



Additional Authors:

TimeSpiral - Excellent advise on marketing and structuring of the entire document. Also, thanks for the freakin amazing banner!! Cecil from FF4 EPIC!
EZPikachu - Great additions to the mechanics section! It wouldn't exist without him.

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[1] Change Log

- Update: 4/3/2011 - Added onto the refining builds section. Felt that I assumed all players could figure out a pros decision making by watching a replay, and instead included some methods and suggestions on how to learn the purpose, weaknesses, and strengths of builds you are mimicking through trial and error.
- Update: 4/3/2011 - Added an important note to the mechanics section, search for [6] to find it.
- Update: 4/3/2011 - Added three more games to section 6.01.3, courtesy of EZPikachu!
- Update: 4/4/2011 - BANNER! TimeSpiral made me a KICKASS banner!
- Update: 4/4/2011 - Added VOD to beginning of Mechanics Section 6.
- Update: 4/4/2011 - Added a clarification to section 4.01.
- Update: 4/12/2011 - Added important clarification to section 4.01 for Zerg players.
- Update: 4/14/2011 - Minor clarification to keyboard direction in section 6.01.2
- Update: 4/15/2011 - Updated images in section 5.02 courtesy of TimeSpiral!
- Update: 5/4/2011 - Referenced Chamenas's map in section 7.
- Update: 5/5/2011 - Explained in Section 4.01 necessity of using one single race.
- Update: 5/5/2011 - Fixed false information in section 6.01.1.
- Update: 6/13/2012 - Revamped almost ever section.

[2] Introduction

[2.01] What this document is about

This document aims at giving all players the opportunity to greatly improve their game. Since I've followed my own advice here and reached the top of the NA ladder, the content here should be able to get any player to the same level.

This document is not about current strategies or trends; it's about improving the aspects of gameplay that apply to any player despite current strategies or trends.

Please note that you will receive from this document what you put into it. If you practice hard and put great amounts of effort into following this document, you will reap benefits proportional to your efforts.

You're never going to get anywhere if you don't know where you're going. Similarly, you'll never get to where you're going if you don't know how to get there. In order to achieve a goal, you first of all have to have a goal. So now ask yourself what your goals are going to be with StarCraft II. Be both realistic and decisive. My goal for myself is to improve as much as I can before college starts. If I get good enough, when the time comes, I can choose to delay college and play SCII, or go straight into college leaving all hope of professional SCII behind.

Now, in order for your goal to be achievable it has to be measureable in some way. I can measure my goal of "improving" by taking a look at my win/loss stats against good players during tournaments and practice sessions. It is absolutely key that whichever goal you choose can be measureable in some way. Having a measureable goal allows you to take pragmatic steps to achieving your goal, which is in reality the only way anything is ever achieved; by taking the necessary steps to do so.

Let us look back to my first sentence: "You're never going to get anywhere if you don't know where you're going." This means you have to have a clear goal in mind with a set and quantifiable point! You cannot have a goal of "I just want to improve my game." Imagine if a professional Baseball player had an overall goal of "playing the game better". If this Baseball player's whole mindset revolved around getting better he would end up chasing an arbitrary sentence without any real direction, thus wasting all his effort until he eventually gives up out of frustration. Now imagine if this Baseball player focused his mind on hitting successive line-drives over the head of the shortstop between left and middle field, allowing him to easily get onto first base. Since his goal is precise (the opposite of vague) it's easy to imagine the sort of realistic and achievable steps he can take in order to accomplish his task. He'll focus on aspects of allowing his bat to connect with the ball against a wide variety of pitches, as well as practice the art of aiming where your strike sends the ball to. He can also focus on practicing sprints to be able to get to first base as quickly as possible. If you have a clearly defined (often numerical) goal in mind it becomes possible to come up with fruitful steps to achieve that goal.

So, once you have your goal in mind you can continue reading the rest of this guide. Until then, you must stay in this 2.02 section until you can continue. If you are stuck, perhaps the following may help you brainstorm:

- I want to be promoted into league X.
- I want to become a high level professional player, worthy of sponsorships so I can play full-time.
- I want to win a few specific local tournaments so I can enjoy the prize money!
- I want to get into the top 500 players of the ladder on the server I currently play on.

Now that you have your goal (assuming you do... If you don't then don't read anymore!) you can continue to read the rest of this document. It was important for me to let you know the importance of creating a solid goal as detailed above. Now you're going to need to make sure your goal is something this guide can even help you achieve. This document is called How to Improve at StarCraft II 1 vs 1 Efficiently, but that isn't entirely accurate as there are quite a few different types of players. To clarify, this document will give you the tools necessary to improve as a player, not simply to get you to win more as fast as possible. If you want to learn to win as fast as possible so you can get into a higher rank or league, then you need to go research on how to cheese opponents. This guide is about much more than learning to win as fast as possible and as often as possible, this guide teaches you how to improve the core aspects of what it means to be a gamer. Instead of relying on throwing solid players off to win, this guide can provide you the tools you need to start becoming a solid player the cheesers try to take games off of. If your goal is to become more skilled as efficiently as possible, to become more solid of a player, then this is a great guide for you.

From here on winning shouldn't be your focus. I can play ten games against my friend Kawaiirice and lose every single game in a convincing manner. However, the win or loss alone isn't the only thing determines a success or a failure. You shouldn't be reading this to win more. If that is your mindset, then your mindset is a poor one. You need to be reading this with a willingness to learn and grow. Your goal should be to grow. The thing about growing is that it often times hurts. In order for you to become something new, you have to press outside of your current boundaries until you become used to your uncomfortable state, and the new distance you traveled becomes your current boundary once again. I know that whenever I play Kawaiirice I have a chance to learn something that I never have known before, and losses don't bother me. The losses don't bother me because my goal was never to win more games. Your goals affect both your actions and your reactions, and in order to make any use of this document you must have the correct mindset and goals.

[2.03] Thoughts on different ways of learning

Everyone has a personal preference on how to learn. Most people however don't know how to learn. The worst situation a person can be in is to not know how to learn how to learn. I believe there is one main method of learning to play StarCraft II, with only a few minor variances that can cater to different types of people.

I've seen so many people that seem to have a particular learning impairment; they just don't know how to learn. It's true that if a person learns something on their own they tend to learn it ten times better, than if they were taught by someone else. Can you believe this? I've taken it to heart many many times throughout my life, and now many people consider me a jack-of-all-trades; I seem talented at everything I do. Honestly, this is because I figured out early on in life how to figure things out. Now, instead of saying that the top players are those that have "natural talent", consider that all top players merely know how to continually improve at SCII. This would actually make a lot of sense. Most people can only learn so much before they hit a wall because they haven't developed the skill of learning complicated and intricate skills or ideas on their own. I tend to think that in order for a person to perform at an extremely high level of competitiveness in any field, that have the ability to continually improve and learn on their own.

Think about it, if you've grown up your whole life in a public school system being spoon-fed knowledge, how good do you think you'll get at StarCraft II if your means of improving rely on being taught by someone else? Imagine how poor of a player you'll be if you really do learn ten times worse than someone else teaching themselves.

Now here comes a possible contradiction in what I'm detailing: how can this guide teach you to improve at SCII in an effective manner, if you just can't teach it yourself? Well, I'd like to think of this guide as a tool. This tool makes it easier for you as a learner, to learn how to learn on your own. Remember how in the introduction I said the point of this guide was not to focus on current strategies or methods? I'm not going to teach you to play better, I'm going to try to teach you to teach yourself, by showing you the correct path to take on your journey of improvement.

You suck. There is a mindset you need to have in order to grow. I briefly mentioned it in section 4.04 by quoting Damien Rice (I can reference things you haven't read yet, can't I? 😊). The thing is, is that in any highly competitive atmosphere or industry, the measure of skill between the individual percentages can be graphed out non-linearly; as people are ranked higher they become exponentially better than everyone else. This is true in any highly competitive field. You can think of it like this: it is more probable that any given person will be very unskilled, therefore the more people you have in a population the more likely it is for a few highly skilled people to arise. Once you have a good idea about how much you suck, then it becomes possible for you to see the differences between your play, and play from players like Liquid Tyler or Idra. Once you can see the differences in play, you can start to think of ways to breach that gap!

Think of it this way: the people in the top 10% of the SC2 community are ten times better than the people in the top 50%. The people in the top 1% are 10 times better than the people in the top 10%. The people in the top .01% are 1000 times better than the people in the top 1%. This might sound strange if it's the first time you've heard it, but in reality it rings truer than you'd think.

It can be slightly difficult to realize how much you really do suck. Some people realize it by watching a VOD of a professional player, and when they try to mimic all the actions they realize how much skill is involved. Other people just have some sort of vague natural appreciation for the pros. Though I feel a great way to gain this appreciation is to purchase a private lesson from a high level player. Purchasing a lesson from a high level player is an interactive, hands-on, first person experience of how much you truly do suck compared to a high-level player. This is just about the only thing I recommend purchasing a lesson for. However in rare cases sometimes purchasing a lesson from a higher level player can benefit you in learning a lot of information by getting it all quickly from a convenient source -the teacher!

I have a student named Dhalphir who purchased lessons from me (I believe mostly to just support me as a player as he's a fan of mine) who wanted to learn how to make the skill jump between Diamond and Master's league on the NA server. Since I started out as a Silver league player myself I have a great understanding for the mind of a very low-level player, and the necessary steps needed to be taken to become a mid-range Master league player. Dhalphir wasn't sure exactly how he could improve his play; it seemed solid to him though he was losing to some specific scenarios. I quickly identified with him some major underlying flaws in his play, and I could quickly sense that he developed a great appreciation for the skill it takes to compete at a higher level play. He realized some of the differences between his play and mine, and in seeing these differences he was able to clearly see what he lacked and thusly was able to work on fixing those discrepancies.

Here is a quote from him on this topic: "When I first took my lesson, I went into it expecting to have someone go over a specific game of mine and point out specific things I did wrong there (not making probes at a certain point, etc). What actually happened was that the specifics of my loss were almost completely ignored to the point of irrelevancy, and what instead happened was that huge flaws in my play were exposed for what they were, giving me the ability to understand how to improve them and recognize them when they happened again. I have since made the leap into Masters, and can nearly completely attribute it to realizing how much I sucked to begin with."

So the moral of the story is: be humble and keep an open mind. If you can't do this you don't belong sitting where you are reading this; you belong in your lower leagues and deserve to stay there.

Having a positive mindset is important. The previous section isn't to make you feel terrible, or lowly, but simply to humble you. Not having a positive mindset will prevent you from seeing your own mistakes, force you to misjudge situations, and overall lessen your experience while playing StarCraft 2 competitively.

So what is a positive mindset? A positive mindset is one that is more optimistic than anything else, in my opinion. You want to trust that if you practice efficiently, you'll improve efficiently. If you play better than your opponent, you'll win the match. There's no reason to rage and no reason to become depressed. This is truly just a game, and all that anyone can do is everything in their ability to improve as best as possible.

The killer of most players I know is rage. This rage comes from losing matches where they believe they played better than their opponent, or think their opponent doesn't deserve to win. It's important to understand that unless your opponent was cheating, if they won they played better than you in some way! This is a good thing! If StarCraft 2 allowed a player who played worse to win, then the game would be imbalanced, which it is not. This means that no matter what, if you lose you have something to learn. I find this very comforting and this fact helps me to cope with all of the losses I encounter.

[3] Simple Definitions

There are some definitions that everyone must understand in order for the ideas of this document to be properly understood by the reader. These definitions might not be dictionary perfect, as they are defined by the writer of this document.

- Micro - Micro is defined to be the orders given to any individual unit (or moving building) during gameplay. This includes walking commands, as well as attack, patrol, hold position, and any spells cast or abilities initiated.
- Macro - Building, constructing, or queuing the correct things at the correct times and in the correct locations.
- Mechanics - The ability the player has to translate what they want to happen in the game into the necessary actions via user-interface.

So basically, you need good macro to have the units/structures/abilities to micro. In order to macro or micro, you need the mechanics to input actions through the user-interface. You might be wondering which to start with, and it actually isn't mechanics. Most people have the basic mechanical skills necessary to play the game at a basic level, so I recommend focusing on nailing down your macro. Once your macro is at an acceptable level, you should then work on mechanics. This is because you can't really work on your mechanics first if you don't know what to input into the game in the first place! Lastly, you can focus on the subtleties of micro.

[4] Improving your Macro

[4.01] The Philosophy

First and foremost I need to explain the necessity in choosing a singular race and sticking with it. This guide is about improving in an efficient manner, and if you want to play all three races, or perhaps two, then you will be unable to improve in as an efficient of a manner as necessary to be a competitive player. If you wish to play random as a competitive player, I still say the only way to start playing is by playing a single race. No if's, and's, or but's about it.

Having good macro is the most integral component of playing StarCraft II, by far. Mechanics are truly the most important thing in being able to play well, but in reality if you are reading this you probably possess the means to type and use a mouse; you have the basic mechanics needed to have both basic macro and micro. As such, I advise just working on macro first! Luckily macro is the easiest thing of all to improve (and arguably the most important). Macro is defined to be "Building, constructing, or queuing the correct things at the correct times and in the correct locations". In order to accomplish this task you are going to need the following:

1. An overall game plan or goal.
2. The finesse and familiarity with the plan or goal to execute it properly.
3. The experience to make slight adaptations and compromises needed to execute a build under the pressure of an opponent.

Number one is known as your "build". Your build encompasses both your opening, mid-game, and often times a loose and flexible end-game plan. A build can be as simple as a set of numbers detailing when to build what for the early game, a clear objective for the mid-game, and a follow-up for the end-game. If a player knows very little of StarCraft II, then it is impossible to learn all the popular builds all at once, and thus I now tell you as the reader that if you want to improve quickly, you need to focus on a single build at a time.

The reason I tell my students and people I teach that they need to focus on one build at a time, is because the goal in doing so is not to simply learn your build, but to learn to macro. If you over-complicate step one (an overall game plan or goal) then you'll have an impossible time getting down step two or three. So, if you simplify step one by learning a single plan, you can much easier learn how to macro efficiently. Once you learn to macro efficiently you can apply that knowledge to any build, thus making all subsequent builds extremely easy to learn and apply during gameplay.

Number 2:

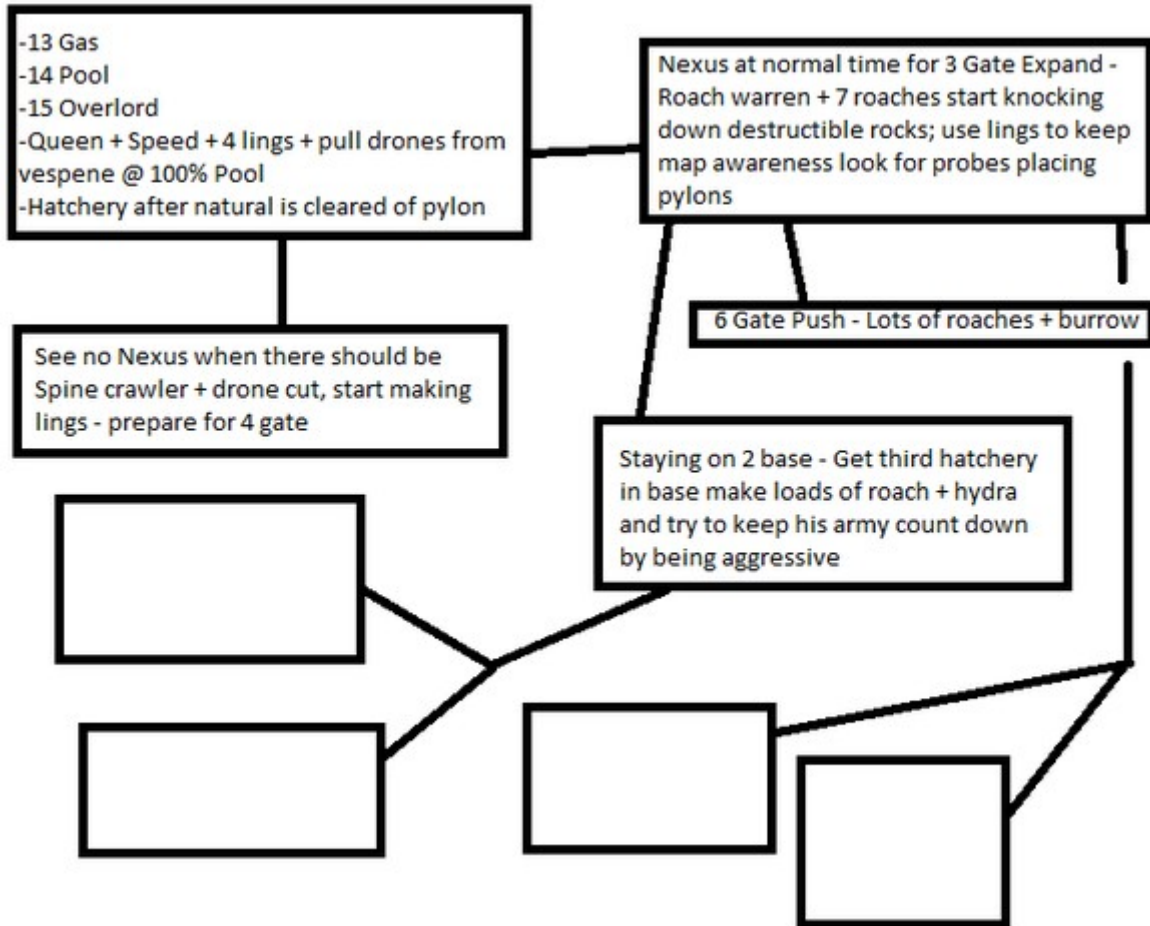
Number 2 states you need to be able to execute. The simplest of execution involves the construction of workers and things to raise your supply cap. For Protoss this means Probes and Pylons: see link: http://www.teamliquid.net/forum/viewmessage.php?topic_id=326528

Clarification: By a single build at a time, I actually mean one build in one matchup at once. Once you're comfortable executing the build properly with consistency against a live opponent, then move onto another build in another matchup. Once you have three builds going (one for each matchup) then stick with those three until you can execute those three perfectly you can start messing with lots of other build orders. For the longest time I only had one build per matchup! Only now that I've entered the competitive field have I taken in multiple builds per matchup.

Here is a quote from Morrow during a TL interview: "I'd definitely tell any gamer wanting to learn the game seriously right now to choose 1 style in every matchup and stick with it, if you do it practice hard enough, you're going to beat the people with many styles more often than not. Once you get to the higher levels, you can start worrying about playing many styles." - http://www.teamliquid.net/forum/viewmessage.php?topic_id=147801

The simple step of learning how to macro as described above in three steps, is the reason why the Bronze, Silver, Gold, Platinum, and Diamond league exists. Only in the Master's league do people start having basic macro down, and only once you start hitting the highest portions of Master league do people often have decent mechanics.

Clarification: For Zerg players it is my understanding that you play as the reactive race! This means your race's role will be much different than the other two, in that you don't get to dictate the flow of play in very many situations. For example in ZvP you have to react to a 4 Gate, or react to a 6 Gate, react to two base Colossus, etc. The reactions are actually pretty simple, and I won't go into detail about them because my knowledge of the matchup in written form will get outdated eventually. Instead just know, that in section 4.02 you should be choosing a build like the other two races will be, but with a bit of a different paradigm when going about it. You'll need multiple replays of a player like Idra, Morrow, Lalush or DarkForce, and you'll need create a simple flow chart of how your game will play out. The flow chart is a very simply tree based diagram that details what to do and when, and what do from there and when. Here is a very basic example (don't use this one, as the content is more than likely false; it's just an example):



[4.02] How to choose your build

Hands down, the best builds for people to improve with are ones that increase the chances for learning moments to happen. It is my belief that these builds are ones that get the improving player a lot of information, are well-documented on some sort of forum like TeamLiquid.net, and are commonly used by top players.

I don't want to focus on current trends or strategies. I'm simply linking these two builds as examples! Since the second link details an aggressive opening aimed at gaining a strong economic advantage, it is focused on having a strong economy (good for practicing macro-oriented skills) and gets the player a good amount of

information by actually attacking and applying pressure to the enemy. The more a player moves about the map and reacts to the opponent or reacts to specific situations, the easier it is for those essential "aha" moments to happen. So when choosing your first build to learn, pick a specific matchup you would like to improve upon, and then pick a specific build.

For example, say I would like to improve my PvZ. Currently the absolute most common opening is a 3 Gate Sentry Expand:

3-Gate Sentry Expand

The Sentry expand build can be tailored to focus on the usage of Hallucinated Phoenix, and as such is an ideal build to learn because it: 1) is commonly used by top players; 2) well-documented in many locations on the internet; 3) provides the user a great amount of in-game information.

Now perhaps in the future the trend may change that another build is actually for more superior in all three aspects essential to learning, thus making the Three Gate Sentry Expand obsolete. This is perfectly okay! If you are unsure of what build to start with there is a great thread where you can ask a lot of players what build suits your needs as described above:

http://www.teamliquid.net/forum/viewmessage.php?topic_id=187808

The way I found these builds is by mimicking better players. I know and understand that there are many players much better than I, and so I see no reason why I shouldn't glean from their excellence. A great way to start off practicing your macro is to know that the build you are learning is an extremely solid one. As the above links will eventually become outdated, I feel it important to inform you how to go about finding builds to use on your own. Start by finding some of the best players of your matchup you are looking for. At the time this is written, Liquid Tyler is absolutely the best foreigner Protoss (perhaps this is simply my opinion, oh well). If I were in the position of looking for an extremely solid build that I know will be a good one to learn, I will watch Tyler's games and lots of them. I'd write down the general strategies he does in his games, and note which ones he wins with. You can do this with any top player, and by doing so you completely bypass a near infinite amount of turmoil that hundreds of other players have gone through in order to find those builds.

So to clarify: builds best suited to those learning are ones that give the user a great deal of information during the game, and are very taxing on APM and mechanical skills. For Protoss vs Protoss there is a common build (at the time of writing this sentence) that involves getting Blink and an Observer. The Observer will grant the ability to gain lots of scouting information in-game, and the use of Blink will tax a player's abilities greatly. Thus I often recommend this build to many players who ask me questions. A quick TL search should yield many results about this style of play.

[4.03] How to refine your build

In order to refine your build you have to have some sort of benchmark or means to compare your play to what is "supposed" to happen. The best way to do this is to find a replay of a top professional player executing your build. Now, you go ahead and execute the build yourself in a practice session, with no pressure, and save the replay. Once you have both of these replays (a VOD of a professional player instead of a replay can also work wonderfully) you have an easy way to check and see if you did things right! The way to do this can be as simple as loading up your replay, picking a random game time (say 10 minutes), and marking down your supply count. Now go and load up the replay of the professional player and note his supply count. I guarantee you (unless there was a major engagement before the 10 minute mark) that his food is higher. This means you can improve your macro dramatically. If there is a discrepancy between food counts watch both replays carefully and note the major actions that the pro did that differed from the major actions that you did. A major action would be the constructing of a unit or building.

Common macro-oriented mistakes that players make are: not having solid worker production; forgetting to

queue in unit for amounts of time; making too many workers; not constructing a building at the correct time. I want to make a quick note here: if you don't know when too many workers is too many, don't worry about. It's much better for low-level players to just constantly be making worker units and make too many, than to not make enough. So just make a bunch and try to make them all game. Once you realize without a doubt that you simply have too many workers, then you can go ahead and watch your replay and try to take note of exactly when too many was too many. I won't tell you how many is too many, because like I said, it's much better you both learn on your own, and much better to make too many than to make not enough.

Another common mistake would be not constantly producing fighting units for your army. Most builds call for this to happen, and if you can't you didn't construct what you needed and when you needed it!

Another common mistake is not being able to spend your money fast enough. This often happens to newer players that start making enough worker units, but have a habit of spending an inferior income. If you cannot spend your money fast enough you didn't create enough production facilities ahead of time!

Now that you have both replays and you identified a couple major mistakes in your play, go play again on your own and save the replay. You need to do this over and over and over until you have your build (step one of section 4.01) memorized, and until you can execute your build properly (i.e. ending up with similar food counts, upgrades, and abilities researched the same time professional players do). Once you can do this, then go on into ladder matchmaking and do step three.

A quick and convenient way of accomplishing step 2 of section 4.01 is to use a build order tester custom map. The most popular that I know of is called YABOT. For more information about YABOT simply search YABOT in Google or on TeamLiquid.net.

A great exercise to undergo is to load up a replay of a professional performing the build you have chosen. Make sure you have never seen this replay before ever. After the game starts to pick up (scouting information is starting to be gained around the 2-4 minute mark), pause very frequently, every 20-30 seconds or so. During the pause, take a look at the player you want to imitates situation. If you were in this situation, what would you do? Try and figure out the best choices to make within the next 20-30 seconds, and watch, then pause again. Compare what the professional did to what you would have done. It's important to do this in order to quickly and efficiently rule out bad decisions that you more than likely would have made yourself. An example that comes to mind is with the 3 Gate Sentry Expand in PvZ. Many players won't understand the early movements of the Protoss's army while Zerg is more than likely focusing on droning and getting their Lair tech. Often times the Protoss is looking for nearby spotting lings to clear them away, just to make sure the Zerg has as little information about the map's current state as possible. Perhaps the Protoss is baiting the Zerg into spending their precious larva on something other than Drones. In order to mimic professional players you can't simply place the right buildings when they did; you have to try to understand the decision making and the strategies and reactions that the professional players have. If you can do this then you will save yourself a lot of unnecessary practice and toil, thusly improving your game quickly and efficiently by learning what other far more skilled than you have already figured out.

Often times a player without much experience won't be able to accurately figure out what the professional's decisions are and why they were made just from a replay. If this is the case, you can figure things out on your own. Every build that a professional player executes has a specific purpose and an overall goal in mind. First thing first is to try and figure out what the overall method of winning is. Is the pro planning on crippling the enemy early on to solidify a large lead and win later on the in the game? Is he trying to play a defensive style and slowly choke the opponent to death by containing them? Is the pro trying to exploit some sort of timing window where the enemy is weak during build execution? If you can

understand the overall method of gaining an advantage of a build the pro is using, understanding how to play the game properly because much easier of a task.

For example, say I want to figure out what Grubby's build is trying to achieve in [this replay](#). I would start by watching the replay at 8x all the way through just to get a general idea of the overall game. Then, I'd go back from the beginning and watch from 2x and 4x speed, and pick apart and delve into specifics. The major things I noticed in this replay was that DarkCell wanted to utilize banelings and baneling drops to quickly crush the army of Grubby. Grubby seemed to in response make a ton of Colossus and use blink stalkers as support. That was about all I noted in watching at 8x speed.

Now while watching the game at a lower speed for a second time, I see that Grubby was playing very defensive while getting a quick expansion at his Natural going. Grubby's build (3 gate sentry expand) must be a defensive and economic oriented build. Now if I were to practice this build, I would make sure not to be aggressive with my army until hallucination is finished. Hallucination! Grubby went ahead and researched Hallucination? The only way he seems to be using hallu is to create Phoenix. Phoenix are very fast, and he seems to be using them to run around and look for things. He feels comfortable moving his army around his side of the map to chase zerglings once he has hallucination. He must have needed those Phoenix to see how large and where the Zerg army is before moving out! Grubby also checks to see if there is a third base for the zerg going up at 9-10 minutes. I'll be sure to do the same thing. If the Zerg is getting an expansion up at that time, I guess Grubby would either attack it or make a third base of his own. I'll have to do some practice to see which is better and when.

Grubby keeps fighting for the Xel'Naga towers. I might not be sure why, but it must be a good thing to do. I should try this same thing when I play.

Grubby sees the Zerg's third going up! He didn't immediately lay down a nexus, he must have wanted to lay down that support bay first for some reason. I guess he didn't want to delay his colossus tech? Looks like I should work towards getting a third shortly after the Zerg's third goes down.

Grubby still isn't attacking all the way across the map. He must be just playing passively trying to get a lot of bases and all the tech he wants. I wonder why this is? Is it something Grubby scouted with the Phoenix that tells him not to attack? Maybe he wants three mining bases before he attacks; he keeps trying to get his third up. I'm not sure why Grubby isn't attack yet, I should try attacking the Zerg in this situation and see what happens.

Once Grubby has two Colossus he finally hit some creep tumors on the enemy's side of the map. He must feel safe running around with two Colossus. I should try this same sort of thing out; when I'm taking my third and have two Colossus, be scary with your army and move it around and snipe things/creep tumors.

Grubby sees DarkCell making a lot of banelings and putting them in overlords. Grubby then makes a lot of Colossus and uses blink stalkers. He must not need too many sentries though, he only has a small amount. I think he wants that vespene to be spent on colossus as he's getting a lot of them. Perhaps blink stalkers and colossus are a great way to deal with lots of banelings!

One more interesting thing I saw is that Grubby put down 3 Stargates late game. He must have been preparing to need those Stargates late game for some reason. When would he need those? Stargate units are great against Ultralisks and Broodlords (voidrays do bonus to massive units). Perhaps when playing like this adding on Stargates late game is a good thing to do!

If it seems too difficult to figure out exactly why the pros do what they do, go ahead and try different things out with your build. Perhaps you don't understand why you should get early sentries with the 3 Gate Sentry expand. Try it out! You'll learn why a lack of sentries isn't desirable in that situation and have a deeper understanding for the game. Perhaps you don't quite get why Grubby was playing so passive with the build he was using; he didn't attack forever. Go ahead and copy Grubby's build, but try an aggressive

style. You should be able to easily see the strengths and weaknesses of the build that Grubby used by just going through a simple trial and error process to see what works and what doesn't. In doing so you can very quickly and efficiently gather a solid understanding for the purpose of the build you are using, as well as an understanding of the strengths and weaknesses of the build you are emulating.

If the purpose of the build that Grubby was using seemed too difficult to figure out exactly why the pros do what they do, go ahead and try different things out with your build. Perhaps you don't understand why you should get early sentries with the 3 Gate Sentry expand. Try it out! You'll learn why a lack of sentries isn't desirable in that situation and have a deeper understanding for the game. Perhaps you don't quite get why Grubby was playing so passive with the build he was using; he didn't attack forever. Go ahead and copy Grubby's build, but try an aggressive style. You should be able to easily see the strengths and weaknesses of the build that Grubby used by just going through a simple trial and error process to see what works and what doesn't. In doing so you can very quickly and efficiently gather a solid understanding for the purpose of the build you are using, as well as an understanding of the strengths and weaknesses of the build you are emulating.

The purpose of the build that Grubby was using seemed to be to create an overwhelming army all the while keeping the Zerg under control. Grubby never tried to kill the Zerg player or attack too heavily until he knew he could win. He must have wanted to keep the Zerg player in a position where he couldn't kill Grubby, and then once his army was strong enough Grubby would then attack and end the game. I'm able to deduce this by analyzing the actions and decisions of Grubby, and I am able to do so because of my vast trial and error experience with the exact same build that Grubby used.

If you seem to get stuck somehow in step three of section 4.01, it's completely okay to travel to the strategy section of TeamLiquid.net and create a thread asking for some help. Most of the time you'll only need to use the Simple Questions and Answers thread. A good example of a good thread to make, is asking for help on how to react properly against a Muta/Ling build in PvZ, when you are going off of a 3 Gate Sentry Expand opening into Blink Stalkers followed by Templar tech. Perhaps you just don't understand how Blink Stalkers are supposed to keep you alive against Mutalisks until you get Templar tech out. Perhaps you just don't understand how to take your second expansion once Storm is finally researched. Posting a thread with a replay of your troubles, asking for advice on how to properly execute a build in a specific situation is a great thing to ask (assuming nobody else has already asked the same question).

For a more on the specifics to analyze your own replays (that you actually played in) please see the thread created by Plexa, Infinity21 and Saracen at TeamLiquid.net:

How to Analyze your Replays

You should be analyzing every single ladder replay you have that is a loss. You must identify what you can do better, what mistakes you made, and how to avoid them in the future. If you skip this step you'll likely improve little to none and just waste your time playing games. Practicing is not only about quantity, but quality as well.

Third Person View:

If you can view your own games from a third person perspective it can often time become a bit easier to identify on what the true issues keeping you from being a better really are. For some reason if I watch a replay knowing that it was me playing, I'll think about what I was thinking in game, look at similar locations as I did, and my learning ability while watching declines sharply because I'm not in the correct mindset. Try to distance yourself from the replay. If you're angry from your ladder match (perhaps you're a wild ladder rager, lol) then you must take a break before hitting the search match button! Come back once you cool off, accept that the loss is your own fault and that you now have a wonderful opportunity to learn from your mistakes. There's no reason to stay angry or get down on yourself!

You'll learn best if you can try to spend as much focus on figuring out how to best spend your time. This means you want to find what your problems in your play are and figure out how to solve these problems. This task can be quite daunting, and hopefully the link above on analyzing replays can help! Many people turn to one on one coaching for assistance, but trust me: I've never purchased lessons and I myself have improved quite a bit. However I do have high level friends that give me some excellent advice; sometimes that third person perspective from someone that's truly a third person (and knows what the hell they are talking about) can help tremendously.

[4.04] Common pitfalls in improving macro

The most common pitfall I know of to improving your macro is to think your macro is fine. As Damien Rice says "It's easy to grow when you know that you just don't know." If you know you suck it's easy to see what differs from you and people that don't suck. If you can see the difference you should be able to figure out how to cross that gap. So be humble.

Just because you consistently win against your friends or against the Bronze league players doesn't mean you're playing right. In order to play right as a growing newbie you must play like those that are not a newbie. As a new player you cannot be devising your own entirely new and unique builds; you just don't have the skills or understanding of the game necessary to make anything that can compete at the top level. Stick to mimicking the pros.

With this in mind it may actually be difficult to see how a properly executed build should crush a non-standard newbie player. If you can get your hands on a replay of a good player crushing a lower-tier player with the build you are trying to learn that replay will be extremely valuable! Alternatively you can always ask for help in the TeamLiquid.net forums. I would love to see more threads like this: "I'm trying do a 3 Gate Sentry Expand like White-Ra, but these other [lower-tier] players are causing me confusion. What should I do to win against strategy x with the build that White-Ra did?".

Not realizing that you just didn't have enough units is also a pitfall for many newer players. I've seen time and time again (and have done this my fair share myself) of people watching a replay they played, and passing off their loss to some sort of insignificant choice they made in the game. For example a player does a speedling expand only to die to a 4 Gate Rush from the opposing player? The Zerg watches their replay, and thinks to themselves "I lost because force fields are imbalanced" or "I lost because I just didn't have creep spread there" or "I lost because I just didn't move this group of units here". Most of the time it's actually that you just didn't have enough things to engage the things your enemy has had. Back in section 4.03 I expressed the importance of comparing your supply counts at specific points in the game compared to professional players. Do this! Again I divert your attention to this thread:

http://www.teamliquid.net/forum/viewmessage.php?topic_id=326528

Forgetting to macro during fights results in sky-rocketing minerals. Hearing a lot of chatter and discussion about multi-tasking is pretty common. The truth about high-level multi-tasking is that it's near bull-shit. It is impossible to do more than one task at a time in SC2. So what good players do is they cycle through different actions, perform one at a time but shift between two actions to progress each one equally. For example in early game when controlling a scouting worker, you jump back to your base to construct a build, and then back to the worker. The crux of this is to prioritize where to focus your attention at any given time. Very good players nearly always focus their attention at the place in the game where it needs it the most. Just realize that if two things are going on and you're still refining your multi-tasking capabilities that you need to pick the most important decision, and do it. Often times when learning the most important decision you can make at the time is to simply do something; if you don't know which action you should currently do between perhaps a small battle and placing a barracks, then you better not stand there and do nothing! Do something in the least, not nothing. Often times the best decision is to simply make a decision while still learning to multi-task properly.

[5] Improving your Micro

[5.01] Distinction between basic and advanced micro

I decided to split the topic of micro into two sections. This is because there is a specific amount of micro you can do and benefit greatly in your play, while you are still learning your mechanics and/or macro. There is also a specific type (or level) of micro that can only be achieved once macro and mechanics are mastered. Once you have mastered the mechanics section of this document feel free to read section

5.03, before then you should only focus on section 5.02.

[5.02] Micro with bad mechanics

This section is intentionally going to be short. In all honesty you shouldn't be hardly worrying about micro much until your mechanics are extremely crisp. With this in mind, you only need enough micro to ensure that you don't lose the game for stupid reasons. The types of micro you should actually spend some time practicing would include spell casting and ability usage (i.e. blink and fungal growth), general positioning of your army, and basic pull micro.

The spells you need to be casting effectively can easily be practiced by running a unit tester custom map in StarCraft II. The one I prefer is called Micro Management Tester made by Chamenas. Go ahead with a friend, and construct some armies and clash them together, each of you practicing what you think you are worse at. If you stink at force fields, practice them! If you suck and Blink micro, practice it! Once you feel comfortable you can just use the in-game circumstances on ladder as general practice of micro and just use the unit tester to hammer out things you feel you really have trouble with.

The general positioning of your army is very important. The general positioning of your army includes the formation of your units, and also the location on the map you engage the enemy. This includes during fights and even when no fights are occurring.

Battle Tactics and Unit Formations

Above is an excellent link to a well written thread about unit formation and tactics. I'm going to be speaking mostly about unit formation, and the basic micro one can implement during gameplay for great reward.

During any engagement you will want to maximize the amount of DPS being dealt to the enemy, at all times. You also want to minimize the amount of DPS that the enemy is dealing you to, at all times. The most simple and effective way to do this is to simply get your army to form a concave around the opposing player's army. If you can achieve a concave you have a few very relevant advantages. First, (assuming the ranged attacks of both armies are near equal) if you have a concave around an enemy army that is bunched up, most if not all of your units will be firing upon the enemy while a small amount of surface are of their army is firing back. Here is a diagram of an army forming an arc over another, and every red arrow represents a unit firing:

Figure B.1 "Blue's Arc Formation"

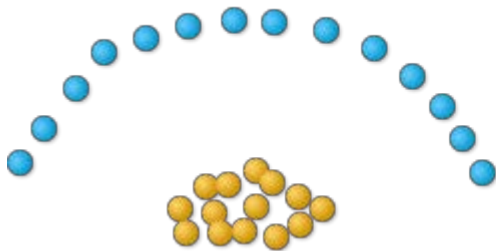
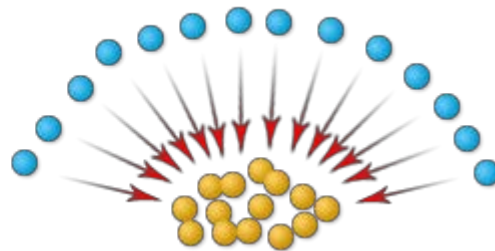
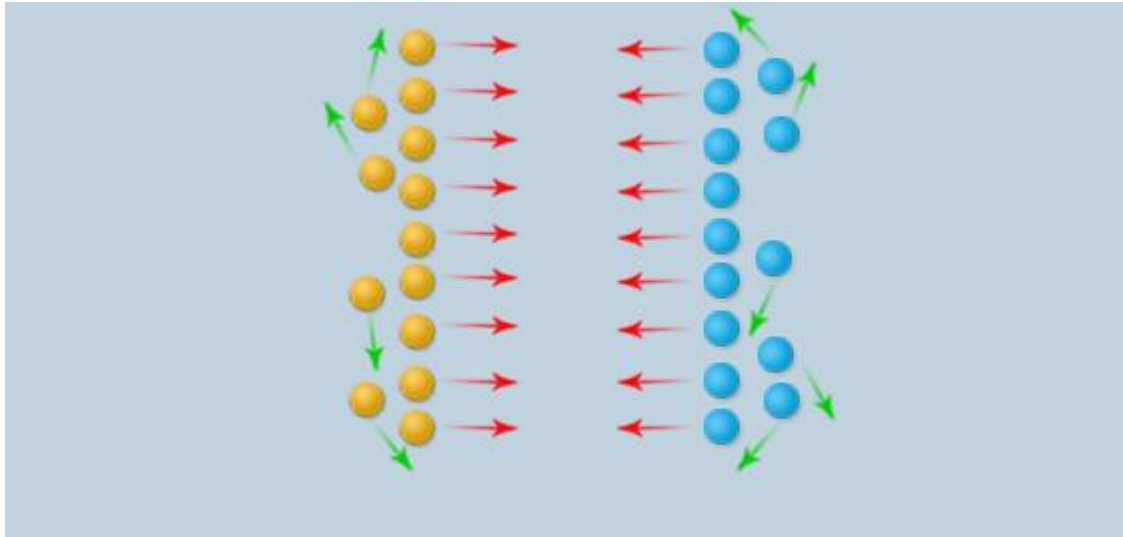


Figure B.2 "Attack Concentration"

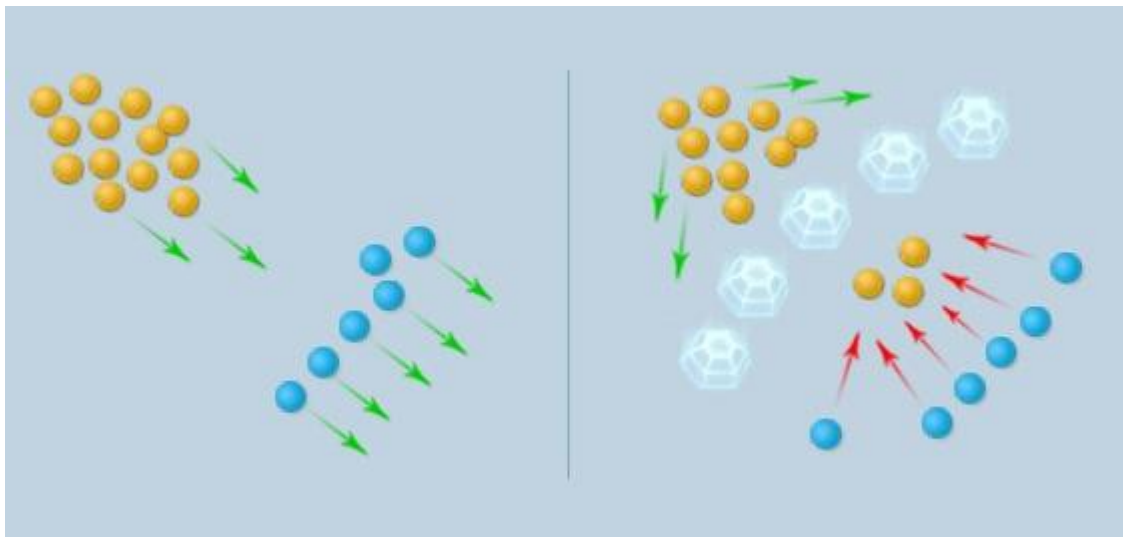


Now, the same army that is bunched up will have a very small amount of surface area (units within range of the enemy to fire back) and the resulting fire from the ball army will look like so:

Here is that same diagram, except this you can see which units would not be firing in the battle.



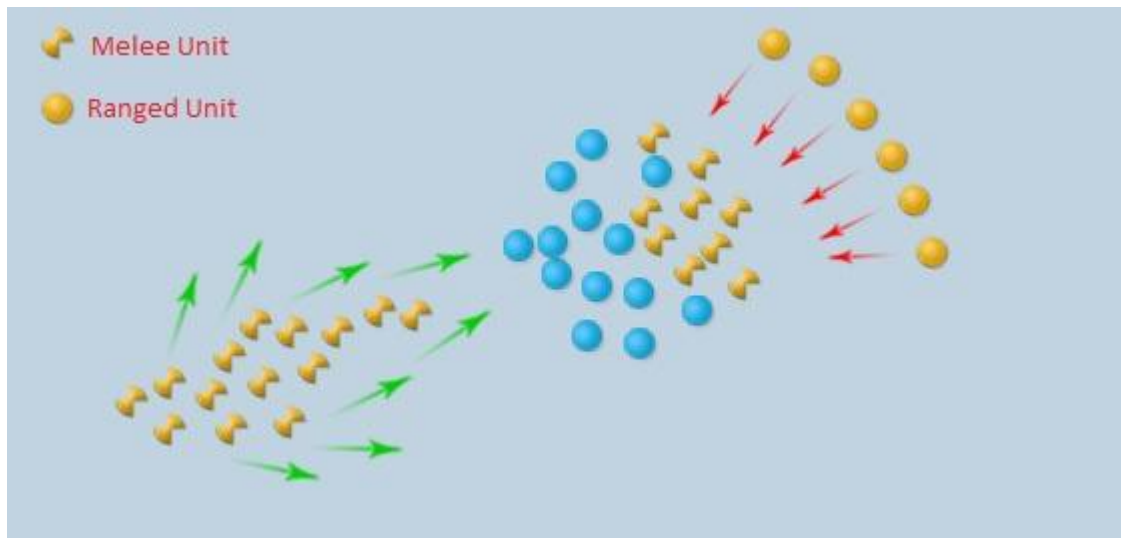
During large battles when both armies just line up and shoot, only the first row of each army will be firing as the rest are out of range (assuming both armies have similar range). You can use this to your advantage as Protoss by using force fields! The goal of using force fields is to minimize the amount of DPS the enemy will be firing at you, and maximize the DPS you will be firing at the enemy. The easiest way to do this is to cast your force fields in a slight arc cutting the enemy army in half, then proceed to back slightly away and re-engage the small force you isolated. This way you face a small amount of the army at once. However, if you do this in-game and forget to back up and re-engage often times the army behind the force fields will still be in range of you, and thusly will negate your force fields from even existing. Here is a quick diagram to show how to properly utilize force fields:



As you can see, the blue army will be engaging a single portion of the yellow army at a time. This allows the blue army to be firing 200% more in this scenario. Assuming it takes 6 shots for one unit to kill another, the blue army will kill off all three trapped yellow units suffering only a single unit loss.

Whenever a Zerg army engages, it's very important that: 1) their melee units can reach the enemy; 2) their numbers (Zerg armies generally have higher numbers of units compared to Terran or Protoss armies) can all be firing all at once. One of the easiest ways to achieve this is to flank a Protoss or Terran army. I recommend having your ranged units attack from one direction, and then go ahead and grab a

good sized group of units (usually a lot of Zerglings) and hide them somewhere on the side of the map. Then when an engagement happens (usually near the Zerg's natural expansion) you can bring that group of units from the side and attack from the rear or from the side flank.



As you can see in that diagram, flanking with another group of units does two things: 1) it puts your army into a position where you have a great concave -a near circle!; 2) prevents the enemy ranged units from kiting away from your entire army. This brings us onto the next topic of simple micro.

Kiting is the act of shooting, retreating a short distance, firing, and repeating. Go ahead and visit [youtube.com](https://www.youtube.com) and type in the search bar "SC2 kiting". The first good result I found was this link:

There isn't a whole lot to say about how to kite. You simply need to familiarize yourself with the timings of both your unit cooldowns and possibly the speed of enemy units. Once you do this you can easily issue move and attack commands to try to fire at the enemy while running away.

I was slightly hesitant at adding in this paragraph, but decided to in the long run. Whenever an enemy unit is dealing splash damage to your army, it is best to mitigate this by simply spreading your units apart so that the splash damage dealer can only deal damage to a single unit at a time! This includes spreading units against siege tanks, colossus, banelings, templar storms, fungal growth, etc.

Pull micro is a simple form of micro. Pull micro is the act of pulling an injured unit out of range of enemy fire and allowing units with full HP to start taking hits. What this does is it allows your injured unit to continue dealing DPS instead of allowing it to die. Pull micro is very common in Zergling vs Zealot battles, Zealot vs Zealot, Stalker vs Stalker, and during Colossus wars. These scenarios are all in PvX matchups, however I know that pull micro is common in every matchup. Since it requires very little skill it should be done whenever you can spare the APM! Remember that keeping your money down and reinforcing your army is almost always going to be more helpful to winning the game than microing units, so only initiate pull micro when you don't have anything better to do.

[5.03] Micro with good mechanics

Microing with good mechanics becomes much more reflex and muscle memory oriented once the

mechanics are nailed down. For newer players (this means almost everyone) they will have to either be thinking about fixing their macro or their mechanics before they can move onto anything else. Thus, this section becomes much more abstract due to the flowing properties of professional micro. Micro with good mechanics isn't something you can train as it comes from experience. Microing with good mechanics should be thought of as an emergent property in a player's actions that only arises once they no longer need to constantly consciously think about macro or their mechanics. Once a player is no longer learning to simply play StarCraft II, they can finally play against their opponent. Once this happens the split-second decision making and careful care and judgment calls made by high-end players starts to show.

Knowing when to blink forward to pick off a unit or two as the enemy is retreating, and knowing when you can do this without suffering any losses is a hard skill to master with any sort of consistency. Being able to perform Medivac drops with the ability to escape in the nick of time, or knowing just when to stim and engage a group of Mutalisks with Marines because you can tell the other player isn't currently paying attention to the battle, all of these things become available to a player's disposal once their mechanics are refined to the point of being ingrained into muscle memory.

Having extremely good unit control isn't something anyone reading this guide should intentionally strive for. Like the topics detailed in section 7, the things detailed in this section will only come from a great deal of experience and understanding of the game. I feel that every player should figure out the intricacies of this particular micro by experience rather than hearing it from a document, as I honestly don't feel qualified to write much more about this particular section.

[6] Improving your Mechanics

Day9 did two Newbie Tuesday's on mechanics! [Intro](#) - [Mechanics #1](#) -- [Mechanics #2](#)

Important note: Whenever you decide to put into practice one of the mechanics sections, you may be wondering how exactly to do so. I suggest fixing a single aspect of your mechanics at a time, as it's impossible to change everything at once. For example if you wish to fix your control groups and use the save screen position, then just work on one until you have it down, then the other. By "work on one" I mean load up YABOT and practice playing your build order, but be sure to utilize proper mechanics. Once you have it down decently you can go into ladder and start practicing a single specific aspect of your mechanics against a live opponent. Then, once you have it solidified and feel you can focus your attention to the save screen position (assuming you fixed control groups first), then you can load up YABOT and repeat the process.

[6.01] Mouse Control

[6.01.1] Mouse Acceleration and Sensitivity

The idea behind having good mouse control is to be able to accurately click on what you need to, when you need to, as fast as possible. Before you can do this there are a few recommended settings I suggest you learn about. First things I want to talk about how the best place to set your sensitivity slider in SC2 as right at 51%. Percentages with multiples of 5, according to [this](#) thread results in pixel loss while moving the mouse. To fix this, set your slider at a percentage that is not evenly divisible by 5, like 51%. 51% on the slider will result in a 1 to 1 ratio of mouse to cursor movement. Note: you should have your Window's sensitivity slider at 6/11.

Next thing I'd like to mention is mouse acceleration. Mouse acceleration is a feature of newer Windows

versions that adds in a second variable in determining mouse to cursor movement. The first variable is the distance in which the mouse actually moves; the farther your mouse moves the farther the cursor moves. If you have mouse acceleration on, then a second variable is added as well. This second variable is the speed at which you move your mouse; the faster your mouse moves the farther your cursor moves! This is bad for accuracy while gaming.

Imagine that your mouse cursor is sitting near the bottom left of your screen and needs to instantly jump near the top right. Would it be simpler for your brain to gauge only the distance your hand needs to travel, or the distance that your hand needs to travel along with the speed at which it needs to travel? The answer is that mouse acceleration makes it much harder to gain precise mouse movements during gaming. So we need to turn this darn thing off.

This is a great link for all you need on how to turn off mouse acceleration for Windows 7 for all games! Simply download the tool pack, open the correct registry editor, log off and back and walla! You can now enjoy a perfect 1 to 1 ratio of mouse to cursor movement! However if the only game you're going to play is SC2, then you can simply un-check the tick mark in your mouse control panel titled "Enhanced Pointer Precision". Some other games use functions for mouse movement that call references that use dual variable mouse control and the MarkC fix as linked in this paragraph will fix that for you. However SC2 does not do this, and so a registry edit is not required.

After you have these settings correct, DO NOT mess with the Window's sensitivity slider! Leave it at 6/11! If you want a higher sensitivity, then buy a mouse with variable DPI settings. This way you will have no pixel loss when moving your mouse. If you have a mouse reading at a higher sensitivity then your sensitive mouse movements will be highly accurate. If you have a mouse reading at a low sensitivity (i.e. a cheap mouse) and turn up a slider setting, then all the slider is doing is multiplying what your mouse reads by a constant (or a formula if acceleration is on), thus resulting in information loss and inaccurate precision!

[6.01.2] Keyboard, mouse, and hand positioning

The most important thing about positioning of your peripherals is to be comfortable! So when reading this section just keep in mind that this section is written more so you can understand the different options out there; you don't need to go around and rearrange everything in sight.

Keyboard positioning is most important for how you hit 1a2a3a; how you order attack commands to your army is highly dependent on how your keyboard is positioned. I personally have my keyboard perfectly perpendicular to my direction of focus (parallel to my shoulders), and I hit 1a2a3a with my front three fingers (ring, middle and index) and hit a with my thumb. This is probably not as efficient as how Kawaiiirice plays. He has his keyboard slanted to the left (the left side of the keyboard farther away from his body) so that he can easily hit 4a5a6a with his pinky and middle/index finger. Be sure that whatever angle and method you choose gives you comfort and accuracy!

How you hit your ctrl button is dependent on how you rest your hand. I hit the ctrl button with the left side of my hand (the little bump right where my pinky connects to my hand), and can reach numbers 1-5 with my left hand while making control groups. Some people prefer to use their right hand to hit the numbers - use whichever you feel is most comfortable. I prefer keeping my hand on my mouse as often as possible.

The way you pivot your hand when using your mouse is very critical. The pivot of your hand is defined to be the stationary point at which the rest of your arm angles itself.



In the above image of a flashdrive, the pivot point is the round silver bit of metal surrounded by black plastic. Your pivot point for your mouse hand should be here:



This way when you move your hand the muscle movement to hand movement ratio is small, thus resulting in easier to control mouse movements!

There are also a variety of different palm grips you should familiarize yourself with. You should familiarize yourself with the three types of grips. The palm grip usually is a result of a player using their shoulder as their pivot. This is (I'd assume) good for FPS playing. I know though that the palm grip is terrible for RTS play. RTS play benefits from being have to have precise movements, and if your pivot is all the way in your shoulder you will have a pretty hard time making precise movements.

The claw grip is great for quick actuation, but not very flexible. The inflexibility of the claw grip leads me to say that making wide sweeping motions with the cursor will become a bit difficult and require the user to use a high-end mouse with a high DPI setting to be able to effectively reach all points of the screen. It also causes fatigue in the wrist much more so than the other two grips (at least for me).

The fingertip grip supposedly can cause the most fatigue, but I believe it is absolutely the best for RTS gaming. This is because it allows you to place the pivot of your hand in the exact position as shown here:



The advantages of this positioning allows you have the most precise cursor movements, as the only mouse movement you will be doing is moving the mouse with your fingertips. This allows the user to box effectively in any direction, and allows for a very close to the mouse pivot point for a small muscle movement to mouse movement ratio.

[6.01.3] Mouse accuracy and practice games

You can now go ahead and practice being precise! Go ahead and load up a map by yourself and start playing a game of SCII. Focus on making very precise movements; when you box your units make the box as small as possible; when you issue commands to your army, try to issue a single command instead of multiple successive ones until you hit the spot you want. Alternatively you can use the great game called Osu!.

Osu! is a game about clicking on circles. Osu! is very difficult yet extremely fun, and pretty rewarding in training you to have fast and precise mouse movements.

<http://osu.ppy.sh/>

Here are some additional links for mouse accuracy practice games!

<http://aim400kg.ru/en/>

<http://www.bigfatarcade.com/full.php?id=5593>

http://dagobah.net/flash/Cursor_Invisible.swf

[6.02] Boxing

Boxing is making a selection box over units. Assuming you've read section 6.01.2, you should know where to place the pivot of your mouse movement. If you have this down, then it's easy to understand the most precise way to create a box selection. Dragging your cursor from the top left to the bottom right is the absolute best way to create a box for everyone but the professionals. If you are dragging the cursor towards your pivot, then the muscle movement to cursor movement ratio will get smaller as the cursor goes farther to the bottom right. This is exactly what you want! It means it's easier to end your box selection exactly where you want it if your dragging from the top left to the bottom right.

Whenever you box a unit you should always strive to make as small of a box as possible. If you strive to do this, then you will train yourself to not make excessive mouse movements, thus becoming more precise with your mouse movements. Whenever you see those players spamming and boxing on their workers and they select the whole screen, laugh at them. Laugh at them and realize they are hindering their play more than helping. Whenever you are boxing your workers be sure to create as small of a box as possible!

Magic boxing is when you select a group of units which fit within a specific size. If the units are within this specific size they will move in formation as long as command orders are not given between any two units within the magic box. This is very useful for mitigating splash damage to air units, as well as moving small groups of marines around against banelings. For more information on magic boxing please see the following links:

- [Muta Thor](#)
- [Ground unit box](#)

[6.03] Scrolling and save screen position

Not many people understand the significance of using the save screen position hotkeys. I even know some professional players that don't bother with save screen position, however, I feel it's important to at least understand what it is. The save screen position hotkeys are by default set to some weird fkeys; I advise you change them to f1, f2, f3 and f4. You can switch the command for select idle worker (which is by default f1) to something else, or you can leave it at f1. I preferred to move the select idle worker to some random key I never use, because I never use the select idle worker hotkey. I suggest using f1, f2, and f3 as screen positions over either Nexus, Command Centers or Hatcheries. I personally like to have f1 over my rally point (for protoss my usual warpin pylon), and f2 f3 and f4 over three Nexuses. By utilizing these four save screen position hotkeys you can save yourself a lot of time!

Here's an article written by a friend of mine about save screen position keys!

http://www.teamliquid.net/forum/viewmessage.php?topic_id=332888

The rule of thumb is that if you can use a hotkey to do an action, and you use your mouse then you are being inefficient. BAD! You want to scroll across the map with your mouse as little as possible! Use the

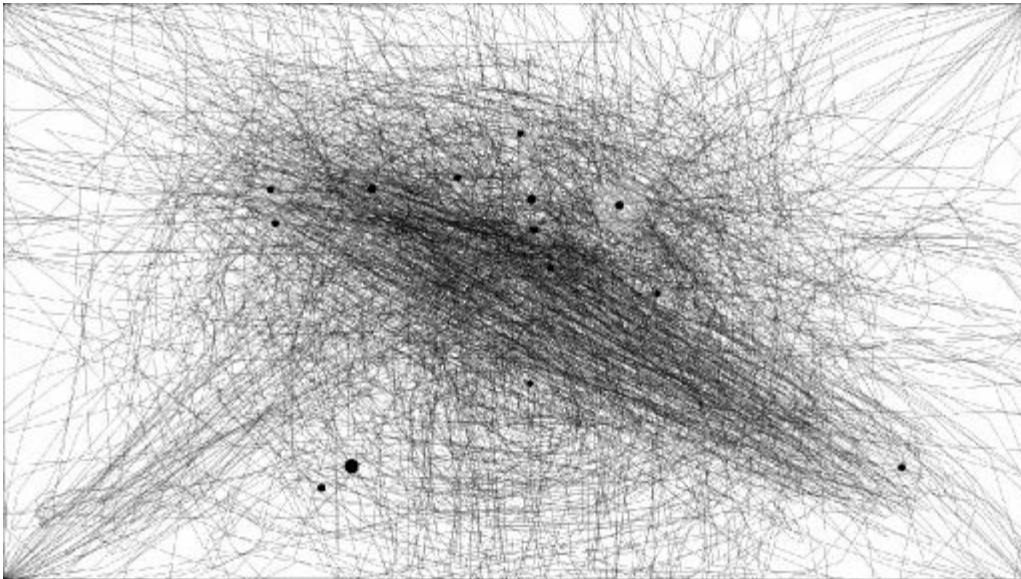
fkeys for save screen position!

Once you are ready to start heavily focusing on mechanics I suggest you train yourself to not use your mouse to scroll across the map at all. A great way to train yourself to do this, is to simply disable the ability to scroll across the map! Go into your SC2 settings and change your resolution to Windowed (Fullscreen), then turn the option for confine mouse cursor (in the controls tab) and set it to Off. This will force you to move your screen with methods other than scrolling with the mouse. After a few practice games you can resume normal play if you feel comfortable using the fkeys to quickly jump around.

In order to verify that you aren't using the mouse to scroll to much, I suggest playing some games with this turned on:

<http://iographica.com/>

This program creates an image of where your mouse has moved while you do normal computer activities! After a recording check and see how often your mouse travels to the edge of the screen. If it is hardly traveling to the ver edges then you're doing well in utilizing quick and efficient hotkeys to jump your screen to key locations! Here is an image generated from a 10 minute game where some Terran allind me:



As you can see I made a lot of boxes from top left to bottom right, with minimal scrolling via the mouse! This is good! Looks like I was also making some use of the minimap. Excellent. Here's the replay in case you are interested:

<http://drop.sc/2903>

There's a good exercise to follow when wanting to minimize the amount of time spent scrolling around the map inefficiently; turn your mouse scroll rate down to a very small percentage. This will allow you to make minute adjustments during battles and such, however it will be much faster to use fkeys, control groups, and the minimap. Do not change the mouse scroll speed until you feel you've improved enough.

The rule of thumb is that if you can use a hotkey to do an action, and you use your mouse then you are being inefficient. With this in mind, every time you can use a hotkey instead of your mouse, use the hotkey! It's as simple as that! Go into your SC2 options, hit the gameplay tab, and checkmark the Display Hotkey Text option. This will display the current hotkey for everything at the bottom right of your screen

with a letter over the image you would usually click with the mouse!

Many people suffer from a syndrome commonly known as a 1a syndrome. The 1a syndrome is a result of noob players starting to play SC2 and abusing the fact that they can select an infinite amount of units in a single selection. This tends to have the effect of people placing all of their units onto a single hotkey, and hitting the a-key across the map. The most efficient use of control groups for your army is [debatably] to put your army into three different groups. I use 1, 2, and 3 for my army. Depending on personal preference you can have these control groups group together different types of units, or possibly units in different locations. For example say I have my army split up in three different places so I can do a triple pronged attack from multiple angles, as the enemy is sitting in a Xel'Naga tower. I can have the leftmost be bound to the number 1, the middle group to 2, and the rightmost group to 3. This is the mental schema I use when I split my army into different locations.

If I have my army all in one general location often times I find it more beneficial to group different types of units onto the different hotkeys, instead of grouping them based on location. As a Protoss player I like to group my zealots into 1, ranged units into 2, and Colossus into 3. This allows me to form my army with the right units in the right position for battle very easily! I want my zealots in front, ranged units in the middle, and colossus as far away from the enemy as possible. This becomes easy with this sort of control group schema.

It truly is important for any player to get used to using at least two different control groups for moving their army about the ramp. As higher levels in the Master league are achieved a third one can be introduced.

For Protoss and Terran I suggest placing all of your Nexuses or Orbital Commands onto a single hotkey, so you can easily order SCVs and cast your macro mechanic. For Zerg players I recommend learning to inject larva like detailed in the following link:

[Larva Injection](#)

[6.05] Minimap Awareness

Minimap awareness is the awareness you have of what is going on in the minimap. It is key to be able to catch whenever you see that dot on the minimap of an enemy dropship heading towards your base, or a probe moving on the outskirts to hide a pylon. Training yourself to be constantly aware of the minimap is a pretty easy skill to learn, so long as you don't have to think about macro. A strong player will spot any movement on the minimap, ever.

Every time you are doing actions that don't require you to stare at the rest of the screen, you should be playing with the minimap. Literally, anytime you can, you should glance down at the minimap. The only moments you shouldn't be glancing at the minimap is when you are laying down buildings, issuing precise move commands, or microing during a very important battle. Most other actions I can think of require you to just hit a key on the keyboard, which should NOT require your eyes to go astray from the minimap.

A great way to ingrain mini-map awareness into your game is to play without any sound. Did you know the greatest time to harass an opponent is when they won't realize it even exists? This means that during a battle, good opponents will drop a group of units into your main, or slip zerglings into your mineral line, or throw a DT at your hatchery or drones. If you don't rely on the sound notification of minimap events, then you will have to rely on the visuals of the minimap to spot such instances. I suggest playing a series of games to focus purely on minimap awareness by playing without any sound.

Optionally you can use this program:

<http://iographica.com/>

This program records mouse movements into an image! You can compare how often you utilize the minimap with your mouse-movement-generated image produced by this program. You can even use this program, and train with your sound off at the same time!

[6.06] Tapping

Tapping is a phrase coined by Day9, and it is the cycle of actions a good player will go through to constantly make sure that all necessary actions are constantly being done. A general cycle can look like so:

1. Produce workers
2. Spend resources
3. Check minimap
4. Issue commands to army

Tapping like this should happen every time you don't have something to do. If you constantly cycle like this your army should be constantly active, you should never miss probe cycles, you should always be spending your money (macroing correctly) and should rarely miss anything that appears on the minimap. The benefits of this are immense: harass is much easier to deal with due to seeing it in advance; you can think about other things besides macro (since it should be ingrained into muscle memory at this point); your army is moving around and thus harder for the enemy to see/gauge/predict.

Often times you'll see high level players spam a bunch of hotkeys like 2342345656, and their selection display (bottom middle of the screen while playing SC2) will flash with the details of all the different things they just selected via control groups. Often this isn't just useless spam; good players do this during step 2. They check all their production facilities to ensure everything they want to be produced is being produced. They also often times check to see how close something is to being completed, so they can prepare to produce the next necessary thing.

Making a mental note and conscious effort to tap like this whenever you don't have something to do is an incredibly helpful habit, though not a very easy habit to solidify. Once you do have this down, your play will benefit immensely. Once this tapping becomes second nature is when you start getting good at SC2; your mind will finally be free to think about high-level actions and or strategies while your muscle memory takes care of everything else.

[7] Game sense, Decision making, and Strategy

This section should be the most difficult for me to write. I'm currently still working on my mechanics, and as such I can't really delve too deeply into these categories. Shortly put, only very high level players are able to effectively come up with new strategies, and have consistent and excellent decision making and game sense.

I'll start with decision making. I feel that the best way to improve your decision making is to first rule out decisions you know to not work. For example I know I cannot rely on pure Immortals late game PvZ because I know Immortals cannot shoot air units (brood lords). However, it is extremely important to keep

an open mind! For example recently a player named Mondragon found out that the Stargate pressure exerted by Zeerax would result in a window where if the Zerg made enough Roaches, and hit enough key locations the Protoss wouldn't have enough raw-power to handle the Zerg offensive. Naturally when a Zerg is pressured from Stargate tech, they want to make Hydralisks, Queens, and Spore Crawlers. The Hydralisk especially suffers from Colossus fire, and the goal of Zeerax was to dominate the Hydralisk based army of Mondragon with Colossus fire. However Mondragon, using his Roaches, made the rather non-intuitive decision to apply heavy roach aggression, and won 2-0 in a Bo3 with Zeerax during TSL 3!

So, keep your mind open to all possibilities, but rule out the moronic decisions. The next step is to simply make decisions during practice. Not sure if decision X will work? Well, then try it. Not sure if this is a good time to attack? Then attack! Don't know if his army will defeat yours? Attack him! Curious to see how that same battle would have went if you had a better position, or he a worse position? Try it out! The best way to learn to make good decisions is to figure out which ones are bad. Refer to section 5.02 where I reference Chamenas's map for clashing armies together for practice of engagements and such.

Game sense I would say comes from experience. I have game sense in PvZ to where often times I can feel when the opponent has constructed a Spire and is buying time until the Mutalisk tech kicks in. Game sense is an intrinsic understanding of the game developed through repetition and vast knowledge of the current matchup. I doubt there's much of a way to develop good game sense due to the extraordinary amount of time required to develop it, and as such most players just focus on other aspects of their game and let it develop naturally.

Game sense is the ability to subconsciously feel and perceive the plans, actions, and situations your opponent is going to choose or fall into, or try to make your fall into. I suggest not worry about acquiring game sense or a deep understanding of the game and let it come naturally to you, as there are other aspects of playing which need to be perfected with a higher priority before game sense becomes too relevant. Although if you insist, the best way to develop game sense to is to look for subtleties in your replays that you can possibly look for in future games. Subtleties like how the opposing player acts before Dark Templars start walking across the map, or the actions that commonly happen before the Zerg player lays down their Nydus Worm during the mid-game.

Similarly, strategies are extremely difficult to create. Hardly anyone ever creates a new and viable strategy besides the professional players, because the chances of randomly stumble onto a legitimate strategy are infinitesimal. I have a deep appreciation for players like IMYongHwa who figured out a Protoss vs Protoss opening capable of buying enough time to tech against an opposing 4 Gate Rush player. I greatly admire the player who can develop a new build or strategy, as the level of skill necessary to do so is immense, so immense that there is no way I can currently do the same. Do you remember section 4.02? I described in that section a way to pick a great strategy so you can save yourself a lot of time in practicing inferior ones. Often times you'll hear people claim that the only thing you should focus on is your "macro", or perhaps they call it "mechanics". The thing is, is that you can't just practice pure macro, pure strategy, or pure mechanics. You should be aiming to start your improvement with a single known strategy at a time, so you can rest assured that the strategy you are practicing is a solid one. This allows you to isolate just your mechanics or macro, meaning that I have actually told you throughout this document to practice both your macro and strategy both at the same time in an equal dose. Failing to properly pace yourself, or failure to start your practice with this simple balance will result in a slow growth, and slow growth is not what we aim for. We aim for efficient growth!

The only way for those who are not professional players to find new strategies is to closely watch professional players play, and hope you stumble across something noteworthy and unique.

- [X](#) - Recommended thread thread on TeamLiquid.
- [X](#) - Liquidpedia - an ever growing resource of SC2 knowledge.
- [X](#) - An interesting automated system for finding 1v1 practice partners of many skill ranges.
- [X](#) - Wonderful website for finding both VODs and replays of high level players.
- [X](#) - An archive of Day9 dailies done by Day9 himself. A must watch for everyone.
- [X](#) - A thread on TeamLiquid for asking and answering simple questions about SC2 strategy. You should probably be asking quite a few things here.
- [X](#) - Mr. Bitter's 12 Weeks with the Pros!
- [X](#) - My youtube channel with lots of free content for all races, especially Protoss.
- [X](#) - Lots of regularly updated replays from high level players.
- [X](#) - Tons of replays, filter function for searching for Grand Master replays.
- [X](#) - Links to like every tournament VOD ever.
- [X](#) - SC2Gears; an excellent tool for replay manipulation and analysis! I use this mainly for the save replay renaming features.

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