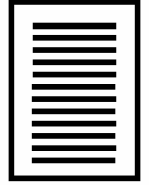Conflicts in space, between starships and spacecraft, is resolved using the Traveller Space Combat System.

Space Combat resolves conflict between the full range of spacecraft, starships, and small craft based on the weapons and defenses used, the decisions of the commanders involved, and some measure of chance. Combat is based on coarse variable scales which give a feeling of authenticity without slavish adherence to exact formulas. Distance is a coarse set of approximate ranges. Time is a coarse measure of passing time. Size is an approximation of the relative size of objects and targets.

Finally, the **Traveller Space Combat System (TSCS)** assumes that many shots and many attacks are taking place, but many attacks go wild and come to nothing: the misses are unimportant; the hits are what count. The system also assumes that there are lulls in the action which characters wait or think or catch their breath. The TSCS accomplishes all of these realistic elements without burdening the players with arbitrary or constraining rules.

THE ELEMENTS OF A FIGHT

Space Combat includes the following elements:

The Situation

The situation is an encounter. One or both sides have goals and the situation dictates that violence will be used to resolve the conflict.

The encounter is defined by:

The Participants. Participants are ships. Some are operated by, or commanded by, player-characters. The opposition consists of ships operated by non-player characters controlled by the referee.

The Ships Themselves. The specific ships are predefined starships or spacecraft created using the ACS Adventure Class Ship design system. Each ship requires a ShipSheet with the information necessary for resolving combat. The participants are defined along with the weapons, armor, and protection they are using or have available.

The Terrain. The situation defines the star system and its worlds as they apply to the encounter. It also defines local bases and local forces which may participate or interfere in the battle.

The Search

Starships are constantly searching with their sensors for possible threats of dangers. This search is routine and always in process. When the search sensors register unknown ships (or known hostile ships) the search converts to a potential battle.

The Battle

The ships attack, defend, move, and otherwise act to resolve the encounter in a series of Rounds.

In a Round, every ship has the opportunity to attack other ships, to defend against their attacks, and to move.

The Rounds continue until one side is defeated or has fled the battlefield.

The Aftermath

Once the fight is over, participants resolve the consequences of their actions: gathering the dead, helping the wounded, occupying the territory they have won, or fleeing the enemy to a place of safety.

SCALE

Space Combat is based on variable distance in Space Range Bands, variable time in Rounds, and approximate Size for Ships.

Distance Scale

Ranges in Space are tracked using Space Range Bands. Each Band is numbered and corresponds to a specific physical distance and to a benchmark object.

For example, Space Range Band 2 (S=2) represents a distance of approximately 50 kilometers. Its benchmark is a Starship perhaps 30 to 70 meters long.

Time Scale

Combat is in Rounds approximately 20 minutes long.
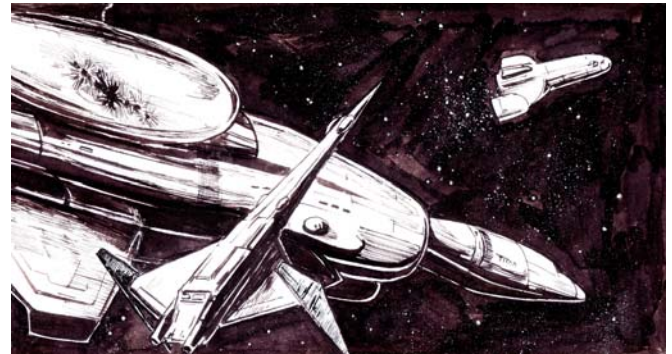
TYPES OF SHIPS

The **Traveller Space Combat System** resolves conflict between Adventure Class Ships: starships created using the ACS Design System.

Adventure Class Ships range in size from 100 tons to 2400 tons and operate singly or in small units (squadrons) of several ships each. The mix of available ships includes both starships and spacecraft, and both ships and small craft.

Battle Class Ships are larger than 2400 tons and are created using the BCS Design System. BCS ships operate in fleets and squadrons and include some small ships only where necessary.

How Search Works

AN OVERVIEW

Standard Operating Procedure SOP defines how a ship uses its Sensors. Sensors may detect enemy (or potentially enemy) ships. When one is detected, Alert Status changes and the Battle begins.

THE STATUS BOARD

No	Color	Name	Power	Status	Sensors	Network	Weapons
0	White	Off	External.	Inoperable	Off	External	Off
1	Grey	Preparing	Internal.	In 12 Hours	Off	External	Off
2	Blue	Ready	Internal	Operable	Passive	External	Off
3	Green	Operating	Internal	In Flight	Active	Internal	Auto Response.
4	Orange	Warning	Internal	Attack Possible	Passive	Internal	Auto Response.
5	Yellow	Alert	Internal	Attack Probable	Passive	Internal	Crewed and Ready
6	Red	Battle	Internal	Attack in Progress	Active	Internal	Crewed and Firing.
7	Maroon	Stalking	Internal	Attack Possible	Passive	Internal	Crewed.

PASSIVE SPACE SENSORS

	Space Sensors	S=	TL	Mod	C+S
C	Communicator				
E	EMS				
G	Grav Sensor				
H	HoloVisor				
N	N-Detector				
Q	Stealth Mask				
R	Radar				
S	Scanner				
T	Scope				
V	Visor				
W	CommPlus				

ACTIVE SPACE SENSORS

	Space Sensors	S=	TL	Mod	C+S
C	Communicator				
E	EMS				
J	Jammer				
R	Radar				
S	Scanner				
W	CommPlus				

PASSIVE WORLD SENSORS

		R=	TL	Mod	C+S
A	Activity Sensor				
C	Communicator				
D	Densitometer				
F	Field Sensor				
K	Analyzer/Sniffer				
L	Life Detector				
M	Mass Detector				
P	Proximeter				
W	CommPlus				
Y	Sound Sensors				

ACTIVE WORLD SENSORS

		R=	TL	Mod	C+S
B	Deep Radar				
C	Communicator				
W	CommPlus				

USING SENSORS

Alert. When there is something of possible interest, the Referee conveys to the players an Alert:

"Your [sensor] sees something about here [location].

Detection. Using the Sensor Task, the characters try to resolve what gave the alert (or they can ignore it). Success in the Sensor Task provides information about the alert.

Tracking. Once a sensor detects an object, it can track that object until some event causes the signal to be lost (it moves out of range; it is hidden by a world; it deliberately jams or hides its signal).

THE SENSOR TASK

$$nD \quad < \quad T \quad +C \quad +S \quad +M$$

		TL	Char	Skill	Mod
n = Range			Use: C4 C5	Use: Sensor	Active=+3 Benchmark
Uncertain (1D)					Mount

Active Sensors Maximum Range = S=7.

The Sensor Task determines the success of the effort.

Because the possible readings are unknown, the Referee administers the task in increments based on the dice used:

The Uncertain Die. The referee rolls the Uncertain Die secretly and notes its result. Players can assume the result is 3 (although it may be between 1 and 6). If this assumed 3 is less than T+C+S+M, he reveals anything detected at S=1 (for Space Sensors) or R=1 for (World Sensors).

The Second Die. The referee rolls the second Die and if the total is less than T+C+S+M, he reveals anything detected at S=1 (for Space Sensors) or R=1 for (World Sensors).

Additional Dice. This process allows checking at each available range without revealing to the players which ranges are important.

The Space Combat Round

AN OVERVIEW

Space Combat is resolved in Space Combat Rounds.

Each Round moves through five Phases of activity. This sequence repeats with each new Combat Round.

Combat Round = about 20 Minutes

Ship and small craft engage in combat. Some seem like seconds; some seem like hours. Some pass without anything happening; others are flurries of activity.

At the end of combat, count the number of Rounds and equate them generally to twenty-minute segments: (a ten Round fight probably took about 200 minutes or a little over three hours).

S M A R T

Situation - Launch - Attacks - Range Change- Target Effects

THE FIVE COMBAT ROUND PHASES

S	**SITUATION**	Attacker notes current Situation: detected Targets, Ranges, and available weapons.	Sensor Operations. New Contacts. Ship May Jump (Depart or Arrive). Boarders Breach Hull. Internal Defenses against Boarders.
M	**MISSILES**	Attacker launches Missiles.	Missiles Launched. AM Mode Defenses Fire. Resolve Missiles Scheduled to Impact This Round. Missiles Impact Armor.
A	**ATTACK**	Attacker fires non-missile weapons.	Resolve Weapons Attacks (including RINT). AB Mode Defenses. Absolute Mode Defenses. Attacks Impact Armor.
R	**RANGE CHANGE**	Ships may change Range.	Ship May Move Between Range Groups and Range Bands Ship Changes Thrust Ramming. Boarding Craft Contact Hull. Small Craft Dock. Deployables Return. Small Craft Launch. Deployables Launch. Pods Launch.
T	**TARGET EFFECTS**	Damage is determined for any successful attacks.	Determine Aimed and Actual Hit Location. Inflict Damage. Immediate Action Damage Control. Damage Severity = Hits / 2. Diagnosis Severity. Damage Control Operations

AM Mode. Anti-Missile Mode weapons (several types) defending against Missiles.
AB Mode. Anti-Beam Mode weapons (typically Sandcasters) defending against Beams.
Absolute Mode. Specific Defenses defending against very specific attacks (Meson Screen versus Meson Gun).

How Attacks Work

AN OVERVIEW
Each weapon fired against a target resolves the Space Weapon Task; then runs the Gauntlet of applicable defenses, and ultimately penetrates Armor. Failure at any step stops the attack. A successful attack then resolves damage.

STATUS

THE SPACE WEAPON TASK

		TL	Char	Skill	Mod

$$nD \; < \; T \; +C \; +S \; +M$$

n =
Range
(S= or R=)

Use:
C4 C5

Use:
Wpn

+TSM
+Mount
- Agility

MODS
Mount= Mount Mod
Agility= PPlant Potential minus current Gs.

DEFENSE
ABSOLUTE MODE

T+C+S+M	<	T+C+S+M
Attacker		Defender
G	<	G
M-5N	<	N
Magnetics E	<	Q
Anti-Matter	<	R
all	<	T
all	<	U
Gravitics HTU	<	W

Attack fails of Attacker TCSM is equal or less than Defender TCSM.

DEFENSE
AB AM MODES

Attacker	Defender
1D <	Mount
<	1 = T1
<	2 = T2 B1
<	3 = T3
<	4 = T4 B2
<	5 = Bay
<	6 = LBay
<	7= Main
AFJKLPW <	S
MNQRV <	BFGJKL

Defender is a Weapon Mount. Defender rolls equal or less on 1D to stop the attack.

THE GAUNTLET

	Space Weapons	AB Mode	AM Mode	Absolute Mode	Armor	
A	Particle Accelerator	▣			▣	
B	Slug Thrower		▣			
C	CommCaster					
D	DataCaster					
E	Stasis					
F	Fusion Gun	▣			▣	
G	Meson Gun			▣		
H	Inducer					
J	Mining Laser	▣			▣	
K	Beam Laser	▣			▣	
L	Pulse Laser	▣			▣	
M	Missile		▣		▣	
	Missile-5N		▣	▣	▣	
N	KK Missile		▣		▣	
P	Plasma Gun	▣			▣	
Q	Ortillery				▣	
R	Rail Gun				▣	
S	SandCaster					
T	Jump Damper					
U	Tractor/Pressor					
V	Salvo Rack		▣		▣	
W	Disruptor	▣			▣	
X	Hybrid K-S-M	▣	▣		▣	
Y	Hybrid L-S-M	▣	▣		▣	
Z						
	Fighters		▣			
	Small Craft		▣			
	Ships	▣	▣	▣	▣	
	Boarders		▣		▣	
	Massive Explosion				▣	
	Missile-N			▣	▣	
	Blast				▣	
	Flash				▣	
	Rad			▣	▣	
	EMP				▣	
	Bang				▣	

SPACE RANGES

	S=		R=
B	**B**	Vlong 1000 m	5
Fighter	**1**	Distant 5 km	6
	2	Vdistant 50 km	7
Short	**3**	Orbit 500 km	8
	4	Far Orbit 5000 km	9
	5	Geo 50,000 km	10
Attack	**6**	1 ls	11
	7	2 ls	12
Long	**8**	8 ls	13
	9	16 ls	14
Deep Space	**10**	3 lm	15
	11	8 lm	16
	12	30 lm	17

ARMOR

Attacker	Defender
1D x Hits <	Armor
<	Armor
<	Ceram
<	Organic
<	Dense
<	Polymer
<	Charged
<	SDense
<	Kinetic
<	LiteMetal
<	VliteMetal
<	HullMetal
<	Geneered
<	Hydrogen
<	Strange
<	Composite
<	Crystaliron

SPECIAL SITUATIONS
Jammer.
Near Miss
Sitting Duck Mode
Special Destruction
Rad vs Organic

How Damage Works

AN OVERVIEW
A successful attack may inflict damage on the target ship.

Hit Location=
Flux (roll once for the Weapon).

Missile Target Mods=
Center of Mass= Min + Max Entry on HLT.
Center of Heat= Drives
Centr of Emissions= Sensors

Weapon Hits=
Number of Dice to be rolled (determined by Weapon Mount).

Damage=
Hit Dice roll minus Armor
Zero or less is No Effect

Final Damage=
Damage divided by 2 (round down)
Read on the Damage Severity Table

Immediate Action=
Possible Severity Reduction

Diagnosis=
Difficulty of Diagnosing the Damage
Determine after the Battle

CHECKLIST
1. Flux for Hit Location.\
   Note Mods for Targetting.
2. Note Number of Weapon Hits.
3. Roll Dice for Damage Points.
4. Subtract Armor and divide by 2.
5. Consult Damage Severity Table
   A. If the Hit Location has components, roll to apply the Damage to one of the components.
   B. Roll for Immediate Action.

7. After the Battle, determine Diagnosis Severity for each Damaged Component.

A Component can have multiple Damages: (for example, a Difficult, two Averages, and a Staggering). They do not add.

Deployed or Extended Objects
Extended Objects (usually for Sensors) are noted on the Hit Location Table at Locations +6 or -6.

Deployed Turrets or Barbettes (usually for Weapons) may be placed in any empty Location on the Hit Location Table (usually +9 or -9).

A **Cluster or Braced Cluster** configuration ship is designed with non-standard Hit Locations.

ARMOR LAYERS

1	
2	
3	
4	
5	
6	

HIT LOCATIONS

-9	
-8	
-7	
-6	
-5	Comms
-4	Cargo
-3	Sensors
-2	Defenses
-1	Life Support
0	Hull
+1	Power
+2	Drives
+3	Weapons
+4	Bridge
+5	Computer
+6	
+7	
+8	
+9	

DAMAGE SEVERITY
H/2   Repair Difficulty

1	Easy 1D	
2	Average 2D	
3	Difficult 3D	
4	Formidable 4D	
5	Staggering 5D	
6	Hopeless 6D	
7	Impossible 7D	
8	Beyond 8 D	
9	Destroyed	

Severity = Final Damage Applied = Hits/2.
Severity is the difficulty of repair task for this component.

IMMEDIATE ACTION DAMAGE CONTROL

Check Skill (2D)
Select and use any skill appropriate to the component. Success converts the damage to Severity= Easy 1D and the component remains operable.
Automatic Failure on 12.

Not Possible for Damage above 6D.
Damage Severity is the difficulty of repair task for this component.

DIAGNOSIS SEVERITY
1D   Difficulty

1	Easy 1D	
2	Average 2D	
3	Difficult 3D	
4	Formidable 4D	
5	Staggering 5D	
6	Hopeless 6D	

Diagnosis Severity is the difficulty of diagnosing Damage Severity.
Defer rolling Diagnosis Severity until a repair attempt is contemplated.

How Movement Works

AN OVERVIEW

Ships can change Range Bands in the course of combat. Minor changes for advantage tale place at the end of the Combat Round. Major changes are more difficult.

They can change from one Band to an adjacent Range Band during the Movement Phase of a Combat Round, subject to limitations.

Space Ranges are divided into Groups and into Space Range Bands.

Bands B-1-2-3-4-5

A ship may change one Range Band per Round between Space Bands B-1-2-3-4-5.

SR to AR =

(10 – G) x 3 Rounds

AR to LR =

(14 – G) x 3 Rounds

LR to DS =

G Rounds

Deep Space

A ship in Deep Space cannot change Range Bands during the course of the battle.

G= Current Acceleration in G's

Agility = Power Plant Potential minus Current used Gs.

SPACE RANGES

Group	S=		R=
B	**B**	Vlong 1000 m	**5**
Fighter	**1**	Distant 5 km	**6**
Fighter	**2**	Vdistant 50 km	**7**
Short	**3**	Orbit 500 km	**8**
Short	**4**	Far Orbit 5000 km	**9**
Short	**5**	Geo 50,000 km	**10**
Attack	**6**	1 ls	**11**
Attack	**7**	2 ls	**12**
Long	**8**	8 ls	**13**
Long	**9**	16 ls	**14**
Deep Space	**10**	3 lm	**15**
Deep Space	**11**	8 lm	**16**
Deep Space	**12**	30 lm	**17**

Range is the Range from the Attacker to the Target.

Range may be different for each ship pair.

MINOR RANGE CHANGES

A ship at a Range within a Group can change to an adjacent Range band within that Group at the end of the Combat Round.

Jump

A ship can escape a battle by Jumping (assuming it has Fuel and is beyond the 100 D Limit).

The Nuances of Combat

AN OVERVIEW

There are many exceptions and special situations in Combat.

Attackers alternate in resolving weapons fire during a Round.

Missile Launches. Missiles must physically travel from the Attacker to the Target. Launches at greater than S=2 are resolved in the next Round.

Pre-Battle Missile Launches. Missile attacks from S=6 or greater must be specified before the Battle begins; the Missile attack arrives in Round = Launch Range.

Delayed Missile Attacks. A Missile attack (except KKM) may be launched with an impact delay (specified by the Attacker) of 1 to 6 Rounds.

Lurking Missiles. Missiles can be launched to Lurk in a Range Band, and they attack when a Target moves to S=2 or less.

Targetting

Standard Targetting uses the Hit Location table with Flux.

Missiles may use Targetting applied to the Hit Location Table.

Heat= The hottest location on the ship is the Drives. Use Mod= Drives.

Emissions= Use Mod= Sensors (if Active) or Comms (if Active). Otherwise, Mod=0.

Firing Weapons= Use Mod= Weapons. If successful, it attacks the last weapon fired.

Center Of Mass= Use Minimum plus Maximum occupied locations on the HLT.

AM Anti-Missile Mode. Any number of AM Mode Weapons may fire against incoming Missile Attacks, but each AM Mode weapon may fire only once in a Round.

An AM Mode weapon may not Attack.

Designation as AM Mode continues until changed.

AB Anti Beam Mode. Any number of AB Mode Weapons may fire against incoming Beam Attacks, but each AB Mode weapon may fire only once in a Round.

An AB Mode weapon may not attack.

Designation as AB Mode continues until changed.

Battery Fire

Weapons of the same type (different other values are allowed) can fire together as a Battery.

One Weapon is the Lead Weapon; if it hits, the other weapons hit. Total Hits is determined by Mounts.

Multi-Ship Battery Fire. Multiple ships with CommCasters can create a Multi-Ship Battery.

Slave Craft. Uncrewed Small Craft can be slaved to a Ship with a DataCaster.

Boarding. A craft with people can attempt to Board if at S=B.

Deployable Turrets are slaved to a parent ship through its DataCaster.

Extendable Sensors can be pushed out from a ship to Hit Locations +6 to +9 or -6 to -9.

DataCaster

A DataCaster which successfully attacks a target may inflict:

Overload. A successful DataCaster attack with Hit Location= Sensor or Comm inflicts Damage on the Sensor or Comm.

Virus Insertion. A successful attack with Hit Location other than Sensor or Comm introduces an Applet into the ship's network (1D= 1 = Virus; otherwise Applet).

A Virus attacks each connected Computer at the rate of one new computer per Turn.

An Applet is annoying but has no long-term effect.

Disruptors

Disruptors boil away armor. Disruptor hits do not penetrate Armor; they directly destroy it. One Disruptor Hit (no dice are rolled) destroys one point of Armor.

Disruptors disregard Hit Location; their effect applies to the overall Armor of the ship (and to all Protections).

When all Armor for a ship is destroyed, the ship is open to vacuum.

COLLISIONS

A collision inflicts Damage equal to:

$$D = Tons * Speed^2$$

Tons= Volume Tons of the **other** vehicle.

Speed. If the crash is head-on, use the sum of the two speeds. If the two vehicles are at angles to each other, use the greater speed. If the two vehicles are travelling in the same direction, use the difference between the two speeds.

Useful Tonnage Calculation. To convert Sophont Size (Human= 100) to tons (displacement Tons = 13.5 cubic meters), divide by 20,000.

For Successful Attacks:

If Hit Location is Defenses and a Defense was used against the attack, that Defense is the Hit Sublocation.

If Hit Location is Hull, Armor is reduced one layer.

If Final Damage is 9 or Greater (Destroyed), attack again with Half Hits at a newly rolled Hit Location.

Black and White Globes

An attack against a Black Globe (it operates in Absolute Mode) which fails imposes no effects. An attack which succeeds inflicts hits against the Black Globe.

The same applies to White Globes. However, successful DataCaster attacks proceed to inflict Virus and Applets.

Comments

A Weapon cannot be built with a Range beyond its Maximum on the Weapon Attacks Chart.

If a Jump Inducer destroys a Hit Location (or sublocation) then the adjacent Locations are also destroyed.

A Jump Inducer requires a Jump Drive in the ship.

A Jump Damper requires a Jump Drive in the ship.

A Destroyed Hull (Damage Severity = 9D +) destroys the ship.

Treat each Weapon in the Hybrid T3 as a T1.

A Massive Explosion (in addition to other effects) destroys one layer of Armor.

Beam Weapons shed 1D of Damage for each Range Band in Atmosphere.