## O. Music Theory? No Thanks!

Tune your box to GDG or GDGB, go to cbgitty and buy one of these books with scale and chord charts, $\$ 22.99$ each:

3-String Cigar Box Guitar "The Ultimate Collection" How-to-Play Book for GDG tuning https://www.cbgitty.com/books-cds-posters-more/books/3-string-cigar-box-guitar-the-ultimate-collection-how-to-play-book-by-brent-robitaille/

4-String Cigar Box Guitar "The Ultimate Collection" How-to-Play Book for GDGB tuning https://www.cbgitty.com/books-cds-posters-more/books/4-string-cigar-box-guitar-the-ultimate-collection-how-to-play-book-by-brent-robitaille/

Otherwise the following informations will help you to get started with elementary music theory:

## You know the key and you have a chord sheet of a song but you don't know how to play it...

Let's start: our tuning is GDG, key is G major, scale is G-A-B-C-D-E-F\#-G, and the chord sheet looks as follows:

A: $\quad / \mathrm{GG} / \mathrm{D}^{7} \mathrm{D}^{7} / \mathrm{D}^{7} \mathrm{D}^{7} / \mathrm{GG} / \mathrm{GG} / \mathrm{CC} / \mathrm{D}^{7} \mathrm{D}^{7} / \mathrm{GG} /$
B: $\quad / D D / A^{7} A^{7} / A^{7} A^{7} / D D^{7} /$
A: / ...
Definition: diatonic chord means a chord be built up exclusively from the notes which are part of the scale of some key, in our case exclusively from G-A-B-C-D-E-F\# of the G major scale.

G, C, D are diatonic triads, built up from root, flat or sharp 3rd (3 or 4 semitones), and diminished or perfect 5 th ( 6 or mostly 7 semitones).
$D^{7}, A^{7}$ are diatonic 7th chords, built up from diatonic triads, with a flat or sharp 7th (10 or 11 semitones) added.

By the way: as we will learn, we yet know even more about these chords: G, C, D are triads with root, sharp 3rd and perfect 5 th, $D^{7}, A^{7}$ are 7 th chords with root, sharp 3rd, perfect 5 th, and flat 7 th.

Let's start with a neck diagram drawn on a strip of paper where you mark the semitones for each string of your box: for GDG tuning:

| $\mathrm{G} \#$ | A | $\mathrm{~A} \#$ | B | C | $\mathrm{C} \#$ | D | $\mathrm{D} \#$ | E | F | $\mathrm{F} \#$ | $\mathrm{G} \star$ | $\mathrm{G} \#$ | A | $\mathrm{~A} \#$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $\mathrm{D} \#$ | E | $\mathrm{F} \star$ | $\mathrm{F} \#$ | $\mathrm{G} \star$ | $\mathrm{G} \#$ | $\mathrm{~A} \star$ | $\mathrm{~A} \#$ | $\mathrm{~B} \star$ | C | $\mathrm{C} \#$ | D | $\mathrm{D} \#$ | E | $\mathrm{F} \star$ |
| $\mathrm{G} \#$ | A | $\mathrm{~A} \#$ | B | C | $\mathrm{C} \#$ | D | $\mathrm{D} \#$ | E | F | $\mathrm{F} \#$ | $\mathrm{G} \star$ | $\mathrm{G} \#$ | A | $\mathrm{~A} \#$ |

By the way: if you have a chord sheet for key of E, but your box is tuned to GDG, you can just draw a neck diagram as if the box would be tuned to EBE: above the 15th fret most boxes sound rather tiny, and so you can get an idea of how the song proceeds.

## G Chord

G chord: 3rd is A\# or B, 5th is D: A\# is not part of the scale, so the triad with root on G is GBD, with the inversions BDG and DGB: swapping the notes of top and bottom string you get variants which are not proper triads:

| GBD | DGB | BDG | GDB | DGB | BGD |
| :---: | :---: | :---: | :---: | :---: | :---: |
| root position | swapped | 1st inversion | swapped | 2nd inversion | swapped |
| 7 | 12 | 0 | 4 | 4 | 7 |
| 9 | 9 | 0 | 0 | 5 | 5 |
| 0 | 7 | 4 | 0 | 7 | 4 |

Why all these variants sound different? Let's have a look at their internal intervals: try them out all three proper dyads of the triad:

| root position | G | sharp 3rd | B | flat 3rd | D |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | G | perfect 5th |  |  | D |  |  |  |  |
| 1st inversion |  |  | B | flat 3rd | D | 4th | G |  |  |
|  |  |  | B | flat 6th |  |  | G |  |  |
| 2nd inversion |  |  |  |  | D | 4th | G | sharp 3rd | B |
|  |  |  |  |  | D |  | 6th |  | B |

Which variant sounds best? Which one sounds best with the following $D^{7}$ chord? I favour the variant where the root of the chord equals the root of the scale and 3rd and 5th are in their natural order: GBD, especially for the first chord which anchors the song to key G major.

## D ${ }^{7}$ Chord

$D^{7}$ chord: 3rd is $F$ or $F \#$, 5th is $A$, 7 th is $C$ or $C \#$; $F$ and $C \#$ are not part of the scale, so the full 7 th chord is DF\#AC. With three strings only, we have three possibilites: omit the root, omit the 5th, or omit the 3rd:

Omit the root:

| F\#AC | CAF\# | ACF\# | F\#CA | CF\#A | AF\#C |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1st inversion | swapped | 2nd inversion | swapped | 3rd inversion | swapped |
| 5 | 11 | 11 | 14 | 2 | 5 |
| 7 | 7 | 10 | 10 | 4 | 4 |
| 11 | 5 | 14 | 11 | 5 | 2 |

Omit the 5th:

| DF\#C | CF\#D | F\#CD | DCF\# | CDF\# | F\#DC |
| :---: | :---: | :---: | :---: | :---: | :---: |
| root position | swapped | 1st inversion | swapped | 3rd inversion | swapped |
| 5 | 7 | 7 | 11 | 11 | 5 |
| 4 | 4 | 10 | 10 | 0 | 0 |
| 7 | 5 | 11 | 7 | 5 | 11 |

Omit the 3rd:

| DAC | CAD | ACD | DCA | CDA | ADC |
| :---: | :---: | :---: | :---: | :---: | :---: |
| root position | swapped | 2nd inversion | swapped | 3rd inversion | swapped |
| 5 | 7 | 7 | 14 | 2 | 2 |
| 7 | 7 | 10 | 10 | 0 | 0 |
| 7 | 5 | 14 | 7 | 5 | 5 |

## C Chord

Now the C chord: 3rd is D\# or E, 5th F\# or G: D\# is not part of the scale, and G is the perfect 5th so the C chord is CEG:

| CEG | GEC | EGC | CGE | GCE | ECG |
| :---: | :---: | :---: | :---: | :---: | :---: |
| root position | swapped | 1st inversion | swapped | 2nd inversion | swapped |
| 0 | 5 | 5 | 9 | 9 | 12 |
| 2 | 2 | 5 | 5 | 10 | 10 |
| 5 | 0 | 9 | 5 | 12 | 9 |

As with the G chord, I favour here the variant where the root of the chord equals the root of the scale and 3rd and 5th are in their natural order: CEG.

## Chords of the A Part

| G | G | $\mathrm{D}^{7}$ | $\mathrm{D}^{7}$ | $\mathrm{D}^{7}$ | $\mathrm{D}^{7}$ | G | G | G | G | C | C | $\mathrm{D}^{7}$ | $\mathrm{D}^{7}$ | G | G |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| I | I | $\mathrm{V}^{7}$ | $\mathrm{~V}^{7}$ | $\mathrm{~V}^{7}$ | $\mathrm{~V}^{7}$ | I | I | I | I | IV | IV | $\mathrm{V}^{7}$ | $\mathrm{~V}^{7}$ | I | I |
| 7 | 7 | 5 | 5 | 5 | 5 | 7 | 7 | 7 | 7 | 0 | 0 | 5 | 5 | 7 | 7 |
| 9 | 9 | 4 | 4 | 4 | 4 | 9 | 9 | 9 | 9 | 2 | 2 | 4 | 4 | 9 | 9 |
| 0 | 0 | 7 | 7 | 7 | 7 | 0 | 0 | 0 | 0 | 5 | 5 | 7 | 7 | 0 | 0 |

The Roman numbers refer to the steps of the chord progression: I is tonic, IV subdominant, V is dominant: I-V-I and I - IV - V - I are common chord progression in folk songs and country music.

## B part

Now part B: / D / D / $A^{7} / A^{7} / A^{7} / A^{7} / D / D^{7}$ /: what we can see here: / $D A^{7} D /$ corresponds to / $G$ $D^{7} \mathrm{G}$ / but one 5th higher: here the key must have changed, because G major has $\mathrm{Am}^{7}$ with ACEG, but key now is $D$ major with scale D-E-F\#-G-A B-C\#-D with $A^{7}$ with AC\#EG.

## D Chord

Now the D chord: 3rd is F or F\#, 5th is G\# or A: F is not part of the scale, and A is the perfect 5th so the D chord is DF\#A:

| DF\#A |  | F\#AD |  | ADF\# |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| root position | swapped | 1st inversion | swapped | 2nd inversion | swapped |
| 2 | 7 | 7 | 11 | 11 | 14 |
| 4 | 4 | 7 | 7 | 12 | 12 |
| 7 | 2 | 11 | 7 | 14 | 11 |

## $A^{7}$ chord, with 5th omitted

3rd is C or C\#, 5th is D\# or E, 7th is G or G\#: C, D\#, G\# are not part of the scale, so the full 7th chord is AC\#EG, with the 5th omitted AC\#G:

| AC\#G | GC\#A | C\#GA | AGC\# | GAC\# | C\#AG |
| :---: | :---: | :---: | :---: | :---: | :---: |
| root position | swapped | 1st inversion | swapped | 3rd inversion | swapped |
| 12 | 14 | 2 | 6 | 5 | 12 |
| 11 | 11 | 5 | 5 | 7 | 7 |
| 14 | 12 | 6 | 2 | 0 | 5 |

## B Part Chords

| D | D | $\mathrm{A}^{\prime}$ | $\mathrm{A}^{\prime}$ | $\mathrm{A}^{\prime}$ | $\mathrm{A}^{\prime}$ | D | $\mathrm{D}^{\prime}$ |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| I | I | V 7 | V 7 | V 7 | V 7 | I | $\mathrm{I} / \mathrm{V}^{\prime}$ |  |  |  |  |  |  |  |  |
| 11 | 11 | 12 | 12 | 12 | 12 | 11 | 5 |  |  |  |  |  |  |  |  |
| 7 | 7 | 11 | 11 | 11 | 11 | 7 | 4 |  |  |  |  |  |  |  |  |
| 7 | 7 | 14 | 14 | 14 | 14 | 7 | 7 |  |  |  |  |  |  |  |  |

Here the final dominant 7 th chord $D^{7}$ is ambiguous: tonic $(I)$ in the context of part $B$, but dominant $(\mathrm{V})$ for the following part A :

## Chords of the A Part

| G | G | $\mathrm{D}^{7}$ | $\mathrm{D}^{7}$ | $\mathrm{D}^{7}$ | $\mathrm{D}^{7}$ | G | G | G | G | C | C | $\mathrm{D}^{7}$ | $\mathrm{D}^{7}$ | G | G |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| I | I | $\mathrm{V}^{7}$ | $\mathrm{~V}^{7}$ | $\mathrm{~V}^{7}$ | $\mathrm{~V}^{7}$ | l | l | l | l | IV | IV | $\mathrm{V}^{7}$ | $\mathrm{~V}^{7}$ | l | l |
| 7 | 7 | 5 | 5 | 5 | 5 | 7 | 7 | 7 | 7 | 0 | 0 | 5 | 5 | 7 | 7 |
| 9 | 9 | 4 | 4 | 4 | 4 | 9 | 9 | 9 | 9 | 2 | 2 | 4 | 4 | 9 | 9 |
| 0 | 0 | 7 | 7 | 7 | 7 | 0 | 0 | 0 | 0 | 5 | 5 | 7 | 7 | 0 | 0 |

