

# 4.0 GAME MECHANICS

## 4.1 General Game Information

Glancing over the size and depth of this rulebook, CTF2187 can appear, to the casual observer, to be a very complex game. In practice, however, you will find the mechanics of filling out the turn sheet to be a rather simple matter. You merely list Move and Attack Orders for your Bot for each of 5 Turn Phases, a total of about 10 or so numbers for your whole turn. The experienced player will discover that within that simple order system is a wealth of detailed and complex strategy options that make CTF2187 a fun and challenging experience. This rulebook is written to include and demonstrate many of the tactical options you may want to consider before filling out your turn.

As an example, let us look at the sequence of game events, or the order in which things happen as your turn is processed. Obviously the sequence of events is important to both new and veteran players alike. However, the new player has only to concern himself with the very basics until he gains a better understanding of the game. Initially the new player need only consider two things: 1) At the start of each Turn Phase the computer sorts the Bots by order of Action Points. The Bot with the most Action Points tends to move and attack first, before other Bots Move and Attack during that Phase, and 2) When the orders for each Phase are processed for each individual Bot, Movement always occurs before Attacks. By understanding the order in which things occur it is possible to gain a slight advantage over your opposition.

For the more experienced player the following is a more detailed listing of the sequence of events:

- Begin Turn
- Calculate Turn Action Points for Each Bot
- Start Turn Phase
- Cooling then Heat Adjustments Occur
- Determine First Bot to Act
- Bot Move Order Processed
- Bot Attack Order Processed
- Next Bot
- CP Attack Orders Processed
- Next Phase
- End of Turn

## 4.2 Movement Orders

Movement orders allow your Bot to turn (or pivot) and/or move to an adjacent sector. The Move Orders for an individual Bot always occur before that Bot's Attack Orders during that Turn Phase.

0. NO MOVEMENT. With this command your Bot will remain in place and make no effort at movement. This helps to conserve Action Points, reduce Heat build-up and is often tactically advantageous.

The following Movement Orders instruct the Bot to move from its current location to an adjacent sector. A Bot cannot enter a sector containing another Bot, a Command Post, Wreckage, Ruins or the Barrier Wall (off the map).

1. MOVE FORWARD. This command will move your Bot straight ahead, maintaining its current facing.

2. TURN RIGHT, MOVE FORWARD. This command orders your Bot to turn 45 degrees to the right (changing its facing) and then advance forward one sector.

3. TURN LEFT, MOVE FORWARD. This command orders your Bot to turn 45 degrees to the left (changing its facing) and then advance forward one sector.

4. MOVE BACKWARD. With this command your Bot will maintain its present facing but move backward one sector.

5. **MOVE TOWARD SPECIFIC BOT.** If the Bot you specified in the Move Option section of your turn sheet is functional and in scanning range your Bot will make a 45-degree turn toward that Bot and then move forward one sector. This is an excellent pursuit order for chasing enemy Bots and makes a good rally or formation order to get allied Bots moving toward a common goal.

6. **MOVE TOWARD NEAREST ENEMY BOT.** If there are any functional enemy Bots in scanning range this command will order your Bot to make a 45-degree turn toward the nearest functional enemy Bot and then move forward one sector.

7. **MOVE TOWARD LAST ENEMY BOT TO TARGET ME.** If the last enemy Bot to target your Bot is functional and in scanning range this command will order your Bot to make a 45-degree turn toward that Bot and then move forward one sector.

8. **MOVE TOWARD NEAREST FRIENDLY BOT.** If there are any functional friendly Bots in scanning range this command will order your Bot to make a 45-degree turn toward that Bot and then move forward one sector.

9. **MOVE TOWARD LAST ENEMY BOT TARGETED.** If the last enemy Bot that you successfully targeted is functional and in scanning range this command will order your Bot to make a 45-degree turn toward that Bot and then move forward one sector.

10. **MOVE TOWARD NEAREST FRIENDLY COMMAND POST.** This command will instruct your Bot to make a 45-degree turn toward the nearest operational friendly Command Post and then move forward one sector.

The following Movement Orders instruct your Bot to remain in its current sector but to change its facing as indicated.

11. **FACE SPECIFIC DIRECTION:** With this command your Bot will pivot and face the specific direction indicated in the Move Option section of your Turn Sheet. No other movement will take place.

12. **FACE TOWARD SPECIFIC BOT.** This command instructs your Bot to pivot and face the Bot (enemy or friendly) indicated in the Move Option section of your turn sheet. If the specified Bot is out of scanner range or destroyed the order is canceled.

13. **FACE TOWARD NEAREST ENEMY BOT.** This command will order your Bot to turn and face toward the nearest functional enemy Bot in scanning range.

14. **FACE TOWARD LAST ENEMY BOT TO TARGET ME.** This command will instruct your Bot to turn and face the last enemy Bot to target your Bot if it is functional and in scanning range.

15. **FACE TOWARD NEAREST FRIENDLY BOT.** With this command your Bot will turn and face the nearest operational friendly Bot in scanning range.

16. **FACE TOWARD LAST ENEMY BOT TARGETED.** This command will instruct your Bot to turn and face the last functional enemy Bot that you successfully targeted if it is in scanning range.

17. **FACE TOWARD NEAREST FRIENDLY COMMAND POST.** This command will order your Bot to turn and face toward the nearest operational friendly Command Post.

The following are the various SPECIAL Movement Orders.

18. **STAND UP.** This command will order your Bot to stand up if it has fallen down or is kneeling. This Movement Order will automatically be executed on the next turn phase after falling down regardless of the previously issued orders.

19. **EJECT.** This allows a Pilot to eject from a badly damaged Bot that can no longer operate effectively. The Move Option section of the turn sheet is used to determine the maximum number of Engines remaining before an Eject can occur. The valid range is from 1 to 9 Engines. Thus if a value of 9 is entered in the Move Option section your Pilot will only Eject if your Bot has 9 or fewer Engines remaining. If a Move Option is not indicated then the default value of 4 is selected automatically. You may only Eject while your Bot is standing and cannot Eject from a prone Bot. Immediately after ejecting,

the Bot will automatically self-destruct. The Pilot will then be removed from the game (and be ready for his/her next assignment). Having left the game before its conclusion, the Pilot will not get any bonus Experience Points for his Victory Rating but will retain all Experience Points left over from previous games and those gained from his Intelligence.

20. KNEEL DOWN. This order allows your Bot to voluntarily drop down one level (standing Bots add two to the Ground Elevation, a Kneeling Bot only adds one) in order to make better use of the surrounding terrain. A Kneeling Bot cannot move but can Attack normally. It also makes for a smaller target and is therefore harder to hit. Note: A Kneeling Bot cannot issue any Movement Orders other than #0 NO MOVEMENT and #18 STAND UP.

21. SPRINT FORWARD. This order allows your Bot to move forward two sectors in a single Turn Phase. In order to use this order your Bot must have a minimum of 30 Action Points at the instant the order is processed. If not, your Movement Order will be adjusted to #1 MOVE FORWARD instead. Bots using the Sprint Forward order expend twice the number of Action Points and generate twice the normal amount of Heat per sector entered as a Bot using the normal Movement Orders and have an increased likelihood of falling down.

22. TURN RIGHT. This order instructs your Bot to adjust its current facing 45 degrees to the right and is useful for turning a damaged right side away from enemy Bots.

23. TURN LEFT. This order instructs your Bot to adjust its current facing 45 degrees to the left and is useful for turning a damaged left side away from enemy Bots.

### **4.3 Attack Orders**

The following orders are issued to use your weapons against enemy Bots and Command Posts. Attack Orders always occur after Movement for each individual Bot during that Turn Phase. Command Posts ALWAYS attack last in each Turn Phase after each Bot has already moved and attacked. Always be sure to list the weapon you wish to fire with each order in the appropriate section of your Turn Sheet. Choose your weapons carefully. It's generally best to hit your target with the biggest weapon available in the Field of Fire at the Optimum Range. It works great when you can do it but it is not always as easy as it sounds.

0. NO ATTACK. With this order your Bot will be instructed not to fire any weapons during the current Turn Phase. The only reason to issue this order is to conserve Action Points or to reduce Heat build-up. With those exceptions you should always issue an Attack Order, even if you don't see any targets, just in case.

1. ATTACK SPECIFIC ENEMY BOT. This command will instruct your Bot to attack the Bot specified in the Attack Option section of your turn sheet with the weapon indicated.

2. ATTACK THE NEAREST ENEMY BOT. This command will order your Bot to fire the specified weapon at the nearest operational enemy Bot.

3. ATTACK THE LAST ENEMY BOT TO TARGET ME. With this command you will fire the specified weapon at the last functional Bot to successfully target your Bot.

4. ATTACK THE LAST ENEMY BOT TARGETED. With this command you will fire the selected weapon at the last functional enemy Bot you successfully targeted.

5. ATTACK THE NEAREST ENEMY COMMAND POST. With this command your Bot will fire the selected weapon at the nearest operational enemy Command Post.

6. SELF DESTRUCT. This command can only be issued when your Bot's total functional Engine weight is less than 5 tons. It sets the Bot's internal reactor on overload and the Bot immediately self-destructs destroying the Bot and killing the Pilot. This is not a very useful command, but some people just can't handle defeat.

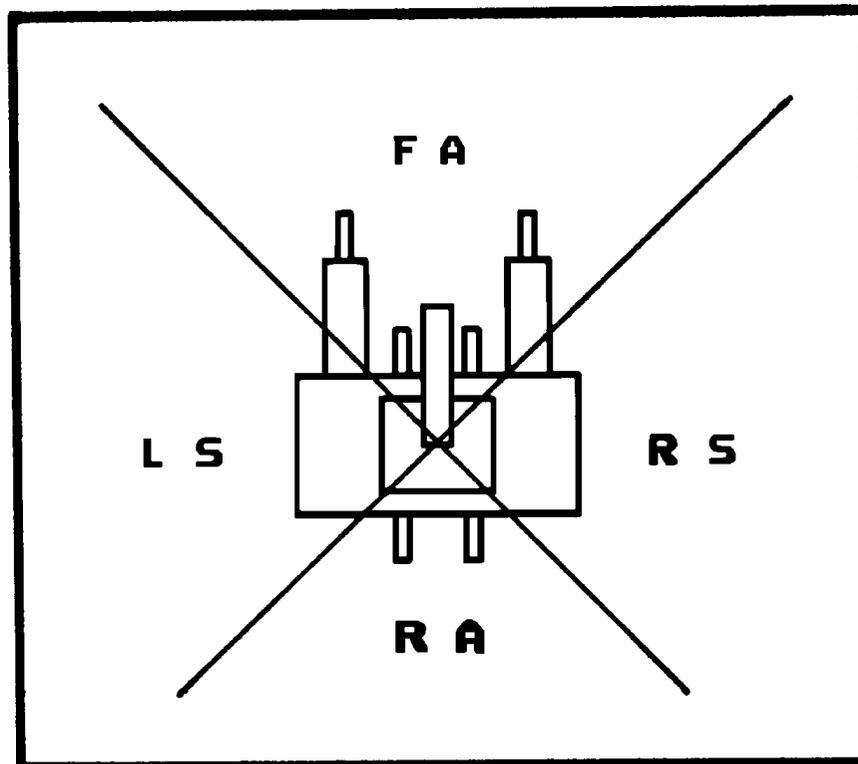
## **4.4 Standing Orders**

Standing Orders are an extra series of turn instructions reserved for use in case you are unable to get your turn orders to us by the due date or your turn gets lost in the mail. With Standing Orders your Bot will continue to operate effectively even if you miss your turn. The initial set of Standing Orders is pre-determined by the computer. The current list of Standing Orders for your Bot will be listed on your turn results. Your Standing Orders can be changed any time between turns by using the Standing Orders Turn Sheet.

## **4.5 Fields of Fire**

Each of your Bot's weapons systems is located in a specific part of its body. Each location, because of its range of movement, offers a different Field of Fire (or directions in which you can attack). To understand Fields of Fire you need to understand the four basic firing areas. These four areas each consist of non-overlapping 90 degree arcs. They are the Forward Area (FA), Right Side (RS), Left Side (LS) and Rear Area (RA). Weapons located in the Front Torso can only fire in the Forward Area (FA). Weapons in the Right Arm can fire in the Forward Area and the Right Side (FA-RS). Weapons in the Left Arm can fire in the Forward Area and the Left Side (FA-LS). Weapons in the Rear Torso can fire in the Rear Area (RA). Finally, weapons in the Head can fire in the Left Side, Forward Area and Right Side (LS-FA-RS).

Obviously it is important to watch your Fields of Fire when planning your turn to be sure that your intended targets are in the Firing Arcs of the weapons selected. Otherwise your weapon won't be able to fire and your Attack Order will be canceled.



## **4.6 Action Points and Heat**

Two of the most important areas of consideration when plotting your turns are your Action Points and your Heat Level. For the most part these two considerations can be ignored by a beginning player. Your Bot will never cease to function due to a lack of Action Points or from excess Heat Levels. However, these two areas are a very important consideration for skillful use during advanced play.

At the start of every turn each Bot will receive a certain number of Action Points based on the total tonnage of its operating Engine size and its weight class. The actual formula for calculating Action Points is rather complicated but to put it simply, the larger the Engine the more Action Points you get and the heavier your Bot the fewer Action Points you receive per Engine. Thus, for a Light Bot, each ton of Engine weight may be worth 5 Action Points but for a Heavy Bot that same ton of Engine weight may be worth less than 2 Action Points.

The number of remaining Action Points at the beginning of each Phase for each Bot is used to determine the order in which the Bots' actions will be processed. Thus the Bot with the most Action Points at the beginning of each Phase will tend to move and attack before any of the other Bots. This can be a significant advantage. Action Points also have a number of other important uses including improving your chance of dodging enemy attacks and decreasing your chance of falling down.

Action Points are lost or expended in a number of ways and in varying degrees. Some examples are movement, dodging, excessive Heat and using your weapons. It takes more Action Points to move than it does to change facing. Likewise it takes more Action Points to fire a heavier (in mass tons) weapon such as a Particle Beam Cannon than it does a lighter weapon such as a Medium Laser. Damaged weapons require even more Action Points to fire than do the same weapons when undamaged.

Excess Thermal Radiation, or "Heat", is a major problem for Bots operating in a combat environment. Their massive internal systems generate significant amounts of Heat while at the same time their thick armor plating acts as insulation, keeping in the thermal energy and thus creating terrific Heat problems for all internal systems as well as the Pilot. To help counteract this problem all Bot Engine systems come equipped with massive Cooling Systems to help radiate the excess Heat and avoid internal problems. Such systems, though very effective, have great difficulty keeping up with the rigors of intense combat.

Every action your Bot performs causes the Heat Level to rise. Such actions as movement and dodging cause only minimal Heat build-up. Other actions such as firing weapons and being hit by enemy attacks can cause great Heat build-up that will often exceed the capabilities of your Cooling Systems and begin to degrade the performance of your Battle Bot.

When Heat rises above normal levels it will begin to affect your Bot in a number of ways. It will reduce your Action Points and degrade the performance of your Bot in such actions as targeting, dodging and avoiding falling down. Excessively high Heat Levels can also cause injury to your Pilot, burn out internal systems and cause your weapons systems to temporarily shut down.

## **4.7 Mapping, Terrain & Directions**

To operate effectively in the Arena it is important to understand your surroundings. Each game will utilize a custom map with varying size and terrain configurations.

The map size itself will usually contain a minimum of 400 sectors and can increase in size depending on the number of Bots in that particular game. The greater the number of Bots involved, the larger the map will be. The actual dimensions of the game map will always be listed on your turn results.

To control movement the map is broken down into a number of squares or "sectors". Each sector can contain, at a maximum, one Bot or Command Post, including destroyed Bots (Wreckage) and destroyed Command Posts (Ruins). Sector locations are defined by a two-number coordinate system: XX-YY. The first number is the "X" coordinate and lists the sectors counting from left to right. The second number is the "Y" coordinate and lists the sectors counting from the bottom to top. Thus to find a location on the map you take the first number ("X") and count that many sectors over from the left and then take the second number ("Y") and count that many sectors up from the bottom of the map. Sector 1-1 will always be the lower left-hand corner of the map.

Each turn your optical sensors will display all of the terrain in the visual range of your Bot (in a five sector radius). The terrain is listed in a two-part code consisting of the general terrain type and the sum of its Elevation (Ground + Terrain). Thus the code "Light Woods-2" would mean that sector consists of a lightly forested area with a total elevation of 2.

The elevation listed is the sum of two elements: a Ground Elevation and a Terrain Elevation. The Ground Elevation is what your Bot actually stands on. It is used, in conjunction with the Bot's/CP's current status, to determine from what elevation each is firing or being targeted and whether any others are blocking the Line of Fire. The Terrain Elevation is also used in conjunction with the Ground Elevation to determine whether the Line of Fire is blocked. For example, a Bot standing on a Level-3 Ridge would be firing from elevation 5 (3 for the Ground Elevation of the Ridge plus 2 for a Standing Bot) while a Bot that is prone (has fallen or is kneeling down) in the Open would be firing from an elevation of 2 (1 for the

Ground Elevation plus 1 for a prone Bot). In most cases a sector will have a Ground Elevation of 1 and an additional 0 to 2 elevation for the terrain features. The following are just a few examples of Ground/Terrain Elevations: Open 1/0, Light Woods 1/1, Heavy Woods 1/1, Light Buildings 1/1, Heavy Buildings 1/2, Crater 0/0, Gully 0/0, Ridge 2-4/0, and Hill 2-4/0. (Note: Ridges and Hills can have a variety of Ground Elevations ranging from 2 to 4.) On your Visual Sighting Display will be indicated the total of the two elevations such as Lt.Wds-2 (1 Ground Elevation + 1 Terrain Elevation = 2 total elevation). A standing Bot has an elevation of 2, a prone Bot 1 (having fallen or kneeling) and a destroyed Bot 0 (Wreckage). The Projected Fire Track that is displayed on your turn results when you fire your weapons at a range of greater than one sector will indicate both the course plotted and the elevation of the projectile as it travels. For example, [5-17,3] indicates that the projectile traversed sector 5-17 at an elevation of 3.

The terrain features in your area of the map can have a significant impact on your tactical decision-making and turn outcome. For example, a Bot standing in a Lake-1 (0 Ground Elevation and 1 for Terrain Elevation) firing from elevation 2 (0 Ground Elevation + 2 standing Bot) might find his shots blocked by surrounding Woods or Light Buildings which have a total elevation of 2 (1 for Ground Elevation + 1 for Terrain Elevation). A Bot standing on a Ridge-3 would have excellent Lines of Fire, being able to fire over nearby Bots and Heavy Buildings, but conversely would be in almost everyone else's Line of Fire as well. Each terrain feature is rated individually by a number of characteristics including its difficulty to move through, the amount of protection it offers to Bots within the terrain, and whether it blocks the Line of Fire. Though the actual values of these characteristics will not be detailed here they all follow common sense guidelines. Light Buildings offer more protective cover than Open terrain and Heavy Woods are more difficult to move through than Light Woods. Of special note are such areas as Lakes and other bodies of water. Those listed as Level 0 means that a Bot entering such an area is half-submerged. This not only helps protect the Bot from enemy attacks but also helps dissipate excess Heat.

Finally, it is important to know what Direction everyone is facing for the purposes of movement and combat. Each Bot can face any one of eight different Directions. Direction 1 faces toward the top of the map, Direction 3 faces to the right, Direction 5 faces toward the bottom of the map, and so on.

## **4.8 Victory Points & Winning The Game**

The primary object of the game, of course, is to win. To do so you must aggressively attack your opponents and get the highest possible Victory Rating. Not only is your Victory Rating important to win the game but it also determines the number of bonus Experience Points earned at the end of play for use in increasing your Pilot's Attributes.

In most cases, games are won by the team with the highest Victory Rating. This Rating is determined by adding up the total Victory Points earned by all members of your team (excluding CPs) and dividing this figure by the total tonnage of all Bots on your team. Thus it is not always the team with the most Victory Points that wins, it is the team with the best Victory Rating. The individual winner is determined the same way: by dividing each Bot's total Victory Points by its original tonnage. Therefore a smaller Bot does not have to get as many points as a larger Bot to win. For example, if a 50 ton Bot and a 100 ton Bot both ended a game with 100 Victory Points the 50 ton Bot, with a Rating of 2.0, would win over the 100 ton Bot with a Rating of 1.0.

Victory Points are awarded for successfully attacking enemy Bots and Command Posts. You will receive approximately 1 Victory Point for every point of damage you inflict upon an enemy Bot and 2 Victory Points for every point of damage you inflict upon an enemy Command Post.

