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| **WGR DOCUMENTATION: SPRITES**  This file documents the various sprites and sprite features in WGR, including for effects and actors. The intent is to provide useful information to level designers. It is divided into three sections: General Features, Actor Sprites, and Effect Sprites. It is assumed that the reader already has a basic understanding of how to place and manipulate sprites in the level editor.  **GENERAL FEATURES**  **SPECIAL TAGS AND FEATURES ON MONSTERS** All monsters in WGR share some optional features which are controlled by tags placed on their sprites in the map editor. Unless noted otherwise, these features also work if applied to the RESPAWN that spawns a monster. Some of these tags can only be edited in Mapster by pressing F8 on the sprite in 2D mode.  **XVEL =** If set, this causes the monster to spawn a tile of that number when it dies. It can be used to make a monster spawn a specific item, or even a different monster. Normally, monsters also drop a set amount of gold, depending on the type of monster. If you set XVEL to 1, the monster will not drop gold.  **YVEL =** If set, this causes the monster to trigger that channel upon death. It will trigger any linked RESPAWN, ACTIVATOR, etc. in addition to any WGR effect in the game sharing that channel.  **PAL 17 =** This makes the monster into a statue. The statue will stay dormant until activated by its LOTAG, at which point the statue will become the living monster. This effect is coded to work with the vast majority of enemies but not with certain bosses. Many monsters have other PAL variants, but those are listed in the entries for the specific monsters. The statue feature does not work on RESPAWN sprites, but the other PALs do.  **ZVEL =** Group number (see below)  Groups:  If a monster is part of a group, then it will not activate its YVEL tag when it dies, unless all of the other monsters of the same group are already dead.  These means you can create a situation where the player has to kill an entire group of monsters in order to activate something.  The tag that gets activated is the one belonging to the last monster that dies (normally you would give the same yvel to every monster in the group, but this isn't strictly necessary).  Group numbers are global.  That means that there should only be one group of that number in the entire episode.  If you use ZVEL 1 on a group of monsters in level 1, then you should not use group 1 in level 2, etc.  **OWNER = Aura(s)**  Auras are magical fields surrounding monsters that give them powers. The aura is transferred to other nearby monsters in a radius, but only monster that own the aura can spread it. Aura is a bitfield, meaning that you can add together the numbers below to give a monster more than one; however it is not recommended to give a monster more than one. Also note that on the hardest difficulty setting, some monsters will automatically have a random aura assigned to them.  **1 = speed (moves faster) 2 = might (extra damage) 4 = invisibility (hard to see and curses you if it hits) 8 = lightning enchanted (releases lightning bolts when struck) 16 = poisonous (they do poison damage in addition to normal damage) 32 = freezing (chills you) 64 = burning (sets you on fire) 128 = vampire (if they damage you it adds to their health) 256 = extra hit points**  **512 = magnet (pulls in player)**  **1024 = revenge bolt (fires a nova projectile at player when monster dies)**  **2048 = randomly teleports to locations near player or target**  **4096 = 2XSHOTS, all projectiles are doubled**  **SWITCH ACTIVATION USING EXTRA** You can make switches work on everything (including all WGR2 effects) by using EXTRA instead of lotag. IMPORTANT: lotag on the switch still has to be set to some nonzero number, or the switch will not work at all. So what I do is set lotag to a tag that I do not use (usually 1). Do not set both lotag and extra to the same tag number, because then it will activate the tag twice, and in many cases that will cause the activation to cancel itself.  **GIVE ANY SECTOR AN UNDERWATER or REDDISH PALETTE** Hitag 6 makes the sector under water palette, hitag 7 gives it a reddish palette. Note that this is a full palette change similar to using nightvision goggles, it not the same kind of color change that occurs when you give the sector floor a color. The first time you do a palette shift, the game halts as all the textures are converted, so try not to use the effect where the player is jumping or fighting.  **ACTOR SPRITES BY TILE NUMBER**  Includes creatures and items.  **WEAPON AND AMMO SPRITES**  **SWORDSPRITE 14** – Jedrik’s Armageddon Sword  **BOWSPRITE 1614** – Jedrik’s Warbow  **QUIVERSPRITE 17** – Jedrik’s Quiver, can have different pals for arrow types  **NECROSWORD 18** – Jedrik’s Corrupter blade  **HAMMERSPRITE 19** – Jedrik’s Thunderstrike Hammer  **FIRSTGUNSPRITE 21** – Duke’s Headshooter rifle  **CHAINGUNSPRITE 22** – Duke’s chaingun  **RPGSPRITE 23** – Duke’s rocket launcher  **PLASMASPRITE 24** – Duke’s plasma gun  **BFGSPRITE 25** – Duke’s BFG 6666  **TRIPBOMBSPRITE 27** – Watcher Sentry  **SHOTGUNSPRITE 28** – Duke’s super shotgun  **FLAMETHROWERSPRITE 29** – Duke’s Therminator  **REVOLVERSPRITE 32** – Duke’s dual revolvers  **CHAINSAWSPRITE 35** – Duke’s Buzzsaw  **AXESPRITE 36** – Jedrik’s Borean axe  **PLASMAAMMO 37** – plasma gun ammo  **AMMO 40** – headshooter rifle ammo  **BATTERYAMMO 41** – chaingun ammo  **FLAMEAMMO 42** – Therminator ammo  **GRENADEAMMO 43** – grenades for the chaingun  **RPGAMMO 44** – rocket launcher ammo  **REVOLVERAMMO 45** – dual pistol ammo  **BFGAMMO 46** – BFG 6666 ammo  **HBOMBAMMO 47** – box of pipebombs  **GAUNTSPRITE 48** – Jedrik’s Arc Wielder Gauntlets  **SHOTGUNAMMO 49** – super shotgun ammo  **SAWFUEL 65** – buzzsaw fuel  **GAUNTAMMO 266** – gauntlet charges  **SWORDAMMO 3343** – corrupter blade chargers  **HAMMERAMMO 3344** – hammer charges  **AXEAMMO 3347 –** axe charges  **ARMSWORDAMMO 3348** – Armageddon sword charges  **CANNONSPRITE 6879** – Jedrik’s Hull Breacher Cannon  **CANNONAMMO 6890** – cannon ammo  ***Weapon and ammo sprites will automatically change into an equivalent type for the appropriate character, when a level starts and whenever the player switches characters. Therefore, there is no need to put items for both characters in a map. It is generally better to place only Duke’s items, since the code was written on that assumption and will make use of all of the arrow types. The same applies to chest contents.***  **NONWEAPON PICKUP SPRITES**  **APPLE 50** -- +1 to max health  **COLA 51** – heals 10  **SIXPAK 52** – heals 30  **FIRSTAID 53** – fills the flask of life  **SHIELD 54** – a helmet providing a small amount of armor  **POWERPOD 55** – used to activate things in levels  **AIRTANK 56** – scuba gear  **JETPACK 57** – the jump boots; “setvar jet 1” in console and it functions like Duke 3D jetpack  **HEATSENSOR 59** – spirit vision goggles  **ACCESSCARD 60** – not used in WGR, but could be (not supported in art though)  **BOOTS 61** – elemental shield  **ATOMICHEALTH 100** – heart booster +50 health can overcharge  **ARMORSHARD 181** – restores 1 armor point  **KEY 296** – a key, can open certain chests (see treasure chest tile 440)  **SMALLGOLD 326** – adds 5 gold  **MEDIUMGOLD 331** – adds 10 gold  **BIGGOLD 336** – adds 15 gold  **HOLODUKE 1348** – a doll that can summon Demonova  **SMALLPOTION 1730** – grants 1 point of health, can overcharge health  **MEDIUMPOTION 1733** – grants 5 points of health, can also fill flask if health is already full  **TIMERUNE 3350** – a powerup that temporarily slows time while the player moves at normal speed  **GEMSPRITE 4174** – currency used in shops; each 100 gold gets converted to these at level start  **QUADDAMAGE 5120** – gives X4 damage for a limited time; if given a LOTAG it will remain transparent and dormant until that channel is activated by a WGR effect  **ARMOR1 5139** – grants 50 armor points, cannot exceed max armor  **ARMOR2 5170** – grants 100 armor points, cannot exceed max armor  **ARMOR3 5187** – grants 150 armor points, cannot exceed max armor  **INVULN 5140** – a powerup that grants temporary invulnerability  **AMMOPACK 5155** – a one time upgrade that doubles all maximum ammo amounts  **ARMORUPGRADE 5156** – adds 10 points to maximum armor; starting max is 50  **DAMAGEUPGRADE 5157** – increases all player damage by 10% of base damage  **POWUPGRADE 5158** – increases maximum POW by 10 points  **DEMONOVAUPGRADE 5160** – one time upgrade granting Demonova’s true form when summoned  **ALLAMMOS 5164** – gives ammo of all types, except for BFG/Armageddon sword  **FLASKUPGRADE 5165** – adds 4 to maximum flask amount  **SHIELDUPGRADE 5166** – one time upgrade doubling elemental shield protection and granting it retaliation bolts  **SHARD 5180** – adds a small amount to elemental shield; these are automatically dropped by enemies with elemental auras  **GOLDAMULET 6164** – a one time upgrade that makes nearby gold move towards the player  **FRIENDLY NPCs**  **PIGGY 1912** – a simple pig that wanders around and oinks. Can be killed if you want to be mean to it. If it burns to death, Duke will say “Makin’ Bacon!” because he’s a chad.  **BAT 4096**  **BIRDFLY 8680** These are both flying actors with similar behavior. The only differences are that the birds move faster and can’t be killed. Their flight patterns are set via their EXTRA tag, as follows:  **Extra 0 =** flies straight ahead, disappears when it runs into something  **Extra 1 =** circles clockwise  **EXtra 2 =** circles counterclockwise  **Extra 3 =** figure 8 clockwise  **Extra 4 =** figure 8 counterclockwise  **hitag =** rate of turn (leave at zero for default rate)  **TOWNIE1 4422**  **TOWNIE2 4445** -- These townsfolk will wander around. If killed they will respawn from their starting point. Place TOWNTRAIL (tile 500) sprites in places where you want them to go, and they will (usually) stick to paths between those points.  **MINOTAUR 4891** – fights on the side of the player when summoned by POW  **GOODFISH 5207** – Just swims around. It’s “good” because it doesn’t bite you.  **AXON 5476** – A powerful sorcerer who summons the player at the start of the game in the main storyline. Has coding tied to the story and specific levels so it’s best not to place him in maps unless you have studied the code (this is too much trouble to document).  **AXONEFFECTOR 5477** – only used in conjunction with the POW tutorial in hub.map  **AXONENDACTOR 5496** – only used in the final Duke Nukem cutscene as a cutscene actor  **HERO 5528 –** A good-guy NPC that will fight monsters. They can be placed in maps directly, but they are also spawned from SOULDOOR when the curse is broken (see SOULDOOR entry).  **BARBNPC 6800 --** A good-guy NPC that will fight monsters. They can throw their hammers like Thor, and they can block with their shields.  **CANNON 7373** – It shoots deadly cannonballs when you use it. Can’t be turned, though.  **DEMONOVA 7525** – A demon who fights on the side of the player when summoned by HOLODUKE item (Demonova doll). Can also be placed directly in maps.  **MERKATA 7878** – A merchant sorceress with a large role in the main story. She is coded to give monologues when encountered, so don’t use her unless you know what you are doing.  **KHANNASTAND 8265 –** Khanna is Axon’s apprentice. This sprite will just stand and turn to face the player.  **KHANNAFIGHT 8270 –** Khanna is Axon’s apprentice. This sprite will fight alongside the player using a variety of spells. She cannot be permanently killed because she self-resurrects. The PAL 21 variant is an ENEMY and will attack the player; the only thing that can stop her is defeating the final form of ARCHONITRON.  **KHANNASIPHON 8295** – used in conjunction with a specific cutscene in the main story. Do not use unless you have studied the code and can replicate the functionality.  **KITTY 8322** – Merkata’s cat. It can wander around but will return to its start point sometimes.  **BUTTFLY 8355** – A butterfly. Similar movement pattern to lightbug  **FROGGY 8375** – A frog that can hop. Automatically lands on lily pads when on water.  **CHICKEN 8390** – They wander and feed. Can be killed for a roast chicken meal, but if you kill too many one will transform into the karmic revenge chicken miniboss.  **SQUIRREL 8400** – These run around on the ground. They will try to avoid the player.  **SHEEP 8820** – It does what sheep do. Except it doesn’t poop.  **OTHER NPC SPRITES** – There are various NPC sprites that are static with no code on them. They can be used as questgivers in conjunction with QUESTSPRITE or just for ambience. Some have shadows, some do not.  **ENEMIES**  **Egg Sack 308**  spawns spiders (small ones that cannot shoot webs)  **Egg 675**  spawns a Rage Head (see below)  **Phase Demon 1680**  Floats, goes in and out of phase, fires dark plasma  Pal 7 triple hit points, fires a nova bomb  Pal 24 smaller, faster and dies easier, shoots demon spit instead of dark plasma  Pal 88 bigger, much stronger, it flies at you and bites you, but doesn’t shoot    **Zombikaze 1820**  They run at the player and explode.  Pal 23 zombies are tougher with a much bigger explosion  **Baron Zombie 2000**  **Stayput** **2001**  fires shotgun pellets  pal 10 bigger, tougher, more pellets  pal 14 smaller, weaker pal 23 is a sniper who shoots a single accurate and powerful projectile  **Rage Head 1880**  Flying, explosive skeletal heads, similar to lost souls from Doom.  Pal 21 is bigger and tougher with a much deadlier explosion  **Axe Demon 2120**  **Stayput 2121**  weak, moves fast, has a melee attack, can jump  pal 7 stronger, fast charging attack    **Wizard 3473**  floats, can teleport and regenerate, make spinning force field  Pal 0 shoots plasma, can encase player in force fields  Pal 10 fire attacks  Pal 24 lightning attacks, does not regenerate  Pal 25 boss strength, cold attacks, wakes pal 17 golems and wraiths if they have the same lotag as him    **Spider 4264**  can walk on ceiling, use web lines to drop  fires shoots sticky webs and bites; note that the spiders spawned by eggsacks are babies and cannot shoot webs  **Hornet 4300**  A large hornet.  It becomes aggressive when the player gets close.  **Infernal 4475**  **stayput 4476**  Powerful spell-casting demons similar to barons of hell from Doom. Pal 23 is a boss version. Pal 10 is a fire variant who comes with a fire aura and some fire-based attacks. Pal 24 is an ice variant who comes with a freezing aura and some ice-based attacks. Pal 21 is considered the default Pal with no special element. Pal 10 and other pals not listed above will sometimes spawn rolling boulders to attack.    **Cyberdemon 4959**  **Cyberdemonstayput 4960**  needs no introduction  pal 7 fires BFG beam lite  pal 10 or 21 fires rockets  pal 13 fires explosive shotgun  pal 0,16 fires plasma  A Cyberdemon with an EXTRA of 4 will be a super-cyberdemon boss.    **Death Knight 5252**  **Stayput 5253**  A skelknight leader.  Sword attack emits force blasts that push player back.  His shield can block incoming attacks.  Also has auras:  pal 0 = speed aura  pal 1 = freezing aura  pal 2 = might aura  pal 3 = no aura (also true of all pals not listed)  pal 4 = invisibility aura  pal 8 = poison aura  pal 20 = boss (very tough, randomly switches aura, his shield is more effective, can spawn rage heads and skelknights)  **Deathknightbones 5326**  A pile of bones that will rise and become a Dethnite if the player gets near.  **Bad Fish 5232**  pal 2 faster, goes after player and bites more  **Serpent Demon 5632**  **Stayput 5633**  spits and has bite attack, pretty fast  pal 7 tougher, fires several projectiles at once in different directions    **Dragon 5702**  flies, breaths fire, swoop attacks  pal 1 or 20, breaths frost instead of fire  pal 2 much tougher, more fire, can pick up the player and drop him  pal 7 smaller and weaker, shoots smaller and faster fireballs (the wraith projectile)  **Dracarry**  Picks up, carries, drops monsters. Changes into regular dragon when attacked. Use monpath tile 496 to set trail.  Lotag = tag that makes Dracarry appear  Hitag = must match hitag of monpath trail  Monpath 496 (Dracarry usage)  Start with lotag 0, consecutive lotags define trail. Match hitag to Dracarry(s) assigned to trail.  Pal 2 = abort (fight), pal 4 = vanish, pal6=drop cargo  Pal 14 = pick up cargo, pal 23 = loop back to lotag 0  Create a path of MONPATH sprites, similar to LOCATORS, but starting with lotag 0. Place one or more DRACARRY in places where they can fly to the lotag 0 MONPATH without obstructions. You can have more than one MONPATH trail in your map, but each trail must have its own hitag, and each DRACARRY must also have that hitag (so it knows what trail to use). A MONPATH trail can be made to loop (like LOCATORS for RECON) or it can simply end. If you want it to loop, give the last MONPATH in the trail a pal of 23. In that case, any DRACARRY assigned to the trail will loop around the trail until it takes enough damage to become angry, at which point it will become a regular dragon and leave the trail. If you want the trail to end, then give the last MONPATH a pal of 2 or a pal of 4. Pal 2 will make the DRACARRY become a regular dragon and fight. Pal 4 will make it disappear from the map.  If a MONPATH is pal 14, that tells the DRACARRY to look for a monster in that sector to pick up when it reaches that MONPATH. It is best to have stayput monsters in a small sector that are waiting to be picked up (they can be respawns that appear at the same time as the DRACARRY). A good sector size is large enough for the monster to comfortably stand in, but not so large that it can wander more than a few meters in any direction. Once picked up, the monster will be carried by the DRACARRY until it reaches a pal 6 MONPATH (which makes it drop the cargo), or until the monster is killed in flight. Monsters WILL attack the player while being carried, if they have a ranged attack.  **Ettin 5776**  tough, melee attack and "grenade" attack  gets mad and more dangerous when badly wounded    **Skelknight 5888**  slow, weak warriors, bodies will resurrect  pal 19 faster and twice as tough as pal 0  pal 20 even faster and three times as tough as pal 0  **SKELKNIGHTBONES 5958**  A pile of bones that will rise and become a Skelknight if the player gets near.  **WRAITH 5980**  **WRAITHSTAYPUT 5981** pal 20 = icey version , shoots tracking ice balls  pal 24 = Boss (very tough, spawns normal wraiths that stay at his sides, can attack with lightning and energy balls that spawn spiders or axe demons)    **Golem 6039**  **GOLEMSTAYPUT 6040**  tough, powerful melee attack that knocks player back  pal 0 ice golem, shoots cold blast  pal 4 is a void golem and can curse the player pal 10 fire golem, rises from lava and shoots lava balls  pal 14 slime golem, grabs and poisons player, breaks into smaller slime golems when shot (up to 7 total)  pal 15 rock golem, blows rocks at the player  pal 17 golem statue, lotag is activation number    **GHOST 6080**  Possesses other monsters and makes them tougher, can only be killed when spirit vision is on. The ghost will float around and possess the first monster it sees. Killing a possessed monster will cause the ghost to flee but will not kill it.  **CYBERFLOAT 6450**  **CYBERFLOATPUT 6451**  A floating, legless Cyberdemon. It has 1500 strength, as compared to 4000 for the regular Cyberdemon. Its rockets also do less damage. However, it can fly and is still formidable.  **HELLHOUND 6489**  A fast moving, monstrous canine with the ability to jump and bite.  Pal 50 is a bigger and stronger version that shoots a short-range projectile instead of biting  **BATGUNNER 6560**  **BATGUNNERSTAYPUT 6561**  A monstrous bat demon with a big gun known as “GARGUNNER”  Pal 0 automatically become Pal 21 in game. Pal 21 Gargunners fire rockets.  Pal 3 Gargunners fire plasma bolts  Pal 11 fire higher speed plasma bolts  With the exception of Pal 21, Gargunner can dodge projectiles by strafing  **EVILDUKE 6656**  **EVILDUKESTAYPUT 6657**  An evil clone of Duke Nukem with a chaingun and grenades. Pal 14 = Small and weak, 1 shotgun hit kills. no dodging strafing or jumping or grenades. Drops chaingun ammo. Pal 12 = Medium size + All evil duke effects running dodging and jumping. - Drops chain gun or grenades. Pal 10 = Stronger Big and fat and very slow. Uses chain gun and grenades. No Dodging or strafing or jumping. Drops both Chain gun and 2 grenades. takes 2 RPG hits to die.  **KORAX 4352**  A very powerful, very large boss. He starts underground and rises from the ground when he wakes up (do NOT place the sprite underground, though). Also unlike other bosses, he cause an activation after he takes a certain amount of damage, instead of when he dies.  **MINIKORAX 4353**  A miniboss version of Korax. Still very powerful. Unlike regular KORAX, he can follow a trail of TOWNTRAIL sprites, so it is possible to make him follow a specific path. Set his lotag to 1 to make him do this. Set lotag on the Towntrail sprites and korax will activate that tag when passing them If you set hitag to 1 on a trail sprite, he should resume his normal behavior when he reaches it. That means he will still come after you, but not following trails and he will shoot at you.  **LUGLORD 7522**  A boss with a magical spear. Pal 0 is the full sized version and other pals are mini-boss versions. Pal 0 version has several phases. He has several attacks including both melee and ranged.  **EVILKNIGHT 8448**  **EVILKNIGHTSTAYPUT 8449**  A fully armored evil knight known as “VINDIKATOR”, this creature has powerful melee attacks and can block with its shield. Its sword also has a ranged air slash. Once he starts fighting, he can teleport to the player and will do so if the player is out of sight.  Pal 0 automatically becomes Pal 21, which is standard  Pal 18 is a boss version; bigger and more powerful, and spawns cursed hellhounds  **CYCLORD 8548**  **CYCLORDSTAYPUT 8549**  A boss, similar to the battlelord from Duke 3D. He fires a big chaingun and grenades. Can also jump to dodge projectiles. The Pal 0 version is full size and strength, other pals are mini-boss.  **ARCHON 8960**  The Archonitron, main story boss with several variants. Pal 0 is his first form, in which he charges like a rhino and fires seeking energy bolts. Pal 3 is his second form, in which he leap attacks and fires a BFG like projectile with a large explosive radius. Pal 25 is his final form in which he has charge, leap, and two firing modes.  **EFFECT SPRITES BY TILE NUMBER**  Some sprites are listed out of order where grouping them with similar sprites made more sense.  **SECTOREFFECTOR 1**  Note that all listed SE effects *should* be triggerable via WGR triggers (e.g. monster activations, chests, supertouchplate, etc.) The specific tag on the SE that holds the triggering channel can vary depending on the effect.  **SPIRIT VORTEX = SE 60**  HITAG IS THE TAG THAT CAUSES EFFECT TO BEGIN  YVEL IS THE TAG THAT CAUSES EFFECT TO END    **COLOR CHANGER = SE 61**  HITAG IS THE TAG THAT TRIGGERS IT, BUT IT MUST BE TRIGGERED BY A WGR2 ACTOR (POWER PODS, A MONSTER, ETC)  THE SECTOR BECOMES THE PAL AND SHADE OF THE SE  OPTION: IF XVEL IS SET ON THE SE, IT BECOMES THE NEW PICNUM OF THE SECTOR AND WALLS    **SPACE CUTSCENE MANAGER = SE62**  This is used for controlling the star sector at the beginning of the hub level and cannot be used for anything else. First it grabs player 0 and moves him to its own position. Then it starts track 18 (silent midi) and makes all of the normal sprites in its sector keep their pals (so they don’t turn black in space). It also sets a global variable that starts the star spawners working (se 63). There is currently no other way to start the star spawners. This se waits for a frankenswitch with lotag 5 to be pressed (tile 141). When that happens, it makes the stars spawn hyperspace lines and it looks for a nearby evil warp and activates it. The evil warp then comes towards the player, blows up any normal sprites, and ends the cutscene.    **STAR SPAWNERS = SE 63**  THESE  SPAWN STARS THAT FLY OFF AT A SLIGHTLY RANDOMIZED ANGLE.  THE STARS MOVE UNTIL THEY HIT SOMETHING.  THE STARS ONLY SPAWN WHEN THE SE63 IS TRIGGERED BY A SE62.  ONCE THE SWITCH IS HIT (SEE ABOVE), THE SE WILL ALSO SPAWN LIGHTNING, AND STARS AND LIGHTNING WILL ACCELERATE.  THE SPAWNING STOPS WHEN THE PLAYER IS GRABBED BY THE EVILWARP.    **~~SCROLL ACTIVATOR = SE 64 (deprecated)~~**  ~~SET YVEL TO THE ACTIVATION NUMBER AND IT WILL ACTIVATE EVERYTHING OF THAT TAG WHEN THE PLAYER HAS COMPLETED THE EPISODE EQUAL TO HITAG.  1 = EP 1 COMPLETED, 2 = EP 2 COMPLETED, 4 = EP 3 COMPLETED (IT IS A BITFIELD).~~  **JUMP BOOT CHARGER = SE 65**  Standing in this sector will cause jump boots to charge.  **SE 68 SQUISHING CEILING DOOR** (Like regular doors but these don't stop if the player is below)  HITAG 0 = CEILING MOVES DOWN, HITAG 1 = FLOOR MOVES UP YVEL = ACTIVATION NUMBER, ZVEL = SPEED XVEL = STARTING SOUND, EXTRA = FINISHING SOUND DOOR MUST START IN OPEN POSITION!  The door must start open. So if you want it to be closed the first time the player sees it, make him step on a supertouchplate or something that closes it when he is still far away. Setting door speed is optional. If you don't set it, it has a speed of 64 (512 z units per tic).  **LEVEL TELEPORTER = SE 69**  Transports the player to the level in the current episode of the number equal to the PAL of the SE69.  The map state is saved beforehand, so when the player returns it will be as he left it.  Additional features:   The teleporter can be locked until activation.  Set YVEL to the activation number that unlocks it. The teleporter can take the player to a specific location in the destination map, rather than the regular player start position.  To do this, give the SE69 a nonzero hitag.  Then place an SE67 in the destination map, and give it the same hitag.  When the player arrives in the destination map, he will be taken to the SE67 with the same hitag as the SE69, and will face the angle of the SE67.  You can have multiple SE69 with the same hitag, if you want them to take the player to the same destination.  **INSTANT SECTOR MOTION = SE 70**  Upon activation, will instantly change the containing sector’s ceiling height and/or ceiling slope, OR change the floor height and/or floor slope. Set HITAG on the SE to a nonzero value if you want it to effect the ceiling, or leave HITAG at 0 to effect the floor. The new height of the ceiling or floor will be the height of the SE sprite. The slope value of the ceiling or floor will be the EXTRA of the SE, but only if you change it from the default value (otherwise, the slope will stay unchanged). Set YVEL on the SE to the channel that will cause the sector to change. It only works once and the sector cannot be restored to its original state.  **FIREWORKS = SE 77**  SHOOTS OFF A LARGE FIREWORKS MORTAR ABOUT ONCE EVERY 10 SECONDS.  SET YVEL TO THE ACTIVATION NUM BER IF YOU WANT IT TO WAIT FOR ACTIVATION, OTHERWISE LEAVE YVEL AT 0 AND IT WILL START WHEN THE LEVEL STARTS.    **BROADCASTER = SE 88**  Shows a scene from a different part of the map. The scene is “broadcast” in the background, and is visible wherever there are blank textures (walls, floors or ceilings with blank textures) near the se. Place two SE88 and give them the same HITAG. One will broadcast the point of view of the other. Options: give the SE a YVEL, and that will be its activation number, in which case it will not broadcast until an activator or game effect (such as monster activation) turns it on. Make sure to hide the blank textures until the activation using either a texture changer or some other trick. By default, the SE will broadcast from its own angle, but if you set XVEL to a non-zero value, it will use the player’s angle instead (not usually a good idea though). By default, it will use the player’s current Z angle (look up/down angle). To set a fixed Z angle, set EXTRA on the SE. 100 = Straight ahead. Higher values look up, lower values look down (in polymost, max 299, min -199). Finally, if the projecting SE has a PAL of 6, it will use a locational offset. This will make for a more realistic view of the distant room, but it requires that there be sufficient space around the area being viewed or else the “camera” will move into a wall.    **TELEPORTER = SE 89**  SIMILAR TO THE NORMAL TELEPORTER SE7, BUT WITH MORE OPTIONS.  LIKE SE7, IT TAKES THE PLAYER TO ANOTHER SE OF THE SAME HITAG WHEN HE ENTERS ITS SECTOR (BUT THERE CAN ONLY BE ONE DESTINATION).  OPTIONS:  GIVE THE SE A YVEL, AND THAT WILL BE ITS ACTIVATION NUMBER, IN WHICH CASE IT WILL NOT TELEPORT UNTIL AN ACTIVATOR OR GAME EFFECT (SUCH AS MONSTER ACTIVATION) TURNS IT ON.  NOTE THAT TWO SE89 WITH THE SAME HITAG COULD HAVE DIFFERENT ACTIVATION NUMBERS.  THIS COULD BE USED TO MAKE A ONE WAY TELEPORTER.  LEAVE YVEL AT 0 AND IT WILL START UNLOCKED.  SET XVEL TO THE SOUND NUMBER TO PLAY UPON TELEPORTATION (LEAVE 0 FOR NO SOUND).  CERTAIN PALS ON THE SE WILL CAUSE A COLORED FLASH WHEN THE PLAYER TELEPORTS:  PAL 1=BLUE, PAL2=RED, PAL3=WHITE, PAL4=BLACK, PAL7=YELLOW, PAL8=GREEN.  PALS NOT LISTED DO NOTHING.    **Cutscene camera = SE 90**    This SE can be used to change the player’s view to the view from the SE.  It can be triggered by an event in the game, or it can occur when the level starts.  Cutscene cameras can be either stationary or moving, and they can be chained together to show a sequence of views.  The view can be displayed on the entire screen, or it can be displayed in a box in the corner.  By default, the player is paralyzed while this effect is ongoing.  Tags on the SE control different aspects of the effect:    Hitag:  Set to 0 to switch to the SE view at level start.  Otherwise, hitag is the activation number.  The SE can be activated by an activator having a lotag equal to the SE’s hitag, or by a switch, monster, or other DP sprite which has a YVEL equal to the SE’s hitag.  The player will view from the SE immediately upon activation.    Pal: 0 = stationary camera, 1 = moving camera.  A moving camera will not work unless there is another SE 90 which has a hitag equal to the YVEL of the moving camera.    Shade:  The up/down view angle.  0 looks straight ahead, negative numbers look up and positive numbers look down.  The exact formula is camerahoriz = shade\*2 +100    XVEL:  In a stationary camera, this is the number of game tics that the camera’s view will last.  In a moving camera, XVEL is the speed at which the camera travels.  If not set, XVEL will default to 130 (five seconds of view time for a stationary camera, and about ½  of Duke’s running speed for a moving camera).    YVEL:  This is the number that the camera activates upon completion.  In a stationary camera, completion occurs when its time runs out.  In a moving camera, completion occurs when it has traveled all the way to the next camera in the sequence.  The camera will activate any respawns, activators, masterswitches, or DP sprites which have activation numbers equal to the camera’s YVEL.  This includes other cutscene cameras. If the camera is stationary, it does not have to be set to activate anything.  If it is a moving camera, it must be set to activate another SE 90 (see Pal, above).    ANG:  The angle of the SE sprite will be the angle that the camera faces.  If it is a moving camera, then it will start at this angle and gradually turn to face the angle that the next camera is facing.    EXTRA:  This is a bitfield which determines some additional camera functions.  Add together the numbers you want, or leave EXTRA at its default value (-1) if you don’t want any of the options.  1          does a quick fade to black right before the camera’s view time ends (does not work with moving cameras)  2          shows the view in a box in the lower right corner of the screen (the rest of the player’s view is normal)  4          if this bit is set, the player will be moved to the camera’s position.  8          allow the player to move (best used in combination with 2)  16        transition effect: when camera activates, its view starts in the center and quickly expands to fill the screen (do not use with 2)      **FLOATING SECTOR = SE 91**  With this effect you can make a sector move up and down in a sin function motion. It could be used to make small islands bob up and down or the larger sector around the islands bob up and down.  Extra on the SE is the length of the cycle (the higher, the longer). The minimum is 32 (it will be forced up to 32 if you set it less than that). Hitag is the amplitude of the wave (or far up and down the sector moves): minimum of 64. Shade on the SE is the time offset of the motion. Give nearby floating SE s different offsets if you don't want them synced.  **METEOR SPAWNER = SE 92**  Makes small meteors rain down from the sky which can kill the player. YVEL on the SE is the channel that activates it. Set EXTRA to the number of tics between spawns (or leave it at default for 10 tics between spawns which is 3 meteors per second). Set HITAG to the radius of the spawned meteors, or leave at 0 for the default radius. HITAG will be multiplied by 256 to yield radius in Build units. Set PAL to 2 to make it spawn fire meteors, otherwise it will spawn ice meteors.  **PLAYER CAPTURE = SE 105**  Captures the player and takes all of his equipment.  He wakes up at the other SE 105 sharing the same hitag.  The pal of the  SEs controls the fade color.  Set Extra on the destination and Duke will play that sound when arriving. Add a pal 4 Tchest to the map and the chest will contain all of the stolen equipment.  **WEIRD ELEVATOR TRANSPORTER = SE 166**  THIS IS THE EFFECT USED IN THE TRANSITION BETWEEN NORMAL AND HELL IN LEVEL 2 OF WGR2  TRANSPORTS TO ANOTHER 166 SE HAVING THE SAME HITAG  EXTRA OF THE SE IS HOW LONG BEFORE THE TRANSPORT OCCURS  PLAYER IS STUCK ON THE TRANSPORTING SECTOR IF HE STEPS ON IT.  MUSIC WILL CHANGE, WEATHER WILL STOP, THE SCREEN WILL ROTATE.  ANY MONSOULS WILL BE TELEPORTED TO THE PLAYER AND DROP GOLD.  ANY 3846 CANDLE SPRITES WILL START TO MOVE UP.    **SECTOR OF DEATH = SE 666**  THE PLAYER OR ANY OTHER CREATURE WHO IS BELOW THE SE IN THE SECTOR WILL BE KILLED.  **SHOP 71**  LOTAG: INITIAL PRICE HITAG: PICNUM OF ITEM EXTRA: ACTIVATION TO MAKE ITEM AVAILABLE PAL: 0 normal, 10 one time only, 23 price increases with each sale  XVEL: if pal 23 and XVEL > 0, this is the number of items until shop deletes SHADE: 10 makes it use gems instead of gold  **LIGHTBUG 75**  Glowing bugs that float around.  When using the Polymer renderer, they cast a point light of the same color as the sprite.  **POWPODPLACED 105** Power pods are magical batteries that can be placed in sockets to make things happen. The pickup item is tile 55. POWPODPLACED (tile 105) is the power pods after it has been placed in a wall socket. The socket itself is tile 3450 and that sprite is static with no tags. Make the POWPODPLACED sprite is exactly how you want it to look in the map after a pod has been placed there. Give it a LOTAG for its activation number. Finally, give it a HITAG for the group number it belongs to. If you want to have a group of these that must be placed in order to activate something, then give all the sprites in the group the same HITAG (give them all the same LOTAG as well). If two POWPODPLACED have the same HITAG, then they are considered part of the same group, even if they are in different maps. So if you use HITAG 1 and 2 in level 1, then use HITAG 3 and 4 etc in the next map; do not reuse HITAG. There is no upper limit to the number of POWPODPLACED that can be in a group.  **SUPERTOUCHPLATE 109** LOTAG: the tag it activates (wgr2 effects, activators, respawns, masterswitches)  By default, it will activate the LOTAG channel one time when the player is in the same sector. HITAG: Optional Set Hitag only if you want the supertouchplate to trigger based on distance to the player, instead of based on whether the player is in the sector. The Hitag is multiplied by 32 to yield build units. So, with a hitag of 100, the touchplate will get triggered when the player is within 3200 build units (about 20 feet).  XVEL: Optional setting. Set this to a channel if you want the SUPERTOUCHPLATE to start as locked – activating that channel will unlock it and then it will work as described above.  **SPAWNPOINT 116**  LOTAG=ACTIVATION (OPTIONAL) HITAG=PICNUM OF SPAWN PAL=PAL OF SPAWN  The SPAWNPOINT is for placing a monster that will reappear if you kill it, then leave the map and come back. There is nothing to prevent monsters from wandering off and getting lost of stuck, so be careful where you put them (or make them stayput). If activation is set, then the spawnpoint will do nothing until activated. It only works with activations coded for WGR2.  **FAKEDOOR 117**  HITAG must be shared by another FAKEDOOR  LOTAG= the sound # played when “opened” --will play default door sound if this is not set  PAL= the fade color: 0,4 black, 1 blue, 2 red, 3 white, 7 yellow, 8 green, 50 dark red, 54 dark green, 56 dark blue, etc. (see tints in wgr2.def)  This effect is useful if you want the player to “enter” a building when the building actually has no inside. When approaching the FAKEDOOR, a door icon will appear. If the player presses Open, he will be transported to another FAKEDOOR sharing the same hitag, which can be located in another part of the map that appears to be the inside of the building. To work properly, the FAKEDOOR should be placed against a wall and angled so that it faces away the wall.  **FLOORPANEL 129**  Triggers when a heavy object is on top of its sector. Currently it works with the following items:  players, STATUE1-STATUE6, and BOULDER.  Note that statues can be pushed around by the player if they are given a lotag of 1. Set LOTAG on the FLOORPANEL to the activation number. You can place more than one panel having the same lotag, and in that case it will not activate until all the panels of that lotag are pressed down. If you want it to make a special sound when clicked down, put that sound number on HITAG (otherwise it uses the default switch sound). Finally, if you want all of the panels sharing a lotag to be locked into position when the activation occurs, then give it an EXTRA of 1. Otherwise, the activation will occur again when a panel comes back up (similar to how dip switches re-activate if you un-press one of them after the combo has been entered).  Moveable statue tile numbers: 4091, 4093, 4094, 3646, 3647, 3648  **FOGSPAWNER 179**  Periodically spawns fog-like clouds that drift in the direction the sprite is facing. Spawned clouds will be the exact dimensions of the effect sprite.  They will fade into nothing after a few seconds. Using different pals will give a different cloud or fog type (pals 0, 1, and 3).  **ICEWALL1 197**  **ICEWALL2 198**  These are breakable sprites that can be placed as walls.  They drip and form cracks as they take damage, until they eventually shatter (or melt, if hit by fire).  **SPIKE1 206**  **SPIKE2 207**  **FULLSPIKE 208**  If the sprites are flipped and placed above the ground (like stalagtites), they will randomly fall if in view of the player.  They are more likely to fall if in close proximity to the player, and they will cause damage if they hit him.  They can be destroyed with weapon fire.    **PLANK1 256**  **PLANK2 257**  **PLANK3 258**  **PLANK4 259**  These are planks of wood that can be used as obstacles.  They can be destroyed by weapons or burned.    **VINEWALL1 300**  **VINEWALL2 301**  **VINEWALL3 302**  **STATICWEB1 306**  **STATICWEB2 307**  **STATICWEB3 310**  **STATICWEB4 311**  **STATICWEB5 313**  Destructible sprites that can be placed as barriers, similar to the ice walls (with appropriate destruction effects).    **SMALLGOLD 326**  **MEDIUMGOLD 331**  **BIGGOLD 336**  Piles of gold, containing 5, 10 and 15 pieces respectively.  They are automatically dropped by monsters but can be placed in maps directly.  **TREASURE CHEST (opened with gold) 337**  Hitag = Amount of gold needed to unlock the magic chest (set to 0 and it is unlocked)  Yvel = Activation number (triggered when opened). Note that setting Yvel will automatically make the chest Pal 78 (a reddish hue) to indicate to players that it needs to be opened. zvel = group number (see Groups in monsters section)  Lotag = What is in the chest  Xvel = the amount of gold in the chest  Pal 4 = give the chest a Pal of 4 in conjunction with SE105 and the chest will contain all of the player’s stolen equipment.  **QUESTS , QUEST ITEMS and REWARD 437, 438, 439**  **Gameplay overview:** A quest can be available at game start, or it can be set to be availalbe after a trigger. All quests are fetch quests. When the quest is available, a quest item icon is visible wherever it was placed in the map appear (typically over the head of an NPC). If the player presses interact on the icon for the first time, they get a quest description in a pop-up text box and the quest is assigned. This also causes the quest item sprite to become visible and able to be picked up. Once the quest has been assigned, a picture of the quest item appears on the hud in the lower right corner of the screen whenever you are in the map where the quest was assigned.  The quest item is a sprite that can look like anything (similar to the shop items). After retrieving the item, returning to the quest giver causes an activation and a new text box for having completed the quest. The activation could trigger another sprite that gives the player rewards.  **QUESTSPRITE 437**  **HITAG:** This is the trigger to make the icon appear. If left at 0, the icon will be visible  at game start. Otherwise, it becomes visible when the HITAG is triggered.  **LOTAG:** This is the activation that occurs when the item is brought back. It is also the quest ID #, and will be used by the game to identify the quest (it will be used on the quest item sprite as well). So this cannot be left at 0.  **XVEL:** An optional tag which causes an activation when the quest begins. This is useful for example if you want the NPC to unlock a door to the area where the quest item is at the start of the quest.  **YVEL:** This is only used if you want the quest to be completed remotely, without returning to the questgiver. Trigger this channel should do that, although this feature is untested and may not work correctly!  **EXTRA:** This is the quote # for the name of the quest. Quotes should be arranged  in the following format:  Initial number = name of quest  Next 9 quotes = description of quest (used in Quests tab)\*  Next 10 quotes = NPC dialogue for assigning the quest  Next 10 quotes = NPC dialogue for completing the quest  \*The Quest tab and character sheet in general are not currently implemented so the description can be left blank.  For example, if the QUESTSPRITE actor EXTRA is set to 1000, then quote 1000 is the quest name,  1001-1009 is the description, 1010-1019 is the first dialogue, and 1020-1029 is the  completion dialogue. It is not necessary to use every single quote assigned to the  quest, but unused quotes should be defined and then left blank (e.g. "definequote  1009 ")  **QUESTITEM 438**  **HITAG:** Set this to the tile number you want the quest item to look like.  **LOTAG:** This is the quest #. It must be the same as the LOTAG on the corresponding !  Sprite.  **EXTRA:** An optional tag which causes an activation when the item is picked up. This could be used for example to trigger a trap (such as a rolling boulder) if the item is a valuable artifact.  The quest item should be located in the same map that the quest is given in.  **QUESTREWARD 439**  This sprite gives the player XP or gold or both when it is triggered. Normally it  would be used in conjunction with a quest, but it could be used for other purposes  as well. The Reward sprite will play a sound and make a quote appear that says, “You  have been rewarded!”. Note that XP and player levelling are not currently implemented.  **HITAG:** The amount of gold it gives the player  **LOTAG:** The tag which triggers the reward to the player.  **EXTRA:** The amount of XP it gives to the player (currently unused)  **YVEL**: This is an optional activation that occurs after the reward is given.  **TREASURE CHEST (opened with keys) 440**  Similar to the 337 treasure chest, except that it is opened by keys and not gold (set HITAG to # of keys needed).  **NEWBARREL 8869**  An exploding barrel.  It can drop an item if its LOTAG is set to a tile number. It will move when hit, and there is a short delay on the explosion.  **MUSICSECTOR 492**  Starts a track of music when the player enters its sector. It will not restart the track if the track is already playing.  **PAL:** The episode of the music track.  **LOTAG:** The level number of the music track.  **MONOLOGUE 493**  This is a dialog balloon that should be placed above the head of a stationary NPC sprite and it causes subtitle text to display on the screen when the player approaches. It can also make an optional sound if the NPC has recorded voice. Use this for informational monologues that never change.  **LOTAG:** The quote number of the starting line.  **HITAG:** The number of lines in the monologue. It will display this number of lines, starting with LOTAG.  **EXTRA:** The sound number to play (optional).  **SUBTITLE TRIGGER 495**  Similar to MONOLOGUE, but this effect is triggered by an activation without regard to distance from the player. It is a single-use effect that displays subtitled text for a specific amount of time, then terminates.  **LOTAG:** The quote number of the starting line.  **SHADE**: The number of lines in the monologue. It will display this number of lines, starting with LOTAG.  **HITAG:** The number of game tics the lines will be displayed for. 30 tics = one second.  **EXTRA:** The sound number to play (optional).  **YVEL**: The activation channel. Activate it with a WGR trigger (monster, chest, etc.)  **MONPATH 496**(general use)  Similar to LOCATORS sprites in Duke 3D, these define trails for monsters to follow. They have several different uses, depending on the type of monster and the settings on the trail sprites. The instructions below are good for most monsters; the exceptions are DRACARRY and KORAX which have their own entries. While on a trail, monsters can still fight, but they will try to stay on the trail, or return to the path if the fight takes them off of it. Place a monster inside a sector that contains a MONPATH sprite, and when the monster activates it will follow that trail.  **HITAG:** MONPATH sprites are part of the same trail if they share HITAG. In this way, you can have any number of different trails in the same map (unlike LOCATORS). Make sure that you set the same HITAG on all sprites in the trail.  **LOTAG:** The first sprite in the trail should be LOTAG 0, the next should be tagged with 1, then 2, etc. until the end of the trail is reached. The distance between path sprites can be large, but make sure there are no obstructions going from one to the next. The trail can be made to loop or it can just end.  **PAL:** To make the trail loop, the final sprite in the trail must be PAL 23. To make the trail end without looping, make the final sprite PAL 4. If the trail ends, the monster will go about its normal business when reaching the end.  **REVERSE GRAVITY 497,498** Place a GRAVUP (tile #497) in a sector, and the player's gravity will be reversed when he steps in that sector. It will stay reversed until he enters a sector that contains a GRAVDOWN (tile #498). Those two sprites will continuously spawn a star effect; stars from the GRAVUP will move upwards, and stars from the GRAVDOWN will move downwards.  **TOWNTRAIL 500**  These sprites define where civilians (TOWNIE1 and TOWNIE2) should walk. They do not need to be tagged, just place them in a town area or wherever civilians may be walking around.  **RAIN EFFECTOR 660**  Set EXTRA > 0 to make it rain that number of drops per tic in a radius around player; negative values <-1 make it snow. PAL determines color of spawned sprites. CSTAT determines translucency. XVEL is radius, but default value is good in most cases. Give a sector a hitag of 101 and the rain/snow will not fall in that sector. This is also the standard WATERDRIP sprite and functions normally when EXTRA is not set.  **MOVESHIPCAM 715**  Used to create the illusion that the player is on a moving ship or other moving object. The effect has several components. **First**, the ship or other sector-based object the player can stand on must be built in an isolated part of the map. All of the walls, ceilings and floors surrounding the object must be textured with tile **6911**, which is a blank tile. Those surfaces will appear black in Mapster. In game, if the effect is not triggered, the surfaces will not be rendered at all, creating a hall of mirrors effect (if this happens then you know the effect is not working). Cameras must be set up that will project the view from a distant location onto the tile 6911 surfaces, creating the illusion that the ship is traveling with the player on it.  **Next**, place a **MOVESHIPCAM** of **PAL 4** on the ship at the player start position, or in the exact spot where the player teleports to this area if the player starts the map somewhere else. Now, go to the main part of the map and start building a route for the ship using MOVESHIPCAM sprites. *The first camera on the route should be* ***LOTAG 1******and PAL 0***. Keep in mind that the view will be projected from the tagged cameras onto all of the surfaces in the black ship area, and the location of the player on the ship will be used to adjust the camera projection point. For this reason, pay special attention to the height of the tagged cameras, because if they are too close to the ground and the player is able to move downward on the ship from his starting point, this will make the camera clip into the ground and make the rendering fail. This applies generally – the cameras on the path all need as much clearance on all sides, up and down as the player is able to move relative to that position in the black ship area. *Give that first camera a* ***YVEL*** *if you want it to start moving only after being activated by that channel* (otherwise it will start moving at map start).  **Place** more MOVESHIPCAM on the route and give them **ascending LOTAG**s ( 2, 3, etc ) until you reach the end of the route. If you want the route to terminate and make the player disembark from the ship, give the last camera an **EXTRA of 1**. The player will be teleported off of the black area where the ship is, to the location of the final camera. Alternatively, give the final camera **PAL 23** and do not tag EXTRA if you have made a looping route and you want the ship to keep looping. In either case, if there is ground around the ship of tile 6911, the player will be able to jump off of the ship and will be taken to the part of the map being shown by the camera at any point on the journey, unless the ship is blocked off by invisible walls.  **FALLINGLEAF 1234**  randomly spawns leaves that fall to the ground  **BOULDER 2080**  Boulders will roll down slopes realistically and cause damage to creatures and some types of sprites in their path.  They can also be moved by kicks or weapon fire.  They split into smaller boulders after taking enough damage.  Certain characteristics of boulders are determined by their size.  They also have some other settings worth noting: **EXTRA:** 1 = indestructible **LOTAG:**  If non zero, the boulder will not move until the lotag has been activated (either by an ACTIVATOR of the same tag, or a WGR2 activation)  **CHECKPOINT  2942**  To add a check point to your level,  place a red C sprite (tile #2942) and give it a lotag of 1.  Set Hitag to the save slot that will be used (0-9) when the player enters the check point sector.  If you want it to play a sound, set Extra to the number of the sound.  It will only work the first time the player enters the sector.    **GEMCHANGE 2946**  Give it a lotag 1 and it will force the player to exchange gold for gems when he enters the sector.    **WAYPOINT 2951**  Place a trail of these sprites to define a path that will be used at the end of the level as a “victory lap”.  The first waypoint in the trail must have a lotag of 1, the next a lotag of 2, etc.  In addition to having the highest lotag, the last waypoint in the path must have a pal of 4.  The waypoints must make a loop, so that there is a straight unobstructed path between each waypoint and the next in the sequence, including between the pal 4 waypoint and the lotag 1 waypoint.    **MUSICSWITCH 2952**  Causes music to switch to the specified track when the MUSICSWITCH is activated.  Set lotag to the activation number (it will be activated by an ACTIVATOR having that number, as triggered by a TOUCHPLATE or other means).  Set hitag to the number of the track that will be switched to upon activation.  Set PAL to the episode number the music is from (PAL 0 is VOLUME 0 = episode 1, PAL 1 is VOLUME 1 = episode 2, etc.)  **NoiseSprite 2954** Place a sprite of tile #2954 (the red "O") and give it a lotag of 1.  Set the hitag to the number of the sound you want it to play when it is triggered by the player entering its sector.  If you want there to be a delay before the sound is played, set EXTRA of the sprite to the number of ticks you want the sound to be delayed.  You can place multiple noise sprites in the same sector with different delays.  If you set XVEL to 1, the sound will be global rather than located at the sprite.    **SKYKILL 2958\***  Give this sprite a lotag of 666 and it will kill things that fall into a bottomless sky anywhere in the map.  A bottomless sky area is a sector that has a parallaxed floor.  The way that it works is that it grabs sprites that fall onto parallaxed floors, teleports them to itself, and causes them massive damage to destroy them.  This means you do not want the Skykill sprite to be in a location where it can be seen by the player. This sprites scans the entire map for whether the player or actors are on a bottomless sky, so only one should be used per map. \*This sprite is not really needed, because other code already kills actors that fall on bottomless skies.  **TEXTURIZER 2959**  Changes one texture/tile to another everywhere in the map.  **YVEL** = activation number (it will be activated by an ACTIVATOR having that number, as triggered by a TOUCHPLATE or other means).  **LOTAG** = the texture to be changed  **HITAG** = the new texture it will be changed to  **EXTRA**:  1 =  changes sprites only, 2 = changes textures only, 3 = changes both sprites and textures    **VISOVERRIDE 2961**  It works like this: If you want the default in-game visibility to be darker (i.e. a shorter view distance) like in regular Duke 3D, you place this sprite in the map, give it a lotag of 1, and give it a hitag of 512. Without this sprite, the WGR2 default is 256. You can set the number to whatever you want, higher numbers for shorter visibility.    **WEAPONS 2962**  Give it a lotag of 1, and it takes away all of the player’s weapons and items (except the chainsaw) and exchanges them for gems when he enters the map.  Once this happens the sprite is deleted, which means it will not happen a second time if the player leaves the map and then reenters it.    **PLATUPSPAWNER 3345**  Periodically spawns platforms the player can ride upwards  **PLATFORWARDSPAWNER 3345**  Periodically spawns platforms the player can ride forwards. The player will slide right off though, because the code is not finished.  **WATERFALL 3362**  place at base of waterfall to make splash, mist  width of sprite determines width of effect  pal of sprite determines pal of splash, mist  **MOVEHERE 3427**  This effect simply moves the player to the location of the MOVEHERE sprite when it is triggered. Useful if you need the player to be standing in a specific place for a cutscene, for example.  **LOTAG**: The triggering channel – use a WGR effect to trigger it.  **Mushrooms**  **SHRINKSHROOM 3430** Shrinks the player. Player will stay shrunk until he gets the GROWSHROOM.  **GROWSHROOM 3431**  **BIGGEYSER 3433**  **MEDIUMGEYSER 3434**  These periodically erupt with steam the pal of the geyser sprite.  **SPAWNER 3446**  Similar to RESPAWN, but with many more options and can spawn multiple sprites.  **HITAG** is the tile number to be spawned.  **SHADE** is the number of sprites to be spawned. (Give a negative shade to make it keep spawning forever)  **EXTRA** is the number of game tics between spawns (30 = one second between spawns)  **LOTAG** determines how the spawner is activated.  Lotag 0 = activates right away.  Lotag 1 = activates when the player enters its sector.  Lotag > 1 means that it activates when that tag is activated, either by an ACTIVATOR with the same lotag, or by a WGR2 effect that uses that tag.  Other features:  Spawned sprites will have the same Pal as the SPAWNER sprite.  If you want spawned monsters to drop something when they die, set **XVEL** on the spawner to the tile number to be dropped by the monsters.  If you want a delay between the activation of the spawner and the first sprite it spawns, set **ZVEL** on the spawner to the number of delay tics.    **RAINMAKER 3335** (deprecated)  spawns rain in a radius of the same pal  **SNOWMAKER 3337** (deprecated)  same but for snow  **LAVASPAWNER 3435**  Causes lava rocks to shoot upward every few seconds.    **TEMPSPRITE 3448**  Temp sprites are visual props that can be made to appear upon activation, and then later disappear with another activation. These are useful for making areas that change appearance after certain events. All temp sprites are tile number 3448. They become invisible when the map loads, and upon activation they change to look like another tile specified by the mapper. Note that these are not like RESPAWN; they do not spawn another tile, they just look like it. This is important to remember, because they will not run any of the code specific to the tiles they are made to look like (for example, they will not take damage if you shoot them). Also, their blocking area is based on tile 3448, not on the tile they look like.  HITAG: This is the activation number that makes the temp sprite visible. Hitag 0 temp sprites are visible when the game starts. LOTAG: This is the activation number that makes the temp sprite die (note that it cannot die unless it has been activated first). EXTRA: This is the tile number that the temp sprite looks like when it has been activated. Note that it will not display animation unless the animation is defined on the tile in an .art file or a def file.  **TELEPORTONCE 3449**  Make two of these sprites with matching LOTAG. When the player enters the sector of one, he will be teleported to the other sprite. It only works once and then they are both deleted. The screen will flash black when this happens.    **LADDER 3507**  This is the effect sprite that makes working ladders.  It is invisible in game, and the "ladder" that the player actually sees (if any) needs to be placed separately.  Place two of the LADDER sprites, one where you want the bottom of the ladder to be, the other at the top.  Note that the top is where the player gets off the ladder, and the player cannot hang on ledges, so place accordingly.  Make the LADDER sprites face the direction that the player should be facing when using the ladder. Give the pair of LADDER sprites the same hitag:  this tells the game that they go together. If you want it to play a sound when the player climbs it, set lotag on the bottom ladder sprite to the sound number.  **TOWNIE1 4422**  **TOWNIE2 4445**  Place those tile numbers in a map and they will wander around. They have some blue on their clothes so they work pretty well with most pals. Tile 500 is a town waypoint. Just place those in a map to show the townsfolk where they can walk. They can walk in other places, too, but they will see the waypoints and use them most of the time.    **STALAGMITE1 3633**  **STALAGMITE2 3837**  **STALAGMITE3 3838**  **ROCK1 4078**  **ROCK2 4079**  **ROCK3 4080**  Destructible rock sprites.    **SOULDOOR 5024**  These are the accursed; captured heroes who have been transformed into magical barriers. They require monster souls to set them free.  LOTAG is the number of souls it takes to open it (max 10)  YVEL is activation number (when door is opened)  It spawns a HERO when opened.    **MONSOUL 5030**  Monster souls follow player and open soul doors    **STAINEDGLASS1 4834**  **STAINEDGLASS2 4835**  **STAINEDGLASS3 4836**  **STAINEDGLASS4 4837**  **STAINEDGLASS5 4838**  **STAINEDGLASS6 4839**  **STAINEDGLASS7 4840**  **STAINEDGLASS8 4841**  **STAINEDGLASS9 4842**  **STAINEDGLASS10 4843**  **STAINEDGLASS11 4844**  **STAINEDGLASS12 4845**  **STAINEDGLASS13 4846**  **STAINEDGLASS14 4847**  **STAINEDGLASS15 4848**  **STAINEDGLASS16 4849**  **STAINEDGLASS17 4850**  **STAINEDGLASS18 4851**  Breakable glass sprites  **FLIES 5611**  They buzz around.  Automatically spawned by dead bodies.  **TABLET1 6144**  **TABLET2 6145**  **TABLET3 6146**  **TABLET4 6147**  **TABLET5 6148**  **TABLET6 6149**  **ASSEMBLER 6150**  **RETURNPOINT 6158**  The tablets are pieces of the Archonitron stained glass portrait. If one is picked up in any levels other than the hub or the town, it sends the player back to the hub and the piece is recorded. If in a sector containing ASSEMBLER, pieces obtained will fly to tagged invisible tablet sprites to form the portrait. RETURNPOINT works in conjunction with the portait pieces. Whenever the player is returned to the hub map, a RETURNPOINT that has LOTAG set to the level number being returned from will be where the player lands in the hub.  **CANNON 7373**  A stationary cannon that can be fired. This is the only way to fire any weapon while the player is in an active shipcam area.  **GOLDSUMMON 8321**  A statue of Merkata with an inscription. When interacted with, it will summon all of the gold lying around in the level to a spot in front of itself. The player takes damage for this service.  **BOSSPATH 9096**  **PATHMANAGER 9097**  The BOSSPATH node sprites help the Archonitron navigate and find the player and are only used in maps where the player fights him. Adjacent nodes should be placed no more than 14000 build units apart and should have line of sight with each other. Pal 2 nodes will cause the Archonitron to jump directly to the player from wherever he is (if the player is close to a pal 2 node), so those should only be used in hard to reach places disconnected from other nodes (such as the tops of high platforms). In addition to the BOSSPATH sprites, a single PATHMANAGER sprite should be placed somewhere. The PATHMANAGER runs a recursive pathfinding algorithm and without it, the node sprites are useless. The algorithm is computationally expensive and will cause lag if there are too many BOSSPATH sprites in the map. Typically it’s fine if there are 30 or fewer of them, but it depends on other factors.  **GOODRIFT 9098**  A visual effect of a dimensional rift that continuously spawns “good” ghostlike entities including ghost butterflies, birds and unicorns. Used at the end of the game.  **CHARCHANGER 9216**  A statue that will take the form of whichever player character is not currently being used. Interacting with the statue will cause the player to become the other character. Each character has their own inventory of weapons and ammo tracked separately. Other items and achievements are shared.  **CONFETTISPAWNER 9447**  Spawns confetti in a radius of 16384 build units once the player has line of sight. Plays cheering sound when it starts and spawns a large number of sprites initially, which is then reduced. |