extIPA SYMBOLS FOR DISORDERED SPEECH  
(Revised to 2015)

CONSONANTS (other than those on the IPA Chart)

<table>
<thead>
<tr>
<th></th>
<th>Bilabial</th>
<th>Labio-alveolar</th>
<th>Labio-dental</th>
<th>Dento-labial</th>
<th>Bidental</th>
<th>Lingual-labial</th>
<th>Inter-dental</th>
<th>Alveolar</th>
<th>Retroflex</th>
<th>Palatal</th>
<th>Velar</th>
<th>Velo- pharyngeal</th>
<th>(Upper) pharyngeal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plosive</td>
<td>p b b p b</td>
<td>p b</td>
<td>p b p b</td>
<td>t d t d</td>
<td>Q q</td>
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<tr>
<td>Nasal</td>
<td>m ṁ m ṁ m</td>
<td>m ṁ m ṁ m</td>
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<tr>
<td>Trill</td>
<td>r r</td>
<td>r r</td>
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</tr>
<tr>
<td>Fricative, median</td>
<td>f v f v</td>
<td>h h</td>
<td>h h h h</td>
<td>t̼ d̼ t̼ d̼</td>
<td>f f</td>
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<tr>
<td>Fricative, lateral</td>
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<td></td>
<td></td>
<td>t̼ t̼</td>
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<tr>
<td>Fricative, lat. + med.</td>
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<tr>
<td>Fricative, nasal</td>
<td>ṁ ṁ ṁ ṁ</td>
<td>ṁ ṁ ṁ ṁ</td>
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<tr>
<td>Approx., lateral</td>
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<td></td>
<td></td>
<td>ʃ ʃ</td>
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<tr>
<td>Percussive</td>
<td>ɾ ɾ</td>
<td>ɾ ɾ</td>
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</table>

DIACRITICS

- ‼ labial spreading: ʃ ʃ
e, o denasal, partial denasal: ṁ ṁ
- q main gesture offset right: ʃ
- f strong articulation: f f
- o fricative nasal escape: ʃ ʃ
- o main gesture offset left: ʃ
- γ weak articulation: γ
- o velopharyngeal friction: ʃ ʃ
- $ whistled articulation: ʃ
- \ reiteration: p p p p ↓ ingressive airflow: p p
- o sliding articulation: ʃ ʃ

CONNECTED SPEECH, UNCERTAINTY ETC.

- ( ) ( .. ) short, medium, long pause
- f, ff loud(er) speech: [l laud]
- p, pp quiet(er) speech: [l kwaːt]
- allegro fast speech: [læggro, fast allegro]
- lento slow speech: [luˈɛnto sloʊˈɛnto]
- crescendo, ralentando etc. may also be used
- ○, ( ), V indeterminate sound, consonant, vowel
- F, P etc. indeterminate fricative, probably [p] etc.
- ( ) silent articulation, e.g. (j), (m)
- ( ) extraneous noise, e.g. ((2 sylls))

VOICING

- o-pre-voicing:
- o-pre-aspiration:
- o partial devoicing:
- p initial partial devoicing:
- o final partial devoicing:
- o partial voicing:
- o initial partial voicing:
- o final partial voicing:
- o unaspirated:
- p* velodorsal oral and nasal stops
- p* alveolar click with sublaminal percussive release
- f Buccal interdental trill (raspberry)
- * sound with no available symbol

OTHER SOUNDS

- d apical-r
- i bunched-r (molar-r)
- z z laminal fricatives (incl. lowered tongue tip)
- k* etc. [k] with lateral fricated release etc.
- t̼ d̼ [t, d] with lateral and median release
- t̼ etc. [t] with interdental aspiration etc.