

# PromethION<sub>48</sub>

Quick start guide

# Welcome

**Here's everything you need to install your PromethION 48 and to check the system is ready for use.**

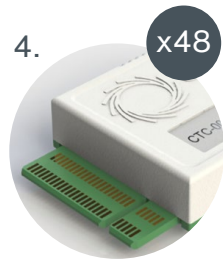
Just follow the steps on the following pages in order to:

- Set up the PromethION 48
- Power on the device
- Run the hardware check

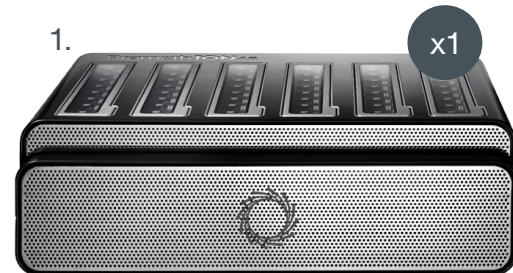
# Your PromethION 48

## What's in the box:

1. PromethION 48 Sequencing Unit
2. PromethION 48 Data Acquisition Unit
3. Country-specific C13 cables
4. 48x Configuration Test Cells (CTCs)
5. 3x PCIe cables
6. 3x USB A - Mini USB cable
7. 1x USB A - USB B cable



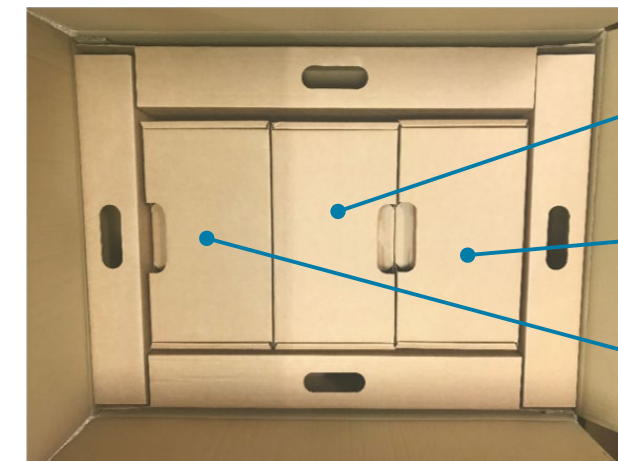
Store CTCs at room temperature and not in your Sequencing Unit.



# Your PromethION 48: How it's packaged



- PCIe cables
- PromethION 48 Data Acquisition Unit
- C13 cables



- PromethION 48 Sequencing Unit (below)
- Configuration Test Cells
- USB cables and C13 cables

# Pre-installation

Before installing the device, the following should be available:

- SFP+ modules and cabling for 2x 10 Gbps fibre OR cabling for 2x 10 Gbps Copper
- A single Copper cable for hardware check
- Fibre OR Copper ports providing:
  - IP address through DHCP
  - Outbound-only access to the internet over ports 80 and 443
- 1x Monitor (VGA compatible)
- 1x VGA cable
- 1x USB connected keyboard
- 1x USB connected mouse
- 3x Power supplies/wall sockets
- Optional: UPS solution with C14 cables

# Installation advice

Recommended laboratory location:

- Place device on a well-supported, strong, clean bench
- Ensure data and power connectors are in close proximity
- Ensure power sockets are easily accessible should a disconnection be required in case of emergency
- Sequencing should be carried out at a room temperature of +18°C to +22°C
- Allow 30 cm clearance to rear and sides of device
- Do not cover any ventilation grills
- Warning** – rear of device heats up during operation

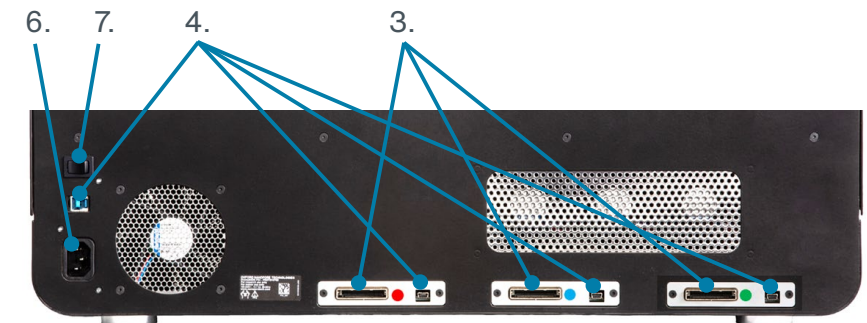
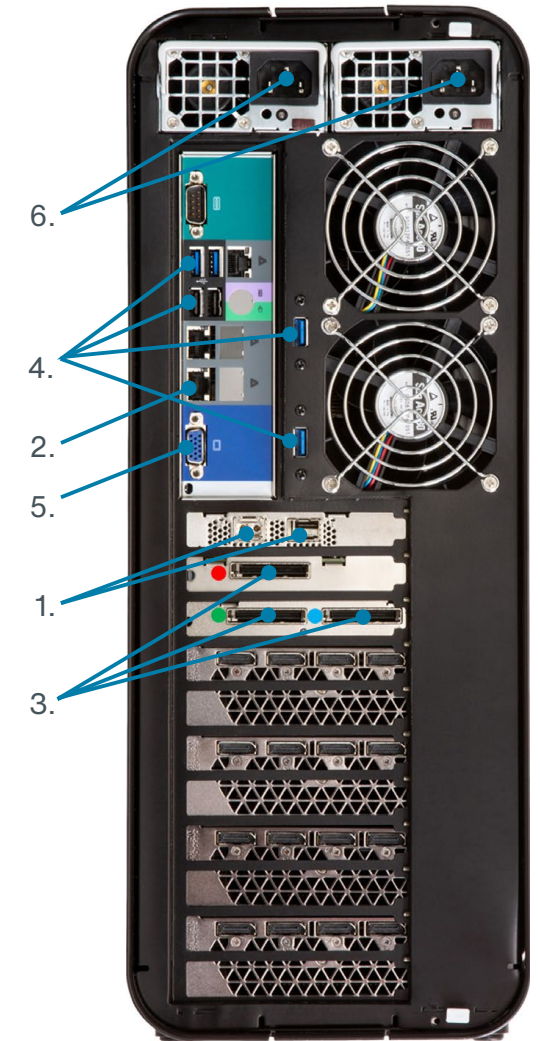


Recommend 2 person lift to better handle with care

# Device connections

Numbers correspond to the step in which that connection is used.

1. Fibre module cages
2. Ethernet ports
3. PCIe cable ports
4. USB ports
5. VGA port
6. Power sockets
7. Power on/off



# Setting up your PromethION 48



**1 Unpack the device**  
Place the Sequencing Unit on the bench where it will be run and the Data Acquisition Unit within 2 metres of the Sequencing Unit



**2 Optional: Insert SFP+ modules**  
If the fibre optic cables are to be used, then you must insert your chosen SFP+ modules into the ports on the rear of the Data Acquisition Unit



**3 Connect data cabling**  
For the hardware test, a single copper cable should be used and connected to a port with a DHCP service running. A full network configuration will be completed later



**4 Connect PCIe cables**  
Connect the PCIe cables to the rear of the Sequencing Unit and the rear of the Data Acquisition Unit. Note the port-to-cable colour requirement on both units



**5 Connect USB cables**  
Connect:  
- 2x USB A – Mini USB  
- 1x USB A – USB B  
From the Data Acquisition Unit to the Sequencing Unit



**6 Connect peripherals**  
Plug in:  
- Monitor VGA cable  
- USB Keyboard  
- USB Mouse

# Powering on your PromethION 48



**7 Power supply**  
Insert two of the supplied C13 cables into the top of the Data Acquisition Unit, and the third into the Sequencing Unit. Connect all of the cables to the mains power supply



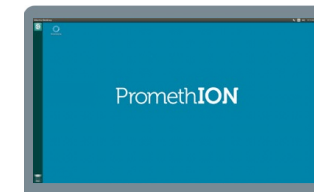
**8 Power on**  
Turn on:  
a) Mains power  
b) Sequencing Unit  
c) Data Acquisition Unit



# Logging on



**9 Booting**  
A loud fan will sound from the Data Acquisition Unit but will quieten after ~5 s. After ~2-5 minutes a login screen will appear, preceded by a blank screen and multiple loading screens

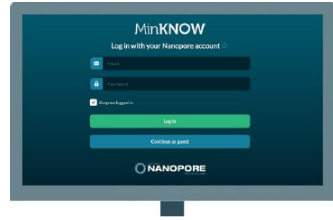


**10 Login**  
Enter the password **prom** and log in. **This password must be changed later and instructions for doing this are included below.** The desktop will load and display the MinKNOW™ icon

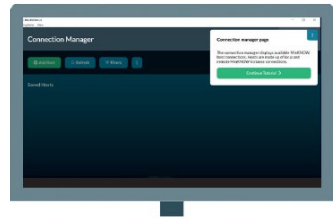


**11 Load software**  
Double click the **MinKNOW** icon to load the MinKNOW software. You will see an initialisation screen followed by the Graphical User Interface (GUI)

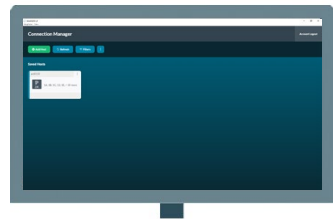
## Log in screen



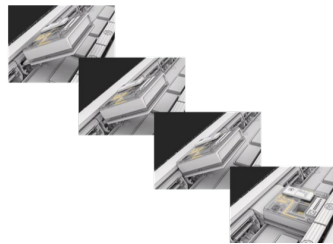
- 12 Log in screen**  
At the MinKNOW login screen, enter your Nanopore account and **Log in**



- 13 Tutorials**  
A pop-up will appear on the screen. Please click **Continue Tutorial** to understand how to use the GUI, then continue to step 14

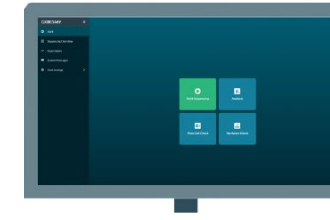


- 14 Connection Manager**  
The software will load the Connection Manager screen. Click **My Device** to load the features of the software

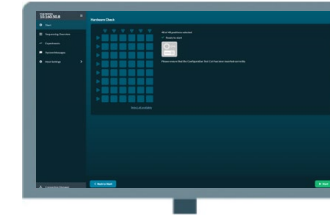


- 15 Inserting the CTCs into the PromethION 48**  
Open the doors on top of the Sequencing Unit and load the CTCs into all 48 flow cell positions covering all three strips. **Shut the doors once all 48 CTCs are loaded.** The LED adjacent to the flow cell will first show blue (initialising), followed by green (ready)

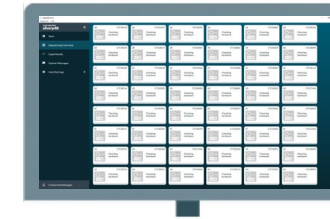
## Starting the hardware check



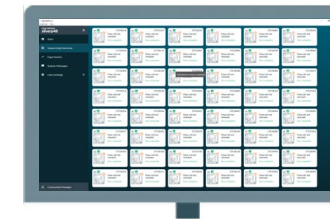
- 16 Start**  
Go to **Start** in the side panel, then click **Hardware Check** to enter the Hardware check screen



- 17 Starting the hardware check**  
The CTC icon will be shown in the GUI as the CTCs will be inserted into the Sequencing Unit. Select all of the flow cell positions. Click **Start** in the bottom right corner of the screen to initiate a hardware check



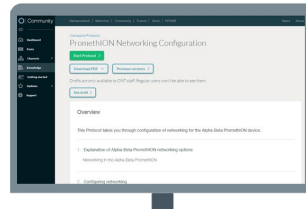
- 18 Progressing the hardware check**  
The hardware check will begin. The **Sequencing overview** screen will then be shown by MinKNOW where the hardware check can be monitored. The hardware check will take approximately 1-2 minutes



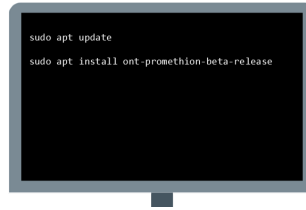
- 19 Completing the hardware check**  
The flow cell icon will display **Run complete** once the device has passed the hardware check

**Note:** Consult **Help and shortcuts** in this guide if your hardware check fails. Do not store the CTCs in the Sequencing Unit after a hardware check. See 'Your PromethION'.

## Updating the network settings, MinKNOW, and password



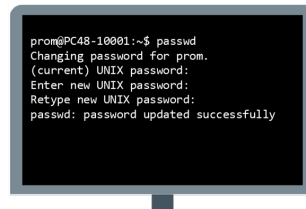
- 20 Network configuration**  
See the product documentation in the Nanopore Community for the **PromethION installation and configuration** protocol to configure the PromethION network settings



- 21 Updating the system**  
Check for an update to the latest software release after configuring your PromethION network settings. This can be completed by entering:

```
sudo apt update  
sudo apt install ont-promethionbeta-release
```

into the terminal. The default sudo password is **prom**, however this should be changed at the earliest opportunity

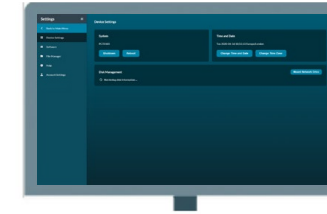


- 22 Changing the default password**  
Your PromethION password should be changed as soon as possible and in line with your local IT guidance. This can be achieved by typing:

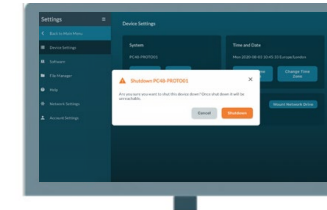
```
passwd
```

into the terminal. Press **Enter** before following the on-screen prompts. **Please take note of your new password** as this will be required to log in to your device and for running with sudo privileges required for e.g. Oxford Nanopore Technologies' software updates

## Powering off your PromethION 48



- 23 Device settings options**  
Navigate to the **Device settings** via the **Host settings** option in the side panel of landing page

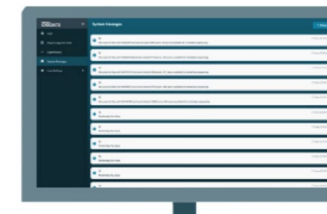


- 24 Shutdown the PromethION 48**  
Select **Shutdown** under **System** on the **Device settings** screen to power off your device



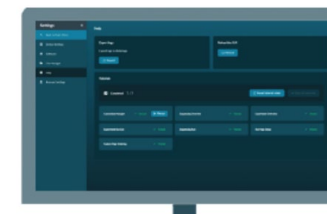
- 25 Power off your Sequencing Unit**  
Power down the Sequencing Unit using the switch on the back of the device

## Help and support



### System messages

The System Messages panel informs the user of the actions that are being carried out by MinKNOW. The panel also provides simple process history messages that maybe useful during use of the device (e.g. after a hardware check)



### Help

The tutorials mentioned earlier in this *PromethION 48 Quick start guide* lead the user through the GUI

The tutorials can be repeated if you **Recap** or by **Resetting tutorial state** for new users of the GUI

## Additional information

### Cleaning the PromethION 48

Absorb any excess liquid and clean the device with an IPA wipe.

Dispose of any cleaning materials in a biohazard (yellow) bin.



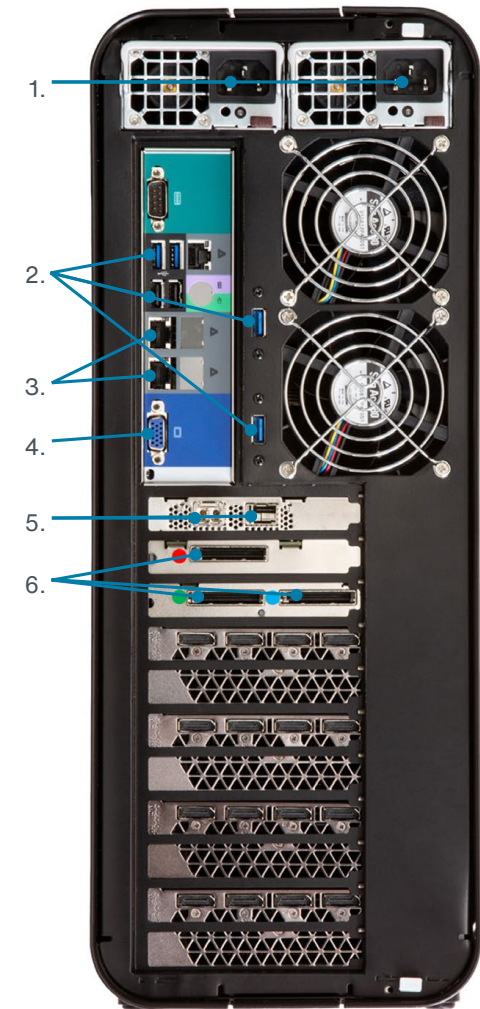
### Device updates and support

Ongoing updates and support for your PromethION 48 device are available in the Nano ore Communit .

**Research Use Only**

## Connections for installation

1. Power sockets
2. USB ports
3. Ethernet ports
4. VGA port
5. Fibre module cages
6. PCIe cable ports



USB B port



Power socket

Mini USB Port

PCIe cable ports



# Technical specification

## Sequencing Unit

Component	Specification
Size	H 190 x W 590 x D 430 mm
Weight	28 kg
Power	1x for Sequencing Unit C13 cable included with device Max power draw of 1200 W
Sequencing specification	48 sequencing positions designed to accept flow cells
Thermal management	Designed to sequence at a controlled room temperature of +18°C to +22°C* Users should allow 30 cm clearance to the rear and sides of the device WARNING: Rear of instrument heats up during operation

\*Functional range of electronics is -5°C to +40°C for ambient temperatures

## Data Acquisition Unit

Component	Specification
Size	H 440 x W 178 x D 470 mm
Weight	25 kg
Power	2x for Data Acquisition Unit C13 cables included with device Max power draw of 2000 W
Compute specification	60 TB SSD Storage, 384 GB RAM Intel CPU 4x Nvidia GV100
Pre-loaded software	Ubuntu OS, PromethION OS, MinKNOW
Thermal management	Designed to sequence at a controlled room temperature of +18°C to +22°C* Users should allow 30 cm clearance to the rear and sides of the device WARNING: Rear of instrument heats up during operation

\*Functional range of electronics is -5°C to +40°C for ambient temperatures

## Electrical information

Supply voltage	100-240 VAC (50/60 Hz)
Maximum power	1200 W
Maximum current	15-7.5 A

## Data Acquisition Unit

Supply voltage	100-240 VAC (50/60 Hz)
Maximum power	2000 W
Maximum current	12-11 A (220-240 V - 2200 W)
Maximum current	14-11 A (100-127 V - 1200 W)

OXFORD NANOPORE TECHNOLOGIES  
 PromethION P48 - PRO-SEQ48  
 For research use only  
 For indoor use only  
 100-240V~, 15-7.5A, 50-60Hz  
 www.nanoporetech.com



P48\_001

PROPERTY OF  
 Oxford  
**NANOPORE**  
 technologies  
 www.nanoporetech.com




XXXXXX

PROPERTY OF  
 Oxford  
**NANOPORE**  
 technologies  
 www.nanoporetech.com



XXXXXX

OXFORD NANOPORE TECHNOLOGIES  
 PromethION P48 - PRO-PRC048  
 For research use only  
 For indoor use only  
 100 - 240V~, 12-11A, 50-60Hz  
 100 - 240V~, 14-11A, 50-60Hz



Manufactured by:  
 BIOS IT  
 www.bios-it.co.uk

PC48A000

**Product Code:** FLO-PRO002  
**Description:** PromethION Flow Cell

**LOT** xxxxxxxx **SN** B005000001

**Storage:**  
 Store at 2°C - 8°C  
 DO NOT FREEZE

(ONT-08-00523-05-1)

