

This isn't so much a guide as it is an explanation with the hopes of opening a few shut eyes.

I was playing my friend Josh Zerg versus Terran. Josh is kind of a strange player in that he rarely gets into the mid game, and if he does he'll be insurmountably behind. I always answered his vague questions about what to do better until a few days ago when I wondered where his problem was that he always emerged out of the early game behind. The early game requires a lot of minerals going towards infrastructure, so it's hard to have bad early game macro, so that wasn't it. He would kill Lurkers fairly easily with Marines and Medics, so his early game micro was fine. He would build Turrets and Bunkers in the right places. His build orders were solid. He would often play risky and end up hard countering my build with his, but I still would end up ahead. It was only two days ago that I realized (along with Soyu) what his problem was.

Josh has no timing.

### **What is timing?**

There are many types of timing and some are barely related to others. They are, however, joined by one fact: Timing is maximizing your advantage at a certain relative game time. Vague as it sounds, that's the best definition I can come up that covers all forms of timing. Timing is walking as close to the cliff as possible at all times without falling over. The closer to the edge you are now, the further your advantage should be pressed in the future. Let's look at the classic example of timing, static defence:

### **Static defence timing**

Imagine all things equal, you know your opponent is going Mutalisks. Be it map hack, SCV scout or good scan, you see the Spire and 3 Hatcheries. Because you did an FE build, you are going to need Turrets. Ignoring Turret placement and Mutalisks numbers and micro for the time being, let's pretend Mutalisks' and Turrets' power stacks linearly. Assume each Turret kills 3 Mutalisks.

Obviously we can see we need 3 Turrets at each base. When should we build them? We want all there Turrets to finish the second the Mutalisks move into range to attack, because by putting off building those Turrets until then, we have saved their cost until the last possible moment. This is the most basic form of timing and should be easy for all to see.

Now, let's advance this analysis one step further. What can we do to delay Turret production further? It may not seem like anything, because we are already building Turrets at the last possible second, and further and the Turrets will be taking damage while building and we will lose all the Turrets. If, however, the base layout is such that we can assume our reasonable

opponent will first attack one of our bases rather than the other, we can delay Turret production slightly at the second base.

I AM NOT SUGGESTING YOU DO THIS IN A REAL GAME. This is simply an example.

So by waiting as long as possible to build static defence, we get more SCVs and more infrastructure built before we “waste” money on defence. This should be easily seen by all up to now.

### **Static defence buildup**

Let’s expand this further yet again. In the first example, we knew when the Mutalisks were coming. Timing with perfect information is nothing to brag about – you can see how long it will take the enemy to come attack you and can prepare accordingly. Timing with limited or no information is a skill to desire.

With no initial scouting, should a Zerg build 5 Sunken Colonies to stop a Sparks attack, or 2 Sunken Colonies to stop a 1 Barracks Academy rush? It’s a loaded question since the situation is unrealistic; however, with no information you must time your defence to stop both attacks, 2 Sunken Colonies at the first timing, adding more every time an attack is likely.

This is similar to an FE Protoss stopping a 3 Hatch Hydralisk FE-break attack. The first example would have Protoss build no Cannons until he saw Hydralisks coming, and then warp in just enough to live the attack. This is obviously unreasonable, as it leaves Protoss vulnerable to any attack that would come before the Hydralisk push time. This is why you must understand the concept of buildup, to improve your defences appropriately at each likely attack time.

### **Attack timing**

The concept of static defence timing is a fairly simple one to comprehend. We can now move further forward into attack timing. Typically when you hear a player branded with “great timing”, it is his attack timing that is getting praised.

Let’s look at a “standard” Zerg versus Terran match. Terran does FE off 1 or 2 Barracks with one to six Marines. Zerg does 12 Hatch 11 Pool 13 Hatch making all Drones and heading towards Lair. Terran applies pressure until Mutalisks are out when he returns home to defend. Zerg continues to expand, getting Lurkers out and heading straight for Hive and Defilers. Terran begins to move out with Tanks, Marines, Medics and Vessels, fighting Lurkers, Zerglings and Defilers until someone get pushed back, loses and expansion and the game.

Now, let’s identify when each player is weak, starting with Zerg. Once Medics

and Stimpacks are researched, Zerglings can no longer deal with the Terran army. Similarly, once the Muta harass is over, in the time before Zerg can defend his expansions with Lurkers, he is weak. He is weak once again during the transition when he is waiting for Defilers. These are all key times for the Terran to attack. Watch for it in games of strong players, I guarantee Terran will move out at exactly all three of those times, because they are so crucial times when Zerg is weak.

We can also see when Terran is weak. Once Mutalisks are out, Zerg has free reign of the map and Terran is weak. Similarly, once Lurkers are out Terran often doesn't have Tanks or Vessels to deal with them, so they are again weak. Terran is weak again when Defilers initially come out, because he shouldn't have a great deal of tech to be able to easily fight them at that point. Unlike Terran, these are not necessarily points when Zerg should attack. Terran's "weakness" may come from loss of map control, and Zerg should use that to expand. In other cases, such as Defilers, it is an opportune time to attack.

You should always be using timing to your advantage. If you FE as Terran, you can assume Protoss will double Nexus in response. If you time your army to attack at the critical moment when he has paid for his expansion but not gotten any benefit from it, you may be able to break it.

This is the critical idea to timing attacks – you attack someone when they have spent resources but have not yet gotten any benefit from it. If you mistype your attack too soon they will not have spent the resources and will be able to crush you, but if you wait too long they will have the added benefit of whatever they spend resources on (new expansion – more minerals and hence more units, or new tech – able to counter your attack because you haven't teched because you were doing a timing attack). Players relying on timing attacks walk a thin line between attacking too early or too late, but if timed right timing attacks are the most devastating attacks in the game.

### **Production timing**

Production timing is the balancing act of infrastructure, tech, economy, and army size. The theory of it is far too complicated to go into extensive theoretical detail, so instead we will rely on vague theories and examples.

Production timing is like static defence timing but with more options and is heavily tied to attack timing. If you are planning on attacking in 3 minutes, should you cut workers now and build only units, or cut them in 2 minutes and build units? Which gives you the largest possible army 3 minutes from now? If you know when you are going to be doing a timing attack, production timing makes that army as strong as possible. An example of this is [FireBatHero versus Savior on Katrina](#). FBH cuts units and Turrets in order to get seven Barracks producing units by the time Mutalisks are out. The result is a midgame timing attack before Lurkers that Savior's Mutalisks cannot hold back. This is a true timing attack, but the main thing to take

awhile from this game is the timing of production. FireBatHero maximizes his economy by making as few units as possible, and then transitions into maximizing his army by making few workers and static defence as he approaches the time to attack.

### **Counter-production timing**

StarCraft often works in a Rock-Paper-Scissors cyclical nature. If you look at what I've said earlier, Zerg is weak after the Mutalisk harass is defended and they don't have Lurkers out. Why? Because they've spent time and resources (on buildings, research and morphing Lurkers) and they haven't got any benefit from this. So a Terran timing attack at this point would be strong.

But as a Zerg player, you know you're weak to this timing attack. So what if you time your army to be maximized when his timing attack comes? This is the essence of counter-timing. As difficult as timing is to master, counter-timing is that much more difficult.

Let's examine the possibilities in the Zerg versus Terran scenario. If all goes according to plan, Terran moves out with his timing attack, but Zerg hasn't even made a Hydralisk Den. He has instead decided to focus on pure MutaLing. Terran moves out, expecting to find a dwindling Zerg economy stalling for time while Lurkers are morphing, and instead finds a massive MutaLing army that crushes him.

Let's reply the scenario with a smarter Terran. Terran first notices that Zerg is still making Mutalisks through this early midgame. After scouting, he realizes there is no Hydralisk Den, so Zerg much have shifted his production for a counter-timing attack. As a result, Terran shifts his timing. He will wait until Zerg places an expansion or Hydralisk Den and then attempt his timing attack yet again.

This is the dance of StarCraft timing; Having a timing that works on standards games, but realizing why it works so that you may shift your timing to adapt to what you see.

### **Summary**

I hope you can understand why timing is so important in any real-time, competitive situation. You must time your defences to avoid wasted resources. You must time your attacks when your opponent is weakest. You must time your production so that you maximize your economy or army when necessary.

[Originally posted by Chill on teamliquid.net Broodwar Strategy forum]