DIGI-VOICE
AUDIO PROCESSING
SYSTEM
CREATED BY THOMAS SKWARA

USER MANUAL
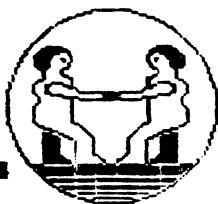
Gemini
Software

```
\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
\                                                \
\            Digi-Voice                          \
\                                                \
\       Audio Processing System                  \
\                                                \
\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
```

Created by

Thomas   Skwara

Special thanks to Dr. Leslie B. Lewis

Atari Computer, 24K RAM minimum

Disk Drive

Audio Cord (Included)

Audio Source (i.e. Tape Recorder, etc.)

INTRODUCTION

Digi-Voice provides your computer with a new capability of processing audio signals, such as human voice. This expansion of your computer's power opens the door for new uses of your computer. The Digi-Voice Audio Processing System allows you to "electronically" analyze music, voice, or any other audio signal. This audio signal can be digitized and stored in the memory of your computer for you to play back at any speed. The recordings can be saved on disk or any other device, to be used later or in your very own programs!

The Digi-Voice screen contains a memory pointer which points to the memory locations which are being accessed, when either recording or playing back a recording. The amount of memory that your computer has, determines how far the memory pointer will move. More memory in your computer means you can record longer.

GETTING STARTED

CAUTION: READ THESE INSTRUCTIONS BEFORE CONNECTING ANY AUDIO SOURCE TO YOUR COMPUTER.

1. Make sure that you Atari computer is turned off, all cartridge slots are empty, your disk drive is properly connected and turned off. Also check your television or video monitor for a proper connection.

2. Plug one end of the audio chord (included) into your computer's joystick port #1. Plug the other end into an audio source such as a cassette recorder, radio, etc.

3. Turn on your disk drive and wait for the busy light to go out. Insert the Digi-Voice diskette into the drive.

4. Turn on your computer and your television or video monitor, and Digi-Voice will automatically load.

USING THIS MANUAL

The following section of this manual describes the options available to you when using the Digi-Voice Audio Processing System. The section entitled "Technical Notes" explains the programs included on the Digi-Voice diskette, as well as the system memory map. The section explains how the recordings can be used in your own programs.

PROGRAM OPTIONS

The program options are located at the bottom of the Digi-Voice screen. The option which is inverted is the option which is being "pointed to". To point to other options, press the OPTION button to move across the top row of options. Pressing the SELECT button will point to the options on the bottom row. To choose the option that is being pointed to, simply press the START button. If any of the buttons are continuously pressed, they will automatically repeat.

ANALYZE

This option is provided because the audio source must be set to the proper volume. When this option is selected, the four bars on the screen should begin to pulsate. The bars represent frequency divisions of the audio source. The source is divided into low, midlow, midhigh, and high frequencies. The ideal volume setting on the source will be obtained by increasing and decreasing the volume control on the source until as many bars as possible are moving. This will allow for a minimal amount of distortion. Pressing the <O> key will allow you to hear what the computer "hears". If the signal sounds very distorted, try fine adjusting the volume or tone control of the audio source. Pressing the <O> key once more will turn the hear option off. Pressing the <ESC> key will exit the ANALYZE mode.

RECORD

The audio source will be digitized and stored in the computer's memory. Before you select this option, make sure that your television or monitor's volume is not turned up too loud. Since Digi-Voice will output whatever it hears to your television or monitor, audio feedback might result, causing unnecessary distortion in the recording.

The memory pointer located at the top of the Digi-Voice screen will move according to where the audio signal is being stored in the memory. Once the pointer stops moving, there is no more memory to be recorded on. The pointer can point to anywhere in the memory before recording has started. This will allow you to edit certain portions of the memory without re-recording the entire memory. Pressing the SELECT button while in the recording mode will stop the recording immediately.

PLAY

The recording that is currently in the memory will be
played back with this option. Wherever the memory pointer
is pointing, from that point on, the memory will be played.
This allows you to playback certain portions of the memory,
for editing purposes.

Before the PLAY option is selected, the memory pointer must
be pointing to the start of the memory that you wish to
hear. Moving the memory pointer is described below.
Pressing the SELECT button while in the playback mode will
immediately stop the playback.

REWIND

The memory pointer gives you an indication of where in the
memory a recording is being placed or listened to. The
REWIND option moves the pointer back one step. The step
represents 256 locations in the memory. Pressing the SELECT
button in combination with the START button will move the
pointer back sixteen steps. The pointer will stop when it
reaches the bottom of the memory.

Forward

The memory pointer will be advanced one step. The step
forward represents 256 locations in the memory. Pressing
the SELECT in combination with the START button will
advance the pointer sixteen steps. The pointer will stop
when is reaches the top of the memory.

SAVE

This option allows you to save the recording which is
currently in the memory. You will be asked the name of the
file in which you will be saving. You may enter the device
name as well as the file name (i.e. D3:VOICE). If the
device is not entered, 'D1:' will be used.

After entering the name, if you press the OPTION button the
memory will be saved from the beginning to the current
memory pointer position.

Pressing the <ESC> key will abort the saving process.

If you press the SELECT button, a message will appear on
the bottom of the screen telling you that the memory
pointer is set. You may now move the pointer, using the
REWIND or FORWARD options, to the position in which you
want to save from the first set position. When the second
position is reached, select the SAVE option once more and
the section of memory will be saved.

Files that are saved are compatable with DUP and will load
in as a normal file.

LOAD

Recordings that were previously saved can be loaded by entering the file name. A device may precede the file name. If no device is specified, 'D1:' will be used.

After the file is loaded, the memory pointer will point to the top of the memory which was just loaded.

Pressing the <ESC> key will abort the load process.

RECORD-RATE

To conserve memory, the rate at which the recording is made is controlled. The higher the value, the longer the memory will last. Along with the advantage of long lasting memory is the disadvantage being lower quality of reproduction. The audio signal will sound more distorted as rate increases.

The value can be changed by pressing the '<' and '>' keys. Pressing the <ESC> key will exit this mode.

Files that are saved will not include the rate at which they were recorded.

PLAY-RATE

The speed at which the recording is played back can be changed with this option. The lower the rate, the faster the recording is played.

The value can be changed by pressing the '<' and '>' keys. Pressing the <ESC> key will exit this mode.

Files that are saved will not include the playback rate.

TECHNICAL NOTES

Included on your DIGI-VOICE diskette are two programs, which are the software drivers that can be used to play back recordings in your own programs. The drivers could be modified to suit your particular needs.

ROUTINE.SRC

This program is the assembly source code for the playback driver. The code also includes a subroutine which can be used to load recordings. The program is documented within itself to provide a guideline for your programming.

BASIC.BAS

This is a basic program which requires an Atari Basic cartridge. The program pokes the routine below, into the memory from basic. The program is documented within it self to provide you with a guideline for your own programming.

DIGISUB.OBJ

This is the assembled routine mentioned above. The routine will load with DUP or with the basic program described above.

NOTE: The programs described above may be used within your own programs, provided that Gemini Software's Digi-Voice is given credit for being incorporated within the program.

MEMORY MAP

```
$0000                    $4000  $6000  $8000  $A000  $C000  $FFFF

I==================I======I======I======I======I==========I

   DOS & Digi-Voice   16K    24K    32K    40K    48K
                          Recording  Workspace
```

Gemini Software is not responsible for any damages that may
be caused by improper use or improper connection to your
computer. Instructions are provided in the beginning of
this manual.

If you have any comments or suggestion for future products
for your Atari computer, please send them to:

Gemini Software
32 Dennis Lane
Buffalo, New York 14227

Digi-Voice

Created by
Thomas Skwara

Copyright (c) 1984 by

GEMINI SOFTWARE