

**Karox's Guide to Almost Everything in Eve**  
**Part 1 – Weapon Systems**  
**(Compiled with the assistance of Sumerio Rayej)**

There are 6 distinct weapon systems in Eve: Hybrid Weapons, Projectile Weapons, Laser Weapons, Missile Weapons, Drones and Smartbombs (and subsequently doomsday weapons).

**Skills Basics**

All weapon systems come in multiple sizes – small, medium, large and capital (light, medium, heavy, and fighters in the case of drones) – and there are usually different skill requirements for each size of weapon. Typically, a certain level of skill in the smaller size weapons is required before you can train the skill for a larger weapon of the same type of system – i.e. you need to know small and medium hybrid turret skills before you can learn the large hybrid turret skill.

Note also that when training up for the Tech 2 versions of the weapons, if you are training gunnery based weapons, you must train up the lower levels of the basic skill and each of the lower levels of the Tech 2 skills as well – for example to get to medium blaster specialisation, you need to train up small blaster specialisation to level 4, which also requires small hybrid weapons skill training to level 5. Missiles are slightly different in that whilst you need to train up to a mid-level knowledge of the 'lower' skill, you do not need to follow the full level 5 and specialisation training to advance to the next tier of tech 2 missiles – you simply need to get to level 5 in the missile skill of choice and train the specialisation skill.

This difference in training style is offset by the number of skill points that is needed in support skills and pure skills for a gunner versus a missile user – many of the missile based skills are a higher rank, and therefore need more skillpoints to get to an equivalent level of competency compared to guns. Most of the support skills cannot be compared of course, skills for guns that improve the tracking speed or optimal range cannot be compared to a missile which has skills that modify the velocity and explosion velocity for instance.

The purely comparable skills such as surgical strike and warhead upgrades that are the pure damage increasing skills for guns and missiles respectively show that surgical strike, the gunnery based skill, provides a higher bonus and requires a lower skillpoint investment.

Two skills in the Gunnery section which are useful for any pilot, even missile users is the 'Weapon Upgrades' and 'Advanced Weapon Upgrades' skills – weapon upgrades reduces the CPU need of weapons, and the advanced skill (which requires the basic skill to level 5 first) reduces the powergrid requirement of weapons. When you come to look at the different types of weapons, many of them have alternative types of the same category, which as they improve will require more of your ships resources to fit – the trade off is of course a generally better gun – but fitting them in the first place is generally tough without good fitting skills such as these.

**Guns**

The first 3 weapon systems – hybrid, projectile and laser weapons – are all 'guns'. The skills for these can be found in the gunnery skill section. Certain skills, such as gunnery, sharpshooter and surgical strike, apply to all types of guns, though some skills that are very useful for one type of gun may be only minimally useful for another type of gun (controlled bursts, for example, which reduces the amount of capacitor needed per shot is vital for lasers, important for hybrids, and useless for projectiles). Other skills, such as small hybrid turret and medium beam laser specialization, apply to only a subset of the gun weapon systems. Each of the gun weapon systems has a shorter and longer range variety. The short range guns are typically capable of inflicting more damage (players will often refer to the 'dps', or 'damage per

second' that their ship setup can inflict) but they require that you expose your ship to the much greater threat region of close combat. The skill requirements for the short and long range guns only differ once you begin training the specialization skills required for tech 2 weapons.

All guns (except for the gun that 'newbie frigates' start with) require ammunition. With hybrid and projectiles weapons, each shot of a gun uses up one 'charge' of ammo. Lasers work a little differently and will be explained in the laser section below. Guns take time to load, reload or switch ammo types – with hybrids and projectiles, these operations take 10 seconds, but with lasers, it's very quick – only about a second. There are 8 different types of tech 1 ammo for each type of gun weapon system, and those types of ammo come in different sizes for the different sized guns. The ammo types will be described below in the appropriate section. In addition, there are 4 types of tech 2 ammo – 2 for each long-range variety and 2 for each short-range variety of weapon.

With all guns, assuming a 'hit' is scored, damage is inflicted instantaneously on the target when the gun is fired – there's no flight time delay. The chance to score a hit is calculated based on 3 factors: 1) range to the target vs. the optimal range and falloff range of the gun, 2) signature radius of the target vs. signature resolution of the gun, and 3) tracking speed of the gun vs. transverse (or angular) velocity of the target. A comprehensive guide has been provided by CCP, if you want to know how these factors interact in the decision of how to score a hit, see: [http://www.eve-online.com/guide/en/g61\\_5.asp](http://www.eve-online.com/guide/en/g61_5.asp)

In a nutshell, though, if the range to target is less than your gun's optimal range, then there's no chance that range will cause you to miss. Beyond optimal range and there is an increasing chance that you'll miss – roughly 50% at a range equal to optimal + falloff, and at distances greater than optimal + 2x falloff, you will always miss. If the target is small and your gun is large, then there is a chance to miss because of the signature mismatch, and if the target is moving across your field of view quickly relative to your gun's tracking speed, then you might miss because of poor tracking. In general, larger guns have longer optimal and falloff ranges but poorer tracking. Short range guns have better tracking than their long range counterparts. And lasers generally have better tracking than comparable hybrids which generally have better tracking than comparable projectile weapons.

## **Hybrid Weapons**

Hybrid Weapons are the Gallente / Caldari specialisation, with Gallente tending towards Blasters and Caldari tending towards Railguns. Several of the ships of both races gain damage bonuses to Hybrid weapons, but some Gallente ships, such as the speedy Taranis and Thorax, have additional bonuses that make them ideal for getting close to the opponent and melting their hulls with powerful short range fire, whereas several of the Caldari ships have additional bonuses that make them ideal for long range sniping. The Rokh and Harpy, for example, get optimal range bonuses and the long range of Railguns complement those bonuses.

These tendencies are by no means absolute. 'Mix-ups' can be quite useful on occasion – an alternative of the Caldari Harpy or Eagle which uses Blasters (known as the 'Blarpy' or Beagle) can do wonders for the pilot who doesn't mind the risk involved with taking a somewhat slow ship into web range (though a 'Beagle' can be configured to inflict damage from outside most ships' web range, thanks to its optimal range bonus).

Hybrid weapons require energy from your capacitor in order to fire. The amount of capacitor used depends on the type of ammo you are using. The highest damage ammos use the most capacitor energy, though it's actually the mid-range ammos that use the lowest amount. This is an important factor to consider when you are trying to determine how long your capacitor will last during a battle. The type of ammo you use could determine whether your capacitor energy can remain stable under a full load from your modules. Energy neutralizers could also effectively remove you from a battle as an offensive force.

The types of tech 1 ammo for hybrid weapons are listed below in order from highest to lowest base damage. It so happens to be that this is also the order from highest to lowest cost and lowest to highest optimal range, since each type of ammo modifies the optimal range of your hybrid weapons:

The ammo types are: Antimatter, Plutonium, Uranium, Thorium, Lead, Iridium, Tungsten, Iron

There are 2 types of tech 2 (i.e. 'advanced') ammos for railguns and 2 types for blasters. Javelin is the high-damage railgun ammo, but it is generally considered useless because of the enormous penalty it has on optimal range and velocity of your ship. Faction antimatter ammo is almost universally preferred to Javelin. Spike is the long-range railgun ammo, and it greatly increases the effectiveness of sniper ships. Since it heavily penalizes tracking, though, it's really only useful for a long-range sniper. Void is the high damage blaster ammo – with optimal and falloff range penalty, a tracking penalty and a capacitor penalty, you'd usually be better off using faction antimatter ammo, but there are those who use void ammo to good effect. Null is the 'long-range' blaster ammo – it can be useful for when you can't dictate range for a fight, or when you need to stay outside your target's webifier range.

Hybrid weapons can only inflict Thermal and Kinetic damage, but since most ships have mid range resistance to both of those types, this isn't usually considered a significant disadvantage. The ratio of thermal vs. kinetic damage depends on the type of ammo that you choose, but frankly, pilots generally ignore the damage type distribution with more attention paid to the base damage and optimal range bonus stats of the hybrid ammo types.

Within each class and size of hybrid, there are 3 different types to choose from. From the 'lightest' to the 'heaviest' types, the fitting requirements (CPU and powergrid) of the guns get more challenging, the guns use more capacitor and the tracking gets worse, but in exchange, the effective range of the weapon improves and dps and 'alpha strike' improve. Note that the dps difference isn't as pronounced as one might think (particularly with railguns) because of differences in rate of fire, though. With railguns, it's easy to tell the order because the 'lightest' guns have the smallest 'caliber' number – e.g. small railguns go from 75mm to 125mm to 150mm. (Word of warning – don't get confused by the fact that 150mm railguns are small, and "dual 150mm" railguns are medium-sized and therefore use medium-sized ammo.) With blasters, the 'lightest' are the Electron type, Ion are in the middle, and Neutron are heaviest.

Lastly, if you haven't already seen "named" weapons when collecting loot from NPC ships, you will, and you might find it confusing to keep track of which names are the 'best' weapons. The following table is a handy reference for keeping track – generally, the higher the 'meta level' of the weapon, the better it is. Generally, named hybrids are desirable because they have lower CPU requirement than standard tech 1 hybrids, and they give higher damage and may use less capacitor and give longer range:

Railguns have modules ranging from Meta 1 to Meta 4 with the following titles:

- 1) 'Scout', 2) Carbide, 3) Compressed Coil, 4) Prototype

Blasters have the following names for the same meta levels:

- 1) Regulated, 2) Limited, 3) Anode, 4) Modal

Note that there are some other named weapons, but the ones not listed in this guide are rather rare items that are found from either loyalty points from the mission system, or other rare drops such as faction modules from 0.0 rare spawns. There are also craftable rare drops from within the COSMOS system which are functionally similar, but typically very hard to come across.

## **Projectile Weapons**

Projectile Weapons are solely in the domain of Minmatar. The long-range projectile weapons are artillery, and the short-range are autocannons. While projectile weapons typically inflict less 'dps' than hybrid weapons, they have several distinct advantages. For one, projectiles use no capacitor. For another, the ammo choices for projectile weapons allow you more flexibility in damage type – though you have to live with a mix of damage types, projectile weapons can inflict any of the 4 types. And in the case of artillery as opposed to railguns, they inflict higher 'alpha strike' – i.e. the damage done on the first blast of the weapon – the reason they do less 'dps' is because of the long cycle time of artillery. The high 'alpha strike' of artillery can make for a fairly competent sniper setup since it can instantly decimate smaller ships at longer distances whereas a hybrid sniper might require 2 volleys for the same target, giving a few seconds for the target to warp out or jump out. In the case of autocannons vs. blasters, they have incredibly low fitting requirements, leaving plenty of CPU and powergrid for other important mods.

In comparison to hybrid weapons, projectile weapons have poor optimal range but excellent falloff range. This means you'll usually shoot at targets beyond optimal, meaning there's a chance to miss due to range. One of the main benefits of having a low optimal range and high falloff, though, is you can load projectiles with the higher damage, lower optimal range ammo without much real penalty. In order from highest to lowest base damage, the 8 tech 1 ammos are:

EMP, Phased Plasma, Fusion, Titanium Sabot, Depleted Uranium, Proton, Nuclear, Carbonized Lead

Much as with Hybrid weapons, the high damage weapons have the lowest optimal range. As mentioned, projectile weapons can deal out all 4 damage types – EMP ammo does electromagnetic, kinetic and explosive damage, whereas Phased Plasma does kinetic and thermal. Generally most ammo types do a certain amount of kinetic and explosive damage which can be very good against armour tanking opponents (except tech 2 Amarr ships), which make up a large portion of PVP craft.

As with hybrids, there are also 4 types of tech 2, or 'advanced', ammunition for projectiles – 2 for artillery and 2 for autocannons – that can only be used in tech 2 weapons. Quake is the high damage ammo for artillery, but it is hampered by so many debilitating penalties (significant range penalty, terrible hit to ship velocity and cap recharge penalty) that it's generally not considered useful. Tremor, on the other hand, is solid long-range sniper ammo. Barrage is the longer range autocannon ammo – with hardly any penalty for use (cuts tracking speed by 25%), it's pretty good stuff and usually better to use than longer range faction ammo when you either can't or don't want to get really close to your target. Hail, the high-damage autocannon ammo, on the other hand, has terrible range (even falloff range gets hit hard) *and* has a tracking penalty, which can be highly debilitating at the close ranges where hail has to be used. It's usually not recommended, but some will carry it for certain situations because it does actually do appreciably more damage (and with different damage type – mostly explosive) than faction EMP or phased plasma ammo.

As with railguns, projectile weapons come in different caliber within each size and type, and they have similar characteristics as you go from the 'lightest' to the 'heaviest' variety within each class of weapon, with the exception that no projectile weapons use capacitor and artillery come in only 2 calibers for each size category. Be careful not to confuse railgun caliber with projectile calibres – they don't correspond. For example, a 200mm railgun is the mid-range medium-sized railgun, whereas a 200mm is the heaviest of the small autocannons.

To help decode the naming convention for the named projectile weapons, from meta 1 to meta 4 the following varieties are available: 1) Carbine, 2) Gallium, 3) Prototype, 4) 'Scout'. The convention is the same for autocannons and artillery, but just to confuse you, they reused

some names at different meta levels from railguns. (Some other names, like gatling, vulcan, repeating and howitzer have nothing to do with meta level.) Like hybrids, it's generally desirable to use named weapons as an alternative to standard tech 1 projectiles because of fitting requirements and increased offensive capability.

## Lasers

Lasers are the 'classic sci-fi' weapon system, firing pure beams of energy at your target in order to melt their defences. As with all weapon systems, there is a long and short range variety - long-range lasers are beams, and short-range lasers are pulse. Lasers do not use ammo in the classical sense, but they do need a focusing crystal to operate. In the case of tech 1 crystals, they never need to be replaced. With tech 2 and faction crystals, though, they are slowly consumed as the weapon is fired. This has an annoying downside of not allowing your part-used crystals to be stacked, and these cannot be repaired, therefore the person who specialises in lasers tends to have a lot of part-used crystals lying around. As far as its function, though, a partly used crystal is just as good as a brand-new crystal until it is completely used up and disappears.

Lasers also use a lot of capacitor to shoot, so much so in fact that a lot of Amarr ships give capacitor reduction bonuses to each shot instead of damage increasing bonuses, and this high capacitor drain almost means that no other racial ships can mount lasers and be as effective as Amarr craft. Most of the focusing crystals do provide some capacitor reduction benefit however. Lasers are unusual in that the longer and shorter range weapons have the same damage modifiers, though pulse lasers have slightly faster rate of fire; the main option, though, is between long range, slow tracking, and high capacitor use vs. shorter range, faster tracking and lower capacitor use. Range and damage modifier is adjusted by fitting various focusing crystals as mentioned above.

From highest damage to lowest damage (again, reverse order for range), the tech 1 crystals are: Multifrequency, Gamma, XRay, Ultraviolet, Standard, Infrared, Microwave, Radio

Unlike other ammo, though, this order does not represent decreasing cost – it's actually the middle crystals that are cheapest. Lasers can only do electromagnetic or thermal damage, though different crystals give a different mix of those two damage types. EM/Thermal makes lasers deadly against shield tanked opponents, but their damage is partially mitigated by the higher base EM resist on armour tanked hulls.

There are also 4 tech 2 ('advanced') laser crystals – 2 for beam and 2 for pulse lasers – that can only be used in tech 2 weapons. Aurora is the long range beam ammo – it's the choice of Amarr snipers. Gleam, however, offers barely more damage than faction multifrequency crystals and has a higher range penalty *and* a tracking penalty. Most suggest sticking to high-damage faction ammo. Conflagration is the high-damage pulse crystal – because of the tracking penalty and extra capacitor usage, you'll probably want to stick to faction crystals for high damage. Still, because laser crystals can be switched out quickly, some pilots will carry this ammo for certain situations. Scorch, however (following the familiar theme of the longer-ranged tech 2 ammos), is well-liked because it gives extended range and does more damage than the comparably-ranged faction crystals. It also helps that crystals can be swapped out with hardly any reload time once you get too close for scorch to be your best choice.

As with other guns, lasers have different varieties within each size and type. The following table lists the types from lightest to heaviest:

	Beam			Pulse		
Small	Dual Light	Medium		Gatling	Dual Light	Medium
Medium	Quad Light	Focused Medium	Heavy	Focused Medium	Heavy	
Large	Dual Heavy	Mega	Tachyon	Dual Heavy	Mega	

Yes, that's right. A 'medium' beam or pulse laser is actually *small* and uses small crystals. Same as a Heavy is really a medium. The convention laser meta levels is as follows: 1) Afocal, 2) Modal, 3) Anode, 4) Modulated. At least Anode, as with blasters, is meta 3, but notice that Modal is used to describe different meta level blasters vs. lasers. Again, because they are easier to fit, have slightly better range and can dish out more damage, named lasers are desirable as alternatives to standard tech 1 weapons.

## **Missile Weapons**

Typically, Caldari are the masters of missile systems with several ships intended to be used exclusively with them. Amarr Tech 2 ships have several focused on pure missile damage, and each race has a Stealth Bomber which is designed to fire cruise missiles from a stealthed, frigate sized ship.

Most of the skills for missile weapons can be found in the 'missile launcher operation' skill group. Don't forget two key skills in the gunnery section though – weapon upgrades and advanced weapon upgrades, which reduce the CPU and Powergrid requirements of the missile launchers. As with guns, missile weapons come in a long range and short range variety – Guided and Unguided. It also impacts what skills affect the missile – Guided Missile Precision works on standard, heavy and cruise missiles but will not work on the short range missiles – rockets, heavy assault missiles, and torpedoes.

As with hybrids and projectiles, each shot of a launcher uses one charge of ammo. Like projectiles, no capacitor energy is required to fire missiles. Missiles work by firing from your launcher, and then zooming through space at a relatively slow rate, unlike guns which effectively hit your opponent at the instant they are fired. For this reason, missiles (especially the long range varieties) are a bit less favoured for PVP, as some opponents can simply outrun the missile, or warp off before they are hit – this makes missiles impractical (but not impossible) for long range sniping setups.

Unlike guns, launchers do not have a 'range'. The range of a missile is determined purely by the missile itself (adjusted by your skills and applicable ship bonuses). Each missile has a max velocity and a max flight time – multiply the two to determine the range at which you can hit a target (though there is a small acceleration phase after firing a missile, which means that it doesn't leave the launcher at maximum velocity, so it will fall slightly short of that expected maximum range). A missile will always hit if your opponent is in range, which is a nice advantage over guns.

Though missiles may hit, they might not inflict their full damage. Each missile has an explosion radius and an explosion velocity. If the target has a signature smaller than the explosion radius, the missile's damage will be reduced. Also, if the target is moving at a velocity higher than the explosion radius, the target will escape some of the missile's damage. Before the speed changes, this was a significant problem, as some PvP targets were so fast as to be immune to missile damage. Now, that problem has been lessened.

Since Quantum Rise the missile damage formula was changed – whilst the exact details haven't been released by CCP (and are unlikely to be) a player named 'Stafen' managed to derive a seemingly correct missile damage formula through testing on the test server, Singularity. This formula is quite complicated, but it is as follows:

$$\text{Damage} = \text{Base\_Damage} * \text{MIN}(\text{MIN}(\text{sig}/\text{Er}, 1), (\text{Ev}/\text{Er} * \text{sig}/\text{vel})^{(\log(\text{drf}) / \log(5.5))})$$

Where

sig = ship's signature

vel = ship's velocity

Er = Explosion Radius of missile  
Ev = Explosion Velocity of missile  
drf = Damage Reduction Factor of missile

The log function is the natural logarithm, to the base e, often denoted as ln.

The 5.5 in the equation is the hidden missile attribute "oaeDamageReductionSensitivity" which you can see in the QR SQL data dump (can also see it in tools like EVEmon).

What this basically means is that the greater effect of speed or signature determines the amount of damage reduction that a ship has against a missile fired at it. A ship with a Microwarp Drive (MWD) active will have a theoretical damage reduction X, due to the reduction based around its speed and increase based on the signature increase from the MWD. A ship with an afterburner (AB) will have a greater damage reduction than X as its speed is increased, but its signature hasn't been. If a ship has an AB active, but has a target painter aimed at it, to increase the signature radius, the damage reduction would approach closer to the original X as the difference between speed and signature radius is much smaller. If a target painter is fired at a MWD active ship, the double increase in signature radius would cause a much lower damage reduction than X.

Therefore the only benefit to an MWD over an AB in missile warfare now is the ability to outrange the missile firer so the lock breaks, as due to the ship speed reductions since Quantum Rise hit, the chance to outrun correctly sized missiles is now much harder if fighting at close range.

Another note about missiles is that there is a weapon system designed to remove them from play – defender missiles. Against NPC opponents, defender missiles are fired on a percentage chance basis, and can be quite devastating to your offensive power as it can destroy a large percentage of the missiles you fire. In PvP, this is not such a significant issue as most players will not fit defenders – the system is very clumsy to use, as it needs to be manually activated as missiles are fired at you, and it also uses up a weapon slot that would generally be better used to do damage.

As a counterpoint to the defender missiles, there are Friend or Foe (FOF) missiles which can be fired without a lock. These can be fitted to the equivalent sized missile launcher by simply swapping out the ammo type, and can be very useful when facing off against opponents who use Jamming or damping to remove target locks, as they will hit any eligible target within range without a need to lock. The obvious issue with this though is that you can't dictate targets, and the missiles decision on who to hit is out of the pilot's hands. An additional skill called 'FoF missiles' is needed in addition to the appropriate missile skill if you intend to use these.

As with hybrids and projectiles, it takes 10 seconds to load, reload or switch ammo in a launcher. Each missile does only one type of damage, but you can select a missile for each damage type. This means that if you can find your opponent is weak to a specific damage type, this can be exploited by loading whichever missile inflicts that type of damage. Since it can be a bit confusing remembering the names for the many different missiles:

<b>Guided</b>	<b>Kinetic</b>	<b>Thermal</b>	<b>Explosive</b>	<b>EM</b>
Standard	Bloodclaw	Flameburst	Piranha	Sabretooth
Heavy	Scourge	Widowmaker	Havoc	Thunderbolt
Cruise	Wrath	Cataclysm	Devastator	Paradise
<b>Unguided</b>	<b>Kinetic</b>	<b>Thermal</b>	<b>Explosive</b>	<b>EM</b>
Rocket	Thorn	Foxfire	Phalanx	Gremlin
Heavy Assault	Terror	Hellfire	Fulmination	Torrent
Torpedo	Juggernaut	Inferno	Bane	Mjolnir

<b>FoF Missiles</b>	<b>Kinetic</b>	<b>Thermal</b>	<b>Explosive</b>	<b>EM</b>
FOF Light	Serpent	Firefly	Exterminator	Seeker
FOF Heavy	Hydra	Hellhound	Eradicator	Stalker
FOF Cruise	Dragon	Phoenix	Obliterator	Hunter

In addition to these standard types of missiles, there are 4 Tech 2 ('advanced') missiles that can only be used in Tech 2 launchers.

Fury are the high-damage guided (long-range) missiles. Because they have larger explosion radius and smaller explosion velocity than their standard counterparts, they should generally only be used against larger targets where they can do more damage than faction missiles. Precision missiles are intended for use against smaller targets, but since they only grant a small decrease in explosion radius, they penalize your ship's velocity, and they do significantly less damage than standard missiles, they are widely considered useless.

Rage are the high-damage unguided missiles. Their range is low, and they have very large explosion radius and a lower explosion velocity than standard unguided missiles, so they are similar to Fury in that they are best used against larger ships and in short range engagements. Javelin are considered useful in situations where you can't dictate short range (unguided missile launchers loaded with Javelin are capable of significantly better range than short-ranged guns of the same size class), but they do far less damage than their standard counterparts.

'Named' launchers differ from standard Tech 1 launchers generally in that they have higher rate of fire (thus higher damage per second) and easier fitting requirements. From meta 1 to meta 4: 'Malkuth', 'Limos', 'XX-####', and 'Arbalest'. 'Limos' launchers may also have an extra piece to their name – compact, advanced or upgraded (depending which class of launcher), but they are all meta level 2. The meta level 3 launchers all have different names, but they follow the same convention of 2 letters, a dash and 4 numbers.

Stealth Bomber ships can also wield the fearsome bomb launcher. This unleashes a low speed projectile which does extensive damage, several thousand points in a 15km area of effect. These bombs are incredibly expensive to produce, costing around multi-millions of Isk per single shell you wish to fire. They are best used to clear gate camps in lower security space due to the risk of hitting innocents in high security space, but chances are that most people will not get 'value for money' from them – in other words the cost of the opponents losses will usually not be worth the cost of the bomb, especially as only frigates and poorly fitted cruisers are likely to die to a single shot – several stealth bombers need to fire a bomb in unison to make a truly devastating attack to make larger craft worry. Note that only 1 can be fitted to a single ship.

## **Drones**

Drones are going to get a full guide sub section of their own due to their complexity and functionality, as aside from the basic combat drones there are several alternate drone types available. For the sake of this guide, I will discuss the combat drones that are used as damage support to your primary weapon systems.

Drones operate within a control range system, which means that your skills directly affect how far the drones can be used. With the exception of sentry drones, there are no long range or short range options, simply 'can reach the target' and 'can't reach the target'.

They are unique among weapon systems that these can be individually destroyed by standard weapons. Many drones can be simply removed entirely as a threat by use of a smartbomb. Drones are limited to a maximum of 5 in space at any one time on sub-capital ships (one exception remains in the Guardian Vexor which can field more than 5 drones, but are very



rare and expensive, typically in the value of Billions of Isk each as these were given away as tournament prizes in the past)

Motherships and Carrier ships can field complex drones known as fighters, which with ship bonuses and drone control modules can field many more, typically over 15. These fighters can be assigned to individual ships in the fleet, which allows them full control of the fighter drones as if they were their own.

Gallente ships are the masters of drone control; many of the ships get a bonus to damage and durability of drones. Most of the larger ships can fit drones to a greater or lesser degree however, and they can be a good way of removing the smaller, quicker craft when your main weapon system can't deal with the threat.

Drones can do all 4 damage types, but each separate drone type has different stats which make them unique. Gallente drones do thermal damage, and have the highest damage modifier, but they are slow to travel. Caldari drones have the highest shields, and do Kinetic damage. Amarr drones have a large amount of armour, and do EM damage but have the lowest damage modifier (a fact which limits their use somewhat) and Minmatar drones do explosive damage with a fairly low damage modifier, but their main benefit is that they move the fastest, so can be very good for catching fast-moving PVP opponents.

### **Smartbombs and Doomsday weapons**

Smartbombs are a fairly infrequently seen weapon system that has its own specialised use. The premise of a smart bomb is a short range, multi-directional blast which damages all ships in the area of effect. Each smartbomb is specialised to one type of damage, much like missiles.

In High security space, these can be as much of a threat to the bomber as the target, as any non sanctioned opponent caught in the blast radius will bring on the wrath of Concord – in fact some pilots like to use the rather unsavory tactic of sneaking a cloaked ship into range of a smartbomb-using mission runner to simply get them attacked. Because of this, Smartbombs tend to be used more in 0.0 space and lowsec where there is no risk of Concord intervention.

In keeping with the attempt to “demystify” named weapons, there is a single named smartbomb for each damage type. The ‘Vehemence’ shockwave deals EM damage and is meta level 1. The ‘Notos’ explosive charge deals, not surprisingly, explosive damage and is meta level 2. The Rudimentary concussion bomb deals kinetic damage and is meta level 1. The YF-12A smartbomb deals thermal damage and is meta level 1. There are no meta level 3 or 4 smartbombs, and the 4 named varieties differ only in CPU requirement and damage type (plus the outlier ‘Notos’ being meta 2).

A doomsday device is a much larger version of a smartbomb that can only be fitted to a Titan. It affects the entire grid that the ship that fires it is on (and whilst I have never used one, I believe they need to be targeted at a cynosural field). It requires ammo to use, which are the various Isotopes that are gained from Ice mining and are used for POS fuel. Note that a doomsday device can only be activated in 0.0 space.

Doomsday devices have a very slow recharge rate, they can only be fired once an hour, and once it fires, the Titan cannot jump for 10 minutes. The doomsday devices each do one of the four different damage types as with all other smartbombs, and each Titan has a fitting bonus to the racial type of doomsday device, therefore they can't be ‘mixed and matched’ to suit the encounter unless you have the option of fielding different types of Titan.