

# System Brief: Nyotekundu

## PHYSICAL DATA<sup>1</sup>

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Nyotekundu was the name applied to the Wolf 359 star system by the first Azanian visitors aboard the ESAS *Pathfinder* in 2141. A faint star when viewed from Earth, Wolf 359 was nonetheless fairly well-known in pre-starflight times. It was first discovered photographically during the 20th century by Professor Max Wolf at Heidelberg.

The star lies some 7.75 light years from Sol, less than twice the distance to Alpha Centauri. It is the third nearest star to our solar system, with only the Alpha Centauri trinary and Barnard's Star being closer. The system contains six major bodies.

The star is classed M8V, with a diameter of 298,887 kilometers and a mass of .24 Sol. Its average luminosity is .0025 Sol, with a Stellar Effective Temperature of 2425°K. Its absolute magnitude is +16.68, with an apparent visual magnitude from Earth of 13.66. Nyotekundu is typical of the numerous small, faint, red dwarf suns that are common throughout space. Like many of these, it is a flare star given to irregular surges in output, which can cause luminosity and stellar radiation to jump by a factor of up to 2.5

## TRAVEL DATA

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System contains six planets and fifteen satellites. Stellar 0.0001 g-gradient is located at 1.200 au; 0.1 g-gradient is located at 0.038 au. Planets I – III are within the stellar 0.0001 g-gradient; planets IV – VI are outside. Stutterwarp discharge is possible at the following system bodies: I, V, VI i, VI k, and VI l, in addition to primary; primary discharge body is VI k. As primary is flare star, unnecessary travel within the stellar threshold is not recommended.

### I - Inferno<sup>2</sup>

Planet is a Failed Core body orbiting at 0.18 au with no satellites. Travel distance within threshold is 1.02 au. Stutterwarp discharge is possible from an altitude of 13,808 km. Permanent outposts by France (Portes d'Enfer) and Azania (Naragama). Orbital facilities do not exist due to the stellar flares. Ships calling at Inferno require additional radiation shielding. Standard continual transmissions provide current system weather information; absence of transmission indicates that stellar flare is imminent.

### II - Caina<sup>3</sup>

Planet is Ice Ball body orbiting at 0.31 au with no satellites. Travel distance within threshold is 0.89 au. Stutterwarp discharge is not possible due to sub-surface 0.1 g-gradient.

### III - Antenora<sup>3</sup>

Planet is Ice Ball body orbiting at 0.64 au with three satellites. Travel distance within threshold is 0.56 au. Stutterwarp discharge at planet is not possible due to sub-surface 0.1 g-gradient. Satellites consist of two rings and one Ice Ball. Stutterwarp discharge is not possible at any satellites.

### IV - Tolomea<sup>3</sup>

Planet is Rock body orbiting at 1.29 au with no satellites. Planet is located beyond threshold. Stutterwarp discharge is not possible due to sub-surface 0.1 g-gradient.

# System Brief: Nyotekundu

## **V - Guidecca<sup>3</sup>**

Planet is Ice Ball body orbiting at 2.83 au with no satellites. Planet is located beyond threshold. Stutterwarp discharge is possible from an altitude of 239 km.

## **VI - Cocito<sup>4</sup>**

Planet is Gas Giant body orbiting at 6.22 au with twelve satellites. Planet is located beyond threshold. Stutterwarp discharge at planet is not possible due to sub-surface 0.1 g-gradient. Satellites consist of three rings composed primarily of ice. Stutterwarp discharge is possible at VI i at an altitude of 1,158 km; VI k at an altitude of 2,500 km; and VI l at an altitude of 938 km.

## **SOURCES**

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1. *Physical Data* section from Nyotekundu Sourcebook, pp4-5, © 1987 GDW / © 2005 FFE
2. The Nyotekundu Sourcebook, © 1987 GDW / © 2005 FFE, provides canon information on Inferno, including physical data and settlement history.
3. The Nyotekundu Sourcebook, © 1987 GDW / © 2005 FFE, provides canon information on the names of planets II – V; all other values are unofficial.
4. The Nyotekundu Sourcebook, © 1987 GDW / © 2005 FFE, provides canon information on Cocito, including physical data. All satellite values are unofficial.

System Name

# Travel Data for Nyotekundu

## Navigational Data

Colonial Region	French	
Direct Distance From Sol	7.649	ly
Travel Distance from Sol	7.649	ly
Jumps from Sol	1	

Stellar Coordinates				
	Primary	Companion	Companion	Companion
X	-7.3			
Y	2.1			
Z	0.9			

Neighbour System	Distance
<b>Sol</b>	7.649 ly
<b>Bessieres</b>	<b>4.001</b> ly
Ross 128	3.926 ly
	ly
	ly
	ly
	ly
	ly
	ly

## System Bodies with Stutterwarp Discharge (0.1G Gradient) Information

	Primary	Companion	Companion	Companion	Companion	
Stellar 0.1G Grad	0.038					au
Stellar 0.0001G Grad	1.200					au

Orbit	Orbit	Body Type	Position	T-Travel	Diameter, km	0.1G, km	0.1G Altitude
I	<b>0.18</b> au	<b>Failed Core</b>	<b>inside</b>	<b>1.02</b> au	<b>11,000</b>	<b>19,308</b>	<b>13,808</b> km
II	0.31 au	Ice Ball	inside	0.89 au	5,000	1,581	none km
III	0.64 au	Ice Ball	inside	0.56 au	3,000	1,470	none km
a	0.018 10 <sup>6</sup> km	Ring		au	-	-	none km
b	0.024 10 <sup>6</sup> km	Ring		au	-	-	none km
c	0.240 10 <sup>6</sup> km	Ice Ball		au	2,000	895	none km
IV	1.29 au	Rock	outside	0.00 au	2,000	800	none km
V	2.83 au	Ice Ball	outside	0.00 au	5,000	2,739	239 km
a	0.015 10 <sup>6</sup> km	Ice Ball		au	2,500	1,250	- km
b	0.030 10 <sup>6</sup> km	Ice Ball		au	1,000	346	none km
VI	6.22 au	Gas Giant	outside	0.00 au	384,000	12,143	none km
a	0.394 10 <sup>6</sup> km	Ring		au	-	-	none km
b	0.591 10 <sup>6</sup> km	Ring		au	-	-	none km
c	0.788 10 <sup>6</sup> km	Ice Ball		au	5,000	2,236	none km
d	2.758 10 <sup>6</sup> km	Ice Ball		au	3,000	235	none km
e	3.940 10 <sup>6</sup> km	Chunk		au	600	131	none km
f	17.730 10 <sup>6</sup> km	Rock		au	3,000	1,470	none km
g	21.670 10 <sup>6</sup> km	Rock		au	1,000	424	none km
h	31.520 10 <sup>6</sup> km	Ice Ball		au	4,000	1,600	none km
i	35.460 10 <sup>6</sup> km	Desert		au	6,000	4,158	1,158 km
j	35.460 10 <sup>6</sup> km	Ice Ball		au	1,000	200	none km
k	59.100 10 <sup>6</sup> km	Desert		au	6,000	5,500	2,500 km
l	63.040 10 <sup>6</sup> km	Rock		au	3,000	2,438	938 km

Position: Inside indicates body orbits within the stellar 0.0001G gradient.  
 T-Travel: The distance that must be traveled within the stellar 0.0001G gradient to reach the body.  
 0.1G: The distance of the 0.1G gradient from the core of the body.  
 0.1G Altitude: The distance of the 0.1G gradient above the surface of the body. A result of "none" indicates that a usable 0.1G gradient is not available and discharge cannot occur at the body.

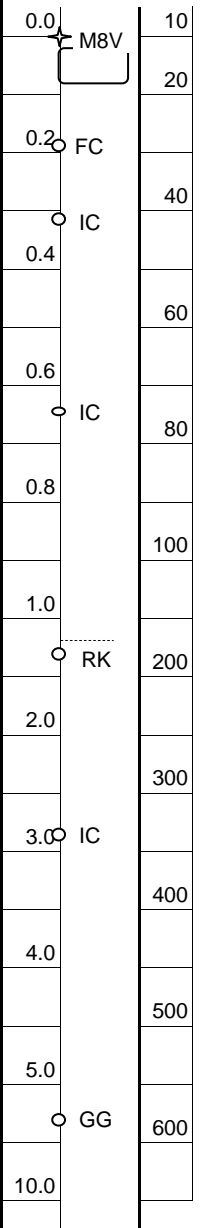
## Notes

Inferno has outposts of France (Portes d'Enfer) and Anzania (Naragema).

Values for all planets and satellites are unofficial, except for Inferno and Cocito, which are in Nyotekundu Sourcebook.

Based on information obtained or derived from GDW's 2300AD Director's Guide and Nyotekundu Sourcebook.

## System Schematic



- AS Asteroid
- CH Chunk
- DS Desert
- FC Failed Core
- G Garden
- GG Gas Giant
- GL Glacier
- HH Hot House
- IC Ice Ball
- PoG Post-Garden
- PrG Pre-Garden
- RK Rock
- 0.0001 G Grad
- Life Zone

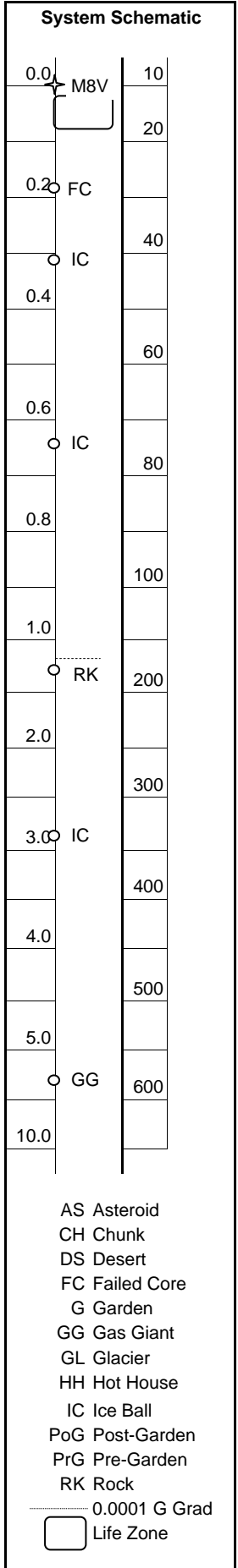
System Name	Nyotekundu
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Navigational Data				
Colonial Region		French		
Direct Distance From Sol	7.649	ly		
Travel Distance from Sol	7.649	ly		
Jumps from Sol	1			
Neighbour System				
Sol		7.649	ly	
Bessieres		4.001	ly	
Ross 128		3.926	ly	
			ly	
			ly	
			ly	
			ly	
			ly	
			ly	
Stellar Coordinates				
	Primary	Companion	Companion	Companion
X	-7.3			
Y	2.1			
Z	0.9			

Stellar Data						
Name	Primary		Companion	Companion	Companion	Companion
Spectral Class	M	8				
Size	V					
Magnitude	16.68					
Identification No.	4060.0					
Type	Red Main					
Radius	0.238					
Mass	0.240					
Luminosity	0.0025					
Effective Temp	2425	°K	°K	°K	°K	°K
Orbit Radius	-		au	au	au	au
0.1 G Grad	0.038	au	au	au	au	au
0.0001 G Grad	1.200	au	au	au	au	au
Inner Life Zone	0.036	au	au	au	au	au
Optimal Life Zone	0.050	au	au	au	au	au
Outer Life Zone	0.073	au	au	au	au	au

Planetary Data							
Orbit	Orbit	World Type	Diameter	Gravity	0.001 Grad	0.1 Grad	Sat
I	0.18 au	Failed Core	11,000 km	1.232 G	610,475 km	19,305 km	0
II	0.31 au	Ice Ball	5,000 km	0.040 G	50,000 km	1,581 km	0
III	0.64 au	Ice Ball	3,000 km	0.096 G	46,476 km	1,470 km	3
IV	1.29 au	Rock	2,000 km	0.064 G	25,298 km	800 km	0
V	2.83 au	Ice Ball	5,000 km	0.120 G	86,603 km	2,739 km	2
VI	6.22 au	Gas Giant	384,000 km	400.000 G	384,000 Mm	12,143,146 km	12
	au		km	G	- km	- km	
	au		km	G	- km	- km	
	au		km	G	- km	- km	
	au		km	G	- km	- km	
	au		km	G	- km	- km	
	au		km	G	- km	- km	
	au		km	G	- km	- km	
	au		km	G	- km	- km	
	au		km	G	- km	- km	
	au		km	G	- km	- km	
	au		km	G	- km	- km	
	au		km	G	- km	- km	

**Notes** Planet I (Inferno) has outposts from France and Anzania  
 Values for Planets II and satellites - V are unofficial, except for names  
 Values for Planets I and VI are unofficial, except for values listed in Nyotekundu Sourcebook



System  
Name**Nyotekundu****Planetary Data**

World Name	kundu I - Inferno	kundu II - Caina	du III - Antenora	du IV - Tolomea	du V - Guidecca	du VI - Cocito
Orbit, au	0.18	0.31	0.64	1.29	2.83	6.22
Zone	outer	outer	outer	outer	outer	outer
Core Type	rocky	icy	icy	rocky	icy	icy
Diameter, km	10,944	5,000	3,000	2,000	5,000	394,240
Density	1.4	0.1	0.4	0.4	0.3	0.2
Min MW Retained	6	vac	vac	vac	vac	0
Mass	0.919	0.006	0.005	0.002	0.018	359.200
Gravity, G	1.024	0.040	0.096	0.064	0.120	400.000
Atmos Pressure, atm	1.000	0.000	0.000	0.000	0.000	0.793
Escape Velocity, kps	11.500	0.448	1.076	0.717	1.344	4622.000
Atmos Type	Dense	Vacuum	Vacuum	Vacuum	Vacuum	Massive
Actual World Type	Failed Core	Ice Ball	Ice Ball	Rock	Ice Ball	Gas Giant
Water Type	Ice Sheets	Plentiful	Plentiful	Rare Ice	Plentiful	Crystals
Water Coverage, %	50 %	60 %	10 %	<1 %	20 %	1% in atmos
Atmospheric Oxygen, atm	none	none	none	none	none	none
Oxygen Pressure, atm	none	none	none	none	none	none
Temperature Class	Cold-VCold	Cold-VCold	Cold-VCold	Cold-VCold	Cold-VCold	VCold
Temperature Range, °C	0° or less	0° or less	0° or less	0° or less	0° or less	-30° or less
Orbital Period, days	8.9	128.7	381.7	1092.4	3549.5	367428.0
Rotation Period	tidal lock	37.77 hours	50 days	29.18 hours	29.08 hours	41.03 hours
Axial Tilt, °	27.0	44.0	22.0	3.0	25.0	18.0
Number of Satellites	0	0	3	0	2	12
0.0001G Gradient, km	610,562	50,007	46,482	25,302	86,615	384,000,000
0.1G Gradient, km	19,308	1,581	1,470	800	2,739	12,145
Inner Life Zone, km						11,537
Optimal Life Zone, km						16,024
Outer Life Zone, km						23,234
Luminosity						1.149E-08

World Name						
Orbit, au						
Zone						
Core Type						
Diameter, km						
Density						
Min MW Retained						
Mass						
Gravity, G						
Atmos Pressure, amt						
Escape Velocity, kps						
Atmos Type						
Actual World Type						
Water Type						
Water Coverage, %						
Atmospheric Oxygen, atm						
Oxygen Pressure, atm						
Temperature Class						
Temperature Range, °C						
Orbital Period, days						
Rotation Period						
Axial Tilt, °						
Number of Satellites						
0.0001G Gradient, km						
0.1G Gradient, km						
Inner Life Zone, km						
Optimal Life Zone, km						
Outer Life Zone, km						
Luminosity						

System Name	<h1>Nyotekundu</h1>
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**Satellite Data**

Satellite Name	Nyotekundu III c	Nyotekundu III b	Nyotekundu III a	Nyotekundu V a	Nyotekundu V a
Zone	outer	outer	outer	outer	outer
Core Type	icy	rocky	icy	icy	icy
Diameter, km	Ring	Ring	2000	2500	1000
Orbital Radius	6	8	80	3	6
Orbital Radius, km	18,000	24,000	240,000	15,000	30,000
Density	0.6	1.1	0.5	0.5	0.6
Min MW Retained	vac	vac	vac	vac	vac
Mass	0.000	0.000	0.002	0.004	0.000
Gravity, G	0.005	0.009	0.080	0.100	0.048
Atmos Pressure, atm	0.000	0.000	0.000	0.000	0.000
Escape Velocity, kps	0.054	0.099	0.896	1.120	0.538
Atmos Type	Vacuum	Vacuum	Vacuum	Vacuum	Vacuum
Actual World Type	Ring	Ring	Ice Ball	Ice Ball	Ice Ball
Water Type	None	None	Plentiful	Plentiful	Plentiful
Water Coverage, %	0 %	0 %	50 %	50 %	50 %
Atmospheric Oxygen, atm	none	none	none	none	none
Oxygen Pressure, atm	none	none	none	none	none
Temperature Class	Cold-VCold	Cold-VCold	Cold-VCold	Cold-VCold	Cold-VCold
Temperature Range, °C	0° or less	0° or less	0° or less	0° or less	0° or less
Orbital Period, days	None	None	185.2	1.5	4.3
Rotation Period	None	None	21 hours	25.48 hours	33.24 hours
Axial Tilt, °	None	None	40.0	11.0	33.0
0.0001G Gradient, km	0	0	28,288	39,534	10,956
0.1G Gradient, km	0	0	895	1,250	346
Notes					

Satellite Name					
Zone					
Core Type					
Diameter, km					
Orbital Radius					
Orbital Radius, km					
Density					
Min MW Retained					
Mass					
Gravity, G					
Atmos Pressure, amt					
Escape Velocity, kps					
Atmos Type					
Actual World Type					
Water Type					
Water Coverage, %					
Atmospheric Oxygen, atm					
Oxygen Pressure, atm					
Temperature Class					
Temperature Range, °C					
Orbital Period, days					
Rotation Period					
Axial Tilt, °					
0.0001G Gradient, km					
0.1G Gradient, km					
Notes					

System  
Name**Nyotekundu****Satellite Data**

Satellite Name	Nyotekundu VI g	Nyotekundu VI d	Nyotekundu VI c	Nyotekundu VI a	Nyotekundu VI i	Nyotekundu VI e
Zone	outer	outer	outer	outer	outer	outer
Core Type	rocky	rocky	icy	icy	icy	rocky
Diameter, km	Ring	Ring	5000	3000	600	3000
Orbital Radius	1	2	2	7	10	45
Orbital Radius, km	394,000	591,000	788,000	2,758,000	3,940,000	17,730,000
Density	0.9	1.0	0.2	0.1	0.4	0.4
Min MW Retained	vac	vac	vac	vac	vac	vac
Mass	0.000	0.000	0.012	0.001	0.000	0.005
Gravity, G	0.007	0.008	0.080	0.024	0.019	0.096
Atmos Pressure, atm	0.000	0.000	0.000	0.000	0.000	0.000
Escape Velocity, kps	0.081	0.090	0.896	0.269	0.215	1.076
Atmos Type	Vacuum	Vacuum	Vacuum	Vacuum	Vacuum	Vacuum
Actual World Type	Ring	Ring	Ice Ball	Ice Ball	Chunk	Rock
Water Type	None	None	Plentiful	Plentiful	Rare Ice	Rare Ice
Water Coverage, %	0 %	0 %	10 %	40 %	<1 %	<1 %
Atmospheric Oxygen, atm	none	none	none	none	none	none
Oxygen Pressure, atm	none	none	none	none	none	none
Temperature Class	Cold-VCold	Cold-VCold	Cold-VCold	Cold-VCold	Cold-VCold	Cold-VCold
Temperature Range, °C	0° or less	0° or less	0° or less	0° or less	0° or less	0° or less
Orbital Period, days	None	None	4.1	26.9	46.0	438.6
Rotation Period	None	None	tidal lock	20 days	60 days	37.1 hours
Axial Tilt, °	None	None	41.0	43.0	45.0	26.0
0.0001G Gradient, km	0	0	70,721	23,241	4,158	46,482
0.1G Gradient, km	0	0	2,236	735	131	1,470
Notes						

Satellite Name	Nyotekundu VI b	Nyotekundu VI j	Nyotekundu VI h	Nyotekundu VI k	Nyotekundu VI l	Nyotekundu VI f
Zone	outer	outer	outer	outer	outer	outer
Core Type	rocky	icy	rocky	icy	rocky	rocky
Diameter, km	1000	4000	6000	1000	6000	3000
Orbital Radius	55	80	90	90	150	160
Orbital Radius, km	21,670,000	31,520,000	35,460,000	35,460,000	59,100,000	63,040,000
Density	0.9	0.2	0.4	0.2	0.7	1.1
Min MW Retained	vac	vac	79	vac	45	116
Mass	0.000	0.006	0.043	0.000	0.075	0.015
Gravity, G	0.072	0.064	0.192	0.016	0.336	0.264
Atmos Pressure, amt	0.000	0.000	0.198	0.000	0.347	0.273
Escape Velocity, kps	0.807	0.717	2.151	0.179	3.764	2.958
Atmos Type	Vacuum	Vacuum	Thin	Vacuum	Thin	Very Thin
Actual World Type	Rock	Ice Ball	Desert	Ice Ball	Desert	Rock
Water Type	Rare Ice	Plentiful	Rare Ice	Plentiful	Rare Ice	Rare Ice
Water Coverage, %	<1 %	60 %	<1 %	40 %	<1 %	<1 %
Atmospheric Oxygen, atm	none	none	none	none	none	none
Oxygen Pressure, atm	none	none	none	none	none	none
Temperature Class	Cold-VCold	Cold-VCold	Cold-VCold	Cold-VCold	Cold-VCold	Cold-VCold
Temperature Range, °C	0° or less	0° or less	0° or less	0° or less	0° or less	0° or less
Orbital Period, days	592.7	1039.8	1240.7	1240.7	2669.5	2940.9
Rotation Period	39.63 hours	tidal lock	33.05 hours	37.05 hours	35.43 hours	35.27 hours
Axial Tilt, °	34.0	37.0	18.0	34.0	53.0	32.0
0.0001G Gradient, km	13,418	50,604	131,472	6,325	173,921	77,082
0.1G Gradient, km	424	1,600	4,158	200	5,500	2,438
Notes						