IPA/CMU/TIMIT phone mappings and American English examples

Vowels and Diphthongs

IPA	CMU	TIMIT	Example	IPA symbol name
[ɑ]	AA	aa	father, hot	script a
[æ]	AE	ae	had	digraph
[ə]	AH0	ax	sofa	schwa (common in unstressed syllables)
[ʌ]	AH1	ah	but	turned v
[ɔː]	AO	ao	caught	open o – Note, many speakers of Am. Eng. do not distinguish between [ɔː] and [ɑ]. If your "caught" and "cot" sound the same, you do not.
[ɛ]	EH	eh	head	epsilon
[ɪ]	IH	ih	hid	small capital I
[iː]	IY	iy	heed	lowercase i
[ʊ]	UH	uh	hood, book	upsilon
[uː]	UW	uw	boot	lowercase u
[aɪ]	AY	ay	hide	
[aʊ]	AW	aw	how	
[eɪ]	EY	ey	today	
[oʊ]	OW	ow	hoed	
[ɔɪ]	OY	oy	joy, ahoy	
[ɚ]	ER0	axr	herself	schwar (schwa changed by following r)
[ɝ]	ER1	er	bird	reverse epsilon right hook

Note that CMU and TIMIT uses 0 to denote unstressed, 1 to denote primary stress, 2 for secondary stress. Thus "materials" would be written [M AH0 T IH2 R IY0 EH1 L Z].

Consonants

Mappings for: [p b m t d n k g s z f v w h] are reasonably straight forward and can be deduced from looking at the CMU and TIMIT phone sets. Other consonants:

IPA	CMU	TIMIT	Example	IPA symbol name
[ŋ]	NG	ng	si<u>ng</u> so<u>ng</u>	eng or angma
[ʃ]	SH	<u>sh</u>	<u>sh</u>eet, wi<u>sh</u>	esh or long s
[tʃ]	CH	<u>ch</u>	<u>ch</u>eese	
[j]	Y	<u>y</u>	<u>y</u>ellow	lowercase j
[ʒ]	ZJ	zh	vi<u>s</u>ion	long z or yogh
[dʒ]	JH	jh	ju<u>dg</u>e	
[ð]	DH	dh	<u>th</u>ee, <u>th</u>is	eth
[θ]	TH	th	<u>th</u>eta	

Compiled from:

J.-L. Duchet, Carnegie Mellon Pronouncing Dictionary manual page, http://www.mshs.univ-poitiers.fr/Forell/PHONDICT/CMUDICT.HTM.

J. S. Garofol, L. F. Lamel, W. M. Fisher, J. G. Fiscus, and D. S. Pallett, *DARPA TIMIT Acoustic-Phonetic Continuous Speech Corpus CD-ROM Documentation*, NIST Speech Disc 1-1.1, February, 1993.

P. Ladefoged, *A Course in Phonetics*, 4th edition, Heinle & Heinle, Boston, MA, 2001.