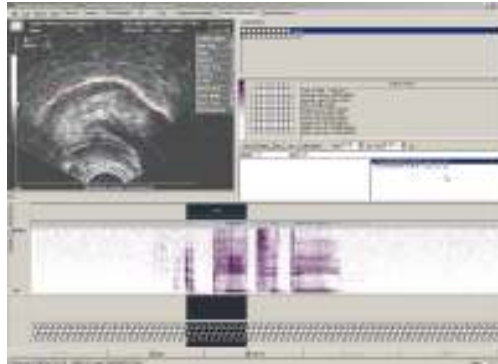
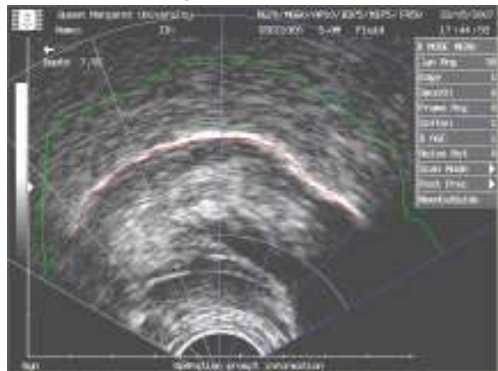


# Multichannel Systems

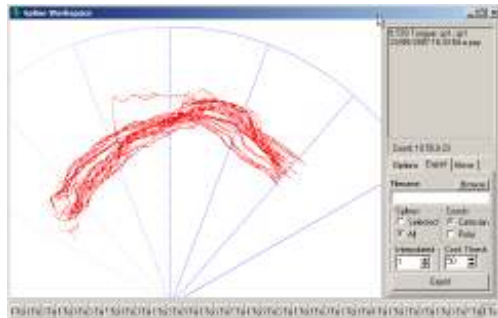
## Ultrasound Recording & Analysis



Ultrasound Analysis Window



Splines and grid superimposed on video image



Spline Workspace



Probe Stabilisation Helmet

### Recording

An optional module for the *Articulate Assistant Advanced™* software plus dedicated hardware allows ultrasound video to be recorded simultaneously with audio and EPG data. The system uses a high quality frame-grabber card with no compression in order to preserve detail and operates with any ultrasound system (not supplied). The recording interface is very similar to the one used for recording EPG but it has a display for monitoring the video signal.

### Analysis

Analysis is made easy with the following features:

- Playback whole or part Recording
- De-interlace images for more images per second
- Easy annotation of ultrasound/acoustic/EPG
- Automatic edge detection and spline fitting
- Integrated conversion from image pixels to actual size
- Calculate distances and areas between tongue and palate
- Export values to Excel or a statistics package
- Workspace for comparing tongue shapes from different recordings
- Publishable quality 2D plots of splines
- Export movies with splines for presentations
- New features added to keep pace with current research practice

### High Speed Ultrasound

The company is currently working on an ultrasound system specifically designed for speech research. It is designed to record ultrasound data at 100Hz and each image frame is clear and precisely synchronised with the acoustic signal. Since the system accesses the internal scanned data rather than the video output there are no discontinuities in the image.

### Probe Stabilisation Headset

One of the concerns when making ultrasound recordings is being able to maintain the transducer probe in a fixed relation to the head. The stabilisation helmet is adjustable to a wide range of head sizes and probe sizes. The headset allows the head to move while maintaining the probe in contact with the chin but in a fixed relation to the maxilla.

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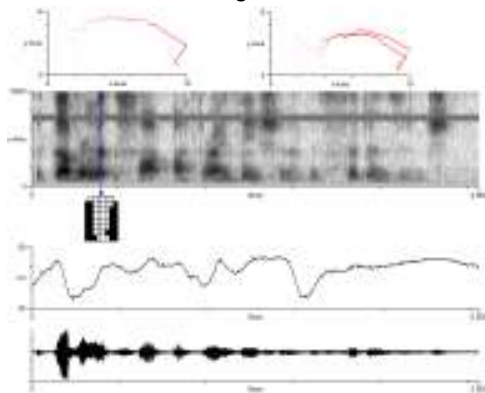
WWW: [www.articulateinstruments.com](http://www.articulateinstruments.com)

# Multichannel Systems

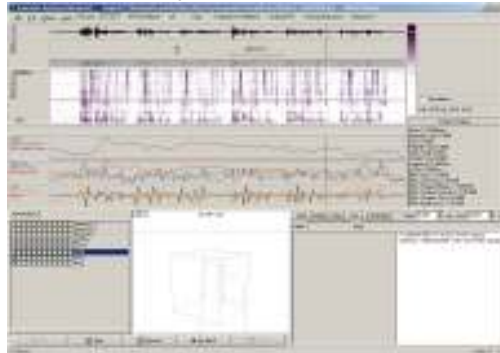
## EMA EGG Airflow



Ultrasound Recording Window



Publishable output from Advanced edition



Splines superimposed on video image



New "Articulate" Palate

### Hardware System Features

- Stackable. The Breakout Box BRK1 is physically compatible with the WinEPG system and Laryngograph system and can be stacked above or below these systems.
- Multiple connectors. All eight analogue input channels have BNC connectors. The first six channels have additional XLR, 6.35mm Jack sockets.
- Software selectable Line-level Input. The gain of each channel can be selected individually to be +/-1.25,2.5,5.0 or 10V.
- Noise reduction. All channels are wired as differential inputs to reduce noise. XLR connectors are wired as balanced inputs.

### Articulate Assistant Advanced™ software

The software has the following features:

- All the features of the standard software but with more sophisticated options and capable of handling multiple and varied signal sources simultaneously
- Publishable quality plots and figures
- New features added regularly as requested by customers

### EMA Analysis

An optional module for the *Articulate Assistant Advanced™* software allows 3D EMA data to be imported and analysed.

Features include:

- 3D dynamic display
- Smoothing, velocity and acceleration functions
- Programmable automatic peak picking

### New Palate Design

A new palate design is now available. They have the following features:

- Thinner and lighter
- Easier to manufacture so less expensive
- Possible to train local dental technicians to manufacture them
- No handgrip required (when used with latest multiplexer unit)
- More posterior positioning of velar row provides better registration of velar closures
- More anterior first row provides better registration of linguo-dental contact

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