Voice of the Future

Russia,
St. Petersburg

Speech Technology Center

VISIBLE VOICE

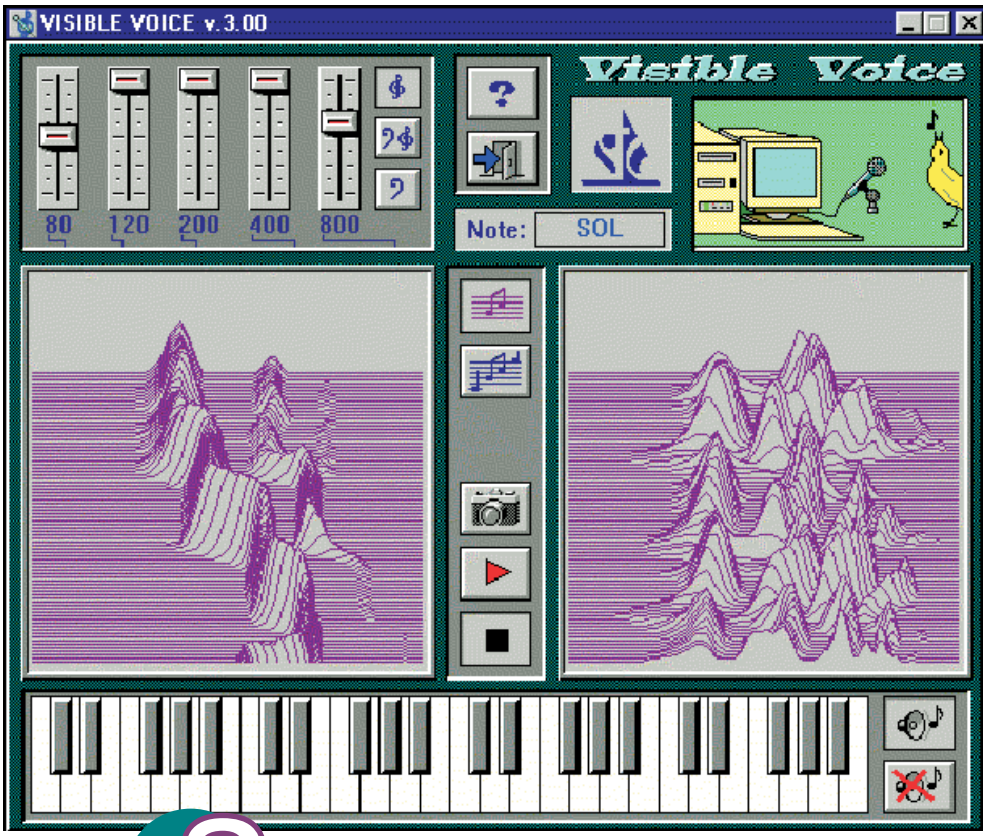
3D Real Time Spectrum Visualization Software

Applications

Multimedia or educational software

- Testing and improvement of musical hearing and singing skills
- Teaching and acquisition of foreign languages, acoustics, linguistics, spectral analysis, etc.
- Tuning musical instruments
- Viewing sound dynamic characteristics in a music shop, variety shows, night clubs, etc.

When the user starts to speak or sing into the microphone, the moving waves of voice spectrum appear in the PC screen. Visible Voice calculates speech spectrum and displays it in the screen in real time.



SEE THE PORTRAIT OF YOUR VOICE

WITH THE HELP OF VISIBLE VOICE!!!

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Advantages

- The VOCAL RANGE (65 - 1000 Hz) in the logarithmic frequency scale to watch the pitch. While working in the vocal range you can evaluate your ability to sing musical notes and train your musical ear and voice.

- The TOTAL RANGE (20 - 4500 Hz) in linear frequency scale to watch the voice pitch and the formants - the main resonances of speech sounds, that is the most intensive spectrum bands of speech pronunciation..

- When working in the total frequency range:

At first you will appreciate the melodic characteristics of your voice. Voice usually has many clearly visible tones of fundamental tone and the considerably high “hill” in the range of 2200-3300 Hz (the range of the “singing” formant).

Secondly you can evaluate the correctness of your pronunciation of sounds, for example in a foreign language. Every vowel has first three formants (wide distinct spectral peaks) in the specific frequency areas. Comparing your and your teacher's formants (big “mountains” in the spectral picture) of the same vowels, you can control and train your skills in phonetics of foreign language.

- Using the piano keyboard you can test your capabilities for music. A vertical line will appear on the moving picture when you press by mouse any piano key. Its position corresponds to the note's frequency. Simultaneously the computer speaker will generate the appropriate tone and show the note name in the note-box.

Functional Overview

- You will see a moving waterfall or mountain landscape of your voice. In this display the frequency (voice pitch) grows horizontally from the left to the right, time grows vertically from the top downward and the height of every mountain shows the level of the analyzed voice frequency.

- Every new spectrum picture appears at the top of the left-hand field and moves continually to the bottom, keeping its original form. The audible pitch of the input signal corresponds to the left peak on the screen.

- Other frequency peaks correspond to the additional high tones of the voice and characterize the sound quality of the voice and its tone (timbre).

- Therefore, looking at the moving graphical image of your voice, you can easily evaluate and train your ability to control the pitch, sonority and fine tone of your voice.

Technical Data

- Application requires not less than Pentium 100 computer and 16 bit standard sound card.

- The program contains a detailed help.

- You can make a snapshot of the left picture field and put it into the right picture field.