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IBAN: NL57 RABO 0118 9535 24 **BIC:** RABONL2U Reg. nr.: 27293068 VAT: NL817198611B01

# **Ground Station kit Option Sheet**

## How to use this Option Sheet:

- 1. Please fill-in this Option Sheet carefully. In case you have questions, we advise contacting ISISPACE prior to sending the Option Sheet at: sales@isispace.nl. Note that you are responsible to make sure the inputs you make are correct, since ISISPACE will produce the product accordingly, and shall not be responsible to verify your inputs or liable to provide refunds, make alterations or send a new product in case your input does not reflect your needs correctly.
- 2. Fill in the form digitally. You will need to have Adobe Acrobat reader installed (free download available at http://get.adobe.com/reader/)
- 3. Press the check button at the end to verify if your Option Sheet is complete.
- 4. Once you are ready, press the Enable Read Only button to prevent accidental changes, save the changes and send the digitally filled-in Option Sheet by email to your Sales Representative.

## **Customer Contact Information**

Contact Name:	
Email Address:	
Phone Nr:	
Organization / Company / Institution	
Address:	
Address (Cont'd):	
Country:	
For ISISPACE Use – Leave	Blank –
Order Confirmation:	
Allocated WO:	
Sales responsible:	
Project/Ref.:	



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## **General Configuration**

Applicable to all revisions

VHF/UHF Station VHF/UHF/1.9-meter S-Band	3-meter S-Band Standalone
Other, please specify your requirements below:	
Please note that non-standard options need to be evaluated and might incur into additional cost which shall be determined per content of the cost which shall be determined per cost which shall be determined by the determined per cost which shall be determined by the cost which shall be determined	
RF Configuration	
Frequency band(s) of operation	
UHF/VHF Frequency	
Amateur ground station: VHF and UHF band	
VHF uplink (145.8 – 146 MHz) + UHF downlink (435 – 438 MHz) and UHF uplink (435 – 438 MHz) + VHF downlink (144 – 146 MHz).	
Commercial ground station: VHF and UHF band	
VHF uplink (148 to 149.9 MHz) with UHF downlink (400.15 to 402 MHz). I are included.	For the UHF downlink frequencies, cavity filters
Custom frequency band	
In case your requirements do not fall under the above two below.	categories, specify your requirements
Please note that non-standard options need to be evaluat they might incur into additional cost which shall be determ	- · · · · · · · · · · · · · · · · · · ·



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## S-band Frequency:

Amateur band (2400 – 2450MHz)		
Commercial Band (2200 – 2290MHz)		
Custom: –		

Please note that non-standard options need to be evaluated and agreed upon. In some cases, they might incur into additional cost which shall be determined per case.

MHz

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1	
1	

## S-band Antenna polarization

RHCP (Right Hand Circular Polarization)

LHCP (Left Hand Circular Polarization)

## **Radios**

#### VHF/UHF Transceiver:

#### ISISPACE VHF/UHF Transceiver (default)

The <u>ISISPACE VHF/UHF transceiver</u> is an SDR based transceiver with configurable modulation schemes and data-rates. This transceiver is fully compatible with the ISISPACE on-board radios: <u>TRXVU</u> and <u>TRXUV</u>.

Default modulation schemes and data-rates:

- BPSK, BPSK-SRRC, BPSK-G3RUH, FSK-G3RUH, AFSK.

## Bit-rate:

- Up-to 9600 bps (default)
- Higher data-rates possible on request.

#### Protocol:

- AX.25
- Raw bits to TCP/IP port.
- Raw received IQ samples to TCP/IP port.

Any additional requests can be specified below:

Please note that non-standard options need to be evaluated and agreed upon. In some cases, they might incur into additional cost which shall be determined per case.

## Do not include a transceiver

It is also possible to not include a VHF/UHF transceiver with the ground station, this gives the customer the flexibility to include their own transceiver with the ground station. In this case, the software interface for the custom transceiver will not be developed by ISISPACE Group.

Doc. ID: ISIS-GSKit-OS-0202

Doc. Title: Ground Station kit Option Sheet Version: 2.0

Applicable to all revisions



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## S-band receiver

## ISISPACE S-Band receiver (default)

The ISISPACE S-band receiver is a SDR based receiver with configurable modulation schemes and data-rates. This receiver is compatible with ISISPACE on-board S-band transmitter: TXS (low data-rate version).

Default demodulation schemes:

- BPSK, BPSK-G3RUH, FSK, FSK-G3RUH.

#### Data-rate:

Up-to 115.2 kbps (default).

#### Protocol:

- AX.25
- Raw bits to TCP/IP port.
- Raw received IQ samples to TCP/IP port.

Any additional requests can be specified below:		
Please note that non-standard options need to be evaluated and agreed upon. In some cases, they might incur into additional cost which shall be determined per case.  Teledyne Qubeflex		
This receiver is a 'semi' SDR demodulator that has been designed and tested to support and be fully		
compatible with the ISIS high rate S-band transmitter used in missions in low-earth orbit.		
Default demodulation schemes:		
- BPSK, OQPSK.		
Symbol-rate:		
- Between 625 and 5000 ksps.		
Protocol:		
- CCSDS		
Any additional requests can be specified below:		
Disass note that non-standard entions need to be evaluated and agreed upon in some saces		

Please note that non-standard options need to be evaluated and agreed upon. In some cases, they might incur into additional cost which shall be determined per case.

## Do not include a receiver

It is also possible to not include an S-Band receiver with the ground station, this gives the customer the flexibility to include their own transceiver with the ground station. In this case, the software interface for the custom transceiver will not be developed by ISISPACE Group.

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## **Mechanical Configuration**

## Rotor type:

## Weatherized rotor

This is an all-weather rotor that comes with internal heating to operate at very low temperatures (below 0 degC) and the gearbox is completely sealed.

Note: When ordering or upgrading the ground station to include S-band, it is recommended to select double wormgear or the high-speed version.

## Wormgear

Single wormgear (Low Speed, 3deg/sec)

Double wormgear (High Speed, 6deg/sec)

#### Heaters

Included

Not Included

#### Non-weatherized rotor

This rotor works well at temperatures above 0 deg C. The gearboxes are not sealed completely, but vents are made to drain any water entering the gearbox in such a way that it does not affect the gears. This rotor has a single variant, which is the double wormgear of high speed version.

## **Cabling**

Please fill in the desired length of the RF-coaxial cables between the ground station rack and the Lightning protection box.

Please note that non-standard options need to be evaluated and agreed upon. In some cases, they might incur into additional cost which shall be determined per case.

20 Meters (Default)

35 Meters

Custom: meters (max. 50 meters)

## **Other**

Supply Voltage

230V/50Hz 120V/60Hz

**Power Socket** 

EU standard USA standard UK standard

Other, please specify the type below:

NOTE: All alternative connector requests need to be reviewed and approved by ISISPACE and might incur in additional costs.

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Shipping

Included Not Included

Installation and Training

Included Not Included

## **Additional comments**

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