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Contents

Chapter 1

in

1.1 AniMan.Guide Table of Contents

1.2 1 - AniMan Principles of Operation

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                AniMan displays an animated talking head in a small window on  ←
                   the Amiga
Workbench that responds to your voice commands spoken through the Perfect
Sound 3, Sound Magic (Sound Master), DSS 8, or a Generic audio digitizer.
AniMan uses the public domain voice.library of voice recognition functions to
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            learn
             and
            recognize
             spoken voice commands and corresponding
            CLI Commands.
            These CLI commands are executed upon recognition of your spoken  ←
                command and
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may be used to execute an ARexx script, give a single line CLI ARexx command,
or execute any ordinary CLI command.

   AniMan is designed to run on an Amiga Workbench screen having at least
64 colors and will automatically adapt to a wide variety of monitors and
display modes. AniMan requires AmigaDOS 3.0.

   AniMan is completely multitasking and will operate either in the
foreground or background, listening for your voice commands even while
other programs may be running. AniMan allows the use of voice commands to
control programs which have an active ARexx port or to execute any CLI
command by spoken voice command.

   AniMan should be copied into its own drawer along with the required
AniMan.pixels and AniMan.phrases files. AniMan will create configuration
files and
                 voice command files
                  that are best kept in a directory with
Animan. Voice.library must be copied to your libs: directory in order to
run AniMan.

   AniMan also uses the Amiga translator.library and the Amiga
narrator.device which must be available as well. Translator.library and
narrator.device are available with the 2.0 Workbench and must be copied
from there to your libs: and devs: directories, respectively.

1.3   2 - AniMan Options

   The first step in using AniMan is to choose the audio digitizer to be
used. Make your selection from the "Option" menu. You will have a choice
of Perfect Sound 3, Sound Magic (Sound Master), DSS 8, or a Generic
digitizer. Your selection will be saved with your voice commands. Note
that your microphone must be connected to the right (not left) channel of
the audio digitizer.

   AniMan's voice recognition processing will operate either at high
resolution or low resolution. Make your choice from the Option menu. High
resolution is somewhat better at voice recognition, but requires nearly
twice the time as low resolution to recognize a voice command.
Your selection will be saved with your voice commands.

   You also have a choice from the Option Menu of which CIAB Timer for
AniMan to use in timing the intervals between audio samples. Timer B is
the normal selection, and you usually will not have to change it. However,
you may find some programs that are using Timer B themselves and will
object if AniMan attempts to use Timer B. For these cases, choose Timer A.
Your selection will be saved with your voice commands.

1.4   3 - Learning AniMan Commands

                 LEARNING COMMANDS

   Before AniMan is used to recognize spoken commands, the program must
first learn each voice command and associated CLI command. After selecting
the proper
                 audio digitizer,
                  choose "New Commands" from the Function Menu to
bring up the "Learn Commands" window containing string gadgets for each of

12 voice commands and 12 matching CLI commands.

    To learn a voice command, type the command word or short phrase you
have chosen in one of the string gadgets in the left hand column and strike
the "Return" key. You will then be presented with the "Learning" window
for audio sampling of the voice command. When you see "Ready to take first
sample," click the "Sample" button and speak your chosen word or short
phrase into a microphone connected to the right channel of your audio
digitizer. In order to ensure a good audio sample the program examines
the audio data for volume too low, volume too high (clipping), or for noisy
input and you will be warned if these conditions exist. If volume needs
adjustment you may change your volume of speech, move your microphone, or
change the gain of your audio digitizer and repeat the sample. Volume must
be MAXIMUM possible without clipping. Try taking several samples, clicking
the "Sample" button each time before speaking. Adjust volume until the
sample amplitude is the maximum possible without a "Volume too high"
warning.

    Setting gain (or volume) to maximum without clipping is very important
to operation of AniMan. The MOST COMMON CAUSE of failure of AniMan to
recognize voice commands is digitizer gain (volume) set too low. The gain
of the Perfect Sound 3 digitizer can be adjusted using the "Volume Up" and
"Volume Down" buttons. Perfect Sound 3 has 16 discrete gain steps.
Clicking the "Volume Up" or "Volume Down" buttons changes the gain by one
step. Adjusting gain of the Perfect Sound 3 digitizer can be confusing.
If you reach gain step 16, the next step up will take gain down to minimum
step 1. Likewise, if you reach minimum step 1, the next step down will
take you to maximum step 16. This can cause some confusion if you attempt
to increase gain past maximum and find that gain has dropped to minimum.

    The gain of the DSS 8 digitizer can also be adjusted using the "Volume
Up" and "Volume Down" buttons. DSS 8 has 8 discrete gain steps, and
clicking these buttons changes the gain by one step. DSS 8 gain is easier
to control since it will not jump from maximum to minimum unexpectedly.

    The gain of the Sound Master digitizer is adjusted using a sliding
control knob on the unit. Increase or decrease gain until the maximum
level without severe clipping is achieved.

    When you see "Sample OK. Recommend accept," click the "Accept" button
to store the audio sample of this voice command. This process is repeated
for a second and third audio sample of the voice command. When you see
"Ready to take second sample," and "Ready to take final sample," just
repeat the voice command again into your microphone and "Accept" each
sample when appropriate. Internally, AniMan combines these three audio
samples into a frequency/time map or voice print of the command. This
voice print will be stored along with those of the other spoken commands in
the AniMan vocabulary for use in recognizing spoken commands.

    When three audio samples have been accepted and a voice print of the
command stored internally, you will be returned to the "Learn Commands"
window where you must then type the matching
                  CLI command
                   into its
appropriate string gadget in the right hand column.

HOW MANY COMMANDS

    The "Learn Commands" window displays one of four pages of voice
commands. Each page can hold 12 commands for a total of 48 possible
commands. Choose Page One through Page Four from the "Page Select" menu.
Add your commands beginning with Page One, filling the later pages as more
commands are needed. Try not to leave gaps in the vocabulary of voice

commands, but group your commands together on as few pages as possible.
    As more commands are added, the time required for AniMan to recognize a
voice command increases in proportion. More than one page (or 12 commands)
is not recommended unless you have an accelerated Amiga.

LEARNING DIRECTIONS

    In addition to learning voice commands, AniMan must also learn to
recognize four spoken directions corresponding to "Cancel AniMan Command,"
"Run AmigaGuide," "Read Some Poetry," and "Quit AniMan." Choose "Learn
Directions" from the Function Menu, and
                learn
                 these spoken directions in
the same manner that you learned the AniMan commands. These directions
will be also be saved in the command files that you create.
    After recognizing a voice command, AniMan will speak his intention to
execute the matching CLI command. If you want to cancel this command, you
must speak the words chosen for "Cancel AniMan Command" within about five
seconds. Or you can correct AniMan within this time period by repeating
the desired command. If you do not cancel or correct the command, AniMan
will assume that you agree with his interpretation and will proceed.
    AniMan will run AmigaGuide and display this information file when the
words chosen for "Run AmigaGuide" are recognized.
    When AniMan recognizes the spoken words learned for "Read Some Poetry,"
one verse of poetry from "The Raven" by Edgar Allan Poe will be recited.
AniMan can recite all eighteen verses of "The Raven."
    And finally, when AniMan recognizes the words chosen to represent "Quit
AniMan," the program will close and return you to the Workbench Screen.

1.5   4 - Loading, Modifying, and Saving AniMan Commands

                    Voice command files can be saved by choosing the "Save ←
                     Commands" menu
item from the Function Menu. Different command files can be saved for
different uses. It is important to save your command file as the last
thing you do before quitting AniMan. Doing so will save any changes to
your commands for future use. AniMan will also remember the name of the
file that you save and load these commands automatically the next time you
run AniMan.
    You can recall previously saved commands by selecting the "Load
Commands" menu item from the Function Menu. These commands can then be
used to run AniMan without any relearning. If you need to make
modifications, choose "Mod Commands" from the Function Menu and proceed as
described under
                LEARNING COMMANDS
                 above to modify or add commands to the
vocabulary.

1.6   5 - Uses of AniMan Commands

                    CLI commands are matched to each of your
                voice commands

                    by typing them
into the CLI string gadgets in the right hand column of the "Learn
Commands" window. The CLI commands that you will match to your voice
commands and save in a voice command file have three possible uses. These
are to execute ARexx scripts, ARexx commands, or ordinary CLI commands as
described below. You must always use FULL PATH NAMES for CLI commands.

AREXX SCRIPTS:

    You can use your CLI command to execute an ARexx script. For example,
suppose you have stored an Arexx script named "DoSomething.rexx" in ram:.
The proper text to enter in the CLI Command string gadget will be:

                sys:rexxc/rx ram:DoSomething.rexx

When the voice command that you stored for this CLI command is recognized,
your ARexx script will then be executed just as if you had typed the text
at the CLI. Full path names are always used to avoid confusion.

AREXX COMMANDS:

    You can use your CLI command to execute a single line ARexx command.
For example, suppose you want to send the ARexx message "MYCOMMAND" to an
Arexx port named "AREXXPORT." The proper CLI command in this case will be:

                sys:rexxc/rx "ADDRESS AREXXPORT MYCOMMAND"

CLI COMMANDS:

    You can also execute any CLI command, completely independent of ARexx.
For example, if you are using a voice command to start a game named
"MindlessGame" in df0:, the proper CLI command to store will be:

                run df0:MindlessGame

COMMAND MODIFIERS:

    AniMan recognizes two command modifiers, "TALK", and "LOAD", which
change the way in which CLI commands are executed. These modifiers must be
typed (all capitals) in the CLI Command string gadget ahead of the CLI
command.
    Use the "TALK" modifier if you wish AniMan to speak back to you the
text you have typed in the CLI Command string buffer. AniMan will stay in
the foreground and speak back the text you have specified. For example,
you might have a voice command such as "How are you?" The CLI command
could be "TALK What's it to you, buddy?" AniMan will answer your question
"How are you?" with "What's it to you, buddy?"
    You can also use a voice command to load another file of voice commands
which has been
                saved previously.
                    To do this, precede your CLI command with
the word "LOAD". The CLI string following "LOAD" will be interpreted as a
file name of voice commands to be loaded into AniMan. For example, if you
have a voice command file by the name of "dh0:Voice.Commands", the proper
command to type in the CLI Command string gadget will be "LOAD
dh0:voice.commands". When AniMan recognizes this command, the voice prints
and CLI commands in Voice.Commands will be loaded into AniMan and will take

control. In this way you can minimize the number of commands (and thus the
time required for recognition) by grouping small numbers of similar
commands together and saving each group as a separate command file. Then
use the LOAD command to move from one file to another.

1.7   6 - Running AniMan

                      SPEAKING TO ANIMAN

    Once AniMan has learned
                  commands
                   and
                  directions,
                   you may return to the
Workbench Screen where the animated talking head will then appear in its
own window and await your voice command. Speak your commands slowly and
distinctly into the microphone attached to your
                  audio digitizer,
                   and AniMan
will attempt to match your command to the stored vocabulary of learned
commands. AniMan will then announce his intention to execute your command.
If you do not cancel the command or speak another command within about five
seconds, AniMan proceed to execute the expected CLI command.
    Note that AniMan LISTENS for your command ONLY WHEN HIS HEAD IS FACING
AWAY FROM YOU. When he turns to face you and speak, he is not listening to
you at all, but plans to speak his mind.
    If AniMan tells you frequently that "I do not understand," or " I
cannot hear you," you probably have the audio digitizer gain (volume) set
too low. If you hear "You are speaking too loudly" very often, the volume
may be set too high. Select "Adjust Volume" from the Function menu to
bring up a window for display of the sampled audio data. This window is
identical to that used for learning voice commands. However, it allows you
to experiment with the gain (volume) control without making unwanted
changes to your stored voice commands. Experiment with this window to

                  adjust volume
                   to the MAXIMUM value possible without clipping of the audio
signal.
    If AniMan tells you frequently that "It is too noisy in here," it means
that there is too much background noise, or that you are bumping the
microphone around causing AniMan to become confused. Handle the microphone
carefully, and eliminate as much background noise as possible.

ANIMAN WINDOW OPERATION:

    When the AniMan window is active, AniMan will become impatient if he
hears nothing from you and will have witty things to say chosen at random
from the AniMan.phrases file. You may edit or create your own
AniMan.phrases file using any ASCII text editor. This file consists of a
sequence of English language phrases, each PRECEDED by "****" to mark the
beginning of a new phrase. Phonetic spelling may be needed for some words.
    When the AniMan window is inactive, AniMan will close his eyes and
doze. However, he is still listening for your commands, and will wake to
execute any recognized command. The AniMan window may also be pushed into
the background. However, AniMan will still be listening for your commands

even while operating in the background.
    All Function Menu and Option Menu selections are available when the
AniMan window is active. However, when AniMan is speaking, menu operations
are temporarily suspended. Wait for AniMan to finish speaking before
making any menu selections.

1.8   7 - Practical Considerations

    The choice of command words or phrases is important to successful use
of AniMan. Words that sound distinctly different from each other will be
more reliably recognized. Words that rhyme are poor choices. "Seven" and
"eleven," or "make" and "break" will frequently be confused by AniMan.
Even with distinctly different words, you must diligently pronounce each
syllable of each word slowly, distinctly, and forcefully.
    The frequency maps of spoken command words will vary due to any change
in the pitch or rate of your speech. If you have a cold, or become
impatient and speak at a faster rate, AniMan may not recognize your
commands. Often, the only cure is to relearn a difficult word.
    An expensive high bandwidth microphone is not necessary or desirable.
It can be helpful, though, to have a microphone with a push button on-off
switch. A continuously active microphone will sometimes confuse AniMan.
    And finally, you will find some words that just don't work well with
AniMan. The simplified voice recognition process used by AniMan is very
fast in operation, but cannot handle all circumstances. If this happens,
keep cool and pick another word or phrase.

1.9   8 - Solving Problems

                        INCORRECT AUDIO DIGITIZER

    If you have not selected the correct audio digitizer, AniMan may give a
continuous string of "I do not understand," or "It is too noisy in here,"
or "I can not hear you," or "You are speaking too loudly, and refuse to
recognize any commands. Select the option for the correct
                audio digitizer
                from the Options menu.

VOICE COMMANDS NOT RECOGNIZED

   The most common cause for failure of AniMan to recognize your voice
commands is audio
                digitizer gain
                 set too low. Of course, you must have

                learned
                 or
                loaded
                 commands before they can be recognized. Also be sure
that your microphone is connected to the right channel of the audio
digitizer.

CLI COMMANDS NOT EXECUTED

If you voice commands are recognized, but the corresponding
          CLI command
          is not executed, it is likely that your command is defective or ←
            does not
contain a full path name for all required files. Try out your CLI commands
independently in an AmigaShell, with your current directory set to the directory
containing AniMan, to see if they will work correctly.

AMIGAGUIDE DOES NOT APPEAR

   If your AmigaGuide command is recognized, but AmigaGuide does not appear, check
to see that the AmigaGuide program is installed in sys:utilities and that the
database named AniMan52.Guide is available in the same directory as AniMan.

1.10   9 - Version

   This is version 5.2 of AniMan which will automatically configure to
NTSC, PAL, or MultiSync monitors, runs in a small window in full color on
the Amiga Workbench, and supports either Perfect Sound 3, Sound Magic
(Sound Master), DSS 8, and Generic audio digitizers. Voice.library version
7.0 or higher is required. AmigaDOS 3.0 is also required.

1.11   10 - Credits

   The AniMan head figure was originally created by Greg Denby. Without
Greg's artistic talent, AniMan would not have been possible. AniMan and
voice.library were written by Richard Horne. Zap improved voice.library
by suggesting methods to increase the speed of voice recognition. And Mark
Moore uncovered the secrets to programming the DSS 8 digitizer.

   AniMan and voice.library were created for the enjoyment of the Amiga
community and are freely distributable in the public domain. Questions,
comments, and constructive criticism are welcome.