



DIGITALKER™ Speech Synthesis

DT1052/DT1055 DIGITALKER™ Basic Numbers Kit

General Description

The DIGITALKER™ is a speech synthesis system consisting of several N-channel MOS integrated circuits. It contains a speech processor chip (SPC) and speech ROM and when used with external filter, amplifier, and speaker, produces a system which generates high quality speech including the natural inflection and emphasis of the original speech. Male, female, and children's voices can be synthesized.

The SPC communicates with the speech ROM, which contains the compressed speech data as well as the frequency and amplitude data required for speech output. Up to 128k bits of speech data can be directly accessed.

With the addition of an external resistor, on-chip debounce is provided for use with a switch interface.

An interrupt is generated at the end of each speech sequence so that several sequences or words can be cascaded to form different speech expressions.

The DT1052 is a useful, low cost standard DIGITALKER kit, encoded with the numbers 0 through 9, the word point, and several silence durations, located at individual addresses.

These numerical outputs can be applicable to many consumer and industrial products where numbers are frequently displayed.

Features

- COPS™ and MICROBUS™ compatible
- Designed to be easily interfaced to other popular microprocessors
- 15 addressable expressions, including silences
- Natural inflection and emphasis of original speech
- Addresses 16k of ROM directly
- TTL compatible
- On-chip switch debounce for interfacing to manual switches independent of a microprocessor
- Interrupt capability for cascading words or phrases
- Crystal controlled or externally driven oscillator
- Available in complete kit (DT1052) or speech ROM only (DT1055)*

Applications

- Telecommunications
- Appliance
- Automotive
- Counters
- Consumer products
- Instrumentation

DT1052 Vocabulary

Byte SW 8	Address SW 1	Message	Byte SW 8	Address SW 1	Message
0 0 0 0 0 0 0 0		ZERO	0 0 0 0 1 0 0 0		EIGHT
0 0 0 0 0 0 0 1		ONE	0 0 0 0 1 0 0 1		NINE
0 0 0 0 0 0 1 0		TWO	0 0 0 0 1 0 1 0		POINT
0 0 0 0 0 0 1 1		THREE	0 0 0 0 1 0 1 1		20 ms SILENCE
0 0 0 0 0 1 0 0		FOUR	0 0 0 0 1 1 0 0		40 ms SILENCE
0 0 0 0 0 1 0 1		FIVE	0 0 0 0 1 1 0 1		80 ms SILENCE
0 0 0 0 0 1 1 0		SIX	0 0 0 0 1 1 1 0		160 ms SILENCE
0 0 0 0 0 1 1 1		SEVEN	0 0 0 0 1 1 1 1		320 ms SILENCE

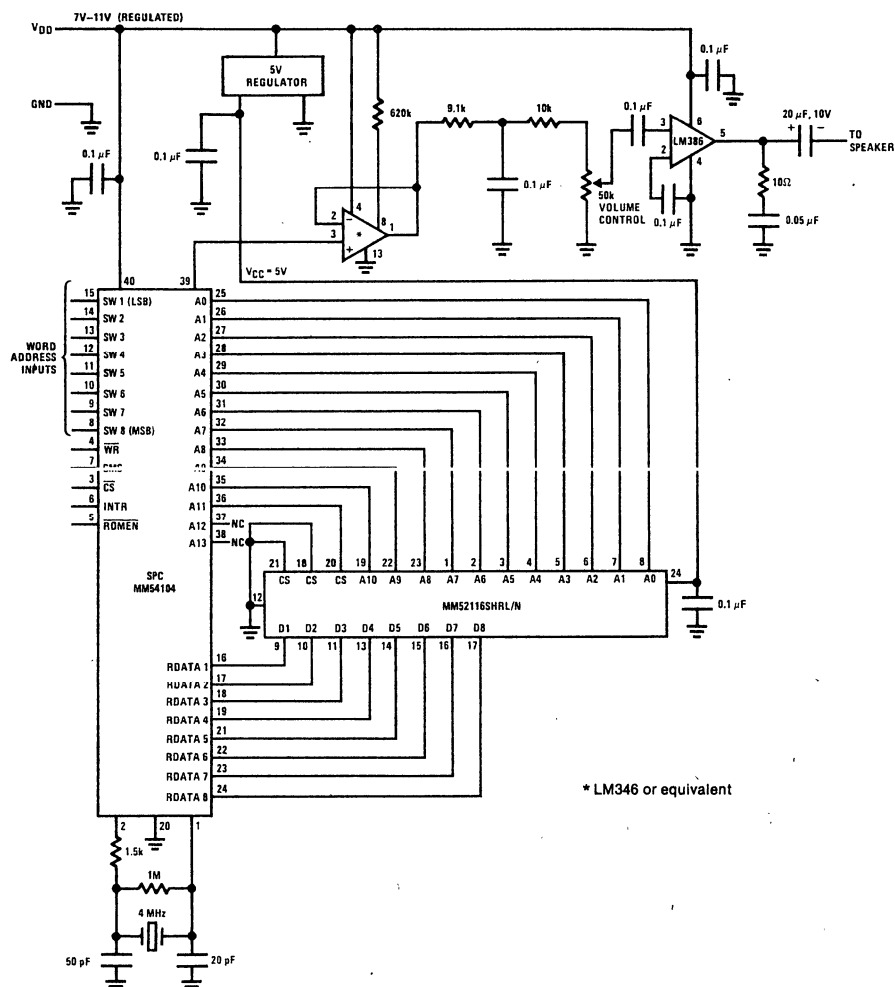
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* DT1052 is a complete kit including MM54104 SPC; DT1055 is MM52116SHRL speech ROM only.

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Recommended Schematic Diagram



* LM346 or equivalent

Refer to MM54104 and MM52116 data sheets for complete specifications on electrical and timing characteristics.