

SPECIAL PUBLICATION



February 1986

Ear Training Manual For Musicians

NAVEDTRA 10243

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PREFACE

Special Publications (SPs) are manuals or catalogs that provide information of general benefit and career development. SPs have **no** associated assignments or tests.

The *Ear Training Manual for Musicians* provides a basic reference on rhythm, pitch, and melody. This SP is available ONLY in electronic Portable Document Format from the following web site: <u>http://www.advancement.cnet.navy.mil</u>

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Sailor's Creed

"I am a United States Sailor.

I will support and defend the Constitution of the United States of America and I will obey the orders of those appointed over me.

I represent the fighting spirit of the Navy and those who have gone before me to defend freedom and democracy around the world.

I proudly serve my country's Navy combat team with honor, courage and commitment.

I am committed to excellence and the fair treatment of all."

EAR TRAINING

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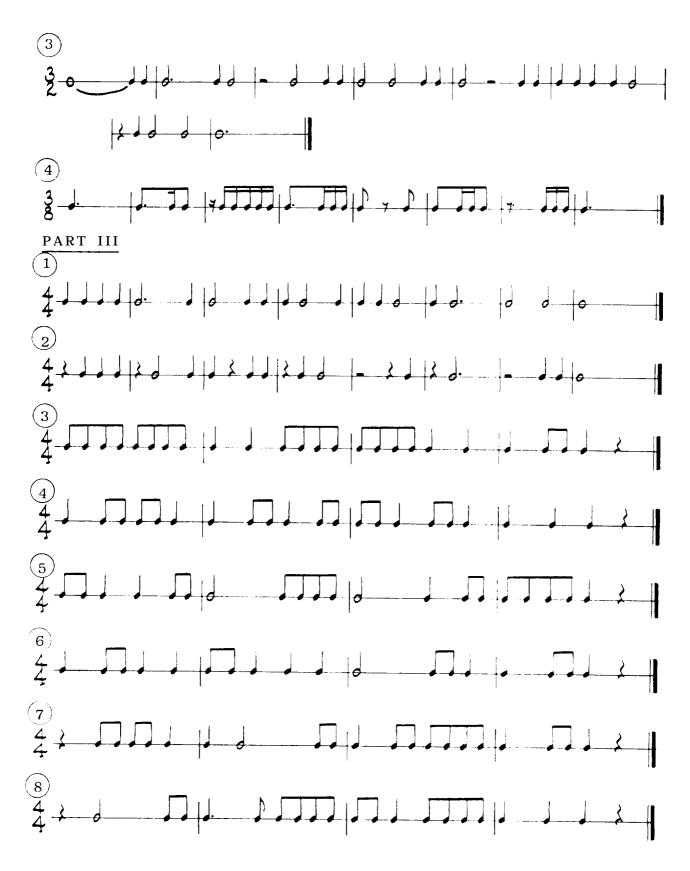
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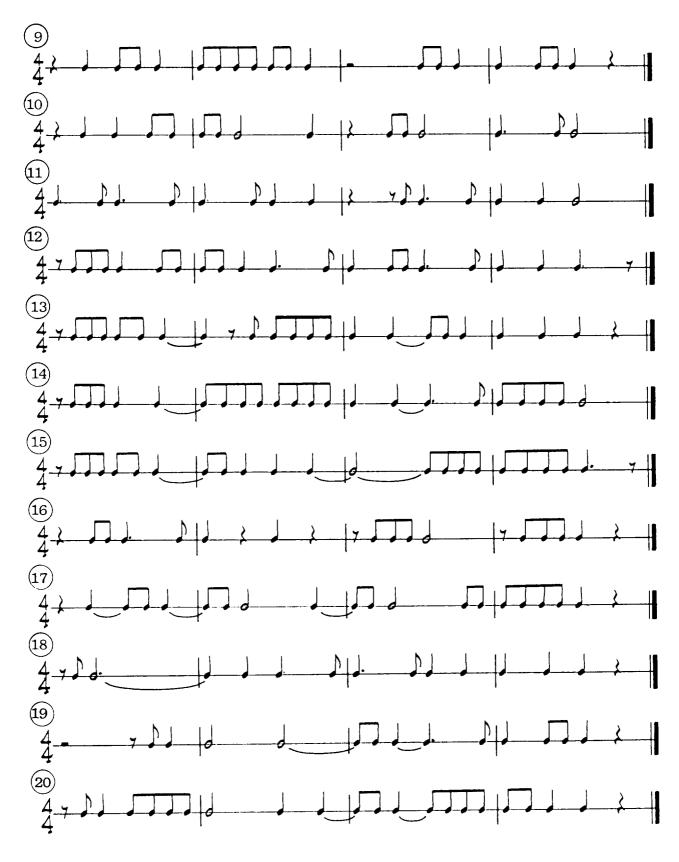
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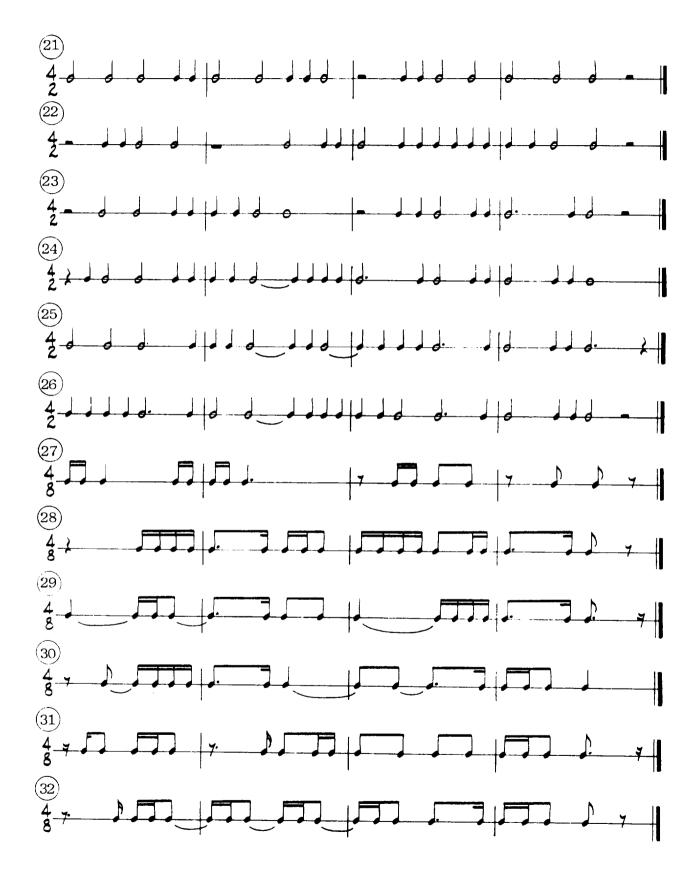
CHAPTER ONE

Section I

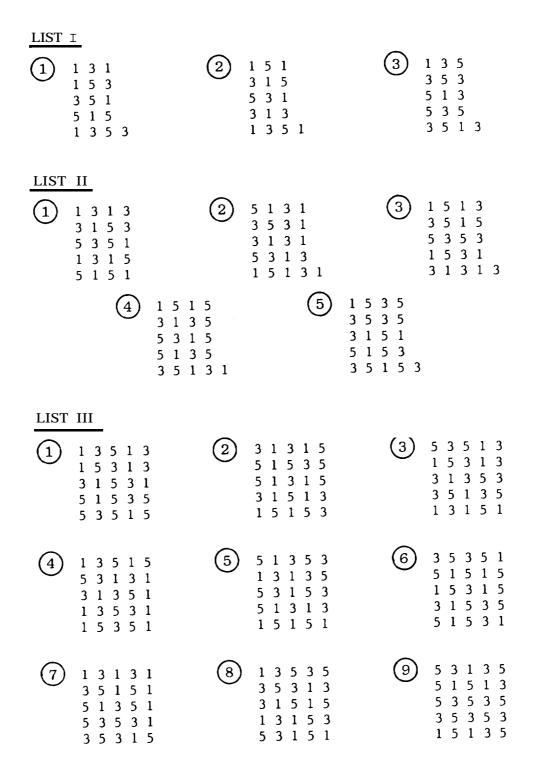








Section II



LIST IV			
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	(2) 1 3 8	3 158	(4) 1 5 $\overline{5}$
3 5 5	3 5 8	381	3 5 1
5 1 5	585	5 5 1	5 3 5
853	8 1 5	8 1 3	8 5 1
5 181	6 1 5 5	7 1 5 3	8 185
3 5 5	385	3 5 3	551
5 5 5	5 5 3	515	5 1 8
535	5555	553	558
858	8 3 1	8 1 5	1 5 1
LIST V			
$1 1 3 \overline{5} 1$	(2) 1 3 $\overline{5}$ 3	3 1 3 5 8	4 1585
3 1 5 1	3 5 1 3	3 5 5 3	5 1 5 5
5 1 5 3	5 1 5 1	5858	5531
5 1 3 5	5155	1 5 3 5	8 5 8 1
8 5 3 1	8 1 3 1	5 1 8 5	3 5 5 5
(5) 1 $\overline{5}$ 3 1	(6) 1 $\overline{5}$ 5 3	7 3 5 5 5	(8) 1 $\overline{5}$ 5 $\overline{5}$
3 5 5 1	3 1 5 3	5 3 5 1	3 1 5 5
5 3 1 5	5 5 3 1	5535	5853
5 5 3 5	5153	3 5 3 5	5315
5 5 1 5	1 8 5 1	5551	5318

(9) 1 5 8 1	(10) 1 5 3 $\overline{5}$	(11) 1 3 $\overline{5}$ 5	(12) 1 5 1 $\overline{5}$
3 5 8 1	5 3 5 3	3 5 3 5	3 5 5 3
5 8 5 1	5 1 5 1	5355	5 3 5 5
5313	8 1 5 8	8 1 5 3	5351
8 1 3 5	1 5 1 5	$35\overline{5}1$	5 1 5 5
0135			
(13) 1 5 $\overline{5}$ 3	(14) 1 5 $\overline{5}$ 1	(15) 1 $\overline{5}$ 1 3	$16 1 3 5 \overline{5}$
3 5 3 1	3 5 1 5	3 1 8 5	5 5 3 1
5353	5 5 5 1	5 5 1 5	5 5 1 3
8358	5351	5131	5135
5353	5315	8351	1 8 5 3
(17) 3 5 1 $\overline{5}$	18 3515	19 1 5 5 5	20 1 $\overline{5}$ 5 1
5 5 5 3	5 5 1 5	3 5 3 5	3585
5151	5355	5 5 5 5	5 1 3 5
8585	5 1 3 5	5351	5 1 3 5
3 1 3 5	5 5 5 3	5355	8 5 1 3
<u>LIST VI</u>			
(1) 1 5 1 $\overline{5}$ 3	(2) 1 $\overline{5}$ 1 3 5	3 15151	$(4) \ 1 \ \overline{5} \ 1 \ \overline{5} \ 5$
35153	3 1 5 5 3	35531	3 1 3 5 3
5 1 3 5 1	5 5 1 3 5	5 1 5 5 3	5 1 3 5 3
53151	55153	51553	53153
85858	8 1 5 8 5	83581	8 3 5 8 3

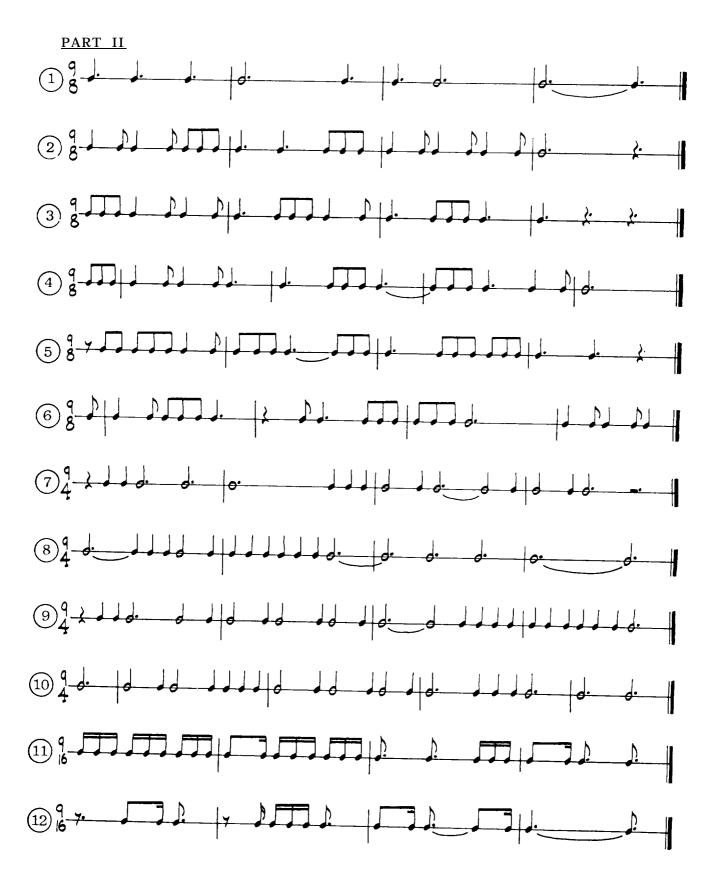
(5	$13\overline{5}5\overline{5}$	6 1 3 1 5	5 (7) 1 5 1 5 5	(8) 18581
)	3 5 1 5 5	3 5 8 5	\bigcirc	0
	5 3 5 1 3	5813		35853
	51353			5 1 5 5 5
		5351		53555
	85853	3158	3 85851	83185
9) 13551	10 1 3 5 8	3 (11) 1 5 1 5 3	(12) 1 3 5 3 $\overline{5}$
	3 1 5 8 5	3515	5 31581	35851
	5 5 5 3 1	5158	1 53551	5 5 5 3 5
	53533	5155	5 53155	55155
	8 1 8 5 1	8185	3 83585	8 5 1 3 5
13	15351	14 1 5 5 3	5 (15) 1 3 5 5 3	(16) 1 5 3 1 5
	3 1 5 3 1	3 5 5 3	5 31535	3 5 3 5 3
	5 5 1 5 3	5353	5 5 3 5 5 5	5 5 5 3 5
	51531	5355	1 55315	51535
	85185	3 1 3 5	5 3 5 3 5 5	3 5 5 3 5
(17)	1 5 5 3 1	18 1 5 3 1 3	3 (19) 18135	(20) 1 5 $\overline{5}$ 5 1
	3 1 5 1 5	3 5 3 5 5	3 3 3 1 5	3 1 5 5 3
	5 1 5 1 5	5 3 5 5 3		5 5 3 1 3
	55531	51355		5 5 3 5 1
	1 5 3 5 3	1 5 1 5 1		1 3 5 1 5
21	15515	22 18153	23 13185	(24) 1 5 1 3 5
	3 5 5 3 1	3 5 3 5 3	3 5 3 1 3	3551
	5 1 5 5 1	53583	5 5 1 5 1	58158
	51515	53553	5 5 3 5 5	5 1 5 5 3
	3 5 3 5 1	3 1 5 5 5	3 5 1 5 1	3 5 5 1 5

25)	1 5 3 5 1	(26)	1 5 5 5 3	(27)	1 5 1 5 1	(28)	1 5 3 5 3
3	$3\overline{5}131$	9	3 1 5 5 1	\bigcirc	3 5 5 1 3	\bigcirc	31851
	5 3 5 1 5		5 5 3 5 5		58153		53185
	5 5 5 3 1		53531		5 5 5 5 1		5 1 5 5 5
	5 5 1 3 5		5 5 3 5 1		5 5 1 5 1		5 5 3 5 3
29	85858	30	81585	31	83581	32	83583
	1 3 5 1 5		1 5 5 1 5		1 5 3 5 5		1 3 5 3 5
	3 5 3 1 8		3 5 5 5 1		3 5 5 5 3		3 5 1 5 1
	5 3 5 1 5		5 5 3 5 5		5 1 5 5 5		53535
	5 5 3 5 3		53515		55515		51551
33	1 5 5 5 5	34)	18351	35	1 5 1 3 5	36	1 3 5 3 5
-	3 1 5 1 5	-	35155		3 5 3 5 3		3 5 3 1 5
	5 5 3 5 1		5 1 5 1 5		5 3 5 8 5		51851
	53535		55553		53551		55155
	1 5 5 5 1		3 5 5 1 5		5 3 5 3 5		53515
37	$1515\overline{5}$	38	1 5 3 5 3	39	1 8 5 8 5	40	1 5 3 1 5
	3 5 3 5 5		3 5 5 1 5		3 5 5 5 5		3 5 3 5 1
	5 8 5 8 5		5 1 5 1 5		5 5 3 5 3		5 3 5 5 5
	1 3 5 5 5		3 5 3 5 5		5 5 3 5 5		55515
	53555		55515		53535		55555
		41	1 5 5 5 3	(42)	15135		
			1 3 1 3 5		15185		
			3 5 5 5 3		35135		
			5 5 5 5 3		5 1 5 3 5		
			55135		3 5 1 3 5		
						1	TT 1_0

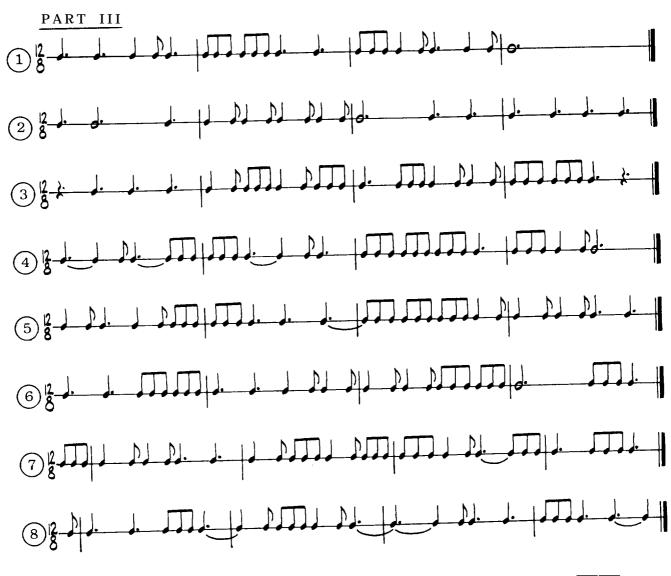
CHAPTER TWO

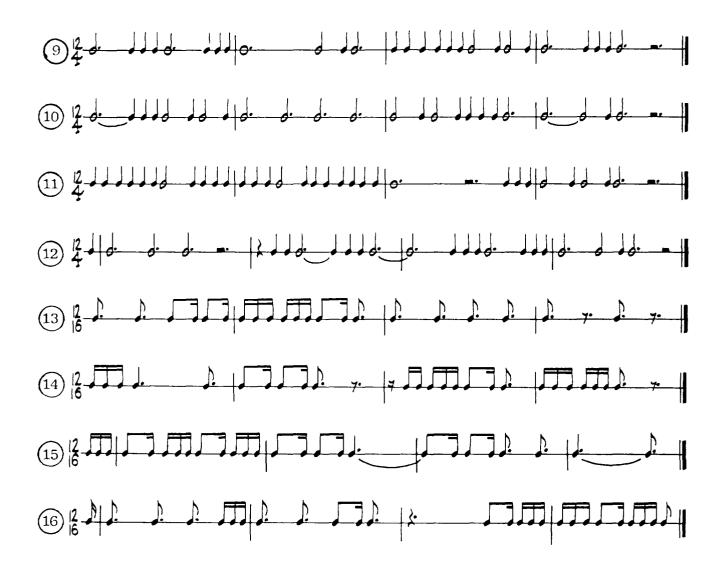
Section I







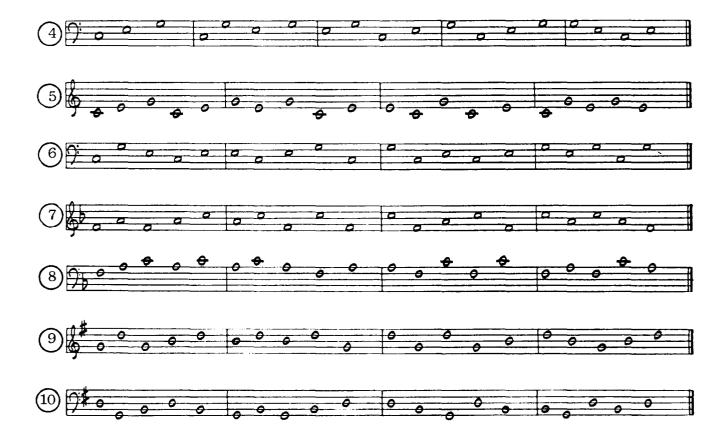


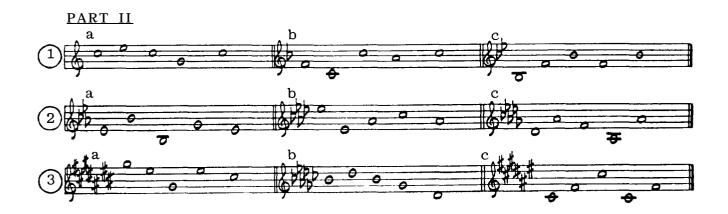


Section II



ET 2-4

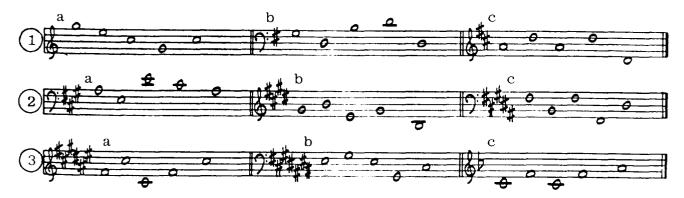


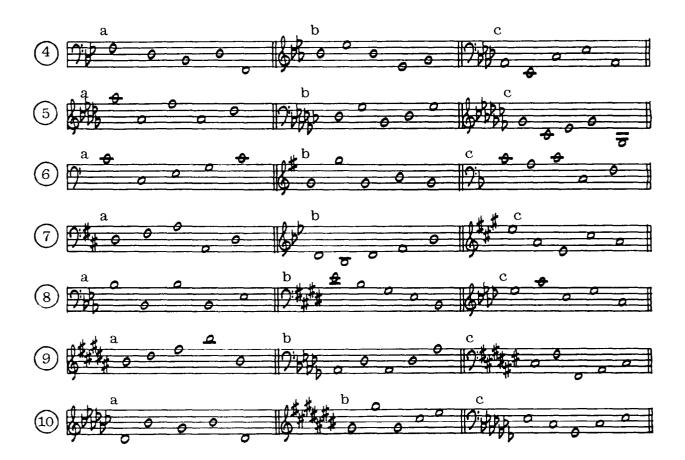




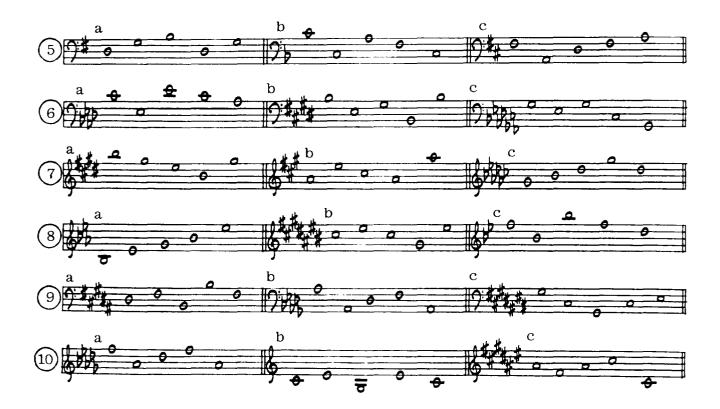


PART IV





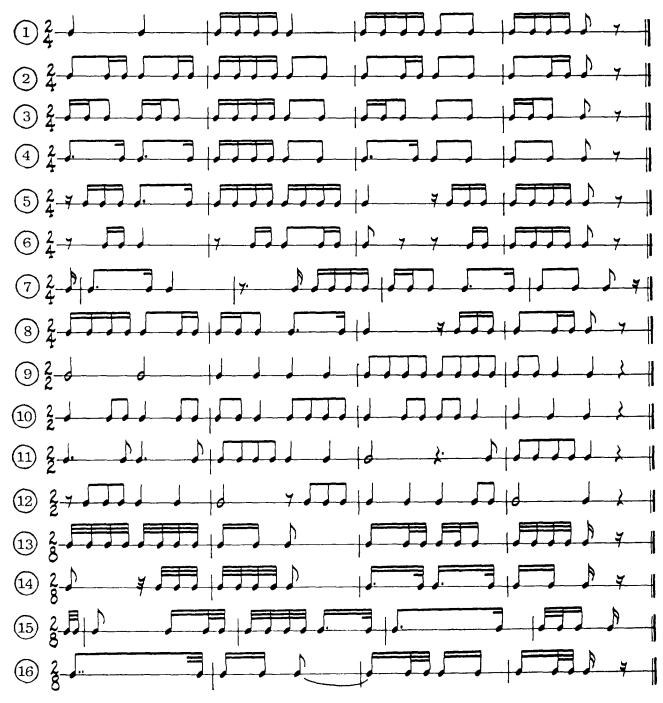




CHAPTER THREE

Section I

PART I

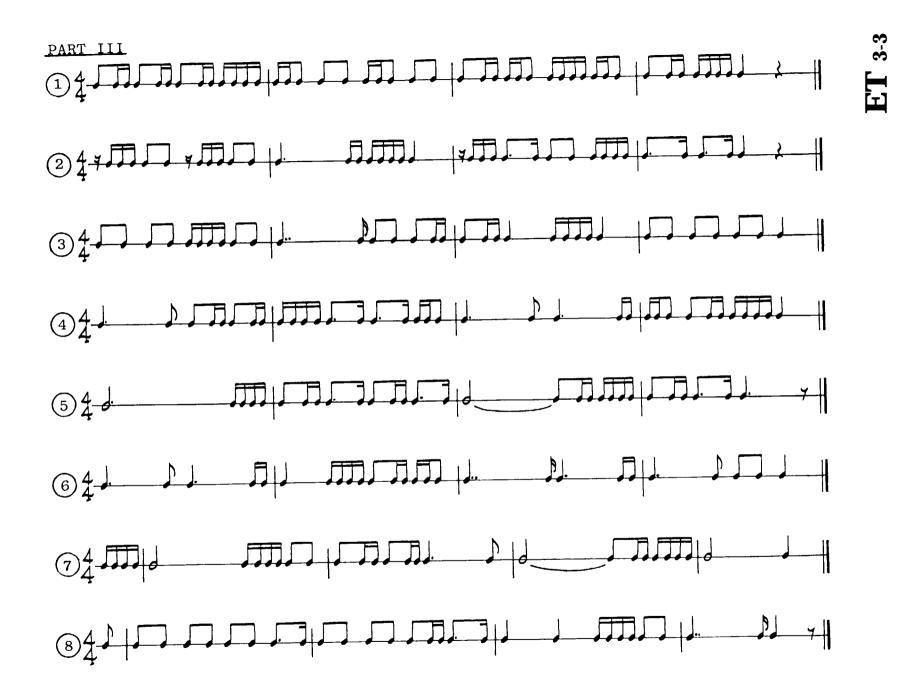


ET 3-1





ET 3-2

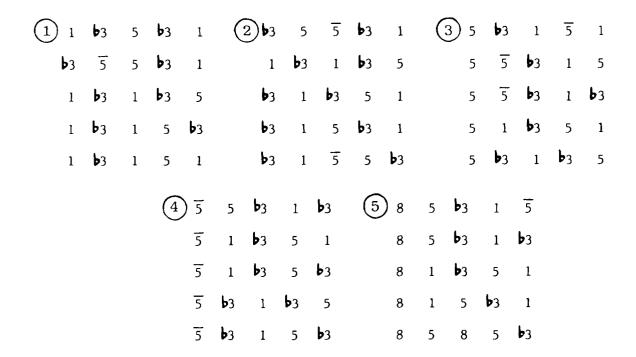




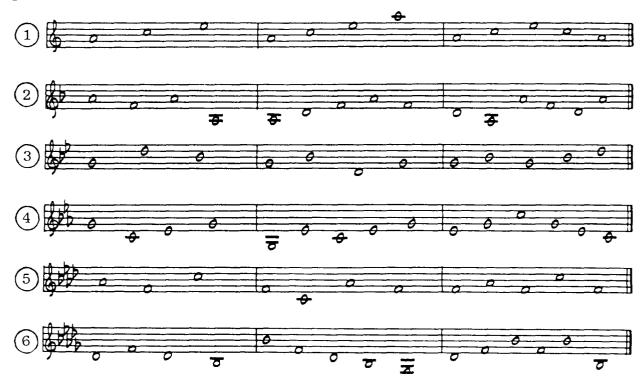
Section II LIST I (1)(2)(3) b3 **b**3 •3 (4)**b**3 **b**3 **b**3 **b**3 **b**3 **b**3 **b**3 •3 **b**3 LIST II (1)(2)**b**3 **b**3 (3)**b**3 **b**3 **b**3 **b**3 **b**3 **b**3 **b**3 ▶3 **b**3 **b**3 **b**3 **b**3 **b**3 **(5) b**3 (4)**b**3 **b**3 **b**3

ET 3-5

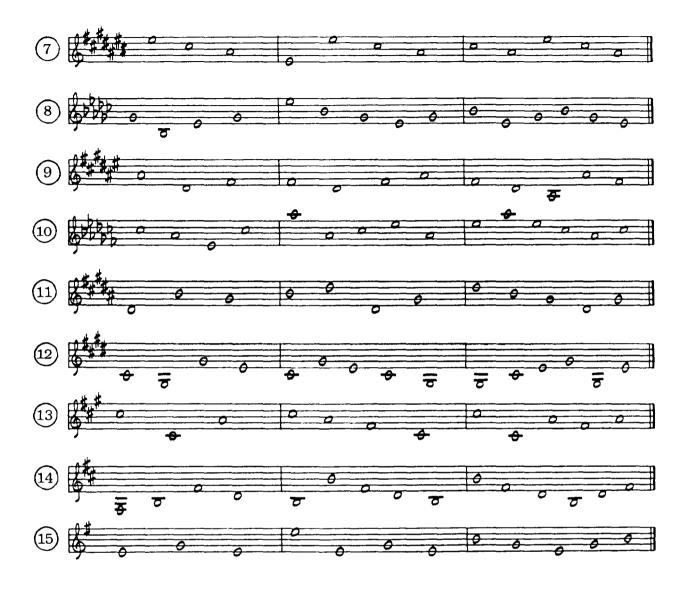
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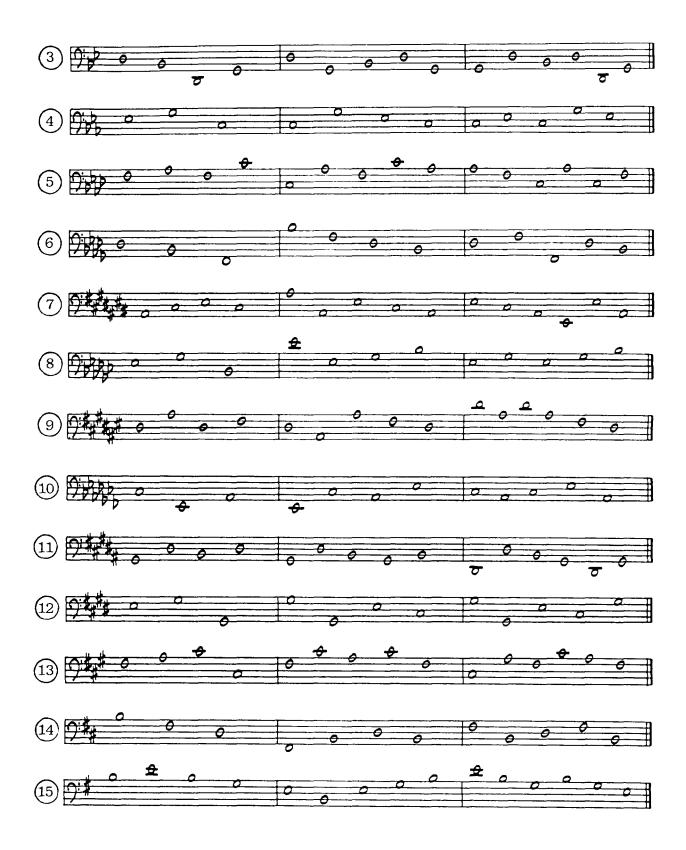
ET 3-6



PART II



ET 3-7



ET 3-8

CHAPTER FOUR

Section I



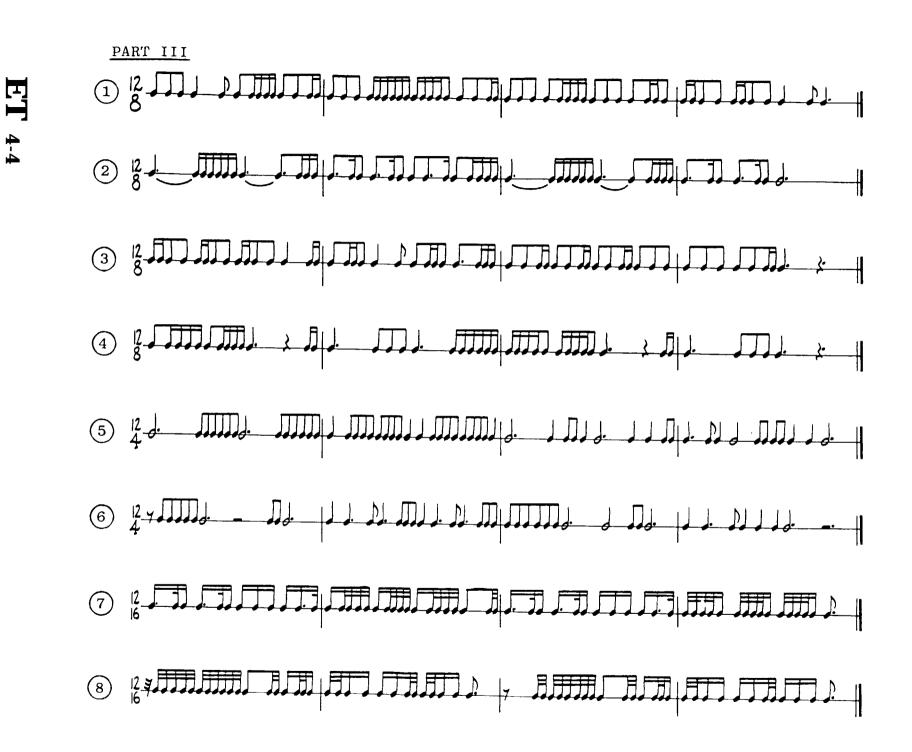
ET 4-1







ET 4-3



Section II

PENTACHORDS

A.

	1	2	3	4	5	4	3	2	1	Maj
	1	2	⊳3	4	5	4	₿ 3	2	1	min
	TETR			DS						
	1	2	3	4	3	2	1			Maj
	1	2	₽3	4	₽3	2	1			min
	1	b2	₽3	4	♭ 3	b2	1			nat
	1	♭2	3	4	3	⊳2	1			Har
	SCA	LES								
	1 1 1 1	2 63	45	66 67 66 7	78 78	7 6 b7 b6 7 b6 b7 b6	54		2 1 2 1	MAJOR NATURAL MINOR HARMONIC MINOR MELODIC MINOR
A.	Maj	or								
$\frac{\text{LIST}}{1}$	<u>ГІ</u> 123		(2	3	43		(3)	87	8	(4) 1 $\overline{6}$ $\overline{5}$
\bigcirc	121				45		Ũ	56	5	1 2 5
	323			5	43			86	5	1 3 2
	321			1	71			34	1	354
	345			5	65			14	5	3 1 2

LIST II

1 1 3 2 1	2 3 4 5 1	3 8678	(4) $\overline{5}$ 3 4 5
1 3 4 5	1 2 3 5	1 2 3 1	3 1 7 1
5678	5345	1 6 7 1	3 1 2 1
8765	1 2 5 1	5345	8 5 7 8
1 4 5 1	5 6 7 1	3 1 2 3	1 5 7 1
	Ō	1 2 4 5	
		3 4 2 1	
		5 4 2 1	
		1 3 5 6	
		6531	

LIST III

3 2 1 2 3	3 56785	1 5 6 7 1	1 2 3 4 5
3 4 5 4 3	5 1 7 6 5	3 4 3 2 3	1 7 6 7 1
5 4 3 4 5	56765	3 2 3 4 3	5 4 5 6 5
58765	1 2 1 7 1	5 6 5 4 5	1 3 5 7 1
5 5 4 3 2 1	6 14551	(7) 1 $\overline{5}$ $\overline{6}$ $\overline{5}$ 1	8 54271
1 2 3 1 3	5 1 2 3 1	87858	5 6 5 2 1
1 2 3 5 3	5 5 4 3 1	1 5 7 2 1	1 2 5 7 1
12351	1 4 5 7 1	85658	1 6 2 5 1
3 4 5 3 1	1 2 5 7 1	17151	56571

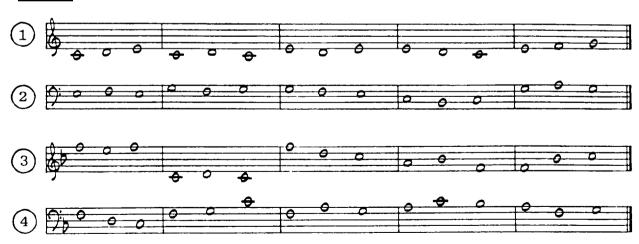
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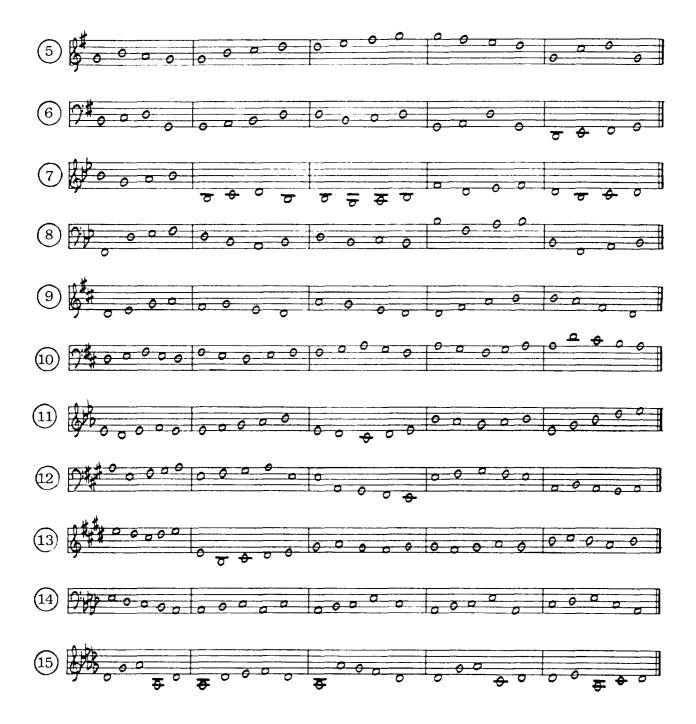
$\left(1\right)$	1 2 3 4 5 1	2 345421	3 1 3 2 1 7 1	4 545121
	3 4 5 1 2 3	1 2 3 1 7 1	1 4 5 1 7 1	5 1 2 3 7 1
	1 3 2 1 3 5	542721	876531	554321
	1 2 4 5 7 1	1 6 5 3 2 1	565171	5 4 3 5 7 1
	3 4 5 4 3 5 1	543271	1 6 7 1 2 1	867878

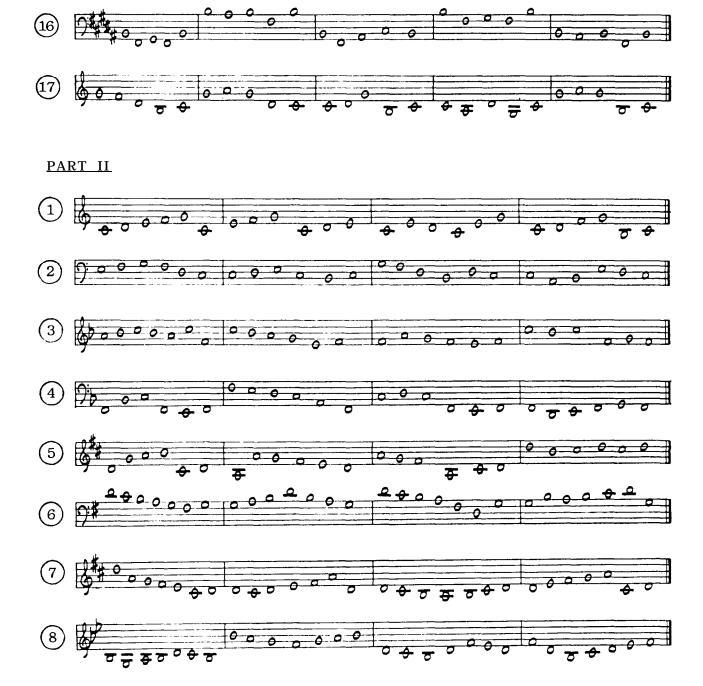
LIST V

1 5 4 3 2 1 7 1	2 1 7 1 2 3 5 1	3 1 7 6 5 6 7 1	(4) 1 2 3 4 5 7 1
1 2 3 5 3 2 1	1671321	1 2 3 4 5 3 1	1 4 5 5 7 2 1
5 4 3 2 7 5 1	8765678	3 4 5 5 7 2 1	5123451
1 3 2 3 4 5 1	3 2 1 3 5 4 3	1 2 3 4 5 5 1	5 5 6 7 1 2 1
8543271	5 3 1 2 3 4 5	1 4 3 2 1 7 1	1 3 5 4 2 5 1

PART I





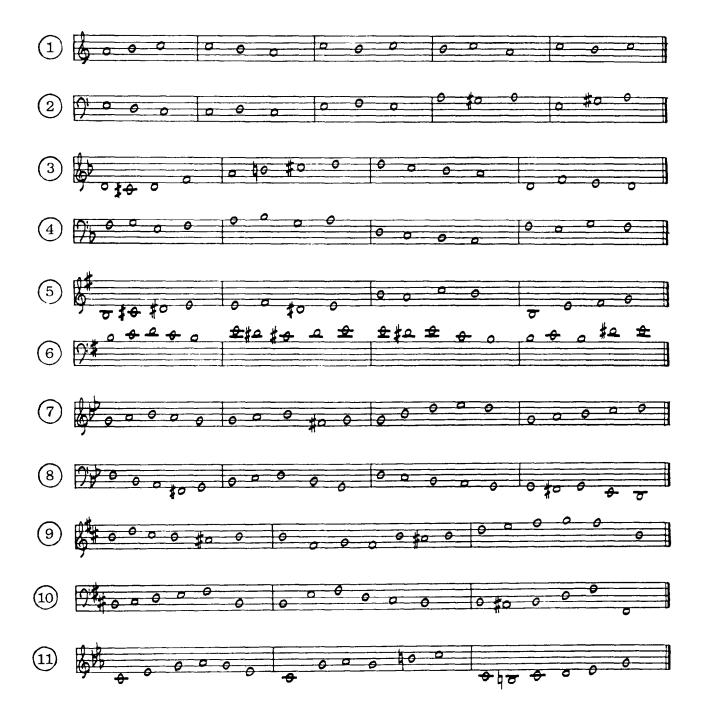


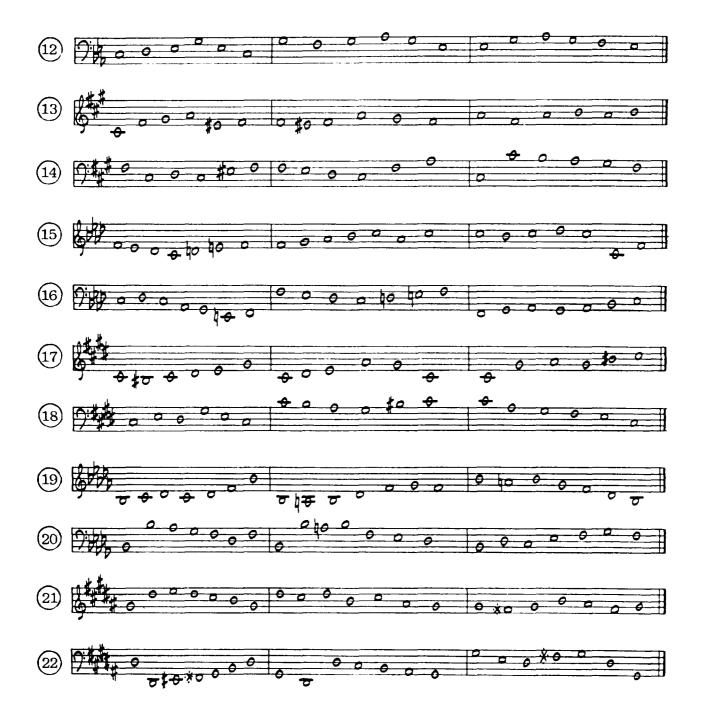
ET 4-9



B. Minor

<u>LIST I</u>	
1 1 2 b 3	2 b3 4 5 3 8 b7 b6 5 4 b3 2 4 b3
b 3 2 1	5 4 b 3 1 b 3 2 1 $\overline{5}$ $\overline{6}$ $\overline{7}$ 1
b 3 2 b 3	b 3 4 b 3 b 3 4 2 b 3 1 2 7 1
2 b 3 1	5 b 6 5 5 5 b 6 4 5 5 4 b 6 5
1 7 1 b 3	5 6 7 8 1 b 7 b 6 5 5 1 2 b 3
<u>LIST II</u>	
1 5 b6 b7 b6	5 (2) 1 2 b 3 7 1 (3) 5 4 b 3 2 1
8767	8 1 \mathbf{b} 3 5 \mathbf{b} 6 5 1 $\overline{7}$ 1 $\mathbf{b}\overline{6}$ $\overline{5}$
878 b 6	5 1 2 b 3 4 5 b 3 2 1 7 1
5 b 6 5 7	8 5 b 3 2 $\overline{7}$ 1 $\overline{5}$ $\overline{5}$ $\overline{7}$ 1
1 2 b 3 2	1 b 3 4 5 b 3 1 b 3 4 5 b 6 5
<u>LIST III</u>	
(1)	2 3 4
2 b 3 4 5 1	1 7 1 2 b 3 5 1 7 1 b 3 2 1 1 b 7 b 6 5 6 7 1
4 5 b 3 2 1	1 2 b 3 5 b 3 1 b 3 1 b 3 4 b 3 5 1 2 b 3 4 5 b 3 5
7 1 b 3 5 5	5 4 5 b 6 5 b 3 1 5 b 6 5 7 1 5 4 5 b 6 5 5 1
b 3 5 b 6 5 b 3	b 3 5 b 6 5 4 b 3 1 b 7 b 6 5 1 b 3 5 b 5 5 b 3 2 7 1



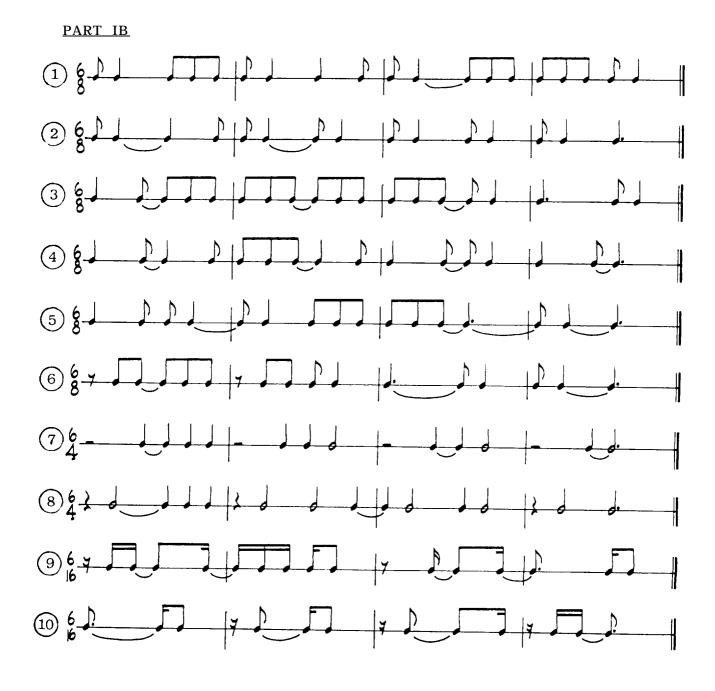


CHAPTER FIVE

Section I



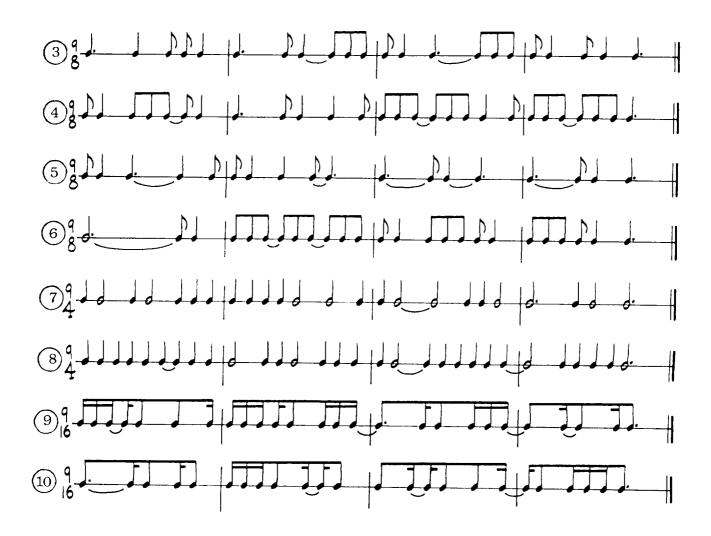
ET 5-1







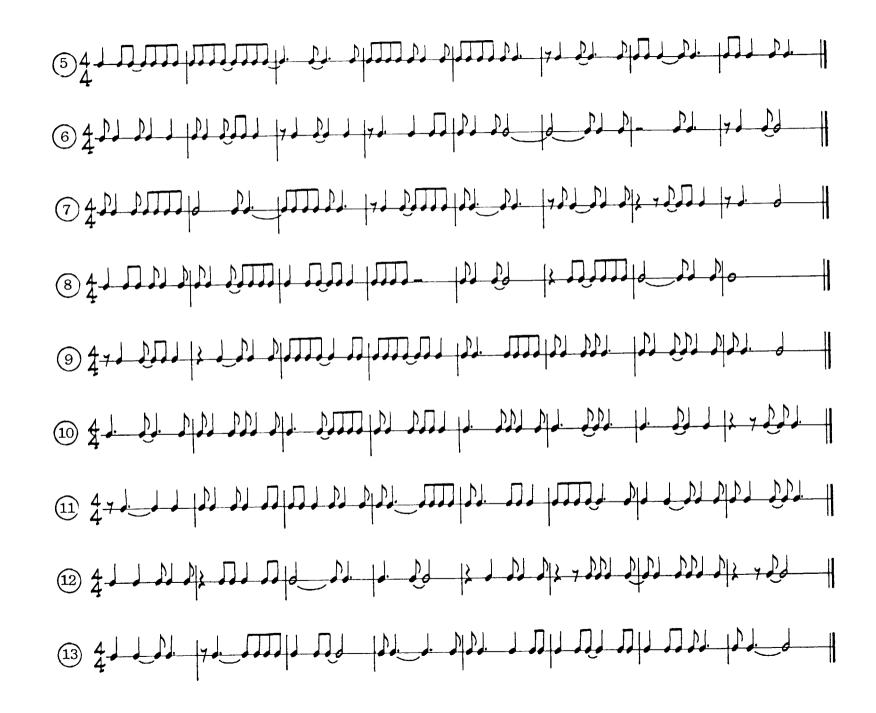


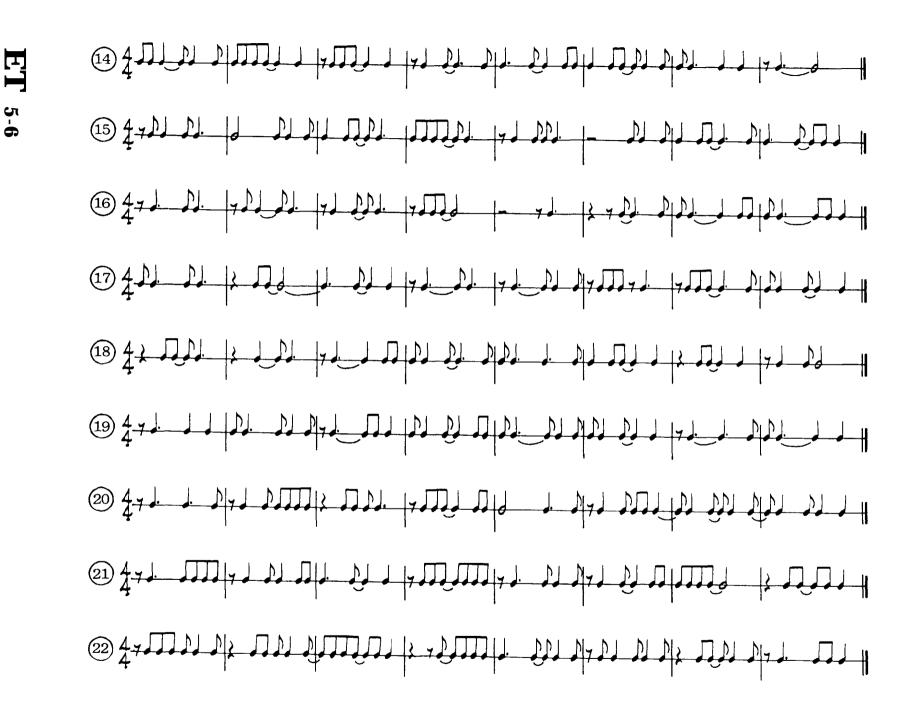


PART IIIA

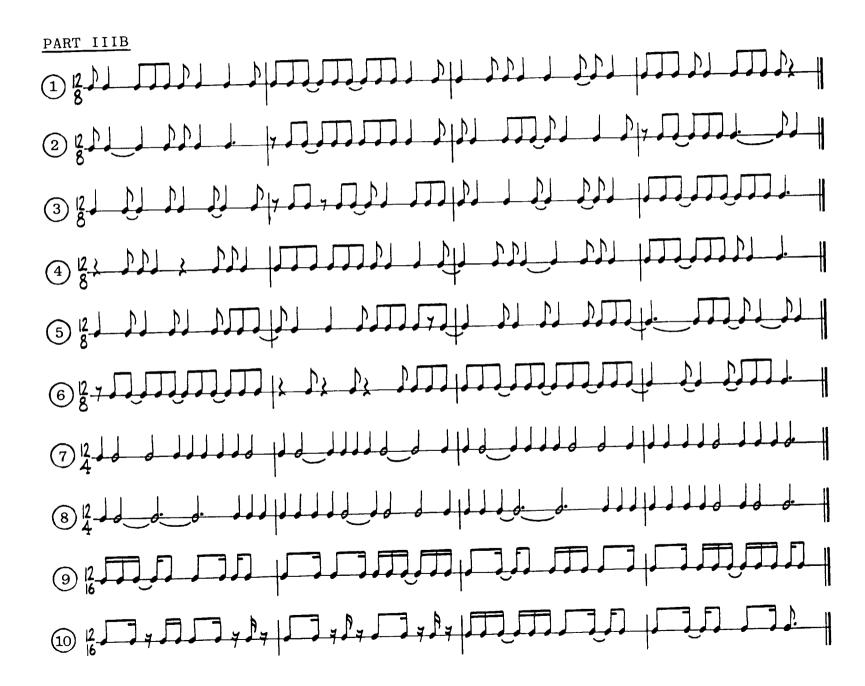


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Section II

SING AND RECOGNIZE SIMPLE INTERVALS INCLUDING:

PERFECT INTERVALS

P4 P5 P8

MAJOR INTERVALS

Maj2 Maj3 Maj6 Maj7

MINOR INTERVALS

min2	min3	min6	min7
------	------	------	------

TRITONE (Aug 4 or dim 5)

TT

SING AND RECOGNIZE ROOT POSITION TRIADS INCLUDING:

1	3	5	3	1	•	•	•	•	•	•	•	Maj
1	3	# 5	3	1								Aug
1	3	5	3	1	•	•	•	•	•	•	•	Maj
1	63	5	Þ3	۱								min
I	63	65	63	1	•	•		•		•	•	dim
l	Þ3	5	63	1								min
1	3	5	3	1	•						•	Maj

CHAPTER SIX



ET 6 -1







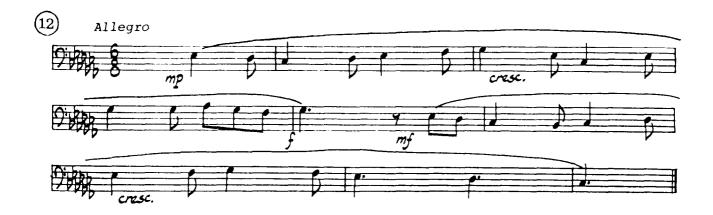
ET 6-2



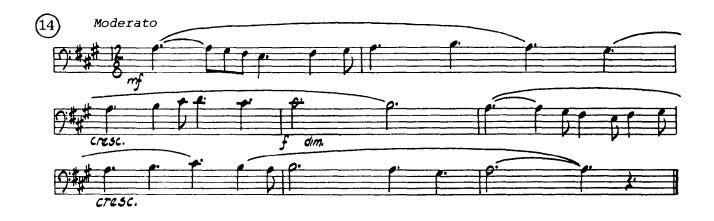
















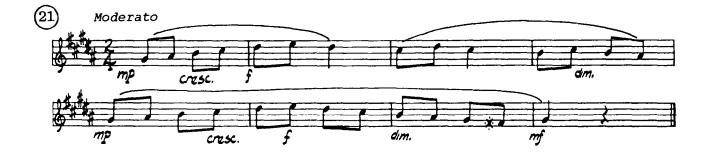






ET 6-6











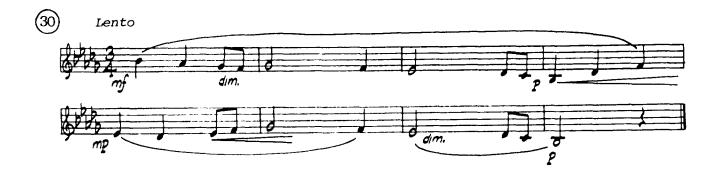










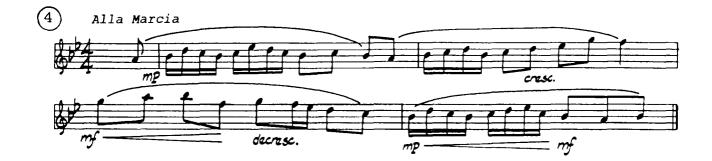


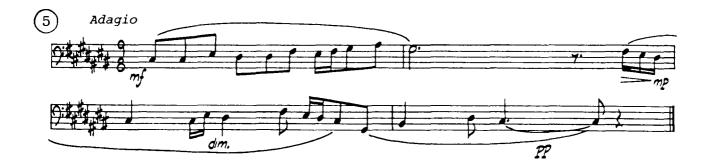
CHAPTER SEVEN























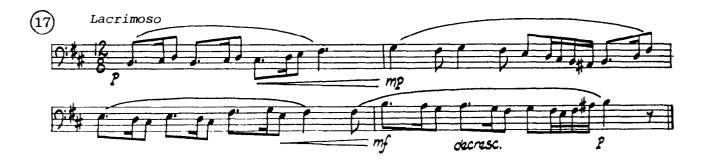








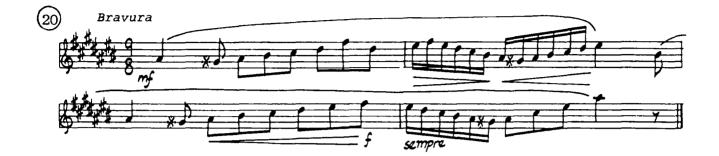


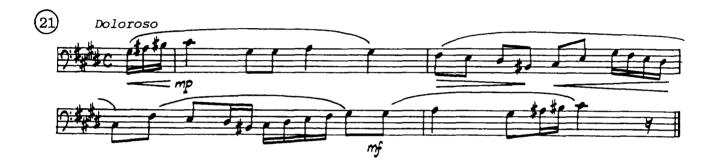






ET 7-5























CHAPTER EIGHT





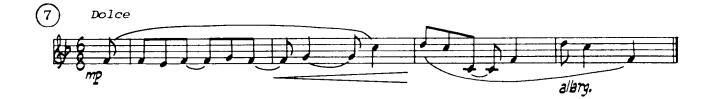






ET 8-1













ET 8-2













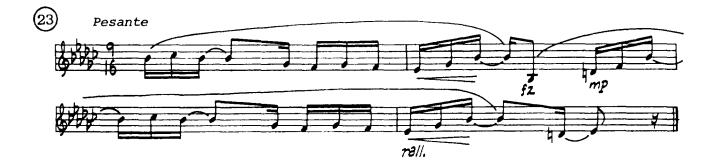








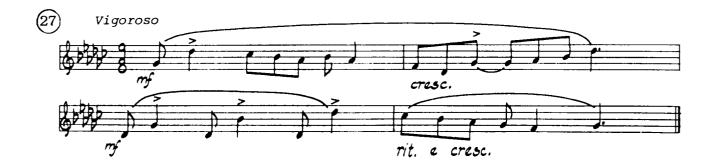


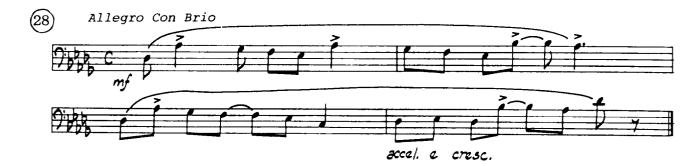












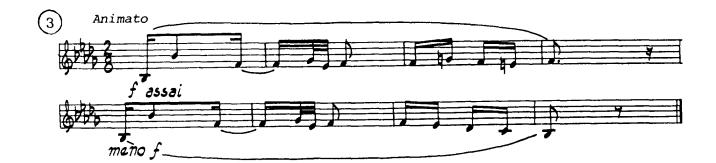




CHAPTER NINE







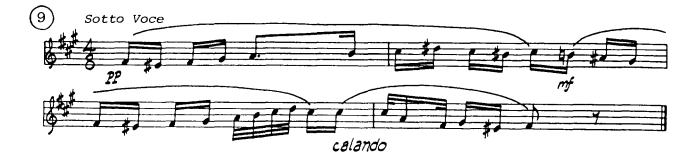






















ET 9-3



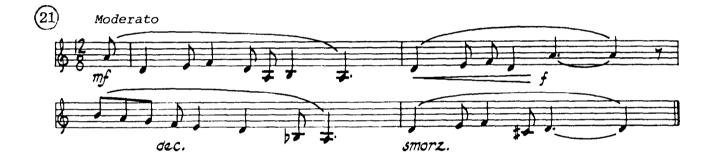










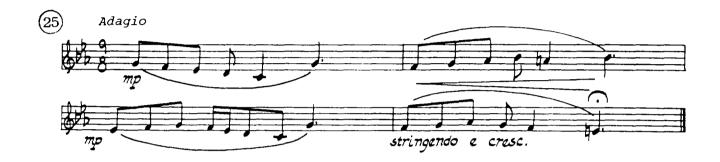






ET 9-5















APPENDIX A TIME BEATING PATTERNS

The following time beating patterns are used in conjunction with ear training. The following patterns are for the performer's right hand.

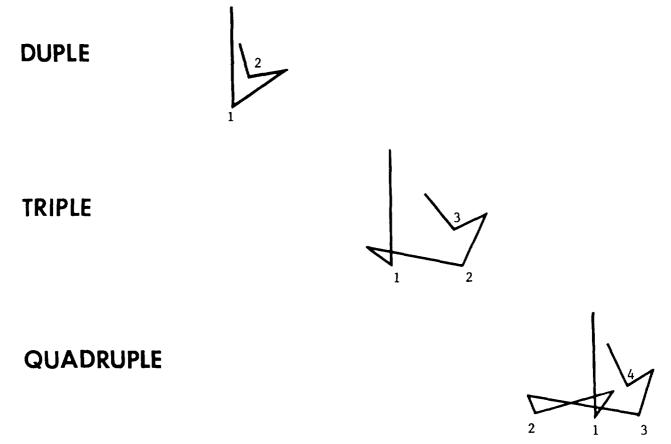


Figure A.1: Beat patterns

Sub-division may be utilized in slow tempi to clarify and control the performance of music. To sub-divide, the conductor adds to each PRINCIPAL beat, smaller beats moving in the same direction as the main gesture.

APPENDIX B COUNTING SYSTEM

SIMPLE TIME

Always say a number for the beat whether or not it requires an attack.

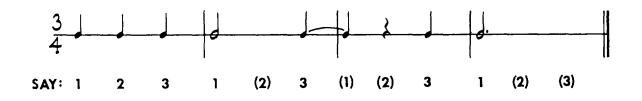


Figure B.1: The Beat in Simple Time.

Say "&" (and) on the second half of any beat that has been divided.

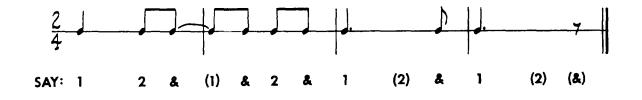


Figure B.2: The Divided Beat in Simple Time.

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Say "Ta" on any portion of the subdivided beat that is not the beat (number) or divided beat (and).

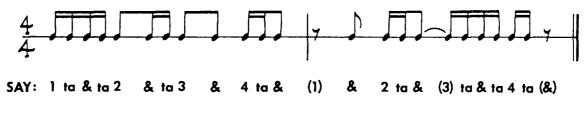


Figure B.3: The Subdivided Beat in Simple Time.

COMPOUND TIME

Always say a number for the beat whether or not it requires an attack.

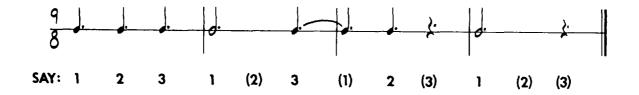


Figure B.4: The Beat in Compound Time

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Say "&" (and) on the second third of the beat when that division is present and "a" (uh) on the last third of the beat when that division is present.



Figure B.5: The Divided Beat in Compound Time

Say "Ta" on any portion of the subdivided beat that is not the beat (number) or divided beat (and or a).



Figure B.6: The Subdivided Beat in Compound Time.

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APPENDIX C

PERFORMANCE PROCEDURES

RHYTHM PERFORMANCE

Count/Clap	Identify the metrical stress and unit of beat. Using the counting system (App. B), perform the exercise indicating attacks by clapping. Counting syllables (numbers, &, a, or ta) must be audible.
Conduct/Intone	Identify the metrical stress and unit of beat. Using the appropriate time beating pattern (App. A), perform the exercise by intoning the rhythm on a neutral syllable (ta). The time beating pattern must continue throughout the exercise.
PITCH PERFORMANCE	
Number Lists	Establish the tonic triad in D Major or minor, as applicable. Perform the list horizontally in D Major or D minor with one count per number and a count of silence at the end of each line. The tempo must remain constant throughout the list. Scale degree numbers must be used as syllables for singing.
Notation	Identify the clef and key. Establish the tonic triad in the key of D Major or minor, as applicable. Sing in D Major or D minor, regardless of the notated key. Perform the exercise with one count per note and a count of silence at the bar line. The tempo must remain constant throughout the exercise. Scale degree numbers must be used as syllables for singing.
Scales	Using D as a tonic, perform scales with one count per number and a count of silence at the end of each scale. The tempo must remain constant throughout the scales. Scale degree numbers must be used as sylla- bles for singing.

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Intervals	Sing the given pitch. Sing the pitch a given interval above or below as specified.
Triads	Using D as the root, perform triads with one count per number and a count of silence at the end of each triad. The tempo must remain constant throughout the triads. Scale degree numbers must be used as syllables for singing.
Triads in Inversion	Sing the given pitch. Sing major and minor triads with the given pitch as the root, third, and fifth of the triad. The tempo must remain constant while singing the triad, but a pause may occur between triads. Scale degree numbers must be used as syllables for singing. Any pitch order may be used in the triads as long as syllables and pitches are correct.
4-note Chords	Using D as the root, perform Maj6, Maj7, Dom7, min7, and dim7 chords in order, with one count per number and a count of silence at the end of each chord. The tempo must remain constant throughout the chords. Scale degree numbers must be used as syllables for singing.

MELODY PERFORMANCE

Identify the metrical stress and unit of beat. Select the time beating pattern. Identify the clef and key. Given the pitch A 440, sing the interval necessary to find the tonic in the notated key. Using the appropriate time beating pattern (App. A), perform the melody in the notated key. The time beating pattern must continue throughout the exercise. Scale degree numbers must be used as syllables for singing. Follow all performance directions, i.e. tempo, character, dynamics, and expression markings.

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APPENDIX D

PERFORMANCE GUIDELINES

I. Rhythm

- A. Metrical Stress
 - 1. Identify
 - 2. Select beat pattern
- B. Unit of beat
 - 1. Divided Beat
 - 2. Subdivided beat
 - 3. Syncopation
 - 4. Borrowed divisions
- C. Perform Rhythm
 - 1. Count/Clap
 - 2. Conduct/Intone

II. Pitch

- A. Clef (identify)
- B. Key (identify)
- C. Sing tonic and establish key
 - 1. Sing triad
 - 2. Sing pentachord
 - 3. Sing tetrachords
 - 4. Sing scale
- D. Identify starting pitch
- E. Identify musical elements
 - 1. Triads
 - 2. Pentachords
 - 3. Tetrachords
 - 4. Scales
 - 5. Other structures
 - 6. Difficult intervals
- F. Perform Pitch

III. Performance Directions

- A. Character/Tempo (metronome marks)/ tempo changes
- B. Dynamics/dynamic changes
- C. Other
 - 1. Accents and articulations
 - 2. Expression marks
 - 3. Repeat symbols
 - 4. Fermatas
 - 5. Ornaments
- IV. Perform
 - A. Rhythm
 - B. Pitch
 - C. Rhythm and Pitch
 - D. Rhythm, Pitch and all performance directions