

# EDIC-mini Daily S50 and A53

Digital Recorder

***OPERATION MANUAL***

*Version: November, 2011*

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## Overlook

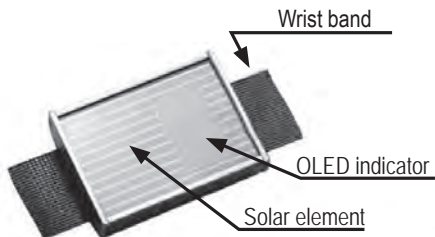
Recorders of the Edic-mini Daily family are professional devices intended for making high quality record of voice messages into a built-in flash memory. The recordings can be further uploaded onto the PC or played back with headphones.

## Specifications

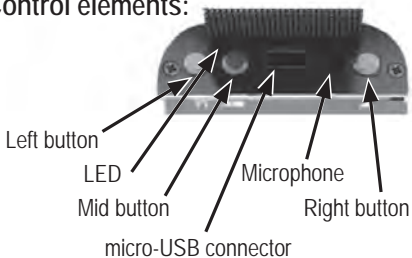
- Sampling rate while recording up to 40 KHz;
- Record duration 300, 600, 1200 hours;
- Very low current consumption;
- Wide frequency band;
- Wide dynamic range;
- Built-in clock and calendar and the option to start recording at the preset time;
- Due to the absence of removable elements the Recorder is operational under wide temperature ranges when shaking or dusted;
- English self-teaching guide;
- The option to record while charging;
- The Recorder is executed in the form of watch with built-in solar battery on outside panel from which the rechargeable battery is charged when the Recorder is in standby mode\*

(\* - hereinafter for S50 Model).

## Recorder's Appearance Edic-Mini-Daily S50



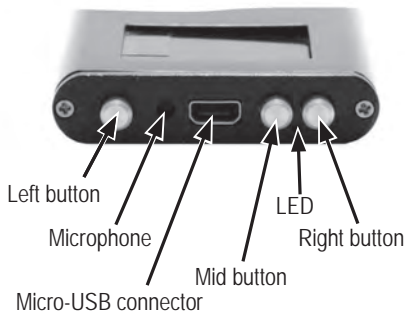
### Control elements:



## Recorder EDIC-mini Daily A53



### Control elements:



The Recorder has 3 control buttons:

- left button to go to Setup Control Menu
- mid button to start/stop recording
- right button to select Menu items

The indication of operation is performed by red LED and OLED indicator with the main blue colour and yellow upper line. There is a micro-USB connector to connect the Recorder to the PC and headphones for playing back. Using USB-SPI adapter (included into the delivery set) the Recorder is connected to the USB port of the PC.

## Software

The software located on the supplied CD operating under Windows XP, Windows Vista, Windows 7 operating systems enables the user to save recorded messages as sound files in wav format, as well as to program Recorder's parameters, apply it as a flash drive to store and transfer files. The capacity of the files uploaded depends on marking: 300h – up to 2 Gb, 600h - up to 4 Gb, 1200h - up to 8 Gb.

## Firmware update

There is an option to update built-in software (firmware) of the Recorder through USB-interface. The Recorder is equipped with VAS enabling to compress pauses efficiently in messages therefore enhancing real record duration. When applying this system the pauses save memory, while time intervals are preserved. When uploading records onto the PC the duration of pauses can be restored (in the form of silence) or omitted depending on the settings specified.

The Recorder enables it to perform recording by timer: either daily (with record start and end time specified) or once (specified date– start time and date – end time).

To protect the Recorder's information there is an option to set password forbidding access to the Recorder's contents and settings without entering the password. Each record performed by the Recorder has a mark of time and date of record start time supplied with "digital signature" to identify the model of the Recorder to have performed the recording and the attempts to modify it. The software of the Recorder provides multilingual support.



## Technical Characteristics

- Analog-to-digital converter: 16 bit;
- Control: 3 buttons;
- Indication: OLED 96x46 and LED;
- Record Mode: mono;
- Sampling rate: 4000, 8000, 13300, 20000, 40000 Hz (ADPCM up to 8kHz, u-Law – up to 20kHz);
- Sound compression types: without compression, u-Law (2/1), ADPCM 4 bit (4/1), ADPCM 2 bit(8/1)
- Signal-to-noise ratio of built-in microphone:  $60\pm 2$  dB;
- Signal-to-noise of ADC audio codec: up to 80 dB;
- Voice Activating System (VAS);
- Circular recording mode;
- Built-in real time clock;
- Timers to start recording at the preset time: once and daily;
- Record Profiles: 8 adjustable profiles;
- Battery level monitoring
- Interface with the PC: HiSpeed USB-SPI adapter;

- Maximum exchange rate from flash memory: 7700 kbs;
- Maximum exchange rate into flash memory: 2800 kbs;
- Rechargeable battery capacity: S50 – 80, A53 – 300mAh;
- Charging time: 3 hours;
- Battery life in sleep mode (under 20°C): S50 – 9 months, A53 – 3 years;
- Battery life in stand-by in VAS mode (under 20°C): (rechargeable battery is fully charged) 12 days;
- Battery life (record mode: without compression, 8000 Hz): S50 – up to 50 hours, A53 – 300 hours;
- Battery life in record mode with VAS (without signal): S50 – up to 60 hours, A53 – 500 hours;
- The option to charge from solar element\*
- Operating temperature range: 0+50°C;
- Operating temperature range (in sleep mode while charging from solar element)\*: up to +65°C.

## Operating the Recorder

### Preparing for Work

Before starting make sure the rechargeable battery is charged. When necessary charge the rechargeable battery by connecting HiSpeed USB-SPI adapter to the USB port of the PC, and then to the Recorder. Full charging takes 2,5 hours. While charging the LED flashes at the frequency of 1 second.

Hereinafter referred as: LB – left button, MB – mid button, RB – right button.

### Recording

To start recording press MB. OLED indicator shows recording symbol (•REC), record number and record duration. To pause recording press LB. OLED indicator shows pause symbol (o PAUSE) and record duration at the moment of the pause. To continue recording press LB. To stop recording press MB.

## Playing back and deleting records (Records Explorer)

Connect headphones to micro-USB connector.

Press LB – Records Explorer Menu appears.

Press RB, then LB or MB and select the record number. Press RB – the message reads Play or delete?

If you press LB the Recorder will start playing back the selected record. To stop playing back press RB.

If you press MB the message reads Delete? No or yes. When pressing RB the selected record will be deleted and confirmative message on deleting record appears Delete successful.

## Recorder's Operation Indication

### LED indication

Mode	Indication
Waiting	No flash
Recording	Short flash once in 3 seconds
Pause, waiting in VAS	No flash
Solar element charging	No flash
USB charging	Flash once in 1 second
PC exchange	synchronically flashing with command processing duration looks like chaotic

### OLED Indication in Standby Mode

The yellow line (status line) displays (left to right) free memory capacity (in hours at current compression mode), day of the week/date followed by the temperature inside the case and the battery charge level. The clock (type depending on the current clock type configuration) is displayed in the blue area of the screen.

After some time (depending on the configuration)

the LED goes off.

### **OLED indication in Record Mode**

The yellow line (status line) displays (left to right) free memory capacity (in hours at current compression mode) sampling rate/compression mode followed by the current time (hours: minutes) and battery charge level.

The blue area of the screen displays:

- the first line – Record symbol (circle), «REC», a record number.
- Second line - the current record time. When pause and VAS standby appears, there is a circle and «PAUSE» in the first line.

### **OLED indication in Playback Mode**

The yellow line (status line) displays rewind symbol, fast forward symbol, playback stop symbol.

The blue area of the screen displays:

- The first line - «Play», a record number;
- The second line - playback time.

### **OLED indication in Menu**

The yellow line displays tips by the motion of the button under which the tip symbols are located. The Menu is in the blue region.

### **Battery charge / discharge indication**

If the battery discharging, there is a symbol “-” inside the battery symbol, if the battery is charging

there is a “+” symbol.

## Record Modes

### Voice Activation System (VAS)

Voice Activation System (VAS) can significantly (up to 100 times) reduce both memory consumption and energy consumption from the power source.

The principle of the VAS is as follows: after the user starts recording, the recorder starts tracing signal from the microphone.

If the signal is less than the one specified in settings (VAS level), it is not the sound from a microphone that is stored in memory, but only the time value during which the threshold is not exceeded (the duration of silence).

### Recording by Timer

Recording can be performed automatically, without user's control. This is possible when using the built-in timers. The Recorder has two timers: daily, once.

*When using timers forced turning the Recorder on is not necessary.*

When you use the Daily Timer the Recorder records every day, beginning and ending it in times specified during setup. For example, the recording

begins at 12:50 and ends at 13:20.

If you use a single timer, it will perform only one record, which will begin and end at a specified date and time of the start and end of recording. For example, December 31, 2011 at 23:50 recording starts, and January 3, 2012 at 00:10 finishes.

Recording will be carried out as long as the Recorder has free memory and battery charge is enough to perform the operation.

Recording by timer can be stopped by pressing MB.

### **Circular Recording**

The Recorder has a possibility of circular recording. This method allows not to stop recording when the Recorder runs out of memory. After there is no more available memory the Recorder begins to record new data over old ones. Thus, the memory will always contain the most recent records that are no longer written off at the time of writing.

The user can devote to circular recording, as a whole or only part of the Recorder's memory. The volume of the memory specified determines the duration of the resulting circular record.



## Recorder Setup

### Profile Selection

Profile Selection is available through the software RecManager, but one of eight preset profiles is selected directly on the Recorder.

Profile record consists of the following options:

*Coder type - type of compression*

- No compress
- uLaw
- ADPCM 2bit
- ADPCM 4bit

*Frequency - sampling rate*

You can choose one of these values:

- No compress - 4, 8, 13.3, 20, 40 kHz
- ADPCM - 4 and 8 kHz,
- u-Law - 4, 8, 13.3, 20 kHz

*Cycle - circular type of record*

When choosing circular recording, you can set the buffer size in percentage of the Recorder's total memory.

*Timer - Timer*

You can select the type of timer (Daily, Once)

### *VAS - Voice Activating System*

When turning VAS on you can set threshold above which the recording starts from 0 to -60 dB.

And the time during which (after the recording level is below the threshold of record) recording continues - from 0 to 255 seconds

### *Gain - amplification*

-1 to 40 dB with steps of 0,5 dB

### *AGC - Automatic Gain Control (AGC)*

When you select the AGC four parameters characterizing the work of AGC can be set

- ft attack (fast attack speed AGC) -
- ft release (Rapid release AGC) -
- sl attack (slow attack speed AGC) -
- sl release (slow release rate of AGC) -

For all of the four options the following values to be set are available: 2.44, 4.88, 9.77, 19.53, 39.1, 78.13, 156.25, 312.5, 625; 1250, 2500; 5000; 10000 20000; 40 000, 80 000 dB / sec.

Pressing LB select Profile selection. Right-clicking enter this menu. With LB or MB select the desired profile number and press RB. A message appears, Set or edit.

## **Setup Control**

This section includes settings that may only be set directly on the Recorder.

Click LB and select Setup Control. Click RB.

## **Time and date setting**

Using LB or MB select Time and date setting, and then press RB. Using LB set the desired value, and by RB move the cursor (a rectangle). After selecting the last value there appears a message Time and date set OK. Press RB to save values.

## **Viewing System Information**

Using LB or MB select System info and press RB to view. To go to the other part of the settings, press RB.

## **Restart the Recorder**

Using LB or MB select Device restart, and then press RB. A message appears Restart? Yes or no. Press RB to cancel restarting the PC and LB to restart the Recorder. In this case the indicator reads the software version number.

### **Select the type of clock face**

Using LB or MB select Watch type and then press RB. Using LB select one of the clock face types (analog, digital, etc.). Press RB.

### **Set the brightness of OLED display**

Using LB or MB select OLED bright and then press RB. Using LB or MB select the desired brightness level and press RB. A message appears OLED bright set. Press RB.

### **Setting operational time of OLED display in the absence of pressing buttons**

Using LB or MB select OLED off time. Press RB. Using LB or MB select the time from 5 to 200 seconds, or put a value Always on (Never turn off). Press RB. A message appears OLED off time set. Press any button.

### **Erasing Flash Memory**

Using LB select Flash erase. Press RB. A message appears Erase all? Yes or no. Press LB to clear the memory and RB to cancel deletion.

## English Dictionary

The recorders with OLED-indicator are equipped with self-teaching guide of English words. The word base of the guide is uploaded from the PC by a special utility. The base has a format compatible with the format used in the program BX Language acquisition <http://bxmemo.narod.ru/> with some limitations:

- The length of English words should not exceed 12 symbols;
- Length of the Russian word should not exceed 16 symbols;
- The letter “Ё” should be replaced with the letter “Е”;
- The base can contain up to 1024 words;
- The file name of the uploaded base must be Lex.bxd.

To form the dictionary for reading texts of particular field it's as convenient to use the software shown at the above site (read the license agreement carefully!).

## Lexicon Training

Using LB select Lexicon Training. Press RB. A message will appear 1000 words training.

Press RB - there appears an English word. For have the translation of the word, press RB. To delete a word, press MB. To have the next word, press LB.

Deleted words ("learned") can be returned to the list of words. To do this, when entering Lexicon Training and after pressing RB when the message press 1000 words training press LB or MB. A message appears Reset? No or yes. To return to the list of words press RB.

## Connecting to a Computer

When connecting to the PC carefully observe the consistency: first connect USB-SPI to USB port, and then connect the adapter to the Recorder. The Recorder switches automatically to charging mode. Flashing LED states that the charging is in progress.

To connect the Recorder to the PC and to work with the software see operational manual for

RecManager.

## Firmware Update

To update firmware:

- Connect the Recorder to the PC via a USB-SPI adapter as described in Connecting to the PC;
- Fully charge the rechargeable battery (until LED stops flashing);
- Press and hold any button on the Recorder;
- Run the firmware update program and follow its instructions (after the corresponding message the button can be released).

**Please note:** software upgrade can cause recorder's breakdown. This is not a warranty case. All the new recorders have the latest software version and there is no necessity to upgrade software after buying the recorder. Don't take the risk. In case there are problems with audio recorder operation please apply to our technical support specialist: [support@ts-market.com](mailto:support@ts-market.com)

