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Accessing:

SECTION 1 – BIONETICS	3
Section 1 – Body Index.....	3
Section 2 – Implantation.....	3
Section 3 – Cultured Bioware	3
Section 4 – Secondhand Bioware.....	3
Section 5 – Bioware Drawbacks.....	3
Section 6 – Bioware Damage	3
Section 7 – Bioware and Cyberware.....	3
Section 8 – Standard Replacement Parts	3
Bioware and Size	4
BIOWARE	4
CYBERWARE	7
Cranial Cyberdecks	8
GENE-TECH	8
CHEMISTRY	8
Substance Abuse	8
Compounds	9



SECTION 1 – BIONETICS

SECTION 1 – BODY INDEX

As with cyberware, a character can withstand only a limited amount of bioware augmentation to his body. This is measured by his Body Index. Note that by 2060, this is referred to as Bio-Index, and the terms may be used interchangeably.

Creatures with a Magic Rating suffer ill effects from bioware in the same manner as with cyberware. Treat the character's Bio-Index as Essence, but at half the value.

SECTION 2 – IMPLANTATION

Implanting bioware take 12 hours and a DC 20 Treat Injury check. Procedures requiring the implantation of more than 1.5 Body Cost in bioware require drastic invasive surgery, and can cause a magically active character to check for Magic Rating loss.

SECTION 3 – CULTURED BIOWARE

"Generic" bioware is available as cultured bioware. This has 75% of the listed Body Cost, but the purchase DC is +4. Cultured bioware is less susceptible to damage. Some bioware implants are available only as cultured bioware. The Purchase DC modifier is already included with these systems.

SECTION 4 – SECONDHAND BIOWARE

Secondhand bioware is available for non-cultured bioware at -5 from the Purchase DC. Secondhand bioware is more prone to damage. See below for details.

SECTION 5 – BIOWARE DRAWBACKS

When a character's Body Index (total bioware Body Cost) exceeds his Constitution modifier +1 (minimum 0), he begins to suffers penalties. For each point (or fraction thereof) over his Con modifier +1 of Body Index, the character suffers a -1 penalty to Fortitude saves against diseases, poisons, toxins, and other compounds and agents. His maximum hit points are reduced by one point as well.

Bioware interferes with healing, both magical and natural. Subtract the character's current Body Index from the result rolled with any spell that heals physical (non-cyber) damage. Subtract one-half of the character's current Body Index from his level when determining hit points healed with natural healing.

SECTION 6 – BIOWARE DAMAGE

Damage to bioware, like damage to cyberware and natural organs, is measured with Stress points. New bioware begins with 0 Stress points; secondhand bioware begins with 1 Stress point. Note that the following rules apply to replacement parts as well as bioware.

Whenever a character is forced to make a massive damage save, there is a chance that one of his bioware systems will suffer damage. If the character succeeded on the save against massive damage, he must roll a DC 15 Fortitude save – failure indicates that one system will take 1d4-1 points of damage (Stress points).

If the character succumbed to massive damage, the indicated bioware systems will take 2d6-1 points of damage (Stress points). You may spend an action point to negate bioware damage, but only before the damage is determined.

To determine which system is damaged, the character must have a Bioware record laid out. This measures his bioware by Body Cost slots. For each full point of Body Cost, the character has one slot filled with the implants that totaled one point. If an implant fills more than one point, then it carries over to fill part of the next slot.

For example, Joe has a pain editor (0.6 BC), a trauma damper (0.4 BC), and a level 2 synaptic accelerator (1.6 BC), so his slots would look like this:

- Slot 1: pain editor, trauma damper.
- Slot 2: synaptic accelerator
- Slot 3: synaptic accelerator, empty.

When bioware is damaged, roll a die corresponding with the number of available slots (1d3 in Joe's case, above). If more than one system is available in a slot, the Gamemaster will either select an implant, or even divide the damage between multiple implants.

When bioware suffers Stress, its performance degrades, based on the amount of Stress is currently suffers. Effects are included with the bioware

descriptions. Bioware stress is rated in four levels – Light (1-5 Stress), Moderate (6-8 Stress), Serious (9-10 Stress), and Deadly (11-15 Stress). At 16+ points of Stress, the implant is completely destroyed. Stress effects are cumulative

Bioware, unlike cyberware, can repair Stress on its own. Bioware Stress heals a number of Stress points per day equal to the character's Constitution bonus (minimum of 1). Magical healing can also repair bioware stress; points from healing spells can be devoted to either hit points or bioware, but the character's Body Index impedes the healing regardless. Once a bioware system has suffered Stress, it can never be reduced to less than 1 point of Stress.

Bioware that has failed requires surgery to repair. Repairing Stress has the normal Purchase DC for doctor's services +2, while repairing failed bioware has the normal Purchase DC +4.

Unlike cyberware, the removal of bioware can lower the character's Body Index. When bioware systems are removed, the surgeon must make a second Treat Injury check. The DC for this check is 15 + Body Index (round up). If successful, the character recovers a percentage of lost Body Index as follows.

Beat Treat Injury DC by	Recovered Body Index
0	0%
1 – 5	10%
6 – 10	25%
11 – 15	45%
16 – 20	60%
21+	90%

For example, if Joe has a current Body Index of 4.5, and he is having level 2 symbiotes removed (body cost 0.7), the surgeon's second check is against a DC of 20. The surgeon rolls a 26, beating the DC by 6 points, so Joe recovers 25% of 0.7, or 0.17 Body Index.

SECTION 7 – BIOWARE AND CYBERWARE

Characters can have both cyberware and bioware, but too much can have severe effects on the body. This is measured by the character's Essence Index. A character's Essence Index is equal to his Constitution – his current Essence. If a character's Body Index exceeds his Essence Index, he suffers additional penalties.

For each point (or fraction thereof) by which the character's Body Index exceeds his Essence Index, he suffers the following:

- An additional -1 penalty on Fortitude saves versus diseases, poisons, toxins, and other compounds and agents.
- -1 hit point healed per period of healing.
- -1 from the character's death's door (10 + Con modifier), making it easier for him to die.
- All bioware systems are treated as if having +1 point of Stress.

SECTION 8 – STANDARD REPLACEMENT PARTS

Use the following for getting standard meat replacement parts.

REPLACEMENT PARTS TABLE					
Body Part	Base Time	Purchase DC			
		Clone	Type O	Type G	2 nd hand
Small organ	21 days	27	25	24	22
Large organ	35 days	30	27	26	24
Hand/foot	42 days	30	27	26	24
Limb	56 days	31	29	28	26

Only cloned body parts can be created with forced growth. Divide the base time by the rating of the forced growth part to determine the amount of time required to grow the replacement. For example, a rating 10 limb can be grown in 5.6 days.

Cultured bioware, which is cloned from the recipient, can be made with forced growth techniques, but one-half of the forced growth rating is applied as permanent Stress points.

FORCED GROWTH PARTS TABLE				
Rating	Purchase DC			
	Small organ	Large organ	Hand/foot	Limb
2	27	30	30	31
3	29	31	31	33
4	30	32	32	34
5	31	33	33	35

FORCED GROWTH PARTS TABLE

Rating	Purchase DC			
	Small organ	Large organ	Hand/foot	Limb
6	31	33	33	35
7	32	34	34	36
8	32	34	34	36
9	33	35	35	37
10	33	35	35	37

BIOWARE AND SIZE

The Purchase DC for bioware is always modified for size, as with cyberware.

BIOWARE

BIOWARE TABLE

Implant	Body Cost	Size	Wt.	Purchase DC	Illegal DC	Res
Adrenal pump						
Level 1	1.25	F	-	32	36	Res
Level 2	2.5	F	-	34	38	Res
Cerebral booster *						
Level 1	0.4	F	-	31	34	-
Level 2	0.8	F	-	34	37	-
Damage compensator *						
Level 1	0.2	F	-	29	32	Res
Level 2	0.4	F	-	31	35	Res
Level 3	0.6	F	-	35	39	Res
Level 4	0.8	F	-	36	39	Res
Level 5	1	F	-	37	40	Res
Level 6	1.2	F	-	40	43	Res
Level 7	1.4	F	-	41	44	Res
Level 8	1.6	F	-	41	44	Res
Level 9	1.8	F	-	41	45	Res
Level 10	2	F	-	42	45	Res
Enhanced articulation	0.6	F	-	31	32	-
Extended volume						
Level 1	0.2	F	-	25	25	-
Level 2	0.3	F	-	27	27	-
Level 3	0.4	F	-	29	29	-
Mnemonic enhancer *						
Level 1	0.2	F	-	27	27	-
Level 2	0.4	F	-	30	30	-
Level 3	0.6	F	-	31	31	-
Level 4	0.8	F	-	32	32	-
Level 5	1	F	-	33	33	-
Level 6	1.2	F	-	33	33	-
Level 7	1.4	F	-	34	34	-
Level 8	1.6	F	-	34	34	-
Level 9	1.8	F	-	35	35	-
Level 10	2	F	-	35	35	-
Muscle augmentation						
Level 1	0.8	F	-	31	31	Res
Level 2	1.6	F	-	33	33	Res
Level 3	2.4	F	-	35	35	Res
Level 4	3.2	F	-	36	36	Res
Nephritic screen	0.4	F	-	28	28	-
Orthoskin						
Level 1	0.5	F	-	29	28	Res
Level 2	1	F	-	32	31	Res
Level 3	1.5	F	-	34	33	Res
Pain editor *	0.6	F	-	32	33	Res
Pathogenic defense						
Level 1	0.2	F	-	29	31	-
Level 2	0.4	F	-	29	31	-
Level 3	0.6	F	-	29	31	-
Level 4	0.8	F	-	29	31	-
Level 5	1	F	-	29	31	-
Level 6	1.2	F	-	29	31	-
Level 7	1.4	F	-	29	31	-
Level 8	1.6	F	-	29	31	-

BIOWARE TABLE

Implant	Body Cost	Size	Wt.	Purchase DC	Illegal DC	Res
Level 9	1.8	F	-	29	31	-
Level 10	2	F	-	29	31	-
Platelet factory						
Anticoagulant	-	F	-	5	5	-
Reflex recorder *	0.25	F	-	29	31	-
Suprathyroid gland	1.4	F	-	31	35	Res
Symbiotes						
Level 1	0.4	F	-	27	27	-
Level 2	0.7	F	-	30	30	-
Level 3	1	F	-	32	32	-
Synaptic accelerator *						
Level 1	0.3	F	-	33	35	Res
Level 2	1.6	F	-	36	39	Res
Synthacardium						
Level 1	0.2	F	-	24	25	-
Level 2	0.3	F	-	27	29	-
Tailored pheromones						
Level 1	0.4	F	-	28	31	-
Level 2	0.6	F	-	31	33	-
Toxin exhaler	0.6	F	-	Special	Special	Mil
Toxin extractor						
Level 1	0.2	F	-	29	29	-
Level 2	0.4	F	-	31	31	-
Level 3	0.6	F	-	33	33	-
Level 4	0.8	F	-	34	34	-
Level 5	1	F	-	34	34	-
Level 6	1.2	F	-	35	35	-
Level 7	1.4	F	-	36	36	-
Level 8	1.6	F	-	36	36	-
Level 9	1.8	F	-	37	37	-
Level 10	2	F	-	37	37	-
Tracheal filter						
Level 1	0.2	F	-	30	30	-
Level 2	0.4	F	-	32	32	-
Level 3	0.6	F	-	33	33	-
Level 4	0.8	F	-	34	34	-
Level 5	1	F	-	35	35	-
Level 6	1.2	F	-	36	36	-
Level 7	1.4	F	-	37	37	-
Level 8	1.6	F	-	37	37	-
Level 9	1.8	F	-	37	37	-
Level 10	2	F	-	38	38	-
Trauma damper *	0.4	F	-	31	33	Res

* This bioware is available only as cultured bioware.

Adrenal pump: An adrenal pump is activated whenever you suffer damage, be it lethal or non-lethal. The pump may also be activated if you fail to resist a fear effect, or in other stressful situations, as determined by the Gamemaster. You can also force the pump to activate (or to not activate if so desired) by succeeding on a DC 30 Will save. ACTH may be used to trigger an adrenal pump, and MAO may be used to inhibit an adrenal pump.

- **Level 1 pump:** This provides a +2 bonus to Strength, and Dexterity, a +4 bonus to Initiative checks (applied immediately, thus possibly changing your initiative order), and +2 bonus to Reflex saves. The effects last for 1d6 rounds.
- **Level 2 pump:** This provides a +4 bonus to Strength, and Dexterity,

a +8 bonus to Initiative checks (applied immediately, thus possibly changing your initiative order), and +4 bonus to Reflex saves. The effects last for 2d6 rounds.

Once activated, an adrenal pump requires 1d6+9 minutes to refill. If activated before this time elapses, the bonuses are reduced by half, as well as the duration.

- **Light Stress:** Twitchiness, and spasms.
- **Moderate Stress:** -2 penalty to Strength-, Dexterity-, and Constitution-based checks, including saving throws.
- **Serious Stress:** When the pump is activated, roll d%. On a result of 1-5, you suffer an immediate heart attack and are reduced to -2d10 hit points.
- **Deadly Stress:** The pump ceases to function – you cannot will it to function, stress doesn't activate it, and ACTH doesn't activate it, but it may go off randomly.

Cerebral booster: Each level of this implant adds a +2 bonus to Intelligence.

- **Light Stress:** Acute headaches.
- **Moderate Stress:** -2 penalty to all checks requiring concentration. Spellcasting requires a Concentration check (at a -2 penalty) against the Caster Check DC.
- **Serious Stress:** -4 penalty to Listen, Search, and Spot checks, and Charisma-based checks.
- **Deadly Stress:** 30% chance per day of suffering an epileptic seizure; this deals 2d6 points of non-lethal damage, incapacitates you for 2d6 minutes (1 point of damage per minute), and you have no awareness of your surroundings during the seizure.

Damage compensator: Damage compensators provide the following benefits. The Gamemaster may choose to track your hit points to reflect the fact that you do not register damage nearly as well as you should.

- Add the level of the compensator to your massive damage threshold.
- You receive a bonus to save vs. pain-based effects equal to the level of the damage compensator.
- Negate non-lethal damage equal to one-half the level of the compensator (round down).
- You can function normally when you would be disabled. When dying, you can remain conscious until your negative hit points exceeds your Constitution modifier + the damage compensator level.

Damage compensators affect tactile perception. Apply one-half of the compensator level (round up) as a penalty to any skill or ability check that requires a delicate sense of touch.

- **Light Stress:** Phantom pain (similar to phantom limb syndrome).
- **Moderate Stress:** Heal one point less per period of healing; reduce magical healing by 1 point.
- **Serious Stress:** Only one-half (round down) of the damage compensator level actually applies benefits.
- **Deadly Stress:** Compensator ceases functioning.

Enhanced articulation: This provides a +1 bonus to initiative checks, and a +2 bonus to Strength- and Dexterity-based checks, including skill checks, ability checks, Reflex saves, and attack rolls.

- **Light Stress:** Muscle pains and cramps.
- **Moderate Stress:** Tendonitis in one limb; -2 penalty to all checks involving that limb or the entire body.
- **Serious Stress:** Constant pulled muscles; -2 penalty to all Strength- and Dexterity-based checks, including skill checks, ability checks, Reflex saves, and attack rolls.
- **Deadly Stress:** Dislocated joint; -12 penalty to checks involving the limb, 1d6 points of lethal damage, 1d6 points of non-lethal damage, neither of which heals until the joint is reset (DC 15 Treat Injury). Once reset, you still suffer a -6 penalty to all of the appropriate checks until the Deadly Stress is healed. If the affected limb is a leg, your movement is reduced to one-half and you cannot run.

Extended volume: Level 1 allows you to hold your breath for an additional +7 rounds; level 2 allows you to hold your breath for +15 rounds, and level 3 allows you to hold your breath for +25 rounds.

- **Light Stress:** Frequent hiccups and inconsistent breathing; you must sleep an additional 2 hours per night to avoid fatigue.
- **Moderate Stress:** Situations of intense stress or physical activity cause hyperventilation; roll a DC 25 Fortitude save. If this fails, take 1d4 points of non-lethal damage and suffer a -1 penalty to all skill checks, ability checks, attack rolls, and Reflex saves for 2d6 rounds.
- **Serious Stress:** Damaged diaphragm; suffer a -2 penalty to all Strength-based checks, including melee attack and damage rolls. Any Strength-based check (including melee combat) causes 1d2 points of non-lethal damage.
- **Deadly Stress:** Partially collapsed lung; 3d6 points of damage (cannot be healed until Stress is reduced to less than Deadly) and a -4 penalty to all physical activity.

Mnemonic enhancer: The maximum level of mnemonic enhancer that you can have is equal to one-half your Constitution score (round down). Each level of mnemonic enhancer adds a +1 bonus to Intelligence-based checks, such as skills and recalling information. Recalling information is a variable DC Intelligence check. The DC is based on the amount of detail you wish to

remember. For example, recalling that a car was involved in an accident is DC 5. Remembering the car was red is DC 10. Remembering the model of the car is DC 15, remembering that the driver was male is DC 20, and remembering the long scratch along the side is DC 30.

Increase the DC of such tests by +2 if the event occurred within the last week, but more than 24 hours ago. If the event occurred within the last month, increase the DC by +4, and an additional +1 per additional month. Complexity may affect the DC as well; remembering a cherished childhood pet is much easier than remembering some obscure high school English class poem.

The mnemonic enhancer also aids in the acquisition and use of Intelligence-based skills. Reduce the cost per skill rank by mnemonic enhancer level x 5%.

- **Light Stress:** Headaches and déjà-vu.
- **Moderate Stress:** Randomly surfacing memories impair concentration; -1 penalty to all checks involving concentration. Spellcasting requires Concentration checks (-1 penalty) against the Caster Check DC. These memories cause you to talk in your sleep and mumble aloud.
- **Serious Stress:** A number of times per day equal to the level of the mnemonic enhancer, you suffer from flashbacks of old memories unless you succeed on a DC 25 Will save. During a flashback, you are out of touch with the world for 1d6 minutes.
- **Deadly Stress:** Whenever you make an Intelligence-based check, you must roll a DC 30 Will save or become distracted, suffering a -4 penalty to all skill checks, ability checks, attack rolls, and Reflex saving throws for 2d6 minutes. Actions that involve concentration are at -8 instead of -4, and spellcasting requires a Concentration check (at a -8 penalty) against the Caster Check DC.

Muscle augmentation: Each level of muscle augmentation adds a +2 bonus to Strength and Dexterity.

- **Light Stress:** Muscle stiffness.
- **Moderate Stress:** Muscle tremors and spasm in a specific limb; -2 penalty to all checks involving that limb or the entire body.
- **Serious Stress:** Inflamed ligaments and tendons; -2 penalty to all Strength- and Dexterity-based checks, including skill checks, ability checks, Reflex saves, and melee combat attack rolls.
- **Deadly Stress:** Torn muscles; reduce Strength to one-half unaugmented value and suffer a -2 penalty to all Strength- and Dexterity-based checks, including skill checks, ability checks, Reflex saves, and melee combat attack rolls.

Nephritic screen: +2 bonus to saving throws against poisons and other toxic compounds.

- **Light Stress:** Screen filters nutrients as well. You may require nutritional supplements.
- **Moderate Stress:** Bonus no longer applies.
- **Serious Stress:** Screen accumulates a mass of non-filtered toxins that slowly leak into your system. Take 2 points of Constitution damage that doesn't heal until you have Stress removal surgery or magical healing.
- **Deadly Stress:** Toxicity causes multiple infections; take 4 points of Constitution damage that cannot be healed until you have Stress removal surgery or magical healing.

Orthoskin: Orthoskin provides you with damage reduction of level +1/-.

This damage reduction is not cumulative with that provided by feats or special abilities of a physical nature (except for bonus lacing). Orthoskin imposes a penalty to skills and checks requiring a delicate sense of touch that is equal to the level of the Orthoskin.

- **Light Stress:** Unsightly dry and flaky skin.
- **Moderate Stress:** Wounds scar more than usual, even with magical healing. Cosmetic surgery may be required.
- **Serious Stress:** The Orthoskin becomes stiff and loses elasticity; -2 penalty to Dexterity.
- **Deadly Stress:** The Orthoskin degenerates, losing 1 point of bonus and imposing a -1 penalty on Charisma-based checks, and a -1 penalty to Dexterity.

Pain editor: When the pain editor is active, you no longer feel pain. You are immune to pain-based effects, and non-lethal damage cannot render you unconscious unless you fail a massive damage save. Barring an obvious clue, you cannot tell if you are wounded. You suffer a -10 penalty to skills and checks requiring a sense of touch. Activating and deactivating a pain editor is a free action. The Gamemaster will track your hit points while the pain editor is active.

- **Light Stress:** Sensitivity to pain fluctuates.
- **Moderate Stress:** Suffer a -2 penalty to Listen or Spot checks.
- **Serious Stress:** You become particularly sensitive to pain; increase non-lethal damage by 50%, and suffer a -2 penalty to save vs. pain-based effects.
- **Deadly Stress:** The editor does not activate.

Pathogenic defense: The maximum level of pathogenic defense that you may have is equal to one-half your Constitution score (round down). Apply the level of the pathogenic defense as a bonus to saving throws against diseases, allergens, and microbiological effects, but not chemical compounds.

- **Light Stress:** You become more vulnerable to common colds and fevers.

- **Moderate Stress:** Suffer a -4 penalty to save versus diseases.
- **Serious Stress:** Suffer a penalty to save versus disease equal to the pathogenic level – this replaces the Moderate Stress penalty.
- **Deadly Stress:** Take 4 points of Constitution damage that cannot be healed until the Stress is reduced to less than Deadly.

Platelet factory: When you are in negative hit points, you take twice as long to bleed, so you lose one hit point every other round instead of every round. Against attacks with a wounding effect, you suffer one less point.

A platelet factory requires you to take a daily dose of anticoagulants (either injected or oral, Purchase DC 5 per dose). If you do not take the anticoagulant, you must make a Fortitude save every 12 hours. The DC for this save is 10 +2 per day that you have failed to take the medicine. If the saving throw fails, you suffer an aneurism or heart attack, and are immediately reduced to -2d10 hit points.

- **Light Stress:** Poor circulation that causes cold extremities and tingling.
- **Moderate Stress:** Internal blood clots; every day, roll a DC 25 Fortitude save or take 1d2-1 points of Constitution damage.
- **Serious Stress:** Bone marrow deficiencies; suffer a -4 penalty to save vs. diseases and infections.
- **Deadly Stress:** Stroke – you are immediately reduced to -2d10 hit points and, if you survive, may suffer long-term side effects.

Reflex recorder: Reflex recorders provide a +2 bonus to one Strength- or Dexterity-based skill (Drive, Swim).

- **Light Stress:** You suffer from unwanted reflexive actions that match the corresponding skill (turning a wheel, swimming motions, trigger pulling, etc).
- **Moderate Stress:** The bonus decreases to +1.
- **Serious Stress:** When you use an action point to augment the skill or attack, subtract -2 from each d6 you roll.
- **Deadly Stress:** When you use the augmented skill or attack, you get stuck in a reflexive loop, causing you to perform the same action over and over. A DC 25 Will save is required to break the activity.

Suprathyroid gland: This provides a +2 bonus to Strength, Dexterity, and Constitution. You must eat an increased amount of food, or eat specialized supplements with this device. This increases your Lifestyle Purchase DC by +1. Creatures and devices receive a +2 bonus to checks to Spot you when using darkvision or thermal imaging.

- **Light Stress:** Unusually hot and sweaty, and you suffer from weight loss.
- **Moderate Stress:** You have difficulty sleeping and require 2 additional hours of sleep to avoid fatigue.
- **Serious Stress:** You are constantly fatigued.
- **Deadly Stress:** You suffer a heart attack that immediately reduces you to -2d10 hit points.

Symbiotes: With level 1, you heal 1d4 + Constitution modifier hit points every 6 days. With level 2, you heal this amount in 5 days. With level 3, you heal this amount in 4 days. Symbiotes have no effect on the healing of ability damage. You must eat more food than normal, or eat a specialized diet, to fuel symbiotes. This increases your Lifestyle Purchase DC by +1.

- **Light Stress:** You suffer from weight loss.
- **Moderate Stress:** Creatures and devices receive a +2 bonus to checks to Spot you when using darkvision or thermal imaging.
- **Serious Stress:** Subtract one from the symbiotes level for the purposes of healing.
- **Deadly Stress:** The symbiotes no longer provide benefits.

Synaptic accelerator: A level 1 synaptic accelerator provides a +4 bonus to initiative checks. A level 2 synaptic accelerator provides a +8 bonus.

- **Light Stress:** You tend to be unusually jumpy.
- **Moderate Stress:** Unsteadiness and rapid, uncontrolled eye movement that imposes a -1 penalty on Reflex saves and ranged attack rolls.
- **Serious Stress:** Loss of muscle coordination; you suffer a -1 penalty to all Strength- and Dexterity-based checks, including attack rolls and Reflex saves.
- **Deadly Stress:** You lose the bonuses from the accelerator and instead suffer a penalty to initiative checks equal to the level of the synaptic accelerator.

Synthacardium: Each level of synthacardium provides a +2 bonus to checks for endurance purposes and to saves to resist cardiac-related ailments.

- **Light Stress:** Acute migraine headaches resulting from high blood pressure.
- **Moderate Stress:** Whenever you have to make a check for endurance, roll d%; on a result of 1-5, you suffer a stroke that reduces you to -2d10 hit points and may have long-term effects.
- **Serious Stress:** Constant chest pains that deal 2 points of Constitution damage. This cannot be healed until the Stress level is reduced to less than Serious.
- **Deadly Stress:** You lose the bonuses provided by the

synthacardium.

Tailored pheromones: Each level of tailored pheromones provides a +2 bonus to Charisma-based skill checks. In areas with little or no wind, this bonus applies in a radius of roughly 60 ft. Mild air currents may increase this area, but stronger winds disperse the pheromones before they can take effect.

Creatures that have no sense of smell, or an impaired sense of smell are unaffected by the pheromones. Creatures with enhanced senses of smell (Scent ability) are affected at even greater ranges (50% greater), and your bonus is better by 1 point.

Cultured pheromones provide a +3 bonus per level, and affect a radius of 90 ft.

- **Light Stress:** You leave an unusually lasting impression.
- **Moderate Stress:** Reduce the area of effect by one-half.
- **Serious Stress:** For each person you encounter, there is a 50% chance that the pheromones result in a penalty instead of a bonus.
- **Deadly Stress:** The pheromones provide no bonuses.

Toxin exhaler: The toxin exhaler allows you to spray the selected toxin as a cone with a distance equal to 5 ft. If your Constitution is 25+, you can spray a 10 ft. cone. The toxin has the normal effect on those in the area. Using the toxin exhaler is a standard action. The exhaler can contain 5 doses, and takes 24 hours to create a dose.

When you are forced to make a saving throw against your selected toxin, you do so with a +6 bonus.

The Purchase DC for a toxin exhaler is the Purchase DC for the toxin +13 (legal) or +15 (illegal).

- **Light Stress:** The exhaler frequently becomes swollen – this is both very noticeable and uncomfortable.
- **Moderate Stress:** The exhaler produces a new dose every 48 hours instead of every 24 hours.
- **Serious Stress:** The exhaler can hold only 2 doses.
- **Deadly Stress:** The exhaler does not produce any doses until the Stress level is reduced to below Deadly.

Toxin extractor: The maximum level of toxin extractor that you may have is equal to one-half your Constitution score (round up). Apply the level of the toxin extractor as a bonus to saving throws against ingested poisons, toxins, and other chemical compounds.

- **Light Stress:** The extractor begins to filter nutrients – you may require nutritional supplements.
- **Moderate Stress:** Suffer a -2 penalty to save vs. poisons and toxins.
- **Serious Stress:** Extractor fails to filter toxins and these slowly leak into your system. Take 2 points of Constitution damage that doesn't heal until you have Stress removal surgery or magical healing.
- **Deadly Stress:** The extractor stops providing any bonuses.

Tracheal filter: The maximum level of tracheal filter that you may have is equal to one-half your Constitution score (round up). Apply the level of the tracheal filter as a bonus to saving throws against inhaled poisons, toxins, and other chemical compounds.

- **Light Stress:** Mucus accumulates, causing coughing fits.
- **Moderate Stress:** Swelling causes breathing difficulty – for the purposes of endurance, your Constitution is considered 4 points lower.
- **Serious Stress:** Reduce the effective level of the filter by one-half (round down).
- **Deadly Stress:** The extractor stops providing any bonuses. In addition, the swelling impedes you ability to talk. Even speaking a sentence is a standard action.

Trauma damper: A trauma damper turns 2 points of lethal damage into non-lethal damage, and negates 2 points of damage from non-lethal attacks. It provides a +4 bonus to save vs. pain-based effects. An active pain editor prevents the trauma damper from applying its benefits. A trauma damper has no effect if you have a damage compensator.

- **Light Stress:** Weight loss and mood swings.
- **Moderate Stress:** The trauma damper doesn't react immediately; damage takes effect normally, as if you have no trauma damper, until the end of the round, at which time, the damper converts or negates damage.
- **Serious Stress:** The trauma damper reacts even more slowly, reducing or negating damage at the end of the following round.
- **Deadly Stress:** The trauma damper ceases to function.

CYBERWARE TABLE

Implant	Ess	Size	Cap	Wt.	Purchase DC	Illegal DC	Res	Treat Injury	Install Time
Bone lacing*									
Plastic	0.5	-	-	11 lb.	25	26	Res	25	60 hours
Aluminum	1	-	-	22 lb.	29	31	Res	25	60 hours
Titanium	1.5	-	-	33 lb.	33	34	Res	25	60 hours
Chemical analyzer	0.2	F	[1]	-	21	21	-	18	4 hours
Data management SPU (1-4)	0.2	F	[1]	-	25 + Rg	25 + Rtg	-	18	4 hours
Datajack (improved)	0.1	F	[1]	-	18	17	-	18	4 hours
Encephalon									
Level 1	0.75	F	-	-	31	33	-	20	6 hours
Level 2	1.5	F	-	-	33	35	-	20	6 hours
Gas spectrometer	0.2	F	[1]	-	21	21	-	18	4 hours
Hydraulic jacks* (1-6)	-	S	[Rtg]	Rtg	21 + (Rtg x2)	21 + (Rtg x2)	-	Craft 20	6 hours
Math SPU (1-4)	0.2	F	[1]	-	20 + (Rtg x 2)	20 + (Rtg x 2)	-	18	4 hours
Memory	0.1	F	[1]	-	Special	Special	-	18	4 hours
Olfactory booster (1-6)	0.2	F	[2]	-	18 + Rtg	18 + Rtg	-	22	12 hours
Orientation system	0.5	F	[2]	-	27	29	-	18	4 hours
Skillwire plus*	Rtg x 0.2	M	-	0.2 lb.	10 + Rtg	10 + Rtg	-	24	20 hours
Softlink									
1 slot	0.15	F	[1]	-	18	18	-	18	4 hours
2 slots	0.25	F	[1]	-	20	20	-	18	4 hours
3 slots	0.3	F	[1]	-	23	23	-	18	4 hours
4 slots	0.35	F	[1]	-	25	25	-	18	4 hours
Tactical computer	1.5	F	[1]	-	39	44	Mil	18	4 hours
Each dedicated port	0.1	-	[1]	-	26	31	Mil	Craft 20	2 hours
Each generic port	0.1	-	[1]	-	23	28	Mil	Craft 20	2 hours
Tac. sense program	-	-	-	-	23	28	Mil	-	-

* Cyberware marked with an asterisk is adjusted for size.

Bone lacing: Bone lacing provides several benefits, including bonus hit points, massive damage save bonus, damage reduction, fortification (negates critical bonus damage and sneak attack damage), and increased unarmed damage. The weight of bone lacing is added to your weight, but is also included against your encumbrance. To deal non-lethal unarmed damage, you must take a -4 penalty on the attack roll. Bone lacing adds a straight +1 bonus to Strength-based melee damage.

Laced bones are particularly difficult to break, and have the hardness of the lacing material.

BONE LACING TABLE

Type	HP	Mas Dmg	DR	Fortification	Unarmed Damage
Plastic	+3	+2	1/-	1%	Lethal
Aluminum	+6	+4	1/-	2%	Lethal +1
Titanium	+9	+6	2/-	4%	Lethal +1 step

Chemical analyzer: This analyzes chemical compounds from minute samples. As noted, by itself, the analyzer provides only a raw breakdown of the component chemicals. For further information on analyzed chemicals, you must have a chemical analysis program. Such a program analyzes the sampled substances with a Knowledge (physical sciences) skill equal to the rating. Treat the program as an equivalent Knowsoft for pricing and memory requirements.

Data management SPU (Data compactor): This decreases the amount of memory used by programs downloaded into headware memory. The SPU compresses the data by 20% per level (20, 40, 60, and 80%). For example, if Joe has a level 3 data management SPU and loads a 100 Mp program into his headware memory, it takes only 40 Mp (60% compression). You decide whether data is compressed when you download it into headware memory.

Accessing or transferring compacted data takes long than normal; with a level 1 or 2 SPU, it takes a move action to access the data, while a level 3 or 4 SPU requires a standard action. Compressed data must be decompressed in order to be used or read.

Datajack (improved): The only difference between this and the datajack in core is the reduced Essence. There is only one level of improved datajack.

Encephalon: An encephalon provides a bonus to Intelligence-based checks equal to the encephalon level x 2. It reduces the XP cost of Intelligence-based skills by (level x 5%) per rank. The encephalon does not have any functions related to skillssofts, contrary to the text in *ShadowTech*.

Gas spectrometer: This is essentially identical to a chemical analyzer, except that it allows you to analyze the components of gaseous substances. If you have the analysis program installed for a chemical analyzer or spectrometer,

you do not need a second copy for the other implant.

Hydraulic jack: You add the (hydraulic jack level x 5) to your Jump checks. When jumping down, a successful Jump check allows you to subtract 10 + (hydraulic jack level x5) ft. from the distance fallen when calculating damage. Hydraulic jacks can only be installed in cyberlimbs.

Input/output SPU: For convenience, this is not available.

Math SPU: Apply the level of the math SPU as a bonus to certain skill checks that involve mathematics (Gamemaster's discretion). Apply the level of the math SPU as a bonus to Computer Use checks made when decking.

Memory: The only difference between this and Memory in the core rules is the reduced Essence.

Olfactory booster: This provides you with the scent extraordinary ability. The ranges of the ability are based on the level of olfactory booster. Apply one-half the level to checks involving taste.

OLFACTORY BOOSTER TABLE

Level	General	Upwind	Downwind	Note location
1	10 ft.	20 ft.	5 ft.	n/a
2	20 ft.	40 ft.	10 ft.	5 ft.
3	30 ft.	60 ft.	15 ft.	5 ft.
4	40 ft.	80 ft.	20 ft.	5 ft.
5	50 ft.	100 ft.	25 ft.	10 ft.
6	60 ft.	120 ft.	30 ft.	15 ft.

Orientation system: This functions pretty much as described. If provides you with information based on the slotted map chip. A basic city street map is Purchase DC 13, a city block map including sewage/gas/electricity/maintenance access ways is Purchase DC 18, a detailed building map Purchase DC 17.

Skillsoft: Skillssofts as described in *ShadowTech* are already covered in *Shadowrun/d20 Modern*. Ignore the entry in *ShadowTech*.

Skillwire plus: This functions as per normal Skillwires, except the total Activesoft rating cannot exceed the Skillwire plus rating x2.

Softlink: The softlink is simply an improved chipjack (lower Essence) with multiple slot versions (2-, 3-, or 4-slots) available, allowing you to slot multiple skillssofts. Ignore pretty much all of the text in *ShadowTech* concerning these devices.

Tactical computer: Ignore the text in *ShadowTech* concerning this device.

The tactical computer is a dedicated expert system designed to integrate data input from numerous "senses", analyze it, and enhance you overall "feel" for

Shadow Tech

a combat situation.

The basic model features one input port linked to each of the five senses (human basic senses, not including senses such as low-light vision or darkvision). Additional ports may be installed for additional sensory information (low-light vision, darkvision, scent, etc). Each port must be installed either as a dedicated port tied to a specific sense, or as a "generic" port. Any sense may be linked to the TacCom, including natural alternate visions, scent, cyber-senses, etc., or even externally connected devices (a surveillance camera on a drone, transmitting images through your headware radio, etc).

The TacCom uses the sense feeds to track targets and motion, predict movements, compute trajectories, and otherwise anticipate events and outcomes. Appropriate responses are calculated and fed back to you as subconscious impulses.

You can assign a generic port to receive data from senses as needed, but this requires a move action. Each sense that is tied to the TacCom requires a tactical sense program (10 blocks of memory) to understand and analyze the incoming data. The program may be run from a chip, headware memory, or any other appropriate linked device.

Even if a sense is connected to the TacCom, that input is only relevant if the computer can use the data the sense is providing. For example, the sight of a character with normal vision operating in near or complete darkness would rarely be useful in a combat situation. Taste and touch are often not useful.

If sensory input is received through a radio, each sense takes one radio channel.

If you have an applicable orientation system map operating in conjunction with the TacCom, the orientation system counts as two senses towards calculating bonuses.

For every two applicable senses supplying the TacCom with input, the TacCom gains a rating of 1. You may use this rating each round to provide bonuses to attack rolls, Defense, and Knowledge (tactics) skill checks. You may dedicate the entire bonus to one aspect, or divide as you require from round to round.

CRANIAL CYBERDECKS

Some of the cybernetic components in *ShadowTech* are cranial cyberdecks. These are presented out of order due to the severe differences between core *Shadowrun* decking rules and *Shadowrun/d20 Modern* decking rules.

For convenience (i.e., I don't feel like doing custom cyberdecks yet), the components presented in *ShadowTech* are replaced with micro versions of the standard cyberdecks.

Statistically, these are functionally identical to their full-size counterparts, except for one thing – memory. To use a cranial cyberdeck, you must purchase and install headware memory. You must assign some of this as Active Memory, and some as Storage Memory. The computer then locks this memory into exclusive use for the C² deck.

CRANIAL CYBERDECKS TABLE

Implant	Ess	Size	Cap	Wt.	Purchase DC	Illegal DC	Res	Treat Injury	Install Time
Allegiance Alpha	0.5	F	[2]	-	32	33	Lic	18	6 hours
Fairlight Excalibur	0.5	F	[2]	-	47	48	Lic	18	6 hours
Fuchi Cyber-4	0.5	F	[2]	-	40	41	Lic	18	6 hours
Fuchi Cyber-6	0.5	F	[2]	-	44	45	Lic	18	6 hours
Fuchi Cyber-7	0.5	F	[2]	-	45	46	Lic	18	6 hours
Radio Shack CD-100	0.5	F	[2]	-	29	30	Lic	18	6 hours
Sony CTY-360	0.5	F	[2]	-	39	40	Lic	18	6 hours

GENE-TECH

GENE-TECH TABLE

Therapy	Purchase DC	Illegal DC	Restriction
Gene therapy			
Cleansing	31	32	-
Genetic correction	32	33	-
Reconstructive healing	34 / 37	35 / 38	-
Immunization			
Single	31	32	-
Full spectrum	38	39	-
Leonization			
Initial	44	46	-
Maintenance	34	36	-
Antibac	15 + Level	15 + Level	-
Binder	12 + Level	12 + Level	-
Zeta-interferon	12 + Level	12 + Level	-
Doom	15	19	Mil
Gamma-anthrax	12	16	Mil
Mycoprotein (kilo)	5	5	-

Antibac: Essentially, antibac is used against bacterial-spawned diseases and infections. If used before encountering the pathogens, add the level of the antibac as a bonus to the necessary saving throws. If administered after exposure, add the level of the antibac as a bonus to successive saving throws. If this bonus makes the next save successful, the disease is purged. Otherwise, it deals only half damage that day, but then returns to full strength.

Binder: Binder works in the same manner as antibac, but against poisons and other chemical compounds. Note that binder is compound specific.

Doom: Doom deals one point of permanent hit point damage per day. Every 2 days, it deals one point of Strength and Constitution drain. Cyber blood

filters and biological pathogenic defenses all you to save (DC 25), but at one-half the normal bonus. A successful save prevents damage only for that day. Saves must be made every day until the Doom is neutralized.

Gamma-anthrax: Gamma-anthrax isn't much different from standard anthrax and has the following statistics:

- **Type:** Inhaled/injury/contact DC 18
- **Incubation period:** 1d6 days
- **Initial damage:** 1d3 Constitution
- **Secondary damage:** 1d4 Constitution (if damage is sustained, make a second save or 1 point of the damage is permanent drain)

Gamma-anthrax is difficult to diagnose (Treat Injury DC 25). For every day that the subject takes damage, the DC of attempts to treat the contaminant are at +1 DC.

Gene therapy:

- **Cleansing:** This process removes foreign agents, such as toxins, or diseases, especially Doom.
- **Genetic correction:** This process repairs and reverses genetic defects.
- **Reconstructive healing:** This process can heal all hit point damage, ability damage, ability drain resulting from poison, disease, physical Flaws, or severe physical trauma. It can regenerate limbs and organs. It can also reverse the effects of boosted reflexes. This will not repair damage to cyberware or bioware. When used on characters with cyber- or bioware, it has a higher cost, but the same time requirements.

Immunization: As described, this provides immunity to casual exposure of a single disease or compound, or a full spectrum.

Leonization: As described, this removes all physical aging modifiers, lowering your physical age to approximately 21. To determine the safe number of treatments, average your Constitution and Wisdom modifiers. Add 1d6-1 to this result.

Zeta-interferon: Zeta-interferon works in the same manner as antibac, but against virally spawned diseases.

CHEMISTRY

SUBSTANCE ABUSE

Addiction Value

The following drugs have an *Addiction Value* listed. This is the Fortitude save DC that must be made every time a dose of the substance is consumed. If multiple

doses in the same 24-hour period are consumed, the DC increases by +2 per additional dose. If the saving throw fails, the character is addicted to the drug.

Once addicted, the character does not need to continue with Addiction saves. However, every *Fix Rating* hours, he must make another save, against the DC that he failed on, or he requires another dose, and will go to great lengths to acquire the substance. Every five of these saves that the character fails reduces the effective Fix Rating by one point.

While seeking a fix after Fix Rating hours of abstinence, or if attempting to break the addiction, the character suffers Withdrawal.

Withdrawal

Withdrawal is listed as two entries – an effect and a saving throw. A character can suffer withdrawal for two reasons – he is either trying to break the addiction (applied withdrawal), or has gone more than the Fix Rating in hours without a dose (forced withdrawal).

The character can stave off the effects of forced withdrawal by making the listed saving throw every hour. When the save fails, the character suffers the listed effects. Once failed, the effects of forced withdrawal continue until the character gets a full dose, or decides to break the addiction.

To break an addiction, the character must make a Will save at the DC at which he failed against the drug in the first place. This is an Addiction Break save. If this save fails, the character cannot muster the willpower necessary to break the addiction. This attempt can be made once per day, and if the character is undergoing withdrawal, he gains a +2 bonus. A support network can also provide bonuses to the save (see below).

If the character succeeds in the saving throw, he immediately enters withdrawal, suffering the listed effects with no save to stave them off. If he is already suffering any level of withdrawal, the effects are cumulative.

The character must make a Withdrawal save every Fix Rating hours. Failure results in suffering the effects of withdrawal. These effects are cumulative. If the character is suffering from multiple instances of withdrawal effects, then he requires one dose of the substance per set of effects to offset the effects.

The character can always choose to stop fighting the addiction. However, every time he does this, the number of doses required to achieve the standard effect doubles. Unfortunately, the number of doses required to overdose does not change.

Overdose

Each of the drugs has an Overdose value listed. This is the number of doses that may be taken in a 24-hour period with causing an Overdose check. The Overdose check is a Fortitude save against the listed DC, and the DC increases by +2 per additional unsafe dose taken in the 24-hour period. A failed Overdose check causes the character to suffer the effects of Withdrawal, at the maximum effect (random effects are maximized). In addition, if the normal withdrawal effects do not deal Constitution damage, the character takes 1d2 points of Constitution damage.

If the character suffers more Constitution damage in a single shot than his normal Constitution bonus, he must make a DC 15 Fortitude save or fall unconscious. He can be revived with a DC 15 Treat Injury check.

Regardless of the character's Fortitude saves, if he exceeds twice the safe number in a single time period, he automatically fails an Overdose save, and must make the save to resist unconsciousness at a -2 penalty.

ADDICTION BREAK DC MODIFIERS TABLE

Condition	DC Modifier
Every three months addicted	+1
Character became voluntarily addicted	+1
Character has used the drug during combat or sex	+2
Contact with the drug or known dealer of the drug	+2
Each person (max 4) supporting the character's attempt to break	-1
Every previously failed Addiction Break save during this attempt	-1
Each failed Overdose save for this drug	-1
Long-term medical care for the attempt	-2
If prolonged withdrawal could prove fatal	-2

COMPOUNDS

COMPOUNDS TABLE 1

Substance	Type	Save DC	Initial Effect	Secondary Effect/Duration	Fix	Add	With	Over	Purchase DC	Illegal DC	Res	Craft DC	Time
Kamikaze	Inhaled	30	+4 Strength	See below; 2 hours	24	28	See below, DC 24	1, DC 22	20	24	Mil	40	24 hours

Kamikaze: Combat drug. The initial effect is an increase in Strength and an incredibly heightened level of aggression. The secondary effects are +2 Dexterity, +2 Constitution, +2 Will save, +4 initiative, +1 standard action per round, and damage reduction 6/- against non-lethal damage. When the drug wears off, the character takes a -4 Strength and -4 Dexterity penalty, and 4d6 points of non-lethal damage. The ability penalties lasts as long as the drug effects lasted.

Withdrawal effects are -1d2 Strength, Dexterity, Constitution, Intelligence, and Wisdom.

COMPOUNDS TABLE 2

Substance	Type	Save DC	Initial Damage	Secondary Damage	Purchase DC	Illegal DC	Res	Craft DC	Time
ACTH	Inhaled	-	-	-	10	12	-	14	1 hour
Atropine	Injected	22	1d6 Dexterity	1d6 Strength	16	20	Res	14	1 hour
Carcerands	Ingested, injected	-	-	-	Special	+3	-	20	6 hours
Cyanide	Ingested, injury	20	1d6 Constitution	2d6 Constitution	15	17	-	31	15 hours
DMSO	Contact	-	-	-	3	5	-	25	8 hours
Hyper	Ingested, injected	20	1d6 non-lethal	Special	12	16	Ill	24	8 hours
MAO	Injected	24	2d6 non-lethal	-	14	16	Res	24	8 hours
Oxygenated fluorocarbons	Ingested	-	-	-	17	17	-	24	12 hours

Carcerands: To determine the Purchase DC of the Carcerands, determine the price of the agent (compare the Purchase DC to Table 7-1), multiply as listed, and then compare to Table 7-1: Purchase DCs, p. 204 of *d20 Modern Roleplaying Game*.

DMSO: DMSO has little effect on its own. It is a delivery system for other substances. Substances delivered via DMSO increase the save DC by +4. Most armor or clothing does not stop DMSO. Armor with plates (including partial heavy, heavy, and security armor, but not form-fitting) can provide some protection. Roll the Low Impact rating – apply the result as a saving throw bonus against the substance.

Hyper: The initial effect of Hyper is 1d6 points of non-lethal damage. External forms of DR do not apply to this damage. The secondary damage of Hyper is an imposition of a-8 penalty to all checks requiring concentration. In addition, all non-lethal damage suffered is doubled and all lethal damage deals additional non-lethal damage equal to one-half the lethal damage. The effects of Hyper last for 5 minutes per points by which the secondary save failed.

MAO: Regardless of the initial or secondary saves, a victim of Mao automatically suffers a -2 penalty to initiative checks for the duration (30 – Fortitude save rounds). Those with adrenal pumps lose one level of pump value. Those with other adrenaline-based benefits lose them as well. An injector with reduced doses (6) has a Purchase DC of 14.

Oxygenated fluorocarbons: While active in the system, you treat your Constitution as +6 for the purposes of endurance.

COMPOUNDS TABLE 3

Substance	Purchase DC	Illegal DC	Restriction
Dikote	18	20	-
Ruthenium polymers	26	28	-
Imaging scanner	23	25	-

Dikote: In general, an object has to have a hardness of 8 or better to be treated with Dikote.

- Armor:** Armor treated with Dikote increases the damage conversion/energy resistance by one step. If the material has a hardness, increase it by +2.
- Vehicles:** Increase the hardness by +2.
- Weapons:** Increase the hardness by +2. Slashing and piercing weapons improve the AP by two points. Bludgeoning weapon gain no damage benefit. No, you cannot Dikote bullets.

Ruthenium polymers: With the minimum of four imaging scanners, these polymers provide a +8 bonus to Hide checks. Each additional scanner increases the bonus by +2 (to a maximum of +20). Any armor bearing ruthenium polymers reduces the damage conversion/energy resistance by one step.

COMPOUNDS TABLE 4

Weapon	Skill	Acc	Damage	AP	Type	Range Inc	RoF	Mag
Ares squirt	Rifles	-1	-	Special	-	20 ft.	S	10/20

Shadow Tech

COMPOUNDS TABLE 5

Weapon	Size	Str	Wt.	Purchase DC	Illegal DC	Res
Ares squirt	M	3/2	4 lb.	17	17	-

Ares squirt: The gel refill has a Purchase DC of 13. The weapon holds 10 doses of chemical, and 20 doses worth of gel.

