Here are the rhythms for major six-step and four-step dances:

rhythm-patterns for LEADS

```
        MUSICAL BEATS      1    2    3    4    5    6    7    8
                mambo      L    R    L    -    R    L    R    -
              cha cha      L -  R -  L R  L -  R -  L -  R L  R -
                waltz      L    R    L    R    L    R
 rumba, box-foxtrot, *     L    -    R    L    R    -    L    R
    TWO-STEP FOXTROT       L    -    R    -    L    R
    JITTERBUG SWING        L    -    R    -    L    R
   TRIPLE-STEP SWING       L R  L -  R L  R -  L -  R -
 4-COUNT (TROT or SWING)   L    R    L    R
                tango      L    -    R    -    L    R    L    -
```

rhythm-patterns for FOLLOWS

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        MUSICAL BEATS      1    2    3    4    5    6    7    8
                mambo      R    L    R    -    L    R    L    -
              cha cha      R -  L -  R L  R -  L -  R -  L R  L -
                waltz      R    L    R    L    R    L
 rumba, box-foxtrot, *     R    -    L    R    L    -    R    L
    TWO-STEP FOXTROT       R    -    L    -    R    L
    JITTERBUG SWING        R    -    L    -    R    L
   TRIPLE-STEP SWING       R L  R -  L R  L -  R -  L -
 4-COUNT (TROT or SWING)   R    L    R    L
                tango      R    -    L    -    R    L    R    -
```

Here are some relationships between rhythms or step-patterns:
• number of steps: 6-step patterns (first four) and 4-step patterns (SECOND FOUR).
• same step-rhythm: two-step foxtrot and jitterbug swing (both are S-S-QQ), …
• same step-patterns: waltz (LRLRLR) and rumba or box-step foxtrot (L-RLR-LR),
        plus "six-count (S-S-QQ) swing or foxtrot" and 4-count (QQQQ) swing or foxtrot.
• slow step (in 2 counts of fast-tempo music) becomes triple step (in 2 counts of slow-tempo music):
        mambo becomes cha cha (with same steps),   jitterbug becomes triple-step swing (same steps).

* other dances (nightclub two-step, samba,…) also have this rumba/box-trot rhythm, although in samba
there is a "triplet" rhythmic feel, similar to how jazz musicians make their music "swing" in cool ways.

This file summarizes "shared knowledge" (where almost everyone agrees) plus a few personal opinions:

• The step-pattern for rumba can be counted "quick quick slow" or "slow quick quick". I prefer "slow quick quick" because of habit (I was initially taught that way) and also because it allows a much easier transfer of patterns from the waltz or foxtrot because their "box steps" are identical (except for stylistic differences) to the "S – Q Q" rumba, but are different (due to the "phase shift") from the "Q Q S –" rumba. With transfer of steps (from other dances to rumba) that is easier with "slow quick quick," many dance-patterns can be easily adapted, and rumba does not become "isolated" from other dances. But... with "Q Q S –" there is a better transfer between rumba and mambo or cha cha. So each pattern offers advantages.

• The four-count swing (or four-count foxtrot) is not an official dance, but it works well for songs whose tempo is too slow for a comfortable swing or foxtrot, and it allows a nice "smooth feel" for the dance. { In 4-count foxtrot, a lead can mix in 24 counts of waltz (four 6-count "LRLRLR" cycles) and then move back into 4-count foxtrot for 8 counts, in a way that is consistent with the 32-count structure of most songs: in a 32-count section, dance 24 with waltz and 8 with foxtrot. }

• triplets and swing: The rhythm in some dances (samba, triple-step swing,…) can "swing" by adopting a "triplet feel" (common in jazz and other music that, similar to swing dancing or samba, has a swing-feeling) with each quarter note split into three parts instead of two parts, so instead of "R L R - L R L -" (with 8 counts of 1/2 and evenly paced steps, R L R) it is "R - L R - - L - R L - - (with 12 counts of 1/3 and unevenly paced steps, R - L R) to produce a swing-feeling with triplets.

• Some dancers begin the 8-count step pattern for the ChaCha & Mambo on the musical 2-count so the pattern becomes "2 3 4-and-1, 2 3 4-and-1" rather than "1 2 3-and-4, 1 2 3-and 4". Either way works fine, in practice. Competitive ballroom dancers begin on the 2-count, but it is questionable whether this practice is authentic for latin social dancers, and most music used for cha cha does not have the "cha cha cha" (on the 4-and-1) of standard "ballroom cha cha" music.
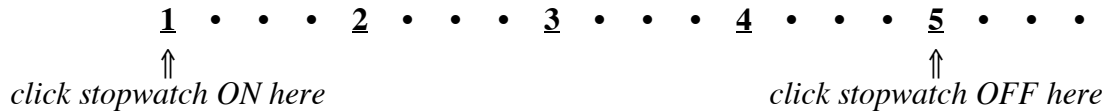

• The approximate "comfortable tempo ranges" below are my estimates, influenced by standards I've seen, for social dancing. But these ranges can be debated. { Most dancers will disagree on some of these estimates, or even on a definition of "comfortable". But for dance competitions the tempo is precisely defined within a narrow range. You can find suggested tempo-ranges on the internet, for both social and competitive dancing. }

```
            slow waltz:      90
  fast (Viennese) waltz:      180
          medium waltz: 100 to 130

      two-step foxtrot: 120 to 170
quickstep (fast foxtrot): 180 to 220
       box-step foxtrot: 100 to 160
        4-count foxtrot:  80 to 140

       east coast swing: 140 to 220
      triple-step swing: 100 to 160
          4-count swing: 100 to 160

               cha cha: 110 to 140
                 mambo: 180 to 250
                 samba: 180 to 240  (or is it 90 to 120?)
                 rumba:  90 to 150  (or faster, in "viennese rumba")

                 tango:     128      (all tangos seem to be ≈128)
```


The next page explains how you can find the tempo of a song by using a stop-watch, and change the tempo with an easy-to-use free program.

finding tempo

To find the tempo of a song, <u>first find the time for 4 full measures</u> (16 beats), as shown below.

<u>**1**</u> • • • <u>**2**</u> • • • <u>**3**</u> • • • <u>**4**</u> • • • <u>**5**</u> • • •

⇑   ⇑

click stopwatch ON here   *click stopwatch OFF here*

<u>Then use this formula</u>,   **960 ÷ time = TEMPO**,   to calculate the tempo in beats-per-minute.

For example, if 4 measures takes 7.50 seconds, the tempo is calculated to be 128 bpm:

960   ÷   7.50   ⇒   128 beats per minute

Or, for more precision, find time for 8 measures (<u>1</u>---2--- ... 8---<u>9</u>   with watch on at 1, off at 9)

and, for the same song, you would calculate the same tempo,   1920 ÷ 15.00 = 128 bpm

For a waltz, find the "4-measure time" (for 12 beats), and calculate: **720 ÷ time = TEMPO** .

In case you are interested, here is a derivation for the "960 / time = tempo" formula:

$$\frac{16 \text{ beats}}{7.50 \text{ seconds}} \quad \bullet \quad \frac{60 \text{ seconds}}{1 \text{ minute}} \quad \Rightarrow \quad 128 \text{ beats per minute}$$

Some dancers measure tempo in "measures per minute" (mpm). Two ways to calculate this are:

240 ÷ time = tempo in mpm   **tempo in bpm ÷ 4 = tempo in bpm**

240 ÷ 7.50 = 32 mpm   128 beats per minute ÷ 4 = 32 measures per minute

For a waltz,   240 ÷ time = tempo in mpm,   tempo in bpm ÷ 3 = tempo in mpm

* *

Or just remember (or write down) the tempos for each 1.0 s or .5 s interval, as shown below, and interpolate for in-between times. For example, 5.70 s is between 175 and 160, closer to 175. For slower tempos, use "doubles"; for example, 15 s is half as slow as 7.5, --> 64. Or memorize typical 4-measure times: a typical tango or cha cha is 7.5 seconds for 4 measures (15.0 s for 8 measures), and a standard slow waltz is 8.0 s, Viennese is 4.0 s, medium-fast is 5.5 to 7.0 s. And so on.

time for 16 counts:	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5	10.0
tempo, in bpm:	240	213	192	175	160	148	137	128	120	113	107	101	96

It's easy to change the tempo of a digital song such as mp3, using Audacity, with the process explained in http://www.asa3.org/ASA/education/teach/tempo-music.htm#timing