

#	NOTE	C	G	D	A	D7	A7	E7-3	A Sus4	D Sus4	Am	Em	Ebm	F#m	G LK	D LK
1	G		X													
2	A			X	X	X	X		X	X	X			X		
3	C	X									X					
4	D		X	X		X				X			X			
5	E	X			X		X	X	X		X	X				
6	F#			X		X							X	X		
7	G	X	X							X		X				
8	A			X	X	X	X		X	X	X					
9	B		X					X				X	X			
10	C	X									X					
11	C	X				X					X					
12	C#				X		X							X		
13	D		X	X		X		X	X	X			X			
14	D		X	X		X		X	X	X			X			
15	E	X			X		X	X	X		X	X				
16	E	X			X		X	X	X		X	X				
17	F#			X		X							X	X		
18	G	X	X				X			X		X				
19	G	X	X							X		X				
20	A			X	X	X	X		X	X	X			X		
21	A			X	X	X	X		X	X	X			X		
22	B		X					X				X	X			
23	C	X				X					X					
24	C	X									X					
25	C#				X		X							X		
26	D		X	X		X		X	X	X			X			
27	D		X	X		X		X	X	X			X			
28	E	X			X		X	X	X		X	X				
29	E	X			X		X	X	X		X	X				
30	F#			X		X							X	X		
31	G	X	X				X			X		X				
32	G	X	X							X		X				
33	A			X	X	X	X		X	X	X			X		
34	A			X	X	X	X		X	X	X			X		
35	B		X					X				X	X			
36	C	X				X					X					

The purpose of this document is to present a string schedule for a 36 string autoharp in the keys of GD, developed with a method by which standard strings are known to give reasonably appropriate results for tension, feel, and timbre. Note selections, chord voicing, and position of double notes might ideally be different if proper strings were available or the person doing the conversion was adept at custom fitting wound strings and making lighter gauge plain strings by hand. Even then, there are some wound strings that would need to be custom made to get the bottom end just right.

Note that the top note could be a C# with minor changes in the first octave below it, but I don't recommend having a dead wire on top for all chords except A and I believe the string might frequently break. The C natural gets more use in GD. A 37-string instrument, such as a hand made one from a luthier, is a better fit to GD because the high, shorter string can be D. Doing GD on a 36-string instrument requires a compromise.

Note that the shaded areas in the chord pattern indicate notes that should not be allowed to sound in the chord indicated, even though the note is normally part of the chord. In some cases, particularly the VII of the 7th chords, only one of a double string note is allowed to sound in order to control the balance and voicing of the chords. Note that the voicing of minor chords must be compromised because the roots of minors are generally not well supported in the bass, and we try to avoid having too many damped strings in that area. As a result, minors may start on any of the 3 notes of the minor triad.

The areas for the lockbar columns (G LK and D LK) that are marked with hash marks are the positions of the pads which damp the notes to be locked. All other strings are open on these bars. On all other bars the X's mark where a string should be open, i.e. the felt should be cut out. Before marking and cutting felt, mount the bar over the strings and mark a reference for alignment on the pattern.

Reference

Standard String sizes in mils (position - outer diameter/core diameter)

1 - 83/22
 2 - 72/22
 3 - 69/22
 4 - 52/20
 5 - 50/19
 6 - 48/18
 7 - 45/18
 8 - 41/18
 9 - 37/18
 10 - 35/18
 11 - 32/18
 12 - 30/18

Plain strings

[13-14] - 28
 [15-17] - 26
 [18-21] - 24
 [22-24] - 22
 [25-26] - 20
 [27-30] - 18
 [31-34] - 16
 [35-36] - 14

Chord layout

The following chord layout assumes that a 3 row arrangement is possible. The 2 row patterns of the B model bars are not supported by the author. I really have no solid logic with two rows. No two people come up with the same preference or suggestion. Minimally, I would suggest keeping the relationship of the majors such that C is always to the left of G and G to the left of D and D to the left of A. Keep the D7 as close to G as possible and the A7 close to the D. The balance of any two-row arrangement would be quite arbitrary and the resulting pattern could be learned by the player with some practice. That may prove troublesome if there is more than one instrument, each with a different pattern.

