

TRACKER **FREEDOM**[®] INSTRUCTIONS FOR USE



Publication Information



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







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Graphic Symbol Definitions

Symbol		Meaning
	An ISO 7010-M002 symbol	Consult Instructions
	An ISO 15223 symbol	Keep dry, do not immerse in water or other liquids
IPXN	An IEC 60529 symbol	IPXN, N=0 no protection against ingress of water. N=1 protection against vertically falling water drops
		Information symbol
	An ISO 7000-0434A symbol	Caution
	An IEC 60417-5840 symbol	Indicates type of protection against electric shock: Type B applied part
	An IEC 60417-5140 symbol	Non-Ionizing radiation
	An ISO 15223 symbol	Warning: devices are non sterile
	FCC Logo	
	An IEC 60878 symbol	Indicating Degree of protection against electric shock: Class 2 Electrical equipment
	An ISO 15223 symbol	Indicating upper and lower temperature limits
	An ISO 15223 symbol	Indicating upper and lower humidity limits
	An ISO 15223 symbol	Indicating upper and lower atmospheric pressure limits
	“Conformité Européenne” (“European Conformity”)	Tracker Freedom products meet the provisions of the Council Directive 93/42/EEC
	An EN 980 symbol	Identifying the manufacturer
	An EN 980 symbol	Identifying the Authorized Representative for European Communities
	An IEC 60878 symbol	Signifying alternating current
	An IEC 60878 symbol	Signifying direct current
	An ISO 7010-P019 symbol	Signifying No Stepping on Surface

Warnings and Notifications





This manual covers installation and basic operation of the Tracker Freedom wireless interface. For software and device operation see the Tracker Version 5 user manuals: <https://guardian.jtechmedical.com/manuals#Tracker5>.

	Protection against ingress of liquids: Not protected against ingress of liquids. Keep Dry, Do not immerse in water or autoclave any portion of Tracker Freedom console, devices, transceivers, receiver, or accessories.
	Type of protection against electric shock: Type B applied part.
	Devices emit non-ionizing radiation.
	Warning: Devices are not sterile.
	Warning: Tracker Freedom devices should only be used by trained professionals.
	Warning: Step only on foot pedal. Do not step or place weight on any other part of the foot switch except the foot pedal. Doing so may break the device and expose the patient to electrical and cutting hazards.
	Contraindications Warning This device should not be used in the following circumstances: <ul style="list-style-type: none"> • On or near the eye • On or near bone fractures • On or near open wounds • On or near burned tissue • With patients suffering with severe osteoporosis • For any purpose other than indicated
	Warning: No modification of equipment is allowed. Do not open the console, device, transceiver or receiver housings. Opening of housings by anyone other than an authorized JTECH service representative may void your warranty. Changes, or modifications, not expressly approved by JTECH Medical could void the user's authority to operate the equipment.
	Warning: Use only a factory-supplied charger. Use of another charger may result in electrical shock or equipment damage.
	Warning: Tracker Freedom devices are not intended for use while attached to the charger. Never attempt to operate the device while it is connected to the charger as electrical shock or damage to the device may occur.
	Warning: Tracker Freedom devices have no user serviceable parts.
	Warning: This device is not suitable for use in the presence of flammable anesthetic mixture with air, or with oxygen or nitrous oxide
	Warning: Follow all directions as specified by the CaviWipe product being used. Allow devices to dry before use.
	Warning: Discontinue use of any product if skin irritation develops.
Waste Disposal	
	Warning: Tracker Freedom devices may contain NiMh batteries. Do not dispose of any Tracker Freedom device in fire.
	Disposal Instructions: Tracker Freedom Devices are not known to contain any hazardous materials. Consult your local waste management facility on proper disposal of solid waste. Recycling should be used where available.

	Notice: Tracker Freedom devices are precision medical devices and should be treated with care. Avoid dropping, banging, or other impacts to the devices.
	Notice: Use only within designated operating temperatures.
	Notice: Accessory Maximum Force Input applies to the accessory only, and does not apply to the accessory when attached to any device.
	Notice: Heart Rate Monitor Is Only Available in the USA

EMC Notice

The Tracker Freedom wireless system includes a variety of devices containing a built-in radio frequency transceiver that transmits to, and receives data from, the Tracker Freedom receiver attached to your computer. For more information on EMC see appendix “EMC Guidance” on page 43.

	WARNING: Medical Electrical Equipment needs special precautions regarding EMC and needs to be installed and put into service according to the EMC information provided in this manual. Carefully read the information contained in this section.
	WARNING: The use of portable and mobile RF equipment can affect the normal operation of medical electrical equipment.
	WARNING: Making any modifications or using any accessories not specifically approved by JTECH Medical may reduce immunity to electromagnetic interference or increase electromagnetic emissions.
	WARNING: The Tracker Freedom devices and receiver should not be used while stacked on, or adjacent to, other electrical or medical electrical equipment. If stacked or adjacent use is necessary, all electrical equipment should be observed to verify normal operation.

Wireless Information

The Tracker Freedom devices operate on a 902-928 MHz (US) or 868-869.3 MHz (EU) wireless frequency.

Contains FCC ID: SNU-8CB001

Contains Canada IC: 5478A-ACD001



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

Declaration of Conformity

Tracker Freedom devices are Class I medical devices per Annex IX of Council Directive 93/42/EEC and CFR Title 21 Part 888 Subpart B.

Tracker Freedom devices meet the following technical standards, to which conformity is declared:

ISO 9001:2008

ISO 13485:2003 with Canadian Medical Devices Conformity Assessment System (CMDCAS)

Safety and EMC requirements for medical electrical systems (based on the IEC 60601-1 and IEC 60601-1-2 standards)

CB Scheme Test Certificate has been issued for the Tracker Freedom System indicating conformity to IEC 60601-1 +Amd1+Amd2 2nd edition (Note: the Wireless Heart Rate Monitor and the Wireless Algometry Hand End-Test Switch are excluded from the CB Scheme Test Certificate)

JTECH Medical and its manufacturing facility are certified to the following technical standards.

ISO 9001:2008

ISO 13485:2003 with Canadian Medical Devices Conformity Assessment System (CMDCAS)

Intended Use and Indications for Use

The intended use of the Tracker Freedom family of products is to assist clinicians in obtaining patient information about physical strength and flexibility. The devices are intended to be used as non-invasive, non-surgical and transient devices.

Tracker Freedom System Setup

Initial Battery Charge

Performing the required initial charge for your new device batteries is essential before attempting to use them. After initial charging is complete, we recommend you contact JTECH Medical to complete the software installation and setup.



Warning: Tracker Freedom devices should not be used for testing while connected to the charger.

i Notice: The specified power supply is used to isolate the device from the mains supply during charging.



Warning: Use only a factory-supplied charger. Use of another charger may result in electrical shock or equipment damage.

i Notice: Device batteries must be fully charged before attempting to use them with your Tracker Freedom System. Each device must charge for at least six (6) continuous hours before its first use. Do not use more than one 4-Way Splitter with each power supply as it will affect the charge strength. Do not charge more than four (4) devices at a time.

Charging Device Batteries

1. Plug one battery charger 4-Way Splitter plug into the device charging jack. You can charge up to four devices at a time. Place the device on a flat surface or back in the case while it charges.
2. Plug the battery charger into a properly rated wall outlet. Batteries should be charged for six (6) continuous hours each time you charge.
3. Once an device is charged, disconnect it from the battery charger to avoid damage to the battery.
4. Charge all devices with your system before establishing communications with your computer.

i Notice: Be careful not to drop devices while connected to the charger as it may cause damage to the device.

Before using your Tracker Freedom system with Tracker software, additional software setup is required. Please consult your Software User Guide for specific software related setup instructions.

Detachable parts



Specified Power Supply (Battery Charger) (PW005) – The Specified Power Supply (Battery Charger) is used individually, or with the 4-Way Splitter, for charging your Tracker Freedom devices.



4-Way Splitter (8WR008) – The 4-Way Splitter is used to charge up to four (4) Tracker Freedom devices at once.



Wireless Receiver (9RF001)

Used to send and receive wireless transmissions to/from Tracker Freedom devices.

Install USB Drivers and Receiver

Your new wireless Tracker Freedom System requires installation of Tracker USB drivers for the receiver. Use the following procedure to install your Tracker receiver and necessary USB drivers on your computer.

i Note: Do not attempt to use your Tracker Freedom devices until all devices are completely charged. Device driver installation can be initiated either manually, or automatically. The Software that came with your system should prompt you automatically, if device drivers have not been installed; however, if this does not occur or you wish to install the drivers manually, follow these steps:

1. Insert the Software CD that came with your system into your computer's CD-ROM drive. Your computer should automatically initialize the Welcome Screen
(i Note: Newer computers may first display an "AutoPlay" menu for security purposes. Choose the option to "Run autorun.exe" to continue).
2. At the Welcome screen, select "Install Tracker Freedom Drivers."
3. The Tracker Freedom Driver Installation window will appear with instructions. Please note the instructions regarding any Windows notifications that may appear during the installation process. Click "Install" when you are ready to proceed.
4. If any messages appear asking to approve JTECH Medical device drivers, please choose "Install." For convenience, consider clicking "Always trust software from JTECH Medical Industries, Inc." This will prevent any future notifications of this kind.
5. After a few moments, a prompt will appear asking you to connect the Tracker Freedom Receiver to the computer. Using the provided USB extension cable, connect the Receiver to an available USB socket on your computer (**Please Note:** The Windows "Found New Hardware" process may be triggered when the USB Receiver is connected. Please cancel and disregard any messages relating to Windows automatic installation).
6. When the installation has been successfully completed, the status will be reflected on the Driver Installation screen. If error messages appear at this point, please contact JTECH Medical Customer Service for assistance.

For instructions on operating the Tracker software, please refer to the Tracker software manual

For instructions on performing specific tests, please refer to the multimedia help system in the Tracker software.

For troubleshooting information, please see page 22.

For technical specifications, please see page 27.

Detachable parts



USB Extension Cable (7WR001) – The USB Extension Cable is used to connect the USB Receiver to a USB port on your computer.

Device Operation

This section provides a basic overview on activating the wireless interface on Tracker Freedom devices. For information about testing and data collection with specific devices, see the Tracker Version 5 Software User Manual.

Low Power State

When not in use, Tracker Freedom devices remain in a "low power" state to conserve battery life. If not used, the device can remain in the low-power state for several days without needing a recharge. However, if the device has not been charged within 30 days, we recommend recharging the battery before use.

Device Activation

Before a Tracker Freedom device is used to collect data, it must be turned on.

1. To use a Tracker Freedom device, open a testing screen that uses the device, such as Inclination - Cervical Flexion/Extension, and the software signals the Receiver to look for the device.
2. Press the "On" button on the device and the device's green LED lights up to indicate the device is awake and ready to establish a communication.
3. Once a communication link is established between the device and receiver, the green LED starts flashing.
4. You can now begin collecting data with the device. See the Tracker Version 5 Software Manual for more information on testing and data collection.
5. When you close the testing screen, the device continues to send a signal so it can quickly reconnect with the receiver if you are performing a series of tests with the same device. If the device does not reconnect with the receiver in 30 seconds, it goes back to low-power mode and turns off the Green LED.

LED States	Explanation
Off	Low power state
Solid Green	Awake
Flashing Green	Communication with receiver is established
Amber, blinking off	Charging
Off, blinking Amber	Charging complete
Blinking Amber	Firmware upgrade
Amber blinks on once every two seconds	Low battery

For instructions on operating the Tracker software, please refer to the Tracker software manual.

For instructions on performing specific tests, please refer to the multimedia help system in the Tracker software.

For troubleshooting information, please see page 22.

For technical specifications, please see pages 27-37.



Wireless Foot Switch (9RF102)

Used for entering data, and moving to the next test.

Foot Switch Operation

The Tracker Freedom System may include a two-button foot switch - one button for "ENTER" and the other for "NEXT." The ENTER button functions primarily for entering neutral (or zero) and data points with the Inclometers, Goniometer and Algometry. The NEXT button is used to move from one testing screen to the next during an exam sequence.



Warning: Step only on foot pedal. Do not step or place weight on any other part of the foot switch except the foot pedal. Doing so may break the device and expose the patient to electrical and cutting hazards.

1. Push the "On" button to enable communication with the Tracker Freedom Receiver

For instructions on operating the Tracker software, please refer to the Tracker software manual.

For instructions on performing specific tests, please refer to the multimedia help system in the Tracker software.

For troubleshooting information, please see page 22.

For technical specifications, please see page 2.



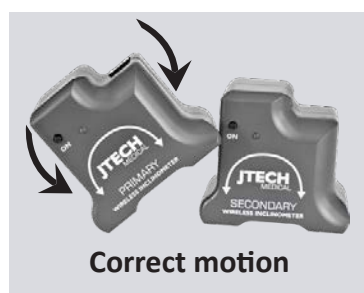
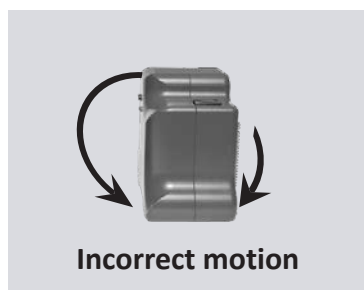
(9RF103)

(9RF104)

Wireless Dual Inclinerometers (9RF103, 9RF104)

Used to convey functional abilities concerning range of motion (ROM).

1. If using alignment rails accessory, attach the alignment rail to the Inclinerometer by setting the “Feet” of the Inclinerometer on top of an alignment rail. Repeat for other Inclinerometer. To remove the alignment rail, grasp the alignment rail and Inclinerometer in opposite hands and pull to separate.
2. If using VELCRO® straps, attach the VELCRO® strap to the subject and then attach the back of the Inclinerometer to the VELCRO® strap using a slight twisting motion. To remove the Inclinerometer from the VELCRO® strap, peel the Inclinerometer from the VELCRO® strap and then remove the strap from the subject.
3. Push the “On” button on the Inclinerometer to enable communication with the Tracker Freedom Receiver. If necessary, repeat this procedure for the other Inclinerometer.



For instructions on operating the Tracker software, please refer to the Tracker software manual.

For instructions on performing specific tests, please refer to the multimedia help system in the Tracker software.

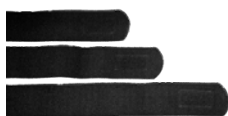
For troubleshooting information, please see page 22.

For technical specifications, please see page 29.

Accessories



Alignment Rails (8MH068) – The Alignment Rails magnetically attach to the Inclinerometers for easy visual confirmation of alignment.



VELCRO® Straps (AA026) – The VELCRO® straps can be used for dynamic range of motion inclinometry testing. Comes in a set with small, medium, and large straps.



Wireless Muscle Tester (9RF105)

Used to convey a subject's ability to resist force for a given muscle or muscle group.

1. Attach appropriate accessory to muscle tester by inserting the metal shaft on the accessory into the accessory receptacle on the Muscle Tester. Note: The Flat Pad, Curved Pad, or Algometry Tip must be used with the Muscle Tester.
2. Push the "On" button to enable communication with the Tracker Freedom Receiver.

For instructions on operating the Tracker software, please refer to the Tracker software manual.

For instructions on performing specific tests, please refer to the multimedia help system in the Tracker software.

For troubleshooting information, please see page 22.

For technical specifications, please see page 30.



Accessories



Flat Pad (8AC008) – The flat pad can be used for exerting force against flat items.



Curved Pad (8AC009) – The curved pad can be used for exerting force against items that are not completely flat.



Muscle Tester 1.0 cm² Algometer Tip (8MH047) – The Algometer Tip converts the muscle tester for algometry testing.



Muscle Tester Cradle (9AC001) – The Muscle Tester Cradle provides a stable platform to rest the muscle tester.

Wireless Grip (9RF106)

Used to convey functional abilities concerning grip strength.



1. Attach the positionable handle on the appropriate rung of the grip gauge by placing the Y-end on the chosen rung then rotating the C-end to the opposing rung and pushing the quick lock spring over the rung locking the handle in place.
2. Push the “On” button to enable communication with the Tracker Freedom Receiver.

For instructions on operating the Tracker software, please refer to the Tracker software manual.

For instructions on performing specific tests, please refer to the multimedia help system in the Tracker software.

For troubleshooting information, please see page 22.

For technical specifications, please see page 31.

Rung Positions



Accessories



Grip Cable (9AK103) – The Grip Cable is used for attaching weights to the grip.



Grip Stand (8MH234) – The Grip Stand holds the grip securely in a vertical position for testing on a table or desk.



Wireless Algometer (9RF107)

Used to convey pain response and pressure threshold.

1. Attach appropriate accessory to algometer by inserting the metal shaft on the accessory into the accessory receptacle on the algometer. **Note:** One of the Algometry Tips must be used with the Algometer.
2. Push the “On” button to enable communication with the Tracker Freedom Receiver

For instructions on operating the Tracker software, please refer to the Tracker software manual

For instructions on performing specific tests, please refer to the multimedia help system in the Tracker software.

For troubleshooting information, please see page 22.

For technical specifications, please see page 32.

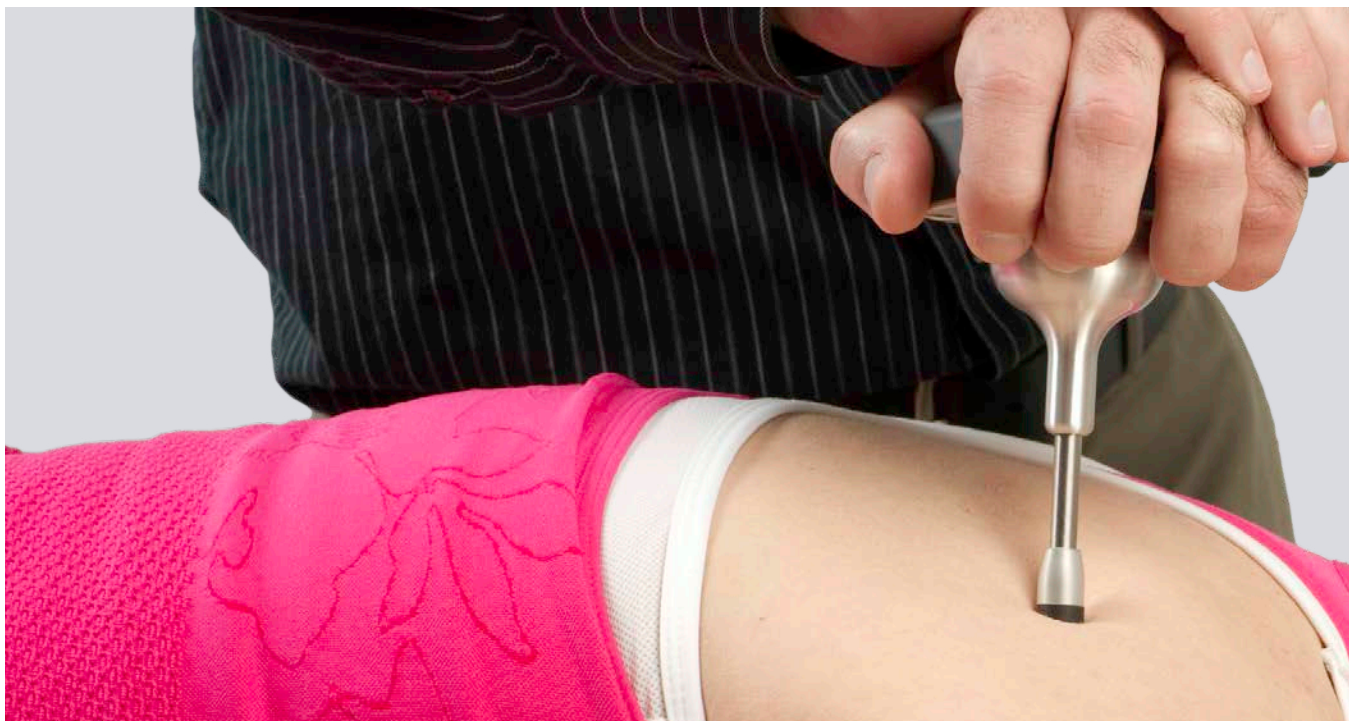
Accessories



0.5cm² Algometer Tip (8AC006) – The 0.5cm² Algometer Tip can be used for cervical testing.

1.0cm² Algometer Tip (8AC005) – The 1.0cm² Algometer Tip conforms to normative testing.

Finger Tip Adapter (8AC007) – The Finger Tip Adapter converts the Algometer for testing individual finger strength.



Wireless Algometry Hand End-Test Switch (9RF115)

Allows patients to end the test using the Enter button.

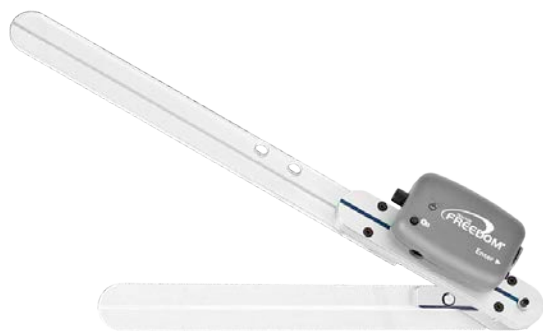
1. Turn on the Tracker Freedom Algometer.
2. Push the “On” button to enable communication.

For instructions on operating the Tracker software, please refer to the Tracker software manual.

For troubleshooting information, please see page 22.

For technical specifications, please see page 37.





Wireless Goniometer (9RF108)

Used to convey functional abilities concerning hand and extremity range of motion (ROM).

1. If necessary, attach the Goniometer extension arms by aligning the extension's metal pins or holes with the metal pins or holes on the Goniometer. Press straight down until the extension makes contact with the Goniometer arm.
2. If necessary to remove the extension arms grasp the extension arm near the metal pins and gently wiggle the extension as you pull it away from the goniometer arm. Do not bend, or twist the extension to disengage as the extension may break.
3. Push the "On" button to enable communication with the Tracker Freedom Receiver

For instructions on operating the Tracker software, please refer to the Tracker software manual

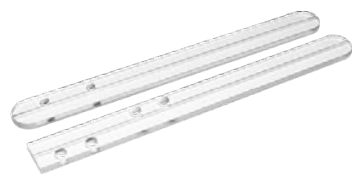
For instructions on performing specific tests, please refer to the multimedia help system in the Tracker software.

For troubleshooting information, please see page 22.

For technical specifications, please see page 33.



Detachable Parts



Goniometer Extension Arms (9AK113) - Aids in visual confirmation of alignment, or in aligning the Goniometer to extremities. Comes in a set of two (2) arms.

Wireless Static Force Gauge (9RF110A)

Used to convey functional abilities concerning static strength in a variety of applications such as lifting, pushing, or pulling, or to convey a subject's ability to resist force for a given muscle or muscle group.



1. Attach appropriate accessory to Static Force Gauge by threading the metal shaft on the accessory into the accessory attachment receptacle or force input receptacle on the Static Force Gauge.
2. Push the "On" button to enable communication with the Tracker Freedom Receiver. For instructions on operating the Tracker software, please refer to the Tracker software manual.

For instructions on performing specific tests, please refer to the multimedia help system in the Tracker software.

For troubleshooting information, please see page 22.

For technical specifications, please see page 35.

Accessories



T-Bar (AC012) – The T-Bar is essential for doing lifting or pulling tests that require the use of two hands. Attaches to the Accessory Attachment receptacle.



D-Handle (9AC003)– The D-Handle is the perfect choice for doing one-hand lifts or pulls. Attaches to the Accessory Attachment receptacle.



Hook w/Stud (741) – The hook attachment allows you to use virtually any item for lifting or pulling tests. Attaches to the Force Input receptacle.



4" Push Disk (9AC004) – The 4" Push Disk can be used for exerting force against flat items. The Push Disk offers more surface area for pushing activities.



Threaded Pad Adapter (8MH097) – Adapts the threaded Force Input receptacle to allow the metal shafts on the flat or curved pads to be inserted into the Static Force Gauge.



Flat Pad (8AC008)– The flat pad can be used for exerting force against flat items, or muscle testing. Attaches to the Threaded Pad Adapter.



Curved Pad (8AC009)– The curved pad can be used for exerting force against items that are not completely flat, or muscle testing. Attaches to the Threaded Pad Adapter.



12" Cable (9AC007)– The cable can be used for different lifting, pushing or pulling, or static strength tests.



Optional V-Slot (745) – The V-Slot makes it easy to exert force against the corner of walls or other structures for doing push tests. Attaches to the Force input receptacle.



Optional 16" T-Bar (AC014) – The Long T-Bar allows for wider placement between hands when performing lifting or pulling tests. Attaches to the Accessory Attachment receptacle.

SFG Accessory Technical Specifications and Warnings

	Dimensions (l x w x d)	12.375 x 1.25 in.
	Weight	0.81 lb.
	Maximum Force Input	500 lbf*
	Material Type	Rubber Grip: Vinyl, Handle: Aluminum
	Dimensions (l x w x d)	5.25 x 4.8125 x 1.0625 in.
	Weight	0.60 lb.
	Maximum Force Input	500 lbf*
	Material Type	Rubber Grip: Vinyl, Handle: Aluminum
	Dimensions (l x w)	3 x 1 in.
	Weight	0.09 lb.
	Maximum Force Input	500 lbf*
	Material Type	Stainless Steel
	Dimensions (l x w)	0.82 x 0.63 in.
	Weight	0.02 lb.
	Maximum Force Input	500 lbf*
	Material Type	Stainless Steel
	Dimensions (l x w)	1.4375 x 2.25 in.
	Weight	0.15 lb.
	Maximum Force Input	500 lbf*
	Material Type	Rubber Pad: Silicone, Shaft: Stainless Steel
	Dimensions (l x w)	1.625 x 2.25 in.
	Weight	0.15 lb.
	Maximum Force Input	500 lbf*
	Material Type	Rubber Pad: Silicone Shaft: Stainless Steel
	Dimensions (l x w)	1.70 x 4 in.
	Weight	0.40 lb.
	Maximum Force Input	500 lbf*
	Material Type	Rubber Pad: Neoprene Metal Disc: Aluminum
4" Push Disk is not for use on skin. Intended use is to press against inanimate objects.		
	Dimensions (l x d)	12 x 0.1875 in.
	Weight	0.08 lb.
	Maximum Force Input	500 lbf*
	Material Type	Vinyl coated galvanized wire rope
	Dimensions (l x w)	1.13 x 1.25 in.
	Weight	0.14 lb.
	Maximum Force Input	500 lbf*
	Material Type	Nickel Plated Steel
	Dimensions (l x w x d)	24 x 1.25 in.
	Weight	1.5 lb.
	Maximum Force Input	500 lbf*
	Material Type	Rubber Grip: Vinyl, Handle: Aluminum

i*Notice: Accessory Maximum Force Input applies to the accessory only, and does not apply to the accessory when attached to any device.

⚠ Warning: Discontinue use of any product if skin irritation develops.

Wireless Pinch Gauge (9RF109)

Used to convey functional abilities concerning pinch strength.

1. Push the “On” button to enable communication with the Tracker Freedom Receiver



For instructions on operating the Tracker software, please refer to the Tracker software manual

For instructions on performing specific tests, please refer to the multimedia help system in the Tracker software.

For troubleshooting information, please see page 22.

For technical specifications, please see page 34.



Wireless Heart Rate Monitor* (9RF111)



Used to convey functional abilities concerning cardiovascular response during Functional Capacity Testing.

* ⓘ Heart rate monitor only available in the USA.

1. If necessary, attach the Tracker Freedom transmitter to the Polar Heart Rate monitor by sliding the transmitter over the strap.
2. Push the “On” button to enable communication with the Tracker Freedom Receiver

For instructions on operating the Tracker software, please refer to the Tracker software manual.

For instructions on performing specific tests, please refer to the multimedia help system in the Tracker software.

For troubleshooting information related to the Tracker Freedom transmitter, please see page 22.

For troubleshooting information related to the Polar T31 Heart Rate Strap, please Contact Polar’s Technical support. <http://www.polar.com/en/support>

For technical specifications, please see page 36



General Information

The following section is provided to help you with questions about your Tracker Freedom Wireless Functional Testing System.

What happens if I take the device out of range during a test?

If the device is transmitting to the receiver when it moves out of range (beyond 10 meters), communications for all active devices can be lost and the data cannot be retrieved. To re-establish communications, move the device back within the transmission range and restart the test.

Can my Tracker receiver pick up signals from other devices like cell phones?

Cell phones, cordless phones or other devices can potentially cause interference with your Tracker Freedom System. As a precaution, we recommend that you minimize their usage within the transmission range of your Tracker System. We have taken every precaution and tested to the highest standards to ensure accurate data transmission with your Tracker Freedom System. The main reason for linking your Tracker devices with your software is to reduce the potential for unintentional data transfer from other devices, including other Tracker Freedom systems operating in the area. We have also incorporated state-of-the-art methods, such as frequency hopping and electronic signatures, to reduce the possibility of miscommunication.

Is there any other type of interference I need to worry about?

As with any radio transmission, high-powered electromagnetic devices should be avoided. For example, you should not operate your system near microwave ovens or X-ray machines.

Can I block the signal during testing?

Unlike infrared systems, Tracker Freedom is not based on line of sight, so standing between the device and the receiver should not interfere with the signal, provided you are within the operational distance.

How do I know when the device's battery is low?

There is a "low battery" indicator within the software. It is displayed for each device within their respective test screens. A green indicator means the battery is fully charged, yellow means there is less than one hour left, and red indicates that less than 20 minutes of battery power remains. When the device is connected, it blink amber once every two seconds to indicate a low battery.

How long do devices continue to operate after the low power signal?

The amount of operational time for each device varies. The Primary and Secondary Inclinometers draw the most power, so their operational time is the shortest. Like a cell phone, the device uses more power when active and sending data than when in the low power state. Our recommendation is to place the device on the charger as quickly as possible after the low power signal comes on.

Can I use the device without fully charging it?

Yes. The device will function without a full charge, but the operational time will be significantly reduced. You should place the device back on the charger to completely charge the battery as soon as possible.

How long do the batteries take to charge?

The initial charge takes six continuous hours of charging to complete. The first charge is important as it can affect the amount of power the battery will hold. Subsequent charges should also be complete in six hours.

What happens if I leave the device on the charger too long?

We have designed special circuitry to protect the device's electronic components. The device automatically turns the charger off after six hours. As with any NiMH battery, leaving devices connected to the charger for extended periods (i.e. weeks) can reduce the overall life of the battery. Leaving devices connected over the weekend should not affect the batteries.

What happens if my device does not recharge?

Because of the sensitive electronics inside, Tracker devices are not designed for battery replacement in the field. If an device fails to hold a charge, contact JTECH Medical Customer Service.

What is the expected life of the Polar Heart Rate Strap?

The Polar T31 non-coded Heart Rate Strap has an expected life of approximately 18 to 24 months. The Strap should be replaced at that time. You can contact JTECH Medical Customer Service to order a replacement.

Do I have to buy replacement Polar Heart Rate Straps from JTECH Medical or can I buy it from any supplier?

The Polar T31 non-coded Heart Rate Strap can be purchased from any supplier, or you can contact JTECH Medical Customer Service to order a replacement Strap.

Is the Heart Rate Monitor a direct reading of a patient's heart rate?

To reduce interference and heart rate reading errors the heart rate displayed and recorded in the software is an average over six (6) seconds of the heart rate transmitted from the Polar T31 non-coded Heart Rate Strap and Transmitter.

More information and Frequently Asked Questions are available for your JTECH Medical software, or Tracker Freedom devices by visiting our support site at <http://help.jtechmedical.com>

Troubleshooting

Problem	Probable Cause	Possible Solution
The Windows “Found New Hardware” process is triggered when the USB Receiver is connected.		Please cancel and disregard any messages relating to Windows automatic installation, and install the drivers from the software welcome screen, using the Software CD that came with your system.
Cannot press the “On” button as there is a rubber piece around the button.	Packing material has not been removed.	Tracker Freedom devices are packaged with a small rubber circlet around the power button to prevent inadvertent power drain. Pull the circlet loose and discard.
The device’s “On” button has been pushed inside the device.	Unnecessary/Improper force applied to the On button.	Please contact JTECH Support for repair options.
Device does not appear to respond to the charger. The amber-colored LED does not light.	Bad Connection or Inoperable Battery.	Connect the device directly to the charger (without splitter) for 60 minutes to confirm the LED eventually lights. If the device does not respond, contact JTECH Customer Service for repair options.
The Enter button will no longer click when pressed.	Possible damaged switch.	Please contact JTECH Support for repair options.
Tracker Freedom status LED continues blinking green, but the device does not connect or respond.	Device entered a communications loop due to moving out of range of the Receiver.	Connect the device to the charger, wait 10 seconds and then disconnect.

Additional troubleshooting information can be found by visiting our support site at <http://help.jtechmedical.com>

Storage and Cleaning of Devices

i Notice: Tracker Freedom devices are precision medical devices and should be treated with care. Avoid dropping, banging, or other impacts to the devices. Use only within designated operating temperatures.

Storage

When Tracker Freedom devices are not in use, store them in the protective carrying case. The receiver can remain plugged into the computer.

1. Store in an area with a controlled temperature within the recommended temperature range.

Important Notice: Never store Tracker Freedom devices in an automobile, except when transporting them, regardless of the season.

2. If devices are stored for periods longer than 30 days, recharge batteries before using.

Cleaning, Disinfection, and Sterilization

Warning: Keep dry, do not immerse any part of any Tracker Freedom device, transceiver, receiver, or accessory in water or any other fluid.



Tracker Freedom devices and accessories are non-sterile devices and are not compatible with sterilization techniques, such as autoclave.

- Do not autoclave Tracker devices or accessories.
- Do not clean with solvents, disinfectant or abrasive materials.

Recommended Cleaning of Tracker Freedom Devices

- Wipe surfaces with a soft, dry cloth.

Recommended Cleaning of Tracker Freedom Receiver

- Use a soft, dry cloth to wipe the exterior of the Receiver.

Recommended Alternative Method for Cleaning Tracker Freedom Devices and Accessories

- Use CaviWipes disinfecting towelette to wipe the exterior of the device. Use only as directed. Follow all instructions and warnings on the CaviWipes packaging.



Warning: Follow all directions as specified by the CaviWipe product being used. Allow devices to dry before use.

Preventative Inspection

Tracker Freedom devices have no associated methods of preventative inspection.

Maintenance

Tracker Freedom devices are not user serviceable and do not include a service manual.

For any service including maintenance, repair, and calibration, contact JTECH Medical Customer Support. See “Contact Information” on page 26.

i Note: For information on recommended annual factory recalibration, contact JTECH Customer Service. See “Contact Information” on page 26.

Product Registration

Please register your Tracker Freedom System as soon as possible. Your registration ensures that you have easy access to JTECH Medical Customer Service and Support. Software registration is required to receive your site key, which is necessary to run the software.

To register your system, contact JTECH Medical Customer Service. See “Contact Information” on page 26.

Product Return Policy

- No software returns will be allowed after the seal on the software package is broken.
- New hardware may only be returned for credit within 15 days of receipt. No cash refunds will be issued.
- No returns of used or purchased demonstration inventory will be accepted.

Hardware items returned for credit within 15 days will be subject to a 20% restocking fee*, provided the items are in new condition and in the original packaging. If items require refurbishing or repair, the cost of service or repair will be deducted from the amount of credit. A Return Material Authorization (RMA) number must be obtained from JTECH Customer Service prior to returning any merchandise. When phoning or writing for an authorization number to return merchandise, please provide the Customer Service Department with:

1. Your name or customer number as it appears on the invoice or packing slip.
2. Your telephone number and person to contact.
3. Your P.O. number if applicable.
4. The part or catalog number(s) and description.
5. The reason for the return.

JTECH reserves the right to refuse or to return-collect any merchandise sent back without prior authorization from our Customer Service Department.

Authorized returns must be shipped to:

JTECH Medical
7633 S Main
Midvale, UT 84047
ATTN: RMA# (insert number)

When returning merchandise, please include a copy of your original invoice or packing slip to ensure prompt issuing of credit. Return the Tracker Freedom component (including all accessories) postage paid and insured to JTECH Medical.

i Notice: JTECH Medical is not responsible for loss or damage during shipping.

i Important Notice: JTECH will not accept any products without a JTECH issued RMA number.

* Restocking fee does not apply to government contracts.

Customer Support

JTECH Medical provides customer support for all products we sell.

You may register up to three individuals from your office to serve as eligible customer support contacts (this can be done anytime during your support agreement). The three contacts are registered for the life of your support agreement. Please note that support will only be available to the registered individuals from your office.

Support Policies

Hardware

Your hardware is shipped with a limited warranty (Please refer to warranty section on page 26). You will be charged for any hardware issues (repair, replacement, shipping, etc.) after the initial warranty time period.

You can buy extended warranties for your Tracker Freedom hardware.

Please contact JTECH Medical Customer Service for more information on JTECH Guardian Hardware Maintenance plans.

Software

Your three registered users are eligible to receive software support for twelve (12) months (six [6] months for Eval Express) from the date of purchase.

An extended software support plan may be purchased to provide you with unlimited assistance after your initial support period expires. Please contact JTECH Medical Customer Service for more information on JTECH Guardian Software Support Plans.

When Calling for Support

1. If your question deals with software usage, refer to the software user's guide first. The guide was written to acquaint you with the software. The guide explains how to use the program and how to interpret the data. Please read through this documentation carefully.
2. Refer to the Troubleshooting section in your documentation. Many software and hardware issues can be resolved by referring to the Troubleshooting section on page 22. Additional troubleshooting information can be found by visiting our support site at <http://help.jtechmedical.com>
3. If you are unable to solve your problem using the documentation, please have a registered support contact call JTECH Medical Customer Support. See "Contact Information" on page 26.

To receive more accurate and efficient support, you will need to provide the following information:

1. Name of clinic and support contact
2. Customer number
3. Date of purchase
4. Product name or type and Product serial number(s)
5. Software version
6. Computer specifications
7. Description of the problem

Repair Policy

i Important Notice: JTECH will not accept any products without a JTECH issued RMA number.



Warning: Tracker Freedom devices have no user serviceable parts.

JTECH reserves the right to refuse or to return-collect any merchandise sent for repair without prior authorization from our Customer Service Department. Please refer to the customer support section of this manual for requesting and RMA.

Authorized repairs must be shipped to:

JTECH Medical

7633 S Main

Midvale, UT 84047

ATTN: RMA# (insert number)

Return the Tracker component (including all accessories) postage paid and insured to JTECH Medical.

i Notice: JTECH Medical is not responsible for loss or damage during shipping.

Hardware Limited Warranty

Tracker Freedom Hardware is designed to perform reliably and provide long lasting service. Should the product fail to work properly within The designated warranty period, JTECH will, at its option, repair or replace the product with a new or reconditioned unit at no charge. Warranty begins at the date of purchase. New hardware includes a standard one year limited warranty.

In view of the varied conditions in which the equipment will be used, it is sold "as is" and JTECH's responsibility does not go beyond the terms set forth above. JTECH will not be responsible for medical expenses or any direct, incidental, or consequential damages arising from the use of this product.

THIS WARRANTY IS MADE EXPRESSLY IN LIEU OF ANY OTHER WARRANTY, EXPRESS OR IMPLIED, INCLUDING AN IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. UNDER NO CIRCUMSTANCES SHALL JTECH BE LIABLE FOR ANY DIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES. THE REMEDIES SET FORTH IN THIS WARRANTY SHALL BE THE ONLY REMEDIES AVAILABLE, EXCEPT AS SPECIFICALLY PROVIDED BY STATE LAW. NO PERSON HAS ANY AUTHORITY TO BIND JTECH TO ANY REPRESENTATION OR WARRANTY EXCEPT AS SPECIFICALLY SET FORTH HEREIN.

i NOTE: Tracker Version 5 Software is covered by a separate license and warranty agreement. See the software licensing and warranty agreement in the License section within the software or in the Tracker Version 5 Software User's Guide.

i For Government Use: Please refer to the software license and hardware warranty on the installation media you received.

Contact Information

Phone: (385) 695-5000

Toll-Free Phone: (800) 985-8324

Fax: (385) 695-5001

Email: info@jtechmedical.com

Website: www.jtechmedical.com

Chat online: chat.jtechmedical.com

Address:

7633 S Main

Midvale, UT 84047

United States of America

Technical Specifications



Wireless Receiver (9RF001)

Used to send and receive wireless transmissions to/from Tracker Freedom devices.

Technical Specifications

Dimensions	11.4 cm x 4.1 cm x 2 cm (4.5 in x 1.6 in x 0.8 in)
Weight	0.04 kg (0.08 lb)
Operating Temperature, Humidity, and Atmospheric Pressure	
Transportation and Storage Conditions	
Power Source	USB port (This device is not intended to make contact with the patient)
Input Power	5V , 0.5A
Type of Protection against electric shock	Not applicable (This device is not intended to make contact with the patient)
Degree of protection against electric shock	Not applicable (This device is not intended to make contact with the patient)
Protection against harmful ingress of water	IPX0 - ordinary equipment
Degree of Safety of Application in the presence of flammable mixtures	This device is not suitable for use in the presence of flammable anesthetic mixture with air, or with oxygen or nitrous oxide
This device contains:	FCC ID: SNU-8CB001 Canada IC: 5478A-8CD001
RF operating distance	10 meters (33 feet) from receiver, indoor environment
RF frequency	US: 902-928 MHz EU: 868-869.3 MHz
RF transmit power	1 mW (0 dBm)
Symbols	



Wireless Foot Switch (9RF102)

Used for entering data, and moving to the next test.

Technical Specifications

Dimensions	18.4 cm x 14 cm x 3.8 cm (7.25 in x 5.5 in x 1.5 in)
Weight	0.61 kg (1.34 lb)
Operating Temperature, Humidity, and Atmospheric Pressure	
Transportation and Storage Conditions	
Internal Power Source	Non-User serviceable, 1.2V NiMH secondary Cell, 750mAH
Input Power	5V , 0.5A
Recharge time	Six (6) continuous hours of charging following initial charge
Battery conservation	Devices transition to “low power” state when not in use
Specified Power Supply, (Battery Charger)	Powertek Model PMP15M-10-B6 JTECH PN: PW005
Type of Protection against electric shock	Internally powered equipment
Degree of protection against electric shock	Type B equipment
Protection against harmful ingress of water	IPX1 - Drip proof equipment
Degree of Safety of Application in the presence of flammable mixtures	This device is not suitable for use in the presence of flammable anesthetic mixture with air, or with oxygen or nitrous oxide
This device contains:	FCC ID: SNU-8CB001 Canada IC: 5478A-8CD001
RF operating distance	10 meters (33 feet) from receiver, indoor environment
RF frequency	US: 902-928 MHz EU: 868-869.3 MHz
RF transmit power	1 mW (0 dBm)
Symbols	



(9RF103)

(9RF104)

Wireless Dual Inclinometers (9RF103, 9RF104)

Used to convey functional abilities concerning range of motion (ROM).

Technical Specifications

Dimensions	6.6 cm x 7.1 cm x 4.6 cm (2.6 in x 2.8 in x 1.8 in)
Weight	0.14 kg (0.3 lb)
Operating Temperature, Humidity, and Atmospheric Pressure	
Transportation and Storage Conditions	
Internal Power Source	Non-User serviceable, 1.2V NiMH secondary Cell, 750mAH
Input Power	5V , 0.5A
Recharge time	Six (6) continuous hours of charging following initial charge
Battery conservation	Devices transition to “low power” state when not in use
Specified Power Supply, (Battery Charger)	Powertek Model PMP15M-10-B6 JTECH PN: PW005
Type of Protection against electric shock	Internally powered equipment
Degree of protection against electric shock	Type B equipment
Protection against harmful ingress of water	IPX0 - ordinary equipment
Degree of Safety of Application in the presence of flammable mixtures	This device is not suitable for use in the presence of flammable anesthetic mixture with air, or with oxygen or nitrous oxide
This device contains:	FCC ID: SNU-8CB001 Canada IC: 5478A-8CD001
RF operating distance	10 meters (33 feet) from receiver, indoor environment
RF frequency	US: 902-928 MHz EU: 868-869.3 MHz
RF transmit power	1 mW (0 dBm)
Symbols	



Wireless Muscle Tester (9RF105)

Used to convey a subject's ability to resist force for a given muscle or muscle group.

Technical Specifications

Dimensions	10.3 cm x 6.1 cm x 4.8 cm (4.05 in x 2.4 in x 1.9 in)
Weight	0.16 kg (0.36 lb)
Maximum Force Input	667 N (150 lbf)
Operating Temperature, Humidity, and Atmospheric Pressure	
Transportation and Storage Conditions	
Internal Power Source	Non-User serviceable, 1.2V NiMH secondary Cell, 750mAH
Input Power	5V , 0.5A
Recharge time	Six (6) continuous hours of charging following initial charge
Battery conservation	Devices transition to "low power" state when not in use
Specified Power Supply, (Battery Charger)	Powertek Model PMP15M-10-B6 JTECH PN: PW005
Type of Protection against electric shock	Internally powered equipment
Degree of protection against electric shock	Type B equipment
Protection against harmful ingress of water	IPX0 - ordinary equipment
Degree of Safety of Application in the presence of flammable mixtures	This device is not suitable for use in the presence of flammable anesthetic mixture with air, or with oxygen or nitrous oxide
This device contains:	FCC ID: SNU-8CB001 Canada IC: 5478A-8CD001
RF operating distance	10 meters (33 feet) from receiver, indoor environment
RF frequency	US: 902-928 MHz EU: 868-869.3 MHz
RF transmit power	1 mW (0 dBm)
Symbols	



Wireless Grip (9RF106)

Used to convey functional abilities concerning grip strength.

Technical Specifications

Dimensions	20.8 cm x 3.7 cm x 9.8 cm (8.2 in x 1.45 in x 3.85 in)
Weight	0.39 kg (0.86 lb)
Maximum Force Input	889 N (200 lbf)
Operating Temperature, Humidity, and Atmospheric Pressure	
Transportation and Storage Conditions	
Internal Power Source	Non-User serviceable, 1.2V NiMH secondary Cell, 750mAH
Input Power	5V 0.5A
Recharge time	Six (6) continuous hours of charging following initial charge
Battery conservation	Devices transition to “low power” state when not in use
Specified Power Supply, (Battery Charger)	Powertek Model PMP15M-10-B6 JTECH PN: PW005
Type of Protection against electric shock	Internally powered equipment
Degree of protection against electric shock	Type B equipment
Protection against harmful ingress of water	IPX0 - ordinary equipment
Degree of Safety of Application in the presence of flammable mixtures	This device is not suitable for use in the presence of flammable anesthetic mixture with air, or with oxygen or nitrous oxide
This device contains:	FCC ID: SNU-8CB001 Canada IC: 5478A-8CD001
RF operating distance	10 meters (33 feet) from receiver, indoor environment
RF frequency	US: 902-928 MHz EU: 868-869.3 MHz
RF transmit power	1 mW (0 dBm)
Symbols	

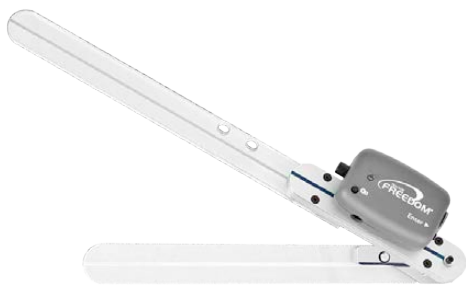


Wireless Algometer (9RF107)

Used to convey pain response and pressure threshold.

Technical Specifications

Dimensions	4.6 cm x 7.3 cm x 7.5 cm (1.8 in x 2.85 in x 2.95 in)
Weight	0.16 kg (0.36 lb)
Maximum Force Input	160 N (36 lbf)
Operating Temperature, Humidity, and Atmospheric Pressure	
Transportation and Storage Conditions	
Internal Power Source	Non-User serviceable, 1.2V NiMH secondary Cell, 750mAh
Input Power	5V 0.5A
Recharge time	Six (6) continuous hours of charging following initial charge
Battery conservation	Devices transition to “low power” state when not in use
Specified Power Supply, (Battery Charger)	Powertek Model PMP15M-10-B6 JTECH PN: PW005
Type of Protection against electric shock	Internally powered equipment
Degree of protection against electric shock	Type B equipment
Protection against harmful ingress of water	IPX0 - ordinary equipment
Degree of Safety of Application in the presence of flammable mixtures	This device is not suitable for use in the presence of flammable anesthetic mixture with air, or with oxygen or nitrous oxide
This device contains:	FCC ID: SNU-8CB001 Canada IC: 5478A-8CD001
RF operating distance	10 meters (33 feet) from receiver, indoor environment
RF frequency	US: 902-928 MHz EU: 868-869.3 MHz
RF transmit power	1 mW (0 dBm)
Symbols	



Wireless Goniometer (9RF108)

Used to convey functional abilities concerning hand and extremity range of motion (ROM).

Technical Specifications

Dimensions	27.3 cm x 3.8 cm x 4.2 cm (10.8 in x 1.5 in x 1.7 in)
Weight	0.12 kg (0.26 lbf)
Maximum Angular Displacement	275°
Operating Temperature, Humidity, and Atmospheric Pressure	
Transportation and Storage Conditions	
Internal Power Source	Non-User serviceable, 1.2V NiMH secondary Cell, 750mAh
Input Power	5V 0.5A
Recharge time	Six (6) continuous hours of charging following initial charge
Battery conservation	Devices transition to “low power” state when not in use
Specified Power Supply, (Battery Charger)	Powertek Model PMP15M-10-B6 JTECH PN: PW005
Type of Protection against electric shock	Internally powered equipment
Degree of protection against electric shock	Type B equipment
Protection against harmful ingress of water	IPX0 - ordinary equipment
Degree of Safety of Application in the presence of flammable mixtures	This device is not suitable for use in the presence of flammable anesthetic mixture with air, or with oxygen or nitrous oxide
This device contains:	FCC ID: SNU-8CB001 Canada IC: 5478A-8CD001
RF operating distance	10 meters (33 feet) from receiver, indoor environment
RF frequency	US: 902-928 MHz EU: 868-869.3 MHz
RF transmit power	1 mW (0 dBm)
Symbols	



Wireless Pinch Gauge (9RF109)

Used to convey functional abilities concerning pinch strength.

Technical Specifications

Dimensions	10.9 cm x 5.3 cm x 2.6 cm (4.27 in x 2.1 in x 1 in)
Weight	0.16 kg (0.36 lb)
Maximum Force Input	222 N (50 lbf)
Operating Temperature, Humidity, and Atmospheric Pressure	
Transportation and Storage Conditions	
Internal Power Source	Non-User serviceable, 1.2V NiMH secondary Cell, 750mAH
Input Power	5V , 0.5A
Recharge time	Six (6) continuous hours of charging following initial charge
Battery conservation	Devices transition to “low power” state when not in use
Specified Power Supply, (Battery Charger)	Powertek Model PMP15M-10-B6 JTECH PN: PW005
Type of Protection against electric shock	Internally powered equipment
Degree of protection against electric shock	Type B equipment
Protection against harmful ingress of water	IPX0 - ordinary equipment
Degree of Safety of Application in the presence of flammable mixtures	This device is not suitable for use in the presence of flammable anesthetic mixture with air, or with oxygen or nitrous oxide
This device contains:	FCC ID: SNU-8CB001 Canada IC: 5478A-8CD001
RF operating distance	10 meters (33 feet) from receiver, indoor environment
RF frequency	US: 902-928 MHz EU: 868-869.3 MHz
RF transmit power	1 mW (0 dBm)
Symbols	



Wireless Static Force Gauge (9RF110A)

Used to convey functional abilities concerning static strength in a variety of applications such as lifting, pushing, or pulling, or to convey a subject's ability to resist force for a given muscle or muscle group.

Technical Specifications

Dimensions	7.1 cm x 4.6 cm x 5.9 cm (2.8 in x 1.8 in x 2.3 in)
Weight	0.18 kg (0.4 lb)
Maximum Force Input	2224 N (500 lbf)
Operating Temperature, Humidity, and Atmospheric Pressure	
Transportation and Storage Conditions	
Internal Power Source	Non-User serviceable, 1.2V NiMH secondary Cell, 750mAH
Input Power	5V 0.5A
Recharge time	Six (6) continuous hours of charging following initial charge
Battery conservation	Devices transition to "low power" state when not in use
Specified Power Supply, (Battery Charger)	Powertek Model PMP15M-10-B6 JTECH PN: PW005
Type of Protection against electric shock	Internally powered equipment
Degree of protection against electric shock	Type B equipment
Protection against harmful ingress of water	IPX0 - ordinary equipment
Degree of Safety of Application in the presence of flammable mixtures	This device is not suitable for use in the presence of flammable anesthetic mixture with air, or with oxygen or nitrous oxide
This device contains:	FCC ID: SNU-8CB001 Canada IC: 5478A-8CD001
RF operating distance	10 meters (33 feet) from receiver, indoor environment
RF frequency	US: 902-928 MHz EU: 868-869.3 MHz
RF transmit power	1 mW (0 dBm)
Symbols	

Wireless Heart Rate Monitor* (9RF111)



Used to convey functional abilities concerning cardiovascular response during Functional Capacity Testing.

* ⓘ Heart rate monitor Only Available in the USA.

Technical Specifications

Dimensions	32cm x 2.5cm x 3.1cm (12.6 in x 1 in x 1.2 in)
Weight	0.1 kg (0.21 lb)
Operating Temperature, Humidity, and Atmospheric Pressure	
Transportation and Storage Conditions	
Internal Power Source	Non-User serviceable, 1.2V NiMH secondary Cell, 750mAH
Input Power	5V 0.5A
Recharge time	Six (6) continuous hours of charging following initial charge
Battery conservation	Devices transition to “low power” state when not in use
Specified Power Supply, (Battery Charger)	Powertek Model PMP15M-10-B6 JTECH PN: PW005
Type of Protection against electric shock	Internally powered equipment
Degree of protection against electric shock	Type B equipment
Protection against harmful ingress of water	IPX0 - ordinary equipment
Degree of Safety of Application in the presence of flammable mixtures	This device is not suitable for use in the presence of flammable anesthetic mixture with air, or with oxygen or nitrous oxide
This device contains:	FCC ID: SNU-8CB001 Canada IC: 5478A-8CD001
RF operating distance	10 meters (33 feet) from receiver, indoor environment
RF frequency	US: 902-928 MHz EU: 868-869.3 MHz
RF transmit power	1 mW (0 dBm)
Symbols	
Polar T31 Transmitter (7RF112)	Specified transmitter for the Heart Rate Monitor*
Dimensions	32cm x 2.5cm x 0.8cm (12.6 in x 1 in x 0.3 in)
Internal Power Source	Sealed internal primary battery, non-replaceable
Expected Operating Life	2500 Hours
Type of Protection against electric shock	Internally powered equipment
Operating distance	0.9 meters (3 feet) from receiver, indoor environment
Transmit	5.2KHz
Transmit Coding	Non-coded
Declarations of conformance	93/42EEC - 2011/64/EU



Wireless Algometry Hand End-Test Switch (9RF115)

The Wireless Algometry Hand End-Test Switch allows patients to end Algometry tests instantly when feeling pain for more precise patient-controlled tests.

Technical Specifications

Dimensions	6.7 cm x 3.8 cm x 2.2 cm (2.6 in X 1.5 in X 0.87 in)
Weight	0.03 kg (0.07 lb)
Operating Temperature, Humidity, and Atmospheric Pressure	
Transportation and Storage Conditions	
Internal Power Source	Non-User serviceable, 1.2V NiMH secondary Cell, 750mAH
Input Power	5V , 0.5A
Recharge time	Six (6) continuous hours of charging following initial charge
Battery conservation	Devices transition to “low power” state when not in use
Specified Power Supply, (Battery Charger)	Powertek Model PMP15M-10-B6 JTECH PN: PW005
Type of Protection against electric shock	Internally powered equipment
Degree of protection against electric shock	Type B equipment
Protection against harmful ingress of water	IPX0 - ordinary equipment
Degree of Safety of Application in the presence of flammable mixtures	This device is not suitable for use in the presence of flammable anesthetic mixture with air, or with oxygen or nitrous oxide
This device contains:	FCC ID: SNU-8CB001 Canada IC: 5478A-8CD001
RF operating distance	10 meters (33 feet) from receiver, indoor environment
RF frequency	US: 902-928 MHz EU: 868-869.3 MHz
RF transmit power	1 mW (0 dBm)
Symbols	



Specified Power Supply (Battery Charger) (PW005*)

The Specified Power Supply (Battery Charger) is used individually, or with the 4-Way Splitter, for charging your Tracker Freedom devices.

(*power supply connection may vary according to the country shipped to)

Technical Specifications

Dimensions	7.8 cm x 5.2 cm x 3.5 cm (3.1 in x 2.0 in x 1.4 in)
Weight	0.2 kg (0.44 lb)
Operating Temperature, Humidity, and Atmospheric Pressure	
Transportation and Storage Conditions	
Input Voltage	100-240 VAC
Input Frequency	50-60 Hz
Input Current	0.5 A (rms) for 115 VAC 0.3 A (rms) for 240 VAC
Enclosure Leakage Current	100 uA max. @ 264 VAC, 63 Hz
Maximum Output Voltage/Current	5V , 3A
Maximum Output Power	15 W
Type of Protection against electric shock	Class II
Manufacture, Model	Powertek, PMP15M-10-B6
Protection against harmful ingress of water	IPX0 - ordinary equipment
Degree of Safety of Application in the presence of flammable mixtures	This device is not suitable for use in the presence of flammable anesthetic mixture with air, or with oxygen or nitrous oxide
Symbols	

Appendix - Tracker Freedom Devices



Wireless Receiver (9RF001) – Used to send and receive wireless transmissions to/from Tracker Freedom devices.



Wireless Foot Switch (9RF102) – Used for entering data, and moving to the next test.



Wireless Dual Inclinerometers (9RF103 and 9RF104) – Used to convey functional abilities concerning range of motion (ROM).



Wireless Muscle Tester (9RF105) – Used to convey a subject's ability to resist force for a given muscle or muscle group.



Wireless Grip (9RF106) – Used to convey functional abilities concerning grip strength.



Wireless Algometer (9RF107) – Used to convey pain response and pressure threshold.



Wireless Goniometer (9RF108) – Used to convey functional abilities concerning hand and extremity range of motion (ROM).



Wireless Pinch Gauge (9RF109) – Used to convey functional abilities concerning pinch strength.



Wireless Static Force Gauge (9RF110A) – Used to convey functional abilities concerning static strength in a variety of applications such as lifting, pushing, or pulling, or to convey a subject's ability to resist force for a given muscle or muscle group.



Wireless Heart Rate Monitor* (9RF1111) – Used to convey functional abilities concerning cardiovascular response during Functional Capacity Testing.

* **i** Heart rate monitor Only Available in the USA.

Accessories and Detachable Parts



Long T-Bar (AC013) – The T-Bar is essential for doing lifting or pulling tests that require the use of two hands. Attaches to the Accessory Attachment receptacle.



T-Bar (9AC002) – The T-Bar is essential for doing lifting or pulling tests that require the use of two hands. Attaches to the Accessory Attachment receptacle.



D-Handle (9AC003) – The D-Handle is the perfect choice for doing one-hand lifts or pulls. Attaches to the Accessory Attachment receptacle.



Hook w/Stud (741) – The hook attachment allows you to use virtually any item for lifting or pulling tests. Attaches to the Force Input receptacle.



4" Push Disk (9AC004) – The Disk can be used for exerting force against flat items. It offers more surface area for pushing activities, and greater flexibility for various testing applications.



Optional V-Slot (745) – The V-Slot makes it easy to exert force against the corner of walls or other structures for doing push tests. Attaches to the Force Input receptacle.



Threaded Pad Adapter (8MH097) – Adapts the threaded Force Input receptacle to allow the metal shafts on the flat or curved pads to be inserted into the Static Force Gauge.



Flat Pad (8AC008) – The flat pad can be used for exerting force against flat items.



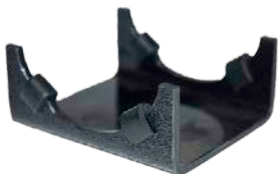
Curved Pad (8AC009) – The curved pad can be used for exerting force against items that are not completely flat.



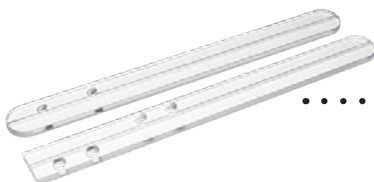
12" Cable (9AC007) – The cable can be used for different lifting, pushing or pulling, or static strength tests.



Muscle Tester 1.0cm² Algometer Tip (8MH047) – The Algometer Tip converts the muscle tester for algometry testing.



Muscle Tester Cradle (9AC001) – The Muscle Tester Cradle provides a stable platform to rest the muscle tester.



Goniometer Extension arms (9AK113) - Aids in visual confirmation of alignment, or in aligning the Goniometer to extremities. Comes in a set of two (2) arms



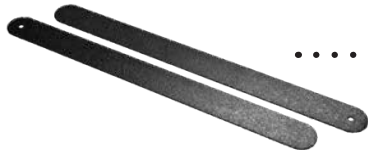
0.5cm² Algometer Tip (8AC006) – The 0.5cm² Algometer Tip can be used for cervical testing.



1.0cm² Algometer Tip (8AC005) – The 1.0cm² Algometer Tip conforms to normative testing.



Finger Tip Adapter (8AC007) – The Finger Tip Adapter converts the Algometer for testing individual finger strength.



Alignment Rails (8MH068) – The Alignment Rails magnetically attach to the Inclonometers for easy visual confirmation of alignment.



VELCRO® Straps (AA026) – The VELCRO® straps can be used for dynamic range of motion inclinometry testing. Comes in a set with small, medium, and large straps.



Grip Stand (8MH234) – The Grip Stand holds the grip securely in a vertical position for testing on a table or desk.



Grip Cable (9AK103) – The Grip Cable is used for attaching weights to the grip.



USB Extension Cable (7WR001) – The USB Extension Cable is used to connect the USB Receiver to a USB port on your computer.






Specified Power Supply (Battery Charger) (PW005) – The Specified Power Supply (Battery Charger) is used individually, or with the 4-Way Splitter, for charging your Tracker Freedom devices.




4-Way Splitter (8WR008) – The 4-Way Splitter is used to charge up to four (4) Tracker Freedom devices at once.


EMC Guidance

-  **WARNING:** Medical Electrical Equipment needs special precautions regarding EMC and needs to be installed and put into service according to the EMC information provided in this manual. Carefully read the information contained in this section.
-  **WARNING:** The use of portable and mobile RF equipment can affect the normal operation of medical electrical equipment.
-  **WARNING:** Making any modifications or using any accessories not specifically approved by JTECH Medical may reduce immunity to electromagnetic interference or increase electromagnetic emissions.

Guidance and manufacturer's declaration - electromagnetic emissions		
The Tracker Freedom System is intended for use in the electromagnetic environment specified below. The customer or user of the Tracker Freedom System should assure that it is used in such an environment.		
Emissions test	Compliance	Electromagnetic environment - guidance
RF emissions CISPR 11	Group 2	The Tracker Freedom System must emit electromagnetic energy in order to perform its intended function. Nearby electronic equipment may be affected. The Tracker Freedom System is suitable for use in all establishments, including domestic establishments and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.
RF emissions CISPR 11	Class B	
Harmonic emissions IEC 61000-3-2	Class A and D	
Voltage fluctuations/ flicker emissions IEC 61000-3-3	Complies	

-  **WARNING:** The Tracker Freedom devices and receiver should not be used while stacked on, or adjacent to, other electrical or medical electrical equipment. If stacked or adjacent use is necessary, all electrical equipment should be observed to verify normal operation.

Guidance and manufacturer's declaration - electromagnetic immunity			
The Tracker Freedom System is intended for use in the electromagnetic environment specified below. The customer or user of the Tracker Freedom System should assure that it is used in such an environment.			
Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment - guidance
Electrostatic discharge (ESD) IEC-61000-4-2	± 6 kV contact ± 8 kV air	± 6 kV contact ± 8 kV air	The Tracker Freedom System must emit electromagnetic energy in order to perform its intended function. Nearby electronic equipment may be affected.
Electrical fast transient/burst IEC 61000-4-4	± 2 kV for power supply lines ± 1 kV for input/output lines	± 2 kV for power supply lines ± 1 kV for input/output lines	Mains power quality should be that of a typical commercial or hospital environment.
Surge IEC 61000-4-5	± 1 kV line(s) to line(s) ± 2 kV line(s) to earth	± 1 kV line(s) to line(s) ± 2 kV line(s) to earth	Mains power quality should be that of a typical commercial or hospital environment.
Voltage dips, short interruptions and voltage variations on power supply input lines IEC 61000-4-11	$<5\% U_T$ ($>95\%$ dip in U_T) for 0,5 cycle $40\% U_T$ (60% dip in U_T) for 5 cycles $70\% U_T$ (30% dip in U_T) for 25 cycles $<5\% U_T$ ($>95\%$ dip in U_T) for 5 s	$<5\% U_T$ ($>95\%$ dip in U_T) for 10ms $40\% U_T$ (60% dip in U_T) for 100ms $70\% U_T$ (30% dip in U_T) for 500ms	Mains power quality should be that of a typical commercial or hospital environment.
Power frequency (50/60 Hz) magnetic field IEC 61000-4-8	3 A/m	3 A/m	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.
NOTE U_T is the a.c. mains voltage prior to application of the test level.			

Guidance and manufacturer's declaration – electromagnetic immunity			
The Tracker Freedom System is intended for use in the electromagnetic environment specified below. The customer or the user of the Tracker Freedom System should assure that it is used in such an environment.			
Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment – guidance
<p>Conducted RF IEC 61000-4-6</p> <p>Radiated RF IEC 61000-4-3</p>	<p>3 Vrms 150 kHz to 80 MHz</p> <p>3 V/m 80 MHz to 2.5 GHz</p>	<p>3 Vrms 150 kHz to 80 MHz</p> <p>3 V/m 80 MHz to 2.5 GHz</p>	<p>Portable and mobile RF communications equipment should be used no closer to any part of the Tracker Freedom System, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter.</p> <p>Recommended separation distance</p> <p>$d=1.2\sqrt{P}$ $d=1.2\sqrt{P}$ 80 MHz to 800 MHz $d=2.3\sqrt{P}$ 800 MHz to 2.3 GHz</p> <p>Where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and d is the recommended separation distance in meters (m). Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey,^a should be less than the compliance level in each frequency range.^b</p> <p>Interference may occur in the vicinity of equipment marked with the following symbol:</p> 
<p>NOTE 1 At 80 MHz and 800 MHz, the higher frequency range applies.</p> <p>NOTE 2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects, and people.</p>			
<p>^a Field strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which the Tracker Freedom System is used exceeds the applicable RF compliance level above, the Tracker Freedom System should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as re-orienting or relocating the Tracker Freedom System.</p> <p>^b Over the frequency range 150 kHz to 80 MHz, field strengths should be less than [V1] V/m.</p>			

Recommended separation distances between portable and mobile RF communications equipment and the Tracker Freedom System			
The Tracker Freedom System is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the Tracker Freedom System can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the Tracker Freedom System as recommended below, according to the maximum output power of the communications equipment.			
Rated maximum output power of transmitter W	Separation distance according to frequency of transmitter m		
	150 kHz to 80 MHz d=1.2VP	80 MHz to 800 MHz d=1.2VP	800 MHz to 2.5 GHz d=2.3VP
0.01	0.12	0.12	0.23
0.1	0.38	0.38	0.73
1	1.2	1.2	2.3
10	3.8	3.8	7.3
100	12	12	23
For transmitters rated at a maximum output power not listed above, the recommended separation distance d in meters (m) can be estimated using the equation applicable to the frequency of the transmitter, where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer.			
NOTE 1 At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies.			
NOTE 2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects, and people.			

Transmitter and Receiver Specifications

Bandwidth	902-928 MHz (US) 868-869.3 MHz (EU)
Modulation	Digital (FSK)
ERP	0 dBm

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