CONQUER GS 2



Bigger battlefields

Sixteen maps of 48 x 36 tiles: more than twice the ground

Nine kinds of units

Artillery, flame troopers and engineers that steal buildings

Save and load

Three slots, unit groups, and settings kept on disk

WELCOME ABOARD

Your orders, Commander

The Red Legion has crossed the border. You have a command center, a few tanks and 2500 credits. **Build a base, mine the ore, train an army - and drive them out.**

Conquer GS 2 is a real-time strategy game written from scratch for the Apple IIgs, in 65816 assembly language. Everything happens at once: your harvesters mine ore and bring the credits home, your factories build, and the enemy does exactly the same on the far side of the map. Whoever runs the better war machine wins.

Play the **campaigns** of eight missions each, each with its own briefing and goal, or a **skirmish** on any of sixteen maps - or on maps you made yourself in the built-in **map editor**.

What you need

- An Apple IIgs, ROM 01 or ROM 3, with **at least 2 MB** of memory and a mouse
- or the MAME emulator (on the Mac, easiest through Ample), set up as an Apple IIgs with 2 MB or more
- The 800K ProDOS disk image of the game

Loading the game

On a real IIgs: write the disk image to a 3.5" disk, or put it on a Floppy Emu, BlueSCSI or similar, and boot from it. To play from a hard disk, copy all the files from the disk into one folder and start `CONQUER.SYSTEM`.

In MAME: choose the Apple IIgs (ROM 3 or ROM 01) with 2 MB or more, put the disk in the first 3.5" drive and start. The screen says LOADING and counts along with dots; then the title appears with its music. Click, or press a key - the title waits for you as long as you like.

IN THIS MANUAL

3 **Mission setup** *skirmish, settings*

4 **The campaign** *and saved games*

5 **Controls** *the reference card*

6 **Building a base** *ore, power, structures*

7 **Know your army** *units and weapons*

8 **The Red Legion** *the enemy, and tips*

9 **The map editor** *make your own*

10 **Inside the IIgs** *and credits*

IMPORTANT

PLAY FROM A COPY!

Saved games, your campaign progress and your settings are written to the game disk. Play from a copy that isn't write-protected, and keep the original download safe.

MOUSE TOO FAST IN MAME?

MAME turns a modern mouse's movement into far more counts than an Apple mouse makes, so the arrow races. Press Tab in the running machine, choose *Analog Controls* and set Mouse X and Mouse Y Sensitivity to about 40. The game's own SETTINGS page also has a mouse speed.

JUST WATCH

Leave the mission setup alone for 30 seconds: a **demo** starts, the computer against itself on brutal. A click or a key ends it, and you are back on the setup right where you left it.

The mission setup

Iron Guard on the left, Red Legion on the right - and between them, **every way into the war**.



COMMAND POST *The difficulty on top, and below it the buttons: campaign, skirmish, load game, settings, map editor and quit.*

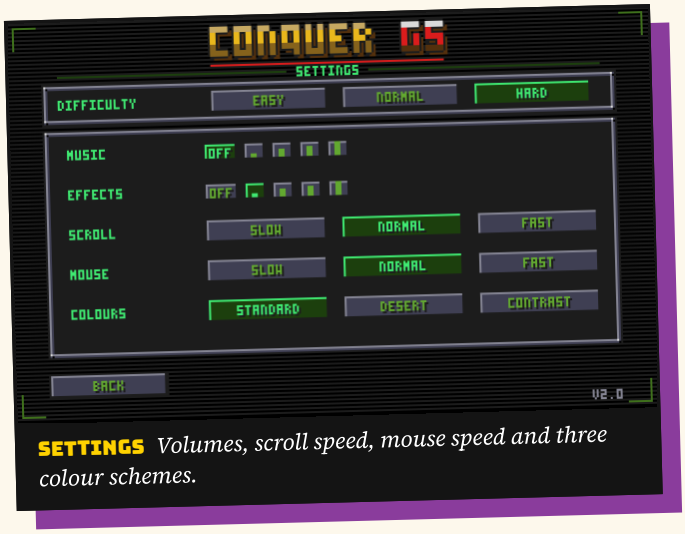
After the title, the mission setup appears. On top you pick the **difficulty**: easy, normal or hard - in a skirmish, hard is **brutal**. Below is a column of buttons:

- **CAMPAIGN** - two campaigns of eight missions (next page)
- **SKIRMISH** - one battle on a map of your choice
- **LOAD GAME** - carry on with a saved game
- **SETTINGS** - volumes, speeds and colours
- **MAP EDITOR** - build your own battlefield
- **QUIT** - back to ProDOS, or to the Finder when you started from GS/OS

HOW TO PLAY at the bottom opens three pages of instructions. **BACK** or Esc on any page returns to the buttons. Your choices are kept for the next game.



SKIRMISH *Pick a map from the list; the preview shows your base as a gold dot.*



SETTINGS *Volumes, scroll speed, mouse speed and three colour schemes.*

Skirmish

The list on the left holds the sixteen built-in maps - the campaign's eight, then Crossroads, The Delta, High Ridge, Badlands, North Woods, The Bridges, Ore Fields and Fortress - and then your own maps from the editor, marked with a gold square. The arrows pick the previous or next map. Where the enemy is, you find out by scouting. Click **START** or press Return to play.

SURVIVAL never ends: every wave makes the enemy stronger. How long can you hold out? The best time is kept.

Settings

- **Music** and **effects** volume: off or four steps (the effects buttons play a sample)
- **Scroll**: how fast the view moves at the screen's edge
- **Mouse**: how fast the arrow follows the mouse
- **Colours**: standard, desert (sand instead of grass) or high contrast

The settings are saved on the disk, in `CONQUER.CFG`, when you leave the page.

SIXTEEN MISSIONS

The campaign

From the first strike to the final assault on the Red Legion's stronghold - **every mission has a goal of its own**.

CAMPAIGN opens the briefing of the latest mission you have reached: the map, the story, the objective, your starting credits and the units and buildings that are **not yet** available. **START** plays it; the arrows go back to missions you have already won; **BACK** returns to the setup.

During the mission the goal shows in the top bar, with the time left to hold out or the ore still to mine. Win, and a click takes you to the next briefing - the game saves how far you got, in `CONQUER.PROG`. Lose, and you face the same mission again.



BRIEFING *Mission 1, First Strike: the map, the story, the objective, your credits and what you can't build yet.*

Four kinds of goal

- **Destroy** every enemy unit and building
- **Hold out** until help arrives - a clock counts down
- **Mine** so much ore
- **Take out** one key building

Three stars

Every win earns up to **three stars**: one for the win, one for losing at most half as many units as you destroyed, one for beating the mission's par time - in a hold-out mission, for losing no building. Your best shows on the briefing.

Destroying the whole enemy always wins a mission - so does leaving it no command center, no refinery, no units but harvesters and no money to build anything; losing every one of your buildings always loses it. In a hold-out mission, your command center must stand.

HINT

TWO CAMPAIGNS

Campaign 1, missions 1 to 8, starts **easy** and works up to **hard**, whatever difficulty you chose. Win it and **campaign 2** opens: eight more missions on the maps made for skirmish, at **brutal**. The arrows on a briefing go to any mission you have reached in either.



HOLD OUT! *The top bar counts down the time you must hold your ground.*

Saving and loading

Press Esc to pause. **SAVE** (or S) shows what each of the three slots holds - its map and time played, or EMPTY - then pick one: a new save replaces what was there.

LOAD GAME on the mission setup shows the same list. Click a slot and you are back where you left off.

CUT OUT AND KEEP!

The controls card

Everything is done with the mouse - and a **handful of keys** *make you faster.*

UNITS	
Select a unit	Click it
Select several	Drag a box around them
Add or take out	`Shift`-click, `Shift`-drag
Unselect	`Space`, or drag a box over empty ground
Move	Click open ground (a green cross)
Attack	Click an enemy (a red cross)
Make a group	`Control`-`1` to `9` (or `Apple`-`1` to `9`)
Select a group	`1` to `9`; twice quickly: the view goes there
All fighting units	`A`

THE VIEW	
Scroll	Arrow keys, or hold the mouse at an edge
Jump to a place	Click it on the radar (needs a radar center)
Send units far	`Apple`-click the radar
What is that?	Rest the mouse on it (buildings: their health bar)

GAME	
Pause	`Esc`: then RESUME, SAVE (`S`) or QUIT MISSION (`Q`)
Music on/off	`M` or `Control`-`S`
Tune's name, next tune	`Control`-`T` shows the tune's name; again while it shows: the next tune

BUILDING	
Build	Click an icon in the sidebar
Queue more	Click a unit's icon again (up to 5)
Other build page	Click BASE or UNITS, or `Tab`
Cancel a build	`Option`-click (or `Apple`-click) its icon: the money comes back
Place a structure	At READY, click the icon, then a spot where the outline is green
Rally point	Click your barracks or war factory, then open ground (the cursor is a flag)
Sell or repair	Click SELL or REPAIR, then a structure; the button again to stop
Repair vehicles	Select them, click your repair bay
Cancel placing, selling, repairing	`Space`

HARVESTERS	
Send to ore	Select it, click an ore field
Park it	Select it, click anywhere else







ECONOMY 101

Building a base

No credits, no army. **Ore is money, power is speed** *- keep both flowing.*

You start with **2500 credits**, a command center and a few units. Your harvester mines the nearest ore on its own - 25 credits a scoop, 500 a load - and unloads at the nearest dock: the one beside your command center, or the one in front of a refinery.

Each ore tile holds 600 credits. Mined-out ore grows back: about every half minute each tile gets 75 credits more, until it is full again. A harvester that finds no ore waits and looks again every few seconds.

Four queues at once

Structures, infantry, vehicles and harvesters build in four separate queues: a soldier, a tank, a harvester and a structure can all be under way together. Up to five units of one kind can wait in a queue. You pay up front - and get it back if you cancel. A bar under the icon shows the progress.

Power

Your command center makes 100 power, each power plant 100 more. Everything else uses power; the top bar shows what is used and what is made. With too little power **everything builds at half speed and the radar goes off**.

Placing

Structures go on open ground (not on ore or a dock) within 4 tiles of one of your buildings. Selling gives half the price back; repairing costs 3 credits for every 4 hit points.

REFINERY TRICK

A refinery comes with a harvester of its own. Build it right next to the ore and the trips get much shorter.

STRUCTURE	COST	TIME	SIZE	POWER	WHAT IT DOES
Command center	1000	15 s	3x3	+100	Your HQ: 800 hit points, builds harvesters, has a dock. Destroyed? Build it again on its old pad
Power plant	300	6 s	2x2	+100	Keeps production at full speed
Barracks	500	8 s	2x2	-30	Trains infantry
Refinery	1500	10 s	2x2	-30	A dock for harvesters; comes with one
War factory	1000	10 s	2x2	-30	Builds vehicles; needs a barracks
Radar center	800	8 s	2x2	-40	Turns the radar on
Repair bay	800	10 s	2x2	-30	Repairs vehicles beside it; needs a war factory
Turret	600	8 s	1x1	-40	200 hit points, cannon 20, range 4
Guard tower	400	5 s	1x1	-10	150 hit points, machine gun 6, range 3



A WORKING BASE *Radar center, refinery, guard tower and turret.*



RIVER CROSSING *A refinery right by the ore.*

Know your army

Nine kinds of units, and **every weapon has its favourite target**. *Mix them well.*

UNIT	COST	TIME	HIT PTS	RANGE	WEAPON	NOTES
Tank	800	8 s	120	3	Cannon, 15	War factory
Light tank	500	6 s	90	3	Cannon, 10	Fast; war factory
Buggy	300	5 s	90	2	Machine gun, 5, rapid	Fast; war factory
Artillery	900	10 s	70	5	Shells, 30, slow reload	Slow; out-ranges turrets
Soldier	100	3 s	40	2	Rifle, 6	Barracks
Rocket soldier	300	5 s	30	4	Rockets, 15, slow reload	Barracks
Flame trooper	300	4 s	50	1	Flames, 9	Barracks
Engineer	500	5 s	30	-	None	Takes over buildings
Harvester	1000	10 s	400	-	None	Mines ore; command center

Weapons and armor

WEAPON	VS INFANTRY	VS VEHICLES	VS BUILDINGS
Cannon, rifle	full	full	full
Machine gun	**x2**	x1/2	x1/4
Rockets	little	**x2**	**x1.5**
Flames	**x2**	little	**x1.5**
Shells	**x1.75**	x3/4	x3/4

Vehicles come out of a war factory, infantry out of a barracks - without one, their icons are greyed out. A war factory can only be built once you have a barracks. Harvesters need nothing: they come from the command center.

Armed units fire at enemies in range on their own, and units on the move shoot at what they pass without stopping.

Crush them: select a tank, light tank or harvester and click an enemy soldier - it drives straight over him. The enemy's tanks do the same to your soldiers when they get close.

NEW!

THE ENGINEER

No gun - but the most dangerous unit on the field. Select one and click an enemy **power plant, war factory or refinery**: it walks up and takes the building over, as damaged as it was. Watch out: the enemy's engineers go for *your* power plants and refineries.

ARTILLERY

Range 5 - one more than a turret. Park it out of reach and shell the defences to pieces. But keep it guarded: it is slow, and its shells hurt vehicles little.



COMBINED ARMS *Tanks and infantry at the enemy's gates.*

ENEMY PROFILE

The Red Legion

It mines, it builds, it rebuilds - and it **attacks in waves that keep growing**.

The enemy has a base just like yours: barracks, a war factory, a refinery, a power plant, a turret and guard towers. It gathers its army at home and sends it against your base in waves that grow bigger every time, marching together on your **refinery** first, then your power plant, war factory and harvesters. Hit its base or a harvester and its nearest units come after you, then go home. Its damaged buildings repair themselves.

Its money comes from its harvesters - two, or three in the toughest missions - which mine the ore near its base. Destroy them and its income stops until the refinery has made new ones - 30 seconds each.

Without its war factory it builds no more vehicles, without its refinery it earns nothing, and without its power plant it builds at half speed.

But it **rebuilds** what you destroy, on the same spot, once it has the money and the spot is clear: the power plant first, then the refinery, the barracks and the war factory - 15 to 25 seconds each, while it keeps training troops.

Fog of war hides the enemy until you have seen it - send a scout. When the mission ends, a panel shows how it went: units built and lost, enemy units and buildings destroyed, ore mined and the time played.

	EASY	NORMAL	HARD	BRUTAL (SKIRMISH: HARD)
First attack after	3 minutes	2 minutes	85 seconds	60 seconds
Then about every (at random)	80 seconds	60 seconds	45 seconds	40 seconds
Units in an attack	2 to 4	3 to 5	4 to 10	6 to 16
Its harvesters	2	2	2	3
Its share of each harvester load	16%	24%	56%	96%, builds twice as fast



KNOW THY ENEMY *Barracks, war factory, refinery, power plant and guard towers.*



INCOMING! *The turret and the guard tower fire back.*

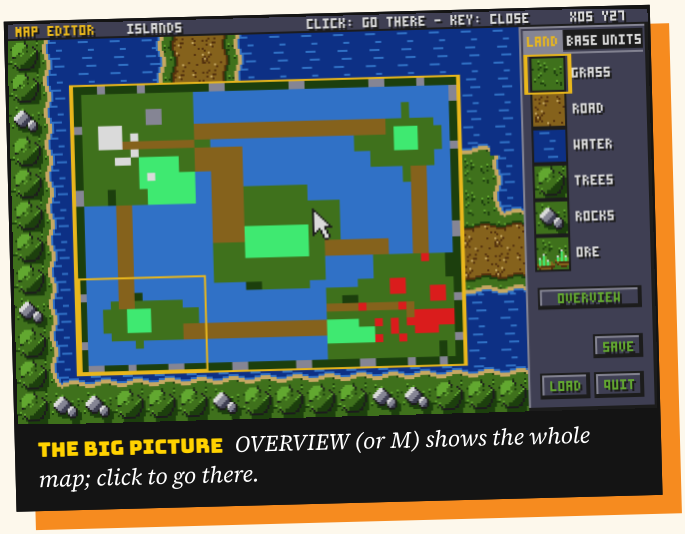
PRO TIPS

- Scout ahead: the fog hides the enemy until you have seen it.
- Turrets by your command center hold off the early attacks; guard towers are cheap and good against soldiers.
- Rocket soldiers against tanks and buildings, the buggy's machine gun against soldiers.
- Keep your harvester safe: without it there are no credits.
- Hunt the enemy's harvester. It has 400 hit points - bring rockets or a few tanks. Every kill leaves the enemy broke for a while.
- Build a power plant before you run short: the radar needs it.

DO IT YOURSELF

The map editor

Rivers, roads, ore fields, two bases and the armies to go with them - **design the battle, then fight it**.



THE BIG PICTURE *OVERVIEW (or M) shows the whole map; click to go there.*



AT WORK *Islands loaded back in: the enemy's base, its BASE page, X and Y in the top bar.*

MAP EDITOR on the mission setup opens the editor with a new map (its start picture first: a click or a key). On the right are three pages:

- **LAND** paints the terrain - grass, road, water, trees, rocks and ore - while you hold the button.
- **BASE** places buildings.
- **UNITS** places the starting tanks, soldiers and harvesters.

Choose the side with **YOU** or **ENEMY** under the rows: your command center, power plants, barracks, war factories, refineries and guard towers - or the enemy's, with their names in red. Click where the top-left corner goes; **ERASE** removes what you click next.

The arrow keys, or the mouse at an edge of the screen, scroll the 48 x 36 map. The top bar's right end shows the column and row (X, Y) of the cell under the arrow.

OVERVIEW (or M) shows the whole map at once, like the radar: the terrain, your things in white, the enemy's in red, and the view framed in gold. Click on it to move the view there; any key closes it.

Saving your map

SAVE opens a small window asking for the map's name: just type (the first key replaces NEW MAP; Delete takes a letter off), then click SAVE or press Return - Esc or CANCEL goes back. Then the map is checked. It needs your command center with room on its right, an enemy harvester, the enemy's doors open and reachable, and no ground walled in by buildings - if anything is wrong, it tells you what. Then it saves the map on the disk as the next map.

LOAD lists your saved maps: click one to edit it, and SAVE writes it into the same file. A changed map asks twice before LOAD replaces it.

QUIT goes back to the game with your map chosen in the skirmish list. If you changed the map since you last saved it, QUIT warns first: NOT SAVED - QUIT AGAIN TO LEAVE.

32 MAPS

Up to 16 maps of your own fit beside the sixteen built-in ones. They play like any other - fog, radar, enemy waves and all.

GOOD TO KNOW

In your maps the enemy rebuilds its command center like any other building - so destroy it again, or take out its money first. Give it only a command center and it builds the rest of its base itself.

TECH CORNER

Inside the IIgs

Why 2 MB? Here's **where every bank goes** *while the battle runs.*

$00	**ProDOS 8 + game code**	*CONQUER.SYSTEM*
$01	**Work buffer**	*each frame drawn here*
$02-04	**GS/OS, resting**	*so QUIT can go back*
$05-07	**Free**	
$08	**Background picture**	*clean screen*
$09	**Top bar and sidebar**	*unpacked*
$0A-0B	**Win / lose banners**	*unpacked*
$0C	**Compiled sprites 1**	*sprites as code*
$0D	**Sprite pixels**	
$0E	**Game data**	*tables, music*
$0F	**Compiled map tiles**	*tiles as code*
$10	**Unit paths**	*each unit's route*
$11	**Compiled sprites 2**	
$12	**Maps 1-8**	*built in*
$13	**Campaign**	*16 missions*
$14	**Packed sprites**	*as loaded*
$15	**Help pages**	
$16	**Far code**	*title, setup, AI*
$17-18	**Saved game**	*image, packing*
$19	**Battlefield**	*map, tables, fog*
$1A-1C	**Maps 9-32**	*your own*
$1D	**The battle tunes**	*seven chip tunes, seven voices*
$1E-1F	**GS/OS, resting**	*top blocks*
	... $20-$DF: not there on a 2 MB IIgs ...	
$E0	**Apple II memory**	*firmware, text*
$E1	**Super Hi-Res screen**	*what you see*
$FE-FF	**ROM**	*Toolbox*
DOC	**Sound RAM, 64K**	*music, effects*

Conquer GS 2 · ProDOS 8, GS/OS · Hardware · Free



The game claims banks $08 to $1D from the Memory Manager when it starts - twenty-two banks of 64K, each whole and at its own place. GS/OS stays in memory around them, so QUIT can take you straight back to the Finder.

Speed comes from **compiled sprites**: every unit and every map tile is turned into 65816 code that writes its own pixels straight to the screen buffer. Each frame is drawn in bank $01, then copied to the screen in $E1.

The 48 x 36 battlefield, with a table per tile for who stands where, what is claimed, what has been seen and how much ore is left, lives in bank $19.

CREDITS

Game and graphics: © 2026 Walter Tengler.

Title music: from *"Nucleus"* by the Free Tools Association (FTA), used with kind permission. The seven tunes in the battle are the game's own: chip music on seven voices, synthesized, played by the game's own player.

Testing: Dan Henderson, for extensive testing.

Weapon sounds (CC0): a Mosin Nagant rifle shot and a PPSh burst from "The Free Firearm Sound Library" by Ben Jaszczak, Brian Nelson, Kevin Heras and Matthew Nanney, and "cannon fire" by Thimras, both from OpenGameArt.

The disk boots ProDOS 2.4.3. Built with Merlin 32 and Cadius, tested in MAME.