INTRODUCTION – overview of the MODEL AG 14 string NIGHTINGALE in the G/C Keys Set-up

PLAYING in PSUEDO and ADJUNCT KEYS and CHANGING BRIDGE POSITIONS

Please note: Most Nightingales are designed to be played in one key at a time (diatonically tuned). The 16 string Model B is also available with an optional set of chord bars so that it can be played in 2 full keys at a time (using the same strings and a modest re-tuning). The 20 string version can be played in 3 keys at a time.

Additionally, they all incorporate a moveable bridge so they can be played in all keys (like capoeing a guitar). And, as an extra bonus, at each bridge position they can be played in either of 2 adjunct keys, simply by re-tuning 1 or 2 strings.

And, utilizing partial 7th chords (for example **Dp7** = d a c and **Ap7** = a e g) and power chords (open 5ths – **D5** = d a and **A5** = a e) the range of *"pseudo keys"* playable in a diatonic tuning can be extended by 1 or 2 keys. For example, the above chords added to a set of conventional **key of C** chords extends play to the **keys of (G)** and **(D)** – see the example which follows.

And, as if that weren't enough, you will have to experience for yourself an instrument specifically designed to be played comfortably in contact with **one's chest** and **ear** and easily played with the **eyes closed** – an esoteric experience.

An Example - Lets look at the **14 string Model A** version in a little more detail to make sense of the above.

The moveable bridge can be placed at any of the positions below (-1 to 7 – marked on he sideboard) and played in the keys indicated at each position. The **Keys G/C Set-up** is a good one for those mostly playing in the **keys of G, C** and **D**, sometimes shifting to the **keys of <u>A</u>, <u>D</u>** and **<u>E</u>** with **<u>F</u>, B<i>b</i>** and **<u>C</u>** available with the instrument tuned down slightly. As an example (see the 3rd line below) in the **primary key of <u>C</u>** the *pseudo-keys* playable are (G) and (D) and in the **primary key of <u>G</u>** the *pseudo-key* playable is (D).

bridge positions	7	6		**5**	**4**	**3**	**2**	**1**	**0**	-1 (tuned down)
approximate scales	13-3/8	14-1/8		15	15-7/8	16-13/16	17-13/16	18-7/8	**<u>20</u>**	21 ½
primary keys	DorG	C#orF#		**CorF**	**BorE**	**B***b***orE***b*	**AorD**	**A***b***orD***b*	**GorC**	**F#orB or ForB***b*
pseudo-keys	*(A)(D,A)*	*(G#)(C#,G#)*		*(G)(C,G)*	*(F#)(B.F#)*	*(F) (Bb.F)*	*(E)(A.E)*	*(Eb)(Ab.Eb)*	*(D)(G.D)*	*(C#)(F#.C#) (C)(F. C)*

For example, at the **G** or **C** bridge position (**0**), here are the *Tuning* and **Chords** for playing in the **key of <u>C</u>:**

string no.	14	13	12	11	***10***	9	8	7	6	5	4	***3***	2	1	
key of <u>C</u> *tuning guide*	**G**	**<u>C</u>**	*d*	*e*	*f*	*g*	*a*	*b*	*c*	*d*	*e*	*f*	*g*	*a*	*@ 0 bridge position*

chord bar #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
										------(**D)5**------					
<u>C</u> chord guide	Cadd2	Cs4	**F**	Bdim	**<u>C</u>**	*Am*	**(G)**	*Em*	*Dm*	Gs4	**Dp7**	Cj7	**Ap7**	Fj7	*Dm7*

Primary **key <u>C</u>,** pseudo keys **(G)** & **(D)** - examples of I-IV-V chords in each key – **<u>C</u>** = C F G; **(G)** = G C Dp7; **(D)** = D5 G Ap7. The power chord above (D5) is played by simultaneously depressing the 2 bars indicated (*Dm* + **Dp7**). The addition of the partial 7ths and power chords facilitates play in the additional keys of **(G)** and **(D)** while remaining in a diatonic tuning – also nice for random error free melody picking.

At the same bridge position, a slight re-tuning (the two f notes to f# - indicated on the **Tuning Guide**) and the instrument converts into playing in the **key of <u>G</u>.** Notice how some of the chord bars change the chords being played due to the tuning change. The chord bars themselves do not change, only the **Chord Guide** is flipped over (this will be discussed later in more detail).

string no.	14	13	12	11	***10***	9	8	7	6	5	4	***3***	2	1	
key of <u>G</u> *tuning guide*	**<u>G</u>**	**C**	*d*	*e*	**f#**	*g*	*a*	*b*	*c*	*d*	*e*	**f#**	*g*	*a*	*@ 0 bridge position*

chord bar #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
<u>G</u> chord guide	Cadd2	Cs#4	F#dim	*Bm*	**C**	*Am*	**<u>G</u>**	*Em*	**(D)**	Gs4	**Dp7**	Cj7	**Ap7**	*Am6*	**D7**

Primary **key <u>G</u>**, pseudo key **(<u>D</u>)** – examples of I - IV - V chords in each key - **<u>G</u>** = G C D or Dp7; **(<u>D</u>)** = D G Ap7.

Note: If one is not interested in playing in pseudo keys, other traditional diatonic chords can be substituted in lieu of bars 11-13, like dominant 7ths, major 7ths, minor 7ths, add 2 and add 9 chords, suspended chords, etc.

the TUNING and CHORD GUIDES

These small interchangeable guides are stored on the chord mechanism. The **Tuning Guide** for the desired **key(s)** [indicated in **CAPS** and <u>underlined</u>] fits on the instrument headpiece under the strings for use when tuning (held in place with small pieces of Velcro). The **Chord Guide** fitting the **key** one is either playing or reading the music in is placed on the chord mechanism along side the chord bars identifying the chord produced by each bar. The <u>underlined</u> letter(s) corresponds to the <u>**primary key**</u> applicable and the letter(s) in *parens* correspond to the *pseudo key(s)* applicable. (More details to follow.)

Continuing with an example using the 14 string Model A Nightingale (same procedure for all Models)

Lets assume we are still in the **STANDARD G** or **C** set-up. We have already explained how to play in the **primary** k**eys of <u>C</u>** or **<u>G</u>**

Note: If you come back to play sometime later and the entire instrument is either a bit sharp or flat and you want to play at A-440, instead of re-tuning all the strings, simply move the bridge slightly and you will instantly be at A-440 tuning.

Changing to a key at a different bridge position

Lets say we now want to play in the **primary key of <u>A</u>**

First, we move the bridge to the **#2 position** (or close to it) which is marked on the **side-board**. Keep the string reference dots on the bridge between the same strings as the acorn nuts on the traveler and move the traveler up to the new bridge location as well (slightly loosen and then re-tighten the traveler nuts in the new position – this device keeps the strings in alignment and eliminates buzzing).

bridge positions	7	6		5	4	3	2	1	0	-1 (tuned down)
approximate scales	13-3/8	14-1/8		15	15-7/8	16-13/16	17-13/16	18-7/8	**<u>20</u>**	21 ½
primary keys	DorG	C#orF#		**CorF**	**BorE**	**Bb**orE**b**	**A**or**D**	**A**b**or**Db	**G**or**C**	**F#**or**B** or **F**or**Bb**
pseudo-keys	*(A)(D,A)*	*(G#)(C#,G#)*		*(G)(C,G)*	*(F#)(B.F#)*	*(F) (Bb.F)*	*(E)(A.E)*	*(Eb)(Ab.Eb)*	*(D)(G.D)*	*(C#)(F#.C#) (C)(F. C)*

Then we place the **<u>A</u>** *Tuning Guide* under the strings on the headpiece and tune the instrument accordingly.

(Note: very little re-tuning should be required as all the strings have been sharpened by the same amount when moving the bridge. 1-3 strings may require slight re-tuning because of the varying string stress levels in the strings. If in tune at a bridge position slightly different from the original designated position, when moving to a new bridge position adjust accordingly. This is easily done by locating the bridge and checking the tuning on a few of the middle strings.)

string no.	14	13	12	11	***10***	9	8	7	6	5	4	***3***	2	1	
key of <u>A</u> tuning guide	**A**	**D**	*e*	*f#*	*g#*	*a*	*b*	*c#*	*d*	*e*	*f#*	*g#*	*a*	*b*	*@ #2 bridge position*

Then we place the **<u>A</u> Chord Guide** in the reading position on the chord mechanism and you are ready to play.

chord bar #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
<u>A</u> chord guide	Dadd2	Ds#4	G#dim	*C#m*	**D**	*Bm*	**<u>A</u>**	*F#m*	**(E)**	As4	**Ep7**	Dj7	**Bp7**	*Bm6*	**E7**

One can also play in the pseudo-key of **(E)** = E A Bp7

If you would now like to play in the **key of <u>D</u>** instead, flip the **Chord Guide** over and re-tune the two g# notes to g (see the **Tuning Guide** explanation on the following page), and presto you will be ready to play in the **key of <u>D</u>**.

string no.	14	13	12	11	***10***	9	8	7	6	5	4	***3***	2	1	
key of <u>D</u> tuning guide	**A**	**<u>D</u>**	*e*	*f#*	*g*	*a*	*b*	*c#*	*d*	*e*	*f#*	*g*	*a*	*b*	*@ #2 bridge position*

chord bar #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
										------(E)5------					
<u>D</u> chord guide	Dadd2	Ds4	**G**	C#dim	**<u>D</u>**	*Bm*	**(A)**	*F#m*	*Em*	As4	**Ep7**	Dj7	**Bp7**	Gj7	*Em7*

One can also play in the pseudo-keys of A & E

Explaining the <u>TUNING GUIDES</u> in more detail

Tuning Guides identify the applicable **<u>underlined in CAPS primary key(s)</u>** on each guide**.** Simply move the bridge to the ***bridge position on the right side of the tuning guide and sideboard matching the key(s) on the Guide.*** Each side of the **tuning guides** is applicable to tuning in 2 adjunct keys. The string(s) requiring re-tuning (depending on which adjunct key is chosen) are the ones with two notes indicated. Which note to choose is on the same side of the hash mark as the key you want to play in on the sideboard. For example, if playing in **<u>C</u>**, tune to **f** and if playing in **<u>G</u>**, tune to **f#**. ***String reference dots*** (matching the acorn nuts on the traveler), are on the moveable bridge, tuning guides, the upper bridge and the headpiece (all in silver so they can be seen in low light) for ease in identifying the correct string to tune, as well as ***alignment marks*** over the 1st and last strings on the quick release chord mechanism (if the instrument is so configured).

Explaining the <u>CHORD GUIDES</u> and <u>CHORD BARS</u> in more detail

On all **Chord Guides** the **<u>underlined</u>** letter(s) correspond to the **primary key(s)** applicable and the letters in *parens* to the *pseudo key(s)* applicable. **Chord guides** and **bars** are different on the **16 string Model B version** for the **1 or 2 key modes. Chord Bars** (the felted lower bars) are easy to differentiate one from the other as the chord played at the 0 bridge position is clearly identified on the underside of each bar as is the numbered position of the bar in the chord mechanism. The **chord** (up to 6 – 1 key per side = 12 keys total) and **tuning guides** (up to 4 – 2 keys per side = 12 with extras for different key combinations if desired) are stored on the chord mechanism, held in place with small pieces of Velcro.

A SPECIAL FEATURE on ALL MODELS in 1 KEY MODE – AUTOMATIC CHORD TRANSPOSITION

Each instrument includes a full set of **Chord** and **Tuning Guides** to differentiate between the different chords in various keys and different tunings at each bridge position. This also enables one to read music in one key and instantly play it in another key without going through the laborious process of transposing the chords on your sheet music. For example, in the previous 14 string example, with the **bridge in the key of <u>D</u>** position, to play a song **written in the key of <u>C</u>** just place the **key of <u>C</u> Chord Guide** on the chord mechanism and you will automatically **read the song in the key of <u>C</u>** and **play it in the key of <u>D</u>.** The only caveat here is that if you are in the tuning for a key indicated on the **left** side of the hash mark on the sideboard, you can only substitute a **chord guide** which corresponds to any of the other keys indicated on the **left** side of the hash mark on the sideboard and vice-versa. (More details to follow.)

PLEASE SEARCH <u>NIGHTINGALE AUTOHARP</u> on <u>YOUTUBE</u> for EXAMPLES on PLAYING a NIGHTINGALE

For additional detailed information on Nightingales and their construction,

please go to the archives of **The Guild of American Luthiers** (Luth.org)

and search **<u>NIGHTINGALE AUTOHARP</u>**

COMPLETE NIGHTINGALE MODEL AG -14 STRING G/C Keys Set-up USER'S GUIDE

bridge positions	7	6		5	4	3	2	1	0	-1 (tuned down)
primary keys	DorG	C#orF#		**CorF**	**BorE**	**B***b***orE***b*	**AorD**	**A***b***orD***b*	**GorC**	**F#orB** or **ForB***b*
pseudo-keys	*(A)(D,A)*	*(G#)(C#,G#)*		*(G)(C,G)*	*(F#)(B.F#)*	*(F) (Bb.F)*	*(E)(A.E)*	*(Eb)(Ab.Eb)*	*(D)(G.D)*	*(C#)(F#.C#) (C)(F. C)*

string no.	14	13	12	11	10	9	8	7	6	5	4	3	2	1
steel string gauges	**59w**	**47**	**42**	**38**	**36**	**32**	**28**	**24**	**21**	**17p**	**15**	**14**	**12**	**10**
nylon string gauges	**52w**	**41**	**37**	**33**	**31**	**28**	**25**	**22**	**40p**	**36**	**32**	**30**	**26**	**23**

1. Decide what key you would actually like to play in.

Lets say you choose **C**. *First*, move the **bridge** to the **Key of C position (0** on the **side-board** – see above). Loosen the acorn nuts slightly on the traveler, move it up against the bridge and re-tighten the nuts.

Second, place the **C** chord guide (see below, G**uide 2, side A**) on the chord mechanism (either on top or on the side depending how you will be holding the instrument - on your lap or across your body/upright against your ear respectively). The **primary key** name will always be **underlined** and the pseudo-key(**s**) will always be in (**parens**).

Complete C/G Set-up 15 BAR 1 KEY at a time CHORD GUIDES *(1 or 2 pseudo-keys)*

Bridge positions shown in ( ) next to the **Guide #**

Notation through-out: primary full key(s) = __underlined__; pseudo-key(s) = in (parens)

chord bar #	1L	2	3	4	5	6	7	8	9	10	11	12	13	14	15
										--------(C)5--------					
Guide 1 (-1) side A **B***b* **guide**	B*b*add2	B*b*s4	**E***b*	Adim	**__B__***b*	*Gm*	**(F)**	*Dm*	*Cm*	Fs4	**Cp7**	B*b*j7	**Gp7**	E*b*j7	*Cm7*
Guide 1 (-1) side B **F guide**	B*b*add2	B*b*s#4	Edim	*Am*	**B***b*	*Gm*	**__F__**	*Dm*	**(C)**	Fs4	**Cp7**	B*b*j7	**Gp7**	*Gm6*	**C7**
										--------(D)5--------					
Guide 2 (0) side A **C guide**	Cadd2	Cs4	**F**	Bdim	**__C__**	*Am*	**(G)**	*Em*	*Dm*	Gs4	**Dp7**	Cj7	**Ap7**	Fj7	*Dm7*
Guide 2 (0) side B **G guide**	Cadd2	Cs#4	F#dim	*Bm*	**C**	*Am*	**__G__**	*Em*	**(D)**	Gs4	**Dp7**	Cj7	**Ap7**	*Am6*	**D7**
										--------(E)5--------					
Guide 3 (2) side A **D guide**	Dadd2	Ds4	**G**	C#dim	**__D__**	*Bm*	**(A)**	*F#m*	*Em*	As4	**Ep7**	Dj7	**Bp7**	Gj7	*Em7*
Guide 3 (2) side B **A guide**	Dadd2	Ds#4	G#dim	*C#m*	**D**	*Bm*	**__A__**	*F#m*	**(E)**	As4	**Ep7**	Dj7	**Bp7**	*Bm6*	**E7**
										--------(F)5--------					
Guide 4 (3) side A **E***b* **guide**	E*b*add2	E*b*s4	**A***b*	Ddim	**__E__***b*	*Cm*	**(B***b***)**	*Gm*	*Fm*	B*b*s4	**Fp7**	E*b*j7	**Cp7**	A*b*j7	*Fm7*
Guide 4 (3) side B **B***b* **guide**	E*b*add2	E*b*s#4	Adim	*Dm*	**E***b*	*Cm*	**__B__***b*	*Gm*	**(F)**	B*b*s4	**Fp7**	E*b*j7	**Cp7**	*Cm6*	**F7**
										--------(F#)5-------					
Guide 5 (4) side A **E guide**	Eadd2	Es4	**A**	D#dim	**__E__**	*C#m*	**(B)**	*G#m*	*F#m*	Bs4	**F#p7**	Ej7	**C#p7**	Aj7	*F#m7*
Guide 5 (4) side B **B guide**	Eadd2	Es#4	A#dim	*D#m*	**E**	*C#m*	**__B__**	*G#m*	**(F#)**	Bs4	**F#p7**	Ej7	**C#p7**	*C#m6*	**F#7**
										--------(G)5--------					
Guide 6 (5) side A **F guide**	Fadd2	Fs4	**B***b*	Edim	**__F__**	*Dm*	**(C)**	*Am*	*Gm*	Cs4	**Gp7**	Fj7	**Dp7**	B*b*j7	*Gm7*
Guide 6 (5) side B **C guide**	Fadd2	Fs#4	Bdim	*Em*	**F**	*Dm*	**__C__**	*Am*	**(G)**	Cs4	**Gp7**	Fj7	**Dp7**	*Dm6*	**G7**
										--------(G#)5--------					
Guide 7 (6) optional side A **F# guide**	F#add2	F#s4	**B**	Fdim	**__F#__**	*D#m*	**(C#)**	*A#m*	*G#m*	C#s4	**G#p7**	F#j7	**D#p7**	Bj7	*G#m7*
Guide 7 (6) optional side B **C# guide**	F#add2	F#s4	Cdim	*Fm*	**F#**	*D#m*	**__C#__**	*A#m*	**(G#)**	C#s4	**G#p7**	F#j7	**D#p7**	*D#m6*	**G#7**
										--------(A)5--------					
Guide 8 (7) optional side A **G guide**	Gadd2	Gs4	**C**	F#dim	**__G__**	*Em*	**(D)**	*Bm*	*Am*	Ds4	**Ap7**	Gj7	**Ep7**	Cj7	*Am7*
Guide 8 (7) optional side B **D guide**	Gadd2	Gs4	C#dim	*F#m*	**G**	*Em*	**__D__**	*Bm*	**(__A__)**	Ds4	**Ap7**	Gj7	**Ep7**	*Em6*	**A7**

Third, find the **tuning guide** with the **C primary key** marked on the **guide** (see below, **Guide 1, side B**). Place that **guide** under the strings on the headpiece. Each side of the **1 key guides** is applicable to tuning in 2 adjunct keys. The string(s) requiring re-tuning (depending on which adjunct key is chosen) are the ones with two notes indicated. Which note to choose is on the same side of the hash mark on the sideboard as the key you want to play in – **G/C** in this case. For example, if playing in **C**, tune to **f** (right side of hash mark) and if playing in **G**, tune to **f#** (left side of hash mark - see again the **Keys Set-up** on the previous page). The **bridge position for that Key tuning is marked on the right side of the tuning guide** – make sure the bridge is correctly positioned

Complete Set Model A -14 String 1 Key at a time TUNING GUIDES G/C Keys Set-up

(strings 10 & 3 re-tuned for the adjunct key – note to left for left key and to the right for the right key on the side-board & guide)

		string no.	14	13	12	11	* 10 *	9	8	7	6	5	4	* 3 *	2	1	bridge position
Guide 1	Side A	*F/Bb tuning*	**F**	**Bb**	c	d	e/eb	f	g	a	bb	c	d	e/eb	f	g	(-1)
	Side B	*G/C tuning*	**G**	**C**	d	e	f#/f	g	a	b	c	d	e	f#/f	g	a	(0)
Guide 2	Side A	*A/D tuning*	**A**	**D**	e	f#	g#/g	a	b	c#	d	e	f#	g#/g	a	b	(2)
	Side B	*Bb/Eb tuning*	**Bb**	**Eb**	f	g	a/ab	bb	c	d	eb	f	g	a/ab	bb	c	(3)
Guide 3	Side A	*B/E tuning*	**B**	**E**	f#	g#	a#/a	b	c#	d#	e	f#	g#	a#/a	b	c#	(4)
	Side B	*C/F tuning*	**C**	**F**	g	a	b/bb	c	d	e	f	g	a	b/bb	c	d	(5)
Guide 4 (optional)	Side A	*C#/F# tuning*	**C#**	**F#**	g#	a#	c/b	c#	d#	f	f#	g#	a#	c/b	c#	d#	(6)
	Side B	*D/G tuning*	**D**	**G**	a	b	c#/c	d	e	f#	g	a	b	c#/c	d	e	(7)

2. Simplifying the actual tuning process.

If you are using a clip on tuner, attach it to the upper right hand corner of the headpiece. Or you can go to PANO tune on your cell phone for tuning assistance. Because you are dealing with 14 strings, it is important to insure that you are turning the appropriate tuning machine connected to the string you want to tune. There are **string reference dots** on the traveler (**same as the acorn nuts**), the **tuning guides**, the **upper and lower bridges** and the **headpiece** to make it easy to correlate the string you want to tune with the appropriate tuning machine. Make sure the bridge is located at or near the bridge position indicated in parens on the right side of the tuning guide.

If you are going through all the strings from lowest to highest, moving one's hand from one tuning machine to the next without letting go and picking the strings in the same sequence without losing your place makes it easy to make sure you are turning the tuning machine connected to the string you are plucking. If you are turning the tuning machine while plucking a string and the reading on the tuner remains unchanged, **STOP**, as it is likely you are not turning the tuning machine connected to the string you are plucking (the one you want to tune).

f you are continuing to play in the same key as before and not concerned about being at A-440, strum a few major chords to see how they sound. If only a few strings out, re-tune those. If instead you want to play at A-440, either move the bridge to get some strings at A-440 and re-tune the rest, or move the bridge to the appropriate key location and re-tune.

3. Strapping in options.

riment with the various strap buttons to determine those most suitable to your desired playing position(s) – guitar like (strap button at the base facing you and the strap button at headpiece), upright against the ear (both strap buttons at the base of the instrument) or on your lap (no strap required really). Check out the videos on **YouTube** under **Nightingale Autoharp**. Once you become comfortable with your instrument, explore the virtues and sensations of holding the instrument against your ear (sideboard or backboard) and chest and playing with your eyes closed. You can do this sitting with the instrument resting on your lap or strapped in as well as standing.

4. Playing the Chords in a song.

Push down gently on the end of the **chord bar in line with the name of the chord you want to play and strum the chord** with a pick or your finger nail. You might want to start with the instrument on your lap just to get used to the process. Later, you can rest the bottom of the instrument on your lap and place the side of the instrument against your ear as you play, experiencing an exceptional sound sensation. Over time try to involve all 4 fingers in pushing down on the chord bars.

If you encounter a 7th or maj 7th chord in your music, for example, for which there is no chord bar on the instrument, just ignore the 7th and play the root of the chord, e.g., C instead of C7. If you encounter a chord in a song not in the key you are playing in and therefore not on your chord guide, just skip it or try playing something else that sounds good (most versions come with power and partial 7th chords which can be substituted for common out of key major chords). If the song calls for an out of key minor chord, often times you can substitute its 'relative major' chord (see the chord substitution tables at the end of this Guide). And vice-versa, sometimes a minor chord of the same name as the major will work, e.g., *Em* for E. (Please note that on instruments using traditional 15 bar chord mechanisms you will have to memorize the end bars chords because of the Velcro required on the guides.)

Power chords (also referred to as 'open 5ths') provide a more primitive chord sound and can oftentimes be used in lieu of the root major chord. For example, here are the major chords in the key of C = C F G and the *relative minor chords* as well *Am Dm Em.* Lets say that while playing in the key of C you wanted to add a good approximation of a D chord = d f# a. Use D5 = d a (push down on 2 chord bars simultaneously, *Dm* + Dp7) or just play Dp7 = d a c. What if you wanted a good approximation of an A chord = a c# e. Use A5 = a e (push down on 2 chord bars simultaneously, *Am* + Ap7) or just play Ap7 = a e g. Other power chords playable in the keys of C and G are C5 = C + Csus4 or Cs#4; F5 = F+ Csus4; G5 = G + Gsus4; D5 = D or Dm + Dp7 and A5 = Ap7 + Fj7 or Am6. These same relative power chords are available in all the other playable primary keys on the instrument.

5. Improvising your own piece of music – Chords and Melody.

Because all the strings are tuned in one key, this is a very easy instrument to randomly play and create your own beautiful music. (there are no wrong **chords** or **notes**). You might try making up a slow simple repetitive chord progression like C – F – C – F etc. and in between chord strums randomly pick any of the strings and you will be creating your own beautiful piece of music.

6. If playing with others, keeping the instrument at A-440 tuning.

Over time the entire instrument may go a little flat or even sharpen slightly depending on the temperature/humidity conditions it is exposed to. This is not a problem if you are playing by yourself as long as all the strings are equally sharp or flat. But if you are going to be playing with others at standard pitch, you will have to make a tuning adjustment. The simplest way to correct for this is to move the bridge slightly so that the middle strings are back at A-440 and then check all the strings to make sure they are all back at A-440 (much easier than leaving the bridge in place and re-tuning all the strings). If the instrument continues to flatten over time, you can always return to the designated bridge position for the key you want to play in and re-tune all the strings accordingly.

7. Playing in the adjunct key identified on the reverse side of the **chord guide** and same side of the **tuning guide**.

Let's say you have been playing in the key of **C** and you would like to change to playing in the key of **G**. You will see that **G** is located at the same bridge position as **C** on the sideboard and both are indicated on the same side of the **tuning guide**, so leave the bridge and tuning guide where they are and simply re-tune strings no. 3 and 10 to **f#** (since the **G** is to the **left** on the sideboard and tuning guide, strings no.3 and 10 are tuned to the **note to the left side of the hash mark (f#).** Flip the **chord guide** over to the side shown below **(G)** and you are ready to play chords and pick out melodies in the key of **G**.

chord bar #	1L	2	3	4	5	6	7	8	9	10	11	12	13	14	15
G chord guide	Cadd2	Cs#4	F#dim	*Bm*	**C**	*Am*	**G**	*Em*	**(D)**	Gs4	**Dp7**	Cj7	**Ap7**	*Am6*	**D7**

8. Moving the bridge to play in a different key.

The bridge position markers on the side of the instrument indicate *approximate* relative bridge locations (each a half-step apart, like the frets on a fretboard) for playing in other keys. So to change from playing in the key of **G** to the key of **A** for example, move the bridge the 2 full half-steps required to the **A/D #2 bridge position** (keeping the string reference dots on the bridge between the same strings as the acorn nuts), flip the **same tuning guide** over to **side B**, pull out and use the side of the new **chord guide with an underlined A** and you will be ready to go. Most of the strings should be at A-440 in the key of **A** (you may have to tweak the bridge position and some of the strings slightly).

Note: if you started out in **G** with the bridge - lets say near the #1 bridge position - you would move it to about the #3 bridge position to get to **A**. Be sure to loosen the acorn nuts slightly on the mute, move it up next to the bridge, and re-tighten the nuts. Note: move the bridge down to the -1 position and re-tune to play in the "**Tuned Down Keys**".

If instead, you would like to play in the key of **D**, flip the chord guide over to the **underlined D** side, leave the tuning guide in place and **re-tune strings #3** and **10** to **g** (see the **tuning guide # 2, side A** on page 6). Please realize the instrument is not designed with the intent of constantly changing the bridge position and expecting all the strings to be in tune in the new keys.

9. Automatic Chord Transposition feature

One of the advantages of the Nightingale design is the simplicity of **reading** a song in one key and **playing** it in another without having to go through the laborious process of writing in the new key chords on your sheet music or having to move the bridge and check the tuning on all of the strings. For example, if you want to leave the bridge and tuning in the **key of D** position, but read a piece of music written in the **key of C**, just substitute the **C chord guide** on your chord mechanism and you will have automatically transposed the song written in **C** into being played in the **key of D**. There is one caveat explained below:

Playing/reading in the following Keys: **B***b***, B, C, C#, D, E***b,* **E, F, F#** and **high G.** You can read in any of these keys (primary keys on the **right side** of the hash marks on the sideboard and play in any of the others on the **right side**).

Playing/reading in the following Keys: **F, F#, G, A***b***, A, B***b,* **B, C, C# and high D.** You can read in any of these keys (primary keys on the **left side** of the hash marks on the sideboard and play in any of the others on the **left side**).

Should you choose to transpose your sheet music to a different key the old fashion way, some chord transposition tables have been provided for you at the end of this User's Guide.

10. Removing/replacing the 'quick-release' chord mechanism.

Some Nightingales come with a quick release chord mechanism attached to the soundboard with Velcro which can be instantly removed from the instrument. You can do so when wanting to play the instrument in a harp mode (just plucking the strings – sometimes a good way to introduce young children to the instrument), or when traveling so as to protect the chord mechanism. When replacing the chord mechanism on the instrument, carefully align the black marks on both sides of the chord mechanism over the first and last strings so that the felt muting pads will mute the appropriate strings when chording. Push the mechanism down firmly on both Velcroed ends and you will be ready to go.

11. Removing individual chord bars from the 'quick-release' chord mechanism.

If a felt pad should become damaged on one of the lower chord bars or one needs to switch out bars because of a **Chord** or **Set-up** change the bars can easily be removed by simply pushing down on the fixed end of the upper chord bar to detach the Velcro at that end and then carefully pulling out both the upper and lower parts of the chord you are repairing or replacing. Re-glue the felt with E-6000 adhesive. When done, return the lower bar in the correct direction (bar number will on the bottom at the fixed end). For replacement adhesive backed felt go to www.autoharp.com. Extra blank lower chord bars, tuning and chord guide stock is available – see our contact information below.

12. Re-stringing the instrument.

first, remove the chord mechanism from the instrument (you can leave it in place if only changing 1 or 2 strings, but be very careful not to damage the felt padding as you push the strings under the chord mechanism). Then remove the upper part of the traveler by removing the acorn nuts and prying the upper piece apart with a small screw driver (leave the lower portion with protruding screws in approximately the same position as it will be hard to replace when the new strings are back on). Then apply a drop or two of oil to each tuning machine and replace the string(s). This would be a good time to entirely clean the instrument with a damp cloth and re-oil the wood surfaces with tongue oil or facsimile. Suggest you go to a good music store that sells individual phosphor bronze and plain steel guitar strings (the replacement string gauges are identified at the beginning of this User's Guide – they do not all have to exactly match). Or go on-line and order single strings from www.stringsbymail.com. Put the chord mechanism and upper part of the traveler back on and you are ready to go. When restringing Nightingales with autoharp tuning pins, first turn the pins so that the strings are completely unwound, then cut the new string one inch longer, insert in the hole, wrap around the pin once, and then tighten with the tuning wrench.

13. Displaying on a wall.

Attached to the back of the headpiece is a brass or wood strip which will support the instrument on a picture hanger or facsimile.

14. Accessing your favorite songs

You will find the chords and lyrics to most popular and traditional songs at www.ultimate-guitar.com. You will usually have the option to choose a simplified arrangement and your choice of what key the music is written in.

15. Nightingale Cases

At present we do not offer cases for Nightingales. Suggest you measure the dimensions of your unique instrument and then look on-line for a soft electric piano or some other instrument gig-bag.

16. Post-script

a. Try hammering chords and notes with a thin piece of wood.

b. Experiment with felt picks.

c. Rest your ear against the back of the instrument while playing.

d. Rest your forehead against the back of the instrument, wrap both arms around the body, and finger pick with both hands.

e. Similarly, with the instrument on your lap, finger pick with both hands.

f. Play the instrument simply as a harp – no chording is necessary.

g. When playing in a harp mode, the tuning on most strings can be increased by a half-step (except the smallest 2 or 3 strings) and decreased by a whole step.

h. Instrument plans and building instructions are available from the Guild of American Luthiers if you would like to try making your own instrument.

ADDENDUM

CHORD SUBSTITUTION GUIDE

(Works for most songs, except those written in a *minor key* – songs usually beginning/ending and preponderance of *minor chords*)

Minor Chord	Substitutable Relative Major Chord
Am	C
A#m/Bbm	C#/D*b*
Bm	D
Cm	D#/E*b*
C#m/Dbm	E
Dm	F
D#m/Ebm	F#/G*b*
Em	G
Fm	G#/A*b*
F#m/Gbm	A
Gm	A#/B*b*
G#m/Abm	B

Other Chord Substitutions

Example chord	Substitute
all dominant 7ths, e.g. G7	G
all major 7ths, e.g., Gmaj7	G
all minor 7ths, e.g., *Gm7*	*Gm* or A#/B*b* (see above)
all suspendeds, e.g., Gsus	G
all others, e.g., G6, G9, Gadd2, etc.,	G

Chord Transposition Tables

Key of G Chord Transposition Table

Song written in one of the keys below – *select key*, then read *down*,
for the **old chord** and then *over* to the right for the **new key of G chord**

Old Key A	Bb	C	D	Eb	E	F		Replacement
Sign ###	bb		##	bbb	####	b		*key of G chord*
A	Bb	C	D	Eb	E	F	=	**G**
Bm	Cm	Dm	Em	Fm	F#m	Gm	=	**Am**
C#m	Dm	Em	F#m	Gm	G#m	Am	=	**Bm**
D	Eb	F	G	Ab	A	Bb	=	**C**
E	F	G	A	Bb	B	C	=	**D**
F#m	Gm	Am	Bm	Cm	C#m	Dm	=	**Em**

Note: If the old chord is not in the vertical column, like a D chord in the key of C column, the new chord is A instead of Am (majors stay majors and minors stay minors).

Key of C Chord Transposition Table

Song written in one of the keys below – *select key*, then read *down*,
for the **old chord** and then *over* to the right for the **new key of C chord**

Old Key G	A	Bb	D	Eb	E	F		Replacement
Sign #	###	bb	##	bbb	####	b		*key of C chord*
G	A	Bb	D	Eb	E	F	=	**C**
Am	Bm	Cm	Em	Fm	F#m	Gm	=	**Dm**
Bm	C#m	Dm	F#m	Gm	G#m	Am	=	**Em**
C	D	Eb	G	Ab	A	Bb	=	**F**
D	E	F	A	Bb	B	C	=	**G**
Em	F#m	Gm	Bm	Cm	C#m	Dm	=	**Am**

Note: If the old chord is not in the vertical column, like an E chord in the key of D column, the new chord is D instead of Dm (majors stay majors and minors stay minors).

Key of D Chord Transposition Table

Song written in one of the keys below – *select key*, then read *down*,
for the **old chord** and then *over* to the right for the **new key of C chord**

Old Key G	A	Bb	D	Eb	E	F		Replacement
Sign #	###	bb	##	bbb	####	b		*key of D chord*
G	A	Bb	C	Eb	E	F	=	**D**
Am	Bm	Cm	Dm	Fm	F#m	Gm	=	**Em**
Bm	C#m	Dm	Em	Gm	G#m	Am	=	**F#m**
C	D	Eb	F	Ab	A	Bb	=	**G**
D	E	F	G	Bb	B	C	=	**A**
Em	F#m	Gm	Am	Cm	C#m	Dm	=	**Bm**

Note: If the old chord is not in the vertical column, like an E chord in the key of D column, **the new chord is D instead of Dm (majors stay majors and minors stay minors).**

the MODEL AP-14 (autoharp tuning pins version) – 14 string Nightingale Tuning Guides

Please note: The tuning guides on all Nightingales utilizing autoharp tuning pins are located under the strings on the soundboard just below the chord mechanism, once again attached with small pieces of Velcro.

Tuning Guides identify the applicable **underlined primary keys** at the bottom of each guide (*pseudo-keys* in parens also at the bottom)**,** and the **bridge position** at the bottom. A *slash* (meaning *or*) is used to differentiate between the 2 adjunct keys for all guides in *1 key mode* and a *dot* (meaning *and)* indicates the combination of keys applicable on the 16 and 20 string instruments in the *2* and *3 keys modes.*

Each side of the **1 key guides** is applicable to tuning in 2 adjunct keys. The string(s) requiring re-tuning (depending on which adjunct key is chosen) are the ones with two notes indicated. Which note to choose is on the same side of the hash mark as the key you want to play in at the bottom of the tuning guide. For example, if playing in **C**, tune to **f** and if playing in **G**, tune to **f#**.

*String reference dots (*matching the acorn nuts on the mute), are on the moveable bridge, tuning guides, the upper bridge and the headpiece (all in silver so they can be seen in low light) for ease in identifying the correct string to tune, as well as *alignment marks* over the 1st and last strings on the quick release chord mechanism (if applicable).

FULL SET MODEL AP - 14 STRING 1 KEY TUNING GUIDES - STANDARD C or G Set-up

string number	guide #1		guide #2		guide #3		guide #4		
1	g *	g# *	a *	b *	c *	c# *	d *	d# *	
2	f	f#	g	a	b*b*	b	c	c#	
3	e/e*b*	f/e	f#/f	g#/g	a/b*b*	a#/a	b/b*b*	c/b	re-tunable string for adjunct key
4	d *	d# *	e *	f# *	g *	g# *	a *	a# *	
5	c	c#	d	e	f	f#	g	g#	
6	b*b*	b	c	d	e*b*	e	f	f#	
7	a *	a# *	b *	c# *	d *	d# *	e *	f *	
8	g	g#	a	b	c	c#	d	d#	
9	f	f#	g	a	b*b*	b	c	c#	
10	e/e*b* *	f/e *	f#/f *	g#/g *	a/b*b* *	a#/a *	b/b*b* *	c/b *	re-tunable string for adjunct key
11	d	d#	e	f#	g	g#	a	a#	
12	c	c#	d	e	f	f#	g	g#	
13	b*b* *	b *	c *	d *	e*b* *	e *	f *	f# *	
14	f	f#	g	a	b*b*	b	c	c#	
	F/B*b*	**F#/B**	**G/C**	**A/D**	**B*b*/E*b***	**B/E**	**C/F**	**C#/F#**	**primary keys**
	(-C-)	*(-C#-)*	*(-D-)*	*(-E-)*	*(-F-)*	*(-F#-)*	*(-G-)*	*(-G#-)*	*pseudo-key for both primary keys*
	(F)	*(F#)*	*(G)*	*(A)*	*(Bb)*	*(B)*	*(C)*	*(C#)*	*added pseudo-key for right primary key only*
	-1	**-1**	**0**	**2**	**3**	**4**	**5**	**6**	**bridge position**

(*pseudo-keys) – top key in parens* applies to both **primary keys** & *lower key in parens* **additionally** to the right **primary key** only