SPEECH SYNTHESIZER

μPD7752

NEC

A. Zoicas 1/14

NEC Electronics (Europe) GmbH

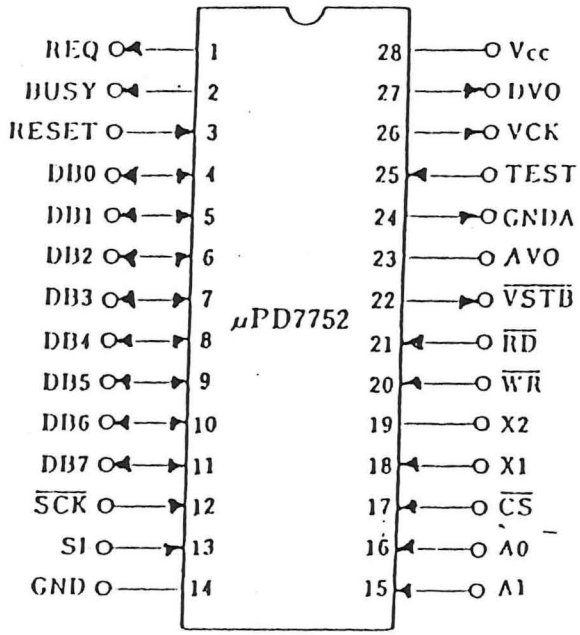
SPEECH SYNTHESIZER
(μPD7752)

FEATURES

- FORMANT TYPE SPEECH SYNTHESIZER
- VARIABLE BIT RATES 1.2 K - 5.6 K BPS
- PROGRAMMABLE SPEECH SPEED SLOW / NORMAL / FAST
- PROGRAMMABLE FRAME PERIOD 10 MS / 20 MS
- INTERNAL DATA ROM 32 K BITS (MAX 27 S)
- MAX 63 SENTENCES (WORDS)
- FULLY BUS COMPATIBLE WITH μPD8080
- SERIAL INTERFACE COMPATIBLE WITH μCOM87, μPD75XX
- 9 BITS DA CONVERTER ON CHIP
- 7 x 8 BITS INPUT BUFFER FOR EXTERNAL DATA MEMORY
- CLOCK GENERATOR ON CHIP (3.579545MHz)
- C-MOS SILICON GATE TECHNOLOGY
- SINGLE +5V POWER SUPPLY
- 28 PIN DUAL IN-LINE PACKAGE

PIN CONFIGURATION

(TOP VIEW)



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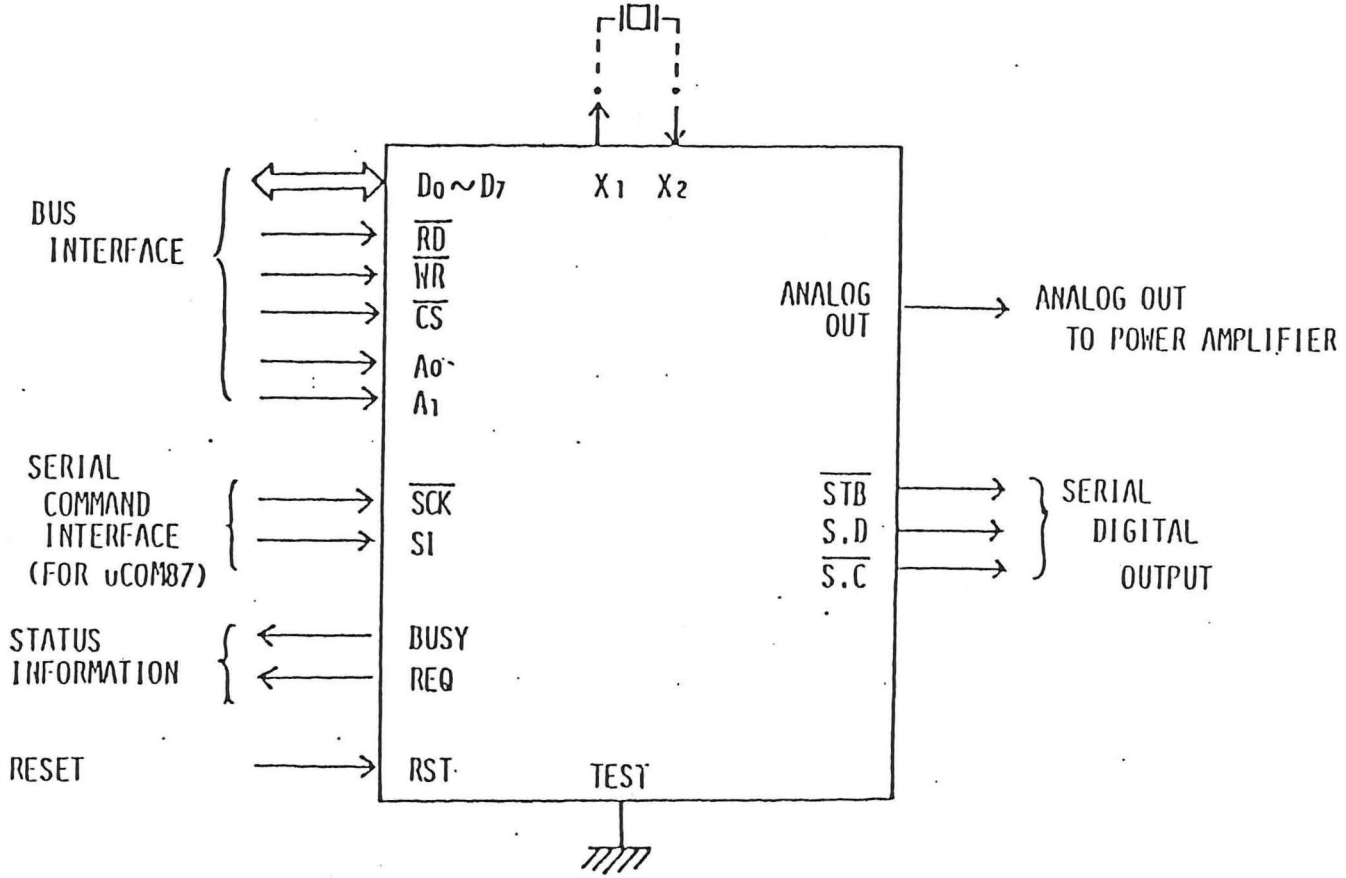

PIN FUNCTION

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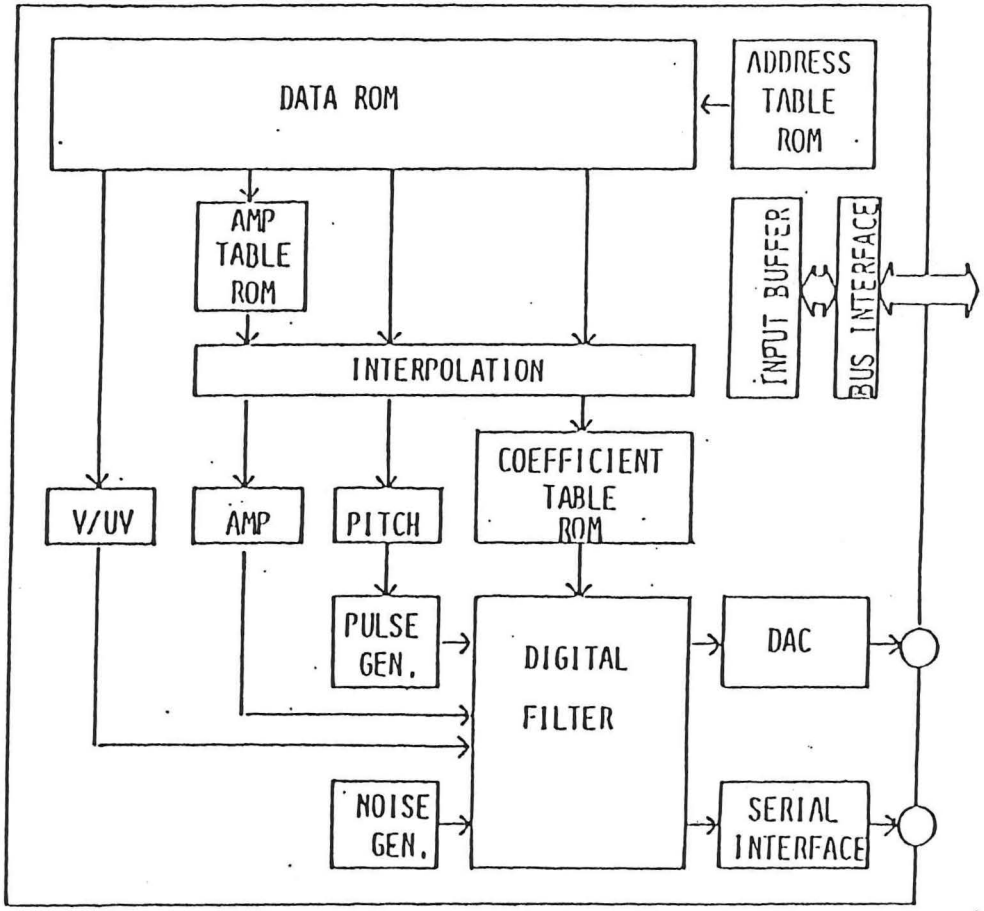
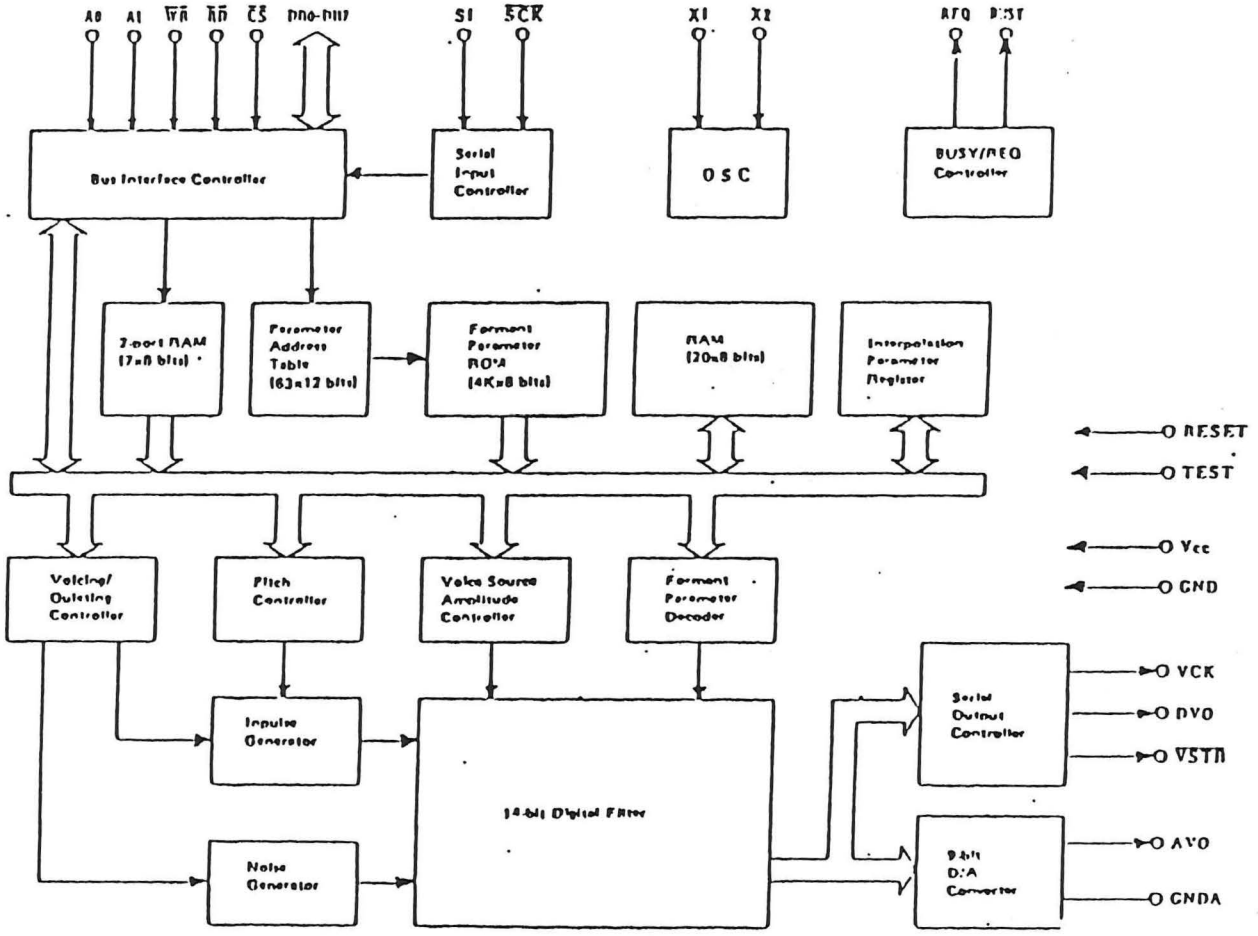
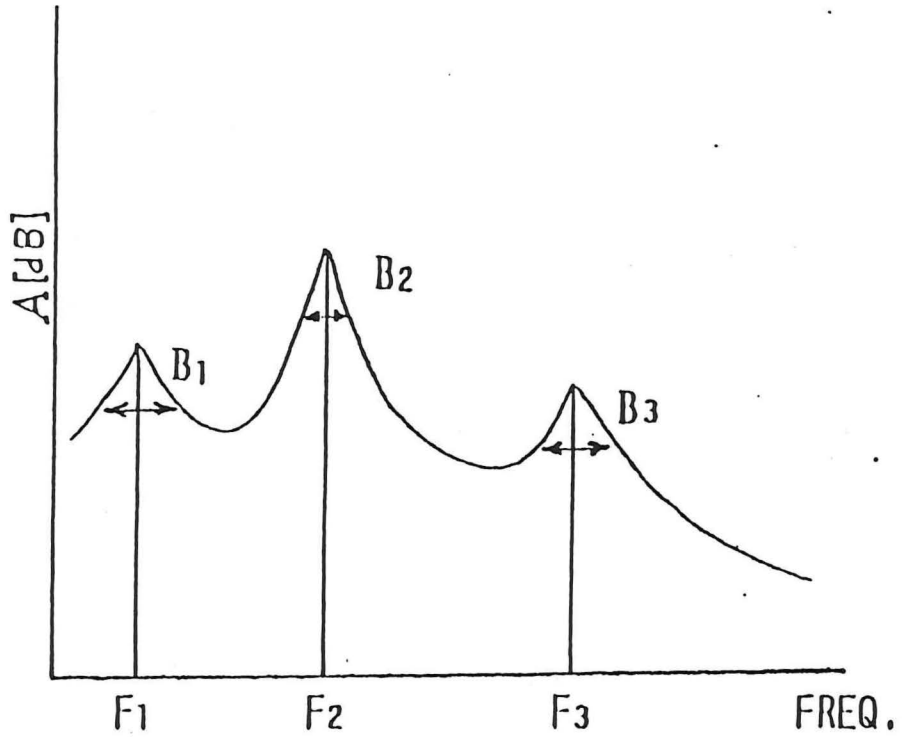
BLOCK DIAGRAM

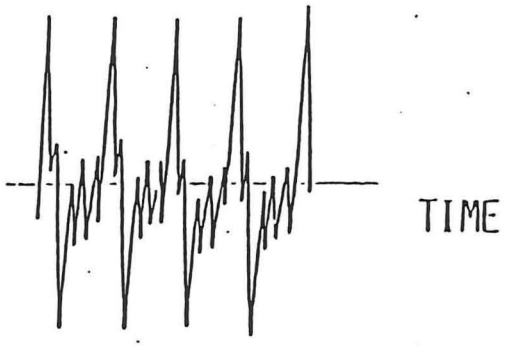


BLOCK DIAGRAM





FREQUENCY RESPONSE OF VOCAL TRACT



ACOUSTIC WAVEFORM

F_i: FORMANT FREQ.

B_i: BAND WIDTH

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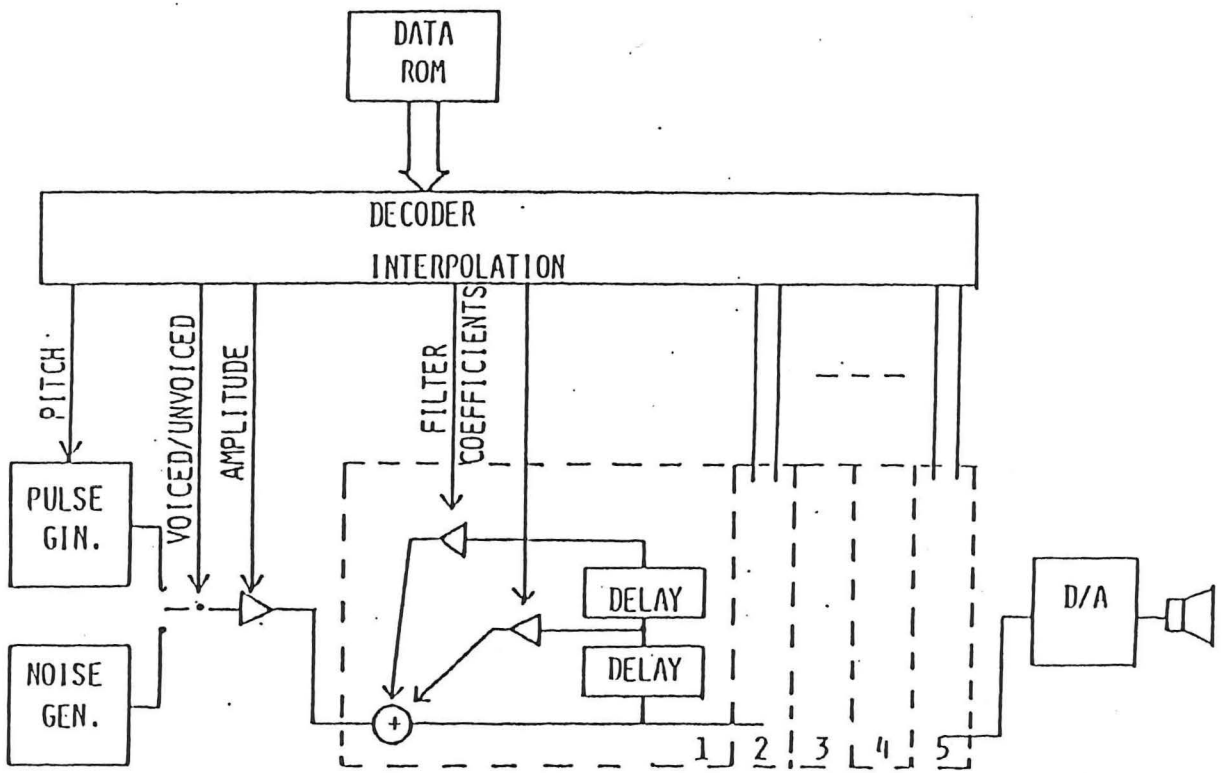

FUNDAMENTAL FORMANT TYPE SPEECH SYNTHESIS ALGORITHM

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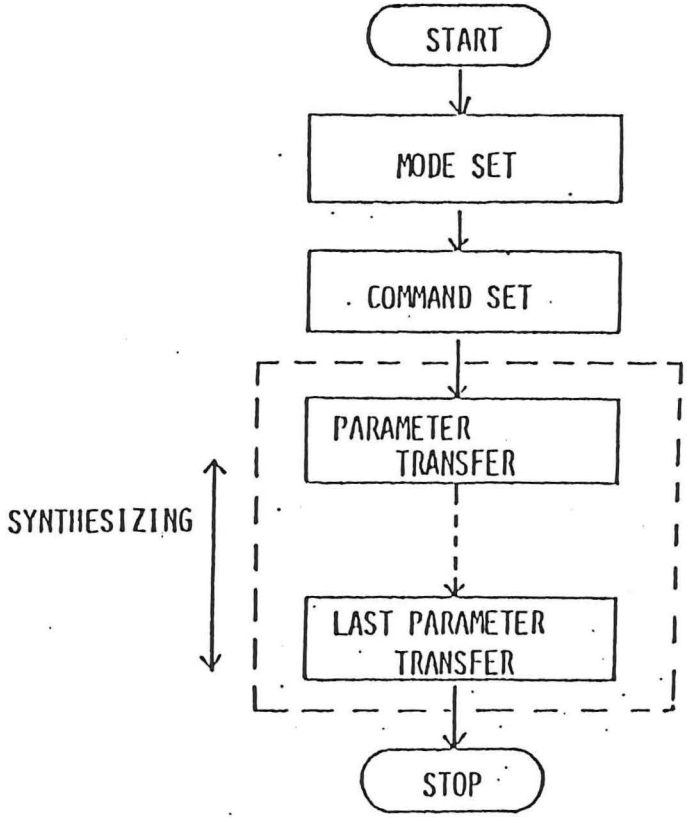

THIS CHIP WILL AUTOMATICALLY ISSUE THIS SEQUENCE WHEN INTERNAL DATA ROM IS SELECTED.

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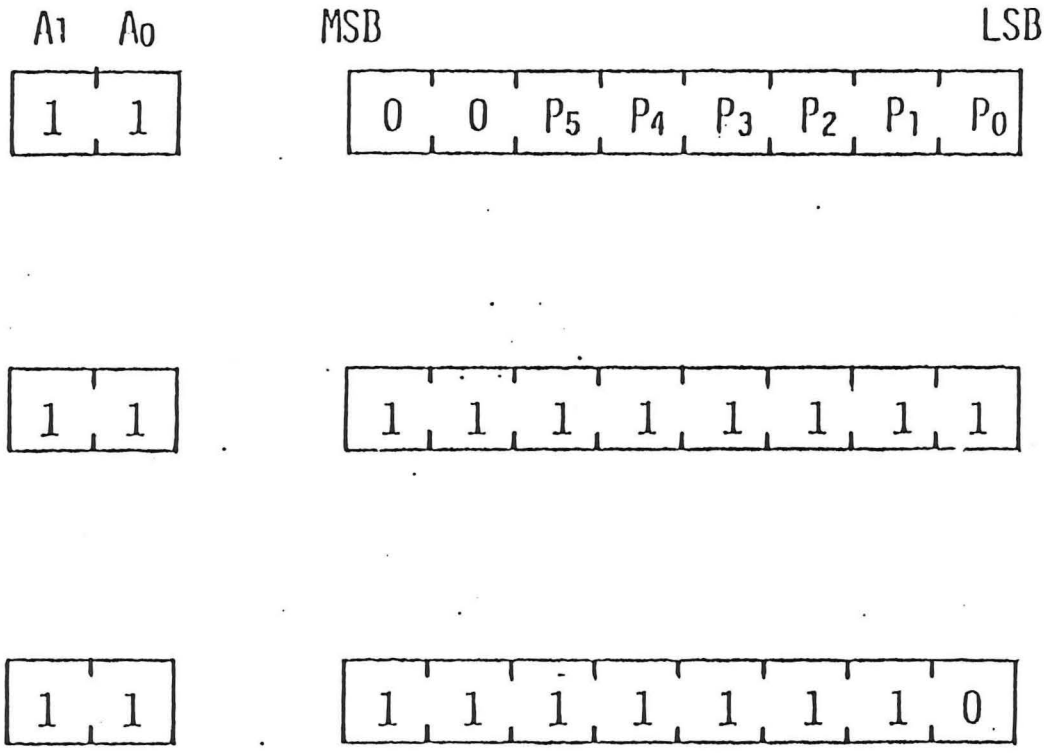

COMMAND FORMAT

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A_1	A_0
1	0

MSB							LSB
0	0	0	0	0	F	S_1	S_0

F : FRAME RATE BIT

F = 0 20 ms / FRAME

F = 1 10 ms / FRAME

S_1, S_0 : SPEED BIT

S_1 = 0 , S_0 = 0 NORMAL SPEED

S_1 = 0 , S_0 = 1 SLOW

S_1 = 1 , S_0 = 0 FAST

MODE FORMAT

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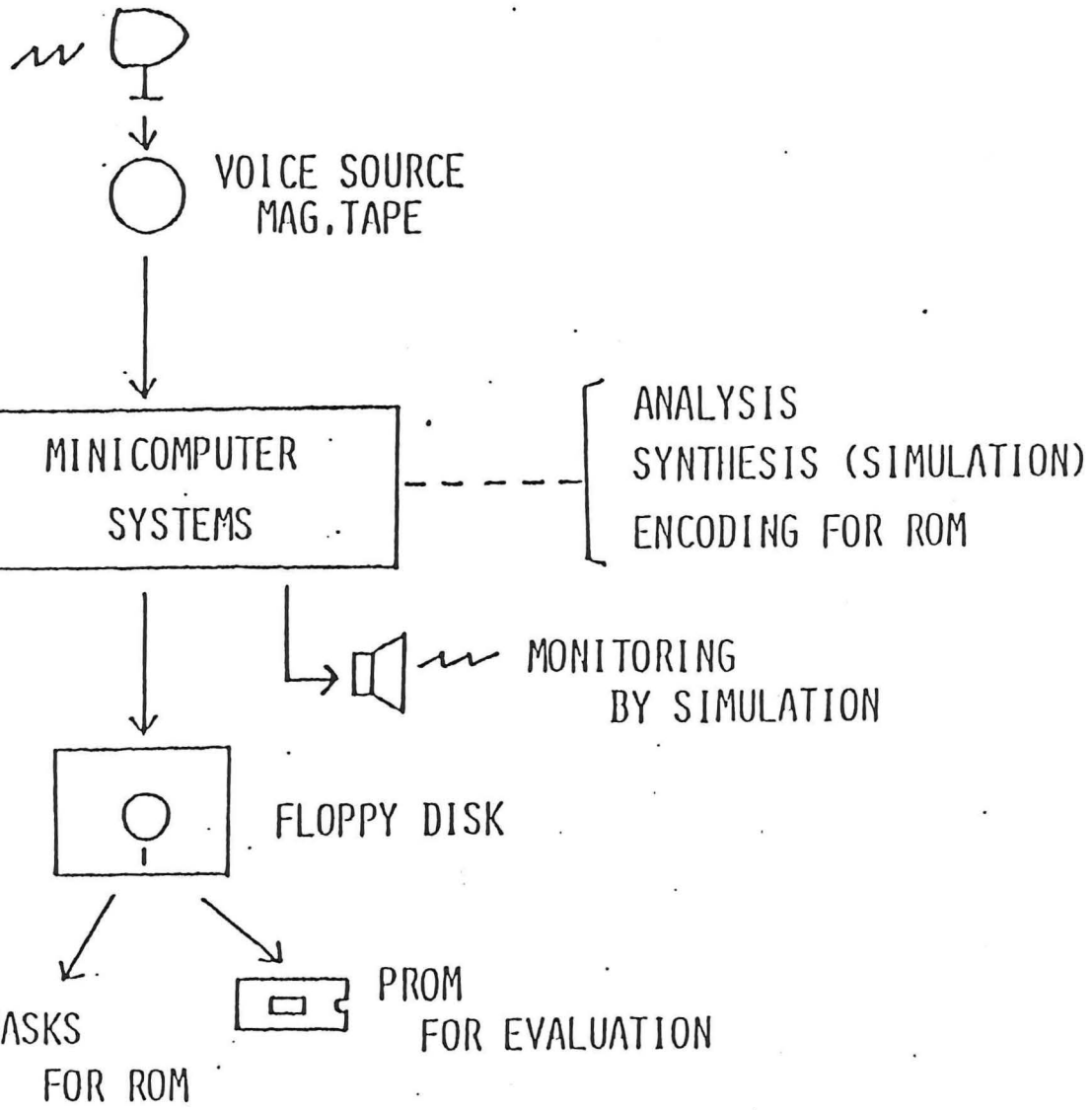

COMPUTER ANALYSIS SYSTEMS

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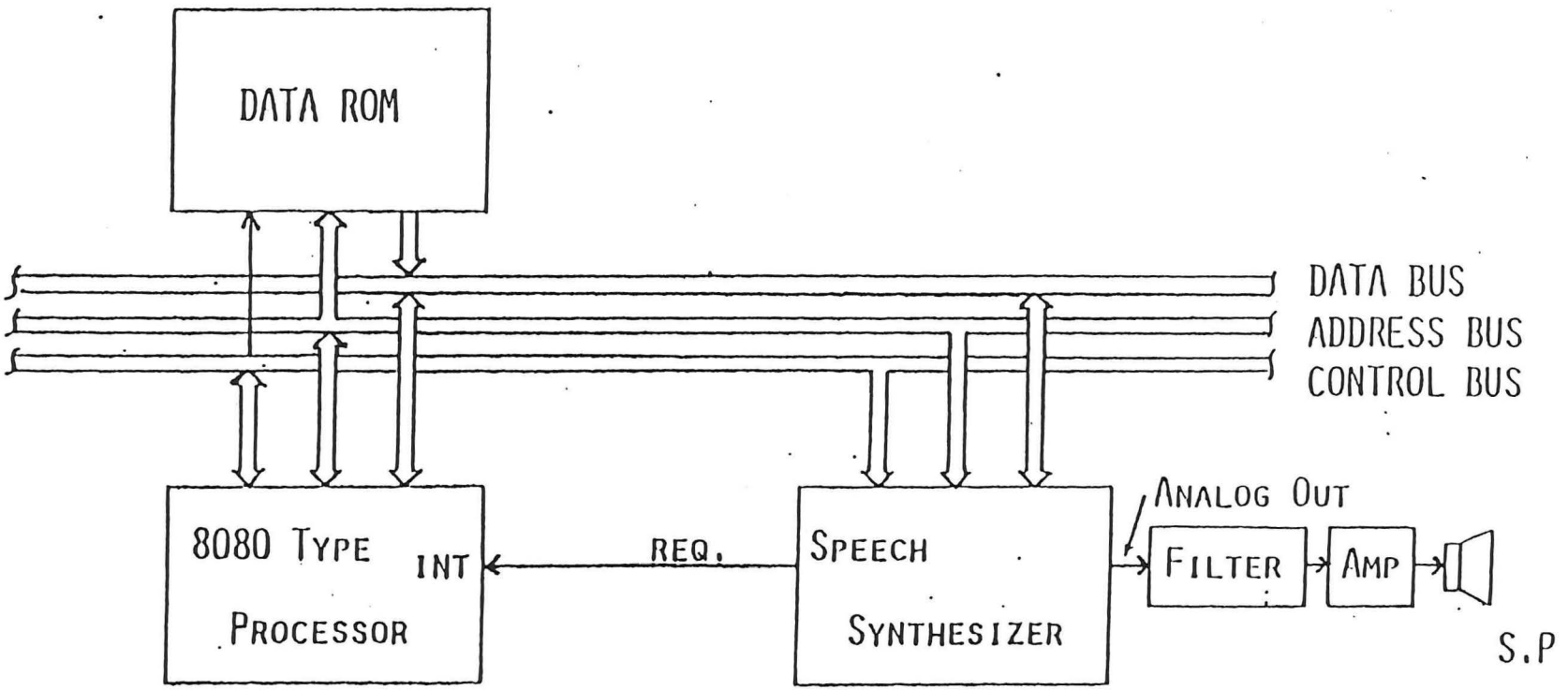

(Ex. 8080,8085,8086
8048,80C48,D7801,ETC.)

SYSTEM EXANPLE 1.

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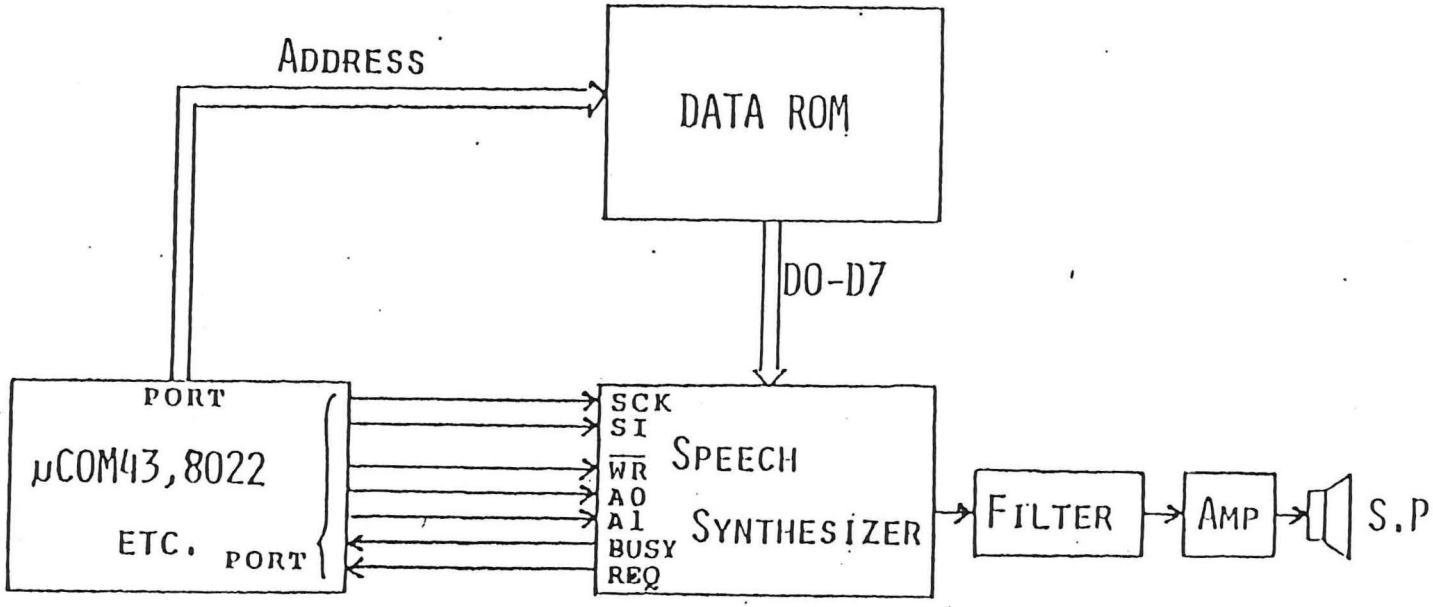

SYSTEM EXAMPLE 3.

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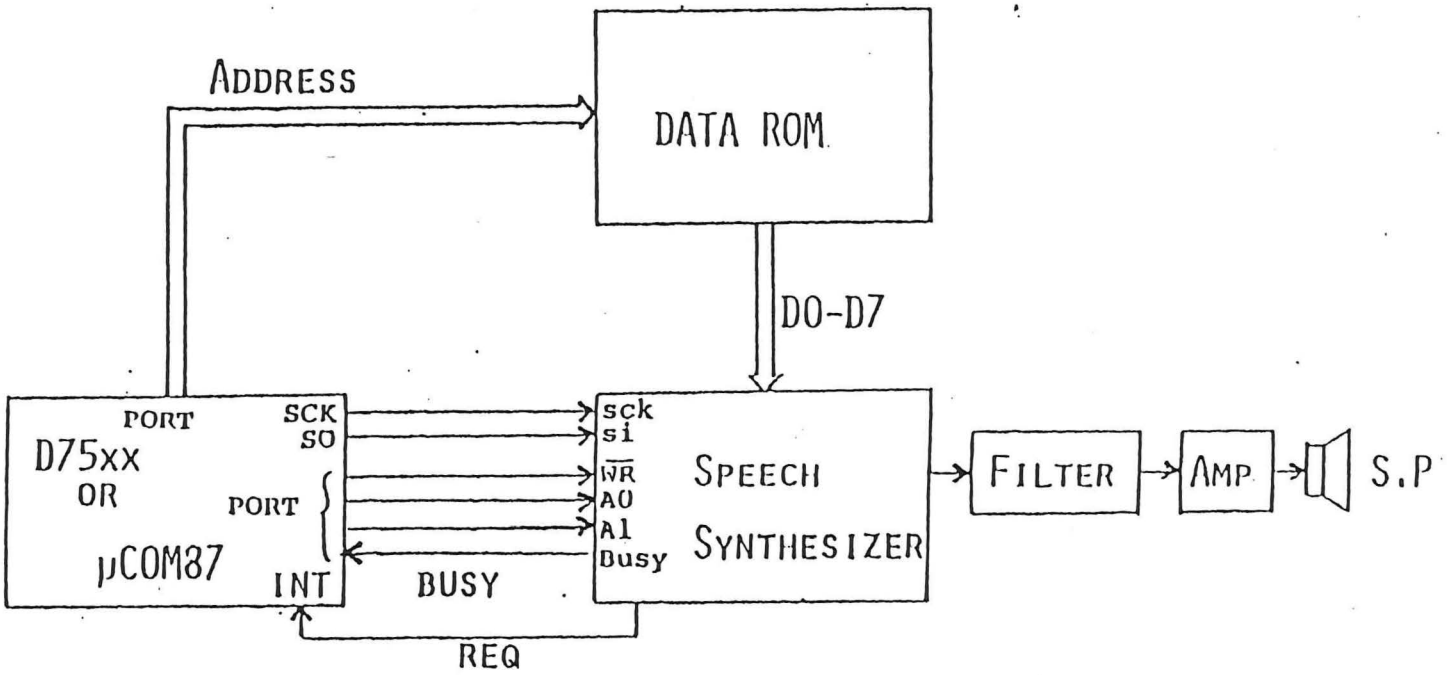

SYSTEM EXAMPLE 2.

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