

Universe number 1  
**System number 27**

max. habitability **6**  
 max. affinity **6**

Name of star **Eta Cassiopeiae**

system number **27**

companion stars **1**

class of star **G4 V**

mass **0.57** periapsis **240** a.u.

mass **0.972** M(sol)

class **K8 V** apapsis **960** a.u.

luminosity **1.27** L(sol)

age **11.5** billion years

diameter **0.011** a.u.

row number	ID #	orbit radius (a.u.) (10,000 km)	world type	size (Earth dia.)	mass (Earth masses)	g (Earth g.)	atmosphere	hydrographics	temp (C)	climate	solar day (hours)	HI	RVM	Affinity
1	I	0.15	tiny rock planet	0.37	0.04	0.30	none		464	infernal	1040	0	-1	-1
2	II	0.30	small rock planet	0.83	0.34	0.50	none		243	infernal	2932	0	0	0
3	III	0.51	standard greenhouse planet	1.1	1.4	1.1	superdense corrosive		871	infernal	infinite	-2	-1	-3
4	IV	0.82	standard greenhouse planet	0.77	0.41	0.69	superdense corrosive		380	infernal	13151	-2	-1	-3
5	V	1.0	standard garden planet	1.5	2.7	1.2	dense breathable	50% water	49	tropical	43.6	6	0	6
6	Va	9.6	standard ocean moon	0.98	0.86	0.89	very thin suffocating	50% water	19	normal	43.6	0	-2	-2
7	VI	2.2	small rock planet	0.42	0.05	0.30	none		-83	frozen	916	0	1	1
8	VIa	18	tiny rock moon	0.18	0.00	0.11	none		-81	frozen	916	0	0	0
9	VII	4.0	large ice planet	0.92	0.77	0.92	very dense highly toxic		-111	frozen	284	-1	0	-1
10	VIIa	20	tiny rock moon	0.35	0.03	0.24	none		-130	frozen	284	0	0	0
11	VIIb	36	small rock moon	0.41	0.05	0.29	none		-132	frozen	682	0	0	0
12	VIII	6.8	standard ice planet	0.44	0.07	0.35	very thin suffocating		-156	frozen	585	0	0	0
13	VIIIa	10	tiny ice moon	0.14	0.00	0.08	none		-176	frozen	348	0	-1	-1
14	VIIIb	17	small ice moon	0.41	0.03	0.20	very dense mildly toxic	30% hydrocarbons	-157	frozen	585	-1	0	-1
15	IX	10	small ice planet	0.38	0.02	0.15	standard mildly toxic	70% hydrocarbons	-182	frozen	13.3	-1	-2	-3
16			2 moonlets						-184	frozen		0	0	0
17	X	17	standard hadean planet	0.69	0.16	0.35	none		-226	frozen	22.2	0	-1	-1
18	XI	24	standard hadean planet	0.58	0.08	0.23	none		-233	frozen	994	0	-1	-1
19	XIa	22	tiny ice moon	0.17	0.00	0.07	none		-222	frozen	994	0	0	0

display row #

**5**

(see system table)

system number	<b>27</b>	world	<b>V</b>	<i>Logan's End</i>	
<b>Planetology</b>		<b>Population &amp; economy</b>		<b>Society</b>	
class of star	<b>G4 V</b>	Habitability	<b>6</b>		
mean distance	<b>1.0</b> a.u.	Resources	average <b>RVM 0</b>		
perihelion	<b>0.98</b> a.u.	Affinity	<b>6</b>		
aphelion	<b>1.0</b> a.u.	settlement type			
axial tilt	<b>15°</b>	carrying capacity	<b>2.7 E+9</b>		
annual period	<b>1.03</b> years	population	<b>3.6 E+6</b>		
	<b>206.8</b> local days	tech level	<b>10 PR 6</b>		
local day	<b>43.6</b> hours	per-capita income	G\$ <b>60,300</b>		
		typical wealth	average		
<b>standard garden planet</b>		economic volume	G\$ <b>2.2 E+11</b>		
diameter	<b>1.5</b> x Earth's <b>19134</b> km	spaceport class			
density	<b>0.80</b> x Earth's <b>4.4</b> g/cm <sup>3</sup>	<b>Government</b>			
surface gravity	<b>1.2</b> g. <b>12</b> m/s <sup>2</sup>	world unity			
escape velocity	<b>15</b> km/s	government type			
vulcanism	<b>heavy</b>	control rating			
tectonics	<b>moderate</b>	<b>Installations</b>			
climate	<b>tropical</b>	type	<b>PR</b>		
temperature					
average	<b>49</b> C				
periphelion	<b>53</b> C				
aphelion	<b>45</b> C				
illumination	<b>121</b> % Earth's				
<b>oceans</b>	<b>50%</b>				
composition	<b>water</b>				
tidal range	<b>0.84</b> m				
<b>atmosphere</b>					
main gases	<b>N2, O2</b>				
traces &c.					
class	<b>breathable</b>				
pressure	<b>1.4</b> bar <b>(dense)</b>				
<b>Sky objects</b>	apparent:	size	period	tides	
class		(degrees)	(hours)	(m)	
sun:	<b>G4 V</b>	<b>0.61</b>	<b>43.6</b>	<b>0.84</b>	
Va:	<b>standard ocean moon</b>	<b>7.5</b>	<b>fixed</b>		

## GURPS Space

## advanced world-building sequence

## user controls

Personal user number	<b>1</b>	enter a counting number (i.e. a positive integer)
use US Customary units?	<b>FALSE</b>	enter TRUE for US units, FALSE for Metric
campaign technology level	<b>10</b>	

Base carrying capacity at very high TL	
TL	Base carrying capacity
8	million
9	million
10	million
11	<b>25</b> million
12	<b>30</b> million

### User-specified stellar characteristics

number of stars	<b>2</b>	Insert 1, 2, or 3, or leave blank for a random result
age of system	<b>11.5</b>	Insert the system age in billions of years, or leave blank for a random result
mass of primary star	<b>0.972</b>	Insert the mass of the primary star in solar masses, or leave blank for a random result
class of primary star	<b>G4 V</b>	The stellar class is calculated from mass and age. You cannot alter it.
luminosity of primary star	<b>1.27</b>	The star's luminosity is calculated from mass and age. You cannot alter it.
mass of [nearer] companion	<b>0.57</b>	Insert the mass of a companion star in solar masses, or leave blank for a random result
class of [nearer] companion	<b>K8 V</b>	The stellar class is calculated from mass and age. You cannot alter it.
luminosity of [nearer] companion	<b>0.12</b>	The star's luminosity is calculated from mass and age. You cannot alter it.
radius of 1st companion's orbit	<b>0.66</b>	Insert the semimajor axis of the nearer companion's orbit in AU, or leave blank for a random result
eccentricity of 1st companion's orbit		Insert the eccentricity of the nearer companion's orbit, on a scale of 0 to 1, not including 1, or leave blank for a random result
periapsis of 1st companion		Insert the periapsis of the 1st companion's orbit in AU, or leave blank for a random result. This will over-ride radius and eccentricity
apapsis of 1st companion		Insert the apapsis of the 1st companion's orbit in AU, or leave blank for a random result. This will over-ride radius and eccentricity
mass of further companion		Insert the mass of the primary star in solar masses, or leave blank for a random result
class of further companion		The stellar class is calculated from mass and age. You cannot alter it.
luminosity of further companion		The star's luminosity is calculated from mass and age. You cannot alter it.
radius of 2nd companion's orbit		Insert the semimajor axis of the further companion's orbit in AU, or leave blank for a random result
eccentricity of 2nd companion's orbit		Insert the eccentricity of the further companion's orbit, on a scale of 0 to 1, not including 1, or leave blank for a random result
periapsis of 2nd companion		Insert the periapsis of the 2nd companion's orbit in AU, or leave blank for a random result. This will over-ride radius and eccentricity
apapsis of 2nd companion		Insert the apapsis of the 2nd companion's orbit in AU, or leave blank for a random result. This will over-ride radius and eccentricity
arrangement of gas giants		Insert "none", "conventional", "epistellar", or "eccentric", or leave blank for a random result
radius of orbit of first gas giant		Insert the semimajor axis of the first gas giant's orbit in AU, or leave blank for a random result. Will over-ride 'arrangement of gas giants'.
eccentricity of orbit of first gas giant		Insert the eccentricity of the first gas giant's orbit, on a scale of 0 to 1, not including 1, or leave blank for a random result. Will over-ride 'arrange

### User-specified planet

world type	<b>standard</b>	Insert "asteroid belt", "tiny", "small", "standard", or "large", or leave blank for a random system.
subtype	<b>garden</b>	Insert "hadean", "ammonia", "ice", "ocean", "garden", "greenhouse" or "chthonian"
complete world type	<b>standard garden</b>	This value is calculated. You cannot alter it.
primordial atmospheric mass	<b>1.2</b>	Insert relative atmospheric mass (about 0.5 to 1.5). May be diminished by tide-locking.
basic atmosphere	<b>breathable</b>	This value is calculated. You cannot alter it.
worse atmosphere?	<b>FALSE</b>	Insert TRUE for marginal atmosphere, else FALSE or leave blank
atmospheric composition	<b>breathable</b>	This value is calculated. You cannot alter it.
marginal condition number		Insert the number of a marginal condition from the table on the right
marginal condition		This value is calculated. You cannot alter it.
primordial hydrographic coverage	<b>50</b>	Insert hydrographic % between <b>50</b> and <b>100</b>
average surface temperature	<b>322</b>	Insert temperature between <b>250</b> and <b>340</b> Kelvins
that's	<b>49</b>	Celsius
climate	<b>hot</b>	This value is calculated. You cannot alter it.
blackbody temperature	<b>294</b>	This value is calculated. You cannot alter it.
density	<b>0.8</b>	Insert density between <b>0.8</b> and <b>1.2</b> times Earth's
diameter	<b>1.50</b>	This value is calculated. Adjust it using density and surface gravity.
surface gravity	<b>1.2</b>	Insert surface gravity between <b>0.58</b> and <b>1.24</b> times Earth's
mass	<b>2.70</b>	times Earth's. This value is calculated, you cannot alter it.
atmospheric pressure	<b>1.44</b>	times Earth's. This figure is calculated. To adjust it, alter atmospheric mass.
orbital radius	<b>1.01</b>	Astronomical units. This figure is calculated. You cannot alter it.
orbital eccentricity	<b>0.03</b>	
obliquity (axial tilt)	<b>15</b>	(degrees)
primordial day length	<b>12</b>	Insert the original day length (before tidal braking) in hours. About 6 to 40, average about 12.
number of major moons	<b>1</b>	0, 1, or 2. Or leave blank for a random result.
number of moonlets		0, 1, or 2. This value will be over-riden if number of major moons is not blank or zero.
type of moon	<b>standard</b>	Insert a world type no larger than that of the planet (tiny, small, standard, or large), or leave blank for a random result.
distance of moon	<b>5</b>	(planetary diameters). No less than 5. No more than 40.
resource value modifier	<b>0</b>	Insert resource value between <b>-2</b> and <b>2</b>
vulcanism	<b>heavy</b>	Insert "none", "light", "moderate", "heavy", or "extreme", or leave blank for a random result.
tectonics	<b>moderate</b>	Insert "none", "light", "moderate", "heavy", or "extreme", or leave blank for a random result.

number	marginal condition
1	Cl, F
2	sulfur compounds
3	NOx
4	organic toxins
5	low O2
6	pollutants
7	high CO2
8	high O2
9	inert gases