

ISSUE

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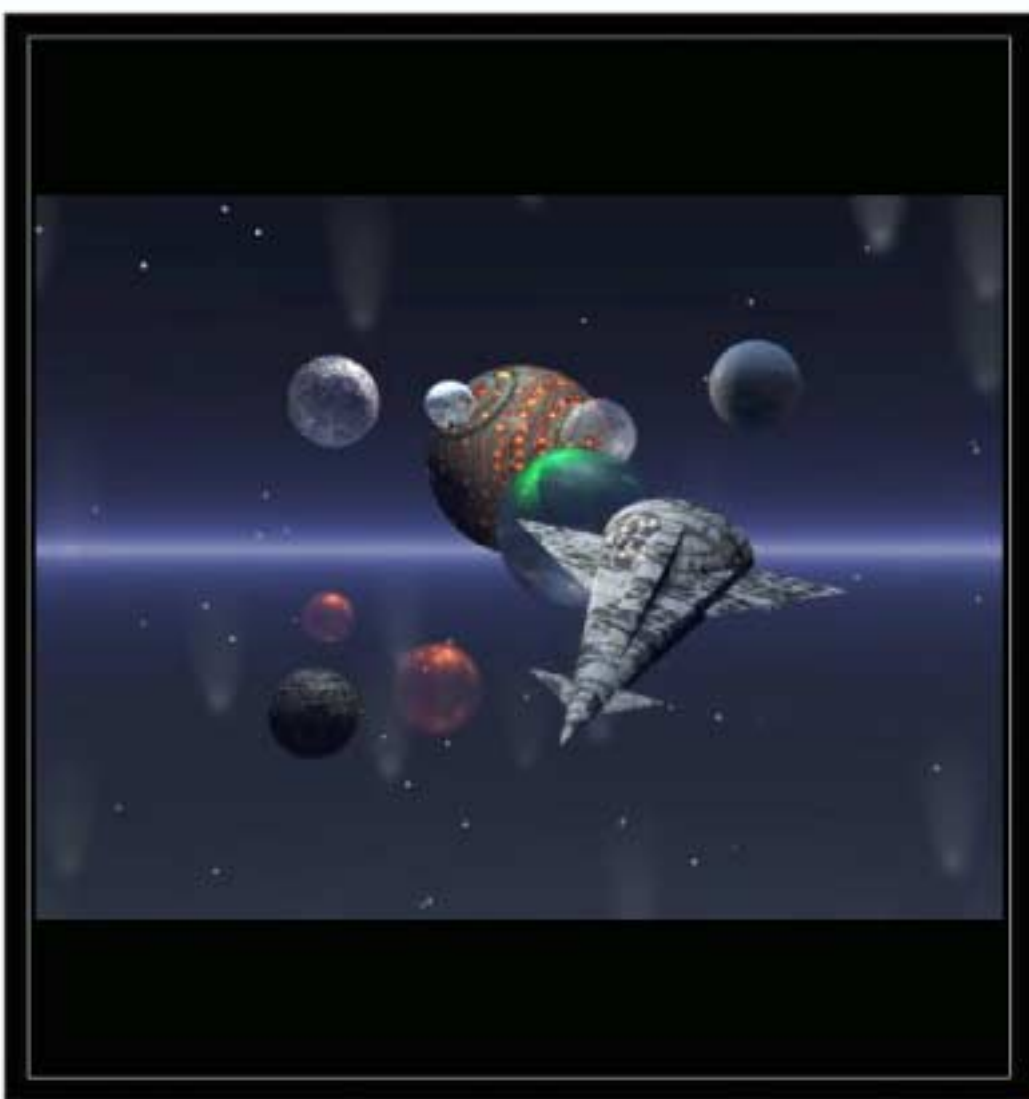
ACTION CHECK

ONLINE + MAGAZINE

STAR*DRIVE

GAMMA WORLD

DARK•MATTER



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STAFF

Publisher/Layout: Jeff Ibach
 Editor: Jim Sharkey
 Oracle and Submission
 Coordinator: Neil Spicer
 Cover Design: Daryl Blasi

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E-Mail: actioncheck@hotmail.com

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Matrixdancer@iname.com

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Artwork by Raven Mimura <http://members.nbci.com/avenmimura/>

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 Issue #12, May-June 2001

Editorial: Under New Management?

I'd like to do something I probably should have done a long time ago. Tell you a little more about behind the scenes of Action Check.

First, to clarify the title, we're not under new management, we've gone through a slight restructuring. When Jim and I set out to do this, we were first told by Jim Butler of Wizards of the Coast "good luck getting submissions", because he said WotC tried soliciting submissions to their Alternity web site a number of times only to get very little response. But Jim Sharkey and I basically thought "It can't be that hard, we'll get folks to send us stuff, edit it, and make it pretty and available for all". In all, I think we've done a pretty good job. Jim's editing is right on, even to the point that we've had comments how people consider us 'canon' now. We were only a two-man operation but somehow Action Check far outlived other Alternity ezines, and continued to be on time month to month faithfully.

On the other hand, Jim and I are busy guys. Action Check isn't my only spearheaded gaming project. At around the same time I created the Third Floor Fellowship, an RPGA sanctioned club to gather my 20-some odd players and contacts into a coherent club which I manage. I also run two ongoing, very in-depth Dungeons and Dragons campaigns each and every other week.

I've come to realize that maybe we weren't the most responsive bunch when it came to customer contact...replying quickly to all questions and submissions. In the beginning we were praised for our quick responses, actually, but as time went on, and the issues got bigger, and bigger, and BIGGER and our subscriber database grew to 300 or more at it's peak, it became a bit overwhelming.

Some of you recognize Neil Spicer as a contributor to (if I'm not mistaken) every issue of Action Check so far. He's provided great, entertaining, and depth-filled articles on all types of Alternity goodness. He's so good we recently brought him on board as the Oracle to answer your Alternity Questions just as if they came from the old A-Team itself. Neil will be the main liaison from this point forward as to your submissions. **If you have had trouble getting swift response from us in the past or wondered about the status of your submission, wonder no longer**, Neil is the new coordinator for Action Check submissions. As always, I will remain the manager/publisher and designer, and Jim Sharkey will continue to edit your submissions to perfection.

This issue was a little late. We'll try not to let it happen again! Please enjoy this issue's excellent submissions and artwork!

-Jeff Ibach, Action Check Online Magazine

Action Check Submissions

To submit an article to Action Check magazine, read and follow the **guidelines** laid out at:

www.alternity.net

And send all submissions (in txt, rtf or doc) to:

actioncheck@hotmail.com

Regular Features:

The Oracle: Ask your Alternity rules questions to our all-knowing Oracle and watch the answers appear!

Transmissions: adventure hooks, along the lines of those previously found in Dragon Magazine for the various campaign settings.

Gridsites: Alternity related Web sites that deserve recognition and serve a specific purpose.

Creature Feature: Aliens, Creatures, Xenofoms, etc. for the Alternity campaign settings.

Futuretech: Gear, equipment, vehicles, weapons, armor and other hardware for the Alternity game.

Supporting Cast: NPC stats for insertion in Alternity games. All submissions must follow the Supporting Cast Template in the Alternity GMG!

Reviews: of Alternity or related-use product.

Special FX: New FX/Psi or mutations.

Plus cartoons, details of campaign ideas, star systems, full adventures, etc.

EDITORIAL



Gridpiloting 101

By Noah Bonebrake

Zone Razor's Guide to Not Getting Fried

Nothing's sadder than seeing a GP wannabe screwing up 'cause he thought he had the slick-est chips in the grid. Most of the time the only chip he had going for him was the one on his shoulder, and not many egoboy last long when all they have to depend on is that one. This is why I'm breaking my silence with little practical advice. If you've never heard of me, here's the explanation: I don't advertise. If you think I have no idea what I'm talking about, well maybe I don't. But if you scan through this and find that at least a little of it makes sense, or if it keeps you from making a fatal mistake down the line, then this little guide has served its purpose. One thing though, I'm not going to walk you through every step. You'll need to do some of the footwork yourself. You'll need to find your own contacts, suppliers, employers, etc. This is just going to give the basics based on what I know and what I've experienced. So grab a drink, get comfortable and scan this:

The first step to becoming a successful gridpilot is having the drive to succeed and perseverance to see you through. This may be obvious to some, but gridpiloting is one of those career choices you don't just stumble into. It takes a conscious decision on the part of the individual to begin his transformation and if you are going to make only a half-hearted attempt, you'll get a lukewarm result. Gridpiloting is a lot more dangerous than the holoVIDs make it out to be and a whole lot less glamorous. Some people want to get into it because of what they've seen on the vids. Excitement, adventure, sure that comes with the job, but the traits that will really make you fly are patience and methodical planning. If that's you, if you're not some vidiot from the burbs, if you're willing to sweat blood for the chance to enter both the most despised and lauded profession this century has to offer, you may yet be a gridpilot.

So hit the books! That's the second step. You

need to study your butt off and if you ain't willing to go to school than you might as well resign yourself to playing VR games. Look at it this way: before you get your first hacker program, before you get your first nano, you need to fill that space between your ears with its own programs. Specifically I'm talking about computer programming, technical knowledge, and system design theory. Just knowing how something works may be good enough for some, but you'll want to know why it works. Better yet you'll want to know why something doesn't work and what to do about it. Before you get on with the next step, enroll in a correspondence college and pick up all the knowledge you can, 'cause without it you won't last five seconds on a gridrun. Oh, and as far as hacking programs are concerned, don't worry about learning how to use them now because first you'll need:

The nanocomputer. Wonderful little piece of equipment. If you want the best money can buy, go right ahead, but you'd better make sure you have enough left over for the peripherals or it's pretty much useless. For just starting out it really doesn't matter how good the processor is since most of what the nano's good for is total VR immersion and speed of thought command functions. Doesn't take a lot of active memory for those two to work. Just make sure you don't pick up a sub-par nano or you'll be sorry later. My first nano was of ordinary quality but it got the job done.

Now you may have heard about the 'snitch' chips some companies stick into their hardware and you may be worried your nano's gonna rat on you on your very first gridrun. Put those fears aside, since those same companies have realized that aside from the total moron who plugs directly into the grid from his headjack, most sane pilots are also going to use a gridcaster to do their dirty work. That's where the snitch chips are and I'll tell you all about how to avoid them later. The nano has a lot more uses than a gridpilot needs to concern himself with at the moment, such as controlling artificial limbs, so it doesn't make sense to include a snitch in a piece of hardware

that may not ever connect to the grid.

What you do want to look for is the serial number. Very important bit of information and I'll tell you why. In and of itself it's meaningless, but once you go to get it installed in your brainpan, it could become an Achilles heel. The reason is this: every state of the art hospital that performs cybernetic surgery logs the serial number of every bit of hardware they implant. It's mandatory. Sometime down the road, if you get traced while on a gridrun, there's a small chance that your nano could be forced to divulge that information and boom, you're caught. Whoever traced you now knows who you are, where you live, etc. Even if you checked into the hospital under an alias, there's always going to be a copy of your bioelectric field as well, and you can't fake that. Which is why I recommend going to a chop shop instead. They're a little more relaxed when it comes to procedures and they're cheaper too. Just be sure they have a bottle of whiskey on hand to sterilize their instruments.

While you're at it, might as well get a Nljack installed at the same time. You have a choice in this as far as where it goes and what kind of interface it has. Where is simple. You want it on your skull or on your arm? The arm costs more and I really don't think it's worth the price. But whatever you do, be sure to tell the doc if you're right or left-handed. Nothing's more annoying than having a gridcaster on one hand and the Nljack on the other. Skulljacks are simpler, cheaper, and if you wear your hair long you can cover it up just as well as an armjack. Like I said, it's your choice. As for the interface, it comes down to fiber optics versus metal leads. Personally, I don't care for getting outside electrical currents that close to my brain so my recommendation would be to go for fiber optics. Still, if you want that retro look, metal is definitely cooler looking. Just don't come crying to me if you mistake that power socket for a gridlink.

After surgery you'll want to take it easy for a while. This is a crucial time for you to get used to your new implants and if you're running around partying there's a very good chance your body will reject them. Besides, it's never a good idea to run around after any kind of surgery. Have a friend ready to drive you home after the proce-

cedure. As soon as you are able, start learning how to use your headware. Each nano comes with a short list of instructions that do you no good whatsoever. You need to find a coach or at the very least try watching an instructional vid. One word of caution: never, never try to jack in to the grid until you've mastered your nano. The consequences could be extremely painful. In fact, don't jack in at all until you've got your gridcaster assembled. I'll show you how to do that in the next installment. For now, just concentrate on healing and if you can con a few people into waiting on you hand and foot, so much the better. Ciao,
Zone Razor

Zone Razor's Guide to Not Getting Fried, Part Deux

Okay, you've got the skills, you're cybered up, and you're itching to make that first big score. Well, you've still got a long way to go before you get to gridland so listen up. Once you've gotten your nano figured out the next step is to connect it to something: your gridcaster.

Most new hacks decide right off the top to order themselves the sharpest gridlauncher they can find. They want to be fast, fluid, virtually unbeatable in a covert run and with the tech being churned out by the big boys it can seem like an easy grab for the brass ring. Poor saps. Their hearts are in the right place, but if only they realized that the reason these companies even release such slick gridware to the masses is to keep tabs on them they'd think twice before unloading all their hard-earned creds. You see, nearly every company that specializes in grid hardware is putting a potential gun to their head. That's why they want to make sure their casters are being used for legitimate reasons. VoidCorp, DataTel, Insight, they're some of the hottest names in the industry and inside every caster, gauntlet, and sensehelmet they make is a little chip that can end your run in a bad way. Snitch chips they're called, and they've been the undoing of more would-be gridpilots than I can count. They're configured to recognize certain types of code that pass through them and to shut those progs down. That means nearly every kind of hacking software as well as some of the more legally dubious utility progs out there. They also

contain protocol recognition so they can't be used against datacores owned by the company that made that particular chip. Even worse, other companies, governments, and powerful individuals purchase the right to add snitch-activating protocols to their domains and networks as well.

Used to be that chip could be removed with a minimum of fuss, but then the big boys got smart. Now every component is interdependent on each other. Take out the snitch chip, you have yourself a dead gauntlet. Even the processor contains snitches, so the best you can hope for when you buy a commercial caster is a lifetime of safe, legal gridding. Unless you really do want to get caught.

Fortunately, you've got your training to fall back on. If you've taken my advice to heart, you'll know all about how to build your own gridlauncher. As for the parts you'll need, you'll soon find yourself visiting those unsung heroes of the gridpilot's world: the independents. Some are relatively

easy to find, some are especially difficult, but the indies have one thing in common: they don't rat. Any corp or person who claims to be an indie and sells snitchware, he ain't an indie. You have to be vigilant, well informed, and know exactly what you're looking for in order to put together a clean caster and the indies can help.

While you're out shopping, why not pick yourself up a toolkit as well? Last time I checked, fingers don't make good soldering irons. And be sure to get yourself a homesite unit. This one you don't have to be as picky on since you won't be using it to launch your grid runs. What will you use it for? Wait and see.

Once you've got the parts, now it's time to put them together. I ain't gonna show you how, that's not my job. My job is to keep you from getting de-rezzed before your time is up. Hopefully you'll manage to put together a functional caster with a minimum of errors and it's a valuable learning experience as well.



Now we get to the really fun stuff: software. You're still not ready for hackersoft, but in the meantime you can whet your appetite on some of the more available merchandise, specifically operator progs and utilities.

The very first utility you need is a Shadow program. Virtually all Shadow programs that can be bought off the street have snitch codes in them. Despite this flaw I recommend you get your hands on a street legal Shadow prog because you're going to be performing your very first hack on it.

This is where your programming skills are put to the test. You need to be able to remove those snitch codes in addition to taking out all the flash and glitz the manufacturers have put in. You want the end result to be a sleek little number that takes up less space in your active memory and, most importantly, remains quiet. Remember, the original designers intended their shadow progs to be used by the uneducated masses and so have built in a wide variety of commands that give the thing its personality. Since you'll be running the prog from your gridcaster, does it really make sense to type out a command to make your shadow smile? That's what your nano's for! So be sure to get rid of all those clunky space-wasting codes, and might as well chuck the help file while you're at it.

You did make sure to back up the original prog and hack from a copy, right?

After you've chopped out all the code you don't need you'll have to customize your shadow's appearance. Most shadow progs come with a variety of preset looks and there are tons of add-on forms available for downloading off the grid. You don't want any of these. Like I said, these progs are meant for the masses and you want your shadow to be unique. The best gridpilots design their shadows according to their own personal tastes and if you want to be taken seriously by your peers you would do well to follow their lead. Your style choice is completely up to you but be forewarned that most seasoned pilots frown on newcomers duplicating the appearance of their shadows. If you're completely stumped on what you want your shadow to look like, take a personality test and base it on your profile. The Juvha-

Norkinsky test is probably going to be the most helpful in this case. Try to give your shadow as photo-realistic a look as possible 'cause your shadow is often the first sign others use to gauge your skill as a programmer.

One other thing I should mention: never add your own comments to any program you hack. People take grid thefts seriously and even if you use every precaution in the book, all it takes is one captured shadow for an psych expert to create a profile and the cops are that much closer to nailing you. And if you leave your real name in a comment box, you deserve to get caught.

As soon as you have finished putting those last touches on your shadow it's time to turn to some other progs, namely the utilities you'll be using most frequently. You'll need transfer progs, datascanners, emulators, just about anything you can think of that will allow you to find and retrieve data with a minimum of fuss. Don't worry about where you'll be retrieving the data from, that'll be covered real soon. Right now, keep yourself busy with buying regular commercial utils and taking all the bells and whistles out of them. And get rid of those help files. By the time you're finished with your legally acquired progs, you'll know them so well you won't need a help file.

Oh, and in case you didn't know, altering commercially licensed software is considered a crime. Congratulations! You've taken your first real step to becoming a gridpilot and you didn't even know it!

Next installment: hackware and your very first gridrun (sort of).

Stay sharp,
Zone Razor

Zone Razor's Guide to Not Getting Fried III

One of the most important things that set a gridpilot apart from the crowd is his command of specialized programs we commonly refer to as hackware. Hackware is different from regular progs in several aspects, most notably legality and interactivity. You'll sometimes hear it referred to as 'greyware', but since this category can also contain some shadier utils and ops,

hackware is a bit more specific. The best known hackware prog is the Break-In. It's also one of the most dangerous if you have no idea of what you're doing because it can make a lot of noise in the hands of an untrained pilot. This step is divided into two parts: acquiring hackware and learning how to use it properly.

Finding decent hackware is difficult to say the least. You have to go to the street to find it and in many cases you won't end up with what you pay for. Always ask to see the specs on any piece of hackware you're considering and if possible try to get a look at some of the code before you buy. A dealer who refuses probably isn't selling something you want.

Once you've got your hackware you may be tempted to try it out on a run. Resist that impulse! More than any other soft, hackware requires time to sort through its code and may contain a few nasty bugs that need fixing. Plus you need time to train with your new toy.

As I said before hackware is different from other soft in that it is highly interactive. Running a Break-In is more than just revving it up and turning it loose. If you do that you'll have algorithms bouncing all over the place and it can get quite loud. You need to pay attention to your feedback and be quick about the commands you give the prog or else you could find yourself in a nasty situation. Concentration is paramount to success.

Learning hackware is difficult at first. It's like nothing you've ever experienced before and you may get frustrated. Some online sources exist that claim they can teach you how to use hackware proficiently, but I know firsthand the best teacher is trial and error. While you learn how to use this particular style of soft, you'll find that your response time gets better and your hunches become more accurate. As you get more familiar with each hackware prog, you're also picking up the invaluable skills you need to make your real gridruns work.

So how do you get to test your hackware without getting caught? This is where that homesite unit you acquired comes in. What you do is set up a mock datacore within the homesite, load it with a few defense progs and a target file and hack away. You're not connected to the grid so you

don't have to worry about committing a felony. Just set up a doorkeeper prog, maybe a low-grade menace or two and go at it. You'll get de-rezzed many times but each time you'll learn from your mistakes and eventually you'll reach your goal.

Now try randomizing your defense progs. Each run you make will be different from the last and you'll learn how to think on the fly. You'll get a feel for which prog works best against a particular defense. Don't shortchange yourself on practicing these runs or you'll regret it down the road.

A word on shadow weapons and armor: know when to use them and when to keep them in reserve. Anything that can hurt your shadow you need a defense against. But don't be fooled into thinking that when you armor up you need to draw your weapon as well. There's other ways to hurt an opponent other than direct fire. For example, if you're engaged in a shootout with a corporation defense team, you'll stay one step ahead of them if you hit them with static. Only a few are trying to de-rez you. The others are more likely to run traces than fight. Of course if you ever do find yourself in that situation, your best option is a fast scrub-out.

Okay, we've reached the end of training. If you're still set on piloting your way into domains most can't or won't go, it's time to put your skills to real use. Time to hit the grid.

You can either use your original homesite or build yourself a clean one from scratch. Whatever you decide, this is going to be your next to last line of defense against intruders that may decide to pay you a visit while you're out and about. You also will need to register your homesite in order to connect to the grid. Some pilots prefer to just connect their gridcaster without this extra defense partly because of the registering requirement, but in the long run it pays to be more prepared than anonymous.

Part of the reason you need to register is that you're opening up a domain every time you jack in but the grid won't recognize unregistered homesites. It can't see in and you can't see out. Once the recognition code is sent and an acknowledgment is received, you'll be able to get out into the greater grid and from there your

choices are limitless. If you're still worried about traces finding you, that's where my first rule of thumb is applied: Never run the grid from where you live. Never. You need to be mobile and you need an escape route for when things go sour. If you're sitting at home when they find you, don't say I didn't warn you.

Next time: How to score your first job and a few words on how to act without embarrassing yourself.

Later,
Zone Razor

Zone Razor's Guide to Not Getting Fried, the Fourth

Easier said than done. That phrase applies to so many things on the grid and finding that big score is no different. The choices you are confronted with online are limitless and if you're gonna sling your skill ya gotta narrow your parameters. Otherwise you're wasting your time. There are two types of gridruns: self-initiated and outsider-affiliated. The second is where the real creds are at, but in order to get there you have to prove you're a top-notch hack or you'll be spinning your shadow in the datastream for nobody but yourself.

You have to start small. Every big fish started out small and you're no exception. Not only will self-initiated gridruns give you the foothold you need to get to the top, it will also give you the contacts you need to stay in business. And that's where a gridpilot's real strength lies, not in what he can do but in who he knows.

There was this guy, see? He had it in his mind to make a name for himself but every time he advertised his biz, he was laughed right off the Grid. So one day he gets an idea. Moled his way into the most prestigious university in his system and broke into the grade book of a certain molecular biology professor. Took down the names of a dozen or so flunks in the class, cross-referenced them with the public records database and found some very interesting data. Turns out one flunk had a few run-ins with the authorities on a number of minor misdemeanors. Stuff like public intox, excessive noise, joyriding, regular party head things no one really cares

about outside of college. So this gridpilot figures he's gonna play a hunch on this guy, goes back to the university datacore and lifts the flunk's transcript. He's in serious jeopardy of getting booted out. Another cross-reference reveals the guy's father is a high roller in a very well-to-do corp and so this gridpilot puts together a scheme. Help the flunk save his butt and milk the ride for all it's worth.

In the end, partyboy graduates in the top thirty percent, winds up working for his now VP father and the hero of the story not only ends up with a healthy bank account, he now has an in at Carverston Inc. Every now and then he gets contacted by Carverston Inc. for 'special' assignments and never has to worry about going hungry again.

That, boys and girls, is a true story.

Your first gridrun may be as successful or you may end up serving time. The point is, use your brain. Everybody wants something. Many times it's something they can't have, and if you've got the ability make it available, then chances are good they'll shell out plenty to get it. Start small and work your way up. Oh, and never give out your real name.

Once you've logged your fair share of ten-cred runs you may be wondering if that's all there is for gridpilots to do. Where's the pulse-pounding thrill of hacking the military sites or the R&D sections of VoidCorp? Well if you start small, word gets around. Sooner or later someone's gonna come along and offer you a deal so sweet your teeth will rot. But the big problem here is if you remain safely anonymous, how will they ever find you? The answer can be found in the code havens.

Code Havens are the gridpilot's home away from home and take many forms. Finding them is difficult. Getting accepted is even worse. Technically they don't exist, since most of the activities that go on in such places can get you arrested. Sometimes they're out in plain site, or are linked to a more reputable front to give them cover. To actually locate one you'll need either dumb luck or a very good starting point. I advocate the latter.

Start off by visiting one of those silly, insipid chat-houses no self-respecting gridpilot would be caught dead in. If you have the stomach to wade through all the garbage the masses spew out onto the lines you may find your first clue to uncovering a legitimate code haven. You see, some gridpilots will actually monitor discussions, dropping hints that most illiterates won't pick up on but that you might. I won't give away which discussion topics they're most likely to be on, you should be able to figure that out for yourself. But if you have the patience to sift through the babble you may be able to spot some carefully veiled directions in the sea of inanity and you're halfway to the promised land.

Once you've found a code haven, I can guarantee it won't be what you might have expected. Few havens seldom are. For example, one might appear as a virtual nightclub. Another may be a coffeehouse. The one thing they have in common is that they allow gridpilots to come together to swap stories, make contacts, buy and sell illicit, and most importantly, find work.

Getting in is easy. Just go on in. You'll be surrounded by pilots who've been around the sectors a few thousand times and it will look like you're in good company. After all, you're one of them, right? Wrong! I'm going to give you another warning right now that, even if you've ignored everything else I've said, must be heeded no matter what: you are being screened the moment you enter a code haven. Somewhere, someone is evaluating every move you make, every word you speak, and you had better not screw up. You'll get no second chance with these gridders.

You're a new face. That's the very first tipoff. Gridpilots tend to be clannish and if you're not one of them they'll know it. Don't take it personally, there are some good reasons why the place goes on alert once you show up. See, you could be a grid cop. These places get infiltrated from time to time and pilots get jittery when they're so close to the enemy. They don't like it and I don't blame them. You could also be a potential mark, a fallguy. Based on your behavior, they may tag you as a scapegoat they can use in case a run goes bad.

So how do you behave in a code haven? Quite simply, use common sense. Never show up with shadow weapon progs running. Never run a trace on anyone in a code haven. Show the pilots the respect they deserve, and believe me they do deserve it. Most of them will treat you courteously, if cautiously, and there's no call to abuse that privilege. Never mouth off to another gridpilot. If you try to pick a fight, you'll be very disappointed. Most times you'll get banished from the locale and once that happens, there's no way to get back in. In a few cases your trash talk may get you de-rezzed in a bad way. The best assumption you can make is that as a newcomer to a haven, no one is less skilled than you are. Even if it's not true, you're better off acting that way than if you have something to prove.

Never, ever advertise! Statements such as 'I just broke into DataTel's security mainframe and you won't believe what I found!' will fall on deaf ears. Nobody likes a braggart. But what's worse, you are admitting to a felony. If there's an undercover grid cop hanging around, you've just confessed to a crime. Don't be that stupid. Instead, I'll clue you in on how you can share your exploits safely. Remember that gridrun story I told you earlier? That may have been personal experience or it may have been some secondhand info I picked up over the years. It's impossible to say which, isn't it? That's why you'll never hear a gridpilot talking about anything he's done. It's always a guy he knows who did it instead.

Get to know the gridders. Listen to the stories they have to share. Buy them drinks, or better yet, a meal. I'm a steak and potatoes man myself. The more they get to know you the more they'll let you into their world and it's time well spent. Gridpilots watch out for one another, I'm not kidding, and soon they'll be watching out for you too. Before you know it, you'll be contacted for a possible acer run and you'll finally have the chance to earn your wings.

Before I go, one last word of caution: if you're contacted for a job before you've been accepted into the fold, someone might be setting you up. If it smells bad, it is bad. Don't fall for it or all the work and time and sweat you've put into making it as a gridpilot won't mean a thing.

Next installment: A few safety tips and my personal thoughts on hards, softs, AI's, and other hazards you're bound to meet out there.

Bis Spater,
Zone Razor

Zone Razor's Guide to Not Getting Fried v5.0

No how-to guide is complete without a number of safety tips and this one is no exception. Lucky for you I've put together a list of twenty rules to keep in mind while you work the wires. Add to these the tips I provided in past installments and you've got yourself a handy little guide that could end up saving your life. What makes these tips different from those provided by other guides is that, in reality, these work.

Rule number 1: Stay mobile. If you're surrounded by equipment that is too valuable to replace, you're a sitting duck.

Rule number 2: Always use bodyguards. If grid-ding is going to take up most of your concentration you need someone to watch your back. Preferably someone with guns and the know-how to use them. If your employer won't spring for a little added protection, hire some yourself.

Rule number 3: Plan extra escape routes. How much good is it if the one route you've identified also happens to be the one that black ops team is coming through?

Rule number 4: Run diagnostics on your hards and softs at least once a month and always before and after a run. You need to keep your equipment in top working order or your performance will suffer. Running a diagnostic after a run helps detect bugs or other unwanted surprises you may have picked up from the grid.

Rule number 5: Keep backups in a safe place. The ideal situation is to have the original software, a copy of your optimized softs, and your gridrun softs. The originals and your backups should be kept in a personal safe or somewhere other than on your body. In short, it's easier to load a fully functioning backup rather than trying to repair a prog that's been corrupted.

Rule number 6: Transfer lifted data to an isolated system. If you know where your target is but you have no idea what it might be, the safest bet is to use an isolated system to scan it once it arrives.

If you've just stolen the hottest new virus ever developed, the last thing you want to do is scan it on your gridcaster. Unless you're looking for an excuse to buy new equipment.

Rule number 7: Research your run. The more time you have to research the better. Have an idea of what to expect and the battle's half won.

Rule number 8: Never transfer any data to your gridcaster. Once again, this is why running from a homesite is better than a direct launch. You can hold your data in a cheap homesite without the hassle of having to deal with a time-delayed data bomb going off in your caster. Better yet, transfer your data to a third party account and save yourself a headache.

Rule number 9: Once a run is completed, move! Did you think you got through without being detected? Do you really want to stick around to find out?

Rule number 10: Distractions work some of the time, but don't fall into a pattern. Try setting up a remote break-in while you do your dirty work elsewhere. If it's successful, you might try it again. And again. Soon even the dumbest guardian will catch on and the next time you use your ploy the outcome won't be what you expected. In addition, the grid cops will tag your M. O. and soon they'll be able to link each of your runs to the same person. Randomize your strategies.

Rule number 11: Never blackmail or double cross an employer. Integrity is a point of pride among the best gridders. Plus, your employer may decide to give you an extra bonus for being so duplicitous. Would the gentleman care for a 9 or 11mm?

Rule number 12: Never target an ally for a run. Practical jokes aside, targeting an allied gridpilot is one taboo that will destroy any rep you wanted to build. It's one of the fastest ways to get black-listed.

Rule number 13: If you're left holding the bag, drop it and run. You're not a courier and your job is not to unload hot data. Leave that to someone who has a better chance of surviving in the real world. Your task is to deal with what the grid throws at you. Anyone who expects more is living in a fantasy land.

Rule number 14: Always assume an employer isn't telling you the whole truth but don't demand the full explanation. I can guarantee you won't want to hear it.

Rule number 15: No run is ever as easy as it ap-

pears. Do I really need to explain this further?

Rule number 16: Payments must be handled with care. Simply put, large deposits draw unwanted attention. So do large purchases. Live within your means.

Rule number 17: Never reveal a planned run to anyone. You can share stories all you want after it's over.

Rule number 18: Grid combat can only de-rez you, it's the traces that can kill. The larger the corp, the more dangerous a trace can be. Prioritize your enemies and act accordingly.

Rule number 19: You can never be the best. You can be good, but there will always be someone who's better. Know your place.

Rule number 20: The grid is only part of your life. Don't neglect the real world. A gridpilot lives two lives and it's important to live both well.

As a parting shot, I'm including my personal thoughts on a few items gridpilots should be aware of, namely hards, softs, cyberjunk, and fellow gridders.

Hardware:

Above all, a gridpilot should never forget what his nanocomputer does for him. Full VR, complete gridcaster control, it's the best invention since the grid itself. Aside from giving a pilot the ability to be what he is, your nano can also be an extra line of defense in an attack. Load up with antiviral progs and maybe a last ditch guardian or two. Since you'll be interfacing with your caster, the possibility that your nano could be hit exists, even if it is remote at best, and you'll want that added security.

Gridcaster gauntlet versus gridcaster helmet. Hands down the gauntlet wins. The sensehelmet may be more stylish but I feel it's my duty to burst your bubble: you don't need it. The first reason is it's not as subtle as a gauntlet. From a distance, anyone who sees you wearing a gauntlet could mistake it for any other professional piece of equipment, whether it's an engineering computer or a medical system. Not so with the sensehelmet. You can't even pass it off as protective gear. But the second reason you don't need a sensehelmet is that it just duplicates what your nano already provides: VR immersion. And the nano does it better.

Gridsuits and Virtuality Spheres: you don't need them.

Wireless NIJack. Nice idea, but the biggest flaw is that it operates on radio waves. Essentially you've got a beacon in your head. Ever hear of triangulation?

3D Arrays. You've probably never heard of them. That's understandable because no one really sells them. If you want one you have to build it. Sometimes a particularly difficult run requires a large variety of progs to get the job done, but a gridcaster can only hold so much in its stored memory. By adding an array you can drastically increase the number of programs available. How much you increase it by is completely up to you. 3D arrays work best when they're kept small and portable. A converted briefcase, for example, can hold about twenty 3D's. Very helpful in a pinch.

Software

Datadoc: Invaluable after a scrubout, but if your softs are totally fried, it's best to copy your backups and start fresh.

Antivirus: Get the best you can afford and use it continuously. If running it gets tedious, that means you're using it correctly.

Encryption/Decryption: These have no place outside an isolated system. Don't even think of loading one into your gridcaster.

Second-generation Shadow Form: Okay, this one I have the biggest problem with. It's an excellent prog and the shadow it generates is much better than the original utility, but using it for interstellar runs is a huge mistake. Tell you why. Each prog on the grid has to be running from a computer somewhere, right? It's completely dependent on its source. But when you send your shadow through a drive relay, it has to be decompiled in order to make the transit. Once it reaches its destination, the onboard computers of the drive relay recompile it and the shadow is once again able to perform its task. But that's the danger! It's no longer running from your gridcaster, but on some relay station light years away. The chances of tracing your shadow's path back to you have just increased a thousand fold. If anything goes wrong, if your shadow gets caught, the drive relay's computers don't switch off. They just keep running. Anyone who's caught your prog can tear it apart, analyze its command structure, alter it, and send it right back to you! Even if your shadow is programmed to transfer a file to a third party account upon its return and

then auto de-rez, an altered shadow could alert the cops and set a trap for anyone who accesses that account. Not good at all and it's a mistake I've seen gridpilots pay for with their lives.

My advice is if you want to access another system's grid for illicit activities, go there yourself. It may be more expensive but it's much safer. Don't trust a prog to do the work for you.

Cyberjunk

Optic screens are nice add-ons if you're into that sort of thing, but why would you want to limit input to only one sense?

Biowatches and bioart. Completely up to you. I prefer old-fashioned timepieces, but then again I can't speak for everyone.

Reflex wiring may be tempting. The ability to move faster than you would normally be able is a good idea, but the reality is you're taking your sanity into your hands every time you trigger it. Here's a hint: if you think you need it, you don't. Work on your natural response time and if you really need the extra speed, try upgrading to a faster processor. There's no permanent cure for cykosis so why take the risk?

All other cyberware: unnecessary. All you need is a nano and a jack. Anything else is flash.

Grid denizens

Fraal: These guys aren't too bad at working the grid. Very intelligent but they rarely have nanocomputers implanted. Messes with their telepathy. I once heard a tale where this pilot made the mistake of mouthing off to a fraal. Ended up with his brains running out his ears. Of course they're more peaceable than that, but it's still a good idea not to antagonize them.

Aleerin: Fluid motion, highly skilled, very dangerous. Outsiders call them Mechalus, but on the Grid you should use their racial name, Aleerin. It's considered a sign of respect.

T'sa: Their shadows appear blurred or jerky. Don't confuse this with bad programming skills. They really are that fast. They're also very cordial so it's usually considered poor form to not show them the same level of courtesy they show you.

Sesheyan: You will rarely encounter a sesheyan on the grid and if you do they will be working exclusively with VoidCorp. They are very good at

tracking down intruders, not so much by following a shadow's carrier wave to its source but by observing the behavior of a certain shadow and providing advice to more experienced grid hunters.

Weren: Don't expect to meet one in your lifetime. Rarer than the sesheyans, weren gridpilots will tend to use direct force over more subtle attacks, but they fight only if provoked. Fortunately, you'll have a better chance of defeating a weren in grid combat than you would in real life.

Artificial Intelligence: If you've got one on your side you're in luck. AIs are like a big brother that can protect you from a lot of hurts. Conversely they look at you as their moronic kid brother who needs a helping hand every now and then. And that's if they're on your side. Against you, things get real scary. But it's best to fight fire with fire. In other words, you find an AI is after your hide, better find another AI to take the heat off. Easier said than done.

The Big Guns: Arguably the best gridpilots anywhere, Insight and VoidCorp have the distinct advantage of training their gridders from birth. They're fast, smart, and the only thing you'll have going for you if you run against them is that they aren't Aleerin.

Shadowboxers: They rely on their reputations to deter any conflict, but they've got the skills to kick your shadow to smithereens and they aren't afraid to use them. They're used to close quarters combat but their ability to handle indirect attacks make taking one on dangerous at best.

Grid cops: They know all your tricks and strategies. Find yourself a code haven and get chummy with the pilots, 'cause there's strength in numbers. If you run afoul of the authorities you'll need their help in beating the system.

And that wraps it up, boys and girls. It's been fun, but I've got to go. As with all free advice you can take it or leave it, but remember that by ignoring these guidelines you can't blame a turn of bad luck on me when the whole world goes against you. That said, I hope your new career is as exciting and profitable as you hope it will be, because now you are a full-fledged gridpilot! You can pick up your diploma on the way out.

Congratulations,
Zone Razor



New Mutations

By Derek Holland

New Mutations

Dewlap/Thermal Sail

Good, Permanent, CON

The mutant has some organ that allows it to dissipate heat much faster than most creatures. It maybe in the form of large ears like elephants, a dewlap, or a thermal sail like a Spinosaur. In game terms, the mutant has a -1 step bonus to resist heat effects.

Sensory Bristles

Good, Permanent, CON

The mutant is covered with large bristles that detect even the smallest change in air pressure. He gains a -1 step bonus to Awareness-*perception* rolls when not wearing armor or heavy clothing.

Ruminant

Good, Permanent, CON

The mutant has the 4 chambered stomach like a cow. If allowed to chew his cud, the mutant can survive on any non-poisonous plant.

Fins

Ordinary, Permanent, DEX

The mutant has fins along his spine, legs and arms that help stabilize him in the water. As long as the fins are not obstructed, they provide a -1 step bonus to DEX checks underwater. If the mutant is wearing normal armor (in or out of the water), the cramping and minor pain from his fins give a +1 step penalty to DEX checks.

Air Bladder

Amazing, Permanent, CON

The mutant has an air bladder like a fish. Only gale winds can drown the mutant. He also gets an extra 4 minutes of air while holding his breath, and the bladder gives a -1 step bonus to swimming checks. The mutant

will die if he climbs above 8000 feet; the bladder explodes due to the low air pressure.

Reduced Sleep

Ordinary, Good, Amazing, Permanent, CON

The mutant needs less sleep than most animals. An ordinary mutation means the mutant needs only 4 hours sleep in a night, good only 2 hours and amazing no sleep.

Oxygen Storage

Amazing, Permanent, CON

The mutant can store oxygen in his muscles like seals and whales. This allows him to hold his breath for 10 minutes for every point of CON he has, to a maximum of 140 minutes.

EM Detection

Amazing, Permanent, WIL

The mutant, like many predatory fish, can detect electromagnetic fields, including those of other animals. This allows a mutant to detect the exact location of all animals in a range of 2 meters per point of WIL. He can tell its general size, but nothing else with this mutation. It also eliminates blinding effects in combat as long as the target is within the detection range.

Lightning Rod

Extreme, Automatic, CON

The mutant attracts electricity like a lightning rod. He takes double damage from electrical attacks and is twice as likely to be struck by lightning.

Heat Sink

Extreme, Automatic, CON

The mutant sucks up heat. He takes double damage from heat attacks and takes twice as much fatigue damage from heat based challenges.



MacGuyver-series Combat Robot

By Lord Irish

MacGuyver-series Combat Field Support (CFS) Robot [PL 6]

Combat field support robots first appeared on the battlefield during the mid-21st Century as the changing nature warfare made it all but impossible for human technicians to work effectively under combat conditions. Their function is to diagnose and repair mechanical systems on military robots and combat vehicles during combat, and to maintain these same systems during peacetime.

A typical CFS robot is equipped with tank treads, gripping and hoisting claws which allow it to maneuver heavy pieces of machinery, a retractable, dexterous robot hand outfitted with tactile sensors for fine manipulation, and a retractable arm outfitted with various tools (per the *Toolkit, specialized* entry on p. 140 of the *Player's Handbook*). Unlike civilian mechanic droids, CFS robots are significantly larger and heavier than human beings, standing between 2.5 and 3.5 meters tall (variable – the unit's "torso" is extendable) and weighing in excess of 500kg. They are lightly armed and moderately armored by the military standards of their day.

STR 16 INT 11
DEX 8 WIL 6
CON 14 PER 6

Durability: 14/14/7 Action check: 12+ /11/5/2
Move: sprint 24, run 16, walk 6 # Actions: 3
Reaction Score: Ordinary/2

Attacks

Fist Unarmed Attack
 d8s/d6+ 1w/d8+ 1w LI/O

Welding Torch* Melee Weapons
 d4+ 1w/d6w/d8+ 1w En/O

Rifle, 11mm ch. Ranged Weapons, Modern - Rifle
 d6+ 1w/d6+ 3w/d6+ 1m HI/O

* The welding torch ignites combustible materials on a Good success or better, inflicting d4-1w additional damage per phase until the fire is put out.

Defenses

resistance modifier vs. melee attacks +3
resistance modifier vs. ranged attacks 0
resistance modifier vs. encounter skills +1 (INT), 0 (WIL)

Body Type

Processor: Amazing (9 active memory slots)
Actuators: Servo
Casing: Carbonite Fiber d4 (LI), d4 (HI), d6-2 (En)

Chassis: 2.5 to 3.5 m tall
Data Port: Socket
Manipulators: Claw arms (x2), tool arms (x1), arms with hands (x1)

Propulsion: Tracks
Sensors: Holo, pickup/voicebox, tactile
Tools: Basic tool set, other tools as necessary

Key Skills: Armor Operation
 Stamina
 Computer Science
 Knowledge – *computer operation, military rules and regulations*
 System Operation
 Ranged Weapons, Modern
 Technical Science – *repair 2, juryrig, robotics*

Perks: Retractable Appendage (x2)
Flaws: Command Circuitry

Notes

This robot was created using the rules for generating robot heroes in chapter 6 of the *Dataware* accessory, and is based on the standard 50 points allotted for robot characters. Robots of this series are built around cutting-edge PL6 technology, which make them pretty standard in both the Star*Drive and Gamma World settings, and at least plausible in Dark-Matter.

Of course, the *MacGuyver*-series as presented here represents a robot in perfect operating condition, which certainly *won't* be the norm in the Gamma World setting. Be sure to pepper the robot with one or more of the flaws listed on p.78-80 of the *Dataware* accessory and get crea-

tive with its weaponry and equipment.

New Perk: Retractable Appendage

Cost 2, CON, Active

For every two points spent, the robot is able to completely retract a single appendage (arm, leg, or head) into its body casing. While retracted, the body part in question cannot be the target of a *called shot*. Retracted appendages are not necessarily apparent through casual observation, nor are they especially difficult to detect. A character actively trying to ascertain whether or not a robot is “hiding” a retractable appendage (or whether or not an appendage is, in fact, retractable) receives an Ordinary bonus (-1 step) when doing so. Retracting or extending an appendage takes a single phase.

A robot can safely tuck whatever it is capable of holding in the retracted appendage into its body casing. So a typical repair drone might be able to palm a computer chip or small tool, while a giant combat robot might conceivably be able to conceal a small Japanese boy.

New Perk: Hidden Appendage

Cost 3/4/5, CON, Active

Similar to the *retractable appendage* perk, above. Hidden appendages are more difficult to detect, however, and come in three varieties: Ordinary, Good, and Amazing. Characters actively trying to ascertain whether or not a robot possess a hidden appendage (or whether or not an appendage is, in fact, capable of being hidden) receive Slight, Moderate, or Extreme penalties (+ 1/+ 2/+ 3 steps) accordingly.





Garm the Ark

By Derek Holland

SUPPORTING CAST

Gamma World Supporting Cast

Garm

Level 8 Ark Combat Spec

STR	10	INT	7
DEX	8	WIL	12
CON	11	PER	9

Durability: 11/11/6 Action check: 11+ /10/5/2

Move: sprint 18 run 12 walk 4 # Actions: 3

Achievements: Extra Action

Mutations: Genius capability (see below), life leech

Defects: Severe phobia

Attacks

Spear 12/6/3 d4w/d4+2w/d4m LI/O

Defenses

Armor d6+1/d6-3/d6-4 (chain and medium shield)

+0 vs. melee, ranged and Int encounter skills

+1 vs. Wil encounter skills

Skills

Armor operation [10]-*combat* [15]; Melee [10]-*blade* [12], *blunt* [11]; Stamina [11]-*endurance* [12]; Knowledge [7]; Tactics [7]-*cavalry* [19], *infantry* [19]; Awareness [12]-*perception* [18]; Investigate [12]; Interaction [9].

Garm was the runt of his litter, but his ability to command armies at-

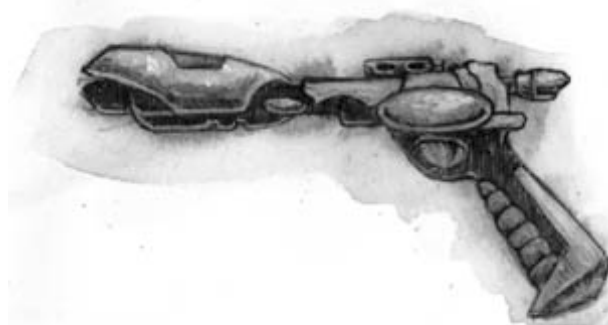
tracted a very unusual being dwelling near his pack's territory. When he led his small pack in destroying several Hoop troops and absorbing two other ark packs, the local military AI took notice of him. It had him captured and implanted him with a nanocomputer that allows the AI to influence him (but not take him completely over). It has been using Garm to drive away all the local PSHs and androids - it fears the weapons both can use. In a Settle campaign, I suggest placing his pack east of Blingum.

Garm's phobia and his combat spec step bonus are left to the individual GM's discretion.

Genius capability

Amazing, Permanent, INT

The mutant has a mild form of "idiot savantism." The mutant loses 3 point of intelligence, but gains a rank of 8 the specialty skills of one randomly chosen Intelligence broad skill (e.g. the mutant rolls up life science and thus gets 8 ranks of biology, botany, mutations and zoology). The mutant may improve these skills to rank 12 as per the rules. The only skill that is excluded is Knowledge.





Grid Cops & Bug Hunters

By Gary Astleford

NEW CAREERS FOR ALTERNITY

It's game night. You're putting the finishing touches on your new Alternity character. You've given him every skill he'll ever need, he's weighed down by an amazing array of high-tech gear, and he's lucky enough to be blessed with the most beneficial perks in the *Player's Handbook*. As you sit down proudly at the gaming table, the other players begin to introduce their characters. You wait for your turn, going over the details one last time.

When your time comes, you explain your character's looks, the way he walks, how he combs his hair and wears his pistol strapped low on his hip. Every minute detail impresses the group, and everyone is transfixed as you spell out your character's unique personality. You finish, and everyone continues to look at you expectantly.

"What?" you ask, growing uncomfortable.

"Is that all?" the girl next to you asks.

You laugh. "Is that all? What else is there?"

Another player across from you motions at your character sheet. "What does your character do?"

"I told you," you say. "He's a tech op."

"What kind of a tech op?"

"Well," you stammer, looking at the values on your sheet, searching for an answer. "He flies a space fighter, fixes damaged 'bots, and studies neurosurgery when he's not at the shooting range."

"So he's a doctor?"

You shake your head. "No, like I said. He's a tech op."

"I think what they're asking," the gamemaster interjects, "is what's his career? I mean, everyone has a job, right? So what's your character's job? What does he do for a living?"

Hmmm, you think to yourself. I never thought about that.

Careers are an important tool that may be overlooked by some players when creating an Alternity character. This is a pity, since careers can provide the player with insight into where his character has been, what he's done, and where he might be headed. While career packages are completely optional, I encourage my players to choose one for their characters. A character without a

past to explain his repertoire of skills is just a list of words and numbers on a character sheet.

The *Player's Handbook*, the *Star*Drive Campaign Setting*, and the more recent *Outbound* accessory present a variety of careers for players to consider. Listed below are ten more optional careers for players to choose from. They can be used as written, or modified and tweaked to fit a specific concept. Originally designed with the *Star*Drive* setting in mind, they can be easily introduced into any Alternity setting.

Each career features a skill package, which can be useful in defining what a character does. Skill packages contain a list of skills related to the career, with an assigned point cost attached for easy reference. Each career description includes suggestions for other skills that a player might be interested in having, depending on his overall concept. A list of appropriate perks and flaws also accompanies each career, as well as the signature equipment which members of that particular career should start with.

These careers are guidelines only, not straitjackets, and players and game masters alike shouldn't be afraid to change them to suit their own sensibilities. Remember, the future has no limits!

Combat Spec Careers Bug Hunter

The bug hunter hunts down and kills dangerous aliens and externals that pose an active threat to humanity. Bug hunters with experience in the military or law-enforcement are quite common, with civilians who have suffered at the claws, pincers, and weapons of such horrors being somewhat rarer. It's not clear why each bug hunter does what he does, especially when you consider the inherent danger involved in hunting something as horrible as a Klick or a N'sss. Heroic ones do it for the good of their fellow humans; ambitious ones do it because they hope to gain fame and fortune, or because they've got a personal score to settle. Outside of these stereotypes, there's always that lunatic fringe who feed on adrenaline, doing it just because they can.



While weapon skills are important to a bug hunter, there are numerous specialty skills that would and should apply. *Trailblazing* is always useful on unexplored backwater worlds, as is *endurance*, *survival training*, and any of the Athletics-based specialty skills. Locating the “bugs” is an important consideration, and the *search* and *track* skills are of obvious value. Bug hunters can have a difficult time finding anyone crazy enough to transport them to alien-infested sectors, so *space vehicle* operation and Navigation skills come in handy. Bug hunters give little credence to hand-to-hand combat skills, such as Melee or Unarmed Attack – if you need them, it’s already too late.

Perks & Flaws: A bug hunter might have picked up an Alien Artifact (either beneficial or harmful) during his campaign against hostile life forms. Danger Sense, Fortitude, and Reflexes might keep him alive longer. Esteemed bug hunters might even have a Powerful Ally backing them, and particularly heroic ones may be well known for their exploits (reflected in the Celebrity or Reputation perks). Few of these crazies are perfect, though, and this can be reflected in such flaws as Obsessed (with revenge), Old Injury, and perhaps a Phobia of the terrible creatures they’ve sworn to eradicate.

Signature Equipment: Battle jacket, laser rifle, IR goggles, rations, survival gear.

Core Skills (35 Points): Heavy Weapons - *direct fire*; Movement; Modern Ranged Weapons - *rifle, pistol*; Life Science - *xenology*; Awareness - *perception*.

Vigilante

With crime, corruption, and big business as prevalent as they are in the Verge, who looks out for the little people? In such an environment, less than scrupulous organizations and individuals can do as they wish without fear of consequences. The vigilante has taken it upon himself to see that these “bad guys” are dealt with in a swift, permanent manner.

Vigilantes are a varied lot. The majority of those who follow this path are normal citizens who have had it with the legal system, while off-duty police who are disgusted with the red tape of their day jobs might moonlight as vigilante crime fighters. Whatever the reason, they all have one thing in common – they take no prisoners. At the core of

the vigilante mindset, they are protectors of the weak and oppressed, upholding the law and righting wrongs. Unfortunately, they can sometimes be no better than the criminal scum they gun down.

Vigilantes rarely fight crime full time. A great number hold day jobs, which helps them maintain a facade of normality when interacting with society at large; each should have some skills that reflect on that day job. As vigilantes become more familiar with their “hunting grounds,” they’re likely to pick up the *street knowledge* and *criminal elements* specialty skills. Resolve skills will likewise grow as they gain a reputation and self-confidence. Stealth skills, like *shadow* and *sneak*, are important when getting the drop on someone, or when following a crook to his nest while remaining unseen.

Perks & Flaws: Vigilantes are often Obsessed with their mission, and some adhere to a strong Code of Honor. Though usually well intentioned, they often make mistakes that can lead to Infamy or a Powerful Enemy. On the more positive side, several vigilantes have talents, such as Ambidexterity, Danger Sense, Fists of Iron, and Reflexes, which may increase the odds of their survival. Those with a strong sense of right and wrong may also have a deep-seated Faith in what they do, and may garner a good Reputation among those they’re attempting to help.

Signature Equipment: 11mm charge pistol, CF short coat.

Core Skills (30 Points): Unarmed Attack - *brawl*; Modern Ranged Weapons - *pistol, smg*; Awareness - *perception*; Resolve; Street Smart.

Diplomat Careers High-Tech Fence (Secondary Profession: Tech Op)

The high-tech fence buys and sells stolen, illegal, or alien technology. He monitors the pulse of the cutting edge, and is always on top of the latest technological miracle. If you want to get restricted technology, he can get it for you...for a price, of course. His shop is a rat’s nest of wires, littered with old circuit boards, power cells, and broken-down computer equipment. While he might set up permanently in one system, he’s just as likely to wander the spacelanes like a traveling salesman looking for new and exciting equipment.

A high-tech fence is a technophile who salivates at the very thought of new gear, weapons, cyberware, or equipment. He wants to know how these things work, and if the law says that such items aren't for public consumption, so much the better – such equipment can bring a hefty profit on the black market. He may be in it for the money, plain and simple. People will pay some pretty amazing sums of cash for the strangest things. If doing so benefits the high-tech fence, who is he to argue? He's there to serve a necessary purpose in society – giving people what they want.

Some of these technology-obsessed salesmen branch off into other, related fields. It's always a good idea for a fence to have some knowledge of software, so *hacking* and *programming* are good skills to take. For those who wish to make a name for themselves, *invention* is useful for copying or improving upon an existing design, while *repair* is needed to fix items that might have been dropped or damaged in transit. Fences who prefer to acquire these items themselves may want to invest in Stealth and Manipulation specialty skills.

Defensive skills are a necessity for high-tech fences, especially when they are discovered to be in possession of illegal or stolen items. Police and victims of theft aren't always happy with the fences that buy and sell such items, and may be prone to violence. A fence should always invest in a weapon skill or two, and the unusual weapons that he can get his hands on can make him a fearsome opponent. Likewise, the gift of gab is a salesman's specialty, and high-tech fences should be proficient in all manner of human Interaction specialty skills – *charm* and *intimidate* come to mind.

Perks & Flaws: One or more Alien Artifacts (either as a perk or a flaw) might be found in the high-tech fence's possession, though he may not know what they do...yet. He may be enamored of a hacker's Code of Honor, believing that technology wants to be free. Other flaws appropriate to this career include Powerful Enemies, Obsession (with technology), or Poor Looks due to a lack of personal hygiene. Perks that go with the job include Concentration, Observant, Photo Memory, Reputation, and Willpower.

Signature Equipment: Utility harness, toolkit, duct tape.

Core Skills (40 Points): Business - *illicit business* 2; Computer Science - *hardware*; Technical Sci-

ence - *juryrig*, *technical knowledge* 2; Street Smart; Interaction - *bargain* 2.

Lawyer (Secondary Profession: Free Agent)

The lawyer represents the legal interests of his client in a court of law. By using charisma, deception, argument, and the written law, a lawyer proves his client's case. No two lawyers are quite the same: some work for the public good, fighting injustice through legal means; others take the side of high-paying crooks, corporations, and public officials. They use their wide array of interpersonal skills to get the facts – by fair means or foul – and twist them to the benefit of their clients.

Legal disputes are common in the Verge. The farther you get from the Stellar Ring, the less that Concord law means. Several backwater systems are built on the concept of might makes right, which doesn't mesh with common legal practice. Lawyers are needed to help establish and maintain a legal standard on both civil and criminal levels.

Ever since contact with the Verge was reestablished, a growing number of legal experts have been sent in by the Concord and by many of the more diplomatic Stellar Nations. These lawyers are there to help establish a common legal ground, as well as maintain some sort of order by mediating disputes between private parties. Many freelance lawyers have come to the Verge in the hopes of gaining the sort of toehold in the legal machinery that they were unable to achieve in the competitive Stellar Ring.

A lawyer's primary skill lies in his ability to reason with other people, and, using the law as his guide, to sway them to his way of thinking. While the lawyer's tongue is a potent weapon, it can only get so much done in the more lawless areas of the Verge. Every lawyer who ventures into the cold depths of space should consider some form of defense training. Culture - *diplomacy* is also a good skill to have when dealing with large entities (such as stellar nations or alien cultures). Finally, if a lawyer intends to represent business interests, he should be familiar with the Business broad skill, as well as its specialty skills (especially *corporate* and *small business*).

Perks & Flaws: Some perks that lawyers might rea-

sonably possess include Great Looks, Willpower, and Powerful Ally. A high profile lawyer might also be a Celebrity, or at the least, have a good Reputation. Successful lawyers charge incredible fees for their services, and thus might be Filthy Rich, as well. Lawyers are stereotypically seen as cold-blooded, shark-like, and cowardly; such commonplace opinions could be realized in a lawyer who possesses the flaws of Infamy, Obsessed (with money), Spineless, and Temper. Some will have garnered a Powerful Enemy who has sworn revenge on the man who put them away.

Signature Equipment: Briefcase or attaché, business dress, cellular phone.

Core Skills (35 Points): Knowledge - *deduce*; Law - *court procedures 2, law enforcement*; Awareness - *intuition*; Deception - *bluff 2, bribe*; Interaction - *bargain, charm, interview, taunt*.

Free Agent Careers Cabbie

Cabbies are laborers who make a living by transporting people from place to place. A great number of cabbies work for large transportation companies, barely scraping along on their low salaries, with a few generous tips added here and there. A smaller number own their own taxi cabs, struggling from day to day to make enough on fares to buy a meal and charge the taxi's power cell. A few might rise to a secure, well-paying position as a chauffeur.

Not all cabbies drive ground cars. Water worlds (such as Bluefall) are teeming with cabbies who pilot anything from oar-powered dinghies to cigar-shaped speedboats, and many cabbies in the Stellar Ring drive skycars. Particularly backwater worlds (as well as some tourist attractions) feature cabbies who pilot pedicabs, rickshaws, and animal-drawn buggies. The most well paid cabbies ferry passengers from a planet's orbit to its surface in surface-to-ground shuttles.

Since they live their lives at street level, cabbies see and hear a lot of interesting things. They can be fountains overflowing with information, as long as the right questions are asked and the proper payment is made. Just about anything can happen in a cabbie's back seat, from shady business deals to assault with a deadly weapon – though some days are more interesting than others.

Cabbies who don't drive ground cars are likely to replace Vehicle Operation - *land vehicles* with any of the other Vehicle Operation specialty skills. Those on particularly primitive worlds may be skilled in Animal Handling. Cabbies who operate high-tech vehicles might want to learn any of the System Operation specialty skills, as well as Technical Sciences - *repair* in case their taxi breaks down. Every cabbie has an intimate relationship with street culture, and both the *criminal elements* and *street knowledge* skills are likely to be learned. In such an environment, cabbies can fall victim to robbery and murder, so many learn potent self-defense skills.

Perks & Flaws: Cabbies are quite Observant and notice anything that goes on inside their taxi. Many are remarkably good at recognizing faces, occasionally to the point possessing the Photo Memory perk. Traffic accidents may be avoided through a combination of Danger Sense, Good Luck, and Reflexes. However, the cabbie's life is difficult: he might be Dirt Poor, or the victim of Bad Luck. He might be prone to fits of "road rage," reflected in the Temper flaw. And say a prayer for the Forgetful cabbie who can never seem to remember his way across town!

Signature Equipment: .38 pistol, toolkit, comm gear, mid-sized car (or other vehicle) that he is in debt for up to his eyebrows.

Core Skills (35 Points): Unarmed Attack; Modern Ranged Weapons - *pistol*; Vehicle Operation - *land vehicle 2*; Navigation - *surface navigation*; Street Smart.

Saboteur

Saboteurs are hired to cause calculated mischief. Their targets are the foes of their employers; the results of their actions can include the destruction of property, facilities, or important information. The techniques that saboteurs use are as varied as the saboteurs themselves, but each has his own personal specialty: explosives, arson, or engineering extensive mechanical failures, to name a few. In order to get close to his target, a saboteur might hire on with the enemy, earning both trust and security clearance. Once the job is complete, he fades like a ghost into the shadows he came from.

A typical saboteur displays an incredibly mercenary outlook on life – if the pay is acceptable, so is the job. Occasionally, a saboteur may show an

uncharacteristic sense of morality and refuse to cause the deaths of innocents, and a few – sometimes called terrorists by their targets – ply their trade for noble causes. Many a saboteur has been betrayed by an employer who wishes to remain plausibly deniable in the face of a potential scandal. Those that survive the initial assault direct their destructive energies towards that particular person or organization.

Saboteurs who assume alternate identities in order to gain easy access to their target's facilities are good actors, possessing high levels in Entertainment - *act*, Deception - *bluff*, and Interaction - *charm* and *seduce*. To keep the illusion of honest employment believable, they are required to have salable skills, and such skills usually fall under the category of Technical Science. A saboteur who routinely sabotages starships needs to be skilled at Vehicle Operation - *space vehicle* and System Operations.

Those that prefer to perform their jobs covertly show impressive talents in Athletics, Manipulation, and Stealth specialty skills. Weapon skills are important, and while the typical saboteur realizes which end of a gun should be pointed at an enemy, most specialize in small, high-powered *pistols*. A saboteur needs to understand how to damage whatever he's been hired to destroy; it's all very well and good to know how to make a bomb, but one must also know where to put it in order to get the most out of the explosion. In this case, skills such as System Operations - *engineering* or Technical Science - *repair* and *technical knowledge* can be very valuable.

Perks & Flaws: It is important to stay focused and get the job done, so perks like Concentration and Willpower are always valuable. Equally significant are the saboteur's skills of perception, so Danger Sense or Observant are both good to have. Those who work towards a cause might have Faith or a Powerful Ally. Others may have a Code of Honor or an Obsession that drives them on. Particularly long-lived saboteurs could have Infamy, a Powerful Enemy, or an Old Injury. To make escape less risky, saboteurs must remain anonymous in any crowd – they rarely possess either Great or Poor Looks.

Signature Equipment: Demolitions pack, antiscan weave jumpsuit, 9mm pistol.

Core Skills (40 Points): Athletics - *climb*; Manipula-

tion - *lockpick*; Modern Ranged Weapons; Stealth; Demolitions - *set explosives*; Security - *protection protocols, security devices*.

Tech Op Careers Grid Cop

Gridcops are responsible for policing the Grid and investigating computer crime. They are deputized to protect public and private property in the Grid, and can legally subdue or neutralize criminal shadows that perpetrate crimes there. Such activities involve tracing suspects to their real-world locations and scrambling assault teams to perform an arrest. From time to time, gridcops also take part in aiding their flat-footed cousins in the real world.

Universally despised by hackers and independent gridpilots everywhere, gridcops are nonetheless respected and feared by potential suspects. Depending on who their employer is, the gear and programs they are supplied with can be top-notch. The best gridcops work for the stellar nations (especially Insight and VoidCorp), though several independent corporations boast strong Grid security forces to protect their online assets. Concord gridcops are commonly (and unfairly) derided as the least skilled of the lot. Gridcops often work alone, especially in the Verge where established system grids are few and far between.

While gridcops do most of their policing in the Grid itself, they must also do “meat work” in the real world just like other cops. It's important for the officers to possess the proper Interaction skills, such as *interview* and *intimidate*. By nature, gridcops have experience with the shadier side of things, and this might be reflected in the Street Smart broad skill, as well as its specialty skill *criminal elements*. It's also handy to be familiar with Security - *protection protocols* and *security devices*.

Perks & Flaws: Gridcops survive in a tough world, one where they are hated by every freelance gridpilot and rebellious wannabe hacker. Those that make the grade are tough, capable, and willing to let people know it. Perks such as Concentration and Willpower represent the mental fortitude needed to stay focused and remain sane, while Observant and Photo Memory always come in handy while on investigations. Some gridcops have earned harsh reputations in the Grid they

patrol, and may have cultivated Infamy or a Powerful Enemy. Those who are not up to the physical standards of their street-bound brothers in arms may be troubled with the flaws of Clumsy, Delicate, Fragile, Poor Looks, or Slow.

Signature Equipment: Ordinary-quality gridcaster and nanocomputer, 2 ordinary programs, 1 good program, 9mm charge pistol.

Core Skills (35 Points): Modern Ranged Weapons; Computer Science - *hacking 2, hardware, programming*; Law - *law enforcement*.

Street Doctor

The street doctor is a physician who went wrong somewhere along the line. He may have lost his credentials as a medical professional, was taken in by the greed and avarice so common in the criminal underworld, or forfeited his legal rights to practice his trade through some misadventure. The street doctor therefore plies his trade on the underbelly of society. He excels at questionable procedures, such as the installation of cybernetics or the treatment of trauma caused by knife and bullet wounds. As long as he is paid well, he performs such operations freely and asks few questions of his patients. Not all street doctors are rotten to the core; however, some provide medical attention to the less fortunate and ask for little or no payment in return. Sadly, these noble few are overshadowed by those who would prefer to serve themselves.

Many street doctors have "offices" that they work out of, which consist of garages, basements, tiny apartments, or hotel rooms. Such facilities are rarely (if ever) sanitary, and those who seek a street doctor's services had best beware of the complications that may arise. Infection, communicable disease, and substandard medicines are always a risk. A few street doctors make house calls, though the conditions that they operate under aren't generally any better than those of their "office-bound" colleagues.

Whether a craven villain or a generous do-gooder, every street doctor should invest in self-defense skills in case a deal goes sour. Modern Ranged Weapons - *pistol* and *smg* are by far the most popular, though some doctors perfect the art of Melee Weapons - *blades* to take advantage of the surgical instruments they carry. All Medical Science specialty skills are useful in expanding the

physician's expertise. Vehicle Operation - *land vehicle* is good for making a quick get away, and the Interaction specialty skills are good for talking oneself out of a tight situation.

Perks & Flaws: Concentration, Heightened Ability - Intelligence, and a good Reputation are all valuable assets to a street doctor. Bad Luck could explain how a talented physician made such a poor career decision, and he may have a Powerful Enemy or two out for his blood. Since street doctors are stereotypically ghoulish and physically weak, flaws such as Delicate, Fragile, and Poor Looks are also perfectly acceptable.

Signature Equipment: Medical gauntlet, surgical kit, six doses of various pharmaceuticals.

Core Skills (40 Points): Medical Science - *surgery 3, treatment*; Street Smart - *criminal elements*; Technical Science - *repair*.

Mindwalker Careers PsiLaw Agent

"Psi-law" is a generic term for any police officer or law-enforcement professional who uses psionics to investigate and solve crimes. Though uncommon, they are a powerful tool in the war against crime. They are frequently paired with a non-psionic detective and put to work investigating crimes that are unusually high profile or hard to solve. While evidence gained through psionic means is not always admissible as evidence in a court of law, clues gained by such powerful talents can give officers valuable insights that might not have been realized otherwise.

Due to their specialization, many such officers are promoted directly to a detective-equivalent rank after completing their studies at the police academy (or other training facility). This does nothing to gain them the respect of their non-psionic colleagues, who are required to spend many hard years on the streets before achieving detective status. The benefits of rank are usually balanced out by the uncertainty of a psi-law agent's career. Since such psionically-trained agents are rare, they are routinely swapped between divisions within the department they work in. One week might be spent investigating homicides, while the next could see the agent working on a high-profile robbery or theft.

The powers employed by a psi-law agent are oriented towards investigative pursuits. *Postcognition*, if used to investigate the events of a recent crime, allows a psionic detective to practically relive the experience as if he were involved. *Psychometry* is useful in examining evidence related to such crimes. Psi-law agents can become cold and emotionless after having psionically witnessed dozens of violent crimes; those without strong wills don't last very long.

Beyond the primary skill package, psi-law agents are encouraged to develop other psionic specialty skills to aid them in their police work. ESP - *clairaudience* and *clairvoyance* are particularly valued when used in conjunction with electronic surveillance. Psi-law agents should also invest in more mundane methods of gaining information: Interaction - *interview* is important when taking statements from victims, witnesses, and suspects, while the Street Smart specialty skills are useful for knowing who's who in the criminal universe.

Perks & Flaws: Any gift that aids in investigations is highly valued, and it is reasonable to expect psi-law agents to possess the Concentration, Observant, Photo Memory, or Psionic Awareness perks. Agents may become Obsessed with bringing violent criminals to justice, and in so doing they may develop a Powerful Enemy or a good Reputation. Police work is a universally dangerous occupation, and many agents are seriously hurt, leading to an Old Injury.

Signature Equipment: CF short coat, .38 revolver or stutter pistol, handcuffs.

Core Skills (40 Points): ESP - *postcognition*, *psychometry*; Modern Ranged Weapons - *pistol*; Knowledge - *deduce*; Awareness - *perception*; Investigate; Law - *law enforcement*.

Sensei

Those psionics who search for perfection through unification of mind and body are known to other mindwalkers as sensei. Senseis find peace between the rigid discipline of martial arts and the fluid dynamics of psionics. They trek across the universe, seeking to enlighten others as well as themselves in the ways of the body, mind, and spirit.

Calling them psionic martial artists oversimplifies them, for their devotion runs deeper – to the sensei, every alien sunrise holds a question, every raging Jovian storm holds a clue, and every collapsing star holds an answer. In their quest for wisdom, they often choose to explore the ruins of precursor civilizations, seeking clues and insight. These quests bring them into contact with the different conflicts of the Verge. They are neither good, nor evil – they just are. While most are not violent by nature, they are quite able to defend themselves and others with remarkable skill and effectiveness.

In addition to their already impressive martial prowess, some sensei are also proficient in Melee Weapons - *bludgeon*, making a simple stick extremely deadly in their well-trained hands. Athletics and Acrobatics specialty skills help the sensei perfect his bodily control. Details of the Life Science - *xenology* specialty skill are often learned as the sensei travels the stars in search of enlightenment. While sensei are by nature soft-spoken, Interaction specialty skills such as *charm*, *intimidate*, and *taunt* are common for those with a knack for verbal argument and philosophical discussion. It is also recommended that sensei learn the Teach broad skill in order to spread their beliefs and findings to those who are willing to listen.

Perks & Flaws: Many who follow the path of the sensei adhere to a strict, near-religious Code of Honor that exemplifies honorable conduct, quiet dignity, and protection of the weak. As material wealth means almost nothing to them, most are also Dirt Poor. Just about any perk (aside from Filthy Rich) is appropriate, with Faith, Fists of Iron, Good Luck, Reflexes, and Tough as Nails rounding out the list.

Signature Equipment: Simple clothes and a walking stick.

Core Skills (40 Points): ESP - *battle mind*, *empathy*; Biokinesis - *rejuvenate*; Unarmed Attack - *power martial arts*; Resolve - *mental*, *physical*.



Ask the Oracle

By Neil Spicer

Q: Could you give unofficial stats for the armor (as in tanks and such) that was left out in *Externals* (Longsword, etc.)?

A: One of the best sections detailed in the *Externals ESD* involves the military forces and weapons of the I'krl Theocracy. On pp. 70-72, several descriptions are given for the armor and artillery units that utilize blacklaser, dark matter, dark plasma, and dark fusion technologies. Unfortunately, the armor units are missing descriptions for the *Longsword*, *Great Sword*, and *Flamberge* mentioned in the sidebar on pg. 69. Obviously, these units are larger than the *Broadsword* heavy tank, since they are listed in increasing order of power. In the interest of campaigns that might employ such devastating mobile fortresses, the information below is presented only in an unofficial capacity.

The only facts we know for certain are that all three vehicles mount weapons large enough to be configured for planetary defense against orbital attackers. It mentions on pg. 69 that “when a *Broadsword*, *Longsword*, *Great Sword*, or *Flamberge* attacks space forces, its combat strength is reduced by 50%...” and that “no armor unit lighter than the *Broadsword* may engage orbiting craft.” Also, on pg. 61, we do have an indication that lighter versions of converter guns “are occasionally encountered aboard the heaviest armor units like the *Longsword* or *Flamberge*.” The rest of their statistics are really open to interpretation. With that in mind, the following is presented as examples of how these armored vehicles might be configured:

Longsword

Nearly half-again the size of a *Broadsword* heavy tank, the *Longsword* is an assault vehicle designed to pulverize enemy defenses with its heavy-hitting power. Mounting a main battery of three dark fusion cannons, three secondary turrets with dark plasma guns, and six lesser turrets with anti-personnel capabilities, it is a formidable weapon on the battlefield. In this configuration, it is sometimes called upon for planetary defense against orbital attackers, though it does not excel

in this capacity. Occasionally, versions of the *Longsword* have been encountered with a light converter gun replacing two of the dark plasma turrets. This formidable weapon is used to neutralize even the most heavily armored ground opponents.

Despite its heavy armor and armament, the *Longsword* is still a slow-moving vehicle, depending upon a grav-propulsion drive to carry its massive frame. A crew of 25 is necessary to man the vehicle. When using the abstract combat system, a *Longsword* has a combat strength of 150, or just 75 when used against orbiting craft.

Great Sword

The ultimate in troop transports, the *Great Sword* is powerful enough to directly engage any enemy armored unit or attacking aircraft while also carrying out its responsibilities as a heavy armored personnel carrier. It mounts two dark fusion cannons, four dark plasma guns, a heavy cluster rocket system, a long-range surface-to-air (or -space) missile system, and no fewer than ten lesser turrets with anti-personnel weapons. In addition, the *Great Sword* carries a single grouch (75-troop platoon) and plays a support role in their deployment into the field, shadowing its soldiers as they sweep a wide area.

Crewed by 35 technicians, pilots, and gunners, the *Great Sword* is a home away from home on the battlefield. It provides living quarters and command/control/communications systems for coordinating troop movements. In general, the vehicle is slow but it does enjoy a somewhat higher maximum speed than the larger mobile fortresses. It can match the pace of a *Broadsword* fairly well, and will easily outmaneuver the *Longsword* or *Flamberge*. When using the short-hand combat system, a *Great Sword* has a combat strength of 200, plus 75 once deploying its complement of troops. In a battle involving orbital craft, a *Great Sword's* base combat strength is cut in half (i.e., to 100).

Flamberge

The largest mobile fortress of the External army,

the *Flamberge* rises impressively against the horizon, clearly designed as a pure killing machine, the land-based equivalent of a battleship. Four dark fusion cannons, six dark plasma guns, two different missile batteries and a score of anti-personnel turrets, are all dwarfed by the twin converter guns of its main battery. These horrific weapons literally serve as long-range ramming devices capable of launching anti-matter energy packets to punch holes through the most hardened military targets. Often, the *Flamberge* serves in this capacity in order to clear a path for ground troops entering enemy installations, creating entrances where none existed before and where the enemy can't possibly anticipate an attack.

But the military usefulness of the *Flamberge* doesn't end there. The heavy mobile fortress routinely engages and eliminates the largest armored units arrayed against it and also serves in an anti-aircraft role to protect the units under its command. Although incredibly slow moving, the *Flamberge* mounts enough heavy armor to shrug off most attacks, marching across the battlefield like an inexorable tide of death and destruction. A crew of 50 or more is required to man the vehicle effectively. Thankfully, the *Flamberge* is a rarely encountered sight. In the abstract combat system, the *Flamberge* enjoys a combat strength rating of 400, or just 200 when used against targets in low-orbit.

Q: How long would it take Verge Alliance researchers to reverse-engineer any captured External technology?

A: There are a number of complicating factors for such a premise, most notably the fact that living External biotech tends to degrade and die-out while in "captivity". Even while still "alive", such devices are fully self-aware, intelligent, and generally uncooperative. These systems don't work on any level compared to what mankind understands. They are from a different technology track and/or a higher Progress Level than humans possess. Specifically, the Kadarans require Knowledge-*biotechnology* and the new broad skill of Techno-Organic Science with its specialties of *-juryrig*, *-repair*, etc., just to design, build, and maintain such weapons. Scientists of the Verge Alliance aren't going to pick up these skills at an appreciable enough level to mass-

produce them for the human fleet. They are going to have to make some very complex (i.e., Good or Amazing complexity) Knowledge-*deduce* skill checks just to start figuring out how to use the weapons, much less connect them to the various power and control systems on-board a Verge Alliance ship. To go further than that would require humanity to discover, explore, and fully understand the basic tenets of Techno-Organic Science...on the fly.

A good example of the difficulties involved in understanding and employing External biotechnology by a human is given in the *Klick Clack* adventure module. On pg. 2, it indicates that the Concord technicians constructed a special interface device, designed to assist the heroes in dealing with some of the Klick technology encountered throughout the adventure. It goes on to state that "the Concord officials will admit that they have not yet finished testing the device, but they feel they're making significant progress." Although the *Klick Clack* module is assumed to occur in late-2501 to early-2502 and the External War doesn't begin until January 15, 2503, the intervening span of time probably isn't enough to have improved very much on the understanding of Klick (or really, Kadaran) technology.

The use of the special interface device is further described on pg. 7 under Klick Technology where the module goes into detail on the difficulties of getting any bio-organic device to function while inside the Klick base. The text states that "because the interface is effectively little more than a juryrigged device, and because little is known about Klick technology, skill attempts will be more difficult than they would be if just human technology were involved. Without the device, though, many such skill attempts would be impossible." This clearly demonstrates that understanding and eventually interfacing with External technology isn't impossible, but it requires a lot of Technical Science-*juryrig* skill checks to connect it to devices that you *can* fully understand and interact with. It also shows that the difficulties in reverse-engineering such devices so that you can build them yourself would be nearly impossible. Humanity counts itself lucky just to be able to trick or fool the *existing* sentient devices into doing what they want via their interfaces.

So how long would it take to juryrig a device to

make use of an existing piece of External technology? Of course, it depends on the type of equipment. A device designed to interface with an External laptop computer would obviously require less time than a starship's blacklaser cannon and all of the weapon-control systems necessary to convince it to fire. It's certainly open to each Gamemaster's interpretation, but for really large and sophisticated systems, we should take a lesson from the story of the StarMech research vessel known as the *Augustine*.

On pg. 96 of the *Star*Drive Campaign Setting*, we learn that the *Augustine* crew discovered an alien artifact on Atlas in 2445 which they proceeded to subject to a number of tests. The device was pyramid-shaped and appeared to generate a powerful shield which the StarMechs hoped to understand, reverse-engineer, and then mass-produce for the war effort during GW2. The researchers didn't have much success doing any of that until they found an alien power converter that they could hook up to humanity's own devices. Three years later, they felt comfortable enough with the device to try installing it on a starship. Even then, they obviously didn't know enough to keep the device from somehow malfunctioning and totally destroying the *Augustine* in a massive explosion on November 23, 2448. Could this have been due to the accidental overloading of a newly discovered virtual matter shield? The text never really indicates what the artifact's true purpose had been.

So what does this story tell us? Reverse-engineering complex devices that employ technology tracks or progress levels which your society is unfamiliar with, is a matter of years, not months, weeks or days. Even then, it usually requires you to build, design, or literally stumble upon a device that allows it to interface with your existing technology. Without that kind of breakthrough, it's going to be even longer before you'll be able to do much with the alien equipment. Whatever you do attempt to do with it will continue to constitute great risks manifesting as small malfunctions, temporary breakdowns, and even deadly accidents.

Q: Since the beginning of the External War, does the Verge Alliance have any starships and/or vehicles that use weapons and defenses made from captured and reverse-engineered External tech

(such as converter guns, tachyon cannons, virtual matter shields)?

As discussed in last month's issue (April #11), the Verge Alliance has certainly had ample opportunity to have captured weapons and defenses in wide use by the I'krl Theocracy, items such as blacklasers, dark plasma guns, etc. But, to have put these weapons to use and/or have reverse-engineered them so they can be manufactured and integrated into Verge Alliance starships or vehicles, is another question entirely (see above). The *Externals ESD* accurately depicts the folly of such desperate strategies on pg. 60 where it describes jury-rigged systems as having "a tendency to break down more often than do other systems." As such, the Verge Alliance commanders would be less prone to try and integrate External technology which they'll never fully understand, and more likely to simply study it for knowledge of its capabilities and limitations instead.

Maybe after the Verge Alliance has won the war, had time to interrogate the enemy, and engage in peacetime research, humanity will finally begin to learn this new technology for itself. Of course, its perception as "squishy-tech" makes it a lot less attractive to human notions of what tools and machines are supposed to be like, but its powerful nature might be enough to override that initial hesitation. The tech-trees grown upon Penates could very well provide the first clues to how these bio-organic weapons can be grown and designed for human hands. The Kadarans basically have used them for the express purpose of arming the former Barons of Lucullus that are loyal to the Exeat (see pg. 23 of the *Externals ESD*) instead of designing them exclusively for the bio-electric signatures of External species.

Of the weapons and defense systems listed above in your initial question, only two of them are actually External technologies. The tachyon cannon is *not* a technology developed independently by the Externals. That particular weapon system was stolen from the Glassmaker ruins on High Mojave in the Mantebro system by the Exeat commanders and then incorporated into the fortress ship, *Phlegethon*. It's the Externals' inherent and divine inspiration that has allowed them to understand the Glassmaker technology and integrate it more quickly into their systems than humanity would otherwise be able to do.

Even so, according to pg. 60, the *Externals ESD* states “it is important to keep in mind that this is a unique weapon, at least for now and the foreseeable future...if the Externals manage to reverse-engineer the technology successfully...other weapons may appear.” The Verge Alliance attempted to capture this device and make it their own by concentrating fire upon the *Phlegethon* during the Battle of Aegis. Ultimately this strategy is what led to the demise of the *Lighthouse* and the retreat of the External battlefleet.

The converter gun, on the other hand, is a common enough weapon in the External arsenal for mankind to have encountered it a number of times. Unfortunately, according to pg. 61 of the *Externals ESD*, “converter guns have been captured, although not intact.” This would obviously introduce a host of problems in attempting to reverse-engineer the technology. Without a complete converter gun system, such a possibility becomes even more remote. It’s also important to note that the converter gun is a different kind of technology than mankind has seen in use by the Externals (i.e., the Klicks, Kroath, etc.). Early on in the war, the shocktroops tended to employ weapons from PL6 or PL7, but human scientists have estimated the converter gun at PL8. This is one of the first clues that there are even more advanced civilizations (i.e., the Kadaran, N’sss, Sifarv, and Thaal) behind the External army.

The virtual matter shield is another device of External manufacture that has so far eluded human understanding. Verge Alliance commanders understand it well enough to know that it gives the External fleet a significant advantage...i.e., shields which re-grow in the middle of battle. But the *Externals ESD* makes it clear on pg. 61 that, “the technology behind these deflectors is unknown to humans, although many theories have been put forward to explain their function.” Later, the text also states that, “the protection provided by these systems has yet to be solidly quantified by human analysts.” Yet another indication that Verge researchers haven’t fully understood the technology well enough to even begin reverse-engineering attempts. All hope isn’t lost, however. In Diane Duane’s Star*Drive series known as the *Harbinger Trilogy*, the adventures of Gabriel Connor have allowed him to transcend his human self through the incorporation of an alien artifact into his body. This is what allowed

him to be recognized and trusted by the orb-weaver known as the Patterner on High Mojave in the Mantebtron system. And ultimately, it is what allowed him to complete the programming at the Glassmaker facility on the asteroid of Argolos in the Algemron system. He managed to use that facility’s power to generate a pulse of energy that prevented the virtual matter shields from working for a short time, enabling the Concord to win the day. Later, he also absorbed all of the Glassmaker data regarding the technologies being used by the Externals, marking Gabriel Connor as a potential savior for the rest of mankind down the road.

What all this means is that the *Star*Drive Campaign Setting*, as it is written in the current time-frame and all throughout the External War, does not indicate humanity has captured, reverse-engineered, and begun to produce any of the External devices. Here and there, an item or two might have been juryrigged to operate with a Verge Alliance ship, but such a configuration is bound to be limited in power, scope, and duration...and would have taken years of research or outside assistance to create. Without a complete understanding of the technology it will continue to be unreliable and full of dangerous risks. Imagine the External converter gun that you finally thought you managed to incorporate into your ship, only to have the sentient life form willingly sacrifice itself by overloading and destroying your vessel in an effort to save its comrades. Or the virtual matter shield that you had grown to depend upon, suddenly shorting out because of the undependable nature of the juryrigged interface to your ship’s power systems. Such shortcomings and failures would be expected until humanity fully discovers the secrets of Techno-Organic Science. And that’s what your heroes’ adventures in the Star*Drive universe are all about...

Q: What combat bonus (in the abstract combat system) should N’sss/Ravan ships have due to their cloaking technology?

A: In the *Alien Compendium* there is a reference to the N’sss ghost ships on pg. 126 as appearing to “...shimmer and change shape against the backdrop of the endless void. They have the ability to phase in and out of sight, becoming invisible to the naked eye and to sensors.” Obviously, such a description evokes images of a full-

fledged cloaking unit like the one described on pg. 89 of the *Warships* supplement. That ship-board system inflicts a +4 step penalty to enemy sensor checks and missile attacks, while rendering a ship “essentially invisible in every known medium.” Unfortunately, the system also requires a minimum Progress Level of 8 in the Matter Coding technology track.

Consulting the listing of technologies for the N’sss, as presented on pg. 52 of *Warships*, they obviously lack such an advanced study of Matter Coding. We could probably assume that the N’sss have Matter Coding at PL7, or perhaps a hybrid technology somewhere in between PL7 and PL8, but this would purely be supposition on our part. Perhaps the best interpretation would be to classify N’sss/Ravan cloaking technology as being intermittent, i.e., incapable of sustained disappearances of longer than a few minutes. This at least would reasonably explain the ability for N’sss ships to become invisible to the naked eye while maintaining the fact that it isn’t full-fledged PL8 Matter Coding technology making it possible. This description would also reinforce the image of ghost ships that “shimmer and change shape against the backdrop of the endless void.” And, it would continue to maintain the notion of the N’sss as a client species in the hierarchy of the I’krl Theocracy. After all, if they had access to full-fledged cloaking technology and the rest of the External species didn’t, we couldn’t really expect them to be lower ranking than the Teln, Kadarans, Bareem, Gardhyi, Sifarv, and Thaal (effectively every species except the Kroath and Klicks).

Operating under that premise, we should be able to reasonably estimate an advantage that such a defense would grant in the quick combat resolution system detailed on pg. 64 of the *Externals ESD*. If the ability is intermittent, N’sss ghost ships are probably 5 to 10 percent more capable in combat. Anything more than that amount skews the combat strength ratings too far. If we go with a 10 percent mark-up, a N’sss battleship would enjoy a strength rating of 1,650 instead of the normal 1,500. A 5 percent mark-up would reduce the rating to 1,575. In general, a coordinated attack effort by a N’sss fleet could produce another overall 1 to 5 percent bonus to the final total, depending on the number of ships participating in the battle. Presumably, they would need

some kind of ability to communicate with one another during the battle that couldn’t be detected by the enemy; otherwise it might give away their position.

Lastly, in standard game terms, an intermittent cloaking device such as the one described above should probably mirror the statistics for a PL7 Stealth Shield. According to the *Warships* supplement, this system would induce a +3 step penalty to an enemy’s sensor checks and missile attacks during a battle. And, of course, periodically the enemy should lose sight of the N’sss vessel thereby requiring more frequent sensor checks to reacquire it for targeting purposes.

Q: Which stellar nations in the Star*Drive Campaign Setting are most likely to have engaged in terraforming other worlds for colonization?

A: According to the industrial capacity analysis on pp. 81-82 of the *Star*Drive Campaign Setting*, terraformation is a product of chemistry effecting a planet’s climate. The overpopulated Solar Union is the eminent leader in this category having “invested terrabillions in research and development over the course of centuries.” They’ve had to do so because of the lack of room in which to expand their borders, being completely surrounded by the other stellar stations. The text goes on to say that, “the Solar Union is home to more habitable planets and more sentients than any other stellar nation, thanks to the well-protected secrets of its scientific community.” An indication of just how advanced Solar terraforming techniques are in comparison to other stellar nations is given on pg. 98 of the *Star*Drive Campaign Setting*. Under the description of Land’s End on Delphin in the Tendril star system, Dr. Andrew Tofske is introduced as a Solar citizen contracted to StarMech for the next five years. He is “known throughout the Stellar Ring for his success in overcoming atmospheric problems in the Iridis system...winning numerous awards for terraforming Iridis in record time...” In addition, the leaders of StarMech in the system “are mostly interested in Tofske in order to learn the latest Solar planet-altering techniques.” Clearly, Solar terraformers are afforded the greatest respect by anyone and everyone participating or interested in that field of science. But just because you have the technology to be effective terraformers doesn’t mean you have the resources to accomplish it.

The nearest competitor to the Solar Union in terms of chemical production capacity is Austrin-Ontis Unlimited. This corporate entity that continuously espouses the virtues of the right to bear arms, obviously employs such science in producing weapons of mass destruction. Chemical and biological warfare are clear and obvious manifestations of their research, but Austrin-Ontis also has a significant agriculture production capacity, indicating that their chemists are focused on how to get the most out of the land they control. With that in mind, it is understandable that they would also be fairly good terraformers. If we consult pg. 214 of the *Star*Drive Campaign Setting*, this clearly becomes the case as it notes “the Boman Corp, an independent corporation with headquarters in Austrin-Ontis Unlimited, successfully bid for the rights to operate and coordinate the terraforming stations on the unpopulated Hegel continent...” of the planet Spes in the Hammer’s Star System. Though the Austrins had an ulterior motive in doing so, it’s clear that they are quite capable at their job, proving “incredibly dedicated to the project, producing more than a dozen active reproducers...” in the past three years while relying on basic manpower instead of unmanned or robotic stations. But, like the Solars, the Austrins have the technology for terraformation, but don’t always have the resources and funding to see every project through to completion.

The next highest production capacity for chemistry indicated on pg. 82 belongs to the Orion League. Long known as the premiere explorers, the Orions clearly have enjoyed the ability to locate and mark the systems that hold the best chances for supporting human life. Often, this

means identifying worlds that aren’t quite Class 1 yet, but with some minor terraforming could become one. Small indications of this can be seen in the Aegis system on Bluefall, which was originally settled by Orion colonists. Though the water world already held a suitable atmosphere, it didn’t provide enough fresh water or edible plant-life suitable for human ingestion. Thanks to the Orions’ skills at chemistry and planetology, those problems have been overcome with the Acrim Desalination Facility detailed on pg. 157 of the *Star*Drive Campaign Setting*, as well as the introduction of proper processing techniques used at the great kelp farms described on pg. 155.

Lastly, the Thuldan Empire may not have the highest overall production capacity for chemistry and planetology, but they do hold an expertise in biology that no other stellar nation can approach. This has to be another key element in successful terraformation techniques. In addition, unlike the Solars, Austrins, and to a lesser degree the Orions, the Thuldan Empire does enjoy a vast amount of resources and funding upon which they can draw to undertake expensive terraformation projects. On pg. 19 of the *Star*Drive Campaign Setting*, it mentions that, “...Today the most famous feat of terraforming is the home system of the Thuldan Empire, where brilliant engineers have coaxed five planets into lush habitability.” Also, in the Verge, the Empire’s colony on Bluefall have taken extra pains to remake Filtrane Island into an environment that they feel comfortable with...even importing plants and animals in an effort to tame the land. Though these measures have met with limited success, it just goes to show the Thuldan commitment to terraformation.



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