Multi-Dimensional Voice Program, Model 5105

Introduction

The Multi-Dimensional Voice Program (MDVP) is the gold standard software tool for quantitative acoustic assessment of voice quality, calculating more than 22 parameters on a single vocalization. Based on extensive field testing with normal and disordered voices, MDVP™ is unique in its ability to work accurately over a wide range of pathological voices. Its normative references are based on an extensive database of normal and disordered voices; and results are graphically and numerically compared to these normative threshold values. MDVP quickly and easily provides a revealing snapshot of voice quality.

MDVP provides graphs and numerical results to summarize voice parameters. Patient results are plotted against a normative database.

The Need for MDVP

As revealed in the professional literature on voice analysis, one or two voicing parameters alone (e.g., only jitter and shimmer) are not sufficient to accurately describe an aberration in a patient's voice. Jitter values may be within normal limits in a patient who demonstrates a breathy voice quality, and periodic modulation over many glottal periods (tremor) should be differentiated from cycle-to-cycle modulation. Similarly, turbulence caused by incomplete glottal closure can contribute a different type of "noise" compared to noise from aperiodic vibration; and, long-term periodic modulation of amplitude (amplitude tremor) may have physiological causes that differ from those of long-term periodic modulation of frequency. With the multi-dimensional analysis approach of the MDVP, the clinician can assess more comprehensively the patient's pathology and can track changes over time. Additionally, because the MDVP presents cycle-to-cycle frequency modulation (i.e., jitter or pitch perturbation) in many different variations (e.g., absolute jitter, RAP, PPQ), the results can be readily compared with results described in the professional literature. The correlation between the acoustic analysis and perceptual attributes of a voice can be fully explored with the Disordered Voice Database, Model 4337, which contains MDVP results and audio samples from 700 patients.

- **The most widely used software for voice analysis**
- **Very robust for pathological voice**
- **22 voice parameters calculated in seconds**
- **Well supported by the professional literature**
- **Provides quick snapshot of vocal behavior**
- **Built-in reporting template**

Easy to Use

MDVP is designed to be quick and easy to use. Four function keys can be used to perform all analyses, built-in protocols, and displays. A report generator is included for direct printing. The radial graph can be inserted in word processing documents (e.g., Microsoft® Word). With this feature, a comprehensive report that contains examiner comments, the graphic display, and numerical results can be easily generated.

Robustness

It is relatively easy to extract voicing parameters from healthy voices. The challenge is to extract parameters from disordered voices. This is where MDVP excels. Using a two-stage process, MDVP is able to extract reliable measurements of voicing behavior from a wide range of voices.

Well Established

Since its introduction, MDVP has garnered numerous references in peer-reviewed professional journals establishing its reliability, the value of multiple parameters, and its efficacy. The current Windows® version has been rigorously compared to earlier versions to ensure comparable results. A bibliography is available from KayPENTAX.

CSL and Multi-Speech Options

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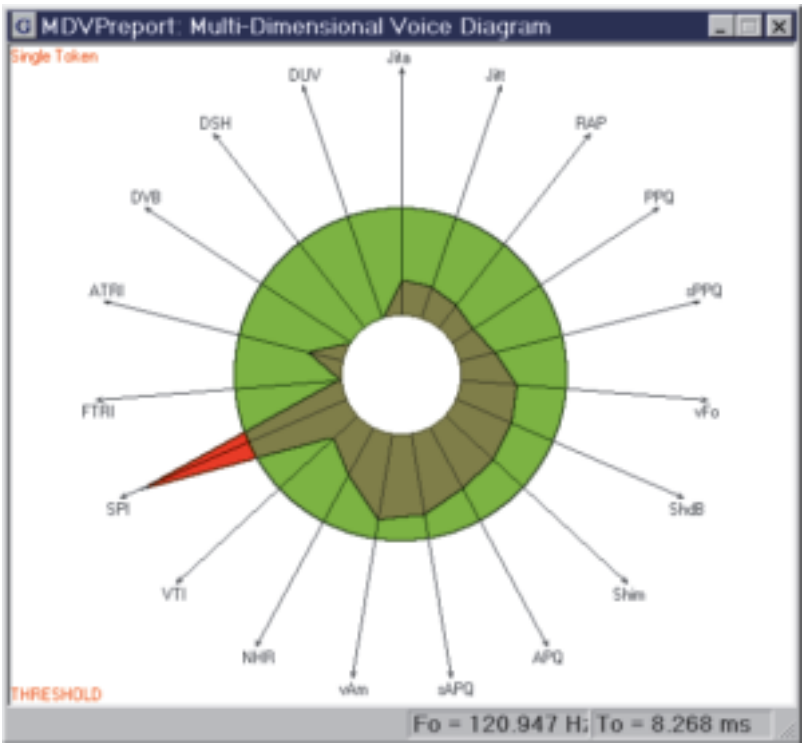


The MDVP radial graph shows the subject's voice parameters plotted on a circle of normative thresholds. Parameters within the normative thresholds are inside the circle and parameters above thresholds (e.g., SPI, Soft Phonation Index, in above graph) are plotted outside of circle.

Advanced and Basic Version

MDVP is delivered with both a basic version for quick operation of standard voicing analysis and an advanced version with a full set of MDVP commands and Multi-Speech™/CSL™ commands. This allows researchers to apply all of the advanced analysis features of these programs (e.g., narrow-band spectrogram) while in MDVP.

Choice of Graphic Comparison

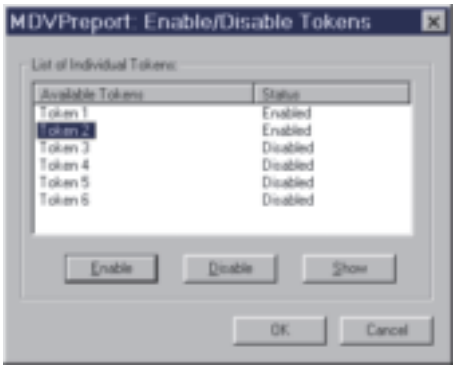
The current Windows version of MDVP can graphically compare the patient's voice parameters with normative thresholds or with average norms and standard deviations.

Hardware Recommendation

MDVP will operate with either Multi-Speech or CSL. Note that it is strongly advised that a professional hardware system (e.g., CSL, DAT, ADAT, etc.) be used to accurately acquire signals for voice analysis.

Multiple Tokens

MDVP can acquire, average, and analyze multiple tokens of the subject's voice as recommended by the National Center for Voice and Speech in their Voice Analysis Workgroup.



MDVP can analyze and average multiple tokens as recommended by NCVS standards.

Summary

MDVP is the leading voice analysis program because of its powerful features, its proven record, its robust operation, its comprehensive reports, and its ease of use.

Options for CSL and Multi-Speech

- **Analysis-Synthesis Laboratory (ASL)**
- **Applied Speech Science for Dysarthrias**
- **Applied Speech Science for Voice & Resonance Disorders**
- **Auditory Feedback Tools**
- **Disordered Voice Database and Program**
- **Games**
- **Motor Speech Profile**
- **Multi-Dimensional Voice Program**
- **Neuroscience for Human Communications**
- **Palatometer Database**
- **Phonetic & Perception Simulation Programs**
- **Phonetic Database**
- **Real-Time EGG Analysis**
- **Real-Time Pitch**
- **Real-Time Spectrogram**
- **Respiration, Phonation and Prosody Simulation**
- **Signal Enhancement Program**
- **Sona-Match**
- **Speech Articulation: Animation of Muscle Vectors**
- **Video Phonetics Program and Database**
- **Voice Range Profile Program**

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