Resources

Natural resources can be mined at various locations throughout the galaxy. They can then be used to construct ships and bases, or can be consumed by your empire's colonies as they grow and develop.

All of the resources used in Distant Worlds are defined in the file **resources.txt** found in the root game folder.

Each line in the file defines a single resource with comma-separated data, up to a maximum of 80 resources (0-79).

The first part of the line defines the base information for the resource: it's unique ID value, it's name, the image used to display it, etc.

The last part of the line defines the distribution and prevalence information for the resource, i.e. where it is found (e.g. at desert planets or moons, at hydrogen gas clouds, at gas giant planets, etc).

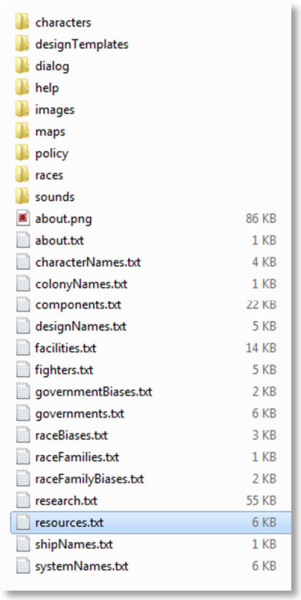


Figure 21. Resource file location

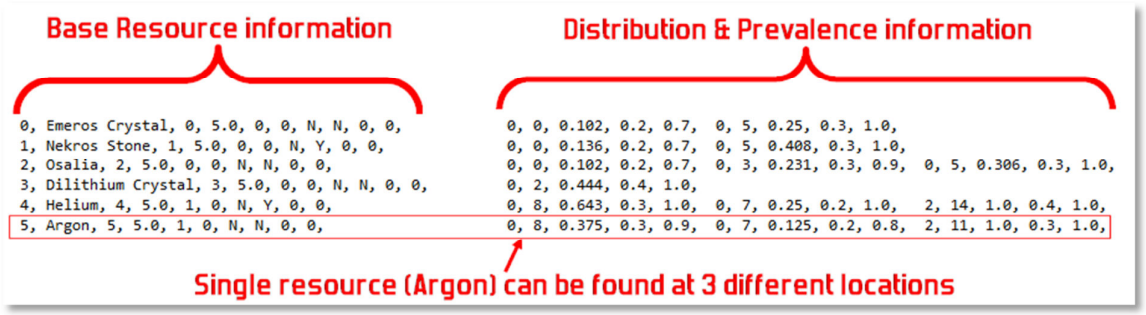


Figure 22. Resource file line layout

Base Resource Information

Name	Description
ID	Unique numeric ID value of resource. Must be between 0 and 79
Name	Name of the resource
PictureRef	Index of the picture used for this resource from resource images found in **images\ui\resources** folder
Base Price	Base price of resource when buying and selling. Note that the actual price fluctuates based on galaxy supply and demand
Resource Type	0=Mineral, 1=Gas, 2=Luxury
SuperLuxuryBonusAmount	Numeric value that indicates special development bonus

	for colonies with this luxury resource, range from 0 to 50. If this resource is NOT a super-luxury resource then set this value to 0 (zero)
IsFuel	Y/N value indicating whether this is a fuel resource that is used in reactors to power a ship or base
IsImportantPreWarpResource	Y/N value indicating whether this resource is important to have in the home system of prewarp empires (Age of Shadows)
ColonyGrowthResourceLevel	Numeric value indicating level of resource required for growth at colonies, range from 0 (not required) to 1.0 (lots of this resource required). This allows you to define important resources that are consumed by colonies and thus must be available for them to grow
ColonyManufacturingLevel	Numeric value indicating whether resource is a manufactured resource at colonies. When greater than zero then resource is not naturally occurring but rather is manufactured at sufficiently developed colonies. Value indicates required population and development level before resource may randomly appear at a colony: value = population in billions * development level

Distribution and Prevalence information

After defining the base information for a resource as outlined above, you must then define the distribution and prevalence information for the resource, i.e. where it is found.

Each resource can have multiple locations where it can appear in the galaxy. Each location is contained on the same line. Simply separate each location with a comma.

Name	Description
Location Type	0=Planet/Moon, 1=Asteroid, 2=Gas Cloud
Location SubType	0=Continental, 1=Marshy Swamp, 2=Ocean, 3=Desert, 4=Ice, 5=Volcanic, 6=Barren Rock, 7=Gas Giant, 8=Frozen Gas Giant, 9=Metal (asteroid), 10=Ammonia (gas cloud), 11=Argon (gas cloud), 12=Carbon Dioxide (gas cloud), 13=Chlorine (gas cloud), 14=Helium (gas cloud), 15=Hydrogen (gas cloud), 16=Nitrogen Oxygen (gas cloud), 17=Oxygen (gas cloud)
Prevalence Value	Chance of resource appearing at this type of planet/moon/asteroid/gas cloud. Range from 0 (0% chance) to 1.0 (100% chance). **NOTE:** when resource is super luxury then Prevalence Value instead indicates how many sources in average galaxy of 700 stars, i.e. 1.0 means single source in 700-star galaxy
Abundance Minimum	Minimum abundance of resource at this type of planet/moon/asteroid/gas cloud. Range from 0 (0% abundance) to 1.0 (100% abundance). Actual abundance at each location is random value between Minimum and Maximum

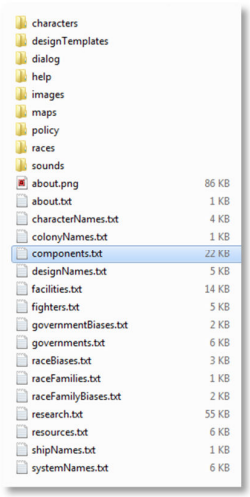
Abundance Maximum	Maximum abundance of resource at this type of planet/moon/asteroid/gas cloud. Must be higher than Minimum value above. Range from 0 (0% abundance) to 1.0 (100% abundance). Actual abundance at each location is random value between Minimum and Maximum

Special Notes on Resources

The following special rules apply to defining resources:

- be sure NOT to define both gas and mineral resources at the same location, e.g. do not set Gas Giant planets to have both gas and mineral resources

Components



Components are used to construct ships and bases. All of the components used in Distant Worlds are defined in the file **components.txt** found in the root game folder.

Each line in the file defines a single component with comma-separated data, up to a maximum of 170 components (0-169).

The first part of the line defines the base information for the component: it's unique ID value, it's name, the image used to display it, etc.

The last part of the line defines the resources used to manufacture the component. There can be up to 5 different strategic resources used to manufacture a component.

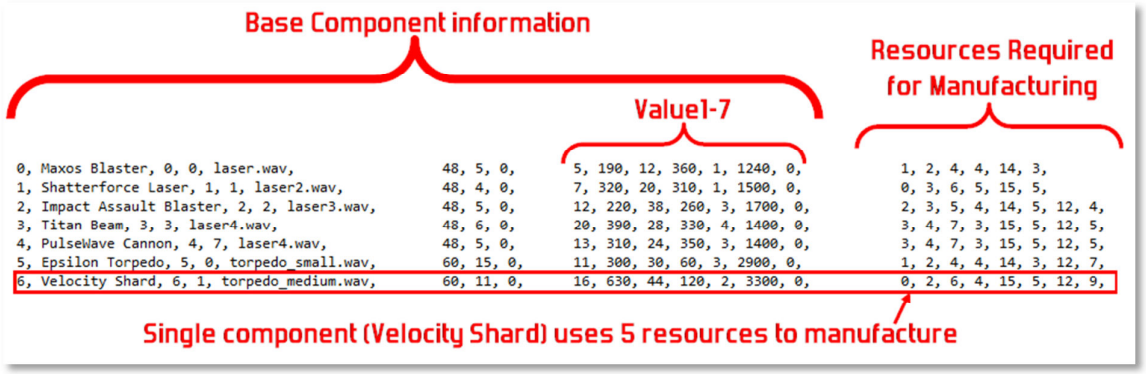


Figure 23. Component file line layout

Base Component Information

Name	Description
ID	Unique numeric ID value of component. Must be between 0 and 169
Name	Name of the component
PictureRef	Index of the picture used for this component from component images found in **images\ui\components** folder
Special Image Index	Index value mapping to a special image set used by the component. The different image sets for each component type are specified below: • EngineMainThrust: engine thrust image index (images\effects\enginethrusters folder) • HyperDrive: hyperjump enter/exit animation image index (images\effects\hyperenter and images\effects\hyperexit folders) • WeaponAreaDestruction: area weapon image index (images\effects\weapons folder) • WeaponBeam: beam weapon image index (images\effects\weapons folder)

	• WeaponBombard: torpedo weapon image index (images\effects\weapons folder) • WeaponIonCannon: beam weapon image index (images\effects\weapons folder) • WeaponIonPulse: area weapon image index (images\effects\weapons folder) • WeaponMissile: torpedo weapon image index (images\effects\weapons folder) • WeaponPointDefense: beam weapon image index (images\effects\weapons folder) • WeaponRailGun: beam weapon image index (images\effects\weapons folder) • WeaponSuperArea: area weapon image index (images\effects\weapons folder) • WeaponSuperBeam: beam weapon image index (images\effects\weapons folder) • WeaponTorpedo: torpedo weapon image index (images\effects\weapons folder)
Sound Effect Filename	Filename of sound effect used when weapon fired (applies only to weapon components). File must be present in **sounds\effects** folder
Type	Numeric code that specifies the type of component as specified in the following list: 0=AreaShieldRecharge, 1=Armor, 2=AssaultPod, 3=CargoBay, 4=ColonizationModule, 5=CommandCenter, 6=CommerceCenter, 7=ConstructionYard, 8=Countermeasures, 9=CountermeasuresFleet, 10=DamageControl, 11=DockingBay, 12=EnergyCollector, 13=EnergyToFuel, 14=EngineMainThrust, 15=EngineVectoring, 16=ExtractorGasExtractor, 17=ExtractorLuxury, 18=ExtractorMine, 19=FighterBay, 20=FuelCell 21=HabModule, 22=HyperDeny, 23=HyperDrive, 24=HyperStop, 25=LifeSupport, 26=LongRangeScanner, 27=ManufacturerEnergyPlant, 28=ManufacturerHighTechPlant 29=ManufacturerWeaponsPlant, 30=MedicalCenter 31=PassengerCompartment, 32=ProximityArray, 33=Reactor, 34=RecreationCenter, 35=ResearchLabEnergy, 36=ResearchLabHighTech, 37=ResearchLabWeapons, 38=ResourceProfileSensor, 39=ScannerJammer, 40=Shields, 41=Stealth, 42=Targetting, 43=TargettingFleet, 44=TraceScanner, 45=TroopCompartment, 46=WeaponAreaDestruction, 47=WeaponAreaGravity, 48=WeaponBeam, 49=WeaponBombard, 50=WeaponGravityBeam, 51=WeaponIonCannon, 52=WeaponIonDefense, 53=WeaponIonPulse, 54=WeaponMissile, 55=WeaponPhaser, 56=WeaponPointDefense, 57=WeaponRailGun, 58=WeaponSuperArea, 59=WeaponSuperBeam, 60=WeaponTorpedo, 61=WeaponTractorBeam
Size	Numeric value of component size. The size of a ship or base is determined by the total size of all components in the ship or base
Energy Used	Static energy used by component per second (i.e. constant energy consumption, even when component is not being actively used)
Value1	Numeric value with unique meaning for each component type as

	detailed below
Value2	Numeric value with unique meaning for each component type as detailed below
Value3	Numeric value with unique meaning for each component type as detailed below
Value4	Numeric value with unique meaning for each component type as detailed below
Value5	Numeric value with unique meaning for each component type as detailed below
Value6	Numeric value with unique meaning for each component type as detailed below
Value7	Numeric value with unique meaning for each component type as detailed below

Meanings of Value1-7 for each component type

Component Type	Meanings of Value1-7
Area Shield Recharge	Value1=recharge range, Value2=maximum recharge amount, Value3=energy required for full recharge to maximum amount, Value4-7 unused
Armor	Value1=rating, Value2=reactive rating, Value3-7 unused
Assault Pod	Value1=Assault strength, Value2=Boarding range, Value3=energy consumed per launch, Value4=movement speed, Value5=shield penetration, Value6=launch rate in milliseconds, Value7 unused
Cargo Bay	Value1=cargo storage capacity, Value2-7 unused
Colonization Module	Value1=population amount for new colony in millions, Value2-7 unused
Command Center	Value1=maintenance savings percentage, Value2-7 unused
Commerce Center	Value1=Trade bonus percentage, Value2-7 unused
Construction Yard	Value1=construction speed, Value2-7 unused
Countermeasures	Value1=countermeasures bonus percentage, Value2-7 unused
Damage Control	Value1=damage reduction percentage, Value2=seconds to repair one damaged component, Value3-7 unused
Docking Bay	Value1=cargo throughput capacity, Value2-7 unused
Energy Collector	Value1=energy collection rate, Value2-7 unused
Energy To Fuel	Value1=fuel production rate, Value2-7 unused
Engine – Main Thrust	Value1=maximum thrust, Value2=energy usage per second at maximum thrust, Value3=cruise thrust, Value4=energy usage per second at cruise thrust, Value5-7 unused
Engine – Vectoring	Value1=thrust, Value2=energy usage per second, Value3-7 unused
Extractors	Value1=extraction rate, Value2-7 unused
Fighter Bay	Value1=fighter storage capacity, Value2=fighter repair rate (in percentage points per second, manufacture rate is half repair rate), Value3-7 unused
Fleet Countermeasures	Value1=countermeasures bonus percentage for fleet, Value2-7 unused
Fleet Targeting	Value1=targeting bonus percentage for fleet, Value2-7 unused
Fuel Cell	Value1=fuel storage capacity, Value2-7 unused
Gravity Well Projector	Value1=unused, Value2=hyper stopping range, Value3-7 unused

/ HyperStop	
Hab Module	Value1=ship/base support size, Value2-7 unused
Hyper Deny	Value1=unused, Value2=hyper deny range, Value3=energy used when operational, Value4-7 unused
Hyper Drive	Value1=top speed, Value2=energy usage per second, Value3=typical jump initiation time in seconds, Value4-7 unused
Ion Defense	Value1=ion defense strength, Value2-7 unused
Life Support	Value1=ship/base support size, Value2-7 unused
Long Range Scanner	Value1=scan range, Value2-7 unused
Manufacturer	Value1=manufacturing speed, Value2-7 unused
Medical Center	Value1=effectiveness, Value2-7 unused
Passenger Compartment	Value1=passenger capacity, Value2-7 unused
Proximity Array	Value1=scan range, Value2=hyperjump tracking chance percentage, Value3-7 unused
Reactor	Value1=energy output per second, Value2=energy storage capacity, Value3=fuel units required to charge to full capacity, Value4=fuel resource ID, Value5-7 unused
Recreation Center	Value1=recreation value, Value2-7 unused
Research Labs	Value1=research output, Value2-7 unused
Resource Profile Sensor	Value1=scan range, Value2-7 unused
Scanner Jammer	Value1=jamming power, Value2-7 unused
Shields	Value1=maximum strength, Value2=recharge rate per second, Value3-7 unused
Stealth	Value1=stealth rating, Value2-7 unused
Targeting	Value1=targeting bonus percentage, Value2-7 unused
Trace Scanner	Value1=scan range, Value2=scan power, Value3-7 unused
Tractor Beam	Value1=pulling/pushing power, Value2=range, Value3=energy consumed per firing, Value4=projection speed, Value5=power loss per 100 units range, Value6=fire rate in milliseconds, Value7 unused
Troop Compartment	Value1=troop size capacity, Value2-7 unused
Weapons	Value1=damage amount, Value2=range, Value3=energy consumed per firing, Value4=movement speed, Value5=damage loss per 100 units range, Value6=fire rate in milliseconds, Value7=bombard damage amount
Weapons – Area Gravity	Value1=damage amount, Value2=firing range (to epicenter), Value3=energy consumed per firing, Value4=expansion speed (Value2 / Value4 = firing duration), Value5=pull range from epicenter, Value6=fire rate in milliseconds, Value7=damage range from epicenter

Resources to Manufacture Component

After defining the base information for a component as outlined above, you must then define the strategic resources required to manufacture the component. Note that luxury resources should not be used in components.

Each component can have up to 5 resources (along with amounts) used in its manufacturing. Each required resource is defined on the same line. Simply separate each resource and amount by a comma.

Name	Description
Resource ID	ID value of required resource. Must match a resource defined in **resources.txt**
Amount	Numeric amount of resource needed for manufacturing a single component. Must be between 1 and 32767