

Recording Voice

for

**ProHelp Millennium
Release 1.45, 2.45 , 2.5x, or 2.6x**

720-0054 Rev C

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1. Introduction

ProHelp Voice options needs the following three steps to be fully functional.

1. **ProHelp Millennium Release 1.45, 2.45, 2.5x or 2.6x software.**

Install ProHelp Software. Configuring and install sound board in each ProHelp sound node. Install sound drivers to each ProHelp sound node. Make sound directories and copy default sound files. This step is done at the time of manufacturing as described in "Voice Driver Installation Manual".

2. **Install customer sound files.**

Install MS-Windows Sound recording station. Install Sound Blaster utilities. Record sounds. Transfer sound files to every ProHelp voice node. These steps needs customer specific details such as machine, help, down and signal names and the actual voice message to be played. This document describes these steps in detail.

3. **Configuring ProHelp Voice.**

After all sound files are in place the user must configure the ProHelp voice configuration screens. These configurations can be change any time while ProHelp is running. Configuring Voice is describe in ProHelp Millennium User's Manual.

If You have purchased the sound option for the ProHelp Millennium system then the system is shipped to you with the following hardware and software:

- One sound board installed in the ProHelp machine. If you have purchased multiple node voice system then one sound card is installed in each voice node.
- ProHelp Millennium voice software is pre-installed in all UnixWare machines. Drivers for sound boards is only installed on machines with sound board.
- One spare sound card with PC speakers and a microphone for The MS-Windows sound recording station. The user needs to install these items to a PC with DOS and MS-Windows. See Section 0 for details.
- Voice recording and editing software provided by the board's manufacturer. The software is to be installed by the user on the DOS MS-Windows machine. See Sound Blaster User's Manual for details.

2. Hardware Installation:

2.1 Connecting PA System to the ProHelp Voice Node.

Connect the PA system to the sound board/boards. If the PA system needs a contact to turn on/off then connect Voice Activated Switch as shown below. If the PA system has built in voice activation feature then the Voice Activated Switch is not needed

The sound board provides unbalanced Line Level output with cables for RCA type connector. This output must be interfaced with your PA system.

Sound Board

Line in

Mic In

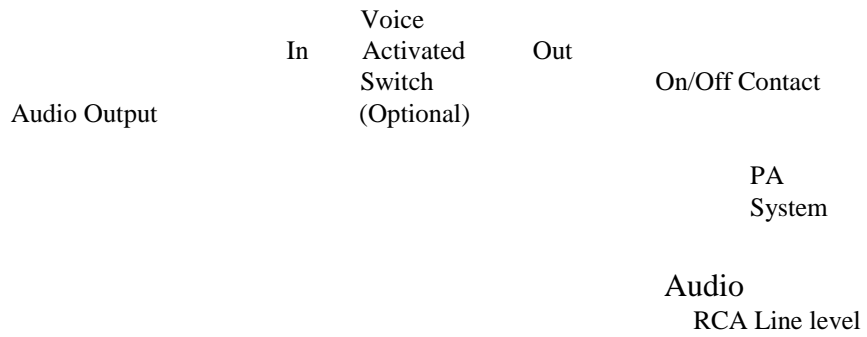


Fig 1. PA System connections to Millennium Node.

2.2 Installing MS-Windows Voice Recording Station

Locate the spare Sound Blaster¹ Voice Board and User's Guide shipped with the system. Refer to Sound Blaster User's Guide Section "Setting Up Your Audio Card" (Pages 2-1 to 2-7). Install the board in an empty slot of your MS-Windows Machine.

Boot the computer. Start Windows. Click on "File Manager". Insert Sound Blaster Install disk to your floppy and run A:\INSTALL.EXE. Follow instructions. After installation is complete reboot your computer and restart Windows.

Connect PC speakers to the Audio Output and Microphone to MIC input of the sound card.

Look for Sound Blaster Applications Window. Click On Mosaic Icon. If the sound card is installed properly then you will hear various sounds as you play.

If the sound card is not working then refer to Section "Troubleshooting" in the Sound Blaster User's Guide..

Make the following directories for sound files

- Start File Manager by double clicking on File Manager icon.
- Click on File menu and select Create Directory. Enter C:\SOUNDS for directory name.
- Similarly make directories C:\SOUNDS\NAMES, C:\SOUNDS\MACH, C:\SOUNDS\DEPT, C:\SOUNDS\HELP, C:\SOUNDS\DOWN and C:\SOUNDS\SIGNAL.
- Exit File Manager.

Click on the WaveStudio Icon. Learn how to record, playback and edit sounds. Section 0 describes an example of recording and editing sound files. For details refer to Sound Blaster User's Manual Section "Creative Wave Studio".

3. Example: Recording and Editing Sounds

In this example the user will record a voice message and then save the sound in a sound file. Edit the sound file to cut pieces of the sound message and then save the sound pieces in different sound files.

3.1 Recording

- Start Windows
- Click on WaveStudio icon
- Click on the recording icon (icon with the red circle).
- Tap the microphone and check if the recording level bar shows some activity. If the bar is not moving then check the microphone connection. If you are using SoundBlaster-16 then double click on the Creative Mixer icon in Sound Blaster applications window. Check if the microphone volume control is turned on to the maximum level.

¹ Sound Blaster is a trademark of Creative Technology Ltd.

- Click on the Start button and immediately start speaking the following message. Use 1/4 second pause as shown by [pause] .

“Injection department [pause] machine one [pause] needs assistance for [pause] parts pickup”.

- Click on Stop button immediately after finish speaking.

A wave form of the recorded voice will appear in the window at the bottom of the screen.

- To Play back click on the button with a black triangle. You will hear the recorded voice.

Practice recording and playing back the sound. Try to adjust the distance to the microphone for best recording. A good recording will be loud without any distortion. Look at the voice waveform in the bottom window. The graph should show a strong signal without crossing the windows top or bottom. Once you record a loud and clear voice message save it by

- Click on the File menu on top and select Save As from the pull down menu.
- Use filename C:\SOUNDS\EXAMPLE.WAV and save it by clicking on the OK button.

3.2 Editing

The next step is to cut the complete voice message

“Injection Department Machine one needs assistance for parts pick up”

into pieces

*“Injection Department”,
“machine one”,
“needs assistance for”,
“parts pickup”.*

Select a portion of the voice message by clicking and dragging in the low voice waveform window. The selected portion is displayed as highlighted. Play the selected portion by clicking on the play button (button with a triangle). Practice selecting and playing back portions of your voice message.

Next locate and select “Injection department” sound. Make sure there is some blank portions before and after the sound (about 1/4 second long). Copy the “injection department” sound by selecting Copy from the Edit pull down menu.

Next open a new file by selecting File then New.

Paste the sound by selecting Edit then Paste. Click the play button to make sure the sound injection department is copied and pasted OK.

Save the sound to file dept.wav by selecting Files then Save As. Select the file as C:\SOUNDS\NAMES\DEPT.WAV.

Close the file DEPT.WAV by selecting File then Close.

Repeat the above procedure to save various sound pieces in the following files

Sound “machine one” in file C:\SOUNDS\MACH\MACH1.WAV.

Sound “needs assistance” in file C:\SOUNDS\NAMES\HELP.WAV.
Sound “parts pickup” in file C:\SOUNDS\HELP\HELP1.WAV.

Practice recording and picking sound segments a few times.

4. Recording Sounds for ProHelp

4.1 Recording Files

Now You are ready to start recording the actual sounds used by the ProHelp. You need to record small voice phrases at the Windows machine and save them in various files. Later these files will be transferred to the ProHelp machine running a voice server. ProHelp Voice Server will build full voice messages from your small voice phrases.

A detailed step by step instructions for recording voice phrases is in next Section. Work Sheets are provided at the end of this document.

5. Step by Step Procedure for Recording your Voice files

After you have setup your MS-Windows machine with sound board, speakers and microphone you are ready to record all voice phrases.

5.1 Step DOS-1: Record Common Voice Files:

Use Work Sheet #1

- Write down common voice phrases as shown in column 1 below. You may write any phrase which is appropriate to your setup.
- Write down DOS file names as shown in column 2 below. You must use filenames as shown in #2

#1 Actual Voice	#2 DOS File Name	#3 Comment
“down for”	C:\SOUNDS\NAMES\DOWN.WAV	Used for building the down message such as “Dept x Machine y down for down reason z”
“needs assistance for”	C:\SOUNDS\NAMES\HELP.WAV	Used for building the help message such as “dept x machine y needs assistance for help reason z”
“limits violation”	C:\SOUNDS\NAMES\SIGNAL.WAV	Used for building the signal out of limits message such as “dept x machine y limits violation cycle time”
“unknown”	C:\SOUNDS\NAMES\UNKNOWN.WAV	Voice “unknown” is played for missing sound files

- record column #1 voice phrases and save them as DOS files names as in column #2..

NOTE: Editing Voice with uniform time spacing between phrases.

Record one voice item such as “need assistance” at a time. Give at least one second after you hit start recording button and before you start speaking. Also give one second after you finish speaking and before you hit stop recording button. This is to record at least one second blanks before and after your voice message. Use WaveStudio’s voice editing feature to make blanks of the same duration for all voice messages you will record. For Example if you leave 1/4 second blank before and after phrases “machine one” and “need assistance” then there will be $1/4+1/4=1/2$ second pause when the two phrases will be put together. Using a uniform length blank voice before and after each phrase will make full voice messages with uniform pause in between phrases.

5.2 Step DOS-2: Record Voice for all Machine Names:

Use Work Sheet #2

- Write down all ProHelp machine numbers in column #1. ProHelp machine numbers can be accessed by pressing function keys <SYSMAN> <Install><MIU> at a ProHelp station. Here machine numbers M01, RB 03 etc. is used for example. Your system may have different machine names.
- Write down voice for each machine names in column #2. Here “machine one” is used for M01 for example. You may write any voice phrase for your machines which is appropriate for your setup.
- Write down DOS file names in column #3. These file names are derived from your ProHelp machine numbers. The rules are:
 - Use ProHelp machine number with all uppercase letters.
 - Drop any periods “.” and spaces .
 - Add the extension “.WAV”.
 - Use directory C:\SOUNDS\MACH.

Example: for machine number “M01” write M01.WAV, for “M 03” write M03.WAV, for “M.chx” write MCHX.WAV, for **m.chy** write MCHY.WAV, for M_09 write M_09.WAV etc.

#1 ProHelp Machine Number	#2 Machine Name Voice	#3 DOS File Name
M01	“machine number one”	C:\SOUNDS\MACH\M01.WAV
RB 03	“robot number three”	C:\SOUNDS\MACH\RB03.WAV
HS.12	“heat sealer twelve”	C:\SOUNDS\MACH\HS12.WAV

- Record column #2 voice phrases with at least one second blanks. Record in 8 bit “mono” mode at the lowest sampling rate (such as 11025).
- Edit voice for proper starting and ending blanks (see note on page 8).
- Save machine name voice with DOS file names in column #3.

5.3 Step DOS-3: Record Voice for all Department Names:

Use Work Sheet #3

- Write down all ProHelp department names in column #1. ProHelp department names can be accessed by pressing function keys <SYSMAN> <Install> <Names> at a ProHelp station. Here department names Inject, INJ A, and Inj.B are used for example. Your system may have different department names.
- Write down voice for each department name in column #2. Here “Injection department” is used for Inject for example. You may write any voice phrase for your departments which is appropriate for your setup.
- Write down DOS file names for the department name phrases in column #3. These file names are derived from your ProHelp department names. The rules are:
 - Use ProHelp department names with all uppercase letters.
 - Drop any periods “.” and spaces.
 - Add the extension “.WAV”.
 - Use directory C:\SOUNDS\DEPT

Example: for department name “Inject” write INJECT.WAV, for “INJ A” write INJA.WAV, for “Inj.B” write INJB.WAV etc.

#1 ProHelp Department Names	#2 Department Name Voice	#3 DOS File Name
Inject	“Injection department”	C:\SOUNDS\DEPT\INJECT.WAV
INJ A	“Injection department side A”	C:\SOUNDS\DEPT\INJA.WAV
Inj.B	“B group Injection”	C:\SOUNDS\DEPT\INJB.WAV

- Record column #2 voice phrases with at least one second blanks. Record in 8 bit “mono” mode at the lowest sampling rate (such as 11025).
- Edit voice for proper starting and ending blanks (see note on page 8).
- Save department voice with DOS file names as in column #3.

5.4 Step DOS-4: Record Voice for all Help Reasons:

Use Work Sheet #4

- Write down all ProHelp help reasons in column #1. ProHelp help reasons can be accessed by pressing function keys <SYSMAN> <Install> <Names> at a ProHelp station. Here help reason “Need Material” and “Need Supervisor” are used for example. Your system may have different help reasons.
- Write down voice for each help reason in column #2. Here “Needs Material” voice phrase is used for announcing voice message for machine operator requesting material. You may write any voice phrase for your help reasons which is appropriate for your setup.
- Write down DOS file names for the help reason phrases in column #3. These file names do not need to be derived from ProHelp help reasons as they did with machine names and department names. Write down any file name that represents or helps in identifying the voice phrase of the file.

The rules are:

- Use any appropriate file name.
- Add the extension “.WAV”.
- Use directory C:\SOUNDS\HELP

Example: For help reason “Need Material” write NEDMTL.WAV, for “Need Supervisor” write NEDSUP.WAV etc. Note that these file names will be assigned to ProHelp help reasons later when you configure voice at ProHelp station.

#1 ProHelp Help Reasons	#2 Help Reason Voice	#3 DOS File Name
Need Material	“Needs Material”	C:\SOUNDS\HELP\NEDMTL.WAV
Need Supervisor	“Needs Supervisor”	C:\SOUNDS\HELP\NEDSUP.WAV

- Record column #2 voice phrases with at least one second blanks. Record in 8 bit “mono” mode at the lowest sampling rate (such as 11025).
- Edit voice for proper starting and ending blanks (see note on page 8)
- Save help reason voice with DOS file names as in column #3.

5.5 Step DOS-5: Record Voice for all Down Reasons:

Use Work Sheet #5

- Write down all ProHelp down reasons in column #1. ProHelp down reasons can be accessed by pressing function keys <SYSMAN> <Install> <Names> at a ProHelp station. Here down reason “MachProb” and “ToolProb” are used for example. Your system may have different down reasons.
- Write down voice for each down reason in column #2. Here “Machine Problem” voice phrase is used for announcing voice message for machine going down for a machine problem. You may write any voice phrase for your down reasons which is appropriate for your setup.
- Write down DOS file names for the down reason phrases in column #3. These file names do not need to be derived from ProHelp down reasons as they did with machine names and department names. Write down any file name that represents or helps in identifying the voice phrase of the file.

The rules are:

- Use any appropriate file name.
- Add the extension “.WAV”.
- Use directory C:\SOUNDS\DOWN

Example: For down reason “Machine Problem” write MCHPRB.WAV, for “Tool Problem” write TOOLPRB.WAV etc. Note that these file names will be assigned to ProHelp down reasons later when you configure voice at ProHelp station.

#1 ProHelp Down Reasons	#2 Down Reason Voice	#3 DOS File Name
MachProb	“Machine Problem”	C:\SOUNDS\DOWN\MCHPRB.WAV
ToolProb	“Tool Problem”	C:\SOUNDS\DOWN\TOOLPRB.WAV

- Record column #2 voice phrases with at least one second blanks. Record in 8bit “mono” mode at the lowest sampling rate (such as 11025).
- Edit voice for proper starting and ending blanks (see note on page 8).
- Save down reason voice with DOS file names as in column #3.

5.6 Step DOS-6: Record Voice for all Signal Names:

Use Work Sheet #6

- Write down all ProHelp signal names in column #1. ProHelp signal names can be accessed by pressing function keys <SYSMAN> <Install> <MIU> at a ProHelp station. Here signal names “CycTime” and “InjTime” are used for example. Your system may have different signal names.
- Write down voice for each signal name in column #2. Here “Cycle Time” voice phrase is used for announcing voice message for machine going out of limits due to cycle time exceeding its limits. You may write any voice phrase for your signal name which is appropriate for your setup.
- Write down DOS file names for the signal name phrases in column #3. These file names do not need to be derived from ProHelp signal names as they did with machine names and department names. Write down any file name that represents or helps in identifying the voice phrase of the file.

The rules are:

- Use any appropriate file name.
- Add the extension “.WAV”.
- Use directory C:\SOUNDS\SIGNAL

Example: For signal name “CycTime” write CYCTIME.WAV, for “InjTime” write INJTIME.WAV etc. Note that these file names will be assigned to ProHelp signal names later when you configure voice at ProHelp station.

#1 ProHelp Signal Names	#2 Signal Name Voice	#3 DOS File Name
CycTime	“Cycle Time”	C:\SOUNDS\SIGNAL\CYCTIME.WAV
InjTime	“Injection Time”	C:\SOUNDS\SIGNAL\INJTIME.WAV

- Record column #2 voice phrases with at least one second blanks. Record in 8 bit “mono” mode at the lowest sampling rate (such as 11025).
- Edit voice for proper starting and ending blanks (see note on Page 8).
- Save signal name voice with DOS file names as in column #3.

6. Transferring Files To ProHelp

At this point you have finished recording all voice files. The next step is to transfer files from you MS-Windows machine to the ProHelp host. There are many ways to transfer files such as ftp, mounted file system such as Novell's file server or copying by floppy disk.

You can transfer files by floppy disk as follows

Format a floppy and make the following directories. Use File manager or DOS command MKDIR.

```
A:\NAMES
A:\MACH
A:\DEPT
A:\DOWN
A:\PARM
A:\HELP
```

Copy files by

```
copy C:\SOUNDS\NAMES\*.* A:\NAMES
copy C:\SOUNDS\MACH\*.* A:\MACH
copy C:\SOUNDS\DEPT\*.* A:\DEPT
copy C:\SOUNDS\DOWN\*.* A:\DOWN
copy C:\SOUNDS\PARM\*.* A:\PARM
copy C:\SOUNDS\HELP\*.* A:\HELP
```

If there are too many files to fit in one disk then copy in multiple disks. For example you may copy A:\NAMES, A:\DEPT and A:\DOWN in one disk and A:\MACH, A:\PARM and A:\HELP in the second disk.

Take the disk to the ProHelp UNIX Machine and insert into drive A:

Login at ProHelp node as user millen
Open a terminal window by double clicking on the xterm icon

In terminal window type

```
$copy_voice_disk
```

If you have multiple disk then type "copy_voice_disk" for every disk.

If you are copying from drive B: or need to copy in a specific directory such as /usr/prohelp/sounds/french then type

```
$copy_voice_disk B: -d \usr\prohelp\sounds\french
```

Checking and fixing voice files .

Command copy_voice_files will place all voice files in appropriate directories. However since DOS files are copied to UNIX in all uppercase letters the file names need to be corrected. Use the following command to fix file names.

If ProHelp is running then type

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`$S_voice_files`

If ProHelp is not running then postpone the `S_voice_files` command until ProHelp is running.

Copy voice files to all nodes with voice board.

Notes:

`S_voice_files` will prompt for file names to be fixed. It will also go through your current voice configuration and search for voice files. It will display error messages for missing files.

`S_voice_files` will search for all Machine name, Department name and Common Names files in all Sound Directories defined in Voice Configuration screens. `S_voice_file` will only report for Help, Down and Machine Parameter voice files which are currently used in any voice configuration screen. You may run `S_voice_files` any time to check for any missing voice files. Note that `S_voice_files` requires ProHelp to be running.

Currently only 8 bit sound files are supported. Any voice recorded with 16 bits will cause random 4 to 5 second puses while playing the sound.

7. Work Sheets

WORK SHEET No. 1
Recording Common Phrases

See instructions on page 8.

- Write voice phrases in column 1.

#1 Actual Voice Phrase	#2 DOS File Name	#3 Comments
	C:\SOUNDS\NAMES\HELP.WAV	Help Phrase
	C:\SOUNDS\NAMES\DOWN.WAV	Down Phrase
	C:\SOUNDS\NAMES\SIGNAL.WAV	Limit Violation Phrase
	C:\SOUNDS\NAMES\UNKNOWN.WAV	Phrase “unknown”

- Record one voice item at a time with at least one second blanks. Record in 8 bit “mono” mode at the lowest sampling rate (such as 11025).
- Edit blanks to about 1/4 seconds (or of any uniform length).
- Save the voice with DOS file name as in Column #2.

WORK SHEET No. 2
Recording Machine Name Phrases

See instructions on page 9.

- Use ProHelp <SYSMAN><INSTALL><MIU> and write machine names in column 1.

#1 ProHelp Machine Number	#2 Machine Name Voice Phrase	#3 DOS File Name Directory C:\SOUNDS\MACH
M01	"machine number one"	M01.WAV

- Determine a voice phrase for each machine number and write it in column #2.
- Derive DOS File Name from machine number in column #1. Wire DOS file names in column #3.
- Record each machine voice as in column #2. Use at least one second blank. Record in 8 bit "mono" mode at the lowest sampling rate (such as 11025).
- Edit blanks to about 1/4 seconds (or of any uniform length).
- Save the voice with DOS file name as in Column #3.

WORK SHEET No. 3
Recording Department Name Phrases

See instructions on page 10.

- Use ProHelp <SYSMAN><INSTALL><NAMES> and write department names in column 1.

#1 ProHelp Depart Name	#2 Department Name Voice Phrase	#3 DOS File Names. Directory C:\SOUNDS\DEPT
Inject	"Injection Department"	INJECT.WAV

- Determine a voice phrase for each department name and write it in column #2.
- Derive DOS File Name from department name in column #1. Write DOS file names in column #3.
- Record each department voice as in column #2. Use at least one second blank. Record in 8 bit "mono" mode at the lowest sampling rate (such as 11025).
- Edit blanks to about 1/4 seconds (or of any uniform length).
- Save the voice with DOS file name as in Column #3.

WORK SHEET No. 4
Recording Help Reason Phrases

See instructions on page 11

- Use ProHelp <SYSMAN><INSTALL><NAMES> and write help reasons in column 1

#1 ProHelp Help Reason	#2 Help Reasons Voice Phrase	#3 DOS File Name Directory C:\SOUNDS\HELP
Need Material	“Needs Material”	NEDMTL.WAV

- Determine a voice phrase for each help reason and write it in column #2.
- Use any filename to identify the voice phrase in column #2. and add extension “.Wav”. Write the file names in column #3.
- Record each help reason voice as in column #2. Use at least one second blank. Record in 8 bit “mono” mode at the lowest sampling rate (such as 11025).
- Edit blanks to about 1/4 seconds (or of any uniform length).
- Save the voice with DOS file name as in Column #3.

WORK SHEET No. 5

Recording Down Reason Phrases

See instructions on page 12

- Use ProHelp <SYSMAN><INSTALL><NAMES> and write down reasons in column 1

#1 ProHelp Down Reason	#2 Down Reasons Voice Phrase	#3 DOS File Names. Directory C:\SOUNDS\DOWN
MachProb	"Machine Problem"	MCHPRB.WAV

- Determine a voice phrase for each down reason and write it in column #2.
- Use any filename to identify the voice phrase in column #2. and add extension ".Wav". Write the file name in column #3.
- Record each down reason voice as in column #2. Use at least one second blank. Record in 8 bit "mono" mode at the lowest sampling rate (such as 11025).
- Edit blanks to about 1/4 seconds (or of any uniform length).
- Save the voice with DOS file name as in Column #3.

WORK SHEET No. 6

Recording Signal Name Phrases

See instructions on page 13.

- Use ProHelp <SYSMAN><INSTALL><MIU> and write signal names in column 1

#1 ProHelp Signal Names	#2 Signal Names Voice Phrase	#3 DOS File Names. Directory C:\SOUNDS\SIGNAL
CycTime	“Cycle Time”	CYCTIME.WAV

- Determine a voice phrase for each signal name and write it in column #2.
- Use any filename to identify the voice phrase in column #2 and add extension “.Wav”. Write the file name in column #3.
- Record each signal name voice as in column #2. Use at least one second blank. Record in 8 bit “mono” mode at the lowest sampling rate (such as 11025).
- Edit blanks to about 1/4 seconds (or of any uniform length).
- Save the voice with DOS file name as in Column #3.

