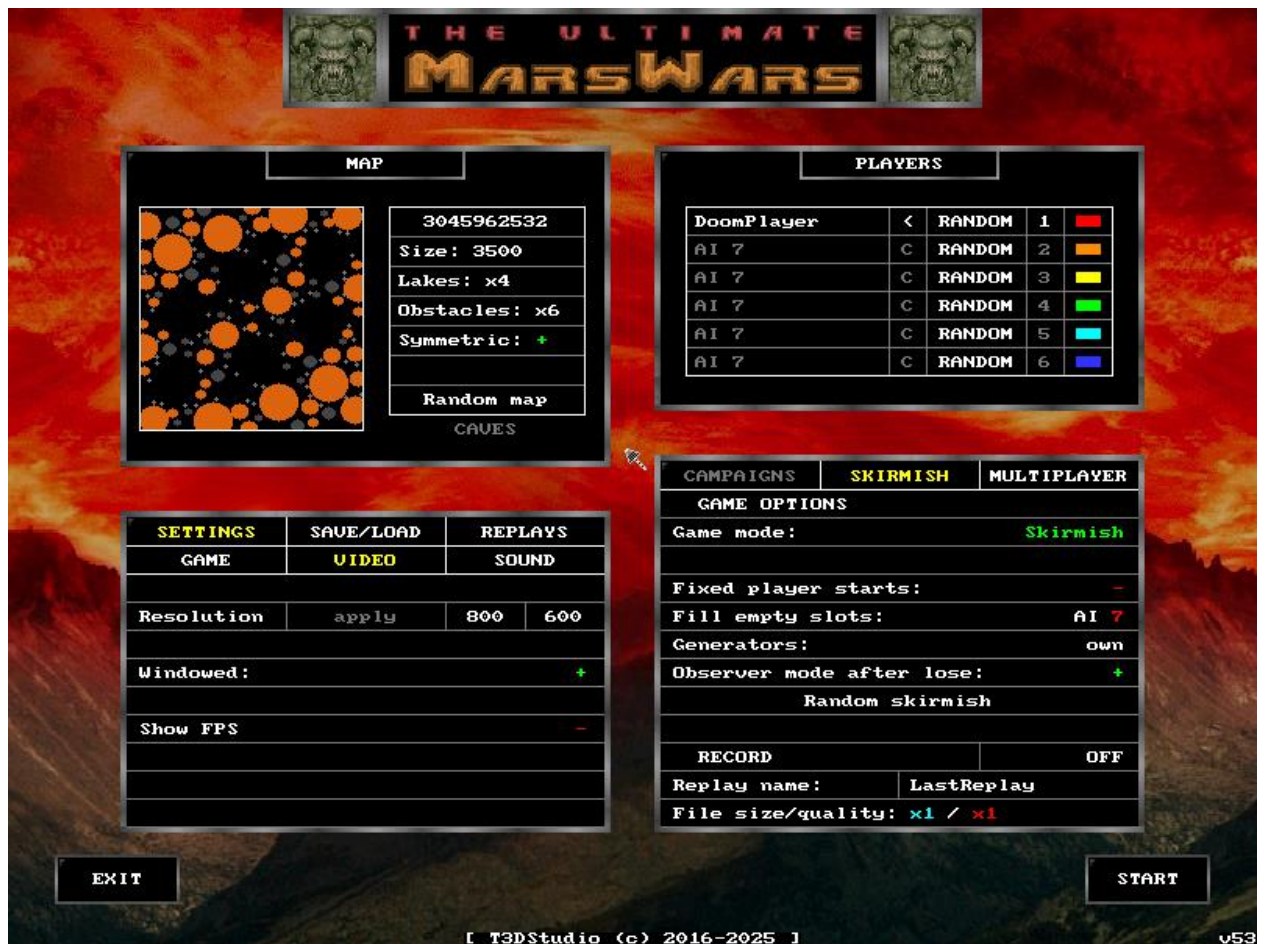


The Ultimate MarsWars



The Ultimate MarsWars – is a real-time strategy game set in the Doom 2 universe.
Current version – 53.

Abbreviations used:

MLBC - left mouse click.

MRBC - right mouse click.

MMBC - middle mouse button click.

HPS – hits per second.

SDR – splash damage range.

Main menu

Menu controls:

- For most menu items, use MLBC or MRBC to change their value.
- Some items need to be selected before editing. Use MLBC to select them and the keyboard to change the value.

Section MAP

Map settings:

Random seed [0-4294967295] – determines the positions of obstacles and player starts.

Size [2000-8000] – map size.

Lakes – lake's obstacles part.

Obstacles – obstacles count multiplier.

Symmetric – symmetry option.

Random map – set random map settings.

The type of liquid in lakes (such as **water**, **slime**, **blood**, **mud**, **lava**, and others) and the texture of the land depend on the number. Liquids do not damage units.

Section PLAYERS

Players table.

Player name	Status	Side	Team	Color
DoomPlayer	<	RANDOM	1	Red
AI 7	C	RANDOM	2	Orange
AI 7	C	RANDOM	3	Yellow
AI 7	C	RANDOM	4	Green
AI 7	C	RANDOM	5	Cyan
AI 7	C	RANDOM	6	Blue

Fields description and controls:

Player name:

- If *Status* = «C» (computer player), use MLBC here to switch AI level;
- If *Status* = «C» (computer player) or « » (empty slot), use MRBC here to move yourself to that position.

Status:

« » (no symbol) – empty slot;

«C» – computer player.

For multiplayer games:

«+» or «-» – Player «ready»/«not ready» status;

«?» – Connection problem;

«@» – Host player (server);

«<» – You position.

Use MLBC here to add/remove AI players.

Side – **Hell** or **UAC**. If *Team* = «-» this field will contain «OBSERV.» value.

Team – team number [-,1-6]; players with the same team number are allies; values «-» mean this player is an *observer*.

Color – player color; color cannot be changed.

During a multiplayer game, only the host player (server) can change the status, team, or AI level of the computer players on that table.

Section SETTINGS

Subsection «GAME»:

COLORED SHADOWS – change the color of the unit shadows to the color of the player;

SHOW APM – APM information;

HEALTH BARS - option to draw the unit's health bars;

RIGHT CLICK – right-click order type;

SCROLL SPEED – the speed at which the camera moves;

MOUSE SCROLL – toggle on/off the ability to move the camera with the mouse at the edge of the screen;

PLAYER NAME - your name in the game; cannot be changed when the game has already started or when creating a multiplayer game;

UI LANGUAGE – English or Russian;

CONTROL PANEL POSITION - up/down/left/right edge of screen;

PLAYERS COLOR – the color scheme of the players.

Subsection «VIDEO»:

WINDOW RESOLUTION;

WINDOWED – full screen or windowed;

SHOW FPS – FPS information.

Subsection «SOUND» - music and game sounds volume.

Section SAVE/LOAD

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

Section REPLAYS

Game replays.

Section CAMPAINGS

Campaign missions. Unavailable yet.

Section SCIRMISH

Subsections *GAME OPTIONS* and *RECORD*. You can toggle game recording on and off at any time. See **Game mechanics** -> **Game options** manual section to learn more about *GAME OPTIONS*.

Section MULTIPLAYER

Server/client settings and game chat.

Dedicated server

Dedicated server - a special version of the game that does not load any game resources and immediately starts working as a server. To start a *dedicated server*, run it with the following parameters:

MarsWars_ded.exe [X]

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

After connecting to a dedicated server, you can use text commands in the game chat to manage game settings. Use the -h or -help command to display all available chat commands. The game will start automatically when all players are ready (Field *Ready* = "+"). After 10 seconds of the last player disconnecting, the server will reset the game.

Game mechanics

Game control panel

Game minimap:

Minimap indicator types:

- **Green** pulse circle – unit ready;
- **Green** pulse square – construction complete;
- **Yellow** pulse square - upgrade complete;
- **Aqua** pulse circle - unit promoted;
- **Red** pulse circle – unit is under attack;
- **Red** pulse square – base is under attack.



Tabs:

- *Buildings* – available buildings;
- *Units* – available units;
- *Upgrades/researches* – available upgrades/researches;
- *Controls* – basic unit orders and game controls.

Numbers on icons:

- Green** – total number of selected units/buildings;
- Yellow** – number of productions;
- Orange** or **gray** - total number of that type of building/unit or research level;
- Purple** - number of units of that type in selected transport(s);
- White** - time left to finish production;
- Aqua** – ability recharge time;



Unit selection, orders and hotkeys

Use the left mouse button to select the unit and the right mouse button - to command it. You can add units to the selection using the «Shift» key. Use double left click on a unit or single click with «Ctrl» key to select all of its kind on the screen. To bind units to a hotkey group - select them and press «Ctrl»+«1..9». To add units to a group - select them and press «Alt»+«1..9». Use the double group hotkey to move the camera to the nearest units in this group. «F2» hotkey will select all combat units on the map. Double «F2» hotkey will move camera to nearest combat unit. For buildings that can produce units, you can set the rally point by right-clicking the mouse.



Basic orders

- Mouse right click – «Move» or «Move»+«Attack» depending on your choice in the settings;
- «Special ability» (Q) – perform special ability (if unit has it, see unit's hint).
- «Special ability at point» (W) – performs special ability at specified point (if unit has it, see unit's hint).
- «Rebuild/Advance» (E) – start rebuild/advance (if unit has this mechanic, see unit hint).
- «Move» (A), «Stay» (S), «Patrol» (D), attack enemies;
- «Move» (Z), «Stay» (X), «Patrol» (C), ignore enemies;
- «Cancel production» (Ctrl+C) – cancel current production;
- «Select all battle units» (F2);
- «Destroy» (Delete) – destroy selected units;
- «Alarm mark» (F5) – set a mark for allies;
- «Right-click action» (Ctrl+Space) – toggle right-click order.

Other game controls

«**TAB**» – switching the tab of the game control panel;

Tab «*Buildings*»: **R T Y F G H V B N U I O J K L** – buildings;

Tab «*Units*»: **R T Y F G H V B N U I O J K L** and **Ctrl + R T Y F G H V B N** – units;

Tab «*Upgrades/researches*»: **R T Y F G H V B N U I O J K L** and **Ctrl + R T Y F G H V B N** – upgrades;

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

- «**Pause/Break**» – pause/resume game (only network game).

- «**PrtScr**» - make screenshot.

- «**Enter** » - game chat;

- «**Shift+Enter**» - chat with all players;

- «**Ctrl+Enter**» - chat with allies.

Replay controls

- «Faster game speed» (**Q**) – toggle on or off fast game speed;

- «Skip backward»:

- **MLBC** or **W** - rewind 2 seconds;

- **MRBC** or **Ctrl+W** - rewind 10 seconds;

- **MMBC** or **Alt+W** - rewind 1 minute;

- «Skip forward»:

- **MLBC** or **E** - fast-forward 2 seconds;

- **MRBC** or **Ctrl+E** - fast-forward 10 seconds;

- **MMBC** or **Alt+E** - fast-forward 1 minute;

- «Pause» (**A**) – toggle playback pause;

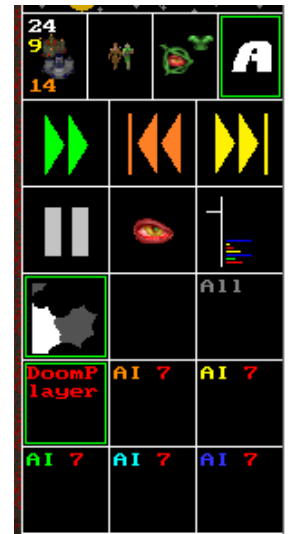
- «Player-recorder POV» (**S**) - camera of the player who recorded the replay;

- «List of game messages» (**D**) – show/hide chat history;

- «Fog of war» (**Z**) – toggle fog of war;

- «All players» (**0**) – all players vision;

- «Player [1-6]» (**1-6**) –vision of player #1-6.



Observer mode controls

- «Fog of war» (**Q**) – toggle fog of war;

- «All players» (**0**) – all players vision;

- «Player [1-6]» (**1-6**) –vision of player #1-6.



Test mode

Test mode is a special game mode that allows player to use some cheats.

Test mode only works in single player mode. To start the game in test mode, use StartTestMode.bat or run *.exe file with the following parameters:

MarsWars.exe test

then start the match and use next hotkeys:

- **END** - toggle to fast game speed;

- **Ctrl+END** - in invasion mode, switch to the next wave;

- **HOME** - toggle instant production;

- **PageUp** - toggle AI for current player;

- **PageDown** – toggle invulnerability for current player;

- **BackSpace** – toggle fog of war;

- **F3** – cancel all upgrades for current player;

- **F5-F11** – switch current player to player #0-6;

- **Insert** – toggle screen redrawing.

Other UI



- 1) **Time** – the game time;
- 2) Game mode specific information;
- 3) **Energy** section – free energy level / maximum energy level;
- 4) **Army** section – limit of **all units** (units + buildings); put cursor here to see limits for each category;
- 5) FPS/APM info;
- 6) Unit groups info.

Hint format

```
Tank (J,600,4,56)
[T2,unit,mechanical,heavy,ground]
Hits: 6000. Immune to splash damage.

Arming/Abilities: -ranged attack, targets: [alive,ground], impact 62x2*1: x3 [building].

Requirements: Science Facility
Produced by: Vehicle Factory
```

(full format)



(short format)

Name (**hotkey**, **energy**, **limit use/upgrade max level**, **production time**,*)

[Unit categories and attributes]

Upgrades **A-B-C** **A** – sum of attack upgrades; **B** – sum of armor upgrades; **C** – sum of other upgrades.

Description

Requirements: (if defined)

Produced by: (for units/buildings only) which buildings can produce this unit/building;

* - (only for upgrades) means that it is possible to produce this upgrade in many buildings at the same time.

(**PLAYER-OWNER**)

Arming/Abilities hint format:

```
-ranged attack, targets: [alive,ground], impact 62x2*1: x3 [building].
```

* - type of weapon/ability;

* - possible targets;

* - damage and rate of fire (62 – damage of missile, x2 – number of missiles per shot, *1 – shots per second);

* - damage modifiers;

Camera movement

Possible ways to move the game camera:

- keyboard arrow keys;
- middle mouse button;
- by moving the cursor to the edges of the screen; this method can be toggled on or off in the game settings.

The speed of the camera movement can be changed in the game settings.

Base construction

You must have at least one builder to build a base. Switch the control panel to «*Buildings*» tab and click on the building icon to select the type of building you need. If the requirements for the selected building type are not met, the game will display an error message; otherwise, the game will draw the building's sprite and a circle around the mouse cursor. The radius of the circle is the radius of the building. If the circle is **red** - the building needs more space, if it is **blue** - the build place is too far away from the nearest builder, if it is **green** - the building can be built here.

Unit construction

Any unit may be built if the player has at least one building capable of producing that type of unit, and the unit's other requirements are met. Switch the control panel to «*Units*» tab and click on the unit icon. If the requirements for the selected unit type are not met, the game will display an error message. If no unit production building is selected - the game sends the production order to any unused production building, otherwise it sends the order to selected production buildings. It is impossible to create a unit production queue.

Upgrades production

Go to the «*Upgrades/Research*» tab in the Control Panel and click the upgrade icon. If the requirements for the selected upgrade type are not met, the game will display an error message. If no upgrade production facility is selected - the game sends the production order to any unused production facility, otherwise it sends the order to selected production facilities. It is impossible to create an upgrade production queue.

Resources

There is no gold/wood/minerals/etc. like in other RTS games. There is an energy level, which means how many productions (buildings/units/upgrades) player can have at the same time. When player starts some production, game decreases the current energy level by production energy cost, and returns the energy when production is end.

Army limit

Maximum unit limit (all units + all buildings!) for each player - **125**.

Game options

GAME OPTIONS	
Game mode:	Skirmish
Fixed player starts:	
Fill empty slots:	AI 7
Generators:	own
Observer mode after lose:	+
Random skirmish	

Game mode:

Skirmish - default mode. *Victory conditions* is to destroy all opposing players.

3x3 – red+orange+yellow vs green+aqua+blue players. *Victory conditions* are the same as in **Skirmish** game mode.

2x2x2 – red+orange vs yellow+green vs aqua+blue players. *Victory conditions* are the same as in **Skirmish** game mode.

Capturing points - there are 4 points on the map that need to be captured. *Victory conditions* is to capture all of these points.

Invasion – all players are united in a one team against powerful monsters. *Victory conditions* is to survive 20 waves.

King of the Hill – like **Capturing points** mode, but there is only one point to capture in the center of the map. *Victory conditions* is to capture and hold the central map area for 1 minute.

Royal Battle – there is a circle of death that begins to collapse from the map's borders to its center. All units outside the circle die. *Victory conditions* is to be the last one alive.

Fixed player starts: if set («+») the game will show you player start positions on the map.

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

Generators: the «own» value means that players can build their own generators. Other values mean:

- players cannot build their own generators;
- the game spawns neutral generators, which can be captured by players;
- the captured generator increases the energy level of all players of the team owning the generator;
- neutral generators can have a configured lifetime.

Observer mode after lose: players who lose their entire army become observers;

Random skirmish: create a random map and random game settings.

Units and buildings

Basics

Unit categories and attributes

```
alive,building,mechanical,heavy,ground1  
unit,biological,heavy,ground1  
unit,mechanical,heavy,flying,transport1  
unit,mechanical,heavy,ground1  
building,mechanical,light,ground,detector1  
unit,biological,heavy,ground1  
alive,unit,biological,light,flying,level21  
alive,unit,mechanical,light,floater,invulnerable1
```

Categories – each unit must be in all of the following categories:

- alive or dead;
- building or unit;
- mechanical or biological;
- light or heavy
- fly, floater or ground; floater is a ground unit that can move over map obstacles;

Attributes – units can have some of these attributes:

- transport – unit is transport;
- level X – current level of the unit, where X is level [2-4]. Level 1 units do not have this attribute;
- detector – unit can detect invisible units;
- invulnerable – unit is invulnerable;
- stunned – unit is temporary stunned.

Some attributes are not shown in the hint. Some others give additional visual effect to the unit:

«Hell Vision» ability effect:



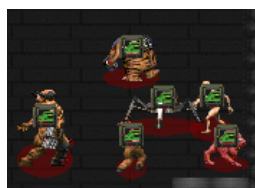
invulnerable effect:



level 2-3-4 units have these marks:



detector attribute give to unit this mark:



UAC Radar «Scan» ability effect:

Some basic mechanics

Unfinished buildings have no armor and take 100% damage. If the **maximum** energy level drops to 0 - all your buildings will explode. If the **free** energy level drops to negative value - all your production will stop. If a player loses all his builders - all his units revealed on the map. Hits regeneration period is 1 second.

Pain State

Some units have «Pain State» - it is a 1-second stun state after a certain number of damage hits. «Pain State» is accompanied by a special sound and unit animation.

Veteran system

All combat units gain combat experience and increase their level. All units spawn at level 1 and can be upgraded to level 4. With each new level, the unit increases its damage, armor, and pain threshold. The damage and armor bonus from each new level is $2 * \text{unit-limit-consumption}$. The pain threshold bonus is an additional 2 hits that the unit can take before «Pain State» occurs. In long-range combat, a unit must be in combat for 30 seconds to get next level. In melee it will take half as long for the unit to reach next level.



Damage and armor mechanics



When a unit attacks another, next sequence is performed:

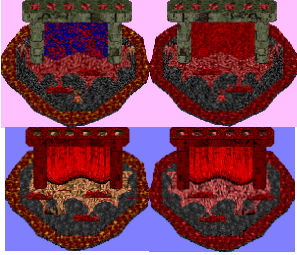
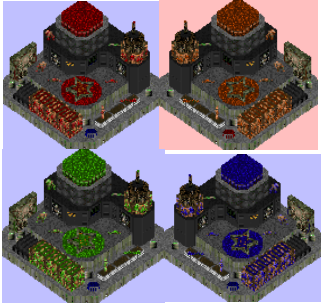
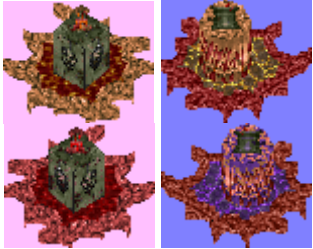
- 1) The game takes the basic damage of the attacking unit and adds to it the bonus of its level and the attack upgrades.
- 2) Damage modifiers applied to the resulting damage.
- 3) The game calculates the armor of the attacked unit and subtracts it from the damage of the attacking unit. The resulting damage cannot be less than 1.
- 4) The attacked unit take resulting damage.

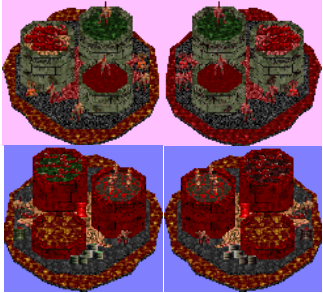

BUILDINGS

HELL




Sprite	Description
	<p>Hell Keep</p> <p>Hotkey: R Categories/Attributes: [building,mechanical,heavy,ground] Max hits: 17500 Base regeneration: 7 Limit used: 1 Size: 66 Base vision range: 250 Build time: 60 Energy required: 900 Constructed by: Hell Keep, Great Hell Keep Upgrades:</p> <ul style="list-style-type: none">- Hell Keep Range Upgrade - vision range +50;- Stone Walls - armor +16;- Building Restoration - hits regeneration +7; <p>Builder. Increase energy level(+300). Can be rebuilt into "Great Hell Keep". Special ability: "Blink">{Req.: "Hell Keep Blink Charge"}. Aura effect: decay aura: 5*2 {Req.: "Decay Aura"}</p>
	<p>Great Hell Keep</p> <p>Categories/Attributes: [building,mechanical,heavy,ground] Max hits: 17500 Base regeneration: 7 Limit used: 1 Size: 66 Base vision range: 250 Build time: 120 Energy required: 600 Upgrades:</p> <ul style="list-style-type: none">- Hell Keep Range Upgrade - vision range +50;- Stone Walls - armor +16;- Building Restoration - hits regeneration +7; <p>Builder. Increase energy level(+900). Special ability: "Blink">{Req.: "Hell Keep Blink Charge"}. Aura effect: decay aura: 5*2 {Req.: "Decay Aura"}</p>

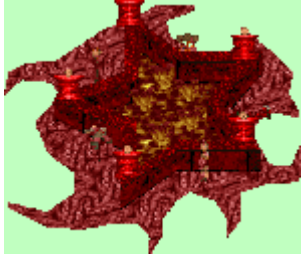
Sprite	Description
	<p>Hell Command Center</p> <p>Hotkey: F Categories/Attributes: [building,mechanical,heavy,ground,transport] Max hits: 15000 Limit used: 1 Size: 66 Base vision range: 250 Build time: 60 Energy required: 900 Base transport capacity: 30 Constructed by: Hell Command Center, Advanced Hell Command Center Arming/Abilities: - ranged attack, min. range: 66, max. range: 250, targets: [alive] except [Imp], impact 52*1, target priority: [unit,bio,heavy], upgrade: Hell Firepower(+7), factor: x2 [unit,biological,heavy]; Upgrades: - Hell Keep Range Upgrade - vision range +50; - Stone Walls - armor +16; - Building Restoration - hits regeneration +7;</p> <p>Corrupted Command Center. Builder. Increase energy level(+300). Can be rebuilt into "Advanced Hell Command Center". Special ability: "Flight Engines".</p>
	<p>Advanced Hell Command Center</p> <p>Hotkey: F Categories/Attributes: [building,mechanical,heavy,ground,transport] Max hits: 15000 Limit used: 1 Size: 66 Base vision range: 250 Build time: 120 Energy required: 600 Base transport capacity: 30</p> <p>Arming/Abilities: - ranged attack, min. range: 66, max. range: 250, targets: [alive] except [Imp], impact 52*1, target priority: [unit,bio,heavy], upgrade: Hell Firepower(+7), factor: x2 [unit,biological,heavy]; Upgrades: - Hell Keep Range Upgrade - vision range +50; - Stone Walls - armor +16; - Building Restoration - hits regeneration +7;</p> <p>Corrupted Advanced Command Center. Builder. Increase energy level(+900). Special ability: "Flight Engines".</p>

Sprite	Description
	<p>Demon`s Gate</p> <p>Hotkey: T Categories/Attributes: [building,mechanical,heavy,ground] Max hits: 12500 Base regeneration: 7 Limit used: 1 Size: 60 Base vision range: 120 Build time: 40 Energy required: 300</p> <p>Constructed by: Hell Keep, Great Hell Keep Upgrades: - Stone Walls - armor +16; - Building Restoration - hits regeneration +7;</p> <p>Unit production. Can be rebuilt into "Demon`s Gate[level2-4]" {Req.: "Castle of Damned"}.</p>
	<p>Zombie Barracks</p> <p>Hotkey: G Categories/Attributes: [building,mechanical,heavy,ground] Max hits: 10000 Limit used: 1 Size: 60 Base vision range: 120 Build time: 40 Energy required: 300</p> <p>Constructed by: Hell Command Center, Advanced Hell Command Center Upgrades: - Stone Walls - armor +16; - Building Restoration - hits regeneration +7;</p> <p>Corrupted Barracks. Unit production. Can be rebuilt into "Zombie Barracks[level2-4]" {Req.: "Advanced Hell Command Center"}.</p>
	<p>Unholy Symbol level 1-4</p> <p>Hotkey: Y Categories/Attributes: [building,mechanical,light,ground] Max hits: 750 Limit used: 1 Size: 22 Base vision range: 44 Build time: 20 Energy required: 50</p> <p>Constructed by: Hell Keep, Great Hell Keep, Hell Command Center, Advanced Hell Command Center</p> <p>Upgrades: - Stone Walls - armor +16; - Building Restoration - hits regeneration +7;</p> <p>Increase energy level(+50/10/150/200). Can be rebuilt into "Unholy Symbol level 2-4".</p>

Sprite	Description
	<p>Infernal Pools</p> <p>Hotkey: H Categories/Attributes: [building,mechanical,heavy,ground] Max hits: 12500 Base armor: 16 Base regeneration: 7 Limit used: 1 Size: 53 Base vision range: 106 Build time: 40 Energy required: 300</p> <p>Constructed by: Hell Keep, Great Hell Keep</p> <p>Upgrades: - Stone Walls - armor +16; - Building Restoration - hits regeneration +7;</p> <p>Researches and upgrades facility. Can be rebuilt into "Infernal Pools[level2-4]" {Req.: "Castle of Damned"}.</p>
	<p>Imp`s Tower</p> <p>Hotkey: V Categories/Attributes: [building,mechanical,light,ground] Max hits: 5000 Limit used: 1 Size: 20 Base vision range: 200 Build time: 25 Energy required: 200</p> <p>Constructed by: Hell Keep, Great Hell Keep, Hell Command Center, Advanced Hell Command Center</p> <p>Arming/Abilities: - ranged attack, max. range: vision range, targets: [alive] except [Imp], impact 52*3, target priority: [unit,bio,heavy], upgrade: Hell Firepower(+7), factor: x2 [unit,biological,heavy];</p> <p>Upgrades: - Demonic Spirits - vision range +25; - Stone Walls - armor +16; - Building Restoration - hits regeneration +7;</p> <p>Defensive structure. Can be rebuilt into "Totem of Horror" {Req.: "Castle of Damned"}. Special ability: "Blink" {Req.: "Tower Teleportation Charge"}.</p>

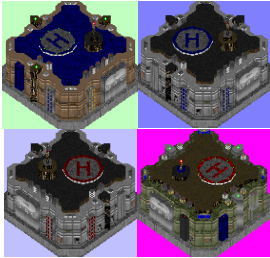
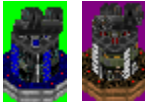
Sprite	Description
	<p>Totem of Horror</p> <p>Hotkey: B Categories/Attributes: [building,mechanical,light,ground] Max hits: 2500 Limit used: 1 Size: 20 Base vision range: 300 Build time: 40 Energy required: 400 Requirements: Castle of Damned Arming/Abilities: - ranged attack, max. range: vision range+50, targets: [alive,unit], impact 416*0.5, splash damage radius: 20, target priority: highest hits; Upgrades: - Demonic Spirits - vision range +25; - Stone Walls - armor +16; - Building Restoration - hits regeneration +7; - Totem of Horror Invisibility - Totem of Horror becomes invisible; Advanced defensive structure. Can be rebuilt into "Imp`s Tower". Special ability: "Blink"{Req.: "Tower Teleportation Charge"}.</p>
	<p>Pentagram of Death</p> <p>Hotkey: U Categories/Attributes: [building,mechanical,heavy,ground] Max hits: 17500 Base regeneration: 7 Limit used: 1 Size: 65 Base vision range: 130 Build time: 100 Energy required: 1200 Requirements: Infernal Pools Constructed by: Hell Keep, Great Hell Keep Upgrades: - Stone Walls - armor +16; - Building Restoration - hits regeneration +7;</p>
	<p>Monastery of Despair</p> <p>Hotkey: I Categories/Attributes: [building,mechanical,heavy,ground] Max hits: 17500 Base regeneration: 7 Limit used: 1 Size: 65 Base vision range: 130 Build time: 100 Energy required: 1200 Requirements: Infernal Pools Constructed by: Hell Keep, Great Hell Keep Upgrades: - Stone Walls - armor +16; - Building Restoration - hits regeneration +7;</p>



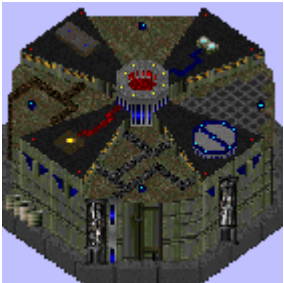
Sprite	Description
	<p>Castle of Damned</p> <p>Hotkey: O Categories/Attributes: [building,mechanical,heavy,ground] Max hits: 17500 Base regeneration: 7 Limit used: 1 Size: 86 Base vision range: 172 Build time: 100 Energy required: 1200 Requirements: Infernal Pools Constructed by: Hell Keep, Great Hell Keep</p> <p>Upgrades:</p> <ul style="list-style-type: none"> - Stone Walls - armor +16; - Building Restoration - hits regeneration +7;
	<p>Evil Eye</p> <p>Hotkey: J Categories/Attributes: [building,mechanical,light,ground,detector] Max hits: 100 Limit used: 1 Size: 10 Base vision range: 300 Build time: 20 Energy required: 50 Constructed by: Hell Keep, Great Hell Keep, Evil Eye, Hell Command Center, Advanced Hell Command Center</p> <p>Upgrades:</p> <ul style="list-style-type: none"> - Evil Eye Upgrade - vision range +50; - Stone Walls - armor +16; - Building Restoration - hits regeneration +7; <p>Passive scouting and detection. Special ability: "Hell Vision".</p>
	<p>Teleport</p> <p>Hotkey: K Categories/Attributes: [building,mechanical,heavy,ground] Max hits: 5000 Base regeneration: 7 Limit used: 4 Size: 28 Base vision range: 100 Build time: 40 Energy required: 400 Requirements: Great Hell Keep Constructed by: Hell Keep, Great Hell Keep</p> <p>Upgrades:</p> <ul style="list-style-type: none"> - Stone Walls - armor +16; - Building Restoration - hits regeneration +7; - Recall – Teleport can recall units; <p>Special ability: "Teleportation".</p>

Sprite	Description
	<p>Altar of Pain</p> <p>Hotkey: L</p> <p>Categories/Attributes: [building,mechanical,heavy,ground]</p> <p>Max hits: 5000</p> <p>Base regeneration: 7</p> <p>Limit used: 10</p> <p>Size: 50</p> <p>Base vision range: 100</p> <p>Build time: 100</p> <p>Energy required: 600</p> <p>Requirements: Pentagram of Death, Monastery of Despair, Castle of Damned</p> <p>Constructed by: Hell Keep, Great Hell Keep</p> <p>Upgrades:</p> <ul style="list-style-type: none"> - Stone Walls - armor +16; - Building Restoration - hits regeneration +7; <p>Special ability: "Invulnerability".</p>

Sprite	Description
	<p>Command Center</p> <p>Hotkey: R Categories/Attributes: [building,mechanical,heavy,ground] Max hits: 15000 Limit used: 1 Size: 66 Base vision range: 250 Build time: 60 Energy required: 900 Zombie: Hell Command Center Zombification hits: 3750</p> <p>Constructed by: Command Center, Advanced Command Center</p> <p>Arming/Abilities: - ranged attack, min. range: 66, max. range: 250, targets: [alive], impact 52*1, target priority: [unit,mech], upgrade: Weapons Upgrade(+7), factor: x2 [unit,mechanical], {Req.: "Command Center Turret"};</p> <p>Upgrades: - Command Center Range Upgrade - vision range +50; - Concrete Walls - armor +16;</p> <p>Builder. Increase energy level(+300). Can be rebuilt into "Advanced Command Center". Special ability: "Flight Engines"{Req.: "Command Center Flight Engines"}.</p>
	<p>Advanced Command Center</p> <p>Categories/Attributes: [building,mechanical,heavy,ground] Max hits: 15000 Limit used: 1 Size: 66 Base vision range: 250 Build time: 120 Energy required: 600 Zombie: Advanced Hell Command Center Zombification hits: 3750</p> <p>Arming/Abilities: - ranged attack, min. range: 66, max. range: 250, targets: [alive], impact 52*1, target priority: [unit,mech], upgrade: Weapons Upgrade(+7), factor: x2 [unit,mechanical], {Req.: "Command Center Turret"};</p> <p>Upgrades: - Command Center Range Upgrade - vision range +50; - Concrete Walls - armor +16;</p> <p>Builder. Increase energy level(+900). Special ability: "Flight Engines"{Req.: "Command Center Flight Engines"}.</p>

Sprite	Description
	<p>Barracks</p> <p>Hotkey: T Categories/Attributes: [building,mechanical,heavy,ground] Max hits: 10000 Limit used: 1 Size: 60 Base vision range: 120 Build time: 40 Energy required: 300 Zombie: Zombie Barracks Zombification hits: 2500</p> <p>Constructed by: Command Center, Advanced Command Center Upgrades: - Concrete Walls - armor +16;</p> <p>Unit production. Can be rebuilt into "Barracks[level2-4]" {Req.: "Computer Station"}.</p>
	<p>Vehicle Factory</p> <p>Hotkey: G Categories/Attributes: [building,mechanical,heavy,ground] Max hits: 10000 Limit used: 1 Size: 60 Base vision range: 120 Build time: 40 Energy required: 300 Requirements: Weapon Factory Constructed by: Command Center, Advanced Command Center</p> <p>Upgrades: - Concrete Walls - armor +16;</p> <p>Unit production. Can be rebuilt into "Vehicle Factory[level2-4]" {Req.: "Computer Station"}.</p>
	<p>Generator level 1-4</p> <p>Hotkey: Y Categories/Attributes: [building,mechanical,heavy,ground] Max hits: 1500 Limit used: 2 Size: 44 Base vision range: 88 Build time: 20 Energy required: 100</p> <p>Constructed by: Command Center, Advanced Command Center</p> <p>Upgrades: - Concrete Walls - armor +16;</p> <p>Increase energy level(+100/200/300/400). Can be rebuilt into "Generator level 2-4".</p>



Sprite	Description
	<p>Weapon Factory</p> <p>Hotkey: H Categories/Attributes: [building,mechanical,heavy,ground] Max hits: 10000 Limit used: 1 Size: 62 Base vision range: 124 Build time: 40 Energy required: 300 Constructed by: Command Center, Advanced Command Center</p> <p>Upgrades: - Concrete Walls - armor +16;</p> <p>Researches and upgrades facility. Can be rebuilt into "Weapon Factory[level2-4]" {Req.: "Computer Station"}.</p>
	<p>Anti-ground Turret</p> <p>Hotkey: V Categories/Attributes: [building,mechanical,light,ground] Max hits: 5000 Limit used: 1 Size: 15 Base vision range: 300 Build time: 25 Energy required: 200</p> <p>Constructed by: Command Center, Advanced Command Center Arming/Abilities: - ranged attack, max. range: vision range, targets: [alive,unit,mechanical,ground], impact 52*3, target priority: lowest hits, upgrade: Weapons Upgrade(+7), factor: x2 [unit,mechanical], {Req.: "Anti-ground Plasmagun"}; - ranged attack, max. range: vision range, targets: [alive,ground], impact 52*3, target priority: [unit,bio,light], upgrade: Weapons Upgrade(+7), factor: x2 [unit,biological,light];</p> <p>Upgrades: - Spotlights - vision range +25; - Additional Armoring - armor +16; - Concrete Walls - armor +16;</p> <p>Anti-ground defensive structure. Can be rebuilt into "Anti-air Turret". Special ability: "Deconstruct to Dron" {Req.: "Drone Transformation Protocol"}.</p>



Sprite	Description
	<p>Anti-air Turret</p> <p>Hotkey: B Categories/Attributes: [building,mechanical,light,ground] Max hits: 5000 Limit used: 1 Size: 15 Base vision range: 300 Build time: 25 Energy required: 200</p> <p>Constructed by: Command Center, Advanced Command Center Arming/Abilities: - ranged attack, max. range: vision range, targets: [alive,flying], impact 52*3, target priority: lowest hits, upgrade: Weapons Upgrade(+7), factor: x2 [flying];</p> <p>Upgrades: - Spotlights - vision range +25; - Additional Armoring - armor +16; - Concrete Walls - armor +16; - Fragmentation Missiles - anti-air missiles do extra damage around the target(splash damage radius: 20);</p> <p>Anti-ground defensive structure. Can be rebuilt into "Anti-air Turret". Special ability: "Deconstruct to Dron" {Req.: "Drone Transformation Protocol"}.</p>
	<p>Science Facility</p> <p>Hotkey: I Categories/Attributes: [building,mechanical,heavy,ground] Max hits: 15000 Limit used: 1 Size: 86 Base vision range: 172 Build time: 100 Energy required: 1200 Requirements: Weapon Factory Constructed by: Command Center, Advanced Command Center</p> <p>Upgrades: - Concrete Walls - armor +16;</p>
	<p>Computer Station</p> <p>Hotkey: O Categories/Attributes: [building,mechanical,heavy,ground] Max hits: 15000 Limit used: 1 Size: 70 Base vision range: 140 Build time: 100 Energy required: 1200 Requirements: Weapon Factory Constructed by: Command Center, Advanced Command Center</p> <p>Upgrades: - Concrete Walls - armor +16;</p>



Sprite	Description
	<p>Radar</p> <p>Hotkey: J Categories/Attributes: [building,mechanical,heavy,ground,detector] Max hits: 3000 Limit used: 2 Size: 35 Base vision range: 300 Build time: 40 Energy required: 200 Requirements: Weapon Factory Constructed by: Command Center, Advanced Command Center</p> <p>Upgrades: - Radar Upgrade - vision range +25; - Concrete Walls - armor +16;</p> <p>Reveals map. Special ability: "Scan".</p>
	<p>Rocket Launcher Station</p> <p>Hotkey: L Categories/Attributes: [building,mechanical,heavy,ground] Max hits: 3000 Limit used: 10 Size: 40 Base vision range: 80 Build time: 100 Energy required: 600 Requirements: Science Facility, Computer Station Constructed by: Command Center, Advanced Command Center Maximum number: 1</p> <p>Upgrades: - Concrete Walls - armor +16;</p> <p>Special ability: "Missile Strike". The missile's impact 1040, splash damage radius: 160, factor: x3 [building].</p>



UNITS



HELL UNITS



Sprite	Description
	<p>Imp</p> <p>Hotkey: R Categories/Attributes: [unit,biological,light,ground] Max hits: 750 Limit used: 1 Size: 11 Base movement speed: 10 Base vision range: 200 Build time: 15 Energy required: 200 PainState base threshold: 2 Places in transport: 1</p> <p>Produced by: Demon`s Gate</p> <p>Arming/Abilities: - ranged attack, max. range: vision range, bonus anti-fly range: -50, targets: [alive] except [Imp], impact 52*1, target priority: [unit,bio,heavy], upgrade: Hell Firepower(+7), factor: x2 [unit,biological,heavy]; - melee attack, targets: [Imp], impact 52*1, target priority: distance, upgrade: Claws and Teeth(+7);</p> <p>Upgrades: - Hell Sight - vision range +25; - Combat Flesh - armor +7; - Flesh Regeneration - hits regeneration +7; - Pain Threshold - PainState threshold +1;</p>
	<p>Pinky Demon</p> <p>Hotkey: T Categories/Attributes: [unit,biological,heavy,ground] Max hits: 1500 Limit used: 1 Size: 14 Base movement speed: 20 Base vision range: 200 Build time: 20 Energy required: 300 PainState base threshold: 8 Places in transport: 2 Produced by: Demon`s Gate</p> <p>Arming/Abilities: - melee attack, targets: [alive,ground], impact 52*1.5, target priority: distance, upgrade: Claws and Teeth(+7), factor: x2 [unit,heavy];</p> <p>Upgrades: - Hell Sight - vision range +25; - Combat Flesh - armor +7; - Flesh Regeneration - hits regeneration +7; - Pain Threshold - PainState threshold +4; - Specters - Pinky Demon becomes invisible;</p>



Sprite	Description
	<p>Cacodemon</p> <p>Hotkey: Y Categories/Attributes: [unit,biological,heavy,flying] Max hits: 2000 Limit used: 1.5 Size: 14 Base movement speed: 10 Base vision range: 200 Build time: 25 Energy required: 250 PainState base threshold: 8 Requirements: Infernal Pools,Great Hell Keep Produced by: Demon`s Gate</p> <p>Arming/Abilities: - ranged attack, max. range: vision range, bonus anti-fly range: +50, targets: [alive] except [Cacodemon], impact 52*1, target priority: [unit,mech], upgrade: Hell Firepower(+7), factor: x2 [unit,mechanical]; - melee attack, targets: [Cacodemon], impact 52*1, target priority: distance, upgrade: Claws and Teeth(+7);</p> <p>Upgrades: - Hell Sight - vision range +25; - Combat Flesh - armor +7; - Flesh Regeneration - hits regeneration +7; - Pain Threshold - PainState threshold +4;</p>
	<p>Hell Knight</p> <p>Hotkey: F Categories/Attributes: [unit,biological,light,ground] Max hits: 2500 Limit used: 2 Size: 14 Base movement speed: 10 Base vision range: 250 Build time: 30 Energy required: 300 PainState base threshold: 10 Places in transport: 3 Requirements: Infernal Pools Produced by: Demon`s Gate</p> <p>Arming/Abilities: - ranged attack, max. range: vision range, targets: [alive,ground] except [Hell Knight,Baron of Hell], impact 78*1, target priority: [unit,light], upgrade: Hell Firepower(+7), factor: x2 [unit,light]; - melee attack, targets: [Hell Knight,Baron of Hell], impact 52*1, target priority: distance, upgrade: Claws and Teeth(+7);</p> <p>Upgrades: - Hell Sight - vision range +25; - Combat Flesh - armor +7; - Flesh Regeneration - hits regeneration +7; - Pain Threshold - PainState threshold +5;</p>



Sprite	Description
	<p>Baron of Hell</p> <p>Hotkey: G Categories/Attributes: [unit,biological,heavy,ground] Max hits: 4500 Limit used: 3 Size: 14 Base movement speed: 10 Base vision range: 275 Build time: 30 Energy required: 500 PainState base threshold: 10 Places in transport: 3 Requirements: Infernal Pools Produced by: Demon`s Gate</p> <p>Arming/Abilities: - ranged attack, max. range: vision range, targets: [alive,ground] except [Hell Knight,Baron of Hell], impact 78*1, target priority: [unit,light], upgrade: Hell Firepower(+7), factor: x2 [unit,light]; - melee attack, targets: [Hell Knight,Baron of Hell], impact 52*1, target priority: distance, upgrade: Claws and Teeth(+7);</p> <p>Upgrades: - Hell Sight - vision range +25; - Combat Flesh - armor +7; - Flesh Regeneration - hits regeneration +7; - Pain Threshold - PainState threshold +5;</p>
	<p>Spider Mastermind</p> <p>Hotkey: H Categories/Attributes: [unit,mechanical,heavy,ground] Max hits: 15000 Limit used: 10 Size: 35 Base movement speed: 12 Base vision range: 300 Build time: 80 Energy required: 1200 PainState base threshold: 8 Places in transport: 12 Requirements: Pentagram of Death Produced by: Demon`s Gate</p> <p>Arming/Abilities: - ranged attack, max. range: vision range, bonus anti-unit range: +50, targets: [alive], impact 104*3, target priority: [light], upgrade: Demon`s Weapons(+7), factor: x2 [light];</p> <p>Upgrades: - Hell Sight - vision range +25; - Combat Flesh - armor +7; - Flesh Regeneration - hits regeneration +7; - Pain Threshold - PainState threshold +5;</p> <p>Immune to splash damage.</p>



Sprite	Description
	<p>Cyberdemon</p> <p>Hotkey: V Categories/Attributes: [unit,mechanical,heavy,ground] Max hits: 15000 Limit used: 10 Size: 20 Base movement speed: 12 Base vision range: 275 Build time: 80 Energy required: 1200 PainState base threshold: 10 Places in transport: 12 Requirements: Pentagram of Death Produced by: Demon`s Gate</p> <p>Arming/Abilities: - ranged attack, max. range: vision range, bonus anti-building range: +50, targets: [alive], impact 260*1, splash damage radius: 40, target priority: buildings, upgrade: Demon`s Weapons(+7), factor: x3 [building];</p> <p>Upgrades: - Hell Sight - vision range +25; - Combat Flesh - armor +7; - Flesh Regeneration - hits regeneration +7; - Pain Threshold - PainState threshold +5;</p> <p>Immune to splash damage.</p>
	<p>Pain Elemental</p> <p>Hotkey: B Categories/Attributes: [unit,biological,heavy,flying] Max hits: 1500 Limit used: 1 Size: 15 Base movement speed: 7 Base vision range: 225 Build time: 40 Energy required: 500 PainState base threshold: 3 Requirements: Monastery of Despair,Great Hell Keep Produced by: Demon`s Gate</p> <p>Arming/Abilities: - spawn "Phantom", max. range: vision range+50, targets: [alive], impact *0.5, target priority: distance, {Req.: "Phantoms"}; - spawn "Lost Soul", max. range: vision range+50, targets: [alive], impact *0.5, target priority: distance;</p> <p>Upgrades: - Hell Sight - vision range +25; - Combat Flesh - armor +7; - Flesh Regeneration - hits regeneration +7; - Pain Threshold - PainState threshold +2;</p> <p>Special ability: "Spawn LostSoul".</p>



Sprite	Description
	<p>Revenant</p> <p>Hotkey: N Categories/Attributes: [unit,biological,heavy,ground] Max hits: 1500 Limit used: 1.5 Size: 13 Base movement speed: 13 Base vision range: 225 Build time: 20 Energy required: 300 PainState base threshold: 5 Places in transport: 2 Requirements: Monastery of Despair Produced by: Demon`s Gate</p> <p>Arming/Abilities: - ranged attack, max. range: vision range, bonus anti-fly range: +100, targets: [alive] except [Revenant], impact 78*1, target priority: [fly], upgrade: Demon`s Weapons(+7), factor: x2 [flying]; - melee attack, targets: [Revenant], impact 52*1, target priority: distance, upgrade: Claws and Teeth(+7);</p> <p>Upgrades: - Hell Sight - vision range +25; - Combat Flesh - armor +7; - Flesh Regeneration - hits regeneration +7; - Pain Threshold - PainState threshold +3;</p>
	<p>Mancubus</p> <p>Hotkey: U Categories/Attributes: [unit,biological,heavy,ground] Max hits: 4000 Limit used: 3 Size: 20 Base movement speed: 7 Base vision range: 275 Build time: 30 Energy required: 500 PainState base threshold: 7 Places in transport: 4 Requirements: Monastery of Despair Produced by: Demon`s Gate</p> <p>Arming/Abilities: - ranged attack, max. range: vision range, bonus anti-building range: +50, targets: [alive] except [Mancubus], impact 52x2*1.2, target priority: buildings, upgrade: Demon`s Weapons(+7), factor: x4 [building];</p> <p>Upgrades: - Hell Sight - vision range +25; - Combat Flesh - armor +7; - Flesh Regeneration - hits regeneration +7; - Pain Threshold - PainState threshold +4;</p>



Sprite	Description
	<p>Arachnotron</p> <p>Hotkey: I Categories/Attributes: [unit,mechanical,heavy,ground] Max hits: 3000 Limit used: 3 Size: 20 Base movement speed: 11 Base vision range: 275 Build time: 30 Energy required: 500 PainState base threshold: 7 Places in transport: 4 Requirements: Monastery of Despair Produced by: Demon`s Gate</p> <p>Arming/Abilities: - ranged attack, max. range: vision range, bonus anti-unit range: +50, targets: [alive] except [Arachnotron], impact 104*1.5, target priority: [unit,mech], upgrade: Demon`s Weapons(+7), factor: x2 [unit,mechanical];</p> <p>Upgrades: - Hell Sight - vision range +25; - Combat Flesh - armor +7; - Flesh Regeneration - hits regeneration +7; - Pain Threshold - PainState threshold +4;</p>
	<p>Arch-Vile</p> <p>Hotkey: O Categories/Attributes: [unit,biological,heavy,ground] Max hits: 4000 Limit used: 4 Size: 14 Base movement speed: 15 Base vision range: 300 Build time: 30 Energy required: 700 PainState base threshold: 7 Places in transport: 4 Requirements: Monastery of Despair Produced by: Demon`s Gate</p> <p>Arming/Abilities: - resurrection, targets: [dead,demons&zombies] except [Cyberdemon,Spider Mastermind,Arch-Vile], impact *2, target priority: distance, {Req.: "Resurrection"}; - ranged attack, max. range: vision range+100, targets: [alive,unit], impact 416*0.5, splash damage radius: 20, target priority: highest hits;</p> <p>Upgrades: - Hell Sight - vision range +25; - Combat Flesh - armor +7; - Flesh Regeneration - hits regeneration +7; - Pain Threshold - PainState threshold +4;</p>


Sprite	Description
	<p>Lost Soul</p> <p>Hotkey: J Categories/Attributes: [unit,biological,light,flying] Max hits: 1000 Limit used: 1 Size: 10 Base movement speed: 24 Base vision range: 175 Build time: 10 Energy required: 100 PainState base threshold: 1 Produced by: Zombie Barracks Maximum number: 20</p> <p>Arming/Abilities: - melee attack, targets: [alive], impact 13*1, target priority: [bio], upgrade: Claws and Teeth(+7), factor: x0.5 [mechanical];</p> <p>Upgrades: - Hell Sight - vision range +25; - Combat Flesh - armor +7; - Flesh Regeneration - hits regeneration +7; - Pain Threshold - PainState threshold +1;</p>
	<p>Phantom</p> <p>Hotkey: K Categories/Attributes: [unit,biological,light,flying] Max hits: 1000 Limit used: 1 Size: 10 Base movement speed: 24 Base vision range: 175 Build time: 20 Energy required: 200 PainState base threshold: 1 Produced by: Zombie Barracks Maximum number: 20</p> <p>Arming/Abilities: - melee attack, +zombification, targets: [ground,flying], impact 13*1, target priority: distance, upgrade: Claws and Teeth(+7), factor: x0.5 [mechanical]; - melee attack, targets: [alive], impact 13*1, target priority: [bio], upgrade: Claws and Teeth(+7), factor: x0.5 [mechanical];</p> <p>Upgrades: - Hell Sight - vision range +25; - Combat Flesh - armor +7; - Flesh Regeneration - hits regeneration +7; - Pain Threshold - PainState threshold +1;</p>

Sprite	Description
	<p>Zombie Medic</p> <p>Hotkey: L Categories/Attributes: [unit,biological,light,ground] Max hits: 500 Limit used: 1 Size: 11 Base movement speed: 12 Base vision range: 175 Build time: 20 Energy required: 200 PainState base threshold: 1 Places in transport: 1</p> <p>Produced by: Zombie Barracks</p> <p>Arming/Abilities: - heal/repair, targets: [demons&zombies], impact 17*2, target priority: lowest hits; - ranged attack, max. range: vision range, targets: [alive], impact 26*1, target priority: [unit,bio,light], upgrade: Demon`s Weapons(+7);</p> <p>Upgrades: - Hell Sight - vision range +25; - Combat Flesh - armor +7; - Flesh Regeneration - hits regeneration +7; - Pain Threshold - PainState threshold +1;</p>
	<p>Zombie Engineer</p> <p>Hotkey: Ctrl+R Categories/Attributes: [unit,biological,light,ground] Max hits: 1000 Limit used: 1 Size: 11 Base movement speed: 14 Base vision range: 175 Build time: 30 Energy required: 600 PainState base threshold: 2 Places in transport: 2 Requirements: Zombie Barracks(x4) Produced by: Zombie Barracks</p> <p>Arming/Abilities: - suicide, targets: [alive,ground], impact 520*1, splash damage radius: 80, target priority: distance, factor: x3 [building];</p> <p>Upgrades: - Hell Sight - vision range +25; - Combat Flesh - armor +7; - Flesh Regeneration - hits regeneration +7; - Pain Threshold - PainState threshold +1;</p>



Sprite	Description
	<p>Zombie Shotgunner</p> <p>Hotkey: Ctrl+T Categories/Attributes: [unit,biological,light,ground] Max hits: 750 Limit used: 1 Size: 11 Base movement speed: 12 Base vision range: 175 Build time: 15 Energy required: 200 PainState base threshold: 2 Places in transport: 1 Requirements: Zombie Barracks(x3) Produced by: Zombie Barracks</p> <p>Arming/Abilities: - ranged attack, max. range: vision range, targets: [alive,ground], impact 52*1, target priority: [unit,bio,heavy], upgrade: Demon`s Weapons(+7), factor: x2 [unit,biological,heavy];</p> <p>Upgrades: - Hell Sight - vision range +25; - Combat Flesh - armor +7; - Flesh Regeneration - hits regeneration +7; - Pain Threshold - PainState threshold +1;</p>
	<p>Zombie SuperShotgunner</p> <p>Hotkey: Ctrl+Y Categories/Attributes: [unit,biological,heavy,ground] Max hits: 750 Limit used: 1 Size: 11 Base movement speed: 10 Base vision range: 175 Build time: 20 Energy required: 250 PainState base threshold: 1 Places in transport: 1 Requirements: Zombie Barracks(x3) Produced by: Zombie Barracks</p> <p>Arming/Abilities: - ranged attack, max. range: vision range, targets: [alive,ground], impact 156*0.67, target priority: [unit,bio,heavy], upgrade: Demon`s Weapons(+7), factor: x2 [unit,biological,heavy],x0.5 [mechanical];</p> <p>Upgrades: - Hell Sight - vision range +25; - Combat Flesh - armor +7; - Flesh Regeneration - hits regeneration +7; - Pain Threshold - PainState threshold +1;</p>



Sprite	Description
	<p>Zombie Commando</p> <p>Hotkey: Ctrl+F Categories/Attributes: [unit,biological,heavy,ground] Max hits: 750 Limit used: 1 Size: 11 Base movement speed: 10 Base vision range: 175 Build time: 15 Energy required: 200 PainState base threshold: 4 Places in transport: 1 Requirements: Zombie Barracks(x3) Produced by: Zombie Barracks</p> <p>Arming/Abilities: - ranged attack, max. range: vision range, bonus anti-fly range: -50, targets: [alive], impact 52*1, target priority: [unit,bio,light], upgrade: Demon`s Weapons(+7), factor: x2 [unit,biological,light];</p> <p>Upgrades: - Hell Sight - vision range +25; - Combat Flesh - armor +7; - Flesh Regeneration - hits regeneration +7; - Pain Threshold - PainState threshold +2;</p>
	<p>Zombie Anti-aircrafter</p> <p>Hotkey: Ctrl+G Categories/Attributes: [T2,unit,biological,light,ground] Max hits: 750 Limit used: 1 Size: 11 Base movement speed: 8 Base vision range: 175 Build time: 15 Energy required: 200 PainState base threshold: 4 Places in transport: 1 Requirements: Zombie Barracks(x3) Produced by: Zombie Barracks</p> <p>Arming/Abilities: - ranged attack, min. range: 40, max. range: vision range, bonus anti-fly range: +75, targets: [alive], impact 52*1, target priority: [fly], upgrade: Demon`s Weapons(+7), factor: x2 [flying];</p> <p>Upgrades: - Hell Sight - vision range +25; - Combat Flesh - armor +7; - Flesh Regeneration - hits regeneration +7; - Pain Threshold - PainState threshold +2;</p>



Sprite	Description
	<p>Zombie Siege Marine</p> <p>Hotkey: Ctrl+H Categories/Attributes: [unit,biological,light,ground] Max hits: 1000 Limit used: 1 Size: 11 Base movement speed: 8 Base vision range: 175 Build time: 20 Energy required: 200 PainState base threshold: 5 Places in transport: 1 Requirements: Zombie Barracks(x3) Produced by: Zombie Barracks</p> <p>Arming/Abilities: - ranged attack, min. range: 40, max. range: vision range, bonus anti-building range: +50, targets: [alive,ground], impact 52*1, target priority: buildings, upgrade: Demon`s Weapons(+7), factor: x4 [building];</p> <p>Upgrades: - Hell Sight - vision range +25; - Combat Flesh - armor +7; - Flesh Regeneration - hits regeneration +7; - Pain Threshold - PainState threshold +3;</p>
	<p>Zombie Plasmaguner</p> <p>Hotkey: Ctrl+V Categories/Attributes: [unit,biological,light,flying] Max hits: 750 Limit used: 1.5 Size: 11 Base movement speed: 14 Base vision range: 200 Build time: 20 Energy required: 250 PainState base threshold: 5 Requirements: Zombie Barracks(x2), Advanced Hell Command Center Produced by: Zombie Barracks</p> <p>Arming/Abilities: - ranged attack, max. range: vision range, bonus anti-fly range: +50, targets: [alive], impact 52*2, target priority: [unit,mech], upgrade: Demon`s Weapons(+7), factor: x2 [unit,mechanical];</p> <p>Upgrades: - Hell Sight - vision range +25; - Combat Flesh - armor +7; - Flesh Regeneration - hits regeneration +7; - Pain Threshold - PainState threshold +3;</p>



Sprite	Description
	<p>Zombie BFG Marine</p> <p>Hotkey: Ctrl+B Categories/Attributes: [unit,biological,heavy,ground] Max hits: 1000 Limit used: 3 Size: 11 Base movement speed: 6 Base vision range: 250 Build time: 40 Energy required: 600 PainState base threshold: 5 Places in transport: 2 Requirements: Zombie Barracks(x4),Advanced Hell Command Center(x3) Produced by: Zombie Barracks</p> <p>Arming/Abilities: - ranged attack, max. range: vision range, bonus anti-unit range: +50, targets: [alive], impact 312*0.5, splash damage radius: 160, target priority: distance;</p> <p>Upgrades: - Hell Sight - vision range +25; - Combat Flesh - armor +7; - Flesh Regeneration - hits regeneration +7; - Pain Threshold - PainState threshold +3;</p>



UAC UNITS

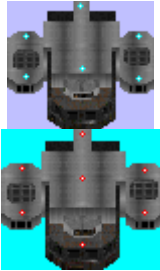

Sprite	Description
	<p>Shotgunner</p> <p>Hotkey: R Categories/Attributes: [unit,biological,light,ground] Max hits: 1000 Limit used: 1 Size: 11 Base movement speed: 14 Base vision range: 175 Build time: 20 Energy required: 200 Places in transport: 1 Zombie: Zombie Shotgunner Zombification hits: 0</p> <p>Produced by: Barracks</p> <p>Arming/Abilities: - ranged attack, max. range: vision range, targets: [alive,ground], impact 52*1, target priority: [unit,bio,heavy], upgrade: Weapons Upgrade(+7), factor: x2 [unit,biological,heavy];</p> <p>Upgrades: - Light Amplification Visors - vision range +25; - Infantry Combat Armor Upgrade - armor +7; - Lightweight Armor - movement speed +2; - Expansive bullets – attacks of Shotgunner, SuperShotgunner and Terminator are more likely to cause a pain state;</p>
	<p>SuperShotgunner</p> <p>Hotkey: T Categories/Attributes: [unit,biological,heavy,ground] Max hits: 1000 Limit used: 1.5 Size: 11 Base movement speed: 14 Base vision range: 175 Build time: 20 Energy required: 300 Places in transport: 1 Zombie: Zombie SuperShotgunner Zombification hits: 0</p> <p>Produced by: Barracks</p> <p>Arming/Abilities: - ranged attack, max. range: vision range, targets: [alive,ground], impact 156*0.67, target priority: [unit,bio,heavy], upgrade: Weapons Upgrade(+7), factor: x2 [unit,biological,heavy],x0.5 [mechanical];</p> <p>Upgrades: - Light Amplification Visors - vision range +25; - Infantry Combat Armor Upgrade - armor +7; - Lightweight Armor - movement speed +2; - Expansive bullets – attacks of Shotgunner, SuperShotgunner and Terminator are more likely to cause a pain state;</p>



Sprite	Description
	<p>Commando</p> <p>Hotkey: Y Categories/Attributes: [unit,biological,light,ground] Max hits: 1000 Limit used: 1 Size: 11 Base movement speed: 12 Base vision range: 175 Build time: 20 Energy required: 200 Places in transport: 1 Zombie: Zombie Commando Zombification hits: 0 Requirements: Weapon Factory Produced by: Barracks</p> <p>Arming/Abilities: - ranged attack, max. range: vision range, bonus anti-fly range: -50, targets: [alive], impact 52*1, target priority: [unit,bio,light], upgrade: Weapons Upgrade(+7), factor: x2 [unit,biological,light];</p> <p>Upgrades: - Light Amplification Visors - vision range +25; - Infantry Combat Armor Upgrade - armor +7; - Lightweight Armor - movement speed +2; - Stealth Technology - Commando becomes invisible;</p>
	<p>Antiaircrafter</p> <p>Hotkey: F Categories/Attributes: [unit,biological,heavy,ground] Max hits: 1000 Limit used: 1 Size: 11 Base movement speed: 12 Base vision range: 175 Build time: 20 Energy required: 200 Places in transport: 1 Zombie: Zombie Antiaircrafter Zombification hits: 0 Requirements: Weapon Factory Produced by: Barracks</p> <p>Arming/Abilities: - ranged attack, min. range: 40, max. range: vision range, bonus anti-fly range: +75, targets: [alive], impact 52*1, target priority: [fly], upgrade: Weapons Upgrade(+7), factor: x2 [flying];</p> <p>Upgrades: - Light Amplification Visors - vision range +25; - Infantry Combat Armor Upgrade - armor +7; - Lightweight Armor - movement speed +2; - Fragmentation Missiles - anti-air missiles do extra damage around the target(splash damage radius: 20);</p>

Sprite	Description
	<p>Siege Marine</p> <p>Hotkey: G Categories/Attributes: [unit,biological,heavy,ground] Max hits: 1000 Limit used: 1 Size: 11 Base movement speed: 10 Base vision range: 175 Build time: 20 Energy required: 200 Places in transport: 1 Zombie: Zombie Siege Marine Zombification hits: 0 Requirements: Weapon Factory Produced by: Barracks</p> <p>Arming/Abilities: - ranged attack, min. range: 40, max. range: vision range, bonus anti-building range: +50, targets: [alive,ground], impact 52*1, target priority: buildings, upgrade: Weapons Upgrade(+7), factor: x4 [building];</p> <p>Upgrades: - Light Amplification Visors - vision range +25; - Infantry Combat Armor Upgrade - armor +7; - Lightweight Armor - movement speed +2;</p>
	<p>Plasmaguner</p> <p>Hotkey: H Categories/Attributes: [unit,biological,heavy,flying] Max hits: 1000 Limit used: 1.5 Size: 11 Base movement speed: 14 Base vision range: 200 Build time: 25 Energy required: 250 Zombie: Zombie Plasmaguner Zombification hits: 0 Requirements: Weapon Factory,Advanced Command Center Produced by: Barracks</p> <p>Arming/Abilities: - ranged attack, max. range: vision range, bonus anti-fly range: +50, targets: [alive], impact 52*2, target priority: [unit,mech], upgrade: Weapons Upgrade(+7), factor: x2 [unit,mechanical];</p> <p>Upgrades: - Light Amplification Visors - vision range +25; - Infantry Combat Armor Upgrade - armor +7; - Lightweight Armor - movement speed +2;</p>

Sprite	Description
	<p>BFG Marine</p> <p>Hotkey: V Categories/Attributes: [unit,biological,heavy,ground] Max hits: 1000 Limit used: 3 Size: 11 Base movement speed: 10 Base vision range: 250 Build time: 40 Energy required: 600 Places in transport: 2 Zombie: Zombie BFG Marine Zombification hits: 0 Requirements: Science Facility, Computer Station Produced by: Barracks</p> <p>Arming/Abilities: - ranged attack, max. range: vision range, bonus anti-unit range: +50, targets: [alive], impact 312*0.5, splash damage radius: 160, upgrade: Weapons Upgrade(+7);</p> <p>Upgrades: - Light Amplification Visors - vision range +25; - Infantry Combat Armor Upgrade - armor +7; - Lightweight Armor - movement speed +2;</p>
	<p>Medic</p> <p>Hotkey: N Categories/Attributes: [unit,biological,light,ground] Max hits: 1000 Limit used: 1 Size: 11 Base movement speed: 12 Base vision range: 175 Build time: 25 Energy required: 200 Places in transport: 1 Zombie: Former Zombie Zombification hits: 0 Requirements: Weapon Factory,Advanced Command Center Produced by: Barracks</p> <p>Arming/Abilities: - heal/repair, targets: [alive,unit,biological], impact 17*2, target priority: lowest hits, upgrade: Advanced Tools(+14); - ranged attack, max. range: vision range, targets: [alive,ground], impact 26*2, target priority: lowest hits, upgrade: Weapons Upgrade(+7);</p> <p>Upgrades: - Light Amplification Visors - vision range +25; - Infantry Combat Armor Upgrade - armor +7; - Lightweight Armor - movement speed +2;</p>





Sprite	Description
	<p>Engineer</p> <p>Hotkey: B Categories/Attributes: [unit,biological,light,ground] Max hits: 1000 Limit used: 1 Size: 11 Base movement speed: 12 Base vision range: 175 Build time: 25 Energy required: 200 Places in transport: 1 Zombie: Zombie Engineer Zombification hits: 0 Requirements: Weapon Factory Produced by: Barracks</p> <p>Arming/Abilities:</p> <ul style="list-style-type: none"> - heal/repair, targets: [alive,mechanical], impact 17*2, target priority: lowest hits, upgrade: Advanced Tools(+16); - ranged attack, max. range: vision range, targets: [alive], impact 26*2, target priority: lowest hits, upgrade: Weapons Upgrade(+7); <p>Upgrades:</p> <ul style="list-style-type: none"> - Light Amplification Visors - vision range +25; - Infantry Combat Armor Upgrade - armor +7; - Lightweight Armor - movement speed +2;
	<p>Drone</p> <p>Hotkey: U Categories/Attributes: [unit,mechanical,light,ground] Max hits: 2000 Limit used: 2 Size: 15 Base movement speed: 14 Base vision range: 250 Build time: 20 Energy required: 400 Places in transport: 3</p> <p>Produced by: Vehicle Factory</p> <p>Arming/Abilities:</p> <ul style="list-style-type: none"> - ranged attack, max. range: vision range, targets: [alive,ground], impact 52*2, target priority: [unit,mech], upgrade: Weapons Upgrade(+7), factor: x2 [unit,mechanical]; <p>Upgrades:</p> <ul style="list-style-type: none"> - Light Amplification Visors - vision range +25; - Mech Combat Armor Upgrade - armor +7; - Advanced Engines - movement speed +2; - Drone Transformation Protocol - Drone can rebuild to Anti-ground turret; <p>Special ability: transformation to "Anti-ground Turret" {Req.: "Drone Transformation Protocol"}.</p>


Sprite	Description
	<p>Dropship</p> <p>Hotkey: I Categories/Attributes: [unit,mechanical,heavy,flying,transport] Max hits: 2000 Limit used: 1 Size: 33 Base movement speed: 18 Base vision range: 200 Build time: 20 Energy required: 200 Base transport capacity: 8 Requirements: Advanced Command Center Produced by: Vehicle Factory</p> <p>Upgrades:</p> <ul style="list-style-type: none"> - Light Amplification Visors - vision range +25; - Mech Combat Armor Upgrade - armor +7; - Advanced Engines - movement speed +2; - Dropship Upgrade - Increase the capacity of Dropship (+4); <p>Special ability: "Unload". Immune to splash damage.</p>
	<p>Terminator</p> <p>Hotkey: O Categories/Attributes: [,unit,mechanical,heavy,ground] Max hits: 2000 Limit used: 3 Size: 16 Base movement speed: 12 Base vision range: 275 Build time: 30 Energy required: 500 Places in transport: 4 Requirements: Science Facility Produced by: Vehicle Factory</p> <p>Arming/Abilities:</p> <ul style="list-style-type: none"> - ranged attack, max. range: vision range, bonus anti-fly range: -50, bonus anti-unit range: +50, targets: [alive,ground], impact 156*1.33, target priority: [unit,bio], upgrade: Weapons Upgrade(+7), factor: x2 [unit,biological],x0.5 [mechanical]; - ranged attack, max. range: vision range, bonus anti-fly range: -50, bonus anti-unit range: +50, targets: [alive,flying], impact 52*1, target priority: lowest hits, upgrade: Weapons Upgrade(+7), {Req.: "Anti-air Weapon"}; <p>Upgrades:</p> <ul style="list-style-type: none"> - Light Amplification Visors - vision range +25; - Mech Combat Armor Upgrade - armor +7; - Advanced Engines - movement speed +2; - Expansive bullets – attacks of Shotguner, SuperShotguner and Terminator are more likely to cause a pain state; <p>Immune to splash damage.</p>

Sprite	Description
	<p>Tank</p> <p>Hotkey: J Categories/Attributes: [unit,mechanical,heavy,ground] Max hits: 6000 Limit used: 4 Size: 20 Base movement speed: 8 Base vision range: 275 Build time: 40 Energy required: 600 Places in transport: 6 Requirements: Science Facility Produced by: Vehicle Factory</p> <p>Arming/Abilities: - ranged attack, min. range: 40, max. range: vision range, bonus anti-building range: +75, targets: [alive,ground], impact 52x2*1, splash damage radius: 20, target priority: buildings, upgrade: Weapons Upgrade(+7), factor: x4 [building];</p> <p>Upgrades: - Light Amplification Visors - vision range +25; - Mech Combat Armor Upgrade - armor +7; - Advanced Engines - movement speed +2;</p> <p>Immune to splash damage.</p>
	<p>Fighter</p> <p>Hotkey: K Categories/Attributes: [unit,mechanical,heavy,flying] Max hits: 4000 Limit used: 4 Size: 18 Base movement speed: 16 Base vision range: 275 Build time: 40 Energy required: 600 Requirements: Science Facility,Advanced Command Center Produced by: Vehicle Factory</p> <p>Arming/Abilities: - ranged attack, max. range: vision range, bonus anti-unit range: +25, targets: [alive], impact 104*2, target priority: [ground,light], upgrade: Weapons Upgrade(+7), factor: x2 [light,ground];</p> <p>Upgrades: - Light Amplification Visors - vision range +25; - Mech Combat Armor Upgrade - armor +7; - Advanced Engines - movement speed +2;</p> <p>Immune to splash damage.</p>













UPGRADES









Hell

Icon	Description
	<p><name> (hot key, energy required, time required, levels,*)</p> <p>* - means that it is possible to produce this upgrade in many buildings at the same time.</p>
	<p>Hell Firepower (R,600/1200/1800/2400/3000,60/105/150/195/240,x5)</p> <p>Increase the damage of ranged attacks for T1 units and defensive structures.</p>
	<p>Combat Flesh (T,600/1200/1800/2400/3000,60/105/150/195/240,x5)</p> <p>Increase the armor of all Hell units.</p>
	<p>Stone Walls (Y,600/900/1200/1500/1800,60/100/140/180/220,x5)</p> <p>Increase the armor of all Hell buildings.</p>
	<p>Claws and Teeth (F,600/900/1200/1500/1800,60/100/140/180/220,x5)</p> <p>Increase the damage of melee attacks.</p>
	<p>Flesh Regeneration (G,300/600,60/90,x2)</p> <p>Health regeneration for all Hell units.</p>
	<p>Pain Threshold (H,300/600,60/60,x2)</p> <p>Hell units can take more hits before being stunned by pain.</p>
	<p>Hell Keep Range Upgrade (V,600/600,60/75,x2)</p> <p>Increase Hell Keep`s range of vision.</p>
	<p>Hell Keep Blink Charge (B,300,60,x1)</p> <p>Charge for Hell Keep`s ability.</p>
	<p>Decay Aura (N,600,60,x1)</p> <p>Hell Keep start damage all enemies around. Decay Aura damage ignores unit armor.</p> <p>Requirements: Great Hell Keep</p>
	<p>Demonic Spirits (U,600/900,60/75,x2)</p> <p>Increase the range of defensive structures.</p> <p>Requirements: Great Hell Keep</p>
	<p>Specters (I,600,60,x1)</p> <p>Pinky Demon becomes invisible.</p> <p>Requirements: Great Hell Keep</p>
	<p>Hell Sight (O,600/900,60/90,x2)</p> <p>Increase the sight range of all Hell units.</p> <p>Requirements: Monastery of Despair</p>
	<p>Phantoms (J,600,60,x1)</p> <p>Pain Elemental spawns Phantoms instead of Lost Soul.</p> <p>Requirements: Monastery of Despair</p>

	<p>Demon`s Weapons (K,600/1200/1800/2400/3000,60/105/150/195/240,x5)</p> <p>Increase the damage of ranged attacks for T2 units and defensive structures. Requirements: Monastery of Despair</p>
	<p>Resurrection (L,600,60,x1)</p> <p>ArchVile`s ability. Requirements: Monastery of Despair</p>
	<p>Teleport Upgrade (Ctrl+R,400/600,60/90,x2)</p> <p>Reduced cooldown on Teleport ability. Requirements: Castle of Damned</p>
	<p>Recall (Ctrl+T,600,60,x1)</p> <p>Units can teleport back to Teleport. Requirements: Castle of Damned</p>
	<p>Evil Eye Upgrade (Ctrl+Y,300/600/900,60/60/60,x3)</p> <p>Increase the sight range of Evil Eye. Requirements: Castle of Damned</p>
	<p>Totem of Horror Invisibility (Ctrl+F,600,60,x1)</p> <p>Totem of Horror becomes invisible. Requirements: Castle of Damned</p>
	<p>Building Restoration (Ctrl+G,600/900/1200/1500/1800,60/60/60/60/60,x5)</p> <p>Health regeneration for all Hell buildings. Requirements: Castle of Damned</p>
	<p>Tower Teleportation Charge (Ctrl+H,200,30,x15,*)</p> <p>Charges for ability of Imp`s Tower and Totem of Horror. Requirements: Castle of Damned</p>

UAC

Icon	Description
	<p><name> (hot key, energy required, time required, levels,*) * - means that it is possible to produce this upgrade in many buildings at the same time.</p> <p>Weapons Upgrade (R, 600/1200/1800/2400/3000, 60/105/150/195/240, x5)</p> <p>Increase the damage of ranged attacks for all UAC units and defensive structures.</p>
	<p>Infantry Combat Armor Upgrade (T, 600/1200/1800/2400/3000, 60/105/150/195/240, x5)</p> <p>Increase the armor of all Barrack`s units.</p>
	<p>Concrete Walls (Y, 600/1200/1800/2400/3000, 60/105/150/195/240, x5)</p> <p>Increase the armor of all UAC buildings.</p>
	<p>Advanced Tools (F, 600/900, 60/105, x2)</p> <p>Increase repair/healing efficiency of Engineers/Medics.</p>
	<p>Lightweight Armor (G, 600, 60, x1)</p> <p>Increase the movement speed of all Barrack`s units.</p>
	<p>Expansive bullets (H, 300, 60, x1)</p> <p>Attacks of Shotguner, SuperShotguner and Terminator are more likely to cause a pain state.</p>
	<p>Command Center Range Upgrade (V, 600/600, 60/75, x2)</p> <p>Increase Command Center`s range of vision.</p>
	<p>Command Center Flight Engines (B, 600, 120, x1)</p> <p>Command Center gains ability to fly.</p>
	<p>Command Center Turret (N, 600, 120, x1)</p> <p>Plasma turret for Command Center. Requirements: Advanced Command Center</p>
	<p>Spotlights (U, 600/900, 60/75, x2)</p> <p>Increase the range of defensive structures. Requirements: Advanced Command Center</p>
	<p>Drone Transformation Protocol (I, 600, 60, x1)</p> <p>Drone can rebuild to Anti-ground turret. Requirements: Advanced Command Center</p>
	<p>Light Amplification Visors (O, 600/900, 60/90, x2)</p> <p>Increase the sight range of all UAC units. Requirements: Science Facility</p>
	<p>Stealth Technology (J, 600, 60, x1)</p> <p>Commando becomes invisible. Requirements: Science Facility</p>

	<p>Fragmentation Missiles (K,600,60,x1)</p> <p>Anti-air missiles do extra damage around the target. Requirements: Science Facility</p>
	<p>Advanced Engines (L,600/900,60/75,x2)</p> <p>Increase the movement speed of all Factory`s units. Requirements: Science Facility</p>
	<p>Mech Combat Armor Upgrade (Ctrl+R,600/1200/1800/2400/3000,60/105/150/195/240,x5)</p> <p>Increase the armor of all Factory`s units. Requirements: Science Facility</p>
	<p>Anti-air Weapon (Ctrl+T,600,60,x1)</p> <p>Anti-air weapon for Terminator. Requirements: Science Facility</p>
	<p>Dropship Upgrade (Ctrl+Y,600,60,x1)</p> <p>Increase the capacity of Dropship. Requirements: Science Facility</p>
	<p>Radar Upgrade (Ctrl+F,300/600/900,60/60/60,x3)</p> <p>Increase radar scanning radius. Requirements: Computer Station</p>
	<p>Anti-ground Plasmagun (Ctrl+G,600,60,x1)</p> <p>Anti-[mechanical] weapon for Anti-ground turret. Requirements: Computer Station</p>
	<p>Additional Armoring (Ctrl+H,600,60,x1)</p> <p>Additional armor for Turrets. Requirements: Computer Station</p>

Credits

Andrey TGA Goryainov – idea, programming and resource edition.

Most resources used from:

- Doom 2 game (ID Software);
- Doom 2 repository www.realm667.com (Daniel Tormentor667 Gimmer);
- Duke Nukem 3D game (3D Realms);
- BLOOD game (Monolith Productions);
- DoomWars game (Cybermind).

Special thanks to:

- jmickle6666666666 for NASTY tool (<https://www.doomworld.com/forum/topic/98689-nasty-not-a-sourceport-thank-you-alpha-4/>).

Sources: <https://github.com/T3DStudio/MarsWars>