



FIREFLY STUDIOS'

# STRONGHOLD

HD



# Table of Contents

1.0 Getting Started .....	4	6.2 The Barracks .....	30
1.1 Installation .....	4	6.3 Available Units .....	31
1.2 Starting the Game and Game Modes .....	5	7.0 Issuing Military Commands .....	32
1.3 Game Options .....	6	7.1 Gathering your Forces .....	32
1.4 Game Overview .....	7	7.2 Marching Orders .....	33
1.5 About the Manual .....	7	7.3 Unit Stances .....	34
1.6 Winning and Losing .....	8	7.4 Military Commands .....	35
1.7 Playing a Multi-player Game .....	8	7.5 Map Bookmarks .....	37
1.8 Map Editor Overview .....	11	8.0 Defending your People .....	37
2.0 Game Basics .....	12	8.1 The Gatehouse .....	37
2.1 Main Screen Overview and Navigating the Map .....	12	8.2 Building Walls .....	37
2.2 Camera Interface .....	13	8.3 Turrets and Towers .....	38
2.3 Placing your Keep .....	14	8.4 Placing Stairs .....	38
2.4 Population Growth .....	15	8.5 Traps .....	38
2.5 Rationing and the Granary .....	15	8.6 Moat Digging .....	39
2.6 Setting Taxes .....	16	8.7 Mounted Siege Equipment .....	39
2.7 Popularity in Brief .....	16	8.8 Boiling Oil .....	39
2.8 Gathering Food and Resources .....	17	9.0 Siege Warfare .....	40
2.9 Increasing your Population .....	18	9.1 Siege Equipment Overview .....	40
3.0 Influencing your Popularity .....	19	9.2 Portable Shields .....	40
3.1 Food .....	19	9.3 Battering Rams .....	41
3.2 Tax .....	20	9.4 Siege Towers .....	41
3.3 Crowding .....	21	9.5 Catapults .....	41
3.4 Fairs and Other Events .....	21	9.6 Trebuchets .....	41
3.5 Religion .....	21	9.7 Digging Tunnels .....	42
3.6 Working Inns .....	22	9.8 Filling in Moats .....	42
3.7 Fear Factor .....	23	10.0 Reference Section .....	42
4.0 Food and Resources .....	24	10.1 Non-military Characters .....	43
4.1 The Stockpile .....	24	10.2 Food Flow Chart .....	46
4.2 Resources .....	25	10.3 Resource Flow Chart .....	47
4.3 The Granary .....	26	10.4 Buildings Table .....	48
4.4 Food Types .....	27	10.5 Unit Table .....	60
5.0 Money .....	28	10.6 Unit Cost Table .....	61
5.1 Tax Rate .....	28	10.7 Keyboard Commands .....	62
5.2 The Marketplace .....	29	11.0 Additions to the Manual .....	64
6.0 Military Forces .....	30	11.1 Game Additions and Revisions .....	64
6.1 Military Goods and the Armory .....	30	11.2 Additional Multi-player Information .....	66

## 1.0 Getting Started.

### 1.1 Installation.

Place the STRONGHOLD CD in your CD-ROM drive. If the CD Autoruns, left click on the INSTALL button. If the CD does not Autorun, click on the START button then select RUN followed by BROWSE. Using the pull down arrow, select your CD-ROM drive with the STRONGHOLD CD inserted. Click on 'autoplay.exe' and select OPEN, followed by OK then select the INSTALL button.

When the welcome window is presented, select NEXT to continue.

The license agreement window will now be displayed. Please read through this agreement. If you accept the agreement, select YES to continue.

The next option is to select a destination folder. To use the default folder select NEXT to continue. If you wish to change the destination folder click on BROWSE and enter the location you want STRONGHOLD to be installed.

Next you can create a shortcut folder or use the default within the PROGRAMS menu. When you are happy with your folder name, click NEXT to continue.

Once STRONGHOLD has been installed you will be asked if you wish to install Gamespy. This will allow you play on-line. Follow the on screen prompts to install Gamespy.

To remove STRONGHOLD from your PC, insert the STRONGHOLD CD in your CD-ROM drive and when the Autorun screen appears, click on the UNINSTALL button and follow the on screen instructions.

We recommend you view the 'Readme' file before running STRONGHOLD as this contains the most recent information on the game.

Each time you insert the STRONGHOLD CD into your CD-ROM drive, the game will Autorun and a PLAY button will now replace the INSTALL button. Click the PLAY button to run the game.



### 1.2 Starting the Game and Game Modes.

When you load FireFly Studios' STRONGHOLD for the very first time you are presented with a screen prompt asking you to enter your name. Type in the name you wish to be known as and then press 'ok' to continue to the main menu screen.

The main menu is divided into four sections.

a) Combat options - This gives you the following combat related options:

- 1) Play the campaign - Fight your way through the 21-mission campaign for your king and country against four merciless and ruthless opponents: The Rat, the Snake, the Pig and the Wolf.
- 2) Play a multiplayer game - Play a multiplayer game with up to eight friends on the Internet using Gamespy or via a local area network (LAN).
- 3) Play a siege mission - Choose to attack or defend pre-built historical castles. This option is pure combat with no community management necessary.
- 4) Play an invasion - Stand alone fighting missions in the same style as the campaign. You will have to build up your castle and economy while defending yourself from constant attack from one or more enemies.

b) Economic options - Choosing this will provide you with the following non-combat options:

- 1) Play the Economic campaign - This is set in the period immediately after the Combat campaign (See above). This is a five mission economic campaign based around rebuilding the kingdom.
- 2) Play an economic mission - These are single missions very similar to those in the economic campaign. You will have to build an economy while trying to balance your available resources and achieve one or many preset goals.
- 3) Free build - Here you can build to your hearts content. You have no enemy to fight, no goals to achieve and no time limit to stick to. You merely choose the map you wish to build on and away you go!

c) Map Editor - This allows you to build and play custom maps:

- 1) Load a working map - Allows you to load any map you have previously started and saved at an earlier date.
- 2) New Stand-Alone mission - Allows you build up a map from scratch that can be used as an economic, combat or landscape map.
- 3) New Siege That mission - Build a magnificent castle and post it on the Internet then see how long it takes for someone to knock it down.
- 4) New Multiplayer map - Build a map for you and your friends to fight over in the multiplayer mode.



d) Load a save game - Load a game that you saved on a previous occasion. You can also access this from within the main game using the options menu.

### 1.3 Game Options.

 The game options panel can be accessed by selecting the key icon to the left of the mini-map within the game.

**Save:** This allows you to save your game using a file name of your choice.

**Load:** From here you can load a previously saved game.

**Options:** This allows you to change the following elements of the game:

**Game Play Options:** This lets you change the game speed and turn the in-game help on or off.

**Video Options:** This allows you to change the resolution of the game as well as how fast the map scrolls.

**Sound Options:** From here you can turn the sound on or off and adjust the volume levels for the music, sound effects and speech.

**Help:** This takes you to the contents page of the in-game help facility.

**Quit Mission:** This option quits the current mission and takes you back to the beginning screen.

**Exit STRONGHOLD-** This closes STRONGHOLD and returns you back to the operating system.

**Resume Game :** Selecting this returns you to the game.

### 1.4 Game Overview.

STRONGHOLD is a castle simulator, it will teach you to design, manage and defend your own medieval castle. Starting in the middle of the eleventh century, with little more than wooden palisades and hills to defend yourself with, you will learn how to build up a castle and rule its citizens. As time goes on, your castles will get bigger and more sophisticated until, by the end of the campaign, you will have all the knowledge you need with which to create the ultimate castle.

You must start your initial settlement from scratch then move forward to defend that which you have built. Each new settlement will need a balanced infrastructure with a steady income, a healthy stock of food and resources as well as a happy population.

As you progress through the game your defenses will become steadily more advanced. In the early stages you will only have enough resources at your disposal to build a simple stockade. Eventually you will have techniques with which to construct a virtually impenetrable fortress.

There are many challenges ahead of you on the road to victory. Each territory has a unique set of economic conditions and you will face many bloody siege engagements before this chapter in history draws to a close.

Only with careful castle planning and the cunning use of military tactics will you be able to ensure the safety of the kingdom. Your STRONGHOLD awaits you, good luck and God speed my liege!

### 1.5 About the Manual.

This vast tome may appear a little daunting at first but luckily there is no need to read all of it to begin playing. You may find it useful to go through the in-game tutorial first by selecting the tutorial shield from the start screen. Alternatively, chapter 2 quick start/game basics will introduce you to all of the main concepts. Once you know the basics you can read through the sections you want more information on.

'Notes' will appear now and again to give you more information on the last topic discussed.

**Note:** You do not have to read these bits if you don't want to, as they are only here to answer frequently asked questions on the last topic.



'Tips' will also appear throughout to give you information relating to game dynamics such as shortcut keys or other alternative ways of doing things.

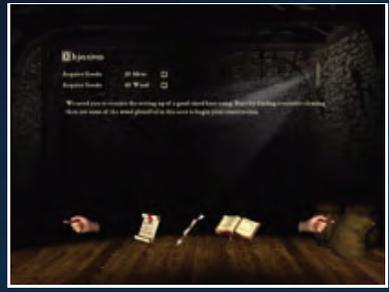
**Tip:** It is quicker to skip these sections to start with as they are only here to suggest different ways of doing something you have just learned about.

There are also 'Hints' which suggest possible game play strategies.

Hint: Don't read hints if you prefer to figure things out on your own.

### 1.6 Winning and Losing.

Each mission within STRONGHOLD has a unique set of objectives. To view the objectives you have yet to complete, select the 'Briefing' button to the left of the mini-map.



You will see the mission briefing text for the current scenario. All of the completed objectives will have a dagger through them. If the objective of the mission is to eliminate all the enemy units, then you will also see a timeline. This indicates the time until the last invasion arrives on the map. When all objectives have been met, you win and the victory screen is displayed. If the lord is killed, you lose and the defeat screen is displayed.

### 1.7 Playing a Multi-player Game.

You can start a stronghold multiplayer game either via Gamespy Arcade(tm) matchmaking service or by setting up a local connection.

**a) Looking for a game on Gamespy Arcade(tm)**  
Launch Gamespy Arcade and move to the Stronghold lobby. Here you can find other players to compete against. Once all the players are ready the host will launch the game and you will be sent into the Stronghold multi-player options screen.

**Note:** You can autorun Gamespy Arcade from within the Stronghold multiplayer Arcade Service Provider screen in which case Stronghold will exit and Games will start, re-launching Stronghold once you have chosen your opposition.

#### b) Setting up a local connection

Clicking on Multiplayer in the Combat Options screen brings you to the Service Provider screen. Here you will see the list of available connection methods installed on your machine. Click on your preferred method and follow the on screen instructions to connect. One player will host the game and the remaining players can join the game set up by the host.

**After you have connected to a multi-player game you will arrive in the multiplayer options screen.** If you have joined a game you should signal you are ready to start the game by clicking on the ready icon. You can then tell the host which type of game you would like to play by using the chat window, but you cannot set any of the game parameters as only the host has control over these.

**Players Connected - Here you can see a list of connected players along with their ready status.** All players must be set to ready before the game is launched. You can also set your team number here. By default each player plays separately but you can ally together by clicking on your team number to match that of another player. Being in an alliance with another player means that your troops will not attack each other and you will win the game if the victory conditions are met jointly.

#### If you are hosting the game you can now change any of the default game type options below:

**Starting keep - In a multiplayer game each player starts with a pre-placed keep.** This option allows the host to change the type of keep each player starts with. Changing this will also change the level of buildings, troops and starting goods available. The simple Saxon Hall provides an early medieval game with few resource and troops types available. The most advanced is the Stronghold, which gives you access to all late medieval troops and technology.

**Gold - This allows you to set the initial gold each player begins the game with.**

**Popularity** -This option sets the starting popularity rating.

**Trade** -From here you can turn the options to trade on or off for the 'Resources', 'Food' and 'Weapons' categories.

**Win Conditions** -This allows you to change the way in which the game is won. E.g. killing the enemies lords or achieving an economic goal.

**Starting Goods** -This lets you set the initial food, resources and weapons each player begins the game with. The available goods will differ depending upon the keep type you have selected.

**Starting Troops** -This changes the amount of troops that each player starts with. If you want a longer build up before the first battle then set this to 'none'. If you prefer jumping straight into the action, change this setting to 'many'.

**Chat Window** -You can send messages to the other connected players from here by typing a message and then pressing return.

**Map Selection** -The maps available will differ depending upon your keep setting and the number of players joining. Maps can be selected from the bottom right window. You will see an overview of the selected map appear in the top right window and a short description of the map below it.

When every player is ready and you are happy with the game settings, the game can be launched by pressing the 'Launch' button.

### **In Game Chat**

During the course of a multiplayer game you can send messages to other players by bringing up the chat entry panel. You do this by pressing the Space bar. Before you start entering your message you need to decide who to send your message to. The default is to everyone, but if you wish to send a message to a specific player, pressing the number keys will select an individual player as the recipient. Once you have typed your message, press 'Enter' to send it. If you want to cancel the message press the 'Escape' key.

For any updates to the Stronghold multiplayer game, please refer to the 'Readme' file.

## **1.8 Map Editor Overview.**

After selecting the 'Map Editor' button, you will be presented with four additional options.

**Load a Map** -This option allows you to load and edit a previously saved map.

**New Stand-Alone Map** - From here you can create a new siege, invasion, economic or landscape map complete with it's own map and scenario. The 'To Map' button will take you to the map-editing screen and the 'Edit Scenario' button will let you change the various events and conditions for the mission. Follow the step-by-step instructions to select the map size and game type you wish to create.

**Note:** The game type you select, determines where the map will appear in the game. For example choosing to create an invasion map will make the map show up under the 'Combat Invasion' category.

**New Siege That Mission** -This part of stronghold allows you test your castle building expertise against that of other would be challengers to your crown! Everybody starts with the same resources and builds a castle using a fixed amount of stone and troops. Attackers then have a set amount of points to choose the make up of their attacking force in an attempt to siege your stronghold and kill your lord. Your castle can then be judged by how well it survived or how easily it fell.

**New Multi-Player Map** - From here you can create a map for you and your friends to fight over. When you enter the map editing screen there are extra options for placing the players starting keeps and structures. The number of keeps you place on the map dictates the maximum number of players that can use the map and the type of keep you place will set the 'Starting Keep' type (see section 1.7 on multiplayer games).

Once in the map editor you will have at your disposal an array of landscape editing tools and a custom scenario builder to enable you to create the most beautiful map or the ultimate mission.

You may share these missions for the purposes of game play but may not sell or make other commercial uses of the missions. Firefly Studios Ltd. reserves all other rights to the editors and files.



## 2.0 Game Basics.

This section will take you through all of the main features within Stronghold. If you rarely play computer games, it is recommended that you go through the in-game tutorial by selecting the tutorial shield. If you play computer games regularly, then scan this chapter to familiarize yourself with the basics.

## 2.1 Main Screen Overview and Navigating the Map.

After starting a new game the screen will look something like this:



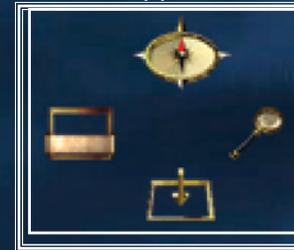
To scroll around the map, push the mouse pointer to the edge of the screen. As you scroll around, the overhead mini-map will move with you.

**Tip:** You can also use the cursor keys to scroll around the map. Another way to get to a specific location is by left clicking on the overhead mini-map in the bottom right of the screen.



## 2.2 Camera Interface.

When you press and hold the right mouse button on the main display you will see the four camera interface icons appear.



### To Rotate the Map:

Move the mouse pointer upwards onto the rotate icon, it will highlight and the map will rotate ninety degrees. The map will continue to rotate if you leave your mouse over the rotate icon and won't stop until you release the right mouse button.



### To Zoom:

Holding down the right mouse button and moving the mouse pointer over the zoom icon, will zoom out your view, allowing you to see more of the map. Repeating the process will zoom back in again.



### To see behind things:

Moving the mouse pointer downwards onto the flatten icon will pull the landscape, trees, walls and some buildings down to the same level. Releasing the button will make the landscape spring back up.

**Hint:** This feature will prove very useful later on when you want to peek behind walls!



### To hide the Management Panel:

Moving the mouse pointer over the icon to the left hides the management panel and makes the game go full screen. To bring the management panel back up, repeat the process.

**Tip:** You can also use the tab key to hide the management panel.

## 2.3 Placing your Keep.

You must place your starting keep and a granary on the map before any other buildings become available. To construct a building, select it from the building selection scroll at the bottom of the screen then left click on the main display when you are happy with it's position.



**Note:** If you happen to place a structure over an area of inaccessible ground, part of the cursor will turn red warning you that you cannot build there.

Once the keep is placed a lot of things will start happening. One of the first things you'll see is you starting resources being transferred from your starting goods onto your stockpile.



These resources are now available for you to use in construction.

## 2.4 Population Growth.

In addition to the keep and the stockpile you will see a campfire. Moving the mouse pointer over it will reveal the population growth indicator.



The more popular you are, the faster it will fill and the quicker your population will grow. Every time the indicator makes one full rotation, a peasant will arrive and stand by the campfire until work becomes available. If the halo turns red it means that you are unpopular. The halo will then show how quickly people are leaving your castle.

## 2.5 Rationing and the Granary.



When you build a granary the food in your starting goods will be transferred to it. Left clicking on the granary will bring up the granary panel.

**Note:** Left clicking on any building or person will bring up a screen giving you more information on them. Right clicking after placing a building will clear the building cursor and give you back the standard mouse cursor.



This panel lets you see your food details and allows you to make changes to your rationing. On the right of this panel there are five plates with varying amounts of food on them, which symbolize the different ration settings from 'no rations' up to 'double rations'. Reducing you rations below the default of 'full rations' will have a negative effect on your popularity, whereas increasing them will have a positive effect. You will see the rate of consumption by watching the speed of the bar in the granary panel or by looking at the units of food disappear from your granary.

## 2.6 Setting Taxes.

Left clicking on your keep will bring up the tax panel, which lets you view your tax bribe all the way up to a downright cruel tax by moving the slide bar left or right. Increasing your tax rate above the default setting of 'no taxes' will have a negative effect on your popularity and reducing taxes to hand out bribe money will have a positive effect.

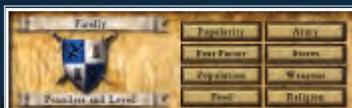
## 2.7 Popularity in Brief.



The scribe holding up an open book allows you to see critical information at a glance.

The expression on his face reflects your popularity and he will also let you know what he thinks about some of your actions!

Left clicking on the report book will bring up the reports panel.



Left clicking on the 'Popularity' button will show all information regarding your popularity.



At the bottom of the panel, after the words 'In the coming month' you will see the overall effects of your actions on castle popularity for the coming month. Making changes to your tax rate and rationing are the two main ways of manipulating your popularity. Ensure your popularity rating remains above 50, otherwise people will begin leaving your castle.



If your scribe stops smiling and your popularity rating starts being displayed in red, you will begin to lose workers. Your popularity will be displayed in red if it is below 50 and displayed in green if it is 50 or higher.

**Tip:** Listen for announcements from your advisor. He will let you know if you are running into any problems.

## 2.8 Gathering Food and Resources.

Running along the bottom left of the screen you will notice six shields.



These are the building category buttons, which change the type of buildings displayed on the building selection scroll above them. Moving your mouse pointer over these shields will highlight them and bring up a brief description of the button above the building selection scroll.

**Tip:** If you can't work out the function of any of the icons in the game, move your mouse pointer over the icon and its description will appear.

The most basic resource in the game is wood, as it is required in the construction of almost every building. Left clicking on the shield with the picture of a hammer will select the 'Industry Buildings' category.



When you place a woodcutter's hut on the map a peasant will turn into a woodcutter and get to work cutting down trees.

A quick and easy way to gain food early on is by hunting deer by building hunter's huts found in the 'Farm Buildings' category.



Once the meat is prepared they will place it in your granary, swelling your food stocks. You should always be aiming to balance the rate at which you consume food with the rate at which it is being put into your granary.

**Undo** - If you change your mind when placing a structure, left click on the 'Undo' button to the left of the mini-map and you're last action will be cancelled. All of the resources will be recovered.

**Delete** - To remove a structure from your settlement, left click on the 'Delete' button to the left of the mini-map then select the structure you wish to remove. Half of the resources spent in construction will be recovered.

## 2.9 Increasing your Population.



To increase your available housing, build more hovels found in the 'Town Buildings' category.

Your available housing will increase by eight and your settlement will continue to grow, but so of course will the mouths to feed.

### Recap:

- Use the camera interface and mini-map to help you find a suitable location for your settlement.
- The keep and granary must be placed before any other buildings become available.
- **Popularity is your key game variable.**
- Changing your tax rate and rationing will influence your popularity.
- Make sure you start gathering wood and food early on.
- Build more housing to increase your population, keeping an eye on your food supply and popularity as you expand.

## 3.0 Influencing your Popularity.

This chapter will take you through each of the factors, which govern your popularity. These are listed for you when you open the popularity panel from the report menu.



To the left of each is a face. A green smiling face means that you will have a positive effect for that factor. A yellow face shows that there is no effect and the red sad face represents a negative effect. When added together the sum of these reflect either a bonus or penalty to your overall popularity. This number is shown after the words 'In the coming month'. There are a total of seven ways to effect popularity with the two main factors being food and tax.

## 3.1 Food.

Changing your rationing is one of the quickest ways to influence your popularity. Both the number of food types eaten and your ration setting affect your food bonus or penalty. These separate influences can be seen in the granary panel.



Your people will be happier with you if you supply them with more than 1 type of food. Less than full rations hurts your popularity, while increasing your rations boosts it. The bonuses and penalties from food types eaten and rationing are as follows:

Food Types Eaten	Bonus to Popularity	Ration	Bonus to Popularity
1	0	None	-8
2	+1	Half	-4
3	+2	Full	0
4	+3	Extra	+4
		Double	+8

### 3.2 Tax.

The people of Stronghold do not enjoy paying taxes so any positive tax rate you set will have a negative effect on your popularity.



When you have sufficient gold in your treasury you may decide to give your peasants a handout in the form of bribe money each month.



Doing this will have a positive effect on your popularity.

**Hint:** You will find bribery proves useful when you are running low on food. Change your rations to half then hand out bribe money to offset the worst of the penalty until you find a way of restoring your granary stock.

The table below shows the popularity bonuses and penalties that you will receive from the various tax settings.

Generous Bribe	Large Bribe	Small Bribe	No Taxes	Low Taxes	Average Taxes	High Taxes	Mean Taxes	Extortionate Taxes	Downright Cruel Taxes
+7	+5	+3	+1	-2	-4	-6	-8	-12	-16

**Note:** Attempting to give out bribe money when your treasury is empty will not have any effect on popularity.

### 3.3 Crowding.



Your keep provides you with some starter housing for your people, after which you need to place houses to increase your maximum population level. Each house provides shelter for another 8 people. Crowding will occur when your population exceeds your available housing. The population indicator will turn red if you have an overcrowding problem.

Overcrowding may occur if a house is deleted or destroyed by the enemy. To remedy overcrowding, simply build more housing.

### 3.4 Fairs and Other Events.



Occasionally, during the course of the game, traveling fairs will pay surprise visits to your castle and provide entertainment. Whilst they are in town you will gain a temporary bonus to popularity.

Other events such as the marriage of your lord will also occur, bringing temporary changes to your current popularity. These are added bonuses that you have no control over.

### 3.5 Religion.

When a religious building is placed, priests will arrive and begin blessing your people.

By opening the religion panel from the advisors report menu, you can see the percentage of people who have been blessed as well as the bonus you are receiving to popularity.



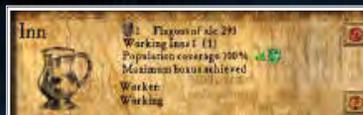
The blessing given by the priest wears off after a short while, at which point that person must be blessed again. Covering the religious needs of the community, therefore, is a continual process. The higher the percentage of blessed people, the higher the bonus you will receive to your popularity.

As your castle population grows the percentage of your people blessed will start to fall, thus lowering your bonus. To rectify this you will need to place extra religious buildings. Be warned however as your community grows, people will start demanding ever more impressive (and expensive) religious structures and failure to provide these buildings will result in a popularity drop.

The religious buildings available can be seen in the town buildings category.

### 3.6 Working Inns.

A working inn is one with a supply of ale and an innkeeper. The innkeeper will collect ale from the stockpile and deliver it to the inn automatically. Once ale is available at an inn, your people will start to drink it. The rate at which ale is drunk depends on your population. The more people you have the faster it will be consumed. To check to see if an inn is working, select it and look at its panel.



This panel shows how many barrels and flagons of ale the inn has in stock. For each working inn, (i.e. one that still has ale) you will gain a bonus of plus 1 to your popularity. Ale is drunk from each inn at the same rate regardless of its location. Inns are in the 'Food Processing Buildings' category.

### 3.7 Fear Factor.

Fear factor lets you know how people see you, as either cruel and ruthless or easy going and forgiving. Your fear factor determines how productive your workers are. Placing good things around your castle will make you seem easy going and increase your popularity, but at the same time will reduce your workers efficiency. Constructing some gardens in the castle for example will make everyone happy, but you will find that they tend to loiter about at the gardens after delivering their goods, instead of heading straight back to work.



To see these structures left click on the 'Good Things' button in the 'Town Buildings' category.



On the other hand, you may wish to appear more cruel and ruthless. You can increase work efficiency by placing bad structures around your castle. This will unsurprisingly have a negative effect on your popularity. Placing a few gallows for example may not be the most popular of decisions, but it has the effect of encouraging people to work that extra bit harder. They will even start to deliver extra goods when they make deliveries to the stockpile, granary or armory.



To see these structures, left click on the 'Bad Things' button in the 'Town Buildings' category.



## 4.0 Food and Resources.

This section will take you through how to manage your food and resources. In Stronghold, there are three types of goods available:

- Food
- Resources
- Weaponry

**Note:** For information on weaponry, see section 6.1.



Upon starting a new game you will see a cart travel across the top of the screen. This signals the arrival of your starting goods.

Your starting goods are displayed in the top left of the main display, until you provide space for them by building a stockpile, granary or armory.

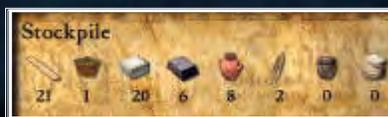
### 4.1 The Stockpile.

All of the resources you gather or produce will be placed on the stockpile. Each stockpile square can hold up to four resource types.



You can gauge the approximate amounts of resources you have by simply looking at the stockpile. To see the exact amount of each resource left click on the stockpile.

**Tip:** You can also use the 'Stores' button from the advisors report menu to get to the same panel.



When you run out of space, extra stockpile squares can be added to your original stockpile. Any additional stockpile squares must be placed adjacent to your original stockpile.

**Hint:** It is a good idea to leave some space around your stockpile in case you need to expand it later in the game.

### 4.2 Resources.

In total, there are eight resource types, which are stored in your stockpile. Some are raw materials and others are processed.



**Wheat:** This grows on your wheat farms and is at the start of the most productive food chain in Stronghold. Wheat is required to make flour.



**Flour:** This is produced at the mill and requires wheat. Flour is required to bake bread.



**Hops:** These grow on your hop farms. If you want to brew ale, you will first need to grow hops.



**Ale:** This is produced at the brewery and requires a supply of hops. When ale is finally distributed through your inns, you will gain a bonus to your popularity.



**Stone:** The quarries that extract this from the ground must be placed on the white boulders. Stone is required for building most of the castle defensive structures.



**Iron:** The mines, which extract this, must be placed on the reddish colored rocks found on the tops of hills. You will need iron to craft the more advanced weapon and armor types.



**Wood:** This is gathered by woodcutters and is used in the construction of most buildings. It can also be used to craft basic weapon types.



**Pitch:** You will find this bubbling up through marshes. Once you have placed a pitch rig on some oil in the marsh, pitch diggers will extract pitch. Pitch is used for boiling oil and pitch ditches.

## 4.3 The Granary.

The granary is where all of your food is stored. Left clicking on your granary will allow you to set the amount of food that is distributed to your population. This is referred to as your ration level.



The green bar in the top left is the food consumption indicator. Each time the indicator fills with green, one unit of food is consumed from the granary. The larger your population and the higher you set your ration level, the quicker your granary stocks will deplete.

The three numbers underneath this show the units of food remaining in the granary, how long this food will last and the number of food types your people are eating.

On the right of this panel, there are five plates with varying amounts of food on them, which symbolize the different ration settings from 'no rations' up to 'double rations'. Reducing your rations below the default of 'full rations' will have a negative effect on your popularity, whereas, increasing them will have a positive effect.



If you hold your mouse pointer over the granary, the roof of the granary will be removed so you can see inside. Looking at the granary should give you a rough idea of how much and what types of food you have stored.

To find out exactly how many units of each food type you have in stock, left click on the 'Food Report' button on the granary panel.

**Tip:** You can also get to this panel by selecting food from the scribes report menu.



From here you can see which foods you are running low on. To increase your food storage capacity, additional granaries can be placed adjacent to your existing granary.

## 4.4 Food Types.

There are four types of food available in Stronghold, all of which are stored in the granary. Each food type has its own benefits and drawbacks.



**Meat:** Hunters will gather this for you when a hunters hut is placed. This is quick to get working and can generate quite a bit of food, however, animal migration and over hunting can make meat an unreliable food source.



**Apples:** These are grown in your orchards, which must be placed on lowlying land. These are quick to get working, but require a large area of land for each orchard. Apple production usually proves to be more reliable than meat, but produces a little less food.



**Cheese:** This is produced in your dairy farms. Dairy farming is slow to get going. Only when three cows have been raised will your dairy farmer begin milking them to produce cheese. Once running, however, dairy farming is more efficient than apple farming or hunting. If you are producing leather armor cheese production will suffer as tanners take the cows.



**Bread:** This is made in the bakery and requires a supply of flour, which in turn requires a supply of wheat. The food chain leading up to bread requires more time and resources to set-up, but when your wheat farms, mills and bakeries are all in place, it proves the most efficient food source in the game. As with apple farming, wheat farms must be placed on low-lying land so at times you may need to think carefully about how to maximize this limited space.

**Tip:** A working mill will support multiple bakers. For baking to become really cost effective, you will want to get several bakers working.

## 5.0 Money.

This section will show you how to effectively manage your finances. Maintaining a healthy treasury will help you deal with emergencies.

### 5.1 Tax Rate.

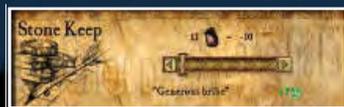
Left click on your keep to bring up the tax panel.



The slider bar allows you to raise taxes or bribe your people.

**Note:** Section 3.2 deals with how your tax rate influences your popularity.

If you have plenty of gold in your treasury you may decide to move your tax rate down to a point where you actually pay your peasants bribes to encourage them to stay. This will provide you with a popularity bonus.



On the other hand you may decide to move your tax rate up to raise money. Raising taxes will have a negative effect on your popularity. The highest tax rate that can be set is a 'Downright Cruel' tax where you take every penny your peasants earn, this will have a devastating effect on your popularity and should be used only for brief periods.



Go to the Treasury report to see details of the castles current financial situation.

## 5.2 The Marketplace.

The marketplace allows you to buy and sell goods. Left clicking on the marketplace will bring up the trade panel.



The 'Scale' icon on the right will bring up a price list of all available goods. This panel shows the buying and selling price for each good that the trader has available.



**Note:** Some goods may not be available to trade depending upon where you are in the game.

The first three icons will take you to the trade panel for food, resources or military goods.



From here, click on the good you wish to trade then select the 'Buy or Sell' button.

**Note:** Markets only deal in bulk so you must purchase or sell batches of five goods at a time.

## 6.0 Military Forces.

This section will take you through everything you need to know about raising an army.

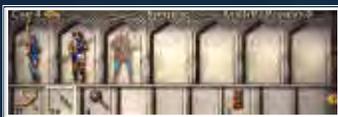
### 6.1 Military Goods and the Armory.

There are eight types of weapon in Stronghold. These are stored in the armory. To see how many weapons and suits of armor you have, left click on the armory.

Weaponry	Made by	Required Resources
Bow	Fletcher	2 Wood
Crossbow	Fletcher	3 Wood
Spear	Poleturner	1 Wood
Pike	Poleturner	2 Wood
Mace	Blacksmith	1 Iron
Swords	Blacksmith	1 Iron
Leather Armor	Tanner	One cow provides enough leather for three suits
Metal Armor	Armorer	1 Iron

### 6.2 The Barracks.

This is where you hire and train your troops. Selecting this building will bring up the barracks panel.



To find out which weapons are required to build a military unit, move your mouse pointer over each of the troop types and the required goods will become highlighted at the bottom of the panel. The amount of gold needed will also be shown at the top of the panel.



If you have peasants available, as well as the correct military goods and gold, left clicking on a troop type will hire and train it. Your troops will appear at the campfire and walk to the barracks. Troops are not considered part of your workforce so do not require additional housing. The gold paid for them is used to buy their food while in your service, therefore, they do not receive rations from the granary.

### 6.3 Available Units.

There are eight troop types available for hire in the barracks and an additional three special units who are trained in your guilds.



**Archers** : These are your standard long-range troops. Their lack of armor makes them one of the quickest units in the game but in hand-to-hand combat, archers are virtually useless. They have a long firing range and are very effective against units that don't wear metal armor.



**Crossbowmen** : These units are slow to move and reload and have a shorter range than Archers. They are, however, very accurate and their deadly bolts can easily penetrate metal armor.



**Spearmen** : These are the first melee troops you have access to and the cheapest to produce. Having no armor makes them quicker than most troops and they prove useful for pushing ladders off of walls and digging moats. They are also one of the few units able to use ladders to scale walls.



**Pikemen** : Their heavy pike and metal armor make Pikemen slow to move, but also make them the ultimate defensive unit. They are able to take a lot of damage and are ideal for blocking access to areas of the castle.



**Macemen** : These thuggish brutes are quick and deal out a lot of damage, making them ideal assault troops. They are not heavily armored, however, and are very susceptible to missile fire. Like spearmen they can use ladders to scale castle walls.



**Swordsmen** : These are your elite foot soldiers. Their heavy armor makes them the slowest unit in the game but when they reach their target they prove devastating. They have both great offensive and defensive capabilities.



**Knights** : The ultimate trained soldier, Knights are both fast and deadly in combat. They are also especially useful for surprise attacks, sallying forth from the castle to destroy siege equipment. Each knight needs a horse bred for him in your stables.



**Tunnelers** : These special units can burrow beneath the foundations of enemy walls and turrets, causing them to collapse. They are trained (for a cost in gold) at the tunneler's guild.



**Laddersmen** If you can't bring a wall down then these units will allow you to go over the top. Laddersmen are cheap to produce but are very vulnerable, so they need to be deployed quickly.



**Engineers:** These are perhaps the most versatile and useful unit in the game. They are required to build and man all of your siege equipment, in and out of the castle. These units are trained in the engineer's guild.



**Black Monks:** These are mysterious individuals to say the least. Now and again they will appear and share their knowledge with you and help you fight.

## Army Interface Panel:

When units are selected you will see the army interface panel appear at the bottom of the screen with the units command box on the left and the unit information panel on the right. The unit information panel shows you the type and amount of units currently selected and allows you to select and deselect specific unit types. Left clicking on a unit type from this panel will select only that unit type whereas right clicking will remove that unit type from the current selection.

## Grouping units:

Grouping units allows you to form a group of units that you can command at the same time.

- 1) To form a group of units, first make a selection.
- 2) Next hold down the 'Ctrl' key and press a number on the keyboard to assign to the group.
- 3) Once a group has been assigned a number, pressing that number on the keyboard will select it. For example, pressing the number 1 on the keyboard will select group 1. Pressing the same number again will take you to the groups current position on the map.

## 7.2 Marching Orders.

When you have a unit selected, your pointer will change to the movement cursor. The green pointer means that you can move to a specific spot while the red cross means the area is inaccessible.

## Moving units to the tops of walls and towers:

To position troops on top of your walls and defensive structures select a unit then when the fortify mouse cursor appears, left click to send units to that destination.

**Note:** If the red cross appears it is likely to mean that there are no stairs leading up to the top of your building or wall.

## 7.0 Issuing Military Commands.

This chapter takes you through the commands you can issue to your military units.

Note: Units in this chapter refer to military units only.

## 7.1 Gathering your Forces.



### Selecting units:

You can select a single unit by left clicking on it. To select a group of units, press and hold the left mouse button then drag the pointer to create a box around them. When you release the mouse button, all of the units that were within the box will now become selected.

### Additional options for selecting units:

Units can be added or removed from a selection by holding down the 'Shift' key then left clicking on them. Multiple units can be added to a selection by holding down the 'Shift' key and dragging a box around them. Double clicking on a unit will select all of that unit type visible on the screen.

## Patrolling:

You can also set units to patrol between two points. Move the unit to where you want their patrol to start, select the 'Patrol' button then left click where you wish the patrol to end. The unit will patrol back and forth between the two positions.

## Setting up advanced patrols:

- 1) Select a unit then the 'Patrol' button.
- 2) While holding down the 'Shift' key, left click to place additional patrol markers (you can place up to 10).
- 3) When you are happy with the patrol markers, press the right mouse button to finish.
- 4) Units will patrol in the order you have placed the markers.

**Note:** If a group of selected units are on the move you can prevent them from going further by clicking the 'Stop' button.

## 7.3 Unit Stances.



The top three buttons in the command box change the way your units behave in combat.

**Stand Ground** - Units set to stand ground will not move from their posts unless ordered to do otherwise. They will defend themselves when attacked and if they are a missile unit, will fire when enemy units come into range.

**Defensive Stance** - Units set to a defensive stance will move a short distance from their post to engage any enemy units that come close to their position. Once there are no more enemy units to engage, they will return to their original position.

**Aggressive Stance** - Units set to an aggressive stance will look a long way to engage or chase down enemy units. When the enemy is defeated your units will look for another potential target before returning to their original position. Units in an aggressive stance will also respond actively to missile attacks.

## 7.4 Military Commands.

### Attacking the enemy:



To attack the enemy, select a unit then click on the enemy you wish to attack when you see the attack pointer appear.



In addition to your standard attack some units have an extra attack option accessed by using the 'Special Attack' button in the bottom left of the unit control box. This button will change depending upon the unit selected. With range units selected this button will become the 'Attack Here' button.



Selecting this button will allow you to designate an attack radius. You will see a circle of dots appear to show the area the unit will attack. This type of attack is very useful for attacking units behind castle walls.



When an engineer with a pot of boiling oil is selected this button will appear as the 'Pour Oil' button.



After the 'Pour Oil' button has been selected a circle will appear above the engineers head to show the direction that the oil will be poured. Beware, this control allows you to pour oil anywhere on the map, even at ground level which will almost certainly leave the engineer standing in his own oil!



Moving the mouse changes the pour direction and left clicking pours the oil. After the oil has been poured your engineer will automatically run back to the oil smelter to replenish his oil then return to his designated post.

Another method of pouring the oil is to select the engineer and then simply use the target cursor to direct his aim. This is a quicker approach when in the heat of battle.



With a tunnel digger selected this button will appear as the 'Dig Here' button. After this button is selected and the left mouse button is pressed on the map, the tunnel digger will begin his decent then dig his way to the nearest potential target.

**Note:** Section 9.7 covers tunnel digging in more detail.

As well as these special attacks, some units have additional commands. When engineers are selected you will see a 'Build' button appear in the unit control box. Selecting this will bring up a list of available siege engines to build.

**Note:** See section 9.1 for more information on building siege equipment.



Catapults and trebuchets also have a 'Launch Cow' button available on certain missions as long as you have a supply of diseased cattle to fire (shown by the number on the icon).



To retire a unit, select it then click on the 'Disband' button in the units control box. The unit will turn back into a peasant and go to the campfire until work is assigned.

**Note:** If the campfire is inaccessible the peasants will vanish from the map.

### Attacking units with your Lord :

Your Lord can be used to target and attack enemy units, but cannot be ordered to move to a specific destination. If there are enemy units on the map, the lord will return to the safety of the keep, unless you order him to attack.

## 7.5 Map Bookmarks.

Areas on the map can be book marked by holding down the 'Ctrl' and 'Alt' keys then pressing a number. To quickly return to this position later hold down the 'Alt' key and press the number. For example, to bookmark your quarry area, scroll over to your quarry. Now, while holding down the 'Ctrl' and 'Alt' keys, press the number 1 on your keyboard. Later, to quickly return to the quarry area, hold down the 'Alt' key and press the number 1 on the keyboard. Additionally, pressing the 'H' key will center you on your keep. Pressing the 'S' key will center you on the signpost where enemy units appear.

## 8.0 Defending your People.

This section will take you through the various ways you can defend that which you have built.

### 8.1 The Gatehouse.

This should be one of your first considerations when piecing together your defenses, because once your walls are built your workers will need a gatehouse to get in and out of the castle. To build one, first select the 'Castle Buildings' category then click on the 'Gatehouse' button. Left click on the gatehouse of your choice then select the appropriate orientation before placing it.

### 8.2 Building Walls.



Walls are selected from the castle buildings category. When the desired wall is selected, press and hold the left mouse button on the main display then slowly drag the mouse. If you have enough wood or stone in your stockpile, the wall will appear in front of you. The wall will finally be placed only when the button is released.

**Tip:** Walls can be built to any thickness, with thicker walls taking much longer to bash through than thinner ones.

Crenulated walls can be added to the front of your standard walls to give added protection. Wooden walls are cheaper to build than stonewalls, but are much easier to knock down and do not allow soldiers to stand on them.

**Note:** When dragging to create walls, if any piece of the wall is not in a valid building location, the whole wall will turn red.

### 8.3 Turrets and Towers.



These can be found in the defense section of the castle buildings panel. They are impervious to ladder attacks and can withstand much more damage than walls.

They also give your missile units further firing range and provide all units with a defensive advantage against enemy missile troops.

Turrets are cheap to build, but only have room for a small number of military units, don't support siege equipment and can be collapsed by tunneling attacks.

Towers are more expensive, but have space for more military units, can be used to mount defensive siege equipment and are immune to tunneling attacks.

Troops get into towers via the walls. You must build a wall adjacent to a tower to create a door for troops to use then provide stair access up onto that wall (See below).

### 8.4 Placing Stairs.

In order to allow troops to have access to the tops of walls and gatehouses, there must be stairs connected to them. Stairs are built in the same way as walls but must be attached to either your standard walls or the side of your gatehouse. To build them, select stairs and move your mouse pointer next to a section of wall. Now press and hold the left mouse button on the main display then slowly drag the mouse. You will see an outline of stairs appear. When you happy with the placement, release the left mouse button to build them.

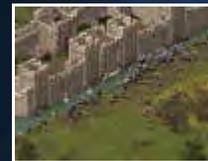
### 8.5 Traps.

There are two types of traps available in Stronghold. The first one is the killing pit, which is a covered pit with sharpened stakes at the bottom. Killing pits are visible and harmless to your people but invisible to the enemy who fall to their deaths inside them.



The second trap is the pitch ditch. This is an area or trench of oil extracted from the marsh that ignites into a deadly inferno when you fire a burning arrow into it. To light the pitch you will need an archer with a brazier close by to ignite the pitch. Target him at the pitch and he will fire a burning arrow into it.

### 8.6 Moat Digging.



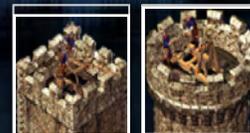
This is a mucky job, but provides an excellent defense. To dig one you first need to layout a plan for where you want a moat to be dug. You do this by selecting 'Dig' from the castle buildings category then left clicking on the map. If you are unhappy with the plan, select the 'Don't Dig' button then left click to correct it.

When you are happy with the plan, select some units then move your cursor over the plan area. When the cursor turns into a shovel, left click and the units will move to that position then start digging out the moat. If you want to fill in a moat (your own or your enemies!) just select some troops and click on the moat.

**Tip:** Some of your units will dig more enthusiastically than others and some will refuse to dig altogether.

A drawbridge can be attached to stone gatehouses. This allows your people across the moat but can also be raised in times of siege to delay the enemy.

### 8.7 Mounted Siege Equipment.



Castle siege machines such as ballista and mangonels can be placed on top of towers to protect your castle. Engineers must man these siege machines after they are built.

Mangonels throw out a spray of rocks and are devastating against infantry, but are quite inaccurate. Ballista are more accurate, shooting a single bolt at a time and are very effective against enemy siege engines.

### 8.8 Boiling Oil.



Boiling oil is an awesome defense against besieging units. To equip an engineer with a pot of boiling oil you must assign him to boiling oil duty. First select an engineer and move your cursor over the oil smelter. When the cursor turns into a down arrow, left click and the engineer will be assigned to boiling oil duty. The first engineer assigned has the job of keeping the smelter filled with pitch and filling up the boiling oil pots of other engineers.

Subsequent engineers assigned to the smelter will receive pots of boiling oil, which they can now use against attackers!

To pour the oil, select an engineer then press the 'Pour Oil' button. Move your cursor over an enemy unit or area of ground that you want to pour the oil on then left click.

## 9.0 Siege Warfare.

This chapter will help you to master the art of getting into someone else's castle!

### 9.1 Siege Equipment Overview.



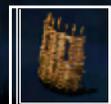
In order to get your siege engines up and running, you need engineers to build and man them. With an engineer selected, click on the 'Siege Equipment' button to see a list of machines that are available to build.

Select the piece of siege equipment you wish to build then left click on the map and a siege tent will appear. Selecting this tent will give you an idea of how long the equipment will take to build.

**Hint:** Siege tents are easy to demolish and the engineers inside are vulnerable until the equipment is finished. Ensure you protect them well.

All siege engines need to be manned. To do this, select a group of engineers then move your cursor over the piece of siege equipment you wish to man. When the cursor turns into a down arrow, left click and the engineers will move to the equipment and man it. Depending on the type of siege equipment, a different amount of engineers are needed to man them before they become operational.

### 9.2 Portable Shields.



**These are good for protecting your infantry from volleys of arrows and crossbow bolts, but are very weak against infantry attacks. Each shield requires 1 siege engineer to man it before it will become operational.**

### 9.3 Battering Rams.



Battering Rams are slow, but can take a lot of damage and prove a superior weapon for bringing down gatehouses. They are also effective against castle walls and towers, when they manage to reach them. Each ram requires 4 siege engineers to man it before it will become operational.

### 9.4 Siege Towers.



When in position, these gigantic mobile constructs will give all your troops quick access to the top of enemy walls. To use a siege tower, select it and move it adjacent to an enemy wall. Once it is close enough, the tower will dock and a gangplank will drop onto the enemies' wall. Once the gangplank is in place, units will be able to climb up through the siege tower onto enemy walls. Each siege tower requires 4 siege engineers to man it before it will become operational.

### 9.5 Catapults.



These siege machines allow you to demolish enemy structures from a distance. Catapults are mobile, fairly accurate, have a medium range and do a medium amount of damage. They fire with a low trajectory so they are good for precision attacks, to take out enemy structures. Catapults can also fire diseased cattle into an enemy castle to spread the plague. This select the 'Fire Cow' button from the catapult menu then select a target to do get. Each catapult requires 2 siege engineers to man it before it will become operational.

### 9.6 Trebuchets.



Trebuchets are awesome siege machines for knocking down castle structures. Trebuchets are huge machines and once built, stay in a fixed position. They lack the accuracy of catapults but have a very long range and do a large amount of damage when they hit enemy structures. Trebuchets fire with a high arc, so they are ideal for firing over castle walls. As with catapults you can fire diseased cattle into enemy castles to spread disease. Each trebuchet requires 3 siege engineers to man it before it becomes operational.

## 9.7 Digging Tunnels.



Another way to bring the opposition to their knees is by digging tunnels. Tunnelers dig under defensive structures then collapse, their tunnel demolishing the foundations above. To do this, select a tunneler then click on the 'Dig' button. Choose an area close to the castle as is a there maximum distance the tunnel can extend before it collapses in on itself. Once underground, the Tunneler will make his way towards the nearest wall, or gatehouse and set fire to the pit props holding up the tunnel, turret causing it to collapse. This will damage or destroy the structure above the tunnel. It is impossible for tunnel diggers to dig under moats or towers although they can attack the smaller turrets.

## 9.8 Filling in Moats.

Military units can be ordered to fill in the enemies' moats. To do this select a group of units then click on the moat when you see the shovel pointer appear. They will walk to the moat and start filling it in.

## 10.0 Reference Section.

This chapter gives you additional information, which you may find useful in your conquest.

## 10.1 Non-military Characters:



**Lord** :His Lordship is the most important character in the game. He is an absolutely deadly fighter as well as the master of all he surveys. Should he fall in combat the game will be lost.



**Lady** : Although she has the good of the castle at heart, she can come across as a little bossy. She used to live in a luxurious manor house with her father and now complains profusely about the squalid conditions she is forced to live in.



**Jester** :The jester runs around your castle teasing people whilst doing acrobatics so has a very short life expectancy.



**Woodcutters** : They cut down trees, are very vain and enjoy showing off their bulging muscles to passers by.



**Hunters** : Hunters kill deer for food, taking the meat to your granary. They are rough and ready folks who have a strong appreciation for fine ale.



**Farmers** : These lowly citizens tend to your various crops. They enjoy grumbling about their poor treatment and have a bitter dislike for town folk.



**Peasants** : They spend their days sitting around the fire and hoping to be given work.



**Children** : These little scamps run around causing mischief all day. You will occasionally see them playing classic games such as catch and patty cake.



**Mothers and Babies** : They appear when a hovel is placed. The mother is responsible for keeping the baby happy and making the house neat and tidy whereas the baby cries and makes a mess. They will be seen running to their hovel when enemies appear at the castle.



**Stone Masons**:They work in the quarry cutting and carving stone. Some say they have their own mysterious society where masons indulge in a sacred ritual known as trouser leg rolling.



**Iron Miners** : They work long hours underground, smelting and delivering iron. Iron miners are cold-hearted individuals with a bleak outlook on life and it can prove difficult to break through their hardened exteriors.



**Pitch Diggers**:These people extract pitch from the surrounding marshland. Unfortunately, working in this environment has had an adverse effect on their sense of smell so pitch workers have an even more acute personal hygiene problem than your average medieval citizen.



**Mill Boys** :These young lads rush wheat to your mill, hastily grind it up, then quickly deliver the flour. Mill boys seem to have an endless supply of energy.



**Baker** : He bakes bread to help feed your people. The baker comes across as a happy and sensitive gentleman. He is also at the center of much village gossip.



**Drover** : He takes stone from the quarry pile, loads it onto his ox then, delivers the stone to your main stockpile. The drover is a big softy at heart, spending most of his spare time at rhyme and verse.



**Brewer** : She brews the ale for your inns. The brewer has a problem focusing and walking straight. She regularly tastes what she brews and gets into trouble for shouting slurred insults at strangers in the street.



**Innkeeper** : He distributes ale among your workers. The innkeeper is a jolly red-faced gent who has his thumb on the pulse of the nation and knows about all the latest fads.



**Drunkard** : These wobbly individuals will appear when your inns are up and running. You will see them staggering around in zigzag patterns only stopping to drink some more ale.



**Fletcher** : He crafts bows and crossbows for your troops. The fletcher regularly invites people around for tea so he can tell them all about his bad leg.



**Armorer** : He crafts metal armor for your soldiers. The armorer is a military veteran and a well-respected figure in the castle, always ready with a new tale to tell the children.



**Blacksmith** : He forges your swords and maces. The blacksmith is usually a quiet and reserved gentleman. Unfortunately he has a rather short fuse and has a tendency to burst into fits of rage without notice.



**Poleturner** : He turns spears and pikes for your troops. The poleturner spends his days contemplating the meaning behind a spinning piece of wood and comes across as a subdued introvert, but is in fact the wisest character in the game.



**Tanner** : She is a strong willed woman and has no problem dispatching your cows, then sewing them into attractive leather garments for your soldiers to wear. The tanner has an abrasive manner about her, which is coupled with an exceptionally dominant personality.



**Priests** : They spread joy by carrying out blessings and weddings. Due to their strict order, medieval priests are not allowed a sense of humor.



**Healer** : He clears up any clouds of disease, which float around your castle. The healer spends a lot of time walking in the woods to gather his herbs and sometimes disappears for days on end.



**Market Trader** : He will arrive when a market place is built. The trader is a quick talking fellow who holds himself confidently. He is always ready to negotiate the fairest and best possible deal for himself.

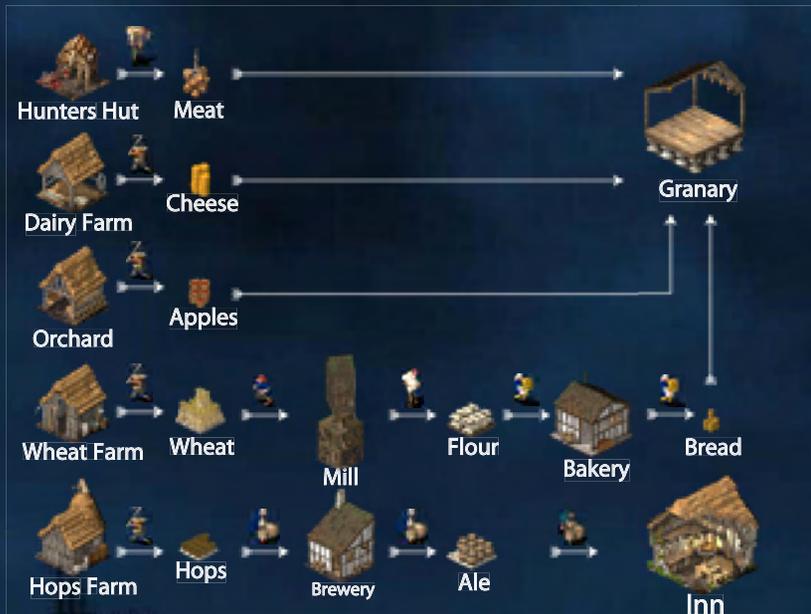


**Juggler** : He comes to your castle with the traveling fair to entertain your people. The juggler is a skittish character that finds it impossible to sit still for two minutes and has a fear of commitment.

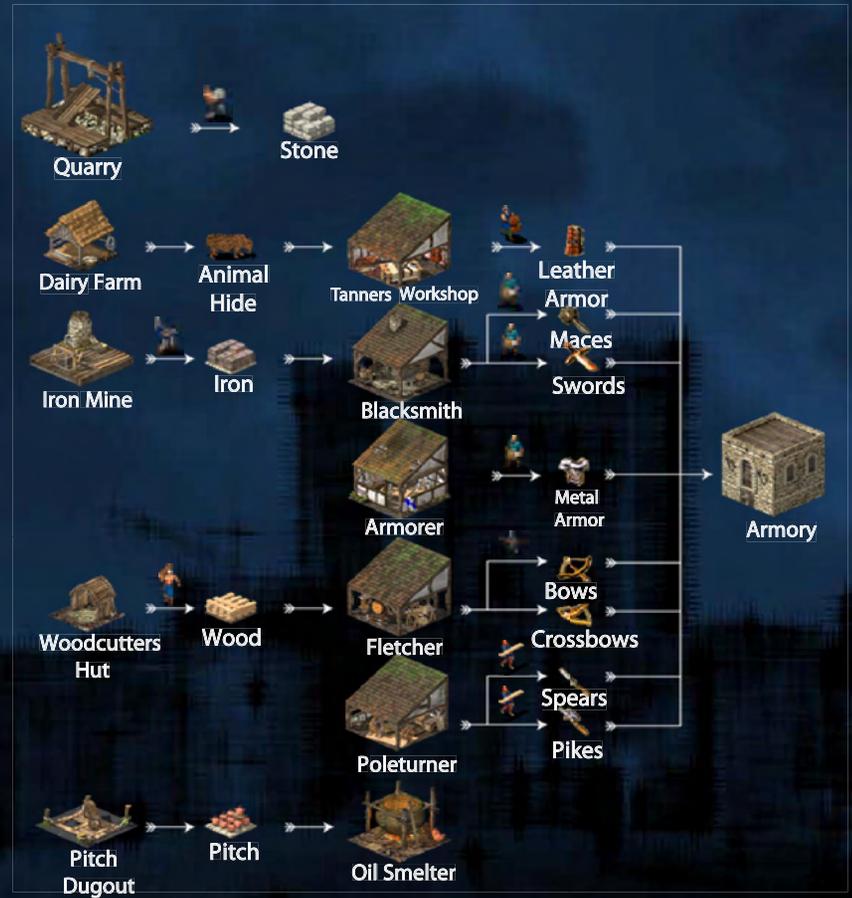


**Fire-eater** : The fire-eater is also part of the traveling fair and really knows how to captivate the audience with his collection of cunning stunts. He no longer has any body hair due to an unfortunate incident over a brazier.

## 10.2 Food Flow Chart:



## 10.3 Resource Flow Chart:



## 10.4 Building Table

	BUILDING	CATEGORY	RESOURCE COST	WORKERS REQUIRED	PRODUCES/ ALLOWS
	SAXON HALL	CASTLE	FREE	N/A	GRANARY
	WOODEN KEEP	CASTLE	FREE	N/A	GRANARY
	KEEP	CASTLE	FREE	N/A	GRANARY
	FORTRESS	CASTLE	FREE	N/A	GRANARY
	STRONGHOLD	CASTLE	FREE	N/A	GRANARY
	WOODEN GATE	CASTLE	10 WOOD	FREE	WORK ACCESS
	INNER GATE	CASTLE	10 STONE	FREE	WORK ACCESS
	MAIN GATE	CASTLE	20 STONE	FREE	ACCESS
	DRAWBRIDGE	CASTLE	10 WOOD 10 STONE	FREE	ACCESS

	BUILDING	CATEGORY	RESOURCE COST	WORKERS REQUIRED	PRODUCES/ ALLOWS
	WOODEN PLATFORM	CASTLE	10 WOOD	N/A	ADDED DEFENSE
	PERIMETER TURRET	CASTLE	10 STONE	N/A	ADDED DEFENSE
	DEFENSE TURRET	CASTLE	15 STONE	N/A	ADDED DEFENSE
	SQUARE TURRET	CASTLE	35 STONE	N/A	ADDED DEFENSE
	ROUND TURRET	CASTLE	40 STONE	N/A	ADDED DEFENSE
	WAFFENKAMMER	BURG	10 HOLZ	KEINE	LAGERUNG VON WAFFEN UND RÜSTUNGEN
	HÖLZERNE UNTERKÜNFTE	BURG	15 HOLZ	KEINE	TRUPPEN
	STEINERNE UNTERKÜNFTE	BURG	15 STEINE	KEINE	TRUPPEN
	BAUMEISTERGILDE	BURG	10 HOLZ 100 GOLD	KEINE	LEITERTRÄGER & BAUMEISTER

### 10.4 Buildings Table.

	BUILDING	CATEGORY	RESOURCE COST	WORKERS REQUIRED	PRODUCES/ ALLOWS
	KILLING PIT	CASTLE	6 WOOD	N/A	ADDED DEFENSE
	OIL SMELTER	CASTLE	10 IRON 100 GOLD	1 ENGINEER TO MAN SMELTER. ADDITIONAL ENGINEERS TO CARRY THE POTS	POTS OF BOILING OIL
	PITCH DITCH	CASTLE	1 PITCH	N/A	ADDED DEFENSE
	WAR DOG KENNEL	CASTLE	50 GOLD	N/A	KILLER DOGS
	SIEGE TENT	CASTLE	N/A	1 OR MORE ENGINEERS	BUILD SIEGE EQUIPMENT
	STABLE	CASTLE	20 WOOD 400 GOLD	N/A	HORSES
	TUNNELER GUILD	CASTLE	10 WOOD 100 GOLD	N/A	TUNNELERS
	APPLE ORCHARD	FARM	5 WOOD	1	APPLES
	DAIRY FARMER	FARM	10 WOOD	1	CHEESE

### 10.4 Buildings Table.

	BUILDING	CATEGORY	RESOURCE COST	WORKERS REQUIRED	PRODUCES/ ALLOWS
	HOPS FARMER	FARM	15 WOOD	1	HOPS
	HUNTER-POST	FARM	5 WOOD	1	MEAT
	WHEAT FARMER	FARM	15 WOOD	1	WHEAT
	BAKERY	FOOD PROCESSING	10 WOOD	1	BREAD
	BREWER	FOOD PROCESSING	10 WOOD	1	ALE
	GRANERY	FOOD PROCESSING	10 WOOD	N/A	FOOD STORAGE
	INN	FOOD PROCESSING	50 WOOD 25 GOLD	1	ALE DISTRIBUTION
	WINDMILL	FOOD PROCESSING	20 WOOD	3	FLOUR

## 10.4 Buildings Table.

	BUILDING	CATEGORY	RESOURCE COST	WORKERS REQUIRED	PRODUCES/ ALLOWS
	IRON MINE	INDUSTRY	20 WOOD	2	IRON
	MARKET	INDUSTRY	15 WOOD	N/A	TRADING
	OX TETHER	INDUSTRY	2 WOOD	1	STONE DELIVERIES
	PITCH RIG	INDUSTRY	20 WOOD	1	PITCH
	QUARRY	INDUSTRY	15 WOOD	3	STONE
	STOCKPILE	INDUSTRY	N/A	N/A	RESOURCE STORAGE
	WOOD CUTTER	INDUSTRY	3 WOOD	1	WOOD
	APOTHECARY	TOWN	10 WOOD 50 GOLD	1	DISEASE PREVENTION
	HOVEL	TOWN	6 WOOD	N/A	8 ADDITIONAL HOUSING SPACES

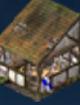
## 10.4 Buildings Table.

	BUILDING	CATEGORY	RESOURCE COST	WORKERS REQUIRED	PRODUCES/ ALLOWS
	HOVEL	TOWN	N/A	N/A	8 ADDITIONAL HOUSING SPACES
	HOVEL	TOWN	N/A	N/A	8 ADDITIONAL HOUSING SPACES
	CHAPEL	TOWN	10 STONE 250 GOLD	N/A	PRIEST
	CHURCH	TOWN	20 STONE 350 GOLD	N/A	PRIEST (NEEDED AT HIGHER POPULATIONS)
	CATHEDRAL	TOWN	40 STONE 500 GOLD	N/A	PRIEST (NEEDED AT VERY HIGH POPULATIONS )
	WELL	TOWN	50 GOLD	N/A	INCREASE POPULARITY
	GARDEN	TOWN	30 GOLD	N/A	INCREASE POPULARITY
	MAYPOLE	TOWN	30 GOLD	N/A	INCREASE POPULARITY
	DANCING BEAR	TOWN	30 GOLD	N/A	INCREASE POPULARITY

### 10.4 Buildings Table.

	BUILDING	CATEGORY	RESOURCE COST	WORKERS REQUIRED	PRODUCES/ ALLOWS
	STATUES	TOWN	30 GOLD	N/A	INCREASE POPULARITY
	SHRINES	TOWN	30 GOLD	N/A	INCREASE POPULARITY
	PONDS	TOWN	30 GOLD	N/A	INCREASE POPULARITY
	GALLOWS	TOWN	30 GOLD	N/A	HIGHER WORK EFFICIENCY
	STOCKS	TOWN	30 GOLD	N/A	HIGHER WORK EFFICIENCY
	DUNGEONS	TOWN	30 GOLD	N/A	HIGHER WORK EFFICIENCY
	STRETCHING RACK	TOWN	30 GOLD	N/A	HIGHER WORK EFFICIENCY
	CESSPIT	TOWN	30 GOLD	N/A	HIGHER WORK EFFICIENCY
	BURNING STAKE	TOWN	30 GOLD	N/A	HIGHER WORK EFFICIENCY

### 10.4 Buildings Table.

	BUILDING	CATEGORY	RESOURCE COST	WORKERS REQUIRED	PRODUCES/ ALLOWS
	CHOPPING BLOCK	TOWN	30 GOLD	N/A	HIGHER WORK EFFICIENCY
	GIBBITT	TOWN	30 GOLD	N/A	HIGHER WORK EFFICIENCY
	DUNKING STOOL	TOWN	30 GOLD	0	HIGHER WORK EFFICIENCY
	ARMORER	WEAPONS	20 WOOD 100 GOLD	METAL ARMOR	1
	BLACK-SMITH	WEAPONS	20 WOOD 200 GOLD	MACES & SWORDS	1
	FLETCHER	WEAPONS	20 WOOD 100 GOLD	BOWS & CROSS-BOWS	1
	POLE TURNER	WEAPONS	10 WOOD 100 GOLD	SPEARS & PIKES	1
	TANNER	WEAPONS	10 WOOD 100 GOLD	LEATHER ARMOR	1
	SIGNPOST	MISC.	N/A	N/A	Shows where enemy attacks from

## 10.4 Buildings Table.

	BUILDING	CATEGORY	RESOURCE COST	WORKERS REQUIRED	PRODUCES/ ALLOWS
	RUINS	MISC	N/A	N/A	N/A
	TUNNEL ENTRANCE	MISC	N/A	N/A	BEGINNING OF TUNNEL

## 10.5 Unit Table

	UNIT	ATTACK RATING	DEFENSE RATING	SPEED	WEAPON	ARMOR
	ARCHER	LOW	LOW	FAST	BOW	N/A
	CROSSBOWMEN	LOW	MEDIUM	AVERAGE	CROSS-BOW	LEATHER
	SPEARMEN	MEDIUM	LOW	FAST	SPEAR	N/A
	PIKEMEN	MEDIUM	VERY HIGH	AVERAGE	PIKE	METAL
	MACEMEN	HIGH	MEDIUM	FAST	MACE	LEATHER
	SWORDSMEN	VERY HIGH	HIGH	SLOW	SWORD	METAL

## 10.5 UNIT TABLE

	UNIT	ATTACK RATING	DEFENSE RATING	SPEED	WEAPON	ARMOR
	KNIGHT	VERY HIGH	HIGH	VERY FAST	SWORD	METAL & HORSE
	TUNNELER	MEDIUM	LOW	AVERAGE	N/A	N/A
	LADDERMEN	N/A	VERY LOW	FAST	N/A	N/A
	ENGINEER	N/A	VERY LOW	AVERAGE	N/A	N/A
	BLACK MONK	MEDIUM	MEDIUM	FAST	N/A	N/A

## 10.6 UNIT COST TABLE

UNIT	COST (GOLD)
ARCHER	12
SPEARMEN	8
MACEMEN	20
CROSSBOWMEN	20
PIKEMEN	20
SWORDSMEN	40
KNIGHT	40
TUNNELER	30
ENGINEER	30
LADDERMEN	4

## 10.7 KEYBOARD COMMANDS

In-Game Commands		
Command	Key Commands	How it Works
Pause Game	P	Pressing the <b>P</b> key will cause the game to pause. Pressing it again will resume the game.
Grouping Troops	CTRL & 0 to 9	To create a group of troops, highlight the troops by dragging a selection box over them and press <b>CTRL</b> and select <b>0 to 9</b> . Once grouped, simply press the appropriate number key to select the troops. Pressing that number key again will center the screen on those troops.
Setting up Multiple Waypoints	Hold down SHIFT and left click.	Select a troop and hold down the <b>SHIFT</b> key, then click on the map to set up to nine waypoints on the map.
Bookmarking Locations	Press CTRL & ALT & 0 to 9  ALT & 0 to 9 to return to that point	Pressing <b>CTRL &amp; ALT &amp; 0 to 9</b> creates a bookmark of the current location on the map.  Press <b>ALT</b> and the appropriate number to return to this location.
Selecting Units of the Same Type	Left mouse button double-click on troop	Double-click on a troop with the left mouse button to select all units of the same type visible on screen.
Scrolling	Arrow Keys	You can scroll the map using the <b>arrow keys</b> .
Interface Panel	TAB	Press <b>TAB</b> to turn the interface on & off.
Flatten the Landscape	SPACEBAR	Press <b>SPACEBAR</b> to flatten the landscape and buildings. Press <b>SPACEBAR</b> again to return the landscape & buildings to normal.
Zoom	Z	Press <b>Z</b> to zoom in and out.
Rotate the Screen	X or C	Rotate the screen.
Adjust Game Speed	+/- (Numeric Keypad)	Press <b>+</b> to increase the game speed and press <b>-</b> to decrease it.
Cycle Through Bookmarks	Mouse Wheel down	Cycles through bookmarks.
Screenshot	ALT & Q	In-game screen shot.
Pull Down Landscape	V	This will 'pull down' the landscape allowing you to see behind objects.
Signpost	S	Pressing the <b>S</b> key will cycle you through the signposts on the map.
Keep	H	Press <b>H</b> to center on the Keep.
Keep (Mouse)	Mouse Wheel up	Centers on the Keep.
Granary	G	Press <b>G</b> to center on the Granary.
Barracks	B	Press <b>B</b> to center on the Barracks.
Market	M	Press <b>M</b> to center on the Market.

## 10.7 KEYBOARD COMMANDS

Multi-player Commands		
Command	Key Commands	How it Works
Chat	ENTER	To bring up the chat window in a multi-player game, press <b>ENTER</b> .
Taunt	F1 to F12	Press a function key to send a taunt to all players in a multi-player game.

Map Editor Commands		
Command	Key Commands	How it Works
Pause	ALT H	Pauses the game in the map editor.
Kill All Animals	ALT E	Pressing <b>ALT &amp; E</b> on the menu screen in the map editor kills off all the animals on the map.
Set Initial Levels	ALT	Click the <b>Edit Scenario</b> button on the menu screen in the map editor. Pressing <b>ALT &amp;</b> on the screen that appears will open a panel to set initial taxes, gold and ration level.
Re-spawn Lord	ALT V	Re-spawns the Lord.
Change Map Type	ALT	Pressing <b>ALT &amp;</b> on the menu screen in the map editor brings up a window allowing you to change the map type.

## 11.0 Additions to the Manual

This section provides additional information and revisions added following the first printing on the Stronghold manual.

For additional information, refer to the Readme file. Links to the Readme file can be found on the Autorun menu and under the game's listing in the Program List.

### 11.1 Game Additions and Revisions

- The 'Fear Factor' (section 3.7) system for using good and bad things has changed. As your population grows, you will need to build more good or bad things to maintain your 'Fear Factor'. Good things have a positive effect on your troops, giving them a better attack-rating dependant on your 'Fear Factor' level. You can see this bonus by clicking on the scribe's book, then on the 'Army' button. Bad things will give troops a penalty. The maximum bonus and penalty ranges from +25% to -25%. When you select a unit (whilst playing as either a good or bad lord), green or red dots will appear above the unit's health bar, indicating their bonus. Red dots indicate a penalty, while green dots indicate a bonus. Each dot represents a 5% adjustment in the units attack-rating.
- Trebuchets and catapults require rocks to fire. You can get additional rocks by exchanging ten stone (if you have them in your stockpile) for twenty rocks.
- Setting Engineers to a 'Defensive' or 'Aggressive' stance allows your engineers to dump oil automatically. The 'Aggressive' stance will cause the engineers to dump the oil if any enemy is nearby, while the 'Defensive' stance requires three or more enemies to be nearby.
- Archers that are set to a 'Defensive' or 'Aggressive' stance will stop and attack enemy units when on route to a destination. Archers set to a 'Stand Ground' stance will try and continue to a destination, even if they are being attacked.
- You are now able to view how well you scored, when you win a game in single player mode. A multi-player scoring system has also been implemented.
- Occasionally, fires will occur and set buildings and trees alight. A building that is alight will send out sparks and if any other buildings are nearby, they will also catch fire. You can combat the spread of fire by building a well.
- To display where an event has occurred on the map, click on the 'Exclamation

Mark', which appears in the corner of the mini-map.

- Creating troops within the barracks (section 6.2 in the manual) now costs gold. Hovering the mouse over the troop will display the costs at the top of the barracks screen. See Section 6 of the Readme file for a table displaying the costs.
- The Inns (section 3.6 in the manual) 'Ale Coverage' within the game is dependant on the population count. The higher the population the less 'Ale Coverage' Inns will have. This means more Inns need to be built to have the same effect on your popularity.
- Within a multi-player game, any player can commandeer empty siege equipment.
- We recommend experienced game players play the game on the 'Hard' or 'Very Hard' difficulty levels.
- The campfire (section 2.4) can only hold 24 people. Once that limit is reached you will need to create jobs for the people around the campfire before more people will come to the castle.

### 11.2 Additional Multi-player Information

There are two main ways to get connected. If you know whom you are going to be playing, use Stronghold's built in connection services. If you want to find a game to join on the Internet, use GameSpy's matchmaking service, GameSpy Arcade.

#### Connecting using Stronghold

On the Multiplayer 'Service Provider' screen you are presented with at least four connection types. The four main types of connection are:

1. IPX
2. Internet TCP/IP
3. Modem Connection
4. Serial Connection

In all these types of connection, one player must be a 'Host' and the rest must join into the host's game.

Note: These Network protocols are computer dependent and should be set up properly before attempting to begin a multi-player session. If you have difficulty setting up these protocols, please contact your network administrator or computer manufacturer. Our technical support staff will be unable to assist you with these issues.

## 1. IPX

This is mainly used on LAN's. No in-game configuration is required.

## 2. Internet TCP/IP

Use this if you wish to play on the Internet or on a LAN. If you are using TCP/IP on a LAN, then no one needs to supply an IP address. If you are using the Internet, then the 'Host' must inform the other players of his IP address (shown on host's screen). The host must then start his game and the others must enter the host's IP address and click on 'Join'.

This is probably the best way for two people to play head to head (presuming both people have Internet connections). One player is the 'Host' and should supply the other player with his IP address and the other player should enter the IP address before joining the host's game.

## 3. Modem Connection (2 Player Only)

First, select your modem from the list of available modems on your computer. Then, if you are hosting the game, just click on 'Host'. The other player must enter the phone number of the 'Host' and click on 'Join' and the modem will call the host's computer.

## 4. Serial Connection (2 Player Only)

Both players will be asked for their serial connection information. Normally you will be asked for the 'COM port' of the serial port. The other settings should normally be left on their default values.

If you are joining a game, after clicking on 'Join' you will be presented with a list of sessions. Normally, only one will be shown (unless you are playing on a LAN with more than one game of Stronghold being played). Select the session that you wish to join and you will be taken to the 'Waiting Room'.

It is best if the 'Host' is the person with the fastest computer, as well as the fastest and most reliable net connection, because if there are any game-play connection problems, it is the 'Host' that has to fix this. During a game, if the 'Host' loses connection to the game, another player becomes the 'Host'.

## Connecting Using GameSpy Arcade.

(Only brief instructions for GameSpy Arcade are supplied here. Please refer to GameSpy Arcade's own instructions for further details.)

When playing Stronghold using GameSpy Arcade, games are limited to 4 players.

To play Stronghold using GameSpy Arcade, run GameSpy Arcade directly without running Stronghold or run Stronghold then select the 'GameSpy Arcade' button from the multi-player start screen.

Once in GameSpy Arcade, go to the Stronghold section and create a game, if you wish to be a 'Host', or look for available games and join one of them. When everyone's ready, launch the game. GameSpy Arcade will minimize and Stronghold will launch itself.

If you are the 'Host', you will be taken to the multi-player 'Waiting Room' screen (further details below) otherwise the game will wait until it has made a connection to the 'Host' before taking you to the 'Waiting Room'.

## The Waiting Room - Choosing Your Game

On this screen when playing as the 'Host', you can select the map and game settings you wish to play with. Once you are ready, you must select the 'Ready' button and then wait for the 'Host' to launch the game. The 'Host' can 'Eject' any player he doesn't want in the game by clicking the 'X' button next to the player's name he wishes to eject.

The 'Host' can also put people into teams of two by clicking on the number below 'Team'. People with the same number are on the same team. During the game, players can join and leave teams by holding 'Alt' and clicking on the troops of the player they wish to join to or leave. If you are trying to join another player, the other player will be told that you wish to ally with him and if he holds 'Alt' and clicks on one of your troops, you will both be placed on the same team. To leave a team, hold 'Alt' and click on one of your ally's troops and you will be separated.

The 'Host' can also select the map he wishes to play. Some of the maps may be 'grayed out', which means that either you have too many players to play that map or one of the players doesn't have that map.

There are two types of multi-player games. In the most common type, the victor is the last person left alive. The other type of game is 'King of the Hill'. In this type of game, the players can win by either killing the other lords as normal, or by occupying the keep at the center of the map until his timer reaches zero. The first person to reach zero wins.

If the 'Host' clicks on 'Connection Options' he will have the option to set the game speed. The default is 40, making this lower will slow the game down, but it may



make it more reliable if you are having connection problems. Setting the game speed higher will result in a faster game, but you may experience more connection problems. Unlike in the single player mode, you can't change this setting during the game.

The other option is 'Autosave'. It is recommended that you have this set to 10 minutes. This means that every 10 minutes the game is automatically saved. This is especially useful if you are experiencing connection problems, because it allows you to resume the game at a recent point. If you don't experience any connection problems then you can turn this setting off.

When everyone is ready, the 'Host' should click on 'Launch' and the game will begin.

### During the Game

During the game it is possible to chat with other players using the chat panel, which is activated by pressing the 'Enter' key. On the chat panel you can select which players you wish to chat with and you can also send them pre-defined 'Insults' by clicking on the 1-20 buttons. If any players are in teams, the colors of the teams are shown in the top-left corner of the name buttons.

Some machines may suffer from connection problems during the game. This is most likely to happen when people are playing on the Internet using modems. There are two main problems that may occur.

Firstly, if a player's connection becomes very slow, or they lose their connection entirely, the other players will be presented with a panel with the option to eject the player with the problem. If the player's connection hasn't recovered within 60 seconds they will automatically be ejected or the 'Host' can click 'Eject' at anytime to remove that player from the game. If the player's connection recovers, then the panel will automatically be removed from the screen and the game will continue normally.

The other connection problem is when the game on each person's computer gets out of sync with the 'Host'. This is more likely to happen on the Internet using modems, but it can occur with other types of connections. If the games lose sync, a panel will be displayed with a time bar showing how long it will take to re-sync the game.

If the 'Host' thinks it will take too long, he can click 'Cancel Game' which will end the game for all players. Once the game is re-synced it should continue as normal. During re-syncing it is still possible to use the chat feature by pressing the "Enter" key.

If at any point a player wishes to leave the game, he should bring up the options menu and press 'Quit Mission'. He will then be asked to 'Quit Game' which means he will leave the game, or he can select 'End this Game' which will ask the other players if they wish to end the game. If all the players agree then the game will end and everyone will be returned to the 'Waiting Room'.

Once the game is finished, the players are presented with a ranking screen. This screen details the achievements of the players during the game. The winner of the game is at the top of the list. He received one crown for winning. Other crowns are awarded for how well the players have played. Stars are awarded for each opposing lord that the player has killed.



# Credits

## FireFly Studios

### Game Design

### Additional Design

### Game Programming

### Executive Producer

### Producer

### Art Director

### Artists



### Multiplayer Programming

### Sound Design and Original Music composed by

### Manual and Story Writer

### Electronic Manuals



### Website

### Quality Assurance Manager

### Firefly Testing

### Mandolin

### Voice Actors



### Additional Vocals

### Scenario Creators

### Special Thanks To

Simon Bradbury.

Eric Ouellette.

Simon Bradbury, Andrew Prime,  
Andrew McNab.

Eric Ouellette.

Paul Harris



Michael Best.

Jorge Cameo, Robert Thornley,  
Darren White.

Andy Prime

Robert L. Euvino.

Casimir C. Windsor.

Darren Thompson

Niall Benzie.



David Robertson, Niall Benzie.

Darren Thompson.

Niall Benzie.

David Robertson.

Phil Busuttill.

Casimir C. Windsor.

Stephen Pophrey

Robert L. Euvino.

Casimir C. Windsor.



Phil Busuttill, Casimir C. Windsor.

Matthew Finck.

Ray Greenoaken, Jerry Kersey,  
James Lawson, Anthony Mulligan,  
John Tearney.

Lydia Pidlusky.

Phil Busuttill, Eric Ouellette,

Darren Thompson.

David Lester.

### Beta Test

Chris Coney

Denise J Steele

Donald Walsh

Ed McIntosh

Francis Cermak

HoYin Au

JapJaap Van Den Hurk

Jason Hon

John Cuthbert

Kenneth Mclellan

Matthew Lowe

Robert Philips

Scott Logan

Sindre Nygaard

Tina Matovich

Tom Mescher

Vernon Suddaby

Ville Sohn

Wayne Troxell