
Language Supplement



Speechify 3.0 for pt-BR
(Brazilian Portuguese)

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Introduction

Overview

This document contains language-specific reference information for application developers using SpeechWorks Speechify 3.0 or higher.

Speechify™ is a Text-To-Speech (TTS) system.

New and changed information

Information about installing voices has been moved from this supplement to the *Speechify User's Guide*.

There are small improvements throughout this document.

See the *Speechify Migration Guide* for a complete list of changes in Speechify 3.0.

Getting started

To get started, we recommend that you are familiar with the *Speechify User's Guide*, which provides comprehensive installation, programming, and reference information about the Speechify product. You should also review the release notes distributed with this product for the latest information, restrictions, and known problems.

Other documents in the Speechify documentation set:

- ❑ *Speechify E-Mail Pre-processor Developer's Guide* explains the types of input that the SpeechWorks E-mail Pre-processor handles, how it processes the messages, the modes that the application can take advantage of at runtime, the layout and use of the E-mail substitution dictionary, and provides the API function prototypes, types, error codes and constants.
- ❑ *Speechify Migration Guide* introduces several new features that have been added to Speechify 3.0 relative to Speechify 2.x releases.
- ❑ The *SpeechWorks Licensing Handbook* describes the process for getting licenses to run the Speechify software, details about configuring your license server, and related topics.
- ❑ There is a *Speechify Language Supplement* for each supported language.

Support services

To receive technical support from SpeechWorks International, Inc., use the following methods:

- ❑ Check the FAQs, visit the Knowledge Base, or ask a question at:

<http://techsupport.speechworks.com/>

- ❑ Ask for “technical support” at +1 617 428-4444



Symbolic Phonetic Representations

The following tables show the inventory of available symbols for use in pt-BR Symbolic Phonetic Representations (SPRs). Use this chapter in conjunction with the SPR information found in the *Speechify User's Guide*.

Each sound symbol is accompanied by examples illustrating typical spellings of the sound in actual words, with the letters representing the given sound bolded. Due to dialectal differences, the SPR examples shown may not always agree with your own pronunciations.

Vowels

The following table includes the pt-BR symbols for vowels.

Symbol	Example Words
i	f izesse, bode
e	d edo, portuguê s
E	é s, belo
u	cura, camp o , peru u
o	cor, bol h a
c	pró x imo, p o rta
a	vira, à , álgebra
'i~'	trin c a, ass i m
'e~'	algu é m, tem , agü e ntar

Symbol	Example Words
'u~'	al guns , um
'o~'	tom , cônsul , li ções
'a~'	campo , lã , atl ântico

Consonants

The following table includes the pt-BR symbols for consonants.

Symbol	Example Words
p	pluma , primo , pampa
b	abre , Brasil , bode
t	topada , ponto , trinca
d	dedal , draga
k	cama , kilo , queda
g	gato , guarda , português
f	faixa , flauta , abafado
v	vila , breve
s	certo , extra , avançar
z	zero , caso , cosmos
S	acho , xícara , baixa
Z	geral , jarro , bafejo
C	bote , tive
J	bode , diz , adjetivo , admirar
m	fome , macaco
n	dona , novo
N	inhame , cunha
r	caro , trem , falar
R	carro , rio , guelra

Symbol	Example Words
l	leite, cava l o, cla l aro
L	ma L , relva
'ly'	l he, bagu l ho
w	g u ardo, ag ü entar
W	capitã o
y	fale i
Y	calõe s , câ i bra

Syllable stress

You can mark syllables for stress with a digit. The digit should be placed within the boundaries of the syllable, to the left of the vowel. The following table includes the pt-BR symbols for syllable stress.

0	no stress
1	primary stress (most prominent stress in the word)
2	secondary stress

If a word has more than one syllable, you can mark one of these syllables for primary stress, and mark others for secondary stress or no stress.

A syllable that is not marked for stress is assumed to have no stress, unless it is the only syllable of a word, in which case it is assigned a primary stress.

Syllable boundary

The following table includes the pt-BR symbol for a syllable boundary.

.	(period) beginning of a syllable
---	----------------------------------



Phoneme marks

The phoneme-mark data structure is useful for matching each moment of synthesized speech with the phonemes being spoken. This information is particularly useful when you synchronize facial animation with speech output.

The structure is returned to your application's callback function, which is described under “SWIttsCallback()” in the API reference section of the *Speechify User's Guide*. Each phoneme-mark contains the phoneme name, along with other information about the phoneme. The phoneme-mark symbols for pt-BR are documented in the following table.

Note: The phoneme names used in phoneme marks are not necessarily the same as those used for SPR input.

Phone	Examples
a	est á , m a s
aj	ofic ia is, m ai s
ajn	m ãe , magalh ãe s
an	c am po, l ã
ao	pr ó ximo, p or ta
aw	P au lo, nat ur al
awn	pass am , n ã o
ax	econom ia , bras ileira
b	ab re , b ode
d	de do , dr aga

Phone	Examples
dzh	bode , ad jectivo
e	dedo , portu guês
eh	és , belo
ej	inte iro , fevere iro
ejn	algu ém , tem
en	agü entar , nove centos
ew	meu , conver teu
f	faixa , abafado
g	gato , guarda
i	vila , possí vel
in	trin ca , ass im
ix	pres idente , auspicio so
k	cada , queda
l	leite , cavalo
lj	lhama , bagul ho
m	fome, macao
n	dona, novo
nj	inhame, cun ha
o	cor , bol ha
oj	oito , depoi s
ojn	comiss ões , prop õe
on	tom , c ônsul
p	pluma , pampa
pau	[Indicates a pause]
r	caro , trem
s	certo , extra
sh	acho , bai xa

Phone	Examples
t	t opada, ponto
tsh	bote, t ive
u	cura, ú til
un	alg u ns, u m
ux	domingo o , mil
v	v ila, breve
x	car r o, r i o
z	z ero, cos o smos
zh	g eral, bafe j o



User Dictionaries

This chapter describes Brazilian Portuguese behaviors for Speechify dictionaries. Use this chapter in conjunction with the dictionary information found in the *Speechify User's Guide*.

The maximum length for Brazilian Portuguese dictionary keys is 128 characters. The maximum translation length is 512 characters.

Main dictionary

The main dictionary is an all-purpose user dictionary for replacing a word in an input text with almost any type of input string. Main dictionary entries are case-sensitive.

Valid main dictionary entries

The following table summarizes the valid main dictionary keys and translations:

Key	Translation
Latin 1 letters, both upper and lower case digits. Non-alphanumeric characters, including: @, #, \$, %, &, *, + Apostrophes, quotation marks, parentheses, brackets, etc. Punctuation, except as the final character.	Anything that is valid input to the text-to-speech engine, including whitespace, punctuation, SPRs, and embedded tags.
Disallowed: white space	Disallowed: SAPI tags, SSML tags, and bookmarks

Main dictionary examples

The following table shows examples of main dictionary entries:

Key	Translation
INEP	Instituto Nacional de Estudos e Pesquisas
ONG	\[.0u] \[.1e.0ni] \[.0Ze]
y@bc.com	Y a B C ponto C O M
s/f	seu favor

Abbreviation dictionary

The abbreviation dictionary handles word abbreviations that translate to one or more words in ordinary spelling. The entries are case-sensitive.

Valid abbreviation dictionary entries

The following table summarizes the format of valid keys and translations in the abbreviation dictionary:

Key	Translation
Sequences of one or more letters optionally separated by periods (x.x.x or xx.xx.xx). Sequences of letters, with or without the trailing period that may be considered part of the abbreviation (xxx. or xxx). Upper or lower case letters.	One or more valid words in ordinary spelling, including both upper and lower case letters, separated by white space or hyphen.
Disallowed: digits, non-letter symbols, white space, or punctuation (except periods).	Disallowed: digits, punctuation, SPRs, tags.

Abbreviation dictionary examples

The following table shows examples of abbreviation dictionary entries:

Key	Translation
Dra	doutora
ed	edicao
Ltda	limitada
Sr	senhor

Root dictionary

The root dictionary is used for ordinary words, like nouns (including proper names), verbs, or adjectives. Unlike the main and abbreviation dictionaries, it is not case-sensitive.

In pt-BR, a root dictionary translation applies when the key occurs as the root of a larger word. For example, if *ruiva* is a root dictionary key, the translation value is substituted for *ruiva* when it occurs by itself, or as the root of words like *ruivas* and *ruivazinha*. There is no need to enter these words separately in the user root dictionary.

Allowable root dictionary entries

The following table summarizes the format of valid keys and translations in the root dictionary:

Key	Translation
A single word in ordinary spelling, all lowercase letters.	A single word in ordinary spelling.
	A valid SPR.
Disallowed: digits, punctuation, or other non-letter characters; white space	Disallowed: digits, punctuation, or other non-letter characters, white space, tags

Root dictionary examples

The following table shows examples of root dictionary entries:

Key	Translation	Would apply to...
muito	\![mw'i~'to]	muita, muitas, muitos, muitissimo
ruiva	\![.1Ruy.0va]	ruiva, ruivas, ruivazinha



W3C SSML

Speechify includes support for input text formatted according to the W3C Speech Synthesis Markup Language (SSML).

In order to invoke the correct processing for Brazilian Portuguese text, the given W3C SSML input must have the `xml:lang` attribute set to “pt-BR.” If this attribute is absent, Speechify assumes “en-US” as a default.

In addition to producing Brazilian Portuguese output, the W3C SSML processor for pt-BR parses and expands tag content in a manner consistent with that locale. For example, the tag `<say-as type = "currency">10,20</say-as>` is pronounced “dez reais e vinte centavos.”

For more description of W3C SSML support in Speechify, see the *Speechify User's Guide*.

