Electroencephalograph-recorder computerized portable "Encephalan-EEGR-19/26" ("Mini" modification)

Illustrated catalogue

MEDICOM MTD
Frunze str., 68, Taganrog, Russia, 347900

www.medicom-mtd.com
e-mail: office@medicom-mtd.com
Service e-mail: service@medicom-mtd.com
Fax: +7 (8634) 61-54-05 (24 hours)

Quality management system is certified with ISO 9001:2008 and ISO 13485:2012 standards

European Quality Certificate
CE 538571, issued by British Standards Institution (BSI)

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Multichannel multifunctional modular transformable electroencephalograph-recorder "Encephalan-EEGR-19/26", "Mini" modification:

- **Data registration by 10 channels** with the main patient transceiver-recorder ABP-10 (9 EEG derivations).
- **Registration of EEG and up to 20 or more other parameters** using additional wireless units and modules.
- **Quality registration** using original EEG electrodes, electrode systems with elastic fixing caps, adapter cables and other accessories from EEG Electrode Set ES-EEG-10/20 "Encephalan-ES", which is included into electroencephalograph-recorder "Encephalan-EEGR-19/26" set, as well as other electrodes and sensors from electroencephalograph-recorder set.

**Application modes for electroencephalograph-recorder:**

- **telemetric** (wireless interface technology Bluetooth®);
- **autonomous** (recording data onto the memory card – Holter-type);
- **autonomous-telemetric** (data backup onto the memory card of the patient transceiver-recorder during telemetric registration).

**Electroencephalograph-recorder is available in 4 models:**

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
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</thead>
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<tr>
<td>&quot;Encephalan-EEGR-19/26&quot; AT-Mini</td>
<td>Autonomous (saves data onto a memory card), telemetric or autonomous-telemetric (with data backup onto the memory card) study modes. Registration of parameters with polygraphic channels of wireless units and modules of electroencephalograph-recorder.</td>
</tr>
<tr>
<td>&quot;Encephalan-EEGR-19/26&quot; AT-Mini-Video</td>
<td>Provides additional registration of video data simultaneously with recording EEG and other parameters.</td>
</tr>
<tr>
<td>&quot;Encephalan-EEGR-19/26&quot; AT-Somno</td>
<td>Autonomous, telemetric or autonomous-telemetric polysomnographic study modes in neurological or epileptological medical departments or at patient's home. Registration of parameters with polygraphic channels of wireless units and modules of electroencephalograph-recorder.</td>
</tr>
<tr>
<td>&quot;Encephalan-EEGR-19/26&quot; AT-Somno-Video</td>
<td>Provides additional registration of video data simultaneously with recording EEG and other parameters during polysomnographic studies.</td>
</tr>
</tbody>
</table>

Enhanced functionality and application of electroencephalograph-recorder in clinical practice, sports, industrial and institutional medicine, psychophysiology and scientific research are provided by a basic autonomous transceiver-recorder ABP-10, additional wireless units, modules, sensors and accessories, along with methodical software (SW) from electroencephalograph set.
# Software from the electroencephalograph-recorder set

<table>
<thead>
<tr>
<th>Software name</th>
<th>p.</th>
<th>Medical purpose (briefly)</th>
</tr>
</thead>
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<tr>
<td><strong>Main software for multichannel electroencephalographic and neurophysiological studies</strong></td>
<td></td>
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</tr>
<tr>
<td><strong>Main software for EEG studies &quot;Encephalan-EEGR&quot;, telemetric or autonomous-telemetric studies, &quot;Elite&quot; suite</strong></td>
<td>5</td>
<td>EEG studies, visual data analysis, quantitative methods of EEG analysis, data record and synchronization from additional wireless devices, generation of EEG study report.</td>
</tr>
<tr>
<td><strong>Software that extends the functionality of electroencephalograph-recorder during EEG studies</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&quot;Encephalan-VLFA&quot; software for analysis of very low frequency activity (patented in RF #2252692)</td>
<td>20</td>
<td>Analysis of very low frequency activity (DC potential) synchronously and simultaneously with the EEG recording from the same derivations for indirect assessment of cerebral energy exchange and reactivity (the dynamics of metabolic changes).</td>
</tr>
<tr>
<td>&quot;Encephalan-FBA&quot; software for functional brain asymmetry analysis</td>
<td>20</td>
<td>For diagnostics of hemispheric and intrahemispheric dysfunctions, identification of foci of pathological activity, treatment monitoring, studies of topical features and intercentral interaction with the various functional tests.</td>
</tr>
<tr>
<td>&quot;HRV&quot; software for heart rate variability analysis</td>
<td>20</td>
<td>Assessment of autonomic nervous system and neurohumoral regulation of the patient based on a study of heart rate variability to assess the adequacy of the physical and psycho-emotional stress.</td>
</tr>
<tr>
<td><strong>Software and accessories for long latency evoked potentials study</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Software of electroencephalograph-recorder for additional study types at continuous EEG monitoring</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&quot;Encephalan-PSG&quot; – somnological studies – polysomnography, &quot;neurological&quot; suite</td>
<td>23</td>
<td>Analysis of sleep phases, automatic building and manual editing of hypnograms, highlighting the sleep events, generation of reports on sleep stages distribution.</td>
</tr>
<tr>
<td>&quot;Encephalan-PSG&quot; – somnological studies – polysomnography, &quot;maximal&quot; suite</td>
<td>23</td>
<td>Analysis of sleep phases, automatic building and manual editing of hypnograms, highlighting the sleep events, generation of reports on sleep statistics, distribution of sleep stages, cardiorespiratory disorders, SpO2, etc.</td>
</tr>
<tr>
<td>&quot;Encephalan-MPA&quot; software for multiparameter analysis of signals from polygraphical channels in combination with EEG signals (patented in RF #2252692)</td>
<td>23</td>
<td>Calculation and visualization of trends, reflecting cardio-cycle-to-cardio-cycle (in conjunction with the ECG R-wave) dynamics of various physiological indicators of cardiovascular (CVS), autonomic (ANS) and central nervous system (CNS).</td>
</tr>
<tr>
<td>&quot;Encephalan-CFM&quot; for cerebral functions monitoring</td>
<td>24</td>
<td>Dynamic aEEG analysis for neurophysiological monitoring at continuous EEG monitoring in neonatology, ICU and resuscitation department, and for scientific research.</td>
</tr>
<tr>
<td>&quot;Encephalan-NM&quot; for neuromonitoring</td>
<td>24</td>
<td>Calculation and visualization of trends of the CNS, ANS and cardiorespiratory system physiological parameters in the same time scale for the continuous dynamic monitoring and state assessment.</td>
</tr>
<tr>
<td>&quot;Encephalan-CM&quot; for cardiorespiratory monitoring and scientific research</td>
<td>25</td>
<td>Additional cardiorespiratory monitoring using 3 additional bipolar ECG channels and impedance-based pneumogram channel of a PG-ECG Connector synchronously with other recorded parameters.</td>
</tr>
<tr>
<td>EEG-videomonitoring &quot;Encephalan-Video&quot;</td>
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<td>Completely synchronized recording of EEG/PSG and data from one or more video cameras in daytime or at night, its analysis and archiving for the differential diagnosis of epilepsy and diagnosis of sleep disorders.</td>
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<tr>
<td><strong>Additional software for psychophysiological analysis and testing, functional biocontrol and neurobiocontrol with biofeedback</strong></td>
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</tr>
<tr>
<td>&quot;Egoscop&quot; objective analysis and testing, (patented in RF #2319444)</td>
<td>43</td>
<td>New innovative level of psychodiagnostics (paperless technology) with synchronous registration of motor activity parameters of the subject on the touch screen tablet, and physiological indicators that reflect the emotional reactions in the process of testing and data analysis in relation to the semantic clusters of tests</td>
</tr>
<tr>
<td>&quot;Rehacor&quot; software for functional biocontrol with biofeedback training</td>
<td>46</td>
<td>Procedures of functional biocontrol with BFB (biofeedback and neurobiofeedback) for improvement of neural regulation in various disorders, increasing stress tolerance, correction of the status, training skills of self-control and optimal functioning of the athletes, students, top managers and persons of responsible and stressful professions. Scenario Editor creates new procedures and provides the assessment of a procedure and course effectiveness.</td>
</tr>
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<td>Accessories to electroencephalograph-recorder</td>
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<td>12</td>
<td>Software for additional study types at continuous EEG monitoring &quot;Encephalan-PSG&quot;, &quot;neurological&quot; and &quot;maximal&quot; suits, &quot;Encephalan-MPA&quot;, &quot;Encephalan-CFM&quot;, &quot;Encephalan-NM&quot;, &quot;Encephalan-CM&quot;</td>
<td>23</td>
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<tr>
<td>13</td>
<td>Sets of accessories with electrode systems for continuous EEG monitoring by 6 derivations (from EEG Electrode Set ES-EEG-10/20 &quot;Encephalan-ES&quot;)</td>
<td>26</td>
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*The external appearance of the products is given as an example and may have some differences that do not affect functionality when delivered.*
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<th>Comments</th>
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<td><strong>Sets of patient transceiver-recorder ABP-10 with Software EEG studies &quot;Encephalan-EEGR&quot;</strong></td>
<td></td>
</tr>
<tr>
<td>1.1.</td>
<td>A_6014</td>
<td>&quot;Autonomous-Telemetric&quot; set includes:</td>
<td>Provides:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Autonomous patient transceiver-recorder (ABP-10): 10 channels providing registration of EEG, ECG, EMG, EOG and other indices, embedded body position sensor, integrated telemetric interface (Bluetooth®) of connection to PC and additional wireless modules, units or sensors of electroencephalograph-recorder.</td>
<td>- telemetric mode with data backup onto the memory card;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Memory card and function of autonomous data recording (Holter-EEG) with further transmission to PC and analysis.</td>
<td>- autonomous mode (Holter-EEG/PSG) with data record onto the memory card.</td>
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<tr>
<td></td>
<td></td>
<td>- Accessories: wireless PC Adapter &quot;IB-4&quot; (USB–Bluetooth), rechargeable batteries set (type – AA, 4 pcs., including 2 additional), charger, calibrator, check lead, USB cable for data transfer.</td>
<td>Required:</td>
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<tr>
<td></td>
<td></td>
<td>- Operation documentation.</td>
<td>- accessories;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Software for autonomous-telemetric EEG studies &quot;Encephalan-EEGR&quot;, &quot;elite&quot; suite. Long-term telemetric registration, data recording on a memory card and export to PC, their visual analysis and processing, continuous measurement and record of electrode impedance and potentials, referential reconstruction of EEG data, split mode. Quantitative methods of EEG analysis: spectral and amplitude topographic mapping, coherent function, autocorrelation function, cross-spectrum, automatic search of non stationary fragments and epileptic activity, protocol of EEG studies forming, automatic artifact suppression on EEG, record, synchronization and visual analysis of data from additional wireless devices, export of study results to universal data formats, record of data and analysis results on a disk for further viewing and consultation, print manager for studies results.</td>
<td>- electrode systems;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Patient data management &quot;Cardfile&quot;.</td>
<td>- electrodes;</td>
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<tr>
<td></td>
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<td>- cover bag for autonomous studies or table mount for stationary studies;</td>
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<td></td>
<td></td>
<td></td>
<td>- additional wireless units, modules and sensors;</td>
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<td></td>
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<td></td>
<td>- computing hardware and office equipment;</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- video equipment kit and software for EEG-videomonitoring;</td>
</tr>
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<td></td>
<td></td>
<td></td>
<td>- additional software.</td>
</tr>
</tbody>
</table>
1.2. **A_6035**

**“Telemetric” set includes:**

- **Autonomous patient transceiver-recorder (ABP-10):** 10 channels providing registration of EEG, ECG, EMG, EOG and other indices, embedded body position sensor, integrated telemetric interface (Bluetooth®) of connection to PC and additional wireless modules, units or sensors of electroencephalograph-recorder (to be selected from this catalogue).

- **There is an option of switching the ABP-10 (A_6035) from a master mode into a slave mode** – the option of using Poly-10. Allowed co-work of the main ABP-10 with two ABP-10 in slave mode to increase the number of polygraphic channels of registration (channels in addition to the main patient transceiver-recorder ABP-10) to 20.

- **Accessories:** wireless PC Adapter "IB-4" (USB–Bluetooth), rechargeable batteries set (type – AA, 4 pcs., including 2 additional), charger, calibrator, check lead.

- **Operation documentation.**

- **Software for telemetric EEG studies “Encephalan-EEGR”, “elite” suite.** Continuous record and data storage, processing, visual analysis of recorded data, continuous measurement of electrode impedance and potentials, referential reconstruction, split mode. Quantitative methods of EEG analysis: spectral and amplitude topographic mapping (2D,3D), coherent function, autocorrelation function, cross-spectrum, automatic search of non stationary fragments and epileptic activity, protocol of EEG studies forming, automatic artifact suppression on EEG, record, synchronization and visual analysis of data from additional wireless devices, export of study results to universal data formats, record of data and analysis results on a disk for further viewing and consultation, print manager for studies results.

- **Patient data management "Cardfile".**

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The external appearance of "Telemetric" set components (A_6035) is similar to the external appearance of "Autonomous-Telemetric" set components (A_6014).

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1.3. **A_6429**

**"Autonomous-Telemetric – Additional recorder” (EEG/PSG Holter) set includes:**

- **Autonomous patient transceiver-recorder (ABP-10):** 10 channels providing telemetric and autonomous registration of EEG, ECG, EMG, EOG and other indices, embedded body position sensor, integrated telemetric interface (Bluetooth®) of connection to PC (to control the connection quality) and additional wireless modules, units or sensors of additional recorder (to be selected from this catalogue).

- **Memory card and function of backup or autonomous (Holter-EEG/PSG) data recording onto ABP-10.**

- **Accessories:** rechargeable batteries set (type – AA, 4 pcs., including 2 additional), charger, calibrator, check lead.

- **Operation documentation.**

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The external appearance of "Autonomous-Telemetric – Additional recorder” set components (A_6429) is similar to the external appearance of "Autonomous-Telemetric” set components (A_6014).

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**Attention:**

- Additional recorders (up to 8) can be used if the main electroencephalograph-recorder ("Autonomous-Telemetric" or "Telemetric+” set) and a computer (Real Time Work Station) with Installed Software Suite are purchased.

- The computer is required for telemetric connection to control the quality of installation of additional recorder sensors, as well as to save and process data of autonomous study.

- If there is no required software for additional recorders, it must be purchased and installed at the computer of the main electroencephalograph-recorder.
| 2. | **A_4765** | **Cover bag** for autonomous patient transceiver-recorder ABP-10  
*The set includes:*  
• shoulder strap;  
• waist belt for fixing cover bag on patient’s body.  
*Used for portable application of autonomous patient transceiver-recorder ABP-10* |
| 2.1. | **A_7652** | **Set of fixing belts**  
*Used for fixing modules and units on patient’s body at various studies*  
*The set includes:*  
• chest belt (extension included);  
• waist belt (extension included);  
• cable fixers.  
*Required for fixing autonomous patient transceiver-recorder ABP-10, wireless pulse oximeter module and other modules at PSG studies, multiparametric data registration and EEG-Videomonitoring.* |
| 2.2. | **A_2732** | **Wireless Movement Sensor**  
(for body position)  
*The set includes:*  
• battery (type – AAA, 2 pcs., including 1 additional);  
• chest fixing belt.  
*Used at continuous EEG monitoring to detect body position – when seating, standing, walking, lying on the side (left or right), prone or on the back, and evaluate patient movement activity* |
### 2.3. A_1715 Voice Event Marker DCM-32M
- **Description**: (specialized digital event marker)
- **Includes**:
  - battery (type – AAA, 2 pcs., including 1 additional);
  - USB cable.
- **Between**
- **Technical Details**
- **Usage**
  - For recording voice comments (study log) and marking events during autonomous study with further synchronization of recorded data with data of EEG/PSG studies.
  - Required for autonomous EEG studies (Holter-type)

### 2.4. A_2143 Memory Card
- **Description** additional (spare) for autonomous patient transceiver-recorder ABP-10 ("Autonomous-Telemetric" or "Autonomous-Telemetric – Additional recorder" set)
- **Technical Details**
  - Type – microSD;
  - class – 4 or higher
  - recommended manufacturer – SanDisk;
  - capacity – up to 32 GB.
- **Usage**
  - For autonomous recording of all registered data onto ABP-10 for more than 48 hours.

### 2.5. A_5447 Mains Supply Adapter
- **Description**
  - For ABP-10 powering from the mains (220V, 50Hz) or USB port
- **Technical Details**
- **Usage**
  - For stationary use, alternatively to autonomous powering from accumulators.

### 2.6. A_2329 SW-key (USB)
- **Description**
  - Allows working with purchased software at any additional clients PC, including network variant.
<table>
<thead>
<tr>
<th>3.1.</th>
<th>A_2624</th>
<th><strong>Autonomous stimulator SFN/FO-04</strong> with integrated LED matrix. Used for photo-, phono- and electro stimulation functional tests during telemetric EEG/EP studies, and for assessment of reactivity in ICU and resuscitation department. <strong>The set includes</strong> rechargeable batteries (type – AA, 4 pcs., including 2 additional).</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1.1.</td>
<td>A_5447-1</td>
<td><strong>Mains supply adapter</strong> For stimulator powering from the mains (220V, 50Hz) or USB port. For stationary use, alternatively to autonomous powering from accumulators.</td>
</tr>
<tr>
<td>3.1.3.</td>
<td>A_2940</td>
<td><strong>LED Tube FO-06 TD (children)</strong> Fixed with elastic cap for electrode system or cover cap for adhesive cup EEG electrodes. For photostimulation. Connected to the Stimulator SFN/FO-04. If the LED tube is used, the LEDs matrix in the stimulator SFN/FO-04 is disabled. Cannot be used without SFN/FO-04.</td>
</tr>
<tr>
<td>3.1.4.</td>
<td>A_3072</td>
<td><strong>LED Tube FO-06 TV (adults)</strong> Fixed with elastic cap for electrode system or cover cap for adhesive cup EEG electrodes.</td>
</tr>
</tbody>
</table>
### 3.1.5. LED goggles FO-03 (photostimulator)

For flash visual EP studies.

Allows changing flash intensity separately for the left and right eye.

For photostimulation
Connected to the Stimulator SFN/FO-04. If the LED tube is used, the LEDs matrix in the stimulator SFN/FO-04 is disabled.
Cannot be used without SFN/FO-04.

### 3.1.6. Wireless Electrostimulator

The set includes:
- strap fixer;
- battery (type – AAA, 4 pcs., including 2 additional).

For somatosensory stimulation
Used for assessment of reactivity in ICU and resuscitation department, as well as in long-latency somatosensory EP-studies (if the software "Encephalan-EP" is purchased).
Operated by stimulator SFN/FO-04.
Cannot be used without SFN/FO-04.

### 3.1.7. Floor Stand

For stationary use of stimulator SFN/FO-04
4. Sets of accessories with electrode systems for continuous EEG monitoring by 8 derivations

4.1. The sets with electrodes for contact gel

The sets include:

- electrode systems ES-EEG-8-3;
  - Electrodes are fixed in the eyelets of elastic fixing caps. Wires for electrodes are grouped in a common cable and have a group connector to ABP-10.
  - Provides registration of 9 EEG derivations.
  - When connecting electrode system to transceiver-recorder ABP-10, there is 1 free polygraphic channel for sensors with micro-8 connector (usually used for ECG and respiratory effort).
- set of elastic fixing caps ES-EEG with eyelets for electrodes and covers for them – 5 sizes, fixer for elastic caps, chest fixing belt, syringe with plastic nozzles set for electrode gel insertion.

4.1.1. A_2493-41 ES-EEG-8-3B "Baby" set

Sizes from 34 to 45.

4.1.2. A_2493-42 ES-EEG-8-3C "Children" set

Sizes from 45 to 55.

4.1.3. A_2493-43 ES-EEG-8-3A "Adult" set

Sizes from 55 to 66.

Used with patient transceiver-recorder ABP-10 for EEG-Videomonitoring, Holter-EEG, PSG studies and neuromonitoring.

Required: electrode gel.

Chin fixer for cap ES-EEG can also be purchased (A_0497, A_0496).

Required for PSG studies:

- additional units, modules and sensors (see recommendations on sales package selection: Polysomnochromographs based on electroencephalographs "Encephalan-EEGR-19/26", "Mini" modification).
- Also required – ECG cable for bipolar derivation (A_8302).
4.2. The sets with cup adhesive EEG electrodes

The sets include:

• electrode systems ES-EEG-8-3(c);
  Wires for electrodes are grouped in a common cable and have a group connector to ABP-10. Provides registration of 9 EEG derivations.
  When connecting electrode system to transceiver-recorder ABP-10, there is 1 free polygraphic channel for sensors with micro-8 connector (usually used for ECG and respiratory effort).
• set of protective elastic fixing cover caps – 5 sizes, fixer for cover caps, chest fixing belt;
• adhesive plaster Omnifix – 1 pcs.;
• color montages of electrode placement.

4.2.1. A_2493-45 ES-EEG-8-3C(c) "Children" set
Sizes from 45 to 55.

4.2.2. A_2493-46 ES-EEG-8-3A(c) "Adult" set
Sizes from 55 to 66.

Differs in a more reliable fixation of the electrodes and high-quality EEG recording.

Used with patient transceiver-recorder ABP-10 for EEG-Videomonitoring, Holter-EEG, PSG studies and neuromonitoring.

Required:

• electrode paste EC2, TEN-20 or similar;
• glue-collodion (probe is provided), glue remover, compact hair-dryer for quick gel drying (purchased individually).

Chin fixer for cover cap is purchased if necessary (A_0497, A_0496).

Required for PSG studies:

• additional units, modules and sensors (see recommendations on sales package selection: Polysomnographs based on electroencephalographs "Encephalan-EEGR-19/26", "Mini" modification).

Also required – ECG cable for bipolar derivation (A_8302).
### Equipment and accessories for stationary EEG studies

#### 5.1. Connector EEG

| 5.1.1. | **A_4062** | **Connector EEG-9 (9 EEG, 1 ECG)**  
Used to record **9 EEG derivations** (including A1-A2 reference electrodes difference) **and 1 ECG derivation** using electrodes with touchproof connector at routine EEG studies, cerebral functions monitoring, neuromonitoring.  
**Comes complete with** laminated color montages of electrode placement. |
|---|---|---|
| Required: | • the set of EEG electrodes and accessories SEEG-8/21 or set of EEG cup electrodes (adhesive type);  
• protective cover for conductors of EEG electrodes (A_0129). |
| 5.1.2. | **A_4062-1** | **Connector EEG-9 (10 EEG)**  
Used to record 10 EEG derivations (A1-A2 reference electrodes are combined) using electrodes with touchproof connector at routine EEG studies.  
**Comes complete with** laminated color montages of electrode placement. |
| 5.1.3. | **A_5452** | **Connector defibrillation-proof**  
Used to record 9 EEG derivations (including A1-A2 reference electrodes difference) and 1 ECG derivation using electrodes with touchproof connectors in ICU and resuscitation department at EEG monitoring for brain death statement, cerebral functions monitoring by 5 derivations, neuromonitoring. |
| At customer's option for common cerebral functions monitoring: | • set of single EEG electrodes ES-EEG-11/TP (A_2910-5);  
• set of fixing caps at customer's option (A_7408, A_7409, A_7410);  
• disposable ECG electrodes (hydrogel A_6753);  
• electrode extension leads set (A_6679). |
<p>| | | |</p>
<table>
<thead>
<tr>
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</thead>
</table>
| **5.2.** | **A_5528** | **Table mount additional to ABP-10**  
**The set includes** a clips and a bag  
Can be used for convenient operation with ABP-10 at stationary EEG registration. |
| **5.3.** | **A_2443** | **Adapter PSG**  
Used for PSG studies. Provides registration of 6 EEG, 2 EOG, 1 EMG and 1 ECG derivations using electrodes with touchproof connector.  
**Required:**  
• the set of EEG cup electrodes (adhesive type) for 6 or 9 EEG;  
• protective cover for conductors of EEG electrodes (A_0129). |
### 6. Sets of cup EEG electrodes for contact gel with touchproof connectors
for use with connectors and adapters in stationary variant

#### 6.1. A_2493-96

**Set of cup EEG Electrodes and accessories SEEG-8/21**

Cup electrodes for EEG registration by 9 derivations.

Used with contact electrode gel and silicone tube caps.

**The set includes:**
- cup EEG electrodes for contact electrode gel (electrode wire length 1.2 m) – 12 pcs.;
- set of EEG electrodes fixers "ear clips" – 4 pcs.;
- set of snap connector wires for disposable ECG, EOG, EMG electrodes – 2 pcs.

#### 6.1.1. A_2804-1

**Set of silicone tube caps for EEG electrodes**

The set includes 3 resizable caps with sizes 48-54; 54-58; 58-62

**Used:**
- with cup EEG electrodes (for contact electrode gel);
- with bridge EEG electrodes

---

### From EEG Electrode Set ES-EEG-10/20 "Encephalan-ES"

**Electrodes for contact electrode gel fixed with silicone tube caps**

For routine EEG studies by 9 EEG derivations with connector EEG-9.

**Required:**
- electrode gel;
- disposable electrodes;
- set of silicone tube caps for 9 EEG electrodes (A_2804-1).
### 7. Bridge EEG Electrodes set for 9 EEG derivations

The set includes:
- **bridge EEG electrodes** – 12 pcs., including 3 additional;
- **ear EEG electrodes** with a clip – 4 pcs., including 2 additional;
- **snap connector wires for bridge EEG electrodes and disposable ECG, EOG or EMG electrodes** (wire length 1.2 m) – 14 pcs., including 3 additional.

**Fixed with silicone tube caps**

For routine EEG studies by 9 EEG derivations.

**Used with** connectors EEG-9.

**Required:**
- silicone tube caps (A_2804-1);
- disposable ECG electrodes.
<table>
<thead>
<tr>
<th>8.</th>
<th>A_5332</th>
<th><strong>Set of Cup EEG Electrodes (adhesive type)</strong> for 6 or 9 EEG derivations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length – 1.2 m</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The set includes:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• <strong>cup electrodes for EEG, EMG, EOG and ECG registration</strong> – 12 pcs., including 1 additional;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• <strong>adhesive plaster Omnifix</strong> – 1 pcs..</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Differs in a more reliable fixation of the electrodes and high-quality EEG recording.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recommended for PSG studies.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Used for continuous EEG monitoring, neuromonitoring, brain death statement and EEG/PSG studies.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electrodes are applied with:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• connectors EEG-9;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• adapter PSG.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Required:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• electrode paste EC2, TEN-20 or similar;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• glue-collodion (probe is provided), glue remover, compact hair-dryer for quick gel drying (purchased individually at pharmacy or shop);</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• cover cap (A_5018-3, A_5019-3, A_5020-3);</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• protective cover for conductors of EEG electrodes from cover cap to connector EEG-9 or adapter PSG (A_0129).</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Additional accessories for adhesive cup EEG electrodes

<table>
<thead>
<tr>
<th>Section</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>9.1.</td>
<td>Set of protective elastic fixing cover caps for adhesive cup electrodes</td>
</tr>
<tr>
<td>9.1.1.</td>
<td>A_5018-3 Set of protective elastic fixing cover caps, &quot;baby&quot;&lt;br&gt;Sizes from 34 to 45 – 5 pcs.&lt;br&gt;The set includes chest belt fixing to a baby diaper.</td>
</tr>
<tr>
<td>9.1.2.</td>
<td>A_5019-3 Set of protective elastic fixing cover caps, &quot;children&quot;&lt;br&gt;Sizes from 45 to 55 – 5 pcs.&lt;br&gt;The set includes chest belts (2 pcs. of different sizes) and protective cap x-type fixer.</td>
</tr>
<tr>
<td>9.1.3.</td>
<td>A_5020-3 Set of protective elastic fixing cover caps, &quot;adult&quot;&lt;br&gt;Sizes from 55 to 66 – 5 pcs.&lt;br&gt;The set includes protective cap fixer and fixing chest belt.</td>
</tr>
<tr>
<td>9.2.</td>
<td>Chin fixers for elastic cap or cover cap</td>
</tr>
<tr>
<td>9.2.1.</td>
<td>A_0497 Chin fixer &quot;adult&quot;</td>
</tr>
<tr>
<td>9.2.2.</td>
<td>A_0496 Chin fixer &quot;children&quot;</td>
</tr>
</tbody>
</table>

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*From EEG Electrode Set ES-EEG-10/20 "Encephalan-ES"*

**Meant for additional fixation and coverage of adhesive cup electrodes and conductors to them at continuous studies.**

Protective cap x-type fixer can also be fixed to the chest belt of wireless body position sensor or to the chest belt from the set of fixing belts.

If necessary, the customer can additionally purchase a chin fixer for fixation of cap or cover cap alternatively to fixing belt and chest belt.
Protective cover for conductors of EEG electrodes

Covers cable from cover cap to connector EEG 9 or adapter PSG.

For the sets of cup adhesive EEG electrodes
### 10. Software that extends the functionality at EEG studies

#### 10.1. "Encephalan-VLFA" Software for Analysis of Very Low Frequency Activity

"Encephalan-VLFA" Software for Analysis of Very Low Frequency Activity *(patented in RF #2252692)*

Software additionally provides analyzing of very slow EEG responses simultaneously with recording of EEG by the same derivations. Dynamic trends of very slow potentials and topographic maps of instantaneous values and reactive shifts of the DC-potentials level to functional tests or functional stresses at continuous EEG studies carried out allow a doctor or experimentalist-researcher to use obtained information for indirect evaluation of cerebral energy exchange and reactivity (metabolic change dynamics) and match it with EEG studies results and indices of cardiovascular system, CNS and ANS (if corresponding sensors and wireless devices are available). For scientific and clinical research in psychophysiology, sports medicine and somnology.

#### 10.2. "Encephalan-FBA" Software for Functional Brain Asymmetry Analysis

"Encephalan-FBA" Software for Functional Brain Asymmetry Analysis

Software provides visualization of intercentral connections maps (interhemispheric and intrahemispheric) on the basis of calculated matrixes of relative functions (cross-correlation, cross-spectrum, coherence function) by the set combinations of derivations, which gives a doctor additional information for solving scientific and clinical tasks of intra- and intercotical dysfunctions diagnostics, detection of pathological activity and control of the treatment, studies of topical features and intercentral cooperation in carrying out various activities.

#### 10.3. "HRV" Software for Heart Rate Variability Analysis

"HRV" Software for Heart Rate Variability Analysis

Software is used to assess the state of the autonomic nervous system and neurohumoral regulation of the patient, to evaluate the adequacy of physical and psycho-emotional stress taking into account the autonomic reactivity to a provoking effect, as well as to control the effect of medicinal drugs and efficiency of treatment prescribed.

Software uses standard recommended types of quantitative analysis and results representation in the form of cardiointervalogram trends (HR, RR), statistical and spectral parameters, hystograms and scattergrams (correlation rhythmograms) of RR-intervals allocation, spectrograms with frequency ranges that characterize the state of ANS and balance of sympathetic and parasympathetic sections (HF, LF, VLF). There is an option of forming the formalized protocol with initial state description and autonomic reactivity. Software allows analyzing selected fragments of continuous ECG records (24 hrs, night recording) at long-term EEG/PSG studies or multiparameter monitoring.

Requires purchasing ECG cable *(A_4740)* if it is not included into delivery set.
<table>
<thead>
<tr>
<th>11.</th>
<th>Software and accessories for long-latency evoked potentials study</th>
</tr>
</thead>
<tbody>
<tr>
<td>11.1.1.</td>
<td>A_4009 Patient Button Unit (five button response pad)</td>
</tr>
<tr>
<td></td>
<td>For detecting patient's response (pressing the specified button, 5 buttons) on presented stimulus while using the &quot;Encephalan-AVS&quot; Software. The set includes battery (type – AAA, 4 pcs., including 2 additional).</td>
</tr>
<tr>
<td></td>
<td>For study of Visual Evoked Potentials (VEP) to Chess Pattern Reversion.</td>
</tr>
</tbody>
</table>

The stimulating devices (photo, phono- or somatosensory (electro-) stimulators from the stimulator SFN/FO-04 set) are required depending on the selected modality of EP studies. Cognitive EPs require a button sensor. Required for study of cognitive (CNV and P300, MMN) EP, and for EEG and EP studies with audio-visual stimulation.

Required:
- additional monitor (21”);
- sensor of videostimulus synchronization.
| 11.2.1. | **A_4178** | **Videostimulus synchronization sensor**  
Provides accurate detection of videostimulus presentation moment. |
| 11.3. | **A_0712** | **“Encephalan-AVS” Software Suite for EEG and EP Studies Using Audiovisual Stimulation**  
Software provides flexible forming and playback of scenarios of cognitive stimulation using graphic images, audio files and text information as stimuli.  
Images can be of tiff, jpg, bmp, gif formats with any resolution, including FullHD; audio files – formats wav, mp3; text information can be customized by font color and size, background color, and area of visualization on the screen.  
**Option of unconscious stimuli presentation** with direct and inverse masking with control of responses (latent periods of button pressing).  
**Accurate synchronization** of presented stimuli and recorded physiological signals (EEG, EP), which allows carrying out EEG and EP studies (cognitive EP) to solve different clinical and scientific tasks in neurology, psychophysiology, studies of perception mechanisms, etc. |
|  |  | It used at the study of the visual EP to pattern reversal and at EEG and EP study to audio-visual stimulation. |
|  |  | Required:  
- additional monitor for stimuli presentation;  
- headphones or acoustic system for audio stimuli presentation;  
- patient button unit and sensor of videostimulus synchronization. |
Used mainly as an addition to EEG videomonitoring for epileptological studies.  
Software provides sleep stages analysis, automatic building and manual editing of hypnograms, marking sleep events, reporting for sleep stages distribution. | Only data on EEG, EOG, EMG is analyzed.  
Attention:  
Cardiorespiratory disorders, SpO\(_2\), snore, movement disorders are not analyzed. |
| 12.1 | **A_1627-11** | "Encephalan-PSG" Software for Somnological Studies, "Maximum" Suite  
Software provides: sleep stages analysis, automatic building and manual editing of hypnograms, marking sleep events, reporting for sleep stages statistics, sleep stages distribution, cardiorespiratory disorders, SpO\(_2\), etc.  
Analysis of data on 2, 6 or 9 EEG derivations, 2 EOG, 1 EMG and other physiological signals registered with polygraphic channels of ABP and other additional wireless devices (SpO\(_2\), breathing parameters, snore, legs movement, etc.). Sleep related breathing and movement disorders are analyzed. | Required:  
- electrode systems or connectors with electrodes for PSG studies – 2, 6 or 9 EEG derivations;  
- wireless pulse oximeter module with sensors;  
- other modules, sensors and accessories depending on PSG study type. |
| 12.3 | **A_0803** | "Encephalan-MPA" software for multiparameter analysis of signals from polygraphical channels in combination with EEG signals (patented in RF #2252692)  
Software provides calculation and visualization of trends which display beat-by-beat dynamics (dynamics of indices from cardio cycle to cardio cycle) of different physiological parameters of cardiovascular (CVS), autonomic (ANS) and central nervous system (CNS) in unified time scale which provides visual evaluation of the interrelations (signals from the list (if corresponding sensors are purchased): EEG, EOG, EMG, ECG, RespEff, SpO\(_2\), Rheo-CHD, REG, PPG, temperature, movement activity, etc.).  
Software allows analyzing recorded physiological signals, evaluating physiological shifts in response to provoking actions to detect weak and compensatory links in the systems of the body. Software allows carrying out statistical and spectral analysis, building histograms or scattergrams of selected quantitative parameters distribution by the specified study fragments, as well as generating automatic report with formalized results description and table data illustrating initial state and significant changes caused by functional tests during multiparametric telemetric monitoring or processing data on autonomous monitoring with "Encephalan EEGR" Software. | Used for psychophysiological and PSG studies, as well as for scientific and clinical studies.  
System analysis of hemodynamics as an independent study requires:  
- bipolar impedance adapter;  
- tetrapolar impedance adapter;  
- electrodes, sensors, wireless units and modules are required. |
12.4. **A_0803-3** "Encephalan-CFM" Software for Cerebral Functions Monitoring in ICU

**Software provides long-term dynamic aEEG analysis** for detection of epileptiform activity, for neurological prognosis for perinatal asphyxia in neonatology, for post-comatose unconsciousness in ICU, for neurophysiological control of ischemic strokes, and for evaluation of phasic sleep structure at PSG studies.

Trends of amplitude-integrated EEG (aEEG), 3D representation of compressed spectral array (CSA), density spectral array (DSA), trends of EEG spectral indices, mirror spectrogram, automatic reporting with quantity characteristics of recorded phenomena allows identifying and classifying the specific aEEG patterns. Can be used at clinical and scientific research.

If used in neonatology, requires:
- electrodes and accessories for cerebral functions monitoring;
- EEG-9 connector.

12.4.1. **A_7478** Atlas of amplitude-integrated EEG in the newborns

The text of the Atlas in English

12.5. **A_0803-1** "Encephalan-NM" Software for Neuromonitoring

**Software provides calculation and visualization of trends** (duration of averaged parameters time quantum can be set in the range from 10 to 300 s) of different physiological parameters (if corresponding sensors and devices are present), CNS (amplitude and spectral EEG parameters, DCP values), ANS and cardiorespiratory system (respiration parameters, galvanic-skin response, heart rate, temperature, tonus of muscles and vessels, oxygen saturation SpO2, oculomotor manifestations, etc.), movement activity and body position changing in unified time scale in long multiparametric monitoring.

Software gives an information in digital and graph form for long-term dynamic monitoring and evaluation of the patient’s state in ICU and can be used at clinical and scientific research.

Trends are based on the signals recorded by means of electrode systems and electrodes for EEG registration, as well as sensors and wireless units and modules that are necessary for monitoring.
### 12.6.  A_0803-2

**“Encephalan-CM” for cardiorespiratory monitoring and scientific research**

Building of averaged cardiointervalogram trends (dynamics of HR and RR-intervals), indirect systolic, diastolic, and mean arterial pressure obtained by calculation based on the pulse transit time (PTT) characterizing the rigidity of the arterial bed, and simultaneous with other indicators visual analysis. Detection of episodes of cardiac arrhythmias and latent ischemia in relation to respiratory disorders (apnea) for PSG studies.

3 additional bipolar ECG channels and channel of impedance pneumogram of PG-ECG Connector are used. ECG and impedance pneumogram signals are recorded synchronously with other indices.

<table>
<thead>
<tr>
<th>52</th>
<th>102</th>
</tr>
</thead>
<tbody>
<tr>
<td>98</td>
<td>2</td>
</tr>
</tbody>
</table>

Additionally used for polysomnography, neuromonitoring, multiparameter monitoring.

Requires purchasing the connector PG-ECG and four free polygraphic channels.
### 13. Sets of accessories with electrode systems (6 EEG derivations) for PSG studies

#### 13.1. The sets with electrodes for contact gel

The sets include:

- **electrode systems ES-EEG-6-3;**
  
  Electrodes are fixed in the eyelets of elastic fixing caps. Wires are grouped in a cable and have a group connector to ABP-10.
  
  Provides registration of 6 EEG derivations, 2 EOG, 1 EMG.
  
  When connecting electrode system to transceiver-recorder ABP-10, there is 1 free polygraphic channel for sensors with micro-8 connector (usually used for ECG and respiratory effort).

- **set of additional cables** to connect disposable ECG, EMG, EOG electrodes to electrode system – 5 pcs.;

- **set of elastic fixing caps ES-EEG** with eyelets for electrodes and covers for them – 5 sizes, fixer for elastic caps, chest fixing belt, syringe with plastic nozzles set for electrode gel insertion.

---

#### 13.1.1. A_2493-67 ES-EEG-6-3C "Children" set

Sizes from 45 to 55.

#### 13.1.2. A_2493-69 ES-EEG-6-3A "Adult" set

Sizes from 55 to 66.

---

**For continuous EEG monitoring at PSG studies.**

**Required:**

- electrode gel;
- disposable electrodes for EOG and EMG registration;
- additional units, modules and sensors for PSG studies (see recommendations on sales package selection: Polysomnographs based on electroencephalographs "Encephalan-EEGR-19/26", "Mini" modification). Also required – ECG cable for bipolar derivation (A_8302).

Chin fixer for cap ES-EEG is purchased if necessary (A_0497, A_0496).
The sets with cup adhesive EEG electrodes

The sets include:
- electrode systems ES-EEG-6-3(c);
  Wires for electrodes are grouped in a common cable and have a group connector to ABP-10.
  Provides registration of 6 EEG derivations, 2 EOG, 1 EMG.
  When connecting electrode system to transceiver-recorder ABP-10, there is 1 free polygraphic channel for sensors with micro-8 connector (usually used for ECG and respiratory effort).
- set of reusable adhesive electrodes for ECG, EMG, EOG to electrode system – 5 pcs.;
- set of protective elastic fixing cover caps – 5 sizes, fixer for cover caps, chest fixing belt;
- adhesive plaster Omnifix – 1 pcs.;
- color montages of electrode placement.

<table>
<thead>
<tr>
<th>13.2.1</th>
<th>A_2493-58</th>
<th>ES-EEG-6-3C(c) &quot;Children&quot; set</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sizes</td>
<td>from 45 to 55.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>13.2.2</th>
<th>A_2493-59</th>
<th>ES-EEG-6-3A(c) &quot;Adult&quot; set</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sizes</td>
<td>from 55 to 66.</td>
</tr>
</tbody>
</table>

Differs in a more reliable fixation of the electrodes and high-quality EEG recording.

Recommended for PSG studies.

Required:
- electrode paste EC2 or similar;
- additional units, modules and sensors for PSG studies (see recommendations on sales package selection: Polysomnographs based on electroencephalographs "Encephalan-EEGR-19/26", "Mini" modification).
  Also required – ECG cable for bipolar derivation (A_8302);
- glue-collodion, glue remover, compact hair-dryer for quick gel drying (purchased individually).

Chin fixer for cover cap is purchased if necessary (A_0497, A_0496).
### Sets of accessories with electrode systems (2 EEG derivations) for PSG studies

#### 14. The sets with cup adhesive EEG electrodes

The sets include:

- **electrode system ES-EEG-4-1(c);**
  
  Contain adhesive cup EEG electrodes, wires for electrodes are grouped in a common cable and have a group connector to ABP-10.
  
  Provides registration of 2 EEG derivations, 2 EOG, 3 EMG.
  
  When connecting electrode system to transceiver-recorder ABP-10, there are 5 free polygraphic channels for sensors with micro-8 connector.

- **set of reusable adhesive electrodes for ECG, EMG, EOG** to electrode system – 5 pcs.;

- **set of protective elastic fixing cover caps** – 5 sizes, fixer for cover caps, chest fixing belt;

- **adhesive plaster** Omniﬁx – 1 pcs.;

- **color montages of electrode placement.**

Differs in a more reliable ﬁxation of the electrodes and high-quality EEG recording. Recommended for PSG studies. For continuous monitoring at EEG/PSG studies, neuromonitoring and scientiﬁc research.

**Required:**

- electrode paste EC2 or similar;

- adhesive ECG, EOG and EMG electrodes;

- additional units, modules and sensors for PSG studies (see recommendations on sales package selection: Polysomnographs based on electroencephalographs "Encephalan-EEGR-19/26", "Mini" modification). Also required – ECG cable for bipolar derivation (A_8302);

- glue-collodion, glue remover, compact hair-dryer for quick gel drying (purchased individually).

Chin ﬁxer for cover cap is purchased if necessary (A_0497, A_0496).

<table>
<thead>
<tr>
<th>14.1.</th>
<th>A_2493-65</th>
<th>ES-EEG-4-1C(c) “Children” set</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sizes from 45 to 55.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>14.1.2.</th>
<th>A_2493-66</th>
<th>ES-EEG-4-1A(c) “Adult” set</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sizes from 55 to 66.</td>
<td></td>
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</tbody>
</table>
## 15.

### Units, modules, sensors and accessories for software for additional study types:

EEG/PSG studies, neuromonitoring, cerebral functions monitoring, clinical, psychophysiological and scientific research

<table>
<thead>
<tr>
<th>15.1.</th>
<th><strong>A_4404</strong> Wireless Respiration Module</th>
</tr>
</thead>
</table>
| Provides synchronous with EEG registration of signals via 4 channels from respiratory sensors during PSG studies.

**The set includes** rechargeable batteries (type – AA, 2 pcs., including 1 additional).

**Used as an additional module at continuous PSG/EEG studies and multiparameter monitoring.**

**See recommendations on sales package selection:** Polysomnographs based on electroencephalographs “Encephalan-EEGR-19/26”, “Mini” modification.

Attached onto the patient’s body with a set of fixing belts (A_7652).

<table>
<thead>
<tr>
<th>15.1.1.</th>
<th><strong>A_4731</strong> Simulator</th>
</tr>
</thead>
</table>
| Meant for technical verification of workability of WRM channels, as well as to check the connection between the WRM and the base transceiver-recorder ABP-10.

**From the set of Wireless Respiration Module.**

At customer's option.

<table>
<thead>
<tr>
<th>15.1.2.</th>
<th><strong>A_5365</strong> Set of Sensors and Accessories for Wireless Respiration Module</th>
</tr>
</thead>
</table>
| The set includes:

- **respiratory effort sensor** ("RespEff") with fixing belts – 2 pcs.
  - cable length of the thoracic sensor – 0.9 m;
  - cable length of the abdominal sensor – 0.65 m;

- **snore sensor**
  - cable length – 1.2 m;

- **oral-nasal thermistor airflow sensor**
  - cable length – 1.2 m.

**The set can be used for EEG/PSG studies with:**

- WRM module;
- Poly-4 module;
- ABP-10 in Poly-10 mode.

**See recommendations on sales package selection:** Polysomnographs based on electroencephalographs “Encephalan-EEGR-19/26”, “Mini” modification.
<table>
<thead>
<tr>
<th>Section</th>
<th>Code</th>
<th>Description</th>
<th>Image</th>
</tr>
</thead>
<tbody>
<tr>
<td>15.1.2.1</td>
<td>A_7350</td>
<td>Small additional belt for respiratory effort sensor. For chest circumference of 40-80cm.</td>
<td><img src="image1" alt="Small additional belt" /></td>
</tr>
<tr>
<td>15.1.3</td>
<td>A_4406</td>
<td>Pressure Airflow Sensor (&quot;P-Flow&quot;) For evaluation of parameters of nasal respiration and detection of breathing disorders basing on pressure gradient</td>
<td><img src="image2" alt="Pressure Airflow Sensor" /></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sensor is connected to polygraphic channels with micro-8 connector. Nasal cannulas are required.</td>
<td></td>
</tr>
<tr>
<td>15.1.4</td>
<td></td>
<td><strong>Respiratory airflow sensor cannula</strong></td>
<td></td>
</tr>
<tr>
<td>15.1.4.1</td>
<td>A_4007-03</td>
<td>Nasal respiratory airflow sensor cannula (neonatal)</td>
<td><img src="image3" alt="Nasal cannula" /></td>
</tr>
<tr>
<td>15.1.4.2</td>
<td>A_4007-10</td>
<td>Nasal respiratory airflow sensor cannula (children)</td>
<td><img src="image4" alt="Nasal cannula" /></td>
</tr>
<tr>
<td>15.1.4.3</td>
<td>A_4007-11</td>
<td>Nasal respiratory airflow sensor cannula (adult)</td>
<td><img src="image5" alt="Nasal cannula" /></td>
</tr>
<tr>
<td>15.1.4.4</td>
<td>A_7624</td>
<td>T-adapter with a tube to connect P-Flow sensor to CPAP mask <strong>Adapter for CPAP connection</strong></td>
<td><img src="image6" alt="T-adapter" /></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Manufactured by BRAEBON Medical Corporation, Canada</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>At customer's option</td>
<td></td>
</tr>
</tbody>
</table>
### 15.1.5. **A_8302** ECG Cable for bipolar derivation with neutral electrode

- 3 snaps for disposable electrodes.
- Length – 0.75 m.

For PSG studies with all electrode systems or if it is required to record ECG in portable variant of ABP-10.

**See recommendations on sales package selection:**

Polysomnographs based on electroencephalographs “Encephalan-EEGR-19/26”, “Mini” modification.

### 15.2. **A_4163** Wireless Pulseoximeter Module

Provides synchronous with EEG recording of patient arterial blood oxygen saturation (SpO2), P-Flow, body position, as well as snoring evaluation in sleep.

Used at PSG studies, cerebral function monitoring, neuromonitoring, clinical and scientific research.

**Includes:**
- rechargeable batteries (type – AA, 2 pcs., including 1 additional);
- nozzle (4 mm) Luer M – 3 pcs.:
- nozzle (6 mm) Luer M – 3 pcs.

Used for PSG studies, cerebral function monitoring and neuromonitoring. Attached onto the patient's body with a set of fixing belts.

**Required:**
- SpO2 sensors;
- nasal cannulas at customer's option;
- set of fixing belts.

### 15.2.1. **Fingertip SpO2 sensor**

| 15.2.1.1. | **A_4085-05** | **Fingertip SpO2 sensor RS-3227** (soft small) |
| 15.2.1.2. | **A_4085-03** | **Fingertip SpO2 sensor RM-3227** (soft medium) |
| 15.2.1.3. | **A_4085-04** | **Fingertip SpO2 sensor R-3227** (soft large) |
| 15.2.1.4. | **A_4085-06** | **Disposable SpO2 sensor**

Neonatal, for continuous monitoring.

Type and quantity at customer’s option
| 15.2.2. | A_4820 | **Table support (fixer)**  
for fixing Wireless Pulseoximeter Module | Recommended for stationary use of the module near the patient.  
Attached with 3M self-adhesive tape. |
|---|---|---|---|
| 15.3. | A_5359 | **Poly-4 Wireless Module**  
Provides synchronous with EEG registration of signals via 4 polygraphic channels at PSG studies, multiparameter (telemetric or autonomous) monitoring in sports medicine (at athlete's natural behaviour), scientific research, etc.  
**The set includes:**  
- rechargeable batteries (type – AA, 2 pcs., including 1 additional);  
- N-electrode cable.  
Poly-4 module in a **constant potential measurement** mode can provide data input by 4 channels.  
**Two Poly-4 modules** can be used within one set of electroencephalograph-recorder. | Required (depending on application):  
- set of electrodes, sensors and accessories for Poly-4 module;  
- PG-ECG connector with pick-up cables;  
- other sensors from this catalogue.  
Poly-4 module is attached onto the patient’s body with a set of fixing belts (A_7652). |
| 15.3.1. | A_7511 | **Table support (fixer)**  
for fixing Poly-4 Wireless Module | Recommended for stationary use of the module near the patient. |
<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Details</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>A_4731</td>
<td><strong>Simulator</strong></td>
<td>Meant for technical verification of workability of Poly-4 module channels, as well as to check the connection between the Poly-4 module and the base transceiver-recorder ABP-10.</td>
<td>At customer's option</td>
</tr>
<tr>
<td>A_5346</td>
<td><strong>Mains Power Supply Adapter</strong></td>
<td>Connected to a mains (220V, 50Hz) or USB port of computer equipment</td>
<td>For stationary use, alternatively to autonomous powering of Poly-4 module from accumulators.</td>
</tr>
</tbody>
</table>
### 15.4. Set of electrodes, sensors and accessories for Poly-4 module

The set can be used with Poly-4 module or ABP-10, including Poly-10 mode

| 15.4.1. | A_5364 | **Electrodes, Sensors and Accessories Set for Poly-4 wireless module**  
(movement activity registration)  
Meant for monitoring the movement activity in natural behavior and also to identify the symptoms of "restless legs" syndrome during PSG studies.  
The set includes:  
- wired movement sensor (length – 1.85 m) – 2 pcs.;  
- cable for 2 EMG derivations (length – 1.85 m) – 2 pcs. |

| 15.4.1.1. | A_5117 | **Wet Sensor**  
To identify the cases of incontinence during studies. |

| 15.5. | A_4768 | **PG-ECG Connector**  
Used:  
- for advanced cardiorespiratory monitoring, provides synchronous with the EEG recording of ECG parameters by 3 channels and impedance-based pneumogram via 1 channel for visual analysis of cardiorespiratory disorders in the process of EEG / PSG studies;  
- at multiparametric (telemetric or autonomous) monitoring in sports medicine (in the free behavior of the athlete), scientific research.  
For convenient attachment the conductors of the electrodes have different lengths – from 0.75 to 1 m.  
PG-ECG connector can be applied with Poly-4 module or ABP-10 in Poly-10 mode.  
**Required** disposable ECG electrodes (takes 7 pcs. a study). |
<table>
<thead>
<tr>
<th></th>
<th>Code</th>
<th>Description</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>15.6.</td>
<td>A_2732-3</td>
<td><strong>Wireless Movement Sensor</strong>&lt;br&gt;For registration of data on the movements of the patient's legs at EEG and PSG studies.&lt;br&gt;It provides data registration to identify the symptoms of &quot;restless legs&quot; syndrome.</td>
<td>Includes:&lt;br&gt;• battery (type – AAA, 2 pcs., including 1 additional);&lt;br&gt;• foot fixing ribbon.</td>
</tr>
<tr>
<td>15.7.</td>
<td>A_4742</td>
<td><strong>Wireless GPS Sensor</strong>&lt;br&gt;For tracking patient's location and saving the patient's track in memory of ABP-10 during the autonomous studying synchronously with recorded data.</td>
<td>Includes rechargeable batteries (type – AAA, 2 pcs., including 1 additional).</td>
</tr>
<tr>
<td>15.8.</td>
<td></td>
<td><strong>EEG-electrodes and accessories for cerebral functions monitoring using software &quot;Encephalan-CFM&quot;</strong></td>
<td></td>
</tr>
<tr>
<td>15.8.1.</td>
<td>A_2910-5</td>
<td><strong>Set of single EEG electrodes ES-EEG-11/TP</strong>&lt;br&gt;Used for low-channel (up to 5 EEG derivations) cerebral functions monitoring with fixing cover caps with eyelets.</td>
<td>The set includes:&lt;br&gt;• set of EEG electrodes (length – 1.2 m) – 7 pcs.;&lt;br&gt;• set of Snap Connector Wires for disposable EMG, EOG and ECG electrodes (wires length 1.2 m) – 3 pcs.;&lt;br&gt;• set of extension leads for hydrogel electrodes – 3 pcs.</td>
</tr>
</tbody>
</table>
### 15.8.2. Set of fixing caps with eyelet holes and covers for them

**15.8.2.1. A_7408**

Set of fixing caps ("Baby") for neonatology.

- The set includes:
  - caps and covers, sizes from 34 to 45 – 5 pcs.;
  - belt for fixing caps to the baby diaper.

**15.8.2.2. A_7409**

Set of fixing caps ("Children")

- The set includes:
  - caps and covers, sizes from 45 to 55 – 5 pcs.;
  - chest fixing belt.

**15.8.2.3. A_7410**

Set of fixing caps ("Adult")

- The set includes:
  - caps and covers, sizes from 55 to 66 – 5 pcs.;
  - chest fixing belt.

### 15.8.3. A_6753

**Disposable ECG Electrodes** (hydrogel, neonatal)

- For ECG, EOG, EEG and EMG registration.
- Wire length – 0.5 m.
- 3 pcs. in a **pack**.

Used additionally with the set of single EEG electrodes ES-EEG-11/TP (3 pcs. per study) or electrode extension leads set (up to 7 pcs. per study).
15.8.4. **A_6679**  
**Electrode extension leads set** with touchproof connectors  
For disposable electrodes with short cable (0.5 m) for cerebral functions monitoring.  
Wire length – 0.7 m.  
**The set includes** 7 extension leads.

**From “Encephalan-CFM” set**  
Used with disposable ECG electrodes (conductor length – 0.5 m) and connectors EEG-9.

15.8.5. **A_6434**  
**Set of Cup Electrodes** (adhesive type)  
for EEG registration by 5 derivations  
Used for cerebral functions monitoring, continuous EEG monitoring, neuromonitoring.  
Touchproof connectors, color-coded marking, wires length – 1.2 m.  
**The set includes:**  
- cup adhesive EEG electrodes for EEG, EMG, EOG and ECG – 10 pcs.;  
- adhesive plaster Omnifix.

**Required:**  
- electrode paste EC2, TEN-20 or similar;  
- disposable ECG electrodes;  
- fixing bondage elastic (A_6901);  
- set of net elastic cover caps of required sizes (A_5018-3, A_5019-3, A_5020-3).  
Attachment with glue-collodion is also possible (not recommended for newborns).
### Additional autonomous patient transceiver-recorder ABP-10 in Poly-10 mode

**16.1. A_6436**

**Patient transceiver-recorder ABP-10** in Poly-10 mode – additional to the main transceiver-recorder ABP-10 of the electroencephalograph-recorder* (independent use as an electroencephalograph is not provided).

- **Used to increase recording channels** of different parameters from the electrodes and sensors with micro-8 connector by 10 polygraphic channels.
- **Integrated telemetric interface** (Bluetooth®) provides the connection to the main patient transceiver-recorder and synchronization of the recorded data.
- Recorded data is transmitted to the main patient transceiver-recorder and saved, depending on the application, onto the memory card (unattended mode) or transmitted to PC (telemetric mode).

**The set includes:**
- rechargeable batteries set (type – AA, 4 pcs., including 2 additional);
- calibrator.

* These functions can be performed by electroencephalograph-recorder "Encephalan-EEGR-19/26" modification "Mini" in the application variant 2 in 1 due to switching operation modes: "Electroencephalograph" or "additional Poly-10 module". The main patient transceiver-recorder ABP-10 can work with 2 additional ABP-10.

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**Used at PSG studies** and multiparametric data registration in clinical and scientific research.

**Requires:**
- electrodes, sensors and accessories (see recommendations on sales package selection: Polysomnographs based on electroencephalographs "Encephalan-EEGR-19/26", "Mini" modification);
- cover bag with the set of fixing belts (for portable application);
- power supply adapter and table mount (for stationary application).
17. **Video equipment kit and Software for epileptological studies with videomonitoring "Encephalan-Video"**

<table>
<thead>
<tr>
<th>17.1</th>
<th>The kit is used for continuous synchronized videomonitoring for EEG and PSG studies, CFM monitoring and additional study types. The kit includes adapted Software for epileptological studies with videomonitoring «Encephalan-video». Software provides continuous synchronized EEG/PSG and video data recording, analysis and storage. Includes option of short video clip preparation (AVI format) for demonstration of pathological manifestations. Specialized &quot;EEG Viewer&quot; application allows viewing specified EEG fragments and video data on doctor's PC (onto CD/DVD discs or other storage devices) using main functions of visual EEG analysis. The manufacturer may replace the video cameras with similar ones with the same characteristics without prior notice.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>17.1.1.</strong></td>
<td><strong>A_2310-42</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Sensitivity</strong> – 0.07 lx @ F1.2;</td>
</tr>
<tr>
<td></td>
<td><strong>day-night mode</strong> – a mechanical IR-cut filter;</td>
</tr>
<tr>
<td></td>
<td><strong>resolution</strong> 1920x1080, 1280x720, 704x576;</td>
</tr>
<tr>
<td></td>
<td><strong>frame rate</strong> – 25 fps;</td>
</tr>
<tr>
<td></td>
<td><strong>built-in IR illumination;</strong></td>
</tr>
<tr>
<td></td>
<td><strong>powering</strong> – 220 V (via injector);</td>
</tr>
<tr>
<td></td>
<td><strong>built-in microphone.</strong></td>
</tr>
<tr>
<td><strong>17.1.1.</strong></td>
<td><strong>A_2811</strong></td>
</tr>
</tbody>
</table>
### 17.1.1.2. A_8233

**A clip for camera fixation**

Fixed on suitable objects of the surroundings

<table>
<thead>
<tr>
<th>A_8233</th>
<th>At customer’s option</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="A clip for camera fixation" /></td>
<td><img src="image2.png" alt="A clip for camera fixation" /></td>
</tr>
</tbody>
</table>

### 17.1.1.3. A_2310-45

**Mobile Basic Autonomous kit (day-night):**

The kit includes:

- fixed digital HD video camera, built-in IR backlight and patient’s microphone;
- video camera network controller (stationary);
- power injector for the camcorder with a set of cables;
- portable stand for camera;
- Software for epileptological studies with videomonitoring "Encephalan-Video".

<table>
<thead>
<tr>
<th>A_2310-45</th>
<th><img src="image3.png" alt="Mobile Basic Autonomous kit (day-night)" /></th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image4.png" alt="Mobile Basic Autonomous kit (day-night)" /></td>
<td><img src="image5.png" alt="Mobile Basic Autonomous kit (day-night)" /></td>
</tr>
</tbody>
</table>

- Sensitivity – 0.07 lx @ F1.2;
- day-night mode – a mechanical IR-cut filter;
- resolution 1920x1080, 1280x720, 704x576;
- frame rate – 25 fps;
- built-in IR illumination;
- powering – 220 V (via injector);
- built-in microphone.
### Mobile basic advanced kit (day-night)

The kit includes:
- advanced digital HD video camera with night mode – optical Zoom, rotator, built-in IR backlight for night mode;
- video camera network controller;
- power injector for the camcorder with a set of cables;
- portable stand for camera;
- Software for epileptological studies with videomonitoring "Encephalan-Video".

- Optical zoom – 10x;
- day-night modes – a mechanical IR-cut filter;
- sensitivity – coloured: 0.01 lx @ F 1.6 (day), b/w 0 lx @ F 1.6, 0 lx (IR, night);
- resolution 1920x1080, 1280x720, 704x576;
- frame rate – 25 fps;
- built-in IR illumination;
- powering – 220 V (via injector);
- built-in microphone (integrated in video camera network controller);
- additional external IR illumination - included in a kit.

### Stationary basic advanced kit (day-night)

The kit includes:
- advanced digital HD video cameras with night mode – optical Zoom, rotator, built-in IR backlight for night mode, wall bracket for video camera;
- IR lamp for night mode. Provides soft IR light reflected from walls and ceiling, thereby improving the quality of the night video;
- video camera network controller;
- the patient's microphone (integrated in video camera network controller);
- power injector for the camcorder with a set of cables;
- Software for epileptological studies with videomonitoring "Encephalan-Video".

- Optical zoom – 10x;
- day-night modes – a mechanical IR-cut filter;
- sensitivity – coloured: 0.01 lx @ F 1.6 (day), b/w 0 lx @ F 1.6, 0 lx (IR, night);
- resolution 1920x1080, 1280x720, 704x576;
- frame rate – 25 fps;
- built-in IR illumination;
- powering – 220 V (via injector);
- built-in microphone (integrated in video camera network controller);
- additional external IR illumination - included in a kit.
17.1.4. A_2310-35 Stationary Professional advanced kit

The kit includes:

- two advanced digital HD video cameras with night mode – optical Zoom, rotator, built-in IR backlight for night mode, wall bracket for video camera;
- IR lamp for night mode. Provides soft IR light reflected from walls and ceiling, thereby improving the quality of the night video;
- video camera network controller;
- the patient’s microphone (integrated in video camera network controller);
- 8-port IP switch with a set of cables;
- Software for epileptological studies with videomonitoring “Encephalan-Video”.

- Optical zoom – 10x;
- day-night modes – a mechanical IR-cut filter;
- sensitivity – coloured: 0.01 lx @ F1.6 (day), b/w 0 lx @ F1.8, 0 lx (IR, night);
- resolution 1920x1080, 1280x720, 704x576;
- frame rate – 25 fps;
- built-in IR illumination;
- powering – 220 V (via switch);
- built-in microphone (integrated in video camera network controller);
- additional external IR illumination - included in a kit.

17.2. Additional accessories to video equipment kits:

17.2.1. A_6396 IR-lamp for quality video recording in darkness

Provides soft IR light reflected from walls and ceiling, thereby improving the quality of the night video.

It can be placed anywhere in the room, without reference to other elements of the EEG-video monitoring kit.

It has an independent mains power supply 220.

I Included in stationary video equipment kits.

It can be included into mobile kits at customer’s option.

17.2.2. A_8598 Event marker (wireless)

For medical staff and patient.

It can’t be used with mobile basic economic kit.

17.2.3. A_6386 Intercommunication system between patient room and doctor’s workplace.

It includes:

- loudspeaker with amplifier (connected to the video camera network controller of stationary kits);
- doctor’s microphone (connected to Real Time Work Station).

It can be used only with stationary video equipment kits.
18. Additional software "Egoscop" for objective psychological analysis and testing; equipment and accessories required

18.1. A_1531-11

**Software Objective psychological analysis and testing "Egoscop"**

*patented in RF#2319444, “maximal” suite*

1. The possibility of independent creation of scenarios for the psychological (tests, projective techniques), psycho-physiological and cognitive tests in different languages on the basis of tools (embedded software and scripts), allowing the use of text and graphics, audio and video files when creating scenarios;
2. Synchronous auto documentation of processes of psychological and psycho-physiological testing and parameters of motor activity of the subject on the touch-screen tablet, which uses electromagnetic resonance technology, and reflects psychomotor and physiological reactions during the test process;
3. The software builds additional profiles of psycho-emotional responses in relation to different semantic clusters of the performed scenario and evaluates individual emotional significance of various semantic categories;
4. The export of native physiological signals and calculated psychophysiological and psychomotor parameters into common formats (text format ASCII, Excel) for the possibility of their mathematical processing with external programs;
5. The library of English samples of scenarios consists of the following ones:
   - tests to evaluate sensorimotor responses - SVMR, CVMR;
   - tapping test to assess the strength and lability of nervous processes;
   - reaction to the moving object to estimate the balance of the nervous system by the degree of balance of excitation and inhibition (Time / Movement Anticipation - TMA);
   - assessment of the spatial co-ordination on the basis of tests of static and dynamic tremor;
   - assessment of static and dynamic physical endurance with carpal dynamometer (grip strength dynamometer test);
   - red and black tables to estimate the focus parameters (Red and black table by Shultz-Platonov);
   - critical flicker-fusion frequency test;
   - continuous test to evaluate the dynamic properties of attention (Continuous Performance Test);
   - Hospital scale of anxiety and depression.

**Required:**
- touch graphical input device – a tablet monitor Wacom CINTIQ 13HD, 13.3” or similar;
- electrodes, sensors and accessories of the ABP-Egoscop kit.

The list of tests is available on request, subjected to change as agreed with the customer.
### Setting for registration of physiological signals (a set)

- pick-up cable with cup adhesive electrodes to register 1 EEG (EMG) derivation;
- snap connector wire;
- adhesive electrode paste;
- disposable ECG electrodes – 50 pcs;
- brush for electrode cleaning.

The setting is connected to the polygraphic channels of ABP-10.

### Pad for tapping test and test from "Egoscop" library

Connected to the polygraphic channel of ABP-10.

For tapping test
<table>
<thead>
<tr>
<th>ID</th>
<th>Description</th>
<th>Diagram</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>18.1.1.3.</td>
<td><strong>A_6423</strong> Oculomotor tubus for critical flicker-fusion frequency test and test from &quot;Egoscop&quot; library</td>
<td><img src="image1" alt="Image" /></td>
<td>Connected to the USB port of a computer (Real Time Work Station or Data Analysis and Storage Station). For critical flicker-fusion frequency test</td>
</tr>
<tr>
<td>18.1.1.4.</td>
<td><strong>A_6008</strong> Dynamometer medical electronic manual test from &quot;Egoscop&quot; library</td>
<td><img src="image2" alt="Image" /></td>
<td>Used as carpal electronic dynamometer to test power endurance with BFB. Connected to the polygraphic channel of ABP-10. For power endurance test with BFB</td>
</tr>
</tbody>
</table>
| 18.1.2.  | **A_4074** Special touch screen monitor Wacom CINTIQ 13HD, 13,3”                                   | ![Image](image3) | A device for accurate touch graphical information input by the patient at the psycho-physiological testing (connected to "Egoscop" system PC). Connected to the computer (Real Time Work Station or Data Analysis and Storage Station). Graphical input device ensures the input of information by a patient* during testing, as well as accurate registration of:  
  - pen moving (resolution – 0.005 mm or 5080 lines per inch);  
  - pressure on the pen (2048 levels of pen pressure sensitivity);  
  - pen report rate (133 points/sec)  
  
*While distance between the pen and the screen is no more than 5 mm. Graphical input device from the catalog of the company Wacom (www.wacom.ru) at customer's option. If purchased individually, the device type must be agreed with the manufacturer of electroencephalographs – Medicom MTD Ltd. |
### Additional software "Rehacor" for functional biocontrol with biofeedback; required equipment and accessories

**19.1. A_1010-01**  
"Rehacor" Software for Functional Biocontrol with Biofeedback Training, "Basic" Suite

- **Software** provides procedures of functional biocontrol with biofeedback (BFB training) to train skills of self-regulation and train the state with the control of various physiological parameters.
- The procedures library and ability to create new procedures for non-medicated restoration of damaged functions, improvement of nerve regulations in different diseases, phobias, pathological addictions, improvement of stress resistance, for control and correction of psychophysiological state in different situations and sicknesses, as well as forming the optimal state for performance for sportsmen, persons with stressful and responsible jobs, to overcome the attention deficit hyperactivity disorder (ADHD) in children and adolescents, etc.

**Required purchasing of electrodes, sensors and accessories from the ABP-BFB kit.**

Sensors and accessories from the ABP-BFB kit are connected to the polygraphic channels of a patient transceiver-recorder ABP-10.

**To work with biofeedback training procedures by circulatory parameters (ICG and impedance plethysmography), purchase additional impedance adapters with sensors.**

### 19.2. A_1010-02**  
"Rehacor" Software for Functional Biocontrol with Biofeedback Training, "Professional" Suite

- Extended suite of procedures library, using features of ABP-10 for multichannel EEG and other parameters registration. In addition to "Basic" suite it contains neurofeedback procedures – multiparametric training for brain functional asymmetry, optimization of brain rhythms and zonal differences of alpha-rhythm, very low frequency brain activity, combined training for brain electric activity and cerebral blood flow (REG), as well as multiparametric training for correction of psycho emotional state and psychological tension.

**Procedures of EEG-biofeedback training are carried out by means of electrode systems and accessories from the set of EEG electrodes ES-EEG-10/20 "Encephalan-ES", including the electrode system ES-EEG-4K-3A(c).**

**Should be additionally purchased:**
- impedance adapters with sensors to work with biofeedback training procedures by circulatory parameters (ICG and impedance plethysmography);
- movement sensor (Move) wired for procedures of movement activity (tremor) regulation.
<table>
<thead>
<tr>
<th><strong>ABP-BFB electrodes, sensors and accessories kit</strong> – for “Rehacor” software</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Includes:</strong></td>
</tr>
<tr>
<td>- GSR sensor (length – 1.2 m);</td>
</tr>
<tr>
<td>- respiratory effort sensor (length – 1.2 m) – 2 pcs.;</td>
</tr>
<tr>
<td>- PPG sensor with fixers (length – 1.2 m);</td>
</tr>
<tr>
<td>- skin conductance sensor (length – 1.2 m);</td>
</tr>
<tr>
<td>- envelope EMG sensor (length – 1.2 m) – 2 pcs.;</td>
</tr>
<tr>
<td>- EMG or Skin Conductance cables from disposable electrodes (length – 1.2 m) – 2 pcs.;</td>
</tr>
<tr>
<td>- EEG bipolar cables with adhesive electrodes (length – 1.5 m) – 2 pcs.;</td>
</tr>
<tr>
<td>- cable for 1 ECG derivation for disposable electrodes (length – 1.5 m);</td>
</tr>
<tr>
<td>- temperature sensor (length – 1.2 m) – 2 pcs.;</td>
</tr>
<tr>
<td>- adhesive electrode paste;</td>
</tr>
<tr>
<td>- ECG, EMG disposable electrodes – 50 pcs.;</td>
</tr>
<tr>
<td>- brush for electrode cleaning;</td>
</tr>
<tr>
<td>- adhesive plaster Omnifix.</td>
</tr>
</tbody>
</table>

Optional supply of sensors at customer’s option from this catalogue.
<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Details</th>
</tr>
</thead>
</table>
| 19.2.1.1. | **A_2229**  
**Set of ECG electrodes**  
The set includes 3 clips | It can be used in biofeedback training with the use of the ECG, as an alternative to disposable electrodes |
| 19.2.2.  | **A_6595-4**  
**Electrode system ES-EEG-4K-3A**  
From EEG Electrode Set ES-EEG-10/20 "Encephalan-ES"  
4 monopolar EEG derivations with cup electrodes for silicone tube caps for biofeedback procedures (neurofeedback) on brain functional asymmetry, optimization of brain rhythms and zonal differences of alpha-rhythm, very low frequency brain activity from "Professional" procedures library. | From "Encephalan-ES" set  
**Required:**  
- electrode gel;  
- set of silicone tube caps for EEG/REG electrodes attachment (A_2804-2). |
| 19.2.3.  | **A_5202-1**  
**Bipolar EEG Cable**  
with electrodes for contact gel  
**Electrodes are fixed with silicone tube caps.**  
The cable contains 2 recording electrodes, there is no neutral electrode.  
Cable length – 1.5 m. | Used with N-electrode attached onto the patient and connected to the same registration unit to which these cables can be connected to.  
To register the EEG during biofeedback training (software FBC with biofeedback «Rehacor»).  
Electrode gel and set of silicone tube caps for EEG/REG electrodes attachment are required (A_2804-2). |
19.2.4. **A_2804-2**  
**Set of silicone tube caps for EEG/REG electrodes**  
Silicone tube caps to attach a small amount of EEG electrodes for contact gel and REG derivations for biofeedback procedures.  
The set includes caps of 3 sizes from 48 to 62.

<table>
<thead>
<tr>
<th>Image</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Image" /></td>
<td>Set of silicone tube caps for EEG/REG electrodes</td>
</tr>
</tbody>
</table>

19.2.5. **A_6595-2**  
**Electrode system ES-EEG-4K-3A(c)**  
with adhesive cup electrodes  
4 monopolar EEG derivations with adhesive cup electrodes for biofeedback procedures (neurofeedback) on brain functional asymmetry, optimization of brain rhythms and zonal differences of alpha-rhythm, very low frequency brain activity from "Professional" procedures library.  
The set includes adhesive plaster Omnifix.

<table>
<thead>
<tr>
<th>Image</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image2.png" alt="Image" /></td>
<td>Electrode system ES-EEG-4K-3A(c) with adhesive cup electrodes</td>
</tr>
</tbody>
</table>

19.2.6. **A_4008-99**  
**Wireless Electrostimulator**  
The set includes:  
- biofeedback procedure of stress resistance training;  
- battery (type – AAA, 4 pcs., including 2 additional).

<table>
<thead>
<tr>
<th>Image</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td><img src="image3.png" alt="Image" /></td>
<td>Wireless Electrostimulator</td>
</tr>
</tbody>
</table>
### 19.2.7. A_1010-1  Procedure of Combined Operator's Activity (adaptive model)
Software provides the combination of biofeedback training and following the moving objects on screen with logical tasks solving. Parameters of activity model are adaptively changing according to the efficiency of procedure performing, which allows evaluating the functional capabilities of a test person.

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### 19.2.8. A_5590  Joystick
It is used in biofeedback training procedure at the combined operator's activity.

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### 19.2.9. A_6473  Stabiloanalyzer
For additional diagnostics and BFB procedures for stabilogram.

---

### 19.2.9.1. A_4813  Wireless adapter for wobble platform
Provides the connection of stabiloanalyzer and data transmission to software for EEG studies "Encephalan-EEGR" and "Rehacor" software for functional biocontrol with biofeedback training.
<table>
<thead>
<tr>
<th>19.2.10.</th>
<th><strong>A_2732-2</strong></th>
<th><strong>Wireless Movement Sensor (for movement activity)</strong></th>
<th>Biofeedback training on sustainability for maintaining vertical posture on the wobble platform. Works with the &quot;basic&quot; or &quot;professional&quot; library of &quot;Rehacor&quot; software.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>The set includes:</strong></td>
<td></td>
<td><strong>The set includes:</strong></td>
<td><strong>The set includes:</strong></td>
</tr>
<tr>
<td>• movement sensor (Move);</td>
<td>• movement sensor (Move);</td>
<td>• wobble platform;</td>
<td>• wobble platform;</td>
</tr>
<tr>
<td>• wobble platform;</td>
<td>• wobble platform;</td>
<td>• procedure of BFB training for maintaining vertical posture on the platform.</td>
<td>• procedure of BFB training for maintaining vertical posture on the platform.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>19.2.11.</th>
<th><strong>A_6354-2</strong></th>
<th><strong>Pad for tapping test and procedures of biofeedback training &quot;Rhythmo-BFB&quot; additionally to procedure libraries of &quot;Basic&quot; and &quot;Professional&quot; Suites</strong></th>
<th>Additional to procedure libraries of &quot;Basic&quot; and &quot;Professional&quot; Suites of &quot;Rehacor&quot; Software for Functional Biocontrol with Biofeedback Training</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>The set includes:</strong></td>
<td><strong>The set includes:</strong></td>
<td><strong>Evaluation and training of the ability to perceive and reproduce sound patterns of varying complexity. Developing a sense of rhythm and time. Increasing the success of cognitive activity and rehabilitation of various brain dysfunctions.</strong></td>
<td><strong>Evaluation and training of the ability to perceive and reproduce sound patterns of varying complexity. Developing a sense of rhythm and time. Increasing the success of cognitive activity and rehabilitation of various brain dysfunctions.</strong></td>
</tr>
<tr>
<td>• pad for tapping test with a stylus;</td>
<td>• pad for tapping test with a stylus;</td>
<td><strong>For children:</strong> improvement of attention, motor control and coordination, speech development, improvement of auditory perception, reducing behavior problems (impulsivity, aggressiveness, hyperactivity, emotional contact difficulties).</td>
<td><strong>For children:</strong> improvement of attention, motor control and coordination, speech development, improvement of auditory perception, reducing behavior problems (impulsivity, aggressiveness, hyperactivity, emotional contact difficulties).</td>
</tr>
<tr>
<td>• procedures of biofeedback training &quot;Rhythmo-BFB&quot;.</td>
<td>• procedures of biofeedback training &quot;Rhythmo-BFB&quot;.</td>
<td><strong>For adults:</strong> cognitive and motor rehabilitation after traumatic brain injuries, stroke, Parkinson's disease, spinal cord injuries, etc.</td>
<td><strong>For adults:</strong> cognitive and motor rehabilitation after traumatic brain injuries, stroke, Parkinson's disease, spinal cord injuries, etc.</td>
</tr>
</tbody>
</table>
### Bipolar ICG Adapter (RB) for brain impedance plethysmography, rheovasography (RVG) and integral rheogram by Tischenko

For evaluation of cerebral (brain impedance plethysmography) and peripheral (RVG) blood circulation, which characterizes pulse blood filling, variable diameter vessels tone and venous drainage state, as well as for evaluation of central hemodynamics parameters and heart’s pumping ability by Tischenko integral rheogram (stroke/minute volume, stroke and cardiac index, etc).

Connected to polygraphic channels of ABP-10 or Poly-4.

Cable length – 0.4 m.

### Accessories and Electrodes Set for ICG Adapter RB.

Allows recording brain impedance plethysmography, RVG and ICG by Tischenko using RB.

Includes:

- rheographic cable “Y-type” (length – 1.5 m) – 2 pcs.;
- set of electrode cables (length – 1.5 m) – 2 pcs.;
- REG Electrode with a snap connector – 2 pcs.;
- ribbon electrode (length – 0.4 m) – 4 pcs.;
- REG electrodes fixing ribbon.

Required:

- electrode gel;
- the cover caps set of silicone tube caps for REG electrodes.
| 20.2. | A_4772 | **Tetrapolar ICG Adapter (RT) for ICG by Shramek**  
For evaluation of central hemodynamics and heart's pumping ability parameters by Shramek. If used with RB, simultaneously evaluates brain impedance plethysmography and CHD.  
Connected to polygraphic channels of ABP-10 or Poly-4.  
Cable length – 0.4 m. |
|---|---|---|
| 20.2.1. | A_5338 | **Accessories for ICG Adapter RT**  
Records ICG by Shramek.  
Includes:  
- rheographic cable "Y-type" (length – 1.5 m) – 4 pcs.;  
- Electrode Jumper Cable PTR-10 to register REG and carry out studies by integral rheography by Tischenko.  
Disposable ECG electrodes are required to be purchased. |
| 20.3. | A_4406 | **Pressure Airflow Sensor ("P-Flow")**  
For evaluation of parameters of nasal respiration and detection of breathing disorders basing on pressure gradient.  
Cable length to polygraphic channels of ABP-10 or Poly-4 – 0.3 m. |
| 20.4. | A_2673 | **Respiratory Effort Sensor** ("RespEff")
For evaluation of parameters of abdominal and thoracic respiration (breathing rate and amplitude, duration of in- and exhalation phases).
Cable length – 1.2 m.
The set includes belts for children and adults. | Thoracic and abdominal breathing registration requires 2 respiratory effort sensors. |
| 20.4.1 | A_7350 | **Small additional belt for respiratory effort sensor.**
For chest circumference of 40-80cm. |  |
| 20.5. | A_2326-1 | **Oro-Nasal Airflow Sensor** (Thermistor "T-Flow")
For evaluation of parameters of oro-nasal respiration (breathing rate and amplitude, duration of in- and exhalation phases) and detection of breathing disorders.
Can be used with respiratory airflow sensor cannula.
Cable length – 1.25 m. | Additional sensors at customers' option for various applications, as well as for multiparameter registration in sports medicine, psychophysiology, clinical and scientific research. |
| 20.6. | A_1869 | **Snore Sensor** ("Snore")
For detection and quantitative evaluation of snoring during sleep.
Cable length – 1.2 m. |  |
| 20.7. | A_4141-2 | **Photoplethysmogram (PPG) Sensor**  
For evaluation of parameters of peripheral blood circulation which characterize pulse blood filling and tone of variable diameter vessels.  
Cable length – 1.2 m.  
The set includes:  
- finger cuff;  
- sensor fixer "ear clip". | **Additional sensors at customers' option for various applications, as well as for multiparameter registration in sports medicine, psychophysiology, clinical and scientific research.** |
| 20.8. | A_4139 | **Temperature Sensor**  
For evaluation of skin surface temperature in selected body area.  
Cable length – 1.2 m. |
| 20.9. | A_4142 | **Envelope EMG Sensor (double)**  
For evaluation of tone of selected muscle basing on envelope EMG measurement.  
Cable length – 1.2 m. |
| 20.10. | A_5731 | **Envelope EMG sensor (triple)**  
For evaluation of tone of selected muscle basing on envelope EMG measurement.  
Cable length – 1.2 m. |
<p>| | | | |</p>
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</table>
| **20.11.** | A_4143 | **GSR Sensor** (*"GSR"*)  
For evaluation of vegetative manifestations and emotional stress basing on the measurement of GSR phase component.  
Cable length – 1.2 m. | Additional sensors at customers’ option for various applications, as well as for multiparameter registration in sports medicine, psychophysiology, clinical and scientific research. |
| **20.12.** | A_5119 | **Skin Conductance Sensor** (EDA-ElectroDermal Activity)  
For evaluation of vegetative manifestations and emotional stress basing on the measurement of phase and tonic components of skin conductance.  
Cable length – 1.2 m. |   |
| **20.13.** |   | **Movement sensor (Move) wired** |   |
| **20.13.1.** | A_5361 | **Movement sensor (Move) wired** 1.2 m long |   |
| **20.13.2.** | A_5361-1 | **Movement sensor (Move) wired** 2 m long |   |
| **20.14.** | A_4740 | **ECG Cable** for bipolar derivation with neutral electrode  
3 snaps for disposable electrodes.  
Cable length – 1.5 m. | Used for:  
• BFB training (software “Rehacor”);  
• heart variability analysis (software “HRV”);  
• record under stationary conditions. |
| 20.15. | A_8302 | **ECG Cable** for bipolar derivation with neutral electrode  
3 snaps for disposable electrodes.  
Cable length – 0.75 m. | For PSG studies with all electrode systems or if it is required to record ECG in portable variant of ABP-10.  
See recommendations on sales package selection: Polysomnographs based on electroencephalographs “Encephalan-EEGR-19/26”, “Mini” modification. |
| 20.16. | A_3294 | **3-electrode cable EMG/EDA**  
3 snaps for disposable electrodes.  
Cable length – 1.5 m. | To register surface EMG/EDA. |
| 20.17. | A_3817 | **Cable for Disposable N Electrode**  
Cable length – 1.2 m. | To connect to ABP-10, in the variant of Poly-10 use.  
Used if there is no N electrode when registering signals with 2-electrode EMG, EOG, EEG, GSR, EDA cables. |
| 20.18. | Bipolar Cable for EMG/SP Channels | The cable contains 2 recording snap electrodes, there is no neutral electrode. Can be applied for EOG registration.  
For disposable electrodes. | Used with N-electrode attached onto the patient and connected to the same registration unit to which these cables can be connected to. |
| 20.18.1. | A_4194 | **Bipolar Cable** 1.45 m long |
| 20.18.2. | A_4194-1 | **Bipolar Cable** 1.85 m long  
The cable is specified for the registration of legs movement activity at PSG studies. |
| 20.19. | A_4031 | Bipolar EEG Cable  
Cup, adhesive electrodes.  
Cable length – 1.5 m.  
The cable contains 2 recording electrodes, there is no neutral electrode.  
Used with N-electrode attached onto the patient and connected to the same registration unit to which these cables can be connected to.  
To register the EEG during biofeedback training (software FBC with biofeedback «Rehacor»).  
**Required:**  
- electrode paste EC2, TEN-20 or similar;  
- adhesive plaster Omnifix;  
- glue-collodion, glue remover and compact hair-dryer for quick gel drying (purchased individually at pharmacy or shop). |
|---|---|---|
| 20.20. | A_5202-1 | Bipolar EEG Cable  
with electrodes for contact gel  
Electrodes are fixed with silicone tube caps.  
The cable contains 2 recording electrodes, there is no neutral electrode.  
Cable length – 1.5 m.  
Used with N-electrode attached onto the patient and connected to the same registration unit to which these cables can be connected to.  
To register the EEG during biofeedback training (software FBC with biofeedback «Rehacor»).  
Electrode gel and set of silicone tube caps for EEG/REG electrodes attachment are required (A_2804-2). |
### Gels, disposable electrodes and accessories

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<tbody>
<tr>
<td><strong>21.</strong></td>
<td><strong>Gels, disposable electrodes and accessories</strong></td>
<td></td>
</tr>
</tbody>
</table>
| **21.1.** | A_2669 | Ten20 Conductive Paste  
For adhesive cup electrodes (114 g). |   |
| **21.2.** | A_6532 | Electrode Cream EC-2 or similar  
For adhesive cup electrodes (100 g). |   |
| **21.3.** |   | Electrode gel  
- for cup EEG electrodes for contact electrode gel;  
- for EEG electrodes from removable electrode systems with fixing EEG electrodes in eyelets. |   |
| **21.3.1.** | A_1854 | Electrode gel  
250 ml bottle |   |
| **21.3.2.** | A_1854-1 | Electrode gel  
1 L bottle |   |
| **21.4.** | A_1302 | Adhesive plaster (Omnifix elastic or similar)  
To fix electrodes and sensors.  
Dimensions 10 m x 5 cm. |   |
| **21.5.** | A_6901 | Fixing bondage elastic Peha-haft, self-fixing |   |
Disposible snap ECG Electrode (for EOG, EMG)
50 pcs. in 1 pack
| 21.7.   | A_1390-6 | **Repair set of electrodes and materials**  
|         |         | for electrode systems with adhesive electrodes  
|         |         | **Set includes:**  
|         |         | • 4 electrodes with conductors;  
|         |         | • heat shrinkable tubes for connection insulation – 5 pcs.  

| 21.7.2. | A_1390-5 | **Repair set of electrodes and materials**  
|         |         | for electrode systems with fixing caps  
|         |         | **Set includes:**  
|         |         | • 4 electrodes with conductors;  
|         |         | • heat shrinkable tubes for connection insulation – 5 pcs.  

Designated for replacing the failed electrode from the electrode system.  

When ordering repair sets for previously purchased electrode systems, it is necessary to clarify the conductor thickness of the electrode system purchased by a user.
## Required computing hardware and office equipment

<table>
<thead>
<tr>
<th>22.1.</th>
<th>Real Time Work Station</th>
<th>Software of electroencephalograph-recorder is installed on the computer in accordance with selected sales package.</th>
</tr>
</thead>
<tbody>
<tr>
<td>22.1.1.</td>
<td>A_2380</td>
<td><strong>Real Time Work Station</strong> (Portable Computer).&lt;br&gt;One additional monitor is connected.</td>
</tr>
<tr>
<td>22.1.2.</td>
<td>A_2380-1</td>
<td><strong>Real Time Work Station</strong> (Portable Computer).&lt;br&gt;Two additional monitors are connected.</td>
</tr>
<tr>
<td>22.1.3.</td>
<td>A_4305</td>
<td><strong>Real Time Work Station</strong> (Stationary Computer).&lt;br&gt;One or two additional monitors are connected.</td>
</tr>
</tbody>
</table>

### Configuration and characteristics are approximate and should be specified when order.

**Minimal requirements:**
- Intel Core i5;
- RAM 4GB;
- HDD 500GB;
- monitor 15";
- OS Windows 10.

If the customer requires and is able to purchase the improved characteristics, inform the manufacturer about it: advanced characteristics should be approved by the manufacturer.
### 22.2. Data Analysis and Storage Station

Software of electroencephalograph-recorder is installed on the computer in accordance with selected sales package.

| 22.2.1. | **A_4309** | Data Analysis and Storage Station (Portable Computer).  
One additional monitor is connected. |
|----------|-------------|------------------------------------------------------------------|
| 22.2.2. | **A_4309-1** | Data Analysis and Storage Station (Portable Computer).  
Two additional monitors are connected. |
| 22.2.3. | **A_4308** | Data Analysis and Storage Station (Stationary Computer).  
One or two additional monitors are connected. |

#### Minimal requirements:
- Intel Core i5;
- RAM 4GB;
- HDD 500GB;
- monitor 15";
- OS Windows 10.

**Configuration and characteristics are approximate and should be specified when order.**

**SW-key (USB) is required.**

If the customer requires and is able to purchase the improved characteristics, inform the manufacturer about it: advanced characteristics should be approved by the manufacturer.

### 22.3. Additional accessories and software for Real Time Work Station and Data Analysis and Storage Station

<table>
<thead>
<tr>
<th>22.3.1.</th>
<th><strong>A_6843</strong></th>
<th>Mobile HDD 1000 GB</th>
</tr>
</thead>
</table>
| 22.3.2. | **A_4300** | Computer Acoustic System (2.1, 3.1 or quality closed type headphones – at customer’s option)  
Required if FBC with biofeedback “Rehacor” software is present in sales package |
| 22.3.3. | **A_5109** | Antivirus application "Kaspersky Internet Security". Recommended to protect PC from viruses |
| 22.3.4. | **A_4319** | MS Office ENG. Recommended to be installed at PC. Required package contains Word and Excel |
| 22.3.5. | **A_2604** | Bag for laptop transportation |
| 22.3.6. | **A_4299** | Uninterruptible power supply |
### 22.4. A_0687  Additional LCD monitor (minimal diagonal – 23”)
- resolution 1920x1080,
- aspect ratio 16x9.

The monitor can be used with any of the computers (real-time work stations and data analysis and storage stations).
Monitor is required if the following software is present in sales package:
- FBC with biofeedback "Rehacor";
- "Encephalan-AVS";
- "Encephalan-EP".

### 22.5. A_5563  2D/3D video projector

### 22.6. A_5564  2D/3D goggles-monitor (a cap) (Oculus Rift type)
<p>| | | |</p>
<table>
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<tbody>
<tr>
<td>22.7.</td>
<td>A_5565</td>
<td>Digital widescreen TV-set</td>
</tr>
<tr>
<td></td>
<td></td>
<td>At Customer’s option if the following software is present in sales package: FBC with biofeedback “Rehacor”.</td>
</tr>
<tr>
<td>22.8.</td>
<td>A_3750</td>
<td>Electronic tablet</td>
</tr>
<tr>
<td></td>
<td></td>
<td>OS Windows 10. Required for operational control of data record at free state of a test person.</td>
</tr>
<tr>
<td>22.9.</td>
<td>A_4087</td>
<td>Printer</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Laser Black-And-White A4 format</td>
</tr>
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<td></td>
<td></td>
<td>Another printer type supply – by agreement.</td>
</tr>
<tr>
<td>22.10.</td>
<td>A_4088</td>
<td>Equipment Trolley</td>
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<tr>
<td>22.11.</td>
<td>A_4088-4</td>
<td>Equipment Trolley with a drawer</td>
</tr>
</tbody>
</table>