System Brief: Nyotekundu

PHYSICAL DATA[1]

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

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[2]

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 (Naragema). 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[3]

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[3]

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[3]

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[3]

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[4]

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

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

Neighbour System	Distance
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			

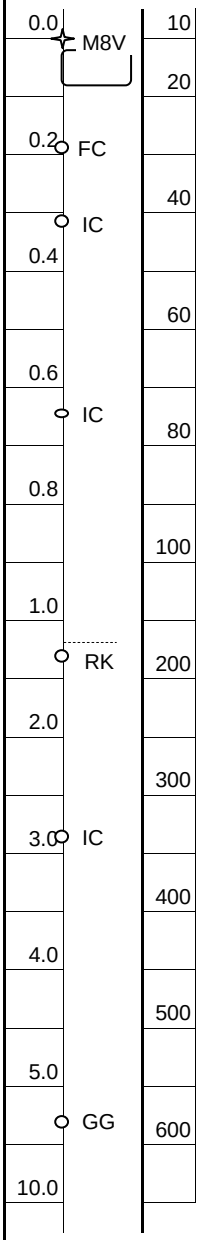
System Bodies with Stutterwarp Discharge (0.1G Gradient) Information

	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	**0.18**	**au**	**Failed Core**	**inside**	**1.02**	**au**	**11,000**	**19,308**	**13,808**	**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	10^6 km	Ring			au	-	-	none	km
b	0.024	10^6 km	Ring			au	-	-	none	km
c	0.240	10^6 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	10^6 km	Ice Ball			au	2,500	1,250	-	km
b	0.030	10^6 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	10^6 km	Ring			au	-	-	none	km
b	0.591	10^6 km	Ring			au	-	-	none	km
c	0.788	10^6 km	Ice Ball			au	5,000	2,236	none	km
d	2.758	10^6 km	Ice Ball			au	3,000	235	none	km
e	3.940	10^6 km	Chunk			au	600	131	none	km
f	17.730	10^6 km	Rock			au	3,000	1,470	none	km
g	21.670	10^6 km	Rock			au	1,000	424	none	km
h	31.520	10^6 km	Ice Ball			au	4,000	1,600	none	km
i	35.460	10^6 km	Desert			au	6,000	4,158	1,158	km
j	35.460	10^6 km	Ice Ball			au	1,000	200	none	km
k	59.100	10^6 km	Desert			au	6,000	5,500	2,500	km
l	63.040	10^6 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.
01.G: 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.

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

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.

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System Name	**Nyotekundu**

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	Distance	
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

	Primary	Companion	Companion	Companion	Companion
Name					
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

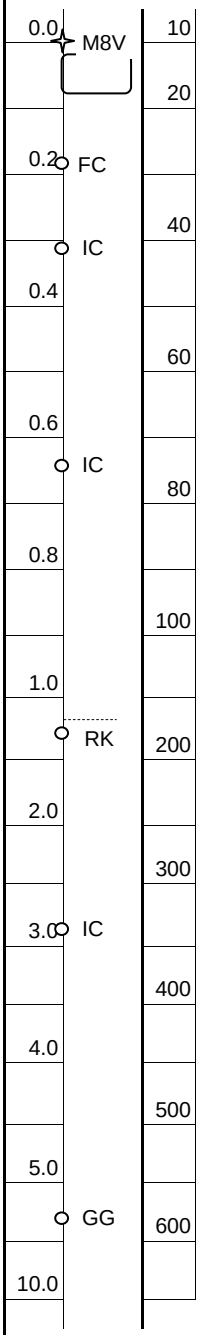
Orbit	Orbit	World Type	Diameter	Gravity	0.001 Grad	0.1 Grad	Sat
I	**0.18 au**	**Failed Core**	**11,000 km**	**1.232 G**	**610,475 km**	**19,305 km**	**0**
II	0.31 au	Ice Ball	5,000 km	0.040 G	50,000 km	1,581 km	0
III	0.64 au	Ice Ball	3,000 km	0.096 G	46,476 km	1,470 km	3
IV	1.29 au	Rock	2,000 km	0.064 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	
	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 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

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System Name	Nyotekundu

Planetary Data

World Name	kundu I - Inferno	kundu II - Caina	du III - Antenora	du IV - Tolomea	du V - Guidecca	undu 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						

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System Name	Nyotekundu

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						

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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						

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