

# **Digital Voice Recorder EDIC-Mini Tiny**

***Operation Manual***

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# Digital Voice Recorder

## EDIC-Mini Tiny

### **Purpose**

Miniature Edic-Mini Tiny digital voice recorder (DVR) is intended for professional recording voice messages into flash-memory.

The DVR features an extremely small size and weight, long record time (varying with the model – from 18 to 300 hours at the sample rate of 8 kHz, and 2 bit ADPCM compression), very low power consumption, wide frequency range (100-10000Hz), wide dynamic range and a highly sensitive built-in microphone. A built-in real time clock and a calendar are provided, as well as the mode of start-up by timer. Due to the absence of moving parts, the DVR functions in a wide temperature range, under vibration and dusty conditions.

The DVR can be connected to PC via USB port with the supplied cable. The supplied software, working under Windows 2000/XP OS, makes it possible to save the recorded messages as standard sound files, to set the DVR parameters, to use the DVR as a flash-disc of 128-2048 MB, depending on a model, as well as to store and transfer files.

There is an opportunity to update the DVR firmware using the software.

The DVR has a Voice Activating System (VAS) which effec-

tively compresses pauses in messages, therefore increasing the actual record time. Using this system saves memory during pauses, but the time intervals remain. When downloading records to PC, the pause length can be either restored (as silence) or passed depending on the settings made.

The DVR working modes are indicated with the LED indicator.

The DVR is operated with a push-button.

The DVR can act as a flash-disc, which enables storing and transferring any data on it.

The DVR can be used simultaneously for both recording messages and as a flash-disc, with the distribution of memory space for message recording and flash-disc being set by the user.

The DVR makes it possible to record by both daily timer (time of recording start and stop is set) and once timer (date and time of recording start and stop is set).

To secure the data, a password may be set in the DVR, which prevents another user from unauthorized access to the DVR content and settings.

Every record made with the DVR is marked with the recording start time and date, and has a digital signature to define the DVR, which was used to make the record, and possible modification of the record file.

The DVR software provides a multilingual support.

## Main Specifications

Specifications	Volume
Signal/noise ratio	-64 dB
Recording formats	Mono, Stereo (varies with the model)
Compression algorithms	Without compression, u-Law (2/1), ADPCM (2 and 4 bit)
Sample rate	5.5, 8, 11, 16 or 22 kHz
Bandwidth	100 Hz to 10 kHz
Built-in microphone sensitivity	7-9 m
PC interface	USB 1.1. Data transfer rate up to 5.5 Mb

### Recording time depending on a model (sample rate 8 kHz, 2-bit ADPCM)

Index	Recording time	Built-in flash-memory size
1120	1120 min. (18.6 hours)	128 MB
2240	2240 min. (37.3 hours)	256 MB
4480	4480 min. (74.6 hours)	512 MB
8960	8960 min. (149.3 hours)	1 GB
17920	17920 min. (298.6 hours)	2 GB

## Quality, Formats and Compression method

- Without compression (linear), sample rate 22 kHz, 202 Kbit/s,  $k=13.8$
- Without compression (linear), sample rate 16 kHz, 160 Kbit/s,  $k=10$
- Without compression (linear), sample rate 11 kHz, 110 Kbit/s,  $k=6.9$
- Without compression (linear), sample rate 8 kHz, 80 Kbit/s,  $k=5$
- Without compression (linear), sample rate 5.5 kHz, 55 Kbit/s,  $k=3.4$
- Logarithmic compression (u-Law), smp. rate 22 kHz, 176 Kbit/s,  $k=11.2$
- Logarithmic compression (u-Law), sample rate 16 kHz, 128 Kbit/s,  $k=8$
- Logarithmic compression (u-Law), sample rate 11 kHz, 88 Kbit/s,  $k=5.6$
- Logarithmic compression (u-Law), sample rate 8 kHz, 64 Kbit/s,  $k=4$
- Logarithmic compression (u-Law), smp. rate 5.5 kHz, 44 Kbit/s,  $k=2.8$
- Modified 4-bit ADPCM, sample rate 22 kHz, 88 Kbit/s,  $k=5.6$
- Modified 4-bit ADPCM, sample rate 16 kHz, 64 Kbit/s,  $k=4$
- Modified 4-bit ADPCM, sample rate 11 kHz, 44 Kbit/s,  $k=2.8$
- Modified 4-bit ADPCM, sample rate 8 kHz, 32 Kbit/s,  $k=2$
- Modified 4-bit ADPCM, sample rate 5.5 kHz, 22 Kbit/s,  $k=1.4$
- Modified 2-bit ADPCM, sample rate 22 kHz, 44 Kbit/s,  $k=2.8$
- Modified 2-bit ADPCM, sample rate 16 kHz, 32 Kbit/s,  $k=2$
- Modified 2-bit ADPCM, sample rate 11 kHz, 22 Kbit/s,  $k=1.4$
- Modified 2-bit ADPCM, sample rate 8 kHz, 16 Kbit/s,  $k=1$
- Modified 2-bit ADPCM, sample rate 5.5 kHz, 11 Kbit/s,  $k=0.7$

where  $k$  is the coefficient, showing how many times the maximum record time decreases at record mode change relative to 2-bit ADPCM mode. For example, the record time will be  $1120/5=224$  minutes for model 1120 in the without-compression mode, at sample rate of 8 kHz ( $k=5$ ).

Memory consumption in the Stereo mode increases twice as much compared with the Mono mode.

The sample rate defines the bandwidth, which is a little less than a half of the sample rate.

The best record quality can be achieved in the without-compression mode, then in order of the record quality deterioration the modes are the following: logarithmic mode, 4-bit ADPCM, 2-bit ADPCM. Moreover, it should be borne in mind that modes with a high sample rate require higher current consumption of the DVR that decreases the battery life.

## **DVR Operating**

To switch on the DVR just after the battery installation (or after charging the completely discharged battery) press the control button on the DVR and hold it for 1-2 seconds. The indicator will blink three times, showing the DVR has started self-testing. In 5-10 seconds the indicator will blink for the fourth time and the DVR will be ready to work.

A 30-60 second pause is recommended between extracting the old battery and installing a new one for a reliable DVR start.

## **Record Tuning**

You may select parameters of message recording (e.g. the quality/compression ratio) in the DVR setting window of the RecManager program before recording. These settings are saved when replacing the battery.

## **Record Settings by Default**

The sample rate is 16 kHz, without compression, VAS disabled.

## **Recording Messages**

Press and hold the control button for about 2 seconds to switch on the Recording mode. When the LED lights up, release the button, the DVR blinks in series to indicate the Recording mode. To stop recording, press the control button for about 2 seconds until the LED lights up.

The DVR enables the user to estimate the battery charge level and free memory space using the LED flashes.

The first series of flashes (1-3 flashes) indicates the battery charge level (for more detail refer to the supplement) and the second series indicates free memory space (4 flashes means 0-25%, 3 flashes - 25-50%, 2 flashes - 50-75% and 1 flash - 75-100%).

The flash series follow one after another at 1.5 s intervals, the series repetition period is 6 s.

Be sure to remember, that recording will be stopped, if the battery is discharged or there is no free memory space left for message recording. We do recommend you to look at the indicator regularly.

Voice Activation System (VAS) makes it possible to reduce significantly (by 100 times) memory and current consump-

tion from the battery.

### **Listening to Messages**

To listen to the previously made messages they should be downloaded to PC using the RecManager program. Listening to messages is possible with any audio player (e.g. Windows Media Player).

### **Connection to PC**

To playback/save records, to make DVR settings and other operations, you should connect the DVR to PC as follows:

- Switch on the PC.
- Install the RecManager program (RecManSetup.exe) from the supplied CD (Miniature DVRs folder in \EdicMiniTiny\ flash-memory).
- Install the drivers (plug-in) for your DVR from the supplied CD (EdicMiniDrvSetup.exe).
- Connect the DVR to your PC (USB port) through the USB adapter.

The LED should light up and the driver installation will start. Choose “Auto installation” in the emerging window and follow the instructions of the driver installation master. Then a message will appear, informing that “the software installed was not tested for Windows XP compatibility”, then select “continue anyway”.

- Start RecManager. After the first start you will be offered to choose the plug-in needed. Choose EdicTiny.ril.
- Turn off the Demo mode in the program. Press Ctrl+P keys and remove the Demo mode tick in the shown dialog window.
- The PC will identify the DVR, and the program window will show the DVR contents.
- Fulfill all the necessary operations.
- Exit the RecManager program.
- Disconnect the DVR from the USB adapter.

*Note:*

- Do not disconnect the DVR while executing any operations in RecManager. This might result in data failure.
- Recording is not available with the DVR connected to the PC.
- For more detail on RecManager refer to the Software Operation Manual and DVR settings in the supplied CD (Miniature DVRs folder in \Edic-Mini Tiny\flash-memory).

### **Firmware update**

- Download the updated firmware from the web site <http://www.ts-market.com> (EdicTinyX\_X.fwu file, X\_X means the firmware version).
- Run RecManager.
- Connect the DVR to PC.

- Press Ctrl+Alt+Shift+P keys to enter the advanced setting mode.
- Click the “Update the firmware” button.
- Select the update file (EdicTinyX\_X.fwu).
- Confirm you want to update the firmware. The program will update the firmware and the appropriate message will appear.

In some seconds the PC will retry to find the DVR.

The information on the new firmware version will be indicated in the RecManager status line.

## **Multilingual support**

The RecManager program provides two languages to choose: Russian or English. You may translate the buttons' names, program messages and etc. into your language. To do that you will have to edit files EdicTiny\_rus.Ing and RecManager\_rus.Ing (or EdicTiny\_eng.Ing and RecManager\_eng.Ing) in the folder where the program is installed (Program files\RecManager) as follows:

- Replace the code page number in the first string of the file with the code page number in your language.
- Translate the titles and messages from Russian or English into your language and replace the text in the file with the translated one.
- Rename the files into EdicTiny\_XXX.Ing and RecManager\_

XXX.Ing, where XXX is a short language name (in latin letters).

After restarting the program the user's language will be available in the Properties\Program Language window.

To include this language support into the program installer, the user may e-mail the corrected file to [support@ts-market.com](mailto:support@ts-market.com).

The installer with the new language support will be laid out on the web site for common use.

## **Technical Support**

The technical support is always available through

E-mail: [support@ts-market.com](mailto:support@ts-market.com);

Phone: +7 (495) 530-10-01;

We constantly work on improving the quality of our products.

You may send us your suggestions and notes to

[support@ts-market.com](mailto:support@ts-market.com).

## Troubleshooting

<b>Problem</b>	<b>Possible cause</b>	<b>Possible remedy for the trouble</b>
After installing the battery into the DVR, the LED didn't blink 3 times.	1. The battery is discharged or faulty. 2. The DVR did not start.	1. Replace the battery. 2. Extract the battery and install it again after 30-60 s.
After installing the battery and continuous pressing the push-button the indicator blinks in 10-flash series.	Memory error	Contact the technical support service.

<b>Problem</b>		<b>Possible cause</b>	<b>Possible remedy for the trouble</b>
The DVR does not re-record.	The indicator does not blink.	The battery is completely discharged.	Replace the battery.
	The indicator blinks in five-flash series.	Low battery charge level.	Replace the battery.
	The indicator blinks continuously.	There is no free memory for voice messages.	Clear the memory, delete unnecessary messages and/or reduce flash-disc space.

