

AR203

Voice Analysis and Editing Tool

GENERAL DESCRIPTION

This voice analysis and editing tool is used to translate voice into PCM or ADPCM code to create a ROM for Oki's voice IC.

FEATURES

The voice analysis and editing tool is composed of a voice analysis and editing board, "AR203", with a dedicated ROM writer, and editing software, "VOICEPRO". When the board is used, it is to be inserted into a drive slot of IBM/AT.

The editing software enables analysis and editing by mouse operation as you watch displayed voice waveforms. Thus, even the beginner can readily use highly advanced technique to analyze and edit voice.

VOICE SYNTHESIS ICs

MSM6375 family (MSM6372, MSM6373, MSM6374, MSM6375, MSM6376, MSM63P74)

MSM6295

MSM6258

MSM5205

MSM6585

MSM6378A, MSM6379

MSM6388, MSM6588, MSM6688 (MSM6595A, MSM6596A, MSM6597A)

MSM6650 family (MSM6650, MSM6652A, MSM6653A, MSM6654A, MSM6655A, MSM6656A, MSM6658A, MSM66P54, MSM66P56)

MSM9802, MSM9803, MSM9805, MSM98P05*

MSM9810*

MSM9836

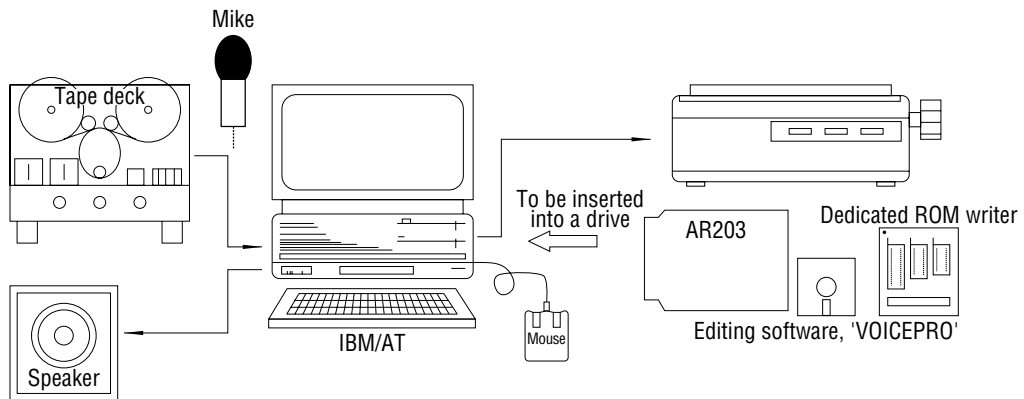
MSM9888*

MSM9831*

Note: The * mark indicates a device ready for supporting.

COMPONENTS OF VOICE ANALYSIS SYSTEM

Host computer	:	IBM/AT, or DOS/V
Color display	:	640 × 400 dots
Printer	:	Printer for IBM/AT
Mouse	:	Mouse for IBM/AT
Tape deck	:	To attain high-quality sound, it is recommended that an open reel tape deck or DAT be used.
Speaker	:	8 Ω and input of 2 or more watts
Voice analysis and editing tool:	:	Voice analysis and editing board, AR203 (including a ROM writer), and editing software, VOICEPRO
* Option	:	P54/P56 SOP adapter (for SOP). Required when writing to the MSM66P54/MSM66P56 with the attached ROM writer. P05 adapter (for SOP*). *: under development Required when writing to the MSM98P05 with the attached ROM writer. The other devices incorporating OTP (MSM6378A, MSM6379, and MSM63P74) can be loaded without the adapter.



DISPLAY SCREEN

"VOICEPRO" displays waveforms of voice to be played back and edited. The waveform display screens are composed roughly of an editing screen and a monitor screen. Each screen is provided with an overall screen for displaying a whole recorded waveform, and with a time scale for displaying the time since the start of recording a waveform. The amplitude and temporal axis can be changed at your disposal.

COMMANDS

Record

Converts original sound into PCM and stores the resulting sound into the memory. The sampling frequency can be selected in the range of 4 kHz to 48 kHz in the 0.1 kHz step. The maximum recording time depends on the main memory or EMS allocation, being expressed coarsely by:

Maximum recording time (seconds) = size of allocation (bytes) / 9/4 × fs (Hz)

Play

Tests and evaluates PCM or ADPCM sound.

Processing

- Amplitude control : Expands or reduces a voice level.
- Silent : Makes unnecessary part of voice and noise silent.
- Insert silence : Inserts silence between units of voice.
- Store a part of data : Specifies the range of voice data for paste onto another location, and stores it into the buffer memory.
- Cut : Cuts unnecessary part of voice or the interval between units of voice. The cut contents are stored into the buffer memory. Using this function along with the "Paste" function enables waveforms to be moved.
- Paste : Copies the contents of the buffer memory stored by "Store a part of data" and "Cut" to the specified position.
- Fade : Smooths abrupt changes in voice data.
- Mixing : Adds contents of the buffer memory to voice data at the specified position.

- Pitch change : Changes a voice pitch to implement effects similar to rapid and slow tape feeds.
- Insert sine wave : Inserts a sine wave of an arbitrary frequency, size and length into any position of voice data.

Save

Writes edited voice data to a disk.

Load

Reads voice data to be edited from a disk.

Combination Play

Combines two or more pieces of voice data to compare and evaluate voice continuation.

Melody Creation

Creates melody data based on input through staff notation. This function corresponds to the melody function supported by the MSM6650 family.

Up to triple chords can be created.

ROM File Creation

Converts an edited voice data file into the Intel HEX format and write the data to a disk.

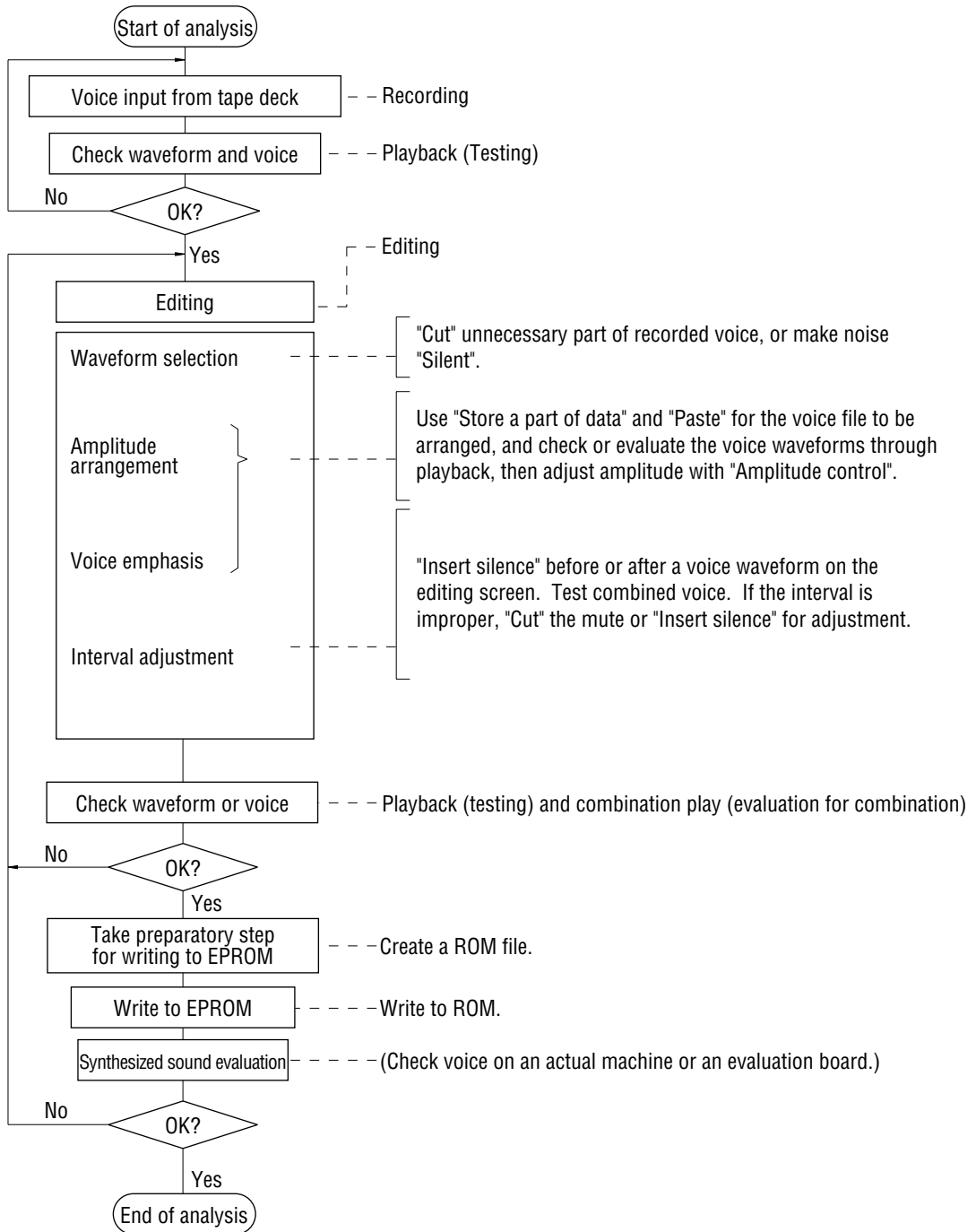
ROM Loading

Writes the voice data that has been converted into the Intel HEX format to PROM, MSM6378A, MSM6379, MSM63P74, MSM66P54, MSM66P56, or MSM98P05 with the attached ROM writer. The programmable PROM range from 64kbits to 4Mbits.

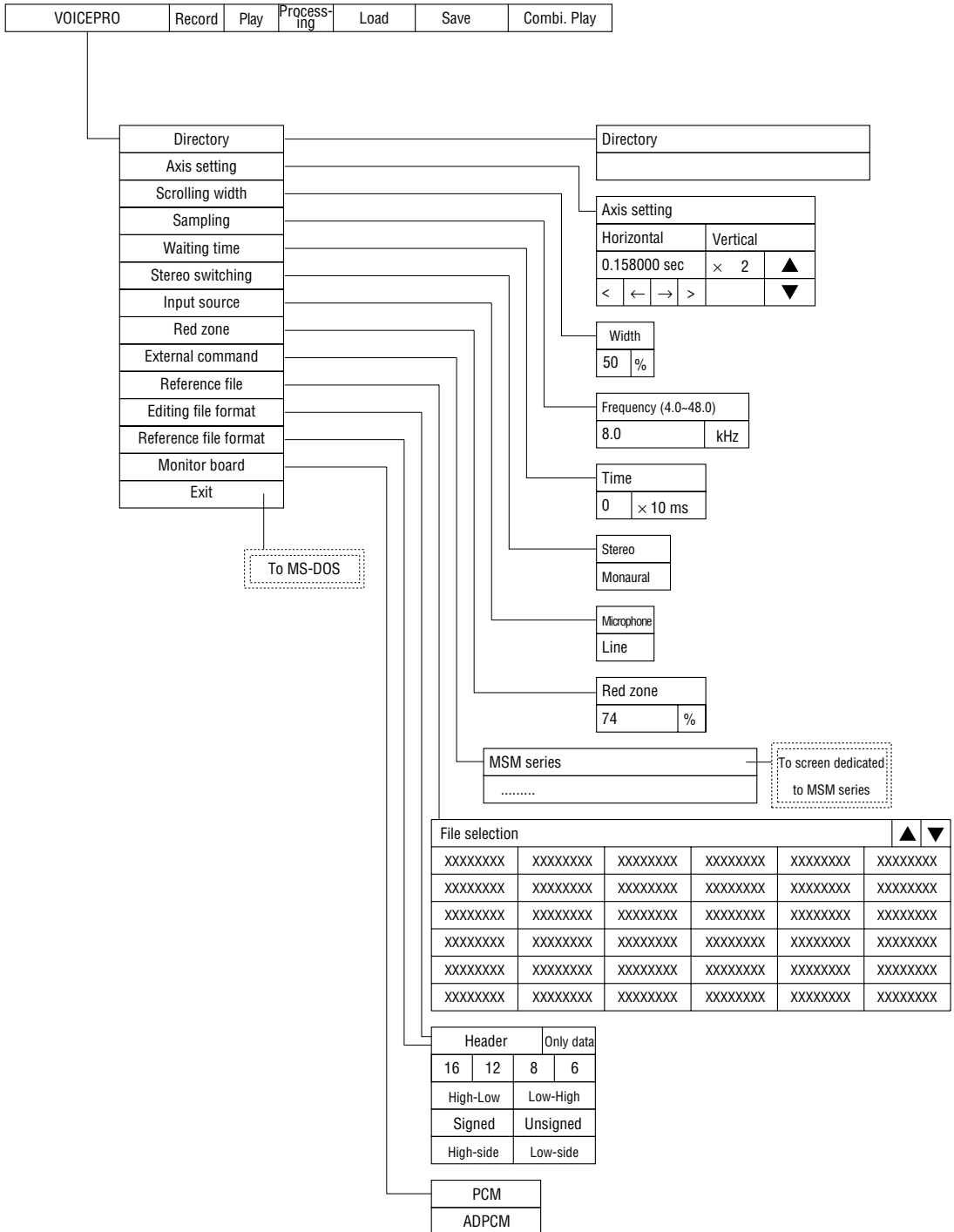
Typical flow of operation by VOICEPRO

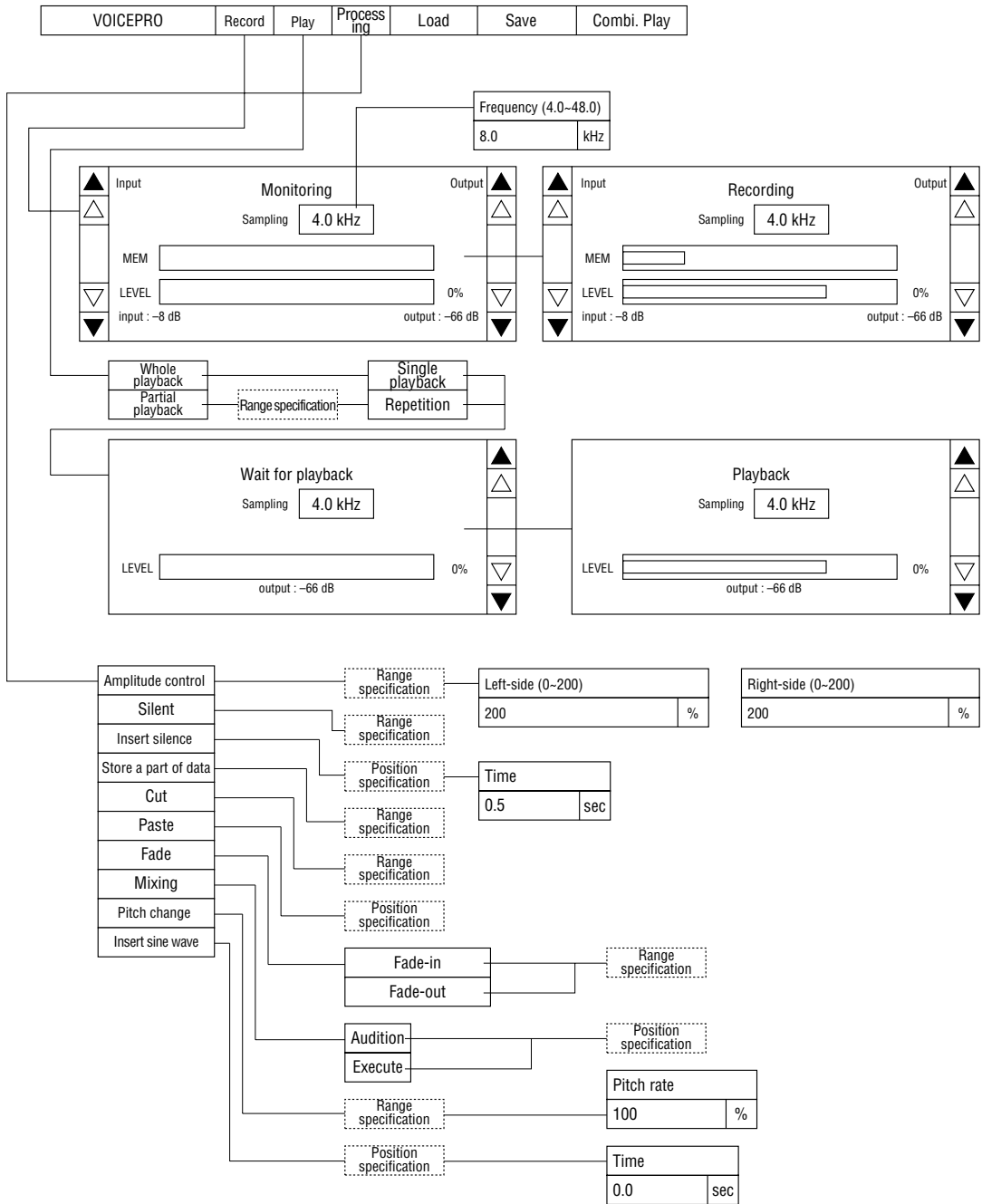
(Flow of operation)

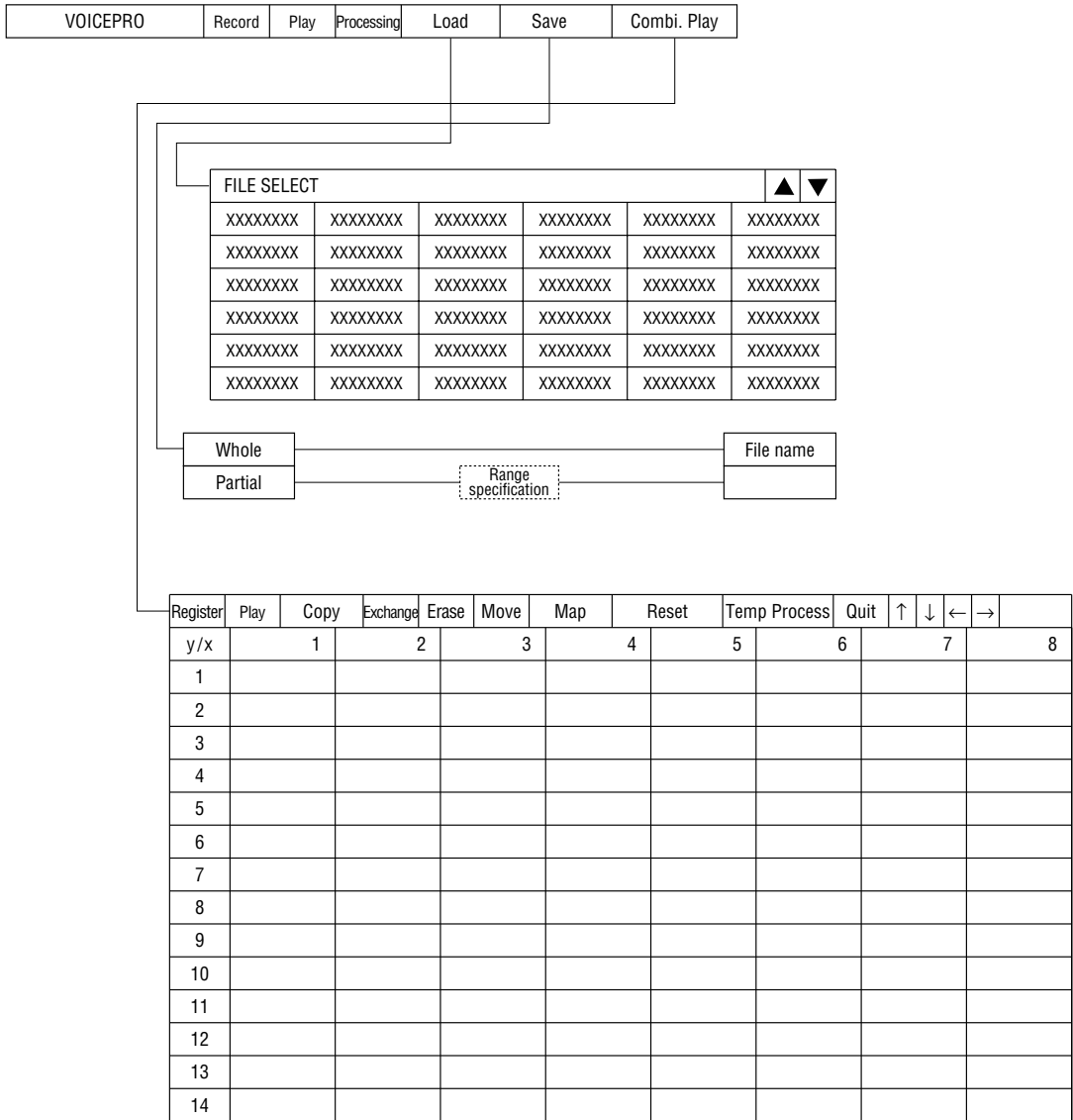
(Commands used)



VOICEPRO menu configuration







Screen dedicated to MSM series

Development support tool for voice synthesis ICs				
Setting	Melody	ROM file	ROM writer	Exit

IC setting
File setting
Directory

Select MSM series			
6376	6372	6373	6374
6375	5205	6295	6258
6378A	63P74	6388	6588
6585	6656	6655	6654
6653	6652	6650	6379

For 6388 and 6588

6595	6596	6597
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For 6375 series

Three or four bits can be selected.

Org Frq	f/16	f/10	f/8	Org Frq	f/16	f/10	f/8
32.0	.....	.....	4.0	102.4	6.4	.....	12.8
40.0	.....	4.0	(5.0)	106.0	.....	10.6	.....
42.4	.....	.....	5.3	128.0	8.0	12.8	16.0
51.2	.....	.....	6.4	160.0	(10.0)	16.0	(20.0)
53.0	.....	5.3	.....	169.6	10.6	.....	21.2
64.0	4.0	6.4	8.0	204.8	12.8	25.6
80.0	(5.0)	8.0	(10.0)	212.0	21.2	(26.5)
84.8	5.3	10.6	256.0	16.0	25.6	32.0

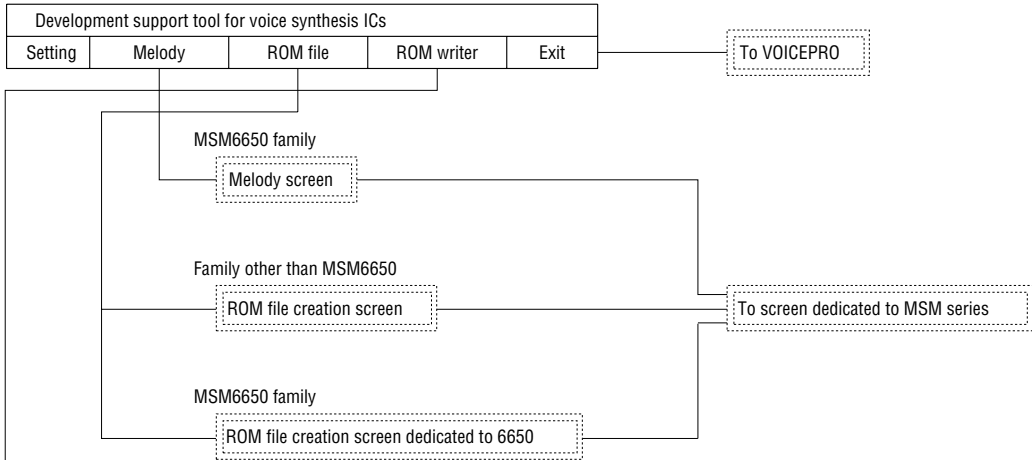
3 bits	4 bits
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Binary file	Not create
Maximum synthesis size	Create

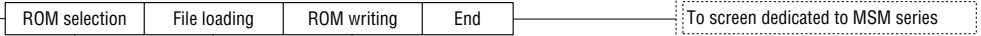
Dependent on IC
Expand to 16Mbits

HEX file directory

Screen dedicated to MSM series

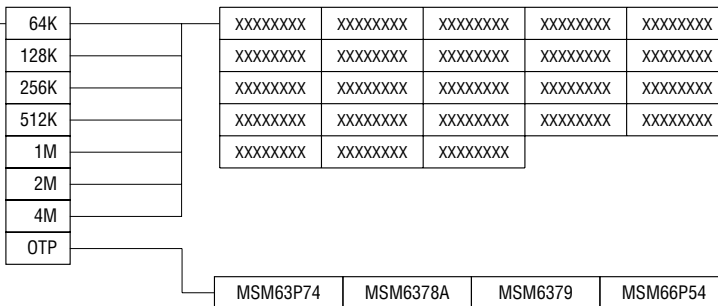


Screen dedicated to ROM writer



File selection						▲	▼
XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX		
XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX		
XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX		
XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX		
XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX		
XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX		

Erasure check
Write
Verify
Automatic writing
ROM loading



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