

## Calculator Raspberry Pi Pin Usage

PIN	Name	WiringPi Pin	Usage	Input/Output	Board(s)
1	3.3V		Power	N/A	Display, TS
2	5V		Power	N/A	Display
3	GPIO2	8	LBO	Input	PowerBoost
4	5V		Power	N/A	Display
5	GPIO3	9	On Button	Input	Keypad
6	Ground		Ground	N/A	All
7	GPIO4	7	Column I	Input	Keypad
8	GPIO14/TXD	15	Column J	Input	Keypad
9	Ground		Ground	N/A	All
10	GPIO10/RXD	16	Column K	Input	Keypad
11	GPIO17	0	SPI1 CE0	Output	Battery Monitor
12	GPIO18 (PWM)	1	Backlight Control	Output	Display
13	GPIO27	2	Column L	Input	Keypad
14	Ground		Ground	N/A	All
15	GPIO22	3	Column M	Input	Keypad
16	GPIO23	4	Column N	Input	Keypad
17	3.3V		Power	N/A	Display, TS
18	GPIO24	5	RT_INT	Output	TS
19	GPIO10	12	SPI0 MOSI	Output	Display, TS
20	Ground		Ground	N/A	All
21	GPIO9	13	SPI0 MISO	Input	Display, TS
22	GPIO25	6	TFT_DC_3V		Display
23	GPIO11	14	SPI0 SCLK		Display, TS
24	GPIO8 (CE0)	10	TFT_CS	Output	Display
25	Ground		Ground	N/A	All
26	GPIO7 (CE1)	11	RT_CS	Output	TS
27	ID_SD	30	EEPROM Data		Display
28	ID_SC	31	EEPROM Clock		Display
29	GPIO5	21	Column O		
30	Ground		Ground	N/A	All
31	GPIO6	22			
32	GPIO12	26	R Clock		Keypad
33	GPIO13 (PWM)	23			
34	Ground		Ground	N/A	All
35	GPIO19	24	SPI1 MISO		Battery Monitor

<b>PIN</b>	<b>Name</b>	<b>WiringPi Pin</b>	<b>Usage</b>	<b>Input/Output</b>	<b>Board(s)</b>
<b>36</b>	GPIO16	27	SR Data		Keypad
<b>37</b>	GPIO26	25	SR Clock		Keypad
<b>38</b>	GPIO20	28	SPI1 MOSI		Battery Monitor
<b>39</b>	Ground		Ground	N/A	All
<b>40</b>	GPIO21	29	SPI1 SCLK		Battery Monitor

TI-83 Keypad

Button	2nd Function	Alpha Character	Layout Row	Layout Column	Row	Column
<b>Y=</b>	STAT PLOT	F1	1	1	D	I
<b>Window</b>	TBLSET	F2	1	2	E	I
<b>Zoom</b>	FORMAT	F3	1	3	F	I
<b>Trace</b>	CALC	F4	1	4	G	I
<b>Graph</b>	TABLE	F5	1	5	H	I
<b>2nd</b>			2	1	C	I
<b>MODE</b>	QUIT		2	2	A	I
<b>DEL</b>	INS		2	3	B	I
<b>Left Arrow</b>					G	O
<b>Up Arrow</b>	Contrast Up	Page Up			E	O
<b>Alpha</b>			3	1	B	J
<b>X,T,θ,n</b>	LINK		3	2	B	K
<b>STAT</b>	LIST		3	3	B	L
<b>Down Arrow</b>	Contrast Down	Page Down			H	O
<b>Right Arrow</b>					F	O
<b>MATH</b>	TEST	A	4	1	A	J
<b>APPS</b>	ANGLE	B	4	2	A	K
<b>PRGM</b>	DRAW	C	4	3	A	L
<b>VARS</b>	DISTR		4	4	A	M
<b>CLEAR</b>			4	5	A	N
<b>x<sup>-1</sup></b>	MATRIX	D	5	1	C	J
<b>SIN</b>	SIN <sup>-1</sup>	E	5	2	C	K
<b>COS</b>	COS <sup>-1</sup>	F	5	3	C	L
<b>TAN</b>	TAN <sup>-1</sup>	G	5	4	C	M
<b>^</b>	π	H	5	5	C	N
<b>x<sup>2</sup></b>	√	I	6	1	D	J
<b>,</b>	EE	J	6	2	D	K
<b>(</b>	{	K	6	3	D	L
<b>)</b>	}	L	6	4	D	M
<b>÷</b>	e	M	6	5	D	N
<b>LOG</b>	10 <sup>x</sup>	N	7	1	E	J
<b>7</b>	u	O	7	2	E	K
<b>8</b>	v	P	7	3	E	L
<b>9</b>	w	Q	7	4	E	M
<b>x</b>	[	R	7	5	E	N
<b>LN</b>	e <sup>x</sup>	S	8	1	F	J
<b>4</b>	L4	T	8	2	F	K
<b>5</b>	L5	U	8	3	F	L
<b>6</b>	L6	V	8	4	F	M
<b>-</b>	]	W	8	5	F	N
<b>STO-&gt;</b>	RCL	X	9	1	G	J
<b>1</b>	L1	Y	9	2	G	K
<b>2</b>	L2	Z	9	3	G	L

Button	2nd Function	Alpha Character	Layout Row	Layout Column	Row	Column
<b>3</b>	L3	ø	9	4	G	M
<b>+</b>	MEM	“	9	5	G	N
<b>ON</b>	OFF		10	1	P	Ground
<b>0</b>	CATALOG	Space	10	2	H	K
<b>.</b>	<i>i</i>	:	10	3	H	L
<b>(-)</b>	ANS	?	10	4	H	M
<b>ENTER</b>	ENTRY	SOLVE	10	5	H	N

TI-83 Keypad (By Network)

Button	Row	Column	2nd Function	Alpha Character	Layout Row	Layout Column	Tested
MODE	A	I	QUIT		2	2	Yes
MATH	A	J	TEST	A	4	1	Yes
APPS	A	K	ANGLE	B	4	2	Yes
PRGM	A	L	DRAW	C	4	3	Yes
VARS	A	M	DISTR		4	4	Yes
CLEAR	A	N			4	5	Yes
DEL	B	I	INS		2	3	Yes
Alpha	B	J			3	1	Yes
X,T,θ,n	B	K	LINK		3	2	Yes
STAT	B	L	LIST		3	3	Yes
2nd	C	I			2	1	Yes
x <sup>-1</sup>	C	J	MATRIX	D	5	1	Yes
SIN	C	K	SIN <sup>-1</sup>	E	5	2	Yes
COS	C	L	COS <sup>-1</sup>	F	5	3	Yes
TAN	C	M	TAN <sup>-1</sup>	G	5	4	Yes
^	C	N	π	H	5	5	Yes
Y=	D	I	STAT PLOT	F1	1	1	Yes
x <sup>2</sup>	D	J	√	I	6	1	Yes
,	D	K	EE	J	6	2	Yes
(	D	L	{	K	6	3	Yes
)	D	M	}	L	6	4	Yes
÷	D	N	e	M	6	5	Yes
Window	E	I	TBLSET	F2	1	2	Yes
LOG	E	J	10 <sup>x</sup>	N	7	1	Yes
7	E	K	u	O	7	2	Yes
8	E	L	v	P	7	3	Yes
9	E	M	w	Q	7	4	Yes
x	E	N	[	R	7	5	Yes
Up Arrow	E	O	Contrast Up	Page Up			Yes
Zoom	F	I	FORMAT	F3	1	3	Yes
LN	F	J	e <sup>x</sup>	S	8	1	Yes
4	F	K	L4	T	8	2	Yes
5	F	L	L5	U	8	3	Yes
6	F	M	L6	V	8	4	Yes
-	F	N	]	W	8	5	Yes
Right Arrow	F	O					Yes
Trace	G	I	CALC	F4	1	4	Yes
STO->	G	J	RCL	X	9	1	Yes
1	G	K	L1	Y	9	2	Yes
2	G	L	L2	Z	9	3	Yes
3	G	M	L3	θ	9	4	Yes
+	G	N	MEM	"	9	5	Yes
Left Arrow	G	O					Yes
Graph	H	I	TABLE	F5	1	5	Yes
0	H	K	CATALOG	Space	10	2	Yes
.	H	L	i	:	10	3	Yes
(-)	H	M	ANS	?	10	4	Yes
ENTER	H	N	ENTRY	SOLVE	10	5	Yes
Down Arrow	H	O	Contrast Down	Page Down			Yes
ON	P	Ground	OFF		10	1	Yes

### Keypad Network Info

Network Cluster	PSD Color	Wire Color	Type	GPIO	Pin Connection
<b>A</b>	Blue	Blue	Row		
<b>B</b>	Lime	Green	Row		
<b>C</b>	Purple	Purple	Row		
<b>D</b>	Brown	Brown	Row		
<b>E</b>	Yellow	Yellow	Row		
<b>F</b>	Pink	Pink	Row		
<b>G</b>	White (w/ Stroke)	White	Row		
<b>H</b>	Magenta	Purple (White Stripe)	Row		
<b>I</b>	Red	Red	Column		7
<b>J</b>	Lilac	Blue (White Stripe)	Column		8
<b>K</b>	Black	Black	Column		10
<b>L</b>	Orange	Orange	Column		13
<b>M</b>	Gray	Gray	Column		15
<b>N</b>	Cyan	Green (White Stripe)	Column		16
<b>O</b>	Mint	Mint	Column		29
<b>On Button</b>	Fuchsia	Red (Black Stripe)	Button	3	5
<b>Ground</b>	None	Black (White Stripe)	Ground	N/A	9