# **TR-20**

# Part I Quick Start Guide Part II Manual

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FOR ASSISTANCE, CALL YOUR LOCAL SALES REPRESENTATIVE, DISTRIBUTOR, OR THE PROMETHEUS GROUP AT 800-442-2325 IN THE US AND CANADA OR AT 603-749-0733. FOR TECHNICAL ASSISTANCE, CALL THE PROMETHEUS GROUP TECH SUPPORT LINE AT 800-272-8492 IN THE US AND CANADA OR 603-742-6053.

# Web site: <u>www.theprogrp.com</u> E-mail: info@theprogrp.com

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# TR-20 Quick-Start Reference Guide

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Web site: www.theprogrp.com

E-mail: info@theprogrp.com

#### Indications for Use:

Surface electromyography is a safe and effective technique for relaxation training and muscle re-education.

Using internal perineometer electrodes such as the PerryVaginal: EMG biofeedback is a safe and effective technique for the assessment and treatment of pelvic floor dysfunction, monitoring the performance of Kegel exercises. The pelvic floor muscles include the Levator Ani group as well as the pubococcygeus (PC), ileococcygeus, and coccygeus. These are skeletal muscles which respond to reeducation, strengthening, endurance building, and relaxation.

Conditions that can be assessed or treated using this technique include: stress incontinence, mixed incontinence, and urge incontinence.

Contraindications: Do not use this device for treatment of incontinence in the presence of any bladder infection, vaginal infection, or during pregnancy.

Caution: Federal law (USA) restricts this device for sale by or on the order of a licensed medical practitioner, licensed by law in the state in which they practice.

Caution: Federal law (USA) restricts this device to sale by or on the order of a physician when used for the treatment of incontinence.

Caution: Use only electrodes from The Prometheus Group with your Pathway surface EMG device. Any other electrode may not be compatible with the Pathway device.

Warnings:

- Be sure to read this operator's guide before using this device.
- Do not use this device while the BATTERY indicator is blinking. The battery is low and the device may stop operating.
- Do not put this device underwater or get device wet. It could damage the device.
- Use only batteries with this device; do not use any type of line-powered adapter.
- Do not connect any preamp, lead wire, electrode, or any other component to a wall outlet.
- Do not leave electrodes attached when device is not in use.
- For the treatment of incontinence do not attempt to use this device concurrently with stimulation being supplied from an electrical muscle stimulator.

### **TR-20 OPERATION**

#### **POWER-UP/STATUS**

Turn TR-20 on.

**1<sup>ST</sup> SCREEN:** Battery light will illuminate and a light will indicate battery level. LOW ON SCALE=LOW BATTERY; HIGH ON SCALE =GOOD BATTERY.

2<sup>ND</sup> SCREEN: 4 lights will then appear. TOP LEFT LIGHT INDICATES SCALE; SCALE = 1-800 (DEFAULTS TO 800). BOTTOM LEFT LIGHT INDICATES A CHANNEL GOAL (DEFAULTS TO NONE). TOP RIGHT LIGHT INDICATES MODE (DEFAULTS TO CONTINUOUS). BOTTOM RIGHT LIGHT INDICATES B CHANNEL GOAL (DEFAULTS TO NONE).

3<sup>RD</sup> SCREEN: TR-20 then defaults to EMG Measurement Mode. The TR-20 always powers-up in Continuous mode and is ready to measure at this time.

## **CHANGE SCALE**

To change scale press **A** key. *TWO LIGHTS FLASH PROMPTING YOU TO MAKE CHANGES. TOP LIGHT INDICATES SCALE. TWO SCALES ARE AVAILABLE:* **1-800** AND **1-30.** *A LIGHT BY* 800=1-800 SCALE; A LIGHT BY 30 =1-30 SCALE.

While lights are blinking, press down arrow to select 1-30 scale.

Press **up arrow** to select 1-800 scale. *NOTE THAT TR-20 ONLY GIVES YOU ABOUT 4 SECONDS TO MAKE A SELECTION BEFORE AUTOMATICALLY SELECTING THE SCALE INDICATED BY THE BLINKING LIGHT.* 

# SET GOALS

To select **A Channel Goal** Press **A** key. *TWO LIGHTS FLASH PROMPTING YOU TO MAKE CHANGES. NOTE THAT TR-20 ONLY GIVES YOU ABOUT 4 SECONDS TO MAKE A SELECTION BEFORE AUTOMATICALLY SELECTING THE MODE INDICATED BY THE BLINKING LIGHT.*  **BOTTOM LIGHT** INDICATES **GOAL** *READ THE WORDS TO THE LEFT:* 

**None** (*No Work/Rest goals set; No Goals set*)

Above (Goal)(When EMG level is ABOVE the Goal light, success tone sounds)<br/>(Goal light appears at 10; it may be adjusted by using the left up and down<br/>arrows).

Below (Goal)	(When EMG level is BELOW the Goal light, success tone sounds) (A Goal light appears at 10; it may be adjusted by using the left up and down arrows).			
Ratio A/B	(Displays the A channel divided by the B channel <b>Use the .1 to 10 scale</b> (If A=B the reading is <b>1</b> . If A is greater than B the reading is greater than <b>1</b> . If A is less than B the reading is something less than 1). (A <b>Goal light</b> appears at 1; it may be adjusted by using the left <b>Up and Down</b> arrows)			

Press the **A key** repeatedly to select desired **A Channel Goal.** TR-20 then defaults to **EMG Measurement Mode.** 

The A goal may be adjusted at this time by using the **Up/Down arrows** on the <u>left</u> side of the TR-20. *Goal can be adjusted anytime during Measurement Mode.* 

To set **B Channel Goal** press the **B key.** 

Note: If a goal is set on both A and B channels, <u>both</u> conditions have to be met for success tone to be generated.

TWO LIGHTS FLASH PROMPTING YOU TO MAKE CHANGES. BOTTOM RIGHT LIGHT INDICATES B CHANNEL GOAL.(NONE, ABOVE, BELOW, B OFF)

Press the **B** key repeatedly to select desired **B** Channel Goal.

TR-20 then defaults to EMG Measurement Mode.

The B goal may be adjusted at this time by pressing the **Up/Down arrows** on the <u>**right**</u> side of the TR-20. *Goal can be adjusted anytime during Measurement Mode.* 

#### **SELECT MODE**

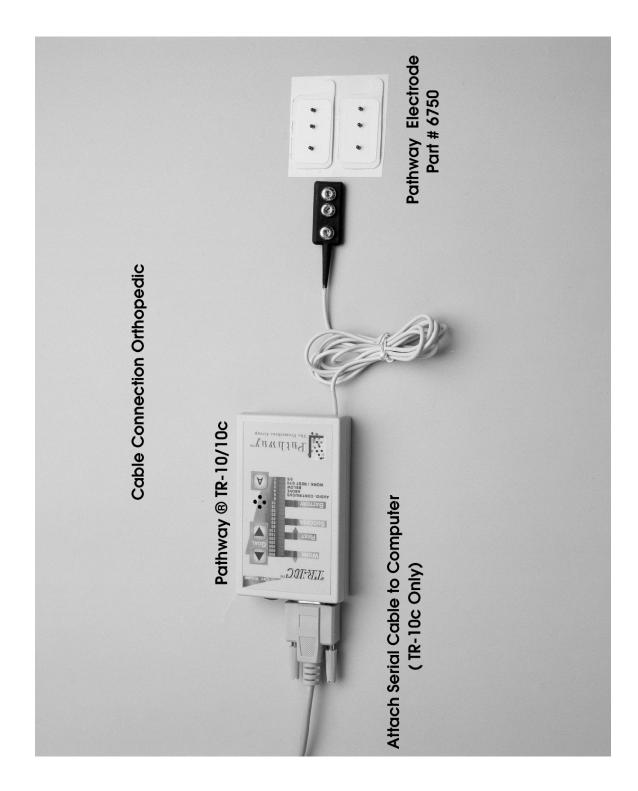
Press the **B key** to **Select Mode.** 

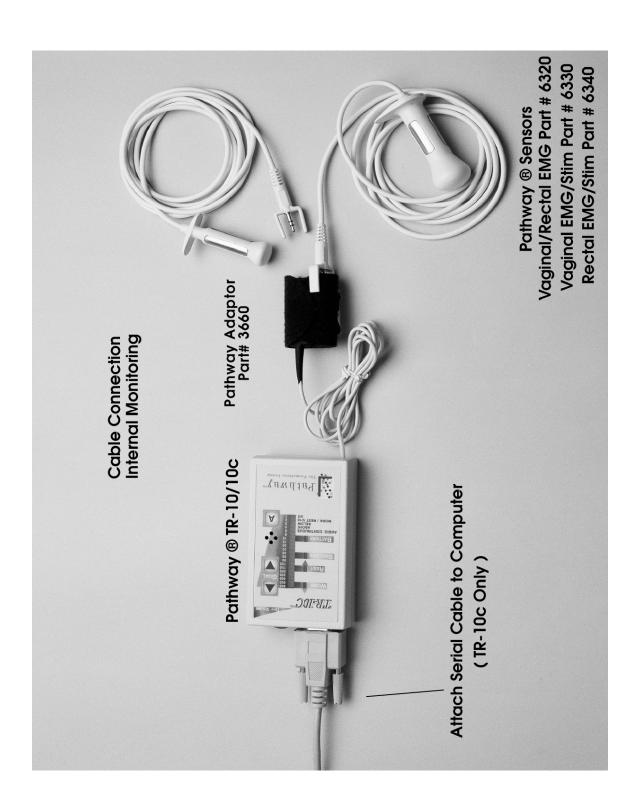
TWO LIGHTS FLASH PROMPTING YOU TO MAKE CHANGES.USE THE UP AND DOWN ARROWS ON THE RIGHT SIDE OF THE TR-20 TO MAKE SELECTION.NOTE THAT TR-20 ONLY GIVES YOU ABOUT 4 SECONDS TO MAKE A SELECTION BEFOREAUTOMATICALLY SELECTING THE MODE INDICATED BY THE BLINKING LIGHT.TOP RIGHT LIGHT INDICATES MODE.CONTINUOUS (No Work/Rest Mode)W/R: 5/10(TR-20 prompts user to work for 5 seconds, rest for 10 seconds)W/R: 10/10(TR-20 prompts user to work for 10 seconds and rest for 10 seconds)

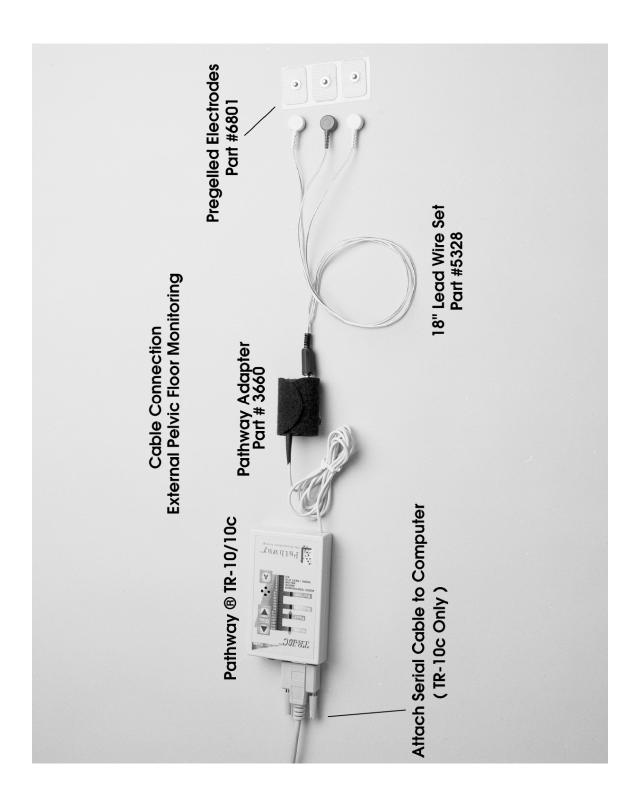
THE TR-20 IS NOW IN EMG **MEASUREMENT MODE** AND THE **SESSION HAS BEGUN**. USE THE NUMBERS IN THE MIDDLE (1-800) TO READ EMG LEVEL IN MICROVOLTS WHEN IN THE EMG MEASUREMENT MODE.

# **CABLE CONNECTIONS**

- Use illustrations to **connect cables**, electrodes and accessories. Choose from the following configurations:
  - 1. Orthopedic
  - 2. Continence: Internal Sensor
  - 3. Continence: External Pelvic Floor Monitoring
- Illustrations also helpful for part identification and re-order numbers







# PATHWAY TR-20 SURFACE EMG TRAINER OPERATOR'S GUIDE

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# CONTENTS

The Pathway TR-20 kit contains the following items:

- The Pathway TR-20 module
- Two Pathway preamplifiers for EMG A and EMG B
- One 9 volt alkaline battery
- One carrying case
- Operator's guide.

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#### **Indications for Use**:

Surface electromyography is a safe and effective technique for relaxation training and muscle re-education.

Using internal perineometer electrodes such as the PerryVaginal: EMG biofeedback is a safe and effective technique for the assessment and treatment of pelvic floor dysfunction, monitoring the performance of Kegel exercises. The pelvic floor muscles include the Levator Ani group as well as the pubococcygeus (PC), ileococcygeus, and coccygeus. These are skeletal muscles which respond to reeducation, strengthening, endurance building, and relaxation.

Conditions that can be assessed or treated using this technique include: stress incontinence, mixed incontinence, and urge incontinence.

Contraindications: Do not use this device for treatment of incontinence in the presence of any bladder infection, vaginal infection, or during pregnancy.

Caution: Federal law (USA) restricts this device for sale by or on the order of a licensed medical practitioner, licensed by law in the state in which they practice.

Caution: Federal law (USA) restricts this device to sale by or on the order of a physician when used for the treatment of incontinence.

Caution: Use only electrodes from The Prometheus Group with your Pathway surface EMG device. Any other electrode may not be compatible with the Pathway device.

Warnings:

- Be sure to read this operator's guide before using this device.
- Do not use this device while the BATTERY indicator is blinking. The battery is low and the device may stop operating.
- Do not put this device underwater or get device wet. It could damage the device.
- Use only batteries with this device; do not use any type of line-powered adapter.
- Do not connect any preamp, lead wire, electrode, or any other component to a wall outlet.
- Do not leave electrodes attached when device is not in use.
- For the treatment of incontinence do not attempt to use this device concurrently with stimulation being supplied from an electrical muscle stimulator.

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# PHYSICAL

The Back Panel:

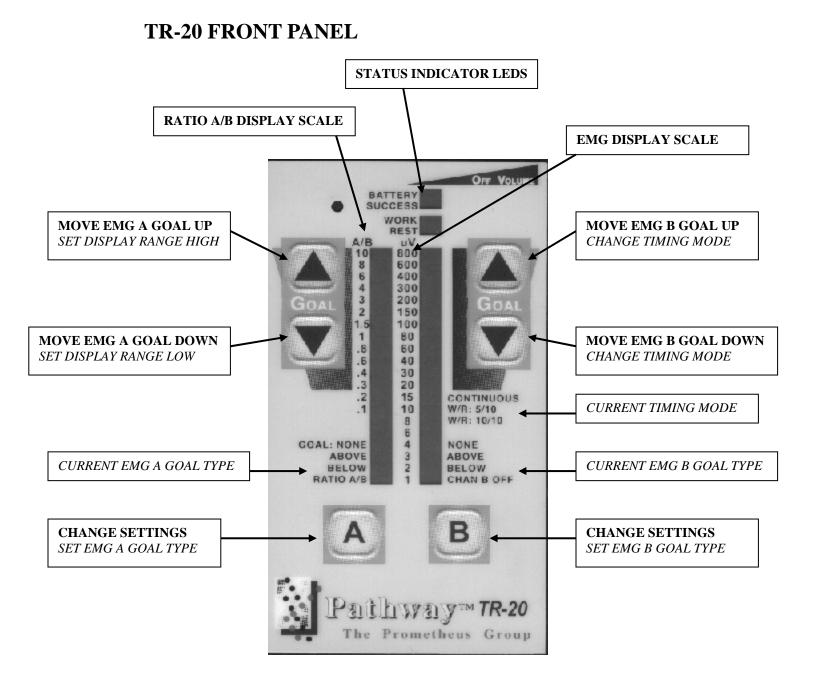
• The 9 volt battery compartment. The serial number label is inside the compartment.

The Bottom Panel:

• The preamp cables connect to the module here. Use care with the preamp cable. Pulling on it or bending it sharply will cause it to eventually break.

The Front Panel:

- An OFF VOLUME rotary thumbwheel which turns the Pathway TR-20 on and off and controls audio volume
- Two LED bar graphs to display microvolt level, goal type, and goal level
- Four individual LED indicators to provide status information
- Up and down arrow keys to change the goal
- A and B goal keys to define EMG A and EMG B goal type and direction.



**BOLD = NORMAL REAL-TIME EMG DISPLAY MODE** *ITALICS = CHANGE SETTINGS MODE* 

# MECHANICAL

#### **Installing or Changing the Battery**

On the back panel is a 9 volt battery compartment. To install or change the battery simply press down on the designated area and slide the cover in the direction indicated. Clip on the new battery, place the battery in the compartment and replace the cover, snapping firmly into place. Either a disposable or rechargeable battery may be used. If using a disposable, an alkaline battery is recommended for longer life. A fresh alkaline battery will have 15-20 hours of useful life. Use only a battery, do not use a line-powered adapter.

# **ELECTRODE CONNECTIONS**

#### **Electrode Types**

There are several electrode types which may be used with the TR-20. The size and location of the target muscle often determines which type of electrode to use. The standard electrode used with the TR-20 has three electrode contacts in one foam pad and snaps directly to the preamplifier.

#### **Attaching the Electrodes**

Snap on a disposable electrode to EMG A. The preamplifier has 3 snaps; 2 labeled ACT for Active and 1 GND for Ground. The disposable electrode must be completely snapped into all 3.

**Important:** Prepare the skin by wiping the area with an alcohol pad and then wiping it dry with a tissue or cloth, to avoid high impedance artifact by removing oils and dead skin. The most common reason for inaccurate readings is insufficient cleaning of the skin.

Remove the backing on the disposable electrode to expose the adhesive surface and adhere fully to the skin. The two active electrodes must be placed parallel to the muscle fiber.

#### Lead Wires

Lead wires may be used to connect to three individual electrodes when necessary to aid small muscle placements. These lead wires connect to the preamps with the preamp adapter.

Contact The Prometheus Group for any of these electrodes. The use of any other electrodes is not recommended.

Warnings:

- Discontinue use if any irritation occurs.
- Long term air exposure will result in drying of gel. Keep unused electrodes sealed in bag.
- Prepare skin by wiping area with alcohol pad. Allow to dry before applying electrode.
- Use electrode only with Pathway EMG unit.
- Use only on clean unbroken skin.
- Do not connect preamps, electrodes, lead wires or any other component to wall outlets, line-powered adapters, or any other electrical connection! Do not leave electrodes attached to the preamp when the device is not in use.

#### **Preamp Adapter**

The preamp adapter is used to interface the preamp to different styles of electrodes. It has an input jack to interface to lead wires or an incontinence sensor.

Please contact The Prometheus Group for any adapter or electrode requirements.

# DISPLAY

#### **Front Panel LED Indicators**

The TR-20 uses LED indicators to display information. These LEDs are labeled with their meaning or values. Some indicators are used for more than one function such as displaying EMG level and goal level or goal type. The TR-20 uses 4 individual LED indicators and two Bar Graph Displays.

#### **Status Indicators**

The TR-20 has 4 LED indicators labeled BATTERY, WORK, REST, and SUCCESS. These are used to show information about the current state. The BATTERY indicator lights during start-up while showing battery level on the bar and begins blinking during operation if the battery voltage drops too low.

The WORK and REST indicators light when the unit is in the work/rest timing mode. The WORK LED will light when in a work period and the REST LED will light when in a rest period.

The SUCCESS indicator lights when goal success is achieved.

#### **Bar Graph Display**

The bar graph display is used to show the current levels of EMG A and EMG B by illuminated LEDs based on the scale from 1 to 800 microvolts for the normal range or on the scale from 1 to 30 microvolts for the expanded display range. When a goal is set the goal value is also shown on the bar graph by one illuminated LED.

The bar graph display is also used to show the current settings for the TR-20 on start-up and when making selections. The display will indicate the current microvolt display range, the EMG A and EMG B goal types, and the current timing mode.

#### **OPERATION**

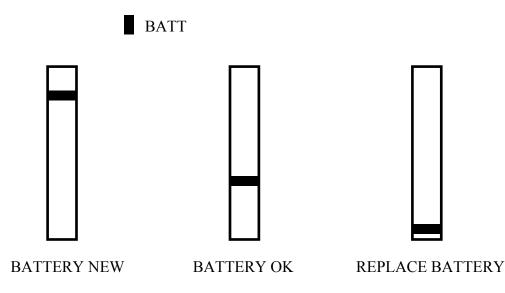
#### **Start-up Sequence**

The thumbwheel switch turns the TR-20 on and adjusts the volume level. When first turned on, the TR-20 will sound a several second tone which may be used to adjust the speaker volume to a comfortable level.

#### **Battery Level Indication During Start-up**

During this start-up tone, the current battery voltage is indicated on the Bar Graph display while the BATTERY LED indicator is illuminated. The top of the display indicates a new battery. As the battery voltage drops during its lifetime the level indicated on the display will drop as well. The bottom of the display indicates that the battery is at the end of useful life and should be replaced.

Battery indication on start-up:



IF THE TR-20 IS TURNED ON AND IT DOES NOT WORK PROPERLY, FIRST TRY REPLACING THE BATTERY WITH A NEW ONE. Call Technical Support for further assistance if necessary.

#### **Goals, Display Range, and Timing Mode Indication During Start-up**

After showing the battery level, the Bar Graph Display on the TR-20 will now show the current goal types, microvolt display range, and timing mode settings. The current goal type is NONE for EMG A and EMG B, the current microvolt display range is 800, and the current timing mode is CONTINUOUS.

#### **The Training Displays**

After the start-up sequence is completed, the Pathway TR-20 will automatically display EMG activity. The current level of EMG activity is shown by the illuminated LEDs on the bar graphs. The values are shown on the scale between the bar graphs for the normal display range.

Although only 20 LEDs are used in each bar graph, the TR-20 uses 2 levels of brightness and lights pairs of LEDs to show 4 times as many levels. For example the following sequence is used between 2 LEDs:

	STEP 1	STEP 2	STEP 3	STEP 4	STEP 5
LED 2:	OFF	HALF ON	FULL ON	FULL ON	FULL ON
LED 1:	FULL ON	FULL ON	FULL ON	HALF ON	OFF

The next step after step 4 is the same as step 1 but is 1 LED position up the display. Note that this sequence is an analog representation which gives an excellent feeling of the values in between the LEDs. When this display is combined with the normal EMG value changes, it shows the EMG levels just as if there were 80 LEDs in each bar!

During a training session the A bar shows the EMG level of the A channel and the B bar shows the EMG level of the B channel. Note that increasing muscle activity will moves the LED's up and decreasing activity moves the LED's down.

#### **Displaying EMG**

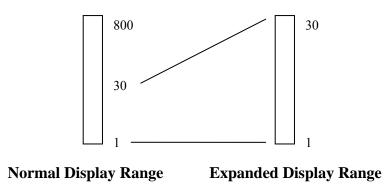
To observe the operation of the display, apply the electrode to a convenient area such as the forearm, as described in Attaching the Electrodes.

Note how the moving bar display ascends and descends, as the hand and wrist muscles are contracted and relaxed.

EMG is essentially a logarithmic function so this type of scaling is used for the moving bar displays. As a result, the movement of the bar relates directly to the change in muscle activity. The total microvolt scale is 1 to 800 microvolts RMS for the normal display range.

#### **Expanded EMG Display Range**

The TR-20 has an expanded display range where the Bar Graph Display is used to show from 1 to 30 microvolts instead of the normal 1 to 800. This is graphically illustrated:



The expanded display range is useful when EMG activity remains at very low levels. When only the bottom few LED's are being illuminated in the normal display range, using the expanded display range will use more of the Bar Graph Display and provide improved visual feedback to the patient.

The top of the Bar Graph Display represents 30 microvolts when using the expanded display range. The Bar Graph Display uses the same type of logarithmic scaling used in the normal display range. This scaling can be seen in the section **Expanded Display Range Scale** on the next page. If the EMG activity exceeds 30 microvolts and goes off the scale, the top LED will remain illuminated to show full scale has been achieved.

#### **Expanded Display Range Scale**

The labeled microvolt values between the bar graphs are for the normal display range. These labeled values no longer apply when in the expanded display range. The actual microvolt values for the expanded display range are seen here:

30 Range	e 800 Range
30	800
25	600
20	400
18	300
15	200
13	150
11	100
9	80
8 6.5	60
6.5	40
5.5	30
4.5	20
4	15
3.5	10
$\begin{array}{c}3\\2.5\end{array}$	8
2.5	6
2	4
1.7	4 3 2
1.5	2
1	1

#### **Setting the Display Range**

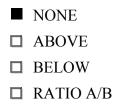
Press the A key once to check the current settings on the TR-20. The EMG activity will temporarily be suspended while the display shows the current display range (either 800 or 30) and the current feedback mode for EMG A. The current display range is indicated by a flashing LED next to the 800 or next to the 30. Use the up arrow key to select the 800 microvolt display range and the down arrow key to select the 30 microvolt display range. Here we see the 800 microvolt display range:



When the desired microvolt display range is indicated on the display, do not press any keys and the display will return to EMG activity and use the selected display range.

#### **Setting the Feedback Modes**

The A key is used to set the feedback mode for EMG A and the B key is used to set the feedback mode for EMG B. By pressing the A key once, the current mode will be momentarily displayed on the EMG A bar graph. In this case the display will indicate that no goal is set by flashing the NONE LED:



To change the mode simply press the A key again until the LED next to the desired mode is flashing. Note that the current microvolt display range is being shown at the same time, either the 800 LED or the 30 LED. When no keys are pressed for a few seconds, the TR-20 will return to the real-time EMG display with the selected goal type and timing mode enabled.

#### **Feedback Modes**

Feedback mode choices for the A channel are:
1) NONE -- no audio feedback
2) ABOVE -- audio feedback when contracting above goal
3) BELOW -- audio feedback when relaxing below goal
4) RATIO A/B - EMG A bar graph display will show the ratio of EMG A/EMG B; above tone type of goal

Feed back choices for the B channel are NONE, ABOVE, BELOW, and CHAN B OFF.

#### **Ratio A/B Display Mode**

The TR-20 has a special display mode for displaying the ratio of EMG A to EMG B. This mode is used to compare the relative levels of the EMG A channel to the EMG B channel without being concerned about the absolute microvolt values. The Ratio Display Mode is enabled by selecting the RATIO A/B goal type for EMG A. The EMG B side of the display will not be illuminated to avoid confusion. The EMG B channel will default to CHAN B OFF.

The current ratio will be displayed on the A/B scale to the left of the EMG A bar graph display. The value presented on the scale relates to 1. The 10 at the top of the scale represents a ratio of 10:1, the 1 at the middle of the scale represents a ratio of 1:1, and the .1 at the bottom of the scale represents a ratio of .1:1.

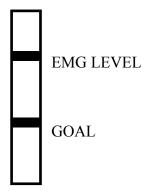
**Important:** The Ratio A/B display mode always has an above tone type of goal. The initial goal value is set at 1:1. When the current ratio is higher than the ratio goal value, the SUCCESS LED will illuminate and a success tone will be heard. This ratio goal may be adjusted to the desired training level using the A arrow keys.

#### **Goal Display**

When one of the goals is enabled, one LED on the bar will be illuminated relative to the current display range. The position of this goal LED in the display represents an absolute microvolt goal at the corresponding labeled value for the normal display range. If the goal is the LED labeled 20, the goal is set at 20 microvolts for the normal display range.

In the expanded display range, the goal level is indicated relative to the expanded display scale. To set an absolute microvolt goal, use the normal display range to set the goal level to the desired labeled value and then return to the expanded display range.

Goals are active only in a continuous session or a work period. If a goal is set at 20 microvolts and the EMG level is higher than the goal the display should look something like:



If an ABOVE goal is selected and the EMG activity meets or exceeds the goal, a pulsed tone will be heard. If goals are set for both channels, the goal must be met for BOTH channels to hear the tone. The GOAL SUCCESS LED will also be illuminated unless in a rest period.

#### **Setting the Goal Value**

When a tone goal type is initially selected, the default goal value is 10 microvolts. The default Ratio A/B goal value for the Ratio Display Mode is 1:1. To change the goal value, the up and down arrow keys are used. The A arrow keys are used to adjust the A goal, and the B arrow keys are used to adjust the B goal.

Note that the bar still shows the current level of EMG activity or the Ratio A/B for the Ratio Display Mode so that goals can be changed without interrupting the training session. Also note that the microvolt goals are always displayed relative to the current microvolt display range. The microvolt display range does not have an effect on a ratio goal.

To change the goal value, simply press the appropriate arrow key until the desired goal is reached. Use single key presses to increment or decrement the goal value, or hold the key down for larger changes. The position of the goal LED will change to reflect the current value.

While changing the goal value the goal LED will blink on the bar graph display. When the desired goal value is displayed, do not press any keys and the TR-20 will return to normal operation.

**Important:** The microvolt goal value is displayed relative to the current microvolt display range. The scale labeled from 1 to 800 is for the normal 800 microvolt display range only. To set an absolute microvolt goal, use the 800 microvolt display range to set the goal level and then set the 30 microvolt display range. The Ratio goal value is not affected by the microvolt display range.

#### Work/Rest Intervals

The TR-20 may be put in the work/rest timing mode if a series of short contractions rather than one long session is desired by the clinician. In this mode the TR-20 cycles between work periods and rest periods. When the TR-20 is in a work period the WORK indicator will light and when the TR-20 is in a rest period the REST indicator will light.

There are two work/rest timing modes to choose from: 5/10 or 10/10. 5/10 yields a work time of 5 seconds and a rest time of 10 seconds, and 10/10 yields a work time of 10 seconds and a rest time of 10 seconds.

**Important**: This goal is only active during the work periods, although it is still shown during the rest periods. The success tone and GOAL SUCCESS indicator only become active during work periods.

#### Setting the Timing Mode

When the TR-20 is turned on, the device always starts in the CONTINUOUS timing mode. This will run one long session up to 250 minutes.

To change the Timing mode, press the B goal key once and the current mode will be shown on the display represented by a blinking LED.

CONTINUOUS
 W/R: 5/10
 W/R: 10/10

To change the current timing mode, press the up or down arrow keys to move to the desired timing mode. The W/R: 5/10 selection will set a WORK/REST timing mode with a work period of 5 seconds and a rest interval of 10 seconds. The W/R: 10/10 selection will set WORK/REST timing mode with a work period of 10 seconds and a rest interval of 10 seconds. The TR-20 will store the session data from up to 250 WORK/REST trials.

#### Pathway TR-20 Technical Specifications

- Two EMG Channels
- Active Electrode Preamplifiers
- 1 800 Microvolt Range
- Two Logarithmic Display Ranges (Per Channel)
- Above/Below Tone Goals
- True RMS Conversion
- 20 Hz to 500 Hz Bandpass
- No Notch Filter
- Input Common Mode Rejection Greater than 93dB
- Input Noise Level of <1 Microvolt
- Active Electrode Impedance of 10 Gigohms
- Accuracy of 2 Microvolts +/- 2% (Less than 500 Microvolts)
- Dimensions: 4.6" x 2.7" x 1.5"
- Power: Standard 9 Volt Battery

#### Electrodes

To re-order electrodes for any Pathway device please call your dealer or The Prometheus Group sales office at (800)-442-2325.

For surface EMG applications the compatible Prometheus Group electrodes are order numbers 6750 for the DeLuca preamplifier electrodes and 6801 for individual lead wire electrodes.

For incontinence applications the compatible electrodes are the PerryVaginal Sensor, the Empi Vaginal Elec Sense/Stim, or the Hollister In/Care perineometer.

#### The Prometheus Group One Washington St, Suite 303, Dover NH 03820-3827 603.749.0733 / 800.442.2325 (US & Canada) Fax: 603.749.0511 E-Mail: <u>info@theprogrp.com</u> Web Site: <u>www.theprogrp.com</u>

#### **Standard Warranty Service Agreement**

The Prometheus Group warrants equipment of its own manufacture to be free from defects in material and workmanship as follows:

One year from the date of shipment to the original purchaser, subject to the terms, conditions, limitations, and exclusions specified herein.

- 1. Service: The Prometheus Group of New Hampshire, Ltd., hereafter "The Prometheus Group", shall provide, for the term of this warranty, repair of defective "Pathway" units. This warranty shall include all parts and labor charges. The purchaser must obtain a Return Authorization Number and must return the defective unit, at the purchaser's own expense to The Prometheus Group. The Prometheus Group may, at its option, repair and return the unit or provide a replacement unit. Should The Prometheus Group elect to provide a replacement unit, then this warranty is automatically transferred to the replacement unit. The Prometheus Group shall return, at The Prometheus Group's own expense, the repaired or replacement "Pathway" unit.
- 2. Exclusions: The following conditions are excluded from service under this warranty:
  - A. Preventative maintenance. Preventative maintenance, defined as maintenance performed for the purpose of preventing a malfunction, is excluded from service under this warranty.
  - B. Repair of damage or malfunction of "Pathway" equipment resulting from abuse, accident, modification, or other cause other than normal usage, including but not limited to operator error, failure of other user-supplied equipment, and equipment operation in excess of design specifications is excluded from service under this warranty.
  - C. Loss due to fire, flood, robbery, burglary, theft, vandalism, radioactive contamination, or other natural disasters or Acts of God is excluded from service under this warranty
  - D. Replacement of batteries, accessories and expendables such as electrodes, are excluded from service under this warranty.
- 3. Optional Warranty Extension: This warranty may be renewed or extended by written agreement and acceptance of both parties. The price for such extension shall be the price in effect at the time the extension is put in force. The Prometheus Group shall waive any inspection and conditional repair requirements for uninterrupted warranty extensions.
- 4. Limitation of Remedy: The Prometheus Group shall not be liable for any damages caused by the delay in furnishing warranty services or other performance under this warranty. The service warranty expressed in paragraph 1 represents the sole and exclusive remedy for any warranty clams under expressed or implied warranties, including without limitation any warranty of merchantability or fitness. This warranty specifically limits the liability of The Prometheus Group, including liability for negligence claims by users and disclaiming any other claims of non-performance by The Prometheus Group. In no event shall The Prometheus Group be held liable for any incidental or consequential damages of any kind.
- 5. Assignment: This warranty shall not be assigned by the purchaser without prior written consent of The Prometheus Group. The warranty shall be binding upon all of the parties and their successors and assigns.