

## **JAPAN BOOTH 2021**

**Small Satellite Conference 2021  
Virtual Exhibition | August 7 – 12, 2021**

**Addnics Corporation/HTL Co. Japan Ltd.  
Crystal Optics Inc./KIYOHARA OPTICS Inc.  
Genesia Corporation,  
KANEKA CORPORATION,  
KYOCERA Corporation,  
NIKON CORPORATION,  
RFtestLab co., Ltd,  
Takasago Fluidic Systems,  
YUKI Precision Co., Ltd. &  
Japan Space Systems**



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Contact: Nakamura-Shinsaku@spacesystems.or.jp  
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# High-performance & compact RF Communication Systems

**ADDNICS Corp.**  
(HTL Co. Japan Inc.)

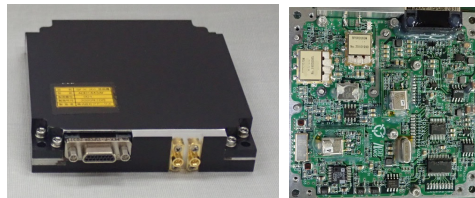


## Features

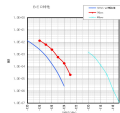
- S-TRX and X-TRX in A88 (80 X 80mm) Ultra Compact Packages
- High Performance & Reliability for LEO Cube/Nano-Sat
- Flexible for Any Customization

## Overview

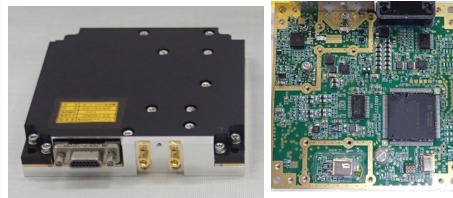
### SRX S-band Receiver



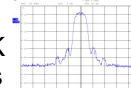
- 1) Frequency: S-band (1wave)
- 2) Format: PCM-PSK-PM
- 3) Sub-carrier: 16kHz
- 4) Data rate: 1kbps/4kbps
- 5) Sensitivity: <math>-122\text{dBm}</math>(1Kbps/BER=1e-4)
- 6) Power: +5~+13V
- 7) Consumption: <math><1\text{W}</math>
- 8) Size: 80 X 80 X 16mm
- 9) Mass: <math><140\text{g}</math>



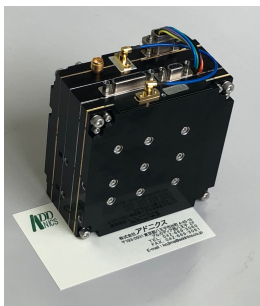
### STX S-band Transmitter



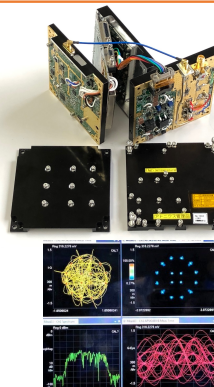
- 1) Frequency: S-band (1wave)
- 2) RF Power: Max 0.5W
- 3) Modulation: BPSK/QPSK
- 4) Data rate: 10k~4Mbps
- 5) Convolution: CCSDS (R=1/2, K=7)
- 6) I/F: UART
- 7) Power: +6V~13V / <math><7\text{W}</math>
- 8) Size: 80 X 80 X 15mm
- 9) Mass: <math><140\text{g}</math>



### XTX X-band Transmitter



- 1) Frequency: X-band (1wave)
- 2) RF Power: 1W
- 3) Modulation: BPSK/QPSK/16APSK
- 4) Data rate: Max 180Mbps
- 5) Symbol rate: Max 60Msps
- 6) Data I/F: LVDS
- 7) Command I/F: RS422
- 8) Data Format: CCSDS(RS+CONV) or DVB-S2
- 9) Bus Power: +12V(+9V~+14V)
- 10) Consumption: <math><17\text{W}</math>
- 11) Size: 80 X 80 X 44mm
- 12) Mass: <math><500\text{g}</math>



## Facility

Measurement  
Equipment  
For RF Systems



Vacuum  
Chamber



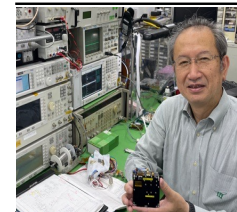
## Heritages

Including UHF & Ku-band, Deep Space, etc.

- REIMEI/INDEX (2005)
- RAIKO/Ksat-2 (2014)
- RISING-1&2 (2009&2014)
- Diwata-1 &2 (2016&2018)
- UNIFORM-1 (2014)
- HODOYOSHI-3&4 (2014)
- PROCYON (2014) ---- Deep Space
- MINERVA-2 (2014) ---- Deep Space
- TSUBAME (2014)
- SPATIUM-1 (2018)
- NEXUS (2019)
- BIRDS-1,2,3,4 (2017 ~2020)



## Contact



**Kaname KOJIMA / Masashi TSUTSUI**

[kojima@addnics.co.jp](mailto:kojima@addnics.co.jp) / [m.tsutsui@htlco.co.jp](mailto:m.tsutsui@htlco.co.jp)

ADDNICS was founded in 1998, as an advanced electronics company, mainly for R&D of RF systems. In 1999, the first space business was made for aurora observation rockets.

## For More Information

**URL:** <http://addnics.co.jp/english-information>

**Address:** 4-45-15 Dai-machi, Hachioji-shi, Tokyo 193-0931 Japan

**Distributor:** HTL <http://www.htlco.co.jp/addnicsEng.html>

# Aluminum Telescope for CubeSat

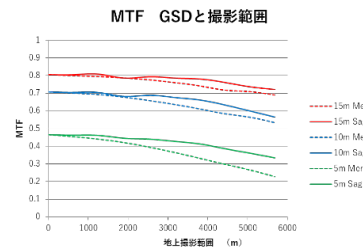
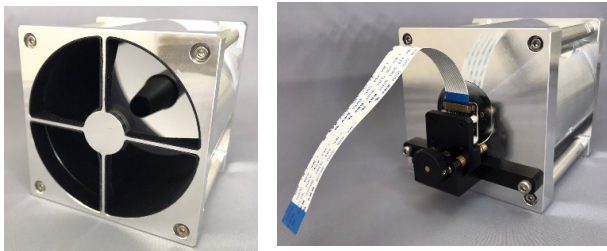
## Connect with Raspberry Pi camera



## Features

The basic optical configuration is the Cassegrain method, with the aim of using a primary mirror that maximizes the specified area to secure light quantity more efficiently, and to transmit light to a refraction system that removes aberrations with an optimized secondary mirror. Aiming to simplify the assembly adjustment, the most important simplification of the optical axis adjustment was achieved by integrally processing the mounting mechanism and the reflective optical element with aluminum.

## Overview



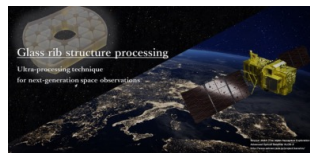
### 1. Space Telescope 「HODOYOSHI-4 sat」

We developed Space Telescope for small satellite, it already launch into LEO for HODOYOSHI-4 sat. GSD is 6m, Primary dia: φ150mm, FL:1000mm and total unit weight is 3.8kg. We also finished design telescope for Cubesat.



### 2. Glass rib structure processing 「Advanced Optical Satellite ALOS-3」

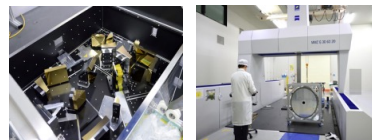
We produced Large Diameter Mirror, which was loaded into Advanced Optical Satellite (ALOS-3) of JAXA. We measured length among mirrors and adjusted alignment.



### 3. Assembled multiple mirrors system, MIMIZUKU

- 50 pieces mirrors (Precision flat, Spherical and Freeform)
- Providing a consistent manufacturing system.
- 6 months delivery from kick-off

Mid-infrared instrument MIMIZUKU



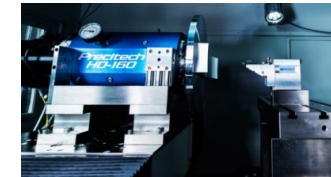
Our group provides total optical service solution. Optical Design, Opto-Mechanical Design Precision machining, Optical manufacture Assembly, Mechanical and Optical Test.

## Facility Our consistent production system

High precision machining and Quality assurance process



3D Coordinate Measuring Machine



Ultra precision diamond-turning machine



Interferometer System with Coherent Artifact Suppression

### • Precise Metrology

Dynamic interferometry: 4D Accufiz, Zygo DynaFiz, KIYOHARA SuperFIZ  
 Extra Large 3D Coordinate Measuring Machine ( Carl Zeiss )  
 Model:MMZ-G30/60/20(Carl Zeiss) Measuring range 3,000 × 6,000 × 2,000mm  
 Large Aperture Interferometer System(12") ( Zygo )

### • Precise Machining

MagnetoRheological Finishing System ( QED Technologies )  
 Model: Q-flex 300  
 Ultra precision diamond-turning machine ( Precitech )  
 Model:Nanoform700Ultra (Precitech) Swing capacity φ700mm Control axis X,Z,C  
 Super Precision Forming Surface Grinder ( Nagase Integrex )  
 Model:SGC-840αS4-Zero3 (Nagase Integrex) Table size 900 × 400mm

## Contact



**Kosuke KIYOHARA / Hideyuki MATSUMOTO**

kosuke.kiyohara@koptic.co.jp / mhideyuki@crystal-opt.co.jp

Our group proposes consistent manufacturing from design to high-precision parts processing and assembly to realize sustainable space development.

## For More Information

URL: <https://www.crystal-opt.co.jp> URL: <http://www.koptic.co.jp>

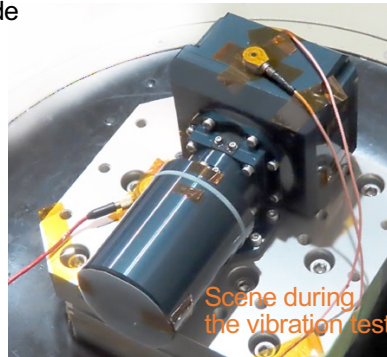
Contact Point : [sales@koptic.co.jp](mailto:sales@koptic.co.jp)  
 : [web\\_sales@crystal-opt.co.jp](mailto:web_sales@crystal-opt.co.jp)

Shiga, Tokyo, JAPAN



## Features

- Newly developed High Performance **Star Tracker**
- Compact, High Accuracy
- Large degree of freedom in satellite attitude due to small Sun/Earth avoidance angle
- Rational command system

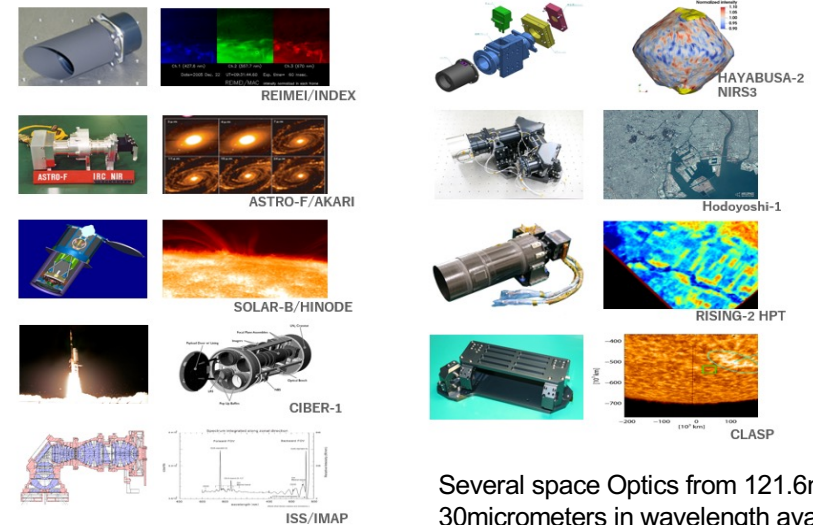


## Overview

Suitable for satellites from cubesat to a few hundreds kg class. Will be onboard HIBARI satellite(2021), PETREL(2022). See more in detail at SSC21-VI-04 of the conference.

Parameter	Value
Accuracy	Better than 10 arcsec at boresight Better than 60 arcsec around boresight
Acquisition	< 200 ms (not include exposure time)
Update rate	~2 Hz
Power	< 3 W
Maximum Slew Rate	~1°/s in Acquisition
Sun Avoidance Angle	World best class, Ask us!
Earth Avoidance Angle	World best class, Ask us!!
Moon Avoidance Angle	No degradation in performance with full moon in FoV.
Temperature	Wide Range, Ask us (Use Athermal Optics)
Shock/Vibration	Almost solid/liquid launch condition
Size	144(L) x 66(H) x 74mm(W) Includes baffle, electric, connectors
Total Mass	460 g (case of short baffle)

## Some of our heritages



Several space Optics from 121.6nm to 30micrometers in wavelength available both for refractor & reflector onboarding satellite for LEO and planetary explorations

## Contact



**Norihide Takeyama**

[takeyn@genesia.co.jp](mailto:takeyn@genesia.co.jp)

We are skilled in the development of space optics for small sat. Looking forward to hearing your voice sooner.

## For More Information

**URL:** [http://genesia.co.jp/ssten\\_](http://genesia.co.jp/ssten_)

**Contact Point:** [sales@genesia.co.jp](mailto:sales@genesia.co.jp)

**Address:** 3-38-4-601 Shimo-Renjaku Mitaka Tokyo 181-0013, Japan



# Multi Layer Insulation (Super Insulation) Graphite sheet thermal strap

## Features

Multi Layer Insulation (Super Insulation):

- Thermally insulation film to avoid radiation heat from the sun.
- H-II Transfer Vehicle "Kounotori"(JAXA) uses KANEKA Super Insulation.
- Polyimide grades have high heat resistance.
- Integrated production from raw material polyimide film in KANEKA

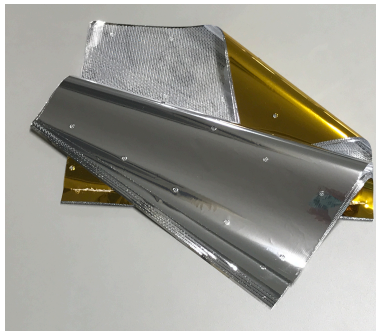
Graphite sheet thermal strap:

- High heat transfer ability by multi layered Graphite Sheet (GS)
- Light weight (Density 1.8 g/cm<sup>3</sup>)  
→ One-fifth of copper, two-thirds of aluminum
- Flexible, bendable
- Low Outgas to fit for Space application

## Overview

This vacuum multilayer insulation is used as a radiant heat-controlling film in vacuum conditions in extreme-cold, superconductive, and space applications. It offers exceptional insulating performance as multilayer insulation (MLI\*) for extremely low temperatures with devices used near 4K (-269°C), for example superconducting devices, ultracold containers, and as thermal shielding to protect satellites and spacecraft from radiant heat.

It has a track record of use in space applications, including the "Kounotori" H-II transfer vehicle and the "Kibo" module of the International Space Station.



Multi Layer Insulation



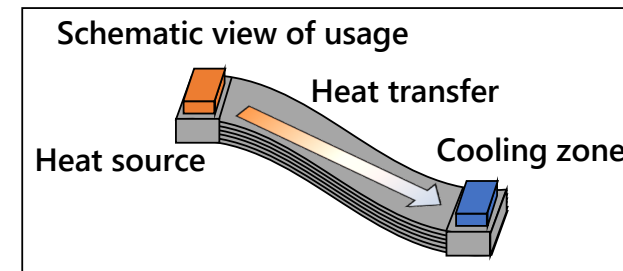
"Kounotori" H-II transfer vehicle  
© JAXA/NASA

Graphite sheet thermal strap is produced from Extremely high thermal conductivity graphite sheet Graphinity™:

This high heat resistant and ultra-crystalline graphite sheet was developed utilizing Kaneka's polymer design and high temperature firing technologies. It has a thermal conductivity equal to 3 times that of copper and possesses great flexibility. Thermal diffusion and heat dissipation are the main characteristics that allow for ease of use in mobile electronics and a variety of applications.



Graphite sheet thermal strap



## Contact

**Multi Layer Insulation (Super Insulation)**

URL : [https://www.kaneka.co.jp/en/business/qualityoflife/eit\\_005.html](https://www.kaneka.co.jp/en/business/qualityoflife/eit_005.html)

**Graphite sheet thermal strap**

URL: [https://www.kaneka.co.jp/en/business/qualityoflife/eit\\_003.html](https://www.kaneka.co.jp/en/business/qualityoflife/eit_003.html)

Contact Point : [thermone@kaneka.co.jp](mailto:thermone@kaneka.co.jp)

Address: 1-12-32, Akasaka, Minato-ku, Tokyo 107-6028, Japan

# Fine Cordierite Low Thermal Expansion Ceramic



## Light Weighting

Approx. 70% Weight reduction via slim ribbed structure design with high rigidity



## Structural Components

Cordierite is applicable to structural components by its superior mechanical property



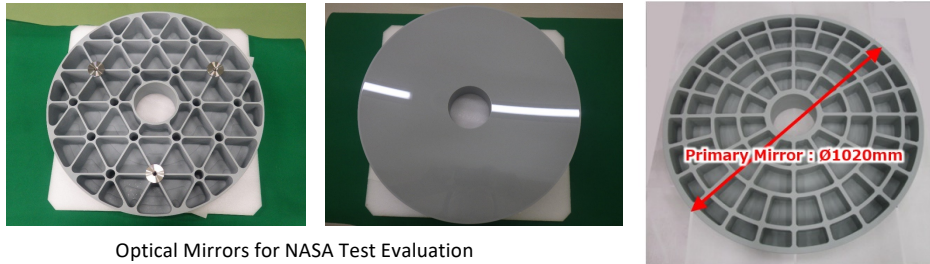
## Low Thermal Expansion

Dense cordierite ceramic with extremely low thermal expansion rate  
CTE = 0 +/-20ppb at 22deg C

## Overview

### Optical Telescope Mirror Application

Various optical reflective mirror are feasible with light-weighted back side rib structure



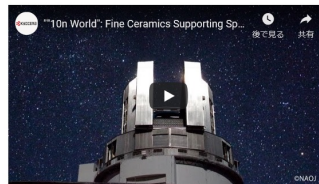
Optical Mirrors for NASA Test Evaluation

### Structural Components Application

Monolithic material assembly of mirrors and structural components can achieve superior optical performance



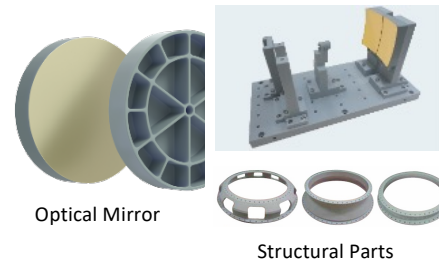
Combination of Mirrors and Structural Components by Cordierite



<https://youtu.be/l7YhIKK1jSM>

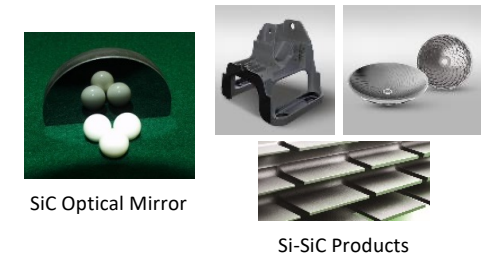
### Low CTE Ceramic : Cordierite

#### Telescope Mirror and Structural Parts



### SiC and Si-SiC

#### Telescope Mirror and Structural Parts



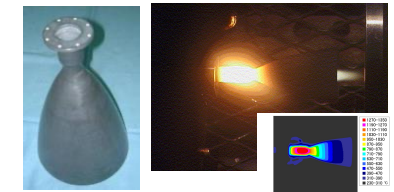
### Sapphire and Metallized Product

#### Metallized Sapphire and Alumina



### Silicon Nitride

#### Ceramic Thruster Nozzle



Ceramic Thruster for AKATSUKI



Shinobu Nagata (US Contact) Masa Kamiura (Japan Contact)

Shinobu.Nagata@kyocera.com masatsugu.kamiura.gt@kyocera.jp

We are happy to support you with any ceramic opportunity for Space, especially for space optical mirror and telescope.

URL: <https://global.kyocera.com/prdct/fc/index.html>

Contact Point: [Shinobu.Nagata@Kyocera.com](mailto:Shinobu.Nagata@Kyocera.com) [masatsugu.kamiura.gt@kyocera.jp](mailto:masatsugu.kamiura.gt@kyocera.jp)



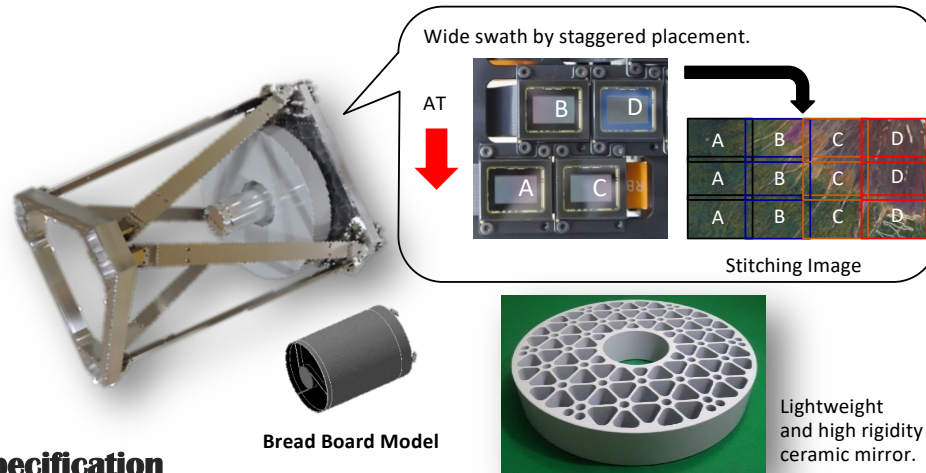
Nikon developed two type space cameras for earth observation small satellite.



One is high resolution type. This one is not only high resolution but also wide swath 8.5km Another one is wide Swath.



Our focal plane unit have scalability to be able to apply for various image circle by swath by staggered placement.



### Specification

	High Resolution Type	Wide Swath Type
Size	≦Φ620mm × 880mm	≦Φ240mm × 600mm
Mass	≦30kg	≦13kg
F-number	8.9	6.3
GSD	≦1.0m (Conditions : Monochrome Altitude 500km)	≦2.2m (Conditions : Monochrome Altitude 500km)
Swath	≧8.5km(Altitude: 500km)	≧22.5km(Altitude: 500km)
Mode	Monochrome , Color · 12bit RAW output · JPEG12/10/8 bit	Monochrome , Color (option) · 12bit RAW output · JPEG12/10/8 bit
Electrical IF	Image data transfer : LVDS, TMTC : RS485 Power : 12Vdc	

### Production facilities

- Grinding and polishing machines for high-precision mirror
- Evaporation coating machines.
- Optical test bench for Space telescope
- Wavefront aberration measuring instrument

### Test facilities

- Vibration testing,
- Heat cycle testing
- Vacuum chambers for optical system

### Member



### Heritage



**1978**

We first supplied optics for Japanese Mission.



**2006**

AKARI Astro-F  
IR Astronomy telescope  
Diameter : 680mm



**2010**

AKATSUKI Planet-C  
UVI telescope  
Diameter : 40mm



**2013**

HISAKI SPRINT-A  
Planetary EUV Spectroscopy  
We supplied primary mirror.  
  
This mirror is made of silicon carbide. A material that is extremely hard and difficult to work.

### Contact



**Yoshikazu Ueda**

**Why don't you partner with us and boost space industry up together?  
We look forward to hearing from you!**

### For More Information

URL: <https://www.ave.nikon.co.jp/cp/index.htm>

Contact Point: [Sales.Cp1@nikon.com](mailto:Sales.Cp1@nikon.com)

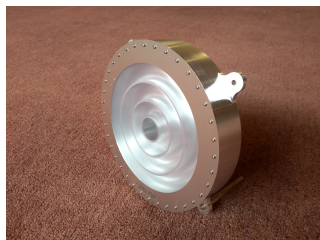
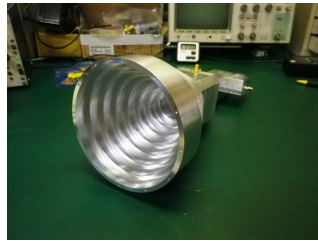
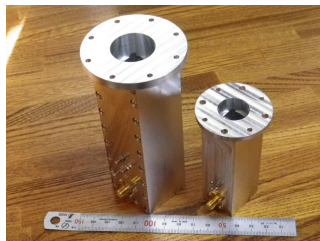
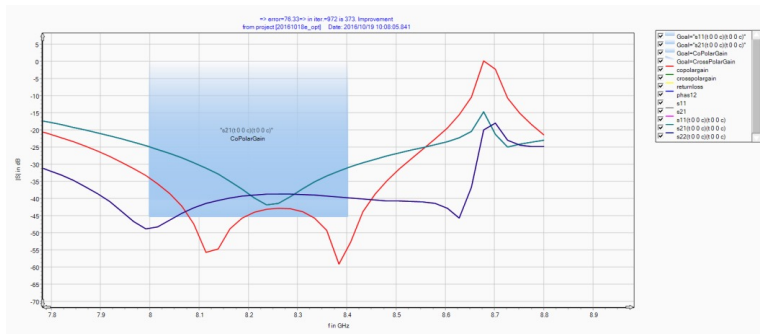
Address: Shinagawa Intercity Tower C, 2-15-3, Konan, Minato-ku, Tokyo 108-6290



## Features

2GHz to 110GHz  
Optimize Septum polarizer for various dish feeds and frequency  
We will deliver the best performance to your satellite.

## Overview



## Facility

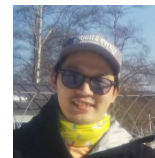


We handle everything from microwave / millimeter wave band electronic circuit design to mechanical component design and manufacturing through our integrated production. Prototyping and manufacturing can be done up to the millimeter wave band by wire bonding.

We also have a machine tool division in-house and manufacture aluminum cutting case cutting filters.

In 2015, we started a total service from device development to measurement for wireless license application.

## Contact



**Shohei Ito**

s.ito@rftestlab.com

For more information on our products, please visit our website.  
You can also make inquiries smoothly from the HP inquiry form.

## For More Information

URL: <https://www.rftestlab.com/>

Contact Point: [Labs@RFtestLab.com](mailto:Labs@RFtestLab.com)

Address: 4-2-2 Mitake Morioka Iwate JAPAN 020-0122

# Thrusters/Solenoid Valves

# Takasago Fluidic Systems (TES)

## Products

### 1. Solenoid Valves

#### • Micro Thruster Valve HVA/HVD Series

- 2MPa pressure-rated for HVA, 10MPa for HVD
- 8g weight for HVA, 12g for HVD
- For small satellites

#### • 20N-class Thruster Valve HVC Series

- 2.8MPa pressure-rated
- Frictionless moving core

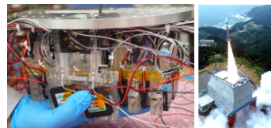
#### • 10MPa High Pressure Gas Valve HVB

- Our first flight heritage valve on the ALE-1, ALE-2 satellites

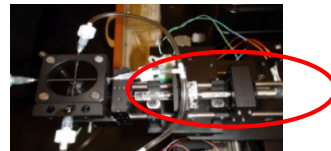


### 2. COTS Items

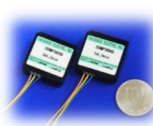
#### • Space Experimental Units (Application Examples)



Miniature valves (32 units) and pumps (16 units) used in JAXA observation rocket for a space experiment of crystal nucleation



Micro syringe pump used in the ISS for NASA/OASIS project



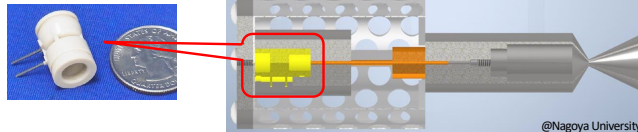
Piezoelectric micro pumps used in the ISS/Japanese Kibo Module



JAXA automated cell culture media exchange unit used in the ISS

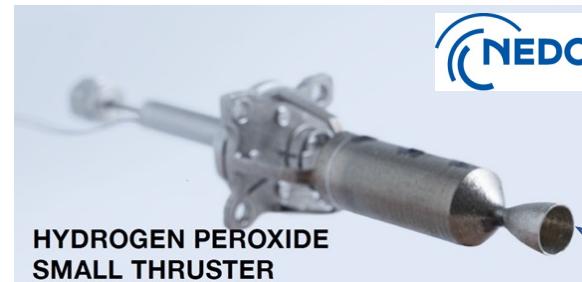
#### • EOP Thruster (under development by Nagoya University)

Electro-Osmotic Pump → will generate main thrust of the new micro thruster which is under developed by Nagoya University (target thrust is 1 – 10 mN)

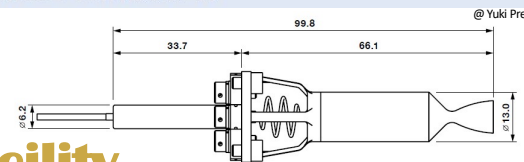


### 3. Thrusters

- Yuki Precision and Takasago have developed a small thruster suitable for attitude control, de-orbit, etc. to be used in a small satellite or cube sats, with subsidy from Japanese Government.



HYDROGEN PEROXIDE SMALL THRUSTER



- Propellant :** 90% HPT
- Thrust :** 0.2N
- ISP :** 150 – 155sec
- Supply Pressure :** 0.9MPa
- Power Supply :** 3V – 0.4W for holding  
12V – 6.5W for opening
- Heater Power :** 0W (cold start OK)
- Weight :** 31g including valve

## Facility

AS/EN9100 and ISO9001 Certified

2020 Global Niche Top 100 certified by Ministry of Economy, Trade and Industry of Japan

Head Office & Main Factory Located in Nagoya, Japan

## Contact



### Masahiko Inoue

m-inoue@takasago-elec.co.jp

Unfortunately, we are not allowed to be actual conference site, I will feel like I am going to be there, please meet us and enjoy the conference !

## For More Information

URL: <https://www.takasago-fluidics.com/>

Contact Point: (phone) +81-(0)70-6580-2404

Address: 66 Kakitsubata Narumi-cho, Midori-ku, Nagoya, Aichi 458-8522 Japan

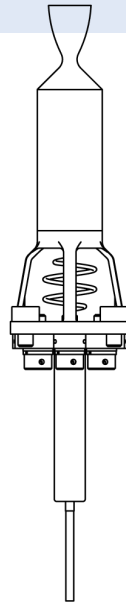
## Features

- Monopropellant Thruster
- Simpler to Handle : Low Toxic Propellant [ Hydrogen Peroxide 90%- ]
- Target Satellite : CubeSat - 100kg Level
- Thrust can be modified to order up to 1.5 N.
- Competitive Cost Performance

## Overview



Compared to hydrazine, handling procedures for low toxic propellants are much simpler, with only normal chemical protective clothing required, making prelaunch fueling both faster and less expensive. Traditional hydrazine propellant is highly toxic and easy to evaporate requiring handling by qualified personnel using air supplied SCAPE [Self Contained Atmospheric Protective Ensemble] suits as well as standby medical personnel.

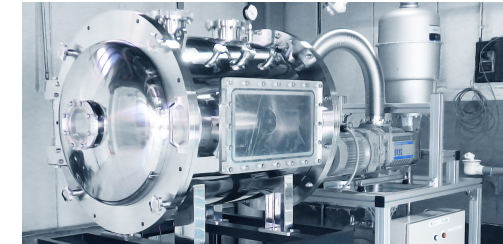


Propellant	Hydrogen Peroxide [ 90%- ]
Thrust	0.2 N
ISP	150 - 155 sec
Supply Pressure	0.9MPa
Valve Voltage	Holding 3V - 0.4W Opening 12V - 6.5W
Catalyst Heating Power	0W *Cold Start
Weight	Thruster 22.7g Valve 8.0g

## Facility

### TEST FACILITY

Vacuum Chamber  
Thrust Measurement System  
Clean Booth : Class 6 - 7  
Clean Bench : Class 1



### PRODUCTION FACILITY

From fine fasteners to whole satellite structures, YUKI Precision has supplied parts for multiple successful flight-proven projects.  
Certification JIS Q 9100 : 2016  
Certification Structure : Single site [ Chigasaki Factory ]  
Scope of Certification : Manufacture of precision machined parts including for aviation, space and defense related equipment, excluding medical equipment  
Certification No. : A4158

## Contact

### Yukiko Matsumoto



yukiko.matsumoto@yukiseimitsu.co.jp

We participated Small Satellite Conference at 2 years ago.  
Salt Lake City is a great city, so I'd like to go there again.

## For More Information

URL: <https://www.yukiseimitsu.co.jp/en>

Contact Point: [info@yukiseimitsu.co.jp](mailto:info@yukiseimitsu.co.jp)

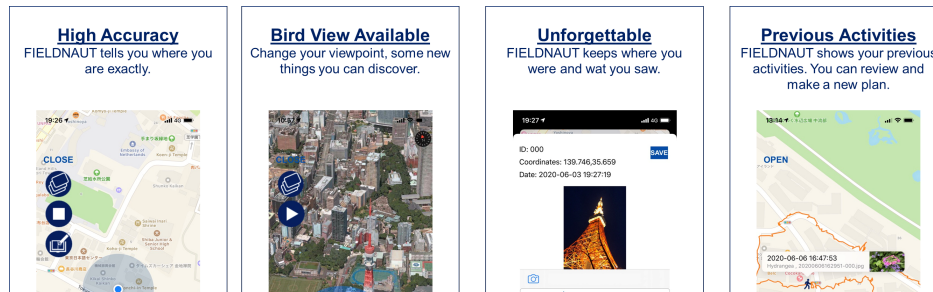
Address: 222-0033 I's Building.9F, 3-18-5 Shinyokohama,  
Yokohama-shi Kohoku-ku, Kanagawa, JAPAN



## Features

- FIELDNAUT is an iOS App for collecting location information.
- FIELDNAUT overlays maps and satellite images and adds photos and texts with coordinates.
- FIELDNAUT makes your field survey more simple, efficient and effective
- Japan Space Systems accepts customization of FIELDNAUT for your purposes.

## Overview



### For Field Survey

No pencils, no notebooks for field survey, because you've got FIELDNAUT! FIELDNAUT is originally developed for collecting and comparing survey data with satellite and GIS data on your target areas. FIELDNAUT collect your location information (waypoints) with photos and texts. Those waypoints and tracking record are saved as GeoJSON format, and you can edit with GIS software easily. Your field survey data files (one GeoJSON file for location and several JPG for photos for waypoints) can be shared with your colleagues and friends over SNS and Mail.

### For Lifestyle

FIELDNAUT has been developed for field survey originally, but FIELDNAUT makes your lifestyle bit rich. You can use FEIDLNAUT for walking with dogs, jogging and cycling as daily activities, for traveling, climbing, skiing, camping, fishing as leisure and vacation, and for marketing to find good location for your business.

### Explore the Earth

FIELDNAUT was named after an astronaut (a space explorer).  
Get FIELDNAUT and explore the Earth.  
Visit [https://ssl.jspacesystems.or.jp/en/\\_archives/279](https://ssl.jspacesystems.or.jp/en/_archives/279)



Scan and Install  
FIELDNAUT

## Facility



### Japan Space Systems

Japan Space Systems is an organization for contributing Japanese space industry development over 30 years with space system developments, satellite operations, natural resource development by satellite data, and international cooperation. Japan Space Systems incorporated with Satellite Positioning Research and Application Center, and Quasi-Zenith Satellite System, 'Michibiki' is available as new service.

### International Cooperation Department

Japan Space Systems has many joint research projects and internship programs in African, Southeast Asian and South American young engineers. We also develop webGIS and applications for satellite data infrastructure for illegal fishing monitoring, ocean plastic waste monitoring, lead contamination simulation and other purposes.

## Contact



### Shinsaku Nakamura

Nakamura-Shinsaku@jspacesystems.or.jp

2 years ago, my son and I were to Texas, my second home. It was his first trip to overseas, and we enjoyed Spurs' game! Hope we back normal soon.

## For More Information

URL: <https://www.jspacesystems.or.jp>

Contact Point: [ICD@jspacesystems.or.jp](mailto:ICD@jspacesystems.or.jp)

Address: 3-5-8 Shibakoeno, Minato-ku, Tokyo 105-0011

# Editor's Note

## **Japanese Space Technologies**

Space technologies are mature in Japan. Many scientists and engineers in universities enliven international magazines and journals by their unique ideas, experiments and results. Various companies apply their own specific technologies to products and services for space systems. The Japanese government also encourages engineers and scientists to develop new equipment, thrusters and bus components, launch rockets, operate satellites and analyze data. And now the Japanese space engineers aim for deep space exploration with small satellites.



Capacity Development Program 2019

## **Japan Booth**

Japan Booth is a unique framework to support the Japanese companies to sell their products and services and to collaborate with many companies in the world since 2015. Visit Japan Booth and feel our six unique companies and products. We all are seeking sales representatives and distributors as partners!

## **Japan Tech Show (on Aug. 9, 2020 at 17:00 – 18:15(MST))**

Six Japanese companies will introduce their special space technologies, components and services and their secret stories. ONLY at Japanese Tech Show, you can reach more detailed specifications. ONLY at Japanese Tech Show, you can communicate with Japanese engineers and sale directly. Don't miss it! Visit [https://us02web.zoom.us/webinar/register/WN\\_IQONBYBtQvawQ2igjbGV4Q](https://us02web.zoom.us/webinar/register/WN_IQONBYBtQvawQ2igjbGV4Q) and register!

## **Special Business Talks (on Aug. 9, 2020 at 17:00 – 20:00(MST))**

You do not miss another chance to talk with Japanese engineers and sales privately at Special Business Talks. Visit <https://forms.gle/KCHMHv1AyroicCvaA> and register now!

## **Japan Space Systems**

Japan Booth and Japanese Tech Show are conducted by Japan Space Systems. For more information, visit <https://www.jspacesystems.or.jp/>.

