

# OPERATION MANUAL for digital recorder EDIC-Mini MicroSD A23/A23L

## 1. Specifications

### 1. 1 Purpose

The recorder is intended for recording voice messages onto microSD memory card of HC 10-class type in wav format. The format is supported by all flash players on the PC and any other playback devices.

### 1.2 Main Features

- metallic/wooden case
- extremely tiny dimensions and light weight
- long recording duration which depends on the capacity of memory card in use
- built-in clock and calendar, the option to enable recording at the preset time using timer.
- due to the absence of removable elements, the Recorder is operational under wide temperature ranges under shaking or dustiness.

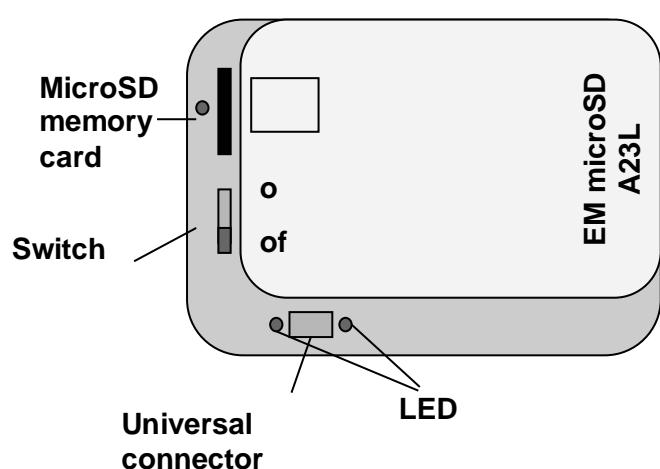
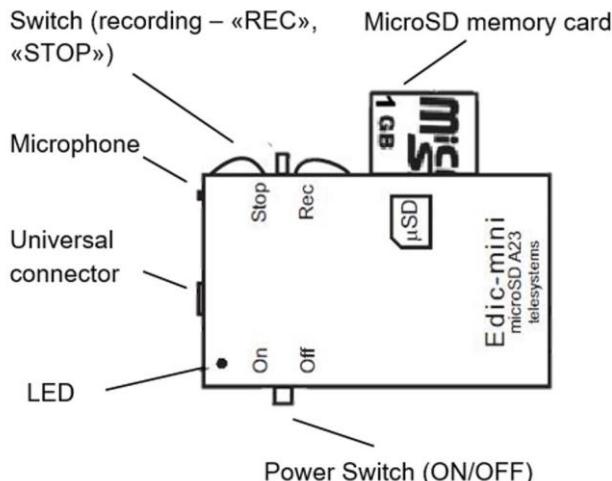
### 1.3 Overlook

The Recorder is designed for audio recording. The device is powered by a built-in rechargeable battery, with microSD card of HC type as data carrier. During recording, the files are saved on the microSD card in WAV format. The Recorder features built-in real-time clock, timer to automatically enable recording and the display of remaining battery charge level. Real-time clock automatically takes into account leap years and various number of days within months. There is a configuration file on the memory card to configure Recorder's functions. Its contents can be changed on the PC using any word processor.

Red LED indicator is used for indication.

The Recorder has a Switch, its position being either ON or OFF. It also has a record switch, its position either REC or STOP.

### 1.4 Recorder's Appearance



## **1.5 Main Technical Characteristics**

<i>Characteristic</i>	<i>Value</i>
Signal-to-noise ratio	-69 dB
Record mode	Mono
Recording parameters	Sampling rate 8kHz – bitrate 8/12 bit
	Sampling rate 16kHz – bitrate 8bit
Frequency band	0,1-10kHz
Memory card type	microSD of HC 10-class type

## **2. Operating the Recorder**

### **2.1 Preparing microSD Card**

To prepare the card using standard Windows tools, a card reader is required (purchased separately). To format the card, choose FAT 16 or FAT 32 file system (in Windows XP FAT32 is specified as FAT). Then copy the CONFIG.INI configuration file from the CD. Edit the configuration file according to the settings you need, for more details, see 'Changing Recorder's settings using configuration file'. The supplied memory card is formatted, and the CONFIG.INI file has default settings.

### **2.2 Charging Built-in Rechargeable Battery**

#### **For recorders with an external adapter**

Connect the supplied adapter cable to the USB port of the Recorder, then connect it to the USB port of the PC, or to any USB charger (for example, of a smartphone) with an output voltage of 5V and a current of at least 500 mA. During charging, the red LED will be on the adapter; upon completion of the process, the green LED will be on. During this, the power switch must be in ON position and the microSD card must be installed in the slot.

#### **For voice recorders with a simple USB-microUSB cable**

Connect the supplied USB cable to the USB port of the Recorder, then connect it to the USB port of the PC, or to any other USB charger (for example, of a smartphone) with an output voltage of 5V and a current of at least 500 mA. During charging, the LED is on the memory card slot of the Recorder, upon completion it goes off.

#### **ATTENTION!!!**

*If you do not operate the Recorder for a long time, it is recommended to charge the battery once a month. The Recorder connected to the PC via USB will not be detected by the Windows OS.*

## **2.3 Operating the Recorder**

Insert memory card into the slot by pressing it with a little effort (press again to remove the memory card). If the power switch is in OFF position, shift it to the ON position. The Recorder will automatically check the card, and if it is operational, formatted and suitable for recording, there will be a short flash of the red LED (the LED flashes during card initialization time; as a rule, this process takes several seconds).

If the red LED starts flashing frequently (indicating card error), remove the card without turning off the power of the Recorder, wait until the LED stops flashing, and then reinstall the card.

If the above procedure did not help and the LED continues to flash frequently, that means the card is not operational, not formatted, or not suitable for recording. In this case, turn off the recorder by shifting the power switch to the OFF position, and remove the card.

*Attention, turning off the power of the Recorder with the appropriate switch will reset the Recorder's system clock, and the date and time will have to be set again using the Recorder's configuration file. To avoid resetting system time, as well as the recorder's operating parameters, use power switch only if absolutely necessary.*

*For example, during long-term storage of the Recorder, memory card error (with frequent LED flashing), or if the recorder hangs.*

## **2.4 Recording**

To start recording set the Recorder's power switch to ON position, and the record switch to the REC position.

The Recorder starts recording, indicating battery status with periodic series of LED flashes.

- triple flashes mean the battery is fully charged;
- double flashes indicate average battery charge;
- single flashes indicate the battery is low and the Recorder must be charged.

To stop recording, shift the record switch to STOP.

If the battery is too low during recording, the Recorder stops recording, closes current file, and exits operating mode.

Each time a recording is enabled, a new file is created with the following name: <EM\_0012.WAV>, where the number indicates order number of the recorded file. After stopping the file is closed, and its properties, which can be viewed on the PC, date and time of the recording end are saved.

*Attention, before removing microSD card, the record switch must be in STOP position, and the LED indication should be off. Failure to do so may result in an incorrect recording completion and loss of all information on the memory card.*

*If a memory card error occurred during Recorder's operation, the recorder's LED will start flashing frequently. In this case to remove memory card, turn off the power of the Recorder by moving the corresponding switch to the OFF position, and only after this remove the card.*

## **2.5 Record Playback**

To playback records use any player program on the PC, for example Windows Media Player. To transfer records to the PC, remove memory card from the Recorder, install it into the card reader of the PC.

## **2.6 Recording by Timer**

The Recorder features timer to automatically enable recording at the preset time.

Timers are enabled and configured via configuration file (CONFIG.INI).

Timer is set in the corresponding field "Timer 1". If the timer is on, the Recorder switches to record mode automatically from the off state, i.e. the record switch is in STOP position. If at the time set to enable timer recording, recording has been enabled manually (record switch in REC position), timer operation will be ignored and recording continues until it is stopped using record switch, timer setting not affecting it.

To remove memory card, switch the Recorder enabled with timer to Standby Mode.

If during timer recording it is required to forcefully stop recording (for example, to remove memory card), then for this, shift the record switch to REC, wait for about 2 seconds, and shift the switch back to STOP. In this case, recording indication will be terminated and the Recorder will switch to Standby Mode.

## **2.7 Setting Time and Date**

Time and date can be set via configuration file and is specified in the field 'System time and date'. Time and date need to be set correctly for correct system time accounting and for proper timer operation.

The Recorder automatically takes into account leap years and various number of days in months.

For smooth operation of the Recorder, the date should be specified exactly as it is stated in calendar. In order to set new time, specify time and date values in the corresponding fields of the configuration file and allow time update. Then set the option 'Update system time (Y/N)' in 'Y' value, after that insert memory card into the Recorder.

The Recorder reads configuration file each time a new memory card is inserted into the slot, or each time the Recorder is powered on (when the switch is shifted from OFF to ON). In this case, the indicator makes a short flash, stating the configuration file has been read successfully.

After the Recorder sets system time, the option 'Update system time (Y / N)' in the configuration file is automatically rewritten to 'N'. It is done so in order there is no subsequent change in system time during subsequent installation and removal of the card, if this is not required by the user.

## **2.8 Changing Settings with Configuration File (CONFIG.INI)**

All the Recorder's settings are made using the CONFIG.INI configuration file.

This is a text configuration file, which is to be written by the user onto memory card.

Any word processor on your PC can be used to open the CONFIG.INI file, make changes to it, save. Then insert memory card into the Recorder, and the file will be read by the Recorder, which will be indicated by the flash of the LED indicator for several seconds, and the settings specified in the file will be accepted by the Recorder.

The lines of the configuration file should be edited only in the corresponding fields; adding new comments to the file or deleting existing lines is not permissible, and may lead to incorrect reading of the file.