

Device part number

GRD-X5B002

GRD-CapEx

GRD-OpEx

Device name

GridION Mk1

Short description

GridION Mk1 is a cost-effective and compact benchtop system offering on-demand sequencing with integrated real-time data processing. With the capacity to run five flow cells either concurrently or individually and a total yield of 150 Gb, GridION Mk1 provides busy labs and service providers with cost-efficient access to the advantages of long-read, real-time nanopore sequencing. Integrated, high-performance data processing alleviates the need for complex IT infrastructure.

Product overview

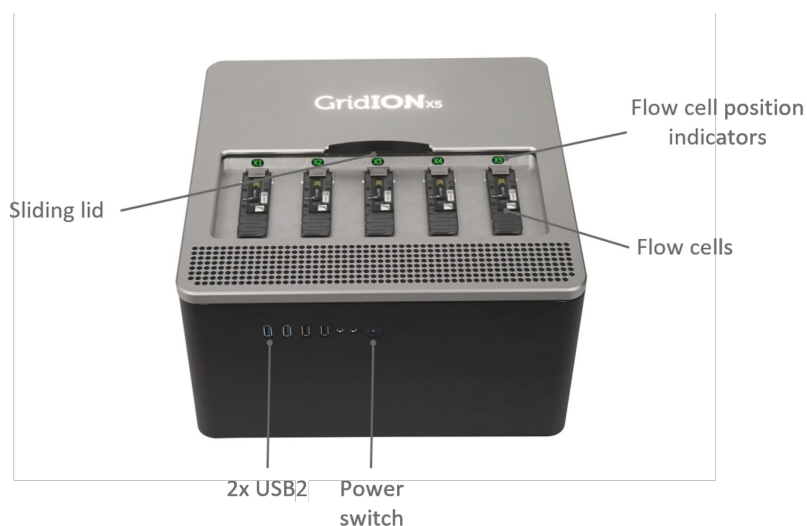
The Oxford Nanopore Technologies® GridION™ Mk1 is a compact benchtop sequencing system. It allows up to five sequencing experiments to be run concurrently or individually. Users may choose to use as much or as little of this total resource at any one time. GridION Mk1 also allows users to offer nanopore sequencing as a service.

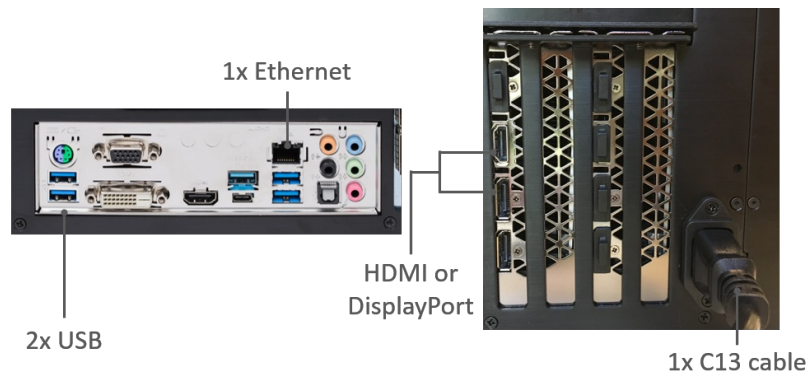
The GridION Mk1 provides users with five sequencing ports where MinION flow cells or Flongle adapters with flow cells can be connected, as well as a high performance integrated computer and basecalling accelerator. The device can basecall, in real-time, the data generated by five flow cells/Flongles. The current chemistry and software enables generation of up to 150 Gbases of data during a GridION Mk1 run.

Setting up a GridION Mk1 requires minimal infrastructure with no need for facility upgrades. A new device requires only a power source, and network connectivity via an Ethernet port.

There are four USB 3.0 ports available for peripherals, e.g. keyboard and mouse. Monitors must be connected via DisplayPort or HDMI.

The device is powered from the mains via the C13 cable, and is switched on via a power button on the front.





Technical specifications

Component	Specification
Size and weight	H 220 x W 365 x D 370 mm, 11 kg
Power	650 W
Compute spec	4 TB SSD Storage, 64 GB RAM, Intel i7 7700K CPU for OS and orchestration, basecalling accelerator
Pre-loaded software	Linux OS, GridION OS (<i>MinKNOW inside</i>), Guppy software
Environmental conditions	System functional range -5° C to +40° C Designed to sequence at +18° C to +25° C

Shipping and logistics

The Oxford Nanopore Technologies GridION Mk1 device is stored and shipped at ambient temperature (+15–25° C).

Please note that the GridION Mk1 is shipped separately to the kits and flow cells.

The delivery charge of \$2000 is included in the package price. Additional delivery charges for the consumables are calculated when a quote is raised or during checkout. Once an order is made, the delivery ID and delivery information can be tracked in the Store.

IT requirements

[GridION Mk1 IT requirements](#)

Safety and legal info

Intended use of the GridION Mk1 device

Oxford Nanopore Technologies GridION Mk1 device is an electronic analysis system for use in scientific research. The core technology is built around a nanopore that is able to detect single molecule events such as nucleic acids (DNA/RNA).

This product is for research use only.

The safety information below provides you with the details needed to install and use the system safely.

Electrical information

Supply voltage	100–240 V (50/60 Hz)
Operating current	8 A maximum
Maximum power	650 W

Labels on the instrument

Label on the GridION Mk1:



Label on the SpotON Flow Cell:






Emergency procedures

In case of emergency, switch the GridION Mk1 off at the power switch and unplug the power cable from the back of the device.

Declaration of conformity

The GridION conforms to the EMC and Electrical Safety directives as outlined in the EC Declaration of Conformity.

 							
EC DECLARATION OF CONFORMITY							
Manufacturers Name:	Oxford Nanopore Technologies Ltd.						
Manufacturers Address:	Edmund Cartwright House 4 Robert Robinson Avenue Oxford Science Park Oxford, OX4 4GA, Great Britain						
Declares that the product:	<table border="0"> <tr> <td>Model name:</td> <td>GRIDION X5</td> </tr> <tr> <td>Model part No.</td> <td>GRD-X5B002 / ONT-00-00043-00</td> </tr> <tr> <td>Equipment Type:</td> <td>Laboratory Equipment</td> </tr> </table>	Model name:	GRIDION X5	Model part No.	GRD-X5B002 / ONT-00-00043-00	Equipment Type:	Laboratory Equipment
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Equipment Type:	Laboratory Equipment						
Conforms to the following Directives:	<table border="0"> <tr> <td style="vertical-align: top;"> <p>EMC</p> <p>The product as detailed above is declared compliant to the protection requirements of Council Directive 2004/108/EC – the EMC Directive. Compliance based on testing to the following standards: EN61326-2-1:2013 using the technical requirements of EN61326-1:2013 VCCI V-3: 2014.04</p> </td> <td style="vertical-align: top;"> <p>Electrical Safety</p> <p>The product as detailed above is declared compliant to the principle safety objectives of Council Directive 2014/35/EU. Compliance based on testing to the following standards: EN 61010-1: 2001 EN 61010-1: 2010 IEC 61010-2-010: 2003</p> </td> </tr> </table>	<p>EMC</p> <p>The product as detailed above is declared compliant to the protection requirements of Council Directive 2004/108/EC – the EMC Directive. Compliance based on testing to the following standards: EN61326-2-1:2013 using the technical requirements of EN61326-1:2013 VCCI V-3: 2014.04</p>	<p>Electrical Safety</p> <p>The product as detailed above is declared compliant to the principle safety objectives of Council Directive 2014/35/EU. Compliance based on testing to the following standards: EN 61010-1: 2001 EN 61010-1: 2010 IEC 61010-2-010: 2003</p>				
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<p>We, hereby declare that the equipment specified above conforms to the above directives and standards specified.</p>							
Signature:							
Date:	27 SEP 2017						
Full Name:	Alison Forrow						
Position:	Associate Director of Quality Assurance						

Software license and device warranty

The software licence and device warranty contract ensures your instrument is performing optimally by providing the latest up-to-date hardware and software. The contract guarantees that Oxford Nanopore Technologies support obligations are delivered during the contract period as laid out in sections 4 and 7 of the [Nanopore Product Terms and Conditions](#).

This includes:

- Software updates upon release
- Hardware updates on release
- Return and Replace policy

The service contract extends our warranty to cover the instrument after your initial purchase contract has expired.

What’s in the box

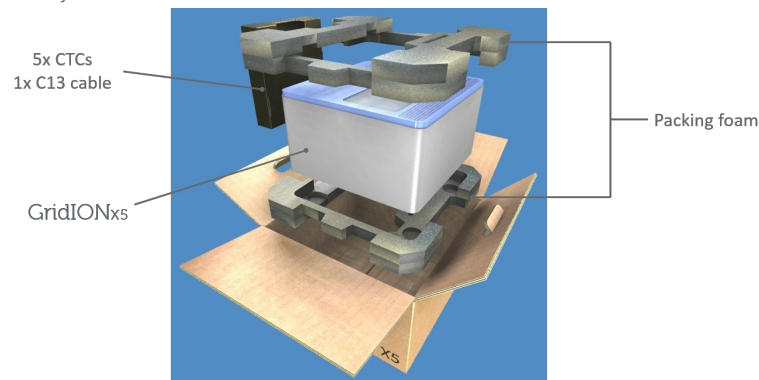
The GridION Mk1 is shipped together with a C13 cable specific to the country of delivery, and five configuration test cells (CTCs).



Configuration is the process of testing that communication between the GridION Mk1 device and the control software is operational prior to experimental work being performed. This is carried out in the absence of any chemistry and uses a specific flow cell known as the Configuration Test Cell (CTC).



The GridION Mk1 is packed into a single box that contains everything needed for installing the device. The shipping weight is ~11 kg, meaning no special equipment is required for installing the GridION Mk1 in your laboratory.



Product cross-compatibility

The GridION Mk1 can be used together with:

Flow cells

- FLO-MIN106D
- FLO-MIN107

Kits

FLO-MIN106D flow cells are suitable for all 1D sequencing kits:

- Ligation Sequencing Kit (SQK-LSK109)
- PCR-cDNA Sequencing Kit (SQK-PCS109)

Version: 1.0.0

- Direct cDNA Sequencing Kit (SQK-DCS109)
- Direct RNA Sequencing Kit (SQK-RNA002)
- Rapid Sequencing Kit (SQK-RAD004)
- Rapid Barcoding Kit (SQK-RBK004)
- Rapid PCR Barcoding Kit (SQK-RPB004)
- 16S Barcoding Kit (SQK-RAB204)
- PCR Sequencing Kit (SQK-PSK004)
- PCR Barcoding Kit (SQK-PBK004)
- Field Sequencing Kit (SQK-LRK001)

FLO-MIN107 flow cells can be used with 1D² chemistry:

- 1D² Sequencing Kit (SQK-LSK308)

FLO-MIN107 can also be run with all 1D chemistry, however, FLO-MIN106D is the recommended default for this.

Software

Basecalling:

- MinKNOW
- Guppy

Basecalled reads are available as .fast5 and FASTQ files.

Downstream analysis:

- EPI2ME
- Oxford Nanopore-developed tools and pipelines
- Customer-developed tools and pipelines