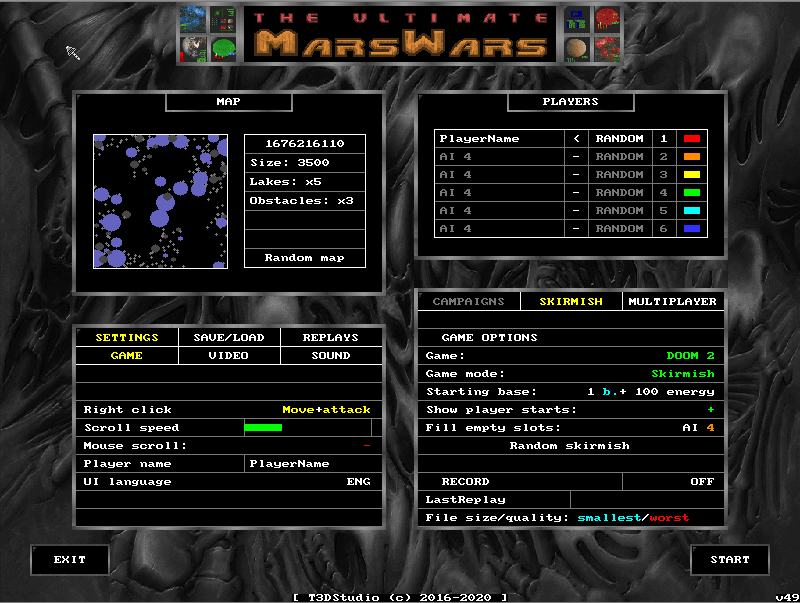
**The Ultimate**

**MarsWars**



**The Ultimate MarsWars** – is a real-time strategy game set in the Doom 2 universe.

**Main menu**

**Section MAP**

Map settings:

*Number (0-4294967295)* – determines obstacles positions. Right click - generate random value.

*Size* – map size in pixels (value between 3000-7000 with step of 500).

*Lakes* – "lake's" obstacles part.

*Obstacles* – count of obstacles.

*Random map* – set random map settings.

Liquid type in lakes (water, slime, blood, mud or lava) and land texture depend on *Number*.

Lava and slime do not damage units.

**Section PLAYERS**

Players table.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Player name | Status | Side | Team | Color |
|  | | | | |

Fields:

*Player name*:

- If *Status* = «**C**» (computer player), left click here to switch AI level;

- If *Status* = «**C**» (computer player) or «**-**» (empty slot), right click here to move you on this line.

*Status*:

«-» – Empty slot;

«**C**» – Computer player.

For multiplayer game:

«**+**» or «**-**» – Player «ready» status;

«**?**» – Connection problem;

«**@**» – Host player (server);

«**<**» – You position.

*Side* – **Hell** or **UAC**.

*Team* – 1-6, players with equal team number will be allies.

*Color* – player color cannot be changed.

In multiplayer game only host-player (server) can change *Status*, *Team* or *AI level* of computer players on this table.

**Section SETTINGS**

Subsection «GAME»:

*RIGHT CLICK* – order type for units on right click.

If field value = «Move+attack», then order on right click = «*move, attacking all enemies on way*» and right click + *Ctrl* key = «*move, ignoring enemies*».

If field value = «Move», then right click = «*move, ignoring enemies*» and right click + *Ctrl* key = «*move, attacking all enemies on way*».

*SCROLL SPEED* – camera move speed;

*MOUSE SCROLL* – turn off/on of mouse scroll;

*PLAYER NAME* – you name in game, cannot be changed when game started or multiplayer game created;

*INTERFACE LANGUAGE* – English or Russian.

Subsection «VIDEO»:

*WINDOW RESOLUTION*: 800\*600 / 960\*720 / 1024\*768;

*WINDOWED* – full screen or windowed;

Subsection «SOUND» - music and game sounds volume.

**Section SAVE/LOAD**

Save and load game. You cannot save/load game in multiplayer mode.

**Section REPLAYS**

Game replays.

**Section CMPAINGS**

Missions list of campaign.

**Section SCIRMISH**

Subsections *GAME OPTIONS* and *RECORD*. You can turn off/on game record anytime.

**Section MULTIPLAYER**

Server/client settings and game chat.

**Dedicated server**

*Dedicated server* – special game console version, where it does not loading any game resources and start working immediately as server.

To start *dedicated server*, run it with follow parameters:

MarsWars\_ded.exe [X]

where Х - UDP port (optional argument, default value - 10666).

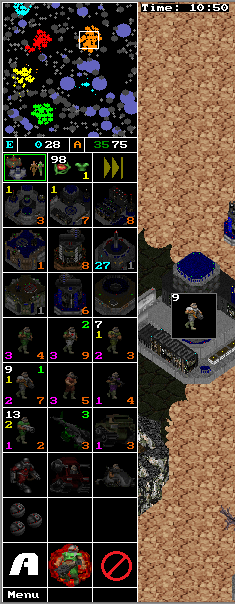
After connect to dedicated server, you can manage it through chat using text commands.

*-h* or *-help* – show all exist chat-commands;

Game automatically start when all player ready (Field *Ready* = «+»).

Server reset game after 10 seconds after last player disconnect.

**Game mechanics**

**Game control panel**

From top to down:

*Game minimap:*

Minimap alarm indicators types:

- White pulse circle – units alarm;

- White pulse square – buildings alarm.

*Line under minimap:*

*Energy* section – free energy level and maximum energy level;

*Army* section – total number of **buildings** and **all units** (units + buildings).

*Tabs:*

- *Units and buildings*;

- *Upgrades/researches*;

- *Replay management*.

Tab «*replay management*» active only when record playback.

Tab «*units and buildings*»:

- first 9 icons – buildings;

- next 12 icons – units;

- next 3 icons – special units icons (for **UAC** - count of **Mines**, for **Hell** – count of **Zombies** and **Hell Eyes**);

- next 3 icons – icons of some orders;

- last 2 buttons:

-- «Menu»;

-- «Pause» - turn on/off game pause (available only in multiplayer game).

Numbers on tab of «*upgrades/researches*»: white number – time to end of nearest research; yellow number – total count of current researches in progress.

Numbers on icons of buildings/units:

*(for buildings and units)*

- on right down (orange or gray color): total count of this type of building/unit. If numbers have gray color – count of these buildings/units reached limit;

- on right top (green color): total count of selected buildings/units of this type;

- on left top (yellow color): total count of this buildings/units type in production;

- on left top (white color): time to end of nearest unit production;

- on left down (purple color): number units of this type in selected transport;

*(on left down, for buildings only)*

- **UAC Radar**, **UAC Tech Center**, **UAC Rocket Launcher Station,** **Hell Teleport**, **Hell Altar**: reload time;

- **UAC Rocket Launcher Station**: missiles count;

- **Hell Monastery**: Hell Powers’s charges;

- **Hell Altar:** Invulnerability spheres;

*(for upgrades)*

- on right top: green color - research level; gray color – upgrade research level reached maximum; yellow - total count of this upgrade type in production.

**Icons hint format**



*Short description* (HOTKEY) [PRODUCTION TIME] {energy} xupgrade max level

*Description*

Requirements: *(if exits)*

**\*** it possible to produce this upgrade in many buildings at time.

**Unit selection and orders**

Use left mouse button to select unit and right - to command it.

You can add units to selection with «**Shift**» button. Double click on unit to select all of it type on screen.

To bind units to hotkey-group - select it and press «**Ctrl**»+«**1..9**». Fast double press on group hotkey to move camera to this group. Also, «**Ctrl**»+«**A**» combination will select all battle units on map.

Orders:

- Right click to any point - move and attack all enemy on way;

- Right click with Ctrl - just move;

You can switch these actions in **SETTINGS** section in main menu.

- Right click to enemy unit – attack this enemy unit;

- Right click to ally unit – follow it and attack all enemies on way.

- «Action» («**Ctrl**» + «**Space**» hotkeys or  button) – do some ability (if unit have it).

- «Destroy» («**Delete**» hot key or  button) – destroy selected units.

- «Cancel» («**Space**» hot key or  button) – cancel order (for units – stop here; for production buildings – abort current production);

To fast select some special buildings (**UAC Radar**, **Tech Center,** and **Rocket Station**, **Hell Monastery**, **Teleport** and **Altar**) click on it icon or press hot key.

For buildings, which can produce units, you can set rally-point with right click.

**Build base, units and upgrades production**

For build you must have at least 1 main building. Press on building icon on control panel to select which building type you need. It start draw circle around cursor. Radius of circle is radius of building. If circle is **red** - not enough space, if **blue** - too far from builder, if **green** - you can start build here. Right click to cancel selection. If icons are disabled, it can mean: there is no one main building, number of buildings of this type reached limit, not enough energy or not satisfied requirements. There is cooldown for 2 seconds between starting build any building.

Unit’s icons enabled when there is at least one **Hell Gate** or **UAC Military unit**, army size less than limit, number of this unit less than maximum, enough energy and requirements are satisfied. When you click on unit icon while no one **Hell Gate/UAC Military unit** is selected - order to start produce unit will send to any idle building. If any **HG/MU** is selected - order will send to him. One building can produce only one unit at one time.

For **Hell** side, press on zombie icon  to start zombie production in **Hell Military** **unit** and use «Action» order to change Zombie type.

Upgrades icons enabled when there at least one **Hell Pools** or **UAC Weapon Factory**, enough energy, upgrade research level less than maximum and requirements are satisfied. Most upgrade can be researched in one building at time.

**Moving camera**

To move camera, use arrows buttons on keyboard or middle mouse button. Also, you can move camera with cursor - move it to screen border (this feature must be turn on in **SETTINGS** section in menu). Change camera scroll speed in **SETTINGS** section in menu.

**Hot keys**

**TAB** – switching game control panel tabs;

Tab «*Units and buildings*»:

**Q W E A S D Z X C** - buildings;

**R T Y F G H V B N U I O** – units;

**M** – start zombie production in Hell Military unit;

Tab «*Upgrades/researches*»:

**Q W E A S D Z X C R T Y F G H V B N U I O J K** – upgrades;

- «**Ctrl**» + «**Space**» («Action») – do some ability (if unit have it).

- «**Delete**» («Destroy») - destroy selected units.

- «**Space**» («Cancel») – cancel order (for units – stop here; for production buildings – stop current production);

-«**Alt**» - draw colored rectangles and health bars above units;

-«**Ctrl**» +«**A**» – select all battle units on map.

- «**Pause/Break**» **–** pause/continue game in network game. Client can't cancel server's pause.

-«**PrtScr**» - make screenshot.

**Resources and army limit**

There is no gold/wood/minerals/etc. like in other RTS games. There is energy level that means how many units produce/build buildings/research upgrades at one time you can.

Maximum unit count (all units + all buildings!) for all players - 110.

**Game settings**



Game:

- **DOOM 2** – «*DOOM 2*» mode.

- **UDOOM** – «*The Ultimate DOOM*» mode; there is no additional buildings/units/upgrades and some difference in game balance.

Game mode:

**Skirmish** - default mode - you must destroy all enemy players;

**Two bases** - 3х3 – red+orange+yellow vs green+aqua+blue players.

**Three bases** - 2х2x2 – red+orange vs yellow+green vs aqua+blue players.

**Invasion** - all players in one team. You need survive for 20 waves of powerful monsters.

**Capturing points** - there is 6 points on map that needs to capture. Capturing process will be faster if you use many units for this. Point will heal units in it.

**Assault** – like invasion, but you must destroy enemy base in center of map.

Starting base: player resources on game start;

Show player starts: if “**+**” game show you players start positions on map.

Fill empty slots: if set, empty player slots will filed with AI players;

Random skirmish: set random map and random game settings.

**Units and buildings**

**Base things for units and buildings**

**Detector** - unit/building that can detect invisible units.

Unfinished buildings have less armor and take more damage. If maximum energy level = 0 - all buildings will explode. In non-campaign games, if player loss all their builders – all his units revealed on map.

Armor will decrease damage.

Every unit can be advanced. Advanced units have some ability or increased some parameters.

Advanced unit have white symbol on selection rectangle: .

Invulnerable unit have white aura: .

Unit-detector have this icon: .

Units categories:

*Mechanical*:

- ***buildings***;

- ***mechs***;

*Biological:*

*-* ***light***;

- ***medium***;

- ***massive***;

- *Ground*;

- *Air (soaring and fly)*;

**HPS** – hits per second.

**SDR** – splash damage range.

**BUILDINGS**

**HELL**

|  |  |  |  |
| --- | --- | --- | --- |
| **Sprite** | **Icon**  **/**  **Hot key** | | **Description** |
|  | **C:\Users\TGA\AppData\Local\Microsoft\Windows\INetCache\Content.Word\b_h_b0.png**  **Q** | **Hell Keep**   |  |  | | --- | --- | | **Hits** | 3000 | | **Size** | 66 | | **Building time** | 75 | | **Base sight radius** | 280 | | **Max count** | Unlimited | | **Energy required** | 8 | | **Energy provided** | 6 |   Main building. Allows you to build base.  **Possible upgrades:**  - **Hell Keep teleportation** – allow **HK** to teleport to any map place;  - **Decay Aura** – **HK** start damage enemy units around;  - **Sight radius upgrade**;  - **Free teleportation** – allow **HK** teleporting on map obstacles;  - **Built-in Hell Symbol** – increase provided energy level. | |
|  | **C:\Users\TGA\AppData\Local\Microsoft\Windows\INetCache\Content.Word\b_h_b1.png**  **W** | **Hell Gate**   |  |  | | --- | --- | | **Hits** | 1500 | | **Size** | 60 | | **Building time** | 41 | | **Sight radius** | 200 | | **Max count** | Unlimited | | **Energy required** | 4 |   Produce units. | |
|  | **C:\Users\TGA\AppData\Local\Microsoft\Windows\INetCache\Content.Word\b_h_b2.png**  **E** | **Hell Symbol**   |  |  | | --- | --- | | **Hits** | 200 | | **Size** | 24 | | **Building time** | 10 | | **Sight radius** | 200 | | **Max count** | Unlimited | | **Energy required** | 1 | | **Energy provided** | 1 |   Provide energy.  **Possible upgrades:**  - **Short distance teleportation**; | |

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|  | **C:\Users\TGA\AppData\Local\Microsoft\Windows\INetCache\Content.Word\b_h_b3.png**  **A** | **Hell Pool**   |  |  | | --- | --- | | **Hits** | 1000 | | **Size** | 53 | | **Building time** | 41 | | **Sight radius** | 200 | | **Max count** | Unlimited | | **Energy required** | 6 |   Research upgrades. |
|  | **C:\Users\TGA\AppData\Local\Microsoft\Windows\INetCache\Content.Word\b_h_b4.png**  **S** | **Hell Tower**   |  |  | | --- | --- | | **Hits** | 700 | | **Size** | 21 | | **Building time** | 20 | | **Base sight/attack radius** | 250 | | **Max count** | Unlimited | | **Energy required** | 2 |   Defense structure. Attacking all units with **Revenant** fireballs, but **Revenants** - with **Cacodemon** fireballs.  **Possible upgrades:**  **-** **Range attack upgrade**;  - **Attack/sight radius upgrade**;  - **Short distance teleportation**. |
|  | **C:\Users\TGA\AppData\Local\Microsoft\Windows\INetCache\Content.Word\b_h_b5.png**  **D** | **Hell Teleport**   |  |  | | --- | --- | | **Hits** | 500 | | **Size** | 28 | | **Building time** | 25 | | **Sight radius** | 200 | | **Max count** | 1 | | **Energy required** | 4 |   Teleport units to any point: select **Hell Teleport** and do right click to set destination point; select units and do right click on **Hell Teleport** or it icon. Reload time after teleportation depend from unit power. Can teleport allies units.  **Possible upgrades:**  - **Teleport upgrade** – decrease reload time;  - **Reverse teleport** - units can teleport back to **Hell Teleport**. |

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|  | **C:\Users\TGA\AppData\Local\Microsoft\Windows\INetCache\Content.Word\b_h_b6.png**  **Z** | **Hell Monastery**   |  |  | | --- | --- | | **Hits** | 1000 | | **Size** | 65 | | **Building time** | 100 | | **Sight radius** | 200 | | **Max count** | Unlimited | | **Energy required** | 10 | | **Requirements** | ***Hell Pool*** building |   Can advance units.  **Possible upgrades:**  - **Hell Power** – charges for units advancing;  There is 2 methods to make advance any unit:  1) Select **Hell Monastery** and do right click on unit;  2) Select unit and do right click to **Hell Monastery** building or it icon on control panel; |
|  | **C:\Users\TGA\AppData\Local\Microsoft\Windows\INetCache\Content.Word\b_h_b7.png**  **X** | **Hell Totem**   |  |  | | --- | --- | | **Hits** | 600 | | **Size** | 21 | | **Building time** | 25 | | **Base sight/attack radius** | 250 | | **Max count** | Unlimited | | **Energy required** | 3 | | **Requirements** | ***Hell Monastery*** building  ***Ancient Evil*** upgrade |   Advanced defense structure. Attacking like **ArchVile** unit.  **Possible upgrades:**  **-** **Range attack upgrade**;  - **Attack/sight radius upgrade**;  - **Short distance teleportation**;  - **Invisibility**. |
|  | **C:\Users\TGA\AppData\Local\Microsoft\Windows\INetCache\Content.Word\b_h_b8.png**  **C** | **Hell Altar**   |  |  | | --- | --- | | **Hits** | 750 | | **Size** | 50 | | **Building time** | 31 | | **Sight radius** | 200 | | **Max count** | 1 | | **Energy required** | 4 | | **Requirements** | ***Hell Monastery*** building  ***Ancient Evil*** upgrade |   Cast **Invulnerability** on units.  **Possible upgrades:**  - **Invulnerability**- charges for ability. |

**SPECIAL BUILDINGS**

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| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Hell Eye**   |  |  | | --- | --- | | **Base sight radius** | 250 | | **Max count** | Unlimited | | **Requirements** | ***Lost Soul*** unit  ***Hell Eye*** upgrade |   Detector. Summoned by a **Lost Soul**. Live time - 2 minutes. Dies after single hit.  **Possible upgrades:**  - **Hell Eye** – increase sight radius;  - **Invisibility**; |
|  | **Hell Military Unit**   |  |  | | --- | --- | | **Hits** | 1500 | | **Size** | 70 | | **Sight radius** | 200 | | **Max count** | Unlimited | | **Requirements** | advanced ***Lost Soul*** unit |   Produce **zombies** and **Hell** units. To start **zombie** production – press  bottom on control panel or **M** hot key. To change **zombie** type – select **Hell Military Unit** and do «Action» order. |

**Possible upgrades for all Hell buildings:**

- **Buildings armor upgrade**;

- **Building restoration** – restoration for damaged buildings.

In **UDOOM** game mode **Building restoration** ability working without upgrade.

**Hell** can’t build **Hell Totem** and **Hell Altar** in **UDOOM** mode.

**UAC**

|  |  |  |  |
| --- | --- | --- | --- |
| **Sprite** | **Icon**  **/**  **Hot key** | | **Description** |
|  | **Q** | **UAC Command Center**   |  |  | | --- | --- | | **Hits** | 4000 | | **Size** | 66 | | **Building time** | 93 | | **Base sight radius** | 280 | | **Max count** | Unlimited | | **Energy required** | 8 | | **Energy provided** | 6 |   Main building. Allows you to build base.  **Possible upgrades:**  - **Command Center flight** - **Command Center** gains ability to fly (use «Action» order to fly up or land **CC**);  - **Sight radius upgrade**; this upgrade have effect on **CC** only when it on ground;  - **Command Center Turret** – **CC** can attack when it flying (attacking like **Major**, 2 HPS, 250 range);  - **Free placement** – **CC** can land to obstacles. | |
|  | **W** | **UAC Military Unit**   |  |  | | --- | --- | | **Hits** | 1700 | | **Size** | 66 | | **Building time** | 40 | | **Sight radius** | 200 | | **Max count** | Unlimited | | **Energy required** | 4 |   Produce units. | |
|  | **E** | **UAC Generator**   |  |  | | --- | --- | | **Hits** | 400 | | **Size** | 42 | | **Building time** | 20 | | **Sight radius** | 200 | | **Max count** | Unlimited | | **Energy required** | 2 | | **Energy provided** | 2 |   Provide energy. | |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **A** | **UAC Weapon Factory**   |  |  | | --- | --- | | **Hits** | 1700 | | **Size** | 62 | | **Building time** | 40 | | **Sight radius** | 200 | | **Max count** | Unlimited | | **Energy required** | 6 |   Research upgrades. |
| u_b7_3 | **S** | **UAC Chaingun Turret**   |  |  | | --- | --- | | **Hits** | 400 | | **Size** | 17 | | **Building time** | 15 | | **Base sight/attack radius** | 250 | | **Max count** | Unlimited | | **Energy required** | 2 | | **Attack** | 12  4 HPS |   Defense structure. Attacking like **Mastermind** unit.  **Possible upgrades:**  **-** **Range attack upgrade**;  - **Attack/sight radius upgrade**;  - **Turrets armor**;  - **Rocket turrets** – can upgrade to **Rocket turret** (use «Action» order, required 2 energy points and **UAC Tech Center**). |
|  | **D** | **UAC Radar**   |  |  | | --- | --- | | **Hits** | 500 | | **Size** | 35 | | **Building time** | 31 | | **Base sight radius** | 200 | | **Max count** | 1 | | **Energy required** | 2 |   Reveals map. To reveal any map area – select **Radar** and do right click on this area.  **Possible upgrades:**  - **Detectors**;  - **Radar upgrade** - Increase radar scouting time and radius. |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Z** | **UAC Tech Center**   |  |  | | --- | --- | | **Hits** | 1700 | | **Size** | 62 | | **Building time** | 94 | | **Sight radius** | 200 | | **Max count** | 1 | | **Energy required** | 10 | | **Requirements** | ***UAC Weapon Factory*** building |   Can advance units.  **Possible upgrades:**  **- Advanced armory** - **Tech Center** will be able to upgrade units;  **- Fast rearmament** - decrease **Tech Center** upgrade reloads time.  To advance unit, select unit and do right click on **Tech Center** or it icon on control panel. |
| u_b4_3 | **b_u_b4**  **X** | **UAC Plasma Turret**   |  |  | | --- | --- | | **Hits** | 400 | | **Size** | 17 | | **Building time** | 20 | | **Base sight/attack radius** | 250 | | **Max count** | Unlimited | | **Energy required** | 2 | | **Requirements** | ***UAC Weapon Factory*** building |   Defense structure. Attacking like **Major** unit.  **Possible upgrades:**  **-** **Range attack upgrade**;  - **Attack/sight radius upgrade**;  - **Turrets armor**;  - **Rocket turrets** – can upgrade to **Rocket turret** (use «Action» order, required 2 energy points and **UAC Tech Center**). |
|  | **C** | **UAC Rocket Launcher Station**   |  |  | | --- | --- | | **Hits** | 500 | | **Size** | 40 | | **Building time** | 31 | | **Sight radius** | 200 | | **Max count** | 1 | | **Energy required** | 4 | | **Requirements** | ***UAC Tech Center*** building |   Provide a missile strike. Missile strike requires "**Missile strike**" research. Missile have 250 damage and 150 **SDR**. Deal x0,25 damage to *light* units, x1,5 to *buildings* and x0,5 to *air*. |

**SPECIAL BUILDINGS**

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| u_mine | **---** | **Mine**   |  |  | | --- | --- | | **Hits** | 1 | | **Size** | 5 | | **Base sight radius** | 100 | | **Max count** | Unlimited | | **Requirements** | advanced ***Engineer*** unit |   Set by advanced **UAC Engineers**.  **Possible upgrades:**  **- Detectors**;  - **Mine-sensor** – mine can switch to sensor mode that provide 300 sightranges and not explode under enemy unit (use «Action» order to switch mode). |
| C:\Users\TGA\AppData\Local\Microsoft\Windows\INetCache\Content.Word\u_b9_3.png | **---** | **UAC Rocket Turret**   |  |  | | --- | --- | | **Hits** | 500 | | **Size** | 17 | | **Building time** | 20 | | **Base sight/attack radius** | 250 common  190 against *air* | | **Max count** | Unlimited | | **Energy required** | 2 | | **Requirements** | ***UAC Tech Center*** building  ***Rocket turrets*** upgrade |   Defense structure. Attacking like **Cyberdemon** unit with 0,6 HPS.  **Possible upgrades:**  **-** **Range attack upgrade**;  - **Attack/sight radius upgrade**;  - **Turrets armor**; |

**Possible upgrades for all UAC buildings:**

- **Buildings armor upgrade**.

**UAC** can’t build **UAC Rocket Launcher** and **UAC Rocket Turret** in **UDOOM** mode.

**UNITS**

**HELL UNITS**

All **Hell** units have «*pain state*» - state when it stun and cannot attack and move. «*Pain state*» happens every X hit from most attacks or more often from other.

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| --- | --- | --- |
| **Sprite** | **Icon**  **/**  **hot key** | **Description** |
| C:\Users\TGA\AppData\Local\Microsoft\Windows\INetCache\Content.Word\h_u0_6.bmp | **C:\Users\TGA\AppData\Local\Microsoft\Windows\INetCache\Content.Word\b_h_u0.bmp**  **R** | **Lost Soul**   |  |  | | --- | --- | | **Class** | *soaring, light* | | **Hits** | 90 | | **Production time** | 8 | | **Energy required** | 1 | | **Speed** | 23 | | **Size** | 10 | | **Sight/attack radius** | 250 | | **Pain state** | every 3 hit | | **Attack** | 10  1 HPS |   Fast air melee unit. Deal x0,5 damage to *ground* units and x0,25 to *mechanical* units. Advanced **Lost Soul** can capture **UAC infantry**/**UAC Military Unit** and transform it to **zombies**/**Hell Military Unit** (**UAC Military Unit** must have < 2/3 hits).  **Possible upgrades:**  - **Melee attack upgrade**;  - **Hell Eye** – **Lost Soul** can transform to **Hell Eye** (use «Action» order); |
|  | **C:\Users\TGA\AppData\Local\Microsoft\Windows\INetCache\Content.Word\b_h_u1.bmp**  **T** | **Imp**   |  |  | | --- | --- | | **Class** | *ground, light* | | **Hits** | 70 | | **Production time** | 5 | | **Energy required** | 1 | | **Speed** | 9 | | **Size** | 12 | | **Sight/attack radius** | 250 | | **Pain state** | every 3 hit | | **Attack** | 12  1 HPS |   Weak ground unit with ranged attack. Deal x0,5 damage to *air* and *mechanical* units. Attacking other **Imps** only with melee attack (damage same as ranged attack). Advanced **Imp** has 2 HPS.  **Possible upgrades:**  **- Firepower** – increase missiles speed. |

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|  | **Y** | **Demon**   |  |  | | --- | --- | | **Class** | *ground, medium* | | **Hits** | 150 | | **Production time** | 8 | | **Energy required** | 2 | | **Speed** | 15 | | **Size** | 14 | | **Sight/attack radius** | 200 | | **Pain state** | every 8 hit | | **Attack** | 40  1 HPS | | **Base armor** | 2 |   Fast ground unit with melee attack. Cannot attack *air* units (except Lost Soul). Advanced **Demon** has invisibility.  **Possible upgrades:**  - **Demon**’**s anger** – increase Demon’s movement speed and attack. |
|  | **F** | **Cacodemon**   |  |  | | --- | --- | | **Class** | *air, medium* | | **Hits** | 225 | | **Production time** | 20 | | **Energy required** | 2 | | **Speed** | 9 | | **Size** | 14 | | **Base sight/attack radius** | 250 | | **Pain state** | every 6 hit | | **Attack** | 25  0,8 HPS | | **Base armor** | 2 |   Air unit with ranged attack. Deal x1,25 damage to *light* units, 0,75 to *air* and *massive* units, x0,5 to *mechanical* units. Attacking other **Cacodemons** only with melee attack (damage same as ranged attack). Advanced **Cacodemon** has 275 attack and sight ranges.  **Possible upgrades:**  **- Firepower** – increase missiles speed. |
| C:\Users\TGA\AppData\Local\Microsoft\Windows\INetCache\Content.Word\h_u4k_26.bmp | **C:\Users\TGA\AppData\Local\Microsoft\Windows\INetCache\Content.Word\b_h_u4.bmp**  **G** | **Baron of Hell / Hell Knight**   |  |  | | --- | --- | | **Class** | *ground, medium* | | **Hits** | 350 | | **Production time** | 40 | | **Energy required** | 4 | | **Speed** | 9 | | **Size** | 14 | | **Sight/attack radius** | 250 common  190 against *air* | | **Pain state** | every 8 hit | | **Attack** | 50  0,8 HPS | | **Base armor** | 3 |   Heavy ground unit with ranged attack. Attacking other **Barons/Knights** only with melee attack (damage same as ranged attack). Deal x0,5 damage to *light* units, x0,75 to *air* and *mechanical* units. **Baron Of Hell** (red skin) – it advanced **Hell Knight** (white skin). **Baron Of Hell** take x0,5 damage. In **UDOOM** mode this unit spawns as **Baron Of Hell**.  **Possible upgrades:**  **- Firepower** – increase missiles speed. |
|  | **H** | **Cyberdemon**   |  |  | | --- | --- | | **Class** | *ground, massive* | | **Hits** | 2000 | | **Production time** | 90 | | **Energy required** | 8 | | **Speed** | 10 | | **Size** | 20 | | **Base sight/attack radius** | 250 common  190 against *air* | | **Pain state** | every 15 hit | | **Attack** | 100  0,85 HPS  45 SDR | | **Base armor** | 3 | | **Max count** | 1 | | **Requirements** | ***Hell Monastery*** building |   Heavy ground unit with ranged attack. Deal x1,5 damage to *buildings* and x0,5 to *light* units. You can't product **Cyberdemon** when **Mastermind** production in progress. Don't take splash-damage from rockets and grenades. Advanced **Cyberdemon** has 275 attack (against *ground*) and sight ranges. |
|  | **C:\Users\TGA\AppData\Local\Microsoft\Windows\INetCache\Content.Word\b_h_u6.bmp**  **V** | **Spider Mastermind**   |  |  | | --- | --- | | **Class** | *ground, massive* | | **Hits** | 2000 | | **Production time** | 90 | | **Energy required** | 8 | | **Speed** | 10 | | **Size** | 35 | | **Base sight/attack radius** | 250 common  190 against *air* | | **Pain state** | every 15 hit | | **Attack** | 12  9 HPS | | **Base armor** | 3 | | **Max count** | 1 | | **Requirements** | ***Hell Monastery*** building |   Heavy ground unit with ranged attack. Deal x0,5 damage to *buildings*, x0,75 to *mechs* and x1,5 to *light* units. You can't product **Mastermind** when **Cyberdemon** production in progress. Don't take splash-damage from rockets and grenades. Advanced **Mastermind** has 275 attack (against *ground*) and sight ranges. |

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|  | **B** | **Pain Elemental**   |  |  | | --- | --- | | **Class** | *air, medium* | | **Hits** | 200 | | **Production time** | 40 | | **Energy required** | 6 | | **Speed** | 9 | | **Size** | 14 | | **Sight radius** | 250 | | **Attack radius** | 350 | | **Pain state** | every 3 hit | | **Attack** | spawn **Lost Soul**  0.6 HPS | | **Requirements** | ***Hell Monastery*** building |   Flying unit. Spawn **Lost Soul** on attack or on «Action» order. Advanced **Pain Elemental** spawn advanced **Lost Souls** and spawn 3 **Lost Souls** after death. |
|  | **C:\Users\TGA\AppData\Local\Microsoft\Windows\INetCache\Content.Word\b_h_u8.bmp**  **N** | **Revenant**   |  |  | | --- | --- | | **Class** | *ground, light* | | **Hits** | 200 | | **Production time** | 40 | | **Energy required** | 4 | | **Speed** | 12 | | **Size** | 13 | | **Base sight/attack radius** | 250 | | **Pain state** | every 7 hit | | **Attack** | 30  0.8 HPS | | **Requirements** | ***Hell Monastery*** building |   Ground unit with ranged attack. Deal x1,5 damage to *mechs* and x0,75 to *air* and *buildings*. Attacking other **Revenants** only with melee attack (damage same as ranged attack). Advanced **Revenant** has 325 attack ranges.  **Possible upgrades:**  - **Revenant missile upgrade** - missiles become homing. |
|  | **C:\Users\TGA\AppData\Local\Microsoft\Windows\INetCache\Content.Word\b_h_u9.bmp**  **U** | **Mancubus**   |  |  | | --- | --- | | **Class** | *ground, massive* | | **Hits** | 400 | | **Production time** | 60 | | **Energy required** | 6 | | **Speed** | 6 | | **Size** | 20 | | **Sight radius** | 250 | | **Attack radius** | 300 common  150 against *air* | | **Pain state** | every 4 hit | | **Attack** | 35x2  1.2 HPS | | **Base armor** | 3 | | **Requirements** | ***Hell Monastery*** building  ***Ancient Evil*** upgrade |   Strong ground unit with ranged attack. Deal x1,5 to *buildings*, x0,5 to *light* units and x0,75 to *air* and *mechs*. Cannot attack other **Mancubus**. Advanced **Mancubus** have «*pain state*» resist. |
| C:\Users\TGA\AppData\Local\Microsoft\Windows\INetCache\Content.Word\h_u10_36.bmp | **C:\Users\TGA\AppData\Local\Microsoft\Windows\INetCache\Content.Word\b_h_u10.bmp**  **I** | **Arachnotron**   |  |  | | --- | --- | | **Class** | *ground, massive* | | **Hits** | 350 | | **Production time** | 60 | | **Energy required** | 6 | | **Speed** | 9 | | **Size** | 20 | | **Sight/attack radius** | 250 | | **Pain state** | every 4 hit | | **Attack** | 15  4 HPS | | **Base armor** | 4 | | **Requirements** | ***Hell Monastery*** building  ***Ancient Evil*** upgrade |   Strong ground unit with ranged attack. Deal x0,5 damage to all *ground* units. Cannot attack other **Arachnotrons**. Advanced **Arachnotron** has 350 attack ranges against *air*. |
|  | **C:\Users\TGA\AppData\Local\Microsoft\Windows\INetCache\Content.Word\b_h_u11.bmp**  **O** | **ArchVile**   |  |  | | --- | --- | | **Class** | *ground, medium* | | **Hits** | 400 | | **Production time** | 90 | | **Energy required** | 10 | | **Speed** | 15 | | **Size** | 15 | | **Sight radius** | 250 | | **Attack radius** | 400 | | **Pain state** | every 12 hit | | **Attack** | 90  0.4 HPS  15 SDR | | **Base armor** | 3 | | **Requirements** | ***Hell Altar*** building  ***Ancient Evil*** upgrade |   Strong ground unit with ranged attack. Deal x0,5 damage to *buildings*. Advanced **ArchVile** can resurrect dead units. |

**SPECIAL UNITS**

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| h_z0_26 h_z1_26 h_z1s_26 h_z2_26 h_z3_26 h_z4_26 h_z4j_6 h_z5_26 | **Zombies**   |  |  | | --- | --- | | **Class** | *ground / air, light* | | **Size** | 12 | | **Pain state** | every 2 hit |   **UAC Infantry** that corrupted by advanced **Lost Soul**. **Zombies** don't have **UAC Infantry** abilities (**Engineer’s** **mines**, **Medic’s** paralyze bullets). |

**Possible upgrades for all Hell units:**

- **Ranged attack upgrade** (for units with ranged attacks);

- **Unit armor upgrade**;

- **Regeneration** – damaged units will slowly regenerate their health;

- **Pain threshold** - decrease "pain state" chance.

**UAC UNITS**

**UAC** units have no «*pain state*».

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| **Sprite** | **Icon**  **/**  **hot key** | **Description** |
| C:\Users\TGA\AppData\Local\Microsoft\Windows\INetCache\Content.Word\u_u1_26.bmp | C:\Users\TGA\AppData\Local\Microsoft\Windows\INetCache\Content.Word\b_u_u0.bmp  **R** | **Engineer**   |  |  | | --- | --- | | **Class** | *ground, light* | | **Hits** | 100 | | **Production time** | 8 | | **Energy required** | 1 | | **Speed** | 13 | | **Size** | 12 | | **Sight/attack radius** | 220 common  165 against *air* | | **Attack** | 6  1.7 HPS | | **Place in transport** | 1 |   Weak ground unit with ranged attack. Can repair own and allies damaged *mechanical* units. Deal x1,5 damage to *light* units, x0,5 to *massive* and x0,25 to *mechanical* units. Advanced **Engineer** can paralyze *mechs* when attack it.  **Possible upgrades:**  - **Advanced repair and healing** - increase the efficiency of repairing;  - **Mines** - **Engineer** can set **Mines** (use «Action» order). |
| C:\Users\TGA\AppData\Local\Microsoft\Windows\INetCache\Content.Word\u_u0_26.bmp | **T** | **Medic**   |  |  | | --- | --- | | **Class** | *ground, light* | | **Hits** | 100 | | **Production time** | 8 | | **Energy required** | 1 | | **Speed** | 13 | | **Size** | 12 | | **Sight/attack radius** | 220 common  165 against *air* | | **Attack** | 6  1.5 HPS | | **Place in transport** | 1 |   Weak ground unit with ranged attack. Can repair own and allies damaged *biological* units. Deal x1,5 damage to *light* units, x0,5 to *massive* and x0,25 to *mechanical* units. Advanced **Medic** can paralyze *biological* units.  **Possible upgrades:**  - **Advanced repair and healing** - increase the efficiency of healing. |

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| C:\Users\TGA\AppData\Local\Microsoft\Windows\INetCache\Content.Word\u_u2s_26.bmp | **Y** | **Sergeant**   |  |  |  | | --- | --- | --- | | **Class** | *ground, light* | | | **Hits** | 100 | | | **Production time** | 10 | | | **Energy required** | 2 | | | **Speed** | 13 | | | **Size** | 12 | | | **Sight/attack radius** | 240 common  180 against *air* | | | **Attack** | **Not advanced**:  - min: 9  - max: 28  max SDR: 30 | **Advanced**:  - min: 12  - max: 41  max SDR: 40 | | 1 HPS, min SDR: 10 | | | **Place in transport** | 1 | |   Ground unit with ranged attack. Deal x0,5 damage to *fly*, *light* and *massive* units, x0,25 to *mechanical* units. Damage and splash-range depends from distance to target. Advanced **Sergeant** deal more damage and have more SDR. **Sergeant’s** attack set Hell units into «*pain state*» more often than other units attack. |
|  | **C:\Users\TGA\AppData\Local\Microsoft\Windows\INetCache\Content.Word\b_u_u3.bmp**  **F** | **Commando**   |  |  | | --- | --- | | **Class** | *ground, light* | | **Hits** | 100 | | **Production time** | 15 | | **Energy required** | 2 | | **Speed** | 11 | | **Size** | 12 | | **Sight/attack radius** | 250 common  220 against *air* | | **Attack** | 6  8 HPS | | **Place in transport** | 1 |   Ground unit with ranged attack. Deal x1,5 damage to *light* units, x0,5 to *massive* and x0,25 to *mechanical* units. Advanced **Commando** has invisibility. |
|  | **G** | **Artillery soldier**   |  |  | | --- | --- | | **Class** | *ground, light* | | **Hits** | 100 | | **Production time** | 30 | | **Energy required** | 4 | | **Speed** | 10 | | **Size** | 12 | | **Base sight/attack radius** | 250 | | **Attack** | 50  0.6 HPS | | **Place in transport** | 1 | | **Requirements** | **UAC Weapon Factory** building |   Ground unit with ranged attack. Deal x1,5 damage to *buildings* and x0,5 damage to *light* and *mechs* units. Cannot attack *air* units. Cannot attack units closer than 45 pixels. Advanced **Artillery soldier** have 275 attack and sight radius. |
| C:\Users\TGA\AppData\Local\Microsoft\Windows\INetCache\Content.Word\u_u5j_6.bmp | **H** | **Major**   |  |  | | --- | --- | | **Class** | *ground/air, light* | | **Hits** | 100 | | **Production time** | 20 | | **Energy required** | 4 | | **Speed** | **Not advanced**: 9  **Advanced**: 13 | | **Size** | 12 | | **Sight/attack radius** | 250 | | **Attack** | 15  4 HPS | | **Place in transport** | 1 | | **Requirements** | **UAC Weapon Factory** building |   Ground/air unit with ranged attack. Deal x1,5 damage to *mechs,* x0,5 *light* and *air* units, x0,75 to *buildings*. Advanced **Major** can fly. |
|  | **V** | **BFG Marine**   |  |  | | --- | --- | | **Class** | *ground, light* | | **Hits** | 100 | | **Production time** | 60 | | **Energy required** | 5 | | **Speed** | 10 | | **Size** | 12 | | **Sight/attack radius** | 250 | | **Attack** | 125  125 SDR  0.4 HPS | | **Place in transport** | 1 | | **Requirements** | **UAC Weapon Factory** building |   Ground unit with ranged attack. Deal x0,5 damage to *light, mechs* units and *buildings*. Advanced **BFG Marine** has 275 attack and sight ranges. |

**Possible upgrades for all UAC Infantry:**

- **Infantry armor upgrade**;

- **Lightweight armor** - increase infantry move speed

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|  | **B** | **Air APC**   |  |  | | --- | --- | | **Class** | *mech, ground* | | **Hits** | 250 | | **Production time** | 25 | | **Energy required** | 3 | | **Speed** | 22 | | **Size** | 33 | | **Sight/attack radius** | 250 | | **Attack (upgrade)** | 6/12  2 HPS | | **Base transport place count** | 10 | | **Base armor** | 3 | | **Requirements** | **UAC Weapon Factory** building |   Fast air transport. Can transporting all ground UAC units. Advanced **Air APC** has 14 places.  **Possible upgrades:**  - **APC turret** – give to APC weapon. |
|  | **C:\Users\TGA\AppData\Local\Microsoft\Windows\INetCache\Content.Word\b_u_u8.bmp**  **N** | **Ground APC**   |  |  | | --- | --- | | **Class** | *mech, ground* | | **Hits** | 350 | | **Production time** | 25 | | **Energy required** | 3 | | **Speed** | 15 | | **Size** | 15 | | **Sight/attack radius** | 250 | | **Attack (after upgrade)** | 6/12  2 HPS | | **Base transport place count** | 4 | | **Base armor** | 3 | | **Places in transport** | 8 | | **Requirements** | **UAC Weapon Factory** building |   Fast ground transport. Can transporting all ground **UAC infantry**. Advanced **Air APC** has 6 places. Marines can attack while they in APC.  **Possible upgrades:**  - **APC turret** – give to APC weapon. |

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| u_u9_26 | **C:\Users\TGA\AppData\Local\Microsoft\Windows\INetCache\Content.Word\b_u_u9.bmp**  **O** | **Terminator**   |  |  | | --- | --- | | **Class** | *mech, ground* | | **Hits** | 350 | | **Production time** | 60 | | **Energy required** | 6 | | **Speed** | 14 | | **Size** | 16 | | **Sight/attack radius** | 275 common | | **Attack** | 6/12  8 HPS | | **Base armor** | 3 | | **Place in transport** | 3 | | **Requirements** | **UAC Tech Center** building  **High technologies** upgrade |   Heavy ground unit with ranged attack. Attacking with chain gun (not advanced - like **Commando**/advanced like **Mastermind**). |
|  | **U** | **Tank**   |  |  | | --- | --- | | **Class** | *mech, ground* | | **Hits** | 400 | | **Production time** | 60 | | **Energy required** | 8 | | **Speed** | 10 | | **Size** | 20 | | **Sight/attack radius** | 250 | | **Attack** | 45 SDR  0.6 HPS | | **Base armor** | 3 | | **Place in transport** | 7 | | **Requirements** | **UAC Tech Center** building  **High technologies** upgrade |   Heavy ground unit with ranged attack. Deal x1,5 damage to *buildings* and x0,5 damage to *light* units. Cannot attack *air* units. Cannot attack units closer than 45 pixels. Advanced **Tank** has 325 attack ranges. |

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|  | **C:\Users\TGA\AppData\Local\Microsoft\Windows\INetCache\Content.Word\b_u_u11.bmp**  **I** | **Flyer**   |  |  | | --- | --- | | **Class** | *mech, air* | | **Hits** | 350 | | **Production time** | 60 | | **Energy required** | 8 | | **Speed** | 19 | | **Size** | 18 | | **Sight/attack radius** | 275 | | **Attack** | 30  2 HPS | | **Base armor** | 3 | | **Requirements** | **UAC Tech Center** building  **High technologies** upgrade |   Heavy ground unit with ranged attack. Deal x0,5 damage to *ground* units and *buildings*. Advanced **Flyer** can attack in moving. |

**Possible upgrades for all UAC Mechs:**

- **Mech armor upgrade**;

- **Advanced engines** - increase *mechs* move speed.

**OTHER UNITS**

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**UPGRADES**

**Hell**

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| **Icon**  **/**  **Hot key** | **Time**  **Energy**  **Level** | **Description** | **Requirements** |
| **Q** | **180**  **4**  **4** | **Range attack upgrade**  Increase ranged attacks damage. |  |
| **C:\Users\TGA\AppData\Local\Microsoft\Windows\INetCache\Content.Word\b_h_up1.bmp**  **W** | **180**  **4**  **4** | **Unit armor upgrade**  Increase units armor. |
| **C:\Users\TGA\AppData\Local\Microsoft\Windows\INetCache\Content.Word\b_h_up2.bmp**  **E** | **120**  **4**  **4** | **Buildings armor upgrade**  Increase buildings armor. |
| **C:\Users\TGA\AppData\Local\Microsoft\Windows\INetCache\Content.Word\b_h_up3.bmp**  **A** | **60**  **2**  **3** | **Melee attack upgrade**  Increase melee attacks damage. |
| **C:\Users\TGA\AppData\Local\Microsoft\Windows\INetCache\Content.Word\b_h_up4.bmp**  **S** | **120**  **3**  **2** | **Regeneration**  Damaged units will slowly regenerate their health. |
| **C:\Users\TGA\AppData\Local\Microsoft\Windows\INetCache\Content.Word\b_h_up7.bmp**  **D** | **60**  **2**  **4** | **Pain threshold**  Decrease "pain state" chance. |
| **C:\Users\TGA\AppData\Local\Microsoft\Windows\INetCache\Content.Word\b_h_up6.bmp**  **Z** | **120**  **3**  **3** | **Hell Eye**  Lost Soul ability & Hell Eye sight radius.  In **UDOOM** game mod, last level of upgrade make **Hell Eye** invisible. |
| **C:\Users\TGA\AppData\Local\Microsoft\Windows\INetCache\Content.Word\b_h_up7.png**  **X** | **120**  **3**  **3** | **Tower range upgrade**  Increased range of defensive structures. |
| **C:\Users\TGA\AppData\Local\Microsoft\Windows\INetCache\Content.Word\b_h_up8.bmp**  **C** | **120**  **2**  **3** | **Teleport upgrade**  Decrease teleport cooldown. |
| **C:\Users\TGA\AppData\Local\Microsoft\Windows\INetCache\Content.Word\b_h_up9.bmp**  **R** | **180**  **3**  **1** | **Hell Keep teleportation**  Hell keep can teleport to any place. |
| **C:\Users\TGA\AppData\Local\Microsoft\Windows\INetCache\Content.Word\b_h_up5.bmp**  **T** | **120**  **3**  **2** | **Decay Aura**  **Hell Keep** will damage all enemies around.  Also, this aura neutralize stun effects on own and allied units. **Decay Aura** deal more damage to *mechanical* units. |  |
| **C:\Users\TGA\AppData\Local\Microsoft\Windows\INetCache\Content.Word\b_h_up13.bmp**  **Y** | **120**  **2**  **2** | **Hell Keep range upgrade**  Increased Hell Keep view/build range. |
| **C:\Users\TGA\AppData\Local\Microsoft\Windows\INetCache\Content.Word\b_h_up12.png**  **F** | **60**  **3**  **1** | **Demon`s anger**  Increased Demon`s movement and attack speed. |
| **C:\Users\TGA\AppData\Local\Microsoft\Windows\INetCache\Content.Word\b_h_up13.png**  **G** | **120**  **2**  **1** | **Firepower**  Increase missiles speed for **Imp**, **Cacodemon** and **Baron of Hell/Hell Knight**. |
| **C:\Users\TGA\AppData\Local\Microsoft\Windows\INetCache\Content.Word\b_h_up14.png**  **H** | **20**  **8**  **15** | **Hell power**  Allow Hell Monastery upgrade units. | **Hell Monastery** building |
| **C:\Users\TGA\AppData\Local\Microsoft\Windows\INetCache\Content.Word\b_h_up15.png**  **V** | **180**  **10**  **1** | **Ancient evil**  New buildings, units and upgrades. |
| **C:\Users\TGA\AppData\Local\Microsoft\Windows\INetCache\Content.Word\b_h_up16.png**  **B** | **120**  **3**  **1** | **Reverse teleport**  Units can teleport back to Hell Teleport. | **Hell Monastery** building  **Ancient evil** upgrade |
| **C:\Users\TGA\AppData\Local\Microsoft\Windows\INetCache\Content.Word\b_h_up15.bmp**  **N** | **120**  **2**  **1** | **Revenant missile upgrade**  Missiles become homing |
| C:\Users\TGA\AppData\Local\Microsoft\Windows\INetCache\Content.Word\b_h_up17.png  **U** | **120**  **2**  **1** | **Hell Totem and Eye invisibility** |
| **I** | **120**  **2**  **3** | **Building restoration**  Damaged buildings will slowly regenerate their health. |
| **O** | **60**  **2**  **1** | **Free teleportation**  Hell Keep can teleport on obstacles. |
| **J** | **30**  **1**  **15** | **Short distance teleportation**  Hell Symbols, Towers, Totems and Altars can teleport to short distance. |
| **K** | **180**  **10**  **3** | **Invulnerability**  All hell units become invulnerable for 15 seconds. | **Hell Altar** building  **Ancient evil** upgrade |
| **L** | **180**  **4**  **4** | **Built-in Hell Symbol**  Additional energy for Hell Keep. |

**UAC**

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| **Icon**  **/**  **Hot key** | **Time**  **Energy**  **Level** | **Description** | **Requirements** |
| **b_u_up0**  **Q** | **180**  **4**  **4** | **Range attack upgrade**  Increase ranged attacks damage. |  |
| **C:\Users\TGA\AppData\Local\Microsoft\Windows\INetCache\Content.Word\b_u_up1.png**  **W** | **120**  **4**  **5** | **Unit armor upgrade**  Increase units armor. |
| **C:\Users\TGA\AppData\Local\Microsoft\Windows\INetCache\Content.Word\b_u_up2.bmp**  **E** | **180**  **4**  **4** | **Buildings armor upgrade**  Increase buildings armor. |
| **A** | **60**  **3**  **3** | **Advanced repair and healing**  Increases the efficiency of repair/healing of Engineers and Medics. |
| **C:\Users\TGA\AppData\Local\Microsoft\Windows\INetCache\Content.Word\b_u_up4.bmp**  **S** | **120**  **3**  **2** | **Lightweight armor**  Increase infantry move speed. |
| **D** | **120**  **2**  **2** | **APC turret**  Weapon for APCs. |
| **C:\Users\TGA\AppData\Local\Microsoft\Windows\INetCache\Content.Word\b_u_up6.bmp**  **Z** | **120**  **3**  **1** | **Detector device**  Radar and mines becomes detectors. |
| **C:\Users\TGA\AppData\Local\Microsoft\Windows\INetCache\Content.Word\b_u_up12.bmp**  **X** | **120**  **3**  **3** | **Turrets range upgrade**  Increased attack range of defensive structures. |
| **C** | **120**  **2**  **3** | **Radar upgrade**  Increase radar scouting time and radius. |  |
| **C:\Users\TGA\AppData\Local\Microsoft\Windows\INetCache\Content.Word\b_u_up9.bmp**  **R** | **180**  **3**  **1** | **Command Center engines**  Command Center gains ability to fly. |
| **C:\Users\TGA\AppData\Local\Microsoft\Windows\INetCache\Content.Word\b_u_up10.png**  **T** | **180**  **4**  **1** | **Command Center turret**  Flying Command Center will be able to attack | **Command Center engines**  upgrade |
| **C:\Users\TGA\AppData\Local\Microsoft\Windows\INetCache\Content.Word\b_u_up13.bmp**  **Y** | **120**  **2**  **2** | **Command Center range**  Increased Command Center view/build range. |  |
| **C:\Users\TGA\AppData\Local\Microsoft\Windows\INetCache\Content.Word\b_u_up12.png**  **F** | **120**  **2**  **2** | **Mines**  **Engineer** ability. |
| **G** | **60**  **2**  **1** | **Mine-sensor**  Mine ability. | **Mines** upgrade |
| **C:\Users\TGA\AppData\Local\Microsoft\Windows\INetCache\Content.Word\b_u_up10.bmp**  **H** | **180**  **8**  **1** | **Advanced armory**  Tech Center will be able to upgrade own units. | **UAC Tech Center** building |
| **C:\Users\TGA\AppData\Local\Microsoft\Windows\INetCache\Content.Word\b_u_up11.bmp**  **V** | **180**  **8**  **1** | **High technologies**  New buildings, units and upgrades. |
| **C:\Users\TGA\AppData\Local\Microsoft\Windows\INetCache\Content.Word\b_u_up14.bmp**  **B** | **180**  **10**  **8** | **Missile strike**  Missile for Rocket Launcher Station. | **UAC Tech Center** building  **High technologies** upgrade |
| **C:\Users\TGA\AppData\Local\Microsoft\Windows\INetCache\Content.Word\b_u_up15.bmp**  **N** | **120**  **3**  **2** | **Advanced engines**  Increase mechs move speed. |
| **U** | **180**  **4**  **4** | **Mech armor upgrade**  Increase mechs armor. |
| **I** | **120**  **2**  **1** | **Fast rearming**  Decrease Tech Center upgrade reloads time. |
| **O** | **60**  **2**  **1** | **Free placement**  Command center will be able to land on obstacles. | **UAC Tech Center** building  **High technologies** upgrade |
| **J** | **120**  **3**  **2** | **Turrets armor**  Additional armor for turrets. |
| **C:\Users\TGA\AppData\Local\Microsoft\Windows\INetCache\Content.Word\b_u_up22.png**  **K** | **180**  **4**  **1** | **Rocket turrets**  Turrets can upgrade to Rocket turrets. |
| **L** | **180**  **4**  **2** | **Built-in generator**  Additional energy for Command Center. |