

# The Zurich Corpus of Vowel and Voice Quality

Version 2

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## Terms and abbreviations

Excerpt of the handbook, Chapter 2.

### Entire listing

Below, all abbreviations used here are listed in alphabetical order. Details are provided in the subsequent paragraphs.

b	breathy phonation
c	creaky phonation (vocal fry)
CS	contemporary singing style (generic term, including the substyles contemporary musical theatre, pop, rock, and jazz)
D	standard recording, but deficient (details see individual sound comments)
EC	European classical singing style
fo	fundamental frequency
F1, F1, ...	formant frequencies
hgh	high vocal effort
low	low vocal effort
m	male (indication of gender)
med	medium vocal effort
ms	musical scale
N	non-style
ns	not specified
rp	reference pitch
r(i)	ranking order
S	standard recording
sh	shouted
ST	straight theatre speaking style
sVsV	vowel sound produced in s-V-s-V context (s = consonant /s/, V = /vowel/)
//Text//	text read or text sung (indication for speech identity)
tr	text read
ts	text sung
v	voiced
V	vowel sound produced in isolation
var	varied vocal effort
w	female (indication of gender)
w	whispered phonation (indication of phonation type)

## Speakers and styles

The database presented includes recordings of four speaker subgroups: untrained and non-professional speakers (N), professional straight theatre actresses and actors (ST), singers of contemporary singing style (CS, substyles include contemporary musical theatre, pop, rock, and jazz), and singers of European classical singing (EC):

N	non-style
ST	straight theatre speaking style
CS	contemporary singing style
EC	European classical singing style
CO	Cantonese opera speaking and singing style
VI	Voice imitation (impressionist)
ns	not specified

Note: In this handbook, both speakers and singers are referred to as speaker(s) as a generic term.

For details of speakers and utterances, see the Method section.

## Vowel qualities and vowel notation

The main focus of the database concerns vowel qualities of long Standard German vowels /i–y–e–ø–ɛ–a–o–u/. Included is the vowel /a/, which can be encountered as a long vowel in some regions of Germany and Austria and also in some singing styles. Therefore, the indication /a/ in this text refers to the vowel area /a–ɑ/, that is, including all allophones of /a/ or /ɑ/.

In the database, these vowel qualities are notated as /i–ü–e–ö–ä–a–o–u/, that is, using German characters.

A few additional sounds concern the two vowels /ə/ and /ɔ/, notated as /e1, o1/.

## Production parameters and sound status

The database presents recordings of utterances produced with varying basic production parameters such as phonation type, vocal effort, fundamental frequency, vowel context and speaking or singing style. The corresponding abbreviations are used for the different parameters:

Abbreviations for production styles, see Chapter 2.2.

Abbreviations for phonation types:

v	voiced
b	breathy
c	creaky (vocal fry)
w	whispered
m	mixed

## Abbreviations for production modes:

tr	text read
ts	text sung
rp	$f_0$ according to reference pitches given
ms	$f_0$ according to musical scale (C-Major)
sh	shouted
ns	not specified (no specific production mode)
ar	artificial (synthesis, different synthesis methods)
hp	HP filtered
lp	LP filtered
kl	Klatt resynthesis
mp	produced in minimal pair context
nc	extracted sound nucleus

## Abbreviations for vowel context:

text	in read text or free speech context
V	in isolation
sVsV	in s-V-s-V context (s = consonant /s/, V = /vowel/)
mp	in minimal pair context

## Abbreviations for vocal effort:

med	medium
low	low
hgh	high
var	varying
ns	not specified

## Abbreviations for sound status:

S	standard recording (recorded under standard conditions and with standard production parameters)
D	standard recording, but manifesting minor impairments (details see individual sound comment)
M	miscellaneous (recordings made under various conditions)
K	recording made in a concert hall
T	test sounds (recordings made/sounds produced for tests)

Abbreviations for sound ranking, see Chapter 4.5.