

NEWSPACE MARKET · COMPANY PROFILE



NewSpace Systems (NSS)

South Africa · newspacesystems.com

14

PRODUCTS

6

WITH DATASHEETS

newspacemarket.com/companies/newspace-systems-nss/

as of 20 August 2026

A large, faint, stylized circular graphic in the bottom right corner, consisting of concentric arcs and a central circle, resembling a target or a stylized 'O'.

NewSpace Systems (NSS)

NewSpace Systems (NSS) designs and manufactures spacecraft components and sub-systems, specializing in Guidance, Navigation, and Control (GNC) products. Their product lines include Sun Sensors, Magnetometers, GPS Receivers & Antennas, Reaction Wheels, Torquer Rods, and RF Transmitters & Transceivers. NSS supports commercial spacecraft manufacturers, including blue-chip companies and builders of satellite constellations of 500 or more satellites. The company is headquartered in South Africa, with branches in North America, Europe, and Oceania. NSS exports to over 33 countries across 6 continents. They have over a decade of experience and offer flight-proven, off-the-shelf GNC products and custom solutions. NSS maintains stringent manufacturing standards, with technicians adhering to rigorous space standards and state-of-the-art cleanroom facilities aligning with ISO 14644-1. The company is ISO 9001:2015 certified.

This profile is generated from the live NewSpace Market catalogue. Specifications are as published by the manufacturer; every product links to a page where a request for quotation reaches the company directly.

Product catalogue



NEWSPACE SYSTEMS (NSS)
Gemini GPS/GNSS Receivers

L1-band GPS receivers for orbital position/velocity determination — 2 models (SR5 @ 5V, MR28 @ 28V), >80 receivers delivered, >10 years flight heritage. NMEA083 and binary ou

Models	Gemini-SR5, Gemini-MR28
Frequency band	L1
Output protocols	NMEA083, Binary
SR5 supply voltage	5V
MR28 supply voltage	Unregulated 28V
MR28 protection	Latch-up protection, watchdog timer
Receivers delivered	> 80

[price on request](#) [datasheet](#)



NEWSPACE SYSTEMS (NSS)
LYNX X-band / Ka-band Transmitter

Compliant X-band and Ka-band high-data-rate transmitters for space applications, supporting CCSDS-compliant payload data downlink and intersatellite links up to 400 Mbps.

Data link compliance	CCSDS 131.3 Compliant
Frequency (X-band)	8.025 to 8.4 GHz
Frequency (Ka-band)	25.5 to 27 GHz
Output power	Adjustable up to 2 W
Max data rate	Up to 400 Mbps
Communication quality	Quasi-error-free (QEF) communication
Coding and modulation	Variable and adaptive coding and modulation

[price on request](#) [datasheet](#)



NEWSPACE SYSTEMS (NSS)
LYNX-X-band and LYNX-Ka-band Transmitters

The LYNX-X-band and LYNX-Ka-band are high data-rate transmitters designed for space applications, offering CCSDS compliant data links with advanced modulation and FEC for efficient

CCSDS Compliance	CCSDS 131.3 Compliant
Frequency (X-band)	8.025 to 8.4 GHz
Frequency (Ka-band)	25.5 to 27 GHz
Output power	adjustable up to 2 W
Max data rate	up to 400 Mbps
Communication	Quasi-error-free (QEF)
Modulation	Variable and adaptive coding and modulation

[price on request](#) [datasheet](#)



NEWSPACE SYSTEMS (NSS)
Magnetorquer Rods

NewSpace Systems’ magnetorquer rods control spacecraft attitude by interacting with Earth’s local magnetic field, either standalone or combined with reaction wheels for

TRL	9
First flight	2014
Units sold	> 7,000
Constellation baselines	> 10
Core material	Magnetic alloy rod
Winding	Bifilar (redundant or combined)
Interface	Direct switched power output

[flight proven · TRL 9](#) [price on request](#)



NEWSPACE SYSTEMS (NSS)
NCTR-M002 Magnetorquer Rod

Magnetorquers offer a method of controlling the attitude of a spacecraft. This can be achieved either directly, by interacting with the local Earth's magnetic field, or in...

Manufacturer **NewSpace Systems**

€1 050



NEWSPACE SYSTEMS (NSS)
NCTR-M012 Magnetorquer Rod

The NCTR-M012 Magnetorquer Rod is a spacecraft attitude control device designed for CubeSats, utilizing a magnetic alloy rod for efficient interaction with Earth's magnetic field.

Manufacturer **NewSpace Systems**

price on request



NEWSPACE SYSTEMS (NSS)
NRWA Reaction Wheels

NewSpace Systems' NRWA reaction wheels provide spacecraft attitude control through momentum exchange between the satellite body and a rotating flywheel. The product line offers

Models	NRWA-T065, NRWA-T2, NRWA-T6, NRWA-T25
Control modes	Current, speed, and torque control
Interface	Digital spacecraft bus
Sealing	Hermetic (T065 and T2)
Optional gyroscope	Yes (T065 model)
SEU history	Zero reported SEUs
First flight	2014

price on request



NEWSPACE SYSTEMS (NSS)
NSS CubeSat ACS solution

The NSS CubeSat ACS board is a single PC104 board integrating sun sensors, a magnetometer, MEMS gyros, a stellar gyro, and magnetorquer rods for attitude determination and control

Form Factor	Single PC104 board
Height	15mm
Integrated Sensors	3 high accuracy sun sensors, magnetometer, MEMS gyros, stellar gyro
Integrated Actuators	2 magnetorquer rods
External Interfaces	3 further sun sensors, momentum/reaction wheels, Z-axis torquer rods
Sun Sensor Accuracy	+/-0.5 degree
Eclipse Drift (Stellar Gyro)	< 0.1 degree (typically)

price on request



NEWSPACE SYSTEMS (NSS)

NSS CubeSat Sun Sensor

The CubeSat sun sensor determines the spacecraft body angles with respect to the sun. The sensor is extremely small and light to minimise the demands on nano-spacecraft. The...

Manufacturer

NewSpace Systems

€2 887



NEWSPACE SYSTEMS (NSS)

NSS Fine Sun Sensor

A sun sensor determines a spacecraft's orientation with respect to the sun. The front surface of the NewSpace Systems (NSS) NFSS-411 sensor is a synthetic sapphire window with a...

Manufacturer

NewSpace Systems

€10 499



NEWSPACE SYSTEMS (NSS)

NSS GPS Receiver

The NewSpace Systems (NSS) GPS Receiver is a 12-channel hardware-based receiver which utilizes a well-established GPS chipset. This GPS chipset has been successfully flown by a...

Manufacturer

NewSpace Systems

price on request



NEWSPACE SYSTEMS (NSS)

NSS Magnetometer

A tri-axial Anisotropic Magneto-Resistive (AMR) magnetometer that measures x-, y- and z-axis magnetic field components plus sensor temperature, for attitude determination and magne

Power requirement

Regulated 5 V DC supply

Output interface

Digital serial interface

Measurement axes

X, Y, Z magnetic field components plus sensor temperature

Sensor technology

Anisotropic Magneto-Resistive (AMR) with offset compensating circuitry

TRL

TRL 9

Flight heritage

First flew on CINEMA mission; integrated unit flown since July 2014; >400 units sold to a

flight proven · TRL 9

price on request

datasheet



NEWSPACE SYSTEMS (NSS)

RF Antennas (LYRA range)

NewSpace Systems offers a range of high-reliability S-band and Ka-band antennas from their LYRA range, designed for robust communication and data transmission in satellite and aero

S-band Air Gap - Frequency	2200 MHz to 2290 MHz
S-band Air Gap - Return Loss	<-10 dB
S-band Air Gap - Gain	≥ 7 dB
S-band Air Gap - Half-Power Beamwidth (HPBW)	70°
S-band Air Gap - Polarization	RHCP or LHCP preconfigurable
S-band Pin Feed - Frequency Band	2200 MHz to 2290 MHz
S-band Pin Feed - Return Loss	<-10 dB

price on request datasheet



NEWSPACE SYSTEMS (NSS)

SUN SENSOR (AQUILA series)

The AQUILA series sun sensors provide reliable and accurate sun-angle measurements for spacecraft attitude determination and control, suitable for primary and safe-mode sensing in

Flight heritage	Over 5 years in Low Earth Orbit (LEO)
Units delivered	Over 1000
Constellations baselined on	Multiple (currently five different constellations)

flight proven · TRL 9 price on request

datasheet

Contact NewSpace Systems (NSS)

Open the company profile on NewSpace Market to see full specifications and datasheets, and to send a request for quotation that reaches the manufacturer directly.

<https://newspacemarket.com/companies/newspace-systems-nss/>

<https://www.newspacesystems.com>

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