**For future references: 25 tics = one second. 1500 tics = one minute.**

**When a value admit something more than “0” and “1” turning that value to “0” may crash the game.**

**Player number**: A fixed value that differentiates all sides. This value doesn't change when importing a preexisting AI. Don't touch this!

**AI Enable**:

0 = The AI is inactive. Units still can move and shoot while an enemy side is near. Harvesters act as usual. This is inactive on the player's side, of course.

1 = The AI is active. Units and structures may be built; the AI will send attacks, etc.

**Enable Practice**:

0 = The AI will behave like a Campaign type of AI. It won't expand the base nor sell its buildings when unable to earn more money or build more units.

1 = The AI will behave like a Skirmish type of AI. It will deploy an MCV, expand the base, and sell its buildings if unable to earn more money or build more units.

**Buy Units**:

0 = The AI won't order units through the starport.

1 = The AI will order units through the starport.\*

\*The AI will never use the Starport on his own on easy difficulty.

**Upgrade Buildings**:

0 = The AI doesn't upgrade any buildings.

1 = The AI upgrades its buildings.\*

\*Upgrades take priority over everything else. The AI will immediately upgrade all buildings as soon as they can.

**Don’t sell**:

0 = If the AI runs out of energy and can't rebuild or afford to power its base, it may sell a building to have positive energy.\*

1 = The AI will never sell its buildings.\*\*

\*Normal AIs will prefer to sell non-factory buildings first if low on power, like turrets or the Outpost.

\*\*Practice AIs still will sell all the buildings when out of options since they go berserk.

**Squish Infantry**:

0 = AI heavy vehicles will only shoot at infantry units, though may crush by accident.\*  
1 = AI heavy vehicles may try to roll over and crush infantry units.

\*AI-owned Harvesters will crush infantry units regardless of the option chosen.

**Guard Building**: Unused/Unknown.

**Recongnise Threat**: Unused/Unknown.

**Repair Units & Repair Guarding Units**\*:

1 = Damaged units will go to the Repair Pad. This affects pre-placed units.

0 = No units will be repaired.

\*Both of these must be set to 1 for it to work. If either is 0, the AI won’t repair any of his units.

**Airlift And Attack**:

0 = AI attacks at the defined time.\*

1 = AI will synchronize its attack with a reinforcement near the defined time, if possible.\*  
\*The defined time is set on the “First Attack Building Delay” and “Time Between Building Attacks” lines.

**Rebuild Buildings**:

0 = The AI doesn't rebuild buildings lost.

1 = The AI rebuilds buildings lost if possible.

**Harvesters Per Refinery**: How many Harvesters the AI will build per Refinery. It will build as many Harvesters as needed to fill this value. Harvesters have priority at the Heavy Factory over combat units and can be ordered from the Starport as well.

**Carryalls Per Refinery**: How many Carryalls the AI will build per Refinery. It will build as many Carryalls as needed to fill this value. Carryalls can be ordered from the Starport as well.

**First Attack Building Delay**: Time in tics the AI will wait before his first attack.\*

\*The time is affected by "Timing Random Percentage".

**Time Between Buildings Attacks**: Time in tics the AI will wait every other attack after the first.\*

\*Fixed timer, not affected by the "**Timing Random Percentage**".

**Note**: It’s recommended that the number ends with “**00**”, or else the AI may stop attacking because a bug.

**Attack Building Strength:** % of the overall ready-to-attack units strength\* that will be used to attack.\*\*

\*The strength is measured based on the hit points of the units. The first units produced will have priority while counting the % strength.

\*\*”**Group Size Random Percentage**” value adds power to the attacks at random.

**Protect Strength**: % of the overall units strength\* the AI has that will be sent to protect their units\*\*

\*Same as above.

\*\*Only works if any of the “**Protect Unit <unit>**" lines is set to 1.

**Defend Strength**: % of the overall units strength\* the AI has that will be sent to defend their buildings.

\*Same as above.

**Squish Range:** Unused / unknown.

**Free Percentage**: % of the strength\* of the manually placed units (not being spawned) that will act as if they were spawned via a “Unit spawn” event.

\*Strength = Hit points.

**Emergency Build Rate**: Time in tics that the AI will wait to build his next unit when under siege.\*

\*This has priority over the “**Unit Build Rate**” value and ignores “**CashStash**” values.

**Max Attack Unit Groups:** Unused / unknown.

**Max Attack Building Groups**: Unused / unknown.

**Max Protect Groups**: Unused / unknown.

**Max Defend Groups:** Unused / unknown.

**Max Guard Groups**: Unused / unknown.

**Min Base Strength**: Unused / unknown.

**Max Base Strength**: Unused / unknown.

**Base Defence Radius**: Unused / unknown, but may be based in mathematics in base 2 (Binary).

**Guard Group Size**: Strength\* of the units that will walk around the buildings.\*\*

\*Strength = Hit points.

\*\*The size of the AI’s base affects this value proportionally.

**Attack Building Random Percentage:**  Unused / unknown.

**Build Unit Random Percentage:** Unused / unknown.

**Timing Random Percentage**: Randomizes the “**First time Attack Building Delay**” value by the specified percentage. May be positive or negative.

**Group Size Random Percentage:** Randomizes the “**Attack Building Strength**” value by the specified percentage.

**Building Repair tics**: Time in tics the AI waits before repairing a building.

**Unit Repair tics:** Time in tics the AI waits before sending a unit to repair.

**Special Weapon Delay**: Time in tics the AI waits until using the special weapon (Fremen, Saboteur, Death Hand) from the beginning of the game.

**Morale Modifier:** Unused / unknown.

**Min Morale:** Unused / unknown.

**Airlift Percentage:** Unused / unknown.

**Unit Build Rate:** Interval in tics between building new units, if possible.

**Protect tics**: Time in tics the AI waits to react when a unit is under attack.

**Defend tics**: Time in tics the AI waits to react when a building is under attack.

**Group [speed Weight]:**= Unused / unknown.

**Group [HP Weight]:** Unused / unknown.

**Group [Fire Power Weight]:** Unused / unknown.

**Group Cash Stash [X]** = Unused/Unknown.

**Cash Stash Build Building:** If the AI has less credits than this amount, the AI won’t build any new buildings with the exception of Refineries.

**Cash Stash Build Units:** If the AI has less credits than this amount, the AI won’t build new units except Harvesters, which is dependent on the corresponding “**CashStash”** value for Harvesters. If no Refineries are present, the AI will build other units until it runs out of credits.

**Group [Morale]:** Unused / unknown.

**Morale Attack Building:** The lower this number is, the less allied units need to die to make this AI to stop attacking or retreat for a certain time.

**Defend Building Priority [Building]**: Unused/Unknown.

**Attack Building Priority [Building]**: The higher the value, more probable it is the AI will attack a particular building.\*

\*AIs prioritize human players. If all the values are 0, the AI will attack the nearest unit or building possible belonging to any enemy.

**Group [Building Repair Value [Building]]:** It’s the HP threshold the AI will wait until starting to repair the specific building: by default the value it’s at 0,660, which means the 66% of the total Health Points. With 0,000 the AI never repair the building and with 0,999 the reparations starts as soon as the build is damage.

**Group [Time Before Rebuilding [Building]]**: Unused/Unknown.

**Build Ratio [Building]:** Sets the order which the AI will build all the buildings available (concrete is not affected). Will start with the biggest value. When more copies of a certain type of building will be constructed, the ratio gets divided by the number of copies of that building that already exists. The number of buildings a Skirmish-type AI will build is dependent on the number set in “**Max Buildings”**. The AI will ignore power and build what it's told to build, so if you want your AI to keep its power up, you will need to calculate when each structure will be built.

**Example**:

This AI will build these buildings with these priorities\*

**Build Ratio Windtrap** = 10.000\*\*

**Build Ratio Refinery** =7.000\*\*

**Build Ratio Barrack** = 4.000\*\*

\*Decimals can be used and are considered when the AI divides the ratio to determine its own build order.

\*\*In this example, “**Max Buildings**” for each of these will be set to 3.

**The AI will build them in this order:**

1º Windtrap: 10

1º Refinery: 7

2º Windtrap: (10/2)= 5

1º Barrack: 4

2º Refinery: (7/2)= 3.5

3º Windtrap: (10/3)= 3.3

3º Refinery: (7/3)= 2.3

2º Barrack: (4/2)= 2

3º Barrack: (4/3)= 1.3

**Group [Max Buildings [Building]]:** Maximum amount of the specific buildings that this AI will build. Only Affects skirmish type of AI.

**Group [Attack Side Priority [Side]]:** Unused / unknown.

**Protect Unit [Unit]**: Setting any unit to 1 will make the AI react when that specific type of unit is attacked, sending units to protect it.

**Group [Unit Build Priority [Unit]]:** Set the proportions which the AI will build all the units available.

**Example:**

This AI has these priorities on these units\*

Unit Build Priority Infantry = 5.000

Unit Build Priority Trooper =3.000

Unit Build Priority Trike = 1.000

This means that for every Trike built, 3 Troopers and 5 Infantry will be trained (or vice versa).  
\*Decimals can be used.

**Unit Repair Value [Unit]**: It’s the HP threshold the AI will wait until sending the unit to the Repair pad: by default the value it’s at 0,500, which means the 50% of the total Health points. With 0,000 the AI never repair the vehicle and with 0,999 the reparations starts as soon as the unit it’s damage and it’s doing any other job like defending the base or protecting a unit.

**Defence Areas**: The number of defense areas that should be active. Using more than 2 for one AI may crash the game.

**Defend Area # Min X**: First horizontal coordinate for the corresponding defense area.\*

**Defend Area # Max X**: Second horizontal coordinate for the corresponding defense area.\*

**Defend Area # Min Y**: First vertical coordinate for the corresponding defense area.\*

**Defend Area # Max Y**: Second vertical coordinate for the corresponding defense area.\*

\*The AI will keep units on rock tiles within defense areas to prevent units from being eaten by the worm. They will still stage attacks on any aggressors within the defense area from wherever the safety of rock is found. If no rock it’s on the area they will move to the center of the rectangle without moving around, but they still will defend against any invader that enter that area.

**Defend Area # Unknown 1:** Set this to 255.\*

**Defend Area # Unknown 2**: This value define the strength\*\* that the AI will use to send units to defend this area.

**Defend Area # Start Delay**: Time in tics before the AI will occupy this defense area with available units.

**Defend Area# Unknown 3**: Set this to 25000.\*

\*These are currently still unknown. The listed values were used in a defense area found in the original game.

\*\*Strength = Hit points.

**Unknown Byte [X]:** Unused / unknown.\*

\***Unknown Byte 29**: If this byte it’s set to 0, “**Area Guard Size**” no longer has any effect.

**Extra Notes**:

Strength (Hit Points) of every unit:

|  |  |  |  |
| --- | --- | --- | --- |
| Unit: | Strength | Unit | Strength |
| Light Infantry | 600 | **Sardaukar** | 1000 |
| Trooper | 700 | **MP Sardaukar** | 1000 |
| Engineer | 500 | **Fremen** | 700 |
| Trike | 900 | **Stealth Fremen** | 700 |
| Raider | 1000 | **Saboteur** | 400 |
| Quad | 1100 | **Thumper Infantry** | 375 |
| Combat Tank (A) | 2100 | **Sonic Tank** | 3000 |
| Combat Tank (H) | 2700 | **Deviator** | 1100 |
| Combat Tank (O) | 1800 | **Devastator** | 5000 |
| Missile Tank | 1300 | **Grenadier** | 600 |
| Siege Tank | 1200 | **Stealth Raider** | 1000 |

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