NEW STANDARD OF CARE
OPTIMIZED DOSING WITH ULTRABRIEF© ECT

No other ECT manufacturer provides a proven evidence based methodology as simple and effective to use as the spECTrum ULTRABRIEF (0.3 ms) ECT feature. This feature was designed and tested at Columbia in the late 1990s, preliminary results were reported,[3,4] and it was introduced as a feature into MECTA spECTrum ECT (0.3 ms) devices in July of 2003. Right unilateral (0.3 ms) ultrabrief six times seizure threshold ECT is equivalent in efficacy to a robust form of bilateral ECT with little sign of cognitive deficit and is simplified by the use of the MECTA spECTrum titration tables.[2] No other ECT device has implemented the peer-reviewed randomized double blind studies into its ultrabrief feature. Only the spECTrum ULTRABRIEF (0.3 ms) ECT is highly efficient at the lower range, with patients demonstrating seizure thresholds at 5 mC and can treat the patient across the entire range of energy from 0.3 Joules to 100 Joules. The spECTrum ULTRABRIEF (0.3 ms) ECT has 15% more charge than any other ultrabrief ECT device at the maximum setting and does not risk overdosing the patient at the minimum settings.

OPTIMIZED and FULL SPECTRUM Dosing Parameter Sets

Pulse width, pulse frequency, train duration, and current (pulse amplitude) are the ECT stimulus parameters that radically determine the efficiency of stimulation.[6,7] In response to the evidence in the field, MECTA's newest dosing parameter sets offer greater efficiencies and wider treatment ranges.

NEW! OPTIMIZED DOSING Parameter Sets-0.3, 0.5, 1.0 ms offer dosing in the most optimized pulse widths as the inefficiency of wider pulses has been firmly established. The evidence is increasing that duration of the pulse train is more efficient than increasing pulse frequency.[7,8] On all MECTA Q and M models and in all OPTIMIZED and FULL SPECTRUM DOSING Parameter Sets, the range of train duration is now 0.5 to 8 seconds. **NEW!** At longer pulse widths (0.5 and 1.0 ms) maximum device output is achieved at lower pulse frequencies. **NEW!** Finally, Current is fixed at 800 mA in the OPTIMIZED MECTA Q and M parameter sets reflecting the vast body of clinical research on 800 mA.

NEW! FULL SPECTRUM DOSING Parameter Set

Only the spECTrum 5000Q®/4000Q™ now include a fourth parameter set that allows the experienced clinician or researcher to vary pulse width, train duration, pulse frequency and current independently throughout the full range of device parameters. Historical and new parameter sets can be selected and set, using the knob and visual interface without accessing the menus. As MECTA is the only device with choices of pulse amplitudes, due to speculation that titration in the current domain* may be superior in refining stimulus properties, this range has now been increased from 500 to 900 mA. **NEW!** MECTA has developed new Titration and Pre-Selected Dosing Tables which include gender, age and electrode placement.[9] Dosing is provided at 1.5, 2.0, 2.5 and 6x seizure threshold. **NEW!**

EEG Data Analysis

MECTA's percent Seizure Adequacy estimate is the ONLY existing ECT index that was developed with actual clinical stimulus dosing and treatment response data and that has been shown to have a significant relationship to outcome. This index provides clinicians with the percent Seizure Adequacy measure that has demonstrated to be of clinical relevance.[5] These Duke University patented estimates are the culmination of more than ten years of research and are licensed exclusively to MECTA.

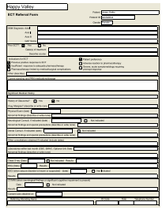
New Stringent Standards

Extensive regulatory agency approvals worldwide U.S. (UL); Canada (CSA, Health Canada 8 Approvals, #1537, #62578, #62576); European Union, TUV (EN ISO 13485:2003+AC:2007; CMDCAS ISO 13485:2003; EC 93/42/EEC Annex II, Article 3); EN ISO 9001:2008; Korea (KFDA); Australia (TGA)

*Patent Pending

THREE ECT DATA MANAGEMENT SOFTWARE PROGRAMS

MECTA EMR©- Electronic Medical Record



Prepare for Paperless Medicine With MECTA

This MS Accress™- based networkable Electronic Medical Record program will revolutionize your ECT team's inputting of patient data, pre-treatment, treatment and post-treatment forms.

Safety – Government and hospital organizational mandates require digitization of patient medical records to improve patient safety.

Secure – spECTrum treatment data cannot be modified after saving into the database.

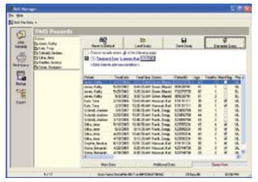
Easy to use – spECTrum data ports directly into EMR. Digital inputting of data is done pre-treatment and post-treatment in the ECT suite.

Time saving and cost saving – Default to patient's previous treatment to save time. EMR records can be saved as PDF files that may be attached to hospital patient records.

Features – Forms include: ECT Referral Form, Pre-Anesthesia Evaluation Form, Pre-ECT Nursing Checklist, ECT Administration Records, ECT Medication Log and Post-ECT Nursing Recovery Record. In addition, physiological trace data is imported from the spECTrum and can be reviewed and printed from the EMR program. Input, store, query, print and export these six patient records.

MECTA's EMR Software program works exclusively with the spECTrum 5000 ECT device to advance ECT practices for the 21st century.

MECTA RMS MANAGER©



This powerful database program automatically imports MECTA's Remote Monitor Software (RMS) data files into an extremely versatile and easy-to-use database. With RMS MANAGER you'll be able to: Collect up to 52 data fields including 10 user-defined fields, Sort, Select, Query, Print, incorporate Notes, Backup, and Export to Excel and other commonly used programs. Combined with the spECTrum device and Remote Monitor Software, RMS MANAGER organizes and analyzes your ECT treatment data! It's that easy!

RMS Remote Monitor Software©

The RMS allows the clinician to assure patient safety and excellent clinical outcomes by viewing all of the traces of physiological monitoring (up to four EEGs, 1 ECG and OMS) on any external PC monitor. Up to eight traces can be displayed. These traces of monitoring are viewed in real time throughout the treatment.

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MECTA

spECTrum ULTRABRIEF©
4000Q™
EEG DATA ANALYSIS
5000M™

MECTA – THIRTY-FIVE YEARS OF NEUROMODULATION INNOVATIONS

MECTA EMR©
4000M™
5000Q®
spECTrum RMS MANAGER©
RMS REMOTE MONITOR SOFTWARE©

Evidence Based ECT Technology

Providing up to an 80% Response[1] Rate for Endogenous Depression

EXPERIENCE OPTIMIZED PATIENT OUTCOMES WITH spECTrum ULTRABRIEF ECT

REDEFINING
ECT

NEW AND IMPROVED DEVICES

4000 DEVICES

The 4000 models are economical, light-weight and portable. The re-designed, highly reliable tactile interface uses six membrane switches for treatment selection, and the new Water Clear technology in the display offers improved clarity and transmission of light to enhance viewing. The 4000 models are upgradable to a 5000 spECTRUM.

5000 DEVICES

The 5000 models have been enhanced with new lighter-weight RoHS (lead-free) cases that provide enhanced durability (3 lbs. lighter). The new robust handle ensures easy repositioning. Touchscreen advanced technology offers increased sensitivity and clarity.

HANDHELD ELECTRODES

Third Generation

Newly re-designed with a single molded handle and flange, these MECTA Handhelds are lighter-weight, waterproof and easier to clean.

SAFETY

These new devices include extensive redundant hardware and software testing to verify that they are operating correctly. The safety of these devices is unparalleled, and as such these devices are an advance that will impact the safety and effectiveness of the ECT treatment dramatically.

NINE EASY TO USE MENUS

Individualize patient treatments for safety and effectiveness with the 5000's nine menu options: Main, Patient Data, Date & Time, LCD Traces, LCD Gains, Chart Traces, Chart Options, EEG Data and the Parameter Selection menus. One menu display is available in the 4000 models.

MECTA HAS DEFINED THE STANDARD OF CARE FOR NEUROMODULATION DEVICES through evidence based research since its inception. A breakthrough in MECTA ECT research in 1973 at Oregon Health Sciences University produced the first and only modified, monitored, brief pulse ECT – MECTA C, D, SR and JR devices. Controlled research at Columbia University with a spECTRUM 5000Q® resulted in the newest form of ECT, ***spECTRUM ULTRABRIEF***© **ECT** (UB RUL), which achieves cognitive effects that are dramatically minimized while maximizing efficacy.[2]

LCD/Touch Screen

The LCD/Touch Screen provides the user with alphanumerics, self-test and treatment results, and monitoring of EEG, ECG and OMS. The LCD/Touch Screen provides the user with an interface to set treatment parameters. This allows more flexibility, as the menu can be accessed by simply touching the display. Up to four channels of monitoring can be seen on the LCD/Touch Screen. The stimulus parameters on the Q and M models are displayed on the LCD/Touch Screen, as well as percent intensity on the M model. Choose from nine set-up menus in the 5000 model, Main, Patient Data, Date & Time, LCD Traces, LCD Gains, Chart Traces, Chart Options, EEG Data and the Parameter Selection menus and one menu in the 4000 models, to individualize each patient's treatment. The LCD/Touch Screen also provides the user with clinical information, which can be recorded on the patient's record, to ensure greater safety.

Stimulus Control Push Button

The hinged cover on the Stimulus Control push button prevents the user from accidentally delivering a treatment. The Stimulus Status Tri-color LED offers the user a visual confirmation that the spECTRUM is enabled, that the stimulus is being delivered, and indicates if there is a stimulus delivery fault. The three warning tones during the automatic self-test and the constant tone during treatment continue to offer the user enhanced safety during the treatment process.

Patient Impedance Display

The automatic self-test offers the user far greater accuracy in avoiding aborted or missed seizures, as this bio-feedback provides continuous display of the patient impedance, which results in far greater efficacy.

THE ONLY DUKE UNIVERSITY DEVELOPED AND PATENTED ANALYSIS FEATURES. MECTA IS THE ONLY COMPANY LICENSED TO INCLUDE THE DUKE UNIVERSITY EEG SEIZURE QUALITY MEASURES IN ITS PRODUCTS.

*U.S. Patent #5,755,744
-U.S. Patent #6,014,587
- U.K. Patent #GB 2 307 413 B

**Duke U.K. Patent #2 304 196 B-
U.S. Patent #5,626,627
(Under exclusive license from Duke University)

Patents Pending

THE spECTRUM 5000 AND 4000 MODELS ARE THE FOURTH GENERATION OF MECTA'S ECT DEVICES. They continue to be the most advanced ECT devices technically, while continuing to offer even more safety and effectiveness clinically. The 5000 model devices offer up to five channels of ECG and EEG monitoring, and one Optical Motion Sensor. The 4000 devices are simply the 5000 devices without monitoring capability. The spECTRUM 5000Q®* and spECTRUM 4000Q™* offer the user flexibility with four stimulus parameter knobs to control energy and charge. The spECTRUM 5000M™* and spECTRUM 4000M™* units offer simplicity, with one single Stimulus Intensity knob. This varies Frequency and Duration simultaneously, to control energy and charge.

EEG Data Analysis

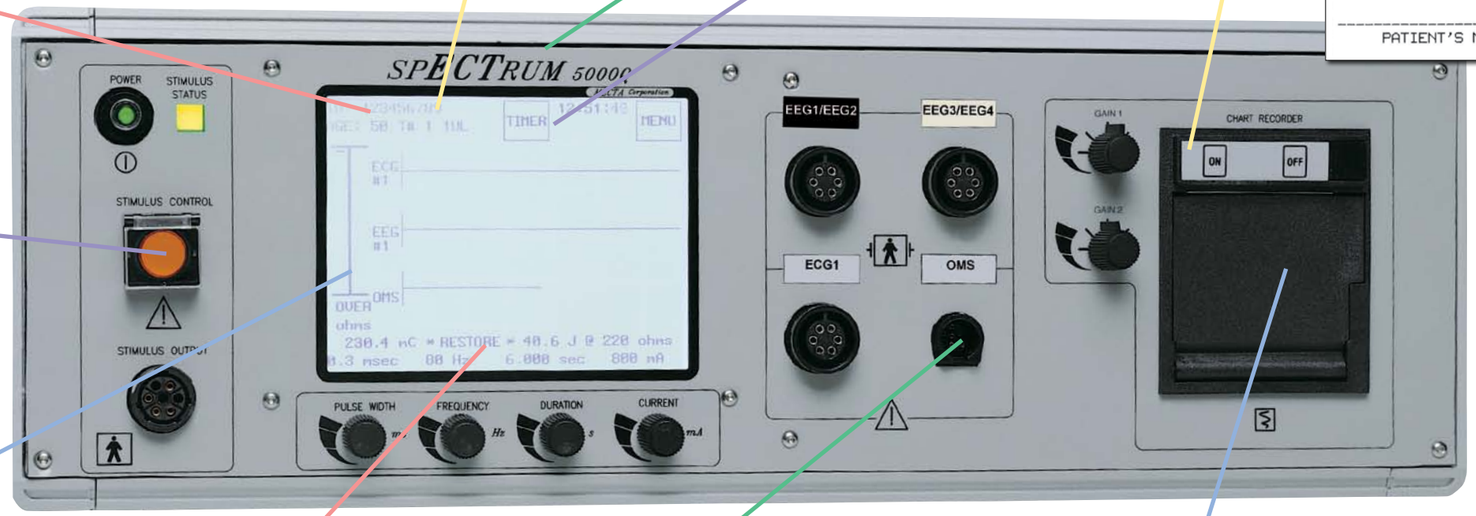
The EEG Data Analysis provides real-time Seizure Adequacy** estimates, which help the clinician to better assess the quality and efficacy of each individual seizure. This processes EEG Data, including the patient data, patient's age, treatment number, electrode placement, and number of EEG channels selected.

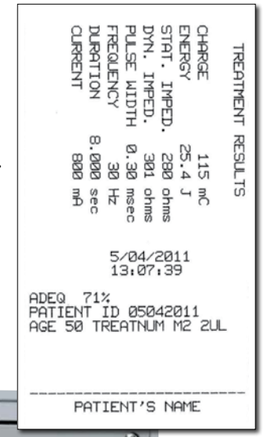
Real Time Monitoring – Eight Channels Maximum

Four channels of monitoring on the LCD/Touch Screen and two channels of monitoring on the Chart Recorder allow the clinician to see six simultaneous waveforms of EEG, ECG and OMS. The quality of the waveforms is enhanced by the digital signal processing (DSP), which filters unwanted interference.

Timer

The Timer information is printed on the Chart Recorder as a permanent record.





Leads-Off Indicator

Leads-Off indicator detects when one or more recording electrodes or the OMS are not connected to the patient. The trace disappears and the restore button will appear.

OMS

The Optical Motion Sensor (OMS) allows the user to monitor motor movement during the seizure, and provides further valuable information in assessing seizure efficacy. The velcro-wrap attachment, with the emitter and detector, wraps around a finger or toe, and detects motion. Its simplicity of use eliminates the need for electrode pads, gels, and pastes.

Chart Recorder

The two-channel thermal Chart Recorder provides the user with a hard copy of the self-test and treatment results automatically, and also optionally includes patient information and EEG Data Analysis results. The Recorder's simple ON/OFF push buttons and GAIN knobs enable manual and high resolution printing. The spECTRUM's printout continues to provide two channels of your choice of monitoring, showing elapsed time, timer, date, time of treatment, patient data, and EEG Data Analysis results.

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