Medpage MP5x Seizure Movement Alarm

Operating Instructions – Please read thoroughly before using the equipment

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1. What is the Medpage – MP5x?

The Medpage MP5x is a movement and sound monitor that can detect movements resulting from an epileptic seizure in the bed where a person sleeps. The suitability of this product is determined by the carer or end user. When used in accordance with this manual the monitor will detect a high percentage of Tonic/Clonic epileptic seizures. The monitor is for the detection of Tonic/Clonic (Grand Mal) or continuous seizure movements and will only detect these if there are muscular spasms (convulsions) during the seizure. The monitor is equipped with sensitivity controls for the bed sensor and the built in microphone. An adjustable delay control can be used to help minimise false alarms resulting from normal movements during sleep.

The environment must be controlled to eliminate the immediate danger posed by hard surfaces and sharp edges as a result of sudden movement during an epileptic seizure. Where there is an additional risk of immediate danger as a result of apnoea then this monitor should be used in conjunction with an apnoea monitor.

2. Package Contents

When you purchase an MP5x the following items should be supplied, please check every item is included before you continue.
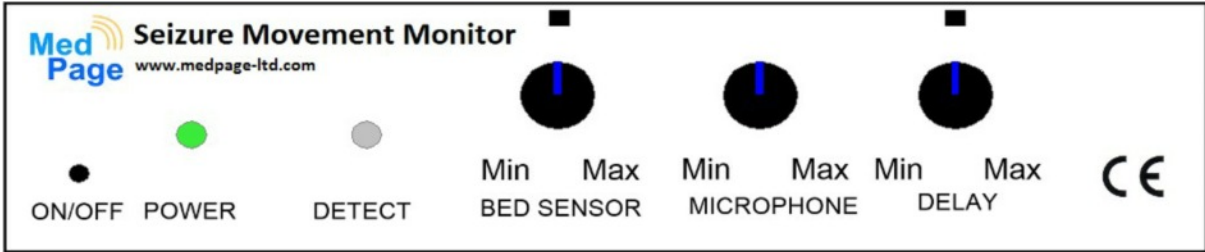
1 x Medpage Seizure Movement Monitor Console with sensor fitted
2 x Battery operated radio pagers
4 x AA Batteries (fitted in the pagers)
1 x Instruction Manual

Contact your supplier before you begin to use the monitor should there be any parts listed above missing or items appear damaged.

3. Warnings and precautions

⚠	This symbol indicates a warning or precaution that should be understood before using this equipment.
⚠	• This product is not intended to be a life saving device • This product is designed for assistance and not intended to replace medical care • This product should not be used if a malfunction or failure could result in injury or a life threatening situation

This monitor has been tested through all possible levels of performance. We then set the control dials at a standard default position as indicated by the above diagram. This is also a good starting point when you are performing initial tests of the unit before use. You may find that these settings are adequate for your needs, however if they are not, refer to section of this manual (Set-Up Mode) to adjust and store your revised settings.

4. Using the Medpage-MP5x

CONNECTING THE SENSOR

Insert the connector of the supplied sensor into the sensor socket, the connector will click in. The sensor connector does not require a strong force to be inserted

⚠	**Do not attempt to fit a senor that is not manufactured by Medpage Ltd.**

The sensor pad is placed underneath the mattress and then monitors the movements of a person in the bed. The movements are analysed to determine when a duration of movement has been detected . When an alarm condition is detected, a wireless alarm signal is sent to the radio pagers.

POSITIONING OF THE SENSOR

The first step is to place the Medpage-MP5x in a safe place next to the bed that it will be used in. The sensor is then to be placed underneath the mattress of the bed to be monitored. The sensor should be positioned so that the person laying on it has maximum coverage over the sensor, around the waist/torso area underneath the mattress is the best position. As you progress through this instruction manual you will gain a better understanding for the best place for the sensor. The key point is that the sensor reliably detects the movements that occur, this will be tested later.

CHECK POWER

Now that the sensor is positioned correctly, plug the Medpage-MP5x power adaptor into a mains power socket and turn on the power socket. To turn the unit on, push in the On/Off switch on the left hand side of the front panel. The POWER LED will indicate the status of the mains power supply, a GREEN LED means that the monitor is connected to the mains power supply, a RED LED indicates a power failure or that the monitor is unplugged. Please ensure that the POWER LED is GREEN before continuing. Should there be a power failure during operation, an internal backup battery will provide 12 hours of use. To turn the monitor off, push the on/off button and wait until the POWER and MOVEMENT LEDs turn off.

⚠	**If the POWER LED does not show GREEN when plugged into a mains socket that is switched on, please do not use the monitor as the backup battery will not charge.**

PREPARING THE RADIO PAGERS FOR USE

⚠	**NOTE: The pagers are supplied with the batteries fitted. (The following prodcedure is only required for replacing batteries in the future)**

A) Undo the screw on the belt clip. Install the two AA batteries observing the polarity markings. Replace the cover (**batteries are usually factory installed**). **Do not touch the button between the batteries. NOTE: Batteries require replacement when the LED flashes red repeatedly at a slow rate.**

B) Slide the on/off switch on the side of the pager to on. The pager will vibrate and beep, (if beep is selected by alarm option switch), and the LED will flash green occasionally to indicate pager on. If the pager does not vibrate or beep when switched on do not use the system. Check that the batteries are correctly inserted. If the pager fails to respond contact your distributor for further advice.

C) Select your choice of alert using the selector switch on front of the pager.

Position: Vib only = vibration with no sound. Vib + vol = vibration with low volume beeper. Vib + Vol = vibration with high volume beeper.

D) To reset the pager slide the pager side switch to "off/reset". If the Medpage monitor alarm is active do not switch the pager(s) on until the monitor alarm has been reset.

SETUP MODE

⚠	IMPORTANT NOTE: THIS PROCEDURE IS ONLY NEEDED FOR SETUP, NOT FOR NORMAL OPERATION

⚠	General Note: The alarm state is indicated when both the POWER and MOVEMENT LEDs are displaying solid RED. When the LEDs are no longer both RED, the alarm has reset. When the monitor is first powered up, it may not respond to sound or movement as the internal calibration period can take 10 – 15 seconds. After this time, the monitor will begin detection.

The main monitor can be reset at any time during this setup and you can safely start again should you not feel comfortable with anything. To turn the monitor off push the on/off button and wait 5 – 10 seconds until the POWER and MOVEMENT LEDs turn off, the monitor is now safely switched off.

In order to enter setup mode take the following steps, please read through all 7 steps before beginning;
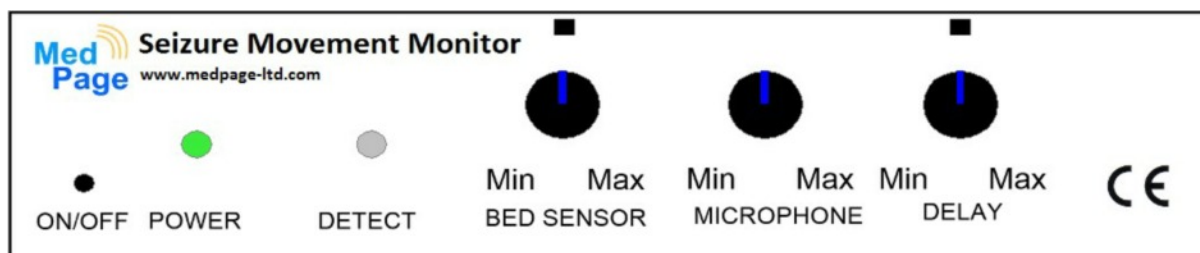
1. Turn the delay control to maximum

2. Make sure the monitor is turned off

3. Whilst performing this step, please watch the **MOVEMENT** and **POWER** LEDs. Now hold in the red setup button on the back of the monitor, and then turn the unit on whilst still holding the setup button, keeping the setup button held in.

4. After a short period the LED's on the front panel will begin to alternately flash RED/ORANGE, you can now release the setup button

5. The monitor is now in setup mode, you can now adjust the settings to suit your requirements.

6. The next stage is to decide how you would like the monitor to alarm. The MP5x can monitor movements as well as sound to raise an alarm. In order to reduce false alarms a delay can be set, this will prevent the alarm being raised too soon. Below is an example:

If a person rolls over during the night, this creates a lot of movement on the sensor. An

average size person could possibly require a 15 second minimum delay. This means that there will have to be at least 15 seconds of movement before the alarm will be raised. This gives the person the ability to roll over in bed without the alarm going off straight away.

The same can be said for sound. If the person being monitored makes noise during their seizure, the Medpage-MP5x can detect the amount of noise and also apply a delay to prevent false alarms.

When testing the settings, the monitor will go into alarm mode, this will be indicated by the Power LED and MOVEMENT LED going solid RED. The monitor will then automatically reset, please allow 5 – 10 seconds for the monitor to reset. When the monitor is reset, the Power LED and Movement LED will no longer both be solid RED.

Above is an example of a default setting which is a good starting point for usage of the monitor. This is the setting that the monitor is tested with in our factory. As every user is different it is best to start at these positions and then tweak the settings nightly until you get to a point where there are no false triggers caused by general movements in the bed.

ADJUSTMENT OF THE BED SENSOR SENSITIVITY

When the Medpage-MP5x detects movement, the MOVEMENT LED will flash GREEN.

With the control pointers set as shown above, tap the middle of the bed with the palm of your hand while observing the **Movement** LED. The **MOVEMENT** LED will light green to indicate that a movement has been detected. Set the BED SENSOR control to the sensitivity you require, this can be checked by tapping the bed with your hand to mimic the level of movement you wish to have an alarm raised. If the movement LED does not light as you tap, turn the pointer round to a 3 o'clock position and repeat the test. If the movement LED still does not light turn the control more towards **Max.** Please note: There may be false positives at this setting. If there is still no movement detection the monitor should not be used. Please contact your distributor for further advice. At this stage the sensor position can be moved to an area that will detect the highest level movement should you require.

ADJUSTMENT OF THE MICROPHONE SENSITIVITY

It is advisable only to use the built in microphone if you wish to detect sounds proceeding or during movement detection, otherwise leave the **MIC** sensor control turned to **Min**. Adjust the control (clockwise) so that each time you make a loud groan sound (like clearing your throat) the detect LED will light **RED**. Do not have this control set too high (towards **Max**) otherwise unwanted sounds may be detected resulting in false alarms.

⚠️	**NOTE: If the movement LED lights GREEN it means movement was detected, if the movement LED lights RED it means sound was detected. If the LED is an orange colour it means movement and sound are detected at the same time.**

USING THE DELAY CONTROL

If movements are mild in terms of jerking movements, or detecting movements early on is critical, minimum or no delay at all should be used. A restless sleeper however, may cause the alarm to operate when little or no delay is used. To test the delay interval, start with no delay (pointer set to **Min**) tap the bed until the **Movement & Power** LEDs turn solid red indicating alarm active an alarm, after a few seconds the monitor will automatically reset to allow further testing and adjustment. Increase the delay control slightly (towards **Max**) Repeat this process until you are happy with the delay setting.

Once you are happy with the settings, hold in the setup button on the back on the monitor, after a short period the LED's will begin to flash RED/ORANGE together, the setup button can now be released. The monitor can now be switched off. The monitor will save these settings and will load them when it is switched on, during normal operation the dials on the front will not change the settings that you have stored, therefore if they are accidently moved or tampered with the device will still be set the way you require.

TESTING THE SETTINGS HAVE STORED CORRECTLY

Make sure the monitor is switched off and all the LEDs are off, then turn it on. The monitor will go into normal operation and will load the settings that were saved during setup. Turn the alarm pager on.

⚠️	**NOTE: In normal operation, when an alarm condition is detected, the monitor will stay in alarm mode and will not reset until it is turned off. During this time the alarm signal will be periodically sent to the radio pager. When turning the monitor off, switch it off using the on / off button and then wait for the LED's to turn off. The monitor can now be safely turned on or left switched off.**

Now simulate the movements on the bed, ensuring that the detect LED is responding to your movement simulation. The suggested method is to tap the bed with the palm of your hand to a likeness of the movement you are trying to detect. Keep repeatedly tapping the bed until the monitor goes into alarm, this is indicated by both the POWER and MOVEMENT LEDs showing constant **RED**. The monitor is now in alarm mode, the alarm signal will be periodically sent to the pager.

Should you not be happy with the settings, please repeat section **4   Setup Mode**

If you are satisfied with the setup test procedures, the monitor can now be tested with alarm pagers to ensure the signal is received by the pagers over the correct distance.

Please make sure the monitor is in alarm state, indicated by the POWER and MOVEMENT LEDs showing constant red. Leave the monitor in alarm mode to test the pager range.

Test the pager range throughout the building to ensure alarm signal reception. Leave the monitor in alarm mode for this test. Turn the pager off then walk to the furthest part of the building where the alarm pager would be required to operate. Switch the pager back on. The pager alarm should trigger, please allow 5 – 10 seconds for the pager to alarm. Switch the pager off then repeat tests as required. When complete, switch off or reset the Medpage Monitor to end alarms.

Now the monitor can be switched on and will load your saved settings every time it is switched on, you will not need to enter setup mode unless you need to change the settings.

If you are not confident or would like to contact us for advice on setting up your monitor, give our team a call on the number at the bottom of these instructions.

⚠	**IMPORTANT: Test the monitor prior to every planned period of use.**

INTERFERENCE FROM OTHER DEVICES. Occasionally, other devices that use radio signals to transmit alarm signals or broadcast audio can interfere with the MEDPAGE transmitter signal. The main culprits are baby monitors that allow you to listen in on a baby or person from another room. If you do experience such a problem, first, move the baby monitor to the other side of the bed. Do not sit it next to your epilepsy alarm. Try switching off the baby monitor, then retest the epilepsy alarm.

Decontamination The sensor and console case can be disinfected by wiping with a cloth permeated with normal dilutions of Sodium Hydrochloride (1PPT), or alcohol wipes.

Internal connections or modifications of this product in any way are strictly prohibited and may invalidate any warranty and hinder performance through malfunction of the product.

5. EU / DECLARATION OF CONFORMITY

The Medpage range of seizure movement monitors (MP5,MP5x,MP5v2,MP2V2,MP5-ULTRA) complies with the essential requirements of EMC directive 2004/108/EC, CE mark directive 93/68/EEC and Medical Device Directive 93/42/EC and carries the CE marking accordingly.

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