

AR203

Voice Analysis and Editing Tool

GENERAL DESCRIPTION

This voice analysis and editing tool is used to translate voice into ADPCM/ADPCM2/SBC codes 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*

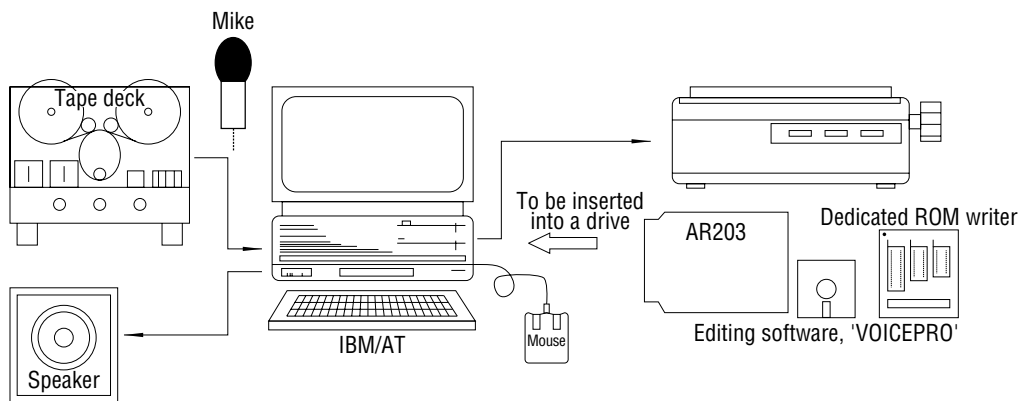
MSM9810

MSM9836

MSM9888

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 adapter. Required when writing to the MSM66P54/MSM66P54 with the attached ROM writer. P05 adapter. 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 x 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.

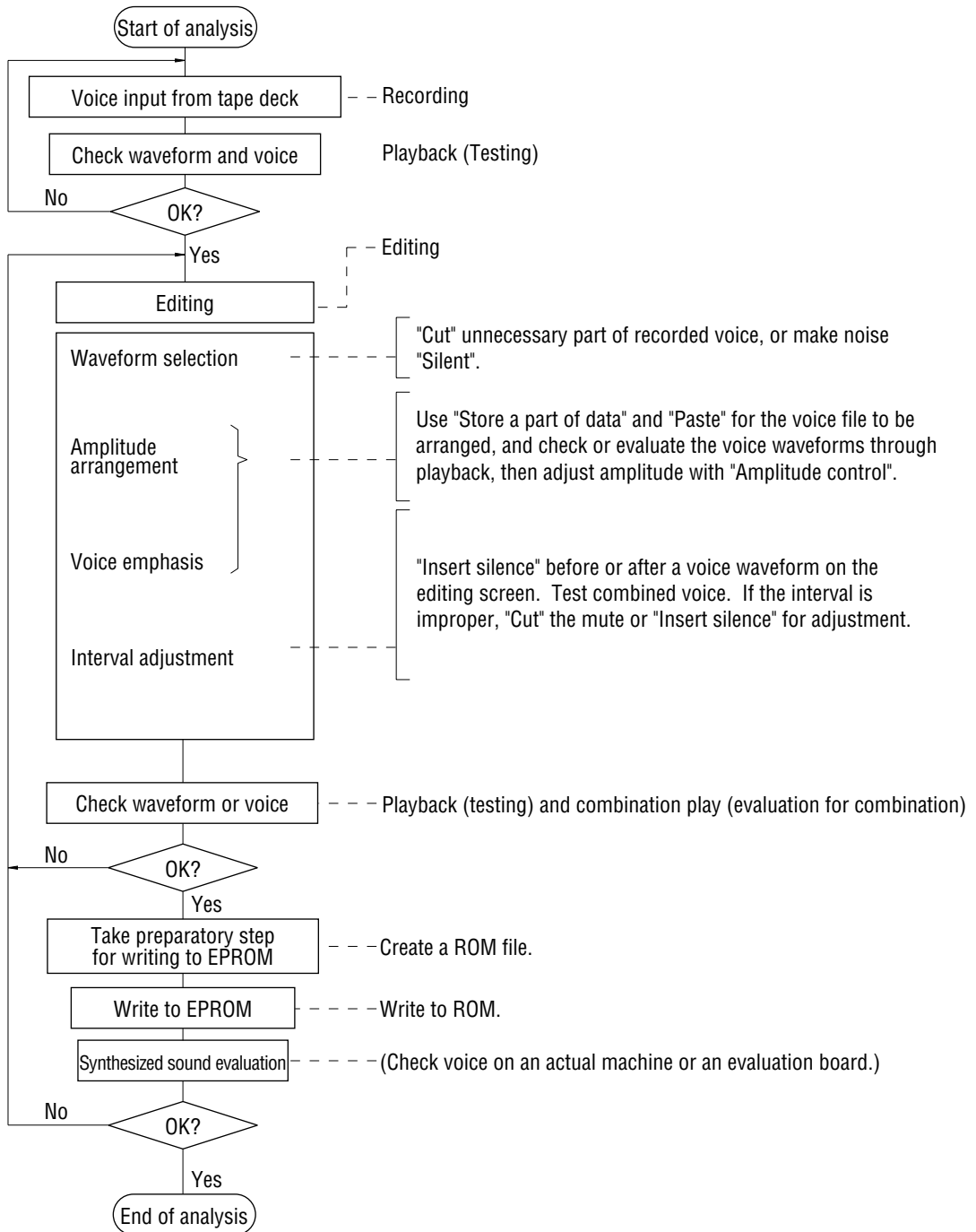
ROM Loading

Writes the voice data that has been converted into the Intel HEX format to PROM, MSM6378A, MSM6379, MSM63P74, MSM66P54, MSM66P56, or MSM98P05 the attached ROM writer.

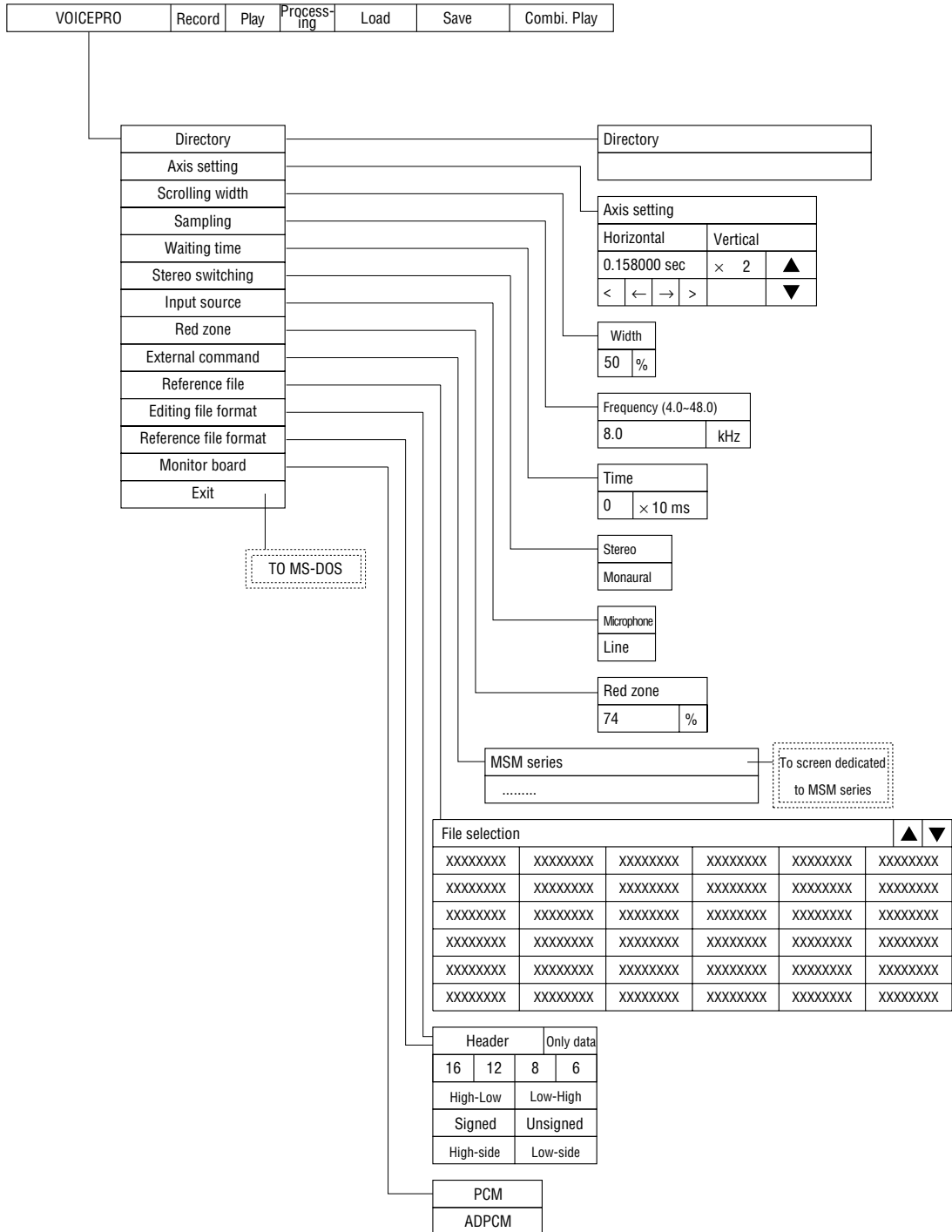
Typical flow of operation by VOICEPRO

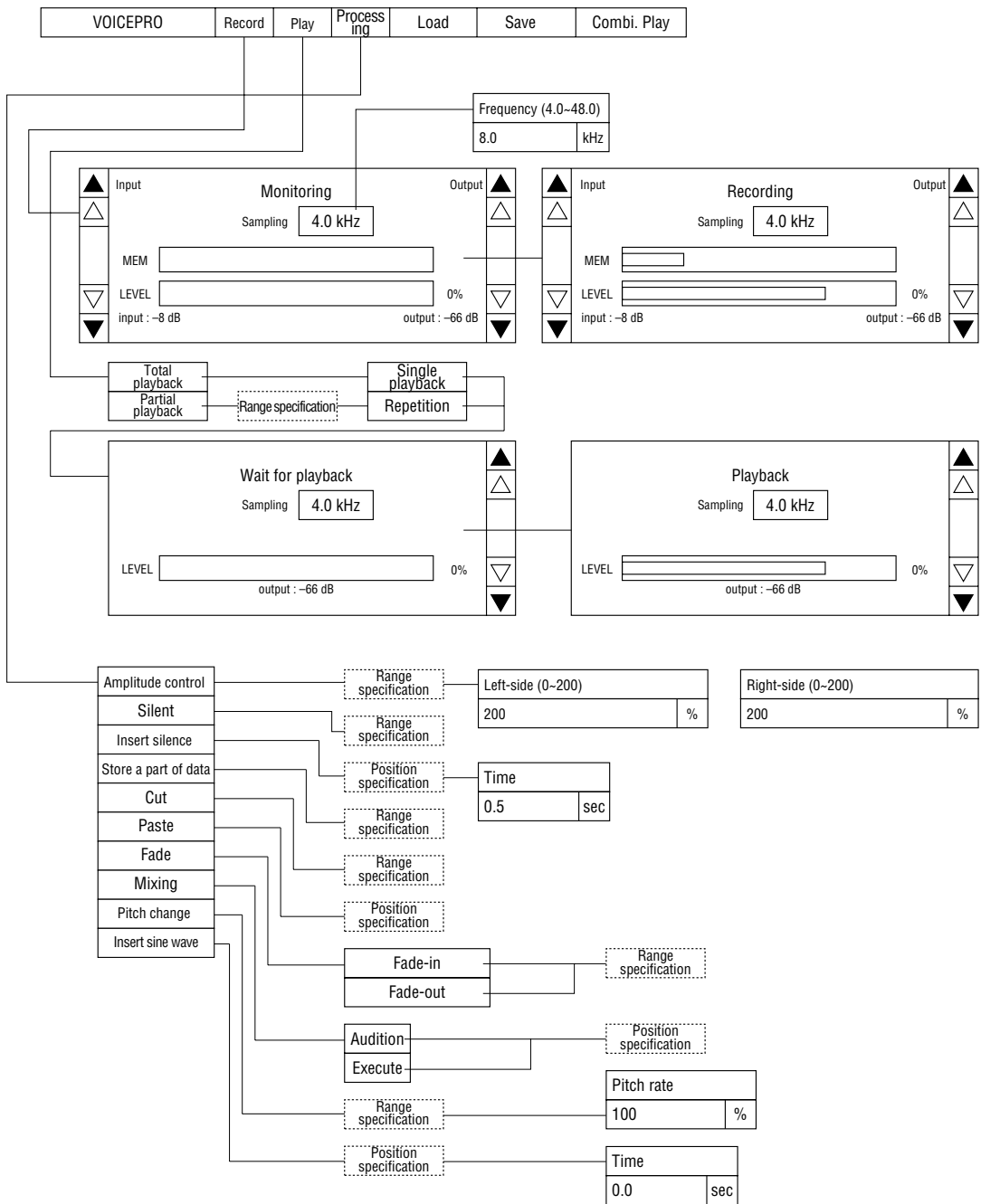
(Flow of operation)

(Commands used)

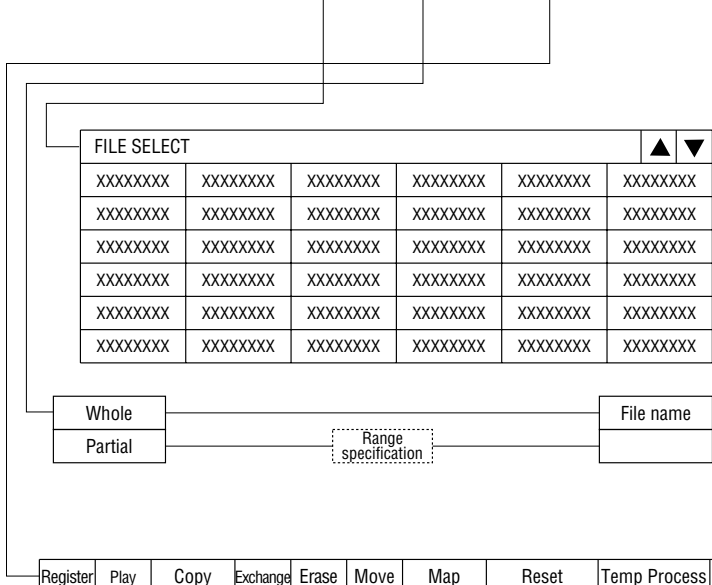


VOICEPRO menu configuration





| | | | | | | |
|----------|--------|------|------------|------|------|-------------|
| VOICEPRO | Record | Play | Processing | Load | Save | Combi. Play |
|----------|--------|------|------------|------|------|-------------|



| Register | Play | Copy | Exchange | Erase | Move | Map | Reset | Temp Process | Quit | ↑ | ↓ | ← | → |
|----------|------|------|----------|-------|------|-----|-------|--------------|------|---|---|---|---|
| y/x | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | | |
| 1 | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | |

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 |
|------|------|------|

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 |

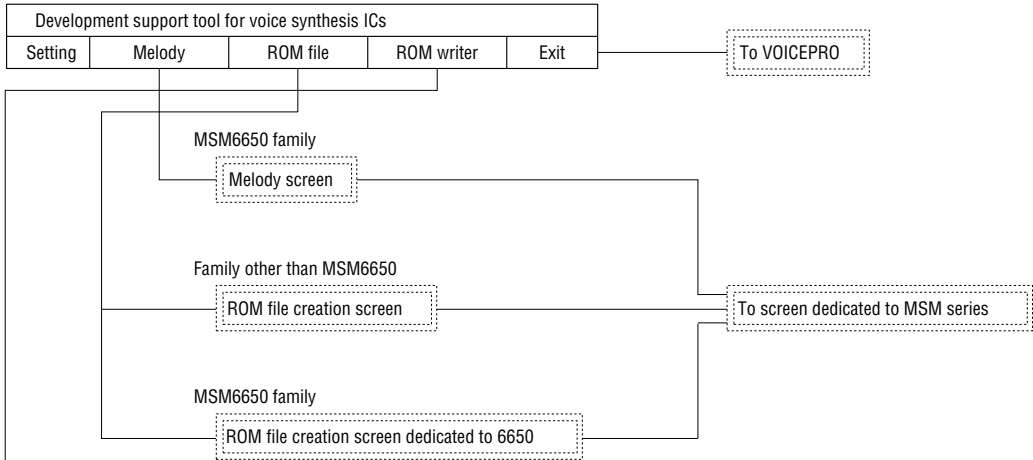
| | |
|--------|--------|
| 3 bits | 4 bits |
|--------|--------|

| | |
|------------------------|------------|
| Binary file | Not create |
| Maximum synthesis size | Create |

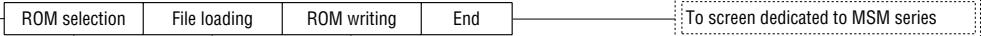
| |
|-------------------|
| Dependent on IC |
| Expand to 16Mbits |

| |
|--------------------|
| 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 |

