



Math Keyboard Operation Manual

Safety Information



Risk of suffocation from packaging materials; please keep away from children and pets.

Please review the following information for this electronic equipment. Basic care is required to prevent injury from fire, electrical shock or injury.

- 1. Do not expose to fluids. If exposure occurs, tip any edge of the keyboard up slightly to help the fluid exit. Wipe with a cloth immediately. Allow to dry before use.**
- 2. Do not expose to extreme temperatures above 100 degrees or below 30 degrees.**
- 3. Avoid dropping or mechanical trauma**
- 4. Do not expose to fire or chemicals**
- 5. Do not bite, bend, or cut the cord. A small electrical shock may occur if the device is plugged into power source and the user's bite breaks protective rubber coating.**
- 6. To clean, wipe with a dry or damp cloth and allow to dry**
- 7. Do NOT dispose of keyboard in trash; please use an electronic recycling center**

Product Specifications

Matte black wired keyboard

Approximate dimensions:

11.77 inches x 6.5 inches x 2 inches

2 removable covers of 4 inches x 6 inches x 3/4 inch

Approximate weight: 1 lb 13 oz keyboard with covers

3 lb 4 oz keyboard with carrying case

9V, 1A DC

External male USB-A connector

Compatible devices: PC (Chrome OS, Linux, Mac, or Windows 10 or newer)

Number of keys: 71

High profile, mechanical, clicky keys

LED lighting of 3 keys: 2nd, Caps Lock, and Select

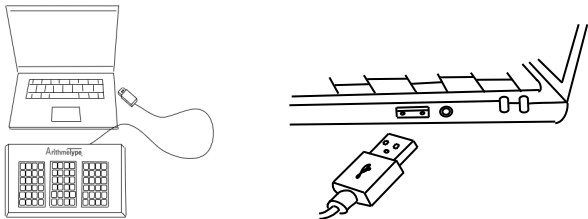
Keyboard Operation Manual

To ensure compatibility with your computer's Operating System, please see the instructions below. (Note: The keyboard is not compatible with an iPad or iPhone. The iOS virtual version of the ArithmeType math keyboard is expected to be released in May 2023.)

Start Up Instructions

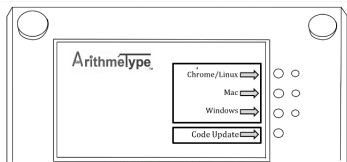
Of course, first carefully remove the keyboard from the shipping box and packaging; then, remove the keyboard from the carrying case.

STEP 1. Attach the cord.



Plug the USB connector into your laptop or desktop computer. If you're using a computer without a USB-A port (i.e., a Mac Operating System), a female USB-A to male USB-C adapter will be necessary.

STEP 2. Select the correct operating system (OS) for Chrome/Linux, Mac, or Windows.




Turn the keyboard over and note the label with arrows pointing to the 3 different OS. Using a slim tool such as a pencil or pen, push the small button twice inside the hole closest to the desired OS. This will light up the OS that matches your computer in the adjacent hole. The keyboard will keep your selection unless a code update is performed. This hidden system is created to prevent inadvertent OS switching during use or transfers.

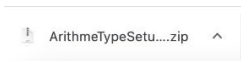
Chromebook/Linux ➡ press the corresponding button twice for CHROME/LINUX. That's it! You're ready to type.

Macintosh/Apple ➡ press the corresponding button twice for MAC.

On the arithmetype.com website, go to the Keyboard Operation Manual & Downloads tab. Please click the Mac

Installer button  and follow the steps to help your computer identify the keyboard and enable Unicode Hex Input. Just follow the few onscreen prompts, and then you're set! Let's walk through the steps together:

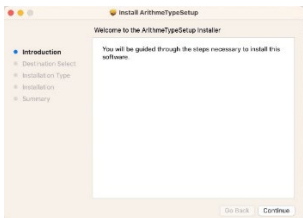
1. Once you have clicked the Mac Installer, a zip file will appear on the bottom of your screen. Double click to open it.



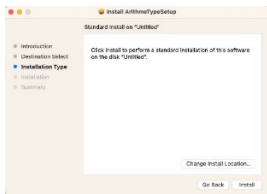
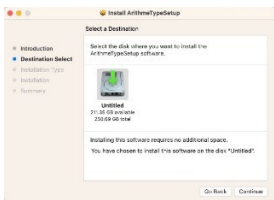
2. In your downloads folder, double click the ArithmeTypeSetup.pkg folder.



3. Next, you will see this message: Welcome to the ArithmeType Installer; you will be guided through the steps necessary to install the software.



- Click install to perform a standard installation of the software on the suggested disk, such as “Macintosh HD” or “Untitled”. Click “Continue”. Then click “Install”.



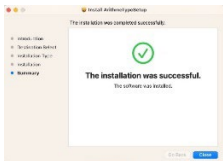
- A popup window will state, “Installer is trying to install new software. Use touch ID or password to continue.” Please enter required data. Then press “Install Software”.



6. “Installer” would like to access files in your Downloads folder Click ok.



7. You will see a notification that “The installation was successful.” Press close.




8. Finally, you will see a message asking, “Do you want to move the “ArithmeType Setup” to the trash? Click, “Move to Trash”.

(Note: If the window states “Unable to Move to Trash”, removal may require closing the program first and returning to the Downloads folder to delete.)



The manual instructions are also available on the website for those who prefer to perform this step themselves (or if the download is blocked), found under the More tab on the home page as Alternate Mac OS Manual Setup.

Microsoft Windows 10 or newer (note: older versions not supported) → press the corresponding button twice for WINDOWS.

Next, download the free WinCompose app  from the Keyboard Operation Manual & Downloads tab of the home page.

(Please note, if this app download is blocked by your school district account, it can be downloaded from an alternate non-school account onto the computer or downloaded onto a removable USB drive and then uploaded to the student's computer).

STEP 3. Simply open the compatible document editor or website, and then you can start typing math!

(Note: If your keyboard does not start typing characters immediately wait 5 seconds and try again. If no characters appear, simply unplug and re-plug the keyboard and start typing again. Also, you may want to double check that you selected the correct Operating System on the backside of the keyboard. For additional troubleshooting, please see the Full Keyboard Operation Manual.)

Compatible Editors and Extensions:

Google suite editors (such as Docs, Sheets, Slides, etc.)

Microsoft Editors (such as Word, Excel, OneNote, etc.)

MacBook Editors (such as Notes and TextEdit)

EquatIO

Compatible Browsers:

Chrome is preferred and the keyboard is optimized for this browser. For best performance, we recommend that you utilize Chrome.

Compatible Websites

ArithmeType

Desmos

DeltaMath*

Other sites that use MathQuill programming language may be compatible as well.

*(Note: An Update is currently in progress for DeltaMath to properly recognize the ArithmeType special character codes on a Chromebook. However, DeltaMath does display the characters correctly in Windows OS and Mac OS.)

Once you've picked your website, you're ready to start typing some amazing math!

Section Covers

Please use the enclosed section covers to tailor the keyboard to the user's current abilities and hide unused sections to decrease vision distraction. Section covers can be removed as the student progresses in their skills. In addition, the covers can also be used to rest the hand on while typing in an adjacent section. The approximate grade level math skills for the three sections are as follows:

Center section: early elementary skills

Left section: upper elementary skills

Right section: middle and high school skills

Operating Instructions


Most of the characters will display on the computer screen just as they appear on the key. Just push the key. It's that easy.

Special keys on the keyboard:

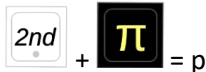
- **Two options keys (examples):**



As you can see, on these keys there are two different options listed--one option is large font and the other option is smaller font. A simple keypress will activate the large font option to display on the screen. To activate the smaller font option, first

press the 2nd key  and then press the desired key. Following that, it will then be reset to the original option. For example, if you press rad/arc, you get rad. If you press 2nd, then rad/arc, you get arc.

- **Secret alphabet (example):**



If there is not 2nd option listed on a key, then the default 2nd option is the first letter of the character (for example, π become p, 9 becomes n). For letters j and k, use “(“ and “)” for code words “join” and “keep”.

While the laptop keyboard is still functional while the math keyboard is plugged in, it may be difficult for some users to reach the keyboard. The secret alphabet is useful when typing algebraic equations. If a single letter is used repeatedly, copy the character on the screen and press paste whenever it is needed.

a: add (+), approximately (\approx)

b: bullet (\bullet)

c: colon (:), comma (,), congruent (\cong)

d: dot (.)

e: equals (=), eight (8)

f: f key, four (4), five (5)

g: g key, greater than (>), greater than or = (\geq)

h: horizontal line ($—$)

i: infinity (∞)

j: join (

k: keep)

l: less than (<), less than or equal to (\leq)

m: multiply (*)

n: nine (9)

o: one (1)

p: pi (π)

q: quotient (/)

r: ray ()

s: subtract (-), six (6), seven (7)

t: two (2), three (3)

u: unequal (\neq)

v: vertical line (|)

w: white circle (o)

x: x key

y: y key

z: z key

\emptyset : zero (0)

- ***Start Google Docs EQ key:***



This key, featured in purple, only works in Google Docs on the first press and creates a shortcut to opening the equation editor. However, a special note for Windows OS users: The 2nd option of this

key will also open the equation editor in Word or OneNote.

Once the Google Docs EQ button is pressed, after a slight pause, a box will appear on the screen with a flashing cursor inside. (Note: Google Docs must be in standard menu mode for this key to function correctly. This means that File, Edit, View, Insert, etc. are visible on the menu bar). Once the Google Docs Equation Editor is activated, it allows the user to create:

- ***Fractions:***




Again, this key only works within Google Docs Equation editor. Press the a/b key and the cursor will flash in the numerator of the fraction. Press enter to move the cursor to the denominator. Press enter again to leave the fraction. Press enter again to exit the equation editor.

- **Exponents:**



Press the exponent key “^” and the cursor will elevate into a superscript. Press enter to return to the original line of typing. Press enter to exit the equation editor. (*Note: there must be a preceding character for a superscript to appear, such as x, 2, space, etc. If the initial symbol is exponent, it will display as a ^. To start with a superscript when there is no leading symbol, use space as the character.)



Press 2nd key +  to directly type superscript in Google Docs when not in the Equation Editor. Press 2nd key + ^ to leave the exponent.

- *Square roots with an extended tail:*



Press the 2nd key followed by the square root symbol. Press enter to leave the square

root. Press enter again to exit the equation editor.

- ***Subscript key***



This key is primarily set for Google editors (Docs, Slides, or Drawings only). To use it simply press $\sqrt{\quad}$ key. To leave subscript, press $\sqrt{\quad}$ again. In Google Docs Equation Editor, press the 2nd key first followed by the subscript key.




To exit, press 2nd key, then subscript key again.

In other applications: the 2nd + subscript is an option on the ArithmeType and Desmos websites, as well as Word/OneNote Equation Editors in Windows OS. Due to differing inputs for subscript across differing platforms, this character is not widely applicable to other websites.

- **Select:**



Pictured in blue on the left section of the keyboard:
When this key is pressed, a light will be seen under

the key. Next, use any of the blue arrow keys  to select text. Finally, press cut or copy, and then paste the selected text in a new location on the screen. Alternatively, a mouse or scratchpad can be used to select text, followed by the cut or copy, and paste, function keys.

- **Draw on a number line:**



use ○ (white circle), • (bullet). – (horizontal line), >(greater than) or < (less than), to make a line
(•——>, <——○)

- **CAPS LOCK:**




Can be turned on by pressing the 2nd key, then the dollar sign key. The CAPS LOCK light will turn on. The other keys function normally while this function is turned on except the Google Docs EQ keys in purple. To turn CAPS LOCK off, push the 2nd key, then the dollar sign key again.

Now have fun typing some great math!

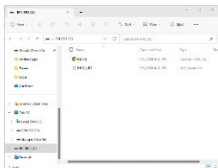
Code Update

Rarely, the code for the keyboard may need to be updated to conform with any changes that a particular OS may require. Perform the following steps below.

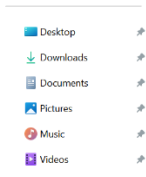
1. Put the keyboard into reset mode. Choose **one** of the two methods below.
 - a. Hold the top left key down (white circle ) while plugging the USB into your laptop. Keep holding the key a few seconds and then release. A chime may be heard. The keyboard is now in reset mode.
 - b. Hold down the Code Update button on the back of the keyboard while plugging in the keyboard. Keep holding the button a few

seconds and then release. A chime may be heard. The keyboard is now in reset mode.

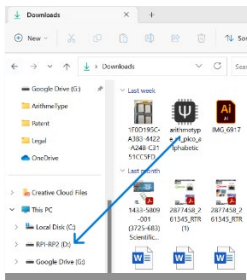
2. A new drive called RP1-RP2 will open.



3. Next, on the ArithmeType home page click the UPDATE button to download the new file.
4. Now open the files icon on your computer and find the downloads file. Double Click to open it.



- The ArithmeType download will be displayed there. Drag and drop the file into the RP1-RP2 drive. A chime may be heard.



- The keyboard has now been updated. Be sure to reselect the correct OS on the back of the keyboard since its previous selection was erased during the reset.

Screen Readers

The ArithmeType Math Keyboard is largely compatible with most screen readers but for optimal use, screen readers should be set to recognize Unicode characters. There will be variability in different screen reader's interpretation of the multikey commands, such as Start Google Docs EQ. This may instead be read at "e" since the command is alt, i, e. Please

utilize Google Chrome for the best experience using screen readers with the ArithmeType Math Keyboard. See Reference table below for a verbal description of the keyboard.

Reference Table for Keys by Sections, Rows, and Columns

Left Section:

White circle	Bullet	Horizontal line	Percent
Cut	Less than	Greater than	Degree
Copy	Less than or equal to	Greater than or equal to	Approximately
Paste	Left curly bracket; left square bracket	Right curly bracket; right square bracket	Unequal
Select	Up arrow	Vertical line	Comma
Left arrow	Down arrow	Right arrow	Tab

Center Section:

Dollar sign, CAPS LOCK	Left parentheses	Right parentheses	Backspace
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Colon	Forward slash	Asterix	Minus
Seven	Eight	Nine	Plus
Four	Five	Six	Equal
One	Two	Three	Enter
Space	Zero	Dot	Enter

Right Section:

Start Google Docs EQ	Pi	Delta; similar sign	Rad; arc
a over b EQ only	Theta; perpendicular	Angle; double headed arrow	Log; natural log
Square root; EQ	Plus/minus; cube root	Congruent	Sine; cosecant
Up caret; GD	Right arrow symbol	Infinity	Cosine; secant
Down caret GD; down caret EQ	f; subscript 2	g; subscript 3	Tangent; cotangent
x; superscript - 1	y; superscript 2	z; superscript 3	2nd

Troubleshooting

<p>Keyboard does not type</p>	<p>Wait 5-10 seconds and try typing again. If there is still no response, unplug and replug the USB into your computer.</p> <p>If using a MacBook, be sure to follow to follow the steps to help your computer identify the keyboard.</p>
<p>Special characters display as a series of strange number and symbols</p>	<p>Please turn the keyboard over and make sure you have selected the correct Operating System to match your computer. Mac OS users, please ensure you have used the Mac Installer download and followed the instructions to help recognize the keyboard and Unicode language.</p>
<p>Google Docs EQ button types a capital E and doesn't open the equation editor</p>	<p>Make sure you are in Google Docs and the menu options are displayed at</p>

	the top of the screen (File, Edit, Insert, etc.). If you are in the Search Menu mode, click the top right corner down caret to switch to “Show the menus”
a/b appears as $\frac{a}{b}$	This button only works in the Google Docs Equation Editor. Press the “Start Google Docs EQ” button first, then the a/b button to make fractions with a horizontal bar.
Extra u in symbols on DeltaMath on a Chromebook	There is an update that needs to occur at DeltaMath to eliminate the extra “u”.
Subscript not working	Please see the subscript key section to review which editors support this key. It is very useful but has limited editors that support its function.
Superscript key ^ doesn't elevate character	Please review the ^ key section to learn the specific

	editors that support this key and how to use it correctly.
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LIMITED PRODUCT WARRANTY

ArithmeType LLC, a Minnesota limited liability company (the “Company”), expressly warrants to the original purchaser (the “Buyer”); that, for a period of one (1) year from the date of purchase and delivery, the ArithmeType keyboard (the “Product”) will be reasonably free of defects in materials and workmanship. This Limited Warranty only applies to Company’s Products, which are used, stored, and handled in the manner recommended by the Company.

The Company will, at its option, repair or replace the Product without charge, if the Product fails or does not perform as warranted solely due to a manufacturing defect within the warranty period, subject to the exclusions set forth in this Limited Warranty. Repair or replacement during this one (1) year warranty shall include reasonable labor charges necessary to repair or replace the defective product. During the entire one (1) year warranty, the Company’s obligation as to repair or replacement shall further be limited to repair or replacement with the styles, models, products, colors, etc. of the Product that are available at the time of the repair or replacement, and shall be limited to the repair or replacement of only the specific Product that fails due to a manufacturing defect. Any repaired or replaced product shall also remain subject to the original one (1) year warranty from the date of the original purchase, and any repair or replacement shall not

extend the original warranty period in any manner or start a new warranty period. There are no other remedies available under this warranty.

Disclaimer of Warranties

The Product must be stored, handled, installed, used and maintained in accordance with instructions provided by Company, and this Limited Warranty is conditioned upon compliance with all such instructions. Copies of the Company's instruction manual is available from the Company at the address listed below. You may also obtain these materials on the Company's website at arithmetype.com or by contacting the Company at (651-661-MATH(6284)).

This Limited Warranty does not cover defects caused by:

1. noncompliance with Company's instruction manual. Such failures include, but are not limited to, exposure to physical abuse, including, but not limited to liquid damage, chemical abuse (e.g. harsh cleansers and solvents), thermal abuse or shock (e.g. excessive heat or cold), mechanical abuse (forceful pressure/dropping) or misuse;
2. improper storage, installation, handling, and/or use of the Product;
3. damage not resulting from manufacturing defects that occur while the Product is in the customer's possession or its transportation or delivery;

4. unreasonable or unintended use of Product;
5. minor conditions such as stains, scratches, etc;
6. failure or dissatisfaction with the appearance of the Product.

Any information or suggestion by the Company with respect to the Product concerning applications, specifications or compliance with codes and standards is provided solely for your convenient reference and are made without any representation as to accuracy or suitability. You must verify and test the suitability of any information with respect to the Product for your specific application.

THE WARRANTIES SET FORTH HEREIN ARE THE ONLY WARRANTIES MADE BY THE COMPANY IN CONNECTION WITH THIS PRODUCT. THE COMPANY CAN NOT AND DOES NOT MAKE ANY IMPLIED OR EXPRESS WARRANTIES WITH RESPECT TO THE PRODUCT, AND DISCLAIMS ALL OTHER WARRANTIES, INCLUDING, BUT NOT LIMITED TO, ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. PRODUCTS SOLD BY THE COMPANY ARE SOLD ONLY TO THE SPECIFICATIONS SPECIFICALLY SET FORTH BY THE COMPANY IN WRITING. OTHER THAN THE LIMITED WARRANTY SET FORTH HEREIN, THE COMPANY MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED. THE COMPANY'S SOLE OBLIGATION UNDER THIS WARRANTY SHALL BE REPAIR OR REPLACEMENT OF A NON-CONFORMING PRODUCT, OR AT THE OPTION OF THE COMPANY, RETURN OF THE PRODUCT AND A REFUND OF THE PURCHASE PRICE. THE BUYER ASSUMES ALL RISK WHATSOEVER AS TO THE RESULT OF THE USE OF THE PRODUCT PURCHASED, WHETHER USED SINGULARLY OR IN COMBINATION WITH ANY OTHER PRODUCTS OR SUBSTANCES.

Limitation of Liability

NO CLAIM BY THE BUYER OF ANY KIND, INCLUDING CLAIMS FOR INDEMNIFICATION, SHALL BE GREATER IN AMOUNT THAN THE PURCHASE PRICE OF THE PRODUCT IN RESPECT TO WHICH DAMAGES ARE CLAIMED. IN NO EVENT SHALL THE COMPANY BE

LIABLE TO THE BUYER IN TORT, CONTRACT OR OTHERWISE, FOR ANY SPECIAL, INDIRECT, INCIDENTAL, CONSEQUENTIAL, RELIANCE, STATUTORY, SPECIAL, PUNITIVE OR EXEMPLARY DAMAGES, INCLUDING, BUT NOT LIMITED TO, LOST PROFITS, LOSS OF USE, LOSS OF TIME, LOSS OF REVENUES, INCONVENIENCE, LOSS OF BUSINESS OPPORTUNITIES, DAMAGE TO GOODWILL OR REPUTATION, OR LOSS OF DATA, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGES OR SUCH DAMAGES COULD HAVE BEEN REASONABLY FORESEEN, IN CONNECTION WITH, ARISING OUT OF, OR AS A RESULT OF, THE SALE, DELIVERY, SERVICING, USE OR LOSS OF USE OF THE PRODUCT SOLD HEREUNDER, OR FOR ANY LIABILITY OF THE BUYER TO ANY THIRD PARTY WITH RESPECT THERETO.

Contact Information

Any question concerning this warranty should be addressed to:

ArithmeType LLC

Address: 1 Spring Marsh Lane, North Oaks, MN 55127

Attention: Shannon Canas

Phone: 651-661-MATH(6284)

Website address: info@arithmetype.com

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