Definitive Edition, Dawn of the Dukes DLC, Update 56005 (November 18, 2021)

Aztecs

Unique Unit: *Jaguar Warrior* (Anti-infantry infantry) (Elite: 1000F 500G, 0:45).
Castle Age Tech: *Atlatl* – Skirmishers, Genitours +1 attack, +1 range (400F 350G, 0:40);
Imperial Age Tech: *Garland Wars* – Infantry +4 Attack (450F 750G, 1:00).
— Villagers carry +3 resources;
— Military units (not Monks) created 11% faster (–10% time[1]);
— Monks +5 HP for each Monastery tech;
— Start[2]: +50 gold.
Team Bonus: Relics generate +33% gold.

Berbers

Unique Units: *Camel Archer* (cavalry archer with bonus against other cavalry archers) (Elite: 1000W 500G, 0:45); *Genitour* (mounted Skirmisher) (Elite: 450W 500F, 1:00).
Castle Age Tech: *Kasbah* – Team Castles work 25% faster (–20% time) (250F 250G, 0:40);
Imperial Age Tech: *Maghrebi Camels* – Camels regen 1HP/4s (700F 300G, 0:40).
— Villagers move 10% faster;
— Stable Units cost –15%/20%[3] in Castle/Imperial Age;
— Ships move 10% faster.
Team Bonus: Genitour available for allies.

Bohemians

Unique Unit: *Hussite Wagon* (High HP gunpowder siege shielding units behind from project.) (Elite: 800W 600G, 0:45); *Houfnice* (Bombard Cannon upgrade) (950F 750G, 2:20).
Castle Age Tech: *Wagenburg Tactics* – Gunpowder units +15% speed (300F 300G, 0:45);
Imperial Age Tech: *Hussite Reforms* – Monk and Monastery research gold costs replaced by food (800F 450G, 0:45).
— Blacksmiths, Monasteries, and Universities cost –100 wood;
— Chemistry and Hand Cannoneers available in Castle Age;
— Spearman-line +25% bonus damage[4];
— Fervor and Sanctity affect villagers;
— Mining Camp technologies are free[5].
Team Bonus: Markets work 80% faster (–44% time).

Britons

Unique Unit: *Longbowman* (Long range archer) (Elite: 850F 850G, 1:00).
Castle Age Tech: *Yeomen* – Foot archers[6] +1 range; towers +2 atk (750F 450G, 1:00);
Imperial Age Tech: *Warwolf* – Trebuchets 0.5 blast radius, 100% accuracy (80% vs. towers not modified) (800W 400G, 0:40).
— Town Centers cost –137 wood (–50%) in Castle Age;
— Archer-line, foot archer unique units +1/2[3] range in Castle/Imperial Age;
— Shepherds work 25% faster.
Team Bonus: Archery Ranges work 20% faster (–17% time).

Bulgarians

Unique Unit: *Konnik* (Cavalry; spawns Dismounted Konnik (infantry) when felled) (Elite: 1000F 750G, 1:10).
Unique Building: *Krepost* ('Mini-Castle', produces Konniks) (Available in Castle Age, 350S).
Castle Age Tech: *Stirrups* – Cavalry attack 33% faster (–25% reload time) (400F 200G, 0:35);
Imperial Age Tech: *Bagains* – Militia-line +5 melee armor (900F 450G, 0:40).
— Militia-line upgrades are free[5];
— Blacksmith & Siege Workshop techs cost –50% food;
— Town Centers cost –50 stone (–50%) in any Age;
Team Bonus: Blacksmiths work 80% faster (–44% time).

Burgundians

Unique Unit: *Coustillier* (Cavalry with an ability to automatically deal charge attacks against units after cooldowns) (Elite: 1000F 800G, 0:45).
Castle Age Tech: *Burgundian Vineyards* – farmers generate 1.2 g/min while in farming animation[7]; (400F 300G, 0:45);
Imperial Age Tech: *Flemish Revolution* – Convert player's villagers into Flemish Militia; Flemish Militia can be created from Town Centers (1200F 650G, 0:10).
— Eco upgrades (incl. Gillnets, Caravan, Guilds, but not Coinage or Banking) cost –50% food and available one Age earlier;
— Stable techs cost –50%;
— Cavalier available in Castle Age;
— Gunpowder units (not BBTs) +25% atk[4].
Team Bonus: In addition to gold, Relics generate +30 f/min[8].

Burmese

Unique Unit: *Arambai* (Powerful, but inaccurate ranged cavalry) (Elite: 1100F 675G, 1:05).
Castle Age Tech: *Howdah* – Battle Elephants +1/+2[9] armor (300W 400F, 0:40);
Imperial Age Tech: *Manipur Cavalry* – Cavalry (including Battle Elephants but excluding Arambai) +5 attack vs. archer armor class (650F 400G, 0:40).
— Lumber Camp upgrades are free[5];
— Infantry +1/2/3[3] attack in Feudal/Castle/Imperial Age;
— Monastery techs are 50% cheaper.
Team Bonus: Relic locations revealed on map at the start of the game.

Byzantines

Unique Unit: *Cataphract* (Anti-infantry cavalry) (Elite: 1200F 800G, 0:50).
Castle Age Tech: *Greek Fire* – Fire ships +1 range (98% accuracy at max range) (250F 300G, 0:40);
Imperial Age Tech: *Logistica* – Cataphracts deal 5 unblockable blast dmg (0.5 tile radius) and +6 bonus dmg vs. infantry (800F 600G, 0:50).
— Buildings (except walls) +10/20/30/40%[3] HP in Dark/Feudal/Castle/Imperial Age;
— Camel Rider–, Skirmisher–, and Spearman-lines cost 25% less;
— Fire Ships attack 25% faster[10] (–20% reload time);
— Town Watch & Town Patrol are free[5];
— Advance to Imperial Age costs –33%.
Team Bonus: Monks +100% heal speed (5 HP/sec).

Celts

Unique Unit: *Woad Raider* (fast infantry) (Elite: 1000F 800G, 0:45).
Castle Age Tech: *Stronghold* – Castles & towers fire 25% faster (–20% time). (250F 200G, 0:30);
Imperial Age Tech: *Furor Celtica* – Siege Workshop units +40% HP (750F 450G, 0:50).
— Lumberjacks work 15% faster;
— Infantry move 15% faster starting in Feudal Age;
— Siege weapons (including Trebuchets) attack 25% faster (–20% reload time);
— Can convert sheep even if enemy units are nearby.
Team Bonus: Siege Workshops work 20% faster (–17% time).

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[1] Rate (or speed) is the inverse value for time. Several in-game descriptions used to be off as they mentioned (coded) *time* modifiers instead.
[2] Random Map (RM) is implied.
[3] Here and henceforth: total amount in this Age.
[4] Affects all bonus attack classes (+M/P dmg). Bonus is applied and rounded before armor, elevation, Sicilians' bonus resistance are accounted for.
[5] 'Free' means upgrade is researched instantly upon reaching required Age with no themed building required (unless stated otherwise).

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[6] Archer–, Skirmisher-lines [of upgrades] and unique units (UUs); not gunpowder units.
[7] Practically for farms close to drop off: c. 0.75 g/min if unupgraded, c. 1 g/min with Hand Cart.
[8] Huns UT Atheism halves that to 15 f/min.

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[9] Here and henceforth: +melee/+pierce armor.
[10] Actual increase may vary depending on game speed. See this post.

Chinese

Unique Unit: *Chu Ko Nu* (Fast-firing Crossbowman) (Elite: 760F 760G*, 0:50).
Castle Age Tech: *Great Wall* – Walls & towers +30% HP (340W 170S*, 0:40);
Imperial Age Tech: *Rocketry* – Chu Ko Nu +2 attack, Scorpion-line +4 attack (600F 600G*, 1:00).
— Start[2]: +3 vills[11], –50 wood, –200 food;
— Technologies (excluding Ages) cost –10/15/20%[3] in Feudal/Castle/Imperial (* applied to UTs);
— Town Centers support 10 population;
— Town Centers +5 LoS;
— Demolition Ship-line +50% HP.
Team Bonus: Farms +10% food storage[12].

Cumans

Unique Unit: *Kipchak* (Cavalry archer that fires several arrows per shot) (Elite: 1100F 1000W, 1:05).
Castle Age Tech: *Steppe Husbandry* – Scout Cavalry-, Cavalry Archer-, and Steppe Lancer-lines trained twice as fast (–50% time) (300W 200F, 0:40);
Imperial Age Tech: *Cuman Mercenaries* – In Imperial Age, you and your allies can produce 10 Elite Kipchaks from Castles free-of-charge (train time unmodified) (650F 400G, 0:40).
— Can build a second Town Center in Feudal Age, +120 sec build time towards any TC in Feudal Age;
— Siege Workshop avail. in Feudal Age;
— Battering Ram avail. in Feudal Age and Capped Ram avail. in Castle Age;
— Cavalry and cavalry archers[13] move 5/10/16%[2,14] faster in Feudal/Castle/Imperial Age;
— Archery Ranges and Stables cost –75 wood.
Team Bonus: Palisade Walls and Palisade Gates +33% HP.

Ethiopians

Unique Unit: *Shotel Warrior* (Strong, but fragile infantry) (Elite: 900F 450G, 0:45).
Castle Age Tech: *Royal Heirs* – Shotel Warriors are created twice as fast (–50% time) (300F 300G, 0:40);
Imperial Age Tech: *Torsion Engines* – Siege Workshop Units +0.45 blast radius (rams +0.5 blast radius); Scorpion projectile +0.3 tile width and length (1000F 600G, 0:40).
— Archer-line fires +17.6 % faster (–15% time);
— Receive +100 food, +100 gold when reaching a new Age;
— Pikeman upgrade is free[5].
Team Bonus: Towers, Outposts +3 LOS.

Franks

Unique Unit: *Throwing Axeman* (Short-ranged infantry) (Elite: 1000F 750G, 0:45).
Castle Age Tech: *Bearded Axe* – Throwing Axeman +1 range (300F 300G, 1:00).
Imperial Age Tech: *Chivalry* – Stables work 40% faster (–29% time) (600W 500G, 0:40);
— Foragers work 15% faster;
— Castles cost 488 stone (–25%);
— Cavalry and cav. archers[13] +20% HP;
— Mill upgrades are free[5].
Team Bonus: Knight-line +2 LoS[15].

Goths

Unique Unit: *Huskarl* (Anti-archer infantry) (Elite: 1200F 550G, 0:40).
Castle Age Tech: *Anarchy* – Create Huskarls at Barracks (450F 250G, 0:40);
Imperial Age Tech: *Perfusion* – Barracks work twice as fast (–50% time) (400W 600G, 0:40).
— Infantry cost –20/25/30/35%[3] in Dark/Feudal/Castle/Imperial Age;
— Infantry +1/2/3[3] attack vs. buildings (B2 dmg) in Feudal/Castle/Imperial Age;
— Villages +5 attack vs. 'aggressive' hunt (boars, rhinos, elephants);
— Hunters carry +15 food;
— Loom can be researched in 1 second;
— +10 pop limit in Imperial Age.
Team Bonus: Barracks work 20% faster (–17% time).

Huns

Unique Unit: *Tarkan* (Cavalry with bonus vs. buildings) (Elite: 1000F 500G, 0:45).
Castle Age Tech: *Marauders* – Create Tarkans at Stables (300W 200G, 0:40);
Imperial Age Tech: *Atheism* – Wonder/Relic victory time +100 years, ×0.5 Relic gold generation for enemy players[16] (500F 500G, 1:00).
— No houses required; –100 wood;
— Cavalry archers[13] cost –10/20%[3] in Castle/Imperial Age;
— Trebuchets +35% accuracy.
Team Bonus: Stables work 20% faster (–17% time).

Incas

Unique Units: *Kamayuk* (Anti-cavalry infantry with extra melee range) (Elite: 900F 500G, 0:45);
Slinger (Anti-infantry archer).
Castle Age Tech: *Andean Sling* – Slingers, Skirmishers, and Genitours no minimum range (200F 300G, 0:40);

Imperial Age Tech: *Fabric Shields* – Eagles, Kamayuk and Slingers +1/+2[9] armor (600F 600G, 0:40).
— Start with a free Llama[2,11];
— Villagers benefit from Blacksmith infantry attack and defense upgrades starting in Castle Age;
— Houses support 10 population;
— Buildings cost –15% stone.
Team Bonus: Farms are built in 8 sec (instead of 15 sec).

Indians

Unique Units: *Elephant Archer* (High HP, slow cav. arch.) (Elite: 1000F 800G, 1:00),
Imp. Camel Rider (1200F 600G, 2:05);
Castle Age Tech: *Sultans* – All gold income ×1.1 (400W 400F, 0:40);
Imperial Age Tech: *Shatagni* – Hand Cannoneers +1 range (500F 300G, 0:40).
— Stable units +1/2[3] pierce armor in Castle/Imperial Age.
— Villagers cost 45/42/40/38 food (–10/15/20/25%[2]) in Dark/Feudal/Castle/Imperial Age;
— Fishermen work 10% faster.
Team Bonus: Camel Riders, Mamelukes, Camel Archers, Flaming Camels, +4 attack vs. buildings (B2 dmg).

Italians

Unique Units: *Genoese Crossbowman* (Archer with bonus vs. cavalry) (Elite: 900F 750G, 1:00);
Condottiero (Anti-gunpowder infantry).
Castle Age Tech: *Pavise* – Archer-line, Genoese Crossbowmen, Condottiero +1/+1[9] armor (300F 150G, 0:40);
Imperial Age Tech: *Silk Road* – Trade units 50% cheaper (500F 250G, 1:00).
— Advancing to next Ages costs –15%;
— Dock and University techs cost –33%;
— Fishing ships cost 64 wood (–15%);
— Gunpowder units (not BBTs) cost –20%.
Team Bonus: Condottiero available in allies' Barracks in Imperial Age.

Japanese

Unique Unit: *Samurai* (Anti-unique unit infantry) (Elite: 750F 650G, 1:00).
Castle Age Tech: *Yasama* – Towers +2 min/max arrows (300W 300F, 0:40);
Imperial Age Tech: *Kataparuto* – Trebuchets pack/unpack 4× faster (c. 2.8 sec after UT), fire 33% faster (–25% reload time) (750F 400G, 1:00).
— Fishing Ships 2× HP and +2 p. armor;
— Fishing Ships work 5/10/15/20%[3] faster in Dark/Feudal/Castle/Imperial Age;
— Lumber Camps, Mining Camps and Mills cost 50 wood (–50%);
— Infantry attack 33% faster (–25% reload time) starting in Feudal Age.
Team Bonus: Galley-line +50% LoS.

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[11] After Town Center is completed on Nomad.
[12] Stacks additively with Sicilian farming bonus and Folwark instant food collection effect.
[13] Cavalry Archer-line, Genitours, and cavalry archer unique units including Kipchak.
[14] This bonus is multiplicative (1.05×1.05×1.05).

[15] Xolotl Warriors are not affected.
[16] Only for mutually Enemy (not Neutral) players. Relic bonuses (Atecs civ bonus, Indians UT Sultans), as well as multiple Atheisms, stack multiplicatively.

Khmer

Unique Unit: *Ballista Elephant* (elephant Scorpion) (Elite: 1000W 500G, 1:10).
Castle Age Tech: *Tusk Swords* – Battle Elephants +3 attack (300W 450G, 0:40);
Imperial Age Tech: *Double Crossbow* – Ballista Elephants and Scorpions shoot two projectiles (700F 400G, 0:40).
— No buildings required to advance to the next Age or unlock other buildings;
— Farmers bank up food instantly with no drop off sites required; –5% workrate;
— Battle Elephants move 10% faster;
— Houses can garrison 5 villagers.
Team Bonus: Scorpion-line +1 range.

Koreans

Unique Units: *War Wagon* (Cav. archer with extra pierce armor) (Elite: 1000F 800G, 1:15);
Turtle Ship (Armored ship) (Elite: 1000F 800G, 1:05).
Castle Age Tech: *Eupseong* – Guard Towers, Keeps +2 range and LoS (300W 300F, 0:40);
Imperial Age Tech: *Shinkichon* – Onager-line +1 range (800F 500G, 1:00).
— Villagers have +3 LoS;
— Stone miners work 20% faster;
— Guard Tower and Keep are free[5] (BBT is free but requires Chemistry);
— Archer armor upgrades are free[5];
— Infantry, archers (incl. cav. archers[13]), and warships cost –20% wood.
Team Bonus: Onager-line min. range = 1.

Lithuanians

Unique Units: *Leitis* ('Armor-piercing' vs. units cavalry) (Elite: 750F 750G, 0:45);
Winged Hussar (Light Cavalry upgrade, replaces Hussar) (600F 800G, 1:00).
Castle Age Tech: *Hill Forts* – Town Centers +3 range (250F 250G, 0:40);
Imperial Age Tech: *Tower Shields* – Spearman- and Skirmisher-line +2 pierce armor (500F 200G, 0:40).
— Start[2]: +150 food;
— Spear.- & Skirm.-line move 10% faster;
— Leitis and Knight-line +1/2/3/4[3] attack for 1/2/3/4+ garrisoned Relics.
Team Bonus: Monasteries work 20% faster (–17% time).

Magyars

Unique Unit: *Magyar Huszar* (Anti-siege cavalry) (Elite: 800F 600G, 1:00);
Castle Age Tech: *Corvinian Army* – Magyar Huszars cost no gold (200F 300G, 0:40);
Imperial Age Tech: *Recurve Bow* – Cavalry archers[13] (except Genitours) +1 range, +1 attack (600W 400G, 0:40).
— Blacksmith melee atk. upgrades free[5];
— Scout Cav.-line cost 68 food (–15%);
— Villagers +30 bonus dmg vs. wolves.
Team Bonus: Foot archers[6] (except Skirmisher-line) +2 LoS.

Malay

Unique Unit: *Karambit Warrior* (cheap and fast infantry occupying 0.5 pop space) (Elite: 900F 600G, 0:40).
Castle Age Tech: *Thalassocracy* – Docks upgraded to Harbors, which shoot arrows (300F 300G, 0:40);
Imperial Age Tech: *Forced Levy* – Militia-line costs no gold, but +20 food (850F 500G, 0:40).
— Advancing to Ages is 66% faster (–40% time);
— Fish Traps cost 67 wood (–33%);
— Fish Traps start with 2145 food;
— Battle Elephants –30/40%[3] cheaper in Castle/Imperial Age.
Team Bonus: Docks 2× Line of Sight.

Malians

Unique Unit: *Gbeto* (Fast, but fragile ranged inf.) (Elite: 900F 600G, 0:45).
Castle Age Tech: *Tigui* – Town Centers fire 5 min/max arrows, even if empty (300W 200F, 0:40);
Imperial Age Tech: *Farimba* – Cavalry, Camel Riders +5 atk. (650F 400G, 0:40).
— Buildings (except Farms) cost –15% wood;
— Barracks units +1/2/3[3] pierce armor in Feudal/Castle/Imperial Age;
— Gold Mines last 30% longer.
Team Bonus: University researches 80% faster (–44% time).

Mayans

Unique Unit: *Plumed Archer* (Fast moving foot archer) (Elite: 1000W 700F, 0:45).
Castle Age Tech: *Hul'che Javelineers* – Skirmisher-line, Genitours throw an extra projectile dealing 1 dmg per attack (300F 300G, 0:40);
Imperial Age Tech: *El Dorado* – Eagle Warriors +40 HP (750F 450G, 1:10).
— Start[2]: 1 extra villager[11], –50 food;
— Resources last 15% longer; farmers work slower (depends on upgrades);
— Archer-line costs –10/20/30%[3] in Feudal/Castle/Imperial Age.
Team Bonus: Walls are 50% cheaper (the cost is rounded up for every segment).

Mongols

Unique Unit: *Mangudai* (Fast anti-siege cavalry archer) (Elite: 1100F 675G, 0:50).
Castle Age Tech: *Nomads* – Destroyed houses don't lose population room (300W 150G, 0:40);
Imperial Age Tech: *Drill* – Siege Workshop units move 50% faster (500W 450G, 1:00).
— Cavalry archers[13] fire 25% faster (–20% reload time);
— Light Cavalry, Hussars, and Steppe Lancer-line +30% HP;
— Hunters work 40% faster.
Team Bonus: Scout-line +2 LoS.

Persians

Unique Unit: *War Elephant* (Slow but powerful heavy cavalry) (Elite: 1600F 1200G, 1:15).
Castle Age Tech: *Kamandaran* – Archer-line costs no gold, but +35 wood (400F 300G, 0:40);
Imperial Age Tech: *Mahouts* – +30% War Elephant speed (300F 300G, 0:50).
— Start[2]: +50 wood, +50 food;
— Town Center & Docks have 2× HP;
— Town Centers & Docks work +10/15/20%[3] faster in Feudal/Castle/Imp. Age;
Team Bonus: Knight-line +2 attack vs. archer armor class[15].

Poles

Unique Units: *Obuch* (Infantry that removes armor from enemy units per every hit) (Elite: 800F 600G, 0:45);
Winged Hussar (Light Cavalry upgrade, replaces Hussar) (600F 800G, 1:00).
Unique Building: *Folwark* (Mill replacement, instantly collects 10% food from new Farms in 4 tiles[17], +5 pop). (Available in Dark age, 125W).
Castle Age Tech: *Szlachta Privileges* – Knight-line costs 30 gold (–60%) (500F 300G, 0:45);
Imperial Age Tech: *Lechitic Legacy* – Scout Cavalry-line deals 33% damage in 0.5 blast radius (750F 550G, 1:00).
— Villagers regenerate 5/10/15/20 HP / min in Dark/Feudal/Castle/Imp. Age[2,10];
— Stone miners generate gold[18].
Team Bonus: Scout Cavalry-line +1 attack vs. archer armor class.

Portuguese

Unique Units: *Organ Gun* (Gunpowder siege unit shooting multiple projectiles) (Elite: 1200F 500G, 0:45);
Caravel (Scorpion–like ship) (Elite: 750F 475G, 1:00).
Unique Building: *Feitoria* (Slowly generates resources, occupies 20 pop) (Available in Imperial age, 250G 250S).
Castle Age Tech: *Carrack* – Ships +1/+1[9] armor (200W 300G, 0:40);
Imperial Age Tech: *Arquebus* – Ballistics for gunpowder units;
BBT/BBC: +0.2 tiles/sec projectile speed, HC/Organ Gun/Cannon Galleon: +0.5 t/s (700F 400G, 0:40).
— All units cost –20% gold;
— Technologies (excluding Ages) are researched 30% faster (–23% time);
— Ships +10% HP.
Team Bonus: Cartography is free from Dark Age.

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[17] Mill upgrades accounted for. Farms must fully fit within the 4 tile range. Only Farms (re-)seeded after Folwark's construction grant food. Effect from multiple Folwarks does not stack.
[18] 11.04 g/min while in gather animation (roughly 2S = 1G), increased by stone mining upgrades. Gold is immediately stored in the player's bank.

Saracens

Unique Unit: *Mameluke* (Short-ranged anti-cavalry camel) (Elite: 600F 500G, 0:50).
Castle Age Tech: *Madrasah* – Own dead Monks return 33 gold (200F 100G, 0:30);
Imperial Age Tech: *Zealotry* – Mamelukes, Camel Riders +20 HP (500F 450G, 0:50).
— Market costs 75 wood;
— Market trade cost is only 5%;
— Camel Riders, Mamelukes +10 HP;
— Galleys attack 25% faster (–20% time);
— Transport Ships 2× HP and +5 carry.
Team Bonus: Foot archers[6,19] +3 bonus attack against buildings (B2 dmg).

Spanish

Unique Units: *Conquistador* (Mounted hand cannon) (Elite: 1200F 600G, 1:00); *Missionary* (Mounted monk).
Castle Age Tech: *Inquisition* – Min/Max conversion time –1.25 sec for units, –7.5 sec for buildings (100F 300G, 0:40);
Imperial Age Tech: *Supremacy* – Villagers +6 melee attack, +2/+2[9] armor, +40 HP (400F 250G, 1:00).
— Villagers construct buildings 30% faster (–23% build time);
— Blacksmith upgrades don't cost gold;
— Cannon Galleons have Ballistics, cannonballs 3.5 times faster than normal;
— Bombard Cannons, Cannon Galleons, and Hand Cannoneers fire 17.6% faster (–15% reload time).
Team Bonus: Trade generates +25% gold.

Sicilians

Unique Unit: *Serjeants* (Heavy infantry that can build *Donjons*) (Elite: 1100F 800G, 0:45).
Unique Building: *Donjon* (Tower-line replacement, produces Serjeants) (Available in Feudal age, 75W 175S).
Castle Age Tech: *First Crusade* – Spawn 7×n of Serjeants[20] at Town Centers, where `n = max(5, number of TCs)`; units resist conversion (+2.5/5 sec min/max conversion time, ×0.33 conv. chance[21]) (300F 600G, 1:00);
Imperial Age Tech: *Hauberk* – Knight-line +1/+2 armor[9] (500F 400G, 0:45).
— Town Centers and Castles are constructed 100% faster (–50% time)[22];
— Land military units (excl. Monks and Siege) receive ×0.5 bonus damage[23];

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[19] Affects only the main arrows of Chu Ko Nu or Skirmishers with Mayan UT Hul'che Javelineers.
[20] Elite Serjeants are spawned if the Elite upgrade was researched prior.
[21] The effect is identical to Faith and stacks with it and the Teuton team bonus additively.
[22] Does not apply to the first TC on Nomad.
[23] "Bonus" = non-melee / -pierce / -Leitis armor class. It is applied after other bonus damage calculations. It is unique to units produced by Sicilians (it remains upon conversion but does not apply to units converted by Sicilians).

— Farm upgrades provide double the food storage for newly seeded Farms;
— Start[2]: +100 stone.
Team Bonus: Transport Ships cost 50% less and have +5 LoS.

Slavs

Unique Unit: *Boyar* (Heavily melee–armored cavalry) (Elite: 1000F 600G, 1:00).
Castle Age Tech: *Orthodoxy* – Monks +3/+3 armor[9] (200F 300G, 0:40);
Imperial Age Tech: *Druzhina* – Infantry deal 5 unblockable dmg in 0.5 blast radius (1200F 500G, 0:40).
— Farmers work 10% faster;
— Supplies is free[5];
— Siege Workshop units 15% cheaper.
Team Bonus: Military buildings provide +5 population.

Tatars

Unique Unit: *Keshik* (Cavalry that generates gold while attacking units) (Elite: 700F 900G, 0:40); *Flaming Camel* (anti-cavalry petard).
Castle Age Tech: *Silk Armor* – Scout Cavalry-, Steppe Lancer-lines, and cavalry archers[13] +1/+1[9] armor (400W 300G, 0:40);
Imperial Age Tech: *Timurid Siegecraft* – enable Flaming Camel; Trebuchets +2 range and LoS (500W 400G, 0:50).
— Herdables contain +50% more food (on collection; decay rate not modified);
— Starting in Castle Age, newly built Town Centers spawn 2 Sheep;
— Units deal +25% elevation/cliff attack bonus (up to +50% in total; defence bonus unmodified);
— Thumb Ring, Parthian Tactics free[5];
Team Bonus: Cavalry archers[13] +2 LoS.

Teutons

Unique Unit: *Teutonic Knight* (Slow heavy melee–armored powerful infantry) (Elite: 950F 500G, 0:50).
Castle Age Tech: *Ironclad* – Siege weapons (including Trebuchets) +4 melee armor (400W 350G, 1:00);
Imperial Age Tech: *Crenellations* – Castle +3 range; garrisoned infantry fire arrows (600F 400S, 1:00).
— Monks 2× healing range (max 8 tiles);
— Towers can garrison 10 units, +4 max projectiles; BBTs can fire mult. projectiles;
— Town Centers can garrison 25 units, +5 max arrows;
— Herbal Medicine, Murder Holes free[5];
— Farms cost 36 wood (–40%);
— Barracks and Stable units +1/2[3] melee armor in Castle/Imperial Age.
Team Bonus: Units resist conversion: min/max time +1.25/+2.5 sec, ×0.5 conversion chance.

Turks

Unique Unit: *Janissary* (Hand cannoneer with extra damage and range) (Elite: 850F 750G, 0:55).
Castle Age Tech: *Sipahi* – Cavalry archers[13] +20 HP (350F 150G, 1:00);
Imperial Age Tech: *Artillery* – Cannon Galleons, Bombard Towers, Bombard Cannons +2 range (450W 500G, 0:40).
— Gunpowder units +25% HP;
— Chemistry is free[5];
— Bombard Tower and Elite Cannon Galleon upgrades cost 50% less;
— Gold miners work 20% faster;
— Scout-line has +1 pierce armor;
— Light Cavalry and Hussar upgrades are free[5].
Team Bonus: Gunpowder units are created 25% faster (–20% time).

Vietnamese

Unique Units: *Rattan Archer* (Foot archer with extra pierce armor) (Elite: 1000F 750G, 0:45); *Imperial Skirmisher* (Upgrade: 300W 450G, 0:50).
Castle Age Tech: *Chatras* – Battle Elephants +100 HP (250F 250G, 0:40);
Unique Tech: *Paper Money* – You and your allies receive 500 gold each (300W 500F, 1:00).
— Reveal enemy Town Center at start[1];
— Economic upgrades cost no wood;
— Archery Range units (incl. Genitour), Elite Kipchaks +20% HP;
— Conscription is free[5].
Team Bonus: Have access to Imperial Skirmisher upgrade (except Turks).

Vikings

Unique Units: Berserk (Regenerating infantry) (Elite: 1075F 475G, 0:45); Longboat (fast warship with multiple arrow fire) (Elite: 750F 475G, 1:00).
Castle Age Tech: *Chieftains* – Infantry +5 atk vs. cavalry, +4 vs. camels (700F 500G, 0:40);
Unique Tech: *Berserkergang* – Berserks regenerate 2× faster – 2HP/3s instead of 1HP/3s (850F 400G, 0:40).
— Warships cost 15/15/20%[3] less in Feudal/Castle/Imperial Age;
— Infantry units have +20% HP starting in Feudal Age;
— Wheelbarrow and Hand Cart are free[5].
Team Bonus: Docks are 15% cheaper.

Update 56005

Description	Building	Age	Buildings, Units & Technologies	Cost	RT
Buildings					
Wall		II	Stone Wall		
Replaces Stone Wall	U	III	Fortified Wall	100W 200F	0:50
Replaces Watch Tower	U	III	Guard Tower	250W 100F	0:30
Replaces Guard Tower	U	IV	Keep	350W 500F	1:15
Cannon tower	U	IV	Bombard Tower	400W 800F	1:00
Watch/Guard Tow./Keep+Donjon +1/2/3 dmg[1]	U	IV	Arrowslits	250W 250F	0:25
Buildings deal bonus dmg vs. ships[2]	U	III	Heated Shot	350F 100G	0:30
Villagers build 20% faster[3]	U	III	Treadmill Crane	200W 300F	0:50
Buildings +10%hp, +armor[4]	U	III	Masonry	175W 150F	0:50
Buildings +10%hp, +armor[4]	U	IV	Architecture	200W 300F	1:10
Castles +21% HP	C	IV	Hoardings	400W 400F	1:15
Vills +15 dmg vs. build. (B1), +15 vs. stone def.[5]	C	IV	Sappers	400F 200G	0:10
Economy					
15% faster gold gathering (×1.32 total)	MC	III	Gold Shaft Mine	150W 200F	1:15
15% faster stone collecting (×1.32 total)	MC	III	Stone Shaft Mine	150W 200F	1:15
10% faster wood collecting (×1.59 total)	LC	III	Two-Man Saw	200W 300F	1:40
Farms +175F	Mill	IV	Crop Rotation	250F 250F	1:10
−15% resource trading fee	Mk	IV	Guilds	300F 200G	0:50
Stable					
Replaces Scout Cavalry	S	III	Light Cavalry	150F 50G	0:45
Replaces Light Cavalry	S	IV	Hussar	500F 600G	0:50
Heavy cavalry	S	III	Knight / Xolotl W.[6]		
Replaces Knight	S	IV	Cavalier	300F 300G	1:40
Replaces Cavalier	S	IV	Paladin	1300F 750G	2:50
Anti-cavalry cavalry	S	III	Camel Rider		
Replaces Camel Rider	S	IV	Heavy Camel Rider	325F 360G	1:45
Heavy, slow cavalry	S	III/IV	(E.) Battle Elephant	1200F 900G	1:40
Fast cavalry with extra melee range	S	III/IV	(E.) Steppe Lancer	900F 550G	0:55
+20 HP for cavalry/mounted units	S	II	Bloodlines	150F 100G	0:50
+10% cavalry speed (incl. Missionaries)	S	III	Husbandry	150F	0:40
+1/+2 cavalry armor	BS	IV	Plate Barding Arm.	350F 200G	1:15
+2 cavalry & infantry attack	BS	IV	Blast Furnace	275F 225G	1:40
Infantry					
Replaces Spearman	B	III	Pikeman	215F 90G	0:45
Replaces Pikeman	B	IV	Halberdier	300F 600G	0:50
Replaces Long Swordsman	B	IV	2H Swordsman	300F 100G	1:15
Replaces 2H Swordsman	B	IV	Champion	750F 350G	1:40
−15 food cost for Militia-line	B	II	Supplies	75F 75G	0:35
+10% infantry speed	B	III	Squires	100F	0:40
Infantry +2 attack vs. buildings (B2 dmg)	B	III	Arson	150F 50G	0:25
+1/+2 infantry armor	BS	IV	Plate Mail Armor	300F 150G	1:10
Archers					
Replaces Archer	A	III	Crossbowman	125F 75G	0:35
Replaces Crossbowman	A	IV	Arbalester	350F 300G	0:50
Replaces Skirmisher	A	III	Elite Skirmisher	230W 130G	0:50
Replaces Cavalry Archer	A	IV	Heavy Cav Archer	900F 500G	0:50
100% archer accuracy, faster firing[7]	A	IV	Thumb Ring	250W 300F	1:05
Cav. archers +1/+2 armor, +atk. vs. Spears[8]	A	IV	Parthian Tactics	200F 250G	1:05
+1 atk & range for arrow atk	BS	IV	Bracer	300F 200G	0:40
+1/+2 archer armor	BS	IV	Ring Archer Arm.	250F 250G	1:10
Monks					
Monks can convert Monks	M	III	Atonement	325G	0:40
+15% Monks (incl. Missionary) speed	M	III	Fervor	140G	0:50
Monks can convert siege and buildings	M	III	Redemption	475G	0:50
Monks +15 HP	M	III	Sanctity	120G	1:00
Monks +3 conversion range	M	IV	Block Printing	200G	0:55
Monks 87.5% faster recharge	M	IV	Illumination	120G	1:05
1 Monk recharges if convert. in group	M	IV	Theocracy	200G	1:15
(Your) converted units die instead	M	III	Heresy	1000G	1:00
Garrisoned units heal 6× faster	M	III	Herbal Medicine	200G	0:35
Conv. min/max time +2.5/5s, −66% chance	M	IV	Faith	750F 1000G	1:00
Siege					
Replaces Capped Ram	SW	IV	Siege Ram	1000F	1:15
Replaces Mangonel	SW	IV	Onager	800F 500G	1:15
Replaces Onager	SW	IV	Siege Onager	1450F 1000G	2:30
Replaces Scorpion	SW	IV	Heavy Scorpion	1100F 1000F	0:50
Siege +1 range; +20% atk vs. B1 (petards +40 dmg)	U	IV	Siege Engineers	600W 500F	0:45
Gunpowd.					
Long range, anti-siege and −building siege	SW	IV	Bombard Cannon		
Anti-infantry gunpowder unit	A	IV	Hand Cannoneer		
Long range ship	D	IV	Cannon Galleon		
Replaces Cannon Galleon	D	IV	E. Cannon Galleon	525W 500F	0:30
Ships					
Replaces War Galley	D	IV	Galleon	315W 400F	1:05
Replaces Fire Ship	D	IV	Fast Fire Ship	280W 250G	0:50
Replaces Demolition Ship	D	IV	Heavy Demo Ship	200W 300G	0:50
Ships +15% speed, Transport +10 carry	D	IV	Dry Dock	600F 400F	1:00
Ships −20% wood, −35% build time	D	IV	Shipwright	1000F 300F	1:00

Civilization columns (left to right): Aztecs, Berbers, Bohemians, Britons, Bulgarians, Burgundians, Burmese, Byzantines, Celts, Chinese, Cumans, Ethiopians, Franks, Goths, Huns, Incas, Indians, Italians, Japanese, Khmer, Koreans, Lithuanians, Magyars, Malay, Malians, Mayans, Mongols, Persians, Poles, Portuguese, Saracens, Sicilians, Slavs, Spanish, Tatars, Teutons, Turks, Vietnamese, Vikings.

Footnotes:

[1] Arrowslits, Yeomen: affect extra tower arrows.

[2] Heated Shot: Castle/Krepost/Harbor **+4**; Watch Tower/Guard Tower/Keep/Donjon/Bombard Tower **9/11/13/50** bonus dmg vs. ships for all projectiles (only main projectile for Harbor).

[3] Treadmill Crane: ×1.2 build rate = −16.7% time. Serjeants are not affected.

[4] Masonry/Architecture: Buildings, towers (not walls): +10% HP, +1/+1 melee/pierce armor, and +3 B1 armor (no effect for B2 armor).

[5] Sappers: Vills chop down trees in one swing (0.75 sec).

[6] Meso civs: can create Xolotl W. from convert. Stables.

[7] Thumb Ring: archers 100% accuracy vs. stationary targets. Faster firing: Skirms/Slinger/Genitour: none; War Wagon/Cav. Archer-line: +11%; (Elite) Chu Ko Nu: +15–17%; other archers: +18%.

[8] Parthian Tactics: Cavalry Archer-line +1/+2 armor and +4 dmg vs. Spearman-line; UUs (Camel Archer, Elephant Archer, Kipchak, Mangudai): +1/+2 armor and +2 dmg vs. Spearman-line.

Legend:
- **X**: Missing previous BS upgr. / entire unit line
- **C**: Has a similar civ bonus instead
- **E**: Can research/get it one Age earlier
- **U**: Has a unique upgrade replacing it
- **✓**: Gets it for free as a civ bonus

Shared technologies

Only available to (meso-)american civilizations (Aztecs, Mayans, Incas):				B	II	Eagle Scout		B	III	Eagle Warrior	200F 200G	0:50	B	IV	Elite Eagle Warrior	800F 500G	0:50
Available to non-american civs (CA n/a to Bohemians):				S	II	Scout Cavalry		A	III	Cavalry Archer	BS	II	Scale Barding	150 F	0:45	BS	III	Chain Barding Armor	250F 150G	1:00

B.	A.	Tech	Description	Cost	RT	B.	A.	Tech	Description	Cost	RT
B	II	Man-at-Arms	Replaces Militia	100F 40G	0:40	TC	I	Feudal Age	–	500F	2:10
B	III	Long Swordsman	Replaces Man-at-Arms	150F 65G	0:45	TC	II	Castle Age	–	800F 200G	2:40
BS	II	Forging	+1 cavalry & infantry attack	150F	0:50	TC	III	Imperial Age	–	1000F 800G	3:10
BS	II	Scale Mail Armor	+1/+2p infantry armor	100F	0:40	TC	II	Town Watch	Buildings, Towers +4 LoS	75F	0:25
BS	II	Fletching	+1 atk & range for arrow attack	100F 50G	0:30	TC	III	Town Patrol	Buildings, Towers +4 LoS	300F 100G	0:40
BS	II	Padded Archer Arm.	+1/+2p archer armor	100F	0:40	TC	I	Loom	Villagers +15 HP, +1/+2p armor	50G	0:25
BS	III	Iron Casting	+1 cavalry & infantry attack	220F 120G	1:15	TC	II	Wheelbarrow	Villagers +10% speed, +27% carry	50W 175F	1:15
BS	III	Chain Mail Armor	+1/+2p infantry armor	200F 100G	0:55	TC	III	Handcart	Villagers +21% speed, +91% carry (in total)	200W 300F	0:55
BS	III	Bodkin Arrow	+1 atk & range for arrow attack	200F 100G	0:35	D	III	Gillnets	Fishing Ships gather and Fish Trap build rate +25%	200W 150F	0:45
BS	III	Leather Archer Arm.	+1/+2p archer armor	150F 150G	0:55	LC	II	Double Bit Axe	20% faster wood gathering	50W 100F	0:25
U	III	Murder Holes	Buildings have no minimum range	200F 100S	1:00	LC	III	Bow Saw	20% faster wood gathering (×1.44 total)	100W 150F	0:50
U	III	Ballistics	Ranged units (exc. melee) and bld. predict enemy movement	300W 175G	1:00	Mill	II	Horse Collar	Farms +75F; does not affect existing farms	75W 75F	0:20
U	IV	Chemistry	Ranged units (exc. melee&fire ships) and bld. +1 p. atk; unlocks HC/BBC/Cannon Galleon + BBT/Elite CG upgrades	300F 200G	1:40	Mill	III	Heavy Plow	Farms +125F; farmers +1 carry	125W 125F	0:40
						MC	II	Gold Mining	15% faster gold collecting	75W 100F	0:30
C	IV	Spies \ Treason	Reveal all enemy units \ reveal Kings	200G/vill \ 400G	0:01	MC	II	Stone Mining	15% faster stone collecting	75W 100F	0:30
C	IV	Conscription	Military bld. (exc. Monastery&SW) +33% work rate (−25% time)	150F 150G	1:00	Mkt	III	Caravan	Trade Carts & Cogs ×1.5 speed & work rate	200F 200G	0:40
D	IV	War Galley	Upgrade to War Galley / Fire Ship / Demo Ship	230F 100G	0:50	Mkt	II	Cartography	Reveal all ally units	–	0:01
D	III	Careening	Ships +1 pierce armor, Transport +5 carry	250F 100G	0:50	Mkt	III	Coinage	Sling (sending resources) fee −10% (20% fee left)	200F 100G	1:10
SW	IV	Capped Ram	Replaces Battering Ram	300 F	0:50	Mkt	IV	Banking	Sling fee −20% (no fee left)	300F 200G	1:10

Gather Rates

Update 54480

Note: all rates, except for farming and fish traps, are coded values with a few validations; they will be lower in reality due to several factors, such as bumping and walking distances.

All rates presented here are in food, wood, gold, or stone per minute. Real values are coded on a per second basis.

Woodcutting	Generic	Dbl-Bit Axe	Bow Saw	Two-Man Saw
Generic	23.4	28.1	33.7	37.1
Celts civ bonus	26.9	32.3	38.8	–

Gold Mining	Generic	Gold Mining	Gold Shaft M.
Generic	22.8	26.2	30.2
Turks civ bonus	27.4	31.5	36.2
Sultans (Indians UT)	25.1	28.8	33.2

Stone Mining	Generic	Stn. Mining	Stn. Shaft M.
Generic	21.6	24.8	28.6
Koreans civ bonus	25.9	29.8	34.3

Food (Villagers)	Berries	Livestock	Hunt	Fish
Generic	18.6	19.8	24.6	25.8
Civ bonus	21.4 (Franks)	24.8 (Brit.)	34.4 (Mongols)	28.4 (Indians)

Food (Fishing Ships)	Shore fish	Deep fish	Fish traps
Generic (Gillnets)	16.8 (21)	29.4 (36.8)	21 (26.3)
Japanese (DA / FA)	17.6 / 18.5	30.9 / 32.3	22.1 / 23.1
Japanese (CA / IA)	19.3 / 20.2	33.8 / 35.3	24.1 / 25.2
Japanese (Gillnets, CA / IA)	24.1 / 25.2	42.3 / 44.1	30.2 / 31.5

Farming*	Heavy Plow	Generic	Wheelbarrow	Hand Cart
Generic	–	20.7	23.1	Cap. 24.1
Generic	+	21.3	23.5	Cap. 24.1
Aztecs	–	22.5	Cap. 24.1	Cap. 24.1
Aztecs	+	23	Cap. 24.1	Cap. 24.1
Berbers	–	21.3	23.6	Cap. 24.1
Berbers	+	22	23.9	Cap. 24.1
Bohemians (w/ Fervor)	–	21.6	23.6	Cap. 24.1
Bohemians (w/ Fervor)	+	22.1	23.9	Cap. 24.1
Khmer	–	21.5	23.4	Cap. 24.1
Khmer	+	22	23.8	Cap. 24.1
Mayans**	–	20.6	22	24.5
Mayans**	+	20.5	22.4	24.8
Slavs	–	22.9	25.9	Cap. 26.5
Slavs	+	23.7	26.3	Cap. 26.5

Relics	Geneirc	Atheism (Huns UT)	Sultans (Indians UT)	Burgundians TB
Generic	30 G	15 G	33 G	30 F 30 G
Aztecs TB	39.9 G	20 G	43.9 G	30 F 39.9 G

* Presented are farming rates with the following conditions: 8 pre-built farms with "meta" placement around the TC, no gaps; no (re-)seeding; 10 min; upgrades applied with 1 sec intervals (WB→HP→HC); start at sec 4 with no food generated by farms (farm food generation disabled via triggers until sec 4); ×1.7 game speed; 144 FPS while alt-tabbed (will be slightly lower at 60 FPS, e.g. 20.5 F / min for Generic, N/U).

** Mayans' 'Resources last longer' bonus is applied to farming cap as well (as if they were collecting 15% food less from the farm), so farmers close to the drop-off sites ignore the 24 F / min farm food production cap.

Trade (gold / min)	Theoretical rates here are calculated using formula from AoE Wiki (ageofempires.fandom.com, 'Market (Age of Empires II)' article). A few cases were tested (without traffic)											
	Generic					Spanish civ bonus					Sultans	Sultans+Span.
Length (% of the map)	25%	50%	75%	100%	141%	25%	50%	75%	100%	141%	100%	100%
Trade Cart	6.9	10.4	13.8	17.3	23.1	8.7	13.0	17.3	21.6	28.9	19	23.8
Trade Cart (Caravan)	10.4	15.6	20.7	25.9	34.7	13.0	19.5	25.9	32.4	43.4	28.5	35.6
Trade Cog	9.2	13.7	18.2	22.7	30.2	11.5	17.1	22.7	28.4	37.8	24.9	31.2
Trade Cog (Caravan)	13.8	20.6	27.3	34.0	45.3	17.3	25.7	34.1	42.5	56.7	37.4	46.8
Trade Cog (+Dry Dock)	15.9	23.7	31.4	39.1	52.1	19.9	29.6	39.2	48.9	65.2	43	53.8
Trade Cog (+Berbers)	17.5	26	34.5	43.0	57.4	21.9	32.5	43.2	53.8	71.7	–	–

Unit	M/P Armor	M/P Attack	Reload Time, sec	Ra. LoS	Acc (%)	AD Atk. Anim (sec)	HP	Ship/Cdtr.	Infantry	Eagle W.	Spearmen	Archers	Camel/CA	Cavalry	Eleph./HW	Siege Mam.	Gunp./Ram	Monk/UU	Bld.1/B2	Stone Def.	All Walls	Castle	Move Speed (tiles/s)	Cost	Build Time (sec)
Mangudai	0/0	6 P	1.68*	4	95	0.5	60				1					3	0						1.4	55W 65G	0:26
Siege Ram [6]	-3/195	4M {2}	5	3			270	(Blast Radius: 2)								65			200				0.6	160W 75G	0:36
Bonus per infantry unit garrisoned					(not affected by Siege Engineers)										Rams only:			10	Both:		0.05			
Elt Cannon G.	0/8	45M	10	3-15	50	0	150		15			15		15	4	40			275				1.1	200W 150G	0:46

(9) Siege Ram [6] row label

① **Name** of the unit. [x] is the number of units that can be garrisoned

② M(elee)/P(ierce) **armor**, reduces each type of damage by the given amount (upgrades not accounted for).

③ Standard **attack** value, whether it's M(elee) or P(ierce).

④ **Reload Time**. If the value is 3, it means 3 seconds will pass between two attacks of that unit (therefore lower is better). For ranged units, this is the time between the subsequent projectiles (the distance to the target does not matter). Not to be confused with 'Rate of Fire' (which is a an inverse variable for 'Reload Time'; i. e., RoF = 1 ÷ Reload Time).

Important note: all the timings presented in the infosheet (as well as in the game code) match ×1.0 game speed ('Slow'). They are later resampled to match the actual game speed (×1.66 in Regular Match and ×2.0 in Deathmatch).

⑤ **Ra(nge)** of attack and **Line of sight** (LoS).
– If the value is black, the unit has the noted amount of range.
– If the values are noted like this: 3–15, it means the unit has 3 minimum and 15 maximum range.
– Usually, the line of sight will be 2 tiles higher than the range, so an archer with 5 range will have 7 LoS. Genoese crossbowmen have +4 LoS compared with their range.
– If the value is red, it means the unit doesn't have any range, and the LoS value is noted instead. Melee units with 1 tile range also have a stated LoS (e. g.: 1/5, where '1' is their range and '5' is their LoS).
– Most units have their Search Radius (auto-attack distance) equal to LoS. There are several exceptions that have their Search Radius lower than their LoS by one (or higher in case of Light Cavalry). Fishing ship has a SR set to 12 (used to look for fish).

⑥ **Acc(uracy)** of ranged units. This is how often a unit will hit exactly where it aims, in percent.
However, a shot that „misses" can still hit the intended or nearby units if the collision box of an arrow hits the collision box of the unit if it does not meet an obstacle on its way. If a shot hits a different unit that the one it was aimed at, it will do half the damage, except for the Arambai, which deal full damage.

[Advanced]
• How far off the shot can go depends on the *Attack Dispersion*. If a unit „misses", the projectile can land in a square with a side length of the Attack Dispersion times the range.
As an example, the Elite Cannon Galleon has an Attack Dispersion of 0.1 and an accuracy of 50%. If it fires at a unit 10 tiles away, it will hit exactly where it aimed 50% of the time, and 50% of the time, it will hit in a square around that spot with a side length of 10×0.1 = 1 tile around the original target, or up to 0.5 tiles away on the x and/or y axis.
This error radius depends on the type of the unit: 0.1 for Cannon Galleons, Turtle Ships and Hussite Wagons, 0.2 for Trebuchets, 0.33 for most archers, 0.45 for Fire Ships, 0.5 for Hand Cannoneers and (Elite) Arambai, 0.75 for other gunpowder units (Janissaries, Organ Guns, Conquistadors) and (Elite) Camel Archers. Bombard Towers have 92% accuracy but 0 attack dispersion.

• A 'missed' shot can inflict damage if it scores a hit into the target's *collision box*. Collision size is coded as a radius from the center of an object in game files. (Cf.: tower has a 0.5×0.5 collision radius while occupying 1×1 tile square.) Most collision box sizes of units (as buildings are pretty obvious) are presented below:
– Karambit Warrior: 0.15×0.15 tiles;
– Other foot units, Missionary: 0.2×0.2 tiles;
– Cavalry units, Trade Cart: 0.25×0.25 tiles;
– Organ Gun: 0.4×0.4 tiles;
– War Wagon, Hussite Wagon, rams: 0.45×0.45 tiles;
– Other siege units, incl. Trebuchets: 0.5×0.5 tiles.

• Another factors are the *Graphic Displacement* and *Projectile Spawning Area*. The first one is responsible for the spawning point of the projectile in relation to the center of the unit, i. e. where the spawning point of the projectile is (this is a reason behind Caravels shooting backwards on the targets in point-blank range); the second one describes the displacement square (or a lack thereof, if set to '0') where the projectile can spawn regarding the Graphic Displacement for secondary projectiles only. And, (as I think) because there can only be one (two?) projectile(-s) per tile at a given game simulation snapshot, it has an indirect impact on units' Reload Time, as with random projectile spawn, there is a possibility for several projectiles to spawn in one spot at once (with only one making it).
In terms of accuracy, Projectile Spawning Area is important as it is not negated by accuracy for secondary projectiles.
Projectile Spawning area for ranged units and buildings is presented below:
– Unupgraded Chu Ko Nu and Mayan Skirmishers with UT Hul'che Javelineers have no displacement;
– Town Centers and Castles – 0.5×0.5 tiles (horizontal displacement × distance in front of the unit);
– Towers – 1×0.5 tiles;
– Elite Chu Ko Nu, Elite Longboat, (Elite) Kipchak, Hussite Wagon, Khmer Double Crossbow UT for ballista-type units – 1×1 tiles;
– Unupgraded Longboat – 2×2 tiles.

• Projectiles (arrows, bullets, cannonballs) also have different *speeds* (in tiles per second) which may matter if firing at moving targets:
– 3 (Bombard Tower, Cannon Galleon);
– 3.5 (Onager-line, Trebuchet);
– 4 (Bombard Cannon);
– 5.5 (Slinger);
– 6 (Scorpions, Ballista Elephant; war ships, War Wagon, Harbor);
– 7 (most arrows and melee ranged units, Arambai; extra Organ Gun and all Hussite Wagon projectiles; Spanish Cannon Galleon);
– 7.5 (since update 51737: other gunpowder projectiles: Hand Cannoneers, Conquistadors, Janissaries, main Organ Gun projectile);
– 7.8 (Turtle Ship).

⑦ **Attack delay (AD)** and **Attack Animation [duration]**. **AD**, or **Fire Delay**, (often not exactly correctly referred to as 'Frame Delay') is applied for *projectile* launching units; it is the delay between a player's attack command and the unit actually shooting (i. e. actually launching the projectile), in seconds. A low value makes hit-and-run tactics much easier.
Attack Animation [duration]. While not important in and of itself (it's just a graphical representation), especially for ranged units, it has several applications for *melee* units affecting units stats:
– It determines units' Attack Delay. On the first attack, melee units inflict damage at 50% time of attack animation; ranged units require 'Frame Delay' and 'Frames per Angle' variables as well – see this post for more info.
E. g.: Scout Cavalry has attack animation duration of 1.35 sec; this means it will deal first hit at 1.35 ÷ 2 = 0.675 sec. Archer has attack animation of 0.7 sec, 'Frame Delay' of 15, and 'Frames per Angle' of 30. It's AD is thus 15 ÷ 30 × 0.7 = 0.35 sec.

[*Advanced*]
– In most cases, determines the time-to-kill while one unit is chasing another, alongside with the speed difference between the units.
– Lastly, units' Reload Time is resampled to match 100% and 150% of attack animation duration (it is quite possible that it may be stretched to match 50% increments of attack animation, but 100% and 150% are the most common values).
E.g., Keshik has Reload Time of 1.9 sec and *attack animation duration* of 1.4 sec. It means that Keshik can actually inflict damage only at time frames of either 1.4 or 2.1 sec. Game tries to resample these timeframes to match Reload time of the unit in a long run. However, it seems that the second hit is always inflicted at 100% of attack animation, meaning two first hits are inflicted at 150% of attack animation duration.
In the example of Keshik, first hit is inflicted at 0.7 sec, second at 1.4 sec, and then the game tries to distribute the actual damage between the 1.4 and 2.1 sec time frames to match the 1.9 sec Reload Time of Keshik.

⑧ **Health Points (HP)**, pretty straightforward. This number is an integer.

⑨ The colors in each row signify which **class(-es)** the unit belongs to.
– For the Siege Ram, the first cell is yellow, the next one light yellow – if you look at the column headers, you can see that this represents the „Siege" and „Ram" classes. (Related classes have similar colors.) Any Siege Ram will take bonus damage from attacks vs these classes, as well as melee and pierce damage. See this video for more details.
– All different attacks are summed up and in most cases, units will take the standard amount of bonus damage, but a few have bonus armor, signified in {} brackets for the class of the corresponding color. Sicilian units have incoming bonus damage multiplied by ×0.5.

⑩ These columns represent **attack bonuses** of the unit.
– The Siege Ram will do 65 bonus damage against „Siege" and 200 against the „Buildings" class.
Note: All buildings are part of two „Building" classes (khaki and light brown). Attack bonuses might belong to one or the other, while all armor bonuses (including University techs) are for the first class. Thus bonus damage against B2 (mostly from infantry or archers) is not affected by any bonus armor.
– In case a column says 0 attack bonus, it implies that the unit is coded to have 0 base attack bonus which can be increased by a civ bonus or technology. Another example is Ballista Elephant that has several –2 armor classes (Cavalry, Elephant, Siege) which means it will take 2 extra damage from the attacks of these classes, even if they are equal to 0.

Examples for damage calculation:
Let's have an unupgraded Mangudai attack a Siege Ram.
– Mangudai has 6 pierce attack, the Siege Ram has 195 pierce armor → 0 damage (negative damage is reset to 0);
– Mangudai has 3 attack bonus vs Siege Weapons and the Siege Ram has no bonus armor, so that's 3 damage;
– Mangudai has 0 attack bonus vs „Ram" class and the Siege Ram has 2 bonus armor, so we get 0 dmg; it used to be 5 – 2 = 3 in AoC;
– Mangudai's attack bonus against „Spearmen" class does not apply here;
All attacks added together result in 3 damage. (If the sum was 0, a minimum damage of 1 would be inflicted if the attacking unit/projectile has at least a single attack class).

Another example: Fire Ship attacks a Castle Age dock with Masonry.
– Fire Ship has 2 pierce attack, the Dock has 7+2+1 = 10 pierce armor (Dock has 7 base pierce armor which increases by +1 every age (so +2 in Castle Age); additional +1 comes from Masonry) → 0 damage (no negative damage possible);
– Fire Ship has 1 melee attack, the Dock has 2+1 melee armor (2 from Castle Age, 1 from Masonry), so that's 0 damage again;
– Fire Ship has 2 atk bonus vs „Building 1" class; the Dock has no B1 armor, but Masonry grants it 3 B1 armor; → dmg = 0.
All attacks summed together result in 0 damage which is reset to minimum damage of 1. Were there no Masonry, Fire Ship would have inflicted 2 dmg per hit instead (because of B1 damage); and if the Dock's owner were in Dark Age, damage would be 3 per hit instead as 1 melee damage would be applied as well.

⑪ **Movement Speed (MS)**, this is how many tiles a unit can cover per second (Pythagorean theorem applied).

⑫ **Cost** (resources necessary to train a single unit).

⑬ **Build/Research Time (BT/RT),** how long a unit takes to be trained / construction time a single villager needs to construct a building.

Unless otherwise noted, values are without any civ bonuses, upgrades like blacksmith or unique techs. Tiles marked with '*' (Mangudai Reload Time in the example) means that civ bonus this unique unit belongs to is applied in this tile.

Unit	M/P Armor	M/P Attack	Reload Time, sec	Ra. LoS	Acc (%)	AD Atk. anim (sec)	HP	Ship	Cdr.	Infantry	Eagles	Spear	Archers	Camel	CA	Cavalry	Eleph.	HW	Siege	Mam.	Gunp.	Ram	Monk	UU	Bld.1	B2	Stone Def.	All Walls	Castle	Move Speed (tiles/sec)	Cost	Build Time (sec)
Militia	0/1	4 M	2	4		1	40				0			0		0									0					0.9	60F 20G	0:21
Man–at–Arms	0/1	6 M	2	4		1.76	45				2			0		0									2					0.9	60F 20G	0:21
Longswordsman	1/1	9 M	2	4		1.25	60				6			0		0									3					0.9	60F 20G	0:21
2H Swordsman	1/1	12 M	2	5		1	60				8			0		0									4					0.9	60F 20G	0:21
Champion	1/1	13 M	2	5		1.25	70				8			0		0									4					0.9	60F 20G	0:21
Spearman	0/0	3 M	3	4		1	45	9			1			12		15	15			4					1					1	25W 35F	0:22
Pikeman	0/0	4 M	3	4		1	55	16			1			18		22	25			11					1					1	25W 35F	0:22
Halberdier	0/0	6 M	3	4		1	60	17			1			26		32	28			11					1					1	25W 35F	0:22
Eagle Scout	0/2	4 M	2	5		1.6	50	0						0	0				3				8	Min conv=10s	0					1.1	20F 50G	1:00
Eagle Scout receives additional +1 LoS upon reaching Feudal Age (accounted for below)																																
Eagle Sc. (CA+)	0/2	7 M	2	6		1.6	50	1						1	2				3				8		0		Min conv. time=10 s. (see f.n.5)			1.1	20F 50G	0:35
Eagle Warrior	0/3	7 M	2	6		1.25	55	1						2	3				3				8		0					1.15	20F 50G	0:35
Elt. Eagle W.	0/4	9 M	2	6		1.6	60	2						3	4				5				10		0					1.3	20F 50G	0:20
Berserk	1/1	12 M	2	3		1.6	65*				2			0		0									2					1.05	65F 25G	0:14
Elite Berserk	2/1	14 M	2	5		1.6	75*				3			0		0									3					1.05	65F 25G	0:12
Berserk regenerates 1 HP every 3 seconds. Berserkergang modifies regeneration rate to 2 HP per 3 seconds																																
Condottiero {10}	1/0	10 M	1.9	6		1.5	80							0		0					10				2					1.2	50F 35G	0:18
Flemish Militia	1/1	12 M	2	5		1.25	75	6			2			6		8	8								0					0.9	60F 25G	0:14
Flemish Militia creation time from Town Centers is not affected by Conscription																																
Gbeto	0/0	10 M	2	5	100	1	35				1		0												0					1.25	50F 40G	0:17
Elite Gbeto	0/0	13 M	2	6	100	1	45				1		0												0					1.25	50F 40G	0:17
Huskarl	0/6	10 M	2	3		1.6	60				2		6												4*					1.05	56F 28G*	0:16
Elite Huskarl	0/8	12 M	2	5		1.6	70				3		10												6*					1.05	52F 26G*	0:16
Jaguar Warrior	1/1	10 M	2	3		1.6	65		10	10	2					0									2					1	60F 30G	0:11*
Elite Jaguar W.	2/1	12 M	2	5		1.6	75		10	11	2					0									2					1	60F 30G	0:11*
Kamayuk	1/0	7 M	2	1/4	100	1	70							6		8	20								0					1	60F 30G	0:10
Elite Kamayuk	1/0	8 M	2	1/5	100	1	80							10		12	20			1					0					1	60F 30G	0:10
Karambit Warrior	0/1	7 M	2	3		1.62	30				2			(Occupies 0.5 pop space)											0					1.2	25F 15G	0:06
Elite Karambit W.	1/1	8 M	2	3		1.62	40				2			(Occupies 0.5 pop space)											1					1.2	25F 15G	0:06
Dismount. Konnik	0/0	12 M	2.4	3		1.4	45				0			0		0									4					0.9		
E. Dism. Konnik	0/1	13 M	2.4	3		1.4	50				0			0		0									4					0.9		
Dismounted Konnik spawns in after 3–second–long mounted Konnik death animation is completed																																
Obuch	2/2	8 M	2	3		1.5	80				2														4					0.9	55F 20G	0:12
Elite Obuch	2/2	10 M	2	3		1.5	95				3														6					0.9	55F 20G	0:12
Obuch removes –1/–1 M/P armor from target per hit (n/a to bonus armor). Armor cannot go below 0 (calc. separately for M/P). Armor is restored if fully healed																																
Samurai	1/1	10 M	1.43*	4		1.6	70				2													10	2					1	60F 30G	0:09
Elite Samurai	1/1	12 M	1.43*	5		1.6	80				3													12	3					1	60F 30G	0:09
Serjeant (FA)	2/2	5 M	2	3		1.5	45				2														2					0.9	60F 35G	0:20
Serjeant (CA+)	3/3	8 M	2	3		1.5	65				2														2					0.9	60F 35G	0:12
Elite Serjeant	4/4	11 M	2	5		1.5	85				3														3					0.9	60F 35G	0:12
Serjeants creation time at Donjons is 20 sec at any Age (affected by Conscription)																																
Shotel Warrior	0/0	16 M	2	3		1.5	45				2														0					1.2	50F 30G	0:08
Elt. Shotel Warr.	0/1	18 M	2	3		1.5	50				2														1					1.2	50F 30G	0:08
Teutonic Knight	7/2	14 M	2	3		1.5	80				4														4					0.8	85F 40G	0:12
E. Teutonic K.	10/2	17 M	2	5		1.5	100				4														4					0.8	85F 40G	0:12
Throwing Axem.	0/0	7 M	2	3	100	1	60				1		0												1					1	55F 25G	0:17
Elite Throwing A.	1/0	8 M	2	4	100	0.82	70				2		0												2					1	55F 25G	0:17
Woad Raider	0/1	10 M	2	3		1.44	65				2					0									2					1.38*	65F 25G	0:10
Elt. Woad Raider	0/1	13 M	2	5		1.44	80				3					0									3					1.38*	65F 25G	0:10
All infantry receive Tracking (+2 LoS and Search Radius) upon reaching Feudal Age (unaccounted for in all cases above)																																
Archer	0/0	4 P	2	4	80	0.35	30					3										0			0		0			0.96	25W 45G	0:35
Crossbowman	0/0	5 P	2	5	85	0.35	35					3										0			0		0			0.96	25W 45G	0:27
Arbalest	0/0	6 P	2	5	90	0.34	40					3										0			0		0			0.96	25W 45G	0:27
Skirmisher	0/3	2 P	3	1–4	90	0.51	30					3	3									0			0					0.96	35W 25F	0:22
Elite Skirmisher	0/4	3 P	3	1–5	90	0.51	35					3	4		2							0			0					0.96	35W 25F	0:22
Imp. Skirmisher	0/5	4 P	3	1–5	95	0.51	35					3	5		3							0			0					0.96	35W 25F	0:22
Hand Cannon.	1/0	17 P	3.45	7	75	0.35	40			10	1											2			0					0.96	45F 50G	0:34
Cavalry Archer	0/0	6 P	2	4	50	0.91	50					2										0			0					1.4	40W 60G	0:34
Hvy Cav Arch.	1/0	7 P	2	4	50	0.9	60					2										0			0					1.4	40W 60G	0:27
Arambai	0/1	12 P	2	5	20	0.6	60		0	0											2				0					1.3	75W 60G	0:21

Left vertical group labels: "Infantry" (Militia through Elt. Woad Raider); "Archers" (Archer through Arambai).

* Here and henceforth: civ bonuses of respective Age that affect UUs are factored in. Free techs (e.g., archer armor for Koreans) are not included.

Update 5005

Row group labels (rotated, left margin): **Archers** (Elite Arambai … Elite WW), **Cavalry** (Scout … Keshik)

Unit	M/P Armor	M/P Attack	Reload Time, sec	Ra. LoS	Acc (%)	AD Atk. anim (sec)	HP	Ship/Cdr.	Infantry/Spear	Eagles	Archers	Camel/CA	Cavalry	Eleph./HW	Mam.	Siege/Ram	Gunp.	Monk/UU	Bld.1/B2	Stone Def.	All Walls	Castle	Move Speed (tiles/sec)	Cost	Build Time (sec)
Elite Arambai	0/2	15 P	2	5	30	0.6	65		o	o								2	o				1.3	75W 60G	0:21
Arambai projectiles which hit unintended targets deal their full damage (as opposed to 50% for other units). They are affected by Ballistics																									
Camel Archer	0/1	7 P	2	4	95	0.63	55		o	o		4						o	o				1.4	50W 60G	0:25
E. Camel Archer	1/1	8 P	2	4	95	0.63	60		o	o		6						o	o				1.4	50W 60G	0:25
Chu ko Nu	0/0	8P/0M	3.6¹	4	85	0.22	45				2			o				o	o				0.96	40W 35G	0:16
Elite Chu Ko Nu	0/0	8P/0M	3.6–4.15²	4	85	0.22	50				2			o				o	o				0.96	40W 35G	0:13
Extra Chu Ko Nu arrows		3P/0M	2/4 extra arrows for non-/Elite CKN					(0 M dmg means extra dmg vs. rams with negative M armor. Proj. affected by Ballistics)																	
Conquistador	2/2	16 P	2.9	6	65	0.4	55											4	o				1.3	60F 70G	0:24
Elite Conq	2/2	18 P	2.9	6	70	0.4	70											6	2				1.3	60F 70G	0:24
Ele. Archer	0/3	6 P	2	4{-2}	100	0.39	280				o								3	3			0.8	100F 70G	0:25
Elite Ele. Archer	0/3	7 P	2	4{-2}	100	0.39	330				o								4	4			0.8	100F 70G	0:25
Genitour	0/4	3 P	3	1-4	90	0.5	50				2	4	o					o	o				1.35	35W 50F	0:25
Elite Genitour	0/4	4 P	3 {1}	1-4	90	0.5	55				2	5	2					o	o				1.35	35W 50F	0:23
Genoese xBow	1/0	6 P	2	4	100	0.5	45	4				4	5	5				o					0.96	45W 40G	0:18
Elite Gen. xBow	1/0	6 P	2	4	100	0.5	50	5				6	7	7				o					0.96	45W 40G	0:14
Janissary	1/0	17 P	3.45	8	50	0.4	44*											2	o				0.96	60F 55G	0:17*
Elite Janissary	2/0	22 P	3.45	8	65	0	50*											3	o				0.96	60F 55G	0:17*
Longbowman	0/0	6 P	2	6*	70	0.5	35				2							o	o				0.96	35W 40G	0:18
Elite Longbowm.	0/1	7 P	2	8*	80	0.5	40				2							o	o				0.96	35W 40G	0:18
Kipchak	0/0	4 P	2.3–2.35¹	4	90	0.49	40				1								o				1.54*	60W 35G	0:20
Elite Kipchak	0/0	5 P	2.35¹	4	90	0.49	45				1								o				1.62*	60W 35G	0:20
Extra Kipchak arrows		3P/0M	2/3 extra arrows (non-/Elite Kipchak)					(0 M dmg means extra dmg vs. rams with negative M armor. Proj. affected by Ballistics)																	
Mangudai	0/0	6 P	1.68*	4	95	0.5	60				1					3		o	o				1.4	55W 65G	0:26
Elite Mangudai	1/0	8 P	1.68*	4	95	0.5	60				1					5		o	o				1.4	55W 65G	0:26
Plumed Archer	0/1	5 P	1.9	4	80	0.5	50	1	1	2								o	o				1.2	45W 45G*	0:16
El. Plumed Archer	0/2	5 P	1.9	5	90	0.5	65	2	2	2								o	o				1.2	40W 40G*	0:16
Rattan Archer	0/4	6 P	2	4	80	0.69	40				2	o						o	o				1.1	50W 45G	0:16
Elt. Rattan Archer	0/6	7 P	2	5	90	0.69	45				2	o						o	o				1.1	50W 45G	0:16
Slinger	0/0	4 P	2	1-5	90	0.8	40	10	10	1								3					0.96	30F 40G	0:25
War Wagon	0/3	9 P	2.5	4	100	1	150												5				1.2	92W 60G*	0:21
Elite WW	0/4	9 P	2.5	5	100	1	200												5				1.2	92W 60G*	0:21
Scout	0/2	3 M	2	4		1.35	45				o							6	o				1.2		
Scout (FA+)	0/2	5 M	2	6		1.35	45				o							6	o				1.55	80F	0:30
Light Cavalry	0/2	7 M	2	8		1.35	60				o							10	o				1.5	80F	0:30
Hussar	0/2	7 M	1.9	10		1.35	75				o							12	o				1.5	80F	0:30
Winged Hussar	1/2	9 M	1.9	10		1.35	80				o						4	14	o				1.5	80F	0:30
Knight	2/2	10 M	1.8	4		1.35	100				o								o				1.35	60F 75G	0:30
Xolotl Warrior	2/2	10 M	1.8	4		1.35	100				o								o				1.35	60F 75G	0:30
Cavalier	2/2	12 M	1.8	4		1.35	120				o								o				1.35	60F 75G	0:30
Paladin	2/3	14 M	1.9	5		1.35	160				o								o				1.35	60F 75G	0:30
Battle Elephant	1/2	12 M	2	4		0.99	250	(Blast Radius: 0.4; 25% blast dmg)											4+o	4			0.85	120F 70G	0:24
El. Battle Elephant	1/3	14 M	2	5		0.99	300	(Blast Radius: 0.4; 25% blast dmg)											7+o	7			0.85	120F 70G	0:24
Steppe Lancer	0/1	9 M	2	1/5	100	1.35	60											o	o				1.45	70F 40G	0:24
E. Steppe Lancer	0/1	11 M	2	1/5	100	1.35	80											o	o				1.45	70F 40G	0:20
Ballista Ele.³ {-2}	0/3{-2}	8P{-2}	2.5	5	100	0.39	250	8	o		(Can fell trees)								2+3	3			0.8	100F 80G	0:25
El. Bal. Ele.³ {-2}	0/3{-2}	9P{-2}	2.5	5	100	0.39	290	8	o		(Can fell trees)								4+4	4			0.8	100F 80G	0:25
Second bolt		6 P	+0–0.45²			(After the „Double Crossbow" research)								3					1						
First bolt deals Bld. 1+B2 dmg (2+3). Additionally, BE bolts deal +1 dmg vs. buildings as upon collision, they spawn a new 'dead' proj. inside them dealing minimum dmg																									
Boyar	4/2	12 M	1.9	5		1.4	100				o								o				1.3	50F 80G	0:15
Elite Boyar	8/3	14 M	1.9	5		1.4	130				o								o				1.3	50F 80G	0:15
Cataphract {12}	2/1	9 M	1.8	4		1.35	110	9	9		o								o				1.35	70F 75G	0:20
Elite Cata. {16}	2/1	12 M	1.7	5		1.35	150	10	12		o								o				1.35	70F 75G	0:20
Coustillier	2/2	8 M	1.9	5		1.2	115				o								o				1.35	55F 55G	0:15
Elite Coustillier	2/2	11 M	1.9	5		1.2	145				o								o				1.35	55F 55G	0:14
Charge is triggered only vs. units and uses different animation. It deals base melee + 25/30 dmg (regular/Elite) vs. melee armor. The charge is replenished in 40 sec																									
Keshik	1/2	9 M	1.9	5		1.4	110				o								o				1.4	60F 40G	0:16

Note (Monk conversion, spanning Stone Def./All Walls/Castle columns for the cavalry rows): Min conver. time = 10 sec (see f. n. 5)

¹ Units/bld. firing multiple arrows have higher than coded Rel. Time. Their arrows spawn in groups of 1 or 2 (randomly; possibly checking if there is no other projectiles in spawning tile) in bursts separated by c. 0.06 sec; Reload time is applied after the last arrow. Here, Reload Time is rounded to closest 0.05 sec increment.

² CKN, Hussite Wagon, units w/ Double Xbow UT are affected by their AD mult. times. In case of CKN, practical Rel. Time = {3 + 2×0.28 sec}. Elite CKN and HW have reloads of 3.6/3.85/4.1 and 4.38/5.32/6.25 sec, resp., as proj. are released in 3–5/2–4, bursts at random, resp. Double Xbow bolts may–or may not–be affected once.

³ Scorpion-like units (Ballista Elephant, Caravel, Scorpion) deal 50% pass-through damage to any unit in path (projectile width = 0.1 tiles) and 100% to the initial target.

Update 5605

Unit	M/P Armor	M/P Attack	Reload Time, sec	Ra. LoS	Acc (%)	AD Atk. anim (sec)	HP	Ship / Cdr.	Infantry	Eagles / Spear	Archers	Camel / CA	Cavalry	Eleph. / HW	Siege / Mam.	Gunp. / Ram	Monk / UU	Bld.1 / B2	Stone Def.	All Walls	Castle	Move Speed (tiles/sec)	Cost	Build Time (sec)
Elite Keshik	1/3	11 M	1.9	5		1.4	140						0					0				1.4	60F 40G	0:14
(Elite) Keshik generates c. 0.36 gold/sec (or 0.7 gold per attack) while fighting (i. e., while in attack animation)																								
Konnik (Mount)	2/1	12 M	2.4	5		1.4	100						0					0				1.35	60F 70G	0:19
E. Konnik (Mount)	2/2	14 M	2.4	5		1.4	120						0					0				1.35	60F 70G	0:19
Leitis	1/1	13	1.9	5		1.4	100						0					0				1.4	70F 50G	0:20
Elite Leitis	2/1	16	1.9	5		1.4	130						0					0				1.4	70F 50G	0:18
Leitis deals 'Leitis damage' and has no melee attack. All units have 0 'Leitis' armor while buildings have it identical to melee armor. Attack upgrades modify 'Leitis dmg'																								
Magyar Huszar	0/2	9 M	1.8	5		1.35	70								5	1		0				1.5	80F 10G	0:16
Elite M. Huszar	0/2	10 M	1.8	6		1.35	85								8	2		0				1.5	80F 10G	0:16
Tarkan	1/3	8 M	2.1	5		1.89	100						0					8	12	8	10	1.35	60F 60G	0:14
Elite Tarkan	1/4	11 M	2.1	7		1.89	150						0					10	12	10	10	1.35	60F 60G	0:14
After Marauders unique tech, it takes 21/19 sec to produce non–/Elite Tarkan from Stables (Huns team bonus accounted for)																								
War Elephant	1/2	15 M	2	4		1.12	450	(Blast Radius: 0.5; 50% blast dmg)										7	7			0.6	170F 85G	0:25
Elt. War Eleph.	1/3	20 M	2	5		1.12	600	(Blast Radius: 0.5; 50% blast dmg)										10	10			0.6	170F 85G	0:25
Mameluke	0/0	8 M	2	3	100	0.4	75*						9					0				1.4	55F 85G	0:23
Elite Mameluke	1/0	10 M	2	3	100	0.2	90*						12		1			0				1.4	55F 85G	0:23
Camel Rider	0/0	6 M	2	4		1	100	5				5	9					0				1.45	55F 60G	0:22
Heavy Camel	0/0	7 M	2	5		1	120	9				9	18	7				0				1.45	55F 60G	0:22
Imp. Camel	0/2*	9 M	2	5		1	140	9				9	18	7				0				1.45	55F 60G	0:20
Flaming Camel	0/0	20 M[4]		4		—	55	(Blast Rad.: 2.0)				50	50	130				100				1.3	75F 30G	0:20
Petard	0/2	25 M		4		—	50	(Blast Radius: 0.5)							60			500	900	100		0.8	65F 20G	0:25
Mangonel	0/6	40 M	6	3-7	100	0	50	(Blast Radius: 1)						40	12			35				0.6	160W 135G	0:46
Onager	0/7	50 M	6	3-8	100	0	60	(Blast Radius: 1.25)						50	12			45	Can fell trees			0.6	160W 135G	0:46
Siege Onager	0/8	75 M	6	3-8	100	0	70	(Blast Radius: 1.5)						75	12			60	Can fell trees			0.6	160W 135G	0:46
Extra Onager-line projectiles		—	5/7/9 for Mangonel/Onager/Siege Onager				They have no initial dmg but still deal 1 dmg if hit the intended target (incl. build.)																	
Batter. Ram [4]	–3/180	2 M	5	3		1.5	175								40			125				0.5	160W 75G	0:36
Capped Ram [5]	–3/190	3M {1}	5	3		1.5	200	(Blast Radius: 1.5)							50			150				0.5	160W 75G	0:36
Siege Ram [6]	–3/195	4M {2}	5	3		1.5	270	(Blast Radius: 2)							65			200				0.6	160W 75G	0:36
Siege Tow. [10]	–2/100			8			220															0.8	200W 160G	0:36
Bonus per infantry unit garrisoned			(not affected by Siege Engineers or Drill)				Rams only:										10		Both:	0.05				
Scorpion³	0/7	12P/0M	3.6	2-7	100	0.21	40							6		1		2				0.65	75W 75G	0:30
Second bolt		6 P	+0–0.27²	(After the „Double Crossbow" research)										3		1			(no +1 P from Chemistry)					
Heavy Scorpion³	0/7	16P/0M	3.6	2-7	100	0.21	50							8		2		4				0.65	75W 75G	0:30
Second bolt		8 P	+0–0.27²	(After the „Double Crossbow" research)										4	1		2		(no +1 P from Chemistry)					
Bomb. Cannon	2/5	40 M	6.5	5-12	100	0.21	80	40	(Blast Radius: 0.5)					40	20			200	40			0.7	225W 225G	0:56
Houfnice	2/6	55 M	6.5	5-12	100	0.21	90	55	(Blast Radius: 0.85)					55	20			250	55			0.7	225W 225G	0:56
Packed Treb	2/8		19					(Pack/unpack time = 11.1 sec)														0.8	200W 200G	0:50
Trebuchet	1/150	200 P	10	4-16	15	0.88	150	(Fixed 80% acc. vs. 1×1 buildings)										250	Can fell trees			0	200W 200G	0:50
Hussite Wagon	0/7	17 P	4.45–6.45²	6	85	0.93	200										3	1				0.8	110W 70G	0:21
E. Hus. Wagon	1/10	20 P	4.45–6.45²	6	90	0.93	250										3	2				0.8	110W 70G	0:21
Organ Gun	2/4	16 P	3.45	1-7	50	0.6	60										1	0				0.85	80W 56G*	0:21
Elite Organ Gun	2/6	20 P	3.45	1-7	50	0.6	70										1	0				0.85	80W 56G*	0:21
Extra Hus. W./Org. Gun proj.		2	3/4 extra proj.		75		These projectiles always deal 2 dmg, regardless of target or its armor																	
Fishing Ship	0/4			5			60	FS has its own armor class. Only diff. is Fire Galley (1 dmg)														1.26	75W	0:40
Trade Cog	0/6			6			80															1.32	100W 50G	0:36
Transport Ship	4/8			5			100															1.45	125W	0:46
Galley	0/6	6 P	3	5	100	0	120	8								3		6				1.43	90W 30G	1:00
War Galley	0/6	7 P	3	6	100	0	135	9								4		7				1.43	90W 30G	0:36
Galleon	0/8	8 P	3	7	100	0	165	11								4		8				1.43	90W 30G	0:36
Demo. Raft {1}	0/2	90 M[4]		6		—	45	(Blast Radius: 2.5)										180				1.5	70W 50G	0:45
Demo. Ship {3}	0/3	110 M[4]		6		—	60	(Blast Radius: 3)										220				1.6	70W 50G	0:31
H. Demo Ship{5}	0/5	140 M[4]		6		—	70	(Blast Radius: 3.5)										280				1.6	70W 50G	0:31
Fire Galley {6}	0/4	1P/0M	0.275	2.49		0	100	3	Coded rel. time is 0.25 sec; in practice, it varies based on game speed and framerate (hete, ×1.7 speed @60 FPS)								1	1				1.3	75W 45G	1:05
Fire Ship {6}	0/6	2P/1M	0.275	2.49		0	120	3									2	2				1.35	75W 45G	0:36
Fast Fire Sh. {9}	0/8	3P/1M	0.275	2.49		0	140	4									3	3				1.43	75W 45G	0:36
Cannon Galleon	0/6	35 M	10	3-13	50		120		15		15	15	4	40				200				1.1	200W 150G	0:46
Elite Cannon G.	0/8	45 M	10	3-15	50		150		15		15	15	4	40				275				1.1	200W 150G	0:46
Caravel³	0/8	6 P	3	6	100	0	143*	6									4	8				1.43	90W 34G*	0:36
Elite Caravel³	0/8	8 P	3	7	100	0	165*	7									4	9				1.43	90W 34G*	0:36

⁴ Demos and Flaming Camels do not deal full dmg, as their blast radius is calculated from the center, not edge, of the unit (linear drop). Petards always deal full dmg.

Ships

Unit	M/P Armor	M/P Attack	Reload Time, sec	Ra. LoS	Acc (%)	AD Atk. anim (sec)	HP	Ship / Cdr.	Infantry	Eagles / Spear	Archers	Camel / CA	Cavalry	Eleph. / HW	Siege / Mam.	Gunp. / Ram	Monk / UU	Bld.1 / B2	Stone Def.	All Walls	Castle	Move Speed (tiles/sec)	Cost	Build Time (sec)
Longboat	0/6	7 P	3.1[1]	6	100	0	130	9								4		7				1.54	85W 43G*	0:25
Elite Longboat	0/8	8 P	3.1–3.2[1]	7	100	0	160	11								4		8				1.54	80W 40G*	0:25
Extra Longboat arrows		—	3 extra arrows					1				1	(No dmg vs non-ships/-camels on miss, 1 dmg if hit an intended target)											
Turtle Ship {8}	6/5	50 M	6	6	100	0	200	(Blast Radius: 0.5)														0.9	152W 180G*	0:50
E.Turtle Ship {11}	8/6{1}	50 M	6	6	100	0	300	(Blast Radius: 0.5)														1.04	152W 180G*	0:50

Civilians

Unit	M/P Armor	M/P Attack	Reload Time, sec	Ra. LoS	Acc (%)	AD Atk. anim (sec)	HP	(bonus)														Move Speed (tiles/sec)	Cost	Build Time (sec)
Monk	0/0	Conv: 5–12.6 sec[5]		9	25		30	Con. Build: 19–31.5s		Heal Range: 4			Heal Rate: 1HP/0.4s									0.7	100G	0:51
Missionary	0/0	Conv: 5–12.6 sec[5]		7	25		30	Con. Build: 19–31.5s		Heal Range: 4			Heal Rate: 1HP/0.4s									1.1	100G	0:51
Villager (male)	0/0	3 M	2	4		1.28	25	Repair (buildings): 750 HP / min										3	6			0.8	50F	0:25
Villager (female)	0/0	3 M	2	4		1.28	25	Repair (siege/ships): 187 HP / min										3	6			0.8	50F	0:25
Trade Cart	0/0	—		7			70															1	100W 50G	0:51

Buildings and Walls

Unit	M/P Armor	M/P Attack	Reload Time, sec	Ra. LoS	Acc (%)	AD Atk. anim (sec)	HP	Ship / Cdr.	Infantry	Eagles / Spear	Archers	Camel / CA	Cavalry	Eleph. / HW	Siege / Mam.	Gunp. / Ram	Monk / UU	Bld.1 / B2	Stone Def.	All Walls	Castle	Move Speed (tiles/sec)	Cost	Build Time (sec)
Harbor	3/10	3 P	3.1–3.2[1]	1–7	100	0	2000	10																150 W	0:35
Extra Harbor arrows		3 extra arrows						1				1	(No dmg vs non-ships/-camels on miss, 1 dmg if hit an intended target)											
Castle {8}	8/11	11 P	2.15–2.9[1]	1–8	100	0	4800	0		2		0				0							650 S	3:20
Extra Castle arrows		11P	4–20 extra arrows					11				1							11						
Krepost {8}	8/11	10 P	2.15–2.9[1]	1–7	100	0	2600	0		2		0				0							350 S	2:30
Extra Krepost arrows		10P	4–20 extra arrows					10				1							10						
Watch Tower	1/7	5 P	2–2.2[1]	1–8	100	0	700	7		2		1				0							50W 125S	1:20
Extra WT arrows		5 P	0–4 extra arrows					7				1							5						
Watch Towers receive +320 HP upon reaching Castle Age																								
Guard Tower	2/8	7 P	2–2.2[1]	1–8	100	0	1500	9		2		1				0							50W 125S	1:20
Extra GT arrows		7 P	0–4 extra arrows					9				1							5						
Keep	3/9	8 P	2–2.2[1]	1–8	100	0	2250	10		2		1				0							50W 125S	1:20
Extra Keep arrows		8 P	0–4 extra arrows					10				1							5						
Bombard Tower	3/9	120 P	6	1–8	100	0	2220	40				1											100G 125S	1:20
Donjon	1/7	5 P	2–2.5[1]	1–8	100	0	1000	7		2		1				0							75W 175S	1:30
Extra Donjon arrows		5 P	0–4 extra arrows					7				1							5						
Donjon receives +500 HP, +1/+1 melee/pierce armor, +1 /+3 extra arrows in Castle Age and +750 HP, +1/+1 armor, +1/+4 extra arrows (total 2/11 + main) in Imperial Age																								
Town Center	3/5	5 P	2–2.5[1]	6	100	0	2400	5				1						5				275W 100S	2:30	
Town Center fires 0–10 secondary projectiles. TC armor increases +1/+1 per Age (like most non-stone build.). Cuman TCs take +120 sec (4:30 min) to build in Feudal Age																								
Palisade Wall	2/5[6]			2			150																3W	0:07
Palisade Gate	2/2[6]			6			240																30W	0:30
Pallisade Walls and Pallisade Gates receive +40% HP (250 and 400, respectively) upon reaching Feudal Age																								
Stone Wall	8/10[6]	{16}		2			900																5S	0:10
(Stone) Gate	6/6[6]	{20}		6			1375																30S	1:10
Stone Walls and (Stone) Gates receive double HP (2750 and 1800, respectively) upon reaching Castle Age																								
Fortified Wall	12/12[6]	{24}		2			3000																5S	0:10
Fortified Gate	6/6[6]	{20}		6			4000																30S	1:10
Outpost	0/0			6			500																25W 5S	0:15
Wonder	3/10			8			4800																1000W 1000G 1000S	58:20
House	−2/7, −1/8, 1/9, 3/10 (DA→IA)			2			550	(Feudal: 750 HP, Castle/Imp: 900 HP)															25W	0:25
Lumber Camp	0/7 (+1/1 per Age)			6			600	(Feudal: 800 HP, Castle/Imp: 1000 HP)															100W	0:35
Mining Camp	0/7 (+1/1 per Age)			6			600	(Feudal: 800 HP, Castle/Imp: 1000 HP)															100W	0:35
Mill	0/7 (+1/1 per Age)			6			600	(Feudal: 800 HP, Castle/Imp: 1000 HP)															100W	0:35
Folwark	0/7 (+1/1 per Age)			6			1000	(Feudal: 1200 HP, Castle/Imp: 1400 HP)															125W	0:40
Farms seeded around a completed Folwark have 10% food immediatly harvested. Folwarks grant 5 pop space																								
Fish Trap	0/0	Base = 715 F		1			50	(Construction time decreased by Gillnets/Japanese bonus)															100W	0:40
Farm	0/0	Base = 175 F		1			480	Horse Collar=250F, Heavy Plow=375F, Crop Rotation=550F															60W	0:15
Dock	0/7 (+1/1 per Age)			6			1800																150W	0:35
Barracks	0/7 (+1/1 per Age)			6			1200	(Feudal: 1500 HP, Castle: 1800 HP, Imp: 2100 HP)															175W	0:50
Archery Range	1/8 (+1/1 per Age)			6			1500	(Castle: 1800 HP, Imp: 2100 HP)															175W	0:50
Stable	1/8 (+1/1 per Age)			6			1500	(Castle: 1800 HP, Imp: 2100 HP)															175W	0:50
Blacksmith	1/8 (+1/1 per Age)			6			1800	(Imperial Age: 2100 HP)															150W	0:40
Market	1/8 (+1/1 per Age)			6			1800	(Imperial Age: 2100 HP)															175W	1:00
University	2/9 (+1/1 per Age)			6			2100																200W	1:00
Monastery	2/9 (+1/1 per Age)			6			2100																175W	0:40
Siege Workshop	1/8 (+1/1 per Age)			6			1500	(Castle: 1800 HP, Imp: 2100 HP)															200W	0:40
Feitoria	3/10			6			2700	(60 w/min, 96 f/min, 42 g/min, 18 s/min; occupies 20 pop)															250G 250S	2:00

[5] For conversion mechanics, see YouTube video "How Monks Really Work (and Tips to Micro Them) – The Truth Behind the Wololo" by T-West. In short, it takes 1.25×{4;10} sec to convert a unit (1.25×{8;10} sec for Light Cav- or Eagle unit lines) and 1.25×{15;25} sec to convert a building. Chance is defined by Monk accuracy, with a slight offset (26.6% at min. time vs. coded 25%), which is then multiplied by (1/conversion resist). Reaching max. conversion time guarantees a conversion for any unit.

[6] Gates under construction have 0/0 melee/pierce armor. Walls under construction have 0 melee armor but full pierce armor.