

# Pilot's Handbook

Manuel de pilotage

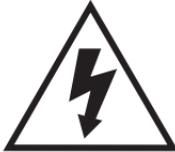
Pilotenhandbuch

Pilotenhandboek

Manual del Piloto

取扱説明書

## Important Safety Instructions



**CAUTION**  
**RISK OF ELECTRIC SHOCK**  
**DO NOT OPEN**



**WARNING : TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT REMOVE SCREWS. NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.**

**WARNING : TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THE APPLIANCE TO RAIN OR MOISTURE.**

CAUTION: This equipment has been tested and found to comply with the limits for a Class B digital device pursuant to Part 15 of FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.



The lightning symbol within a triangle means “electrical caution!” It indicates the presence of information about operating voltage and potential risks of electrical shock.



**Battery Disposal Information:** This symbol indicates that the battery contained in your product should not be treated as household waste. It should be disposed of according to your local environmental laws and guidelines. By ensuring proper disposal, you will help promote recycling and prevent potentially negative consequences for the environment and human health. Batteries are only to be returned to collection points fully discharged, or with steps take to prevent short-circuiting. For information on collection points and other disposal requirements, please contact your local authorities.



The exclamation point within a triangle means “caution!” Please read the information next to all caution signs.



**You should read these Important Safety Instructions. Keep these instructions in a safe place.**



1. Obey all warnings in this Pilot's Handbook.
2. Do not place near heat sources, such as radiators, heat registers, or appliances which produce heat.
3. Guard against objects or liquids.
4. Do not step on power cords. Do not place items on top of power cords so that they are pinched or leaned on.
5. Unplug your Variax when not in use for extended periods of time.
6. Do not perform service operations beyond those described in the Variax Pilot's Handbook. Repairs and service operations beyond the scope of those in the Pilot's Handbook should be performed only by qualified service personnel.
7. Prolonged listening at high volume levels may cause irreparable hearing loss and/or damage. Always be sure to practice "safe listening."

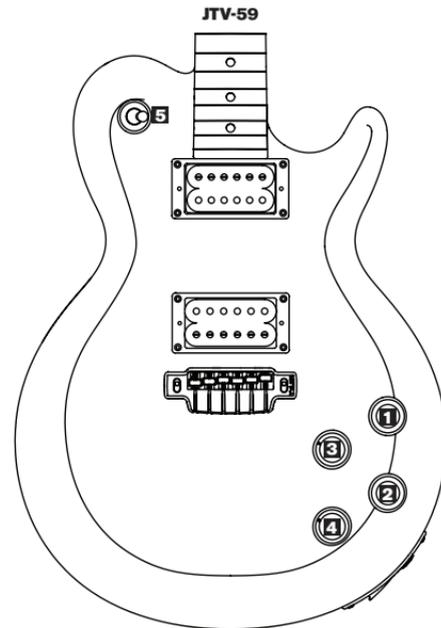
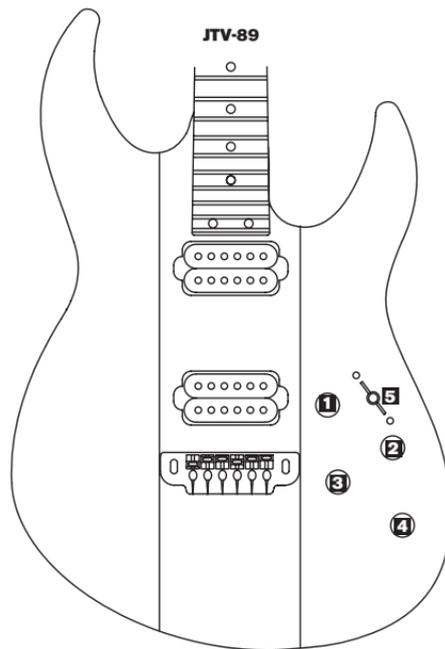
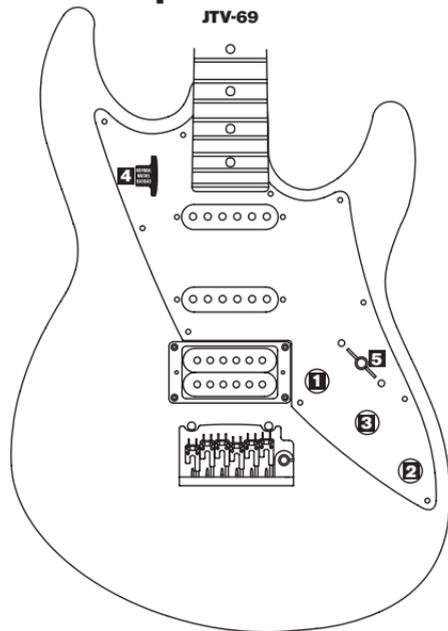
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**JTV-59US, JTV-69US and JTV-89US** should include these accessories:  
Hardshell Case, 2 Lithium Ion Batteries, Charger, Bridge Saddle Wrench, Truss Rod Wrench

**JTV-59, JTV-69 and JTV-89** should include these accessories:  
Gig bag, 1 Lithium Ion Battery, Charger, Bridge Saddle Wrench, Truss Rod Wrench

# Basic Operation



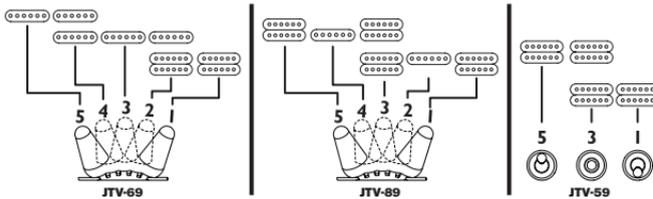
- 1. Volume** - Adjusts the signal level output of your guitar.
- 2. Tone** - Adjusts the amount of high frequency pass through.
- 3. Guitar Model Selector** - Push in this knob (LED is lit) to access any of the 10 Variax guitar model banks or one of two user definable custom model banks. When in Variax mode the **Guitar Model Selector** LED will illuminate the active guitar model bank. There are actually 5 models per bank, as defined by the **Selector Switch** position. Press this knob again (LED is not lit) to use the magnetic pickups.

- 4. Alternate Tuning Knob** - When in Variax mode you can use the **Alternate Tuning Knob** to instantly access 10 preloaded alternate tunings on the fly. Missing your favorite tuning? No problem, you can store your own custom tunings here as well. More on that later. Be sure you amplify your signal enough to drown out the natural acoustics of your guitar or you might hear some odd modulations from it blending with the amplified sound.

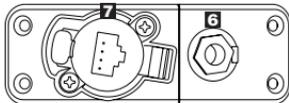
When set to **MODEL** your guitar tuning is determined by the current guitar model and **Selector Switch** position. To see this in action, enter Variax mode and select the **CUSTOM 2** model, which is the only bank preloaded with alternate tunings from the factory. Now toggle your selector switch to preview the tunings preloaded with each model. You can assign alternate tunings to any guitar in the **Guitar Model Selector** banks using our **Variax Workbench** software.

To bypass the Alternate Tuning feature, simply set the **Alternate Tuning Knob** to **STANDARD**. In Standard mode, every Variax model will play in standard tuning, including any alt-tuned models like the ones in the Custom 2 bank.

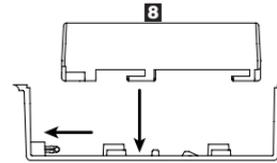
- 5. Pickup Selector Switch** - In analog mode the selector enables your magnetic pickups as shown below (1=bridge / 5=neck).



In Variax mode this switch has unique properties for each model. Check out **The Guitars of Variax** section for details.



- 6. Analog Output** - Plug in a standard 1/4 inch guitar cable here.
- 7. VDI Digital Output** - For connecting to Line 6 hardware supporting Variax Digital Interface (VDI). Only connect a Line 6 Variax Digital cable to this output.



- 8. Battery Compartment** - Installation as shown. Please fully charge the included lithium ion battery in its charger prior to your first use. A fully charged battery will give you a minimum of 12 hours of life. Press the Battery Check button for a quick reference of remaining battery life:

- 4 LED**s=9+ hours
- 3 LED**s=6+ hours
- 2 LED**s=3+ hours
- 1 LED**=less than 3 hours
- 1 LED** blinking=less than 1 hour, recharge battery

**Note:** There are two ways to supply power to Variax without a battery. When connected to VDI Digital Input equipped hardware, such as a POD X3 Live, power is supplied via this connection. Or, use the optional XPS-DI direct box/power supply and TRS cable. With this box you can power your Variax and it also works as an A/B box to send your signal out of a DI to go direct to a board or acoustic amplifier with certain models.

# The Guitars Of Variax

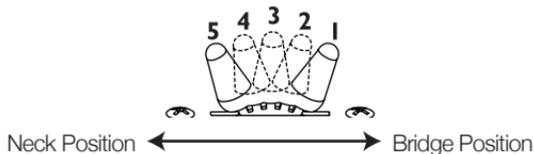
Each Variax model bank has five different models available—one at each position of the Pickup Selector Switch. These five models may all be based on the same guitar, two or three similar guitars, or, for the **ACOUSTIC** and **RESO** banks, each model may be based on an entirely different instrument.

For electric models, the **Volume** and **Tone** controls work like the ones found on the instruments we modeled. Rolling off the volume, for instance, will typically result in a slightly darker sound. The output level of each model is based on the modeled instrument. Models with humbucking pickups, for example, will tend to be louder than those with single-coils.

For acoustic models, the **Volume** control acts as a simple level control. Since acoustic guitars don't have tone controls, we decided to let you shape the tone of these models by changing the position of a modeled microphone using the **Tone** knob. Give it a spin to explore a varying range of tonal flavor for each model.

## Pickup Position Numbering JTV-69 & JTV-89

We've numbered the **Pickup Selector** positions in the manual starting with "bridge" (the position toward the bridge) as 1. Moving the pickup selector from there, you go through positions 2, 3 and 4 on your way to the "neck" position (the position toward the neck) which we label as number 5.



## Pickup Position Numbering JTV-59

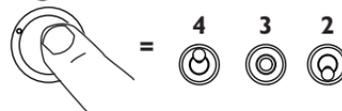
Even though your guitar is equipped with a 3-way **Pickup Selector Switch** you can still access all 5 models in each model bank.

We've numbered the **Pickup Selector** positions in the manual starting with "bridge" (the position toward the bridge) as 1. Moving the pickup selector from there, you go to **position 3** on your way to the "neck" position which we label as number 5. To access models 2 and 4 press the **Alternate Tuning Knob** to toggle between using the 3-way to access models "1-3-5" or "2-3-4".



or

## Alternate Tuning Knob



## T-MODEL



Based on\* 1960 Fender® Telecaster® Custom

Leo Fender's Telecaster®, originally known as the Broadcaster, was the first commercially successful solidbody electric guitar and has been in continuous production for over fifty years.

**Position 1:** Bridge, **Position 2:** Widerange Humbucker Bridge, **Position 3:** Bridge + Neck, **Position 4:** Widerange Humbucker Neck, **Position 5:** Neck

## SPANK



Based on\* 1959 Fender® Stratocaster®

The curvaceous Stratocaster® is further evidence of the genius of Leo Fender. Considered a radical departure at its introduction in 1954, the Stratocaster® influenced electric guitar design more than any other single instrument and its distinctive comfort-contoured body, bolt-on neck, and versatile electronics have become industry standard features. Our model takes one slight liberty; unlike the modeled instrument, the tone control works on the Bridge pickup, too. We trust that Leo won't mind.

**Position 1:** Bridge, **Position 2:** Bridge+Middle, **Position 3:** Middle, **Position 4:** Neck+Middle, **Position 5:** Neck

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## LESTER

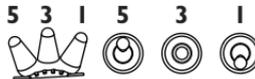


Based on\* 1959 Gibson® Les Paul® Standard

Gibson's first solidbody electric design was a collaboration with popular guitarist and recording pioneer Les Paul. Unlike the easy-to-manufacture Fender designs, the Les Paul® retains the carved top and set neck construction of their hollowbody models. The original series was a commercial failure, however, and was discontinued in 1961. The resulting resurgence of popular interest led to its reintroduction in 1968.

**Position 1:** Bridge, **Position 2:** P90 Bridge, **Position 3:** Bridge+Neck, **Position 4:** P90 Neck, **Position 5:** Neck

## SPECIAL



Based on\* 1955 Gibson® Les Paul® Special

The Special was added to the Les Paul® line in 1955 as an intermediate step between the utilitarian Junior and more luxurious Standard. The greater tonal options made possible by the second P-90 helped make the Special a favorite of reggae legend Bob Marley. Our model is based on the original single cutaway version.

**Position 1:** Bridge, **Position 3:** Bridge+Neck, **Position 5:** Neck



### Based on\* 1976 Gibson® Firebird V

The Firebird, introduced in 1963, was created with the help of Detroit automobile designer Ray Dietrich. Neck-through construction and Epiphone® style mini-humbuckers gave the Firebird a unique combination of good sustain and a biting, trebly sound—characteristics which made it a favorite of blues slide guitar legend Johnny Winter.

**Position 2:** Bridge, **Position 4:** Neck



Gretsch introduced this series in 1955. Though called a solidbody by Gretsch, the Jet series actually has internal hollow chambers that contribute to its light weight and resonant tone. The black version (the Duo-Jet) was the favorite instrument of Cliff Gallup, original lead guitarist for Gene Vincent's Blue Caps. The guitar we modeled had DeArmond® pickups and a Melita bridge.

**Position 2:** Bridge, **Position 4:** Neck

## CHIME



### Based on\* 1966 Rickenbacker® 370

Though overshadowed by the success of the 12 string, the 6 string versions of Rickenbacker's stylish models continue to be popular with players looking for something a bit out of the ordinary, like Ed O'Brien of Radiohead.

**Position 1:** Bridge, **Position 3:** Bridge+Neck, **Position 5:** Neck



## R-BILLY



### Based on\* 1959 Gretsch® 6120

The 6120 was the first of several models that Gretsch® developed with country guitar whiz Chet Atkins. The 6120 is usually associated with the "twangy" sounds of players like Duane Eddy, Eddie Cochran, and Brian Setzer. Our model is equipped with Filter'tron hum-canceling pickups.

**Position 1:** Bridge, **Position 3:** Bridge+Neck, **Position 5:** Neck



### Based on\* 1966 Rickenbacker® 370-12

Popularized by George Harrison in the Beatles and Roger McGuinn in the Byrds, the distinctive jangle of the 12 string Rickenbacker® was a significant part of the 60's rock sound. Our model has the original "toaster" pickups.

**Position 2:** Bridge, **Position 4:** Neck



### Based on\* 1959 Gretsch® Duo Jet



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## SEMI



Based on\* 1961 Gibson® ES®-335

The Semi-hollow Gibson® was conceived as a blend of the tone and sustain of a solidbody with the balance and aesthetics of a hollowbody. The “woody” tone of these guitars made them popular with Jazz artists like Larry Carlton and Blues greats like B. B. and Albert King. Our model is based on a 1961 dot neck, with P.A.F.’s and a stop tailpiece.

**Position 1:** Bridge, **Position 3:** Bridge+Neck, **Position 5:** Neck



Based on\* 1964 Epiphone® Casino

Gibson acquired former rival Epiphone in 1957 and began producing Epiphone® guitars in its Kalamazoo factory. John Lennon was particularly fond of the Casino, and continued to record with it long after the breakup of the Beatles. The Casino features P-90 pickups.

**Position 2:** Bridge, **Position 4:** Neck



## JAZZBOX



Based on\* 1954 Gibson® ES®-175

Gibson added a sharp “Venetian” cutaway and a fancier fingerboard to the budget ES®-125 model to create the ES®-175. With the addition of a second P-90 pickup in 1953, this quickly became a popular and enduring choice for jazz guitarists.

**Position 1:** Bridge, **Position 3:** Bridge+Neck, **Position 5:** Neck



Based on\* 1953 Gibson® Super 400

By the end of the 1940's, changing musical styles found premium archtops like the Super 400 to be lacking in volume. By simply adding the pickups and controls developed for its early electric guitars, Gibson created the electric version of the Super 400 in 1951. Our model is based on the version with P-90's. Check out Scotty Moore (and Elvis) playing a Super 400 in the '68 Comeback Special.

**Position 2:** Bridge, **Position 4:** Neck



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# ACOUSTIC



## Based on\* 1959 Martin® D-28

The D-28 is generally considered the definitive Martin® flat-top. The Dreadnought (or “D”) body combined with rosewood back and sides produces a full sound ideal for flatpicking.



## Based on\* 1966 Guild® F212

Guild’s Jumbo-bodied 12-strings offered players the elusive combination of volume and clarity. We’ve modeled the F212 with mahogany back and rims.



## Based on\* 1970 Martin® D12-28

In 1970, Martin added 6 more strings to the successful D-28 to capitalize on then-current folk music trends.



## Based on\* 1995 Gibson® J-200

Easily identified by its impressive size and ornamentation, the J-200 was often seen played by flashy country and western artists and was a later favorite of Elvis Presley.



## Based on\* 1967 Martin® O-18

The smaller “parlor” sized body with mahogany back and sides has a balanced tone ideal for fingerstyle playing.



# RESO



## Based on\* 1935 Dobro® Model 32

Though the Dobro® is generally a wood-body instrument, this model is based on an unusual specimen with an all-aluminum body that emphasizes midrange.



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### Inspired by\* the Coral Sitar®

The Coral Sitar® offered guitarists the ability to get the buzz and drone of a sitar without having to learn a new instrument. On this model, the tone control changes the level of the drone strings.



### Based on\* 1999 Jerry Jones Shorthorn®

In the 60's Danelectro managed to make great sounding guitars from Masonite and lipstick tubes. In the 90's Jerry Jones continued that tradition with the same materials as their 60's counterparts. Our model is with the bridge and neck pickups active.



### Inspired by\* the Gibson® Mastertone Banjo

The Mastertone series was introduced in 1925 and quickly became the definitive Bluegrass banjo.



### Based on\* 1928 National® Tricone.

The Tricone uses three 6-inch cones mechanically coupled to the bridge to amplify string vibrations. The Tricone has a smoother sound than later, single-cone resonators.



# Build A Custom Guitar

To really take advantage of the range and versatility of Variax mode, especially when performing, you'll want immediate access to your essential sounds. To get your ten favorite tones ready for instant recall, use the two custom banks on the **Guitar Model Selector** knob.

You've got **CUSTOM 1** at the beginning of the Model Select rotation, and **CUSTOM 2** at the end. Each of these can store a different set of five of your favorite guitar models as well as tone and alternate tunings (with **Alternate Tuning Knob** set to **MODEL**). You could, for instance, put acoustic sounds in **CUSTOM 1** and electric sounds in **CUSTOM 2**.

Let's say you found a sound that you know you'll be coming back to again and again. Here's what you do to store it in one of the custom banks:

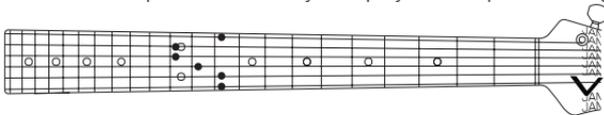
1. Be sure your sound is exactly as you want it. This is going to store the guitar model and tone knob settings.
2. Press and hold the **Guitar Model Selector** knob for 2.5 seconds or until the LED begins to blink to enter customization mode.
3. Now turn the **Guitar Model Selector** to **CUSTOM 1** or **CUSTOM 2**. It's your choice. The Alternate Tuning LED is no longer lit.
4. Move the **Pickup Selector Switch** to the desired position where you want to store it. **JTV-59 Users:** Push the **Alternate Tuning Knob** then move the **Pickup Selector Switch** to access positions 2 or 4.
5. To save an alternate tuning to this position, select the desired tuning on your **Alternate Tuning Knob**. Skip this step if you do not want an alternate tuning.
6. Press and hold the **Guitar Model Selector** knob for 2.5 seconds. Presto! You just saved your first guitar model to a custom bank! Don't forget to set your **Alternate Tuning Knob** to **MODEL** if you want to recall the tunings exactly the way you've saved them.

# Creating Custom Alternate Tunings

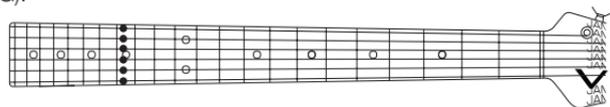
The Alternate Tuning feature of your Variax is a very powerful tool, and while we've given you 10 common tunings to choose from on the **Alternate Tuning** knob, we know some of you will still wish for even more, such as using this feature to replace your capo. Have no fear, we've got you covered. You can replace all but the **MODEL** and **STANDARD** setting on the **Alternate Tuning** knob with your very own creations. Here is how you do it.

1. Make sure your guitar is tuned to a standard tuning with a 440Hz reference with the **Guitar Model Selector** set to any 6 string guitar model.
2. Press and hold the **Guitar Model Selector** knob for 2.5 seconds or until the LEDs begins to blink to enter customization mode.
3. Select the position you'd like to replace on the **Alternate Tuning** knob. **Note:** If it's already there you need to move the knob away and back so customization mode knows you want to modify a tuning. Only the **Alternate Tuning** LED will now flash.
4. Create new alternate tunings by playing one note at a time on each string you wish to change. Customization mode sees the 12th fret as the 0 fret (or nut). So playing a note at the 10th fret will tune that string down a whole step while playing a note at the 14th fret will tune it up a whole step from standard. Be sure to mute strings carefully as you assign tunings across the neck - any mishaps could reassign the tuning. You can also play all notes at once if you can fret them cleanly.

Here is an example of the notes you'd play for an open D tuning:



Here are the notes you'd play if you wanted a 'capo' on the 3rd fret (G).



5. Momentarily press and release the **Guitar Model Selector** knob to enter audition mode. Try out your tuning. If it sounds right, proceed to step 6. If you need to make an adjustment, momentarily press and release the **Guitar Model Selector** and return to step 3, or turn your **Alternate Tuning** knob to abort alternate tuning customization.
6. Press and hold the **Guitar Model Selector** knob for 2.5 seconds or until the **Alternate Tuning** LED stops blinking to save your new tuning.

## Factory Reset Options

If, for some reason, or just for the sheer mad joy of it, you would like to restore the 50\* factory settings on the **Guitar Model Selector** knob or a specific preset or all presets on the **Alternate Tuning** knob/roller, here's how you do it. Warning: This will erase ALL settings prescribed within the options below. So be sure to ask yourself "Do I really want to do this?" If the answer is yes, go on ahead with your bad self.

\***NOTE:** Factory reset will not restore the Custom 1 or Custom 2 banks. The only way to restore those is to reload the flash memory via Line 6 Monkey.

### To Reset Guitar Model Selector:

Set the **Pickup Selector Switch** to its middle position, then press and hold the **Guitar Model Selector** knob while you plug in a 1/4" cable to power up the guitar. Your Guitar Model Selector LED and Alternate Tuning LED will both flash red. Next, press and hold the **Guitar Model Selector** knob again. The Guitar Model Selector LED will flash red, rapidly 3 times, indicating all 50 guitar models in the Guitar Model Selector memory locations are now restored to factory settings. Guitar will now return to normal operation.

### To Reset one or all of the Alternate Tuning presets:

First, set the **Pickup Selector Switch** to it's middle position, then press and hold the **Guitar Model Selector** knob while you plug in a 1/4" cable to power up the guitar. Your Guitar Model Selector LED and Alternate Tuning LED will both flash red. Switch the **Alternate Tuning** knob/roller to any new position - the Guitar Model Selector knob will no longer be lit. To restore all Alternate Tunings, now select MODEL on the Alternate Tuning knob. To restore only 1 preset, select the desired tuning on the Alternate Tuning knob. Once you've made your selection, press and hold the Guitar Model Selector knob. Guitar Model Selector knob will flash red, rapidly 3 times, indicating all 10 Alternate Tunings or 1 selected Alternate Tuning are now restored to factory settings. Guitar will now return to normal operation.

Here are the factory default alternate tunings loaded in your Variax:

<b>JTV-59 &amp; JTV-69 Factory Alternate Tunings</b>	
<b>Name</b>	<b>Tuning Description (from low to high string)</b>
STANDARD	E A D G B E
DROP D	D A D G B E
1/2 DOWN	Eb Ab Db Gb Bb Eb
DROP Db	Db Ab Eb Gb Bb Eb
1 DOWN	D G C F A D
DADGAD	D A D G A D
OPEN D	D A D F# A D
BLUES G	D G D G B D
RESO G	G B D G B D
OPEN A	E A C# E A E
BARITONE	B E A D F# B

<b>JTV-89 Factory Alternate Tunings</b>	
<b>Name</b>	<b>Tuning Description (from low to high string)</b>
STANDARD	E A D G B E
DROP D	D A D G B E
1/2 DOWN	Eb Ab Db Gb Bb Eb
DROP Db	Db Ab Eb Gb Bb Eb
1 DOWN	D G C F A D
DROP C	C G C F A D
m3 DOWN	Db Gb B E Ab Db
DROP B	Bb Gb B E Ab Db
M3 DOWN	C F Bb Eb G C
DROP Bb	Bb F Bb Eb G C
BARITONE	B E A D F# B