Evolution in the World of Physiotherapy and Rehabilitation!

Intelect®

ADVANCED

Therapy System

User Manual

Operation & Installation Instructions for:

Color Series

2765CS- Two Channel Electrotherapy System

2762CC- Two Channel Combination System

Monochromatic Series

2773MS- Two Channel Electrotherapy System

2772MC- Two Channel Combination System

Optional Modules

2770- Channel 3/4 Electrotherapy Module

CHATTANOOGA GROUP A DIVISION OF encore MEDICAL

ISO 13485 CERTIFIED

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FOREWORD

This manual has been written for the users of the Intelect Advanced Therapy Systems. It contains general information on the operation, precautionary practices, and maintenance information. In order to maximize use, efficiency, and the life of the system, please read this manual thoroughly and become familiar with the controls, as well as the accessories before operating the system.

This manual contains general safety, operating, maintenance, and care instructions as well as installation instructions for the optional Channel 3/4 Electrotherapy Module for the users of the Intelect Advanced Therapy two channel electrotherapy and combination systems. Instructions for additional options such as sEMG, sEMG + Stim, Laser, Battery, and Vacuum are found in their respective User Manuals which contain operation and installation instructions.

Specifications put forth in this manual were in effect at the time of publication. However, owing to Chattanooga Group's policy of continual improvement, changes to these specifications may be made at any time without obligation on the part of Chattanooga Group.

Before administering any treatment to a patient, the users of this equipment should read, understand and, follow the information contained in this manual for each mode of treatment available, as well as the indications, contraindications, warnings, and precautions. Consult other resources for additional information regarding the application of electrotherapy and ultrasound.

PRODUCT DESCRIPTION

The Intelect Advanced Therapy Systems are two channel electrotherapy and combination systems with the option of adding additional channels of electrotherapy by installation of the optional Channel 3/4 Electrotherapy Module. Other optional modality modules are available for separate purchase and may be installed by the end user.

Stay current with the latest clinical developments in the field of electrotherapy, ultrasound, laser therapy, sEMG, and sEMG + Stim. Observe all applicable precautionary measures for treatment.

Keep informed of appropriate indications and contraindications for the use of electrotherapy, ultrasound, laser therapy, sEMG, and sEMG+Stim.

This equipment is to be used only under the prescription and supervision of a licensed practitioner.

SAFETY PRECAUTIONS

PRECAUTIONARY DEFINITIONS

The precautionary instructions found in this section and throughout this manual are indicated by specific symbols. Understand these symbols and their definitions before operating this equipment. The definition of these symbols are as follows;

Caution-
Text with a "CAUTION" indicator will explain possible safety infractions that could have the potential to cause minor to moderate injury or damage to equipment.

Warning-
Text with a "WARNING" indicator will explain possible safety infractions that will potentially cause serious injury and equipment damage.

Danger-
Text with a "DANGER" indicator will explain possible safety infractions that are imminently hazardous situations that would result in death or serious injury.

Dangerous Voltage-
Text with a "Dangerous Voltage" indicator serves to inform the user of possible hazards resulting in the electrical charge delivered to the patient in certain treatment configurations of TENS waveforms.

NOTE:
Throughout this manual, "NOTE" may be found. These Notes are helpful information to aid in the particular area or function being described.

SAFETY PRECAUTIONS

CAUTIONS

⚠ CAUTION

Read, understand, and practice the precautionary and operating instructions. Know the limitations and hazards associated with using any electrical stimulation or ultrasound device. Observe the precautionary and operational decals placed on the unit.

- DO NOT operate the Intelect Advanced Therapy System when connected to any unit other than Chattanooga Group devices.
- DO NOT operate this unit in an environment where other devices are being used that intentionally radiate electromagnetic energy in an unshielded manner.
- Ultrasound should be routinely checked before each use to determine that all controls function normally, especially that the intensity control does properly adjust the intensity of the ultrasonic power output in a stable manner. Also, determine that the treatment time control does actually terminate ultrasonic power output when the timer reaches zero.
- DO NOT use sharp objects such as a pencil point or ballpoint pen to operate the buttons on the control panel.
- This unit should be operated, transported and stored in temperatures between 15° C and 40° C (59° F and 104° F), with Relative Humidity ranging from 30%-60%.
- Handle Ultrasound Applicator with care. Inappropriate handling of the Ultrasound Applicator may adversely affect its characteristics.
- Before each use, inspect Ultrasound Applicator for cracks, which may allow the ingress of conductive fluid.

⚠ CAUTION

- Inspect Applicator cables and associated connectors before each use.
- The Intelect Advanced Therapy System is not designed to prevent the ingress of water or liquids. Ingress of water or liquids could cause malfunction of internal components of the system and therefore create a risk of injury to the patient.
- This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to other devices in the vicinity. However, there is no guarantee that interference will not occur in a particular installation. Harmful interference to other devices can be determined by turning this equipment on and off. Try to correct the interference using one or more of the following: Reorient or relocate the receiving device, increase the separation between the equipment, connect the equipment to an outlet on a different circuit from that to which the other device(s) are connected and consult the factory field service technician for help.

The Nylatex® Wraps shipped with this unit contain dry natural rubber and may cause allergic reactions in patients with allergies to latex.

SAFETY PRECAUTIONS

WARNINGS

⚠ WARNING

These devices are restricted to sale by, or on the order of, a physician or licensed practitioner. This device should be used only under the continued supervision of a physician or licensed practitioner.

- For continued protection against fire hazard, replace fuses only with ones of the same type and rating.
- Make certain the unit is electrically grounded by connecting only to a grounded electrical service receptacle conforming to the applicable national and local electrical codes.
- Care must be taken when operating this equipment around other equipment. Potential electromagnetic or other interference could occur to this or to the other equipment. Try to minimize this interference by not using other equipment in conjunction with it.
- The safety of TENS waveforms for use during pregnancy or birth has not been established.
- TENS is not effective for pain of central origin. (This includes headache.)
- TENS should be used only under the continued supervision of a physician or licensed practitioner.
- TENS waveforms have no curative value.
- TENS is a symptomatic treatment, and as such, suppresses the sensation of pain which would otherwise serve as a protective mechanism.
- The user must keep the device out of the reach of children.
- Electronic monitoring equipment (such as ECG monitors and ECG alarms) may not operate properly when TENS stimulation is in use.

⚠ WARNING

- Powered muscle stimulators should be used only with the leads and electrodes recommended for use by the manufacturer.
- In the event that an Error message or Warning appears beginning with a 2 or 3, immediately stop all use of the system and contact the dealer or Chattanooga Group for service. Errors and Warnings in these categories indicate an internal problem with the system that must be tested by Chattanooga Group or a Field Service Technician certified by Chattanooga Group before any further operation or use of the system. Use of a system that indicates an Error or Warning in these categories may pose a risk of injury to the patient, user or cause extensive internal damage to the system.
- Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous exposure to ultrasonic energy.
- Before administering any treatment to a patient you should become acquainted with the operating procedures for each mode of treatment available, as well as the indications, contraindications, warnings, and precautions. Consult other resources for additional information regarding the application of Electrotherapy and Ultrasound.
- To prevent electrical shock, disconnect the unit from the power source before attempting any maintenance procedures.
- Keep electrodes separated during treatment. Electrodes in contact with each other could result in improper stimulation or skin burns.

Long term effects of chronic electrical stimulation are unknown.

SAFETY PRECAUTIONS

WARNINGS (continued)

⚠ WARNING

Stimulation should not be applied over the anterior neck or mouth. Severe spasm of the laryngeal and pharyngeal muscles may occur and the contractions may be strong enough to close the airway or cause difficulty in breathing.

- Stimulation should not be applied transthoracically in that the introduction of electrical current into the heart may cause cardiac arrhythmia.
- Stimulation should not be applied over swollen, infected, and inflamed areas or skin eruptions, e.g., phlebitis, thrombophlebitis, varicose veins, etc.
- Stimulation should not be applied over, or in proximity to, cancerous lesions.

Output current density is related to electrode size. Improper application may result in patient injury. If any question arises as to the proper electrode size, consult a licensed practitioner prior to therapy session.

SAFETY PRECAUTIONS

DANGERS

DANGER

Stimulus delivered by the TENS waveforms of this device, in certain configurations, will deliver a charge of 25 microcoulombs (µC) or greater per pulse and may be sufficient to cause electrocution. Electrical current of this magnitude must not flow through the thorax because it may cause a cardiac arrhythmia.

Patients with an implanted neurostimulation device must not be treated with or be in close proximity to any shortwave diathermy, microwave diathermy, therapeutic ultrasound diathermy, or laser diathermy anywhere on their body. Energy from diathermy (shortwave, microwave, ultrasound, and laser) can be transferred through the implanted neurostimulation system, can cause tissue damage, and can result in severe injury or death. Injury, damage, or death can occur during diathermy therapy even if the implanted neurostimulation system is turned "off."

SAFETY PRECAUTIONS

ELECTROTHERAPY INDICATIONS, CONTRAINDICATIONS, AND ADVERSE EFFECTS

INDICATIONS FOR VMS, VMS BURST, RUSSIAN, TENS, HIGH VOLTAGE PULSED CURRENT (HVPC), INTERFERENTIAL AND PREMODULATED WAVEFORMS

- Relaxation of muscle spasms
- Prevention or retardation of disuse atrophy
- Increase local blood circulation
- Muscle re-education
- Maintaining or increasing range of motion

Additional Indications for Microcurrent, Interferential, Premodulated, VMS™, VMS™ Burst and TENS waveforms

- Symptomatic relief and management of chronic, intractable pain
- Post-traumatic acute pain
- Post-surgical acute pain

Indications for Galvanic Continuous Mode

- Relaxation of muscle spasm

Contraindications

- This device should not be used for symptomatic local pain relief unless etiology is established or unless a pain syndrome has been diagnosed.
- This device should not be used when cancerous lesions are present in the treatment area.
- Stimulation should not be applied over swollen, infected, inflamed areas, or skin erruptions, e.g. phlebitis, thrombophlebitis, varicose veins, etc.
- Other contraindications are patients suspected of carrying serious infectious disease and or disease, where it is advisable, for general medical purposes, to suppress heat or fevers.
- Electrode placements must be avoided that apply current to the carotid sinus region (anterior neck) or transcerebrally (through the head).
- Safety has not been established for the use of therapeutic electrical stimulation during pregnancy.
- Powered muscle stimulators should not be used on patients with cardiac demand pacemakers.

There should not be any use of TENS waveforms on patients with cardiac demand pacemakers.

ELECTROTHERAPY INDICATIONS, CONTRAINDICATIONS, AND ADVERSE EFFECTS (continued)

ADDITIONAL PRECAUTIONS

- Caution should be used for patients with suspected or diagnosed heart problems.
- Caution should be used for patients with suspected or diagnosed epilepsy.
- Caution should be used in the presence of the following:
  - When there is a tendency to hemorrhage following acute trauma or fracture.
  - Following recent surgical procedures when muscle contraction may disrupt the healing process.
  - Over a menstruating or pregnant uterus; Over areas of the skin which lack normal sensation.
- Some patients may experience skin irritation or hypersensitivity due to the electrical stimulation or electrical conductive medium. The irritation can usually be reduced by using an alternative conductive medium or an alternative electrode placement.
- Electrode placement and stimulation settings should be based on the guidance of the prescribing practitioner.
- Powered muscle stimulators should be used only with the lead wires and electrodes recommended for use by the manufacturer.
- With TENS waveforms, isolated cases of skin irritation may occur at the site of electrode placement following long-term application.
- The effectiveness of TENS waveforms is highly dependent upon patient selection by a person qualified in pain management.

Adverse Effects

- Skin irritation and burns beneath the electrodes have been reported with the use of powered muscle stimulators.

Potential adverse effects with TENS are skin irritation and electrode burns.

SAFETY PRECAUTIONS

ULTRASOUND INDICATIONS AND CONTRAINDICATIONS

INDICATIONS FOR ULTRASOUND

- Application of therapeutic deep heat for the treatment of selected sub-chronic and chronic medical conditions such as:
  - Relief of pain, muscle spasms, and joint contractures
  - Relief of pain, muscle spasms, and joint contractures that may be associated with:
    - Adhesive capsulitis
    - Bursitis with slight calcification
    - Myositis
    - Soft tissue injuries
- Shortened tendons due to past injuries and scar tissues
- Relief of sub-chronic, chronic pain, and joint contractures resulting from:
  - Capsular tightness
  - Capsular scarring

Contraindications

- This device should not be used for symptomatic local pain relief unless etiology is established or unless a pain syndrome has been diagnosed.
- This device should not be used when cancerous lesions are present in the treatment area.
- Stimulation should not be applied over swollen, infected, inflamed areas, or skin erruptions, e.g. phlebitis, thrombophlebitis, varicose veins, etc.
- Other contraindications are patients suspected of carrying serious infectious disease and disease where it is advisable for general medical purposes to suppress heat or fevers.
- This device should not be used over or near bone growth centers until bone growth is complete.
- This device should not be used over the thoracic area if the patient is using a cardiac pacemaker.
- This device should not be used over a healing fracture.
- This device should not be used over or applied to the eye.
- This device should not be used over a pregnant uterus.
- This device should not be used on ischemic tissues in individuals with vascular disease where the blood supply would be unable to follow the increase in metabolic demand and tissue necrosis might result.

Additional Precautions

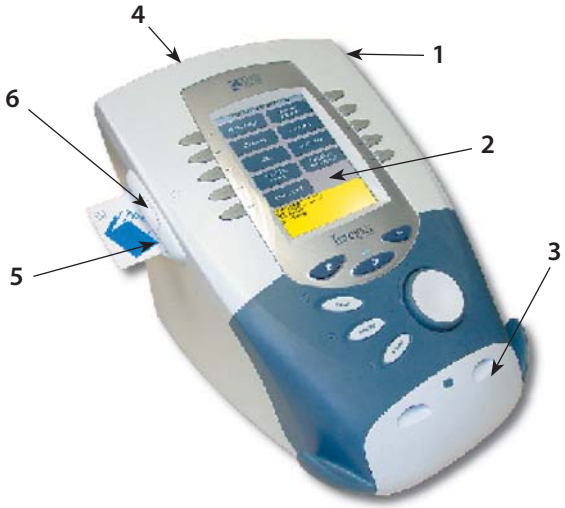
- Additional precautions should be used when ultrasound is used on patients with the following conditions:
- Over an area of the spinal cord following;
  - Laminectomy, i.e., when major covering tissues have been removed.
    - Over anesthetic areas.

On patients with hemorrhagic diatheses.

NOMENCLATURE

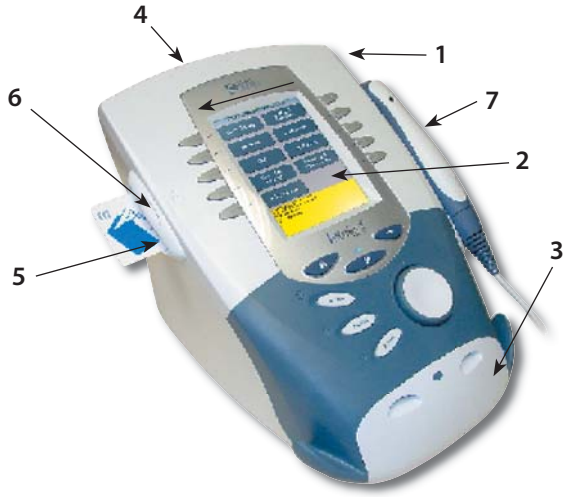
INTELECT ADVANCED ELECTROTHERAPY AND COMBINATION THERAPY SYSTEMS

Two (2) Channel Electrotherapy System



1. Two (2) Channel Electrotherapy System
2. User Interface (See Page 12)
3. Front Access Panel
4. Rear Access Panel
5. Patient Data Card and sEMG Data Card access port.
6. Multimedia Card (MMC) access port.

Two (2) Channel Combination System



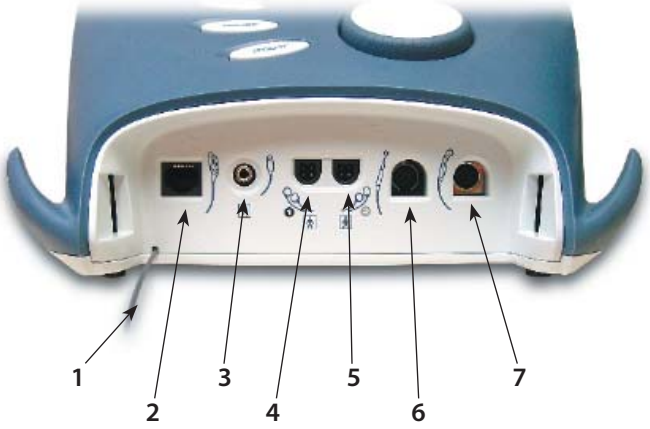
1. Two Channel Combination System
2. User Interface (See Page 12)
3. Front Access Panel
4. Rear Access Panel
5. Patient Data Card and sEMG Data Card access port.
6. Multimedia Card (MMC) access port.

Ultrasound Applicator (5cm^2 shown) Combination Systems Only

NOMENCLATURE

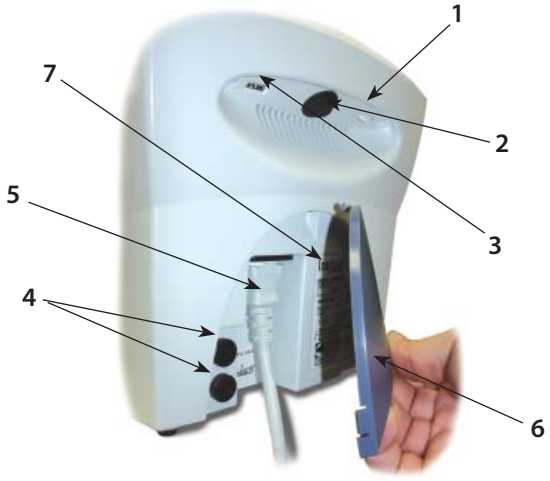
INTELECT ADVANCED ELECTROTHERAPY AND COMBINATION THERAPY SYSTEMS (continued)

Front Access Panel



1. Front Access Panel Lanyard
   When reinstalling the Front Access Panel, make certain the Lanyard does not become kinked.
2. Operator Remote Control Connector
3. Patient Interrupt Switch Connector
4. Channel 1 Lead Wire Connector
5. Channel 2 Lead Wire Connector
6. Microcurrent Probe Connector
7. Ultrasound Applicator Connector

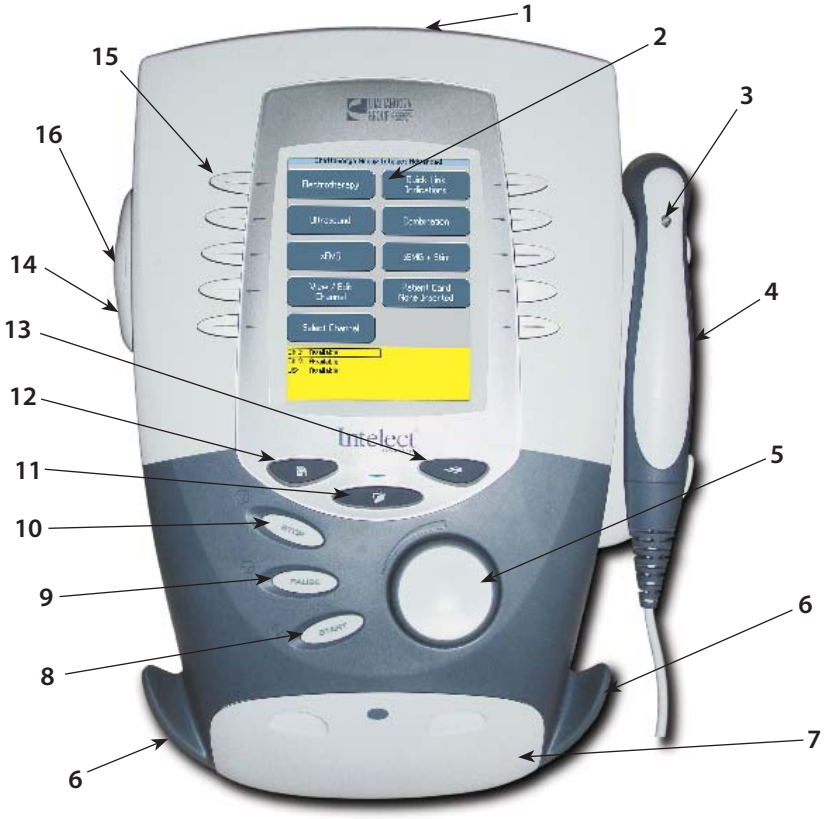
Rear Access Panel



1. Screen Contrast Control (Not functional on Color Systems)
2. Power On/Off Switch
3. Technical Maintenance Port
4. Fuses
5. Mains Power Cord
6. Rear Access Panel
7. Serial Decal

NOMENCLATURE

USER INTERFACE



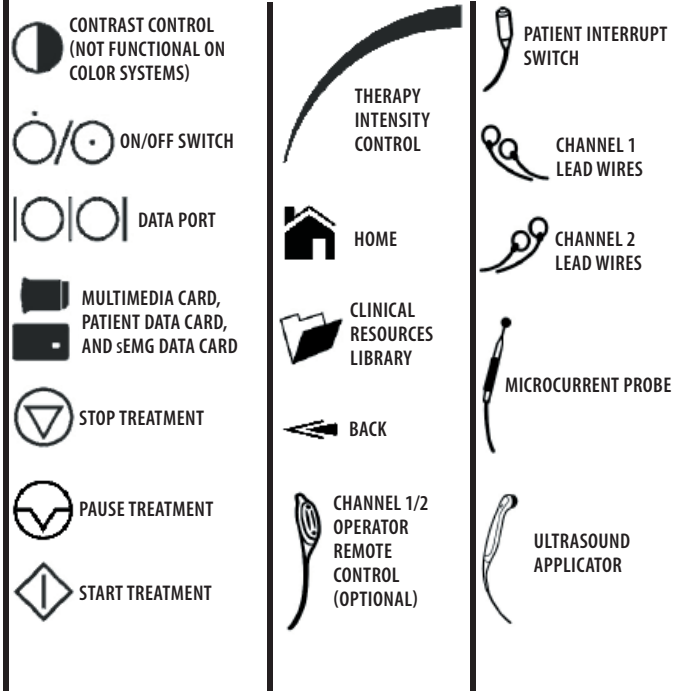
1. Rear Access Panel (See Page 11)
2. User Interface (Color Shown)
3. Ultrasound LED Coupling Indicator (Combination only)
4. Ultrasound Applicator- 5 cm^2 Standard. (Optional 1 cm^2, 2 cm^2 and 10 cm^2) applicators available (Combination only)
5. Intensity Knob
6. Cable and Lead Wire Hook
7. Front Access Panel (See Page 11)
8. Start Button
9. Pause Button
10. Stop Button
11. Clinical Resources Library Button
12. Home Screen button
13. Back Button
14. Patient Data Card and sEMG Data Card Port
15. User Set Up and Parameter Control buttons
16. Multimedia Card (MMC) Port

NOMENCLATURE

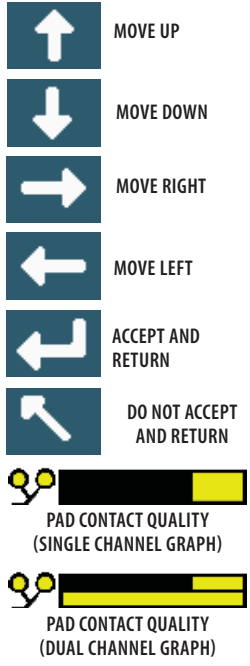
SYMBOL DEFINITIONS

Below are the definitions for all of the symbols used in the Intelect Advanced hardware and software. Study and learn these symbols before any operation of the system.

System Hardware Symbols

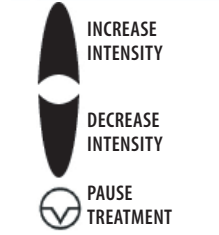


System Software Symbols

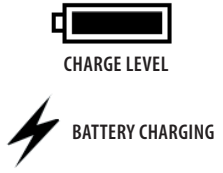


Optional Module and Accessory Symbols

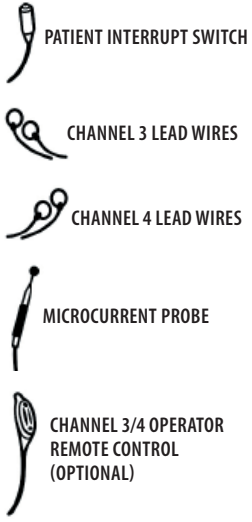
Operator Remote



Battery Module



Channel 3/4 Electrotherapy Module



NOMENCLATURE

Below are the definitions for all of the unique terminology used throughout this manual. Study these and become familiar with these terms for ease of system operation and familiarization with the components and control functionality of the Intelect Adavnced Therapy System. Some of these terms and definitions refer to a specific button or control on the system. Refer to page 13 for Symbol Definitions.

GENERAL TERMINOLOGY

Back button
The dedicated button on the Main unit, below the display, that each time pressed takes the user back one screen at a time.

Previous Page button
The button used in some modalities and functions that will take the user back one page when reading multiple pages of text.

UP and DOWN Arrows
Controls used in various modality parameter screens to navigate or change a value up or down within the parameter.

Electrotherapy
Refers to the Electrical muscle or nerve Stimulation modalities of the system.

System
The primary system with all controls and functions.

Module
Any optional modular modality component designed for installation onto the System.

ULTRASOUND

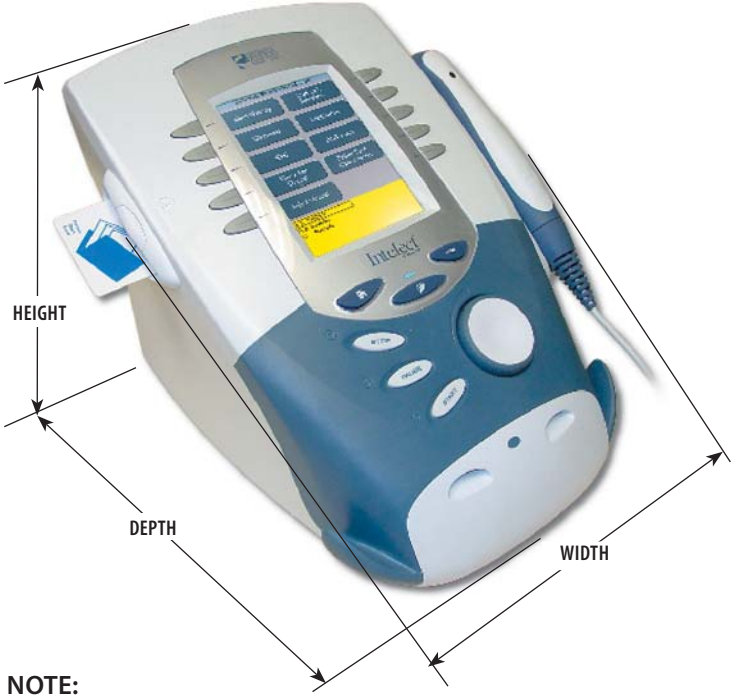
1. Sound Head
That component of the Applicator that makes contact with the patient during Ultrasound or Combination therapy.

2. Applicator
The assembly that connects to the System and incorporates the Sound Head.

3. Coupling LED
The component of the Applicator which indicates if the Sound Head is Coupled or Uncoupled on the the treatment area.

SPECIFICATIONS

SYSTEM SPECIFICATIONS



NOTE:
All waveforms except High Voltage Pulsed Current (HVPC) have been designed with a 200mA current limit.

VMS™, VMS™ Burst and all TENS waveform output intensities are measured, specified and listed to peak, not peak to peak.

DIMENSIONS

Width
Combination System ..... 28.9 cm (11.375")
Electrotherapy System ..... 24.8 cm (9.750")
Depth (Combination and Electrotherapy System) 32.4 cm (12.750")
Height (Combination and Electrotherapy System) . 22.2 cm (8.750")

Standard Weight
Two Channel Combination System ..... 3.2 kg (7 lbs)
Two Channel Electrotherapy System ..... 2.7 kg (6 lbs)

Power (Combination and Electrotherapy Units)
Input .....100 - 240 V - 1.0 A, 50/60 Hz
Output ..... +12 V, 8.3 A
Fuses ..... Two 6.3A Time Lag (Part Number 71772)
Electrical Class.....CLASS I

Electrical Type
Ultrasound ..... TYPE B
Electrotherapy and sEMG.....TYPE BF

Regulatory Compliance
UL/IEC/EN 60601-1
IEC/EN 60601-1-2
IEC 60601-2-5
IEC 60601-2-10

CE 0413

SPECIFICATIONS

WAVEFORM SPECIFICATIONS

IFC (Interferential) Traditional (4 Pole)

Interferential Current is a medium frequency waveform. Current is distributed through of two channels (four electrodes). The currents cross each other in the body at the area requiring treatment. The two currents interfere with each other at this crossing point, resulting in a modulation of the intensity (the current intensity increases and decreases at a regular frequency).

Output Mode	Electrodes
Carrier Frequency	2000-10,000 Hz
Beat Frequency	0-200 Hz
Sweep Time	15 sec
Sweep Low Beat Frequency	1-200 Hz
Sweep High Beat Frequency	1-200 Hz
Scan Percentage	Static, 10%, 40%, 100%
Amplitude	0-100 mA RMS into 500 ohm
Treatment Time	1-60 Minutes
Available on Channel	1&2, 3&4 Option

*CC= Constant Current
CV= Constant Voltage

TENS- Asymmetrical Biphasic

The Asymmetrical Biphasic waveform has a short pulse duration. It is capable of strong stimulation of the nerve fibers in the skin as well as of muscle tissue. This waveform is often used in TENS devices. Because of its short pulse, the patient typically tolerates the current well, even at relatively high intensities.

Output Mode	Electrodes
Output Intensity	0-110 mA
Phase Duration	Adjustable 20-1,000 µsec
Frequency	1-250 Hz
Mode Selection	CC or CV*
Burst Frequency	0-10 bps
Frequency Modulation	0-250 Hz
Amplitude Modulation	Off, 40%, 60%, 80% and 100%
Treatment Time	1-60 min

DANGER

Stimulus delivered by the TENS waveforms of this device, in certain configurations, will deliver a charge of 25 microcoulombs (µC) or greater per pulse and may be sufficient to cause electrocution. Electrical current of this magnitude must not flow through the thorax because it may cause a cardiac arrhythmia.

SPECIFICATIONS

WAVEFORM SPECIFICATIONS (continued)

TENS- Symmetrical Biphasic

The Symmetrical Biphasic waveform has a short pulse duration and is capable of strong stimulation of nerve fibers in the skin and in muscle. This waveform is often used in portable muscle stimulation units, and some TENS devices. Because of its short pulse duration, the patient typically tolerates the current well, even at relatively high intensities.

Output Mode	Electrodes
Output Intensity	0-80 mA
Phase Duration	Adjustable 20-1,000 µsec
Frequency	1-250 Hz
Mode Selection	CC or CV*
Burst Frequency	0-4 bps
Frequency Modulation	0-250 Hz
Amplitude Modulation	Off, 40%, 60%, 80% and 100%
Treatment Time	1-60 min

*CC= Constant Current
CV= Constant Voltage

TENS- Alternating Rectangular

The Alternating Rectangular waveform is an interrupted biphasic current with a rectangular pulse shape. This waveform is commonly used as a pain management application.

Output Mode	Electrodes
Output Intensity	0-100 mA
Phase Duration	Adjustable 20-1,000 µsec
Frequency	1-200 Hz
Mode Selection	CC or CV*
Burst Frequency	0-10 bps
Frequency Modulation	0-250 Hz
Amplitude Modulation	Off, 40%, 60%, 80% and 100%
Treatment Time	1-60 min

DANGER

Stimulus delivered by the TENS waveforms of this device, in certain configurations, will deliver a charge of 25 microcoulombs (µC) or greater per pulse and may be sufficient to cause electrocution. Electrical current of this magnitude must not flow through the thorax because it may cause a cardiac arrhythmia.

SPECIFICATIONS

WAVEFORM SPECIFICATIONS (continued)

TENS- Monophasic Rectangular

The Monophasic Rectangular waveform is an interrupted unidirectional current with a rectangular pulse shape. This waveform is commonly used with electrodiagnostic testing and clinically to stimulate denervated muscle.

Output Mode.....Electrodes
Output Intensity..... 0-110 mA
Phase Duration .....Adjustable 20-1,000 µsec
Frequency..... 1-200 Hz
Mode Selection..... CC or CV*
Burst Frequency ..... 0-10 bps
Frequency Modulation ..... 0-250 Hz
Amplitude Modulation .....Off, 40%, 60%, 80%and 100%
Treatment Time..... 1-60 min

DANGER

Stimulus delivered by the TENS waveforms of this device, in certain configurations, will deliver a charge of 25 microcoulombs (µC) or greater per pulse and may be sufficient to cause electrocution. Electrical current of this magnitude must not flow through the thorax because it may cause a cardiac arrhythmia.

High Voltage Pulsed Current (HVPC)

The High Voltage Pulsed Current (HVPC) has a very brief pulse duration characterized by two distinct peaks delivered at high voltage. The waveform is monophasic (current flows in one direction only). The high voltage causes a decreased skin resistance making the current comfortable and easy to tolerate.

Output Mode..... Electrodes or Probe
Output Intensity.....0-500 V
Polarity ..... Positive or Negative
Ramp.....0.5 sec, 1 sec, 2 sec, 5 sec
Display ..... Peak Current or Volts
Sweep.....Continuous, 80/120 pps, 1/120 pps, 1/10 pps
Frequency.....10-120 pps
Cycle Time.....5/5, 4/12, 10/10, 10/20, 10/30, 10/50, Continuous
Treatment Time..... 1-60 Min
Available on Channels ..... 1 & 2, 3 & 4 Option

*CC= Constant Current
CV= Constant Voltage

SPECIFICATIONS

WAVEFORM SPECIFICATIONS (continued)

VMS™

VMS is a symmetrical biphasic waveform with a 100 µsec interphase interval. Because the pulse is relatively short, the waveform has a low skin load, making it suitable for applications requiring high intensities, such as in muscle strengthening protocols.

Output Mode.....Electrodes
Output Intensity.....0-255 mA
Channel Mode..... Single, Reciprocal, Co-Contract
Phase Duration.....20-1000µsec
Mode Selection..... CC or CV*
Anti-Fatigue.....Off or On
Set Intensity.....Individual Channel Intensity Setting in Reciprocal and Co-Contract modes
Cycle Time.....Continuous, 5/5, 4/12, 10/10, 10/20, 10/30, 10/50
Frequency.....1-200 pps
Ramp.....0.5 sec, 1 sec, 2 sec, 5 sec
Treatment Time..... 1-60 min
Available on Channels..... 1 & 2, 3 & 4 Option

*CC= Constant Current
CV= Constant Voltage

Diadynamic Waveforms

The Diadynamic waveforms are rectified alternating currents. The alternating current is modified (rectified) to allow the current to flow in one direction only.

Output Mode.....Electrodes
Output Intensity.....0-80 mA
Treatment Time..... 1-60 min
Available on channels..... 1, 2, 3, 4

MF: (Monophasé Fixe) - Frequency of 50 Hz: phase duration of 10 ms followed by a pause of 10 ms.

DF: (Diphasé Fixe) - Frequency of 100 Hz: phase duration of 10 ms followed immediately by another identical phase of 10 ms.

CP: (Modulé en Courtes Périodes) - 1 second of MF followed abruptly by 1 second of DF.

LP: (Modulé en Longues Périodes) - Rhythmical fluctuation between 2 MF currents.

CP-iso: (Courtes Periodes Isodynamic) - A combination of MF and DF waveforms.

CP-id: Same as CP-iso.

MF+CP: A period of MF followed by a period of CP.

MF+CP-id: A period of MF followed by a period of CP-ID.

DF+LP: A period of DF followed by a period of LP.

DF+CP: A period of DF followed by a period of CP.

SPECIFICATIONS

WAVEFORM SPECIFICATIONS (continued)

IFC Premodulated (2p)

Premodulated Current is a medium frequency waveform. Current comes out of one channel (two electrodes). The current intensity is modulated: it increases and decreases at a regular frequency (the Amplitude Modulation Frequency).

Output Mode.....Pads
Output Intensity.....0-100 mA
Carrier Frequency.....2000-10,000 Hz
Beat Fixed (Sweep Off) ..... 1-200 Hz
Sweep Low Beat Frequency ..... 1-149 Hz
Sweep High Beat Frequency.....81-200 Hz
Cycle Time.....Continuous, 5/5, 4/12, 10/10, 10/20, 10/30, 10/50
Mode Selection ..... CC or CV*
Carrier Frequency..... 2,000-10,000 Hz
Treatment Time..... 1-60 Min
Available on Channel ..... 1 & 2, 3 & 4 Option

Russian

Russian Current is a sinusoidal waveform, delivered in bursts or series of pulses. This method was claimed by its author (Kots) to produce maximal muscle strengthening effects without significant discomfort to the patient.

Output Mode.....Pads
Output Intensity.....0-100 mA
Channel Mode ..... Single, Reciprocal, Co-Contract
Duty Cycle..... 10%, 20%, 30%, 40%, 50%
Mode Selection ..... CC or CV*
Anti-Fatigue .....Off or On
Cycle Time.....5/5, 4/12, 10/10, 10/20, 10/30, 10/50, Continuous
Burst Frequency (Anti-Fatigue Off).....20-100 pps
Ramp..... 0.5, 1, 2 and 5 sec
Treatment Time..... 1-60 min
Available on Channels ..... 1 & 2, 3 & 4 Option

*CC= Constant Current
CV= Constant Voltage

SPECIFICATIONS

WAVEFORM SPECIFICATIONS (continued)

Microcurrent

Microcurrent is a monophasic waveform of very low intensity. The literature reports beneficial effects of this waveform in the treatment of wounds. The physiological working mechanism of this effect is as yet not clearly understood. It is thought to stimulate tissue healing by stimulating the 'current of injury', a current which naturally occurs in healing tissue.

Output Mode..... Electrodes or Probe
Output Intensity.....0-1000.0 µA
Polarity .....Positive, Negative or Alternating
Treatment Time..... 1-60 Min
Available on channels ..... 1 & 2, 3 & 4 Option

*CC= Constant Current
CV= Constant Voltage

VMS™ Burst

VMS Burst is a symmetrical biphasic waveform delivered in a burst format. Because the pulse is relatively short, the waveform has a low skin load, making it suitable for applications requiring high intensities, such as in muscle strengthening protocols.

Output Mode.....Electrodes
Output Intensity.....0-255 mA
Channel Mode ..... Single, Reciprocal, Co-Contract
Phase Duration..... 20-1000 µsec
Mode Selection ..... CC or CV*
Anti-Fatigue .....Off or On
Set Intensity .....Individual Channel Intensity Setting in Reciprocal and Co-Contract modes
Cycle Time.....Continuous, 5/5, 4/12, 10/10, 10/20, 10/30, 10/50
Frequency.....1-200 pps
Ramp.....0.5 sec, 1 sec, 2 sec, 5 sec
Treatment Time..... 1-60 min
Available on Channels ..... 1 & 2, 3 & 4 Option

SPECIFICATIONS

WAVEFORM SPECIFICATIONS (continued)

MONOPHASIC: Monophasic Rectangular Pulsed

The Monophasic Rectangular Pulsed waveform is an interrupted unidirectional current with a rectangular pulse shape.

Output Mode	Electrodes
Output Intensity	0-80 mA
Phase Duration	0.1-500.0 ms
Phase Interval	5-5000 ms
Treatment Time	1-60 min
Available on Channels	1 & 2, 3 & 4 Option

MONOPHASIC: Monophasic Triangular Pulsed

The Monophasic Triangular Pulsed waveform is an interrupted unidirectional current with a triangular pulse shape.

Output Mode	Electrodes
Output Intensity	0-80 mA
Phase Duration	0.1-500.0 ms
Phase Interval	5-5000 ms
Treatment Time	1-60 min
Available on Channels	1 & 2, 3 & 4 Option

DANGER

Stimulus delivered by the TENS waveforms of this device, in certain configurations, will deliver a charge of 25 microcoulombs (µC) or greater per pulse and may be sufficient to cause electrocution. Electrical current of this magnitude must not flow through the thorax because it may cause a cardiac arrhythmia.

SPECIFICATIONS

WAVEFORM SPECIFICATIONS (continued)

GALVANIC: Continuous

Galvanic Current is a direct current flowing in one direction only. The current can be continuous or interrupted.

Output Mode. . . . . Electrodes
Output Intensity. . . . . 0-80 mA
Polarity Reversal . . . . . On or Off
With Polarity Reversal On, Polarity will change every five minutes.
Cycle Time. . . . . Continuous, 5/5, 4/12, 10/10, 10/20, 10/30, 10/50
Treatment Time. . . . . 1-60 min
Available on Channels . . . . . 1 & 2, 3 & 4 Option

GALVANIC: Interrupted

Galvanic Current is a direct current flowing in one direction only. The current can be continuous or interrupted.

Output Mode. . . . . Electrodes
Output Intensity. . . . . 0-80 mA
Polarity Reversal . . . . . On or Off
With Polarity Reversal On, Polarity will change every five minutes.
Cycle Time. . . . . Continuous, 5/5, 4/12, 10/10, 10/20, 10/30, 10/50
Treatment Time. . . . . 1-60 min
Available on Channels . . . . . 1 & 2, 3 & 4 Option

SPECIFICATIONS

WAVEFORM SPECIFICATIONS (continued)

Träbert (Ultrareiz)

It is a monophasic waveform with a phase duration of 2 ms and a pause of 5 ms resulting in a frequency of approximately 143 Hz.

Output Mode. . . . . Electrodes
Output Intensity. . . . . 0-80 mA
Polarity Reversal . . . . . On or Off
With Polarity Reversal On, Polarity will change every 7.5 minutes.
Treatment Time. . . . . 1-60 min
Available on Channels . . . . . 1 & 2, 3 & 4 Option

SURGED: Monophasic Rectangular

A series of rectangular, monophasic pulses. The pulses surge to maximum power, hold and then decrease before the pause. This waveform is well suited for muscle strengthening.

Output Mode. . . . . Electrodes
Output Intensity. . . . . 0-80 mA
Phase Duration . . . . . 0.2-5.0 ms
Frequency. . . . . 5-60 Hz
Surges. . . . . 1/min - 20/min
Pause. . . . . 0-57 sec
Treatment Time. . . . . 1-60 min
Available on Channels . . . . . 1 & 2, 3 & 4 Option

DANGER

Stimulus delivered by the TENS waveforms of this device, in certain configurations, will deliver a charge of 25 microcoulombs (μC) or greater per pulse and may be sufficient to cause electrocution. Electrical current of this magnitude must not flow through the thorax because it may cause a cardiac arrhythmia.

SPECIFICATIONS

WAVEFORM SPECIFICATIONS (continued)

SURGED: Monophasic Triangular

A series of triangular, monophasic pulses. The pulses surge to maximum power, hold and then decrease before the pause. This waveform is well suited for muscle strengthening.

Output Mode. . . . . Electrodes
Output Intensity. . . . . 0-80 mA
Phase Duration . . . . . 0.2-5.0 ms
Frequency. . . . . .5-60 Hz
Surges. . . . . 1/min - 20/min
Pause. . . . . 0-57 sec
Treatment Time. . . . . 1-60 min
Available on Channels . . . . . 1 & 2, 3 & 4 Option

DANGER

Stimulus delivered by the TENS waveforms of this device, in certain configurations, will deliver a charge of 25 microcoulombs (µC) or greater per pulse and may be sufficient to cause electrocution. Electrical current of this magnitude must not flow through the thorax because it may cause a cardiac arrhythmia.

SPECIFICATIONS

ULTRASOUND SPECIFICATIONS

Ultrasound

Frequency..... 1 MHz, ± 5%; 3.3 Mhz, ±5%
Duty Cycles..... 10%, 20%, 50%, Continuous
Pulse Frequency.....100Hz
Pulse Duration.....1 mSec, ±20%; 2 mSec, ±20%; 5 mSec, ±20%

Output Power

10 cm^2 Crystal .....0-20 W at 1MHz, 0-10 W at 3.3 MHz
5 cm^2 Crystal .....0-10 W, 1 and 3.3 MHz
2 cm^2 Crystal .....0-4 W, 1 and 3.3 MHz
1 cm^2 Crystal ..... 0-2 W 3.3 MHz Only
Amplitude.....0 to 2.5 w/cm^2 in continuous mode, 0-3 w/cm^2 in pulsed modes
Output accuracy.....±20% above 10% of maximum
Temporal Peak to Average Ratio:.... 2:1, ± 20%, at 50% Duty Cycle
5:1, ± 20%, at 20% Duty Cycle
9:1, ± 20%, at 10% Duty Cycle
Beam Nonuniformity Ratio ..... 5.0 : 1 maximum
Beam Type .....Collimating

Effective Radiating Areas..... 10 cm^2 Crystal: 8.5 cm^2, ±1.5
5 cm^2 Crystal: 4.0 cm^2, ±1.0
2 cm^2 Crystal: 1.8 cm^2, +0.2/- 0.4
1 cm^2 Crystal: 0.8 cm^2, +0.2/-0.4
Treatment Time..... 1-30 min

Head Warming Feature

The Head Warming feature of an Intelect Advanced Combination Therapy System utilizes Ultrasound output resulting in warming of the Sound Head to increase patient comfort.

With Head Warming enabled, ultrasound is emitted without pressing the Start button. The Applicator LED will not illuminate during the Head Warming period. US Channel will indicate "Head Warming".

Output .....0 - 50% Cycling of maximum power
Frequency..... 3.3 Mhz
Sound Head Temperature ..... 29.4 °C - 43.3 °C (85 °F - 110 °F)

⚠ WARNING

Do not apply the Ultrasound Applicator to the patient during the Head Warming period. Applicator must remain in Applicator Hook duing the Head Warming period.

INTELECT ADVANCED COLOR SERIES THERAPY SYSTEMS

Remove the Therapy System and all accessories from shipping cartons. Visually inspect for damage. Report any damage to the carrier.

Color Series Standard Features

Order No.	Description	Qty
2765CS	Two Channel Electrotherapy System (or)	1
2762CC	Two Channel Combination System	1
27378	Electrotherapy Accessory Kit- Includes the following:	1
27312	Channel 1 Lead Wire	1
27313	Channel 2 Lead Wire	1
10648	Nylatex® Wrap	2
79967	6 x 8 cm Carbon Electrodes	4
79970	6 x 8 cm Electrode Sponges	4
42044	7 cm (2.75") Round Disposable Electrodes (4 per pack)	1
27469	Patient Interrupt Switch for Channels 1/2	1
27335	5 cm^2 Ultrasound Applicator (Combination Systems Only)	1
4248	Conductor ™ Transmission Gel- 9 oz Bottle (Combination Systems Only)	1
27085	Anatomical/Pathological Library (MMC Card)	1
27465	Patient Data Card	5
2771	sEMG Module (Factory Installed)	1
27567	sEMG Accessory Kit- Includes the Following	1
27321	sEMG Channel 1 (A) Lead Wire	1
27322	sEMG Channel 2 (B) Lead Wire	1
77725	Intravaginal Probe	1
42061	3.2 cm (1.25") Round Disposable Electrode Pack (4 per pack)	3
27455	User Manual (CD-ROM)	1

Color Series Optional Accessories

Order No.	Description
2770	Two Channel Electrotherapy Module
2767	NiMH Battery Module
2766	Laser Therapy Module
2771	sEMG Module
27567	sEMG Accessory Kit
2785	Vacuum Electrode Module
2774	Vacuum Electrode Module w/Cart
2775	Therapy System Cart
2768	Patient Data Management System- Includes the following:
27779	Version 1.0 PC Software (Windows)
27176	Card Reader
27300	USB Cable
27167	sEMG Data Card
27516	sEMG Data Card Sleeve
27780	User Manual (on Software CD)
27508	Operator Remote (Ch 1/2)
27079	Operator Remote (Ch 3/4)
27333	1 cm^2 US Applicator (Combination Only)
27334	2 cm^2 US Applicator (Combination Only)
27336	10 cm^2 US Applicator (Combination Only)

Mains Power Cords

Order No.	Type	Qty
21284	Euro	1
78121	US	1
20971	Australian	1
20972	Swiss	1
20973	UK	1
20974	Danish	1
20975	Japanese	1
20976	Indian	1
20977	Israeli	1

NOTE:
The Power Cord shipped with the System will accommodate the electrical requirements for the country of use.

INTELECT ADVANCED MONOCHROMATIC SERIES THERAPY SYSTEMS

Remove the Therapy System and all accessories from shipping cartons. Visually inspect for damage. Report any damage to the carrier.

Monochromatic Series Standard Features

Order No.	Description	Qty
2773MS	Two Channel Electrotherapy System (or)	1
2772MC	Two Channel Combination System	1
27378	Electrotherapy Accessory Kit- Includes the following:	1
27312	Channel 1 Lead Wire	1
27313	Channel 2 Lead Wire	1
10648	Nylatex® Wrap	2
79967	6 x 8 cm Carbon Electrodes	4
79970	6 x 8 Electrode Sponges	4
42044	7 cm (2.75") Round Disposable Electrodes (4 per Pack)	1
27469	Channel 1/2 Patient Interrupt Switch	1
27335	5 cm^2 Ultrasound Applicator (Combination Systems Only)	1
4248	Conductor™ Transmission Gel- 9 oz Bottle (Combination Systems Only)	1
27085	Anatomical/Pathological Library (MMC Card)	1
27465	Patient Data Card	5
27455	User Manual (CD-ROM)	1

Monochromatic Series Optional Accessories

Order No.	Description
2770	Two Channel Electrotherapy Module
2767	NiMH Battery Module
2766	Laser Therapy Module
2771	sEMG Module
27567	sEMG Accessory Kit
2785	Vacuum Electrode Module
2774	Vacuum Electrode Module w/Cart
2775	Therapy System Cart
2768	Patient Data Management System- Includes the following:
27779	Version 1.0 PC Software (Windows)
27176	Card Reader
27300	USB Cable
27167	sEMG Data Card
27516	sEMG Data Card Sleeve
27780	User Manual (on Software CD)
27508	Operator Remote (Ch 1/2)
27079	Operator Remote (Ch 3/4)
27333	1 cm^2 US Applicator (Combination Only)
27334	2 cm^2 US Applicator (Combination Only)
27336	10 cm^2 US Applicator (Combination Only)

Mains Power Cords

Order No.	Type	Qty
21284	Euro	1
78121	US	1
20971	Australian	1
20972	Swiss	1
20973	UK	1
20974	Danish	1
20975	Japanese	1
20976	Indian	1
20977	Israeli	1

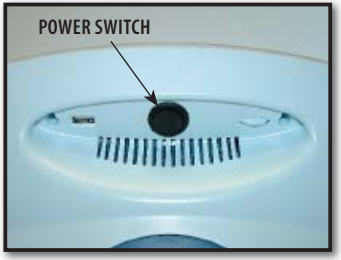
NOTE:
The Power Cord shipped with the System will accommodate the electrical requirements for the country of use.

THERAPY SYSTEM SET UP

Accessing Operator Utilities

Plug unit into wall outlet.

Turn system On.

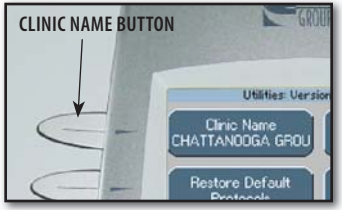


Press the Home and Back buttons simultaneously.

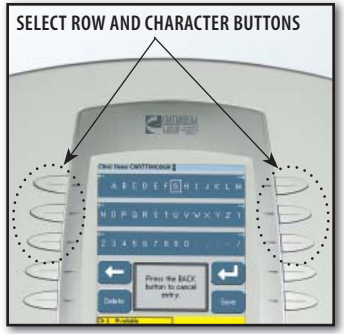
To return to the System Home screen, press the Home button.

Clinic Name

Press Clinic Name button.



Select the row of alpha or numeric characters desired by pushing the button beside the corresponding row. Select the desired character in the row by pressing the row button until the desired letter is framed.



Once selection is framed, press the Accept and Return Arrow button. The character just chosen will display in the top of the screen and the cursor will advance to the next character.

To go back a character press the Move Left Arrow button. To delete the character, press the Delete button.

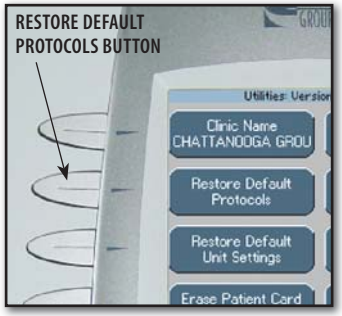
Once Clinic Name is completed, press the Save button.

To discard entry, press the Back button.

THERAPY SYSTEM SET UP (continued)

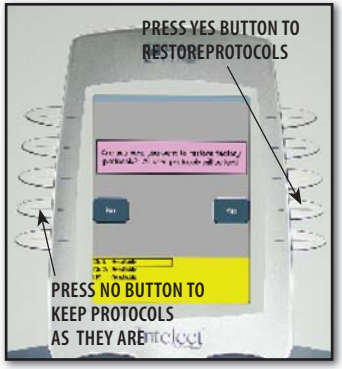
Restore Default Protocols

Press Restore Default Protocols button.



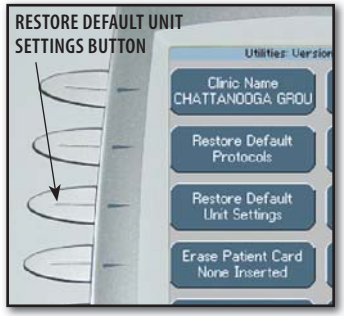
Press Yes button to restore the Protocols to Factory Settings. This will permanently remove all User Protocols and Sequences.

If it is not desired to permanently remove all of the User Protocols and User Sequences from the System, press the No button.

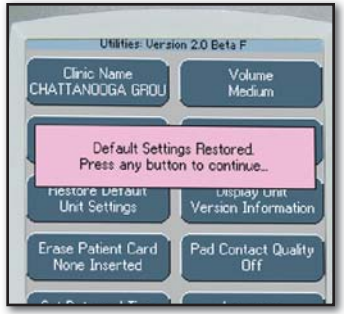


Restore Default Unit Settings

Press the Restore Default Unit Settings button to restore the system defaults. This control will neither change the Date and Time nor affect any of the Clinical Protocols stored in the system.



After the settings have been restored, a message will appear stating that the Default Unit Settings are restored. Press any button to return to Utilities screen.

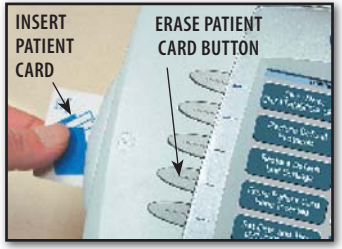


THERAPY SYSTEM SET UP (continued)

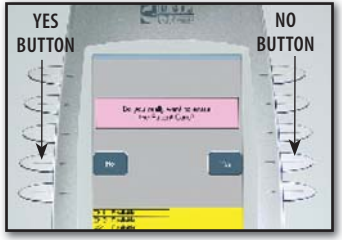
Erase Patient Data Card

Install Patient Data Card to be erased into Patient Data Card Access Port on the system.

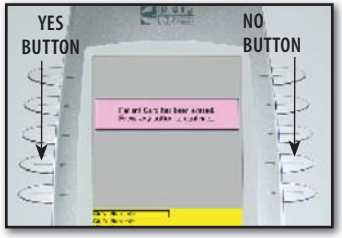
Press Erase Patient Card button.



Press the Yes button to erase all data from Patient Data Card. Press the No button to keep all data on Patient Data Card.

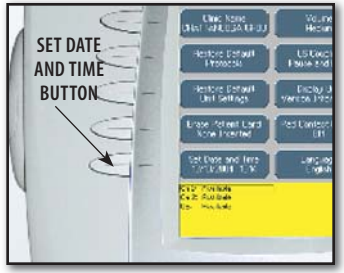


After Patient Data Card is erased, a verification message will appear. Press any button to return to the Utilities screen.



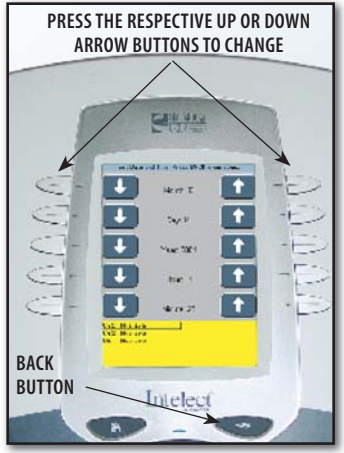
Set Date and Time

Press Set Date and Time button.



Press the UP or Down Arrow button for the respective area until desired change is displayed.

After all desired changes are made, press the Back button to return to the Utilities screen.

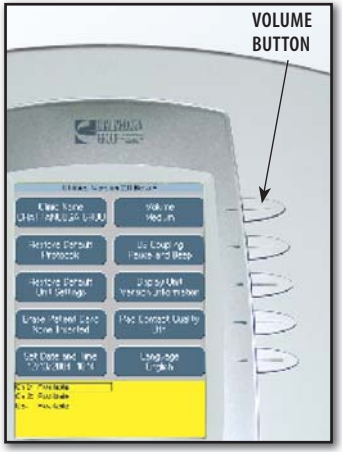


THERAPY SYSTEM SET UP (continued)

Setting System Volume

Press Volume button until the desired system volume is achieved. There are six settings: Off, X-Low, Low, Med, High, and X-High.

Each time the Volume button is pressed the setting displayed will emit three beep tones at that level.



Ultrasound Coupling

This warning system works in conjunction with the Applicator LED to alert the user should the Sound Head become uncoupled from the patient. Press the US Coupling button until the desired setting is displayed. There are four different alarm settings and an Off setting.

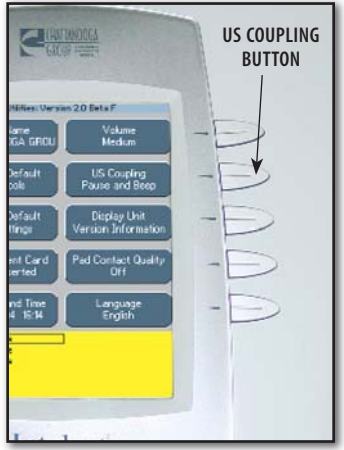
Pause and Beep
Pauses Treatment Time and emits an audible beep. When the Applicator Sound Head is re-coupled to the patient, the Treatment Timer will automatically restart.

Pause and No Beep
Pauses Treatment Timer. When the Applicator Sound Head is re-coupled to the patient, the Treatment Timer will automatically restart.

Beep
Emits an audible beep.

No Beep
No beep is emitted.

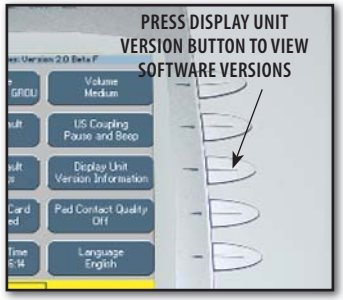
Off
Turns the Ultrasound Coupling feature.



THERAPY SYSTEM SET UP (continued)

Display Unit Version Information

Press the Display Unit Version Information button to show the system software versions installed.



Press the Back button to return the Operator Utilities screen.

Pad Contact Quality

The Pad Contact Quality feature indicates to the user the contact quality of the electrodes on the patient. This function, if On, displays a bar graph at the bottom of Treatment Review screen for the following waveforms only:

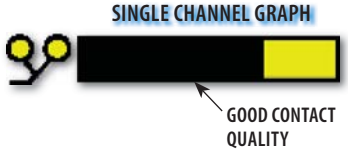
- **IFC Traditional (4p):** Dual Channel Graph
- **IFC Premod (2p):** Single Channel Graph
- **Russian:** Single Channel Graph

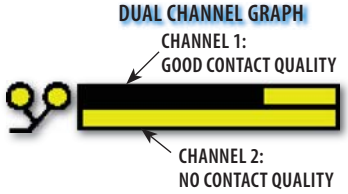
To turn on, press Pad Contact Quality button until On is displayed.

Single Channel Waveforms will display a single bar graph. Dual Channel waveforms will display a double bar graph.

Contact quality is measured by the amount of the graph filled with black.

An ideal contact quality is 75% or more of the graph filled.





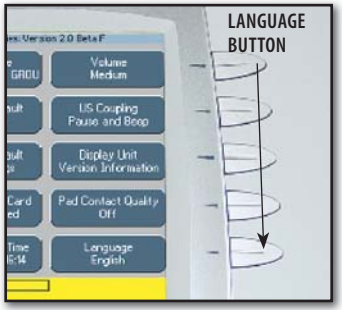
THERAPY SYSTEM SET UP (continued)

Select Language

To change the language displayed on the system, press the Language button until the desired language is displayed.

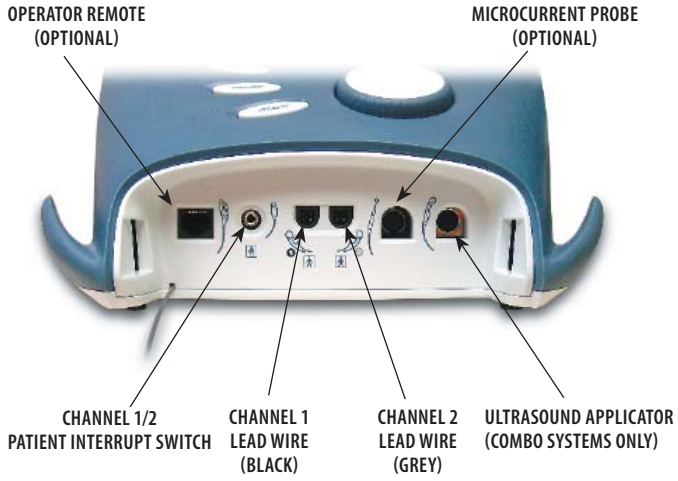
Press Home button to set the language and return to Home screen.

If Unit Default Settings are restored, the language will revert back to English.



Connecting Accessories to the Therapy System

Install Lead Wires, Ultrasound Applicator, Patient Interrupt Switch, and any other accessories according to the Front Access Panel as illustrated below. Refer to page 13 for Symbol Definitions.



ELECTROTHERAPY PATIENT PREPARATION

Electrode Placement

- Examine the skin for any wounds and clean the skin.
- Apply the electrodes to the treatment area.
- Ensure the electrodes are applied securely to the skin.
- Ensure good contact between each electrode and the skin.
- Check the electrode contact regularly during the treatment.
- Examine the skin again after the treatment.
- Choose electrodes that fit the anatomy.
- View the Electrode Placement recommendations in the Treatment Review screen for the particular modality being used for treatment as a reference point only prior to administering treatment.
- Refer to the respective electrode type instructions on pages 37 through 38.
- Follow electrode manufacturer instructions.

⚠ WARNING

- Keep electrodes separated during treatment. Electrodes in contact with each other could result in improper stimulation or skin burns.
- Output current density is related to electrode size. Improper application may result in patient injury. If any question arises as to the proper electrode size, consult a licensed practitioner prior to therapy session.
- Powered muscle stimulators should be used only with the leads and electrodes recommended for use by the manufacturer.

ELECTROTHERAPY PATIENT PREPARATION (continued)

Dura-Stick™ Electrodes

Chattanooga Group Dura-Stick Electrodes are a self adhesive, single patient, one time use disposable product designed specifically for use with Chattanooga Group Electrotherapy systems.

It is recommended that Chattanooga Group Dura-Stick Electrodes be used whenever possible to ensure the highest level of contact with the treatment area and most uniform delivery of the prescribed electrotherapy treatment.

Properly dispose of used Dura-Stick Electrodes upon completion of the therapy session.

Reusable Carbon Electrodes

If used for delivery of electrotherapy, the Carbon Electrodes must be inserted into the sponges moistened with distilled water prior to placement on the patient.

These Carbon Electrodes should be secured to the treatment area using the Nylatex® Wraps shipped with the Therapy System.

ELECTROTHERAPY PATIENT PREPARATION (continued)

Dura-Stick™ Electrode Instructions

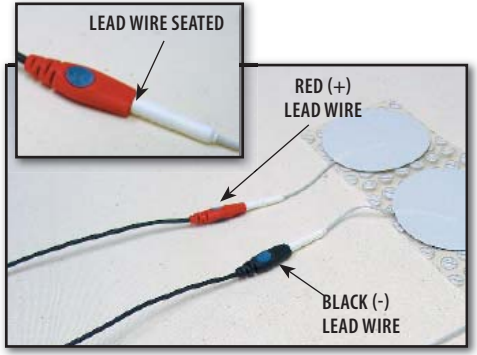
Connecting Lead Wires

Insert the lead with the Red (+) electrode connector into one Dura-Stick Electrode. Insert the lead with the Black (-) electrode connector into the other electrode.

Make certain the lead wires are seated completely into the electrodes.

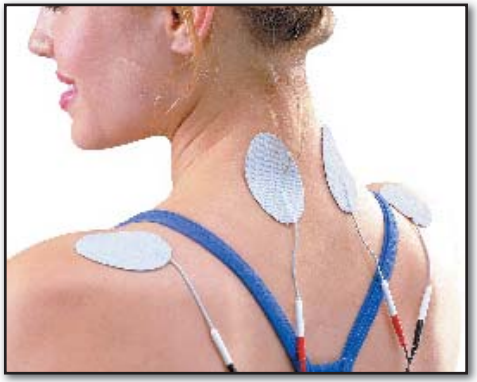
NOTE:

Use of conductive medium or sponges is not required or recommended. Dura-Stick Electrodes are manufactured to ensure the optimum conductivity during therapy when properly applied.



Securing Electrodes

Remove the Dura-Stick Electrodes from the protective backing and apply to the treatment area as prescribed. Ensure the entire electrode surface is in contact with patient skin by pressing into place.



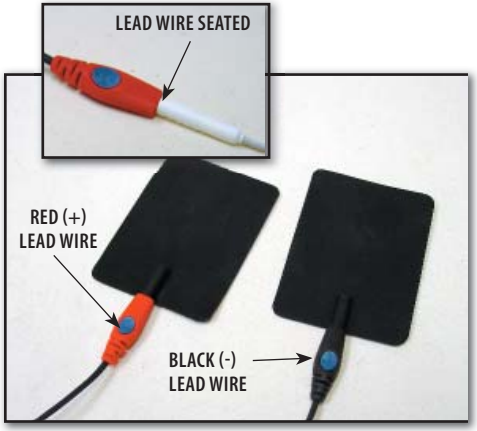
ELECTROTHERAPY PATIENT PREPARATION (continued)

Reusable Carbon Electrodes

Connecting Lead Wires

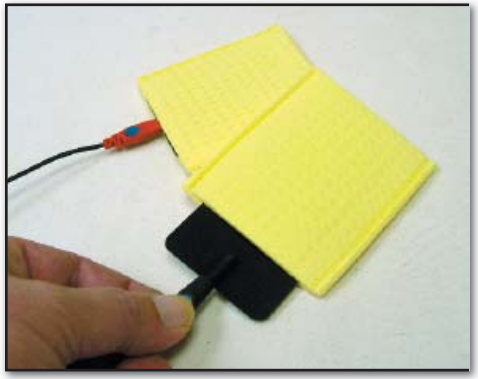
Insert the lead with the Red (+) electrode connector into electrode. Insert the lead with the black (-) electrode connector into the other electrode.

Make certain the lead wires are seated completely into the electrodes.



Conductive Medium

Use wet sponges or liberally apply Conductor™ Transmission Gel to electrode prior to placement on patient.



Securing Electrodes

Use the Nylatex® Wrap to secure each electrode in position on the patient.

⚠ CAUTION

The Nylatex® Wraps contain dry natural rubber and may cause allergic reactions in patients with allergies to latex.

PATIENT PREPARATION

ULTRASOUND PATIENT PREPARATION

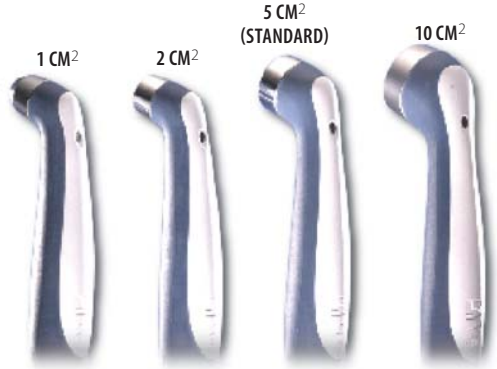
Preparing Treatment Area

Examine the skin for any wounds and clean the skin.

Size of Applicator

View the Sound Head Recommendation in the Treatment Review screen for Ultrasound (as a reference point only) prior to administering treatment.

Sound Heads are available in the sizes shown below.



Applicator Preparation

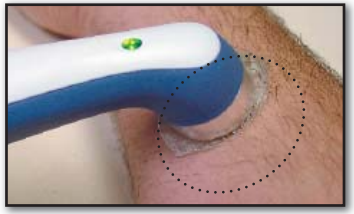
Clean applicator before each therapy session with warm soapy water.

Conductive Medium

Liberally apply Conductor™ Transmission Gel or equivalent to the treatment area on the patient.

Treatment Area

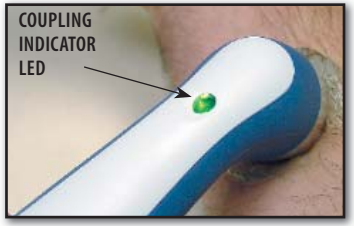
Move the Sound Head during therapy session in a circular motion. The area treated should be two times the diameter of the Sound Head.



Applicator Coupling

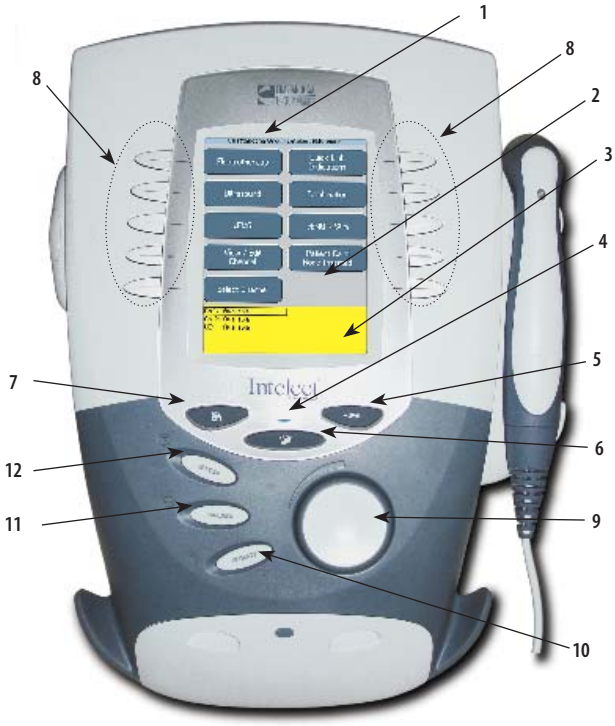
If US Coupling is On, the Sound Head is properly coupled to the patient and administering ultrasound when the LED is constantly illuminated

NOTE:
Refer to page 29 for US Coupling settings.



OPERATOR INTERFACE

The Intelect Advanced Therapy System user Operator Interface houses all of the functions and controls necessary for the operator to access all operator utilities, modalities, and parameters for modification and system set up.



1. **Top of Screen**
   The Title Bar indicates the Screen Title for the modality being used. When at the System Home screen, the Clinic Name is displayed.
2. **Center of Screen**
   Contains available Modality options. Select Modality by pressing the desired Modality button and then make parameter modifications.
3. **Bottom of Screen**
   Displays available channels and their respective status. Displays Treatment Time and status. After starting therapy session, Modality and Parameter buttons are used to select and modify channel parameters.
4. **Unit On Indicator**
   Illuminates green when System is connected to an AC mains power source. When the System is On, the indicator will illuminate blue. With System On, and if the system sits unused, the Screen Saver initiates (blank screen) and the Blue Indicator will flash.
5. **Back button**
   Used to return back one screen. Used in conjunction with the Home button to access the Operator Utilities screen.
6. **Clinical Resources Library button**
   Used to access Clinical Protocols, User Protocols, Sequencing, and the Clinical (Anatomical/Pathological) Libraries screen.
7. **Home button**
   Used to go back to the System Home screen. Used in conjunction with the Back button to access the Operator Utilities screen.
8. **Modality and Parameter buttons**
   Used to select modality and edit treatment parameters.
9. **Intensity Knob**
   Rotate clockwise to increase Modality intensity. Rotate counterclockwise to decrease Modality intensity.
10. **Start button**
    Press to start therapy session after all initial parameters have been set.
11. **Pause button**
    Press to pause a therapy session. Press again to restart session.
12. **Stop button**
    Press to completely stop the therapy session.

HOME SCREEN

The Intelect Advanced Home screen affords access to all of the system modalities and functions. The area surrounding the screen has 10 modality and parameter modification buttons.

***NOTE:**
The sEMG Module is standard on the Intelect Advanced Therapy System Color Series and optional for the Monochromatic Series.

1. **Electrotherapy**
   Accesses all the available waveforms and parameter editing controls.
2. **Quick Link Indications**
   Accesses specific pre-programmed indications, for general reference only, which aid in selecting the proper waveform and electrode placement for particular indicated patient syndrome diagnoses.
3. **Ultrasound**
   Accesses the Ultrasound set up screen and parameter editing controls.
4. **Combination**
   Accesses combination therapy set up screens and parameter editing controls.
5. **sEMG***
   Accesses the Surface EMG (sEMG) modality and parameter editing controls.
6. **sEMG + Stim***
   Accesses the Surface EMG (sEMG) + Electrical Stimulation modality and parameter editing controls.
7. **View/Edit Channel**
   Accesses the selected channel and allows editing of the channel's parameters during therapy. Also used in the saving of information to the Patient Data Card.
8. **Patient Card**
   Accesses Patient Data Card data.
9. **Select Channel**
   Use to select desired channel for viewing and editing of channel parameters.
10. **Unused**
    Reserved for optional expansion Modules.

ELECTROTHERAPY SCREEN

The screen allows the operator to access, set up, and modify parameters of each of the available waveforms within the Intelect Advanced Therapy System. The following pages give a general explanation of a treatment setup.
Refer to the Specifications section, beginning on page 15, for detailed specifications of the system and each available waveform.

NOTE:
Give patient the appropriate Patient Interrupt Switch for the channels being used. Prior to starting a therapy session, explain to the patient how to use the Patient Interrupt Switch.

GENERAL ELECTROTHERAPY WAVEFORM SET UP

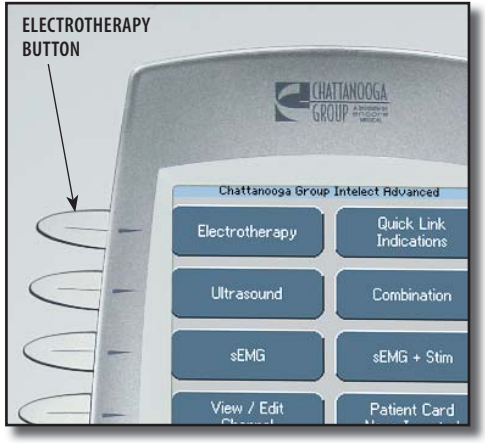
The following information is an example of step by step set up for the Electrotherapy waveforms. All waveforms in the Intelect Advanced Therapy System are set up and edited in the same basic fashion. The following set up instructions use IFC Traditional (4p) Waveform.

Prepare Patient

Refer to pages 35 through 38 for electrode selection, preparing patient, and securing electrodes.

Select Modality

Press the Electrotherapy button on the Home screen.



Select Waveform

Press button beside the desired waveform from the listing on the screen.

Refer to Specifications section of this manual for all available waveforms on the Intelect Advanced Therapy System.

View Waveform Description

Press the Waveform Description button to view text explaining the waveform rationale.

Press the Next Page button to view additional text. Press the Back button to return to the Treatment Review screen.

GENERAL ELECTROTHERAPY WAVEFORM SET UP (continued)

View Electrode Placement

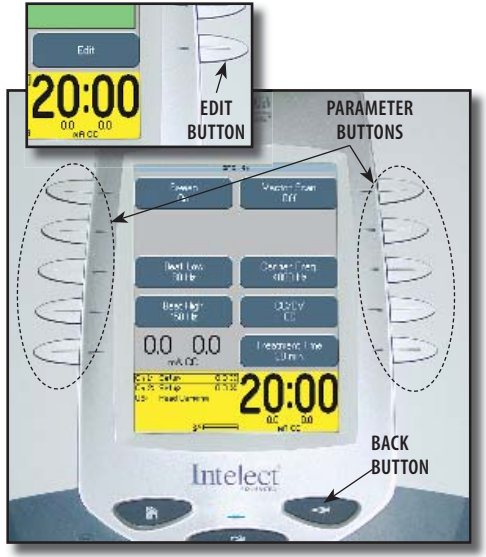
Press the Electrode Placement button to view the most commonly used electrode placement for the waveform selected.

Press the Next button to read Electrode Placement Text. Press the Back button to return to the Treatment Review screen.

Edit Waveform Parameters

Press Edit button to access waveform parameters.

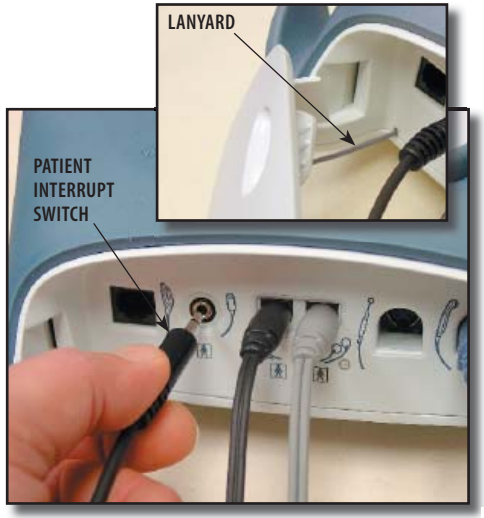
Press the corresponding button to edit each parameter as prescribed.



Press the Back button to return to the Treatment Review screen.

Install Patient Interrupt Switch

Make certain the Patient Interrupt Switch is connected to the Therapy System. Refer to page 13 for Symbol Definitions.

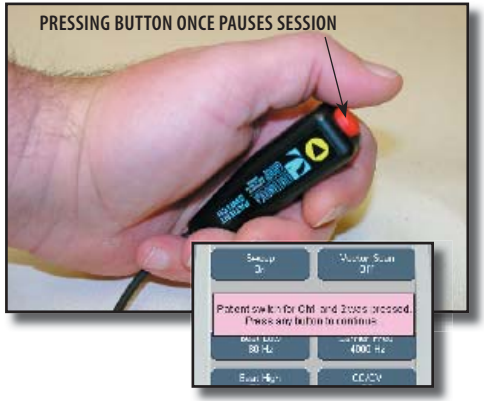


NOTE:
When reinstalling the Front Access Panel, make certain the Lanyard does not become kinked.

GENERAL ELECTROTHERAPY WAVEFORM SET UP (continued)

Patient Interrupt Switch

Give Patient Interrupt Switch to patient and explain that pressing the Red button once pauses the therapy session.



If Patient Interrupt Switch is depressed, the treatment will be paused and a message will appear on the System screen.

Press any button to clear the message.

NOTE:
If the Patient Interrupt Switch is depressed a second time, the message will clear from the screen and the treatment will remain paused.

Set Waveform Intensity

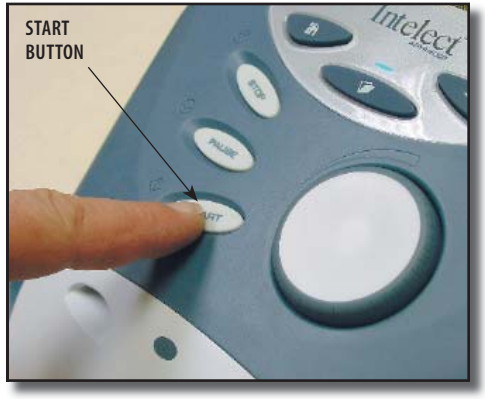
Set intensity by rotating the Intensity Control Knob to the prescribed level.

Intensity Knob Rotation

Clockwise- Increases Intensity
Counterclockwise- Decreases Intensity

Start Treatment

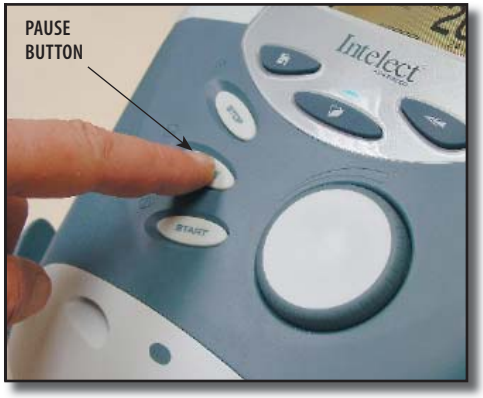
Press the Start button to begin therapy session.



GENERAL ELECTROTHERAPY WAVEFORM SET UP (continued)

Pause Treatment

Press the Pause button to pause therapy session and maintain remaining time. To resume treatment, press the Pause button again.



Stop Treatment

To Stop treatment, press the Stop button once. Treatment will stop and the Home screen will display.

Save to Patient Data Card

After session is complete, press the Save to Patient Card button. Refer to pages 63 through 72 for Patient Data Card Setup and use.

ADJUSTING ELECTROTHERAPY CHANNEL PARAMETERS DURING TREATMENT

The Electrotherapy channel parameters may be changed during a treatment session without pausing or stopping the treatment. The waveform Intensity may be increased or decreased at any time during the session without utilizing this process.

Select Channel

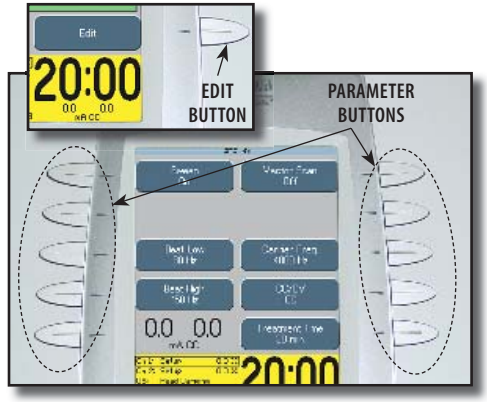
Press the Home button.

Press the Select Channel button until the channel desired is framed.

Press the View/Edit Channel button. The Treatment Review screen will display.

Edit Channel Paramenters

Press the Edit button. Edit parameters as desired.



When finished editing the selected channel, press the Home button to select another channel if desired.

To view the Treatment Review screen, if the Home screen is displayed, press the View/Edit Channel button. If the Edit screen is displayed, press the Back button.

ULTRASOUND

The Intelect Advanced Therapy System Ultrasound modality allows the user to select specific Sound Head recommendations and edit treatment parameters for various syndromes requiring the use of ultrasound therapy. The following information gives general instructions for the setup of ultrasound therapy when selecting Ultrasound from the Home screen. Clinical Protocol and Quick Link Indication Ultrasound treatment parameters are edited in the same basic fashion.

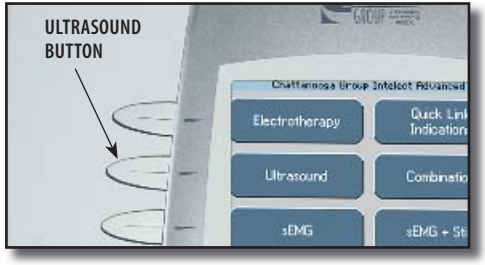
Prepare Patient

Refer to page 39 for Applicator sizes, patient preparation, and use of conductive medium.

NOTE:
Use only Intelect Advanced Ultrasound Applicators. Previous models of Chattanooga Group Ultrasound Applicators will not work with the Intelect Advanced Therapy System.

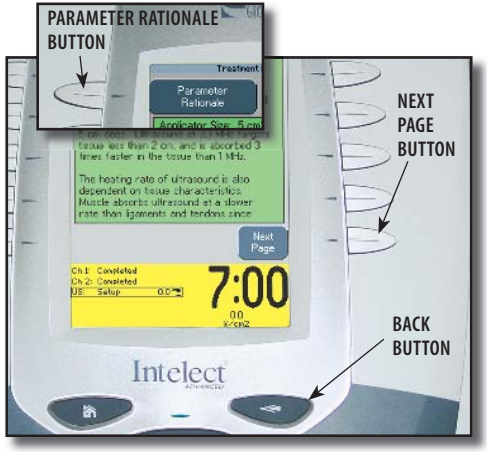
Select Modality

Press the Ultrasound button on the Home screen.



View Parameter Rationale

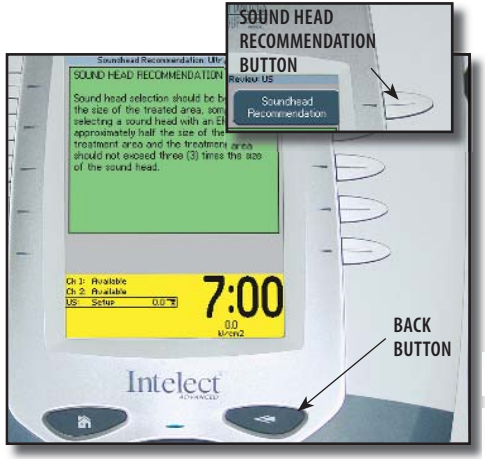
Press the Parameter Rationale button for text. Press the Next Page button to continue viewing text.



Press the Back button to the return to Treatment Review screen.

Sound Head Recommendation

Press Sound Head Recommendation button to view text explaining how to select an Ultrasound Applicator size based on treatment area.



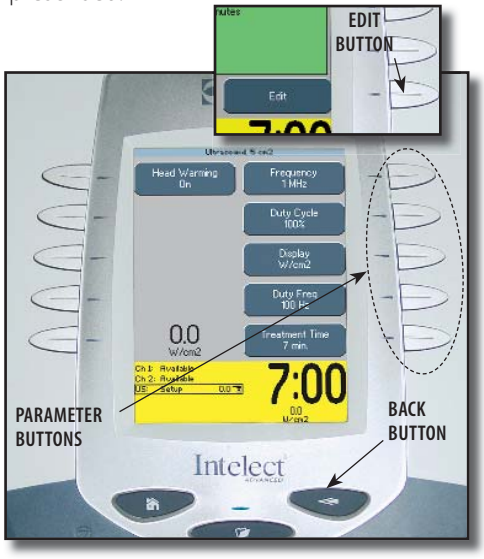
Press the Back button to the return to Treatment Review screen.

ULTRASOUND (continued)

Edit Ultrasound Parameters

Press Edit button to access ultrasound parameters.

Press the corresponding button to edit as prescribed.



Press the Back button to return to Treatment Review screen.

Head Warming

The Intelect Advanced Therapy System incorporates a Head Warming feature that pre-heats the Sound Head of the Applicator for increasing patient comfort. The control for the Head Warming feature is in the Edit screen of the Ultrasound modality.

Press the Head Warming button until On is displayed.

To set the default of the Head Warming feature to On, press the Home button after On is displayed in the Head Warming icon. Head Warming will then start when the Therapy System is turned On.

NOTE:
Head Warming time is approximately 2 minutes.

Set Ultrasound Intensity

Set intensity by rotating the Intensity Control Knob to the prescribed level.

Intensity Knob Rotation

Clockwise- Increases Intensity
Counterclockwise- Decreases Intensity

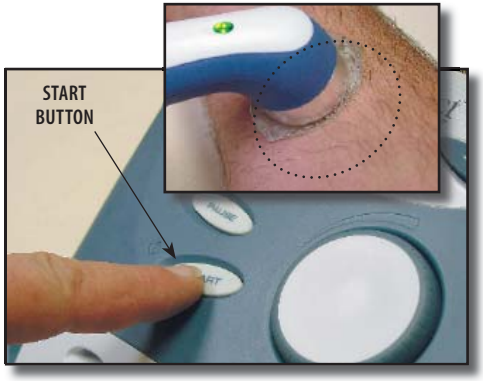
OPERATION

ULTRASOUND (continued)

Start Treatment

Press the Start button to begin therapy session.

Move the Applicator in a circular motion over the treatment area.



NOTE:
If US Coupling is On and the Sound Head looses coupling with the treatment area the session will pause. When coupling is reestablished the session will automatically restart. See page 32 for US Coupling settings.

Pause Treatment

Press the Pause button to pause therapy session and maintain remaining time. To resume treatment, press the Pause button again.

or

If US Coupling is On, and the Sound Head looses coupling with the treatment area, the session will pause. When coupling is reestablished, the session will automatically restart. Refer to page 32 for US Coupling settings.

Stop Treatment

To Stop treatment, press the Stop button once. Treatment will stop and the Treatment Review screen will display.

Save to Patient Data Card

After session is complete, press the Save to Patient Card button. Refer to pages 63 through 72 for Patient Data Card Setup and use.

ADJUSTING ULTRASOUND PARAMETERS DURING TREATMENT

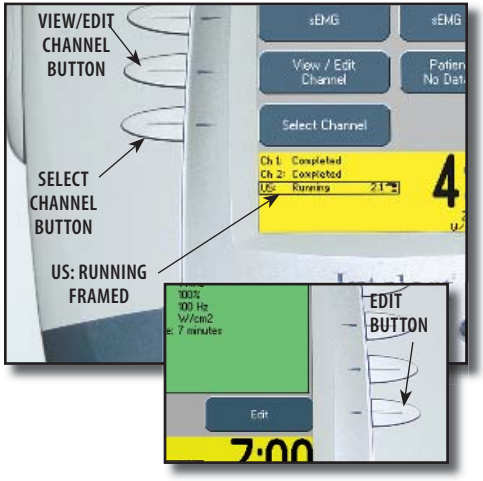
The ultrasound parameters may be changed during a treatment session without pausing or stopping the treatment. The following information provides instructions for changing ultrasound treatment parameters during a treatment session. The ultrasound intensity may be increased or decreased at any time during the session without utilizing this process.

Editing Ultrasound from Home Screen

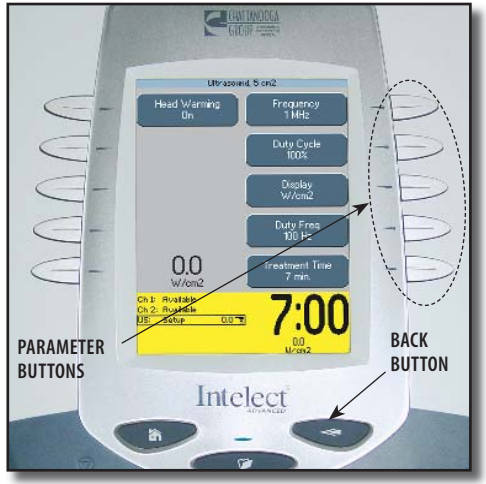
Press Select Channel button until US: Running is framed.

Press View/Edit Channel button.

Press the Edit button on the Treatment Review screen.



Press the cooresponding parameter button and edit as prescribed.

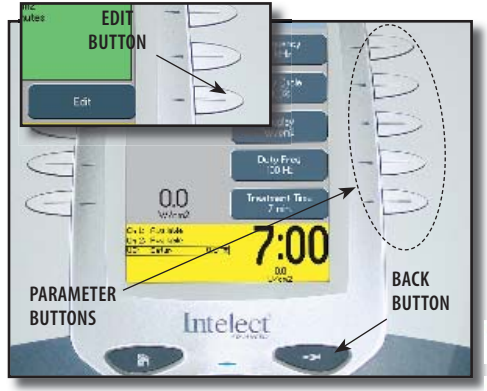


When editing is complete, press the Back button to return to Treatment Review screen

Editing Ultrasound from Treatment Review Screen

Press the Edit button on the Treatment Review screen.

Press the cooresponding parameter button and edit as prescribed.



When editing is complete, press the Back button to return to Treatment Review screen.

QUICK LINK INDICATIONS

The Intelect Advanced Therapy System incorporates a unique Quick Link Indications section which allows the user to select specific Clinical Indications and apply the most common therapy for the Indication selected. All modalities are editable, in their normal editing fashion, in order to customize the treatment for each patient's prescribed therapy.

Available Quick Link Indications

Pain- (Acute, Subacute and Chronic)

Increase Local Circulation

Neuromuscular Re-education- (Spasticity, Muscle Re-education and Stroke Muscle Re-education)

Wound Healing- (Stage III and Stage IV)

Iontophoresis

Muscle Spasm

Edema- (Acute and Chronic)

Denervated Muscle- (Muscle Re-education and S/D Curve)

Muscle Strengthening- (Phasic Muscle Strengthening and Tonic Muscle Strengthening)

Waveforms- Link to Waveform and Current Library. (Same as under Electrotherapy on Home screen)

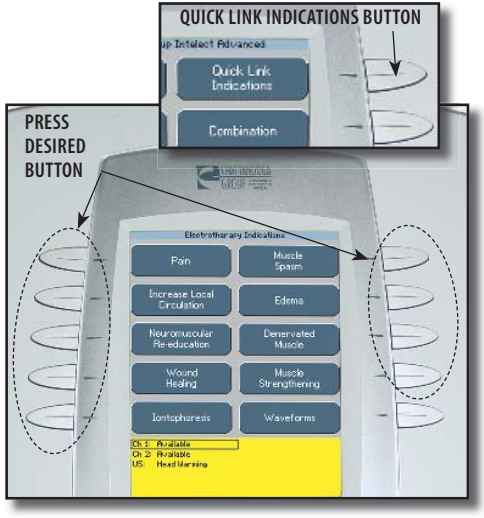
Prepare Patient

Refer to pages 35 through 38 for electrode selection, preparing patient, and securing electrodes.

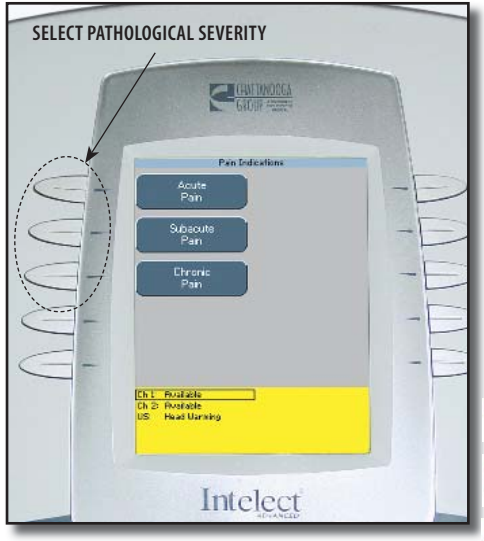
Select Quick Link Indication

Press the Quick Link Indications button on the Home screen.

Press the corresponding button beside the desired Quick Link Indication.



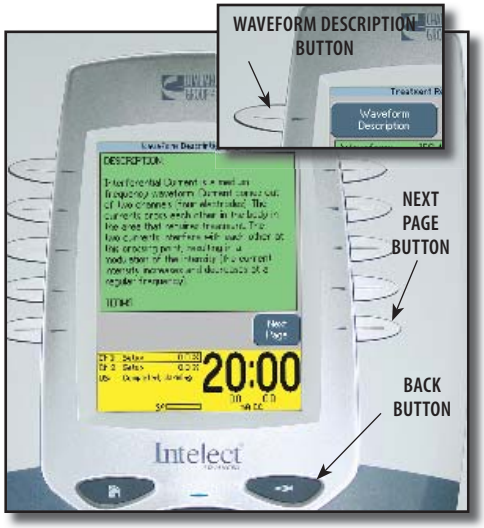
If prompted by the Therapy System, press the corresponding button for the desired Pathological Severity.



QUICK LINK INDICATIONS (continued)

View Waveform Description

Press the Waveform Description button to view text explaining the waveform rationale.



Press the Next Page button to view additional text. Press the Back button to return to the Treatment Review screen.

View Electrode Placement

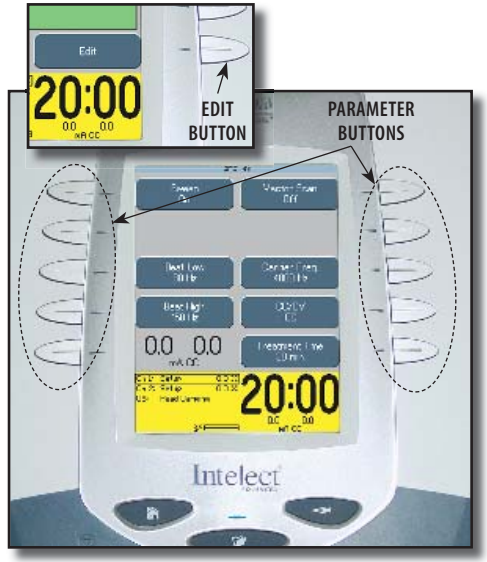
Press the Electrode Placement button to view the most commonly used electrode placement for the waveform selected.

Press the Next button to read Electrode Placement Text. Press the Back button to return to the Treatment Review screen.

Edit Waveform Parameters

Press Edit button to access waveform parameters.

Press the corresponding button to edit each parameter as prescribed.

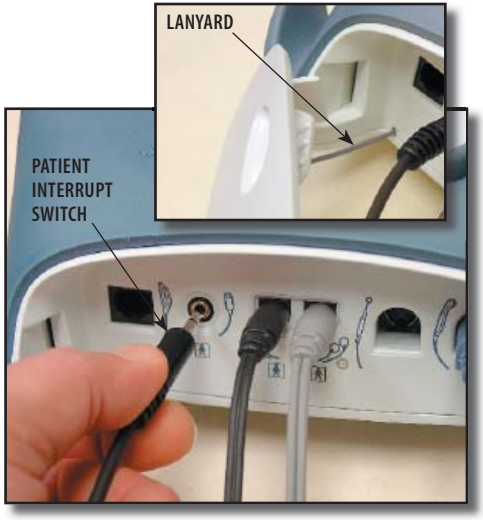


Press the Back button to return to the Treatment Review screen

QUICK LINK INDICATIONS (continued)

Install Patient Interrupt Switch

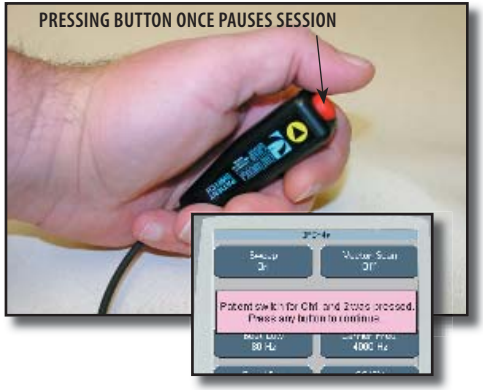
Make certain the Patient Interrupt Switch is connected to the unit. Refer to page 13 for Symbol Definitions.



NOTE:
When reinstalling the Front Access Panel, make certain the Lanyard does not become kinked.

Patient Interrupt Switch

Give Patient Interrupt Switch to patient and explain that pressing the Red button once pauses the therapy session.



If Patient Interrupt Switch is depressed, the treatment will be paused and a message will appear on the System screen.

Press any button to clear the message.

NOTE:
If the Patient Interrupt Switch is depressed a second time, the message will clear from the screen and the treatment will remain paused.

Reset intensity and press the Start button to resume session.

QUICK LINK INDICATIONS (continued

Setting Waveform Intensity

Set intensity by rotating the Intensity Control Knob to the prescribed level.

Intensity Knob Rotation

Clockwise- Increases Intensity
Counterclockwise- Decreases Intensity

Start Treatment

Press the Start button to begin therapy session.

Pause Treatment

Press the Pause button to pause therapy session and maintain remaining time. To resume treatment, press the Pause button again.

QUICK LINK INDICATIONS (continued)

Stop Treatment

To Stop treatment, press the Stop button once. Treatment will stop and the Home screen will display.

Editing Parameters during Treatment Session

The parameters may be edited during a treatment session without pausing or stopping the treatment.

Refer to page 47 for parameter changes to electrotherapy waveforms and currents and page 51 for editing Ultrasound.

NOTE:
The intensity can be increased or decreased by rotating the Intensity Knob as desired without pressing the Edit button.

Save to Patient Data Card

After session is complete, press the Save to Patient Card button. Refer to pages 63 through 72 for Patient Data Card Setup and use.

COMBINATION

The Intelect Advanced Therapy System Combination modality allows the user to select and use ultrasound therapy in combination with electrical muscle stimulation.
Combination therapy utilizes the Ultrasound modality in conjuction with High Voltage Pulsed Current (HVPC), IFC (4p), IFC (2p), Asymmetrical Biphasic, Symmetrical Biphasic, or VMS™ to generate a therapeutic effect. In this mode of therapy, the Sound Head of the Ultrasound Applicator becomes one half of the electrical circuit. An electrode attached to the Red (+) Lead Wire completes the circuit.

Prepare Patient

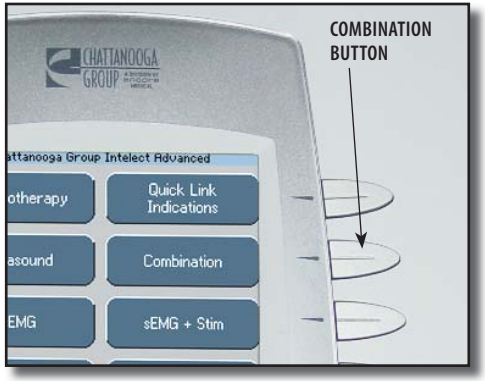
Refer to pages 35 through 38 to prepare patient, select electrode, and securing electrodes. Refer to page 39 for Ultrasound patient preparation.

Connect the Black (-) Lead Wire from Channel 2 to the electrode. Make certain the Lead Wire is completely seated in the electrode.

The Red (+) Lead Wire is not used. The Ultrasound Applicator completes the circuit for Combination Therapy.

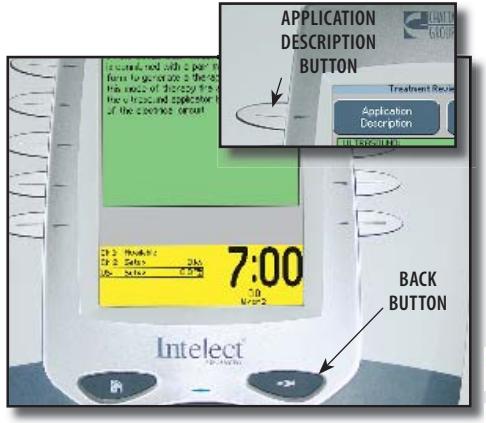
Select Modality

Press the Combination button on the Home screen.



View Application Description

Press the Waveform Description button to view text explaining the waveform rationale.



Press the Back button to return to the Treatment Review screen.

COMBINATION (continued)

View Electrode Placement

Press the Electrode Placement button to view the most commonly used electrode placement for Combination therapy.

Press the Next button to read Electrode Placement Text. Press the Back button to return to the Treatment Review screen.

Access Combination Parameters

Press Edit button to access Combination parameters.

Press the Back button to return to the Treatment Review screen.

Edit Ultrasound Parameters

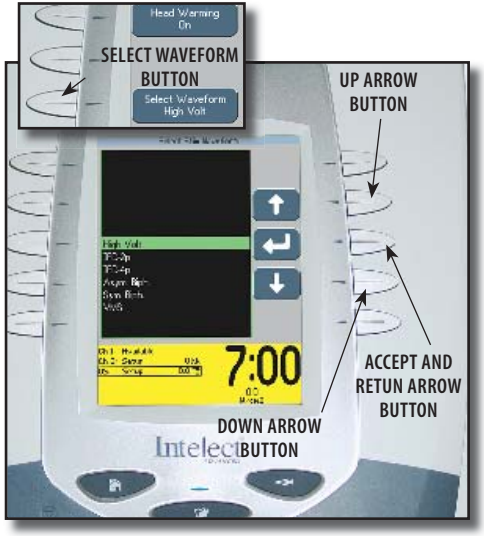
Press the corresponding button to edit the desired Ultrasound parameter as prescribed.

NOTE:
See page 49 for Head Warming feature instructions.

COMBINATION (continued)

Select Waveform

Press the Select Waveform button.

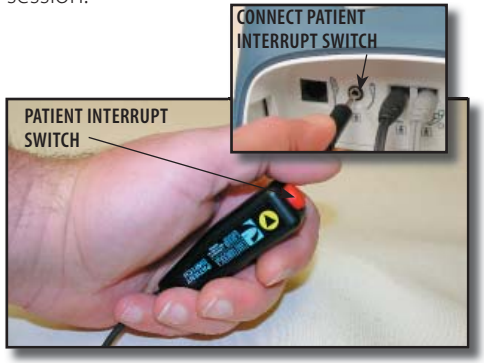


Press the Up or Down Arrow buttons until the prescribed waveform is highlighted.

Press the Accept and Return Arrow button.

Patient Interrupt Switch

Connect Patient Interrupt Switch to the Therapy System. Give Patient Interrupt Switch to patient and explain that pressing the Red button once pauses the therapy session.



If Patient Interrupt Switch is depressed, the treatment will be paused and a message will appear on the System screen.

Press any button to clear the message.

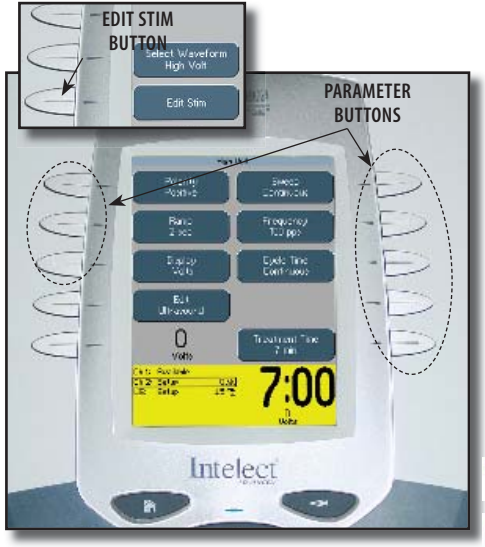
NOTE:

If the Patient Interrupt Switch is depressed a second time, the message will clear from the screen and the treatment will remain paused.

Edit Waveform Parameters

Press the Edit Stim button to edit the parameters of the waveform selected.

Press the corresponding button to edit each parameter as prescribed.



COMBINATION (continued)

Set Waveform Intensity

Set intensity by rotating the Intensity Control Knob to the prescribed level.

Intensity Knob Rotation

Clockwise- Increases Intensity
Counterclockwise- Decreases Intensity

Set Ultrasound Intensity

Press the Edit Ultrasound button.

Set Ultrasound intensity by rotating the Intensity Control Knob to the prescribed level.

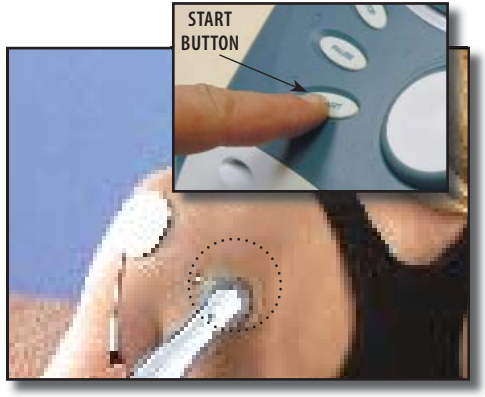
Intensity Knob Rotation

Clockwise- Increases Intensity
Counterclockwise- Decreases Intensity

Start Treatment

Press the Start button to begin therapy session.

Move the Applicator in a circular motion on the treatment area.



NOTE:
If US Coupling is On and the Sound Head looses coupling with the treatment area the session will pause. When coupling is reestablished, the session will automatically restart. See page 32 for US Coupling settings.

COMBINATION (continued)

Pause Treatment

Press the Pause button to pause therapy session and maintain remaining time. To resume treatment, press the Pause button again.

Stop Treatment

To Stop treatment, press the Stop button once. Treatment will stop and the Home screen will display.

Save to Patient Data Card

After session is complete, press the Save to Patient Card button. Refer to pages 63 through 72 for Patient Data Card Setup and use.

ADJUSTING COMBINATION PARAMETERS DURING TREATMENT

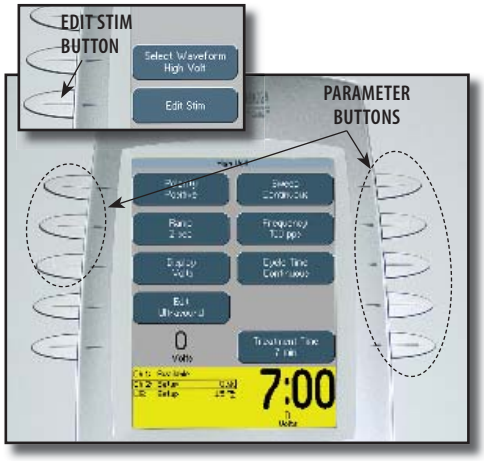
The channel parameters may be changed during a treatment session without pausing or stopping the treatment. The following information provides instructions for changing Combination Treatment Electrotherapy Channel and Ultrasound parameters during a treatment session.

Edit Waveform Parameters

Press the Edit Stim button to edit the parameters of the waveform selected.

Press the corresponding button to edit each parameter as prescribed.

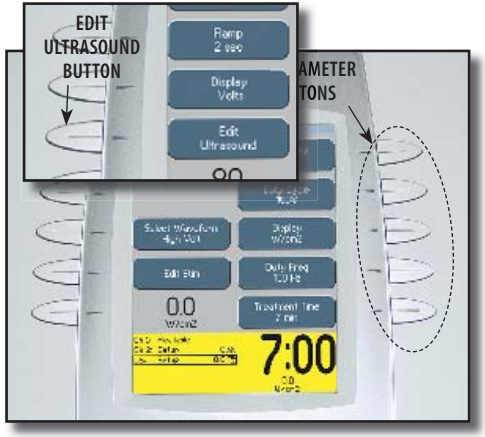
Rotate the Intensity Knob to increase or decrease waveform intensity as prescribed.



Edit Ultrasound Parameters

Press the Edit Ultrasound button.

Press the corresponding button to edit the desired Ultrasound parameter as prescribed.



NOTE:
See page 49 for Head Warming feature instructions.

NOTE:
To edit parameters from the Home screen, see page 47 for selecting channel instructions.

PATIENT DATA CARD- SET UP OF NEW CARD

General Information

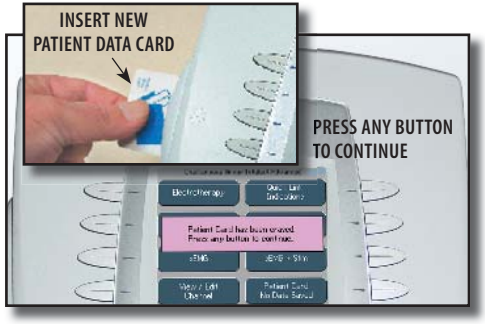
The Intelect Advanced Therapy System incorporates a Patient Data Card reading and recording device that allows transfer of patient therapy data from the system to the card for reviewing patient modality and pain profile information. Information may be transferred to a PC via the optional Patient Data Management System. The PC software is designed to allow easy access to patient data and printing of reports as well as adding session notes to the Patient Data Card.

The reading and recording device allows storage and recall of the following patient session data onto the Patient Data Card: therapy session parameters, Electrode Placement, Pain Map, Numeric Pain Scale or Visual Pain Scale, and Session Notes (stored on card via PC only). Each Patient Data Card can store multiple sessions and each session can be recalled on the Intelect Advanced Therapy System.

Insert New Patient Data Card

Insert a new Patient Data Card into the system access port as shown below. The Therapy System will automatically format the new Patient Data Card and a verification message will appear.

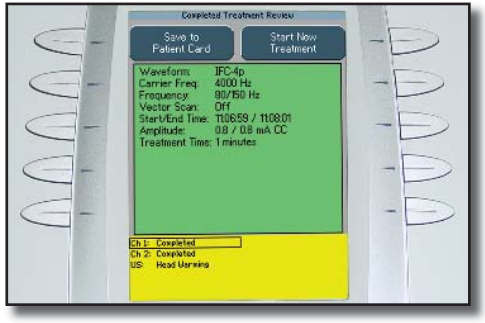
Press any button to continue.



Setup Treatment

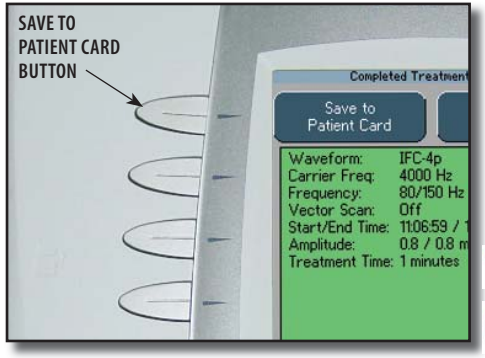
Set up the patient's prescribed treatment. Refer to the appropriate area of this manual for modality set up.

Administer treatment as prescribed. When treatment is complete, the Treatment Review screen will be visible.



Set Up of New Patient Data Card

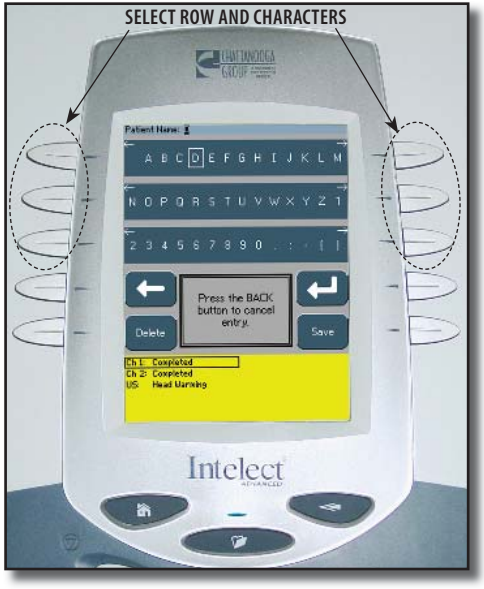
With new Patient Data Card inserted in the system, press the Save to Patient Card button.



PATIENT DATA CARD- SET UP OF NEW CARD (continued)

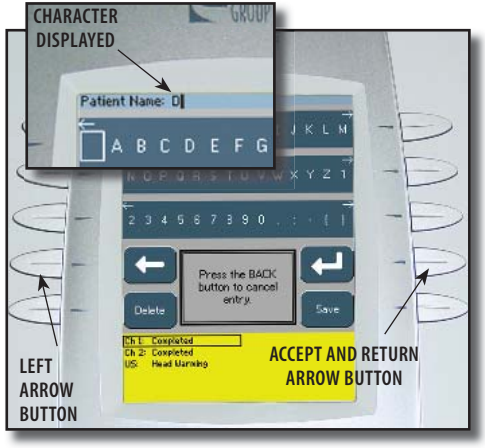
Enter Patient ID

Select the row of alpha or numeric characters desired by pushing the button beside the corresponding row. Select the desired character in the row by pressing the row button until the desired letter is framed.



When the desired character is framed, press the Accept and Return Arrow button. The character selected will display in the top of the screen and the cursor will advance to the next position.

To move back a character, press the Left Arrow button.

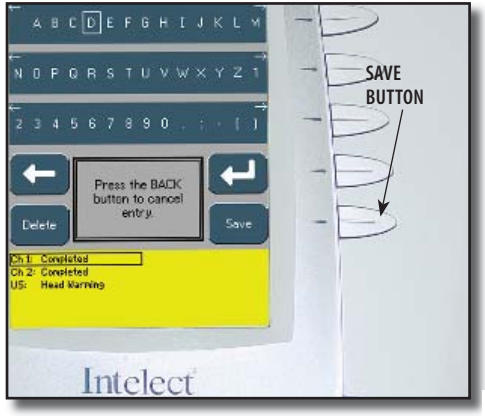


To delete a character, press the Left Arrow button until the character to be deleted is framed. Press the Delete button.

To discard entire entry, press the Back button.

Repeat this procedure until the desired Patient ID is entered.

After Patient ID is entered, press the Save button.



PATIENT DATA CARD- SET UP OF NEW CARD (continued)

Access Electrode Placement

The following information uses the IFC Traditional (4p) as an example. Electrode Placement procedures for all modalities are performed in the same basic fashion.

Press the Electrode Placement button.

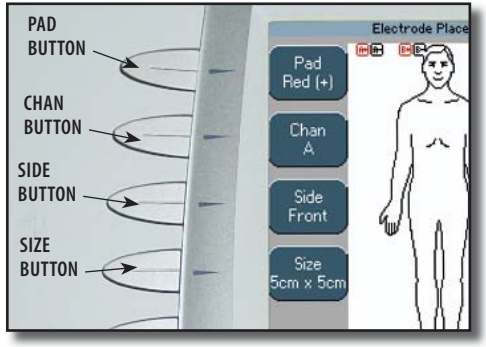
Electrode Placement Set Up

Press the Pad button to select the Red (+) or Black (-) electrode.

Press the Chan button to select (1) or Channel B (2).

Press the Side button to select Front, Back, Left, or Right of the body graphic.

Press the Size button until desired electrode size is displayed. If electrode desired is not listed, select Other.



NOTE:

When Ultrasound is the modality, only the Side button is available.

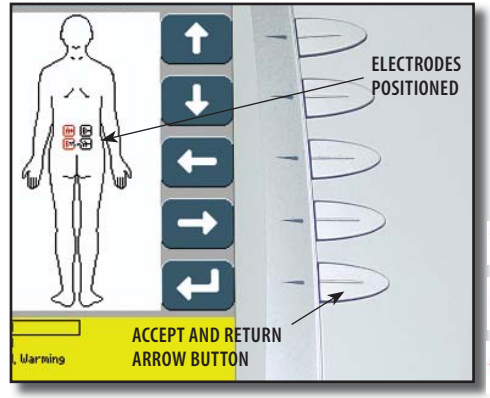
Electrode Placement

Press the Up, Down, Left and Right Arrow buttons to position the selected electrode as close to the actual treatment location as possible.

Press the Pad button to select the other electrode. Repeat above procedure for electrode positioning.

If applicable, press the Chan button, to select another channel and repeat above procedures.

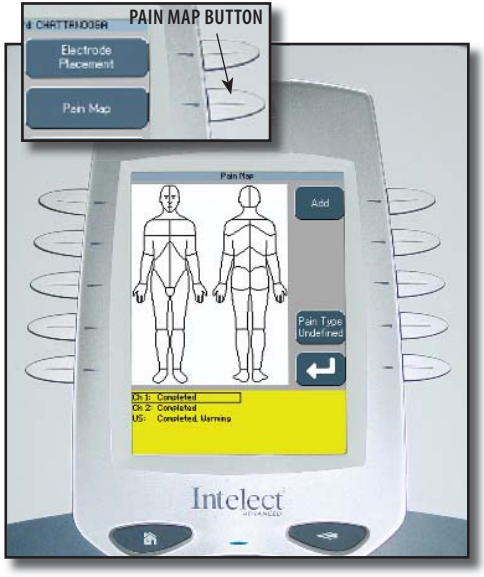
After positioning the electrodes, press the Accept and Return Arrow button.



PATIENT DATA CARD- SET UP OF NEW CARD (continued)

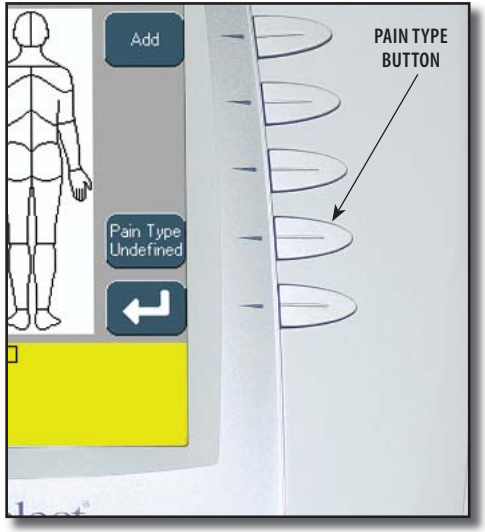
Access Pain Map

Press the Pain Map button to select the body area of the associated pain as described by the patient.



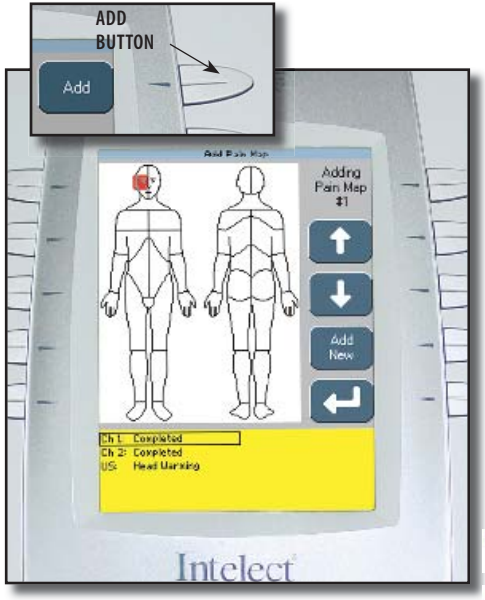
Select Pain Type

Press the Pain Type button until the desired description is displayed in the Pain Type icon.



Add Pain Locations

Press the Add button. The Add Pain Map window will display.

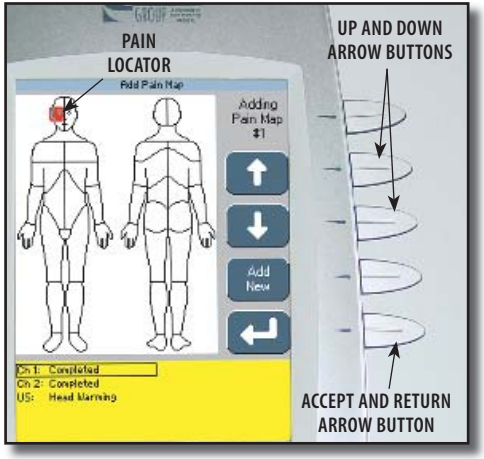


PATIENT DATA CARD- SET UP OF NEW CARD (continued)

Select Location of Pain

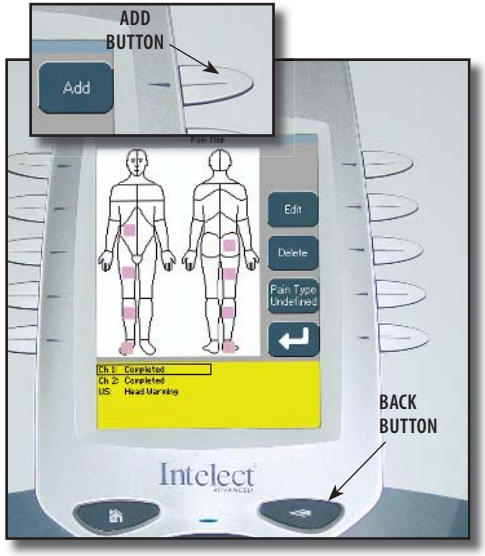
Press the Up and Down Arrow buttons to move the Pain Locator to the area of the body where the pain originates.

Press the Accept and Return Arrow button. The Pain Map window will display.



Press the Add button to continue selecting, in sequence, the radiating path of the pain using the above procedure.

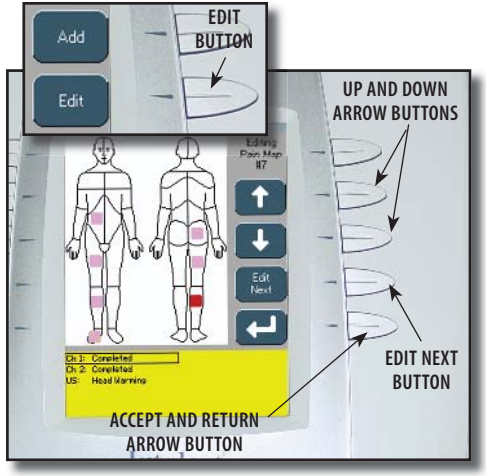
Up to eight pain locations may be selected.



After all desired Pain Locations have been made, press the Back button.

Editing Pain Locations

Press the Edit button on the Pain Map window.



Press the Edit Next button to highlight the Pain Location to be edited.

Use the Up and Down Arrow buttons to relocate the selected Pain Location.

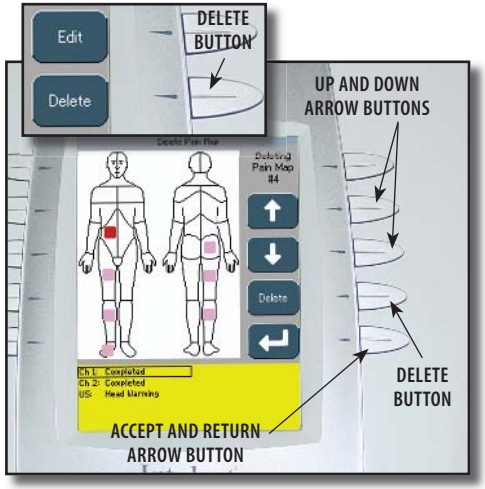
Press the Accept and Return Arrow button.

Repeat until all editing is complete, then press the Back button.

PATIENT DATA CARD- SET UP OF NEW CARD (continued)

Deleting Pain Locations

Press the Delete button on the Pain Map window



Use the Up and Down Arrow buttons to highlight the Pain Location to be deleted.

Press the Delete button.

Press the Accept and Return Arrow button.

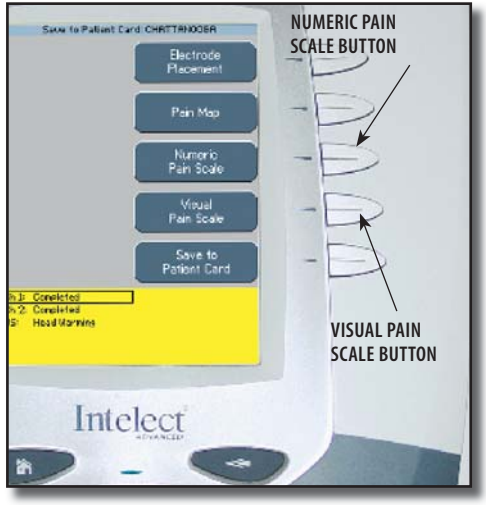
Repeat until all editing is complete, then press the Back button.

Pain Scales

The Intelect Advanced Therapy System incorporates two internationally recognized Pain Scales; VAS Visual Analog Scale, Scale has no indicator marks or Numeric (indicated 1 through 10) for use in describing the amount of pain the patient is experiencing. Once one of the pain scales is set, the other will automatically set to the corresponding level.

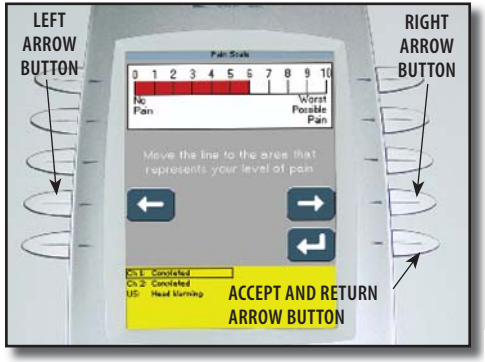
Select Pain Scale

Select the desired Pain Scale by pressing the corresponding button.



Adjust Pain Scale

Press the Left and Right Arrow buttons to adjust the Pain Scale to the level the patient is experiencing.



After the desired level is achieved, press the Accept and Return Arrow button.

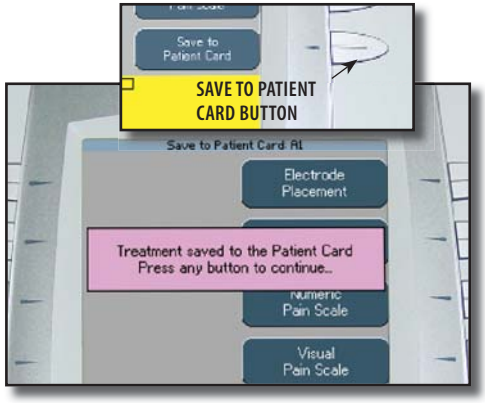
NOTE:
Numeric Pain Scale illustrated.

PATIENT DATA CARD- SET UP OF NEW CARD (continued)

Save to Patient Data Card

After all desired session data has been entered in the Patient Data Card screens, press the Save to Patient Card button. A message will appear stating the data has been saved to the Patient Data Card.

Press any button.



After pressing any button, the Completed Treatment Review screen will display. Press the Home button.

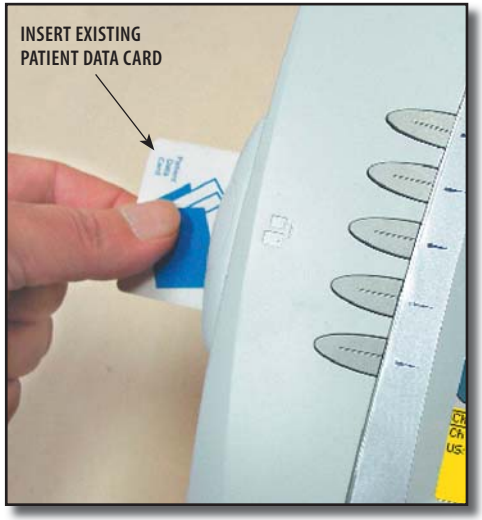
Remove the Patient Data Card for filing with patient records.

The Patient Data Card can also be used with the optional Patient Data Management System.

EXISTING PATIENT DATA CARD USE

Insert Existing Patient Data Card

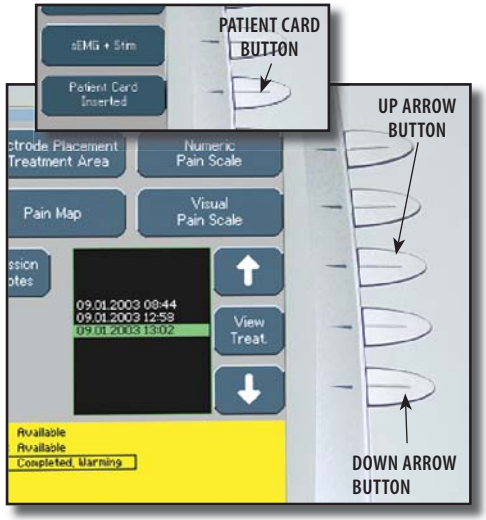
Insert the Patient Data Card assigned to the patient receiving treatment into the system access port as shown below.



Access Patient Data Card

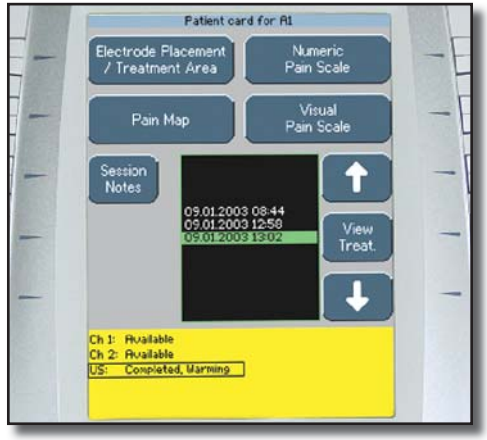
Press the Patient Card button to access Patient Data Card.

Select the date of the treatment session desired using the Up and Down Arrow buttons until date desired is highlighted.



View Patient Data Card

Press the corresponding button beside the Patient Data to be viewed.



NOTE:
No Session Notes will be available unless the optional Patient Data Management System was utilized to enter Session Notes onto the Patient Data Card.

EXISTING PATIENT DATA CARD USE (continued)

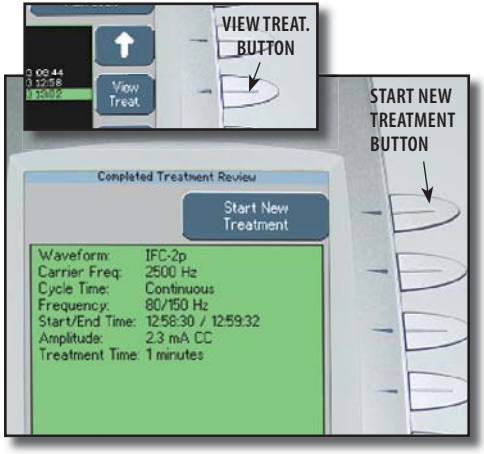
Starting a New Treatment from Patient Data Card

Refer to pages 35-38 for Electrotherapy patient preparation, select electrodes, and secure electrodes. Refer to page 39 for Ultrasound patient preparation.

Press the Up and Down Arrow buttons to highlight the desired treatment date and time.

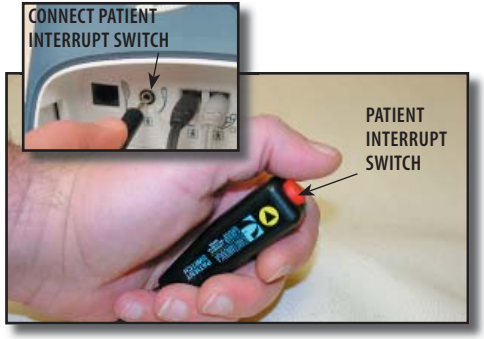
Press the View Treat. button.

Press Start New Treatment button.



Patient Interrupt Switch

Connect Patient Interrupt Switch to the Therapy System. Give Patient Interrupt Switch to patient and explain that pressing the Red button once pauses the therapy session.



If Patient Interrupt Switch is depressed, the treatment will be paused and a message will appear on the System screen.

Press any button to clear the message.

NOTE:
If the Patient Interrupt Switch is depressed a second time, the message will clear from the screen and the treatment will remain paused.

Set Intensity

Set intensity by rotating the Intensity Control Knob to the prescribed level.

Intensity Knob Rotation

Clockwise- Increases Intensity
Counterclockwise- Decreases Intensity

EXISTING PATIENT DATA CARD USE (continued)

Start Treatment

Press the Start button to begin therapy session.

Pause Treatment

Press the Pause button to pause therapy session and maintain remaining time. To resume treatment, press the Pause button again.

Stop Treatment

To Stop treatment, press the Stop button once. Treatment will stop and the Home screen will display.

Erasing Patient Data Card

Refer to page 31 for proper Patient Data Card Erasing instructions.

CLINICAL RESOURCES LIBRARY- CLINICAL PROTOCOLS™

The Intelect Advanced Clinical Resources Library contains Clinical Protocols™, User Protocols, Sequencing functions and access to the Multimedia Card (MMC) which contains the Anatomical and Pathological Libraries.

Clinical Protocols™

This library is a series of protocol presets where the Body Area, Clinical Indication, Pathological Condition, and Pathological Severity are selected by the user, and the Clinical Protocols algorithm will select the parameter settings. These Clinical Protocols are to be used only as guidelines. Each patient should be individually assessed to determine the appropriateness of the protocol parameters prior to use. All Clinical Protocols can be edited to suit appropriate patient treatment prescription and patient comfort.

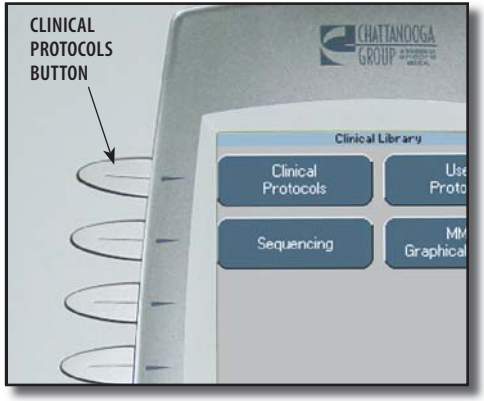
The following information gives general instructions to access, selection and setup of Clinical Protocols. Each Clinical Protocol is set up and edited in the same basic manner.

Access Clinical Resources

Press the Clinical Resources Library button.

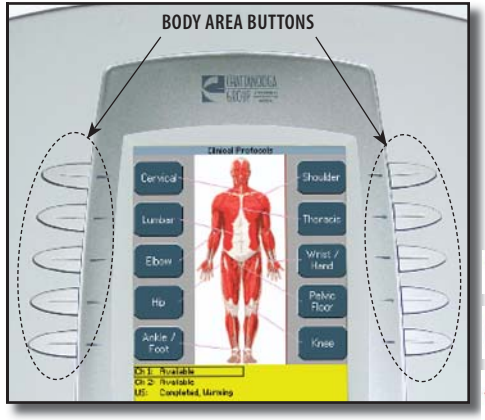
Access Clinical Protocols™

Press the Clinical Protocols button.



Select Body Area

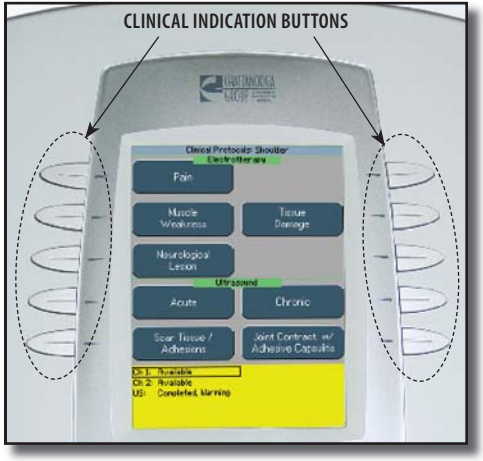
Press the button corresponding to the body area desired.



CLINICAL RESOURCES LIBRARY- CLINICAL PROTOCOLS™ (continued)

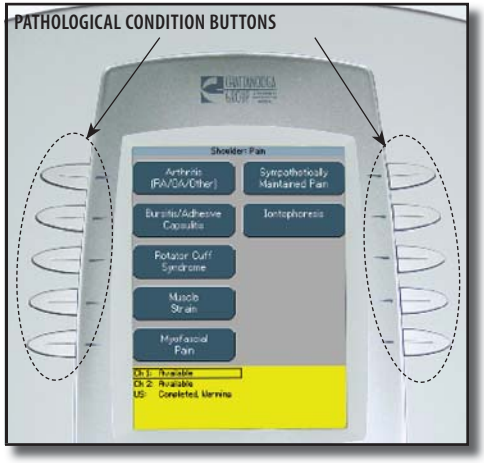
Select Clinical Indication

Press the button beside the Clinical Indication desired in either the Electrotherapy or Ultrasound screen section.



Select Pathological Condition

Press the button beside the desired Pathological Condition.



Select Pathological Severity

Press the button beside the desired Pathological Condition.

NOTE:
Not all Pathological Conditions have corresponding Pathological Severity windows. Some go directly to the associated modality Treatment Review screen.

CLINICAL RESOURCES LIBRARY- CLINICAL PROTOCOLS™ (continued)

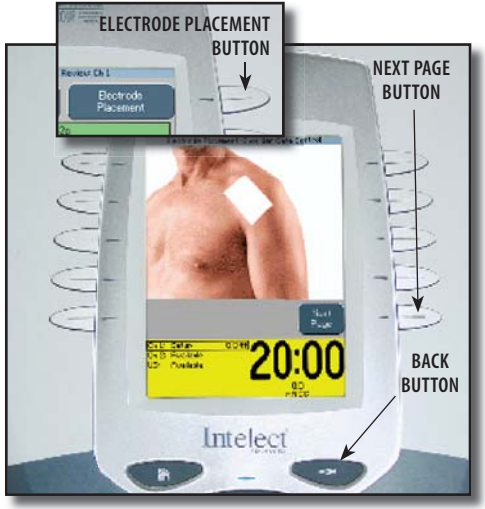
View Waveform Rationale

Press the Waveform Rationale button (Electrotherapy Modalities) or the Parameter Rationale (Ultrasound Modality) to view the text explaining the rationale for the modality associated with the specific Clinical Protocol selected.

Press the Back button to return to the Treatment Review screen.

View Electrode Placement

Press the Electrode Placement button to view the specific electrode placement for the Clinical Protocol selected.



Press the Next Page button to view text relating to the electrode placement.

Press the Back button to return to the Treatment Review screen.

Prepare Patient

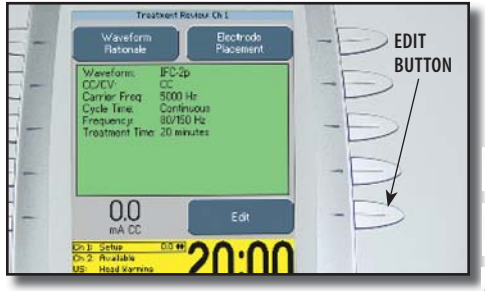
Refer to pages 35 through 38 for Electrotherapy and page 39 Ultrasound patient preparation instructions. For sEMG and sEMG+Stim patient Preparation, refer to the sEMG and sEMG+Stim Module User Manual.

Edit Modality Parameters

Press the Edit button.

Edit modality parameters as prescribed. Refer to page 44 for Electrotherapy modalities and page 49 for Ultrasound.

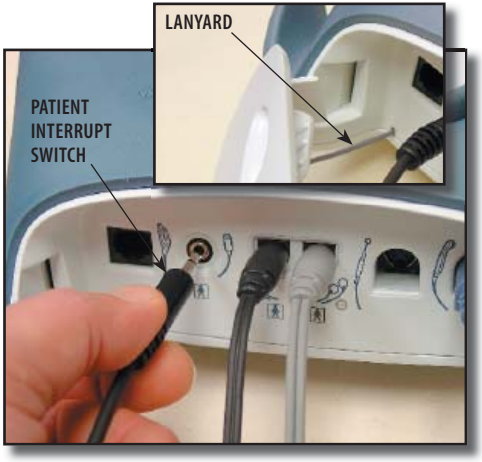
Refer to the sEMG and sEMG+Stim Module User Manual for sEMG and sEMG+Stim modalities.



CLINICAL RESOURCES LIBRARY- CLINICAL PROTOCOLS™ (continued)

Patient Interrupt Switch

Make certain the Patient Interrupt Switch, for the channel(s) being used, is connected to the Therapy System. Refer to page 13 for Symbol Definitions.



NOTE:
When reinstalling the Front Access Panel, make certain the Lanyard does not become kinked.

Give Patient Interrupt Switch to patient and explain that pressing the Red button once pauses the therapy session.

If Patient Interrupt Switch is depressed, the treatment will be paused and a message will appear on the System screen.

Press any button to clear the message.

NOTE:
If the Patient Interrupt Switch is depressed a second time, the message will clear from the screen and the treatment will remain paused.

Set Modality Intensity

Set intensity by rotating the Intensity Control Knob to the prescribed level.

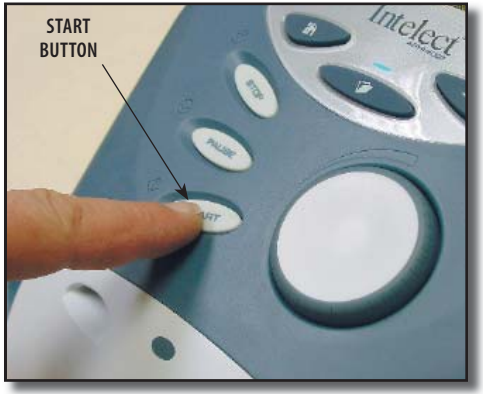
Intensity Knob Rotation

Clockwise- Increases Intensity
Counterclockwise- Decreases Intensity

CLINICAL RESOURCES LIBRARY- CLINICAL PROTOCOLS™ (continued)

Start Treatment

Press the Start button to begin therapy session.



NOTE:
Modality parameters may be editied at any time during the therapy session. Refer to page 47 for Electrotherapy and page 51 for Ultrasound.

Pause Treatment

Press the Pause button to pause therapy session and maintain remaining time. To resume treatment, press the Pause button again.

Stop Treatment

To Stop treatment, press the Stop button once. Treatment will stop and the Home screen will display.

Save to Patient Data Card

After session is complete, press the Save to Patient Card button. Refer to pages 63 through 72 for Patient Data Card Setup and use.

CLINICAL RESOURCES LIBRARY- CREATING USER PROTOCOLS

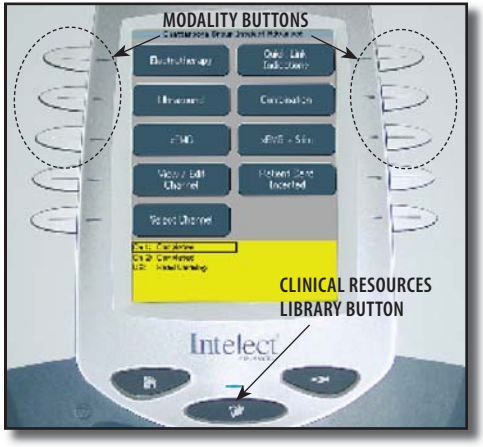
General Information

This library is a series of protocols created by the user and stored in the system memory. The following information gives general instructions as to setting up, saving and accessing User Protocols. Should the Default Protocols be restored, through the User Utilities, all User Protocols will be permanently removed from the system.

The Therapy System memory will accommodate up to 200 user defined protocols. This is inclusive of all User Protocols, User Sequences and System Default Protocols. It does not include the Clinical Protocols.

Select Modality

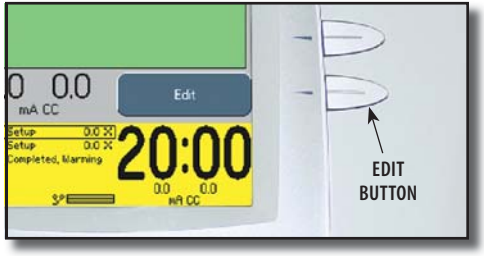
Press the button beside the desired modality on the Home screen or select a Clinical Protocol using the Clinical Resources Library button.



Edit Modality Parameters

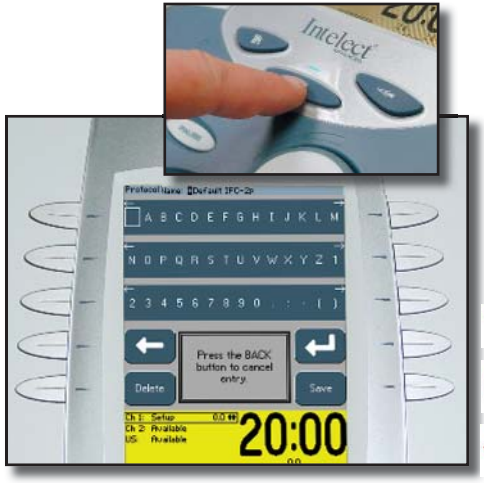
Press the modality Edit button (usually in the lower right corner of the modality Treatment Review screen) and edit as prescribed.

Refer to respective sections of this manual for Electrotherapy, Quick Link Indications Ultrasound, and Combination modalities. For sEMG and sEMG+Stim modalities, refer to the sEMG and sEMG+Stim Module User Manual.



Select Clinical Resources Library

Press the Clinical Resources Library button to begin the save process of the new User Protocol.



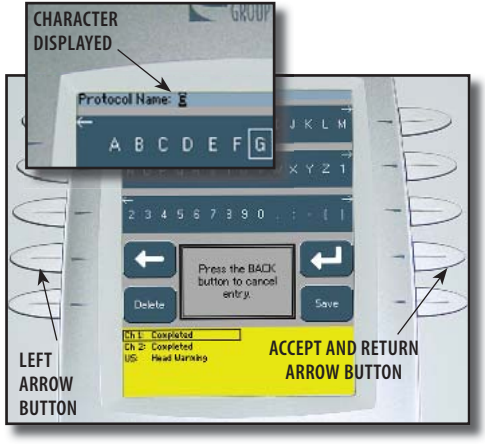
CLINICAL RESOURCES LIBRARY- CREATING USER PROTOCOLS (continued)

Enter User Protocol Name

Select the row of alpha or numeric characters desired by pushing the button beside the corresponding row. Select the desired character in the row by pressing the row button until the desired letter is framed.

When the desired character is framed, press the Accept and Return Arrow button. The character selected will display in the top of the screen and the cursor will advance to the next position.

To move back a character, press the Left Arrow button.

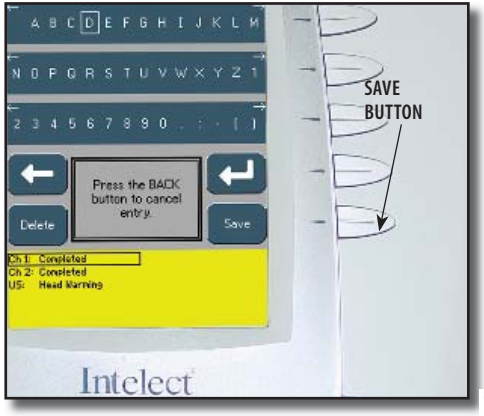


To delete a character, press the Left Arrow button until the character to be deleted is framed. Press the Delete button.

To discard entire entry, press the Back button.

Repeat this procedure until the desired User Protocol Name is entered.

After User Protocol Name is entered, press the Save button.



CLINICAL RESOURCES LIBRARY- DELETING USER PROTOCOLS

General Information

The following information provides instructions for the deletion of one User Protocol at a time. Once any single User Protocol is deleted, it cannot be recovered. Should the Default Protocols be restored, through the User Utilities, all User Protocols will be permanently removed from the system.

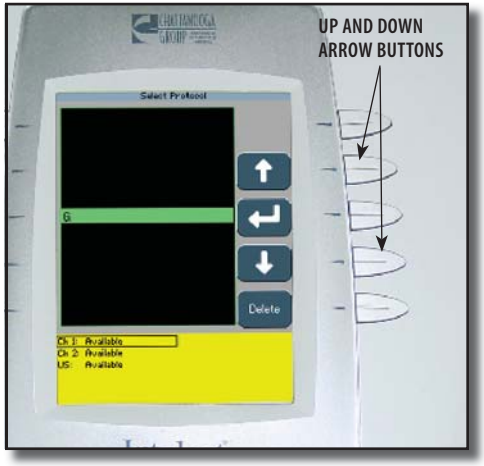
There is no method for recovery of the User Protocols nor can they be saved to any other medium.

Select Clinical Resources Library

Press the Clinical Resources Library button. Then press the User Protocols button.

Select User Protocol to Delete

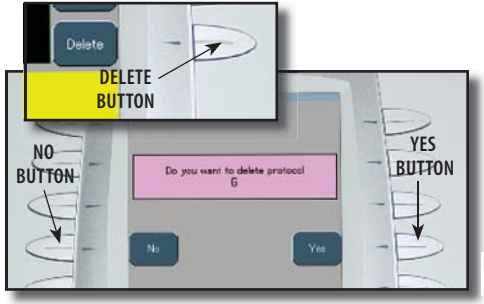
Press the UP and Down Arrow buttons until the desired User Protocol to delete is highlighted.



Delete User Protocol

Press the Delete button to delete highlighted User Protocol.

A verification screen will appear. Press Yes button to delete protocol or No button to keep protocol.



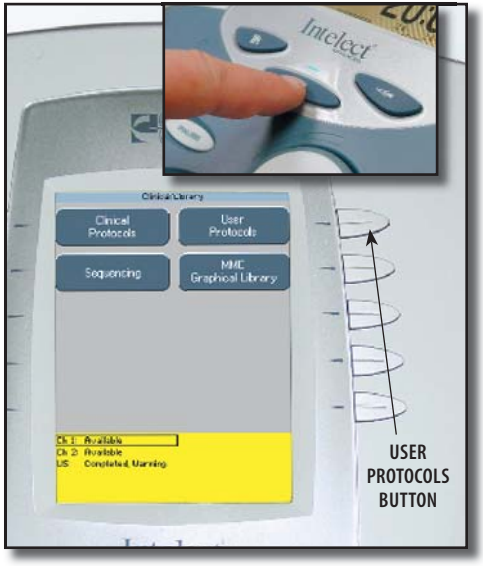
Repeat this process until all desired User Protocols are deleted.

Press the Home button to return to the Home screen.

CLINICAL RESOURCES LIBRARY- USING USER PROTOCOLS

Access User Protocols

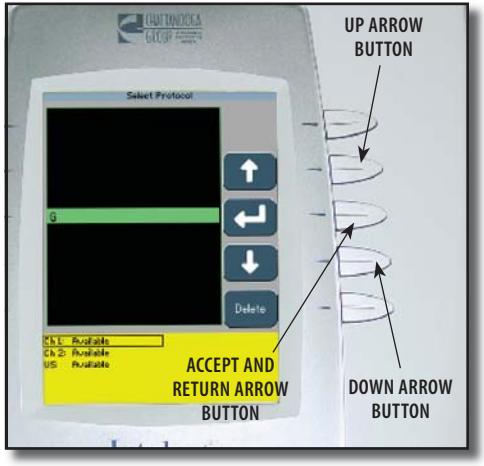
Press the Clinical Resources Library button. Press the User Protocols button.



Select User Protocol

Press the UP and Down Arrow buttons until the prescribed User Protocol is highlighted.

Press the Accept and Return Arrow button.



View Waveform Rationale

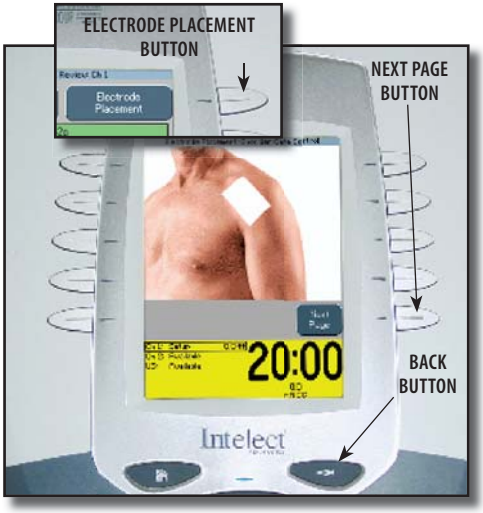
Press the Waveform Rationale button (Electrotherapy Modalities) or the Parameter Rationale (Ultrasound Modality) button to view the text explaining the rationale for the modality associated with the User Protocol selected.

Press the Back button to return to the Treatment Review screen.

CLINICAL RESOURCES LIBRARY- USING USER PROTOCOLS (continued)

View Electrode Placement

Press the Electrode Placement button to view the electrode placement for the User Protocol selected.



Press the Next Page button to view text relating to the electrode placement.

Press the Back button to return to the Treatment Review screen.

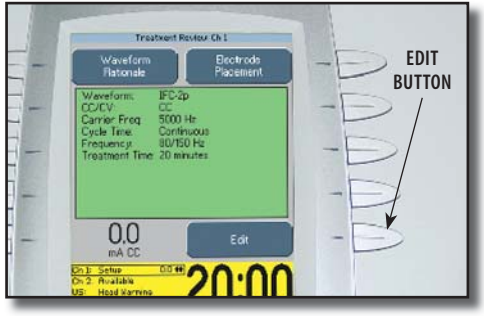
Prepare Patient

Refer to pages 35 through 38 for Electrotherapy and page 39 for Ultrasound patient preparation instructions. For sEMG and sEMG+Stim patient preparation, refer to the sEMG and sEMG+Stim Module User Manual.

Edit Modality Parameters

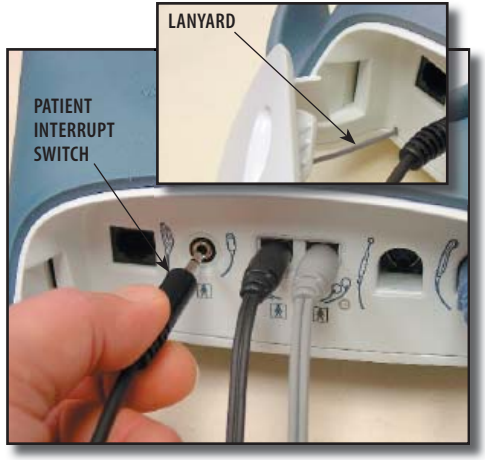
Press the Edit button.

Edit modality parameters as prescribed. Refer to page 44 for Electrotherapy modalities and page 49 for Ultrasound. Refer to the sEMG and sEMG+Stim Module User Manual for sEMG and sEMG+Stim modalities.



Patient Interrupt Switch

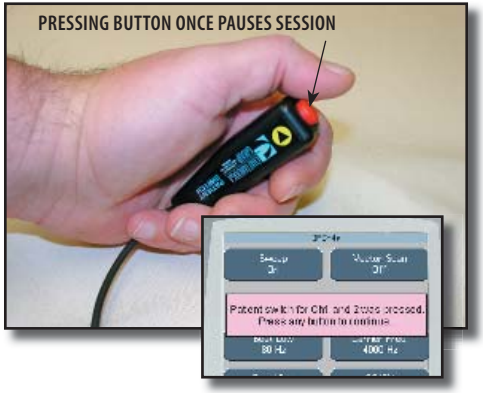
Make certain the Patient Interrupt Switch, for the channel(s) being used, is connected to the Therapy System. Refer to page 13 for Symbol Definitions.



NOTE:
When reinstalling the Front Access Panel, make certain the Lanyard does not become kinked.

CLINICAL RESOURCES LIBRARY- USING USER PROTOCOLS (continued)

Give Patient Interrupt Switch to patient and explain that pressing the Red button once pauses the therapy session.



If Patient Interrupt Switch is depressed, the treatment will be paused and a message will appear on the System screen.

Press any button to clear the message.

NOTE:
If the Patient Interrupt Switch is depressed a second time, the message will clear from the screen and the treatment will remain paused.

Set Modality Intensity

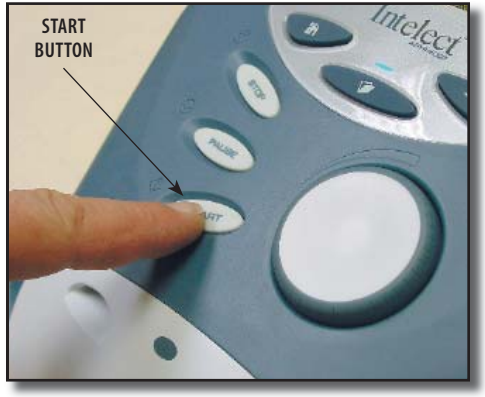
Set intensity by rotating the Intensity Control Knob to the prescribed level.

Intensity Knob Rotation

Clockwise- Increases Intensity
Counterclockwise- Decreases Intensity

Start Treatment

Press the Start button to begin therapy session.



NOTE:
Modality parameters may be edited at any time during the therapy session. Refer to page 47 for Electrotherapy and page 51 for Ultrasound.

CLINICAL RESOURCES LIBRARY- USING USER PROTOCOLS (continued)

Pause Treatment

Press the Pause button to pause therapy session and maintain remaining time. To resume treatment, press the Pause button again.

Stop Treatment

To Stop treatment, press the Stop button once. Treatment will stop and the Home screen will display.

Save to Patient Data Card

After session is complete, press the Save to Patient Card button. Refer to pages 63 through 72 for Patient Data Card Setup and use.

CLINICAL RESOURCES LIBRARY- CREATING NEW SEQUENCES

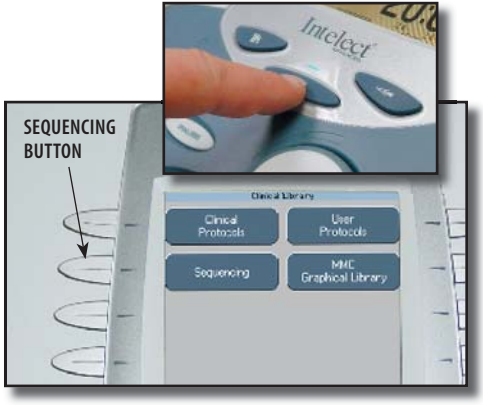
General Information

This Library is a series of Electrotherapy Waveform/Current Sequences created by the user for special electrotherapy treatment purposes and stored in the system memory for recall and use. The following information gives general instructions for setting up, saving and accessing of sequences. Should the Default Protocols be restored, through the User Utilities, all user saved Sequences will be permanently removed from the system.

The Therapy System memory will accommodate up to 200 user defined protocols. This is inclusive of all User Protocols, Sequences, and System Default Protocols. It does not include the Clinical Protocols.

Access Sequencing

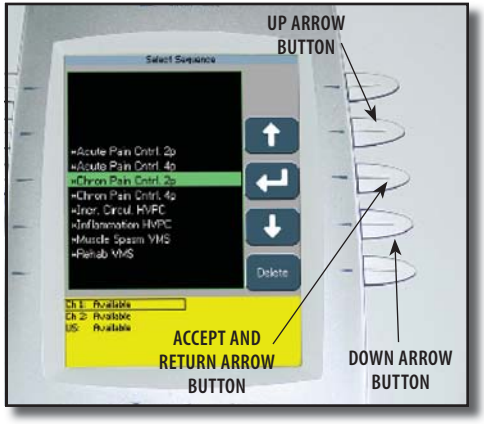
Press the Clinical Resources Library button. Press the Sequencing button.



Select Sequence

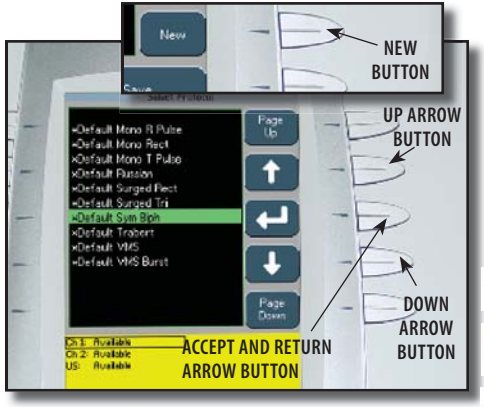
Press the Up and Down Arrow buttons until the desired sequence is highlighted.

Press the Accept and Return Arrow button.



Select First Waveform or Current

Press the New button. Press the Up and Down Arrow buttons to highlight the desired waveform/current.



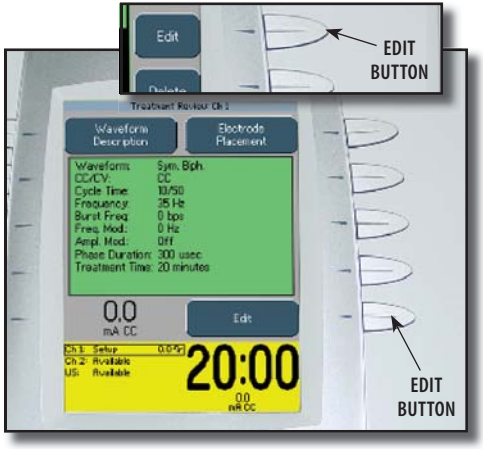
Press the Accept and Return Arrow button.

CLINICAL RESOURCES LIBRARY- CREATING NEW SEQUENCES (continued)

Edit First Waveform or Current

Press the Edit button on the Sequence screen.

Press the Edit button on the waveform/ current Treatment Review screen.

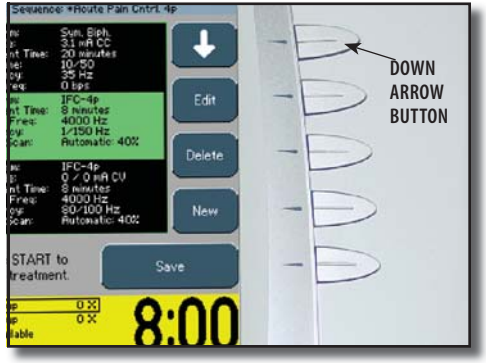


Edit waveform or current as prescribed.

Press the Back button twice to go back to the Sequence screen.

Select Second Waveform or Current

Press the Down Arrow button on the Sequence screen to highlight the next waveform in the Sequence.



Repeat steps used in selecting and editing first waveform/current for second and third waveform/current.

Saving New Sequence

After all waveforms/currents have been selected and edited as prescribed, press the Save button on the Sequence screen.

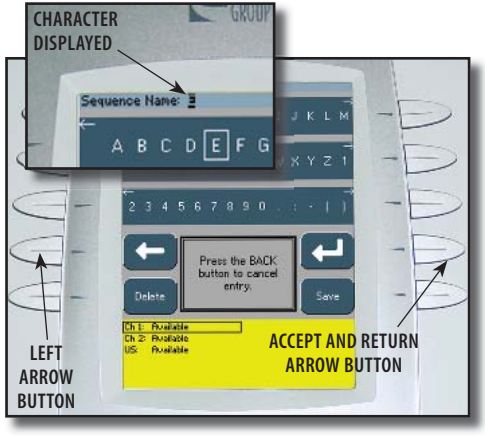
CLINICAL RESOURCES LIBRARY- CREATING NEW SEQUENCES (continued)

Enter Sequence Name

Select the row of alpha or numeric characters desired by pushing the button beside the corresponding row. Select the desired character in the row by pressing the row button until the desired letter is framed.

When the desired character is framed, press the Accept and Return Arrow button. The character selected will display in the top of the screen and the cursor will advance to the next position.

To move back a character, press the Left Arrow button.

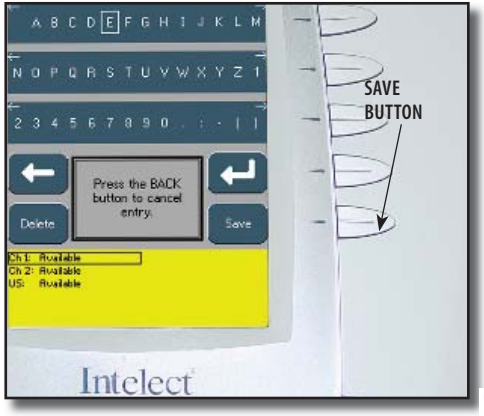


To delete a character, press the Left Arrow button until the character to be deleted is framed. Press the Delete button.

To discard entire entry, press the Back button.

Repeat this procedure until the desired sequence name is entered.

After sequence name is entered, press the Save button.



CLINICAL RESOURCES LIBRARY- DELETING SEQUENCES

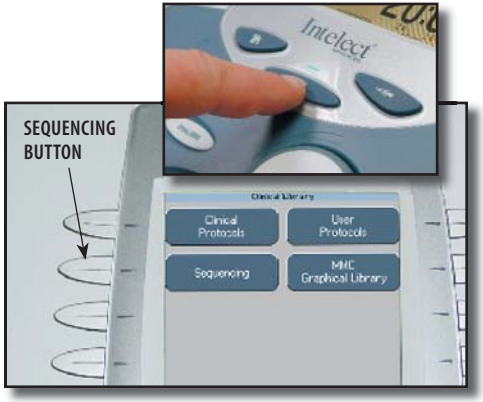
General Information

The following information provides instructions for the deletion of one user defined sequence at a time. Once any single sequence is deleted, it cannot be recovered. Should the Default Protocols be restored, through the User Utilities, all user defined sequences will be permanently removed from the system.

There is no method for recovery of the user defined Sequences nor can they be saved to any other medium. There are nine Default Sequences, indicated by an asterisk(*), that cannot be deleted.

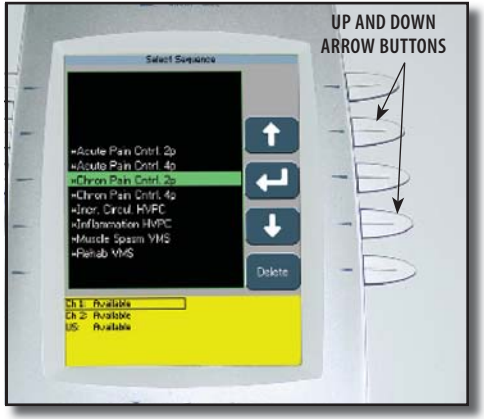
Access Sequencing

Press the Clinical Resources Library button.
Press the Sequencing button.



Select Sequence

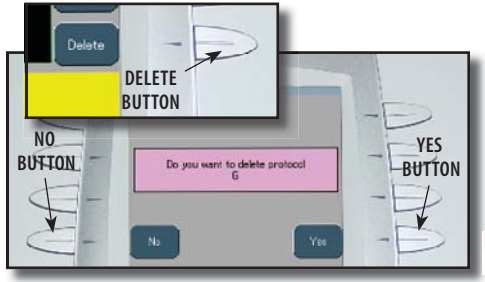
Press the Up and Down Arrow buttons until the desired Sequence is highlighted.



Delete Sequence

Press the Delete button to delete highlighted Sequence.

A verification screen will appear. Press Yes button to delete Sequence or No button to keep Sequence.



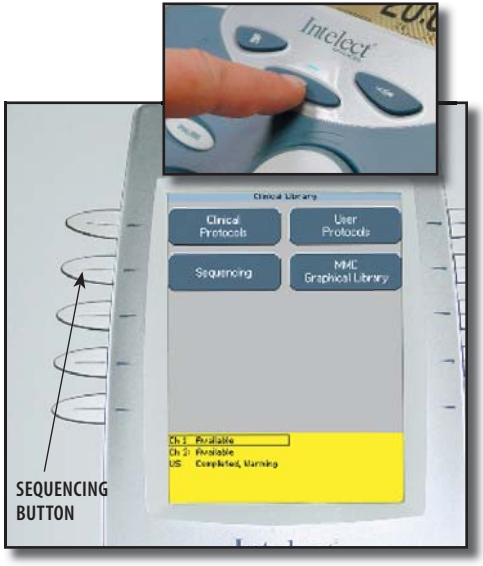
Repeat this process until all desired user defined Sequences are deleted.

Press the Home button to return to the Home screen.

CLINICAL RESOURCES LIBRARY- USING SEQUENCES

Access Sequencing

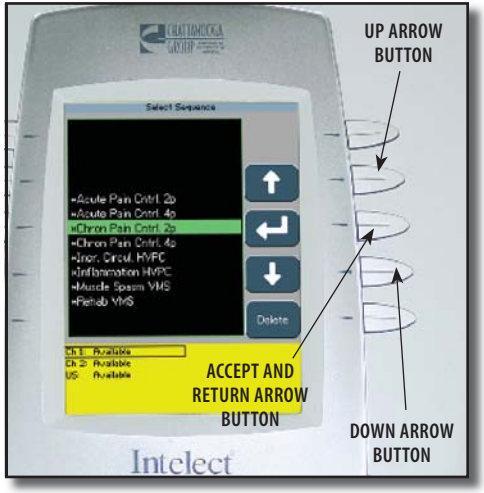
Press the Clinical Resources Library button.
Press the Sequencing button.



Select Sequence

Press the UP and Down Arrow buttons until the prescribed Sequence is highlighted.

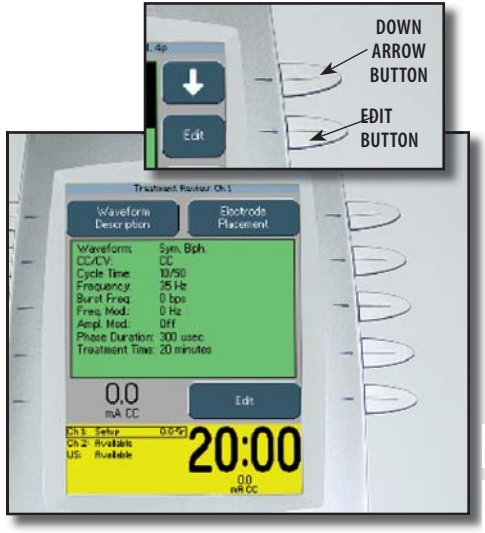
Press the Accept and Return Arrow button.



Select Waveform/Current

Press the Down Arrow button, on the Sequence screen, to highlight the prescribed waveform/current in the Sequence.

Press the Edit button.



CLINICAL RESOURCES LIBRARY- USING SEQUENCES (continued)

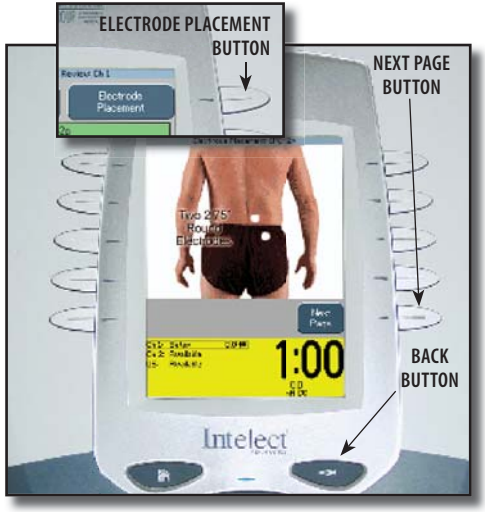
View Waveform Rationale

Press the Waveform Description button to view the text explaining the rationale for the modality associated with the Sequence selected.

Press the Back button twice to return to the Sequence screen.

View Electrode Placement

Press the Electrode Placement button to view the electrode placement for the Sequence selected.



Press the Next Page button to view text relating to the electrode placement.

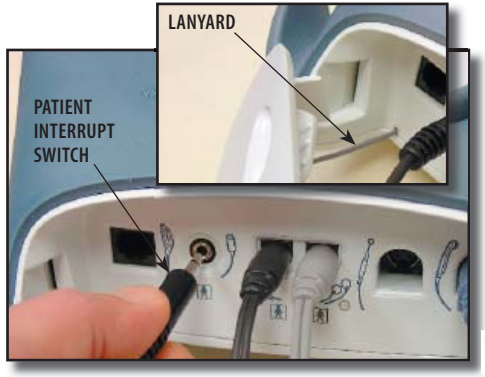
Press the Back button twice to return to the Sequence screen.

Prepare Patient

Refer to pages 35 through 38 for Electrotherapy patient preparation instructions.

Patient Interrupt Switch

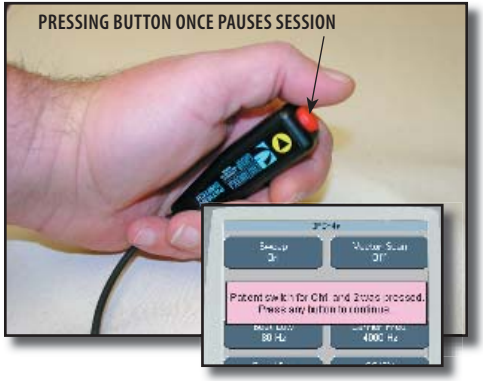
Make certain the Patient Interrupt Switch, for the channel(s) being used, is connected to the Therapy System. Refer to page 13 for Symbol Definitions.



NOTE:
When reinstalling the Front Access Panel, make certain the Lanyard does not become kinked.

CLINICAL RESOURCES LIBRARY- USING SEQUENCES (continued)

Give Patient Interrupt Switch to patient and explain that pressing the Red button once pauses the therapy session.



If Patient Interrupt Switch is depressed, the treatment will be paused and a message will appear on the System screen.

Press any button to clear the message.

NOTE:
If the Patient Interrupt Switch is depressed a second time, the message will clear from the screen and the treatment will remain paused.

Set Sequence Intensity

The first waveform/current in the Sequence should be highlighted. Set intensity by rotating the Intensity Control Knob to the prescribed level.

Intensity Knob Rotation

Clockwise- Increases Intensity
Counterclockwise- Decreases Intensity

Press the Down Arrow button until the second waveform/current in the sequence is Highlighted.

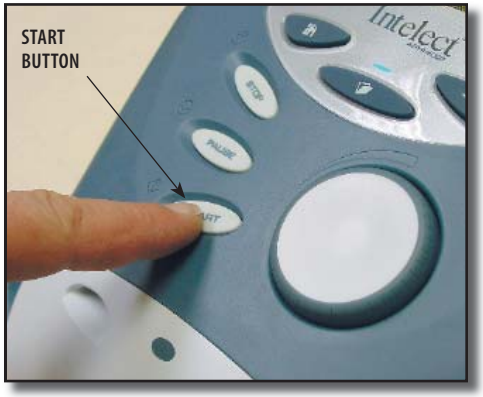
Set intensity by rotating the Intensity Control Knob to the prescribed level.

Repeat for the third waveform/current in the Sequence.

CLINICAL RESOURCES LIBRARY- USING SEQUENCES (continued)

Start Treatment

Press the Start button to begin therapy session.



Pause Treatment

Press the Pause button to pause therapy session and maintain remaining time. To resume treatment, press the Pause button again.

Stop Treatment

To Stop treatment, press the Stop button once. Treatment will stop and the Home screen will display.

Save to Patient Data Card

After session is complete, press the Save to Patient Card button. Refer to pages 63 through 72 for Patient Data Card Setup and use.

CLINICAL RESOURCES LIBRARY- MMC GRAPHICAL LIBRARY

General Information

The Clinical Resources Library contains the unique Anatomical and Pathological Graphic Libraries* from Chattanooga Group. These Graphic Libraries are contained on a single Multimedia Card (MMC) and are designed to aid the operator in visually understanding and locating specific muscle groups and commonly found problems associated with Pathological Conditions as well as providing an educational tool for the clinician to use with the patient.

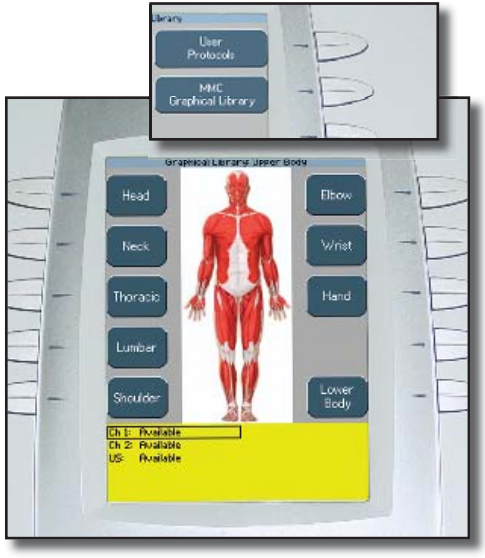
Select Clinincal Resources Library

Make certain the Multimedia Card (MMC) is inserted into the system MMC Access Port.

Press the Clinical Resources Library button.

Select MMC Graphical Library

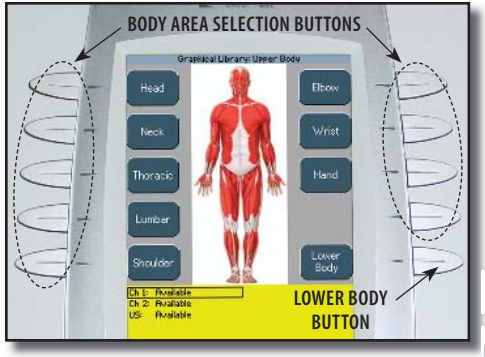
Press the MMC Graphical Library button.



Select Body Area

The default setting displays Upper Body Selections. To view Lower Body Selections, press the Lower Body button.

Press the button beside the desired Body Area.



NOTE:
For representation purposes the Shoulder has been selected for this section.

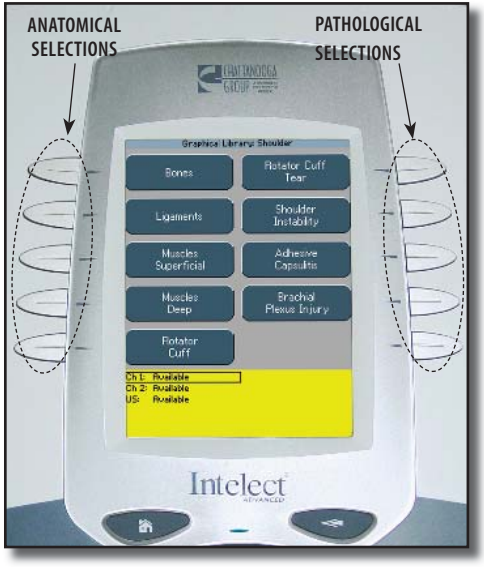
CLINICAL RESOURCES LIBRARY- MMC GRAPHICAL LIBRARY (continued)

Select Library Type

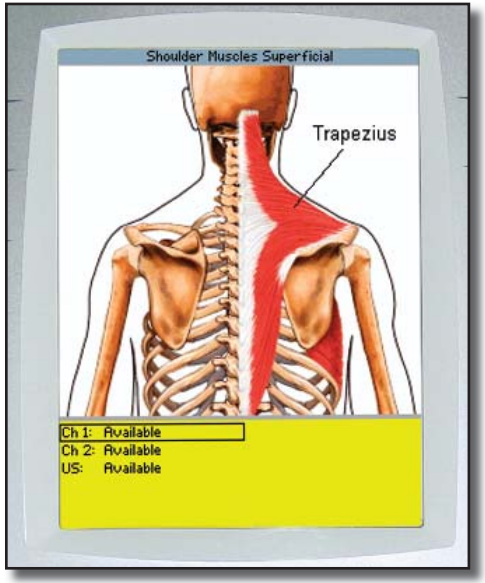
Select the desired graphic by pressing the corresponding button.

Left Side buttons- Anatomical Selections

Right Side buttons- Pathological Selections



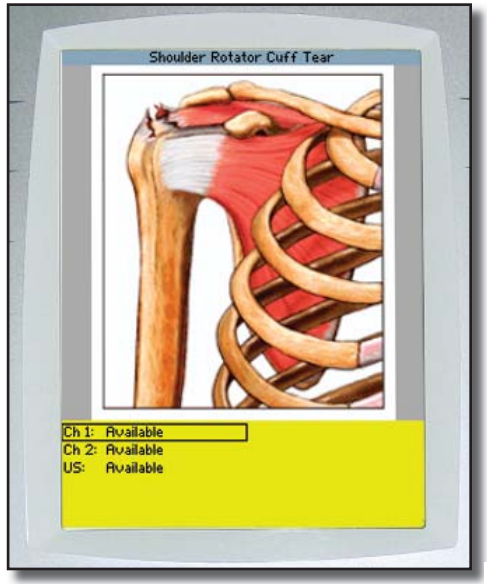
Anatomical Example- Muscles Superficial



Press the Back button to return to the selection screen.

Press the Home button to return to the Home screen.

Pathological Example- Rotator Cuff Tear



Press the Back button to return to the selection screen.

Press the Home button to return to the Home screen.

INSTALLATION- CHANNEL 3/4 ELECTROTHERAPY MODULE

General Information

The Intelect Advanced Therapy System Channel 3/4 Electrotherapy Module is a two channel electrotherapy module intended to upgrade the Intelect Advanced Therapy System Two Channel Electrotherapy and Two Channel Combination Therapy Systems to Four Channel Electrotherapy or Combination Therapy Systems. This module is designed for use with the Intelect Advanced Therapy Systems only.

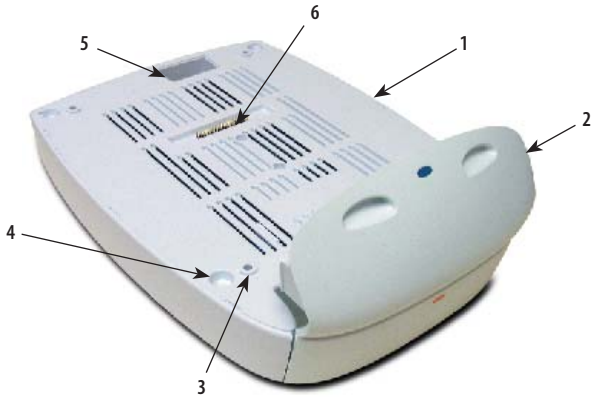
- Read, understand, and follow all precautionary instructions found on pages 2 through 6, and throughout this manual as indicated, before performing any installation or removal of optional modules and accessories.
- Perform all optional module and accessory installation and removal procedures as described in this manual. Failure to follow these explicit instructions could cause permanent damage to internal components of the equipment and render the system unsafe for patient therapy.
- Understand all symbols and their definitions before operating or performing any installation or removal of optional modules and accessories. The Symbol Definitions are on pages 2 and 13 of this manual.
- Follow all safety precautions before, during, and after any treatment.
- Read, understand and follow the indications, contraindications, and adverse effects of the modalities associated with this system found on pages 7 through 9 of this manual before administering any treatment.
- Keep informed of appropriate indications and contraindications for the use of all modalities utilized with this Therapy System.
- This system, optional modules, and accessories are to be used and sold only under the prescription and supervision of a physician or licensed practitioner.

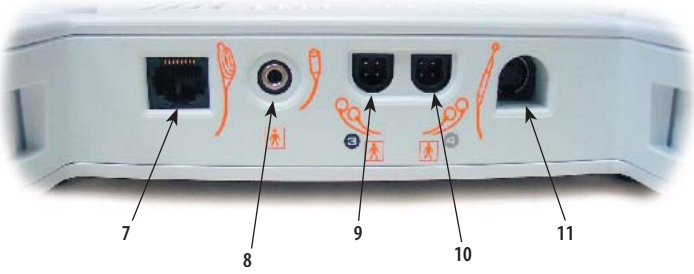
⚠ WARNING

DISCONNECT THE SYSTEM FROM THE POWER SOURCE (OUTLET OR REMOVE BATTERY MODULE IF INSTALLED) BEFORE ATTEMPTING ANY MAINTENANCE, INSTALLATION, REMOVAL, OR REPLACEMENT PROCEDURES TO PREVENT ELECTRICAL SHOCK AND POSSIBLE DAMAGE TO SYSTEM.

INSTALLATION- CHANNEL 3/4 ELECTROTHERAPY MODULE (continued)

Nomenclature





1. Channel 3/4 Electrotherapy Module
2. Extended Front Access Panel
3. Module to System Mounting Holes
4. Module to System Feet Alignment Indents
5. Power Cord Routing Port
6. Module to System Connector
7. Operator Remote Control Connector*
8. Patient Interrupt Switch Connector*
9. Channel 3 Lead Wire Connector*
10. Channel 4 Lead Wire Connector*
11. Microcurrent Probe Connector*

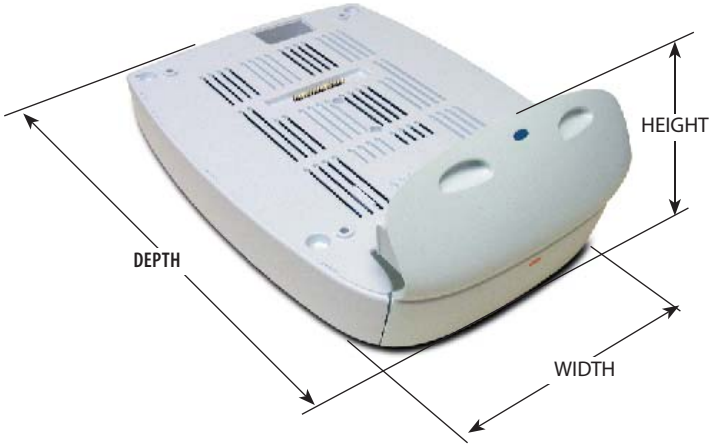
Also Included:

- Four 4 mm X 20 mm mounting screws
- Channel 3 and 4 Lead Wires
- Patient Interrupt Switch (Ch 3/4)
- Carbon Electrodes
- Electrode Sponges
- Sample of Dura-Stick™ II electrodes
- Nylatex® Wraps

* Refer to page 13 for Symbol Definitions.

INSTALLATION- CHANNEL 3/4 ELECTROTHERAPY MODULE (continued)

Specifications



NOTE:
All waveforms except High Voltage Pulsed Current (HVPC) of the Intelect Advanced Therapy System have been designed with a 200 mA current limit.

VMS™, VMS™ Burst and all TENS waveform output intensities are measured, specified and listed to peak, not peak to peak.

DIMENSIONS

Width . . . . . 21 cm (8.250")

Depth . . . . . 30 cm (11.875")

Height . . . . . 11.5 cm (4.500")

WEIGHT

Standard Weight. . . . . .50 kg (1.0 lbs)

POWER

Input . . . . . System Dependent

Output . . . . . System Dependent

Electrical Class . . . . . CLASS I

Electrical Type . . . . . TYPE BF

Regulatory Compliance

UL/IEC/EN 60601-1
IEC 60601-2-10

CE 0413

Waveform & Current Specifications

All waveform/currents available to the Intelect Advanced Therapy System are available to the Channel 3/4 Electrotherapy Module once installation is complete. Refer to pages 16 through 25 for available waveform specifications.

INSTALLATION- CHANNEL 3/4 ELECTROTHERAPY MODULE (continued)

Disconnect Mains Power

⚠ WARNING

DISCONNECT THE SYSTEM FROM THE POWER SOURCE (OUTLET OR REMOVE BATTERY MODULE IF INSTALLED) BEFORE ATTEMPTING ANY MAINTENANCE, INSTALLATION, REMOVAL, OR REPLACEMENT PROCEDURES TO PREVENT ELECTRICAL SHOCK AND POSSIBLE DAMAGE TO SYSTEM.

Disconnect the Mains Power Cord from the power supply. Remove the Rear Access Panel and disconnect the Mains Power Cord from the Therapy System.

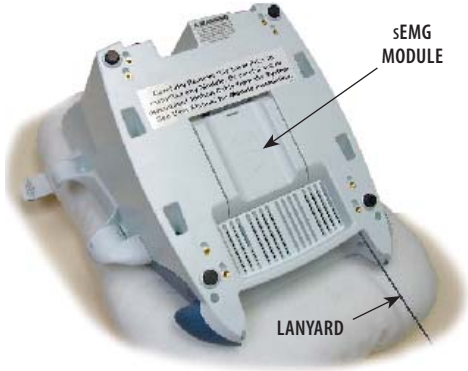
Remove Lead Wires and Accessories

Remove the Front Access Cover and disconnect the Lead Wires and Accessories from the Therapy System.

Remove Therapy System from Cart

Remove the Therapy System from the Therapy System Cart, if equipped. Refer to the Therapy System Cart User Manual for proper instructions.

Place Therapy System face down on a clean working surface protected with a soft, clean fabric to prevent damage to the lens.



NOTE:
Do not remove the sEMG Module, if installed. The sEMG Module will not interfere with installation of the Channel 3/4 Electrotherapy Module.

INSTALLATION- CHANNEL 3/4 ELECTROTHERAPY MODULE (continued)

Release Ribbon Cable

Remove and discard the vinyl label holding the Ribbon Cable in the cavity on the Therapy System.

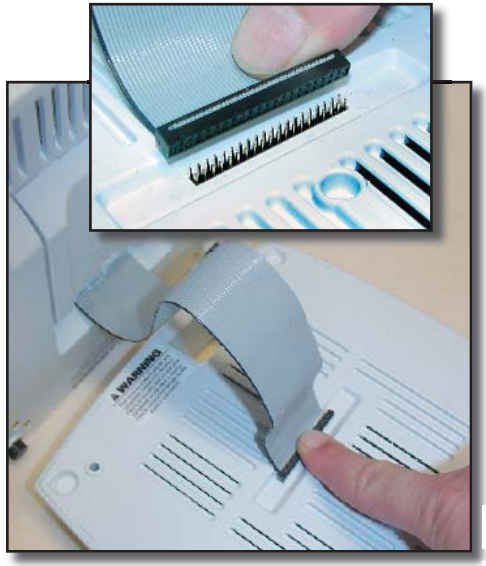
Carefully unroll the Ribbon Cable, making certain not to disconnect it from the Therapy System.

Position Therapy System and Module

Position Therapy System and the Channel 3/4 Electrotherapy Module as shown.

Connect Ribbon Cable

Carefully align the Ribbon Cable Connector to the Module Connector Pins and press down to connect.



RIBBON CABLE MUST BE AS SHOWN!

Make certain Ribbon Cable is completely seated to Module Connector Pins.

INSTALLATION- CHANNEL 3/4 ELECTROTHERAPY MODULE (continued)

⚠CAUTION

Do not twist Ribbon Cable. If power is applied to the system with misalignment of pins or a twisted ribbon cable, the controlling electronics in the Module will be destroyed and possible damage to the System's internal components could occur.

Set Therapy System onto Module

Set the Therapy System on the Module. Make certain the Feet of the Therapy System are resting in the Module Indents.

Secure Therapy System to Module

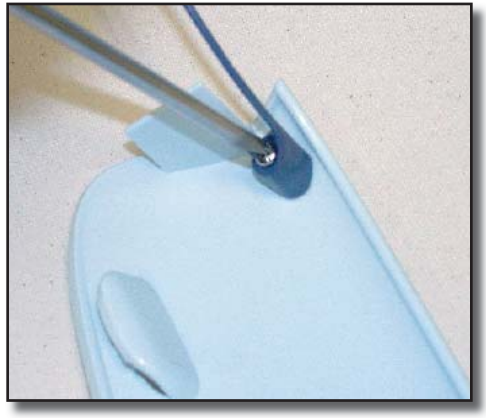
Carefully place the Therapy System and Module on one side. With a #1 Phillips Screwdriver, install the four 4 mm x 20 mm screws.

Tighten screws until the Module does not move on the Therapy System.

Front Access Panel

With a #1 Phillips Screwdriver, remove the screw retaining the existing Front Access Panel.

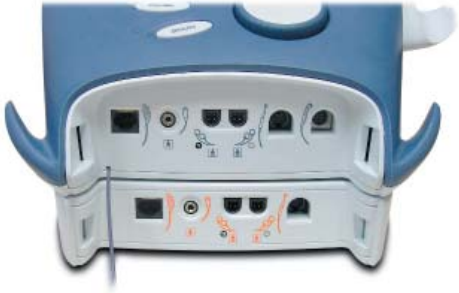
Install Lanyard to the new Extended Front Access Panel using the same screw.



INSTALLATION- CHANNEL 3/4 ELECTROTHERAPY MODULE (continued)

Install Lead Wires and Accessories

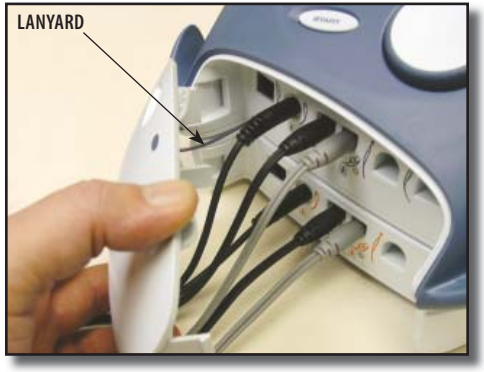
Install Lead Wires and additional accessories to Front Panel. Refer to page 13 for Symbol Definitions.



Install Front Access Panel

Install the new Extended Front Access Panel onto Therapy System.

Make certain Lanyard does not become kinked.



Mount to Therapy System Cart

If mounting Therapy System to a Therapy System Cart, refer to Therapy System Cart User Manual for instructions.

Connect Mains Power

Connect the Mains Power Cord to the Therapy System.

Install Rear Access Panel.

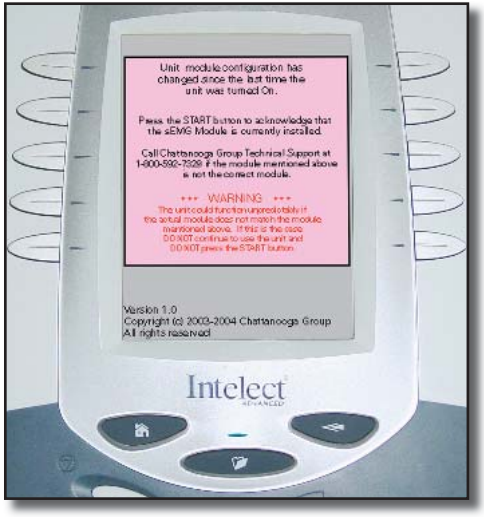
Connect the Mains Power Cord to an approved power source.

INSTALLATION- CHANNEL 3/4 ELECTROTHERAPY MODULE (continued)

Turn Therapy System On

Turn the System On using the On/Off Switch. The System will automatically recognize the added Module and display a configuration change message.

Read and carefully follow the instructions on the screen.



⚠ WARNING

Verify that the Module installed is the Module displayed in the message BEFORE pressing the START button. If it is not, DO NOT press the START button. Turn the System OFF and back ON. If the problem continues, call the selling dealer or Chattanooga Group Technical Support immediately.

DO NOT USE THE SYSTEM until all necessary repairs are made by a Technician certified by Chattanooga Group. If use is attempted before repairs are made, the System may operate unpredictably and has the potential of causing injury to the patient or damage to the System's internal components.

REMOVAL- CHANNEL 3/4 ELECTROTHERAPY MODULE

Disconnect Mains Power

⚠ WARNING

DISCONNECT THE SYSTEM FROM THE POWER SOURCE (OUTLET OR REMOVE BATTERY MODULE IF INSTALLED) BEFORE ATTEMPTING ANY MAINTENANCE, INSTALLATION, REMOVAL, OR REPLACEMENT PROCEDURES TO PREVENT ELECTRICAL SHOCK AND POSSIBLE DAMAGE TO SYSTEM.

Disconnect the Mains Power Cord from the power supply. Remove the Rear Access Panel and disconnect the Mains Power Cord from the Therapy System.

Remove Therapy System from Cart

Remove the Therapy System from the Therapy System Cart, if equipped. Refer to the Therapy System Cart User Manual for proper instructions.

Place Therapy System face down on a clean working surface protected with a soft, clean fabric to prevent damage to the lens.

NOTE:
It is not necessary to remove the sEMG Module from the Channel 3/4 Electrotherapy Module, if installed.

Remove Lead Wires and Accessories

Remove the Front Access Cover and disconnect the Lead Wires and Accessories from the Therapy System and Channel 3/4 Electrotherapy Module.

NOTE:
Keep Lead Wires and accessories for later re-installation to the Therapy System.

REMOVAL- CHANNEL 3/4 ELECTROTHERAPY MODULE (continued)

Remove Screws Securing Module

With a #1 Phillips Screwdriver, remove the four 4 mm x 20 mm screws securing the Module to the Therapy System.

Disconnect Ribbon Cable at Module

Separate the Module from the Therapy System and disconnect the Ribbon Cable from the Module Connector Pins.

⚠CAUTION

Do not disconnect Ribbon Cable from the Therapy System.

Store and Secure Ribbon Cable

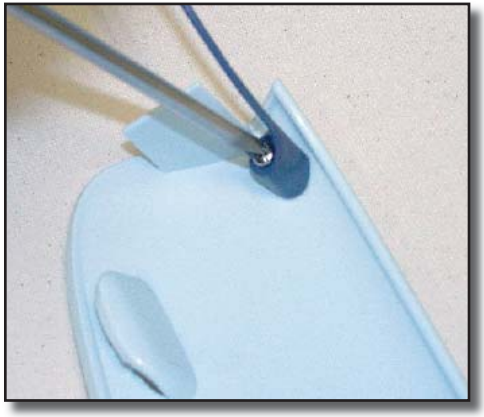
Roll the Ribbon Cable up and store in the cavity of the Therapy System. Secure Ribbon Cable with a nonpermanent adhesive tape.

REMOVAL- CHANNEL 3/4 ELECTROTHERAPY MODULE (continued)

Front Access Panel

With a #1 Phillips Screwdriver, remove the screw retaining the existing Front Access Panel.

Install Lanyard to the original Front Access Panel using the same screw.



Install Lead Wires and Accessories

Re-install Lead Wires and Accessories to the Therapy System Front Panel.

NOTE:
When re-installing the Front Access Panel to the Therapy System, make certain the Lanyard does not become kinked.

Connect Mains Power

Connect the Mains Power Cord to the Therapy System.

Install Rear Access Panel.

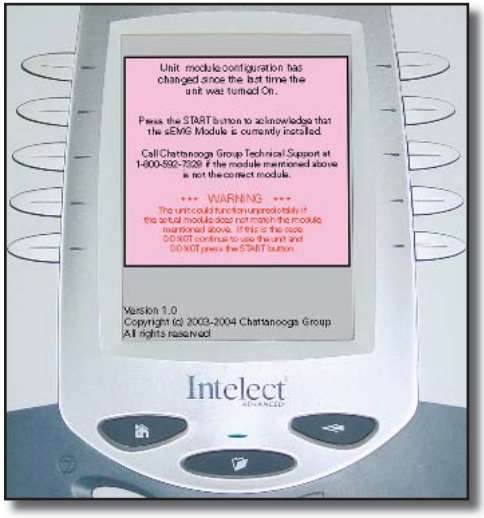
Connect the Mains Power Cord to an approved power source.

CHANNEL 3/4 ELECTROTHERAPY MODULE- REMOVAL (continued)

Turn Therapy System On

Turn the System On using the On/Off Switch. The System will automatically recognize the Module has been removed and will display a configuration change message.

Read and carefully follow the instructions on the screen.



⚠ WARNING

Verify that the Module installed is the Module displayed in the message BEFORE pressing the START button. If it is not, DO NOT press the START button. Turn the System OFF and back ON. If the problem continues, call the selling dealer or Chattanooga Group Technical Support immediately.

DO NOT USE THE SYSTEM until all necessary repairs are made by a Technician certified by Chattanooga Group. If use is attempted before repairs are made, the System may operate unpredictably and has the potential of causing injury to the patient or damage to the System's internal components.

ERROR CODES

General Information

The Intelect Advanced Therapy Systems incorporate error messages, and warnings to inform the user of problems or potential problems with the system, modality, or accessories. These are numbered so the user can possibly correct the problem without the aid of service personnel. Use the following Troubleshooting Charts to define the error codes, and locate the probable cause and possible remedies before contacting the dealer or factory for technical service.

Code Number	Type Message	Probable Cause	Possible Remedies
100	Warning	Overcurrent	**A.** Check Electrodes and Lead Wires. Make certain Lead Wires are not damaged and are properly connected to the system. Make certain Lead Wires are properly connected to the Electrodes and that electrodes are not damaged and are making proper contact with treatment area. **B.** Replace Lead Wires and Electrodes.
101	Warning	Shorted Lead Wires	**A.** Check Electrodes and Lead Wires. Make certain Lead Wires are not damaged and are properly connected to the system. Make certain Lead Wires are properly connected to the Electrodes and that electrodes are not damaged and are making proper contact with treatment area. **B.** Replace Lead Wires and Electrodes.
102	Warning	Bad Contact Quality	**A.** Make certain Electrodes are making proper contact with the treatment area. **B.** Make certain Lead Wires are properly connected to Electrodes. **C.** Replace Electrodes and Lead Wires.
103	Warning	Blank Patient ID	Properly enter Patient ID. Refer to Therapy System User Manual for Patient Data Card instructions.
104	Warning	**1.** Blank Protocol Name **2.** Blank Sequence Name	Properly enter Protocol or Sequence Name. Refer to the appropriate section of the Therapy System User Manual.
106 107	Warning Warning	**1.** Attempting to delete factory set Sequence. **2.** Attempting to delete Clinical Protocol.	Cannot delete factory set Clinical Protocols or factory set Sequences.

ERROR CODES (continued)

Code Number	Type Message	Probable Cause	Possible Remedies
108	Warning	Attempting to save additional User Protocols or Sequences after system memory has reached the maximum allowed (200).	Delete some User Protocols or Sequences. Refer to appropriate section of the Therapy System User Manual for instructions.
109 110 111	Warning Warning Warning	Attempting to access protocols or sequences and none are found in the system.	**A.** User Protocols- No protocols have been saved in the system. Refer to Therapy System User Manual to save User Protocols. **B.** Sequences- No User Sequences have been saved in the system. Refer to Therapy System User Manual to save Sequences.
112	Warning	Ultrasound Applicator disconnected from system during treatment session.	**A.** Connect Ultrasound Applicator to system. **B.** If Ultrasound Applicator is connected, reset system by turning power switch Off and On. **C.** If problem persists, connect a known good Ultrasound Applicator. If problem continues, contact dealer or Chattanooga Group for service.
113	Warning	Attempting to perform Ultrasound treatment with no Applicator connected to the system.	**A.** Connect the desired Ultrasound Applicator to the system. **B.** If Ultrasound Applicator is connected, reset system by turning power switch Off and On. **C.** If problem persists, connect a known good Ultrasound Applicator. If problem continues, contact dealer or Chattanooga Group for service.
114	Warning	Ultrasound Applicator is not calibrated.	Attempt to use a known good Applicator. If problem continues, contact dealer or Chattanooga Group for service.
115	Warning	Ultrasound Applicator is too hot.	Allow Ultrasound Applicator Sound Head to cool to ambient temperature.
116 117	Warning Warning	**1.** No Patient Data Card is inserted into the system. **2.** Attempted to use an Invalid Patient Data Card.	**A.** Properly insert the Patient Data Card into the system port. Refer to Therapy System User Manual for new and existing Patient Data Card instructions. **B.** Attempt to use a known good Patient Data Card. **C.** Make certain a Patient Data Card and not an sEMG Data Card is being used. **D.** If problem continues, contact dealer or Chattanooga Group for service.

ERROR CODES (continued)

Code Number	Type Message	Probable Cause	Possible Remedies
118	Warning	Attempting to save additional User Protocols or Sequences after system memory has reached the maximum allowed (200).	Delete some User Protocols or Sequences. Refer to appropriate section of the Therapy System User Manual for instructions.
119 120 121 122	Warning Warning Warning Warning	**1.** Attempted to read a treatment from Patient Data Card that is not a valid treatment for the system **2.** Attempted to use a Non-Patient Data Card. **3.** No Patient Data Card inserted into system port. **4.** Unknown type of smart card inserted into system.	**A.** Use a Patient Data Card with proper treatment data for the system. **B.** Properly insert a Patient Data Card. **C.** Insert a known good Patient Data Card. **D.** If problem persists, insert a known good Patient Data Card. If problem continues, contact dealer or Chattanooga Group for service.
123	Warning	Patient Data Card is full.	Erase Patient Data Card. Refer to Therapy System User Manual for instructions.
124	Warning	Patient Treatment Data already saved.	**A.** Cannot save same data again on Patient Data Card. **B.** Use a new Patient Data Card to resave data. **C.** Erase Patient Data Card and resave treatment data.
125	Warning	Multimedia Card (MMC) not in system port.	**A.** Properly insert the MMC card into the system port. **B.** Insert a known good MMC Card. If problem continues, contact dealer or Chattanooga Group for service.
126	Warning	No valid channels are available for attempted treatment.	**A.** Complete existing treatment before attempting to start another. **B.** Reset Therapy System by turning main power switch Off and On.
127 128	Warning Warning	**1.** No sEMG Channels are available for treatment. **2.** No sEMG Module installed or detected by system.	**A.** Wait until current treatment is complete. **B.** Reset Therapy System by turning main power switch Off and On. **C.** Make certain sEMG Module is properly installed. Refer to sEMG Module User Manual for installation instructions. **D.** Replace sEMG Module with known good sEMG Module. **E.** If problem continues, contact dealer or Chattanooga Group for service.

ERROR CODES (continued)

Code Number	Type Message	Probable Cause	Possible Remedies
129	Warning	sEMG Data Card full.	sEMG Data Card faulty. Insert a known good sEMG Data Card. If problem continues, contact dealer or Chattanooga Group for service.
130	Warning	Another treatment is running while attempting to set up and perform a Laser Therapy treatment.	**A.** Allow existing treatment to complete before starting Laser Therapy. **B.** If no other treatment is running, reset Therapy System by turning main power switch Off and On.
131	Warning	Treatment Room Door Lockout is breached.	**A.** Make certain Treatment Room Door is completely closed. **B.** Make certain the Lockout cable is connected to the system. **C.** Replace Lockout to System cable with a known good cable. **D.** Contact department responsible for installation of the Treatment Room Door Lockout mechanism for maintenance or repair. **E.** If problem continues, send Laser Module to Factory for service.
132	Warning	Attempted to start a laser treatment but no Laser Applicator is plugged in.	**A.** Connect desired Laser Applicator to the system. **B.** If Applicator is connected, reset Therapy System by turning main power switch Off and On. **C.** Connect a known good Laser Applicator. **D.** If problem continues, send Laser Module to Factory for service.
133	Warning	Laser Applicator became unplugged while performing a laser treatment.	**A.** Connect desired Laser Applicator to the system. **B.** If Laser Applicator is connected, reset Therapy System by turning main power switch Off and On. **C.** Connect a known good Laser Applicator. **D.** If problem continues, send Laser Module to Factory for service.
134	Warning	Entered incorrect laser PIN.	**A.** Enter correct Laser PIN number. **B.** If problem continues, send Laser Module to Factory for service.

ERROR CODES (continued)

Code Number	Type Message	Probable Cause	Possible Remedies
135	Warning	Control Board Software upgrade warning.	Upgrade Control Board Software to latest version. Contact dealer or Chattanooga Group for latest software upgrade and instructions.
136	Warning	Stim Board Main Software upgrade warning.	Upgrade Stim Board Software to latest version. Contact dealer or Chattanooga Group for latest software upgrade and instructions.
137	Warning	Stim Board Main Software upgrade warning.	Upgrade Stim Board Software to latest version. Contact dealer or Chattanooga Group for latest software upgrade and instructions.
138	Warning	Ultrasound Board Software upgrade warning.	Upgrade Ultrasound Board Software to latest version. Contact dealer or Chattanooga Group for latest software upgrade and instructions.
139	Warning	Laser Board Software upgrade warning.	Upgrade Laser Board Software to latest version. Contact dealer or Chattanooga Group for latest software upgrade and instructions.
140	Warning	MMC Software upgrade warning.	Upgrade MMC Software to latest version. Contact dealer or Chattanooga Group for latest software upgrade and instructions.
141	Warning	Battery Module Software upgrade warning.	Upgrade Battery Software to latest version. Contact dealer or Chattanooga Group for latest software upgrade and instructions.
142	Warning	A Laser Protocol was selected, but no Laser Module is installed on system.	Install Laser Module to Therapy System. Refer to Laser Module User Manual for installation Instructions.
143	Warning	A Laser Protocol was selected, but no Laser Applicator connected to system.	**A.** Connect proper Laser Applicator to the system. **B.** If Laser Applicator is connected, reset Therapy System by turning main power switch Off and On. **C.** Connect a known good Laser Applicator. **D.** If problem continues, send Laser Module to Factory for service.

ERROR CODES (continued)

Code Number	Type Message	Probable Cause	Possible Remedies
144	Warning	Wrong Laser Applicator connected to system for the protocol selected.	**A.** Connect correct Laser Applicator to the system. **B.** If Applicator is connected, reset Therapy System by turning main power switch Off and On. **C.** Connect a known good Laser Applicator. **D.** If problem continues, send Laser Module to Factory for service.
145	Warning	Patient Data Card button on Home screen was pressed with no Patient Data Card installed into system port and no treatment currently being performed.	Properly insert a Patient Data Card, set up and perform the treatment and save data to Patient Data Card.

⚠ WARNING

In the event that an Error message or Warning appears beginning with a 2 or 3, immediately stop all use of the system and contact the dealer or Chattanooga Group for service. Errors and Warnings in these categories indicate an internal problem with the system that must be tested by Chattanooga Group or a Field Service Technician certified by Chattanooga Group before any further operation or use of the system. Use of a system that indicates an Error or Warning in these categories may pose a risk of injury to the patient, user, or extensive internal damage to the system.

MAINTENANCE

CARING FOR THE THERAPY SYSTEM

Cleaning the Therapy System

With the system disconnected from the power source, clean the system with a clean, lint free cloth moistened with water and mild antibacterial soap. If a more sterile cleaning is needed, use a cloth moistened with an antimicrobial cleaner.

Do not submerse the system in liquids. Should the unit accidentally become submersed, contact the dealer or Chattanooga Group Service Department immediately. Do not attempt to use a system that has been wet inside until inspected and tested by a Service Technician Certified by Chattanooga Group.

Do not allow liquids to enter the ventilation holes in the optional modules. This could permanently damage the modules.

Cleaning Electrode Sponges

Thoroughly clean spnges after each use with medical grade alcohol.

Cleaning the Lens

Clean the Therapy System Screen Lens using NOVUS® Polish System. Contact Novus at: www.novuspolish.com

CALIBRATION REQUIREMENTS

Calibrating Ultrasound Applicators

Annual factory calibration is required for all Ultrasound Applicators. Only the Applicators should be sent to the factory or a Field Technician certified by Chattanooga Group for this procedure.

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FACTORY SERVICE

When the Intelect Advanced Therapy System or any of the accessory modules require factory service, contact the selling dealer or Chattanooga Group Service Department.
All Therapy System and accessory modules returned to the factory for service must include the following;

WARRANTY REPAIR/OUT OF WARRANTY REPAIR

1. Written statement containing the following information;
   - RA Number- Obtain from Factory
   - Therapy System or Module Model Number
   - Therapy System or Module Serial Number
   - Contact Person with Phone and Fax Numbers
   - Billing Address (for Out of Warranty Repair)
   - Shipping Address (Where to Ship Unit after Repair)
   - Detailed Description of Problem or Symptoms
2. Copy of original invoice issued at purchase of the Therapy System or Module.
3. Ship the unit to address specified by an authorized service technician.

Service to these units should be performed only by Service Technicians certified by Chattanooga Group.

Ultrasound Applicators require annual calibration, from the date placed in service, by the Factory or a Service Technician certified by Chattanooga Group.

WARRANTY

Chattanooga Group ("Company") warrants that the Intelect Advanced Therapy System ("Product") is free of defects in material and workmanship. This warranty shall remain in effect for two years (24 months) from the date of original consumer purchase. If this Product fails to function during the two year warranty period due to a defect in material or workmanship, Company or the selling dealer will repair or replace this Product without charge within a period of thirty (30) days from the date on which the Product is returned to the Company or the dealer.

All repairs to the Product must be performed by a service center authorized by the Company. Any modifications or repairs performed by unauthorized centers or groups will void this warranty.

The warranty period for accessories is 180 days. Accessories include Lead Wires, Electrodes, and Nylatex®.

This warranty does not cover:

Replacement parts or labor furnished by anyone other than the Company, the selling dealer, or a service technician certified by the Company.

Defects or damage caused by labor furnished by someone other than Company, the selling dealer, or a certified Company service technician.

Any malfunction or failure in the Product caused by product misuse, including, but not limited to, the failure to provide reasonable and required maintenance or any use that is inconsistent with the Product User's Manual.

COMPANY SHALL NOT BE LIABLE IN ANY EVENT FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.

Some locations do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

To obtain service from Company or the selling dealer under this warranty:

1. A written claim must be made within the warranty period to the Company or the selling dealer. Written claims made to the Company should be sent to:

   Chattanooga Group
   4717 Adams Road
   Hixson, TN 37343 USA
   Phone: +1-423-870-7200
   FAX: +1-423-870-2046

   and

2. The Product must be returned to the Company or the selling dealer by the owner.

This warranty gives you specific legal rights and you may also have other rights which vary from location to location.

The Company does not authorize any person or representative to create for it any other obligation or liability in connection with the sale of the Product.

Any representation or agreement not contained in the warranty shall be void and of no effect.

THE FOREGOING WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING ANY WARRANTY OR MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

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