



GAME MANUAL



TITANS OF STEEL WARRING SUNS GAME MANUAL

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INSTALLATION

To install Titans of Steel - Warring Suns™ just insert your Titans of Steel - Warring Suns™ CD into your CD-ROM drive. The installation menu will pop up and allow you to install Titans of Steel - Warring Suns™ by clicking the "Install Titans of Steel - Warring Suns" button.

Some Windows users may have problems with AutoPlay. If the AutoPlay screen does not automatically appear after inserting your Titans of Steel - Warring Suns™ CD into your CD-ROM drive, please follow these steps

1. Close all running programs.
2. Insert the Titans of Steel - Warring Suns™ CD into your CD-ROM drive.
3. Double click My Computer on your desktop.
4. Double click the CD ROM icon.
5. Double click on the setup.exe icon to launch the installer menu.
6. Install Titans of Steel - Warring Suns™ by clicking the "Install Titans of Steel - Warring Suns" button in the installation menu.

USER SUPPORT

Matrix Games offers many levels of service for our customers with technical issues and gameplay issues. To get the best help possible please read below about our services and what best fits your issue.

Tech Support

Sometimes everyone needs some help. Our technical support forum is a place to give and get help for your OS or PC issue. This is NOT an official game support conference but a place for general tech support. All questions are welcomed, basic, advanced, software or hardware.

<http://www.matrixgames.com/forums.asp>

Game Support

Our forums are one of the best things about Matrix Games. Every game has its own forum with our designers, developers and the gamers playing the game. If you are having a problem, got a question or just an idea on how to make the game better, post a message there.

<http://www.matrixgames.com/forums.asp>

True Update™

True Update™ will check your current installation of Titans of Steel - Warring Suns™ and check if updates are available for download. Any active internet connection is needed. You can access True Update™ from the Game Menu, from the True Update™ link in the game's root directory or via the True Update™ shortcut in your Windows Start Folder. You can also download updates from our website.

BACKGROUND STORY

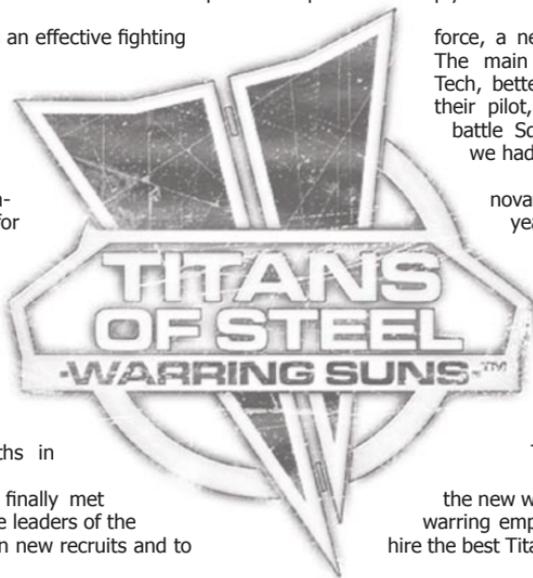
The future is one of the great unknowns, everyone wants to know how it will turn out to be. Many have tried to control the future and still others demand that it take us where we want to go. Our future led us to space, to expand and to seek glory and honor. We paid a pretty cheap price for these things over the last 753 years. In fact we've done nothing but expand and claim new territories for our own... until now!

When war finally broke out, we were not ready for the conflict. The initial skirmishes escalated almost immediately into full-blown wars, across hundreds of light years all at once. Key resource and commerce systems were engulfed by the struggle. Before long, neither we nor the other empires could afford the high losses or the economic burden required to sup-

port a new way of waging war. The main fighting unit became Tech, better known as the Titan-AT. Along with their pilot, these machines were organized into battle Squads and sent out to continue the war we had started.

Thanks to this innovation, the war expanded and raged on for years. Many of the outlying systems could no longer rely on the core systems for trade or communications. Most were forgotten and became known as the Lost Worlds. Often these independent systems set up their own order which included settlements in large arenas by having men and women fight to their deaths in Titan-ATs.

The old world had finally met the new world. News of the arena combats reached the leaders of the warring empires, who built training camps to better train new recruits and to hire the best Titan-AT pilots, also known as Jocks.



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01. THE COMMAND CENTER

Welcome, Commander. This is your Command Center, where you'll be monitoring all actions pertaining to the Squads under your command. You can access any of the modules from this console, by clicking on the respective button in the main screen. The modules at your disposal are:

Headquarters – this module deals with the creation and management of player Squads, including recruiting Jocks and buying Titans.

Factory – this module allows you to create your own Titan designs, modify existing ones, or repair Squad Titans after battle.

Battlefield – this module is where all the action takes place, where your player Squads engage in battle against the AI or other human players.

Exiting any of the modules will lead you straight back to the Command Center.

The Options section allows you to configure a number of parameters, like assigning music themes to modules, setting volume levels, changing keyboard and display configurations, and personalizing some gameplay aspects of the Battle module according to your preferences and experience with the game.

At any time and in any module, you can toggle music on/off with '**F12**', switch between Windowed and Full-screen mode with '**ALT+w**', and exit with '**ALT+x**'. Help on most menus and commands is generally available through '**F1**'.



02. THE HEADQUARTERS



The Headquarters deals with the creation and management of player Squads in Titans of Steel: Warring Suns.

CREATING JOCKS AND BUILDING SQUADS

When you launch the Headquarters, you have to decide which Squad file to load. These files are used during startup of the Battle module, as well as when modifying or repairing your Titans in the Factory module. They are located in the `\data\squads` folder as `squadA.dat` to `squadD.dat`.

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If the Squad already exists, it'll be shown with its name and the average rank of its Jocks; if the Squad is a special Squad (see below), or is out on a mission, it'll be marked so under Status. If it doesn't exist, it will be created and your new Squad will start with \$500,000 initial funds and no Jocks or Titans.



This is the main menu of the Squad management software.

Some basic data about the Squad is displayed in the lower right window: the Squad's name, which will be displayed in red if it is a special Squad; total battles fought, grouped in wins and losses; current Leader, Manager and Mechanic; Budget, the Squad's current funds; Upkeep, the Squad's monthly maintenance cost (which is automatically deducted from payment after each battle); and current/maximum number of Jocks and Titans in the Squad.

The main window lists all the actions you can perform regarding the current Squad.

A) RENAME YOUR SQUAD

To rename your Squad, click on the word 'SQUAD'. The default name is VICIOUS WITCHES.

B) RECRUIT NEW JOCKS VIA THE TRAINING CAMP DATABASE

To search the database, you must enter the search criteria like name, callsign, race, and gender – click on the respective word to change that particular parameter. You are only allowed to recruit a new Jock if you have \$25,000 to pay for his initial training.

Your Jocks can be of one of four different races: Human, Android, Replicant and Cyborg:

Humans don't have any particular strengths or weaknesses. They get a +1 bonus on charisma and instinct.

Replicants are cloned humans, genetically enhanced either in dexterity (Replicant D) or intelligence (Replicant I); therefore, they receive +2 on one of those attributes. They are highly susceptible to radiation.

Cyborgs are sturdy humans enhanced with cybernetic implants. They receive +1 on constitution but suffer a -1 penalty on charisma. Cyborgs are less vulnerable to certain effects caused by damaged life supports or cockpit hits, and rapidly regain consciousness when knocked out.

Androids are intelligent robots that are also humanoid in appearance. They have self-healing abilities and are sexless. They do not benefit from the healing capabilities of life supports, but do benefit from shock absorption. They are very resistant to radiation effects caused by neutron blasters or engine explosions, and will never become unconscious. Androids gain +1 on both reaction and neural sense.

Gender also has some influence on the stats of a Jock. If you choose female Jocks, you are granted an additional +1 bonus on instinct; male Jocks receive +1 on constitution.

After you have entered all required data, click the right arrow at the bottom of the screen. You can navigate through the different screens of the Headquarters module with these two arrow keys. When active, they are shown in red; otherwise, they are grayed out. Help for the actions they perform is shown in the message bar, on top of the screen.

You will now be presented with the result of your search. This is the Jock development screen.



A Jock is defined by 7 attributes and 19 skills, grouped in 3 categories. Each skill can be developed to a limit determined by its primary and secondary attributes. This limit is calculated as follows:

$$\text{Max} = 5 * ((2 * \text{primary attribute} + \text{secondary attribute}) / 3)$$

A skill's primary and secondary attributes are displayed in the message bar when the mouse pointer is over the skill's name.

Attributes range from 5 to 20, thus allowing a maximum skill of 100%.

The attributes are:

Intelligence, Neural Sense, Reaction, Instinct, Dexterity, Constitution and Charisma

Neural Sense needs some explanation. Recon and light Titans are piloted manually by the Jock, so dexterity and reaction are their primary/secondary attributes. Medium, heavy, and assault Titans are controlled with the help of a neural bridge, connecting the Jock with his machine. Each Jock has a personal sensibility towards this device, called neural sense. Therefore, neural sense and dexterity are the primary/secondary attributes for piloting medium, heavy and assault Titans.

Please note that some of the attributes affect the Jock in ways other than maximum skill limit calculation:

Intelligence limits the number of skills a Jock can improve; each point of intelligence allows training in one skill.

Reaction determines initiative in combat actions.

A Jock's maximum health is equal to 9 times his constitution in hit points.

Charisma will directly influence the amount of experience he needs to be promoted; Jocks with charisma above 10 will need less experience, those with charisma below 10 need more. The higher his charisma, the faster he will go up in rank.

Jocks start with 333 development points (DPs) in each of the three categories – pilot, combat, and other – that they can distribute amongst their skills and/or attributes. These points represent their initial training. A Jock can improve his attributes, at a very high cost, by left clicking on the attribute's

name. The better the attribute, the more DPs he has to pay to increase it. Jocks can improve skills by 1 point to their limit by left clicking; pressing SHIFT and left clicking adds 10 points. Reductions in trained skills can be done using the right mouse button, but only during the initial training and may not go below the initial value.

The costs of increasing attributes and skills are displayed in the DP column. Note that the cost for attribute increases is deducted from all three categories!

There are three types of skills: pilot, combat and other.

Pilot	Combat	Other
Recon/Light	Close Combat	Electronic Warfare
Medium/Heavy	Guided Missile	Scanner
Assault	Unguided Missile	Defensive
Jump	Cannon	Damage Control
Scouting	Energy Weapon	Leadership
	Indirect Fire	Business
		Survival
		Medical

Most of the skills are self-explanatory. They are described in detail in Appendix C.

After you have finished distributing the DPs, you can go back to the main screen (by clicking on the left arrow button) and recruit more Jocks up to a maximum of 8 per Squad. This number is also limited by the Squad Leader's leadership skill, and the Squad's budget of course.

A Squad Leader's leadership skill will help him in recruiting better Jocks. A Jock's attributes and skills increased due to the Leader's bonus will be colored blue. The Squad Leader will be the Jock with the best combination of leadership skill and rank. More on that later.

SPECIAL SQUADS

You can create special Squads by recruiting a pseudo Jock with name MONEY and callsign XXX (XXX is a number); this Squad immediately receives this amount of money. You can recruit a pseudo Jock with name SKILL and callsign XXX (again a number); all subsequent Jocks will start with XXX development points in each of the three skill categories instead of 333. A special Squad will show these values in yellow in the lower right window of the main screen. Jocks in a special Squad have a rank given by (DPs / 1000 +1).

These Squads do not receive experience points (XPs) after battles and should only be used for single battles between human players. They cannot be used in missions and campaigns.

C) TRANSFER JOCKS FROM OTHER SQUADS

Select a Jock from a different Squad for transfer. The transfer cost will depend on his rank. If the other Squad is out on a mission (has a running game in the Battle module), it cannot be selected for transfers. The transfer cost is partially paid to the Squad the Jock was drafted from. If you choose to transfer a Jock, both Squad data files are automatically updated and saved; there is no undo for this action. A Jock must be of Green rank or better to be eligible for transfers. Special Squads cannot be involved in Jock transfers.

D) BUY NEW TITANS VIA THE TITAN FACTORY DATABASE



Select the Titan database to buy Titans for your Squad. A Squad's maximum number of Titans depends on its Mechanic's damage control skill, and can go up to a maximum of 16. You can select among the standard designs and those created with the Factory module. The cost is modified by your Squad Manager's business skill.

You can sort Titans in the database by name, weapons range or weapon skills needed. This will make your life easier when buying Titans for a specific role or a specific Jock. Make sure you buy a Titan that matches the Jock's skills, otherwise he will be an easy prey on the battlefield.

A Squad's ability to buy a Titan from a given weight class is limited by the rank of its Leader:

- Rookie: Recon
- Green: Light
- Novice: Medium
- Regular: Heavy
- Veteran: Assault

E) BROWSE JOCK ROSTER

Have a look at your Jocks. Here you can dismiss them or allocate them to a Titan for the next battle.



Your Squad Leader is chosen automatically; he is the one with the highest leadership skill, modified by rank. A good Leader has a chance to recruit better rookies from training camp. Furthermore, the leadership skill directly influences the number of Jocks a Leader can recruit (skill / 10). There are ten ranks a Jock can be promoted to – they are listed in Appendix D. Each promotion depends on gaining enough experience points (XPs) or performing an outstanding battle.

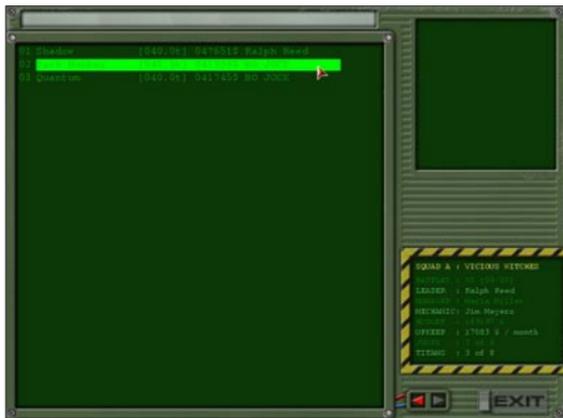
Your Squad Manager is also chosen automatically; he is the one with the highest business skill. If this skill is lower than 70%, the difference is added to the cost when buying and subtracted

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when selling Titans; the highest penalty is 40% for Managers with 30% or less skill in business. Business skill in excess of 70% gives a bonus, i.e., a Jock with a skill of 100% gets a 30% discount.

The Squad's Mechanic, again, is chosen automatically and will be the Jock with the highest damage control skill. If this skill is lower than 70%, the difference is added to the cost when repairing Titans in the Factory module. If it is higher, the difference is subtracted making repairs cheaper.

Your Jocks will receive development points after each battle, the amount depending on the experience earned in each skill category. Experience in battle is earned by mastering all sorts of skill checks, successful piloting skill checks granting movement experience points and so on.



It is good advice to enter the Headquarters after each battle and increase every Jock's skills using these development points. Concentrate on the skills the Jock is most likely to use or need, and leave the rest for developing later.

F) BROWSE TITAN ROSTER

Have a look at your Squad's Titans and sell them if you want.

Damaged Titans are marked with their average damage in red next to their name and should be repaired in the Factory.

G) SAVE SQUAD DATA

Write changes to the Squad data file.

H) DISMISS SQUAD

Dismiss your current Squad and reset the Squad data so you can start a new one from scratch.

I) LOGOUT FROM DATABASE

Leave the Squad management software for the current Squad; if you haven't saved your Squad data during your visit to the Headquarters, you will now have a last chance to do so. You can then load another Squad or exit the Headquarters.

If your Squad is out on a mission (you have started a game with the Battle module and haven't finished it yet), you cannot choose menu points a - f! Instead, you get the option to retrieve your Squad from battle for four times its upkeep, with a \$50,000 minimum. This will result in no Squad updates from the Battle module if you decide to abort the mission.

03. THE FACTORY

The factory allows a wide variety of variations on armor, systems and weapons.



The Factory module is the tool for creating your own Titan designs, modifying the standard ones to match your playing style or your Jocks' skills, and repairing battered Squad Titans after battles. This is supported by an easy to use interface and an extensive help, which is accessible at any time through the 'F1' key.

Squads buy Titans and recruit Jocks in the Headquarters module.

It is possible to store up to 90 Titans in each of the 5 weight classes, for a total of 450 Titans. You can use the export/import tool to share your designs with other players and/or add their designs to your own database. A file with the

<.xch> extension is created in or loaded from the \data\exchange folder.

You can also create a Titan printout by entering the pinboard. This action generates a text file with a Titan's characteristics, which is saved in the respective weight class subfolder in the \data\print folder.

Besides the creation of Titan designs, the Factory is able to load a Squad's Titans. This opens the door to ongoing campaigns, in which Squads are able to repair their damaged Titans or reconstruct them to special, unique designs. The Factory administers the money of the Squad and considers Jock damage control and business skills during repair and refit.

TITAN DESIGN

The general rule in Titan design is to create a design that utilizes your Jock's skills, and do it as efficiently as possible. Don't look only to the Jock's combat skills, but also to the systems skills. Having a set of weapons with similar recycle times is important, but also to have a scanner that allows scan times that match those recycle times or a DCS that allows repairs in the same time frame.

ARMOR

There are four types of armor available, each with its own advantages and disadvantages. Wise selection of armor type is essential, a compromise between heat dissipation and protection.

Protection of the head and engine location should be the best possible. The head holds the cockpit, which, if destroyed, kills the Jock – you can repair or buy a new Titan if it is disabled or destroyed, but you cannot revive a dead Jock. The engine, if destroyed, might explode annihilating both the Jock and the Titan in the process.

The other locations should not be disregarded, nevertheless. Losing a leg turns trying to stand up into a very difficult task, and losing the lower torso makes it impossible. Severe balance problems will also arise if any of the locations where a section of the Titan's gyro is housed (center torso, lower torso and center back torso) gets destroyed. The arms usually hold a significant part of your firepower, including the ability to punch. The lateral torsos, if destroyed, render the respective arm useless.

MILLENNIA

Has the best heat dissipation, but grants little protection and is very heavy. It is generally used in situations where the amount of armor is not the primary concern, like in support Titans or protection of the center back torso in Titans with the largest heat regulators.

TITANIUM

Does not affect heat dissipation capability, and is very compact. It is the wise choice where available slots are the limiting factor, generally the center torso and arms.

VICENIUM

The lightest of all armor types, it is, however, very bulky. It slightly decreases the Titan's base heat dissipation but offers very good protection in return. It is used when the number of free slots is high.

DULLARROY

Though it has the worst heat dissipation capability, it is, however, the best armor type when looking specifically for thickness, making it the best option for the head, which is restricted to one armor slot. It doesn't take too much space or weight, but is expensive.

SYSTEMS

A varied array of electronics and defensive systems is available to increase a Titan's offensive and defensive capabilities. A good balance of these is essential for the survival of a Titan in the battlefield.

An engine, a heat regulator and a life support are mandatory for a design to make it to the assembly lines.

ENGINE

The heart of a Titan, it generates the power needed to maintain some systems and Titan movement, as well as recharging energy weapons. Thick protection in the location it is built in is advisable because, as if it is destroyed the Titan is rendered inoperable.

HEAT REGULATOR

Responsible for venting off heat created by movement and weapons discharge, it is spread over several locations, making it very vulnerable. Adequate heat management is critical for a good performance in battle.

LIFE SUPPORT

Protects the Jock against the deadly effects of heat and radiation, and hostile environments in case the cockpit is breached. It slowly heals wounds when the Jock is hurt.

BATTLE COMPUTER

A state-of-the-art targeting and tracking computer, it is invaluable in a Titan. Not having one means manual targeting, which is slow and inaccurate.

SCANNER

A complex array of sensors provides the Jock with all the information needed about terrain and other Titans in range. Reduced visibility is the price to pay for not having one. When scanning active, provides a source of energy for energy guided missiles to lock on to.

FLARES

Heat generating decoys designed to elude heat guided missiles into exploding harmlessly away from the protected Titan. They do, however, hamper the battle computer's targeting.

SHIELD

The best defense against energy weapons, it converts absorbed damage to heat. It requires power from the engine, and generates heat. It is also effective against burning woods and explosions. It acts as a beacon to energy guided missiles though.

DAMAGE CONTROL SYSTEM

An automated repair system that can also reduce or negate critical damage to internal components, this device increases the survivability of a Titan in the battlefield.

ELECTRONIC COUNTER MEASURES

Electronic warfare at its best, this device jams enemy active scans and hampers the guidance system of heat guided missiles. It helps cloak a Titan's signature making it ideal for ambushes and spotter units. Its high-energy emissions make targeting by energy guided missiles easier.

JUMP PORTS

Invaluable for crossing difficult terrain and gaining access to high ground, they have however to be re-charged every so often and produce a large amount of heat. Handy in hand-to-hand combat, and mandatory in close combat heavy and assault class Titans for closing in fast.

WEAPONS

Weapons should be placed primarily in the arms and the head of a Titan. Weapons in these locations can fire even if the Titan is prone. Weapons mounted in the legs and lower torso cannot fire when the Titan is crouched.

Ammo slots are always placed in the same body part as the weapon they're feeding. It is not a good idea to mount ammo-dependent weapons in the head or the body part where the Titan's engine is located. A critical hit to an ammo slot might have devastating consequences.

CLOSE COMBAT WEAPONS

Very powerful, though they're only usable at point blank range. They preclude, however, the use of punch attacks with the arm they're mounted in.

The chain saw has the edge in sheer damage, the power axe is slightly better in aiming for specific locations, and the vibra claw has a very good chance to cause system damage.

ENERGY WEAPONS

The continuous beam of regular lasers makes up for their poor targeting abilities, making them very effective against fast moving targets. The pulse laser, with its machine gun-like stream of energy darts, is more suited to target immobile or slow moving targets.

Accurate and with good range, the plasma gun is the sniper energy weapon of choice. It is also excellent as a support weapon and at burning down forests.

The most feared weapon of all, the tesla bolt, fires a devastating bolt of energy. It has a rather short range and creates a massive amount of heat, though. It excels at overloading enemy shields.

A true powerhouse, the cold light gun combines high firepower with low efficiency against shields. Accuracy and low heat make it a formidable weapon.

The black ray gun literally vaporizes a section of the target's armor, creating instability and forcing the opposing Jock to compensate or fall. Nasty at point blank range.

Sometimes referred to as the "Jock killer", the neutron blaster affects the Jock rather than the Titan, making him unconscious or even killing him. Deadly in the hands of a veteran Jock.

A multi-use weapon, the electromagnetic pulser can shut off power-dependent systems, stop movement or even shutdown the engine. The nightmare of Titans packed with electronics.

The flame thrower fires a stream of overheated plasma at very short range. It melts away armor and overheats the target. Very dangerous once in range.

MISSILE RACKS

Guided missiles are very potent small cruise missiles with very sophisticated guidance systems, seeking

heat or energy emissions.

Long and short-range missile racks unleash a large amount of unguided rockets that pepper the entire frame of a target, sanding off armor slowly but steadily.

Napalm missiles are the nightmare of any Jock; they ignite their unstable warheads on impact and cause a massive spike on the heat of the target.

CANNONS

The machine gun fires a rapid stream of armor piercing shells, which enables it to efficiently track a fast moving target. It is deadly at point blank range.

Auto cannons are direct fire weapons with different calibers that fire armor piercing rounds. Magazines have smoke rounds available, which allow the setting of smoke screens.

The gauss cannon accelerates a non-exploding projectile to supersonic speed, which makes it a very accurate weapon. The damage is caused by the impact and not detonation.

Meson guns penetrate armor and may cause system damage on the target. Their use is something of a gamble, a very rewarding one if successful.

Cannons in Titans of Steel: Warring Suns are direct-firing weapons. Only missiles can be fired indirectly (with no direct line of sight) at the target.

04. THE BATTLEFIELD

If this is your first time playing the game, it is advisable that you start by playing the Tutorial. It will teach you the basics about Titan control, the interface, and the game in general. Once you're comfortable with the game, there are 3 game types you can choose from:

Solitary Game: this is the mode you should use to play the RPG/campaign game style. It allows you to load and play one of your custom Squads (those created in the Headquarters module) against AI controlled Teams.

Hotseat Game: this mode allows you to play with or against up to 3 other human players and their Squads, custom or randomly created by the Battle module, in a single computer.

Network Game: and this is what you want to choose to play over the internet or in a LAN, against up to 3 other human players and their Squads, custom or randomly created by the Battle module.

In all 3 modes, setting the game parameters is done in a similar way. If playing a netgame, the host gets to choose the game parameters, after all the other players (clients) have joined the game – check Appendix B for more details on netgames.

The next selection is between starting a new game and loading a saved game. The load selections are only valid if you have already played a game. The first slot is the autosave – the Battle module saves the game automatically every 10 game seconds, starting at second 0.

Select 'Start New Game' to begin a fresh battle.

First, you have to allocate Titans for Team 1. If you have already created a Squad in the Headquarters module, you can select it now using the 'Load Team from File' option. You can then select Jocks/Titans individually by clicking on them, or select the whole Squad by clicking on 'Select All'. If the Squad's name is displayed in red, it is a special Squad. If no custom Squads are available or you just wish to play a

quick battle, you can select 'Random Generated Team'; the computer will pick a random Team for you.

You now have to select the quality level of the random Team. There are 10 levels from inferior to perfect, and their corresponding names in the Jock's rank system. Inferior Jocks' skill values are about 50%; perfect Jocks' will go as high as 90% or more.

Now you have to do the same selection for Team 2. After choosing Team 2, you can continue setting game parameters or add Team 3 and Team 4.

Note that Teams 1 and 3 (side A) are automatically allied against Teams 2 and 4 (side B). You can split one of your Squads into Teams 1&3 or 2&4, which allows you to face up to 16 opponents.

Whatever your choice, you can have Teams being controlled by a player (default) or by the computer. Click on 'Played by Human' and it will change to 'Played by Computer' (you can always toggle the AI on/off during the game either with '**A**' for the active Titan or with the '**F3**' window for any Titan in the Team or the entire Team).

Titans from custom Squads marked '[DMG]' were not repaired after the last battle. Exit the Battle module and go to the Factory and repair them before going into battle again. If you have a Squad that is still on a mission (has not finished a battle and updated the file), its Jocks will be marked as being '[MIA]' (missing in action) and cannot be selected until the battle is finished or the Team is retrieved from within the Headquarters module. Jocks marked as '[KIA]' (killed in action) cannot participate in battles.

If all Teams are 'Random Generated Team', you need to select the Team size. The size is calculated in tons, not number of Titans. The maximum size for a Team is 1600t; that is, 8 assault Titans of the biggest size (200t). If you want to customize the Teams' parameters, go to 'Set Team Size', which will allow you to set the Teams' tonnage as well as the maximum number of Titans in each Team. You can choose a one-on-one battle with the 'Duel' option; you will then be able to choose to which weight class all Titans belong, or let the computer decide with the 'Random Weight Class' option.

Next, you have to select the map size. Small maps are for fast encounters, whereas huge maps allow a lot of maneuvering but will result in much longer games. You can choose 'Set Map Options' to change the type of general terrain of the battlefield where you'll be fighting (percentage of woods and hills, chance for the existence of a river); default values will be assumed if you don't. The 'Battlefield' setting should read "Terran", do not change this for now – this is the standard battlefield type in Titans of Steel. When you feel comfortable with the game, you can try the others. Clicking on 'Battlefield' will scroll you through all available battlefield types, "Terran" being the default one. "Savannah", "Polar", "Core" and "BioChem" are special battlefields, their names being pretty much self-explanatory; Random tells the Battle module to randomly choose one for you. You can also toggle fog of war on/off here, by clicking on the textfield – more on this subject later.

If you selected solitary mode, 'Load Mission' will let you play single maps with specific goals. You can also choose 'Load Campaign' to play full campaigns, each with several maps linked to each other by a storyline; winning a map will grant you access to the next. In hotseat mode, only multiplayer maps are accessible; these are maps specifically created for games involving 2 to 4 human players, with custom or random Teams.

Finally, 'Set Balance' can be used to change the tonnage balance between sides A and B, if at least one of the Teams is set to 'Random Generated Team'. You can set one side to be from half to double the other side's tonnage.

When you are satisfied with the selections you made, press 'Start Game'. If all went well so far, you are presented with the Battle Game Screen.

BATTLE GAME SCREEN



This is the main screen. The map takes up about 4/5 of the screen. It is scrolable with the arrow cursor keys, by clicking on the borders of the screen or by holding down the mouse's right button and dragging the map.

The map is internally divided into hexes, each representing a special terrain type (plain, hills, depression...) and different types of vegetation – you can toggle overlay hex borders, for reference, with key ‘;’. These terrain types directly affect movement (speed, skill checks) and combat. If more than one Titan is in a hex, the total number is displayed in the upper left hex corner.

The Titan with the red/black hex border is the active Titan. It has locked one of the Titans it is facing as indicated by the black/white hex border.

One hex represents 333m in diameter. Up to 9 Titans can populate one hex at a time. A jumping Titan is either 30m or 60m above ground (jump levels 1 or 2), regardless of the vegetation height. This means that a Titan jumping over 0m plain on level 2 has an altitude of 60m whereas a Titan jumping over a 53m hill with 21m forest at jump level 1 has an altitude of 83m.



You can left click on a hex to get some information about terrain and Titans, if present at that hex. The popup window can be moved with the left mouse button or dragged with the right mouse button, and closed by left clicking in the bordered square that displays the hex or Titan.



If there are Titans in the hex, it is possible to get some info by clicking on the popup window's left arrows and to cycle back with the right arrows. The Titan will be displayed with a black/white hex border if locked with the battle computer and a green square border if in range of at least one of your weapons;

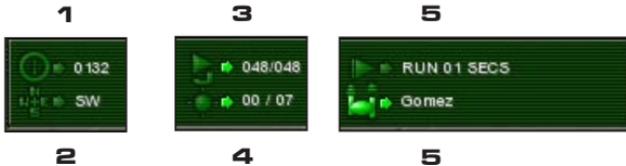
the square border would be red otherwise. If the Titan's name is displayed in red, it is disabled and no longer a threat.

A yellow ‘x’ in the upper left corner of the hex display means the terrain is not in direct line of sight, and cannot be locked. A white ‘x’ means the Titan is not in direct line of fire and cannot be fired at by direct-fire weapons – it can only be fired at with ballistic firing weapons (missiles) at a reduced ‘to hit’ probability. A Jock's indirect fire skill will help reduce the penalty for doing so.

An ‘L’ is displayed if a Titan can only be seen due to a scanner link. If the scanner is switched off or the distance exceeds its optimum range, the amount of available data on terrain and Titans is reduced.



The screen border features some interesting areas. Most obvious are the buttons on the bottom border that are for selecting your actions and are described in detail later on. Put the mouse cursor over an area and a small help text will be displayed on the help text area. On the bottom right is an area that shows the following:



1. Game time in seconds
2. Heading of active Titan or facing if prone ('UP' and 'DOWN'); additionally, 'C' if crouched or jump level when jumping ('1' or '2')
3. Remaining/total jump time; the small arrow is colored red if the Titan is unable to jump, green if its jump ports are fully loaded, yellow when recycling and blue if it is actually jumping
4. The remaining time of protection as well as charges left; the small arrow is red when unable to launch flares, green when ready and blue when flares are launched and active.
5. The active Jock and his action modes ('move', 'attack' or 'wait' in netgames); the active mode is displayed in green. The Jock's name is colored according to his health status:

White	Ok
Yellow	Dizzy
Light red	Bleeding
Red	Unconscious

The remaining time to finish the non-active mode is displayed also.

On the lower right corner are graphical displays for the Titan's heat level and the Jock's health status.



The three health bubbles are filled and will empty in proportion to the damage the Jock suffers. Their color is corresponding to the negative skill modifiers the Jock receives if wounded.



Above that, you can see a small Titan icon, which is surrounded by a yellow sphere if the shield is on and active, a red sphere if the shield is depleted and recharging, and no sphere if there is no shield enabled. Enabled scanner and E.C.M. are displayed in green above this small Titan; active jump mode is displayed below in green as well.



On the left border are 5 big LEDs, which display the threat level for the active Titan. If a Titan is locked by an enemy, the threat level is increased by one. This information is dependent on the ability of the Titan to detect threats (Jock's electronic warfare skill and E.C.M. system) and is not always accurate. Each red LED stands for one threat level.

Below the threat level indicator, on the left border, wind direction and speed are displayed, which will influence spreading fires and smoke screens. The various battlefield types have different average wind speeds, and direction change rates.

On the right border are double rows of small LEDs. These show the status of all weapon and miscellaneous systems for the active Titan. The top fifteen LEDs are reserved for the weapon systems. If there are fewer than 15 weapons installed, the remaining LEDs remain blue.

The left LED shows the weapon's damage level:

Green	Ok
Yellow	Damaged
Red	Destroyed

The right LED shows the weapon's readiness:

Green	Ready
Magenta	Reloading
Red	Out of ammo



A gauss cannon that is fully reloaded but has no power to fire will still show magenta.

The next four LEDs in the middle display the status of punch/kick. If the Titan has a close combat weapon in any of the arms, the respective LED will be displayed blue.

The ten lower LEDs display the status of the internal systems. Here, the second LED is green if the system is on and can be toggled.

The last LED displays the status of the heat regulating system. It shows the amount of heat reduced and produced in the last game second. Check this often to see whether your Titan is producing too much heat, which may result in a shutdown of all systems.

You can place the mouse cursor over the LEDs to get additional information, which pops up in a small window. For weapons, available ammunition is also displayed [A: XX] for ammo-dependent weapons, as well as the time left to recycle [R: XX]. The component's name is displayed in a color corresponding to its damage level:

Light green	Ok
Yellow	Light damage
Light red	Medium damage
Red	Heavy damage
Black	Destroyed

Above these LEDs, a small window displays the remaining time for the next weapon to be recycled, and the time for all weapons installed in the Titan to be recycled. Check these displays between weapons discharges to see if an active scan or a repair are possible without severely decreasing your firing rate.



On the left side of the lower border is a small scanner circle, which displays the locked target and its status. If the target is actively scanned, the background will turn green (good) or light green (better). If a location on the target is displayed in yellow, it has less than 10 armor points left. If it is red, it has no external armor left. If it is black, the location is ripped off or disabled.

Clicking on this display brings up a window with the most accurate scanner reading the active Titan has on the target. Clicking again clears the window.



To the left is a square that displays the same information for the active Titan. Clicking on this display brings up the armor window for the active Titan. Clicking again shows the weapons window, and clicking a third time clears the window.



THE GUTS OF COMBAT

Press 'F1' or click on the '?' button to get a help screen with the key allocation. These are also summarized in Appendix A.

Combat in Titans of Steel: Warring Suns is affected by the following factors:

RANGE

To fire a weapon at a locked target, that target must be within the weapon's maximum firing range. There is a modifier to your 'to hit' chance with that weapon, based on the distance to the target – see Skill Checks for a detailed list of modifiers. The farther the target is, the higher that penalty. If the target is at the weapon's maximum range, that penalty is 45%. If it is closer, the penalty is reduced accordingly on a linear scale across the weapon's effective range (from maximum to minimum range of effectiveness). Thus, a medium laser (range 9) has no penalty at point blank range, -5% at 1 hex, -10% at 2 hexes, up to -45% at 9 hexes; a flame thrower (range 1), on the other hand, has no penalty at point blank range, and -45% at 1 hex.

Some weapons have a minimum range of effectiveness, usually long-range weapons used mainly in support actions. This means that targets inside their minimum range will be much harder to hit; the below-minimum range penalty is fixed at -20% per hex. This makes rushing support Titans an extremely

effective tactic in combat.

Missile racks can be fired through a scanner link to get a better range 'to hit' modifier if the linked Team mate (the spotter) is closer to the target than the firing Titan. Both range modifiers are calculated and the best one is taken. The spotter's modifier has some special rules:

1. If it is inside the missiles' minimum range, the modifier is a fixed -10%
2. The modifier for range can't get better than -10%

Therefore, the modifier at optimum range (the rack's minimum range) is -10% and will remain so even if the spotter gets closer.

When playing a split Squad, you can link your scanner to a Squad mate that is in a different Team.

HEAT

Overheating is the one thing a Jock fears the most (besides a critical hit to the cockpit). Heat is generated by weapons as well as movement and some miscellaneous effects like shield hits or explosions. Some weapons, napalm missiles and the flame thrower, will cause heat on the target – however, their ammo explodes more violently when hit, causing double damage.

At 150 degrees Celsius a Titan is automatically shut down, leaving it helpless on the battlefield. At 250 degrees Celsius a Titan will explode if the engine is not disabled. Heat is divided into categories which are possible triggers for 'wait on heat' actions and which affect skill checks. The hotter the Titan, the worse the penalties, so you had better monitor your heat closely.



The levels are from cooler to hotter:

Heat level	Temperature range	Effect
Green	0.0 - 49.9 C	None
Blue	50.0 - 74.9 C	Small skill penalty
Yellow	75.0 - 99.9 C	Small skill penalty
Red	100.0 - 124.9 C	Medium skill penalty Possible ammo explosion
White	125.0 - 149.9 C	Big skill penalty Possible ammo explosion
Shutdown	150.0+ C	All systems down!
Explosion	250.0+ C	Titan explosion!!

Heat is reduced by a regulating system that is a closed circuit. This means that a heavy damage critical hit to any one component heavily damages the whole system! Also keep in mind that engines and plasma guns with critical damage will produce heat, the heavier the damage the higher the heat.

POWER

The engine generates power (in the form of power units) that is used to maintain shields and scanners, provide movement and recharge energy weapons, close combat weapons and jump ports. Devices are powered up by the engine in the following order:

Device	Requirement
Heat Regulator	1 PU
Move Actuators	1-3 PU, depending on move mode
Shield	1-4 PU, depending on level set
Scanner	1 PU
E.C.M.	1 PU
Weapons	See below
Punch/Kick	1 PU for each arm/leg
Jump Ports	1 PU for recharging

Energy weapons (except flame throwers, which have ammo) need power units to recharge completely (example: 33 PUs for a plasma gun or 9 PUs for a medium laser). There is a restriction on how many power units per second an energy weapon can use for recharge:

more than 15 PU needed - recharge max 3 PU per second
 more than 6 PU needed - recharge max 2 PU per second
 more than 0 PU needed - recharge max 1 PU per second

A plasma gun will recycle in 16 seconds, recharging 3,3,3,3,3,3,2,2,2,2,2,1,1,1,1,1 PUs.

A medium laser will recycle in 7 seconds, recharging 2,2,1,1,1,1,1 PUs.

Close combat weapons recharge at a constant rate of 1 PU per second.

A gauss cannon will need one power unit to be fired. This power unit is deducted from the pool of available power before energy weapons and close combat weapons are recharged.

Charges (including jump charges) and kicks are only possible if both legs are fully recharged.

A damaged engine will produce less power, the heavier the damage the lower the power output. If the engine cannot generate enough power to recharge all weapons, it will give priority to those that will be ready first – damaged weapons will be recharged last. If you are really low on power, it is possible that some systems will be automatically put offline to supply those with a higher priority.

HEALTH

A Jock starts a battle at full health. The amount can be read in one of the status screen pages.

During battle, there can be some events that will hurt him, resulting in loss of hit points. The more the Jock is wounded, the worse the modifiers for his skill checks. By pointing the mouse to the health bubbles, you can quickly check the Jock's current health and skill check modifier.

The life support system built into a Titan can heal a Jock at a constant rate. The success depends on the Jock's medical skill, while the amount depends on the quality of the life support system. For the Jock to benefit from the healing capabilities of the life support system he must have at least one of the action modes on wait; having both action modes on wait will make concentrating on healing much easier. Android Jocks will not be healed by the life support but rather heal at a constant rate of 2 hit points every 18 seconds; they will, however, benefit from the system's protection from radiation and concussion damage.

Each time a Jock is hurt, there is a chance that he will be temporarily affected (he can get dizzy, stunned, bleeding or unconscious) or even permanently affected (loss of Dexterity, Reaction or Constitution) – the higher the damage level he suffers, the higher the chance for that happening.

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Temporary effects affect the Jock's skill checks depending on the amount of hit points lost, except unconsciousness which causes the Jock to be unavailable for action (and therefore very vulnerable) for some time. Androids never get unconscious and Cyborgs recover very quickly. Bleeding is also very dangerous, as the Jock loses one hit point every other game second – this rate is doubled if bleeding fast.

FOG OF WAR

To damage a Titan, you must first lock it with your battle computer. To lock it, you must have it in direct sight or scanner range. The game makes great use of visibility and computes the visibility for all Titans to recreate fog of war. Hexes that cannot be scanned are displayed in various shades of gray. As the Jock's memory of these hexes fades, they become shadowed more and more – the Jock's intelligence attribute determines how fast these hexes fade. Memory fading is also faster if the Jock is dizzy or unconscious.



There are a total of 125 levels of display for any given hex:

Titans which once were scanned but left scanner range are displayed as shrinking dots (red for enemies, yellow for allies) as time goes by. You can check the line of sight of any hex relative to the active Titan by pressing SHIFT and left clicking on that hex; the line of sight path will be displayed on the map. Use this path to determine which terrain features are blocking

your line of sight, or to set smoke screens in one of the path hexes to block direct firing from your opponent.

HIDING

Some terrain features can conceal a Titan from its enemies, making it undetectable and impossible to shoot at. These are woods/cover, fire, smoke and steam. A Titan in one of these hexes can only be detected a short distance away, but at the cost of it too having a reduced visibility – though not as much as its enemies. They are perfect for creating ambushes. Clicking on a hex will display its visibility value (HD 0.4 = 60% sight reduction). If the distance is displayed in red, you are too far away to detect Titans in that hex under normal circumstances. This value is modified by the height difference of the observed hex compared to the one the Titan is on. Titan's height as well as active E.C.M., deployed flares, active shield, firing weapons, scanning active, dodging and jumping up will modify the HD value; this Titan-related multiplier is displayed in its first info page. The Jock's scouting skill will also improve hiding.

SKILL CHECKS

Whenever you have to pass a skill check manually, press the right mouse button or the **'RET'** key. There are several modifiers that are calculated for a final chance of success.

Attack skill checks

1. Jock's combat skill with the respective weapon type
2. Weapon's base modifier
3. Jock status modifier
4. Weapon damage modifier
5. Actuator damage modifier
6. Battle computer's 'to hit' bonus, modified by damage, and flare penalty if deployed
7. Titan's heat modifier
8. Titan's and target's move modifiers
9. Titan's offensive hex modifier and target's defensive hex modifier

10. Target's size and speed modifiers
11. Range modifier
12. Indirect fire modifier if applicable
13. Target's defensive modifiers for shield and E.C.M. if applicable

Move skill checks

1. Jock's pilot skill with the respective Titan class
2. Actuator and gyro damage modifiers
3. Jock status modifier
4. Handling modifier of chassis
5. Terrain modifier
6. Stance modifier (prone, crouched, standing)
7. Movement mode modifier
8. Hit modifier (when hit by weapon; black ray gun gives added penalty)

DAMAGE

If damage occurs, the game engine checks which body part is affected, taking into account line of fire and other aspects. Damage ranges from 1 to 25 per hit and is normally subtracted from the armor of the respective body part. If the armor is reduced to zero, the damage is applied to the internal structure and critical equipment damage is likely to happen. Equipment can receive light, medium, or heavy damage, or it can be destroyed. All weapons causing more than 4 points of damage can cause interior equipment damage even if the armor is still intact.

Meson guns have an increased chance for this effect. Damage control systems (DCS) help against this though; they can automatically reduce or even negate interior equipment damage. Shields, if online, will also help by lowering meson guns' chance for critical hits.

If all limb actuators in a given location are destroyed, weapons mounted in that location are disabled. When the internal structure is gone, the body part is either disabled (torsos) or ripped off (arms, legs, head); systems there, and external armor, if any, are destroyed.

When a Titan explodes, everything in a 2-hex radius is affected; wood hexes may ignite and Jocks within 1 hex may take radiation damage. An active shield will reduce the amount of damage, heat and radiation taken from the blast – the higher the shield setting, the lower the effects. Smoke is created in the hex the Titan exploded in. The Jock, if still inside the cockpit, will be killed. If a Titan takes 60 or more points of damage from a nearby engine explosion, it can be blown out of its hex (as long as that won't make it leave the battlefield).

WINNING

The main goal of combat is to wreak havoc on your opponents before they do the same to you.

A Titan is considered destroyed if either its engine or its cockpit is destroyed or if it is shut down and its heat regulator is destroyed. It is considered disabled (but not destroyed) if it has lost both one arm (or the torso it is connected to) and the ability to make a decent stand skill check, which can be due either to a destroyed gyro or a ripped off leg.

If all Titans in a Team are either destroyed or disabled, the battle is lost. There can be situations where a Titan is considered ready but is counted as destroyed/disabled for winning conditions purposes. That's the case when the Jock ejects or dies from accumulated damage (from concussion, neutron blaster hits or radiation exposure from engine explosions). Sometimes it is enough to cripple an opponent (destroy the gyro, rip off a leg) and concentrate on the next one. The crippled Titan is not destroyed or disabled, but it does not pose as much a threat as a fully functional one. You can target it again later and put it out of commission then.

05. ACTION MODES

You start the game either as an active or inactive player. The active player has control over either move or attack mode of one Titan. The game internally manages a queue in which each Titan is listed with its move and attack modes and the time in which the respective action will be finished. When no Titan's action is finished during a given second (starting at second 0), time is incremented till the next Titan in the queue is ready and becomes the active Titan. A combination of the Jocks' ranks and reaction and instinct attributes will decide who is first if two or more Titans are ready in the same second. Inactive players either have to wait and twiddle thumbs (hotseat game), or they can gather info (netgame only). In wait mode (netgames), the inactive player can switch between his Titans with keys '1'-'8' or by right clicking the respective hex on the map. If he is under attack, he can also switch to the Titan under attack with the 'spacebar'.

The active Titan is displayed on the map with a red/black hex boundary together with a green arrow showing its heading, and a blue arrow for its torso direction if swivelled.

The active player can perform certain actions in move or attack mode. Think of these two modes as the only things a Jock can manage simultaneously during combat. Buttons on the lower border of the screen relate to these actions. If the mouse is static for a second a small popup help text will be displayed along with the keyboard shortcut for that action. If that action is valid at the moment, the time for executing it will be displayed.



ATTACK MODE



MOVE MODE

ATTACK MODE

1. LOCK TARGET

Shortcut key: t

Pressing this button allows the Jock to lock a target into the battle computer so he can fire his weapons at it. This button will be green if no target is locked and there are any enemy Titans within the field of vision of the Titan, it will be yellow if there are no Titans in sight or a Titan is locked and there are other Titans around, and it will be blue if a Titan is locked and there are no other Titans in sight.

Your battle computer needs to lock onto a target before you can fire at it, or charge (run into the same hex and ram) an opponent. The Jock can select any visible enemy Titan or hex. The time to complete this action is affected by the quality of the battle computer and the Jock's electronic warfare skill.

Locking a target is done by either:



A) LEFT CLICKING ON A HEX ON THE MAP

A small popup window will appear, displaying any enemy Titans in the hex. If there are no enemies present, the hex info will appear.

To lock a Titan, select it by cycling through all available Titans with the small arrows at the left and right border of the popup window. Close the window when the Titan of your choice is displayed. To close, click in the square area in the popup window. The border is green if the Titan is in range of any of your weapons, otherwise the border will be red.

To lock a hex, scroll with the arrows until the hex information with 'LOCK HEX' is displayed, and close the box. You can only lock hexes to which you have a direct line of sight.



By selecting a hex, a Jock can fire on dense woods with missile racks to reduce them to light woods or at light woods to reduce them to scrub. It is also possible to set fire to woods or create steam in water hexes with some energy weapons – burning hexes will produce heat and obscure vision, steam will obscure vision. Auto cannons allow you to set a smoke screen on any locked hex (except water and swamp), which will obscure vision – higher caliber Auto cannons will create longer smoke screens. Wind direction will influence the spreading of forest fires, and wind speed modifies the duration of smoke and steam screens.

Locked Titans are displayed with a white/black hex boundary on the map, locked hexes with a red hex boundary.

B) RIGHT CLICKING ON A HEX ON THE MAP

If no enemy Titan is present on the hex, you will automatically select to lock the hex. If only one enemy Titan is in the selected hex, you will automatically select the Titan. If there's more than one Titan in the hex, a popup window as in a) will appear and you have to choose as described above. Locked Titans are displayed with a white/black hex boundary on the map, locked hexes with a red hex boundary.

2. FIRE WEAPON

Shortcut key: a

Pressing this button allows the Jock to select weapons to fire at a locked target or hex. This button will be yellow if the Titan is moving, meaning you'll fire your weapons with a 'to hit' penalty – waiting for the current move to end or breaking move will give you better 'to hit' chances. It will be red if no target is locked into the battle computer, and it will be blue if a target is locked but no weapon can be fired at it. This action may be delayed if the Jock fails a reaction attribute check.

If the target Titan is not valid (not in arc of fire or out of range), the action is wasted. If the target Titan is valid, the Jock can select from his weapons systems. These are displayed in a popup window. The window can be closed with a click on the 'BACK' field or on the green bubble button and be moved with drag & drop (right mouse button).



The target's name is displayed in red if already disabled, or in yellow if crippled.

The scan status is indicated by the color of the word 'LOCKED:' – light green for a critical scan, yellow for a normal scan, or white for no successful scan on the target. Weapons valid for firing are displayed in green, along with their remaining ammo and 'to hit' probability; weapons that are out of range are displayed in red, reloading weapons are displayed in white, and weapons for which the target is not in arc of fire are displayed yellow; disabled, destroyed or out of ammo weapons are displayed in black.



If a Titan is in the same hex as its target and it remains stationary during the attack, it can use its close combat weapons, and its arms and legs for punches and kicks; an arm with a close combat weapon cannot punch though. A prone Titan can only fire weapons mounted in its arms and head.

If the 'to hit' chance for a cannon, energy weapon, or close combat weapon exceeds 85% and a successful active scan was performed on the target, the small crosshairs at the top left border of the popup window will turn green. The Jock is now able to call shots with the applicable weapon. Clicking on the green crosshairs with the left button opens a window, which allows you to select a specific body part on your target for which to aim. This allows you to fire at that location with the valid weapons but at a much reduced 'to hit' probability. Each location has a

specific penalty (displayed below the location diagram), and there is an additional 3%/hex penalty for cannons and 2%/hex for energy weapons for distance to the target. Close combat weapons receive a 15% penalty when making called shots, cannons a 5% penalty.

Above, you see a Titan that has some red locations. These locations have their external armor reduced to zero and obtaining a hit there will be more efficient – hitting the internal structure yields a high chance to cause critical hits. When a location is gray, it has already been destroyed. Called shots to those locations would be wasted. Body parts with fewer than 10 points of external armor remaining will be shown yellow if you have a critical success scan on the target.

3. TOGGLE SHIELD

Shortcut key: p

This button toggles the shield on/off. If blue, the shield is currently online, if green it is offline and if red no shield was installed in the Titan or it was destroyed during battle.

When toggling the shield on, you'll be able to set its level of protection to what serves you best at the time (because of heat or power unit restrictions). For example, when using a shield 6, you can set it to levels 1 through 6; a shield 1, only level 1.

Shields give some protection against energy weapons. If hit, they negate damage but feedback that damage as heat to the protected Titan. Shields can overload and shut down for some time. An overloaded shield will not recharge if it is turned off.

Shields also protect against heat generated by burning forests, flame throwers and napalm missiles, as well as against damage, heat and radiation from exploding Titans. They have a slight chance of preventing critical hits from mesons guns. Shields produce heat and consume power when on.

4. TOGGLE E.C.M.

Shortcut key: v

This button toggles the electronic counter measures device on/off. If blue, the ECM is currently online, if green it is offline and if red no ECM device was installed in the Titan or it was destroyed during battle. An ECM gives some protection against heat guided missiles and hampers active scans attempted on the protected Titan. ECMs consume one power unit when on.

5. TOGGLE SCANNER

Shortcut key: c

This button toggles the passive scanner on/off. If blue, the scanner is currently online, if green it is offline and if red no scanner was installed in the Titan or it was destroyed during battle. Scanners allow the gathering of information on the locked enemy Titan. When turned off or destroyed, the Titan's field of vision is reduced to 15 hexes, and the scan range circle (see below) will turn red. Scanners use one power unit when on.

6. SCAN ACTIVE

Shortcut key: s

This button will be red if no enemy Titan is locked into the battle computer, the scanner is offline or the scanner was destroyed during battle. Depending on the quality of the scanner and the Jock's scanner skill, it will take some time to actively scan a locked target. It is possible to get information about the target's armor and general status. More detailed information about internal systems and weapons can sometimes also be obtained. Three pages of information can be read through by clicking the arrows at the lower border of the popup window. Accuracy of that information depends on the Jock's scanner skill, the quality of the scanner and the distance to the target. Scanners have a maximum and an optimum range, which can be displayed with the "*" (asterisk) key. Active scans beyond the optimum range (light green circle) are heavily penalized. Scan success is displayed by the color of the small scan icon at the lower right of the popup window:

Red	Failed scan, very inaccurate or no data
Yellow	Normal success
Green	Critical success, very accurate data

Active scan with critical success:



Chances the next scan will be successful are also displayed, below the target's picture, in the form normal(yellow)/critical(green). A successful scan increases the chances and speed for future scans. If the scan was successful, the battle computer will give small offensive modifiers against that specific target: +4% for a yellow scan, +8% for a green. Critical success also gives information on the enemy's heat status (small heat icon at the lower right) and the Jock's race. If the scanned Titan is shutdown, a successful scan will display 'SHUTDOWN' over the heat icon. A scan history can be accessed by the 'F6' key or by clicking on the small scan icon when a previously scanned foe is displayed in the hex info window.

7. LINK SCANNER

Shortcut key: I

This button will be green if a Squad member is in line of sight and no scanner link is currently active, it will be yellow if the Titan is linked to a Squad member and other Squad members are in line of sight, and it will be red if no Squad members are in line of sight or the scanner is offline or has been destroyed in battle. You can link a Titan's scanner to a Squad member to see what he can see. The Squad member must be in line of sight and ready to be linked to. Each Titan can only handle a limited number of links; this number is displayed in the status window. Both must have their scanners online. The link can be lost by chance or when special events happen – link stability is shown in the link popup window. A link allows indirect missile fire on otherwise unseen targets, as well as missile fire at a better range (counted from link to target rather than from launcher to target). You can actively scan targets that you can only detect due to a scanner link, but scan time is increased; scan time and success will also depend on the quality of the link partner's scanner.

8. LAUNCH FLARE

Shortcut key: f

This button will be yellow if there are already active flares for the Titan in the current hex; it will be red if there are no charges remaining, if no flare launcher was installed in the Titan or if it has been destroyed. This button ejects small heat-generating projectiles that slowly drift to the ground. These protect nicely against heat guided missiles but slightly hamper the battle computer's targeting system (5% penalty) and create some heat (5C). Flares only protect one Titan and become obsolete when it moves to a different hex or jumps up.

9. REPAIR SYSTEM

Shortcut key: d

This button will be red if the Titan has no DCS device or it has been destroyed during battle, or if there are no damaged systems to repair. Press this button if you have a damage control system and any damage level between light and heavy on any system or actuators/gyro. The first page will show damaged

systems and their repair time, the second will show damaged actuators/gyro and their repair time. It will take time depending on the Jock's damage control skill and the quality of the DCS. There is no guarantee of success. The chance of success is affected by the Jock's damage control skill, the quality of the DCS and the damage level of the system. A successful repair does not repair a system completely; it simply reduces the system's damage level by one.

10. SWIVEL LEFT

Shortcut key: g

Rotates the torso one hexside to the left. This will change your arc of fire for all weapons except those mounted in the legs and lower torso. Movement is still performed in the old direction. A Titan's torso can only deviate one hexside from its center position, so it is either left, right, or center positioned.

11. SWIVEL RIGHT

Shortcut key: h

See above, rotates torso to the right.

12. EJECT JOCK

Shortcut key: e

Ejects your Jock from his Titan. He might get hurt during this action, but he can't be killed afterwards. Use this as a last chance to save a valuable Jock from a crippled Titan. Note that ejecting into burning forests or hexes that are crowded with enemy Titans can be pretty dangerous. Ejecting is not possible if lying faceup in water, or if jumping. This action will take some time, depending on the Jock's survival skill. If using a Jock from a custom Squad, you will also have the option to Blow-up his Titan. Under the right circumstances, the Jock manages to shut off the heat regulator and set the engine to overdrive mode, causing it to self-destruct when temperature reaches 250C. Ejecting takes longer and is riskier, and the procedure may fail – only very experienced Jocks can accomplish this task.

13. WAIT ON

Shortcut key: w

This offers a selection of triggers which will set the attack mode to be triggered again only under special circumstances. These are:

On call:	Wait until attack is called manually from move mode or after 1000 secs.
On time:	Set a time between 1 and 999 seconds.
On units:	Wait on movement of a specific Titan or on detection of new Titans. <ul style="list-style-type: none">• Select friend, new foe, or locked foe as trigger.
On heat:	Wait until your Titan has reduced its heat to a certain heat level.
On recycle:	Wait until certain weapons or other devices are ready for operation. <ul style="list-style-type: none">• Press 'x' in the attack menu to wait for the next available weapon.
[On repair :	Wait until repair in progress is finished.]
[On attack :	Wait until attack mode is valid.]
On move :	Wait until move mode is valid.

Triggers in brackets [] are disabled in attack mode. They are only valid for Wait on in move mode.

Make good use of these triggers to speed up game play (don't check your weapon reload status every second if you can use wait on recycle) and improve your strategy (use wait on unit [new foe] to be ready as soon as a new enemy Titan is detected).

14. CALL MOVE

Shortcut key: m

Calls move mode. This cancels the current move mode and allows you to set a new mode.

If your current move takes 25 seconds and you Call Move in second 24 of your move sequence, that move sequence is cancelled and void.

15. SHOW MAP

Shortcut key: , (comma)

Displays an overall map of the battlefield. Close it by pressing this button again.

16. SHOW STATUS

Shortcut key: . (period)

Brings up a popup window that displays 7 pages of valuable information. You can switch pages by clicking on the lower arrow keys on the window and close it by clicking 'OK' on the window or by pressing this button again.

In hotseat games the active player can select this info for each of his Squad members with the '1' to '8' keys.

A) GENERAL DATA

Besides obvious data, there is some information that might need an explanation.

BMT:

The Base Movement Time of the Titan. This is the time a Titan needs to cover the distance of one hex in walk forward mode over normal terrain (plains).

JMT:

The Jump Movement Time of the Titan. This is the time a Titan needs to cover the distance of one hex in jump forward mode regardless of underlying terrain.

JUMP TIME:

This is the status of the Titan's jump ports (xxx/yyy). xxx is the time left for jumping; yyy is the maximum jump time before the Titan must recycle its jump ports. Jump ports are automatically recharged at a rate of 1 jump second each 3 game seconds the Titan is on the ground, if there is one power unit available.

MAX CLIMB:

The maximum height difference the Titan can cover when moving to an adjacent hex, in walk forward mode. The climb rate is lower for run (-5m), dodge (-10m), and walk backwards (-15m) move modes.

SPEED:

The current speed of the Titan, in kilometers per hour (kph).

SCAN HEIGHT:

The sum of Titan height, terrain height and the scanner's virtual height. This is the height from which line of sight for the Titan is calculated.

LOCK ON:

A target lock is displayed here. The callsign is marked with ">Callsign<" if it was scanned actively with normal success and with ">>Callsign<<" if scanned with critical success.

LINK TO:

If you've linked your scanner to a Squad member, his callsign is displayed here.



LINKED BY:

If Squad members have established a link to you, the number is displayed here, as well as the maximum number of links your scanner can handle.

SCANNER, E.C.M., SHIELD:

The status for these three devices is displayed – enabled, disabled or not available (N/A).

HEAT:

Current heat and the decrease/increase as calculated the last second.

POWER:

MAX is the engine's maximum power output. FREE is what is left after deducting power for all devices and movement (PUs to energize Gauss Cannon coils are taken from this pool). LAST is what there is left to recharge energy weapons, hand-to-hand weapons and jump ports.

B) ARMOR DATA

This is an important display that shows the current values for external armor (left column) and internal structure (right column) for each body part, along with location and status of actuators [A] and gyro [G]. It can be selected directly for the active Titan by clicking on the own Titan icon.

When the external armor is gone, damage is applied to the internal structure. When the internal structure is reduced to zero, the respective body part is disabled (torsos) or ripped off (head, arms or legs).

The letter for the actuator/gyro [A,G] is displayed in a color representing its damage level:

Light green	No damage
Yellow	Light damage
Light red	Medium damage
Red	Heavy damage
Black	Destroyed



Damage will modify actions related to the component in question, the higher the damage level, the more severe the modifier.

The leg actuators are, from left to right: hip, knee, foot. Damage to these will increase the Titan's move time, and lower the 'to hit' chance of kicks with the respective leg.

The arm actuators are, from left to right: elbow, hand. Damage to these will lower the 'to hit' chance of punches and weapons mounted in the respective arm.

The left and right torso actuators are the shoulder actuators. Damage to these will lower the 'to hit' chance of weapons mounted in the respective torso.

The lower torso actuator is the swivel actuator. Damage will increase swivel time, or forbid it completely in case the actuator is destroyed.

Critical damage to any of the gyro sections will result in move skill penalties, as well as punch and kick attack penalties.

C) WEAPON DAMAGE/RELOAD DATA



Here are your weapons, along with their respective damage and recycle status. Recycle of hand-to-hand, close combat and energy weapons except the flame thrower are in power units (PU), all other weapons' are in seconds. This is explained in the energy section of the manual. This page can be selected directly for the active Titan by clicking on the own Titan icon twice.

D) WEAPON AMMUNITION/RANGE/LOCATION DATA

Weapons with their ammunition, maximum ranges and locations. You can display the weapon ranges on the map with the '/' (slash) key. Ranges are displayed in yellow for cannons, purple for energy weapons, light blue for guided missiles, dark blue for guided missiles and white for close combat weapons.



Close combat weapons and energy weapons which do not need ammunition (all but flame thrower) are displayed 'N/A' in the ammo column.

Abbreviations for the locations are:

HD	Head
RT	Right Torso
CT	Center Torso
CBT	Center Back Torso
LT	Left Torso
RA	Right Arm
LA	Left Arm
LOT	Lower Torso
RL	Right Leg
LL	Left Leg

E) SYSTEMS DATA

Here is the display for the internal systems status, with their damage level color-coded as described above, and their location in the Titan.



The heat regulator and the jump ports are spread over several locations. Damage to one of the sections will affect the entire system. Destroying a location with a heat regulator section will destroy it if it's the center torso or center back torso, will cause medium damage if it is an arm or a leg, or heavy damage if it's any other body part. This damage cannot be repaired in battle with a DCS.

Destroying any location with a jump port section will result in the loss of the system.

F) JOCK'S GENERAL DATA

Here, the Jock is listed with his attributes, rank, and hit points. A Jock with only half of his hit points is considered wounded; with only 1/4 left, he is considered seriously wounded; and with 0 hit points, he is considered seriously dead.

The Jock's callsign is displayed in different colors, depending on his health status:



White	Jock is ok
Yellow	Jock is dizzy (receives a negative skill modifier)
Light red	Jock is bleeding (loses hit points for some time)
Red	Jock is unconscious
Black	Jock is dead

The total experience points are displayed, as well as the accumulated experience points for the current battle in the categories move skills, combat skills and other skills. These will be automatically converted to development points after the battle is over. The Jock's kills (total and in the current battle), hit ratio and total battles fought are shown here also. Bravery affects some skill checks and is based on the Jock's leadership skill modified by how the battle is turning out for the Jock's Squad.

G) JOCK'S SKILL DATA

All skills are listed here. The two piloting skills that are not needed for the currently piloted Titan are displayed red. The color-coding from red to dark green and white just gives a quick hint on the Jock's strengths and weaknesses.

17. EXIT BATTLE

Shortcut key: ALT+x

Press this button to exit the Battle module

The 'E' button on the upper left corner of the main interface also triggers the exit game command.

JOCK SKILL DATA (1/1)	
MOVEMENT	22 %
RECONNAISSANCE	22 %
ASSAULT	81 %
JUMP	43 %
ROUFINEN	10 %
CLOSE COMBAT	43 %
UNHURED MTL	49 %
CANNON	78 %
ENERGY WEAPON	44 %
INDIRECT FIRE	54 %
EL. WEAPONS	12 %
SCANNER	10 %
DEFENSIVE	46 %
DMS-CONTROL	46 %
LEADERSHIP	78 %
BUSINESS	7 %
SURVIVAL	47 %
MEDICAL	20 %

MOVE MODE

Automove [ALT + Mouse Click on target hex]

To use the automove function, press ALT and right mouse click on the target hex. Your Titan will then head for the targeted hex at full speed with no more required input from the player. Automoving Titans can still lock on enemy units and fire. Breaking automove results in a standard move skill check.

Pressing ALT and left mouse clicking on a target hex will show the automove path. You can only target a hex to which the complete path is in line of sight of the Titan. The main purpose of this feature is to speed up game play during the initial phase of a battle, when positioning your Team for the engagement. Once contact has been established, manual control of the Team's move modes is advisable – you may have to break a run command (automove default), with the respective skill check. Using automove to move 4-5 hex distances at a time is usually best. The efficacy of automove depends on many factors such as terrain, line of sight, enemy positions, and hazards. Automove will automatically try to avoid hazardous terrain if possible.

Warning: In the Core battlefield, using automove may cause recon or light Titans to overheat. To prevent this, do not use automove for more than 2-3 hexes at a time.

1. WALK FORWARD

Shortcut key: f

The Titan walks towards the hex it is facing at a speed that depends on the type of terrain of both the current and destination hexes. Normal skill checks are valid if entering difficult terrain. If this button is disabled, it is likely that the terrain in front is too steep for the Titan. Walk forward uses 2 PUs and produces 0.7 C/second.

2. WALK BACKWARDS

Shortcut key: b

The Titan walks back one hex at a reduced speed (130% BMT). It has a reduced climb rate, and harder skill checks when applicable.

Walk backwards uses 2 PUs and produces 0.7 C/second.

Walking forward or backwards down very steep slopes (height difference superior to maximum climb rate – see Max Climb under General Status Display) is possible. The move buttons will be yellow and a skill check with very hard modifiers has to be passed.

3. RUN

Shortcut key: r

The Titan tries to enter the next hex at an increased speed (60% BMT). If a locked target occupies the hex, a charge can be declared after entering the hex. Both Titans will take damage, the target taking most of it. The amount of total damage depends on the speeds and masses of both Titans. If the enemy is facing the charging Titan and is also running, it performs a countercharge. Both Titans will then receive an equal portion of the resulting damage. The climb rate of run is better than that of dodge or walk backwards but worse than in walk forward. Run uses 3 PUs and produces 1.3 C/second.

4. DODGE

Shortcut key: d

The Titan zigzags to the next hex. It is harder to hit, but its accuracy is also reduced. This mode is faster than walk forward but slower than run (80% BMT).

A skill check is needed regardless of the terrain. Climb rate is better than in walk backwards but worse than in the other modes. You cannot dodge in dense woods. Dodge uses 3 PUs and produces 1.5 C/second.

Breaking off a run, dodge, jump forward or jump backwards move requires the Jock to pass a skill check (no experience is gained by passing such checks).

5. TURN LEFT

Shortcut key: o

The Titan turns one hexside to the left. This changes the arc of fire and direction for further movement. Turns take only 20% BMT. Turn left uses 1 PU and produces 0.7 C/second.

6. TURN RIGHT

Shortcut key: p

The Titan turns one hexside to the right. This changes the arc of fire and direction for further movement. Turns take only 20% BMT. Turn right uses 1 PU and produces 0.7 C/second.

7. CROUCH

Shortcut key: c

A Titan can crouch, reducing its height by 50%. It will be harder to detect and hit, but can't use weapons in its legs or lower torso or fight in hand-to-hand combat. A Titan can crouch from lying; the resulting skill check is easier to master than standing up directly. Crouching adds 5% to your 'to hit' chances and makes your Titan harder to hit, but modifies your skill checks by -5%. Crouch uses 1 PU and generates 0.7 C/second.

8. STAND UP

Shortcut key: s

The Titan can stand up if prone or crouched. Standing takes 40% BMT from lying or 10% BMT from crouch. Standing requires a skill check. A Titan standing up from prone that is hit in an arm may have to pass a skill check or fall. Stand uses 2 PUs and generates 1.0 C/second. Breaking a stand move from prone will result in a fall and the respective damage.

9. SWIVEL LEFT

Shortcut key: g

If a Titan is already swiveled left, this option is disabled. Swivels take only 10% BMT. Swivel uses 1 PU and produces 0.3 C/second.

10. SWIVEL RIGHT

Shortcut key: h

If a Titan is already swiveled right, this option is disabled. Swivels take only 10% BMT. Swivel uses 1 PU and produces 0.3 C/second.

11. JUMP FORWARD

Shortcut key: j

If a Titan has jump ports, it can jump forward one hex after lift off (see 13. Jump Up). Jumping takes a fixed amount of time depending on the quality of the jump ports and regardless of terrain (JMT). A Titan jumping forward will stay a fixed distance above the ground (see below). A Titan can only jump forward if its current altitude exceeds the target hex's height, which includes the height of vegetation (if any). Jump ports will recycle at a rate of 1 jump second every 3 game seconds when the Titan is on the ground and has one PU available. All Jump modes use 0 PU and produce 2.0 C/second.

12. JUMP BACKWARDS

Shortcut key: k

The Titan jumps back one hex, with the same restrictions as in jump forward. Jumping backwards is slower than jumping forward, taking 130% JMT.

13. JUMP UP

Shortcut key: l

A Titan with jump ports can jump up. This is either a lift off if the Titan is on the ground, or a height level change if it is already airborne. There are two available height levels, which are 30m (jump level 1) and 60m (jump level 2) above ground. A Titan lifting off from difficult terrain must pass a skill check (a jump stunt) or crash to the ground. Time requirement for jump up is only a small fraction of jump forward (30% JMT). This button will be yellow if the jump ports are not fully recharged.

14. JUMP DOWN

Shortcut key: m

This is either landing with a skill check or switching height level from 60m to 30m. Time requirement for jump down is only a small fraction of jump forward (20% JMT).

15. WAIT ON

Shortcut key: w

See attack mode. Wait on Move is disabled.

16. CALL ATTACK

Shortcut key: a

Call attack mode. This cancels the current attack mode (for example, wait) and allows you to immediately switch to attack mode for a new selection. Any current attack action is lost.

17. SHOW MAP

Shortcut key: , (comma)

Shows the map.

18. SHOW STATUS

Shortcut key: . (period)

Shows the active Jock's status.

19. EXIT BATTLE

Shortcut key: ALT+x

Exits the Battle module.

WAIT MODE

(only available in network games!)

1. SHOW MAP

Same as the other Show Map buttons above.

2. SHOW STATUS

Same as the other Show Status buttons above.

3. BREAK MOVE

If you don't like what you did last move mode, you can cancel the move and be active in move mode soon.

4. BREAK ATTACK

If you don't like what you did last attack mode, you can cancel the attack and be active in attack mode soon.

5. EXIT BATTLE

Exits the Battle module.

06. APPENDICES**APPENDIX A: HOT KEYS**

F1	Display keys help screen
F2	Show Team statistics
F3	Set options [toggle AI, call move and/or attack]
F4	Set options [animations, messages, sound]
F5	Display last 40 messages
F6	Display scanner database
F7	Save game
F8	Load game
F9	Mission briefing
F10	Mission status
F11	Skip through mission texts (SHIFT+F11: Back)
F12	Toggle music on/off
ALT+x	Exit Battle
HOME	Center on current Titan
END	Center on target
Cursor Keys	Scroll map or select choice in popup window
A	Toggle AI on/off for current Titan
C	Chat in netgames
M	Create different map
P	Dump screen as battle.pcx in print folder
R	Recover queue [use as host when game is out of sync!]
E	Display exit area
T	Display target area
+	Toggle arc of fire on/off
-	Toggle coordinate/height overlay on/off
/	Toggle weapon ranges on/off
*	Toggle scanner ranges on/off
1-8	Display status window for Team member, or Select Titan as inactive player in netgame
0	Toggle Team colors on/off

ESC	Close window
RET	Perform skill check or accept choice
SPACE	Select Titan under attack as inactive player in netgame
x	Wait on Recycle Next weapon
y	Wait on New foe
z	Wait on Locked foe
;	Toggle hex border on 3D map

APPENDIX B: NETWORK GAMES

ToS: WS can be played either in a LAN (local area network) or by Internet. It requires TCP/IP installed as a network protocol on your computer.

Network settings in the Battle module: If you select 'Network Game' from the initial menu, you'll be given the choice to either host a game or join a game set up by another host. If you want to join a game, you have to know your host's IP address. On top of your selection window, the IP address of your computer is displayed. If you are connected to the Internet and to a LAN, two addresses may be visible. The host of a game has to distribute this address to the other players, who should join. These players, called clients, have to enter this address in the field 'Host IP'. The host can ignore this entry.

Each player can enter a player name that will be displayed for the host to identify players when they join. Note that you can enter a default host IP address and player name in the Command Center.

1. HOSTING A GAME

The host must select 'Create Game'. He will be displayed as the first Team (Team 1, blue) in the 'Team Setup' window. He will wait for incoming requests of other players to join. Up to 3 clients can join a multiplayer game. The host can allocate Teams to the players by clicking on the colored Team names. Note that Teams have to be distributed in order, first 1, then 2,..., and that Teams 1 and 3 are automatically allied against Teams 2 and 4, like in hotseat games. The host can also add local Teams, played by the AI on his computer. Since the moves of such Teams will be visible to the host he should only use this option if he wants to be allied with the local Team. If at least one client has joined, the host can select 'Accept' and can set up a game the same way as in hotseat mode. He cannot select campaigns and missions but he can select multiplayer maps. If clients want to play with custom Squads, they have to send them over to the host by any means at their disposal. The host has to copy these files into the data\squads folder. He is also responsible for renaming them if necessary.

2. JOINING A GAME

Clients must select 'Join Game' after entering the host's IP address and their player name. Their computer will try to connect to the host's computer. Clients do not have to do more than that; they will have to wait for the host to set up and start the battle. If a client wants to play with a custom Squad, he has to send the respective file to the host; these files are to be found in the \data\squads folder as squadA.dat to squadD.dat.

APPENDIX C : SKILLS

All skills are listed by name and their [Primary/Secondary] attributes, which limit the maximum skill level.

PILOT SKILLS

A. RECON/LIGHT [DEXTERITY/REACTION]

This skill is needed to pilot recon and light Titans (up to 70t). These Titans are still piloted by sticks, so dexterity and reaction are the attributes that limit the maximum skill level. This is a vital skill, especially for rookies who cannot pilot heavier Titans.

B. MEDIUM/HEAVY [NEURAL SENSE/DEXTERITY]

This skill is needed to pilot medium or heavy Titans (up to 140t). These Titans are piloted by neural bridges, therefore neural sense and dexterity are the primary and secondary attributes. Jocks have to reach Green rank to improve this skill.

C. ASSAULT [NEURAL SENSE/DEXTERITY]

This skill is needed to pilot assault class Titans (up to 200t). These are also controlled by neural bridges. Only Jocks of Regular rank or better can improve this skill.

D. JUMP [DEXTERITY/REACTION]

The jump skill is required to perform jump maneuvers on any Titan equipped with jump ports. This is a vital skill if you want to make good use of the Titan's jump capability.

E. SCOUTING [INSTINCT /INTELLIGENCE]

A successful scouting skill roll will allow your Titan to move faster in wooded areas. Good scouting skill will make a motionless Titan harder to hit when in a hex with any type of cover. It will also be harder to spot in such hexes.

COMBAT SKILLS

A. CLOSE COMBAT [INSTINCT/REACTION]

This skill is used for hand-to-hand combat. This includes punches, kicks, and close combat weapons, as well as charges (including jump charges).

B. GUIDED MISSILE [INTELLIGENCE/INSTINCT]

The deadly guided missile racks depend on this skill. This skill is very useful in conjunction with the indirect fire skill.

C. UNGUIDED MISSILE [DEXTERITY/REACTION]

The unguided short and long range and napalm missile racks depend on this skill.

D. CANNON [REACTION/DEXTERITY]

Machine guns, auto cannons, and gauss cannons are fired with this skill. It is also used for meson guns. This is a typical skill for rookies, but is useful for all ranks. High values here will allow you to make called shots with cannons.

E. ENERGY WEAPON [REACTION/DEXTERITY]

This skill applies to lasers, plasma guns, tesla bolts, black ray and cold light guns as well as to the flame thrower, the neutron blaster and the electromagnetic pulser. Again, this is a useful skill for rookies. High values here will allow you to make called shots with some energy weapons.

F. INDIRECT FIRE [INSTINCT/INTELLIGENCE]

All missiles (guided and unguided) can be fired in a ballistic arc on targets to which you do not have a direct line of fire. This skill reduces the penalty for indirect fire. Guided missiles are better suited for this task than unguided ones. This skill is also used to get a better range modifier if you have established a scanner link.

OTHER SKILLS**A. ELECTRONIC WARFARE [INTELLIGENCE/INSTINCT]**

This skill influences a wide variety of actions. In combination with the battle computer it is used for calculation of the time to lock enemies. It influences the time to toggle the ECM device. It also helps defeat active scans and is used for threat level calculation.

B. SCANNER [INTELLIGENCE/NEURAL SENSE]

Needed to calculate time for toggling the scanner as well as performing active scans and establishing scanner links. It influences the maximum number of link partners and is used to keep scanner links stable. It is most valuable for succeeding in active scans.

C. DEFENSIVE [DEXTERITY/INTELLIGENCE]

This skill is very useful if your Titan has flares and/or a shield; it is used to calculate the time to activate these devices. A successful skill check will prolong the duration of flares and will prevent shield overload. A shield's protective value against energy weapons is increased by this skill. A Jock can also fine-tune his Titan's heat regulator, making it a bit more effective on a successful defensive skill check made at the start of battle.

D. DAMAGE CONTROL [INTELLIGENCE/DEXTERITY]

This skill is needed to efficiently use damage control systems and to avoid ammo explosions. It is also used to calculate the cost of Titan repairs after battle (the Squad automatically uses its best member for this job), as well as the maximum number of Titans in the Squad.

E. LEADERSHIP [CHARISMA/INTELLIGENCE]

A good leadership skill will help your Squad in recruiting better rookies. This skill divided by 10 is the maximum number of Jocks in a Squad (up to 8).

F. BUSINESS (INTELLIGENCE/CHARISMA)

This is used for all kinds of financial transactions, especially buying/selling Titans. This is a vital skill for your Squad. You should have one Jock with a good business skill.

G.SURVIVAL (INSTINCT/INTELLIGENCE)

This is vital for successful and quick ejects as well as useful to reduce the effect of shock damage.

H. MEDICAL (INTELLIGENCE/DEXTERITY)

This skill is needed to use the healing capability of life supports and to stop bleeding.

APPENDIX D : RANK SYSTEM

A Jock can attain 10 different ranks during his career:

Level	Rank Title	Experience Points
1	ROOKIE	0
2	GREEN	4000
3	NOVICE	12000
4	REGULAR	24000
5	VETERAN	40000
6	CRACK	60000
7	ELITE	80000
8	ACE	110000
9	CHAMPION	140000
10	HERO	180000

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OFFICIAL WEB SITEMatrix Games – <http://www.matrixgames.com/games/titansofsteel2/>
Vicious Byte - <http://www.titansofsteel.de/>**OUR STRENGTH**

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