

## Super Heavy Cruisers...One Man's View – 4 Jun 2010

Probably one of the most often discussed, but least agreed upon, potential ship class in SFB is the fabled "Super Heavy Cruiser". The type is referenced in a handful of places in the rulebook, and only one ship actually bearing that classification has ever been published – the Romulan Killerhawk.

The Killerhawk is a very late-GW cruiser up-gunned with a dreadnought's heavy weapon suite, and was intended as a stand-in for lost dreadnoughts. The up-gunning is so extensive that the ship is subject to shock. The class appears a year after the introduction of the first Romulan X-cruisers, and only two were built.

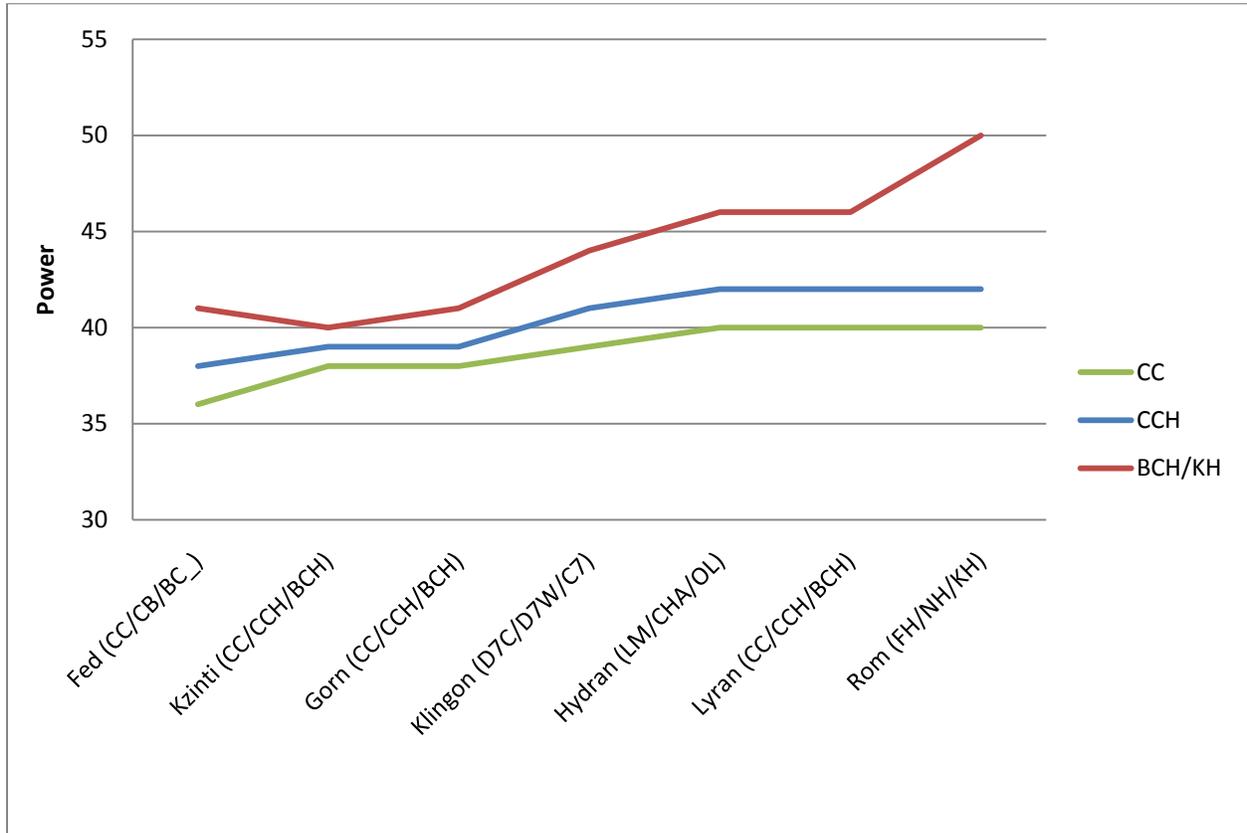
The Romulans had a unique set of circumstances that lead them to produce a Super Heavy Cruiser. A significant portion of their territory (and dreadnought production facilities) has been decimated by Operation Remus, and a significant number of Dreadnoughts had either been lost or delayed in the evacuation from Remus. I believe it was that need for DN-replacements that drove the Romulan decision to build the Killerhawk.

There is only one other ship class that comes close to the Killerhawk's unique characteristics. The Federation Montana-class BCJ is similar in a number of respects. It is a cruiser class carrying the heavy weapons of a DN. It is subject to shock. It was built in the late GW after the introduction of X-ships. Only two were built. I would contend that the BCJ class IS the Federation Super Heavy Cruiser.

This isn't a new opinion. It has been suggested before. The chief argument against it seems to hang around the installed power on the two ship class, and the classification of the ships themselves.

- With regard to classification, the unique nature of Romulans and Federation ship classification systems complicates the issue. S8 refers to the Romulan NH as the Romulan BCH. However, based on BPV and weapons load, it is in many ways more akin to slightly smaller CCHs. The ship is also classed (by name at least) as a Command Cruiser. It might also be thought of as the Romulan NCC, in much the same way that the Rom FH is largely equivalent to many other fleets' NCAs. If, for the sake of argument, the NH is removed from the BCH discussion, and compared to other CCHs, it is comparable. Likewise, the Fed BCJ unquestionably carries more single salvo firepower than any other BCH (with the possible exception of the LDR's Democracy), but still bares the basic BC classification.
- The discussion of power curve is related to the classification discussion. On the surface, the KH (at 50 power) appears to have a power curve massively out of line with the BCJ's power (at 41). However, it should be kept in mind that power curves are not necessarily equal across the various empires. In fact, Federation ships tend to be near the bottom of the power scale in each respective class, while the Romulan "Hawk" series is almost always at or near the top. Pictures are worth a thousand words, so I made graph of the power curves for command cruisers, heavy command cruisers, and heavy battlecruisers across the 7 races with more-or-less "conventional" fleet structures: Fed, Klingon, Romulan, Kzinti, Gorn, Hydran, and Lyran. In the Hydran case, I used the fusion-biased LB and LA as they carry the same fighter load as the Overlord rather than

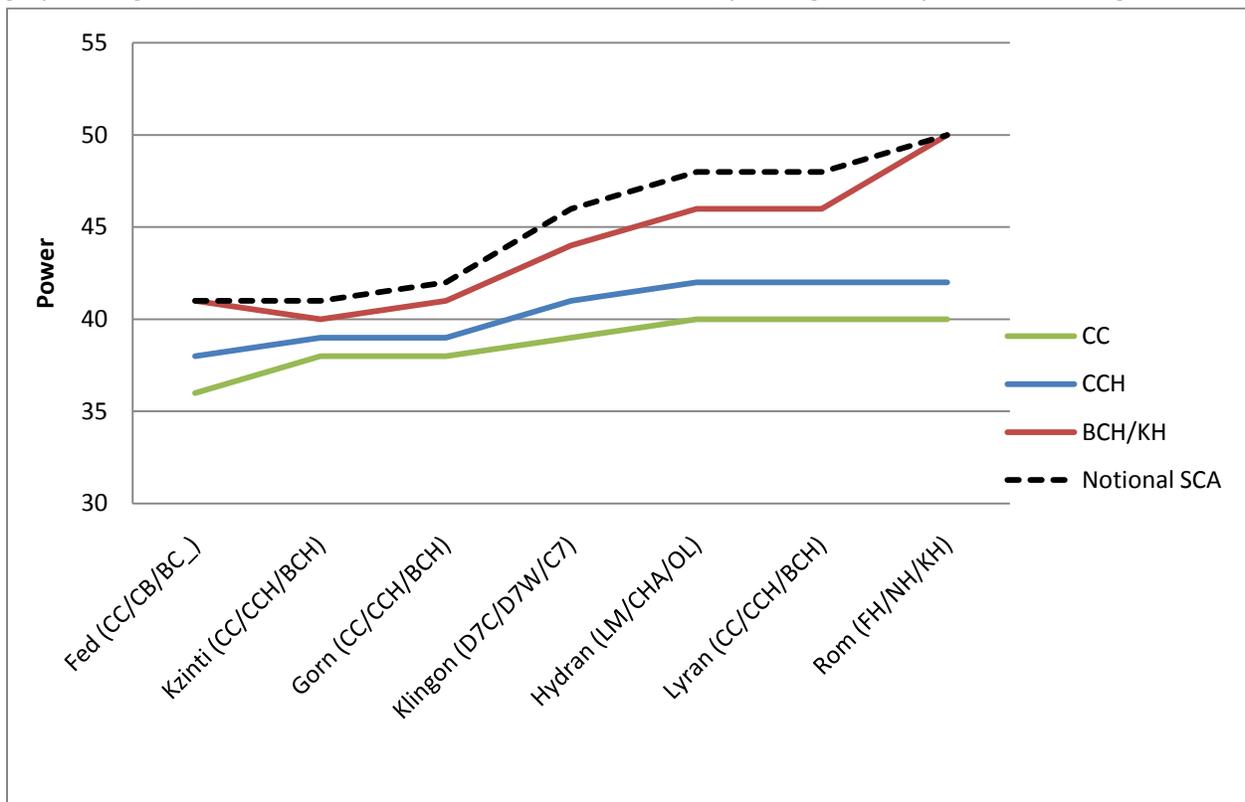
more APRs to feed power-hungry HBs. In the case of the Romulans, I treated the FH as a CC, the NH as a CCH, and the KH as a BCH. This is the result:



The trends are telling. Traditionally, the Feds are at or near the bottom of the power discussion when compared to ships of similar type in other fleets. The Fed BC is unique in that it actually has better power than the power-poor Kzinti, but otherwise it has equal or less power than every other ship considered in the "BCH" range, and less power than three of the ships considered in the "CCH" case, which includes the Romulan NH.

On the opposite end of the scale, there is unmistakable spike in the trend with the KH. While the NH and FH match the other "high power" CCs and CCHs in the Hydran and Lyran fleet point for point, the KH shows a significant 4 point spike compared to the high end of the BCH scale. What's the deal? At least part of it might be attributed to the cloak cost. The NH can cloak for 20 power, while the KH requires 24...4 points. The other is the fact that, when compared to the NH, the KHs PI-R is an entirely new weapon added to the design. If the Fed BCJ is any comparison, its 5<sup>th</sup> and 6<sup>th</sup> photons replace existing weapons to get to the heavy weapon firepower of a DN. In terms of power curve, the KH is undeniably on the high end of the power scale, but the additional power it exhibits over BCHs can be attributed, at least in part, to the cloak cost and having a very power hungry heavy weapon added the design "out of thin air". Thankfully, the roots of the Heavy Hawk series, the SUP, included those big shuttle bays that could become more power over a decade later in the KH.

I'd propose that the BCJ is, in fact, the Federation expression of a Super Heavy Cruiser. The remainder of the Super Heavy Cruiser class would share the basic characteristic of a BCH-sized cruiser with enough firepower added to match the heavy weapon load of a DN and taking the design into the shock range. Some races might or might not have added a little more power along with weapons to their BCH design, depending on racial tendencies. The above graph could serve as a guide there. Likewise some might have replaced existing weapons or added new ones "out of thin air". Bottom line, the ships need not be identical, but must simply lie in the weapon and power range that extends from the BCJ at the bottom and the KH at the top. Some empires may have never actually build a ship like the BCJ or KH, due to lack of need, lack of funds, or recognition that X-cruisers were simply a better option. Using the power graph as a guide, with the ends anchored on the BCJ and KH, you might end up with something like this:



In conclusion, I think the discussion of the "what is a Super Heavy Cruiser" has been missing a look at these trends and what they tell us about ship design. I believe this demonstrates a way to approach the introduction of the Super Heavy Cruiser class in SFB.

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What about X-tech – 5 June 2010

Another important factor is the existence of X-cruisers and the availability of XP technology to improve existing ships. The existing SFB history establishes that X-ships supplanted the BCH classes built a few years earlier, and generally replaced them in the production schemes of most empires. Using the Federation BCs as an illustrative case, the BCG first appeared in Y177, and the last BCF was produced in

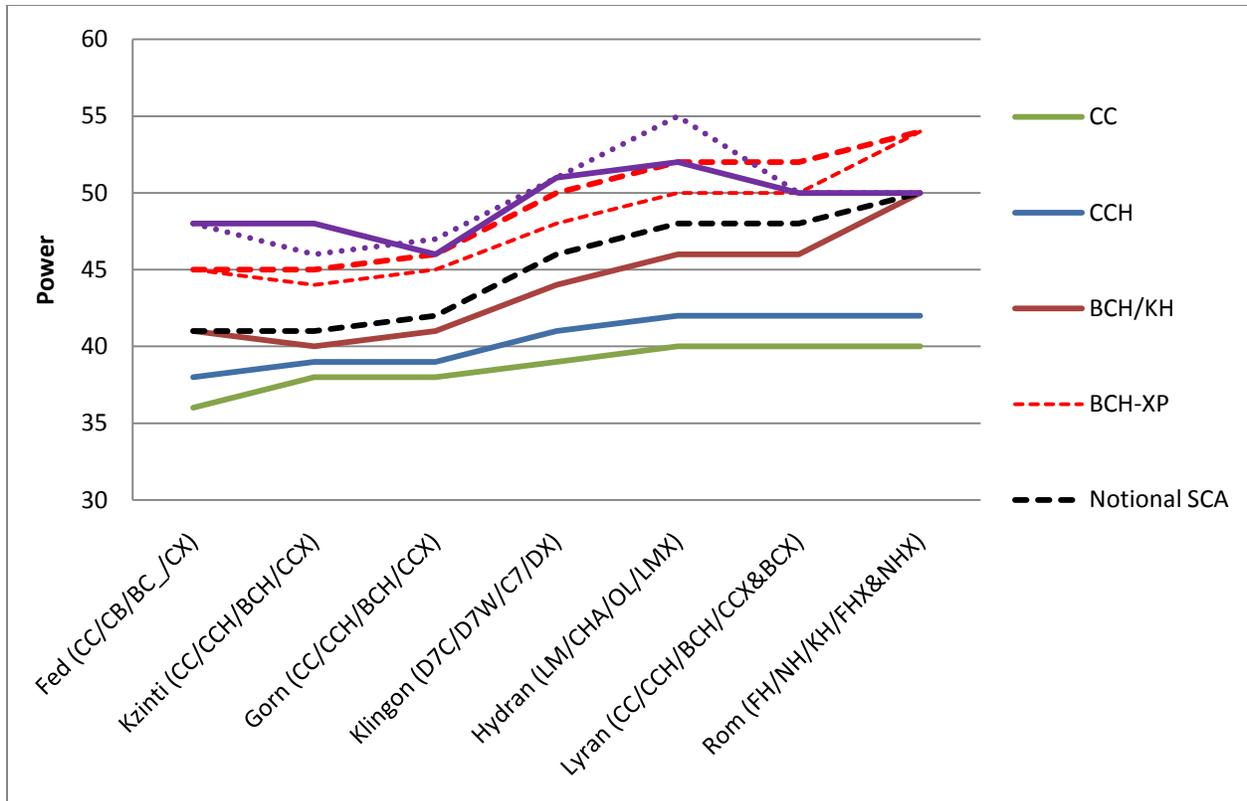
Y182. Only 2 more ships, the modified BCV and BCS were produced after the CX (produced in Y181) presumably proved itself in combat. The two hulls that were to become the *New Jersey* and *Montana* were left idle until Y186 and Y189 respectively, while the CX entered series production. Assuming the production of 1 CX per year from Y181, the Federation would have 5 CXs in service by the time *New Jersey* was commissioned, and 8 CXs by the time of the *Montana*. Based on the ship name registry, the Federation would eventually produce another 5-6 CXs after the second BCJ entered service.

In the Romulan case, the KHs appeared in at about the same time as X-cruisers, with both the first KH and the first FHX appearing in Y183. Only one more KH was built, in Y184, with production presumably ending in favor of the FHX and the later NHX. It is worth noting that the FHX, NHX and KH all have the same generated power – 50.

In addition to the X-cruiser discussion, there is the factor of XP refits. These refits allow BCHs to be brought to a standard on par or nearly on par with X-cruiser. In the particular characteristic of power, a BCH with an X-APR Refit has nearly the same generated power an X-cruiser in most cases, and in some cases, such as the Lyran BCH or the Romulan KH, even more. X-cruisers still tend to have slightly more battery power than a BCH with XP-batteries, but given the very large battery banks on many BCHs, and the general X-cruiser limit of about 5 X-batteries, the difference is not that great. The other most common repository of power, the phaser capacitors, can also be improved with XP refits to hold the same power as an X-ship. And all of this says nothing of the potential upgrades to the heavy weapons of a BCH with XP refits.

All that said, before looking at the numbers, it's important to remember the established SFB history. X-cruisers largely supplant the continued production of BCHs a few years after they are introduced. They become the pre-imminent ships in most fleets, with "conventional" ships soldiering on in their shadows. Only the true DNs, CVAs, and SCSs really seem to share the limelight during the period from about Y185 on. With that context, I think it is important that any Super Heavy Cruisers not massively disturb that trend. The introduction of XP refits allows BCHs to come very close to equaling an X-cruiser as it is. Significant upgrades to the BCH to create a Super Heavy Cruiser could threaten the established position of X-ships, and that's not going to work unless ADB is going to toss out all those copies of X1 and X1R (don't count on it).

So, all that said, here is an updated chart, with X-cruisers, XP-BCHs, and the notional SCA with XP applied:



The graph demonstrates how close the BCH-XP and the Notional SCA-XP compare to X-cruiser power. In some cases, conventional ships with XP applied equal or exceed their X-cruiser counterpart. The differences between the X-cruisers, BCH-XPs and SCA-XPs are all within 3-4 point of power. While the Fed BCJ (again, assuming it were treated as a SCA) with an XP refit falls 3 points of power shy of the Fed CX, several of the others come much closer, and on the high end, XP ships start equaling or exceeding the equivalent X-ship.

From these charts, and argument *could* be made that there is room under the curve for the Feds to have a SCA with 1-2 more power than a BCJ. My only reservation is the existence of the BCJ itself. Given the status of the BCJ as a ship "almost not built" in the era of X-ships, would the Fed have bothered with a more extensive conversion or even a new ship with 2 more power when they were already building X-cruisers in numbers? I have my doubts.

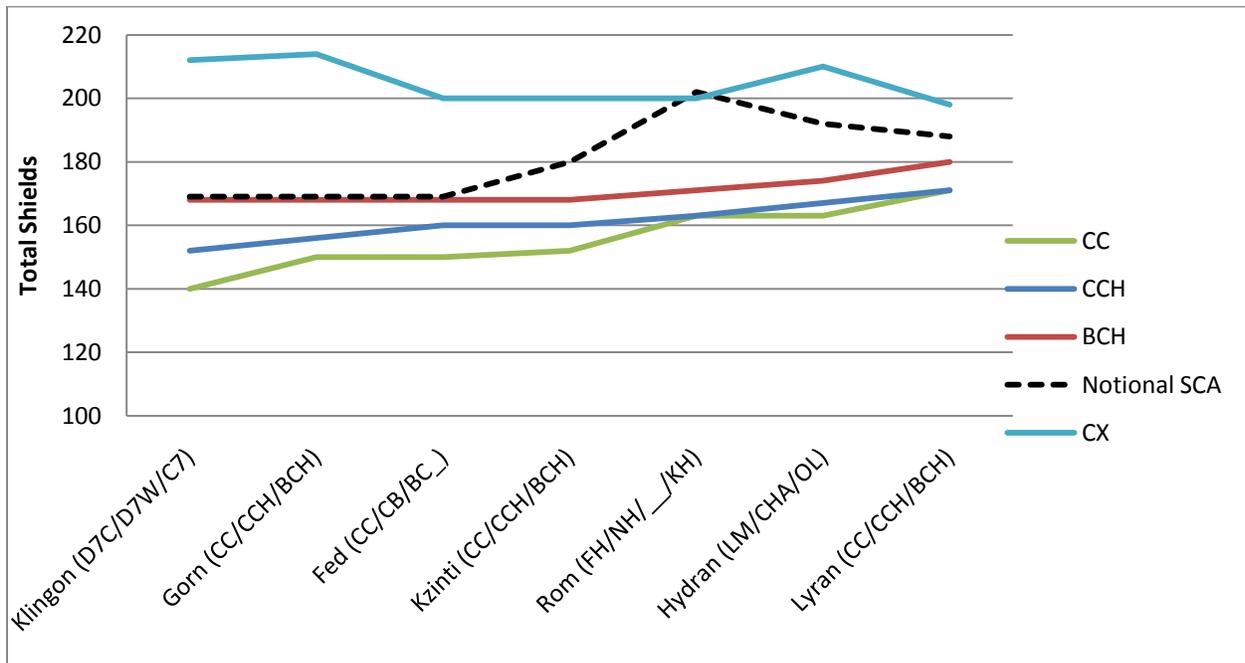
One final thing to consider: The Fed and Kzinti X-cruisers, like so many of their "racial" predecessors, reside at the lower end of the power scale (along with the two Gorn X-cruisers). They also have the lightest direct-fire heavy weapons suites among the X-cruisers, with only four weapons each. While the X-photon is certainly a powerful weapon, the BCJ-XP could have six such weapons, making the lower power of the BCJ an important balance point in maintaining the Federation preference for the CX over the BCJ-XP. The same does not hold true in the case of many ships on the higher end of the power scale. As a result, ships like the Klingon DX, Lyran BCX/CX or Hydran would be less threatened in their status by a BCH with a shock-prone weapon suite.

If the BCJ (or any Fed BC for that matter) were to be "upgraded" to make a new SCA class, I would contend that the improvement needs to be very minor. Even two more APRs could create a ship more powerful than the CX once XP refits are applied. It's debatable that the Fed BCF-XP, an extremely versatile and powerful ship with none of the shock problems, is already there.

My opinion remains that the BCJ, as is, should serve as the Federation attempt at a Super Heavy Cruiser. While it may not be as powerful as some other SCAs turn out to be following the notional "power line", it preserves the place of the CX in the Fed ship design history.

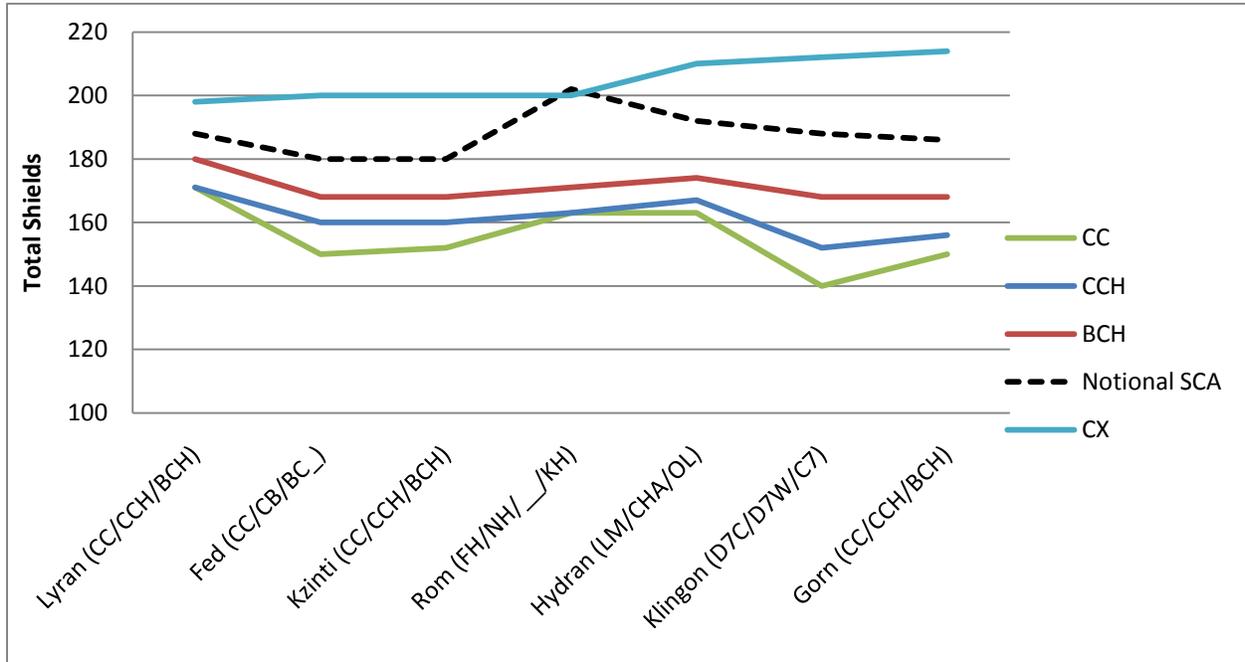
### Shields on an SCA...what a mess - 15 July 2010

A valid point has been raised regarding shields on SCAs. Like power, there is a wide variation between the BCJs 36/30/24/24 and the KHs 40/36/30/30. In my initial effort to design SCAs that fall on the lines defined above, I never really did much with shield improvements. In general, the first drafts of these designs used BCH shielding. I figured a similar approach to power scaling based on "racial" trends could be used for shields. Graph the shields for the same ships, anchor the line for notional SCAs on the total shields for the BCJ and KH, and try to fit a line as based on the trends for the rest. Sounds easy...didn't turn out that way:



As Andy Vancil has pointed out, and this graph shows, there is an absolutely huge leap in shielding on the KH. While Roms, Hyrans, and Lyrans are on the top of the heap with shields in previous classes, just as they were with power, there is a definite trend in General War cruiser classes. X-tech blows everything away in this department (and reverse some of the trends)...except the KH. It is arguable the

KH has the shield generator ripped out of an X-ship. In any case, anchoring the "Notional SCA" shield line on the BCJ and then trying to fit the rest of the line to pre-X tech shield trends, you still end up with this ugly spike at the KH. Its less than satisfying, but if the BCJ is going to be on the "small" end of the SCAs, it is kind of unavoidable.



For the sake of argument, I sorted the data to follow the trend in X-ships, then "unhinged" the Notional SCA line from the "match the BCJ" requirement. This is more art than science, but the above is what I came up with. The shape of the curve is arguable, but it's my rough estimation of a "middle of the road" approach. If separate SCAs, not based on existing BCs were developed, this might be a better way to look at things.

The final way to look at it is to accept that SCA shields should equal X-cruiser shielding. Simply follow the CX curve. If every SCA is going to be a pure copy of the KH, that is a DN replacement built on a cruiser hull, then maybe that is the way to go. I don't want to be too dismissive of the idea, but this seems to be a huge jump in non-X technology. I don't want to declare the KH "broken"...it's published and a fact of life...but it seems almost inexplicable. Based on some of the warship histories, other empires were still building standard BCHs and introducing new BCVs and BCSs when the KH appeared. If such huge shielding was possible on other ships... why was it not applied? For that matter, why didn't the BCJ get bigger shields? Aside from reaching back into the game and making an across the board retrofit to the existing BCH class in the mid Y180s (something I'm not an advocate of), I'm not sure how you can reconcile things outside of technobabble... Maybe the Roms got the bigger shields by stealing shield generators from DN production they were no longer able to complete. Other races didn't suffer the destruction on the scale of Remus and didn't have similar DN shortages. Or some such thing.

Designing the SCA... 16 July 2010

I'm developing something of a hybrid view of the SCA design problem. What if some races pursued dual development tracks to arrive at what they classified as an SCA?

- Track one would be the approach I originally advocated...BCHs pushed to the point of shock. Aside from the added weapons, changes might be very minor. In the case of the Feds, this would be the BCJ. Races at the lower end of the shield and power scales might be very similar, adding little or no additional power or shields.
- Track two would be purpose-built SCAs, build on some other hull form. Lots of possibilities here, but things would still need to fit into the varied historical effects and ship design paradigms. These ships would allow ships at the lower end of the BCH power and shield scale to improve in those areas without disrupting the existing BCH histories.
- On the higher end of the power and shielding scale, these tracks would likely merge, resulting in a single design in some cases.

With that idea in mind, I've assembled the following ships, along with a few spin-offs that happened in the process:

Federation:

1. NEW JERSEY-CLASS BCJ: A "Track 1", up-gunned BCH with no other changes.
2. SUPER-HEAVY CRUISER (SCA): A "Track 2", purpose built SCA with improved power in shields to match the added heavy weapons. Based conceptually on the Fed DNW.
3. Spin-off. ADVANCED BATTLECRUISER (BCX): While the Federation was on the cutting edge with the introduction of the first Advanced Cruiser in Y181, the CX eventually found itself outclassed by less numerous, but more powerful X-ships produced by several neighboring empires. Under pressure from the Adromedan Invasion, the Federation commissioned a handful of more powerful BX-class Advanced Battlecruisers. Unlike the first BCs which preceded the BX by over a decade, the new ships featured a modular design that allowed weapons in the dorsal mounts to be added and removed in a few hours time at a X-base. Structural limitations prevented the fitting of photons without subjecting the ship to shock similar to the BCJ, but the shock rating was much higher (21). As a result, photons were rarely fitted as shock threatened to shorten the operational lives of these very expensive warships.

Designers Notes: View the situation by the time the second BCJ enters service...its Y189. The GW is over. In addition to the surviving DNs, SCs, and CVAs, the Federation has now produced 10 BCs and 8 CXs. The ISC Pacification Campaign is collapsing under the assault by the Andros. The historical information we have indicates the CXs assumed a prominent role as fleet flagships in the Andro war. If the ship name list is to be believed, the Feds eventually produced at least 13-14 CXs + 5 GSXs + 1 GVX, not to mention the NAX class.

With CXs coming off the building ways, would the Federation have refitted the BCJs in the Y190s? I think the answer could be "maybe". Would depend on historical factors in the Andro war we just don't know. Would the Federation have started production of additional, improved BCJs in the presence of the CX class? I personally doubt it. I would think *if* the Feds were start a production of a new "big cruiser" in the Y190s, it would be some form of an improved CX. A new class of non-X big cruisers seems like a massive step backwards. This is a fleet that hasn't had the real opportunity to dispose of all the existing capital ship tonnage from the GW, and builds arguably more X-ships than anyone else.

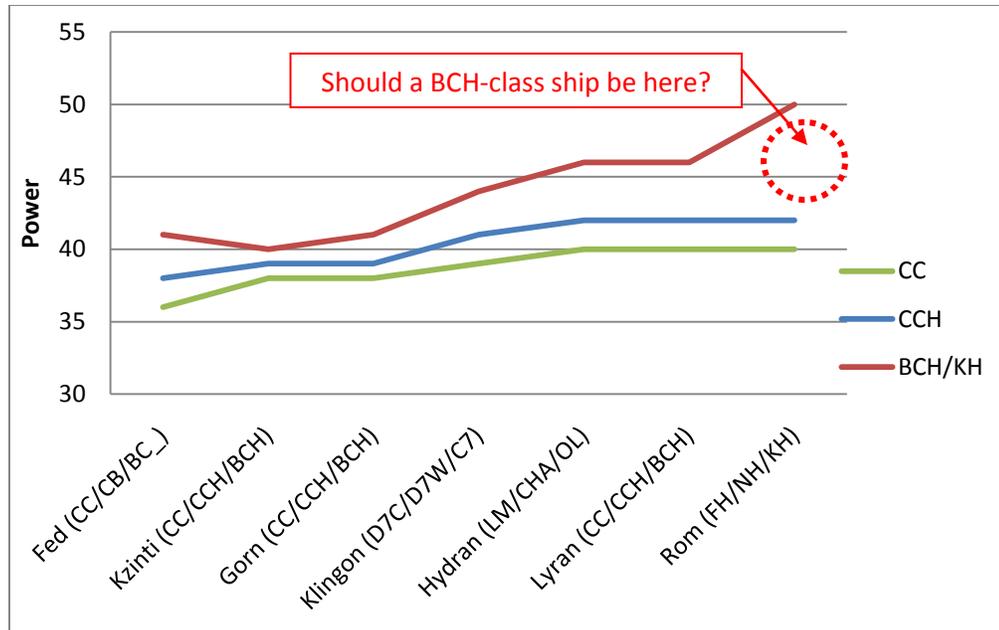
If "I" was managing Fed ship construction in the face of the Andro war, knowing the success of the CX over the preceding decade, this is the kind of ship I would be pursuing in the Y190's. The whole modular weapon thing is just to avoid making a bunch of different SSDs, and the above text is a cover. The ships doesn't add a lot of power over the standard CX (only 2), but it does increase firepower, depending on what weapons go in the dorsal mount. Considering 6-gun X-cruisers like the Klingon DX/Lyran CCX+BCX or "bigger" X-cruisers like the NH-X, I don't think this ship is too out of line. Even so, BCXs have largely been a no-go as far as ADB is concerned...so this is not likely to become historical.

Klingon:

1. C7W SUPER-HEAVY CRUISER (C7W): A "Track 1", up-gunned BCH with slightly improved power, but no shield upgrades. Forward disruptors are placed in the same location as the SFG on the C7A.
2. C11 SUPER-HEAVY CRUISER (C11): A "Track 2" SCA that has the same power as the C7W, but improved shields. A "Frankenstein" ship of sorts, using the boom of the C7, hull of a D5W, and adding two disruptors similar to the F6 on the center engine.

Romulan:

1. KILLERHAWK (KHK): The existing , DN replacing Super Heavy Cruiser.
2. Spin-off. DRAGONHAWK-K HEAVY BATTLECRUISER (DG-K): The power and shield curves assembled in this project revealed a pretty significant "hole" in the Romulan ship progression from the NH to the KH. It's almost as if a ship "should" be in the gap the curves illustrate:



The Dragonhawk is my attempt to design a ship that would fit in that gap. It is basically a KH with the PI-R replaced by a PI-S, and only 4 more power over the NH, vice the 8 of the KH. Presumably it would have a YIS around Y180, and may not have been built for historical reasons. If started, but not completed, they might have served as the basis for the KH.

Kzinti:

1. SUPER-STRIKE CRUISER (SSC): A "Track 1", up-gunned BCH with slightly improved power and shield upgrades.
2. SUPER-HEAVY CRUISER (SCA): A "Track 2", new-production SCA based on the construction techniques used in the DNW. Power and shields are improved over the Track1 ship, but the ship lacks the same internal toughness.

Gorn:

1. SUPER-HEAVY CRUISER (SCA): I've only created a single SCA type for the Gorns, and it is unusual in that it has a non-shock producing weapons suite. This is based on some background text indicating the Gorns were reluctant to produce shock-effected designs. PI-Ds, power, and substantial shields are added instead.

Tholian:

1. SUPER-HEAVY CRUISER (SCA): The unique nature of Tholian ship construction requires a very different approach to the SCA concept. The only ship the Tholian have that gets close to the objectives of an SCA is the D or NCA, and neither is really ideal. A Tholian "Christmas tree" derivative of the CW, using a third hull has been discussed in the past, and Module R10 presented "belly packs" as a means the Tholians used to provide heavy firepower. I've combined the two concepts and arrived at this design. Two alternatives with Photons exist: SUPER-HEAVY PHOTON CRUISER (SCP) and PHOTON SUPER-HEAVY CRUISER (SPP).

2. Spin-off. WAR DREADNOUGHT (DNW): A separate attempt that just ended up being too heavy, this is a pair of CWs welded together like a CA hull. Really more in the league with the DH, this just seemed a bit much for a SCA.
3. Spin-off. BATTLECRUISER (BC): My version of the "Christmas tree" concept that led to the SCA above (had to make this to get there). Lots of potential variants: PHOTON BATTLECRUISER (BCP) , PHASER BATTLECRUISER (BPC) , BATTLE CARRIER (BCV) , BATTLE CONTROL SHIP (BCS).

Hydran:

1. IRON PEGASUS SUPER-HEAVY CRUISER (PIG): While not strictly a "Track 1" design, this SCA based on the Pegasus CL is the slight less potent of the two in terms of power.
2. KAMBOJA SUPER-HEAVY CRUISER (KAM): A slightly more powerful and better balanced SCA, using the bow of a Paladin grafted on the front of an NCA. Not nearly as much character or visual appeal as the PIG above...the designs are so close I could reasonably just drop this one.

Lyran:

1. BEARCAT SUPER HEAVY CRUISER (SCA): A single track design borrowing some influences from the LDR BC *Democracy*, but with some different features to distinguish it. Of the designs represented here, it is the closest to the KH in terms of combat power.

WYN:

1. BULL SHARK SUPER-HEAVY CRUISER (SCA): While the engine arrangement is different this is a "Track 1" design based the WYN BCH. The three engine arrangement is rare in WYN ship design (the conjectural DNs being another example), but it does allow a convenient method to mount the additional disruptors. The use of D5 and F6-style engines affords excellent disruptor arcs, some compensation for the relatively low-end power and shields of this "Track-1" design.

ISC

1. SUPER-HEAVY STAR CRUISER (SCA): Simply an odd duck. Like the Tholian SCA above, I took the approach of adding a "belly pack" introduced in Module R10 to the larger CA. I contemplated adding it the even larger CC, but I was concerned that the ship would be too heavily armed (3 PPDs + 2 PL-S) for game balance purposes. I think that could be done anyway, but the higher movecost is really kind of a killer on these ships outside of a defensive role. Given the power of the base-CC in any case, I'm not sure the ISC really need a "normal" SCA.

Seltorian:

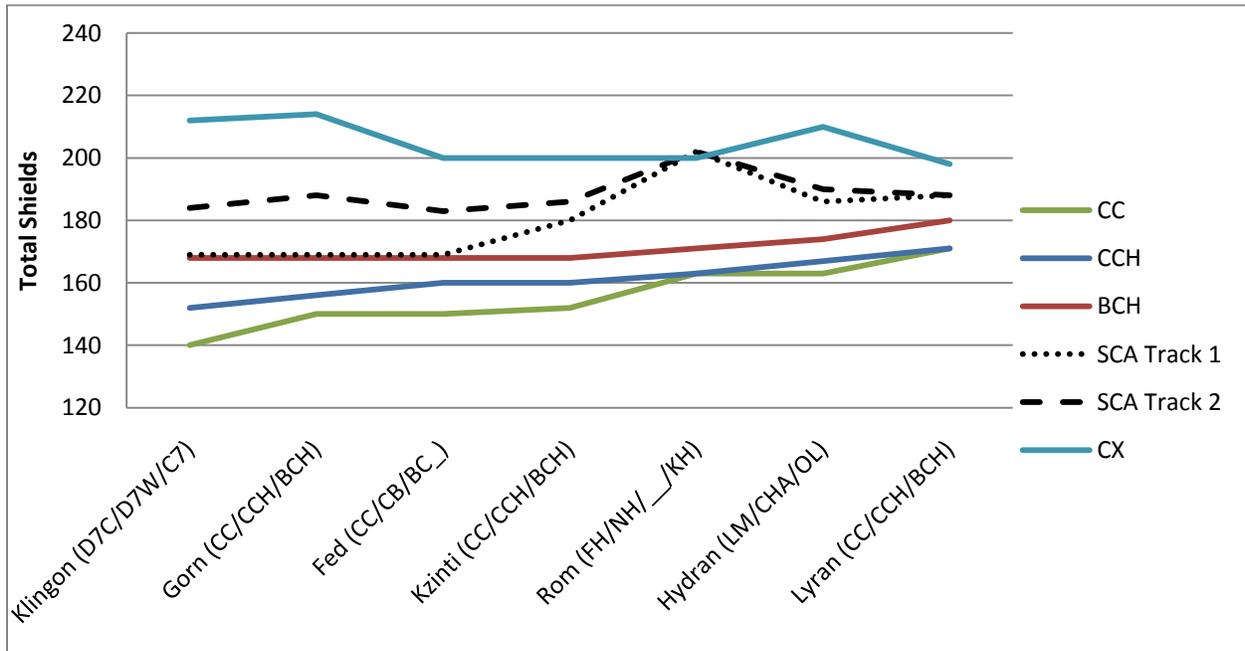
1. SUPER-HEAVY CRUISER (SCA): By far the weakest SCA design I've come up with. That status isn't intentional, but the options to make an SCA within the existing Seltorian design construct is really difficult. The existence of the NCA and DNL really bound the realm of the

possible here, and the only unique thing I could come up with was to use the NCA construct, but add two DD booms instead. It does give the ship a healthy particle cannon count, but it would have a tough time with other races' standard BCHs, and would be in serious trouble vs. most of these other SCAs.

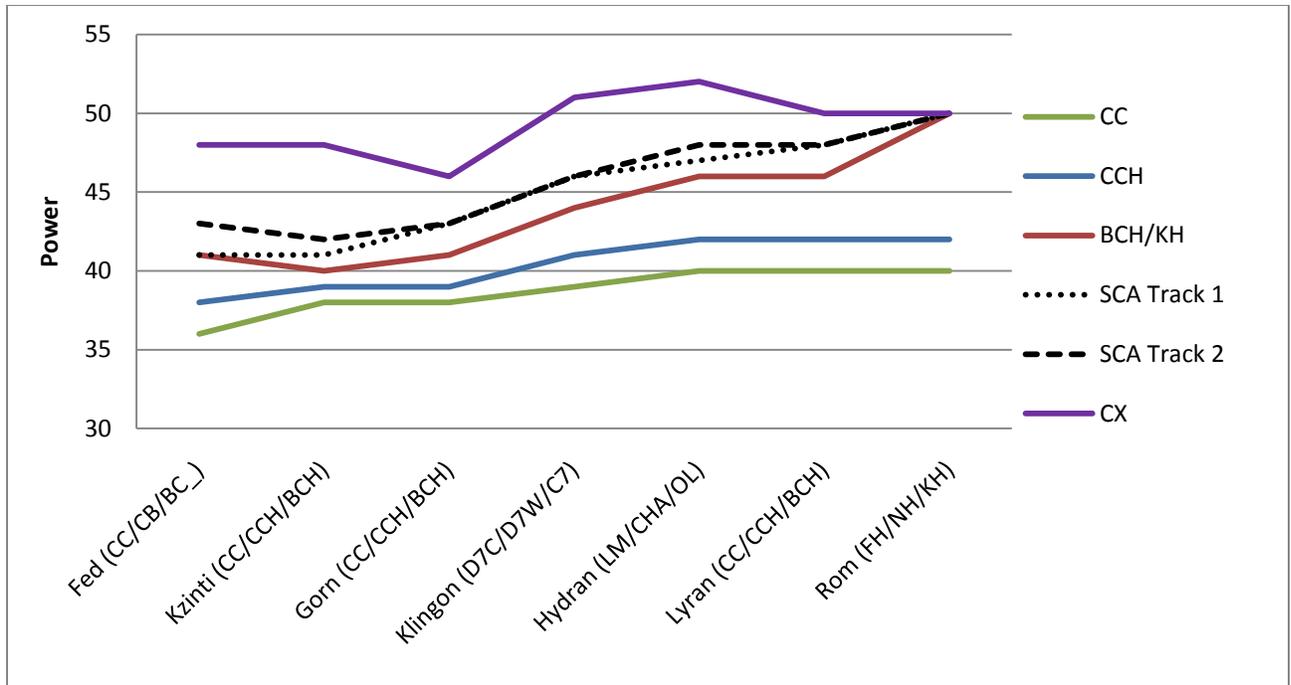
Vudar:

1. SUPER-HEAVY CRUISER (SCA): Like the WYN design above, pretty much a "Track 1" design with only a minor increase in power. Still, at 46 power, its middle of the road in that regard compared to the SCAs above, and Six Ion Cannons is nothing to sneeze at.
2. Spin-offs. BATTLE CARRIER (BCV) and BATTLE CONTROL SHIP (BCS): To get to the SCA SSD, I had to build an SSD for the Vudar BCH. With that work done, it was pretty much impossible to resist designing these two ship types for the Vudar.

With all of that done, let's take a look at the curves again, now revised with actual numbers from the ships above, first with shields:



The SCA Track 2 ships do a better job attaining the "middle ground" between BCH and CX shielding. Again, I emphasize that the super-high shielding of the KH makes it pretty hard to do anything here without some inconsistency and some creative ship description writing is going to be required no matter what is done with shields. Next power:



This is a bit more pleasing. There is still a relatively wide range of power installed across the class, but the empires at the bottom of the scale do have some options to get SCAs with slightly higher power installed without messing with existing BCH histories. These parallel ship classes might be built before or after their "Track 1" brothers, depending on the specific direction taken in ship descriptions to cover the "why" and "when".