

EDIC-Mini Tiny

Voice Recorder

Operation manual

Version: September, 2010

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Overlook

The EDIC-Mini Tiny voice recorder is used for professional voice recording onto a flash media following by copying to a computer. Along with extremely small size and weight, the recorder has low power consumption, long recording time (150-1200 hours depending on the model, sample rate, and methods of compression), and wide frequency and dynamic range. An internal clock and a calendar allow starting recording according to time setting. As a recorder does not have any moving parts, it can be used in challenging environment: at wide temperature range, shaking, and dustiness.

Using a provided USB cable, a voice recorder is connected to a computer USB socket. The supplied software, which operates under OS Windows 98/2000/XP(SP2 and SP3), Vista, Windows7, allows recording messages as common audio files, programming recorder parameters, and using a flash media for store and copying files, which lengths vary from 128 Mb to 8 Gb, depending on the model.

The firmware can be upgraded using a USB interface.

Recorder's voice activating system (VAS) allowing effective compressing pauses in messages, increases the length of a record while minimizing memory usage. Time intervals stay the same. If recording are copied to a PC, pause lengths can be restored or skipped according to program settings.

A light emitting diode, LED, signals according to one of the operating modes. A recorder can function in the flash media mode, allowing using a recorder for data storage and exchange. If needed, a recorder can be used simultaneously as a flash media and as a voice recorder.

To prevent unauthorized access to a recorder and stored data, password protection can be used. In addition, along with its both time and date, every record has a digital audio watermark. It allows detecting which recorder made this record and what changes the record underwent.

The firmware provides multi language support. Depending on modifications, the EDIC-Mini Tiny voice recorders differ by:

- Control panel
- Power supply
- Stereo mode availability
- Space and type of memory

Specifications

Signal-to-Noise Ratio -64 dB;

Recording mode: Mono, Stereo, depending on the model;

Compression algorithm: Without compression, u-Law, ADPCM 2-and u-Law, ADPCM 2-and 4-bits;

Sampling Rate: 5.5, 8, 11, 16 or 22 kHz;

Frequency range: 100 Hz -10 kHz (depending on settings);

Exchange rate with PC: up to 0,7 MB/sec.

Recording time of the audio recorder in different modes

Index of the model 150h/300h/600h/1200h – shows the maximum recording duration in hours – sampling rate 8 k Hz, 2 bit ADPCM).

Tables 1-4 show recording time in different modes. Different settings allow finding effective quality-length ratio according to your demands. Sampling rates affect a band of audio frequencies and compression methods affect the space of memory used while recording.

The best quality is achieved without compression; however, it uses biggest amount of memory.

Every next mode in the sequence minimizes memory space and makes quality worse: (u-Law), 4-bites ADPCM, and 2-bytes ADPCM.

Table 1. Recording duration (in hours) for the model with the index 150h (depending on the compression algorithm and frequency band).

	Frequency band, kHz				
	5,5	8	11	16	22
Without compression	46	30	22	15	11
u-Law	54	38	27	18	13
ADPCM (4 bit)	107	75	54	38	27
ADPCM (2 bit)	214	150	107	75	54

Table 2. Recording duration (in hours) for the model with the index 300h (depending on the compression algorithm and frequency band).

	Frequency band, kHz				
	5,5	8	11	16	22
Without compression	88	60	44	30	22
u-Law	107	75	54	38	27
ADPCM (4 bit)	214	150	107	75	54
ADPCM (2 bit)	428	300	214	150	107

Table 3. Recording duration (in hours) for the model with the index 600h (depending on the compression algorithm and frequency band).

	Frequency band, kHz				
	5,5	8	11	16	22
Without compression	176	120	90	60	54
u-Law	214	150	107	75	54
ADPCM (4 bit)	429	300	214	150	107
ADPCM (2 bit)	857	600	429	300	214

Table 4. Recording duration (in hours) for the model with the index 1200h (depending on the compression algorithm and frequency band).

	Frequency band, kHz				
	5,5	8	11	16	22
Without compression	353	240	174	120	87
u-Law	429	300	214	150	107
ADPCM (4 bit)	857	600	429	300	214
ADPCM (2 bit)	1714	1200	857	600	429

Recorder's battery life

Recorder's battery life depends on the battery in use, rechargeable battery (its charge level), as well as on the record mode the Recorder operates in. The approximate battery life is specified in the instructions for an individual model.

Control panels of different recorders have various design, it is described in a supplement of your recorder manual.

Turn on your recorder using control panel, then turn on recording. After you turn on recording, a light emitting diode of your recorder performs five lashes, then recording starts. While recording, two blinking sequences indicate a rechargeable battery status and available memory.

The first sequence indicates a rechargeable battery status:

- one flash – fully charged,
- two flashes – enough for work,
- three flashes – should be charged.

The second blinking sequence indicates the amount of memory available:

- one flash – 75-100%,
- two flashes -50-75%,
- three flashes – 25-50%
- four flashes – 1-25%.

To stop your recording, set the Stop switch in a stop position. While stopping, LED blinks one time. Duration of this flash can be some seconds and depends on the available recorder memory space.

After stopping, the recorder is in a stand-by mode. In this mode, a recorder has low power consumption and does not demand battery exchange or rechargeable battery charging during a long period of time. If there is not enough memory size or a rechargeable battery is discharged while recording, the recorder turns into a stand-by mode automatically.

Playing Back Audio Recordings

To play your audio recordings, copy them to a PC using the supplied software: the RecManager program for Edic Tiny, which is situated in the internal memory of the recorder. Then play them using any program for music play back, for example, Windows Media Player.

The Voice Activating System (VAS)

VAS, the voice activating system, allows to essentially minimize (up to 100 times) memory usage and power consumption. After you turned on recording, your recorder starts getting audio signals from its microphones. If the signals' level is higher than a threshold, the audio signals are recorded into the recorder's memory.

If the signals' level becomes lower than the threshold, after defined in settings period of time, the voice recorder stops recording the audio signals. Then the recorder registers the amount of this silence period of time. After the audio signals again exceed the threshold, the recording starts. This succession is in a progress before you turn off the recording.

The recorder's LED signals the same way as when recording without VAS: two consequences when audio signals exceed the threshold, continuous weak luminescence while silence.

While copying to a PC, you can decide to leave or restore the pauses. If you decide to restore the pauses, the record's length is equal to the real period of recording time. If you decide not to keep the pauses, the recording consists of the recorded parts that follow each other without any intervals.

Timer recording

Using internal recorder timers, you can schedule a recording to begin at a specific time and even on a specific date automatically. A recorder has two timers: for daily repeated recordings, and for single recording.

To set a daily timer for daily repeated recordings, you have to schedule beginning and ending of a recording during a 24 hours period of time. For instance, beginning is at 12-50, ending is at 23-50. To set a once timer for a single recording, you have to schedule a recording to begin and to end at a specific time of a specific date. For instance, the recording begins on 31 December, 2010 at 23-00 and ends on 1 January, 2010 at 2-00. Recordings are accomplished while recorder's memory space is available and recorder rechargeable battery is charged.

Loop Recording Mode

You can choose a loop recording mode if you don't want to stop your recording when recorder does not have free memory space. At this mode, a recorder writes over the oldest data. You can use recorder memory space for a loop recording partly or fully. The amount of memory space defines a length of a loop recording.

Note: Loop recording mode is not available in stereo mode when sampling rate is 11, 16, or 22 K Hz.

Charging and rechargeable battery service

The rechargeable battery is charged automatically when connecting the recorder to the USB-port of the PC. The rechargeable battery is fully charged after 3 hours (when charging the LED flashes gradually with the interval of 5 seconds). At maximum charge level the LED starts flashing continuously. It is not recommended to leave Li-ion rechargeable battery discharged. In this respect the rechargeable battery is to be charged no less than once a month, even if you don't use the Recorder.

Recorder's settings

The Recorder's setting is carried out with the help of "RecManager.exe" program. This program provides setting of all the possible parameters of the Recorder:

- Turning on and setting of timers
- Turning on and setting of VAS
- Turning on and setting of circular recording
- Setting of recording quality
- Setting of operation mode (depending on the model)
- Password protection for the Recorder
- Synchronisation of time and date of the Recorder with the PC
- Transfer of records (and files) from the Recorder to the PC and vice versa

To set the Recorder connect it with the help of the cable from the inbox, launch "RecManager.exe" program and set the desirable parameters. The Instruction RecManager for Edic Tiny is in the internal memory of the Recorder.

Firmware update

There should be RecManager program installed on your PC. It is intended for recognizing the recorder when connecting it to the PC and operating it.

ET FW Updater xx x Acc.exe (for recorders with rechargeable batteries) or ET FW Updater xx x Bat.exe (for recorders with batteries) — the program intended for updating firmware is started from your PC.

ET ImgWriter.exe — the program is started from your PC. It is aimed at uploading new version of RecManager program into the Recorder's memory.

All this files can be downloaded from www.ts-market.com or from the software CD, if it's available.

TO UPGRADE THE FIRMWARE, FOLLOW THESE INSTRUCTIONS:

1. Download the new upgraded software from www.ts-market.com or from the software CD, if it's available.
2. Install (if it wasn't installed before) RecManager program. Don't run it. The corresponding driver

should be installed together with the program so that PC can define the connected audio recorder.

3. Activate your Recorder if automatic activation isn't presupposed.
4. Turn the recorder on and connect it to the computer.
5. Run the updater program from the directory ET_FW_Updater_xx_x, where "x_x" is the number of the firmware version.
 - for recorders with rechargeable batteries – ET_FW_Updater_xx_x_Acc.exe
 - for recorders with batteries – ET_FW_Updater_xx_x_Bat.exe
4. Follow the program's instructions. The Program operation can last several minutes, depending on audio recorder memory & PC speed.
5. After the message «Press any key to exit» appears in the window, press any key to quit the program automatically. Updating is complete.
5. Run the Image Writer program – Start ET_ImgWriter.exe program, which will record the RecManager program into the recorder's

memory. If your operational system is Windows Vista or Windows 7, run this program “as an Administrator”. Follow the program’s instructions

7. After the message «Press any key to exit» appears in the window, press any key to quit the program automatically. The new version of the program is uploaded into the Recorder’s memory.

Now when connecting to the PC the Recorder will be recognized as a removable storage. Therefore, RecManager is to be started from there (there is no necessity to install RecManager onto the PC). Check it, connecting the Recorder off the PC and connecting it again. Transfer the Instructions from the Recorder’s memory to your PC to have a permanent access to them.

PLEASE NOTE! In case the new version doesn’t answer your demands, there is an opportunity to return to the previous firmware version: run the appropriate file from the directory Downgrade:

- for recorders with rechargeable batteries –
ET_FW_Downgrade_x_x_Acc.exe

- for recorders with batteries – ET_FW_Downgrade_x_x_Bat.exe.

Run the necessary program from your PC (If your operational system is Windows Vista, run this program “as an Administrator” and follow program’s instructions. After the message «Press any key to exit» appears in the window, press any key to quit the program automatically.

Multilingual Support

You can choose English or Russian language using the program settings. However, you can translate all buttons, messages, and dialogs to any other language:

- Find EdicTiny_eng.lng and RecManager_eng.lng (EdicTiny_rus.lng and RecManager_rus.lng) files in Program Files/RecManager/ folder.
- On the first page change the number of a code page according to your language.
- Translate all signs and messages from English (Russian) into your language.
- Rename files: EdicTiny_XXX.lng and RecManager_XXX.lng (XXX abbreviating of a new language expressed by the English

To the attention of the owners of the recorders with rechargeable batteries and “reset” button

Troubleshooting			
	Trouble	Trouble signs	Possible solution
1	The Recorder is unresponsive to the user's activity	The LED flashes at half-strength	Press “reset” for 2-3 seconds
2	The rechargeable battery of the Recorder is discharged lower allowable voltage	<p>“RedManager” program doesn't recognize the Recorder connected to the PC.</p> <ul style="list-style-type: none"> - random turning the Recorder on and off - power status shows voltage less than 3V - the rechargeable battery will not charge 	<p>Connect the Recorder to the PC. Press “reset” and keep it pressed for about 2 minutes. After that a smooth flashing of LED appears with the interval of 5 seconds, which indicates the start of charging the rechargeable battery. Keep the Recorder connected for no less than 3 hours till the rechargeable battery is fully charged.</p>

3	When connecting the Recorder to the PC the rechargeable battery does not start charging	When connecting the Recorder to the PC the LED is not flashing smoothly with the interval of 5 seconds	Keep "reset" button pressed for 2-3 seconds. After that a smooth flashing of LED appears with the interval of 5 seconds, which indicates the start of charging the rechargeable battery. Keep the Recorder connected for no less than 3 hours till the rechargeable battery is fully charged.
4	When connecting the Recorder off the PC the Recorder won't change to standby mode (no single flashing od LED)	When connecting the Recorder off the PC there is no single flashing od LED	Keep "reset" button pressed for 2-3 seconds. A single flashing of LED indicates the initialization of the Recorder. If that didn't happen press the control button for 3-5 seconds.

