FUTURE KIT

HIGH QUALITY ELECTRONIC KITS

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DIGITAL VOICE RECORDER 20-60 SEC

CODE 941 LEVEL 1

A digital voice recorder circuit that used for voice recording and stored inside the IC. This circuit can keep the voice recording for approx. 100 years without power supply and repeat recording up to one million times.

Technical specifications:

- Power supply : 3-6VDC.
- Consumption : 120mA max. @ 6VDC.
- Recording time : 20-60 sec.
- PCB dimensions : 2.86 x 1.64 in.

How to work:

The circuit working is mainly based on IC that was only built for a specific recording. The working can be divided into two parts, recording and replaying.

The working of the recording part will start when pressing switch SW1 REC and hold it. IC will start recording with LED1 is permanently lit due to the pressing of switch SW1. Microphone will take voice to IC1 for recording. During recording, if the switch is released or IC has fully recorded, the IC itself will immediately stop recording and LED1 will be also off. In case of IC has not fully recorded, the recording can be continued accordingly.

The working of the replaying part will start when pressing switch SW2 PLAY and IC will replay straight away. While replaying, LED1 is blinking and sending out the recorded voice through loudspeaker. In case of recording many versions e.g. two versions, IC will only play the first version. The second one will be played when pressing switch SW3 FWD. But if pressing SW3 again, IC will go back to play the first version.

VR1 will control the recording time. Switch SW4 ERASE will be used for erasing of the recorded voice. Press one time for erasing of the existing recording version. But when permanantly pressing, all recorded version will be erased.

Circuit assembling:

External connecting and fitting of components are shown in figure 3. It is recommended to assemble the circuit starting with a lower component i.e. diodes, resistor, electrolite capacitors and transistors etc. Be careful while assembling and check for the matching of PCB poles and components before soldering as shown in Figure 1. Use a max. 40W. solder and soldering lead with a tin and lead ratio of 60/40 together with a joint solution inside. Recheck the assembled circuit for your own assurance. Better using a lead sucker or a lead wire absorber in case of misplacing component to protect PCB damage.

Testing:

Assemble the circuit as shown on Fig.3. Supply 4.5VDC to the circuit, from adaptor or from 3 AA x 1.5V. Connect possitive pole to position + and negative one to position G. Adjust VR1 to extremely left and press switch SW4 ERASE and hold it. Release the pressed switch when LED1 blinked twice and followed with seven blinkings. Press switch SW1 REC and hold it, LED1 will be permanently lit. Speak to the microphone for approx. 10 seconds and then release the pressed switch, LED1 will be off. Do pressing switch SW1 REC again with the last same manner and keep speaking to the microphone until LED1 stopped blinking then release the switch.

Press switch SW2 PLAY, IC will play the last recording version with LED1 is blinking. When replaying is ended, IC will automatically stop playing when LED1 is off. Those above results will show that the circuit is workable.

Application:

This circuit can be applied for other required using e.g. voice message or emergency call machine. All switches will work as follows:

- Press switch SW1 REC and hold it when require voice recording, LED1 will permanently be lit while recording. In case of not requiring to record fully, do releasing the switch immediately. When require to continue the recording, the existing recorded version will be the second version and will be the same manner like this until it is fully recorded. (If it was fully recorded, when press switch SW, LED1 will blink twice and IC will not record.)

- Press switch SW2 PLAY only once when require to replay. LED1 will blink while replaying. The circuit will automatically stop replaying when there is no more recorded voicing. Press switch SW2 once more in case of wanting to stop recording (LED1 will blink twice and being off when there is no recorded voicing.). But when permanently press SW2, the circuit will replay until there is no recorded voicing and restart playing until releasing the switch.

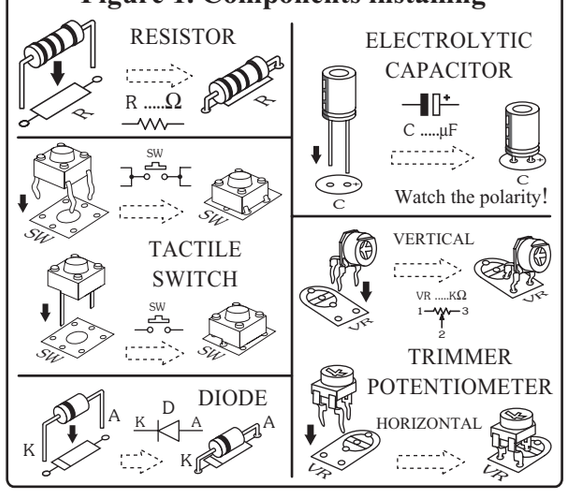
- Press switch SW3 FWD only once when require to move on to the next recorded version (to be used in case of there are many recorded versions.). LED1 will blink only once. But if it is the last recorded version and replay to the first one, LED1 will blink twice.

- Press switch SW4 ERASE when require to delete the recorded voicing. IC will delete the existing recorded version that it is replaying, LED1 will blink twice. But if pressing switch permanently, LED1 will firstly blink twice and then blink 7 times. It shows that IC is going to delete all recorded voicing.

- VR is used for adjust the recording time. It can record approx. 20 seconds if it is moved to extremely left and approx. 60 seconds when being moved to extremely right. Adjust VR1 while replaying for increasing or decreasing any required replaying speeds. The longer recording time will affect the voice quality.

It is recommended to supply approx. 6VDC to the circuit for a required louder noise.

Figure 1. Components installing



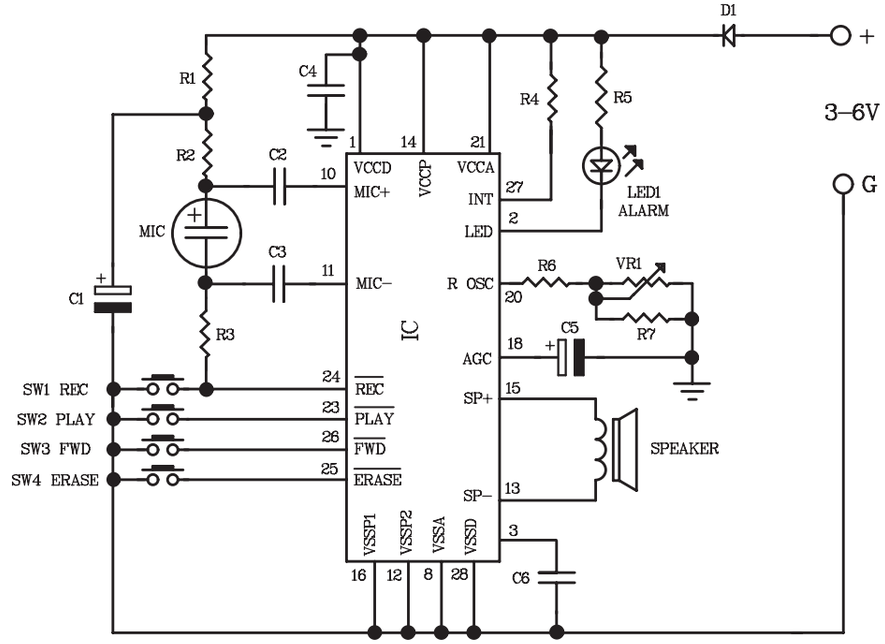
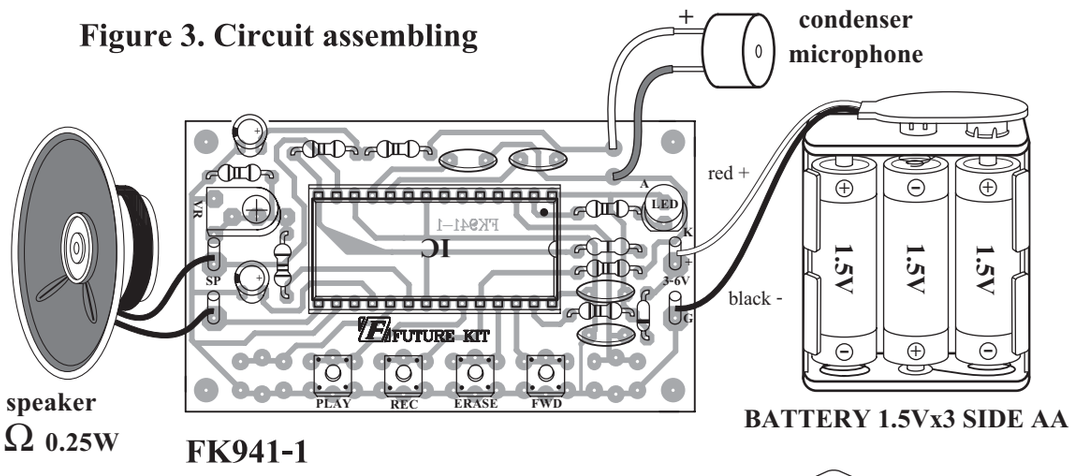


Figure 2. Digital voice recorder 20-60 sec circuit

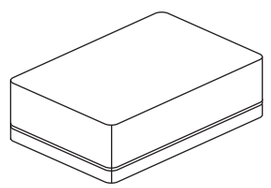
Figure 3. Circuit assembling



BATTERY 1.5Vx3 SIDE AA

Troubleshooting:

As the circuit has only few components, the main cause of troubles will come from misplacing component and defaulted soldering. When found out that the circuit does not work, check the placing component and various soldering points.



NOTE:

FUTURE BOX FB03 is suitable for this kit.