


LC3100	c-mos LSI	CIRCUIT DRAWING No.4001
128K-BIT CMOS MASK ROM		 3011A

The LC3100 is a 128K-bit CMOS mask ROM that contains an interface connectable direct to the speech synthesizer LSI LC8100. With one piece of this mask ROM, approximately 100 seconds of speech synthesis can be attained.

A selection of 8-bit, 4-bit, or single-bit output data is allowed by means of external control. This mask ROM is also suited for use in applications other than speech synthesis.

Features

- ROM capacity: 128K bits
 - Access time:
 - 6.9μsec typ (for operation at 800kHz typ.)
 - 25.6μsec typ (for operation at 200kHz typ.)
 - Cycle time:
 - 8.1μsec typ (for operation at 800kHz typ.)
 - 30.6μsec typ (for operation at 200kHz typ.)
 - Function:
 - Contains an interface to the LC8100 (speech synthesizer LSI).
- Possible to select the bit length of output data.
- 8-bit data
 - 4-bit data
 - Single-bit data
 - Low power dissipation: CMOS
 - Current dissipation:
 - 2mA max. (at operating mode)
 - 1μA max. (at nonoperating mode)
 - Single +5V power supply: +2.7 to 6.0V (supply voltage range)
 - Package: DIP 24

LC3101	c-mos LSI	CIRCUIT DRAWING No.4003
128K-BIT CMOS MASK ROM		 3014A 3025B

The LC3101 is a 128k-bit CMOS mask ROM that contains an interface connectable direct to the speech synthesizer LSI LC8100. With one piece of this mask ROM, approximately 100 seconds of speech synthesis can be attained. Since it also contains an interface connectable direct to an EPROM, speech synthesis can be attained by using this mask ROM and an EPROM jointly.

A selection of 8-bit, 4-bit, or single-bit output data is allowed by means of external control. This mask ROM is also suited for use in applications other than speech synthesis.

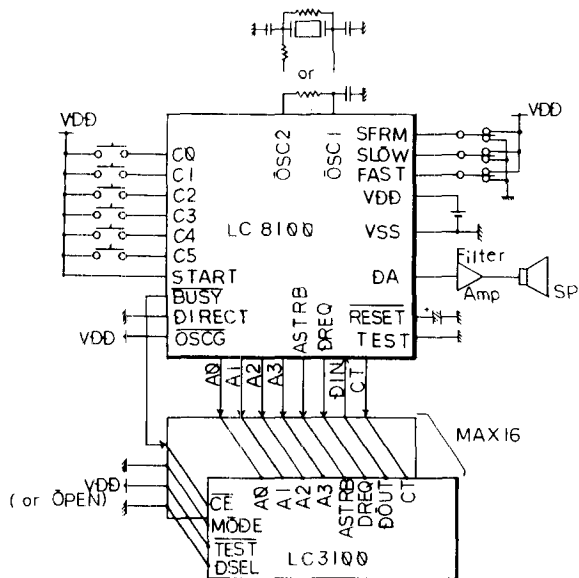
Features

- ROM capacity: 128K bits
- Access time: 25.6μsec typ (for operation at 200kHz typ.)
- Cycle time: 30.6μsec typ (for operation at 200kHz typ.)
- Function:
 - Contains an interface to an EPROM.
 - Contains an interface to the LC8100 (speech synthesizer LSI).
 - Possible to select the bit length of output data.
 - 8-bit data
 - 4-bit data
 - Single-bit data
- Low power dissipation: CMOS
- Current dissipation:
 - 2mA max. (at operating mode)
 - 1μA max. (at nonoperating mode)
- Single +5V power supply: +2.7 to 6.0V (supply voltage range)
- Package: DIP24

4001:LC3100

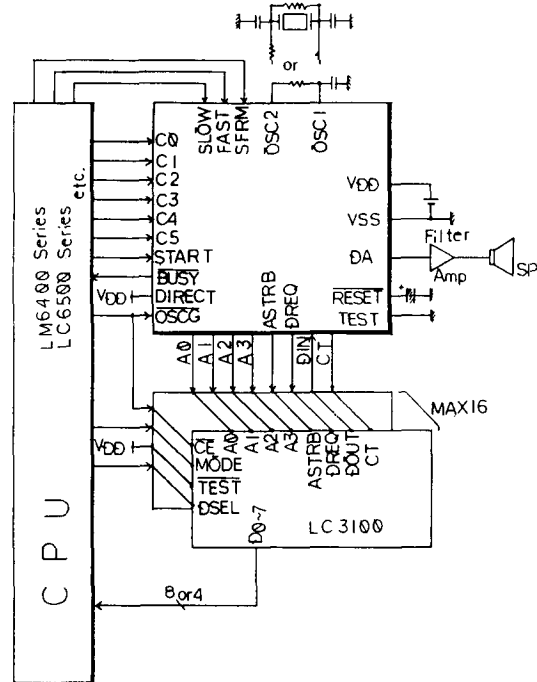
SAMPLE APPLICATION CIRCUIT (1)

One word to one key correspondence



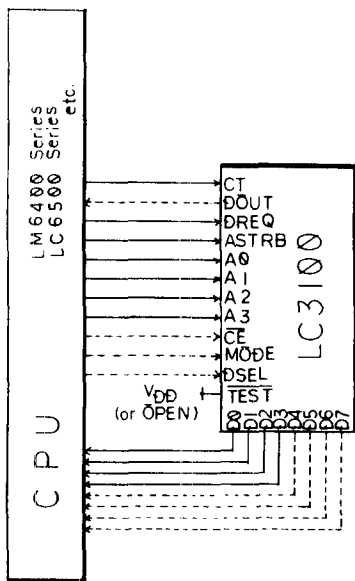
SAMPLE APPLICATION CIRCUIT (2)

CPU control: Edit and synthesis with CPU



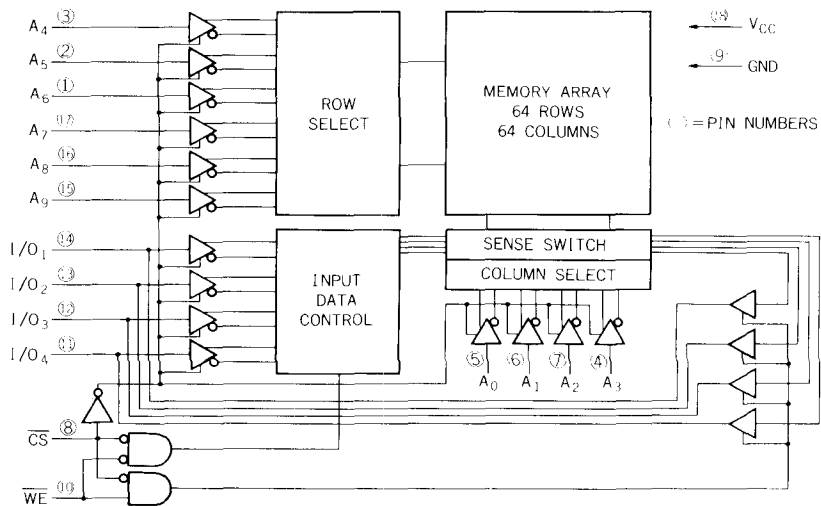
SAMPLE APPLICATION CIRCUIT (3)

CPU control:Application other than speech synthesis



Note) Connect signals shown with dotted lines as required.

4002:LC3514,3514D,E,L BLOCK DIAGRAM



Continued from preceding page.

● 8 BITS, SINGLE CHIP (N-MOS INTEGRATED CIRCUIT)

Type Number	Page	Case			Circuit Drawing No.	Applications	ROM (Bytes)	RAM (Bits)	Stacks	Cycle Time (μ s)	IDD (mA)	Port		Remarks
		Package	Pins	Package No.								Max. Voltage (V)	Max. Current (mA)	
*LM8852	89	DIP	64S	—	—	—	2K	128×8	16	1	60	15	20	
*LM8802	89	DIP	42S	3025B	—	—	2K	128×8	16	1	60	15	20	

SPEECH SYNTHESIS APPLICATIONS (monolithic integrated circuit)

Type Number	Page	Case			Circuit Drawing No.	Circuit Functions & Applications	Main Specifications
		Package	Pins	Package No.			
LC8100	243	DIP	28	3012A	4111	PARCOR System-Applied 1-Chip Speech Synthesizer	Male & female voices, speech duration approx. 20sec. automatic power-on/down function
LC3100	203	DIP	24	3011A	4001	128K-Bit CMOS Mask ROM Externally Connected to LC8100	Contains interface to LC8100, approx. 100sec of speech synthesis with 1 pc. of this ROM
LC3101	203	[DIP DIP	42 42S	[3014A 3025B]	4003	128K-Bit CMOS Mask ROM Externally Connected to LC8100	Contains interface to LC8100 and E-PROM interface, speech duration approx. 100 sec.
⊙LA6805M	148	MFP	14	3034A	2116	Audio Amp for Speech Synthesis	MFP version of LA6805

MEMORIES (monolithic integrated circuit)

Type Number	Page	Case			Circuit Drawing No.	Circuit Functions & Applications	Main Specifications
		Package	Pins	Package No.			
LC3100	203	DIP	24	3011A	4001	128K Mask ROM	ROM dedicated to speech synthesis (See description of speech synthesis LSI.)
LC3101	203	[DIP DIP	42 42S	[3014A 3025B]	4003	128K Mask ROM	ROM dedicated to speech synthesis (See description of speech synthesis LSI.)
LC3514	204	DIP	18	3007A		C-MOS 4K Static RAM (1K×4bits)	High speed, pin compatible with 2114(Nch)
LC3514D	204	DIP	18	3007A	4002	C-MOS 4K Static RAM (1K×4bits)	Wide operating voltage range, low standby current, pin compatible with 2114
LC3514E	204	DIP	18	3007A	4002	C-MOS 4K Static RAM (1K×4bits)	Wide operating voltage range, pin compatible with 2114
LC3514L	204	DIP	18	3007A		C-MOS 4K Static RAM (1K×4bits)	High speed, low standby current, pin compatible with 2114
⊙LC3516	205	DIP	24	3011A	4004	C-MOS 16K Static RAM (2K×8bits)	High speed, low standby current, pin compatible with 2716 (EPROM)

Continued from preceding page.

● 8 BITS, SINGLE CHIP (N-MOS INTEGRATED CIRCUIT)

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LC3514	204	DIP	18	3007A		C-MOS 4K Static RAM (1K×4bits)	High speed, pin compatible with 2114(Nch)
LC3514D	204	DIP	18	3007A	4002	C-MOS 4K Static RAM (1K×4bits)	Wide operating voltage range, low standby current, pin compatible with 2114
LC3514E	204	DIP	18	3007A	4002	C-MOS 4K Static RAM (1K×4bits)	Wide operating voltage range, pin compatible with 2114
LC3514L	204	DIP	18	3007A		C-MOS 4K Static RAM (1K×4bits)	High speed, low standby current, pin compatible with 2114
⊙LC3516	205	DIP	24	3011A	4004	C-MOS 16K Static RAM (2K×8bits)	High speed, low standby current, pin compatible with 2716 (EPROM)