iWireRL ROAM Wireless Biopotential System with Replaceable Leads

Expand your TA or RA system with wireless recordings. The iWire ROAM Wireless is a wearable system designed to provide long-term recording and unrestricted movement. The system comes with a choice of four replaceable electrode lead options. The protective case doubles as a charging station. The system works with iWorx Recorders with an iWire interface. Data can be quickly analyzed with the included LabScribe analysis software or exported directly for other processing. The ROAM Wireless devices allow for hours of continuous recording with an untethered reach of 20 feet.

Equipment

The list below indicates all the products included. If you find any missing items please notify iWorx Systems as soon as possible.

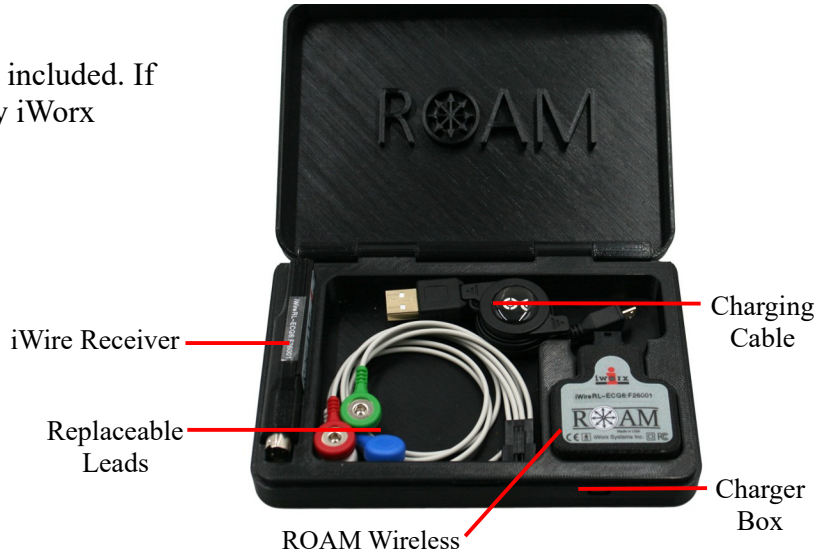
Roam Wireless Peripheral

Charger Box

iWire Receiver Dongle

USB Charging Cable

Replaceable electrode leads:
Snap, Needle, Button, or Silver Cup



Specifications

Device	Channels
iWireRL-ECGR	1 Respiration Channel 1 ECG Channel
iWireRL-B1A	1 ECG/EMG Channel 3 Axis Accelerometer
iWireRL-ECG6	6 Lead ECG
iWireRL-B2A	2 ECG/EMG Channels 3 Axis Accelerometer

iWireRL ROAM Wireless

Devices

iWireRL-ECGR

- Connection: 3-Pin
- Channel 1
  - Positive (red)
  - Ground (green)
  - Negative (white)

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iWireRL-B1A

- Connection: 3-Pin
- Channel 1
  - Positive (red)
  - Ground (green)
  - Negative (white)

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iWireRL-ECG6

- Connection: 4-Pin
- Einthoven's Triangle
  - LA (blue)
  - LL (red)
  - RL (green)
  - RA (white)

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iWireRL ROAM Wireless

iWireRL-B2A

- Connection: 5-Pin

- Channel 1
  - Negative (blue)
  - Positive (yellow)
  - Common ground (green)

- Channel 2
  - Negative (white)
  - Positive (red)
  - Common ground (green)

Specifications

Battery capacity	110 mAhr
Battery life	> 8hrs
Charging case power requirements	Provided USB cable to computer
Range	Up to 20 ft
Sampling Speed	5k samples per sec. aggregate
Resolution	< 6 µV
Weight	16.8g
Dimensions	44.2mm x 42.7mm
Protection against electric shock (IEC 60601-1)	Charging Case – Class II, continuous operation ROAM peripheral – Internally powered, continuous operation, type BF applied part

Charging the Device

1. The ROAM case is designed to charge the device. Be sure that the ROAM Wireless device (the part with the iWorx logo and serial number) is secure in the case.
2. Take the provided charger cable and connect one end to the USB port of your computer.
3. Connect the other side of the charger cable to the port located on the front of the case.
4. If done correctly, a light will illuminate on the ROAM Wireless device. A red light indicates that the unit is charging. A green light indicates a full battery. It takes approximately two hours for complete charging.
5. Please charge the device before each use. In storage, the device goes to sleep to conserve energy, but it is still using power to monitor the accelerometer, so that it can be woken up when needed.

iWireRL ROAM Wireless

Device Set Up

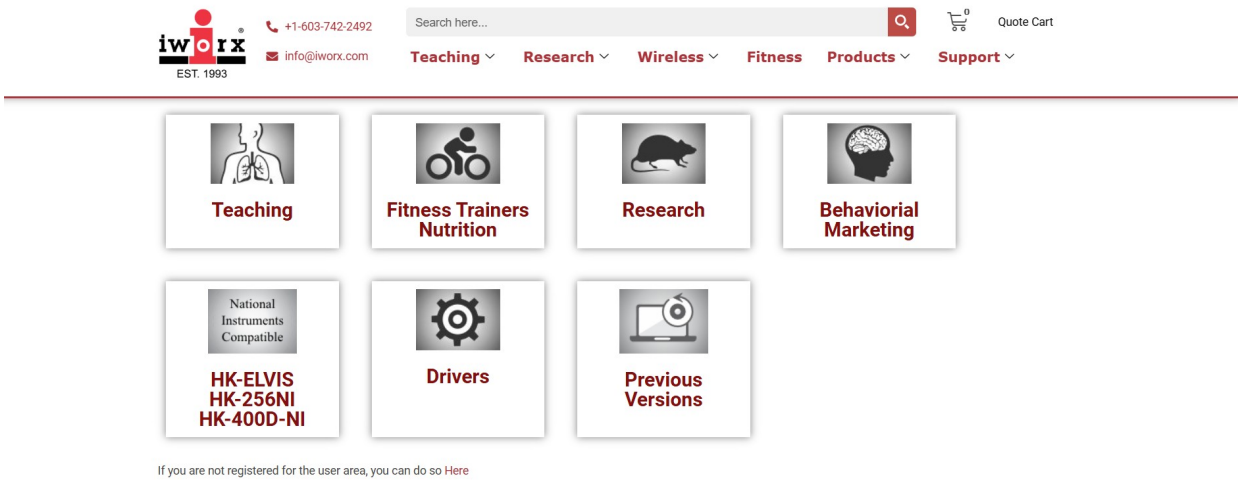
1. Remove the ROAM Wireless device from the charging box.
2. Snap the replaceable leads into the pin connections on the ROAM, as shown in the example below. The pin configuration on the ROAM align directly with the pin configuration on the replaceable leads. To detach the replaceable leads, press down on the release clasp located on the top of the lead housing and pull straight outward. The image below shows the silver cup electrodes (C-SM4-SC) attached to the IXRL-ECG6.

3. Plug the iWire receiver dongle into the iWire port on your data recorder.
    - The LED on the receiver will blink green while it looks for the transmitter. Once the transmitter is found, the light will stay solid green to show that the connection has been made. Move the ROAM device transmitter or tap the transmitter if receiver dongle doesn't convert to solid green light.

Registration and Software Installation

Downloading Software

1. The equipment comes with a Temporary User Name and Password, so that you can immediately get started with your system by downloading and installing the software. It is strongly encouraged that you register as a User on the iworx.com website with your own UN (user name) and PW (password).
2. Go to iworx.com – click on the "Support" tab, then "Registration" all the way to the left under "User Area".
3. Complete the registration form making sure to enter information in all the required fields.
4. You will receive an email from iWorx when your registration is complete, which may take up to 24 hours. Until then use the temporary username and password.
5. Log on as an iWorx user on the website and download LabScribe Software.
   a. Go to www.iworx.com – then click the "Support" tab from the top menu selections.
   b. Click "Software Download" and enter your username and password.
   c. Click "Research".



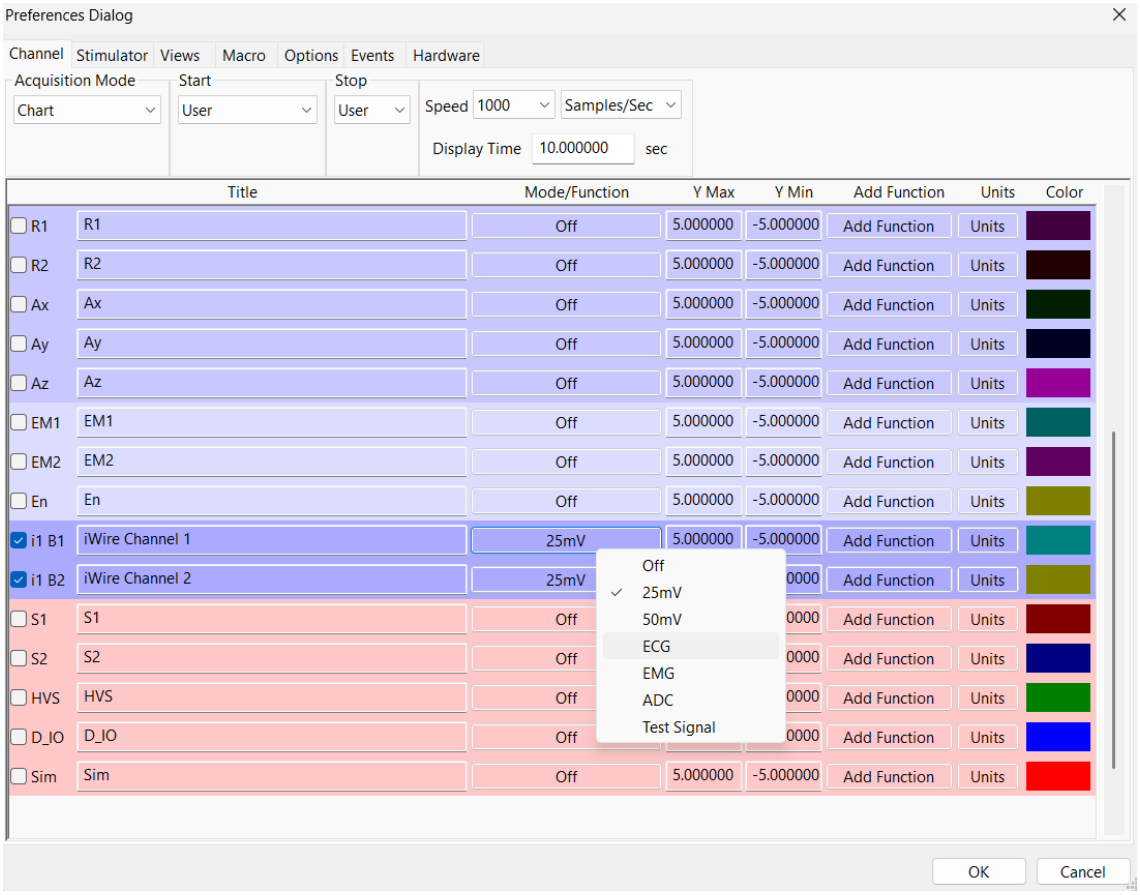
   d. Select the correct "Complete Installer" for your operating system.
   e. Follow the directions for saving to your hard drive. **Double-click** for saving directly to your computer; **right-click** to save to another location.
   f. For Mac Users, download the "Package" and follow the prompts to install.

**You need Administrative Access to your lab computers to install the software. If you do not have Administrative Access, please contact your IT department.

Note for IT Depts. doing the installation: Users must be able to save to the local drive. They will need permissions to write to C:\Users\USERNAME\AppData\Local\LabScribe

Enabling Recording Channels

1. Once installed you should see a LabScribe shortcut on your desktop.
2. Click the shortcut and open LabScribe.
3. To enable the recording channels on the iWire-ROAM device, go to Edit – Preferences and click the blue check mark to the left of the channel titles. The iWire 1 Channels are labeled beginning with i1. The number of channels will depend on the device type you have. The sampling speed can be set at the top. A sampling rate of 1000 samples/sec is recommended for ECG/EMG recordings.



4. The settings file can be saved as an .iwxset file for future experiments. Multiple settings files can be created and saved for future use.

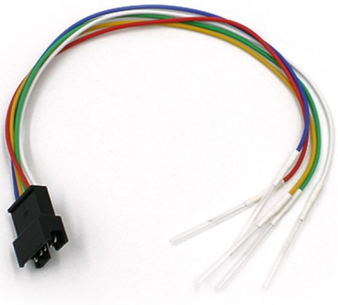
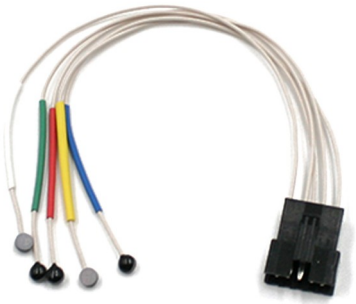
General Safety Tips for using the peripheral

WARNING: Do not attempt to service. Any repair will be made by iWorx Systems, Inc.
Do not use if there are any signs of damage.
Do not touch the charging base and the subject simultaneously.
Only use provided charging cable with a computer.

Learning to use Labscribe

Various tutorial videos for using LabScribe are available on the iWorx website, ***at*** ***https://www.iworx.com/tutorials***

Electrode Options

Picture	Electrode Type
	Snap Leads To consumable silver-silver chloride sticky electrode (see Consumables section below).
	Needle Electrodes
	Button Electrodes
	Silver Cup

Consumables

The silver-silver chloride electrodes are the part of the instrument that is in contact with the skin by making electrical contact between the skin and the sensor. Silver-silver chloride electrodes are the best electrodes for recording EMG signals. The electrodes are disposable and should be replaced after each use.

iWorx offers three types of silver-silver chloride electrodes differing based on the width of the adhesive material and position of the electrode in it.

Picture	Description (click part number to go to website)
	A-GC-7165 Foam solid gel electrodes 50 x 54 mm 150 per package
	A-GC-7165P Pediatric foam solid gel electrodes 30 mm 150 per package
	A-ELEC-E-x Foam solid gel electrodes 35 / 53 mm Latex and PVC free Diaphoretic / Hypoallergenic

Proper skin preparation is important to get a good signal and avoid artifacts.

- Before applying electrodes, make sure the skin surface is clean and dry:
- Abrade the skin with an abrasive cream, such as NuPrep, to remove dead skin.
- Alternatively, you can also clean skin with an alcohol wipe and let it dry, but this is not as efficient as the abrasive cream.

Tip: It is easier to connect the electrodes to the snap cable before placing the electrode on the subject.

Warranty Information:

No modification of this equipment is allowed. The unit contains no customer serviceable parts. If a problem occurs, contact your iWorx representative. Repair, if required, will be completed at iWorx Systems, Inc. The unit is protected by a 3-year warranty, and if the product is opened by any one other than iWorx personnel the warranty will be void.

Cleaning

The ROAM unit may be wiped down with a dry lint free cloth.
*If using the EEG system the headband may be cleaned with an alcohol wipe.

Intended Usage

iWorx Systems Inc. instruments, components, and accessories are designed for educational and research oriented life science applications and investigations. iWorx Systems Inc. does not condone the use of its instruments for clinical medical applications. Instruments, components, and accessories provided by iWorx Systems Inc. are not intended for the diagnosis, cure, mitigation, treatment, or prevention of disease.

Furthermore, the unit is intended for research and teaching applications. The fact the this product is IEC 60601-1 compliant in no way means that it is to be used for medical purposes. It was tested to the 60601-1 standard because it's a more rigorous form of testing.

Intended Environment:

The unit should only be used in a classroom or laboratory setting.

Storage Conditions:

- Temperature – 0°C to 40°C
- Humidity – 0 to 70%

Operating Conditions:

- Temperature – 10°C to 30°C.
- Humidity – 0 to 60%

Disposal:

The user has two options, either send it back to the manufacturer or send to a recycling center.

Explanation of Symbols:

Class II Electrical Equipment
Additional safety measures against electric shock have been implemented.

Type BF Applied Part
Input connectors are suitable for connection to humans provided there is no direct electrical connection to the heart and provides additional protection against electric shock.

CE Mark
The equipment meets the appropriate EU directives.

Company Information:

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iWorx Systems, Inc.
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Dover, NH 03820

Phone: (800) 234-1757
Fax: (603) 742-2455
Website: www.iWorx.com

Supplier's Declaration of Conformity for FCC

47 CFR § 2.1077 Compliance Information

Unique Identifier: IXRL-ECGR, IXRL-B1A, IXRL-ECG6, IXRL-B2A, iWireRL-ECGR, iWireRL-B1A, iWireRL-ECG6, iWireRL-B2A,

Responsible Party – U.S. Contact Information

iWorx Systems Inc
62 Littleworth Road
Dover, NH 03820

Telephone number : +1-603-742-2492
Internet contact information : https://iworx.com

FCC Compliance Statement (e.g., products subject to Part 15)

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.