The Michela System
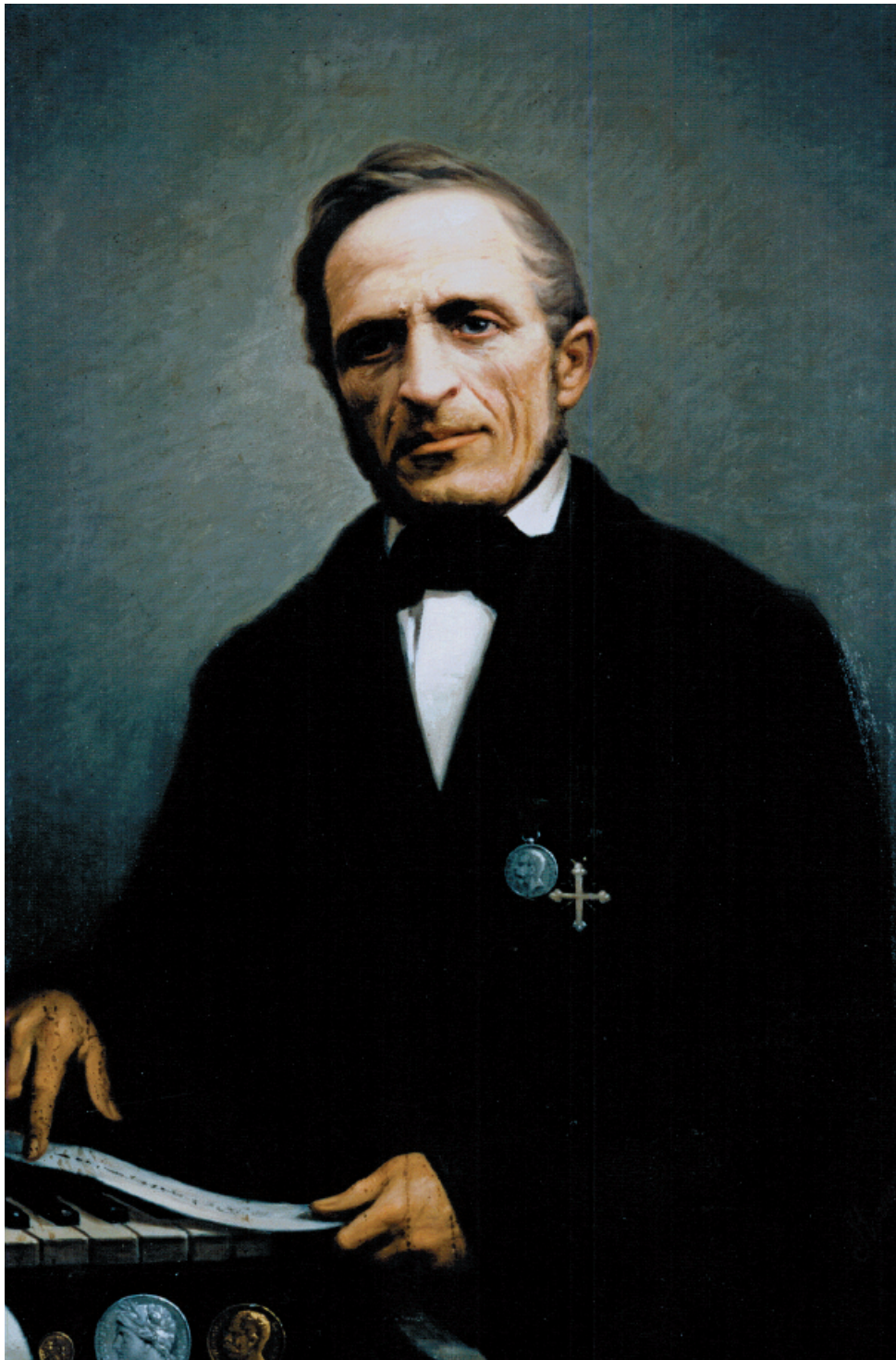
Antonio Michela Zucco
Scholar, inventor, teacher

Antonio Michela Zucco was born on 1° February 1815 in Cortereggio, a small village in the municipality of San Giorgio Canavese, and died in Quassolo on 26 December 1886. With the exception of limited travel and travel to Paris for the Universal Exhibition of 1878, spent all his life in the Canavese lands, (North of Italy).

His natural tendency to mathematical and physical sciences, to technique and design, addressed his studies and led him to teaching: after studying at the Albertina Academy of Turin he was for almost twenty years elementary teacher in various places (Aglié, Quassolo, Vestigné, Borgofranco, Ivrea) and then designer and architect teacher in Ivrea's technical schools. In Quassolo he also ran the adult night school.

Ever since he was young, he conceived the idea of a universal alphabet that «liked to unite men in their relationships, in their interests, in the expression of their feelings». He thoroughly studied the human vocal apparatus and all the sounds it produced, classified all the phonetic elements and gave each of them a graphic expression, summarizing them in a «Phonographic palette» (Tavolozza fonografica).

The study of the structure of the syllable and its great passion for music did the rest; So it was from the theoretical studies that it came to practical application and in 1863 introduced for the first time to the participants of the Second Pedagogical Congress (Milan, Palazzo Brera) its «instantaneous syllable process for universal use using small and portable keyboard apparatus».

Historical quotes: Giuseppe Garibaldi, on December 16, 1877, wrote: «I wish that the useful discovery of the illustrious Professor Michela is put into operation...». Senator Giorgini, relative of Alessandro Manzoni, Said: «I think I'm ahead of one of the greatest inventions of the century». Ruggero Bonghi exclaimed: «Well, there is the ingenuity in this apparatus, this machine will be lucky because it is a practical implementation» (S. Chiavenuto, The Sunday Gazette, 1885)

In 1878 came the Italian patent. In the course of a few years, patents for Austria-Hungary, Belgium, Germany, England and the United States of America were added to it.

In the same year the Michela - already so renamed - participated in the Great Universal Exposition in Paris where it was celebrated «as one of the glories of the Italian section». In Paris Professor Michela did not get the gold medal, but only the silver one: the jury considered that «the gold medal could not be granted to the founds of which the process was secret», which the inventor did not want to divulge. For the prestigious international recognition, Antonio Michela was received by the italian king in Monza in October 1878, and was awarded of the Knight Cross of the Maurice Order.

Tavolozza Fonografica.
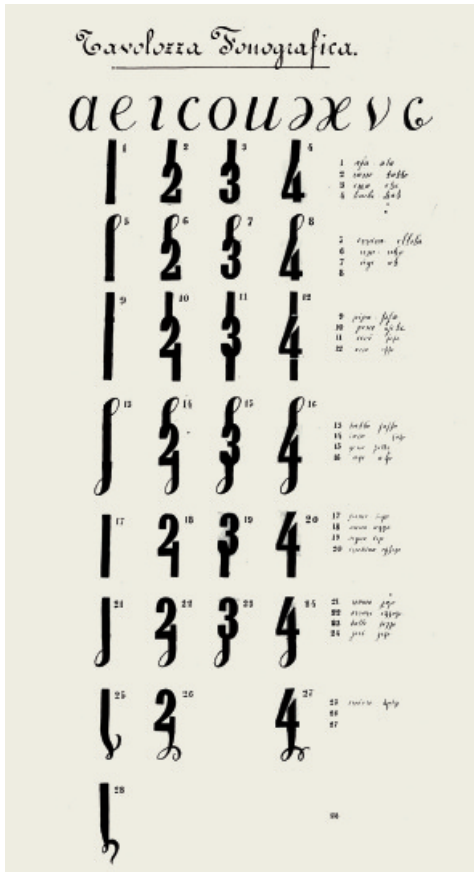
The Turin Municipal Council was probably the first Italian collegial body to have an immediate stenographic record, starting from the sitting of January 20, 1879. In February and March the keyboard appeared to the Judiciary Court of Naples. In the same period, the first contacts with the two branches of Parliament were initiated, which led to the Senate's adoption of the Michela system from 1881.

Antonio Michela died on 24 December 1886 in Quassolo. There were numerous and moving attitudes of esteem and affection, beginning with his students and citizenship.

Evolution
of the Michela system

«I wish that the useful discovery of the illustrious Professor Michela is put into operation...». Giuseppe Garibaldi, on December 16, 1877

This letter is one of the many awards that greeted the stenographic system conceived by Professor Antonio Michela Zucco, developed after decades of studies to find solutions that overcome the obstacle of the modest technical means available in the second half of the nineteenth century.

At the beginning of the 13th parliamentary term, Senate President Sebastiano Tecchio nominated a commission consisting of Senators Erin, Zini and Massarani to evaluate the suitability of the new system for the reassignment of the Senate's work, then entrusted to voluntary manual stenographers, coming from the scarce rows of parliamentary journalists available for such work. It was intended to set up in the best possible way the official office of parliamentary work. On January 30, 1880, the members of the Commission presented to the President an enthusiastic report and the adoption of the machine was decided by the Senate of the italian kingdom.

 Since then Michela's keyboard (in the picture, one of the first models used at the italian Senate) was the sure and faithful witness of the Italian parliamentary life passing through the Assembly and the Senate Commissions of the first kingdom of the Republic.

When the Michela keyboard began to operate, in the fierce parliamentary climate of the Cairoli, Depretis and Crispi governments, it recorded discussions on the abolition of ground tax, special law for Rome capital of Italy, election law without scrutiny list, child labor law, university reform.

And so, after the legislature, the history of Italy has passed on the keys of Michela: the Kingdom, the First World War, Fascism, the Second World War, the Republic, and all laws that have been enacted so far.

As proof of the importance of the system over the years, even at a european level, it is noted that a Michela stenographic machine was exhibited at the permanent exhibition «Les grandes heures du Parlement», realized in Paris at the Assemblée Nationale in Château de Versailles.

The Michela system has remained virtually unchanged for over a century: since 1974 a new mechanic version has been introduced, with the same Michela system but with a concept of innovative mechanical construction and since 1982 a subsequent electronic version, with which it has certainly facilitated the work of stenographers, which in these years has allowed them to achieve excellent results both in the Senate as in national and world competitions.

The Michela keyboard

With the Michela, the Senate parliamentary reporters achieved a number of successes in the national (all Italian titles until they participated in the competitions from 1977 to 1996) and internationals contests. In the 1977, 1979, 1981 and 1983 editions of the world championships, Senate reporters have released two world titles and a second and a fourth place. In the Sofia (1985) championships, two Senate reporters got the world title and second place, both touching the extraordinary speed of 500 syllables per minute (over 200 words per minute). The absolute dominance of the Senate reporters continued in the following years with an unbroken set of rankings at the highest places in the various types of races and a new world championship title in Amsterdam in 1995. At the World championships in Beijing (2009) and in Budapest (2015), a Senate reporter reached with Michela keyboard 445 syllables in 2009 and 471 syllables in 2015, that is the highest writing speed among all competitors and all systems, including those with computerized voice recognition systems.

Technical notes

The most modern version of the Michela keyboard currently in use, while still relying on mechanisms not too dissimilar to those of the first specimens, has adopted the latest state-of-the-art computer technology, becoming one of the fastest data entry mechanisms today existing. The keyboard is currently using the same softwares for decryption of stenographic notes in use at the United States Congress, adapted to the Italian language after long and in-depth studies, similar to what has been done in other major european languages (Spanish, French and German). The program in question has powerful artificial intelligence algorithms and represents the technology's top tip: it is used, for example, in the Canadian Senate to realize subtitling for non-listeners on the parliamentary television channel.

In addition to parliamentary matters (together with the US and Canada are to be remembered by the Australian Federal Parliament, the Argentinean Senate and various German regional parliaments) these transcription softwares are used in the US judicial system, military forces and television companies, as well as the International monetary fund and numerous UK resettlement and subtitling companies.

The latest versions of the machine use the MIDI protocol (the same of the musical keyboards) to connect with a personal computer that can produce instant transcription of perfectly synchronized speech with digital audio recording (which can be made available to users on the Internet or can be archived).

The Michela-MIDI keyboard currently in use

A beautiful drawing on «Italian Illustration» of January 11, 1894 shows the machine in action during the discussion on civilian and military pensions

Description of Michela System

How are syllables written with the Michela phonetic keyboard?

Each syllable is composed of a set of sounds (phonemes), that Antonio Michela-Zucco, the Michela machine's inventor, classified into four phonic elements called "Serie" (series/banks):

I   phonic element (initial sounds)
II phonic element (subsequent sound)
III main phonic element (tonic vowel)
IV phonic element (ending sounds)

The Michela keyboard is formed by two distinct parts of 10 keys, one for the left hand and the other for the right hand (each finger has two specific keys assigned and can push only those). The original keyboard used six simple graphic signs to identify keyboard keys:
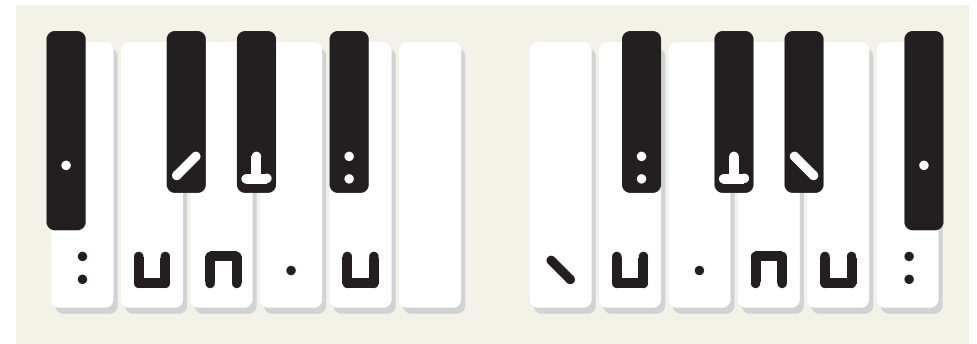
Then, in 1990, with the advent of of computer assisted transcription (CAT) systems, the graphic signs have been replaced by alphabetical letters:

With the Michela keyboard is first possible to write phonetically the syllables of any language, as if they were piano chords. In this mode (now only used for educational purposes) it records the sound of the spoken word like an audio recorder, but in writing. In this mode, each simultaneous pressing of one or more keys by the fingers of both hands corresponds to the sound of a syllable.
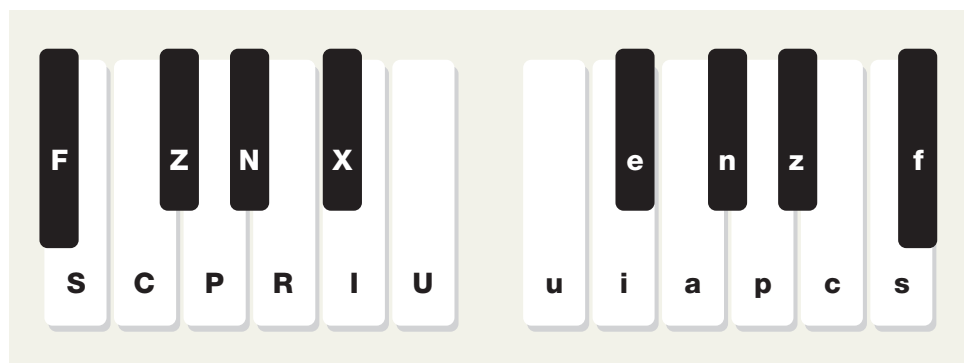
For example the syllable "SI" is made by the initial sound "S" and the main vowel sound "I", while the syllable "TRAT" consists of the initial sound "T", the subsequent sound "R", the tonic/main vowel sound "A" and the ending sound "T". As said, Michela machine repeats this structuring of the syllable and so its keyboard is ideally divided into four areas, called "serie" (series/banks), corresponding to the four parts in which each syllable can be ideally divided. The keyboard is then formed by two distinct parts of 10 keys, one for the left hand and the other for the right hand (each finger has two specific keys assigned and can push only those).

As shown, each key represents a different phoneme, and it is associated with a literal symbol.

As it turn outs, the sounds that can be represented in the four banks are not only those corresponding to the 20 keys; there are numerous others associated with key combinations (as if they were piano chords). Let's take a look.
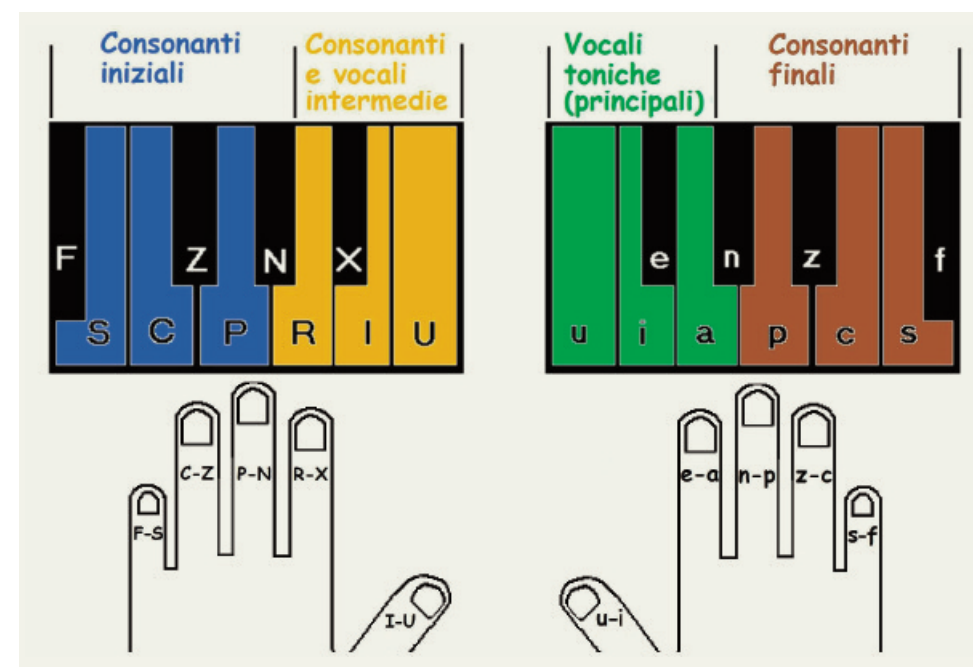
Sounds of the 1st and 3rd banks

Using only the 1st and 3nd banks, it is already possible to phonetically represent many of the most basic syllables consisting of a single vowel sound (e.g., "a", "i") or a vowel sound preceded by a consonant (e.g. "va", "lo", "re" etc.).

Below, the list of phonemes present in these banks, together with the key (or keys) which are associated:

I

Consonanti iniziali

B=FCP
C (dolce*)=SP
CH(dura*)/K/Q=CP
D=SCP
F=F
G (dolce*)=ZP
GH(dura*)=FZP
GL (digr.)=SN
GN=FN
I=ZN
L=SCN
M=SZP
N=N
P=P
R=FCN
S(aspra*)=S
S(dolce*)=Z
SC(dolce*)=C
T=FP
V=SC
Z=SZ

III

Vocali toniche (principali)

A=a I=i
E=e O=ie
È=ua U=u

In the italian language The "c" and "g" can have a soft sound or a hard sound. They are soft when they are followed by "e" or "i" (e.g. genesi, gente, dicembre, circo), are hard when followed by "a", "o", "u" (e.g. gatto, goccia, cane, cuore). The letter "s", in turn, can have a sweet sound or a harsh sound. It is sweet when it is mostly between vowels (e.g., viso, rosa, chiesa) or when it is followed by the consonants "b", "d", "g"", "l", "m", "n", "r", "v" (e.g.: sbarco, sdegno, sdoppiare); it is harsh mainly when it is preceded by another consonant (perso, falso), when it is at the beginning of the world followed by a vowel (sale, sole) or when it is double (rosso, assessore).

With these sounds, as said, it is already possible to write phonetically different words. For example, the word "pane" (bread) is formed from the syllables "pa" and "ne": the first will be written by simultaneously pressing the keys "P" of the 1st bank and the vowel "a" of 3rd bank, and the second by simultaneously pressing the keys "N" in the 1st bank and "e" of the 3rd bank. So with phonetic writing, "pane" will be written with two combinations:

P	a		PA
N	e		NE

The keyboard then produces a succession of syllables (notes) that can be read by the operator on a strip of paper or translated by the computer to reconstruct the single words:

S ZP		e		ME
F P		i e		TO
SC P		i e		DO
S ZP		i		MI
C P		e		CHE
SC N		a		LA

The following are a few words with 1st and 3rd banks (phonetically written, without abbreviations).

A	=	a
È	=	ua
IO	=	ZNie
LA	=	SCNa
ME	=	SZPe
VA	=	SCa
U/NA	=	u/Na
BE/NE	=	FCPe/Ne

FA/SE	=	Fa/Ze
SA/NI	=	Sa/Ni
SO/NO	=	Sie/Nie
SCE/SO	=	Ce/Zie
CA/ME/RA	=	CPa/SZPe/NCFa
FA/VO/RE	=	Fa/Vie/FCNe
PO/SI/TI/VA	=	Pie/Zi/FPi/SCa
SENATO	=	Se/Na/FPie

«Sono sani»	=	Sie/Nie/Sa/Ni
«Pino è fine»	=	Pi/Nie/ua/Fi/Ne
«Se ti va»	=	Se/FPi/SCa
«Una fase positiva»	=	u/Na/Fa/Ze/Pie/Zi/FPi SCa
«Una cena penosa»	=	u/Na/SPe/Na/Pe/Nie/Za
«È scesa la neve»	=	ua/Ce/Za/SCNa/Ne/SCe
«Me la sono cavata»	=	SZPe/SCNa/Sie/Nie/CPa/SCa/FPa
«Una mela bacata»	=	u/Na/SZPe/SCNa/FCPa/CPa/FPa
«Ada è venuta a Roma»	=	a/SCPa/ua/SCe/Nu/FPa/a/FCNie/SZPa
«Senato e Camera sono a favore»	=	Se/Na/FPie/e/CPa/SZPe/FCNa/Sie/Nie/a/Fa/SCie FCNe».

In the syllable can then be additional sounds before and after the vowel sounds. They are represented with the 2nd and 4th banks.

Below a listing of the phonemes present in these banks (note that the 4th bank contains the same sounds of the 1st bank, although in reverse order, as if seen in a mirror).

II Consonanti e vocali intermedie

C-G*=XIU	P-B*=IU
F-V*=XI	R=R
I=I	S=X
M=RU	T-D*=RIU
N=XU	U=U

(*) Nel caso di «S aspra» in I Serie la combinazione assumerà il primo valore, nel caso di «S dolce» il secondo

IV Consonanti finali

B=pcf	I=nz	T=pf
C (dolce)=ps	L=ncs	V=cs
CH(dura)/K/Q=p	M=pzs	Z=zs
D=pcs	N=n	
F=f	P=p	
G (dolce)=pz	R=ncf	
GH(dura)=pzf	S(aspra)=s	
GL (digr.)=ns	S(dolce)=z	
GN=nf	SC(dolce)=c	
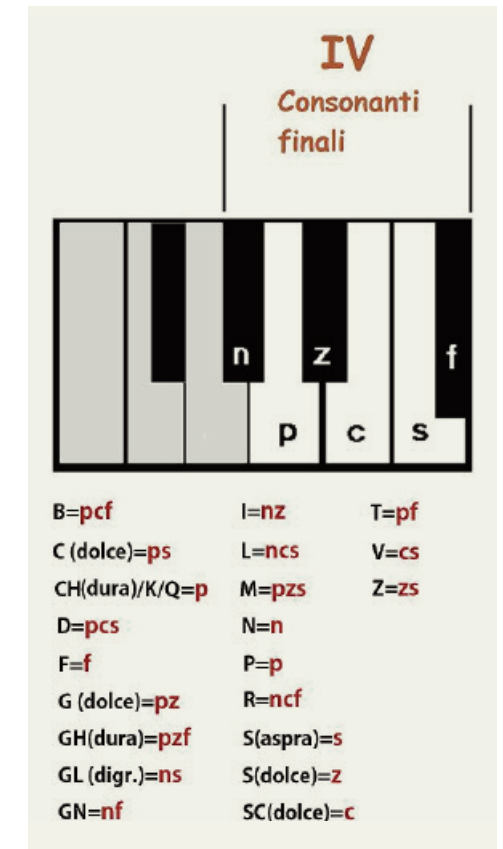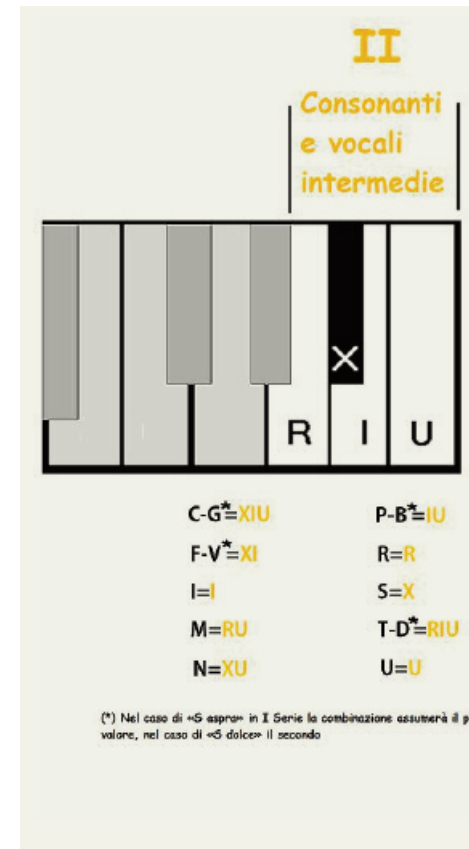
Abbreviations

«Un primo piatto»	= un/PRi/SZPie/PIapf/FPie
«Sono bravo con il piano»	= Sie/Nie/FCPRa/Scie/CPien/incs/PIa/Nie
«Una scelta giusta»	= u/Na/Cencs/FPa/ZPIus/FPa
«Avanti senza strappi»	= a/SCan/FPi/Sen/SZas/FPRap/Pi. (*)

(* The consonant groups "STR", "SCR", "SPR" etc. (eg: strano, scrive, spruzzo etc.) are written anticipating the sound "S" in the preceding syllable ("lo strano"=SCNies/FPra/Nie; "si scrive"=Sis/CPRI/SCe etc.) or by placing the sound "S" in an autonomous combination with the e mute sound (ia) in the 3rd bank ("strano" = Sia/FPRa/Nie; "scrive"= Sia/CPRI/SCe etc.) or using the specific sound "ST" provided by the encoding for the Latin language in substitution of the J sound (e.g. "strappo"=FZRap/Pie).

For professional use, the reporter uses a lot of abbreviations and acronyms in place of phonetic writing. This highly reduces the number of combinations needed to represent syllabic words. The abbreviations system may include the elimination of the vocals in the central part of the words, using the powerful 2nd bank to write the subsequent consonant sound and the elimination of the ending vowels (following a series of criteria or rules to determine the plurals and genders).

Below, a few example, subdivided by grammatical categories.

Nouns

bisogno	= FCPXienf	Paese	= PIez
Camera di deputati	= CPXIUep	Parlamento	= Papzs
Commissione	= CPRUis	passaggio	= PXapz
corso	= CPRies	posizione	= PXizs
deputati	= SCPIUenz	Presidente	= PRuas
deputato	= SCPep	problema	= PRiepcf
dibattito	= SCPipcf	riduzione	= FCNRIUuzs
disegno di legge	= SCPRIepz	Senato	= SXUapf
dovere	= SCPXIencf	senatore	= SRUiencf
fase	= Faz	senatori	= SRUienz
favorevole	= FXIiecs	sfavorevole	= ZXIiecs
frase	= FRaz	signor	= SIiencf
Governo	= FZPXIencf	signori	= SIienz
lavori	= SCNRIienz	soluzione	= SRIuzs
livello	= SCNXIencs	tassazione	= FPXazs

Verbs

abbiamo	=	FCPIapzs
è	=	ua
ha	=	FCa
parlando	=	PRIanzs
parliamo	=	PRIapzs
possiamo	=	PUiepzs
possono	=	PUien
sarà	=	SRa
siamo	=	SIapzs
sono	=	SXUie
trovare	=	FPXIancf
verrà	=	SCRa
vorrei	=	SCRezf

Prepositions/Articles/Articolated Prepositions

a	=	a
agli	=	SCNRIi
alla	=	SCNRIa
alle	=	SCNRIe
allo	=	SCNRIie
dagli	=	SCPXUIi
dalla	=	SCPXUIa
dalle	=	SCPXUIe
dallo	=	SCPXUIie
degli	=	SCPRIi (opp. SCPens)
dei	=	SCPenz
del	=	SCPencs
della	=	SCPRIa
delle	=	SCPRIe
dello	=	SCPRIie
di	=	SCPi
il	=	incs
la	=	SCNa
nel	=	Nencs
sugli	=	SRIie (opp. Suns)
sulla	=	SRIa
sulle	=	SRIe
sullo	=	SRIie
una	=	CNXUa
una	=	CNXUie

Adjectives

grave	=	FZPRacs
internazionale	=	FZNXUancs
internazionali	=	FZNXUazf
morale	=	SZPRancs
questa	=	SZNa
queste	=	SZNe
questi	=	SZNi
questo	=	SZNie
tutta	=	FPRIUa
tutte	=	FPRIUe
tutti	=	FPRIUi
tutto	=	FPRIUie
tutto	=	FPRIUie

Adverbs/Conjuctions

brevemente	=	FCPRe/SCepzs
come	=	CPRUe (opp. CPUiepzs)
in	=	in
infine	=	NXIin
invece	=	NXIeps
molto	=	SZPRIiepf
non	=	Nien
perché	=	PXIUua
pertanto	=	PRIUanzf
quando	=	CPUanzs

Short Forms

è approvato	=	uap
non è approvato	=	Nuap
per quanto riguarda	=	PRipzf
Signor Presidente,onorevoli colleghi	=	SIUiepc

Method
for writing numbers

As regards the specific problem of writing the numbers, there are two possibilities, one of which is to write write the words as they are spoken, according to the general procedure.

The second option is to use a number system that allows a significant reduction in strokes through the utilization of a specific numeric value assigned to each Michela key.

For the implementation of this method the first, the second and fourth banks are taken as specific locations, respectively, of the hundreds, tens and units, while the third bank (used for the vowels) is not used: this fact immediately distinguishes the notes which express digits from all the others, in which the bank of "vowel" is always utilized. Unrepresented numbers are obtained by adding the values of the other keys (e.g. 4=3+1, 5=2+3, 7=6+1, 8=6+2).
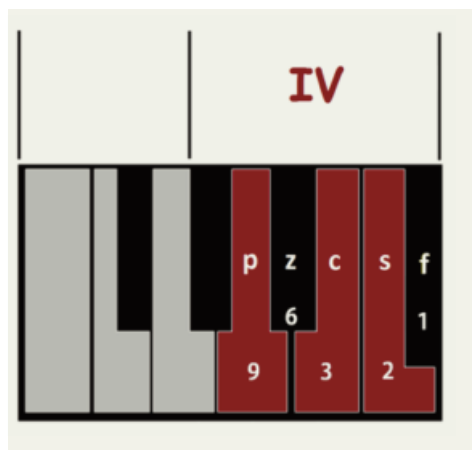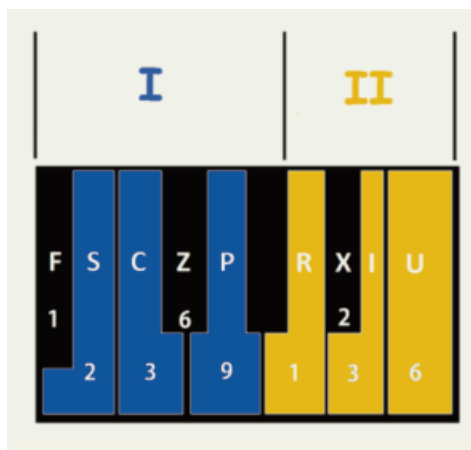
Below a diagram of the numbers up to 999.

f=1	R=10, Rf=11, Rs=12 (….)	F=100, Ff=101, Fs=102 (...)
s=2	X=20	S=200
c=3	I=30	C=300
cf=4	RI=40	FC=400
cs=5	XI=50	SC=500
z=6	U=60	Z=600
zf=7	RU=70	FZ=700
zs=8	XU=80	SZ=800
p=9	IU=90	P=900, PIU=990, PIUp=999 (...)

For numbers beyond 999, the following clarification applies. To each stroke in the number method corresponds a ternary group of numbers expressed with arabic numerals. Because the numbers are "upbeat", in groups of three digits, which gradually include the hundreds (999), the thousands 999.999), the millions (999.999.999), billions (999.999.999.999) and so on, the Michela number method conforms with this criterion: the horizontal "contiguity" horizontal of such groups does match a vertical "contiguity", in the sense that the ternary groups are expressed with successive strokes. For instance, the number 999.990 will be written with two strokes = PIUp/PIU, so the first stroke express the digit of 999 and soon after a second stroke will express the digit 990. If the strokes were three, the first would express obviously the value of the millions, the second the value of thousands, the third one the hundreds, and so on.

So, summing up, one stroke can express value numbers not exceeding 999; two strokes can express value numbers no more than 999.999, three strokes can express value numbers non more than 999.999.999 etc..

In the case in which there is a decimal number (e.g. 90,10), between the first stroke reproducing 90 (IU) and the one that express 10 (R) is inserted a third stroke, an "e" in the third bank that will indicate the comma, so 90,10=IU/e/R.

Writing systems for other languages

Due to the fact that the Michela system is totally phonetic is possible to use it to record other languages, also if not known by the reporter. In this case the reporter will just write the words as they sounds.

It's also possible to apply the system to other languages (in this case known by the operator), as shown by the following phonetic tables published by the inventor for using the system in other languages. (The tables for English and French, for convenience, have been translated in English; the tables for Spanish, Latin and Russian are instead still shown with the original graphic signs).

1st (and 4th) bank					
F (f)	f, ph, gh	*f*ather, pro*ph*et, en*ough*, c*ough*	ZP (pz)	g, j	*g*iant, *j*ust
S (s)	s	*s*on, po*ss*e*ss*ion, le*ss*, thi*s*	FZP (pzf)	g	*g*reen, *g*old
			SZP (pzs)	m	*m*ore, *m*useum
C (c)	sh, ti, scr	*sh*e, wi*sh*, *scr*eam, depreda*ti*on	N (n)	n	*n*iece, *n*o*n*e
FC (cf)	h	*h*ouse, *h*ave, *h*orse, *h*at, be*h*ind	FN (nf)	(open use) *proposed for: ins, uns nce	*un*secure, *in*sist, entra*nce*
			SN (ns)	ng (gn)	*gn*aws, writi*ng*, ki*ng*
SC (cs)	v	*v*ine, *v*iolent	CN (nc)	w	*w*ater, *w*ine, *w*olf
Z	s	u*s*age, u*s*eful, hou*s*e, the*s*e, i*s*	FCN (ncf)	r	*r*efuse, *r*eimburse
FZ (zf)	th	*th*e, bro*th*er, ear*th*, weal*th*			
SZ (zs)	z	hori*z*on, do*z*en	SCN (ncs)	l	*l*ance, *l*iteral
P (p)	p	*p*eo*p*le, re*p*tile, *p*a*p*er	ZN (nz)	y	*y*ester, *y*et, *y*es, bo*y*
FP (pf)	t	*t*rifle, *t*rade	FZN (nzf)	(open use) *proposed for: nt (n't)	*int*ense, *ent*ire ca*n't*, re*nt*, fo*nt*
SP (ps)	ch	whi*ch*, ea*ch*			
CP (pc)	c, k, q	be*c*ause, *k*ing	SZN (nzs)	x	e*x*it, fo*x*, ma*x*imum
FCP (pcf)	b	*b*ecause			
SCP (pcs)	d	*d*ear			

2nd bank and 3rd bank

R	r	g*r*eat, t*r*ifle, g*r*adual, sc*r*ape
X	s	ob*s*erve, gip*s*y
I	i	ital*i*an, sold*i*er
RI	l	g*l*ass, c*l*ass, c*l*ew, p*l*ummer
XI	w, f	d*w*arf, d*w*ell, t*w*elve
U	u	habit*u*al, grad*u*al
RU	m	at*m*osphere, arith*m*etic
XU	n	garde*n*er
UI	p, b	*s*port (with harsh s) (used also for briefs)
RIU	t, d	*s*tation (with harsh s) (used also for briefs)
XIU	c, g, k	*s*carf (with harsh s) (used also for briefs)

a	a	*a*lgebra, *a*live, *a*fter, br*ea*kfast
e	e, a, ea	f*e*deral, *a*ge, g*a*te, *ea*rth, br*ea*d
i	i, y, ea, ee, eo	f*i*ddle, f*i*tly, f*ea*st, f*ee*l, p*eo*ple
ia	i, y	w*i*ne, *I*, wh*y*, m*y*self
ie	o, a, au, aw	G*o*d, f*o*rtunate, sm*a*ll, b*aw*ble
u	u, oo	fr*u*itful, fr*au*dful, w*oo*l
ua	u, eau	*u*sage, *u*seful, f*u*neral, b*eau*tiful
ue	u, ou	*u*mbrella, h*u*sband, b*u*t, ch*ou*gh, t*ou*gh
ui	ou	*ou*r, with*ou*t, th*ou*
uia	(open use)	
uie	(open use)	
	*proposed for Schwa sound (ə), no vowel	th*e*, *a*bout

Example of shorthand notes in English

-e	A
S-encf	cer
FP-uien	tain
CP-ins	king
SZP-a	ma
CP-ins	king
CN-an	one
SCP-ezs	day
FC-iz	his
-en	en
FPR-anf	trance
-in	in
FP-u	to
-e	a
FP-uen	town
-apf	at
FP-u	two
-ie	'o
CPRI-iepc	clock
-in	in
FZ-uie	the
-af	af
FPXU-un	^ternoon

FZ-i	the
SNUapf	Senate
S-enzf	sent
S-uepzs	some
SCP-uiep	depu
FP-is	ties
FP-u	to
CP-iepzs	com
PRI-e	ple
SZP-enzf	ment
FC-ipzs	him
-nzf	.
FZ-uie	the
CN-an	one
CN-u	who
CN-ies	was
FP-u	to
SIU-ipc	speak
FCPXIUan	began
FZ-ues	thus
NX	:
FN-nf	"
-a	A

CPN-e	le
SZN-an	xan
SCP-encf	der
FZ-uie	the
FZPR-ipf	great
FZN-nzf	,
FZ-uie	the
FZPR-ipf	great
-a	A
CPN-e	le
SZN-an	xan
SCP-encf	der
FN-nf	"
-nzf	and
SRIUiep	stop
P-uiepcs	ped
C-uencf	shor
FP-uie	t
-nzf	.
FZ-uie	The
CP-ins	king
CN-u	who
CN-ies	was

Stenographic alphabet for French

1st (and 4th) bank

F (f)	f ph	fait prophete	ZP (pz)	(open use)	
S (s)	s c ç	savant societé	FZP (pzf)	g	guerre, glace
C (c)	sc ch	scène chose	SZP (pzs)	m	maman
FC (cf)	h	hèros	N (n)	n	non, nonne
SC (cs)	v	vertu, veuve	FN (nf)	gn	gnome
Z	s	usage, aise	SN (ns)	il, eil	oeil ouille
FZ (zf)	j g	juge, jalousie	CN (nc)	ou	ouate
SZ (zs)	z	zèle	FCN (ncf)	r	rire
P (p)	p	paix, pape	SCN (ncs)	l	légal
FP (pf)	t	tête	ZN (nz)	hi, hy, i	hypothése
SP (ps)	(open use)		FZN (nzf)	(open use)	
CP (pc)	c, k, qu	cave, qui	SZN (nzs)	x	luxe, index
FCP (pcf)	b	bobine			
SCP (pcs)	d	dédier			

2nd bank and 3rd bank

R	r	prêtre	a	a e	apparence
X	s	pseudonyme	e	é, e, ai	mer, vrai
I	i, e, a	pitié, reel	i	i, y	liquide, jury
RI	l	globe, bloc	ia	e (mute)	enfle
XI	v, f, ph	sphére	ie	o, au, eau	oser, faux
U	u	tuer	u	ou	poupé
RU	m	revêtement	ua	ê, è, ai, i	être, frère, lin
XU	n	tenir	ue	eu, œ	reux, cœur
UI	p b	repos, rebelle	ui	u	usurper
RIU	t, d	retard, redite	uia	oi	oiseau, mois
XIU	c, g, k	recours	uie	ui, oui	bruit, éblouir

Example of shorthand notes in French

SCP-e	Dés	PRI-ui	plus	SCPR-uia	droit
CP-ien	qu'on	C-uancf	cher	S-uincf	sur
a	a	SCP-an	dans	SCN-ia	le
an	an-	PRI-ui	plu	FCPRI-e	blé
N-ien	non	ZI-uencf	sieurs	-nzf	.
S-e	cé	SC-incs	villes	SCN-e	Les
-uin	une	SCP-i	d'i	SCPRUie	démo
SZP-ie	mau	FP-a	ta	CPRapf	crates
SCU-az	vaise	SCN-i	lie	CP-i	qui
FCN-e	ré	-uen	on	PR-ie	pro
CP-iencs	col	-a	a	FP-es	tes
FP-e	te	SCPRUan	deman	FP-ia	stent
SCP-ui	du	SCP-e	dé	FP-u	tou
FCPRI-e	blé	S-i	si	FZ-uncf	jours
-e	et	SCN-ia	le	CP-ien	con
CP-ua	que	SZPRUan	moment	FPR-e	tre
P-ancf	par	N-e	n'é	SCN-ancf	l'ar
SCN-a	là	FP-e	tait	FCP-i	bi
SCN-ua	le	P-a	pas	FPR-uancf	traire
P-en	pain	SCXUui	venu	SCP-e	des
-ua	est	SCPR-e	de ré	SCP-e	de
SCPXI-e	deve	SCP-uiencf	duire	CPRe	créts
N-ui	nu	SCN-ia	le	SCN-uia	loi

ALFABETO PER LA LINGUA LATINA

I E IV SERIE

1	.	f ph	fili phoebus
2	:	s	pes — assis
3	∪	sc	suscipe
4	· ∪	h	honor
5	:∪	v	vates
6	/	s	musa
7	· /	st	post est
8	: /	z - t	zona amicitia
9	∩	p	poena
10	· ∩	t	tribunus
11	: ∩	c	cedrus
12	∪∩	c ch	causa christus
13	· ∪∩	b	benevolus
14	:∪∩	d	dedit
15	/∩	g	gyrus genitrix
16	· /∩	g gh	gaius
17	: /∩	m	magnus
18	⊥	n	nitor nummus
19	· ⊥	gn	magnus
20	: ⊥		
21	∪ ⊥	u	cauda
22	· ∪ ⊥	r	rumor
23	:∪ ⊥	l	legatus
24	/ ⊥	i j	jaceo — cui
25	· / ⊥	nt	colunt
26	: / ⊥	x	vox — pax

II SERIE

1	.	r	patres
2	:	s	scripsit
3	∪	i	officio
4	· ∪	l	clangor
5	:∪	v	adventus
6	\	u	pueri
7	· \	m	smaragdus
8	: \	n	amnis
9	∪\	p	spatium
10	· ∪\	t	contemptum
11	:∪\	c q	scandere

III SERIE

1	·	a	anima
2	:	e æ œ	cena cælum
3	∪	i y	irides
4	∪ ·		mancanza di vocale
5	∪:	o	officio
6	/	u	nummus
7	/ ·		
8	/ :		
9	/∪		
10	/∪ ·		
11	/∪:		

Esempio di stenoscritto in lingua latina.

The left portion contains stenographic shorthand symbols alongside the following syllabified Latin text (read in columns):

Her cu la nus, in si gni san cti ta te vir, Pe ru si no rum e pi sco pa tum ge re bat cum Go tho rum co piæ Pe ru siam o bsi — de rent. Ci vi ta te ca pta ca pi te cæ sus est. De mor tui cor pus ex tra mu ros pro ie ctum hu ma nio res se pul tu ra

ALFABETO PER LA LINGUA SPAGNUOLA

I E IV SERIE

N.	segno	lettera	parola
1	.	f	*f*orzar
2	:	x c s	astu*c*ia
3	∪	sc	di*sc*ipulo
4	.∪	h	*h*ombra
5	:∪	v b	a*v*iso *b*eato
6	./	s	ro*s*a
7	./	j g	*j*ugar *g*itano
8	:/	z	alca*z*ar
9	∩	p	*p*acer
10	.∩	t	*t*ender
11	:∩	ch	san*ch*o
12	∪∩	c q	*c*anto *q*uerido
13	.∪∩	b	*b*endecir
14	:∪∩	d	*d*ecir
15	/∩		
16	./∩	g	*g*ato - *g*rande
17	:/∩	m	a*m*olar
18	⊥	n	*n*egar
19	.⊥	ñ	ni*ñ*o
20	:⊥	ll	*ll*over
21	∪⊥		
22	.∪⊥	r	pe*r*o
23	:∪⊥	l	*l*ucir
24	/⊥	y	ra*y*o
25	./⊥		
26	:/⊥	x	e*x*ámen

II SERIE

N.	segno	lettera	parola
1	j.	r	g*r*ueso
2	:	s	p*s*alter
3	∪	i	p*i*edra
4	.∪	l	pueb*l*o
5	:∪	v f	
6	\	u	p*u*ente
7	.\	m	mes*m*o
8	:\	n	
9	∪\	p	dis*p*uso
10	.∪\	t	es*t*ar
11	/∪:	c	dis*c*ordia

III SERIE

N.	segno	lettera	parola
1	.	a	*a*bolir
2	:	e	*e*ncorar
3	∪	i	*i*nferir
4	∪.		mancanza di vocale
5	∪:	o	*o*ler
6	/	u	cr*u*z
7	/.		
8	/:		
9	/∪		
10	/∪.		
11	/∪:		

Esempio di stenoscritto in lingua spagnuola.

En vano se le tacha de difuso é importuno en sus digresiones de creer como una vieja en sueños o racu… los y prodigios, de dará genealogias, las mas veces inciertas ó fabulosas, un valor impropio en la pluma de un

ALFABETO PER LA LINGUA TEDESCA

I e IV Serie

N.		Lettera	Esempio
1	·	v ph f	*von finden*
2	:	s ss	*messen-sauer*
3	∪	sch	*schriben*
4	·∪	h	*daher*
5	:∪	w	*wiener*
6	/	s	*muse*
7	·/	ch	*ich*
8	:/	z tz	*zog spitze*
9	∩	p	*packen*
10	∩	t	*tilgen*
11	:∩	tsch	*deutsche*
12	∪∩	ck k qu	*könig*
13	·∪∩	b	*bald*
14	:∪∩	d	*des der*
15	/∩		
16	·/∩	g	*gelb gold*
17	:/∩	m	*mit*
18	⊥	n	*nein*
19	·⊥		
20	:⊥		
21	∪⊥	u	*raufer*
22	·∪⊥	r	*ritter*
23	:∪⊥	l	*leben*
24	/⊥	j	*jahr*
25	·/⊥		
26	:/⊥	x	*fix*

II Serie

N.		Lettera	Esempio
1	·	r	*treppe*
2	:	s	*psalten*
3	∪	i	*diadem*
4	·∪	l	*platten*
5	:∪	w v f	*pfand*
6	\	u	*qualm*
7	·\	m	*schmal*
8	:\	n	*gnade*
9	∪	p	*spitzig*
10	·∪	t	*stossen*

III Serie

N.		Lettera	Esempio
1	·	a	*aber*
2	:	e	*den*
3	∪	i y i e	*die*
4	∪·		mancanza di vocale
5	∪:	o	*ohren*
6	/	u	*und*
7	·/	ä	*spät*
8	/:	ö œ	*schöne*
9	∿	ü	*üppiger*
10	∿·	eu ei	*zwei*
11	∿:	au	*auflage*

Esempio di stenoscritto in lingua tedesca.

(Testo stenografico; frammenti di parole tedesche in colonna:)

Frie – drich – der – zwei – te – zog – be – kann – tlich – die – fran – zö – sis – che s – pra – che – der – deu – tschen – vor – un – d ach – te – te – die – lan – des – pra – che – sei – nes – vol – kes – auch – dann – nich – t son

der – lich – al – s ihm – gel – ler – t un – ter – an – der – n – fa – bel – n – vor – ge – le – sen – di – mit – La – fon – tai – nen – s er – zeu – g nis – sen – wür – dig – wet – tei – fer – n – kon – ten

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ALFABETO PER LA LINGUA RUSSA

I e IV Serie

N.		Lettera	Esempio
1	·	Ф ф	флейта
2	:	С с	сани
3	∪	Ш ш	шапка
4	·∪	Х х	хрѣнъ
5	:∪	В в	вакса
6	/	Ж ж	жена
7	·/	Щ щ	щетка
8	:/	З з	замокъ
9	∩	П п	палка
10	·∩	Т т	также
11	:∩	Ч ч	часть
12	∪∩	К к	каминъ
13	·∪∩	Б б	безъ
14	:∪∩	Д д	дача
15	/∩	Е е	огнистое
16	·/∩	Г г	гора
17	:/∩	М м	макъ
18	⊥	Н н	народъ
19	·⊥	Ц ц	цвѣтъ
20	:⊥	У у	·уѣздъ
21	∪⊥	Ю ю	случаютса
22	·∪⊥	Р р	развѣ
23	:∪⊥	Л л	лазурь
24	/⊥	Й й	русскій
25	·/⊥		
26	:/⊥	Я я	доброя

II Serie

N.		Lettera	Esempio
1	·	Р р	кресла
2	:	С с Ч ч	случаться
3	∪	И и I i	віолончель
4	·∪	Л л	хлѣбъ
5	:∪	Ф ф В в	дворъ
6	/	У у	вуаль
7	·\	М м	вмѣстѣ
8	:\	Н н	лѣтий
9	∪	П п	солнце
10	·∪	Т т	кто
11	/∪:	К к	кроткій

III Serie

N.		Lettera	Esempio
1	·	А а	адъ
2	:	Е е	едва
3	∪	И и I i	игла
4	∪·	Ы ы	мы
5	∪:	О о	облако
6	/	У у	уголь
7	/·	Ѣ ѣ	ѣхать
8	/:	Э э	эхо
9	/∪	Ю ю	югъ
10	/∪·	Я я	ядро
11	/∪:	V v	ѵссопъ

Esempio di stenoscritto in lingua russa.

Лѣ
тнiй
день

Былъ
пре
кра
сный
iюль
скiй
день
о
днѣ
изъ
тѣхъ
дней
ко
то
рые
слу
чаю
тся
толь
ко
тог
да
по
го
да
у
ста
но
ви
лась

на
дол
го

Съ са
ма
го
ран
ня
го
У
тра
не
бо
я
сно
у
треи
ня
я
за
ря
не
пы
ла
еть
по
жа
ромъ
о
на
ра
зли
вае
тсь