



translate.org.za
opensource software translation project

South African Keyboard User's Guide

For the South African Keyboard and Fonts

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About

This software enables your Windows computer to work properly with all the 11 official languages of South Africa. It includes keyboard layouts to enable typing of characters not found on your US English keyboard and fonts to display some of the characters not commonly found in all fonts.

Copyright

This document and the associated files are released under the GPL license. You are free to copy, modify and share both this document and the associated keyboards. You may use it on as many computers as you wish. The only requirement is that if you make any changes that those are also released under the GPL. See <http://creativecommons.org/licenses/GPL/2.0/>

Acknowledgments

We are deeply indebted to a number of people who have assisted us in the creation of this keyboard. Lee van Munster of Web-Lingo for getting a number of Venda translators up and running on the keyboard and who begged for this users guide. Here's your guide Lee.

Ronald Madiba for the phrase "mechanical imperialism" which cemented our understanding of the need for this keyboard and for his enthusiasm and encouragement of the work.

To the Afrikaans speakers on the Translate.org.za discussion list who gave valuable feedback on the usability of the keyboard. Thanks especially to Samuel Murray for the suggestions that inspired the *Super dead key* keyboard and to Christian Pauw who spent a few days on each keyboard as he wrote his thesis.

To the Department of Communications whose funding of Translate.org.za's translation of OpenOffice.org made it possible to spend time on the South African keyboard and Venda fonts.

Lastly to all the Venda translators who've struggled for much too long seeing their language mauled by ignorant and dumb computers. This is for you. I love your language's letters, they give Venda a flavour that is not *26 letter* bland but that shows a richness that is worth preserving.

Dwayne Bailey
Director, Translate.org.za

Who produced this keyboard?

The South African keyboard layout and extensions of various fonts for Venda are the work of an NGO called Translate.org.za. Translate exists to translate various Free software into South African languages.

The keyboard layouts and fonts are released under the terms of the GPL (GNU General Public License) which gives you the right to copy and share this with whoever you like. The only restriction is that if you improve any of the components you must also release them under the GPL. Thus we preserve the Free nature of the work. So now you can understand that we talk about Free as in Freedom.

Why is this keyboard important?

Currently in South Africa we are being robbed of important digital documents in certain languages because of the current work-a-rounds used by language practitioners and publishers.

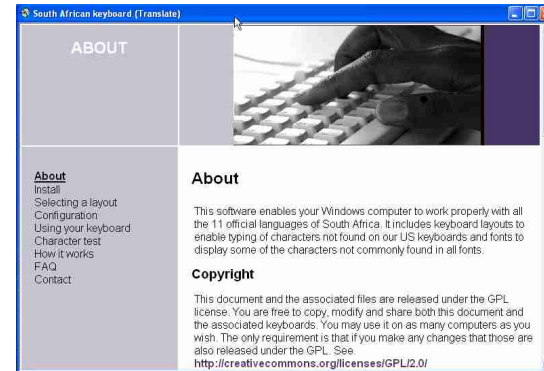
What do you mean? Think of all the translation of work from English to Venda. If we can digitally link each English paragraph to the Venda paragraph we start to build a large resource of good translations that can be used for things such as speech recognition and for computer to be able to read in Venda. The same applies to individual words. Now think of the current process. A translator translated the Venda without diacritical marks, prints out the pages and adds the marks. The printer then typesets the work. The final product is useful but only in a limited context. What we've lost along the path of production is all its usefulness for other applications:

- You cannot take that same work and publish it on the Internet to be searched because in its digital form it does not have the diacritical marks.
- You cannot create a good language corpus because the digital form is simply wrong.
- You cannot reuse the work in future translations because it is only correct in its printed form and to reuse it in software translation tools would require that it be correct in the digital form.
- It cannot be used to help create multilingual dictionaries because the work all needs to be redone to correct diacritical marks.

So if you believe that your language and its orthography are worth preserving then this is a very serious topic. The good thing is that the solutions to the problem, although sometimes seeming quite technical, are really quite simple.

Installation

01. The CD will start automatically on Windows computers and display the following screen. We encourage you to read the background on the creation of the keyboard.



02. Click on **Install** to proceed with the installation.

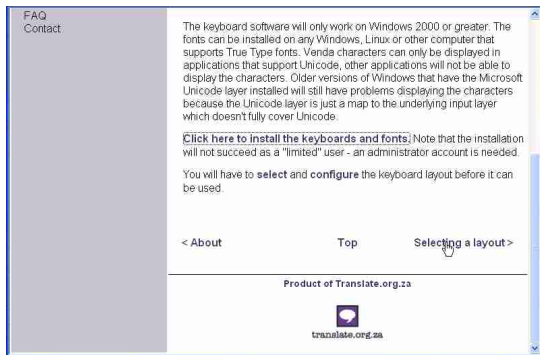


03. Now familiarise yourself with the system requirements. The system requirements are also available in this manual in the section titled System requirements. If your computer meets the system requirements then you can proceed with the installation.
04. At the bottom of the *Install* page please click on the link, **Click here to install the keyboards and fonts.**

05. The installation dialogue will appear. Click on **Next** to begin the installation.



06. Now click on **Selecting a layout >** and choose which keyboard you think would work best for you, you are encouraged to install all 3 as it is quite easy to switch between keyboards. The keyboard selection guide is also available in this manual in the section titled: *Select your keyboard*.



07. Now proceed to the section in this manual titled *Configure your keyboard*.

System requirements

- Windows 2000 or later
- Unicode enabled applications

The keyboard software will only work on Windows 2000 or greater. The fonts can be installed on any Windows, Linux or other computer that supports True Type fonts. Venda characters can only be displayed in applications that support Unicode, other applications will not be able to display the characters. Older versions of Windows that have the Microsoft Unicode layer installed will still have problems displaying the characters because the Unicode layer is just a map to the underlying input layer which doesn't fully cover Unicode.

Select your keyboard

Which keyboard should I choose? In fact why are there so many options?

We have created three keyboards that are suited to the needs of different users. This table will help you decide which keyboard will best suite your needs. Note that all keyboards cover all of the 11 official languages of South Africa.

If you are uncertain we recommend the za-altgr keyboard.

You...	Description	Best keyboard
Type a lot	You type a lot of documents that require South African characters: Afrikaans, Venda, Pedi, etc. but you would not regard yourself as a touch typist. This keyboard uses dead keys ¹ that are located in logical places that will be easy for you to remember.	za-intl
Are a good typist	You can touch type. You type South African characters frequently enough that the dead keys will not bother you. This keyboard has dead keys that are placed for ease of typing and typing speed. You will need to learn their location as they are not immediately apparent but their placement is very logical.	za-super
Are an infrequent user	You do not type many documents that need South African keys but you do need to occasionally type them. You are not a touch typist and dead keys get in your way. Essentially you want a keyboard that works as normal but that allows you to type South African characters when you need to. This keyboard uses the AltGr key combined with other characters to create your South African characters. Apart from that the normal operation of the keyboard is unchanged.	za-altgr

¹A **dead key** is a key on a computer keyboard that produces no output when it is pressed, but modifies the output of the next key pressed after it. Dead keys are commonly used to generate letters with accents (diacritics), because that way one does not need one key for each possible combination of letter and accent, but only one key for each accent (the dead key) plus the usual letter keys.

For example, if a keyboard has a dead key "ˆ", the Venda character n with circumflex below can be generated by pressing first "ˆ", then "n".
From: wikipedia.org

Configure your keyboard

You have installed your keyboards and fonts and have also decided which keyboard to use. Now you can configure your keyboard.

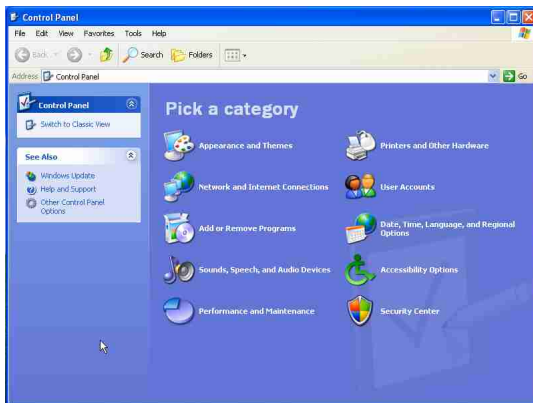
Note these instructions are for Windows XP. We'd appreciate some help in getting clear instructions for Windows 2000.

Windows XP: configuring your keyboard

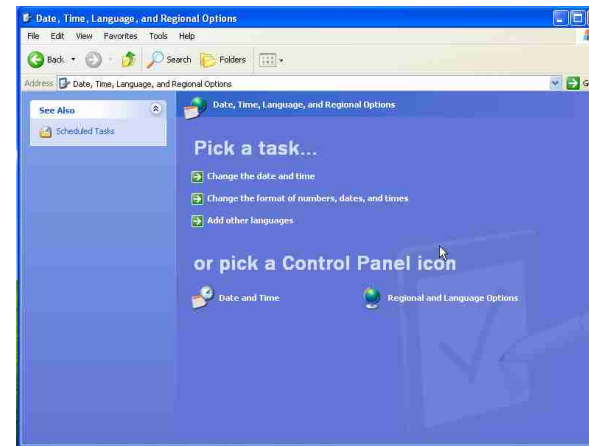
01. Click on the **Start** button and select **Control Panel**



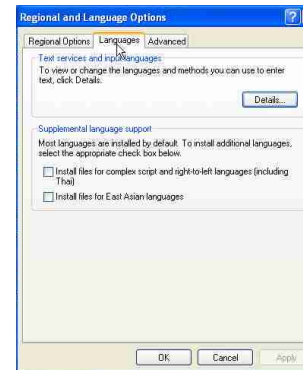
02. In the control panel select **Date, Time, Language and Regional Options**



03. Now select Regional and Language Options



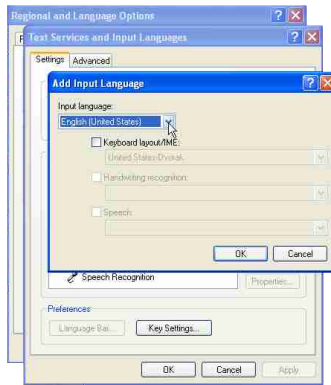
04. The **Regional and Language Options** dialogue appears, change to the **Languages** tab at the top of the dialogue box



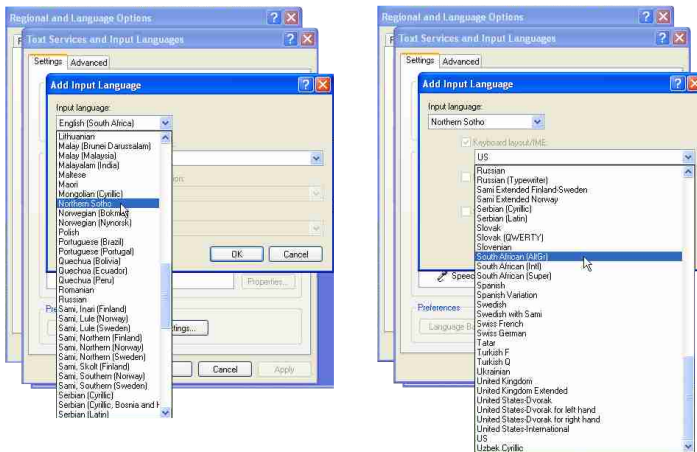
05. Click on **Detail...** and the **Text Services and Input Languages** dialogue will appear.



06. Select **Add...** and the *Add Input Language* dialogue box will appear.



07. Select your language in the **Input Language** drop down box. Not all South African languages are listed so choose from one of: Afrikaans, English (South Africa), Tswana, Xhosa or Zulu. If you are not sure then select **English (South Africa)**.

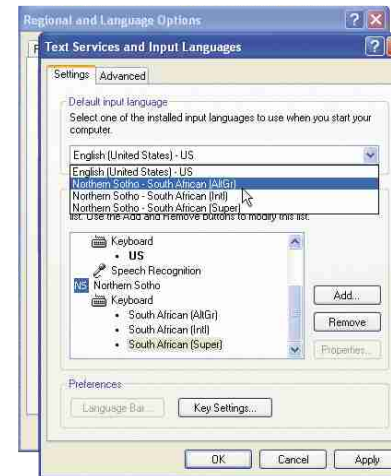


08. Tick **Keyboard layout/IME**

09. Now select a South African keyboard layout from the list. Close the dialogue box by clicking on **OK**.

10. Return to step 6 to add the other 2 South African keyboards.

11. Choose one of the languages and keyboard layouts in the drop down under **Default input language**.



12. Click **OK** and close all of the windows.

13. Now click on **Start** then **Log off**.



14. Select **Log Off**, when you log back on the new setting will take effect.



15. You can use the language switcher to quickly switch languages and keyboards. Enable the *Language language bar* and you will have further options.



Configuring the DejaVu fonts

Once the DejaVu fonts are installed they are available to all applications to use. Changing the font will differ from application to application. Here are some examples:

Office XP: Setting the default font

01. If your document already contains text formatted as you would like it
02. From the menu select **Format - > Font**
03. Select the DejaVu font
04. Click on **Default**

Your settings are now stored in the active template. Any new document you create with this template will use these settings. Documents created from other templates will not use these default settings.

Office XP: Changing an existing document

01. From the menu select **Edit - > Select All** (or press **Ctrl+A**) to select all text in the document
02. From the menu select **Format - > Font**
03. Select the DejaVu font
04. Click **OK**

The font will have changed and all correctly typed Venda characters will now appear. If the document did not originally contain correct Venda characters then you will need to proof read the document and add those characters.

Typing with your new keyboard

It might take a while to get used to your keyboard layout and you might want to try each of the layouts to find which works best for you.

This table lists all of the characters and how to type them on the various keyboards:

Character	Description	Super	International	AltGr
Áá	A WITH ACUTE	' then A	' then A	AltGr+' then A
Àà	A WITH GRAVE	; then A	` then A	AltGr+` then A
Ää	A WITH DIAERESIS	> then A	" then A	AltGr + A
Ðð	D WITH CIRCUMFLEX BELOW	< then D	Shift+6 then D	AltGr + D
Éé	E WITH ACUTE	' then E	' then E	AltGr+' then E
Èè	E WITH GRAVE	; then E	` then E	AltGr+` then E
Êê	E WITH CIRCUMFLEX	< then E	Shift+6 then E	AltGr + R
Ëë	E WITH DIAERESIS	> then E	" then E	AltGr + E
Íí	I WITH ACUTE	' then I	' then I	AltGr+' then I
Ìì	I WITH GRAVE	; then I	` then I	AltGr+` then I
Îî	I WITH CIRCUMFLEX	< then I	Shift+6 then I	AltGr+^ then I
Ïï	I WITH DIAERESIS	> then I	" then I	AltGr + I
Ľĺ	L WITH CIRCUMFLEX BELOW	< then L	Shift+6 then L	AltGr + L
Ńń	N WITH DOT ABOVE	> then N	' then N	AltGr + M
Ňň	N WITH CIRCUMFLEX BELOW	< then N	Shift+6 then N	AltGr + N
Óó	O WITH ACUTE	' then O	' then O	AltGr+' then O
Òò	O WITH GRAVE	; then O	` then O	AltGr+` then O
Ôô	O WITH CIRCUMFLEX	< then O	Shift+6 then O	AltGr + P
Öö	O WITH DIAERESIS	> then O	" then O	AltGr + O
Šš	S WITH CARON	< then S	Shift+6 then S	AltGr + S
Țț	T WITH CIRCUMFLEX BELOW	< then T	Shift+6 then T	AltGr + T
Úú	U WITH ACUTE	' then U	' then U	AltGr+' then U
Ùù	U WITH GRAVE	; then U	` then U	AltGr+` then U
Ûû	U WITH CIRCUMFLEX	< then U	Shift+6 then U	AltGr + Y
Üü	U WITH DIAERESIS	> then U	" then U	AltGr + U
Ýý	Y WITH ACUTE	' then Y	' then Y	AltGr+' then Y

Table 1: Quick reference chart for the three layouts

This summary might help you remember the layouts correctly:

Layout	Description
Super	< is used for all circumflex and caron characters. > is used for the other diacritic marks: dot above and diaeresis. ; is used for all grave (`) and ' is used for all acute accents (´).
International	Shift + 6 for any caron or circumflex. " For any diaeresis. ` for all the grave and ' for both acute and dot above.
AltGr	All characters are placed on or close to the character without the accent. All afrikaans letters with diaeresis are placed on the letter and those with circumflex are located near the unaccented letter.

Table 2 : A summary of how each layout works

How do I type the actual character on the dead key?

You want to type a ' (single quote) on the **super** keyboard but nothing happens and you need this character for a quote in the document. You can do two things. Either type ' + ' i.e. type the character twice. Or type ' + **space**.

How does all of this work?

The whole process of getting a computer to work in your language can seem quite technical. This is probably the reason Venda translators still print out pages and add diacritics afterwards. Hopefully this short explanation will help you understand how all the bits fit together.

The three things you need to display your language properly are:

01. A way to store the characters
02. A way to display the characters
03. A way to input the characters

Storing the characters

Character	The computer sees
A	41
B	42
C	43
...	...
Y	59
Z	60

Table 3: How your computer sees

Computers only understand numbers. When you see the letter **A** a computer sees the number **41**. B is 42, C 43 and so on.

We call this association a character encoding. For a long time there were different encodings for different languages. So 41 would mean A for Latin languages but would mean another character for Cyrillic languages. The problem with this solution was that you could not display both Latin and a Cyrillic language at the same time. Then entered Unicode which has enough space to accommodate all languages of the world.

For languages such as Afrikaans and Northern Sotho we can use existing character encodings for the computer to know about their special character (e.g. ê and ś) however Venda was never represented in any character encoding. Thus Venda can only be stored by a computer that understands Unicode.

Character	The computer sees
ǀ	1E12
ǃ	1E3C
ǂ	1E4A
ǁ	1E44
ǀ	1E70

Table 4: Venda diacriticals

The Venda characters appear in an area of Unicode known as *Latin Extended Additional* where your computer understands numbers such as 1E12 to represent the Venda character *D with circumflex below*.

Displaying the characters

So now your computer knows how to store a character by giving it a unique number but that still does not mean you can see it or even enter it into the computer. So how does a computer display your character?

On a computer you will have various fonts. A font is a collection of glyphs. And a glyph is just a fancy name for each of the characters within a font. A glyph holds instructions on how the computer should draw that character.

We already saw above that the number 1E12 represents the Venda character D with a circumflex below. In each of the fonts there is a table that maps the character number to the instructions to draw the character. So when the computer asks the font for the instruction to draw character 1E12 the font will return the instruction needed to draw that character and thus the computer will be able to draw that character on the screen.

However, if the font does not know how to display the Venda characters it will do one of two things: Either it will display nothing in which case you will simply see a space. Or it will display some character (using a small square box or question mark) to indicate that it knows the character is there but doesn't know how to draw it.

So in order to display the character your computer needs to have a unique number for it, as we explained previously and it needs a font that knows how to draw the character. If you cannot see your Venda characters the most likely issue is that you do not have a font that can display the characters.

So now your computer can store the character and can display it but how do you enter this character into the computer?

Inputting the character

When you type on a computer keyboard your key presses are converted to character numbers that we saw in the first section. Thus pressing A on your computer keyboard tells it that you, the user, would like character 41. The computer stores 41 and asks the font to display the glyph or character A.

But how do I enter the Venda character N with a dot above? I don't see it on my computers keyboard!

The placement of keys on a keyboard is known as a keyboard layout. In order to type Venda characters you would need a keyboard layout that contains keys that map to the Venda characters.

In South Africa we mostly use keyboards that are known as *English US*. These do not contain keys that contain the Venda characters. So how do we get the Venda characters? There are a few methods but the most important ones are to use a combination of two characters to get your Venda key or to use dead keys.

The two key combination usually involves a key known as AltGr (the right hand alt key on your keyboard). Pressing for example **AltGr + T** would result in the Venda T with circumflex below. The second method or dead key method works as follows: You type **Shift + 6**, nothing happens. Now you type D and D with circumflex below appears. These are known as dead keys because the first time you press them nothing happens. The layout you choose will depend essentially on how good a typist you are and how much writing you do. You choose the layout that best suits you.

Frequently Asked Questions

When will you produce a version for Windows 95, 98, ME or NT?

Unfortunately never as there is a technical limitation that prevents the keyboard software from running on these platforms. If that changes, which seems unlikely, then we will look at that again.

Please don't ask, or plead. It is a technical limitation. Upgrade to a newer version of Windows or migrate to Linux.

How do I uninstall the keyboards?

Windows has a limitation that prevents one from uninstalling a keyboard that is currently in use. Go through the same steps to configure the keyboard, but this time instead of adding it to the language, remove it.

Then go the Control Panel, select **Add and remove programs**, and remove the keyboards from your computer.

Who do I phone for support?

Translate.org.za's main objective in releasing this software is to help language speakers in South Africa. We unfortunately cannot provide telephonic support at this time. We know you will be tempted to phone, but please try the following options first and realise that we really can't help you over the phone.

But I'm not that technical and I really need help.

Then please ask your local support technician or a friend to help you.

My friend also doesn't know what to do.

Try rereading these documents and following the instructions during installation, check your installation instructions again. If you're still lost then please ask your question on info@translate.org.za. Please ask in English and provide all of this information:

- The specifications of your computer (memory, CPU)
- The version of Windows
- The keyboard that you are using
- What software you were using that didn't work with the keyboard or font
- A detailed description of what you expect to happen and what actually happens. Clear instructions on how to reproduce the problem. Saying that nothing appears does not help us – what exactly do you mean by nothing? Does a space appear or is there no movement of the cursor. We need these details.

If you don't send the details you will receive a simple reply that says "more info please", or no reply at all.

I don't have email so I have to phone or I can't express the problem in an email.

Please try to find a way to email. We're really sorry but we cannot provide telephonic support.

I don't have any friends.

I'm afraid we can't help you with that :)

I've installed the keyboard but when I type Venda characters I don't see anything

You probably mean that when you type the cursor moves but you don't see the characters you expect. You are not using a font that can display the Venda characters, select the text and change it to use the DejaVu font.

I sent the document to another person and they can't see the Venda characters

This is the same as the previous answer. The difference is that you have the correct fonts but the recipient does not. Thus they see blanks, question marks or some other marker instead of the Venda characters.

Your first option is to get them to use the South African keyboard and fonts so that they can actually see Venda characters for the first time. Point them to this URL: <http://translate.org.za/content/view/24/41/>

The other option is to send your documents in PDF format as in that way the fonts are embedded and viewable by the recipient. It also has the advantage that they can't change your work and that it is also then print ready. (You must make sure that the fonts are embedded in your PDF document and also that you have the rights to embed and distribute the fonts. You are allowed to distribute DejaVu fonts.)

Do you give this away for free? What is the catch?

At Translate.org.za we believe in the furthering of African languages and multilingualism in South Africa. We also believe that actions speak louder than words. For our group this was a relatively simple technical task but it has a high impact specifically amongst Venda speakers and other non-English speakers. We want the software to have the highest impact and thus allow people to download it gratis so that EVERY Venda speaker has access to it.

We have to say again that when we use the word free we mean Free as in Freedom. Thus the only catch is that this software must always remain free. If you improve it in any way then you too must release it as Free Software under the GPL license.

But this software was included in something I paid money for. I was ripped off!

The license that we use, the GPL, ensures the Freedom of the software. It does not restrict anyone from adding it to their product for which they charge money. In fact we at Translate.org.za sell the keyboard with a printed manual and keyboard quick reference to make it easier for users to enjoy the keyboard.

We would like to hear from you about people who claim that they are the author of this software, or who claim that you cannot share it with others, as that is wrong. But there is nothing wrong with them selling the software to you. We'd prefer however that if you want to pay money you pay it to Translate.org.za so that we can continue to create Free products.

This is amazing, thank you! How can I help?

No, we want to thank you! We have discovered that just as knowledge can be shared and that in the sharing the knowledge does not become less but becomes more. In the same way by sharing software people are empowered to not only to do their job, but to do it better. We hope that as the recipient of our sharing you will also learn to share your knowledge.

Here are some ideas of how you can share:

- Share this software with everyone who could benefit.
- If you are a translator: share your translation memories, glossaries, etc. to help make a world class resource for your language.
- Help use improve this product by: giving valuable feedback on improvements to the keyboard layouts, corrections to this document or translations of the installation instructions.
- If you are a translator why not help us in our main goal which is to make free software available to every South African in their language. Volunteer to help us translate computer software into your language.
- Tell more people about Translate.org.za.
- Help build practical translation exercises with Free software into your translation curriculum.
- Stop complaining about multilingualism in South Africa and do something practical to promote it.

Contact details

Web page

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Phone / Fax

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Please note that we unfortunately cannot provide telephonic support at this time. For information on support options, see our Frequently Asked Questions.

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