

WAVEFORMS, SPECTRA, SPECTROGRAMS, AND VOCAL TRACT AREA FUNCTIONS

This appendix contains a file of waveforms, spectra, and spectrograms for most vowels and some fricatives for real speech samples. The vocal tract area functions and their corresponding waveforms and spectra are for synthesized vowels using the articulatory speech synthesizer. There are also the waveforms and spectrograms for four sentences that have been phonetically parsed. The labels used for this parsing are not the conventional phoneme symbols, rather we have chosen to use conventional spelling of the words in each sentence, but space the letters according to the phoneme boundaries. Finally, the spectra and the vocal tract area functions for five Russian vowels are given. The vocal tract area functions for these vowels were measured from x-ray data taken in the 1950s. These data have been used by numerous investigators, including Fant (1960), who describes the data and how it was collected.

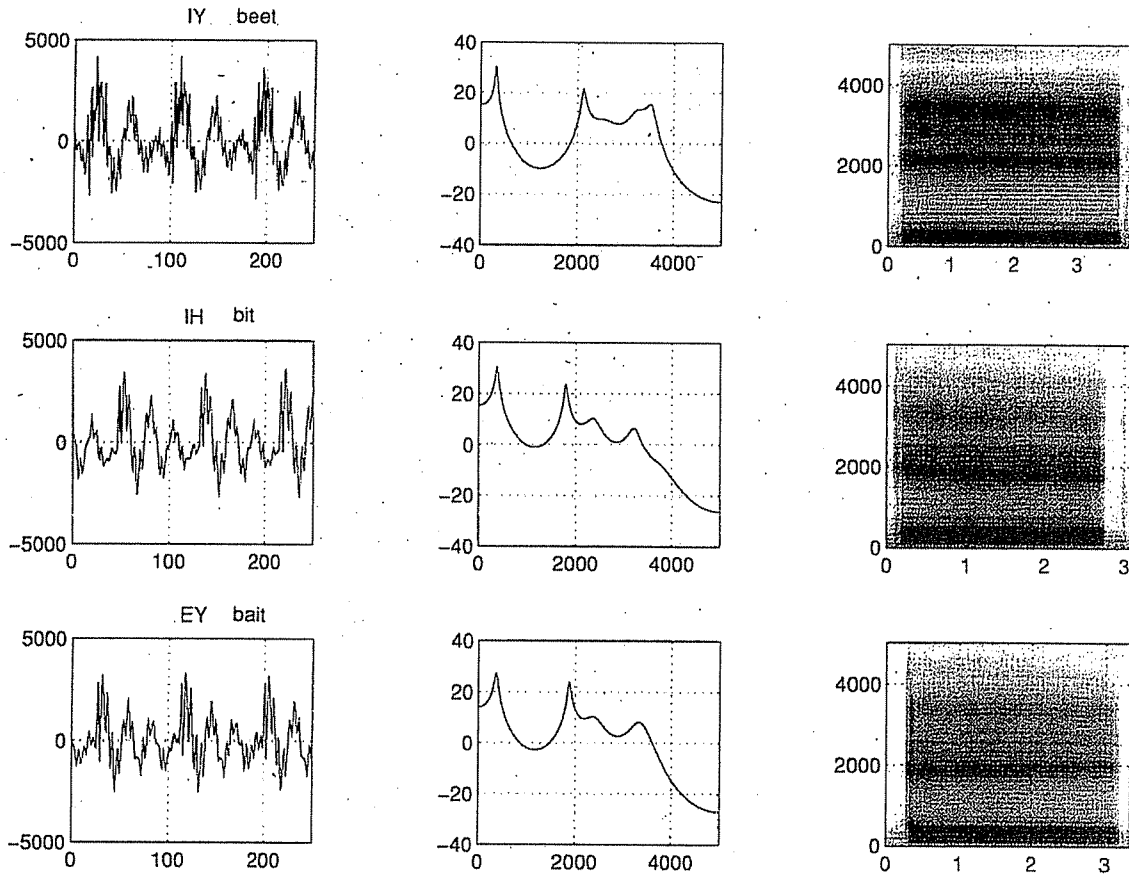


FIGURE A5.1

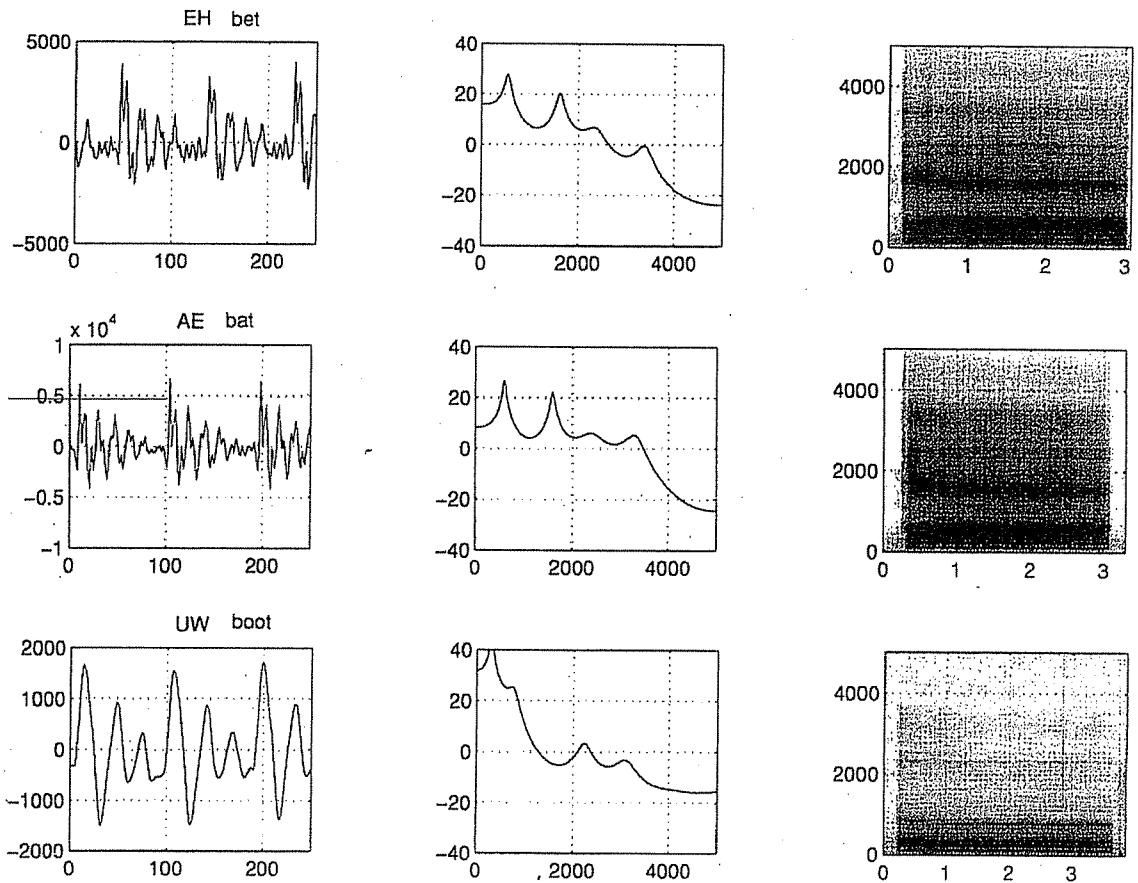


FIGURE A5.2

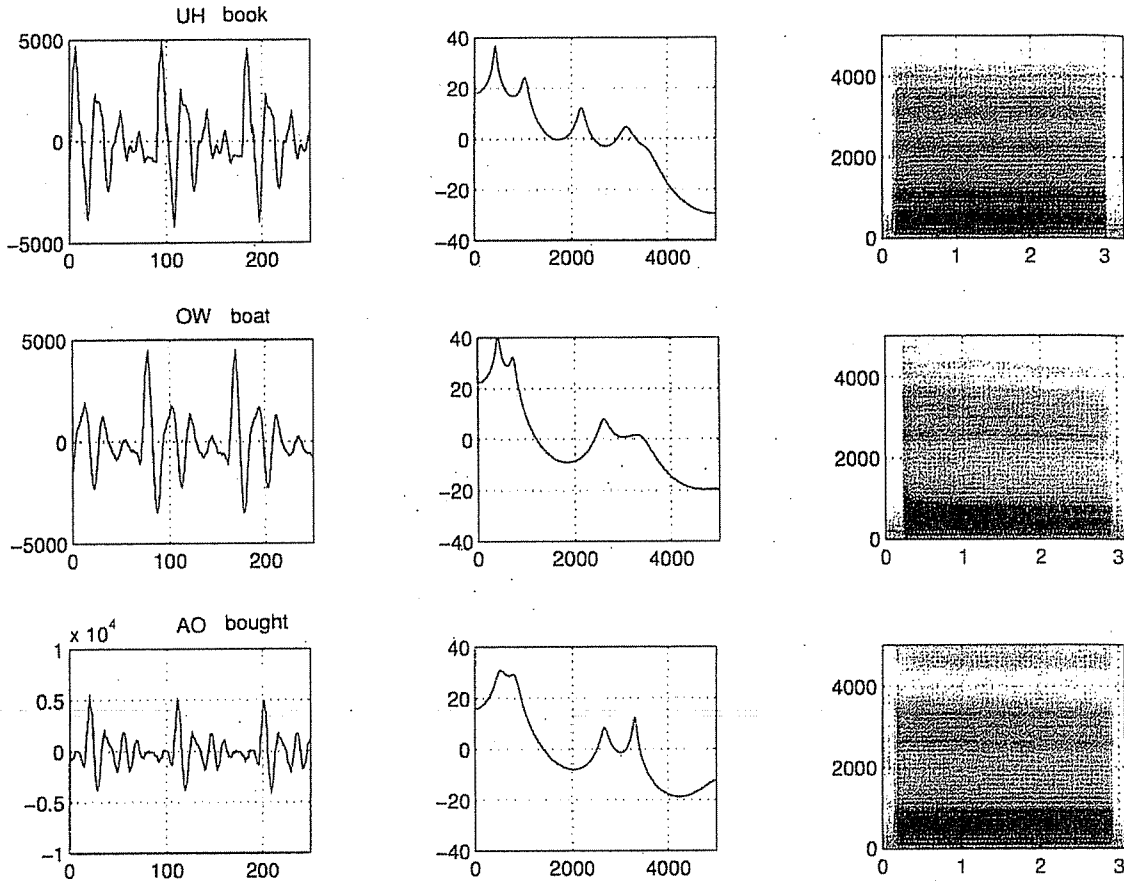


FIGURE A5.3

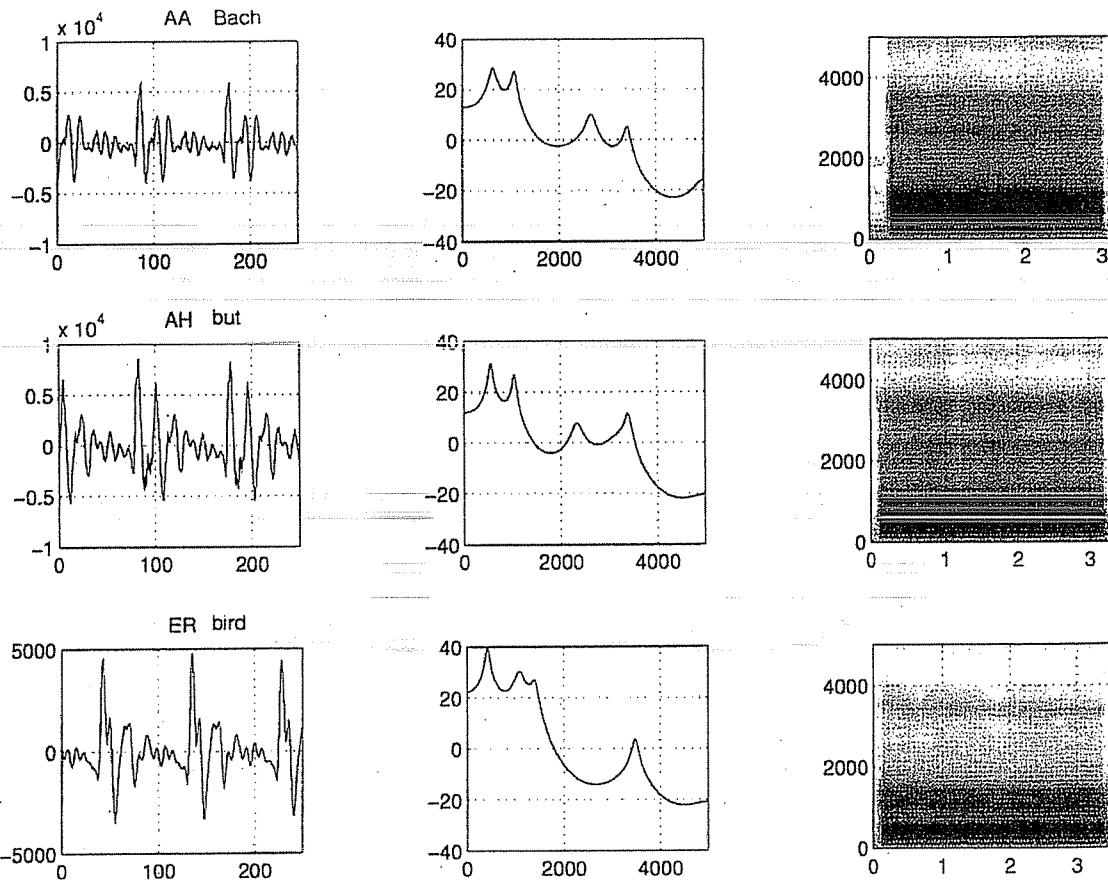


FIGURE A5.4

IY beet

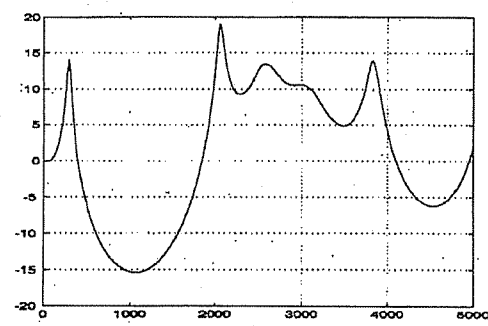
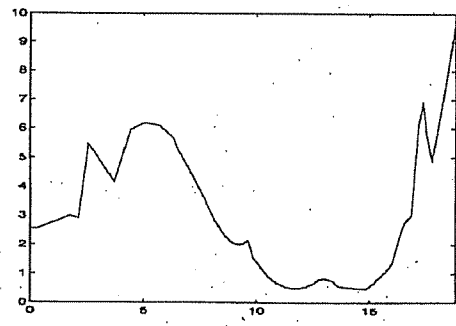
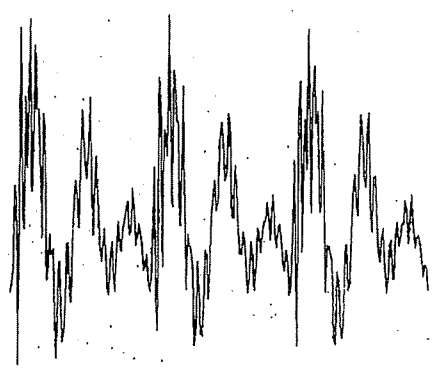
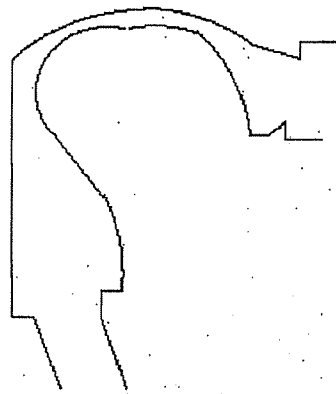


FIGURE A5.5

IH bit

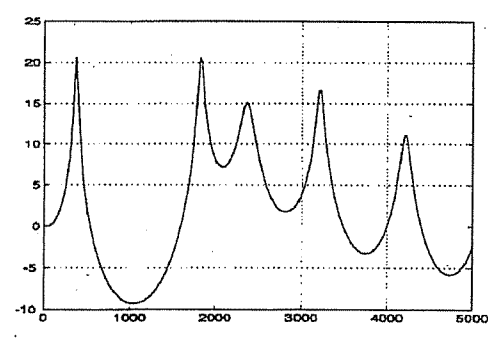
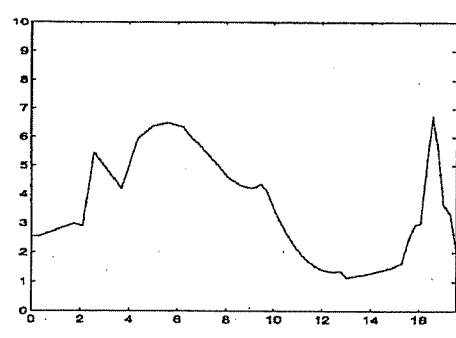
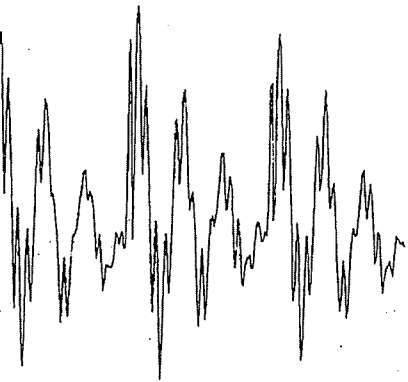
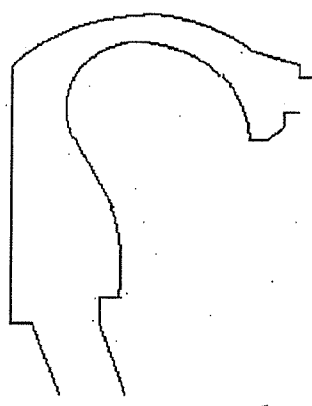


FIGURE A5.6

EY bait

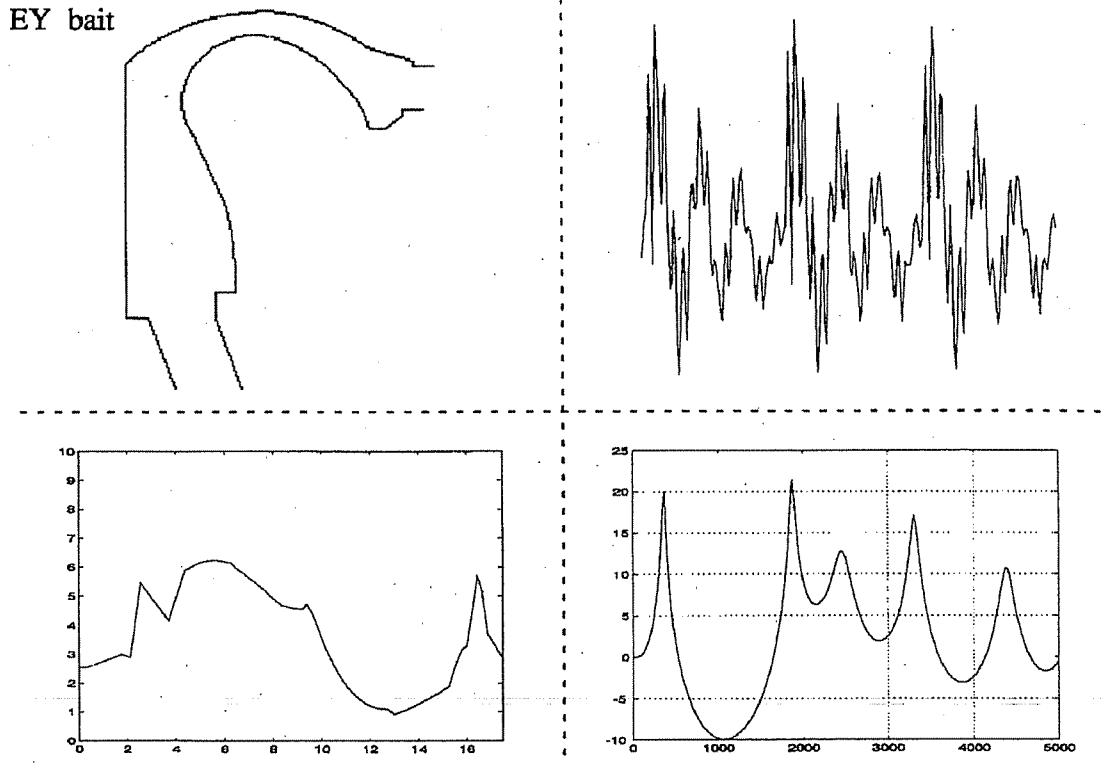


FIGURE A5.7

EH bet

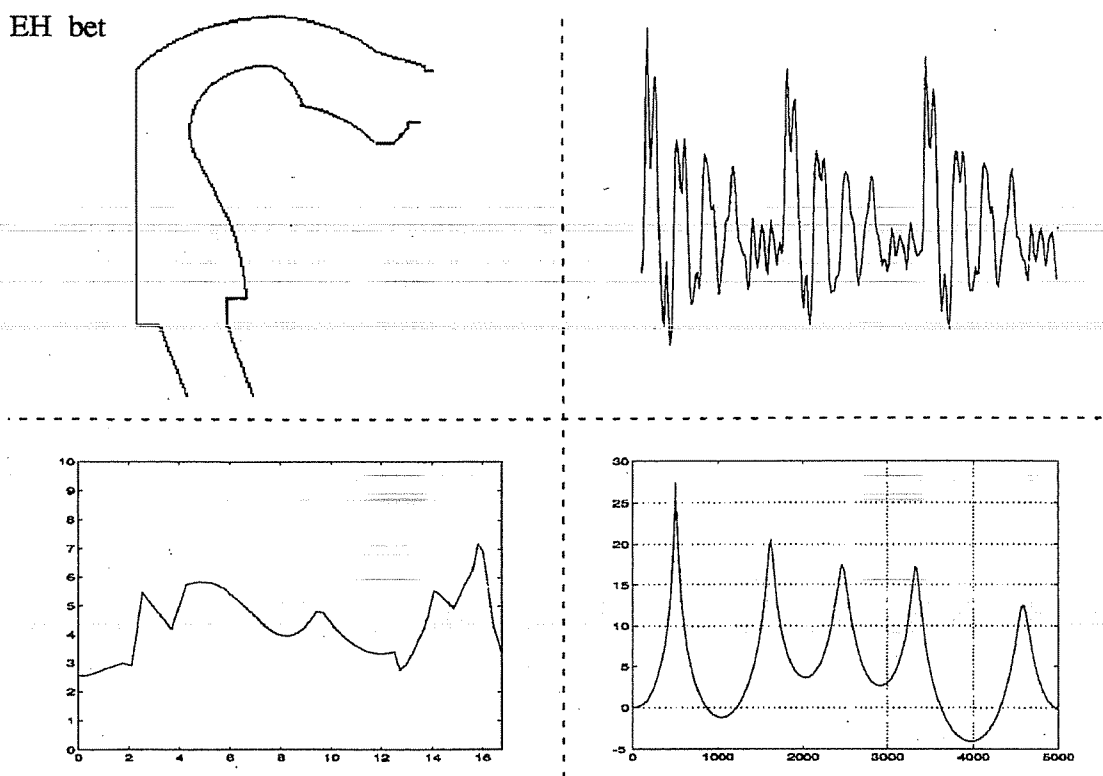


FIGURE A5.8

AE bat

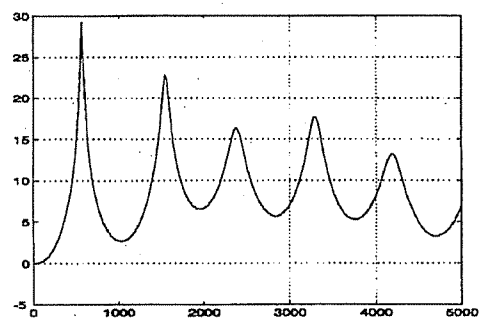
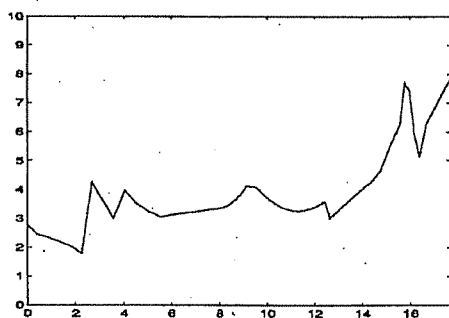
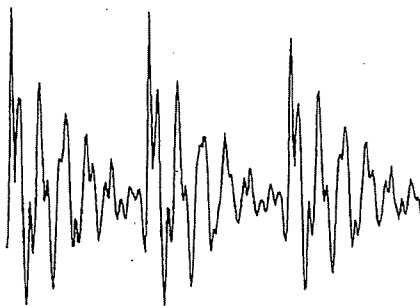
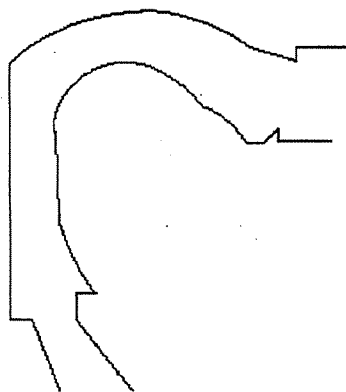


FIGURE A5.9

UW boot

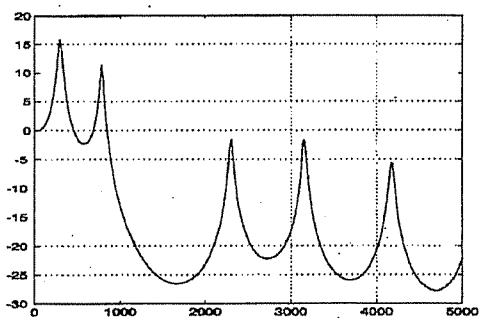
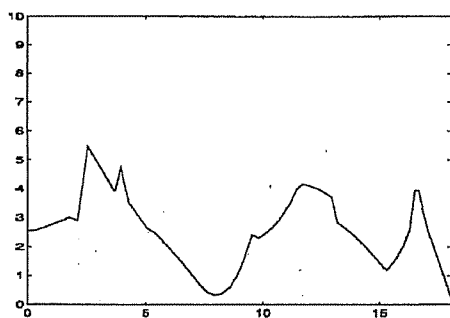
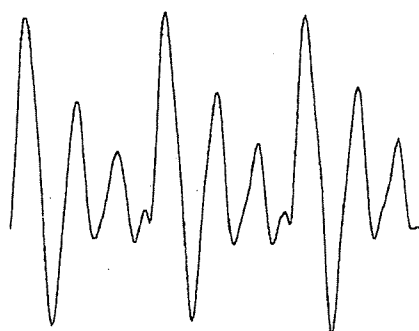
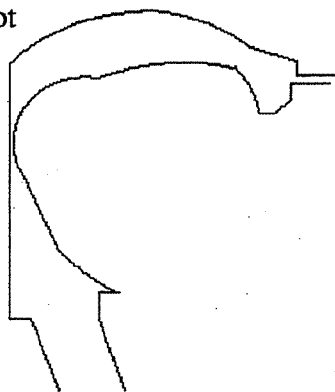


FIGURE A5.10

UH book

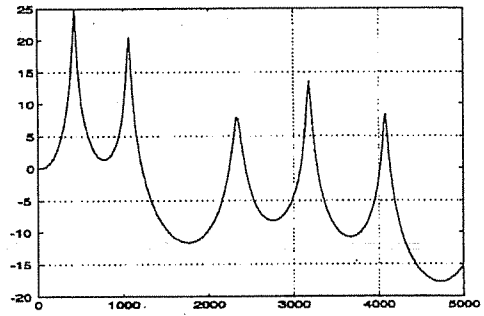
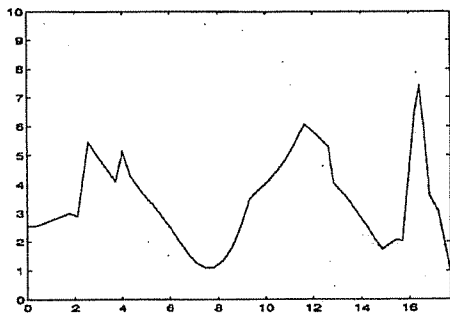
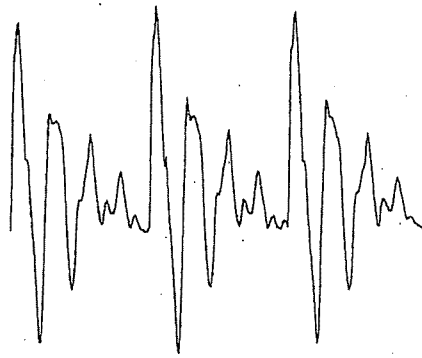
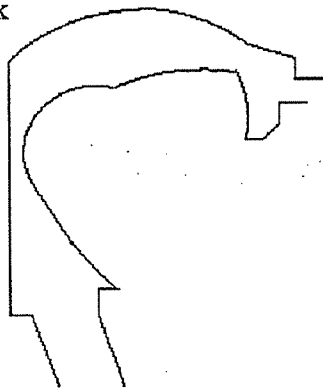


FIGURE A5.11

OW boat

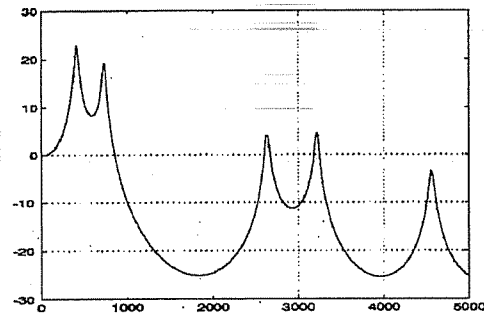
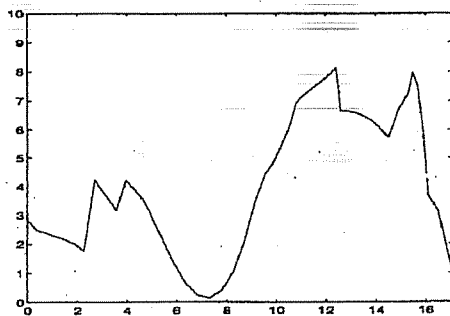
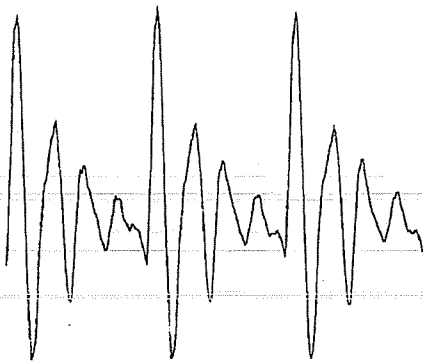
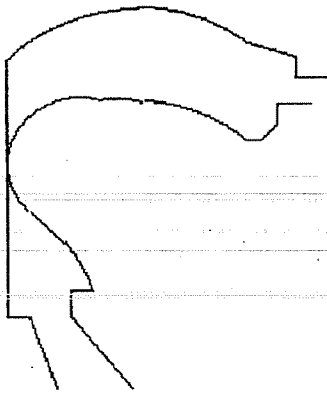


FIGURE A5.12

AO bought

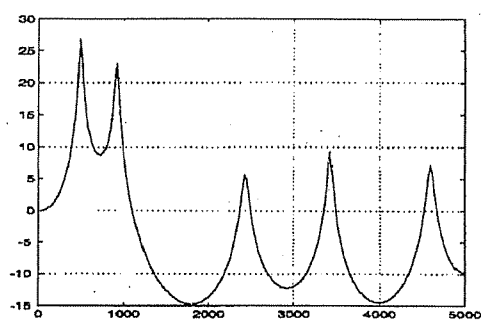
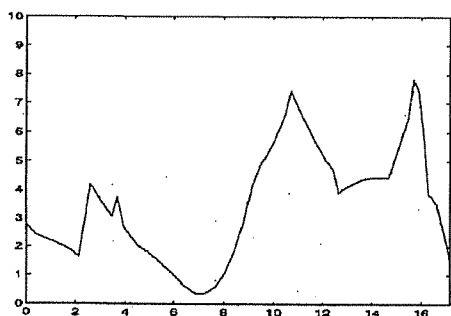
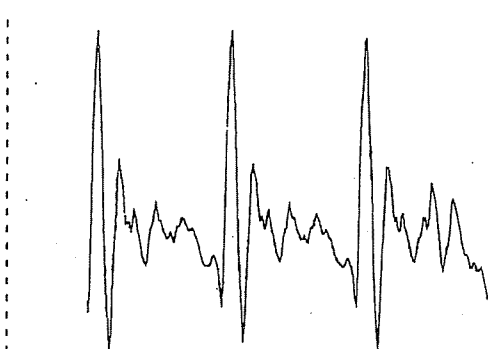
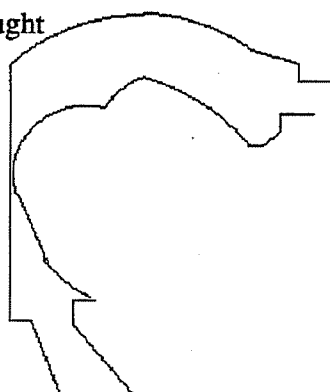


FIGURE A5.13

AA Bach

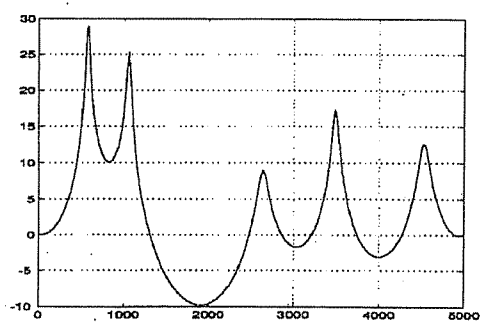
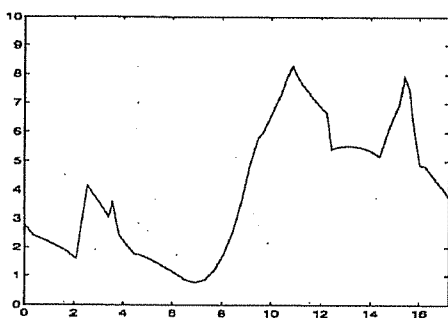
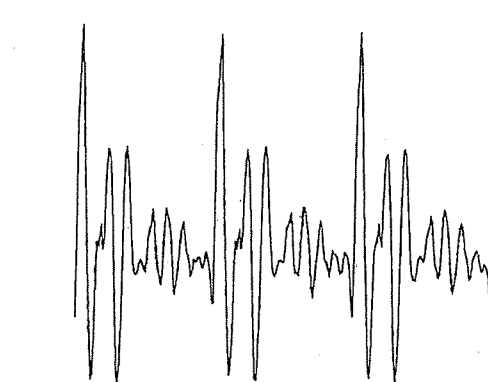
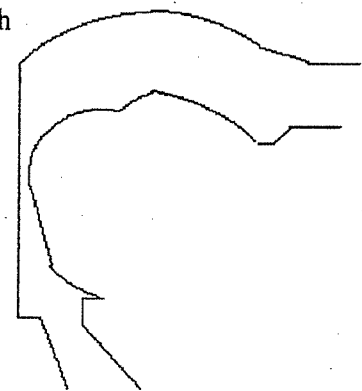


FIGURE A5.14

AH but

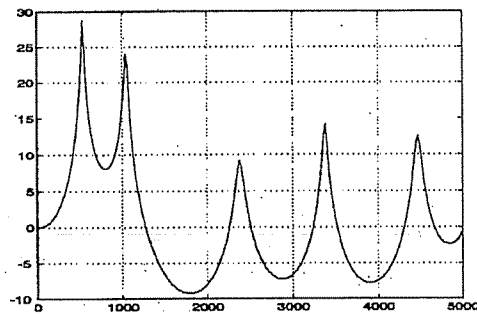
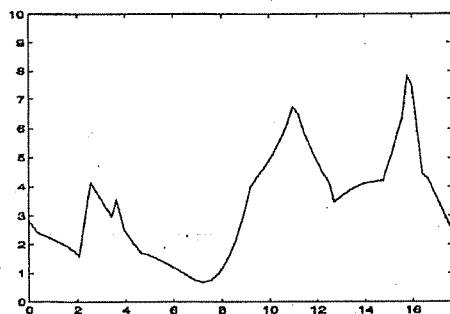
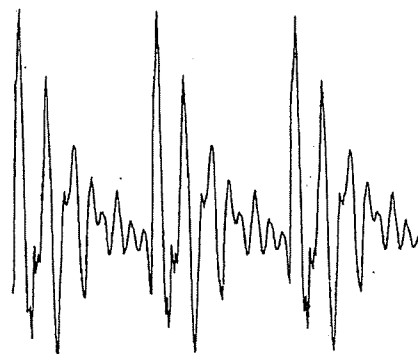
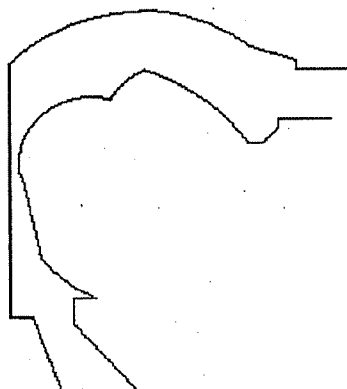


FIGURE A5.15

ER bird

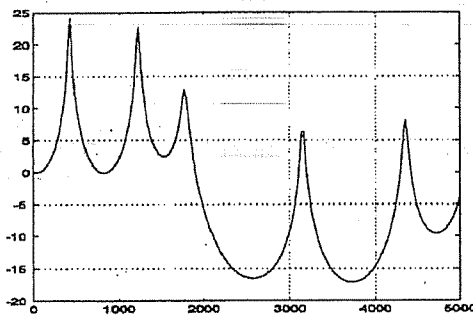
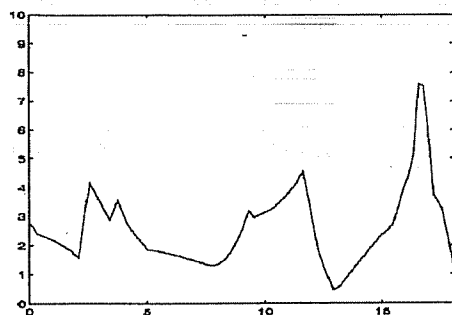
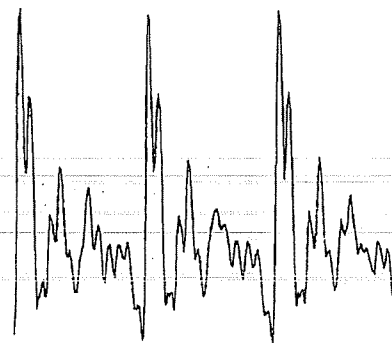


FIGURE A5.16

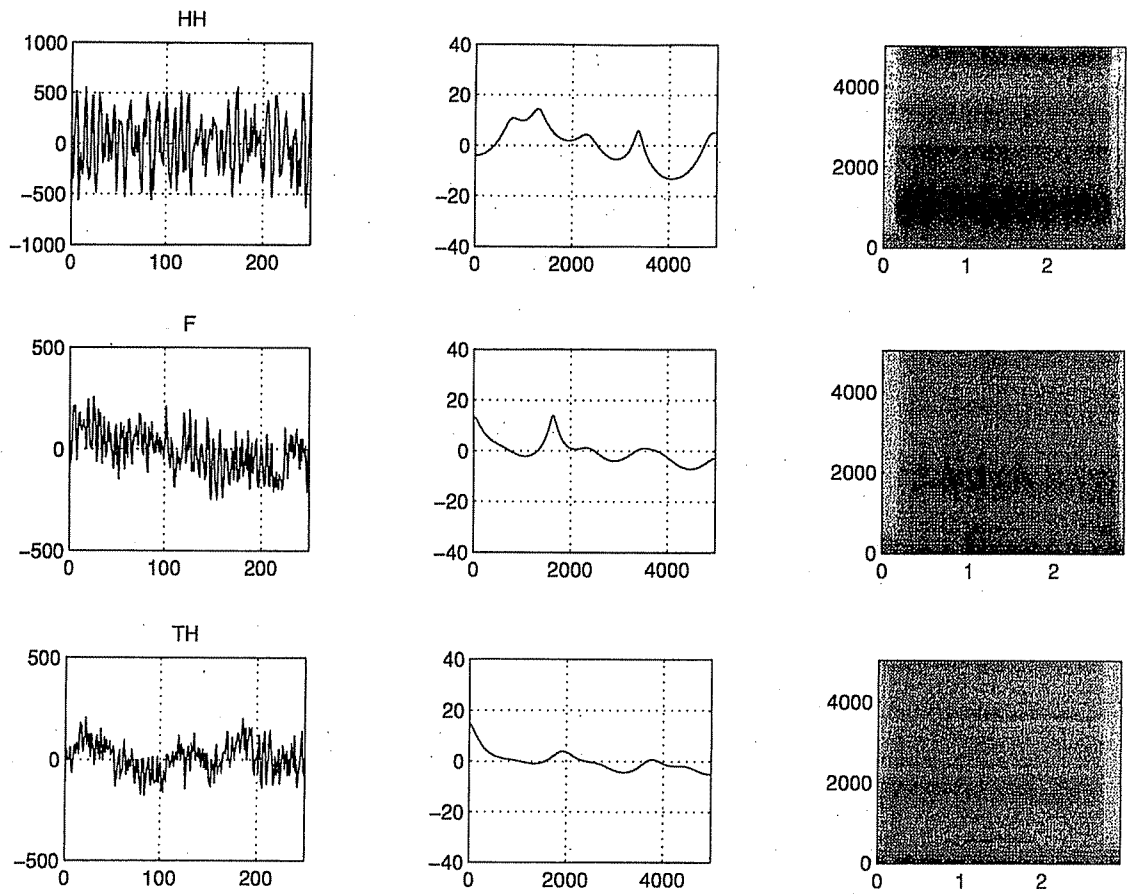


FIGURE A5.17

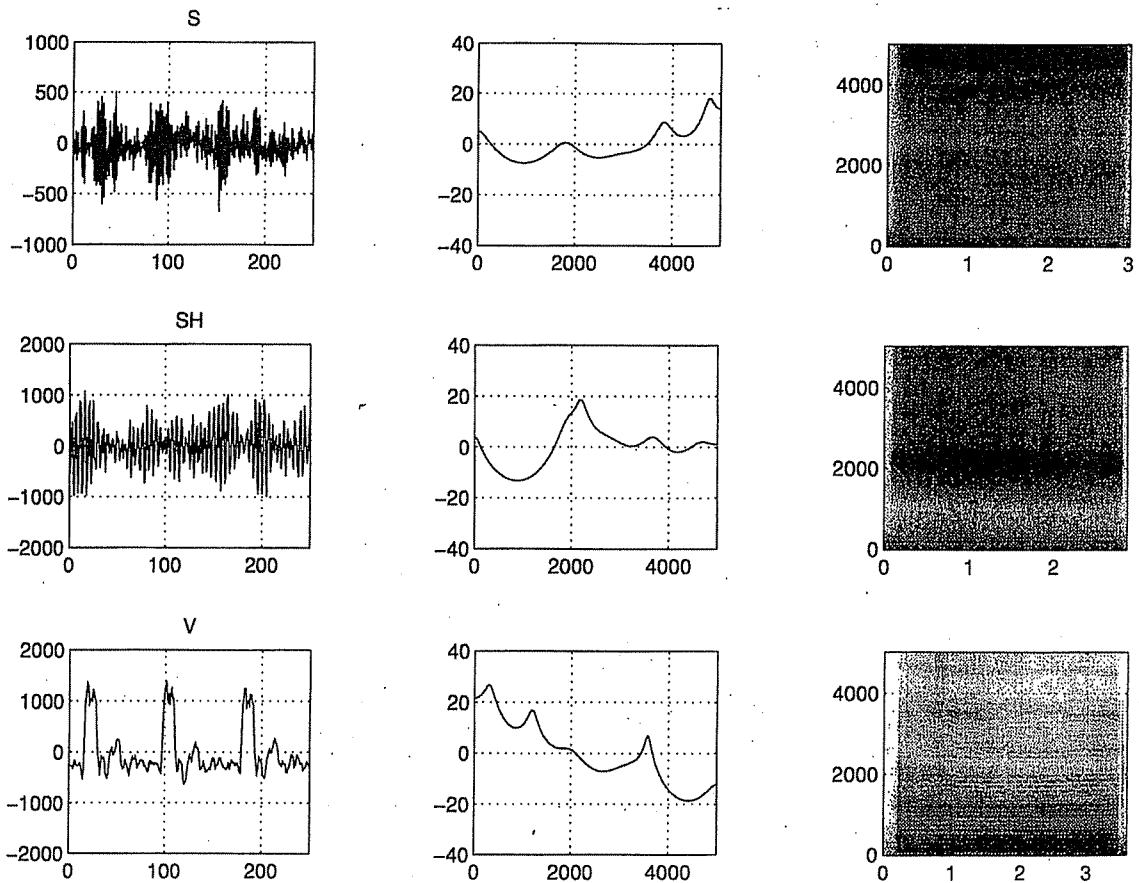


FIGURE A5.18

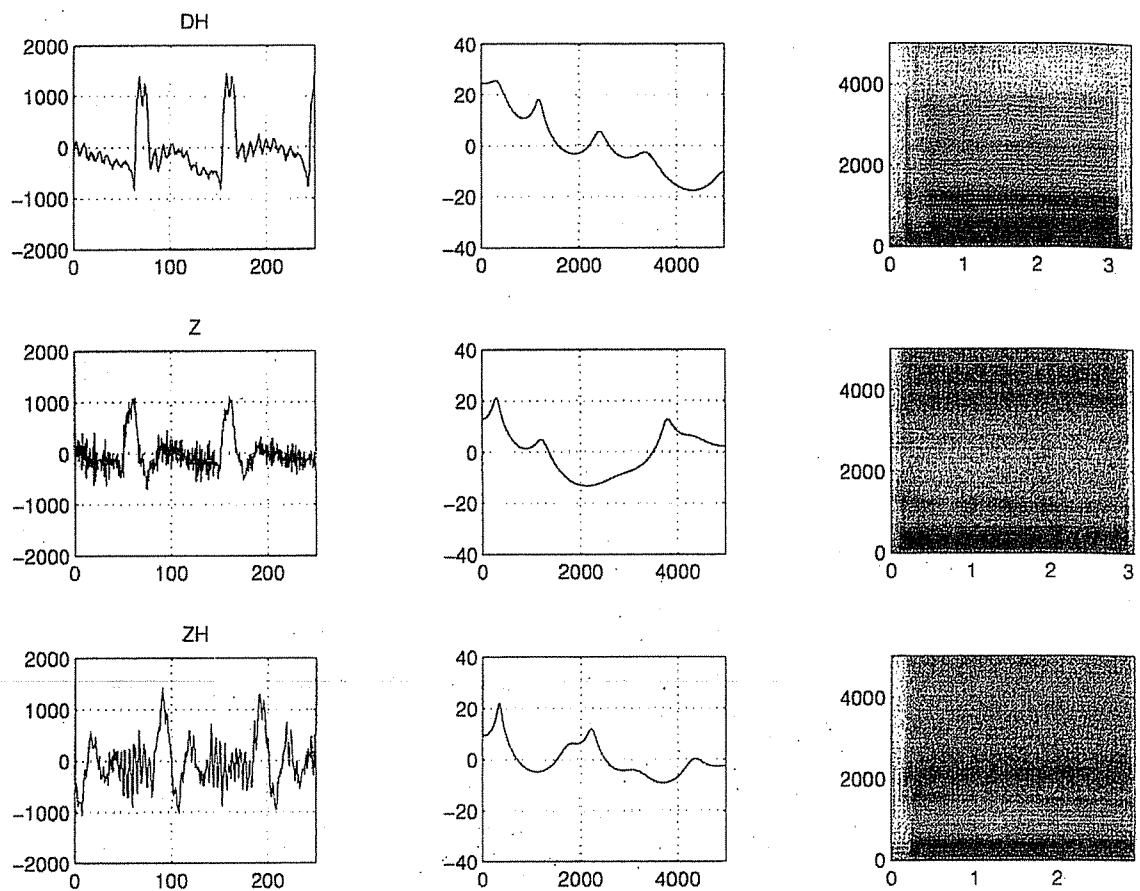


FIGURE A5.19

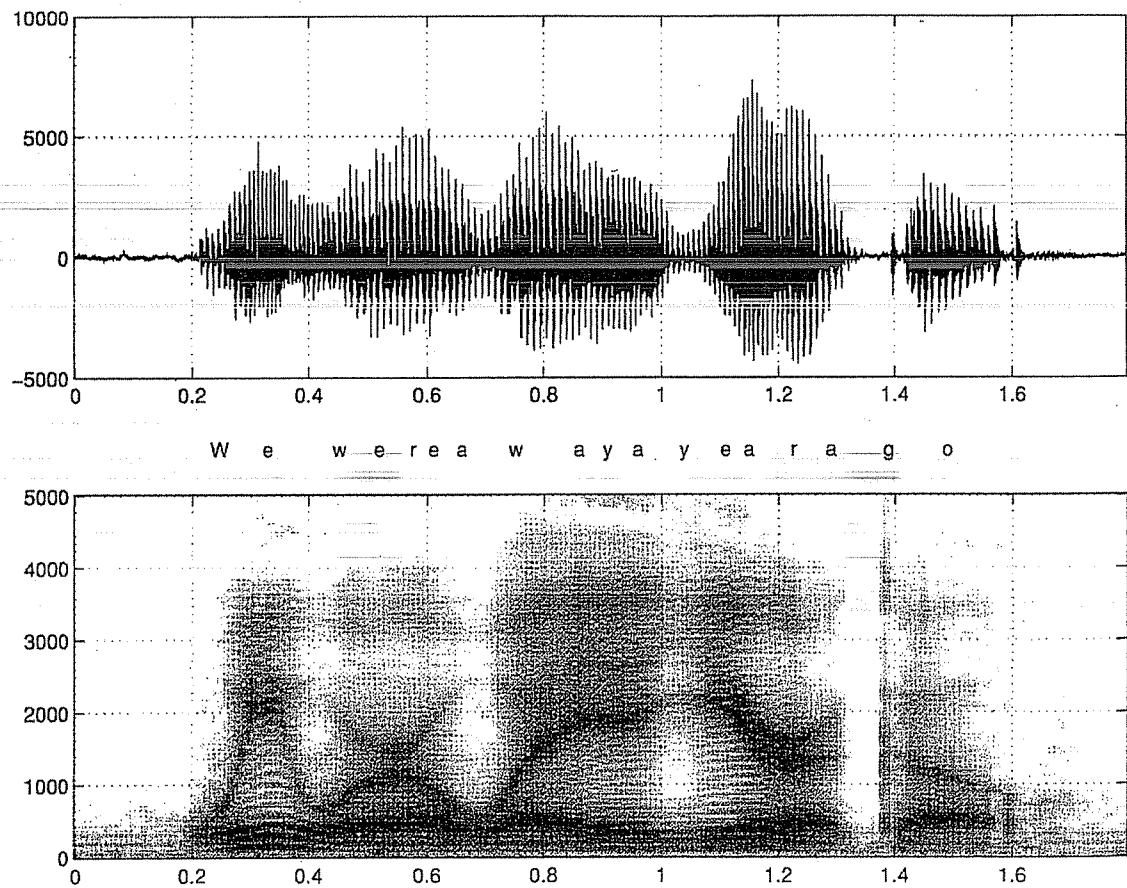


FIGURE A5.20

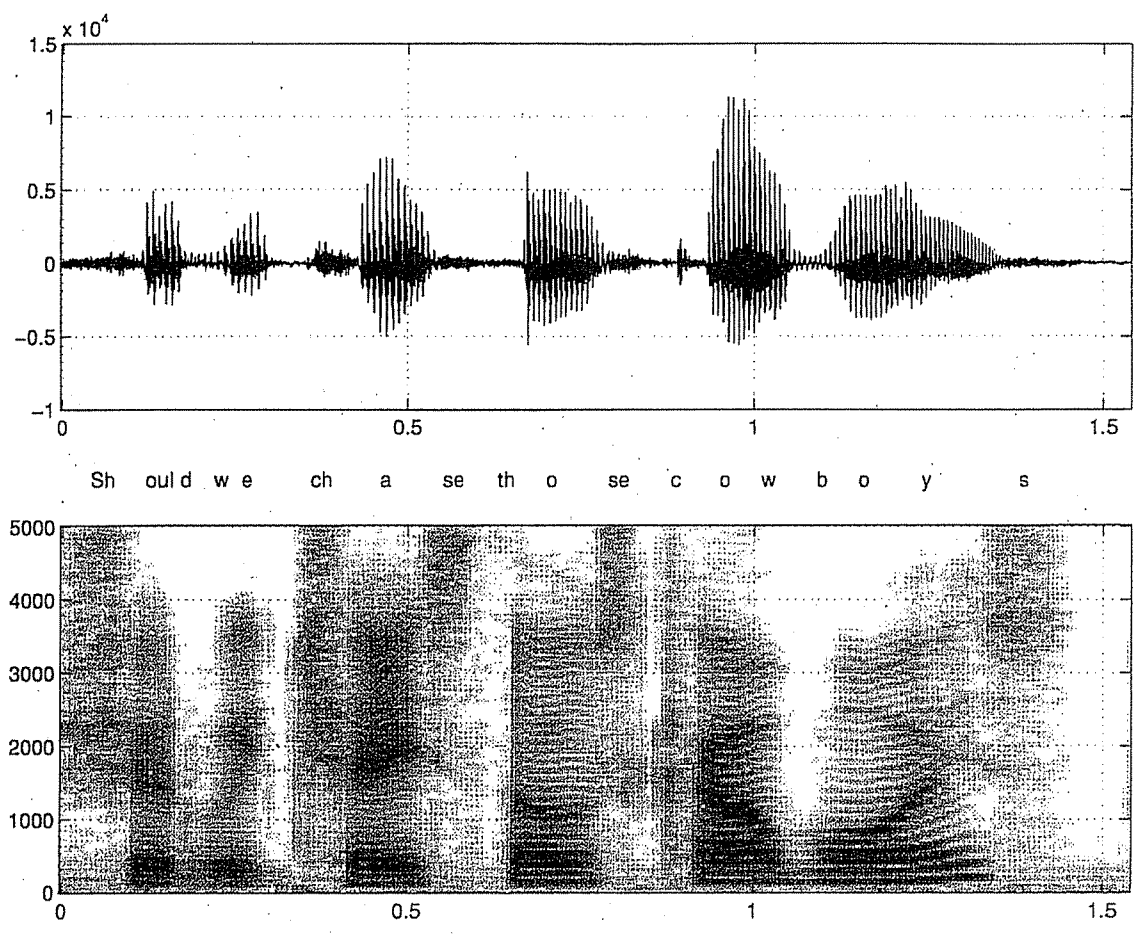


FIGURE A5.21

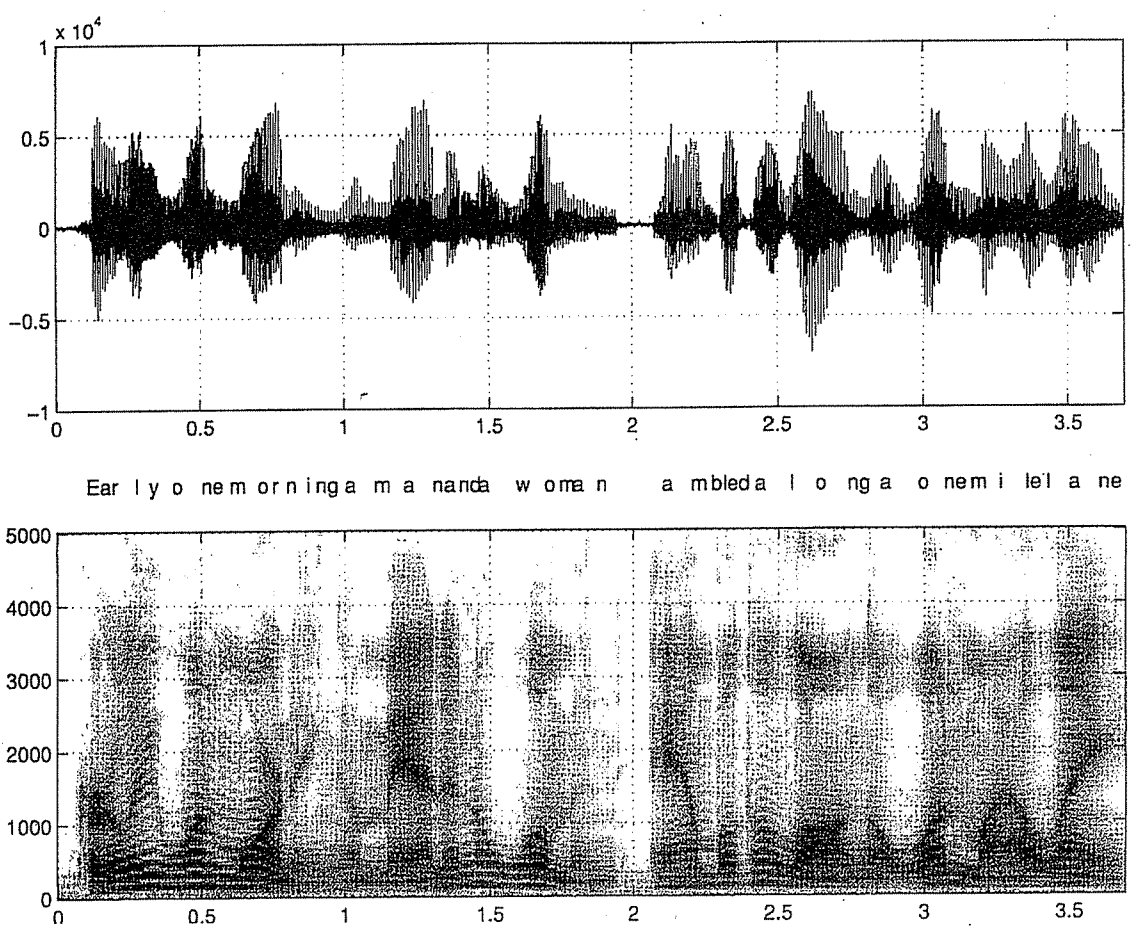
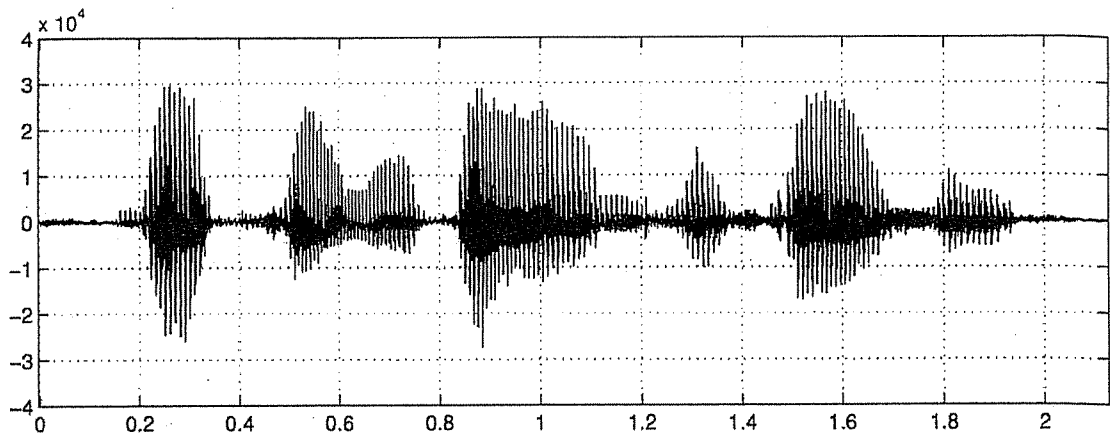


FIGURE A5.22



Th a t z a n y v a n i s a z ure

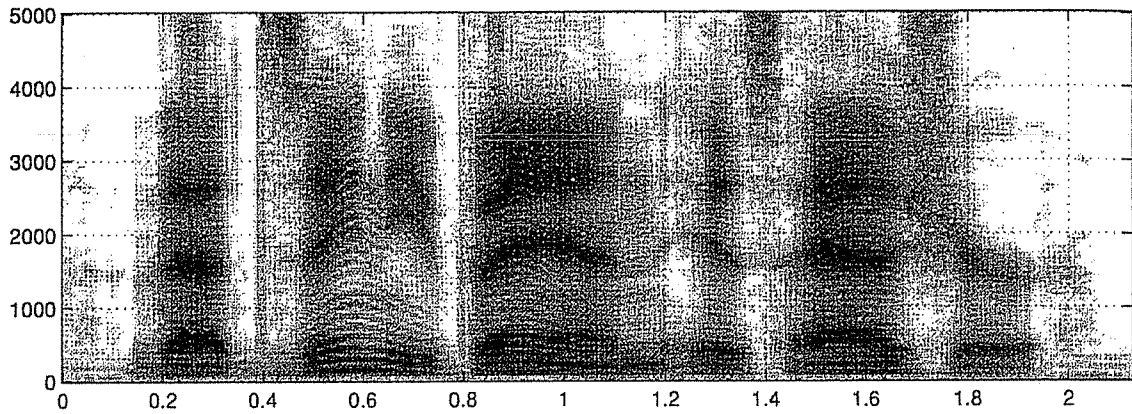


FIGURE A5.23

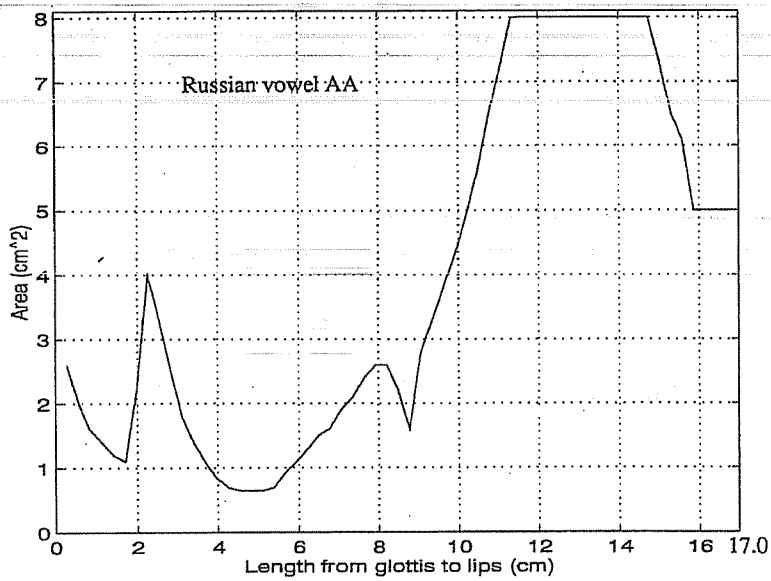


FIGURE A5.24a

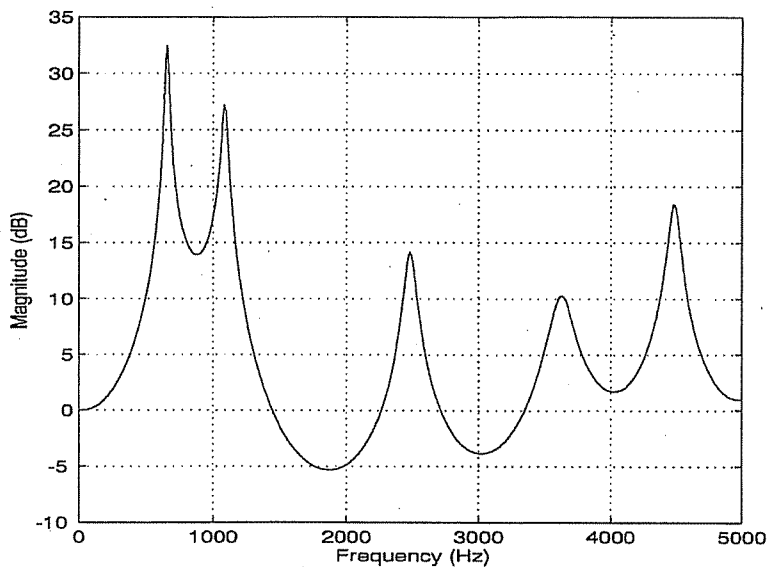


FIGURE A5.24b (Continued.)

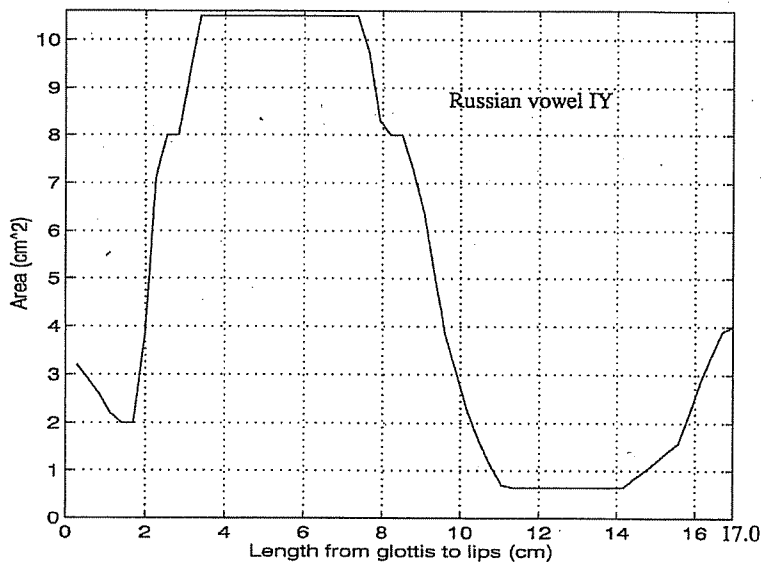


FIGURE A5.25a

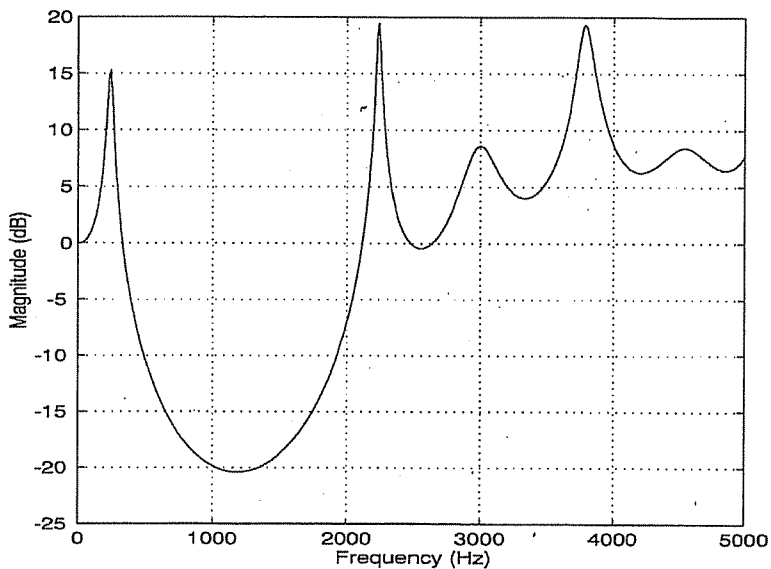


FIGURE A5.25b

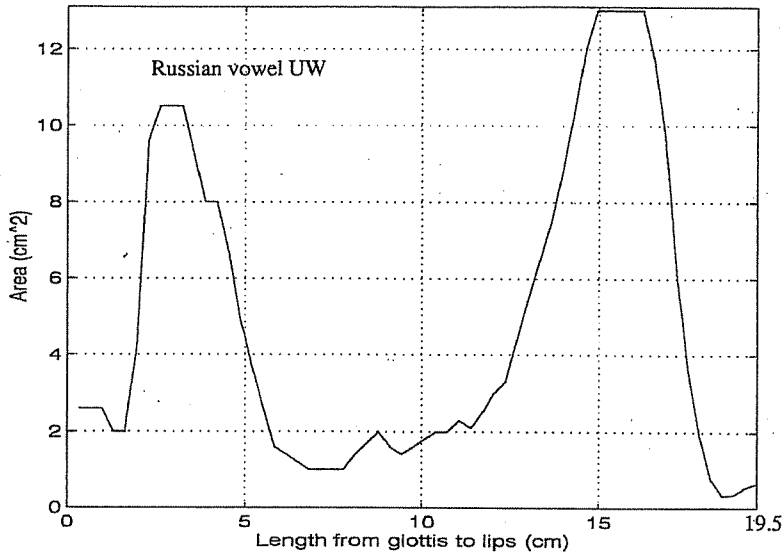


FIGURE A5.26a

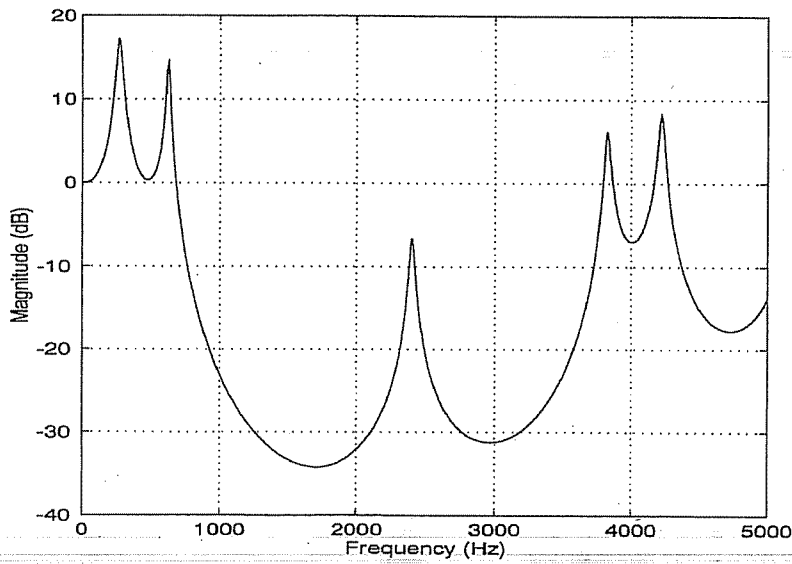


FIGURE A5.26b

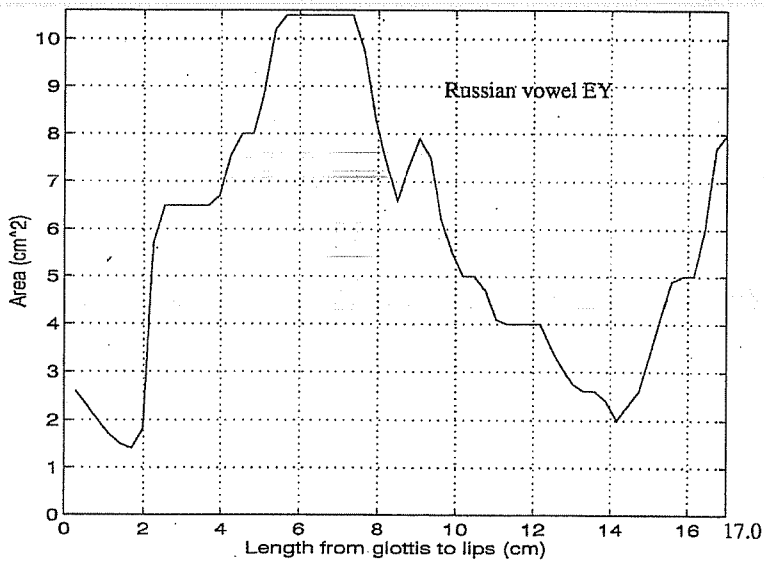


FIGURE A5.27a

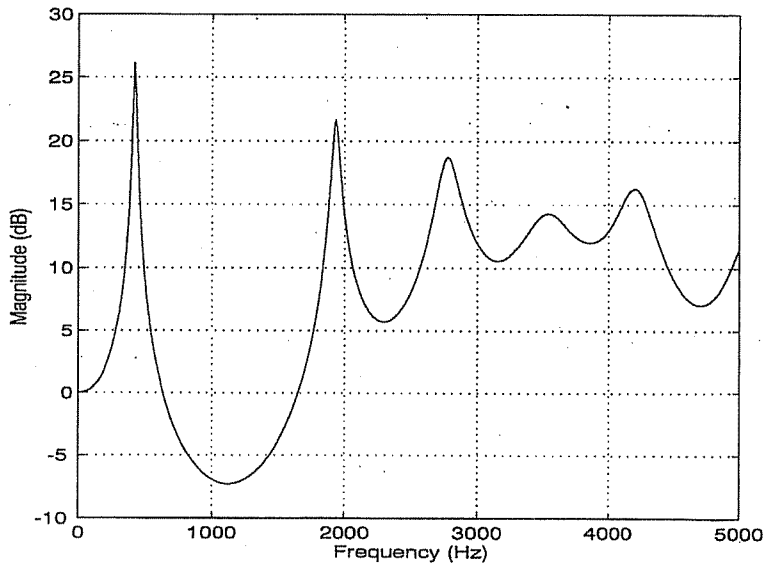


FIGURE A5.27b (Continued.)

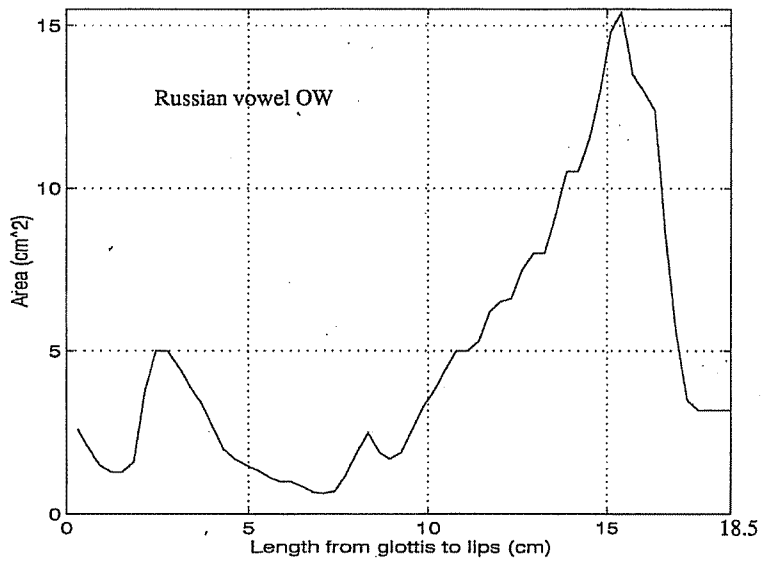


FIGURE A5.28a

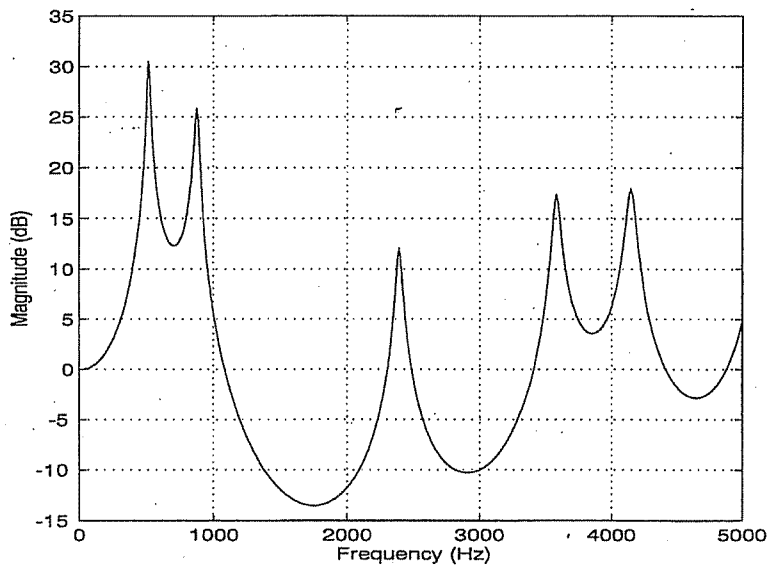


FIGURE A5.28b