

Object information file

COLLABORATORS

	<i>TITLE :</i> Object information file		
<i>ACTION</i>	<i>NAME</i>	<i>DATE</i>	<i>SIGNATURE</i>
WRITTEN BY		July 19, 2024	

REVISION HISTORY

NUMBER	DATE	DESCRIPTION	NAME

Contents

1	Object information file	1
1.1	Index of Additional Information	1
1.2	Planets and their satellites	1
1.3	Deep Sky Objects	2
1.4	Stars	5
1.5	Earth-orbiting satellites	5
1.6	The Sun	9
1.7	Mercury	9
1.8	Venus	10
1.9	Earth	10
1.10	The Moon	10
1.11	Mars	11
1.12	Phobos	11
1.13	Deimos	11
1.14	Jupiter	11
1.15	Ganymede	12
1.16	Callisto	12
1.17	Io	12
1.18	Europa	12
1.19	Amalthea	13
1.20	Himalia	13
1.21	Thebe	13
1.22	Elara	13
1.23	Pasiphae	13
1.24	Metis	13
1.25	Carme	14
1.26	Lysithea	14
1.27	Sinope	14
1.28	Ananke	14
1.29	Adrastea	14

1.30 Leda	14
1.31 Saturn	15
1.32 1995 S1, 1995 S2, 1995 S3, and 1995 S4	15
1.33 Pan	16
1.34 Atlas	16
1.35 Prometheus	16
1.36 Pandora	16
1.37 Epimetheus	16
1.38 Janus	16
1.39 Mimas	17
1.40 Enceladus	17
1.41 Tethys	17
1.42 Telesto	17
1.43 Calypso	17
1.44 Dione	17
1.45 Helene	18
1.46 Rhea	18
1.47 Titan	18
1.48 Hyperion	18
1.49 Iapetus	18
1.50 Phoebe	18
1.51 Uranus	19
1.52 Cordelia	19
1.53 Ophelia	19
1.54 Bianca	19
1.55 Cressida	20
1.56 Desdemona	20
1.57 Juliet	20
1.58 Portia	20
1.59 Rosalind	20
1.60 Belinda	20
1.61 Puck	21
1.62 Miranda	21
1.63 Ariel	21
1.64 Umbriel	21
1.65 Titania	21
1.66 Oberon	21
1.67 Neptune	22
1.68 Proteus	22

1.69 Larissa	22
1.70 Despina	22
1.71 Galatea	23
1.72 Thalassa	23
1.73 Naiad	23
1.74 Triton	23
1.75 Nereid	23
1.76 Pluto	23
1.77 Charon	24
1.78 M1, NGC 1952, The Crab Nebula	24
1.79 M2, NGC 7089	24
1.80 M3, NGC 5272	24
1.81 M4, NGC 6121	24
1.82 M5, NGC 5904	24
1.83 M6, NGC 6405, The Butterfly Cluster	25
1.84 M7, NGC 6475	25
1.85 M8, NGC 6523, The Lagoon Nebula	25
1.86 M9, NGC 6333	25
1.87 M10, NGC 6254	25
1.88 M11, NGC 6705, The Wild Duck Cluster	25
1.89 M12, NGC 6218	25
1.90 M13, NGC 6205, The Keystone Cluster	26
1.91 M14, NGC 6402	26
1.92 M15, NGC 7078	26
1.93 M16, NGC 6611, The Eagle Nebula	26
1.94 M17, NGC 6618, The Swan, Omega, or Horseshoe Nebula	26
1.95 M18, NGC 6613	26
1.96 M19, NGC 6273	26
1.97 M20, NGC 6514, The Trifid Nebula	27
1.98 M21, NGC 6531	27
1.99 M22, NGC 6656	27
1.100M23, NGC 6494	27
1.101M24, NGC 6603	27
1.102M25, IC 4725	27
1.103M26, NGC 6694	27
1.104M27, NGC 6853, The Dumbbell Nebula	28
1.105M28, NGC 6626	28
1.106M29, NGC 6913	28
1.107M30, NGC 7099	28

1.108M31, NGC 224, The Andromeda Galaxy	28
1.109M32, NGC 221	28
1.110M33, NGC 598, The Pinwheel Galaxy	28
1.111M34, NGC 1039	29
1.112M35, NGC 2168	29
1.113M36, NGC 1960	29
1.114M37, NGC 2099	29
1.115M38, NGC 1912	29
1.116M39, NGC 7092	29
1.117M40, Double star - SAO 28353 & SAO 28355	29
1.118SAO 28355	30
1.119M41, NGC 2287	30
1.120M42, NGC 1976, The Great Orion Nebula	30
1.121M43, NGC 1982	31
1.122M44, NGC 2632, Praesepe, or the Beehive Cluster	32
1.123M45, The Pleiades	32
1.124M46, NGC 2437	32
1.125M47, NGC 2422	32
1.126M48, NGC 2548	32
1.127M49, NGC 4472	32
1.128M50, NGC 2323	33
1.129M51, NGC 5194, The Whirlpool Galaxy	33
1.130M52, NGC 7654	33
1.131M53, NGC 5024	33
1.132M54, NGC 6715	33
1.133M55, NGC 6809	33
1.134M56, NGC 6779	33
1.135M57, NGC 6720, The Ring Nebula	34
1.136M58, NGC 4579	34
1.137M59, NGC 4621	34
1.138M60, NGC 4649	34
1.139M61, NGC 4303	34
1.140M62, NGC 6266	34
1.141M63, NGC 5055, The Sunflower Galaxy	34
1.142M64, NGC 4826, The Black Eye Galaxy	35
1.143M65, NGC 3623	35
1.144M66, NGC 3627	35
1.145M67, NGC 2682	35
1.146M68, NGC 4590	35

1.147M69, NGC 6637	35
1.148M70, NGC 6681	35
1.149M71, NGC 6838	36
1.150M72, NGC 6981	36
1.151M73, NGC 6994	36
1.152M74, NGC 628	36
1.153M75, NGC 6864	36
1.154M76, NGC 650, The Little Dumbbell, Barbell, or Cork Nebula	36
1.155M77, NGC 1068, 3C71	36
1.156M78, NGC 2068	37
1.157M79, NGC 1904	37
1.158M80, NGC 6093	37
1.159M81, NGC 3031, Bode's Nebula	37
1.160M82, NGC 3034	37
1.161M83, NGC 5236	37
1.162M84, NGC 4374	38
1.163M85, NGC 4382	38
1.164M86, NGC 4406	38
1.165M87, NGC 4486, 3C274	38
1.166M88, NGC 4501	38
1.167M89, NGC 4552	38
1.168M90, NGC 4569	38
1.169M91, NGC 4548	39
1.170M92, NGC 6341	39
1.171M93, NGC 2447	39
1.172M94, NGC 4736	39
1.173M95, NGC 3351	39
1.174M96, NGC 3368	39
1.175M97, NGC 3587, The Owl Nebula	39
1.176M98, NGC 4192	40
1.177M99, NGC 4254	40
1.178M100, NGC 4321	40
1.179M101, M102, NGC 5457	40
1.180M103, NGC 581	40
1.181M104, NGC 4594, The Sombrero Galaxy	40
1.182M105, NGC 3379	40
1.183M106, NGC 4258	41
1.184M107, NGC 6171	41
1.185M108, NGC 3556	41

1.186M109, NGC 3992	41
1.187M110, NGC 205	41
1.188IC 434 - Background illumination for the Horsehead Nebula	41
1.189IC 5070 - The Pelican Nebula	42
1.190NGC 206	42
1.191NGC 891	42
1.192NGC 1432, The Maia Nebula	42
1.193NGC 1435, The Merope Nebula	42
1.194NGC 1499, The California Nebula	42
1.195NGC 1977	43
1.196NGC 2237 - The Rosette Nebula	43
1.197NGC 2264, Cone Nebula, Christmas Tree Cluster	43
1.198NGC 2346	43
1.199NGC 2419	43
1.200NGC 2440	43
1.201NGC 2841	43
1.202NGC 3115, Spindle Nebula	44
1.203NGC 3372, The Keyhole Nebula, Eta Carinae Nebula	44
1.204NGC 3628	44
1.205NGC 4261	44
1.206NGC 4388	44
1.207NGC 4394	44
1.208NGC 4402	44
1.209NGC 4647	45
1.210NGC 4945	45
1.211NGC 5033	45
1.212NGC 5139, The Omega Centauri Cluster	45
1.213NGC 5548	45
1.214NGC 6164, NGC 6165 & SAO 226891	45
1.215NGC 6165	45
1.216NGC 6240	46
1.217NGC 6543, The Cat's Eye Nebula	46
1.218NGC 6814	46
1.219NGC 7000, The North American Nebula	46
1.220NGC 7252	46
1.221NGC 7331	46
1.222Alcyone	46
1.223Aldebaran	47
1.224Algol, Beta Persei	47

1.225 Altair	47
1.226 Asterope, Sterope I	47
1.227 Atlas	47
1.228 Betelgeuse	47
1.229 Celaeno	48
1.230 Electra	48
1.231 Fomalhaut	48
1.232 Maia	48
1.233 Merope	48
1.234 Pleione	48
1.235 Polaris - the North Star	49
1.236 Sirius	49
1.237 Sterope II	49
1.238 Taygeta	49
1.239 Alpha Centauri	49
1.240 Alpha Centauri 2	49
1.241 Beta Pictoris	49
1.242 Epsilon Aurigae	50
1.243 Eta Boötes	50
1.244 SAO 69181	50
1.245 SAO 100458	50
1.246 SAO 226891	50
1.247 Comet Halley	50
1.248 951 Gaspra	50
1.249 243 Ida	51
1.250 Vanguard 1	51
1.251 Vanguard 1 Rocket/Body	51
1.252 Vanguard 3	51
1.253 Transit 2-A Rocket/Body	51
1.254 Courier 1-B Rocket/Body	51
1.255 Alouette 1	51
1.256 Alouette 1 Rocket/Body	52
1.257 Centaur 2	52
1.258 Solrad 7A/Secor 1 Rocket/Body	52
1.259 Echo 2 Rocket/Body	52
1.260 Solrad 7B/Secor 3 Rocket/Body	52
1.261 Alouette 2 Rocket/Body	52
1.262 OAO 1	52
1.263 OAO 1 Rocket/Body	53

1.264	Nimbus 2 Rocket/Body	53
1.265	Pageos Rocket/Body	53
1.266	Timation 1 Rocket/Body	53
1.267	OAO 2	53
1.268	OAO 2 Rocket/Body	53
1.269	Timation 2 Rocket/Body	53
1.270	SERT 2	54
1.271	MAO 1 Rocket/Body	54
1.272	Cosmos 382	54
1.273	NOAA 1 Rocket/Body	54
1.274	Cosmos 398	54
1.275	Pageos DA	54
1.276	Landsat 1	54
1.277	Copernicus (OAO 3)	55
1.278	Copernicus (OAO 3) Rocket/Body	55
1.279	Miranda Rocket/Body	55
1.280	Landsat 2	55
1.281	Intelsat 4-1 Rocket/Body	55
1.282	Starlette	55
1.283	Nimbus 6 Rocket/Body	55
1.284	Pageos H	56
1.285	Intelsat 4A-1 Rocket/Body	56
1.286	UME 1	56
1.287	UME 1 Rocket/Body	56
1.288	Lageos	56
1.289	Comstar 1 Rocket/Body	56
1.290	Cosmos 825-832 Rocket/Body	56
1.291	Cosmos 871-878 Rocket/Body	57
1.292	Cosmos 939-946 Rocket/Body	57
1.293	Sirio Rocket/Body	57
1.294	Sakura Rocket/Body	57
1.295	UME 2	57
1.296	UME 2 Rocket/Body	57
1.297	Landsat 3	57
1.298	Yuri Rocket/Body	58
1.299	Goes 3 Rocket/Body	58
1.300	Seasat	58
1.301	Nimbus 7	58
1.302	Cosmos 1051-1058 Rocket/Body	58

1.303Cosmos 1076	58
1.304Intercosmos 19 Rocket/Body	58
1.305Cosmos 1130-1137 Rocket/Body	59
1.306Cosmos 1151	59
1.307Cosmos 1171 Rocket/Body	59
1.308Fltsatcom 4 Rocket/Body	59
1.309Intelsat 5-1 Rocket/Body	59
1.310NOAA 7	59
1.311SME	59
1.312SME Rocket/Body	60
1.313Cosmos 1320-1327 Rocket/Body	60
1.314Intelsat 5-3 Rocket/Body	60
1.315NOAA 8	60
1.316Landsat 4	60
1.317IRAS	60
1.318IRAS Rocket/Body	60
1.319Satcom 6 Rocket/Body	61
1.320Goes 6 Rocket/Body	61
1.321Exosat Rocket/Body	61
1.322Cosmos 1473-1480 Rocket/Body	61
1.323Cosmos 1500	61
1.324Cosmos 1522-1529 Rocket/Body	61
1.325Palapa 4 Rocket/Body & Westar 6 Rocket/Body	61
1.326Westar 6 Rocket/Body	62
1.327Landsat 5	62
1.328AMPTE Rocket/Body	62
1.329Leasat 2 Rocket/Body	62
1.330Cosmos 1602	62
1.331Cosmos 1603	62
1.332ERBS	62
1.333Leasat 1 Rocket/Body	63
1.334NOAA 9	63
1.335Meteor 2-12	63
1.336Geosat	63
1.337Cosmos 1635-1642 Rocket/Body	63
1.338Leasat 4 Rocket/Body	63
1.339Cosmos 1697	63
1.340Cosmos 1697 Rocket/Body	64
1.341Meteor 3-1	64

1.342Leasat 3 Rocket/Body	64
1.343Meteor 2-13	64
1.344Mir Complex	64
1.345Cosmos 1745 Rocket/Body	64
1.346EGP/AJISAI	64
1.347EGP Rocket/Body	65
1.348NOAA 10	65
1.349Polar Bear	65
1.350Cosmos 1794-1801 Rocket/Body	65
1.351Astro 3	65
1.352MOS 1-A	65
1.353Cosmos 1833	65
1.354Cosmos 1833 Rocket/Body	66
1.355Cosmos 1844	66
1.356Cosmos 1844 Rocket/Body	66
1.357Cosmos 1852-1859 Rocket/Body	66
1.358DMSP 2-3	66
1.359Cosmos 1861	66
1.360Meteor 2-16	66
1.361Meteor 2-16 Rocket/Body	67
1.362Cosmos 1900	67
1.363Meteor 2-17	67
1.364Meteor 2-17 Rocket/Body	67
1.365DMSP 2-4	67
1.366Cosmos 1924-1931 Rocket/Body	67
1.367Cosmos 1934 Rocket/Body	67
1.368Cosmos 1943	68
1.369Cosmos 1943 Rocket/Body	68
1.370Cosmos 1954 Rocket/Body	68
1.371Okean 1	68
1.372Meteor 3-2	68
1.373Feng Yun 1-A	68
1.374NOAA 11	68
1.375Cosmos 1980	69
1.376Cosmos 1980 Rocket/Body	69
1.377Lacrosse 1	69
1.378Cosmos 2004	69
1.379Cosmos 2004 Rocket/Body	69
1.380Meteor 2-18	69

1.381Cosmos 2008-2015 Rocket/Body	69
1.382Delta Star	70
1.383Cosmos 2016	70
1.384Cosmos 2016 Rocket/Body	70
1.385Cosmos 2026	70
1.386Cosmos 2026 Rocket/Body	70
1.387Cosmos 2027	70
1.388Nadezhda 1	70
1.389Cosmos 2034	71
1.390Cosmos 2034 Rocket/Body	71
1.391Cosmos 2037 Rocket/Body	71
1.392Cosmos 2046	71
1.393Intercosmos 24	71
1.394Intercosmos 24 Rocket/Body	71
1.395GPS 2-4 Rocket/Body	71
1.396Meteor 3-3	72
1.397COBE	72
1.398GPS 2-5 Rocket/Body	72
1.399JCSAT 2 Rocket/Body	72
1.400Leasat 5 Rocket/Body	72
1.401Cosmos 2056	72
1.402Cosmos 2056 Rocket/Body	72
1.403Spot 2	73
1.404Spot 2 Rocket/Body	73
1.405GPS 2-6 Rocket/Body	73
1.406Cosmos 2058	73
1.407MOS 1-B	73
1.408Orizuru (Debut)	73
1.409MOS 1-B Rocket/Body	73
1.410LACE	74
1.411RME	74
1.412Nadezhda 2	74
1.413Nadezhda 2 Rocket/Body	74
1.414Okean 2	74
1.415Intelsat 6-3	74
1.416Cosmos 2060	74
1.417Cosmos 2061	75
1.418Cosmos 2061 Rocket/Body	75
1.419Pegsat	75

1.420Cosmos 2064-2071 Rocket/Body	75
1.421Palapa 6 Rocket/Body	75
1.422Cosmos 2074	75
1.423Hubble Space Telescope	75
1.424Cosmos 2075 Rocket/Body	76
1.425Cosmos 2082	76
1.426Cosmos 2082 Rocket/Body	76
1.427Rosat	76
1.428Rosat Rocket/Body	76
1.429Cosmos 2084	76
1.430Cosmos 2084 Rocket/Body	76
1.431Meteor 2-19	77
1.432Gamma	77
1.433CRRES	77
1.434Cosmos 2098 Rocket/Body	77
1.435Feng Yun 1-B	77
1.436Atmosphere 1 & Atmosphere 2	77
1.437Atmosphere 2	77
1.438Feng Yun 1-B Rocket/Body	78
1.439Ulysses Rocket/Body	78
1.440Inmarsat 2-1 Rocket/Body	78
1.441GPS 2-10 Rocket/Body	78
1.442DMSP 2-5	78

Chapter 1

Object information file

1.1 Index of Additional Information

Our Solar System

=====

"The Digital Universe" provides detailed information on the Sun, the 9 planets, and all 61 known moons in our solar system. As well, you can read information about asteroids, comets, meteors, and the interplanetary medium (the space between the planets).

The Sun

Planets and their satellites

Asteroids

Comets

Meteors

Interplanetary medium

Hypothetical objects (things which were once thought to exist)

Earth-orbiting satellites

Spacecraft

Elsewhere

=====

Detailed information is available for all of the Messier objects, some NGC and IC objects, and several significant stars.

Deep Sky Objects (Messier, NGC, IC objects)

Stars

1.2 Planets and their satellites

Planets and their satellites

=====

Mercury

Venus

Earth

The Moon

Mars

Phobos

Deimos

Jupiter

Ganymede	Amalthea	Pasiphae	Sinope
Callisto	Himalia	Metis	Ananke
Io	Thebe	Carme	Adrastea
Europa	Elara	Lysithea	Leda

Saturn

Titan	Hyperion	Pandora	1995 S1
Rhea	Mimas	Atlas	1995 S2
Iapetus	Phoebe	Helene	1995 S3
Dione	Janus	Telesto	1995 S4
Tethys	Epimetheus	Calypso	
Enceladus	Prometheus	Pan	

Uranus

Cordelia	Cressida	Portia	Puck	Umbriel
Ophelia	Desdemona	Rosalind	Miranda	Titania
Bianca	Juliet	Belinda	Ariel	Oberon

Neptune

Proteus	Despina	Thalassa	Triton
Larissa	Galatea	Naiad	Nereid

Pluto

Charon

1.3 Deep Sky Objects

Deep Sky Objects (Galaxies, Nebulae, and Clusters)

```

=====
M1   (NGC 1952) - The Crab Nebula
M2   (NGC 7089)
M3   (NGC 5272)
M4   (NGC 6121)
M5   (NGC 5904)
M6   (NGC 6405) - The Butterfly Cluster
M7   (NGC 6475)
M8   (NGC 6523) - The Lagoon Nebula
M9   (NGC 6333)
M10  (NGC 6254)
M11  (NGC 6705) - The Wild Duck Cluster
M12  (NGC 6218)
M13  (NGC 6205) - The Keystone Cluster
M14  (NGC 6402)
M15  (NGC 7078)
M16  (NGC 6611) - The Eagle Nebula
M17  (NGC 6618) - The Swan, Omega, or Horseshoe Nebula
M18  (NGC 6613)
M19  (NGC 6273)
M20  (NGC 6514) - The Trifid Nebula
M21  (NGC 6531)
M22  (NGC 6656)
M23  (NGC 6494)
M24  (NGC 6603)
M25  (IC 4725)
M26  (NGC 6694)
M27  (NGC 6853) - The Dumbbell Nebula
M28  (NGC 6626)
M29  (NGC 6913)

```

M30 (NGC 7099)
M31 (NGC 224) - The Andromeda Galaxy
M32 (NGC 221)
M33 (NGC 598) - The Pinwheel Galaxy
M34 (NGC 1039)
M35 (NGC 2168)
M36 (NGC 1960)
M37 (NGC 2099)
M38 (NGC 1912)
M39 (NGC 7092)
M40 - Double star, SAO 28353 & SAO 28355
M41 (NGC 2287)
M42 (NGC 1976) - The Great Orion Nebula
M43 (NGC 1982)
M44 (NGC 2632) - Praesepe, or the Beehive Cluster
M45 - The Pleiades
M46 (NGC 2437)
M47 (NGC 2422)
M48 (NGC 2548)
M49 (NGC 4472)
M50 (NGC 2323)
M51 (NGC 5194) - The Whirlpool Galaxy
M52 (NGC 7654)
M53 (NGC 5024)
M54 (NGC 6715)
M55 (NGC 6809)
M56 (NGC 6779)
M57 (NGC 6720) - The Ring Nebula
M58 (NGC 4579)
M59 (NGC 4621)
M60 (NGC 4649)
M61 (NGC 4303)
M62 (NGC 6266)
M63 (NGC 5055) - The Sunflower Galaxy
M64 (NGC 4826) - The Black Eye Galaxy
M65 (NGC 3623)
M66 (NGC 3627)
M67 (NGC 2682)
M68 (NGC 4590)
M69 (NGC 6637)
M70 (NGC 6681)
M71 (NGC 6838)
M72 (NGC 6981)
M73 (NGC 6994)
M74 (NGC 628)
M75 (NGC 6864)
M76 (NGC 650) - The Little Dumbbell, Barbell, or Cork Nebula
M77 (NGC 1068)
M78 (NGC 2068)
M79 (NGC 1904)
M80 (NGC 6093)
M81 (NGC 3031) - Bode's Nebula
M82 (NGC 3034)
M83 (NGC 5236)
M84 (NGC 4374)
M85 (NGC 4382)
M86 (NGC 4406)

M87 (NGC 4486)
M88 (NGC 4501)
M89 (NGC 4552)
M90 (NGC 4569)
M91 (NGC 4548)
M92 (NGC 6341)
M93 (NGC 2447)
M94 (NGC 4736)
M95 (NGC 3351)
M96 (NGC 3368)
M97 (NGC 3587) - The Owl Nebula
M98 (NGC 4192)
M99 (NGC 4254)
M100 (NGC 4321)
M101 (NGC 5457)
M102 (NGC 5457) - Messier's Error - duplicate entry of M101
M103 (NGC 581)
M104 (NGC 4594) - The Sombrero Galaxy
M105 (NGC 3379)
M106 (NGC 4258)
M107 (NGC 6171)
M108 (NGC 3556)
M109 (NGC 3992)
M110 (NGC 205)

IC 434 - The Horsehead Nebula
IC 5070 - The Pelican Nebula

NGC 206
NGC 891
NGC 1432 - The Maia Nebula
NGC 1435 - The Merope Nebula
NGC 1499 - The California Nebula
NGC 1977
NGC 2237 - The Rosette Nebula
NGC 2264 - The Christmas Tree Cluster, Cone Nebula
NGC 2346
NGC 2419
NGC 2440
NGC 2841
NGC 3115
NGC 3372 - The Keyhole, Eta Carinae Nebula
NGC 3628
NGC 4261
NGC 4388
NGC 4394
NGC 4402
NGC 4647
NGC 4945
NGC 5033
NGC 5139 - The Omega Centauri Cluster
NGC 5548
NGC 6164
NGC 6165
NGC 6240
NGC 6543 - The Cat's Eye Nebula
NGC 6814

NGC 7000 - The North American Nebula
NGC 7252
NGC 7331

1.4 Stars

Stars

=====

Alcyone
Aldebaran
Algol
Altair
Asterope
Atlas
Betelgeuse
Celaeno
Electra
Fomalhaut
Maia
Merope
Pleione
Polaris
Sirius
Sterope II
Taygeta

Alpha Centauri
Beta Pictoris
Epsilon Aurigae
Eta Boötes

SAO 69181
SAO 100458
SAO 226891

1.5 Earth-orbiting satellites

For information on interplanetary spacecraft, [click here](#).

Earth-orbiting satellites

Though there are literally thousands of satellites in orbit around the Earth, descriptions of only a few hundred are provided with "The Digital Universe". Most of the objects presented here are reasonably well-suited for visual or binocular observation.

Alouette 1
Alouette 1 Rocket/Body
Alouette 2 Rocket/Body
AMPTE Rocket/Body
Astro 3
Atmosphere 1

Atmosphere 2
Centaur 2
COBE
Comstar 1 Rocket/Body
Copernicus (OAO 3)
Copernicus (OAO 3) Rocket/Body
Cosmos 382
Cosmos 398
Cosmos 825-832 Rocket/Body
Cosmos 871-878 Rocket/Body
Cosmos 939-946 Rocket/Body
Cosmos 1051-1058 Rocket/Body
Cosmos 1076
Cosmos 1130-1137 Rocket/Body
Cosmos 1151
Cosmos 1171 Rocket/Body
Cosmos 1320-1327 Rocket/Body
Cosmos 1473-1480 Rocket/Body
Cosmos 1500
Cosmos 1522-1529 Rocket/Body
Cosmos 1602
Cosmos 1603
Cosmos 1635-1642 Rocket/Body
Cosmos 1697
Cosmos 1697 Rocket/Body
Cosmos 1745 Rocket/Body
Cosmos 1794-1801 Rocket/Body
Cosmos 1833
Cosmos 1833 Rocket/Body
Cosmos 1844
Cosmos 1844 Rocket/Body
Cosmos 1852-1859 Rocket/Body
Cosmos 1861
Cosmos 1900
Cosmos 1924-1931 Rocket/Body
Cosmos 1934 Rocket/Body
Cosmos 1943
Cosmos 1943 Rocket/Body
Cosmos 1954 Rocket/Body
Cosmos 1980
Cosmos 1980 Rocket/Body
Cosmos 2004
Cosmos 2004 Rocket/Body
Cosmos 2008-2015 Rocket/Body
Cosmos 2016
Cosmos 2016 Rocket/Body
Cosmos 2026
Cosmos 2026 Rocket/Body
Cosmos 2027
Cosmos 2034
Cosmos 2034 Rocket/Body
Cosmos 2037 Rocket/Body
Cosmos 2046
Cosmos 2056
Cosmos 2056 Rocket/Body
Cosmos 2058
Cosmos 2060

Cosmos 2061
Cosmos 2061 Rocket/Body
Cosmos 2064-2071 Rocket/Body
Cosmos 2074
Cosmos 2075 Rocket/Body
Cosmos 2082
Cosmos 2082 Rocket/Body
Cosmos 2084
Cosmos 2084 Rocket/Body
Cosmos 2098 Rocket/Body
Courier 1-B Rocket/Body
CRRES
Delta Star
DMSP 2-3
DMSP 2-4
DMSP 2-5
Echo 2 Rocket/Body
EGP/AJISAI
EGP Rocket/Body
ERBS
Exosat Rocket/Body
Feng Yun 1-A
Feng Yun 1-B
Feng Yun 1-B Rocket/Body
Fltsatcom 4 Rocket/Body
Gamma
Geosat
Goes 3 Rocket/Body
Goes 6 Rocket/Body
GPS 2-4 Rocket/Body
GPS 2-5 Rocket/Body
GPS 2-6 Rocket/Body
GPS 2-10 Rocket/Body
Hubble Space Telescope
Inmarsat 2-1 Rocket/Body
Intelsat 4-1 Rocket/Body
Intelsat 4A-1 Rocket/Body
Intelsat 5-1 Rocket/Body
Intelsat 5-3 Rocket/Body
Intelsat 6-3
Intercosmos 19 Rocket/Body
Intercosmos 24
Intercosmos 24 Rocket/Body
IRAS
IRAS Rocket/Body
JCSAT 2 Rocket/Body
LACE
Lacrosse 1
Lageos
Landsat 1
Landsat 2
Landsat 3
Landsat 4
Landsat 5
Leasat 1 Rocket/Body
Leasat 2 Rocket/Body
Leasat 3 Rocket/Body

Leasat 4 Rocket/Body
Leasat 5 Rocket/Body
MAO 1 Rocket/Body
Meteor 2-12
Meteor 2-13
Meteor 2-16
Meteor 2-16 Rocket/Body
Meteor 2-17
Meteor 2-17 Rocket/Body
Meteor 2-18
Meteor 2-19
Meteor 3-1
Meteor 3-2
Meteor 3-3
Mir Complex
Miranda Rocket/Body
MOS 1-A
MOS 1-B
MOS 1-B Rocket/Body
Nadezhda 1
Nadezhda 2
Nadezhda 2 Rocket/Body
Nimbus 2 Rocket/Body
Nimbus 6 Rocket/Body
Nimbus 7
NOAA 1 Rocket/Body
NOAA 7
NOAA 8
NOAA 9
NOAA 10
NOAA 11
OAO 1
OAO 1 Rocket/Body
OAO 2
OAO 2 Rocket/Body
Okean 1
Okean 2
Orizuru (Debut)
Pageos DA
Pageos H
Pageos Rocket/Body
Palapa 4 Rocket/Body
Palapa 6 Rocket/Body
Pegsat
Polar Bear
RME
Rosat
Rosat Rocket/Body
Sakura Rocket/Body
Satcom 6 Rocket/Body
Seasat
SERT 2
Sirio Rocket/Body
SME
SME Rocket/Body
Solrad 7A/Secor 1 Rocket/Body
Solrad 7B/Secor 3 Rocket/Body

Spot 2
Spot 2 Rocket/Body
Starlette
Timation 1 Rocket/Body
Timation 2 Rocket/Body
Transit 2-A Rocket/Body
Ulysses Rocket/Body
UME 1
UME 1 Rocket/Body
UME 2
UME 2 Rocket/Body
Vanguard 1
Vanguard 1 Rocket/Body
Vanguard 3
Westar 6 Rocket/Body
Yuri Rocket/Body

1.6 The Sun

The Sun

=====

[View picture](#)

[Fast facts](#)
[The Sun's power source](#)
[Structure and Nuclear Processes](#)
[Features visible from Earth](#)
[The solar wind & solar flares](#)
[The Solar Cycle](#)
[Helioseismology](#)
[Observing the Sun safely](#)
[Solar Eclipses](#)
[Exploration](#)
[Nemesis - an unseen companion?](#)
[Pictures](#)

Planets orbiting the Sun:

[Mercury](#)
[Venus](#)
[Earth](#)
[Mars](#)
[Jupiter](#)
[Saturn](#)
[Uranus](#)
[Neptune](#)
[Pluto](#)

1.7 Mercury

Mercury

=====

[Fast facts](#)

Mythology
 Discovery
 Exploration
 A Strange Orbit
 Length of the Day
 Physical features
 Observing Mercury
 Pictures

1.8 Venus

Venus

=====

Fast facts
 Mythology
 Discovery
 Exploration
 Runaway Greenhouse Effect
 Length of the Day
 Physical features
 Observing Venus
 Neith - Venus' mistaken moon
 Pictures

1.9 Earth

Earth

=====

Though a program such as this cannot even begin to describe what we currently know about our own planet, the following information is provided as a brief summary to compare the Earth against other objects in the solar system.

Fast facts
 Structure of the Earth
 Atmosphere
 Pictures

Satellite	Distance (km)	Radius (km)
-----	-----	-----
The Moon	384,400	1738

1.10 The Moon

The Moon - Satellite of The Earth

=====

Fast facts
 Exploration
 Physical features
 The lunar day
 Phases of the Moon

Do we have only one moon?
Pictures & Audio clips

1.11 Mars

Mars

====

Fast facts
Mythology
Discovery
Exploration
Physical features
Is there life on Mars?
Observing Mars
Pictures

Satellite	Distance (km)	Radius (km)
-----	-----	-----
Phobos	9,378	13.5 x 10.8 x 9.4
Deimos	23,459	7.5 x 6.1 x 5.5

1.12 Phobos

Phobos - Satellite of Mars

=====

Fast facts
Brief description

1.13 Deimos

Deimos - Satellite of Mars

=====

Fast facts
Brief description

1.14 Jupiter

Jupiter

=====

Fast facts
Mythology
Discovery
Exploration
Physical features
Jupiter's ring
Observing Jupiter
Collision with comet SL9

Pictures

Satellite	Distance (km)	Radius (km)
Metis	128,000	20
Adrastea	129,000	12.5 x 10 x 7.5
Amalthea	181,000	135 x 83 x 75
Thebe	222,000	55 x 45
Io	422,000	1815
Europa	671,000	1569
Ganymede	1,070,000	2631
Callisto	1,883,000	2400
Leda	11,094,000	8
Himalia	11,480,000	93
Lysithea	11,720,000	18
Elara	11,737,000	38
Ananke	21,200,000	15
Carme	22,600,000	20
Pasiphae	23,500,000	25
Sinope	23,700,000	18

1.15 Ganymede

Ganymede - Satellite of Jupiter

=====
Fast facts
Brief description

1.16 Callisto

Callisto - Satellite of Jupiter

=====
Fast facts
Brief description

1.17 Io

Io - Satellite of Jupiter

=====
Fast facts
Brief description

1.18 Europa

Europa - Satellite of Jupiter

=====
Fast facts
Brief description

1.19 Amalthea

Amalthea - Satellite of Jupiter

=====

Fast facts

Brief description

1.20 Himalia

Himalia - Satellite of Jupiter

=====

Fast facts

Brief description

1.21 Thebe

Thebe - Satellite of Jupiter

=====

Fast facts

Brief description

1.22 Elara

Elara - Satellite of Jupiter

=====

Fast facts

Brief description

1.23 Pasiphae

Pasiphae - Satellite of Jupiter

=====

Fast facts

Brief description

1.24 Metis

Metis - Satellite of Jupiter

=====

Fast facts

Brief description

1.25 Carme

Carme - Satellite of Jupiter

=====

Fast facts

Brief description

1.26 Lysithea

Lysithea - Satellite of Jupiter

=====

Fast facts

Brief description

1.27 Sinope

Sinope - Satellite of Jupiter

=====

Fast facts

Brief description

1.28 Ananke

Ananke - Satellite of Jupiter

=====

Fast facts

Brief description

1.29 Adrastea

Adrastea - Satellite of Jupiter

=====

Fast facts

Brief description

1.30 Leda

Leda - Satellite of Jupiter

=====

Fast facts

Brief description

1.31 Saturn

Saturn

=====

Fast facts
 Mythology
 Discovery
 Exploration
 Physical features
 Saturn's rings
 Observing Saturn
 Pictures

Satellite	Distance (km)	Radius (km)
-----	-----	-----
*1980 S35	118,000	5
*1980 S36	118,000	8
Pan	133,583	10
1995 S1	137,450	?
Atlas	137,670	20 x 10
Prometheus	139,353	70 x 50 x 40
1995 S2	139,700	?
1995 S3	141,050	?
Pandora	141,700	55 x 45 x 35
1995 S4	146,450	?
Epimetheus	151,422	70 x 60 x 50
Janus	151,472	110 x 100 x 80
Mimas	185,520	196
*1980 S12	186,000	5
* (unnamed)	210,000	2
Enceladus	238,020	250
Tethys	294,660	530
Telesto	294,660	17 x 14 x 13
Calypso	294,660	17 x 11 x 11
*1981 S10	350,000	6
Dione	377,400	560
Helene	377,400	18 x 16 x 15
*1981 S7	377,400	8
*1981 S9	470,000	8
Rhea	527,040	765
Titan	1,221,830	2575
Hyperion	1,481,100	250 x 130 x 110
Iapetus	3,561,300	730
Phoebe	12,952,000	110

NOTE: The satellites preceded by an asterisk (*) have been reported from single Voyager photographs. As two photographs are required for confirmation, they are likely to remain unnamed until future spacecraft study the Saturnian system.

1.32 1995 S1, 1995 S2, 1995 S3, and 1995 S4

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe

for more information on how to obtain a registered version.

1.33 Pan

Pan - Satellite of Saturn

=====

Fast facts

Brief description

1.34 Atlas

Atlas - Satellite of Saturn

=====

Fast facts

Brief description

1.35 Prometheus

Prometheus - Satellite of Saturn

=====

Fast facts

Brief description

1.36 Pandora

Pandora - Satellite of Saturn

=====

Fast facts

Brief description

1.37 Epimetheus

Epimetheus - Satellite of Saturn

=====

Fast facts

Brief description

1.38 Janus

Janus - Satellite of Saturn

=====

Fast facts

Brief description

1.39 Mimas

Mimas - Satellite of Saturn

=====

Fast facts

Brief description

1.40 Enceladus

Enceladus - Satellite of Saturn

=====

Fast facts

Brief description

1.41 Tethys

Tethys - Satellite of Saturn

=====

Fast facts

Brief description

1.42 Telesto

Telesto - Satellite of Saturn

=====

Fast facts

Brief description

1.43 Calypso

Calypso - Satellite of Saturn

=====

Fast facts

Brief description

1.44 Dione

Dione - Satellite of Saturn

=====

Fast facts

Brief description

1.45 Helene

Helene - Satellite of Saturn

=====

Fast facts

Brief description

1.46 Rhea

Rhea - Satellite of Saturn

=====

Fast facts

Brief description

1.47 Titan

Titan - Satellite of Saturn

=====

Fast facts

Brief description

1.48 Hyperion

Hyperion - Satellite of Saturn

=====

Fast facts

Brief description

1.49 Iapetus

Iapetus - Satellite of Saturn

=====

Fast facts

Brief description

1.50 Phoebe

Phoebe - Satellite of Saturn

=====

Fast facts

Brief description

1.51 Uranus

Uranus (pronounced YUR-uh-nus)

=====

Fast facts
 Mythology
 Discovery
 Exploration
 Physical features
 Uranus' rings
 Observing Uranus
 Pictures

Satellite	Distance (km)	Radius (km)
-----	-----	-----
Cordelia	49,770	13
Ophelia	53,790	15
Bianca	59,170	21
Cressida	61,780	31
Desdemona	62,680	27
Juliet	64,350	42
Portia	66,090	54
Rosalind	69,940	27
Belinda	75,260	33
Puck	86,010	77
Miranda	129,390	240
Ariel	191,020	579
Umbriel	266,300	586
Titania	435,910	790
Oberon	583,520	762

1.52 Cordelia

Cordelia - Satellite of Uranus

=====

Fast facts
 Brief description

1.53 Ophelia

Ophelia - Satellite of Uranus

=====

Fast facts
 Brief description

1.54 Bianca

Bianca - Satellite of Uranus

=====

Fast facts
Brief description

1.55 Cressida

Cressida - Satellite of Uranus
=====

Fast facts
Brief description

1.56 Desdemona

Desdemona - Satellite of Uranus
=====

Fast facts
Brief description

1.57 Juliet

Juliet - Satellite of Uranus
=====

Fast facts
Brief description

1.58 Portia

Portia - Satellite of Uranus
=====

Fast facts
Brief description

1.59 Rosalind

Rosalind - Satellite of Uranus
=====

Fast facts
Brief description

1.60 Belinda

Belinda - Satellite of Uranus
=====

Fast facts
Brief description

1.61 Puck

Puck - Satellite of Uranus

=====

Fast facts

Brief description

1.62 Miranda

Miranda - Satellite of Uranus

=====

Fast facts

Brief description

1.63 Ariel

Ariel - Satellite of Uranus

=====

Fast facts

Brief description

1.64 Umbriel

Umbriel - Satellite of Uranus

=====

Fast facts

Brief description

1.65 Titania

Titania - Satellite of Uranus

=====

Fast facts

Brief description

1.66 Oberon

Oberon - Satellite of Uranus

=====

Fast facts

Brief description

1.67 Neptune

Neptune

=====

Fast facts

Mythology

Discovery

Exploration

Physical features

Neptune's rings

Furthest planet from the Sun?

Observing Neptune

Pictures

Satellite	Distance (km)	Radius (km)
-----	-----	-----
Proteus	48,200	218 x 208 x 201
Larissa	50,000	104 x 89
Despina	52,600	74
Galatea	62,000	79
Thalassa	73,600	40
Naiad	117,600	29
Triton	354,760	1353
Nereid	5,513,400	170

1.68 Proteus

Proteus - Satellite of Neptune

=====

Fast facts

Brief description

1.69 Larissa

Larissa - Satellite of Neptune

=====

Fast facts

Brief description

1.70 Despina

Despina - Satellite of Neptune

=====

Fast facts

Brief description

1.71 Galatea

Galatea - Satellite of Neptune

=====

Fast facts

Brief description

1.72 Thalassa

Thalassa - Satellite of Neptune

=====

Fast facts

Brief description

1.73 Naiad

Naiad - Satellite of Neptune

=====

Fast facts

Brief description

1.74 Triton

Triton - Satellite of Neptune

=====

Fast facts

Brief description

1.75 Nereid

Nereid - Satellite of Neptune

=====

Fast facts

Brief description

1.76 Pluto

Pluto

=====

Fast facts

Mythology

Discovery

Exploration

Physical features

Furthest planet from the Sun?
Pluto's strange orbit
Observing Pluto
Pictures

Satellite	Distance (km)	Radius (km)
-----	-----	-----
Charon	19,600	593

1.77 Charon

Charon - Satellite of Pluto

=====

Fast facts
Brief description

1.78 M1, NGC 1952, The Crab Nebula

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.79 M2, NGC 7089

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.80 M3, NGC 5272

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.81 M4, NGC 6121

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.82 M5, NGC 5904

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.83 M6, NGC 6405, The Butterfly Cluster

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.84 M7, NGC 6475

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.85 M8, NGC 6523, The Lagoon Nebula

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.86 M9, NGC 6333

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.87 M10, NGC 6254

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.88 M11, NGC 6705, The Wild Duck Cluster

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.89 M12, NGC 6218

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.90 M13, NGC 6205, The Keystone Cluster

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.91 M14, NGC 6402

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.92 M15, NGC 7078

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.93 M16, NGC 6611, The Eagle Nebula

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.94 M17, NGC 6618, The Swan, Omega, or Horseshoe Nebula

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.95 M18, NGC 6613

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.96 M19, NGC 6273

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.97 M20, NGC 6514, The Trifid Nebula

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.98 M21, NGC 6531

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.99 M22, NGC 6656

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.100 M23, NGC 6494

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.101 M24, NGC 6603

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.102 M25, IC 4725

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.103 M26, NGC 6694

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.104 M27, NGC 6853, The Dumbbell Nebula

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.105 M28, NGC 6626

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.106 M29, NGC 6913

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.107 M30, NGC 7099

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.108 M31, NGC 224, The Andromeda Galaxy

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.109 M32, NGC 221

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.110 M33, NGC 598, The Pinwheel Galaxy

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.111 M34, NGC 1039

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.112 M35, NGC 2168

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.113 M36, NGC 1960

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.114 M37, NGC 2099

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.115 M38, NGC 1912

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.116 M39, NGC 7092

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.117 M40, Double star - SAO 28353 & SAO 28355

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.118 SAO 28355

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.119 M41, NGC 2287

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.120 M42, NGC 1976, The Great Orion Nebula

View Picture

Discoverer.....Nicholas Peiresc, 1611
 Distance.....1700 light years
 True diameter.....30 light years

M42, or the Great Orion Nebula, is one of the most spectacular and interesting objects in the sky. Plainly visible even to the naked eye, it may be observed in binoculars as a faint mist near four stars known as "The Trapezium", or Theta 1 Orionis. Small telescopes reveal this mist to be greenish in color. A larger telescope (and particularly, long exposure photography) allows the observer to view detail unmatched by any other deep sky object in the heavens. Best observations are done with low power, wide field eyepieces.

Since the Orion Nebula is so obvious to all but the most casual observers, it is surprising that the first mention of it did not occur until 1611. In 1880, M42 became the first nebula to be photographed, when it was captured by Henry Draper with an 11 inch telescope, and an exposure time of 51 minutes.

The nebula itself consists of an extremely tenuous cloud of gas and dust. It has a density a million times smaller than that of a good laboratory vacuum, yet its massive size contains enough material to form 10,000 stars like the Sun. In fact, stellar formation is occurring within the nebula, as the cloud condenses into "pockets" which eventually become dense and hot enough for nuclear fusion to initiate.

The composition of the Orion nebula is believed to be as follows:

Element	Concentration (atoms per cubic metre)
-----	-----
Hydrogen	880,000,000
Helium	88,000,000
Carbon	530,000
Oxygen	220,000
Nitrogen	180,000
Sulphur	32,000
Neon	8,800
Chlorine	1,800
Argon	1,300

Fluorine 110

The "Trapezium", or the multiple system of four bright stars designated as Theta 1 Orionis is estimated to be only 23,000 years old. This is one of the best indications to prove that the Orion Nebula is indeed a star forming region. In addition, photographs taken in 1947 and 1954 showed changes in the appearance of condensation regions in the nebula. These regions are suspected to be protostars still in the process of accumulating enough matter for fusion to begin.

Studies done with the 27-disk VLA (Very Large Array) radio telescope in New Mexico in 1990 have revealed the existence of bright filaments surrounding the Trapezium. Visual evidence had hinted to such structures, but they are much more obvious with the radio data. Astronomers do not yet know what they are. They may be the edges of gas 'bubbles' inflated by stellar winds. Other possibilities include their being condensations of cooling interstellar gas, or regions where expanding gas bubbles encounter abrupt changes in the density of the interstellar medium.

In 1994, C. Robert O'Dell (Rice University) and Zheng Wen (University of Kentucky) used the Hubble Space Telescope to study stars near the Trapezium to see if they could detect any disks of gas and dust surrounding them (thought to be planetary systems in the making). They were surprised to find that 56 of the 110 stars they surveyed had such disks. Because the stars are so young, the disks have not yet had time to condense into planets, however the data indicates that planetary formation may be a common occurrence in the universe.

More than 50 variable stars have been detected in M42. One of the most interesting is designated as "T Orionis". This irregular variable 5.2 arcminutes south and 9 arcminutes east of the Trapezium stays at a magnitude of about 9.4 for several months. Then, it rapidly and unpredictably fluctuates in brightness, on occasion becoming as dim as magnitude 12.6. Astronomers are not sure what causes these variations.

As a whole, M42 is moving away from us at a rate of about 30 km/sec, although the cloud is quite turbulent, and different portions are receding at different rates. In addition, it is measured to be expanding at the rate of about 10 km/sec in the inner regions and 7 km/sec in the outer.

There is some evidence to suggest the existence of a black hole in the Orion nebula. Strong X-rays from a source designated 2U0525-06 (near Theta 2 Orionis) were detected in 1976.

In 1992, C. Robert O'Dell of Rice University used the Hubble Space Telescope to identify 15 disks of gas and dust surrounding newly formed stars. These disks are believed to contain a mass 15 times greater than that of Jupiter, and it is thought that they may condense into planets in the future. Based on his data, O'Dell believes that up to 40% of the newly formed stars in the Orion nebula may be surrounded by these 'protoplanetary' disks.

1.121 M43, NGC 1982

[View Picture](#)

[View M43 and its relationship to M42](#)

Discoverer.....Nicholas Peiresc, 1611

Distance.....1700 light years
True diameter.....6 light years
M43 is a detached portion of the Great Orion Nebula, located just to the north of it. It is illuminated by its own 8th magnitude star.

For more information, see M42.

1.122 M44, NGC 2632, Praesepe, or the Beehive Cluster

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.123 M45, The Pleiades

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.124 M46, NGC 2437

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.125 M47, NGC 2422

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.126 M48, NGC 2548

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.127 M49, NGC 4472

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.128 M50, NGC 2323

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.129 M51, NGC 5194, The Whirlpool Galaxy

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.130 M52, NGC 7654

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.131 M53, NGC 5024

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.132 M54, NGC 6715

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.133 M55, NGC 6809

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.134 M56, NGC 6779

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.135 M57, NGC 6720, The Ring Nebula

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.136 M58, NGC 4579

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.137 M59, NGC 4621

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.138 M60, NGC 4649

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.139 M61, NGC 4303

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.140 M62, NGC 6266

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.141 M63, NGC 5055, The Sunflower Galaxy

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.142 M64, NGC 4826, The Black Eye Galaxy

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.143 M65, NGC 3623

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.144 M66, NGC 3627

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.145 M67, NGC 2682

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.146 M68, NGC 4590

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.147 M69, NGC 6637

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.148 M70, NGC 6681

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.149 M71, NGC 6838

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.150 M72, NGC 6981

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.151 M73, NGC 6994

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.152 M74, NGC 628

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.153 M75, NGC 6864

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.154 M76, NGC 650, The Little Dumbbell, Barbell, or Cork Nebula

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.155 M77, NGC 1068, 3C71

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.156 M78, NGC 2068

View Picture

Discoverer.....P. Mechain, 1780
Distance.....1,600 light years
True diameter.....3 light years

M78 is a diffuse nebula, visible in small telescopes as a faint patch of light. It is one of the brighter portions of a huge nebula covering much of the constellation of Orion. Very little detail can be seen, even with larger instruments.

Two stars of 10th magnitude and spectral type B are found within the nebula.

1.157 M79, NGC 1904

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.158 M80, NGC 6093

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.159 M81, NGC 3031, Bode's Nebula

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.160 M82, NGC 3034

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.161 M83, NGC 5236

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.162 M84, NGC 4374

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.163 M85, NGC 4382

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.164 M86, NGC 4406

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.165 M87, NGC 4486, 3C274

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.166 M88, NGC 4501

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.167 M89, NGC 4552

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.168 M90, NGC 4569

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.169 M91, NGC 4548

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.170 M92, NGC 6341

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.171 M93, NGC 2447

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.172 M94, NGC 4736

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.173 M95, NGC 3351

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.174 M96, NGC 3368

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.175 M97, NGC 3587, The Owl Nebula

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.176 M98, NGC 4192

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.177 M99, NGC 4254

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.178 M100, NGC 4321

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.179 M101, M102, NGC 5457

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.180 M103, NGC 581

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.181 M104, NGC 4594, The Sombrero Galaxy

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.182 M105, NGC 3379

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.183 M106, NGC 4258

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.184 M107, NGC 6171

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.185 M108, NGC 3556

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.186 M109, NGC 3992

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.187 M110, NGC 205

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.188 IC 434 - Background illumination for the Horsehead Nebula

View Picture

Discoverer.....E. Pickering, 1889

Distance.....1,500 light years

True diameter.....26 light years

The Horsehead Nebula is probably one of the most famous nebulae in the sky. This fame is brought about by its spectacular appearance in long exposure photographs of the region. Unfortunately, a very large telescope is required to see the nebula if photography is not used.

The appearance of the Horsehead is made possible by two separately designated nebulae. IC 434 is a bright nebula (appearing red in the picture) providing

background illumination to silhouette B33, the dark Horsehead itself.

IC 434 is believed to be illuminated by the nearby star Zeta Orionis. It is suspected that new stars are currently being formed in the nebula.

1.189 IC 5070 - The Pelican Nebula

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.190 NGC 206

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.191 NGC 891

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.192 NGC 1432, The Maia Nebula

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.193 NGC 1435, The Merope Nebula

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.194 NGC 1499, The California Nebula

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.195 NGC 1977

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.196 NGC 2237 - The Rosette Nebula

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.197 NGC 2264, Cone Nebula, Christmas Tree Cluster

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.198 NGC 2346

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.199 NGC 2419

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.200 NGC 2440

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.201 NGC 2841

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.202 NGC 3115, Spindle Nebula

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.203 NGC 3372, The Keyhole Nebula, Eta Carinae Nebula

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.204 NGC 3628

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.205 NGC 4261

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.206 NGC 4388

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.207 NGC 4394

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.208 NGC 4402

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.209 NGC 4647

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.210 NGC 4945

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.211 NGC 5033

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.212 NGC 5139, The Omega Centauri Cluster

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.213 NGC 5548

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.214 NGC 6164, NGC 6165 & SAO 226891

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.215 NGC 6165

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.216 NGC 6240

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.217 NGC 6543, The Cat's Eye Nebula

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.218 NGC 6814

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.219 NGC 7000, The North American Nebula

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.220 NGC 7252

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.221 NGC 7331

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.222 Alcyone

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.223 Aldebaran

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.224 Algol, Beta Persei

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.225 Altair

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.226 Asterope, Sterope I

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.227 Atlas

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.228 Betelgeuse

Betelgeuse (pronounced BAY-tel-jooz) is a bright red giant star in the constellation of Orion. Its name is believed to have come from the Arabic 'Beit Algueze', meaning the "Armpit of the Giant".

This star is an irregular variable, with a period roughly 5.7 years long. The star has been measured at magnitudes between 0.4 and 1.2 in recent history, but the brightness variations are quite irregular. Spectroscopic studies show that during periods of maximum brightness, the diameter of the star may actually increase to a size 60% larger than its size when faint. The star is so large that if it were to replace our Sun, it will engulf Mercury, Venus, Earth, and Mars. During periods of its maximum size, Jupiter would be in jeopardy as well.

Betelgeuse is believed to be located about 520 light years away. To shine as brightly in our skies as it does, astronomers infer that it must be 10,000 times more powerful than our Sun.

1.229 Celaeno

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.230 Electra

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.231 Fomalhaut

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.232 Maia

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.233 Merope

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.234 Pleione

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.235 Polaris - the North Star

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.236 Sirius

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.237 Sterope II

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.238 Taygeta

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.239 Alpha Centauri

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.240 Alpha Centauri 2

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.241 Beta Pictoris

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.242 Epsilon Aurigae

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.243 Eta Boötes

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.244 SAO 69181

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.245 SAO 100458

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.246 SAO 226891

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.247 Comet Halley

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.248 951 Gaspra

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.249 243 Ida

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.250 Vanguard 1

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.251 Vanguard 1 Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.252 Vanguard 3

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.253 Transit 2-A Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.254 Courier 1-B Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.255 Alouette 1

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.256 Alouette 1 Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.257 Centaur 2

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.258 Solrad 7A/Secor 1 Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.259 Echo 2 Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.260 Solrad 7B/Secor 3 Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.261 Alouette 2 Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.262 OAO 1

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.263 OAO 1 Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.264 Nimbus 2 Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.265 Pageos Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.266 Timation 1 Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.267 OAO 2

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.268 OAO 2 Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.269 Timation 2 Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.270 SERT 2

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.271 MAO 1 Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.272 Cosmos 382

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.273 NOAA 1 Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.274 Cosmos 398

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.275 Pageos DA

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.276 Landsat 1

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.277 Copernicus (OAO 3)

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.278 Copernicus (OAO 3) Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.279 Miranda Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.280 Landsat 2

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.281 Intelsat 4-1 Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.282 Starlette

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.283 Nimbus 6 Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.284 Pageos H

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.285 Intelsat 4A-1 Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.286 UME 1

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.287 UME 1 Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.288 Lageos

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.289 Comstar 1 Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.290 Cosmos 825-832 Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.291 Cosmos 871-878 Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.292 Cosmos 939-946 Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.293 Sirio Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.294 Sakura Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.295 UME 2

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.296 UME 2 Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.297 Landsat 3

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.298 Yuri Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.299 Goes 3 Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.300 Seasat

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.301 Nimbus 7

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.302 Cosmos 1051-1058 Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.303 Cosmos 1076

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.304 Intercosmos 19 Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.305 Cosmos 1130-1137 Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.306 Cosmos 1151

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.307 Cosmos 1171 Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.308 Fltsatcom 4 Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.309 Intelsat 5-1 Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.310 NOAA 7

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.311 SME

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.312 SME Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.313 Cosmos 1320-1327 Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.314 Intelsat 5-3 Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.315 NOAA 8

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.316 Landsat 4

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.317 IRAS

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.318 IRAS Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.319 Satcom 6 Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.320 Goes 6 Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.321 Exosat Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.322 Cosmos 1473-1480 Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.323 Cosmos 1500

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.324 Cosmos 1522-1529 Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.325 Palapa 4 Rocket/Body & Westar 6 Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.326 Westar 6 Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.327 Landsat 5

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.328 AMPTE Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.329 Leasat 2 Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.330 Cosmos 1602

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.331 Cosmos 1603

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.332 ERBS

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.333 Leasat 1 Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.334 NOAA 9

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.335 Meteor 2-12

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.336 Geosat

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.337 Cosmos 1635-1642 Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.338 Leasat 4 Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.339 Cosmos 1697

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.340 Cosmos 1697 Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.341 Meteor 3-1

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.342 Leasat 3 Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.343 Meteor 2-13

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.344 Mir Complex

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.345 Cosmos 1745 Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.346 EGP/AJISAI

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.347 EGP Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.348 NOAA 10

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.349 Polar Bear

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.350 Cosmos 1794-1801 Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.351 Astro 3

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.352 MOS 1-A

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.353 Cosmos 1833

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.354 Cosmos 1833 Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.355 Cosmos 1844

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.356 Cosmos 1844 Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.357 Cosmos 1852-1859 Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.358 DMSP 2-3

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.359 Cosmos 1861

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.360 Meteor 2-16

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.361 Meteor 2-16 Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.362 Cosmos 1900

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.363 Meteor 2-17

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.364 Meteor 2-17 Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.365 DMSP 2-4

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.366 Cosmos 1924-1931 Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.367 Cosmos 1934 Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.368 Cosmos 1943

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.369 Cosmos 1943 Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.370 Cosmos 1954 Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.371 Okean 1

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.372 Meteor 3-2

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.373 Feng Yun 1-A

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.374 NOAA 11

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.375 Cosmos 1980

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.376 Cosmos 1980 Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.377 Lacrosse 1

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.378 Cosmos 2004

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.379 Cosmos 2004 Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.380 Meteor 2-18

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.381 Cosmos 2008-2015 Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.382 Delta Star

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.383 Cosmos 2016

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.384 Cosmos 2016 Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.385 Cosmos 2026

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.386 Cosmos 2026 Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.387 Cosmos 2027

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.388 Nadezhda 1

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.389 Cosmos 2034

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.390 Cosmos 2034 Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.391 Cosmos 2037 Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.392 Cosmos 2046

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.393 Intercosmos 24

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.394 Intercosmos 24 Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.395 GPS 2-4 Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.396 Meteor 3-3

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.397 COBE

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.398 GPS 2-5 Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.399 JCSAT 2 Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.400 Leasat 5 Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.401 Cosmos 2056

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.402 Cosmos 2056 Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.403 Spot 2

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.404 Spot 2 Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.405 GPS 2-6 Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.406 Cosmos 2058

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.407 MOS 1-B

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.408 Orizuru (Debut)

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.409 MOS 1-B Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.410 LACE

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.411 RME

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.412 Nadezhda 2

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.413 Nadezhda 2 Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.414 Okean 2

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.415 Intelsat 6-3

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.416 Cosmos 2060

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.417 Cosmos 2061

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.418 Cosmos 2061 Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.419 Pegsat

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.420 Cosmos 2064-2071 Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.421 Palapa 6 Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.422 Cosmos 2074

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.423 Hubble Space Telescope

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.424 Cosmos 2075 Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.425 Cosmos 2082

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.426 Cosmos 2082 Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.427 Rosat

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.428 Rosat Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.429 Cosmos 2084

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.430 Cosmos 2084 Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.431 Meteor 2-19

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.432 Gamma

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.433 CRRES

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.434 Cosmos 2098 Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.435 Feng Yun 1-B

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.436 Atmosphere 1 & Atmosphere 2

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.437 Atmosphere 2

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.438 Feng Yun 1-B Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.439 Ulysses Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.440 Inmarsat 2-1 Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.441 GPS 2-10 Rocket/Body

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.

1.442 DMSP 2-5

This information is not provided with the demonstration version of "The Digital Universe". Please consult Ordering The Digital Universe for more information on how to obtain a registered version.
