

ID24 Mapping Additions formal specification 0.99.1

ID24 has implemented a few new features and line specials for use by mappers. This document details this new functionality.

Baseline features

The ID24 map additions are a superset of the following specifications:

- All original Doom map features
- All Boom map features (including generalised line and sector specials)
- All MBF map features
- All MBF21 map features

An ID24-capable port is expected to implement all features for those standards.

Reserved indices for line specials

The following line special index ranges are reserved for future use by id Software and/or its affiliates:

- 2048 - 4095 inclusive

This is easily testable with a bitwise and with single bit, 0x0800. Any line special outside of the Boom generalised linedef range with this bit set is expected to have been defined by id Software and/or its affiliates; if it has been defined through any other means, this is in violation of the ID24 specification.

Further, the line specials used by ZokumBSP are respected and reserved for use by ZokumBSP. At the time of writing, the following list of indices are reserved:

- 998
- 999
- 1048
- 1078
- 1079
- 1080
- 1081
- 1082
- 1083
- 1084
- 1085
- 1086

UMAPINFO additions

UMAPINFO defines the **bossaction** field as a way to activate a line special when all boss monsters of the specified type are killed. It uses a string mnemonic to resolve the type. This was reasonable when it was not possible to have four billion+ different types. As such, **bossaction** now allows you to specify the thing number as defined by DeHackEd in place of a string mnemonic.

Further, **bossactionednum** has been added which differs from **bossaction** by resolving a thing's editor number instead of the thing number directly. The boss actions internally still use the usual thing type values, and as such this field must resolve a valid thing from the editor number to be able to function correctly.

Any texture and flat can be used on any surface

ID24 allows both textures defined in TEXTURE1/2 and flats found between flat markers in the WAD directory to be rendered on any floor, ceiling, or wall.

TEXTURE1/2 textures rendered on floors and ceilings do not clamp to power-of-2 boundaries but instead render their entire dimensions in a 1:1 ratio of texels to world units. TEXTURE1/2 textures rendered on floors and ceilings tile using the same rules as flats.

For the purposes of rendering a transparent texture on a solid surface, transparent texels must be rendered with palette index 0. Composite textures must clear their texture to palette index 0 before compositing.

Floor and ceiling texture transformations

There are now line specials to offset floor and ceiling textures, similar to how wall textures are offset. The line special's X and Y direction are treated as the offset values. Offsets are always applied assuming the floor/ceiling is rendering from the origin (0, 0).

Rotation is also capable of being applied to floor and ceiling textures. As per offsets, the rotation is defined by the angle of the line and applied as if the floor/ceiling is rendering from the origin (0, 0).

Lines that combine offset and rotation effects perform the offset first and then the rotation.

Music changing

The new music line specials mean that you no longer are required to use MUSINFO to change the current music track playing. When defining the music track, you set the upper texture to the wanted lump name of the music track when activating the line from the front side; and the lower texture when activating from the back side. The music change is immediate, unlike MUSINFO which has a small delay.

If a lump is not found with the provided name, no music change occurs.

If the upper/lower textures are not set, no music change occurs. The exception is when using the "reset" class of lines, which reverts to the level's default looping music when activated.

Reset exits

Lines are provided that reset the player's inventory after exiting a map. This removes the requirements for death exits to do such things; and also allows a cleaner way of handling such setups as Eternity's secret maps rewarding the player with not resetting their inventory on entering MAP16 (ie place the reset exit on MAP15 and the flow is preserved naturally since the reset happens at map end instead of map start).

Sector tinting

Sectors can now have colormaps applied directly to them without needing to use Boom's property transfer line specials. It is also entirely possible to do this dynamically thanks to interactive line special types. When defining the colormap, you set the upper texture to the wanted lump name of the colormap when using the static special or when activating the line from the front side; and the lower texture when activating from the back side.

If a lump is not found with the provided name, or if the upper/lower textures are not set, the sector's colormap is cleared and it uses the current default colormap (as set with the property transfer zone you are in).

When a sector's colormap is set this way, it entirely overrides the default colormap (including property transfers, excluding powerups).

Scrolling textures

New special types have been added to scroll both the front and the back sidedefs of a line in the same cardinal direction. The defined direction is relative to the front sidedef of a line.

Line specials table

Index	Trigger	Description
2048	Always	Offset target floor texture by line direction.
2049	Always	Offset target ceiling texture by line direction.
2050	Always	Offset target floor and ceiling texture by line direction.
2051	Always	Rotate target floor texture by line angle.
2052	Always	Rotate target ceiling texture by line angle.
2053	Always	Rotate target floor and ceiling texture by line angle.
2054	Always	Offset then rotate target floor texture by line direction and angle.
2055	Always	Offset then rotate target ceiling texture by line direction and angle.
2056	Always	Offset then rotate target floor and ceiling texture by line direction and angle.
2057	W1	Change music and make it loop only if a track is defined.
2058	WR	Change music and make it loop only if a track is defined.
2059	S1	Change music and make it loop only if a track is defined.
2060	SR	Change music and make it loop only if a track is defined.
2061	G1	Change music and make it loop only if a track is defined.
2062	GR	Change music and make it loop only if a track is defined.
2063	W1	Change music and make it play only once.

2064	WR	Change music and make it play only once.
2065	S1	Change music and make it play only once.
2066	SR	Change music and make it play only once.
2067	G1	Change music and make it play only once.
2068	GR	Change music and make it play only once.
2069	W1	Exit to the next map and reset inventory.
2070	S1	Exit to the next map and reset inventory.
2071	G1	Exit to the next map and reset inventory.
2072	W1	Exit to the secret map and reset inventory.
2073	S1	Exit to the secret map and reset inventory.
2074	G1	Exit to the secret map and reset inventory.
2075	Always	Set the target sector's colormap.
2076	W1	Set the target sector's colormap.
2077	WR	Set the target sector's colormap.
2078	S1	Set the target sector's colormap.
2079	SR	Set the target sector's colormap.
2080	G1	Set the target sector's colormap.
2081	GR	Set the target sector's colormap.
2082	Always	Scroll both front and back sidedef's textures according to the line's left direction.
2083	Always	Scroll both front and back sidedef's textures according to the line's right direction.
2084	Always	Scroll both front and back sidedef's textures according the target sector's scroll values divided by 8.
2085	Always	Scroll both front and back sidedef's textures according the target sector's movement divided by 8.
2086	Always	Scroll both front and back sidedef's textures and accelerate the scroll value by the target sector's movement divided by 8.
2087	W1	Change music and make it loop, reset to looping default if no track defined.
2088	WR	Change music and make it loop, reset to looping default if no track defined.

2089	S1	Change music and make it loop, reset to looping default if no track defined.
2090	SR	Change music and make it loop, reset to looping default if no track defined.
2091	G1	Change music and make it loop, reset to looping default if no track defined.
2092	GR	Change music and make it loop, reset to looping default if no track defined.
2093	W1	Change music and make it play only once, reset to looping default if no track defined.
2094	WR	Change music and make it play only once, reset to looping default if no track defined.
2095	S1	Change music and make it play only once, reset to looping default if no track defined.
2096	SR	Change music and make it play only once, reset to looping default if no track defined.
2097	G1	Change music and make it play only once, reset to looping default if no track defined.
2098	GR	Change music and make it play only once, reset to looping default if no track defined.

Things table

Index	Description	Radius
-28672	Ghoul	
-28671	Banshee	
-28670	Mindweaver	
-28669	Shocktrooper	
-28668	Vassago	
-28667	Tyrant	
-28666	Tyrant (Boss 1)	
-28665	Tyrant (Boss 2)	
-28664	Stalagmite (gray)	
-28663	Large corpse pile	
-28662	Human BBQ 1	

-28661	Human BBQ 2	
-28660	Hanging victim, both legs	
-28659	Hanging victim, both legs (blocking)	
-28658	Hanging victim, crucified	
-28657	Hanging victim, crucified (blocking)	
-28656	Hanging victim, arms bound	
-28655	Hanging victim, arms bound (blocking)	
-28654	Hanging baron of hell	
-28653	Hanging baron of hell (blocking)	
-28652	Hanging victim, chained	
-28651	Hanging victim, chained (blocking)	
-28650	Hanging torso, chained	
-28649	Hanging torso, chained (blocking)	
-28648	Skull pole trio	
-28647	Skull gibs	
-28646	Bush, short	
-28645	Bush, short burned 1	
-28644	Bush, short burned 2	
-28643	Bush, tall	
-28642	Bush, tall burned 1	
-28641	Bush, tall burned 2	
-28640	Cave rock column	
-28639	Cave stalagmite, large	
-28638	Cave stalagmite, medium	
-28637	Cave stalagmite, small	
-28636	Cave stalactite, large	
-28635	Cave stalactite, large (blocking)	
-28634	Cave stalactite, medium	
-28633	Cave stalactite, medium (blocking)	

-28632	Cave stalactite, small	
-28631	Cave stalactite, small (blocking)	
-28630	Office chair	
-28629	Office lamp (breakable)	
-28628	Ceiling lamp	
-28627	Candelabra (short)	
-28626	Ambient Klaxon	
-28625	Ambient Portal Open	
-28624	Ambient Portal Loop	
-28623	Ambient Portal Close	
-28622	Fuel Can	
-28621	Fuel Tank	
-28620	Heatwave Generator	
-28619	Incinerator	