



INSTRUMENTAÇÃO: METAIS

MARCOS FILHO

EXAMPLE 9-1. R. Strauss, *Don Juan*, mm. 37-40



37 **Allegro**

E Hn. 1 2 *f* *ff*

E Tpt. 1 2 *f* *ff*

Trb. 1 2 *f* *ff*

Trb. 3 Tba. *f* *ff*

Metais

- Transpositores e não transpositores;
- Possui número específico de pentagramas em que são escritos na orquestra (vide formação básica);
- Utilizam o princípio da série harmônica para a projeção das notas na escala;
- A tessitura e a qualidade acústica dependem do tamanho do tubo do instrumento;
- Respiração para fraseados e tempo para descanso dos lábios;
- Trinados e trêmulos em geral são fáceis de serem produzidos (trêmulo de lábio);



EXAMPLE 9-4. Britten, *Serenade*, Prologue, mm. 1–14

Andante (♩ = 80)
, sempre ad libitum

F Hn.

1 *p* *pp* *cresc.* *poco accel.*

5 *a tempo* *pp* *più f* *animando* *molto cresc.*

10 *a tempo* *f* *ff* *pp* *dim.* *molto rall.* *ppp*



EXAMPLE 9-6. Mozart, Symphony No. 40, third movement, mm. 74–78

G Hn.

75

cresc. *f*

5 6 8 10 12 11^V 10
4 5 6 8 10 9 8

EXAMPLE 9-7. Beethoven, Piano Concerto No. 5, first movement, mm. 43–47

E \flat Hn.

44

9 10 9 8 9 10 9 10 9 10 11^V
6 8 6 5 6 8 6 8 6 8 9



EXAMPLE 9-10. *Sforzando*

4 F Hn.

3 B \flat Tpt.

3 Trb.
Tba.

sfz > *pp* < *ff*

sfz > *pp* < *ff*

sfz > *pp* < *ff*

sfz > *pp* < *ff*



EXAMPLE 9-11. Debussy, *Jeux*, 7 mm. after 35

Assez animé *sim.*

C Tpt. *pp*

più pp



EXAMPLE 9-12. Ravel, *Rapsodie espagnole*, "Feria," at 6

Assez animé (♩. = 76)

The musical score is for the F Horns (F Hn.) and C Trumpets (C Tpt.) sections. It is written in 6/8 time and marked *ff* (fortissimo). The tempo is indicated as "Assez animé" with a quarter note equal to 76 beats per minute. The score consists of four staves. The first two staves are for the F Horns (1 and 2), and the last two staves are for the C Trumpets (1 and 2). The music features a rhythmic pattern of eighth notes and quarter notes, with a key signature of one sharp (F#).

EXAMPLE 9-13. Rimsky-Korsakov, *Sheherazade*, third movement, at G



$\text{♩} = 63$
piano, ma marcato assai

A Tpt.

The musical score consists of three staves. The first staff is labeled 'A Tpt.' and begins with a treble clef and a 6/8 time signature. It contains a series of eighth notes with triplet markings above them. The second staff continues the melodic line with similar triplet patterns and includes a dynamic marking 'p' (piano). The third staff shows further development of the triplet patterns. The tempo is indicated as quarter note = 63, and the performance instruction is 'piano, ma marcato assai'.



EXAMPLE 9-15. Brass Glissandi

The musical score is for three brass parts: 4 F Horns (4 F Hn.), 3 B♭ Trumpets (3 B♭ Tpt.), and 3 Trombones/Tubas (3 Trb. Tba.). The music is in 4/4 time and features a glissando exercise. Each part begins with a rest, followed by a series of notes marked *ff* (fortissimo) that ascend to a final chord. This is followed by a glissando, indicated by the word *gliss.* and a series of slanted lines. The glissando is then held as a sustained chord, also marked *ff*. The score is written on three staves, with the top two in treble clef and the bottom one in bass clef.

EXAMPLE 9-16. Vaughan Williams, Symphony No. 6, fourth movement, mm. 39-42



39 con sord. *pp*

F Hn. 1 2

3 4 *pp*

con sord. *pp*

B \flat Tpt. 1

2 3 *pp*

con sord. *pp*

Trb. 1 2

3 *pp*

con sord. *pp*

Trompa

- Transpositor em F (compositores antigos escreveram para trompas em outros tons);
- Utiliza clave de sol (tpa. 1 e 2) e fá (3 e 4);
- Algumas notas são especialmente difíceis de serem produzidas (extremos);
- Os ataques nem sempre são precisos;

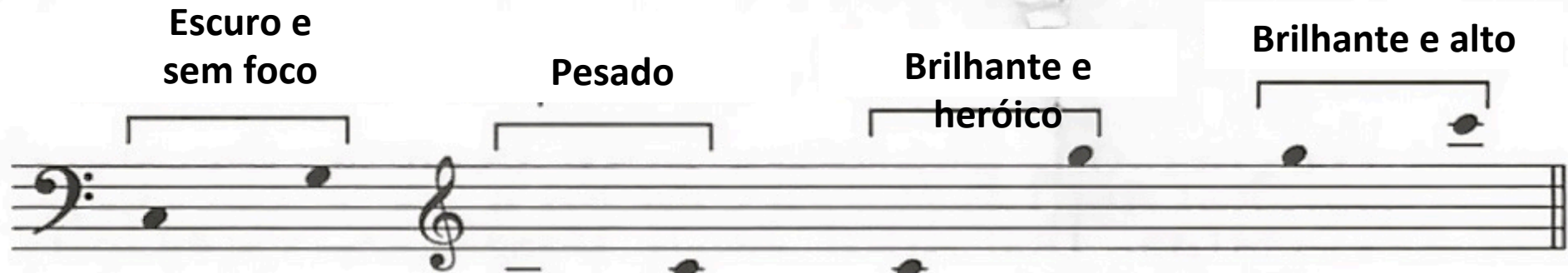


Escurο e sem foco

Pesado

Brilhante e heróico

Brilhante e alto

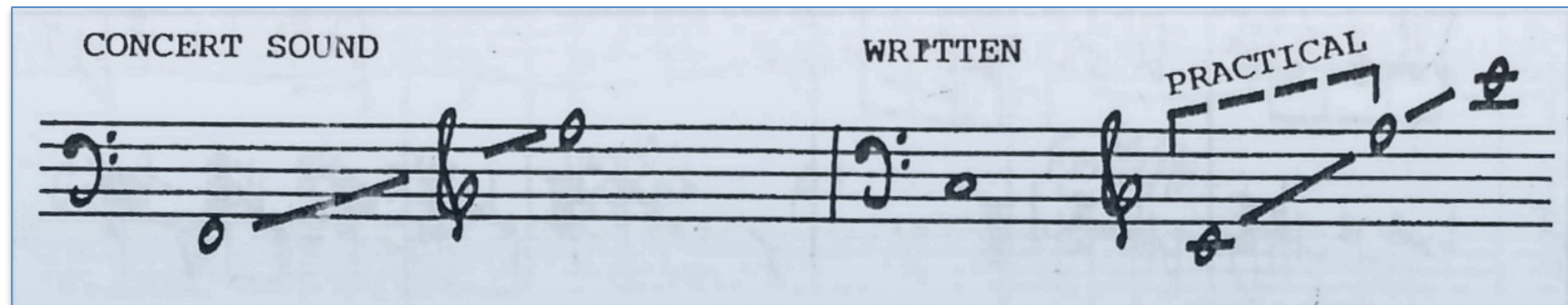


The image shows a grand staff with two staves. The left staff has a bass clef and the right staff has a treble clef. There are four groups of notes, each with a bracket above it and a dynamic marking. The first group is in the bass clef, the second is in the treble clef, and the last two are in the treble clef. The notes are simple quarter notes.

CONCERT SOUND

WRITTEN

PRACTICAL



The image shows a grand staff with two staves. The left staff has a bass clef and the right staff has a treble clef. There are three sections of handwritten musical notation. The first section is labeled 'CONCERT SOUND' and shows a sequence of notes. The second section is labeled 'WRITTEN' and shows a sequence of notes. The third section is labeled 'PRACTICAL' and shows a sequence of notes with a dashed line above it.



EXAMPLE 10-8. Brahms, Symphony No. 1, fourth movement, mm. 30–38

Più Andante

C Hn.

f sempre e passionato

EXAMPLE 10-9. Beethoven, Symphony No. 6, third movement, mm. 132–153

Allegro

F Hn. 1

cresc. *p dolce* *cresc.*

dolce



EXAMPLE 10-10. R. Strauss, *Till Eulenspiegel*, mm. 6–12

F Hn.

6

p

cresc.

EXAMPLE 10-11. Ravel, *Pavane pour une infante défunte*, mm. 1–11

Andante

1. Solo

2 G Hn.

1

pp

6

1.

p \rightrightarrows *pp* *expressif*

EXAMPLE 10-12. R. Strauss, *Don Juan*, mm. 530–540



4 E Hn.

531

ff *molto espr.*

molto espr.

536

EXAMPLE 10-13. Mahler, *Symphony No. 1*, first movement, mm. 345–356

Allegro

F Hn.

345

1, 3

+5, 6

2, 4

+7

f

ff

fff p

353

unis.

ff

fff



EXAMPLE 10-14. Handel, *Judas Maccabaeus*, "See the Conquering Hero," mm. 9-16

G Hn.

9

13

EXAMPLE 10-15. Weber, *Der Freischütz*, Overture, mm. 10–25



10 Andante

F Hn.

C Hn.

Soli

14

F Hn.

C Hn.

Soli

18 *mf*

F Hn.

C Hn.

mf

22

F Hn.

C Hn.

EXAMPLE 10-16. Humperdinck, *Hänsel und Gretel*, Overture, mm. 1–8



Ruhige, nicht zu langsame Bewegung (♩ = 69)

4 F Hn.

1

sehr weich

4

4

5

4 F Hn.

EXAMPLE 10-17. Wagner, *Siegfried*, Act I, scene 2, mm. 1–14



Lebhaft

F Hn.

1

(sehr stark ausgehalten)

p

6

p *cresc.*

11

f *p*



EXAMPLE 10-18. Tchaikovsky, Symphony No. 5, second movement, mm. 8–16

Andante

8 Solo

F Hn. 1

dolce con molto espr.

12

mf

The musical score is written for French Horn 1 (F Hn. 1) in 12/8 time. It consists of two staves of music. The first staff begins at measure 8 and ends at measure 11. The tempo is marked 'Andante'. The first staff is marked 'Solo' and includes the instruction 'dolce con molto espr.' (soft with much expression). The second staff begins at measure 12 and ends at measure 16. The dynamic marking 'mf' (mezzo-forte) is present at the end of the second staff. The music features a melodic line with various articulations, including slurs, accents, and dynamic markings like 'dolce' and 'mf'. There are also hairpins indicating crescendos and decrescendos throughout the passage.

EXAMPLE 10-19. Rimsky-Korsakov, *Capriccio espagnol*, fifth movement, mm. 119-131



Allegro

119

4 F Hn.

f

123

sf

f

128

f

EXAMPLE 10-20. R. Strauss, *Don Juan*, mm. 501–505



Allegro

501

4 E Hn.

The musical score for 4 E Horns in measures 501-505 of R. Strauss's *Don Juan* is written in 2/4 time. It begins at measure 501 with a mezzo-forte (*mf*) dynamic. The first staff (top) starts with a half note G4, followed by a triplet of eighth notes (A4, B4, C5) and a quarter note D5. The second staff (bottom) starts with a half note G3, followed by a triplet of eighth notes (A3, B3, C4) and a quarter note D4. The dynamics shift to fortissimo (*f*) in measure 502. The score includes various rhythmic patterns such as triplets and sixteenth-note runs, and concludes with a decrescendo hairpin in measure 505.

EXAMPLE 10-21. Scriabin, *Poem of Ecstasy*, mm. 182–183

Allegro

182

4 Hn.

The musical score for 4 Horns in measures 182-183 of Scriabin's *Poem of Ecstasy* is written in 2/2 time. It begins at measure 182 with a piano-piano (*pp*) dynamic. The top staff (treble clef) features a series of dotted quarter notes, each followed by a triplet of eighth notes. The bottom staff (treble clef) is mostly silent, with a few notes appearing in measure 183. The score concludes with a piano-piano (*pp*) dynamic in measure 183.



EXAMPLE 10-22. Debussy, *Prélude à "L'après-midi d'un faune,"* mm. 106–109

106 (sourdines) *ppp*

1. *pp*

2. *pp*

Hn. 1

2

3 (sourdines) *ppp*

3. *pp*

4. *pp*

Hn. 3

4



EXAMPLE 10-24. Mahler, Symphony No. 4, fourth movement, mm. 76–79

Wieder lebhaft

76

F Hn.

1 2

3 4

mf gest.

mf ff

p f p f

gest.

mf ff

p f p f

79

F Hn.

1 2

3 4

ff p

ff p

EXAMPLE 10-25. R. Strauss, *Till Eulenspiegel*, mm. 641–643



Sehr lebhaft

641

1
3

F Hn.

2
4

f *cresc.*

f *cresc.*

EXAMPLE 10-26. R. Strauss, *Salome*, at 360

Fast

2 F Hn.

ff *tr*

tr *tr*

EXAMPLE 10-27. R. Strauss, *Der Rosenkavalier*, Introduction, mm. 30–31

Musical score for Horn (Hn.) in 4/4 time, measures 30–31. The score features a melody with triplets and accents, marked with *ff*. The notation includes a treble clef, a 4/4 time signature, and a key signature of one flat. The melody consists of eighth notes and quarter notes, with triplets of eighth notes and quarter notes. The dynamics are marked *ff* at the beginning and end of the phrase. The score is labeled "Hn." on the left.

EXAMPLE 10-28. Barber, *Symphony No. 1*, mm. 135–136

Musical score for French Horn (F Hn.) in 4/4 time, measures 135–136. The score features a melody with glissandos and accents, marked with *ff*. The notation includes a treble clef, a 4/4 time signature, and a key signature of one flat. The melody consists of half notes and quarter notes, with glissandos indicated by the word "gliss." and a wedge-shaped symbol. The dynamics are marked *ff* at the beginning. The score is labeled "F Hn." on the left.



Cuivré



EXAMPLE 10-29. Bizet, *L'Arlésienne* Suite No. 1, "Carillon," mm. 1–4

Allegretto
Cuivré

1

4 E Hn.

ff

Campanas para cima

EXAMPLE 10-30. Mahler, Symphony No. 4, third movement, mm. 319–326

Pesante

319 Schalltrichter auf

1, 2

ff

F Hns.

3, 4

Schalltrichter auf

ff

3

3

323

1, 2

ff *p*

F Hns.

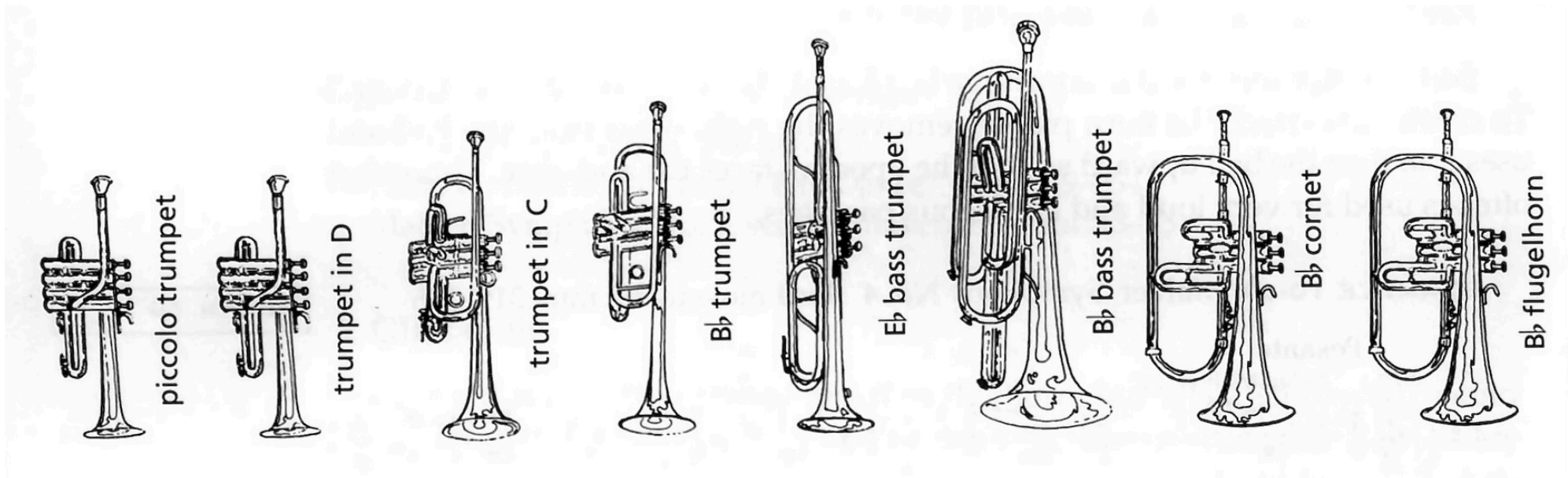
3, 4

ff *p*



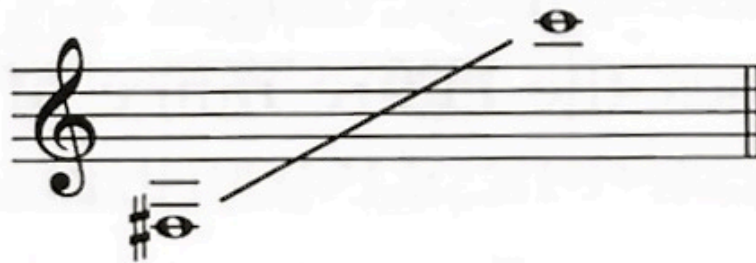
Trompete

- Basicamente afinado em C e Bb;
- Utiliza clave de sol;
- É o instrumento soprano da família dos metais;
- Tem som penetrante e flexível;
- Usado em solos, conjuntos, uníssonos, oitavas (dois no registro agudos e dois no grave) ou no topo do conjunto de metais;
- Funciona bem tocando em uníssonos com outros instrumentos (sax alto ou guitarra elétrica) ou em oitavas com o trombone ou sax tenor;
- Sons fortes são mais fáceis de serem produzidos;





C Trumpet*



Escrita

Som Real

B \flat Trumpet



CONCERT SOUND WRITTEN PRACTICAL

Sem brilho

Claro, brilhante e mais articulado

Brilhante, mas estridente





EXAMPLE 10-31. Bach, Cantata No. 51, "Jauchzet Gott in allen Landen," last movement, "Alleluja," mm. 5–16

C Tpt.

5

f

11



EXAMPLE 10-32. Haydn, Symphony No. 94 ("Surprise"), fourth movement, mm. 249–268

Allegro

249

C Tpt.

ff

260

ff



EXAMPLE 10-33. Beethoven, Symphony No. 3 (“Eroica”), first movement, mm. 37–45

Allegro
37 a 2

E♭ Tpt.

ff *sf*

EXAMPLE 10-34. Mozart, Piano Concerto K. 503, third movement, mm. 24–32

Allegro
24

C Tpt.

f

28





EXAMPLE 10-37. Beethoven, Symphony No. 5, second movement, mm. 147–158

Andante

148

C Tpt.

ff *pp*

Detailed description: This musical score is for the C Trumpet part of the second movement of Beethoven's Symphony No. 5, measures 147-158. It is marked 'Andante'. The score begins at measure 148. The key signature has one flat (B-flat major/D minor) and the time signature is 3/8. The music starts with a fortissimo (*ff*) dynamic and features a series of chords and eighth-note patterns. It concludes with a hairpin indicating a dynamic shift to pianissimo (*pp*).

EXAMPLE 10-38. Beethoven, Symphony No. 5, fourth movement, mm. 1–6

Allegro

1

C Tpt.

ff

Detailed description: This musical score is for the C Trumpet part of the fourth movement of Beethoven's Symphony No. 5, measures 1-6. It is marked 'Allegro'. The score begins at measure 1. The key signature has one flat (B-flat major/D minor) and the time signature is 4/4. The music starts with a fortissimo (*ff*) dynamic and features a series of chords and eighth-note patterns.

EXAMPLE 10-39. Beethoven, *Leonore* Overture No. 3, mm. 295–300

Freely

295

B♭ Tpt.

Detailed description: This musical score is for the B-flat Trumpet part of the third *Leonore* Overture by Beethoven, measures 295-300. It is marked 'Freely'. The score begins at measure 295. The key signature has one flat (B-flat major/D minor) and the time signature is 3/4. The music starts with a fortissimo (*ff*) dynamic and features a series of chords and eighth-note patterns.



EXAMPLE 10-40. Tchaikovsky, *Capriccio italien*, mm. 1-7

1 Andante un poco rubato ♩ = 132

2 E Tpt.

EXAMPLE 10-41. Mendelssohn, *A Midsummer Night's Dream*, "Wedding March," mm. 1-5

1 Allegro vivace

3 C Tpt.



EXAMPLE 10-47. Copland, *Outdoor Overture*, mm. 16–31

Moderato

B♭ Tpt. solo

16 *mp* *freely, with natural expression*

20

24

28 *p*

EXAMPLE 10-48. Puccini, *La Bohème*, Act II, opening (double tonguing on ♯ only)



1 *marcatissimo*

F Tpt. 1, 2, 3

EXAMPLE 10-49. Verdi, *Aida*, Act I, "Celesta Aida," mm. 1–13 (triple tonguing)

1

C Tpt. 1 2

ff

3 3 3

5

9

ff

3 3 3

Surdina

Pode-se indicar *con sordino* para adicionar e *senza sordino* para retirar.

Em inglês utiliza-se também *open* para indicar sem surdina.

No século XIX era comum utilizar a palavra alemã *gestopft* para adicionar a surdina e *offen* para retirar a surdina.



EXAMPLE 10-50. Mahler, Symphony No. 1, fourth movement, mm. 623–625 and mm. 592–594

Allegro

623 zu 2

1, 2

F Tpt.

3, 4

fff

Allegro

592 mit Dämpfer

1, 2

Tpt.

3, 4

mf

pp



EXAMPLE 10-51. Debussy, *Nocturnes*, "Fêtes," mm. 124-131



Moderato

124 con sord. *pp*

F Tpt. 1, 2

3 con sord. *pp*

127

EXAMPLE 10-52. Gershwin, *Rhapsody in Blue*, mm. 16-19



Jazzy

Wa wa (harmon) mute

16 *mf*

B \flat Tpt.

Trinados para serem evitados:





EXAMPLE 10-54. Upward Glissandos and Bending Pitches Downward

EXAMPLE 10-60. Stravinsky, *Petrushka*, Second Tableau, "Ballerina's Dance,"
mm. 1-29



1 **Allegro** (♩ = 116)

B♭ Cor. 1

Military Dr.

5

B♭ Cor. 1

Military Dr.

10

B♭ Cor. 1

Military Dr.

15

B♭ Cor. 1

Military Dr.

20

B♭ Cor. 1

Military Dr.

25

B♭ Cor. 1

Military Dr.

mf

sub. p

DIRECTED SLOWLY JAZZ FEEL

3 TRPTS

NO VIB.

mf

4 TRBS

NO VIB.

mf

5 SAXES

RHYTHM

BASS ONLY

mf

1 3 2 3 4

A TEMPO ♩=66

SOLO FLUGELHORN

TRPTS

TRBS

SAXES

RHYTHM

The musical score is written on four systems of staves. The top system is for TRPTS (Trumpets), the second for TRBS (Trumpets/Bass), the third for SAXES (Saxophones), and the fourth for RHYTHM. The key signature is two flats (B-flat and E-flat), and the time signature is 4/4. The tempo is marked 'A TEMPO' with a quarter note equal to 66 beats per minute. The score is divided into measures 5, 6, 7, and 8. In measure 6, there are markings for 'WARM' and 'mf' (mezzo-forte) for the TRBS and SAXES parts. In measure 7, there is a marking for 'ELECTRIC K.B.' (Electric Keyboard) and 'Eb ADD9' for the RHYTHM part. In measure 8, there is a marking for 'PEDAL' and 'Ab13(#11)' for the RHYTHM part. The RHYTHM part includes a bass line with various chords and a drum line with 'x' marks indicating hits. The TRPTS part features a melodic line with triplets and slurs. The TRBS and SAXES parts provide harmonic support with chords and some melodic fragments.

The drum notation is located at the bottom of the page, spanning measures 7 and 8. It consists of a series of 'x' marks on a single line, representing hits on the snare drum. Above the line, there are some handwritten notes: a sharp sign (#) above a bar line, and '3' above a triplet of hits in measure 7. In measure 8, there are more hits, some with 'x' marks, and the word 'ETC' at the end. The notation is simple and focuses on the rhythmic pattern of the drum set.

Ex. 4-3 continued

The musical score is written in 4/4 time with a key signature of two flats (Bb and Eb). It consists of five staves:

- FLUGELHN:** Features a melodic line with a triplet of eighth notes on measure 9 and a triplet of eighth notes on measure 11.
- TRBS:** Provides harmonic support with chords and melodic fragments.
- SAXES:** Includes parts for **SUBTONE** and **BARI SAX**, both with wavy lines indicating sustained notes.
- RHYTHM:** Shows the harmonic progression with chords and a rhythmic pattern of eighth notes.

Measure numbers 9, 10, 11, and 12 are indicated at the bottom of the score.

Chord Progression:

Measure	Chords
9	Gmi(MA7), Gmi7
10	Bbmib/C, C9
11	Fmi9, Fmi/Eb
12	Dmi9, G7(b9), G7(b9)

FLUGELHN

TRBS

SAXES

RHYTHM

Handwritten musical score for measures 13, 14, and 15. The score is divided into four parts: FLUGELHN, TRBS, SAXES, and RHYTHM. The key signature is B-flat major (two flats). Measure 13 shows the beginning of a phrase with a slur over the first two measures. Measure 14 continues the phrase with a triplet of eighth notes. Measure 15 concludes the phrase with a final note and a fermata. The RHYTHM section includes a bass line with a triplet in measure 13 and a chord progression in measure 14 labeled $Eb13(b9)$ and $(b5)$, and a chord progression in measure 15 labeled $AbMA9$. A PED (pedal) marking is present in measure 15. The Saxes section features a melodic line with triplets in measures 13 and 14, and a bass line with a slur in measure 15. The TRBS section has a melodic line with triplets in measures 13 and 14, and a sustained chord in measure 15. The FLUGELHN section has a melodic line with a triplet in measure 14 and a final note in measure 15.

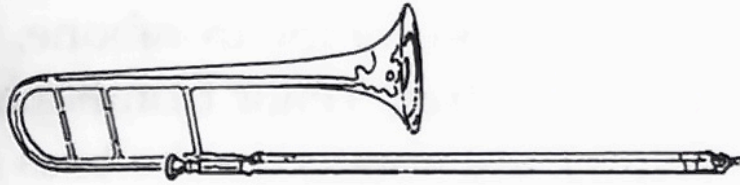
13

14

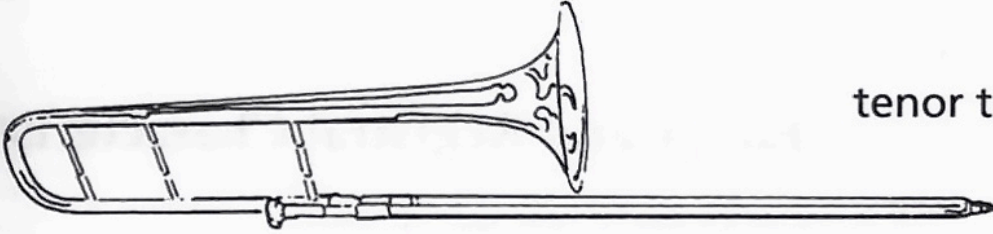
15

Trombone (Tenor)

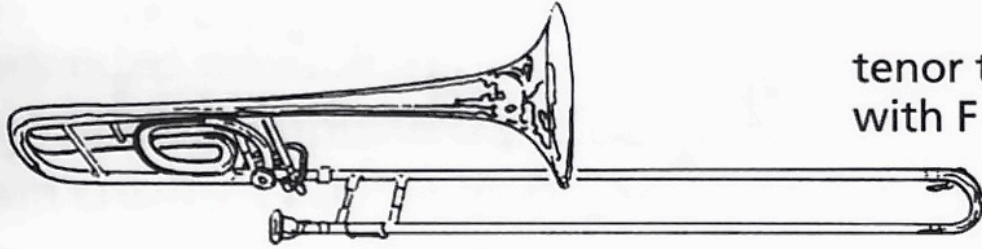
- Não transpositor;
- É notado na clave de Fá e de Dó na quarta linha;
- Possui sete posições cada uma produzindo uma série harmônica específica;
- É versátil e pode ser usados em solos, fundos harmônicos e blocos (como solista é dinâmico e efetivo em melodias leves ou sonoras – som heróico);
- Dentro de um grupo, o trombone pode funcionar sozinho ou como suporte aos trompetes, trompas e saxofones (pad);



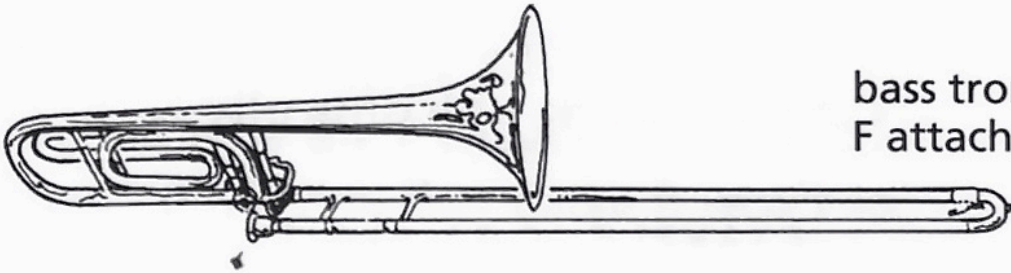
alto trombone



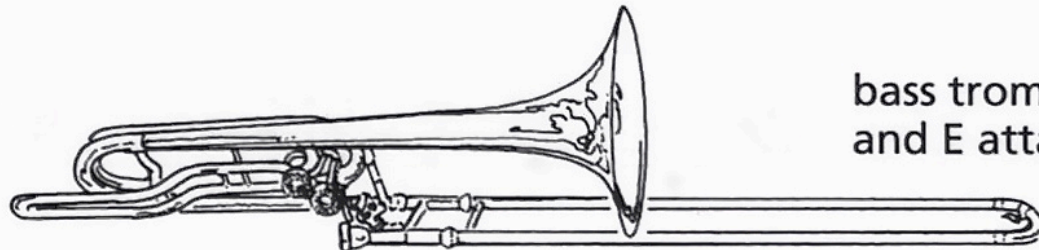
tenor trombone



tenor trombone
with F attachment

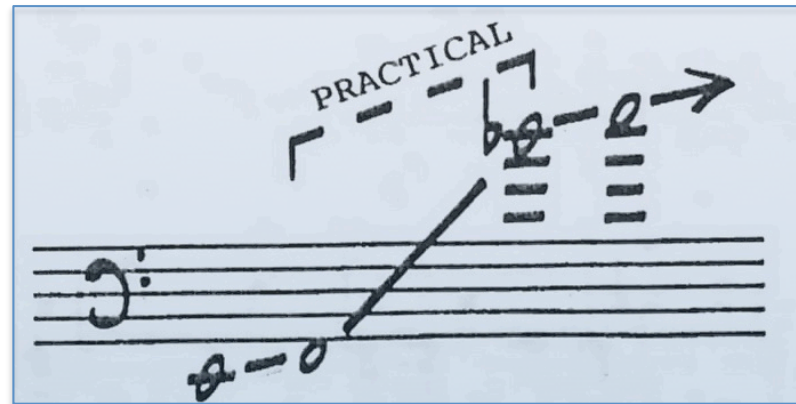


bass trombone with
F attachment



bass trombone with F
and E attachments

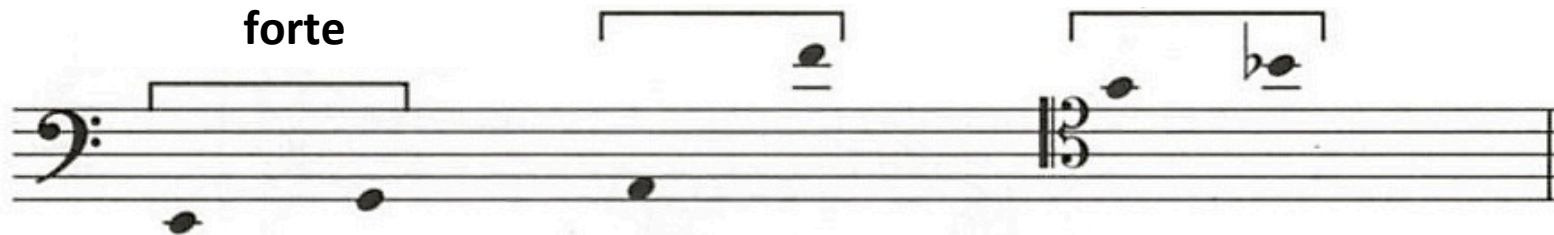


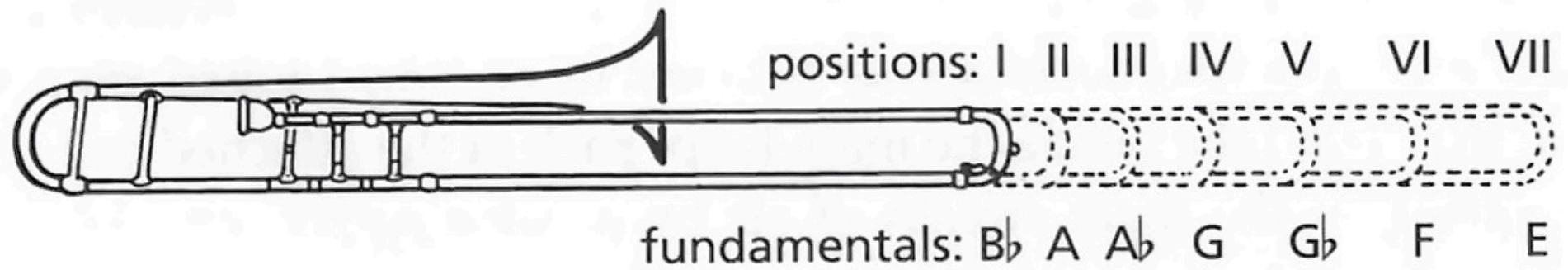


Escuro, menos forte

Firme e poderoso

Muito intenso





POSITIONS OF THE TROMBONE SLIDE

POSITIONS

1ST 2ND 3RD 4TH

5TH 6TH 7TH

GLISSANDOS

GLISS IS POSSIBLE TO AND FROM THESE NOTES AND ANY INTERVAL IN BETWEEN

Trombone Baixo

Musical notation for Trombone Baixo. The staff shows a range from Bb1 to Bb2. The notes are: Bb1 (labeled 'Pesado e um pouco forte'), Bb1 (labeled 'Profundo e sólido'), Bb1 (labeled 'Profundo e sólido'), Bb2 (labeled 'Muito poderoso'), and Bb2 (labeled 'Muito poderoso'). A diagonal line indicates the instrument's range. A circled note (Bb1) is shown below the staff.

Trombone Alto

Musical notation for Trombone Alto. The staff shows a range from Bb2 to Bb3. The notes are: Bb2 (circled) and Bb3 (circled). A diagonal line indicates the instrument's range.

EXAMPLE 10-76. Mozart, Requiem, "Tuba mirum," mm. 1-18

Andante
Solo

Trb.

1

6 -

10

14

p

mf



EXAMPLE 10-77. Beethoven, Symphony No. 9, fourth movement, "Seid umschlungen," mm. 1-8 (one trombone)

Andante maestoso

Bs. Trb.

ff *sfz* *sfz* *ff*

EXAMPLE 10-78. Berlioz, *Rákóczy March*, mm. 96-105 (three trombones)

Allegro

3 Trb.

ff

96

101

EXAMPLE 10-79. Brahms, Symphony No. 1, fourth movement, mm. 47-51 (three trombones)

Più allegro

Trb.

p dolce *p dolce*

47

51



EXAMPLE 10-80. Sessions, Symphony No. 2, fourth movement, mm. 68–70

Allegro
con sordini

68

Trb. 1 2 3

p dim. *pp* *p dim.* *pp*

EXAMPLE 10-81. Berg, Violin Concerto, first movement, mm. 45–51

Slowly

45

Ten. Trb. m. Dpf

Bs. Trb. m. Dpf

p *poco* *mp*

mp *poco fp* *mp*



EXAMPLE 10-82. Khachaturian, *Gayane* Ballet, Suite No. 1, "Sabre Dance," mm. 10-11

Presto

gliss.

-10

Trb.

f

EXAMPLE 10-83. Britten, *The Young Person's Guide to the Orchestra*, Fugue, at L

Allegro molto

Trb.

* ⊕ means to be played quasi glissando



Glissando

EXAMPLE 10-84. Bartók, Violin Concerto No. 2, third movement, mm. 593–600



593 $\text{♩} = 56$

Ten. Trb. 1

Ten. Trb. 2

Bs. Trb.

gliss.
I pos.
senza sord.

f 5

gliss.
IV pos.

VI

596

Ten. Trb. 1

Ten. Trb. 2

Bs. Trb.

gliss.
IV pos.

f 5

III

cresc.

cresc.

III

cresc.

599

Ten. Trb. 1

Ten. Trb. 2

Bs. Trb.

V

ff

V

5

V

BASIE STYLE ♩=116

4 TRBS

EASY!

mf

RHYTHM

D13

Fm1b

TRBS

RHYTHM

C6/9

C+

C

C+

C6

CMA7

E6b

TRBS

RHYTHM

Dmi9

F7

Dmi7

Dmi9

F7

Dmi7

Fmi(MA7)

A67

Fmi6

Fmi(MA7)

A67

Fmi6



TRBS

Handwritten musical notation for TRBS and RHYTHM parts, measures 13-16. The TRBS part is in bass clef with a 7/8 time signature. The RHYTHM part is in bass clef with a 4/4 time signature. The TRBS part features complex chords and melodic lines, while the RHYTHM part provides a steady accompaniment.

CMA6

Bb

Cb

Gm16/Bb

A7

Fm16/Ab

G7(b9)

13

14

15

16

RHYTHM

4 FLUTES

Handwritten musical notation for 4 FLUTES part, measures 17-20. The part is in treble clef with a 7/8 time signature. It features melodic lines with various accidentals and dynamics.

HARMON MUTES

4 TRPTS

Handwritten musical notation for 4 TRPTS part, measures 17-20. The part is in treble clef with a 7/8 time signature. It features block chords and melodic fragments.

TRBS

Handwritten musical notation for TRBS part, measures 17-20. The part is in bass clef with a 7/8 time signature. It features complex chords and melodic lines.

D13

D+7

D9

D9(b9)

D9

Fm1(MA7)

Fm1b

Fm1(MA7)

Ab7

Fm1b

17

18

19

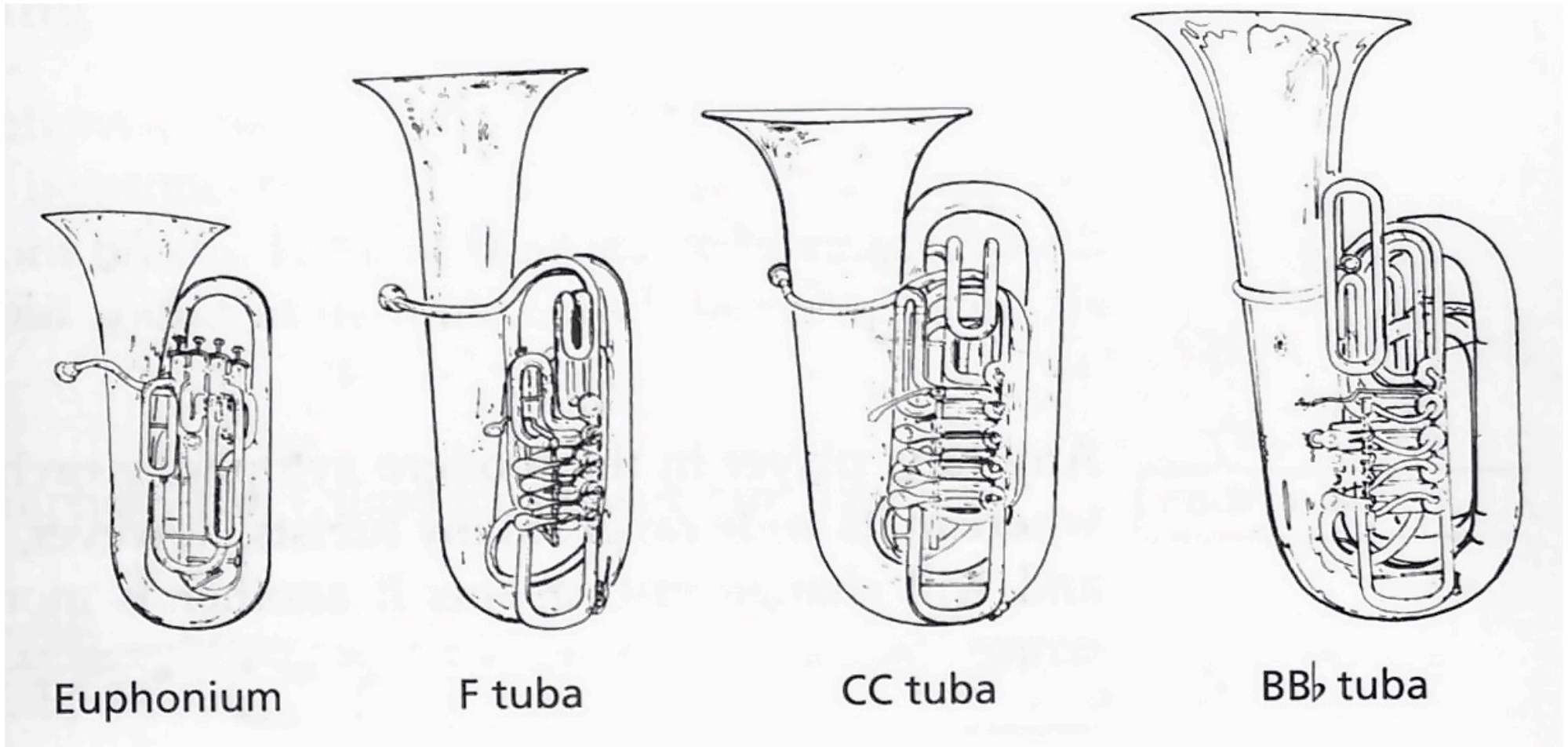
20

RHYTHM

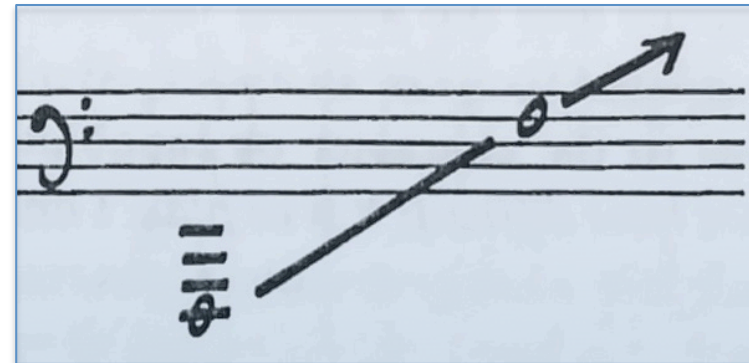
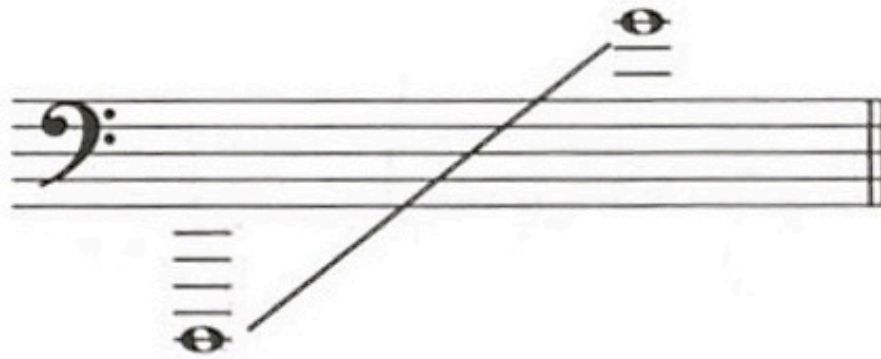
Handwritten musical notation for RHYTHM part, measures 17-20. The part is in bass clef with a 4/4 time signature. It provides a steady accompaniment for the other parts.

Tuba

- Não transpositor;
- É o mais grave instrumentos entre os metais e é notado na clave de Fá;
- O registro médio é mais ágil e o grave mais fraco;
- Pode funcionar efetivamente entre as dinâmicas *ff* e *pp*;
- Pode ser utilizado como solo ou em combinação com outros instrumentos (funciona bem com um naipe de trombones, grupo de trompetes ou trompas);







Profundo e pesado

Muito forte

Ficando fraco, mas ainda intenso

A musical staff with a bass clef. It contains several notes and dynamic markings. A bracket above the first two notes is labeled "Profundo e pesado". A bracket above the next two notes is labeled "Muito forte". A bracket above the final note is labeled "Ficando fraco, mas ainda intenso".

EXAMPLE 10-87. Musorgsky-Ravel, *Pictures at an Exhibition*, "Bydlo," mm. 1-10

Sempre moderato pesante

1 Solo

Tba.

pp *poco a poco cresc.*

6

The musical score is for a Tuba part in 2/4 time, G major. It begins with a first ending bracket over measures 1-10. The tempo is 'Sempre moderato pesante'. The dynamics start at *pp* (pianissimo) and increase *poco a poco* (gradually) to *cresc.* (crescendo). The melody consists of eighth and quarter notes, often beamed together, with slurs and accents. Measure 6 is marked with a '6' and a first ending bracket.



EXAMPLE 10-88. Mahler, Symphony No. 1, third movement, mm. 15–23

15 **Andante**

Tba. *pp*

19



EXAMPLE 10-91. Prokofiev, Symphony No. 5, first movement, at 23

Andante ♩ = 48

Tba.

f

ff

EXAMPLE 10-92. Ravel, *La Valse*, 5 mm. after 63

Allegro, in 1

Tba.

ff

p \curvearrowright *ff*



EXAMPLE 10-93. Mahler, Symphony No. 6, fourth movement, mm. 178–180
(tuba only)

178 **Allegro moderato (heavy marcato)**

Tba.

f



EXAMPLE 10-94. Muted Tuba

Andante
con sord.

Tba.

mf *p*

EXAMPLE 10-95. Wagner, *Die Meistersinger*, Prelude, mm. 158–165

Allegro

158

Bs. Tba.

162

tr

EXAMPLE 10-96. Schoenberg, *Erwartung*, m. 426

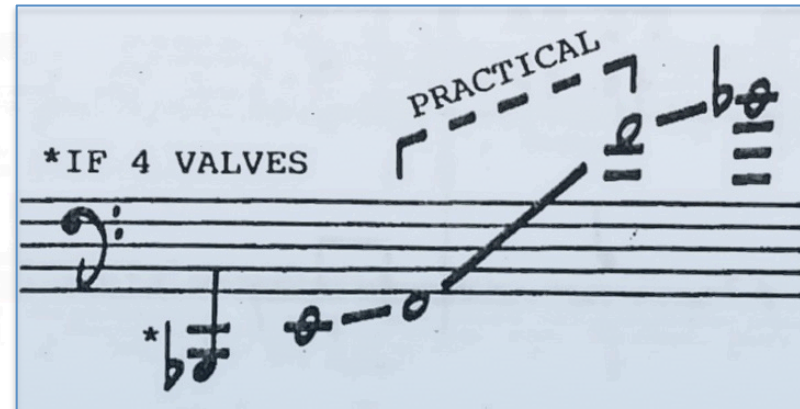
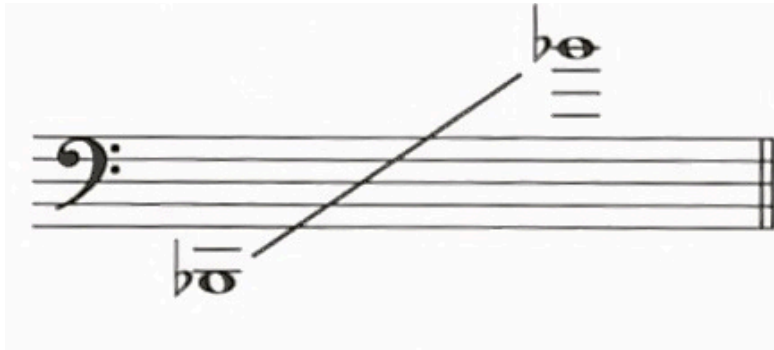
426

Tba.

ppp



Eufônio (Euphonium)



EXAMPLE 10-98. R. Strauss, *Don Quixote*, mm. 140-142



EXAMPLE 11-4. Usual Doublings of the Brass Choir within the Modern Orchestra

The image displays two systems of musical notation for brass doublings in a modern orchestra. Each system consists of a grand staff with a treble clef on the top staff and a bass clef on the bottom staff. The first system shows various doublings for 2 trumpets, 2 or 4 horns, 3 trumpets, and 3 trombones. The second system shows doublings for 3 trumpets, 4 horns, and 3 trombones, with dynamic markings *ff*, *f*, and *p*, and a 'dark chord' instruction. The notation includes notes, rests, and dynamic markings.

System 1:

- Measure 1: 2 Tpt., 2 Hn.
- Measure 2: 2 Tpt., 4 Hn.
- Measure 3: 2 Tpt., 3 Hn.
- Measure 4: 2 Tpt., 2 or 4 Hn.
- Measure 5: 2 Tpt., 2 or 4 Hn.
- Measure 6: 2 Tpt., 2 Hn.
- Measure 7: 2 Tpt., 4 Hn.
- Measure 8: 2 Tpt., 4 Hn.

System 2:

- Measure 1: 3 Trb., Tba.
- Measure 2: 3 Trb., Tba.
- Measure 3: 3 Trb., Tba.
- Measure 4: 3 Trb., Tba.
- Measure 5: 3 Trb., Tba.
- Measure 6: 3 Trb., Tba.
- Measure 7: 3 Trb., Tba.
- Measure 8: 3 Trb., Tba.

System 3:

- Measure 1: 3 Tpt., 3 Trb., Tba.
- Measure 2: 3 Tpt., 4 Hn., 3 Trb., Tba.
- Measure 3: 3 Tpt., 4 Hn., 3 Trb., Tba.
- Measure 4: 3 Tpt., 4 Hn., 3 Trb., Tba.
- Measure 5: 3 Tpt., 4 Hn., 3 Trb., Tba.
- Measure 6: 3 Tpt., 4 Hn., 3 Trb., Tba.
- Measure 7: 3 Tpt., 4 Hn., 3 Trb., Tba.
- Measure 8: 3 Tpt., 4 Hn., 3 Trb., Tba.



EXAMPLE 11-5. How Dynamic Levels Affect Doubling and Spacing

Transposed Score

		(weaker)	(very dark)
4 F Hn.	<i>ff</i>	<i>mf</i>	<i>p</i>
	<i>ff</i>	<i>mf</i>	<i>p</i>
2 B♭ Tpt.	<i>ff</i>	<i>mf</i>	<i>p</i>
	<i>ff</i>	<i>mf</i>	<i>p</i>
Trb. 1 Trb. 2	<i>ff</i>	<i>mf</i>	<i>p</i>
Trb. 3 Tba.	<i>ff</i>	<i>mf</i>	<i>p</i>

The musical score illustrates how dynamic levels affect doubling and spacing across three measures. The first measure is marked *ff* (fortissimo), the second *mf* (mezzo-forte), and the third *p* (piano). As the dynamic level decreases, the number of instruments doubling each note decreases, and the spacing between notes increases. In the *ff* measure, all instruments double each note. In the *mf* measure, doubling is reduced. In the *p* measure, the instruments are more widely spaced and some doubling is eliminated.



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