mode.

MAP TARGETTING

In addition to the manual ranging described above, there is an even more powerful (but sometimes less accurate) method for performing indirect fire. You can use the minimap to automatically target any point on the terrain by pressing CTRL-M. The mini map will expand and a set of crosshairs will appear inside of it. Moving the mouse will move these crosshairs and your vehicle's turret and guns will automatically rotate

and elevate in order to hit the point where these crosshairs meet the terrain.

So in the example above, we could have used this map targeting mode to hit the waypoint like so:

On armored targets, use AP when at close range or when atmospheric density is low, otherwise use HEAT.

While the mini-map is expanded, any waypoints that are near the crosshairs will show their full label text, so the expanded mini-map can also be used to quickly review waypoints in addition to its primary targeting feature.

Press CTRL-M a second time to contract the mini map back down to its original size and free your mouse for normal turret/gun control.

When performing indirect fire, remember that the enemy may see your position if he possesses any units with counter battery capabilities (such as command tracks). For this reason it's a good idea to change your position while performing indirect fire instead of sitting still.

GUIDED WEAPONS

Some weapons such as anti-tank guided missiles can be controlled during their flight instead of being fired on a dumb trajectory. Such weapons can usually be fired in manual or "target lock" modes.

In manual mode, the weapon flies toward whatever point your reticle is aiming at. Therefore, you must keep your reticle on the target throughout the weapon's flight in order to score a hit. This usually means that you must remain exposed to enemy fire during this time.

In target lock mode, your tactical computer downloads data into the weapon before it is

launched and it is then able guide itself toward the target. This gives you "fire & forget" capability, allowing you to release the weapon and then duck back down into cover once it is launched.

To use the lock target mode, put your crosshairs on an enemy target. Your tactical computer will begin its own battle against enemy counter-measures and the typically Hellish electromagnetic background noise of the battlefield, trying to gain a stable lock on the target. During this time you will see a yellow pipper highlighting the target and you will hear a pulsing electronic tone as your tactical computer probes the target with different strategies. Once a stable lock is achieved the pipper will turn green and you will hear a solid lock tone. If you fire your weapon while this solid lock is active, it will automatically guide itself to the target. You do not need to keep your crosshairs on the target once the weapon is released.

HEAT rounds do more internal damage to the target when they penetrate. AP rounds penetrate better than HEAT (in most circumstances) but often don't do as much internal damage to the target.

If you prefer to guide the weapon manually, then simply fire at any time without a lock. The weapon will now follow your aiming reticle in manual mode.

It may sound like a no-brainer to always use the lock target mode but there are many situations in which manual mode is still useful, such as when "firing from the hip" without time for stabilizing a lock, or when you want to do missile aerobatics such as curling a missile around to come up from behind a target or go around obstructing terrain, etc.

WEAPON TYPES

AP Projectiles

HEAT rounds have lower velocity than AP. This can make it harder to hit moving targets at high ranges.

Armor piercing projectiles are incredibly dense solid slugs, usually comprised of iridium or uranium encased by a fine carbon lattice mesh that increases the slug's tensile strength. All of the damage caused by this type of round is due to the simple kinetic energy of its impact on the target. For this reason they're always fired at the highest possible velocity and they become less effective as they decelerate over time due to the drag of air resistance. In thin atmospheres they're devastatingly effective even at extreme ranges since there is nothing to slow them down.

On structures and soft targets, use HE.

HEAT Projectiles

High Explosive Anti-tank projectiles are tipped with shaped charge warheads. A small spec of antimatter is held in a vacuum seal within the warhead. When the seal breaks on impact, the

antimatter explodes violently and the raw energy released by this explosion is channeled down a funnel shaped opening in the tip of the warhead, shooting a cone of traumatized, super-heated matter into the target. The explosion of the warhead is focused into a cone so that it can attain maximum armor penetration (as opposed to the unfocused omnidirectional explosion of a standard High Explosive warhead) but the penetration of these warheads is still generally inferior to that of AP, at least at moderate to short ranges. HEAT rounds have two advantages over AP rounds:

1. They have the same armor penetration at any range, even very long ranges.

2. If they do penetrate the target's armor, they tend to cause more catastrophic damage to the target's interior.

They have two disadvantages when contrasted with AP rounds:

1. They usually have lower armor penetration, except at long ranges.

2. They're usually fired at much lower velocities, making them slightly less accurate and harder to use against fast moving targets.

HE Projectiles

High Explosive rounds use simple explosive warheads that detonate on impact. The explosion of these warheads causes damage by concussion as well as the release of hundreds of pieces of shrapnel which can penetrate thin armor. HE rounds have virtually no chance of penetrating an armored target, but they do catastrophic damage against unarmored targets. Therefore, they should be used against soft targets such as buildings, turrets, and infantry.

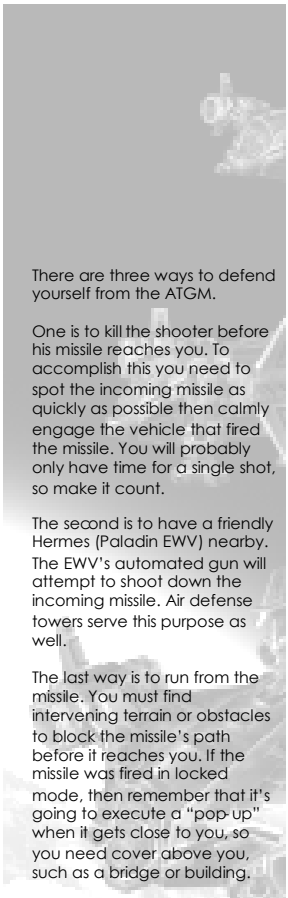
ATGM's

Anti-tank guided missiles are usually configured with HEAT warheads, giving them similar penetration and damage characteristics to those described above for HEAT projectiles.

Ion Beams

Ion beam weapons that are still in use in The Rim are a pale imitation of the devastating Hellbore class particle beam weapons that used to be the mainstay of military forces, but they're still quite useful.

Ion beams apply damage in a completely different way from conventional projectiles. When you hit a target with an ion beam, it actually

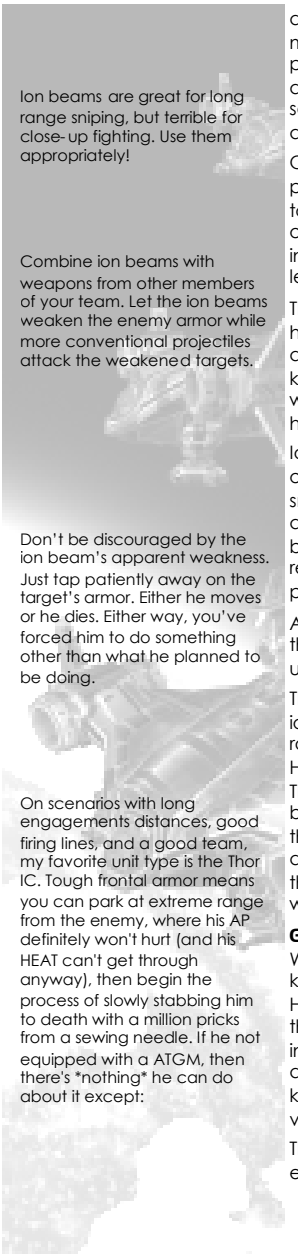


There are three ways to defend yourself from the ATGM.

One is to kill the shooter before his missile reaches you. To accomplish this you need to spot the incoming missile as quickly as possible then calmly engage the vehicle that fired the missile. You will probably only have time for a single shot, so make it count.

The second is to have a friendly Hermes (Paladin EWV) nearby. The EWV's automated gun will attempt to shoot down the incoming missile. Air defense towers serve this purpose as well.

The last way is to run from the missile. You must find intervening terrain or obstacles to block the missile's path before it reaches you. If the missile was fired in locked mode, then remember that it's going to execute a "pop-up" when it gets close to you, so you need cover above you, such as a bridge or building.



Ion beams are great for long range sniping, but terrible for close-up fighting. Use them appropriately!

Combine ion beams with weapons from other members of your team. Let the ion beams weaken the enemy armor while more conventional projectiles attack the weakened targets.

Don't be discouraged by the ion beam's apparent weakness. Just tap patiently away on the target's armor. Either he moves or he dies. Either way, you've forced him to do something other than what he planned to be doing.

On scenarios with long engagements distances, good firing lines, and a good team, my favorite unit type is the Thor IC. Tough frontal armor means you can park at extreme range from the enemy, where his AP definitely won't hurt (and his HEAT can't get through anyway), then begin the process of slowly stabbing him to death with a million pricks from a sewing needle. If he not equipped with a ATGM, then there's *nothing* he can do about it except:

ablates the target's armor, vaporizing thin layers of material away into molten puffs. Each hit permanently reduces the target's armor in the area where it was hit. So hitting a target in the same place repeatedly will wear the armor in that area gradually down toward zero.

Once you've ablated all of the armor in a particular area away, any hits on the target will be totally catastrophic - you're now pumping millions of charged ions at astronomical speeds into the interior of the target; it generally blows up, and at least suffers greatly.

Therefore, ion beams are unique in that with each hit of the beam you're doing permanent, lasting damage to the target, even if you haven't yet killed it. Contrast this with conventional projectiles, where a failure to penetrate simply results in a harmless ricochet without any other lasting effect.

Ion beams also have the tremendous advantage of practically instantaneous flight time. You can snipe at small or fast moving targets from great distances away and easily score hits with the ion beam - hits that would be very difficult with the relatively slow flight time of conventional projectiles.

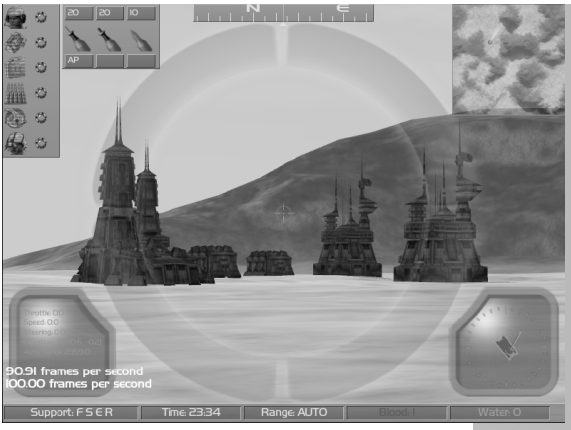
Another advantage of ion beam weapons is that they have, at least in terms of a single scenario, unlimited ammunition.

These advantages must be weighed against the ion beam's main disadvantage, which is that its rate of armor ablation is slow. Unlike the Mu Arae Hellbores of old, the ion beams still being used in The Rim require many hits on an armored target before they finally manage to ablate their way through to the interior. This means that they're not appropriate for use in point blank slug fights, but they can be incredibly potent supplements to a well coordinated team's arsenal.

GUNNER HUD

When you zoom into the gunner's view (using the E key by default) you're presented with the gunner's HUD. Your point of view is now looking directly from the turret's perspective with the camera zoomed in for easier aiming. You can toggle between different levels of zoom by hitting the toggle zoom key (the G key by default) while still in the gunner's view.

The gunner's view displays a few new HUD elements:



The text in the panel on the bottom left gives you some information about the current state of the vehicle:

- The current throttle, ranging from -1.0 (maximum reverse throttle) up to 1.0 (maximum forward throttle)
- The current speed of the vehicle in meters per second
- The current steering angle of the vehicle, ranging from -1.0 (maximum left steering) to 1.0 (maximum right steering)
- The gun's current elevation angle in radians, where negative numbers indicate that the gun is depressed downward and positive numbers indicate that the gun is elevated upwards. The numbers in brackets show the minimum and maximum gun elevation angles. This tells you if the target that you're aiming at is perhaps beyond the minimum gun depression or maximum gun elevation, in which case you won't want to waste ammunition by attempting to hit the target from this angle.
- The auto range, which is the range that to the point your reticle is aiming at in meters. This is the range that would be used if you were to fire in auto range mode.

The panel on the right bottom of the gunner's view shows the current orientation of the vehicle's chassis, turret, and gun(s) on a compass dial. This can help you stay oriented while in this zoomed mode. In the example image above we can see that the chassis of the vehicle is pointing northwest, but the turret and gun are pointed to

"Yes, the Apollos are pretty rare because, I guess, most people opt for one of the Paladins when they want medium armor/medium speed instead of the tracked Apollo. Tracks are very nice to have sometimes, though. Hellfish is an exception; I often find him in one of the Apollo variants and he is often putting it to good use. I particularly think the Apollo 120 is generally underused - this thing has high mobility, a big gun, and the front armor of its *TURRET* is very thick. Played skillfully (racing from one hull down spot to another) this thing can be a real killer. I suspect that some people try it out, drive into the open where their weakly armored chassis gets shot, and think to themselves'wow this thing sucks' and then move on to the Paladin..."

- Clay

...

...

1. Hide from you behind terrain or obstacles (in which case you've disrupted whatever he really wanted to be doing)
2. Extract (ditto above)
3. Advance toward you to close within short enough range for his AP to punch through (ditto above)
4. Move to try to flank you and get a shot into your sides or rear, which at this extreme range is going to take him a long time (ditto above)
5. Ask his team mates to do #4 for him (so now you've disrupted whatever THEY really wanted to be doing")

- Clay

Also, as Steve will attest, I've become very good at killing dropships with the ion beam, so once I spank you on the ground you probably won't be able to land again anywhere near that same spot (depending on how busy the rest of your team keeps me).

This is just one "favorite" under those particular conditions.

- Harv

the northeast, slightly to the right of the facing of the chassis.

SUPPORT UNITS

ENGINEERS

Engineer units can be used to excavate terrain and to capture facilities. To excavate terrain, first make sure the vehicle is not moving. Press the "special action" key (the B key by default) to lower the engineer's digging blade and then begin moving forward. The engineer will begin cutting a rut in the terrain, displacing cut dirt to the sides of the excavated rut. This feature can be used to dig defensive emplacements for your team or to dig obstacles for the enemy team.

To capture a facility with an engineer, simply touch the facility. The engineer will automatically make a wireless connection to the facility's neural control systems and begin bypassing the facility's software firewalls. A progress bar appears on your display showing that the facility is being captured and giving you an idea of how long it will be before the process is complete.

Facilities are usually clustered together into groups that share a common central processing unit. Therefore, when you capture any facility within the cluster, all other facilities within the cluster are also captured.

Once a facility has been captured, its lights will turn green indicating that it is now in your team's possession. Facilities that have been captured by the enemy team shine red lights. Only Mu Arae colony facilities can be captured this way. There are other simple buildings in some scenarios that are simple buildings without any software control systems.

These buildings do not impart points or benefits and cannot be captured by either team.

A captured facility will automatically begin to provide points and/or certain benefits to your team as specified by the scenario and type of facility.

COMBAT DROPSHIPS

Combat dropships such as the Viper are heavily armored (relative to other dropships) and contain many redundant systems so that they can operate under enemy fire. Their primary role, like all dropships, is troop transport, but combat dropships are tough and nimble enough to move troops while under fire, directly at the front. Their long superconducting magnetic grapples allow them

to nimbly snatch cargo while on the move, minimizing their exposure to enemy fire.

When controlling a combat dropship, use the "special action" key (B key by default) to deploy the magnetic grapple. When the grapple is deployed, it will automatically "snatch" any unit that it contacts, so to pickup a unit simply fly over it with the grapple hanging down. Press the special action key again to release any unit that you're carrying. In the social circles of most Liveships, it's considered rude to release them at high altitude unless they're enemy units.

Flying these dropships might seem difficult at first, but with a bit of practice you will find that they're quite manageable and nimble. When flying one, you're riding a column of thrust that's shooting straight down relative to the chassis. Therefore, moving forward is done by pitching forward, allowing the thrust to not only push the ship up but also forward at the same time. Similarly, you can slew left and right by rolling and you can fly backwards by pitching up.

Pitch and yaw are controlled by aiming (the mouse by default). Thrust is throttled with the forward/back commands (keyboard W /S by default.) Roll is controlled with left/right commands (keyboard A/D by default.) You can go into an automatic hover by holding the brakes key (X by default).

COMMUNICATION

BASIC CHAT

During the game you can type chat messages for other players to see. Press <RETURN> to start a new chat message for other players on your team to see. Type the message. You will see the message that you're typing in the lower left message area of the screen. When you've finished composing your message, press <RETURN> a second time to send the message.

To type a message for everyone on both teams to see, press <CTRL-RETURN> to begin the message instead of <RETURN> by itself.

MICROPHONE VOICE CHAT

A more effective way to communicate with your team mates is to use a headset microphone and simply talk to them. DropTeam will stream the audio of your voice from the microphone to your team mates so they can hear you talking as the game plays.

To send a microphone transmission, simply hold down the Push to Talk key (the P key by default)

The various mortar versions (not including Hurricane) have their uses, but I feel the HE in the game (in general) doesn't have enough damage/killing power. I'd like to see those mortar rounds kill tires or break things like engines or weapons systems more frequently.

The Thor with 120 or Ion is good if you know you're going to have a slug fest and don't need to be anywhere in a hurry. The worst thing you can do is get one of these vehicles and then have to go a significant distance in one. Better to Extract and put down again than to drive for a long ways. Both vehicles can withstand so much punishment, though the new top attack of the ATGM seems to kill the turrets a little too easily (though that is anecdotal at this point).

The Paladin is, by far, the most versitile vehicle in the game. The AA/EW version is my new favorite. However, if you find yourself up against some of the heavier stuff you'll quickly figure out that it is better to keep on moving than duke it out. The 25mm is ineffective against the Thor class vehicle except for the rear. Even then it seems like it takes dozens of hits to perhaps cause some damage.

and begin speaking into your microphone. Release the P key *after* you've finished speaking.

When someone else on your team is speaking into their microphone, you will see a notice at the bottom of your screen that says "Receiving from X" where X is the name of the other player who is speaking. In order to avoid speaking over one another, you should always glance at the bottom of your display before beginning a transmission of your own. When everyone speaks at once it eventually becomes difficult to hear what individuals are saying.

TEXT MACROS

You can define up to 10 chat macros. These are simply text messages that you send quite often and don't want to have to type on the keyboard every time you send them. Define what the 10 macros are on the Controls tab of the game lobby, and then send them to your team mates during the game by pressing the number keys on the keyboard.

VOICE MACROS

You can "speak" anyone of several predefined voice macros. Press the V key to popup a menu of these voice macros. Use the keyboard keys indicated on this popup menu to navigate through the levels of the menu until you find the voice macro that you want to send. When you send it, other players will hear the voice macro on their speakers, spoken in the voice that you chose for yourself on the "Settings" tab of the game lobby.

UNITS

The AFV's used by players in DropTeam are manufactured in the nanoforges of Liveships. Liveships perform this manufacturing according to their own design templates which evolve as the self-organizing structure of the Liveship's nanobots evolve. The human crews of the Liveships have limited input into this process other than to attempt various kinds of "training" of the Liveship's neural networks. The human crews can also applying whatever "post-birth" modifications they're capable of to the fighting machines manufactured by the Liveship but as time passes this is becoming more difficult. As the technological Dark Age currently gripping The Rim wears on, highly specialized scientific knowledge is being gradually lost (at least to the extent that it can be practically applied). As Liveships age and spawn new generations, the younger generations of Liveship often contain fewer and less capable

design templates for their nanoforges. Similarly, as older generations of their human crews die in combat or starve in the darkness of space and pass control down to younger generations, knowledge about how to effectively manage the complex neural networks of the Liveships and how to build custom "post-birth" modifications is also gradually eroding.

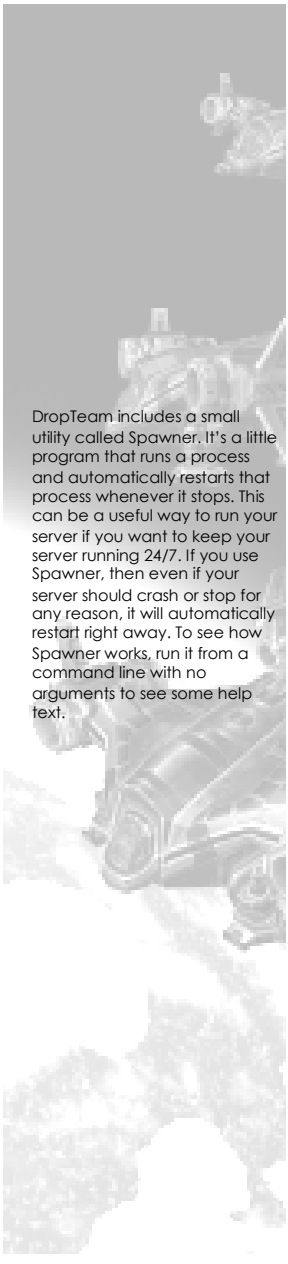
All of the AFV's manufactured by the Liveships are unpressurized and exposed to outside air or vacuum, except for the tiny sealed compartments occupied by crew members. This limits the chance of any kind of catastrophic decompression in case of penetration by enemy fire.

All important systems on these vehicles are built specifically for use in a wide range of environments. For example, propellant for the munitions used in guns contains its own self-contained oxidizer so that the guns can be fired in any atmosphere or even in empty vacuum. Guided missiles are built to use thrust vectoring for guidance instead of airfoils. A broad range of redundant sensor systems enable effective threat identification in light or darkness and in virtually and kind of weather.

They're fueled by anti-matter fuel cells, giving them enormous independent operating capacity. A few grams of antimatter can power a vehicle for days. These fuel cells are prone to combustion in case of penetration, though, so they're usually placed behind as much armor as possible and loaded with only enough fuel to power the vehicle for the immediate engagement at hand, when practical.

All vehicles are armored with a nano lattice of carbon and iridium, giving very high effective armor ratings in terms of "millimeters of steel" measurement. Even the wheels of wheeled vehicles are composed of a matrix of carbon nano springs that weld millions of small pieces of iridium together into a flexible, but tough, whole.

So while the basic mechanics of the AFV's produced by LiveShips have slipped steadily toward the simplicity of the past, using tracks, wheels, and guns in lieu of the higher tech machines used in days past, the underlying materials and sophistication of these vehicles are still so advanced that they can operate effectively on planetoids without atmospheres or in Earth-like environs with ease.



DropTeam includes a small utility called Spawner. It's a little program that runs a process and automatically restarts that process whenever it stops. This can be a useful way to run your server if you want to keep your server running 24/7. If you use Spawner, then even if your server should crash or stop for any reason, it will automatically restart right away. To see how Spawner works, run it from a command line with no arguments to see some help text.

Paladin KC-L

Paladin KC-M

Paladin ATGM

Paladin IC

NAMING CONVENTIONS

In the process of post-birth modification, the Houses produce several variants of most basic AFV platforms. These variants follow a standard naming convention where the basic platform name is followed by an abbreviation indicating the specialty of the variant.

For example, the basic Paladin AFV is armed with a conventional 20mm kinetic cannon, but there is a variant of the Paladin that is instead armed with an ion cannon. The basic Paladin is called the Paladin KC-L (kinetic cannon, light) and the ion beam variant is called the Paladin IC (ion cannon). The standard abbreviations used are as follows:

- **KC-L** Kinetic cannon, light
- **KC-M** Kinetic cannon, medium
- **KC-H** Kinetic cannon, heavy
- **IC** Ion cannon
- **ATGM** Anti-tank guided missile
- **MC-L** Mortar Carrier, light
- **MC-M** Mortar Carrier, medium
- **MC-H** Mortar Carrier, heavy
- **EWV** Electronic warfare vehicle
- **EV** Engineering vehicle
- **CMO** Command vehicle
- **DS** Dropship

WHEELED VEHICLES

PALADIN

The Paladin can serve as an IFV, transporting up to 5 armored infantry in its crew bay, or can optionally be fitted with a recco electronics package in the crew bay for deep scouting missions. It balances light armor with good mobility.

Its 20mm gun fires incredibly dense carbon lattice penetrators, yielding excellent results for such a small caliber weapon, but it is still relatively weak; it can't even reliably punch through the front of other IFV's (though it can penetrate their weaker side and rear armor.) This is somewhat made up for by the gun's high rate of fire. This makes the Paladin an excellent choice when shooting down air targets or lightly armored targets such as turrets and Shrikes. When facing armored targets, though, the Paladin's only option is to try to get on the target's flank or rear.

The Paladin's flexible nature makes it a popular choice for post-birth modification. There are several variants of this basic platform, armed with various weapon systems.

The most specialized variant is the electronic warfare variant, sometimes called the Hermes. The Hermes carries an integrated sensor jammer, providing all of the same capabilities as the deployable sensor jammer but on a mobile platform, opening a wide range of tactical options to well coordinated forces. The Hermes also features integrated short range air defense: an automated small caliber cannon that fires carbon lattice penetrators at a rate of 3,000 rounds per minute driven by fast, hardened AI systems that automatically engage enemy aircraft within its radius. The additional load of these extra systems severely hampers the speed of the Hermes compared with its progenitor.

IFV MC

SHRIKE

The Shrike is a highly mobile, lightly armored strike and reconnaissance vehicle. This jeep is extremely vulnerable to enemy fire, but LiveShips have evolved the C Generation which sports an anti-tank guided missile system that can punch through thick armor. Missiles fired from the ATGM launcher are guided by the gunner throughout flight. This is a blessing and a curse, because it means the gunner must remain in line of sight of his target until the missile impacts. The missile's velocity is very low and the ATGM launcher has a long reload time. The best defense against this weapon is to destroy the jeep before its incoming missile reaches you, or to duck behind terrain features to get out of the gunner's line of sight.

Shrike ATGM

TRACKED VEHICLES

The tracks on Liveship-produced AFV's are sophisticated feats of nano engineering. Iridium track plates are linked together by nano carbon "hinges", giving them the flexibility to articulate while retaining the toughness of unarticulated, solid iridium. These tracks can be run under heavy load for months at a time without maintenance and are highly resistant to enemy fire.

Thor KC-H

THOR

This is the most heavily armored, armed, and slowest moving AFV available. It is the main battle tank of most Houses. The Liveships evolved this generation to have even thicker armor than the original generation at the expense of mobility. Its 120mm gun fires incredibly dense carbon/iridium lattice penetrators which will punch through anything except for the front turret armor of another tank (but it will punch through the front chassis armor- so stay hull down!) Its slow speed makes the tank impractical for flag grabs and scouting, but it is the mainstay for defending

Thor MC-H

objectives or for spearheading an assault on a defended objective.

Apollo KCK-H

APOLLO

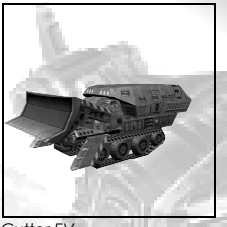
This vehicle is virtually unarmored, but it's outfitted with the same lethal 120mm gun found on the Thor MBT. It relies on high mobility and the devastating power of its gun to "outsmart" its more heavily armored cousin.

Mercury KC-L

MERCURY

The Mercury is a mobile command & control center. The electromagnetic spectrum of the modern battlefield is ablaze with noisey signals caused not only by enemy jamming but also by the weapons and anti-matter fuel cells used by forces in the conflict. Effective command & control must, therefore, always be done from the front, within the short radius that fast, reliable communications can occur.

The Mercury is packed with powerful, redundant communications systems, ranging from traditional neutrino emitter/receivers all the way down to physical message torpedoes and ground induction devices which can communicate through vibration frequencies in the ground itself. These various systems are used in concert as circumstances dictate so that the Mercury is continually in touch with local friendly forces and with the intel reported by threat assessment AI systems among those forces.



Cutter EV

CUTTER

This engineering vehicle is unarmored and has only small caliber weaponry for limited self defense. It has a digging blade that can be used to perform "cut & fill" dirt moving on the terrain. Engineers can be used to dig trenches to obstruct enemy movement, to construct revetments for friendly vehicles, etc. Engineers are also able to capture buildings that have autonomous turrets on those scenarios with such buildings and clear mines from the battlefield.

HOVER CRAFT

Most Liveships have already lost the ability to construct military-grade hover craft, but a few have retained enough knowledge to build at least the simpler specimens, such as those older designs that use fine particles of antimatter for repulsion against underlying surfaces. This allows them to operate equally well in atmosphere or vacuum, but they can sometimes be temperamental to control.

TEMPEST

This light attack craft compensates for low armor with high mobility, and is armed with a 10mm ion gun - a pale imitation of the large caliber "H ell bore" ion beam weapons that used to serve as the mainstay for fighting forces in The Rim.

HURRICANE

The Hurricane was evolved for a direct support role, its hover propulsion and medium armor allowing it to keep pace with front-line troops and bring its high explosive, direct-fire artillery rounds to bear on the enemy. The Hurricane is traditionally used against dug-in infantry or enemy structures and fortifications.

DROPSHIPS

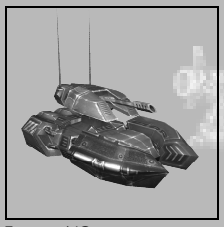
METEOR

The Meteor is the result of many generations of evolution by the Liveships. During the times of the Rim Conflict, when weapons of incredible technology dominated the battlefield, military aircraft quickly proved worthless in combat. Armed with particle beam weapons and advanced AI-controlled guidance systems, anything that could be seen could be instantly killed. The only way to survive in combat was to stay close to the ground, using terrain as cover and letting the ground itself provide background clutter that prevented the kind of instantaneous automated death that was consistently suffered by aircraft.

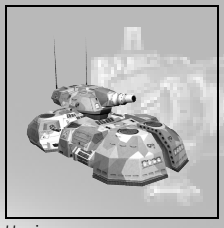
The Liveships therefore evolved their aircraft templates away from armed combatants and toward simpler troop transport roles. Dropships were evolved that were good at transporting ground troops down onto planetary surfaces at great distances from enemy forces. Ground forces would then advance overland to their target areas to engage the enemy.

The Meteor is the culmination of this evolution. It is capable of transporting troops from orbit into virtually any environment, including high pressure atmospheres under high gravity. It can operate autonomously for months and has enormous lift capacity. It is the lynch pin of mobility for all planetary assault forces in The Rim.

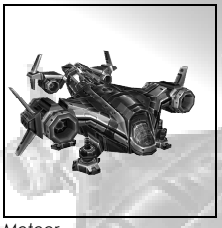
As the modern battlefield erodes into an ever more primitive environment, devoid of particle beams and advanced targeting systems, the old idea that armed aircraft are worthless no longer rings true. There are many in The Rim who are trying to actively coax LiveShips into production of the ancient templates that were used to construct



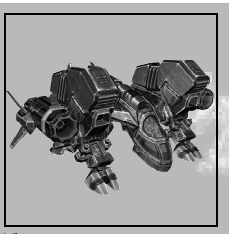
Tempest IC



Hurricane

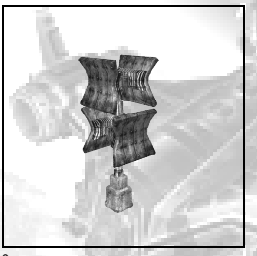


Meteor



Viper

Turrett



Sensor

armed aircraft. Others are simply working at modifying the existing Meteor chassis to support "slung" weapons after construction by the LiveShip (an incredibly difficult endeavor given the requirements of atmospheric entry.) Armed aircraft are therefore still rare in battles throughout The Rim, but not unheard of.

VIPER

The Viper clearly illustrates the fluid nature of Liveship manufacturing evolution. Having long since abandoned armed aircraft, the Liveships have finally begun to recognize and adapt to the growing opportunity to once again use aircraft in a direct combat role. Though the Viper isn't armed, its armor is heavier than other dropships and its systems are highly redundant, allowing it to operate under enemy fire. Its primary role, like all dropships, is troop transport, but the Viper is tough and nimble enough to move troops while under fire, directly at the front. Its long magnetic grapple allows it to nimbly snatch cargo while on the move, minimizing its exposure to enemy fire.

The Viper is a favorite basic platform for "after-birth" modification: some purely defensive, atmosphere-bound forces in The Rim have already successfully juryrigged their own external weaponry onto the Viper. Many in The Rim see the Viper as evidence that Liveships are evolving toward once again manufacturing combat aircraft with their own integrated armament.

DEPLOYABLES

TURRETS

These defense turrets are fully autonomous. They will fire on any enemy unit that is not under the protection of sensor jamming, is within line-of-sight of the turret, and is within the turret's effective range.

All of the autonomous turrets fire plasma bolts, but Liveships have evolved two varieties of turret: anti-aircraft and ground turrets. The anti-aircraft turrets fire smaller plasma bolts at high velocities, enabling them to more easily hit air targets at the expense of having less penetrating power. The ground turrets fire large, powerful bolts for maximum penetrating power. This power limits the velocity of the plasma bolts, though, since high densities of plasma are difficult to hold stable.

DEPLOYABLE SENSOR

Almost all modern vehicle and weapon systems are powered by anti-matter, a design decision that is justified by its incredible logistical and tactical advantages. Its chief disadvantage,

though, is that it emits a unique electromagnetic signature that can be detected even through hundreds of miles of rock and, given sufficient time and powerful enough sensors, even across light-years of space. In practice, cost-effective sensors are generally limited to smaller, tactical ranges.

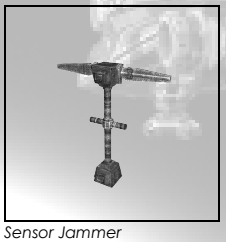
This deployable sensor detects such emissions within a modest radius of a few thousand meters and broadcasts anything it detects onto the team's sensor network, making enemy units that are within its radius visible to everyone on the sensor's team.

"Remember what Commander Ivanova said: 'There's always a boom!'"

- Berlichtingen

DEPLOYABLE SENSOR JAMMER

This automated device broadcasts specifically tuned frequencies in the region of the electro-magnetic spectrum where anti-matter exhaust is found, canceling out any anti-matter emissions signatures which may be present, making it impossible to discriminate anti-matter emissions within its radius. This effectively jams the sensors of the enemy units.



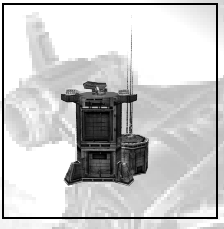
Sensor Jammer

MINES

Rapidly scatterable, dropship deployed anti-vehicle mines. Used mostly for area denial (mines are usually clearly visible) each deployment of mines covers a 500 meter radius and are triggered by vehicles passing over them. Each mine holds a small high explosive fragmentation and shaped charge. They are vulnerable to artillery and mortar fire and can be cleared by engineering vehicles.

FACILITIES

Some scenarios contain intact facilities that were built according to the original Mu Arae Colony Construction Templates. You can capture these structures by tapping into their neural control networks with an engineering unit. When a facility has been captured it may provide benefits to your team as outlined below.



AA Missile Tower

AA Missile Tower

This is an air defense facility. It is armed with high velocity AA missiles that are accurate and lethal. Its missiles have very high range – on the order of 8 to 10 kilometers depending on environmental conditions. This means that controlling one of these facilities effectively denies the enemy the ability to drop in a very wide area so they are well worth capturing!

This type of facility will autonomously target anything with an "aircraft signature" – that means anything that rises sufficiently high above background "clutter" of the terrain for the facility's

sensors to effectively obtain a lock. These towers are mounted with three separate missile launchers, each of which is driven by its own high speed neural network for autonomous targeting. This means the tower can engage three separate targets simultaneously, making it very hard (but not impossible) to "roll back" this type of tower by dropping a high number of dropships. The missiles used by these AA Towers are not able to target fast moving objects such as projectiles but they're devastatingly effective against slower moving flying objects like dropships. Be sure to use the Tactical Display to see the effective range of the tower's missiles.

AA Ion Beam Tower

AA Ion Beam Tower

This type of facility is a variation of the AA Missile Tower described above. It is armed with three separate 20mm ion beam guns. Like the missile tower, these three weapons are driven by three independent, high speed neural networks so the tower can effectively engage up to three separate targets simultaneously.

The ion beam tower has much shorter range than the missile tower (only on the order of a couple of kilometers) but in addition to engaging enemy aircraft, the ion beams on this tower are capable of targeting enemy projectiles. Therefore this tower not only provides air defense but also provides point defense for nearby friendly units. Its high speed neural networks and precision beam weapons are capable of shooting down virtually any conventional projectile, even high velocity AP rounds fired from tanks.

There are two ways to beat this type of tower's point defense:

- "Roll back" the tower's defense by coordinating with your team mates to send so many projectiles toward the tower that its three guns don't have time to hit them all. Only a fraction of your projectiles will make it through the tower's point defense, but sometimes a few is enough…
- Get close enough to the tower that your projectiles have a relatively flat trajectory. This tower, like its missile tower cousin, is only capable of engaging targets that are high enough off of the ground that its sensors can easily distinguish them from background clutter.

RUNNING A SERVER

There are two types of DropTeam servers: dedicated and standalone.

You run a standalone server when you play the game and turn on the "server" checkbox on the standalone tab. This means you are both playing the game and acting as a server at the same time. This is not an ideal way to run a server since your computer is now busy rendering graphics and sound and playing the game as well as acting as a server for others who connect to your game. Consequently, those others will experience various kinds of lag and stutters during the game, especially if many people connect to your standalone server.

A dedicated server is the best way to run a DropTeam server. A dedicated server is only a server. It does not also play the game like a standalone server does. It is best to run a dedicated server on a computer that is not also playing the game in a separate process.

Your installation of DropTeam already contains everything that you need in order to run either kind of server.

STARTING A DEDICATED SERVER

To run a dedicated server, use the command line to run the DropTeam executable, passing some flags to it to make it run as a dedicated server.

RUNNING ON WINDOWS

On Windows, open a command prompt by choosing Start/Run… and then typing:

```
cmd<ENTER>
```

…in the run box. A black console window will appear. In that window, first change to the directory where DropTeam is installed. For example, if DropTeam is installed in the default location of C:\DropTeam, you would type:

```
cd \DropTeam<ENTER>
```

Now change to the bin subdirectory that is underneath the DropTeam directory by typing this:

```
cd bin<ENTER>
```

Now you are in the \DropTeam\bin directory. From here you can start the dedicated server by typing this:

```
DropTeamP4Release.exe –enterlobby false –hostmode server<ENTER>
```

If your system is not a Pentium4 or greater CPU, then you need to run DropTeam.exe instead of DropTeamP4Release.exe. Once you have entered this command, it will appear that nothing has happened but in fact a DropTeam dedicated server is now running on your computer. You can verify that the server is running in two ways:

- Press <CTRL><ALT><DELETE> to open the Task Manager. Switch to the "Processes" tab and look for "DropTeamP4Release.exe" in the "Image Name" column. If your dedicated server is running, then you will see DropTeamP4Release.exe here. If your server failed to run, or has crashed or stopped running for any reason, then you will not see DropTeamP4Release.exe in this list.
- Open the file called DropTeam.log in your \DropTeam\bin directory with any text editor. This log file shows what is currently happening on your dedicated server (this log will grow over time as the server continues to log activity).

To stop the DropTeam server, simply go to the Task Manager, highlight the DropTeamP4Release.exe process and hit the "End Process" button.

IMPORTANT: Because the dedicated DropTeam server runs in the background, it is easy to accidentally run more than one server at a time, which is a **BAD IDEA**. Before issuing the command line above to start a new server, you should **ALWAYS** first go the Task Manager and make sure an instance of DropTeam is not already running the background before starting a new one!

RUNNING ON LINUX

At a shell prompt, switch to the bin subdirectory beneath your installation of DropTeam. For example, in Bash you would do something like this:

```
cd ~/DropTeam/bin<ENTER>
```

Then run the dedicated server by typing:

```
./DropTeam –enterlobby false –hostmode server<ENTER>
```

If you are going to leave the dedicated server running for long periods, you might prefer to run the server through nohup so it won't be bound to the current terminal session, etc. Something like this will do:

```
nohup ./DropTeam –enterlobby false –hostmode server &
```

The server's output log will now be directed to nohup.out.

To stop the dedicated server, use the ps command to find the server's process id and then use the kill command to stop the server, like this:

```
kill –9 <process id>
```

RUNNING ON MAC OS X

Use Terminal to run a dedicated server on OS X. Open a new Terminal window and type this command to switch to the Applications directory where DropTeam is installed:

```
Cd /Applications<RETURN>
```

Then type this command to start the dedicated server:

```
DropTeam.app/Contents/MacOS/DropTeam –enterlobby false –hostmode
server
```

If you are going to leave the dedicated server running for long periods, you might prefer to run the server through nohup so it won't be bound to the current terminal session, etc. Something like this will do:

```
nohup DropTeam.app/Contents/MacOS/DropTeam –enterlobby false –
hostmode server &
```

The server's output log will now be directed to nohup.out.

To stop the dedicated server, use the ps command to find the server's process id and then use the kill command to stop the server, like this:

```
kill –9 <process id>
```

THE SCENARIO LIST

Unlike the standalone game, a dedicated server continues running from game to game without stopping. When you run a dedicated server, you can specify a list of scenarios that the server will cycle through. As each game ends, the server will select the next scenario from your list and start a new game. Any clients who are connected to your server will automatically cycle into this next scenario on your server.

The list of scenarios is simply a text file called ScenarioList.dat in your \DropTeam\data directory. This file is a list of scenarios with one scenario on each

line in the file. When the server reaches the last scenario in this list it will cycle back to the top of the list.

CONTROLLING A DEDICATED SERVER

In the examples above, we typed some "arguments" into the command prompt such as –enterlobby false and –hostmode server. These two arguments are essential in order to make the game run as a dedicated server. In addition to these two basic arguments, there are *many* more that you can optionally pass in order to customize how your server runs. In fact, you will definitely want to pass at least some of these extra arguments in order to host interesting games.

Additional arguments that can be passed on the command line are explained below. Each of these arguments is simply an extra parameter on the command line in the form of:

```
-<argument> <value>
```

where <argument> is the name of the argument as described below (such as "enterlobby" was above) and <value> is the value to give to that argument (such as "false" was the value for the "enterlobby" argument in the options above).

-LOBBYNAME

Use this argument to set the "name" of your dedicated server. This is the name players will see in the list of servers on the Network tab when they are looking for a server to join.

For example, if you wanted your server to be called "ThePainStation" you would pass this argument to your server:

```
-lobbyname ThePainStation
```

-NUMBOTS

Use the –numbots0 and –numbots1 arguments to set the number of bots that will be on each of the two teams in the game. For example:

```
-numbots0 8 -numbots1 8
```

will place 8 bots on each team.

-DYNAMICBOTS

Use the –dynamicbots argument to specify whether or not bots should automatically go inactive as human players connect to the server. This will insure that the teams are at a minimum number of players at all times. For example, if you were to run with these options:

```
-numbots0 8 -numbots1 8 -dynamicbots true
```

…then when the server first started both teams would have 8 bots on them. When the first human client connected to the server and joined team 0, one of the bots on that team would go inactive. So now team 0 would have 7 bots and 1 human player, while team 1 would still have 8 bots. When the next human player connected to the server and joined team 1, one of those bots would go inactive. Now both teams would have 7 bots and 1 human player. If the first human player were then to disconnect, then the inactive bot would become active again, bringing team 0 back up to 8 bots playing. In this way it is insured that both teams have at least 8 team members playing through a combination of bots and human players.

-GAMETYPE

Use the –gametype flag to specify the *preferred* game type for each scenario. This corresponds to the Game Type setting in the standalone tab when running a standalone game. For each scenario that runs on the server, *if* the scenario offers

the –gametype that you've specified, then the scenario will run as that game type. Otherwise, it will fall back onto the "Capture the Flag" game type instead.

For example, to tell scenarios to run as the Objective game type (when available), you would pass this argument to your server:

```
-gametype Objective
```

-PASSWORD

Use this argument to allow administrator access to your server from within DropTeam. If you specify a password, then clients who connect to your server will be able to use this password in order to become admins in the game. This functionality is described fully in the section "Administration" below.

For example, if you want your server admin password to be UndulatingDoom, you would pass this argument to your server:

```
-password UndulatingDoom
```

-DEPLOYMENTTIME

Use this argument to set the length of the deployment phase in seconds. For example, if you wanted the deployment phase to last 3 minutes then you would pass this to your server:

```
-deploymenttime 180
```

-DEPLOYMENTRADIUS

This argument sets the size of the deployment area (for game types that use a deployment size) in meters. For example, to set the deployment area to a 4 kilometer wide area you would pass this to your server:

```
-deploymentradius 2000
```

-PACKETSIZE

Use the –packetsize argument to set the target size of outgoing packets. The server always attempts to bundle outgoing traffic to each client into large packets on each game cycle in order to avoid the overhead cost of sending lots of small packets. By using the –packetsize argument you can decide how large these packets should really be. The number you specify for this argument is the original size of the outgoing packet *before compression*. The actual outgoing packet size will be, on average, about 50% of this size and will be 75% of this size in the worst case.

For example, to set the outgoing packet size to be about 1500 bytes you would run your server with:

```
-packetsize 2000
```

-SERVERPORT

The –serverport argument sets the port number that your server will accept connections on. The DropTeam server listens for connections on a UDP port. By default it uses port number 9967. If you need to run your server on a different port (such as because the port 9967 is already in use by another application) then you can use this argument to set a different port number.

Note that if your server is running behind a NAT device such as a router, then you will need to forward this port number to the local IP address of the machine that is running the DropTeam server in order for outside clients to connect.

OTHER ARGUMENTS

There are many other, less common, command line options that can be passed to the server. To see a comprehensive list of all of them, run the server with only the -?

argument. It will dump a complete list of possible arguments (on Windows, you will need to look in the file DropTeam.log to see this output).

DEDICATED SERVER EXAMPLE

To run a server called "ThePainStation" that plays objective games and always has at least 8 team members on each team with an admin password of "LookingGlass" you would run it with the command line below.

On Windows:

```
DropTeamP4Release.exe -enterlobby false -hostmode server -
lobbyname ThePainStation -numbots0 8 -numbots1 8 -dynamicbots
true -password LookingGlass -gametype Objective
```

On Linux:

```
./DropTeam -enterlobby false -hostmode server -lobbyname
ThePainStation -numbots0 8 -numbots1 8 -dynamicbots true -
password LookingGlass -gametype Objective
```

On Mac OS X:

```
DropTeam.app/Contents/MacOS/DropTeam -enterlobby false -hostmode
server -lobbyname ThePainStation -numbots0 8 -numbots1 8 -
dynamicbots true -password LookingGlass -gametype Objective
```

ADMINISTRATION

Clients who connect to your server can perform special administrative actions if they know your admin password (as specified by the –password argument when you ran your server). Clients who become admins with this password can perform the following special functions from within the game:

- Change to a different scenario without voting
- Set the time remaining in the current scenario
- Kick a player off the server
- Move players between teams
- Lock or unlock players' ability to change teams

These admin functions are accessed from within the game through the chat message interface. To become an admin, a client must first send a chat message like this:

```
/admin <password>
```

…where <password> is the admin password for the server he is currently playing on. For example, if you were connected to the example dedicated server above, you would press <ENTER> to send a chat message and then type this:

```
/admin LookingGlass<ENTER>
```

At that point everyone who is connected to the server will see a message on their screen stating that you have become an admin.

Once you are an admin, you use the chat message interface to perform special actions. Possible actions are listed below.

/SCENARIO

Use the /scenario command to immediately switch to a different scenario without voting. You specify the FILENAME of the scenario to switch to. For example, to switch to the Boiling Point scenario, you would type:

```
/scenario BoilingPoint.scenario
```

/TIME

Use the /time command to set the amount of time remaining in the current scenario, specified in seconds. For example, to make the current scenario have ten minutes remaining, type:

```
/time 600
```

/KICK

Use the /kick command to kick a player off the server. For example, to kick the player "Claytonious" off of the server, type:

```
/kick Claytonious
```

/TEAM

To force a player to switch teams, use the /team command. For example, to move Claytonious to the other team, type:

```
/team Claytonious
```

/LOCKTEAMS

Use the /lockteams command to toggle players' ability to change teams on their own. This command doesn't take any arguments, so simply type:

```
/lockteams
```

…to toggle this functionality on or off for all players.

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