

TF32

TF32, time-frequency analysis software program for 32-bit Windows (98/NT/2000/XP) superceding CSpeech for DOS, records, displays, analyses, and plays speech or other audio-frequency waveforms. Imports common waveform formats, displays up to 32 channels at multiple sample rates, computes pitch, RMS/dB trace, LPC inverse filter with glottal parameter measurement, time-frequency gray-scale spectrogram with editable formant track overlay, text labels, time-slice spectrogram (Fourier, LPC, moments), and voice perturbation (jitter, shimmer, periodicity SNR). Package levels are

Demo supports playback and waveform import only, no record or save of waveforms.

Basic adds recording up to 2 channels through any Windows-compatible sound card, saving recorded waveforms to files in formats that include lossless data-compressed, Windows .WAV, and NIST/TIMIT SPHERE format.

Lab Automation adds recording up to 16 DC-coupled channels at differential sample rates using the Data Translation 300 series (PCI bus) or 9800 series (USB) A/D cards (requires Windows 98 or later). Text configuration file specifies channels and automated measurements when logging waveform acquisition trials. Added analyses include automated measurement of velar port and laryngeal aerodynamic resistance from mouth tube pressure and air flow mask waveforms.

Prices – valid through December 31, 2010

Demo level – download from http://userpages.chorus.net/cspeech	no charge
Basic level	\$595
Lab Automation level	\$1595
Additional custom configuration file for TF32 Lab Automation	\$595
Extra manual, authorizes a licensed use for Basic or Lab Automation level in audio-only mode	\$95
Shipping per manual outside Canada, Mexico, and U.S.A.	\$60

A full copy of TF32 - manual and installation disk - is required per person in an organization who may be contacting us for support. That person may install TF32 on multiple computers. The purchase of TF32 grants one licensed use; simultaneous operation on multiple computers requires a license for each extra use. Purchase of an extra manual adds a licensed use for the Basic Level or for the Lab Automation Level in audio-only mode; each use of TF32 with a Data Translation or other A/D card to collect aerodynamic or other DC-coupled signals requires purchase of a full Lab Automation license. Extra manuals may be ordered at any time. Purchase of Lab Automation level includes one custom configuration file written to your specifications for channels and sampling rates.

Prices in U.S. dollars paid by check through a U.S. bank. Purchase of TF32 includes software only – any hardware must be purchased from the appropriate vendor. Purchaser responsible for any applicable taxes, or import duties outside United States. To order, send check or purchase order to:

Paul Milenkovic
 118 Shiloh Dr.
 Madison, Wisconsin 53705-2433 U.S.A
 608 833-7956 (weekdays between 7 and 9 AM Central Time).

View the Web site at <http://userpages.chorus.net/cspeech>,
 send e-mail inquiries to cspeech@chorus.net.

Requirements for TF32

TF32 requires a PC running Windows 95/98/ME/NT/2000/XP. A recommended minimum configuration for a computer purchase includes an 800 MHz Pentium III processor, 128 megabytes RAM, and 30 gigabytes of disk storage; a recommended minimum configuration for an existing computer includes a 500 MHz Celeron, 64 megabytes RAM, and 8 gigabytes disk storage. When recording a single audio channel at 22 kHz rate, each additional 64 megabytes of RAM increases the maximum recording duration by about 20 minutes, up to the 512 megabyte limit of Windows 98. At the 22 kHz rate, each gigabyte of disk storage adds about 5 hours of recordings that can be saved. A CD recorder is recommended for archiving your audio waveform files – each 650 megabyte CD platter can save about 3 hours at the 22 kHz rate.

A graphics card supporting a minimum 75 Hz refresh rate is recommended for smooth scrolling of waveform and spectrogram displays. Of computers without a graphics card, those with the Intel 815 mainboard (such as the Dell Dimension series) will give satisfactory scrolling; other computers with mainboard graphics may not scroll smoothly.

A 17 video-tube inch monitor with 1025 by 768 resolution is recommended; a 15 inch monitor with 800 by 600 resolution is adequate. LCD monitors give very poor scrolling or any other video motion, but they are satisfactory of static displays in TF32. The TF32 Demo version is useful for evaluating a computer video display.

TF32 supports up to 2 channels of A/D and D/A on any Windows-compatible sound card. Sound cards are typically AC-coupled and suitable only for audio signals.

The Lab Automation level supports A/D on up to 16 DC-coupled channels using a Data Translation 300 series (PCI bus for desktop computer) or 9800 series (USB cable – desktop or laptop computer) A/D card with the Omni-CD software driver supplied by Data Translation (requires Windows 98 or later). DC-coupled channels are suitable for aerodynamic pressure and flow signals containing a constant level significant to the measurement. You can use a Data Translation card without D/A because all D/A in TF32 is through the Windows sound card.

A/D card vendor

Data Translation, 100 Locke Drive, Marlboro, MA 01752,
508 481-3700 or 800 525-8528 (phone), 508 481-8620 (fax)
Internet www.datx.com.

Transducers and DC amplifiers

Biocommunication Electronics, LLC, 4330 Beilfuss Drive, Madison, WI 53704,
608 243-1229 (phone and fax).

Glottal Enterprises, 1201 East Fayette Street, Syracuse, NY 13210,
315 422-1213 (phone), 315 422-1216 (fax)
Internet www.glottal.com,
e-mail info@glottal.com or sales@glottal.com.

Anti-alias filters

(901F1 8-Pole tuneable lowpass Butterworth filter)
Frequency Devices, 25 Locust Street, Haverhill, MA 01830,
978 374-0761 or 800 262-7074 (phone), 978 521-1839 (fax),
Internet www.freqdev.com,
e-mail techassist@freqdev.com or sales@freqdev.com.