

Formant Table

| | F1 | F2 | F3 | F4 | F5 |
|-----------------|-----|------|------|------|------|
| Soprano "A" | | | | | |
| Frequency (Hz) | 800 | 1150 | 2900 | 3900 | 4950 |
| Amplitude (dB) | 0 | -6 | -32 | -20 | -50 |
| Band Width (Hz) | 80 | 90 | 120 | 130 | 140 |

| | F1 | F2 | F3 | F4 | F5 |
|-----------------|-----|------|------|------|------|
| Soprano "E" | | | | | |
| Frequency (Hz) | 350 | 2000 | 2800 | 3600 | 4950 |
| Amplitude (dB) | 0 | -20 | -15 | -40 | -56 |
| Band Width (Hz) | 60 | 100 | 120 | 150 | 200 |

| | F1 | F2 | F3 | F4 | F5 |
|-----------------|-----|------|------|------|------|
| Soprano "I" | | | | | |
| Frequency (Hz) | 270 | 2140 | 2950 | 3900 | 4950 |
| Amplitude (dB) | 0 | -12 | -26 | -26 | -44 |
| Band Width (Hz) | 60 | 90 | 100 | 120 | 120 |

| | F1 | F2 | F3 | F4 | F5 |
|-----------------|-----|-----|------|------|------|
| Soprano "O" | | | | | |
| Frequency (Hz) | 450 | 800 | 2830 | 3800 | 4950 |
| Amplitude (dB) | 0 | -11 | -22 | -22 | -50 |
| Band Width (Hz) | 70 | 80 | 100 | 130 | 135 |

| | F1 | F2 | F3 | F4 | F5 |
|-----------------|-----|-----|------|------|------|
| Soprano "U" | | | | | |
| Frequency (Hz) | 325 | 700 | 2700 | 3800 | 4950 |
| Amplitude (dB) | 0 | -16 | -35 | -40 | -60 |
| Band Width (Hz) | 50 | 60 | 170 | 180 | 200 |

| | F1 | F2 | F3 | F4 | F5 |
|-----------------|-----|------|------|------|------|
| Alto "A" | | | | | |
| Frequency (Hz) | 800 | 1150 | 2800 | 3500 | 4950 |
| Amplitude (dB) | 0 | -4 | -20 | -36 | -60 |
| Band Width (Hz) | 80 | 90 | 120 | 130 | 140 |

| | F1 | F2 | F3 | F4 | F5 |
|-----------------|-----|------|------|------|------|
| Alto "E" | | | | | |
| Frequency (Hz) | 400 | 1600 | 2700 | 3300 | 4950 |
| Amplitude (dB) | 0 | -24 | -30 | -35 | -60 |
| Band Width (Hz) | 60 | 80 | 120 | 150 | 200 |

| | F1 | F2 | F3 | F4 | F5 |
|-----------------|-----|------|------|------|------|
| Alto "I" | | | | | |
| Frequency (Hz) | 350 | 1700 | 2700 | 3700 | 4950 |
| Amplitude (dB) | 0 | -20 | -30 | -36 | -60 |
| Band Width (Hz) | 50 | 100 | 120 | 150 | 200 |

| | F1 | F2 | F3 | F4 | F5 |
|-----------------|-----|-----|------|------|------|
| Alto "O" | | | | | |
| Frequency (Hz) | 450 | 800 | 2830 | 3500 | 4950 |
| Amplitude (dB) | 0 | -9 | -16 | -28 | -55 |
| Band Width (Hz) | 70 | 80 | 100 | 130 | 135 |

| | F1 | F2 | F3 | F4 | F5 |
|-----------------|-----|-----|------|------|------|
| Alto "U" | | | | | |
| Frequency (Hz) | 325 | 700 | 2530 | 3500 | 4950 |
| Amplitude (dB) | 0 | -12 | -30 | -40 | -64 |
| Band Width (Hz) | 50 | 60 | 170 | 180 | 200 |

| | F1 | F2 | F3 | F4 | F5 |
|------------------|-----|------|------|------|------|
| Countertenor "A" | | | | | |
| Frequency (Hz) | 660 | 1120 | 2750 | 3000 | 3350 |
| Amplitude (dB) | 0 | -6 | -23 | -24 | -38 |
| Band Width (Hz) | 80 | 90 | 120 | 130 | 140 |

| | F1 | F2 | F3 | F4 | F5 |
|------------------|-----|------|------|------|------|
| Countertenor "E" | | | | | |
| Frequency (Hz) | 440 | 1800 | 2700 | 3000 | 3300 |
| Amplitude (dB) | 0 | -14 | -18 | -20 | -20 |
| Band Width (Hz) | 70 | 80 | 100 | 120 | 120 |

| | F1 | F2 | F3 | F4 | F5 |
|------------------|-----|------|------|------|------|
| Countertenor "I" | | | | | |
| Frequency (Hz) | 270 | 1850 | 2900 | 3350 | 3590 |
| Amplitude (dB) | 0 | -24 | -24 | -36 | -36 |
| Band Width (Hz) | 40 | 90 | 100 | 120 | 120 |

| | F1 | F2 | F3 | F4 | F5 |
|------------------|-----|-----|------|------|------|
| Countertenor "O" | | | | | |
| Frequency (Hz) | 430 | 820 | 2700 | 3000 | 3300 |
| Amplitude (dB) | 0 | -10 | -26 | -22 | -34 |
| Band Width (Hz) | 40 | 80 | 100 | 120 | 120 |

| | F1 | F2 | F3 | F4 | F5 |
|------------------|-----|-----|------|------|------|
| Countertenor "U" | | | | | |
| Frequency (Hz) | 370 | 630 | 2750 | 3000 | 3400 |
| Amplitude (dB) | 0 | -20 | -23 | -30 | -34 |
| Band Width (Hz) | 40 | 60 | 100 | 120 | 120 |

| | F1 | F2 | F3 | F4 | F5 |
|-----------------|-----|------|------|------|------|
| Tenor "A" | | | | | |
| Frequency (Hz) | 650 | 1080 | 2650 | 2900 | 3250 |
| Amplitude (dB) | 0 | -6 | -7 | -8 | -22 |
| Band Width (Hz) | 80 | 90 | 120 | 130 | 140 |

| | F1 | F2 | F3 | F4 | F5 |
|-----------------|-----|------|------|------|------|
| Tenor "E" | | | | | |
| Frequency (Hz) | 400 | 1700 | 2600 | 3200 | 3580 |
| Amplitude (dB) | 0 | -14 | -12 | -14 | -20 |
| Band Width (Hz) | 70 | 80 | 100 | 120 | 120 |

| | F1 | F2 | F3 | F4 | F5 |
|-----------------|-----|------|------|------|------|
| Tenor "I" | | | | | |
| Frequency (Hz) | 290 | 1870 | 2800 | 3250 | 3540 |
| Amplitude (dB) | 0 | -15 | -18 | -20 | -30 |
| Band Width (Hz) | 40 | 90 | 100 | 120 | 120 |

| | F1 | F2 | F3 | F4 | F5 |
|-----------------|-----|-----|------|------|------|
| Tenor "O" | | | | | |
| Frequency (Hz) | 400 | 800 | 2600 | 2800 | 3000 |
| Amplitude (dB) | 0 | -10 | -12 | -12 | -26 |
| Band Width (Hz) | 40 | 80 | 100 | 120 | 120 |

| | F1 | F2 | F3 | F4 | F5 |
|-----------------|-----|-----|------|------|------|
| Tenor "U" | | | | | |
| Frequency (Hz) | 350 | 600 | 2700 | 2900 | 3300 |
| Amplitude (dB) | 0 | -20 | -17 | -14 | -26 |
| Band Width (Hz) | 40 | 60 | 100 | 120 | 120 |

| | F1 | F2 | F3 | F4 | F5 |
|-----------------|-----|------|------|------|------|
| Bass "A" | | | | | |
| Frequency (Hz) | 600 | 1040 | 2250 | 2450 | 2750 |
| Amplitude (dB) | 0 | -7 | -9 | -9 | -20 |
| Band Width (Hz) | 60 | 70 | 110 | 120 | 130 |

| | F1 | F2 | F3 | F4 | F5 |
|-----------------|-----|------|------|------|------|
| Bass "E" | | | | | |
| Frequency (Hz) | 400 | 1620 | 2400 | 2800 | 3100 |
| Amplitude (dB) | 0 | -12 | -9 | -12 | -18 |
| Band Width (Hz) | 40 | 80 | 100 | 120 | 120 |

| | F1 | F2 | F3 | F4 | F5 |
|-----------------|-----|------|------|------|------|
| Bass "I" | | | | | |
| Frequency (Hz) | 250 | 1750 | 2600 | 3050 | 3340 |
| Amplitude (dB) | 0 | -30 | -16 | -22 | -28 |
| Band Width (Hz) | 60 | 90 | 100 | 120 | 120 |

| | F1 | F2 | F3 | F4 | F5 |
|-----------------|-----|-----|------|------|------|
| Bass "O" | | | | | |
| Frequency (Hz) | 400 | 750 | 2400 | 2600 | 2900 |
| Amplitude (dB) | 0 | -11 | -21 | -20 | -40 |
| Band Width (Hz) | 40 | 80 | 100 | 120 | 120 |

| | F1 | F2 | F3 | F4 | F5 |
|-----------------|-----|-----|------|------|------|
| Bass "U" | | | | | |
| Frequency (Hz) | 350 | 600 | 2400 | 2675 | 2950 |
| Amplitude (dB) | 0 | -20 | -32 | -28 | -36 |
| Band Width (Hz) | 40 | 80 | 100 | 120 | 120 |

Stop Consonants

Short Acoustic Bursts

| | |
|----------|-----------------|
| "B"- "P" | Broadband Burst |
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| | |
|----------|---------------------|
| "G"- "K" | Mid-Frequency Burst |
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|----------|----------------------|
| "D"- "T" | High-Frequency Burst |
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