# calculatoritems

# Insert items (or simple keys) of classic calculators.

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https://forge.apps.education.fr/pierquetcedric/packages-latex

```
Classic calculators items or menus:

35+E:
    \CalcItemMenu[model=35+,font=\fontCASIOA]{GRAPH}

90+E:
    \CalcItemMenu[model=90+,type=bmenu,font=\fontCASIOB]{MAT}

MATH+:
    \CalcItemMenu[model=math+,font=\fontCASIOB,rightsymb=>]{arithmetic}

NWK:
    \CalcItemMenu[model=nwks,type=bmenu,rightsymb=\nwkstri,len=12,font\fontNWKS]{X predict}

TI:
    \CalcItemMenu[model=ti,type=itemsel,font=\small\fontTI]{68{fmin(}}

HP Prime:
    \CalcItemMenu[model=hp,type=itemsel,font=\small\fontHP,rightsymb=>]{48Quadratic Explorer}
```

# Classic calulators items or menus : • 35+E : GRAPH • 90+E : MAT • MATH+: arithmetic > • NWKS : X predict • TI : 6: fmin() • HP : 4 Quadratic Explorer >

### **Contents**

1	History & Future	2
2	Introduction	3
	2.1 Loading, useful packages	3
	2.2 Fonts	3
	2.3 Special macros	4
	2.4 With LUA, and external fonts	4
3	Items	5
	3.1 Global usage	5
	3.2 The macro	5
	3.3 Samples	5
	3.3.1 Generic model	5
	3.3.2 CASIO 35+ or fx-9860GIII	5
	3.3.3 CASIO 90+ or fx-CG50	6
	3.3.4 CASIO MATH+	6
	3.3.5 NUMWORKS	6
	3.3.6 TI	7
	3.3.7 HP Prime	7
4	Simple keys	8
	4.1 Usage	8
	4.2 Samples	8
5	With external files	9
	5.1 Introduction	9
	5.2 Numworks font, only with LUA/XE	
	5.3 CASIO font, only with LUA/XE	
	5.4 Texas Instruments font, only with LUA/XE	
	5.5 Personal keys	

## 1 History & Future

- 0.1.3: new styles for math+
- 0.1.2: New version with resizebox (better render and calc)
- 0.1.1: Simple keys command + macros for "fontkeys" (with external files)
- 0.1.0: Initial version

#### 2 Introduction

#### 2.1 Loading, useful packages

In order to load calculatoritems, simply use:

```
\usepackage{calculatoritems}
```

Loaded packages are xstring, settobox, ifthen, calc, simplekv, tcolorbox and circledtext. Loaded libraries are calc and skins.

If ammsymb doen't need to be loaded (useful for int. macro), just add [noamssymb] to the loading.

```
%w/o amssymb loading \usepackage[noamssymb]{calculatoritems}
```

#### 2.2 Fonts

The package define shortcuts for fonts, depending on the engine, an option [xelua] can be used.

```
%normal loading, for classic engines (pdflatex/latex)
\usepackage{calculatoritems}
```

```
%special loading, for recent engines (xelatex/lualatex) with font config
\usepackage[xelua]{calculatoritems}
```

Available fonts are given by followings macros (best fonts are teletype).

```
%normal loading, for classic engines (pdflatex/latex)
\newcommand\fontNWKS\fontencoding{T1}\fontfamily{SourceCodePro-TLF}\selectfont} %nwks
\newcommand\fontCASIOA{%
  \fontencoding{T1}\fontfamily{AnonymousPro}\fontseries{sb}\selectfont %casio35
}
\newcommand\fontCASIOB{%
  \fontencoding{T1}\fontfamily{AlegreyaSans-TLF}\fontseries{sb}\selectfont %casio90 & math+
}
\newcommand\fontTI{%
  \fontencoding{T1}\fontfamily{AnonymousPro}\fontseries{sb}\selectfont %ti
}
\newcommand\fontHP{%
  \fontencoding{T1}\fontfamily{AlegreyaSans-TLF}\fontseries{sb}\selectfont %hp
}
\newcommand\fontKEY{%
  \fontencoding{T1}\fontfamily{SourceCodePro-TLF}\fontseries{sb}\selectfont %global keys
}
```

```
%special loading, for recent engines (xelatex/lualatex) with fontspec
\newfontfamily\fontNWKS{SourceCodePro-Medium}[Scale=MatchLowercase] %numworks
\newfontfamily\fontCASIOA{AnonymousPro}[Scale=MatchLowercase] %casio35
\newfontfamily\fontCASIOB{FreeSans}[Scale=MatchLowercase] %casio90 & math+
\newfontfamily\fontTI{AnonymousPro}[Scale=MatchLowercase] %ti
\newfontfamily\fontHP{AlegreyaSans}[Scale=MatchLowercase] %hp
\newfontfamily\fontKEY{Inconsolatazi4}[Scale=MatchLowercase] %global keys
```

#### 2.3 Special macros

Special macros are available, to match with some custom symbols.

```
\nwkstri \qquad \tidots \qquad \casiodots

... \Theta
```

#### 2.4 With LUA, and external fonts

With [xelua] option, listofitems and fontspec are loaded. Specific fonts (and macros) are defined with \*.ttf files.

```
\fontkeyNWKS %numworks (with numworks-keys-regular.ttf and numworks-keys-bold.ttf)
\fontkeyCASIOfx %casio fx (with CFX06.ttf)
\fontkeyCASIOcw %casio cw (with CASIO ClassWiz CW02.ttf)
\fontkeyTIfr %ti83ce-fr (with TI83PremiumCEKeys)
\fontkeyTI %ti84ce (with TI84PlusCEKeys)
```

The ttf files can be downloaded [here] and must be installed correctly within texmf folder or within readable folder.

#### 3 Items

#### 3.1 Global usage

The purpose of the main macro is to insert, *inline*, a small tcbox to display *items* as for classic calculators.

Size and aspect are fixed, in order to match the original rendering.

#### 3.2 The macro

The main macro is \CalcItemMenu.

\CalcItemMenu[keys]{content}

Available keys are:

- model : specify the model (empty by default);
- type : type of item, according to the specified model (empty by default);
- fsep: length for modifying the sep between rules and content (1pt by default);
- font : font for the content (\bfseries\ttfamily by default);
- len: internal key for modifying length of content, for same models/types (auto by default);
- bg : bg color or the external background, if necessary (white by default);
- rightsymb : right symbol, if necessary (empty by default).

#### 3.3 Samples

#### 3.3.1 Generic model

This is the default rendering. Available items are:

• [type={}]: white menu (default value)

MyItem

[type=black]: black menu

MyItem

\CalcItemMenu{MyItem}
\CalcItemMenu[type=black]{MyItem}

#### 3.3.2 CASIO 35+ or fx-9860GIII

For this model, the key is [model=35+], and font  $[font=\fontCASIOA]$  can be used. By default, there's 4 characters in the box, so if there's more, a h-stretch is applied. Available items are:

• [type={}]: white menu (default value)

GRPH

[type=bmenu]: dark menu

GRPH

• [type=item]: item menu

GRPH

[type=itemsel]: item selected (19 chars) with optional right symbol

TEST LONG ITEM

```
\CalcItemMenu[model=35+,font=\small\fontCASIOA]{GRPH}
\CalcItemMenu[model=35+,type=bmenu,font=\small\fontCASIOA]{GRPH}
\CalcItemMenu[model=35+,type=item,font=\small\fontCASIOA]{GRPH}
\CalcItemMenu[model=35+,type=itemsel,font=\small\fontCASIOA]{TEST LONG ITEM}
```

#### 3.3.3 CASIO 90+ or fx-CG50

For this model, the key is [model=90+], and font  $[font=\fontCASIOB]$  can be used. By default, there's 5 characters in the box, so if there's more, a h-stretch is applied. Available items are:

• [type={}]: white menu (default value)

GRAPH

• [type=bmenu]: black menu

**GRAPH** 

• [type=item] : item menu

GRAPH

• [type=itemsel]: item selected (22 chars) with optional right symbol

```
TEST LONG ITEM
```

```
\CalcItemMenu[model=90+,font=\small\fontCASIOB]{GRAPH}
\CalcItemMenu[model=90+,type=bmenu,font=\small\fontCASIOB]{GRAPH}
\CalcItemMenu[model=90+,type=item,font=\small\fontCASIOB]{GRAPH}
\CalcItemMenu[model=90+,type=itemsel,font=\small\fontCASIOB]{TEST LONG ITEM}
```

#### 3.3.4 CASIO MATH+

For this model, the key is <code>[model=math+]</code> (20 chars), and font <code>[font=\fontCASIOB]</code> can be used. Two types are available, one for the (s)menu, the other for the tab, and rightsymb can be used.

• [rightsymb={}] (default)

Myltem

• [rightsymb=>]

Myltem

[rightsymb=\casiodots]

Myltem

[rightsymb=>,type=smenu]

Myltem

• [rightsymb=\casiodots,type=tab]

Myltem

```
\CalcItemMenu[model=math+,font=\small\fontCASIOB]{MyItem}
\CalcItemMenu[model=math+,font=\small\fontCASIOB,rightsymb=>]{MyItem}
\CalcItemMenu[model=math+,font=\small\fontCASIOB,rightsymb=\casiodots]{MyItem}
\CalcItemMenu[model=math+,type=smenu,font=\small\fontCASIOB,rightsymb=>]{MyItem}
\CalcItemMenu[model=math+,type=tab,font=\small\fontCASIOB]{MyItem}
```

#### 3.3.5 NUMWORKS

For this model, the key is <code>[model=nwks]</code>, and font <code>[font=\fontNWKS]</code> can be used. Available items are:

• [type={}]: white menu (default)

MyItem

• [type=gmenu]: gray menu

MyItem

• [type=bmenu]: black menu (22 chars, with rightsymb)

MyItem

```
\CalcItemMenu[model=nwks,font=\small\fontNWKS]{MyItem}
\CalcItemMenu[model=nwks,type=gmenu,font=\small\fontNWKS]{MyItem}
\CalcItemMenu[model=nwks,type=bmenu,font=\small\fontNWKS,rightsymb=\nwkstri]{MyItem}
```

#### 3.3.6 TI

For this model, the key is <code>[model=ti]</code>, and font <code>[font=\fontTI]</code> can be used. Available items are:

• [type={}]: black menu (default)

MyItem

• [type=menu]: default menu

MyItem

• [type=itemsel]: selected item, with number

1: MyItem...

```
\CalcItemMenu[model=ti,font=\small\fontTI]{MyItem}
\CalcItemMenu[model=ti,type=menu,font=\small\fontTI]{MyItem}
\CalcItemMenu[model=ti,type=itemsel,font=\small\fontTI]{1${MyItem\tidots}}
```

#### **3.3.7 HP Prime**

For this model, the key is [model=hp], and font  $[font=\fontHP]$  can be used. By default, there's 5 *characters* in the box, so if there's more, a *h-stretch* is applied. Available items are:

• [type={}]: semi-rounded (default value)

Catlg

[type=ritem]: rounded

OK

• [type=item]: item with optional right symbol

1 Extremum >

• [type=itemsel]: item selected (21 chars) with optional right symbol

4 Quadratic Explorer

```
\CalcItemMenu[model=hp,font=\small\fontHP]{Catlg}
\CalcItemMenu[model=hp,type=ritem,font=\small\fontHP]{OK}
\CalcItemMenu[model=hp,type=item,font=\small\fontHP,rightsymb={~>}]{1\settemum}
\CalcItemMenu[model=hp,type=itemsel,font=\small\fontHP,rightsymb=>]{4\squadratic Explorer}
```

#### 4 Simple keys

#### 4.1 Usage

It's also possible (it's not the first purpose of this package!) to use simple key for calculators, with similar syntax and keys.

#### 4.2 Samples

A new key is available for the keys, [colorfont=...], for using specific color. A special font is available for keys, \fontKEY.

```
%For CASIO 35+E
\CalcKey[model={35+},type=sgray,font=\small\fontKEY,colorfont=white]{F1}
\CalcKey[model={35+},type=gray,font=\small\fontKEY,colorfont=casiobluexe]{EXE}
\CalcKey[model={35+},type=white,font=\small\fontKEY,colorfont=red]{ALPHA}
\CalcKey[model={35+},type=white,font=\small\fontKEY,colorfont=yellow!50!orange]{SHIFT}
\CalcKey[model={35+},type=blue,font=\small\fontKEY]{DEL}
F1 EXE ALPHA SHIFT DEL
```

```
%For TI83
\CalcKey[model={83}, type=white, font=\small\fontKEY]{fenêtre}
\CalcKey[model={83}, type=swhite, font=\small\fontKEY]{x}
\CalcKey[model={83}, type=blue, font=\small\fontKEY]{2nde}
\CalcKey[model={83}, type=green, font=\small\fontKEY]{alpha}
\CalcKey[model={83}, type=gray, font=\small\fontKEY]{(-)}
\CalcKey[model={83}, type=gray, font=\small\fontKEY]{1}
\CalcKey[model={83}, type=lightgray, font=\small\fontKEY]{matrice}
\CalcKey[model={83}, type=lightgray, font=\small\fontKEY]{mode}
\CalcKey[model={83}, type=lightgray, font=\small\fontKEY, len=4]{sto\textrightarrow}

fenêtre x 2nde alpha (-) 1 matrice mode sto→
```

#### 5 With external files

#### 5.1 Introduction

With external or personal files, it's possible macros of this section.

• external fonts: [here]

• external img keys: [here]

#### 5.2 Numworks font, only with LUA/XE

For Numworks model, there's a ttf version of existing keys (https://www.numworks.com/fr/blog/police-touches-numworks/), and, with [xelua] loading option, it's possible to use *directly* the font, defined with \fontkeyNWKS alias, or with the macro for multiple keys.

```
%For nwks, with availables symbols
{\fontkeyNWKS chars}

%For nwks, with availables aliases
\CalcKeyNwks(*){list of key, separated with +}
```

The starred version activate bold version of font.

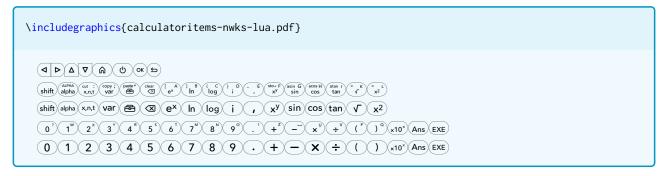
```
NavAera: \CalcKeyNwks{left+right+up+down+home+power+ok+back}

AdvFcts ~~~~: \CalcKeyNwks{shift+alpha+x+var+tools+clear+exp+ln+log+i+,+pow+sin+cos+tan+sqrt+sqr}

AdvFcts bold: \CalcKeyNwks*{shift+alpha+x+var+tools+clear+exp+ln+log+i+,+pow+sin+cos+tan+sqrt+sqr}}

NumPad ~~~~: \CalcKeyNwks{0+1+2+3+4+5+6+7+8+9+dot+plus+minus+times+div+lp+rp+x10p+ans+exe}}

NumPad bold: \CalcKeyNwks*{0+1+2+3+4+5+6+7+8+9+dot+plus+minus+times+div+lp+rp+x10p+ans+exe}}
```



#### 5.3 CASIO font, only with LUA/XE

For CASIO models, there's ttf version of existing keys (https://edu.casio.com/fr/forteachers/er/fontsets/), and, with [xelua] loading option, it's possible to use *directly* the font, defined with \fontkeyCASIOcw or \fontkeyCASIOfx aliases, or with the macro for multiple keys.

```
%For CASIO classwiz, with availables symbols
{\fontkeyCASIOcw chars}
%For CASIO fx, with availables symbols
{\fontkeyCASIOfx chars}

%For CASIO classwiz, with availables aliases
\CalcKeyCasioCW{list of key, separated with +}
%For CASIO fx, with availables aliases
\CalcKeyCasioFX{list of key, separated with +}
```

```
\CalcKeyCasioCW{on+home+ok+up+down+left+right+pgup+pgdown+config+back}\\
\CalcKeyCasioCW{shift+var+fx+ctlg+tools+x+frac+sqrt+pow+sqr+exp+comma}\\
\CalcKeyCasioCW{sin+cos+tan+lp+rp+del+ac+times+div+plus+minus+sminus}\\
\CalcKeyCasioCW{1+2+3+4+5+6+7+8+9+0+dot+x10p+format+exe}\\
\CalcKeyCasioCW{semicol+ans}
```

```
\CalcKeyCasioFX{F1+F2+F3+F4+F5+F6+shift+optn+vars+menu}\\
\CalcKeyCasioFX{up+down+left+right+alpha+sqr+pow+exit}\\
\CalcKeyCasioFX{xtt+log+ln+sin+cos+tan+frac+sd+lp+rp+comma+sto}\\
\CalcKeyCasioFX{7+8+9+del+acon+4+5+6+times+div}\\
\CalcKeyCasioFX{1+2+3+plus+minus+0+dot+x10p+sminus+exe}
```

#### 5.4 Texas Instruments font, only with LUA/XE

For TI models, there's ttf version of existing keys (https://education.ti.com/en/software/search/key-fonts), and, with [xelua] loading option, it's possible to use *directly* the font, defined with \CalcKeyTI or \CalcKeyTIfr aliases, or with the macro for multiple keys.

```
%For TI84CE, with availables symbols
{\fontkeyTI chars}
%For TI83CE.fr, with availables symbols
{\fontkeyTIfr chars}
%For TI84CE, with availables aliases
\CalcKeyTI{list of key, separated with +}
%For TI83CE.fr, with availables aliases
\CalcKeyTIfr{list of key, separated with +}
\CalcKeyTI{y+window+zoom+trace+graph+2nd+mode+del+left+up+right+down}\\
\CalcKeyTI{alpha+xttn+stat+math+apps+prgm+vars+clear}\\
\CalcKeyTI{inv+sin+cos+tan+pow+sqr+comma+lp+rp+div}\\
\CalcKeyTI{log+7+8+9+times+ln+4+5+6+minus}\
\CalcKeyTI{sto+1+2+3+plus+on+0+dot+sminus+enter}
\includegraphics{calculatoritems-texas-lua.pdf}
 y=|window|zoom|trace|graph|2nd|mode|del| ◀ ▲ ▶ ▼
 alpha [X,T, \theta, n] [stat] [math] [apps] [prgm] [vars] [clear]
 x^{-1} sin cos tan x^2, ( ) \div
 \log 789 \times \ln 456 -
 sto \rightarrow 123+on0. (-) enter
\CalcKeyTIfr{fx+fenetre+zoom+trace+graphe+2nde+mode+supp+left+up+right+down}\\
\CalcKeyTIfr{alpha+xttn+stats+math+matrice+prgm+var+annul}\\
\CalcKeyTIfr{fmt+trig+resol+frac+pow+sqr+virg+lp+rp+div}\\
\CalcKeyTIfr{log+7+8+9+times+ln+4+5+6+minus}
\CalcKeyTIfr{sto+1+2+3+plus+on+0+dot+sminus+entrer}
\includegraphics{calculatoritems-texasfr-lua.pdf}
 f(x) fenétre zoom trace graphe 2nde mode ← ► +
 [alpha] [X,T, \theta, n] stats [math] [matrice] [prgm] [var] [annul]
 \bullet trig résol \oplus x^2, ( ) \div
 log 789×In456-
 sto \rightarrow 123+on0. (-)entrer
```

#### 5.5 Personal keys

In order to use personal versions of keys (not included with the package, but available [here]), you an use (internal) \inckeycalc with pdf/png/... files named calcitems\_<model>\_<key>.<ext>.

```
%with personal keys, in an readable folder
\inckeycalc(*)[options]{model}{key}[extension]

%the starred version uses includegraphics, with optional arguments
%whereas the non starred uses inlinegraphics, with optional arguments (scale=... / strut=...)
```

```
%loop for multiple keys
\newcommand\insertcalckeys[2]{%
   \foreach \i in {#2}{\Large\inckeycalc{#1}{\i}\relax}%
}
```

```
%CASIO fx92 College CW (from svg)
\insertcalckeys{casio92cw}{on,home,config,back,ok}\\
\insertcalckeys{casio92cw}{left,up,right,down,pgud}\\
\insertcalckeys{casio92cw}{rep,sin,cos,tan,lp,rp}\\
\insertcalckeys{casio92cw}{7,8,9,del,ac}
\insertcalckeys{casio92cw}{4,5,6,times,div}
\insertcalckeys{casio92cw}{1,2,3,plus,minus}\\
\insertcalckeys{casio92cw}{0,comma,x10p,fmt,exe}
1 2x f(x) 🗘 ••••
x = \sqrt{1} \quad \blacksquare^{0} \quad \blacksquare^{2};
Rép sin cos tan ( )
7 8 9 🖾 AC
4 5 6 × ÷
1 2 3 + -
O , ×10 FORMAT EXE
```

