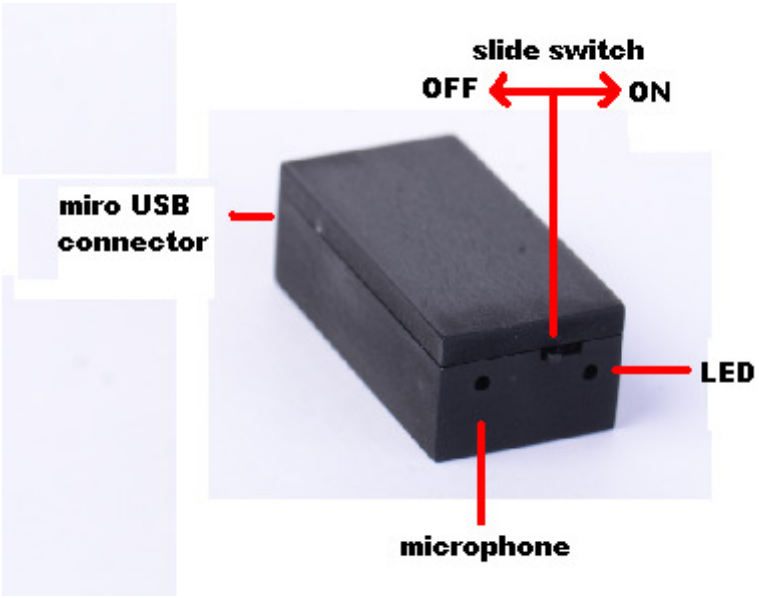
TAR25 audio recorder

User manual
Version 1.03

This recorder is the smallest audio recorder available on a market. You can record any audio or human conversation in high quality and store all into the internal memory. The state of art technology with very low power consumption allows you to record very long records in a different selectable quality modes. This recorder is equipped with very sensitive microphone and is able to record conversation from distance over 30 feet (10 meters). All stored recordings are accessible via micro USB connector on the back side. Record Manager software is designed to replay, edit and export all records. This software includes search for active sound in long records. For protection of stored data it is possible to set password access for all stored recordings. Integrated real time clock should start recording in any specific period of each day or at any specific date. All recorded data are stored with time marks, which gives you very good overview in case of long time recording.

Technical data:

Dimensions:	32x16x11mm
Battery:	integrated rechargeable Li-pol battery
Battery charging time:	2 hours
Maximum storage capacity:	over 70days
Maximum recording time:	80 hours
Maximum idle time in VAS mode:	130 hours
Stand-by time:	65 days
Memory size:	16GB
Signal-to-noise ratio:	65dB
Storage format:	16bit uncompressed, logarithmic, 4bit ADPCM or 2bit ADPCM
Sample rate:	22kHz, 16kHz, 11kHz, 8kHz, 5.5kHz
Bit width:	16bit
Built-in microphone sensitivity:	8-10m
Voice activated recording	yes
Exporting format:	by using included software, WAV format
Scheduled recording:	daily period, week period or event calendar
Operating mode select:	slide switch



Battery life for a different operating modes in continuous recording mode [in hours]:

Sample rate	none	uLaw	4bit ADPCM	2bit ADPCM
5,5kHz	67	72	80	80
8kHz	57	60	72	76
11kHz	42	54	64	68
16kHz	28	30	54	56
22kHz	27	32	35	40

For extending battery life should be used voice acitivated recording mode. This option may extend this time significantly.

Operating instructions

For controlling all functions is used one slide switch and multifunctional LED. For access of all records and configuration, use the Record Manager software, which is located inside the memory of the recoder. After you connect the recorder to your computer, you can open the application “rcman” or you can run the setup to install the Record Manager to your computer if you use the recorder for the first time.

Start and stop the recording

This action is operated by using a slide switch. The slide switch works in parallel with the internal timers for scheduled recording. For example, when the slide switch is in ON position, the recording is not interrupted regardless the settings of scheduled recording. When the timer activates the recording, it still continues until the scheduler reaches the scheduled stop time regardless the position of slide switch.If you want to stop automatically scheduled recording, move the switch to ON and back to OFF position.

Before the recording starts, the LED flashing sequence will follow. When the LED flashes 5 times, it means memory failure and the recording does not start. When it flashes only ones,

the memory is full and recording can't be started. Flashing 2 to 4 times indicates available memory space. (4 flashes – more than 75% space available, 3 flashes – more than 50% space available, 2 flashes – less than 25% space available). The second LED flashing sequence indicates the battery status (4 flashes – battery fully charged, 1 flash – battery is weak). The recorder should store up to 255 records. If this count has exceeded, the memory is considered as full. When the recording is in progress, the LED makes short flash each 2 seconds. This function should be disabled for discrete recording. When the voice activated recording is enabled, the LED flashes only, when the sound level is above the selected threshold and recording is in progress. The recording is stopped when the memory is full or by moving the slide switch to OFF position. Stop sequence is indicated by 3 LED flashes.

Battery charging

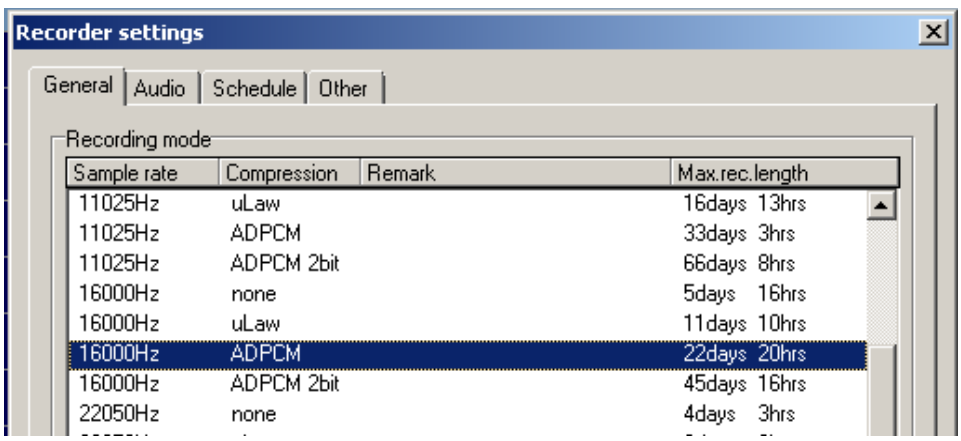
The recorder is powered from its internal Li-pol battery. Full recharge takes 2 hours. If you have any USB power available during the recording (like USB from the laptop or any USB charger), it's possible to connect this charger to the micro USB connector of the recorder and during the recording it will be recharging the battery and recording at the same time. This will provide unlimited recording time (limited only by a memory space). Always keep the battery charged if you do not use the recorder for a long time. If the recorder is not used at all, it's recommended to fully recharge the battery once per month.

Connecting to computer

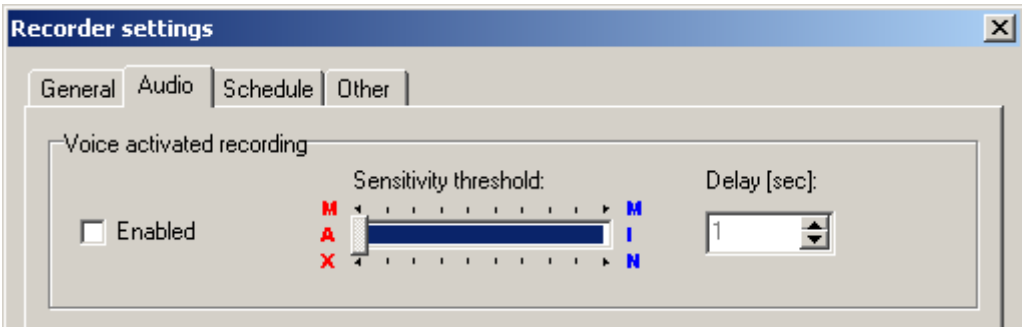
This recorder has a small micro USB connector. This connector is used to connect with the computer or the charger. When you want to connect with the computer to download records or open the configuration, the recording must be OFF otherwise the message „USB device can not be recognized" will appear on your screen.

Record Manager

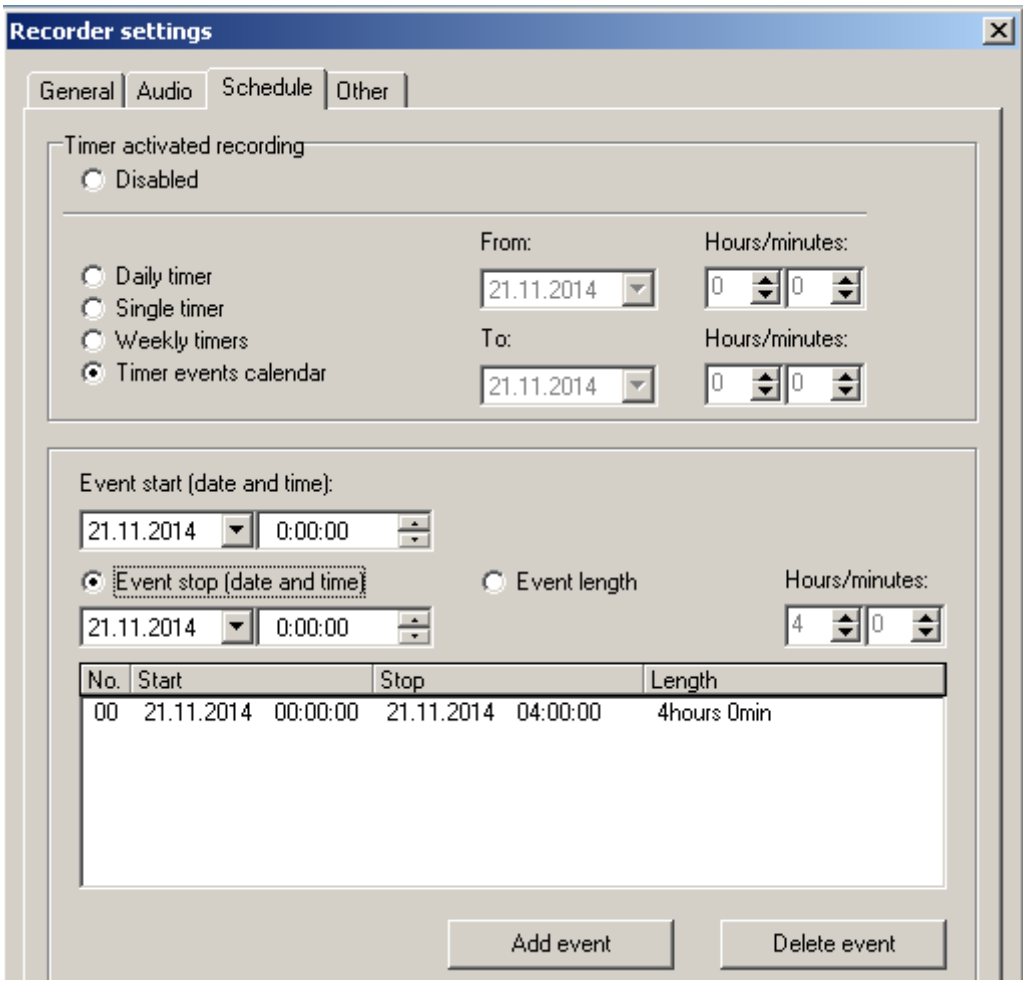
The software Record Manager is used for handling all records and configuration of the recorder. All functions are described in a separate manual for this application. This software is a common application used for all of our recorders and only a configuration (or only a part of the configuration) is a specific part for each recorder type. This part is described below.



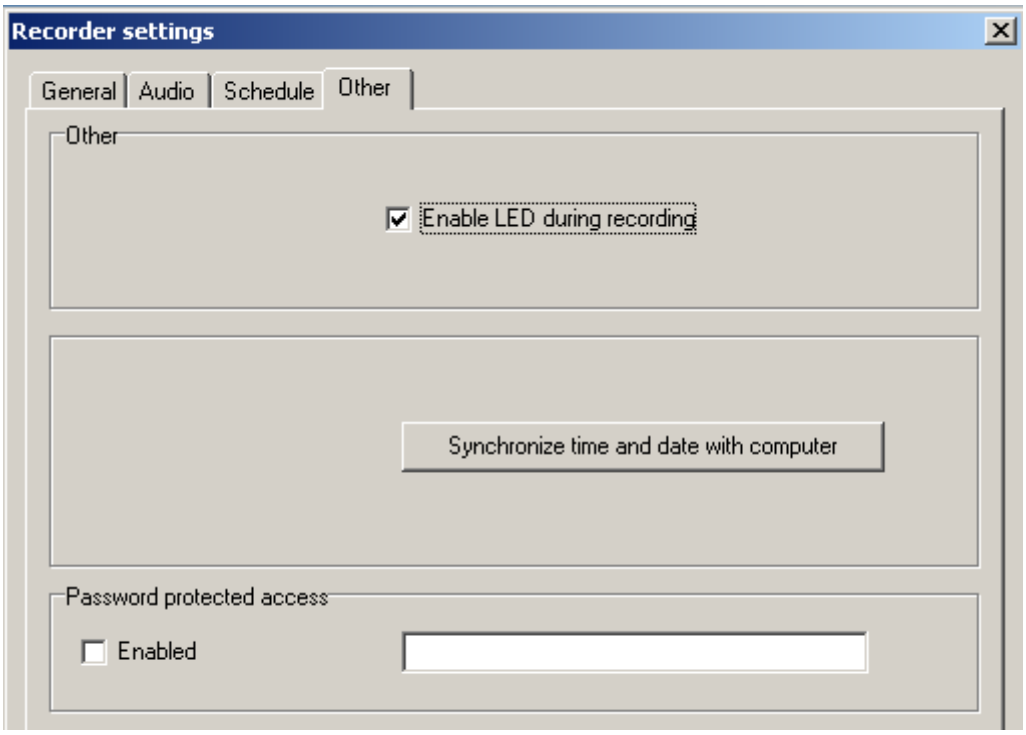
The first general part is used to select recording sample rate and compression method. To achieve the best quality you should use 16kHz or 22kHz without compression, but this mode takes the most power from the battery and will use most of the space for storing the data. For best performance check table showing battery life and memory capacity for each specific mode. Using ADPCM 2bit compression results in worst audio quality.



Audio page is used for voice activated recording. When this option is enabled, recorder is recording only when it detects sound above selected threshold level. Minimum level means the highest sensitivity. Delay is specifying the time, for how long recording continues after this sound level is not detected anymore. Recommended value is 5 seconds or more. When LED is enabled to flash during recording, it is flashing only when recording is in progress and not when the recorder is in idle mode waiting for exceeding the selected threshold level. This mode saves significantly the battery energy resulting much longer time of operation.



Recorder is equipped with internal real time clock and recording scheduler. If you want to use time activated recording, you can choose from 4 options. Daily timer enables recording scheduler to start and stop recording at the specified time period, which repeats every day. Single timer is used to start and stop only once at given time and date. The weekly timer is used to repeat recording for each selected day of a week at a selected period. Every time set to 00:00 is ignored, which enables to schedule recording for example over the midnight. Last option is events calendar. Here you can specify up to 32 events at a selected period defined by date, time and length.



The last part of a configuration contains various options. LED should be disabled in this window to allow discrete mode of operation. This disables flashes during recording. Indication of power up, start and stop sequence is not affected by this option. The real time clock is synchronized by using a button “Synchronize time and date with computer”.

Password protection and audio files encryption

All records are encrypted by using the password in the recorder settings. When the password protection is enabled and the password is entered, all new recorded audio will be encrypted by using this password. When you open the image file, all encrypted records will be displayed in a red color in the list. Please note, when you’ll change the password again, all previously stored records are still encrypted with the previous password. When you want to replay the record or export it, you’ll be asked to type the password, which has been used at the time, when this audio record has been made.

FAQ:

Q: Can’t start recording – LED flashes only once and the memory is not full.
A: The memory contains 255 records. For next recording you must delete at least last record from the list.

Q: LED always flashes 5 times.
A: Internal memory has failed or you have formatted the file system. Use Windows format with FAT32 file system and format the recorder memory.

Q: The beginning time of recording is incorrect or scheduled recording is not working
A: This time is always equivalent to the real time clock, which are synchronized from the Record Manager. This problem should happen, when the battery was discharged. You must synchronize the time again.

Q: Recorder was operating until the battery was fully discharged.
A: For this case the last record will be stored properly without any problems.

Q: Recorded sound is distorted in very loud sequences.
A: Avoid using ADPCM2 compression, if you require good quality of audio.