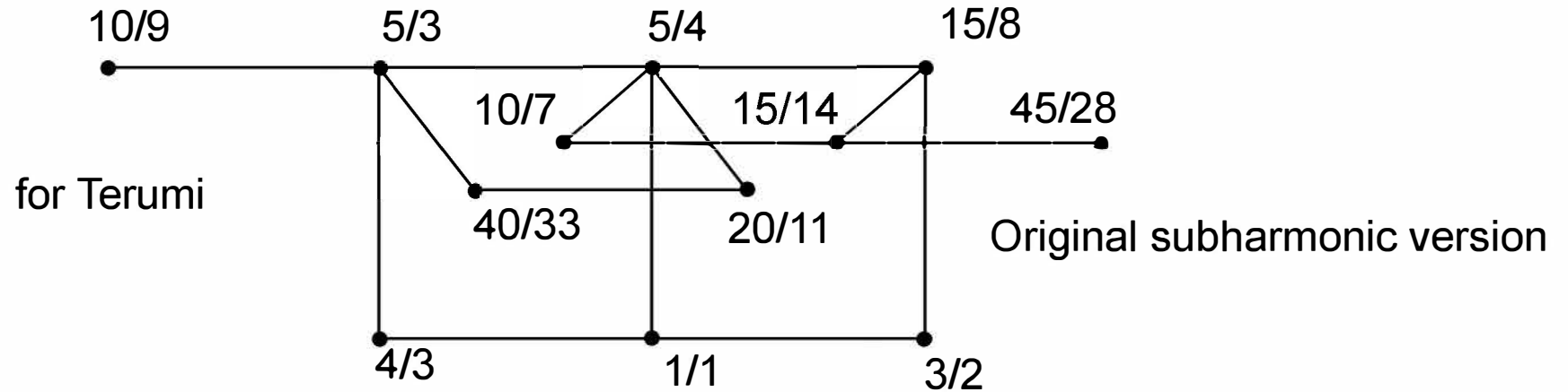
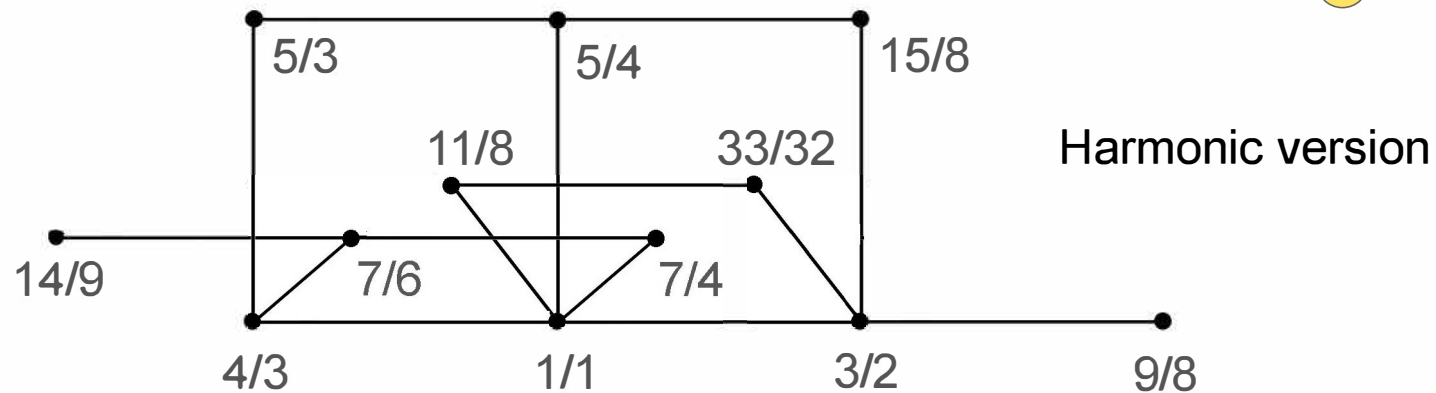


Centaura



1/1 15/14 10/9 40/33 5/4 4/3 10/7 3/2 45/28 5/3 20/11 15/8 2/1



1/1 33/32 9/8 7/6 5/4 4/3 11/8 3/2 14/9 5/3 7/4 15/8 2/1

C	C#	D	D#	E	F	F#	G	G#	A	A#	B	C
$\frac{33}{32}$	12/11	$\frac{28}{27}$	15/14	16/15	$\frac{33}{32}$	12/11	$\frac{28}{27}$	15/14	21/20	15/14	16/15	
1/1	33/32	9/8	7/6	5/4	4/3	11/8	3/2	14/9	5/3	7/4	15/8	2/1

11/10	12/11	$\frac{28}{27}$	15/14	11/10	12/11	$\frac{28}{27}$	15/14	21/20	15/14		10A	
33/32	9/8	7/6	5/4		11/8	3/2	14/9	5/3	7/4	15/8		

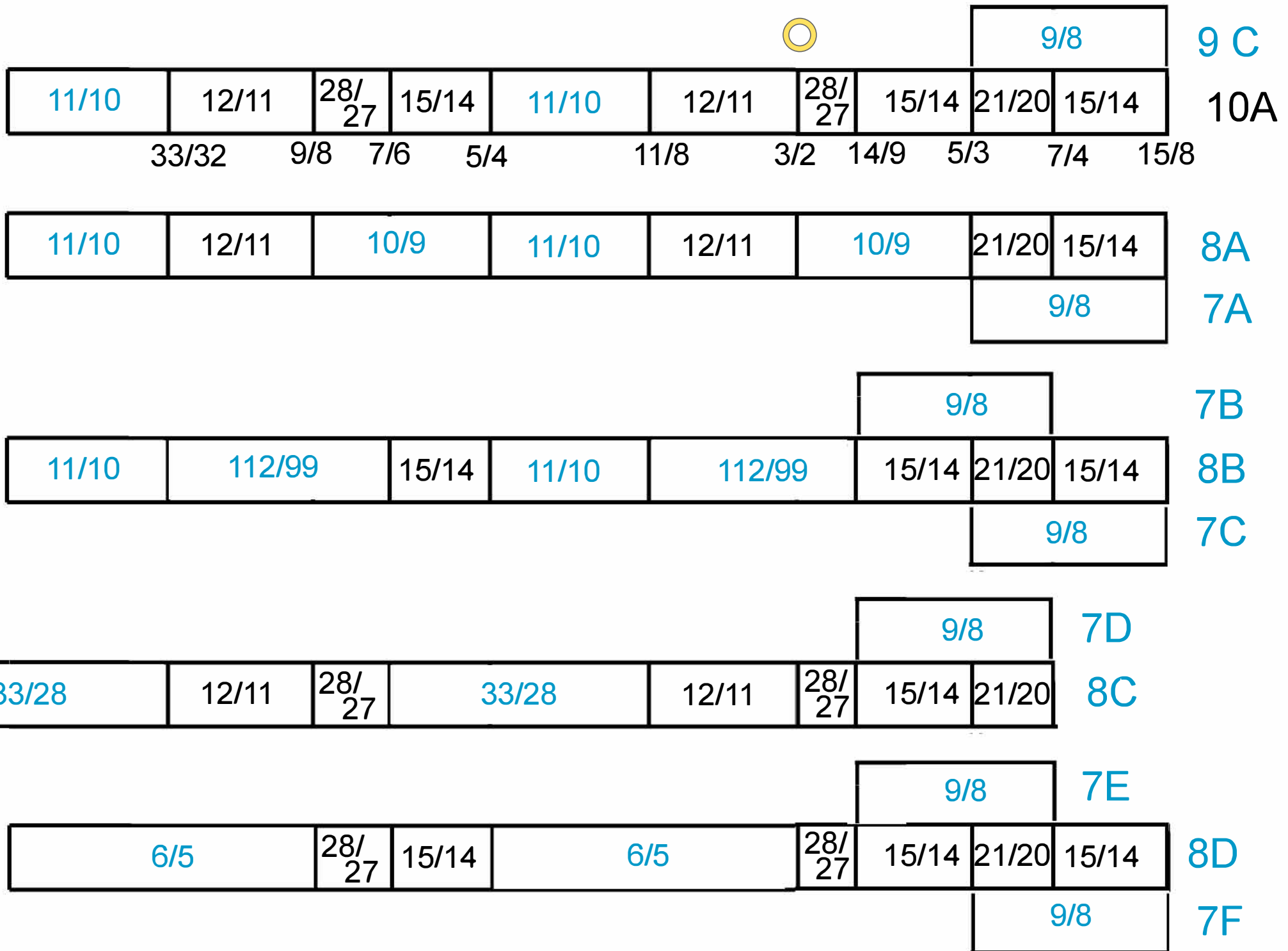
$\frac{33}{32}$	12/11	10/9	16/15	$\frac{33}{32}$	12/11	10/9	21/20	15/14	16/15	10B
1/1	$\frac{33}{32}$	9/8	5/4	4/3	$\frac{11}{8}$	3/2	5/3	7/4	15/8	2/1

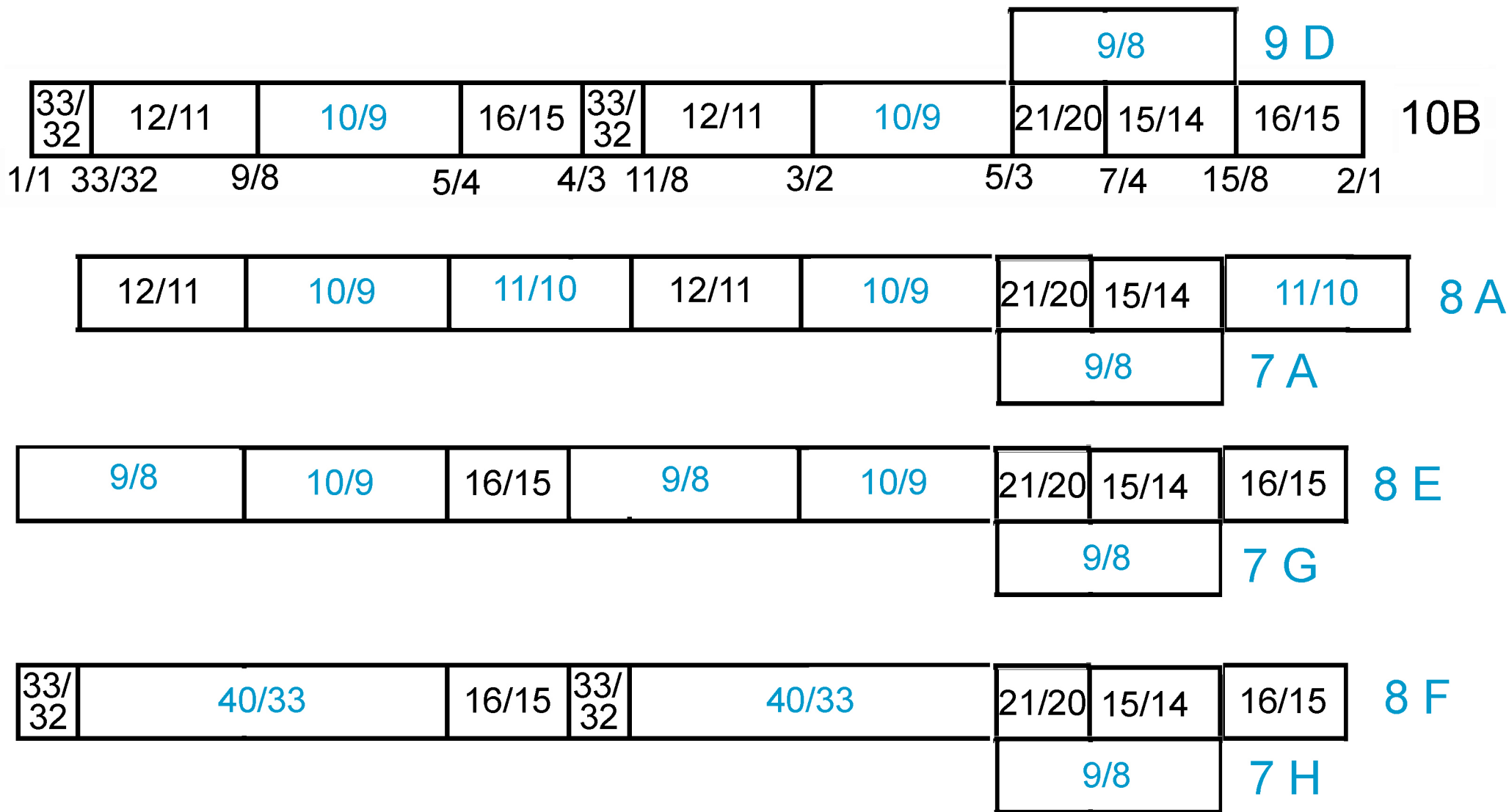
$\frac{33}{32}$	112/99	15/14	16/15	$\frac{33}{32}$	112/99	15/14	21/20	15/14	16/15	10C
1/1	$\frac{33}{32}$	$\frac{7}{6}$	$\frac{5}{4}$	$\frac{4}{3}$	$\frac{11}{8}$	$\frac{14}{9}$	$\frac{5}{3}$	$\frac{7}{4}$	$\frac{15}{8}$	$\frac{2}{1}$

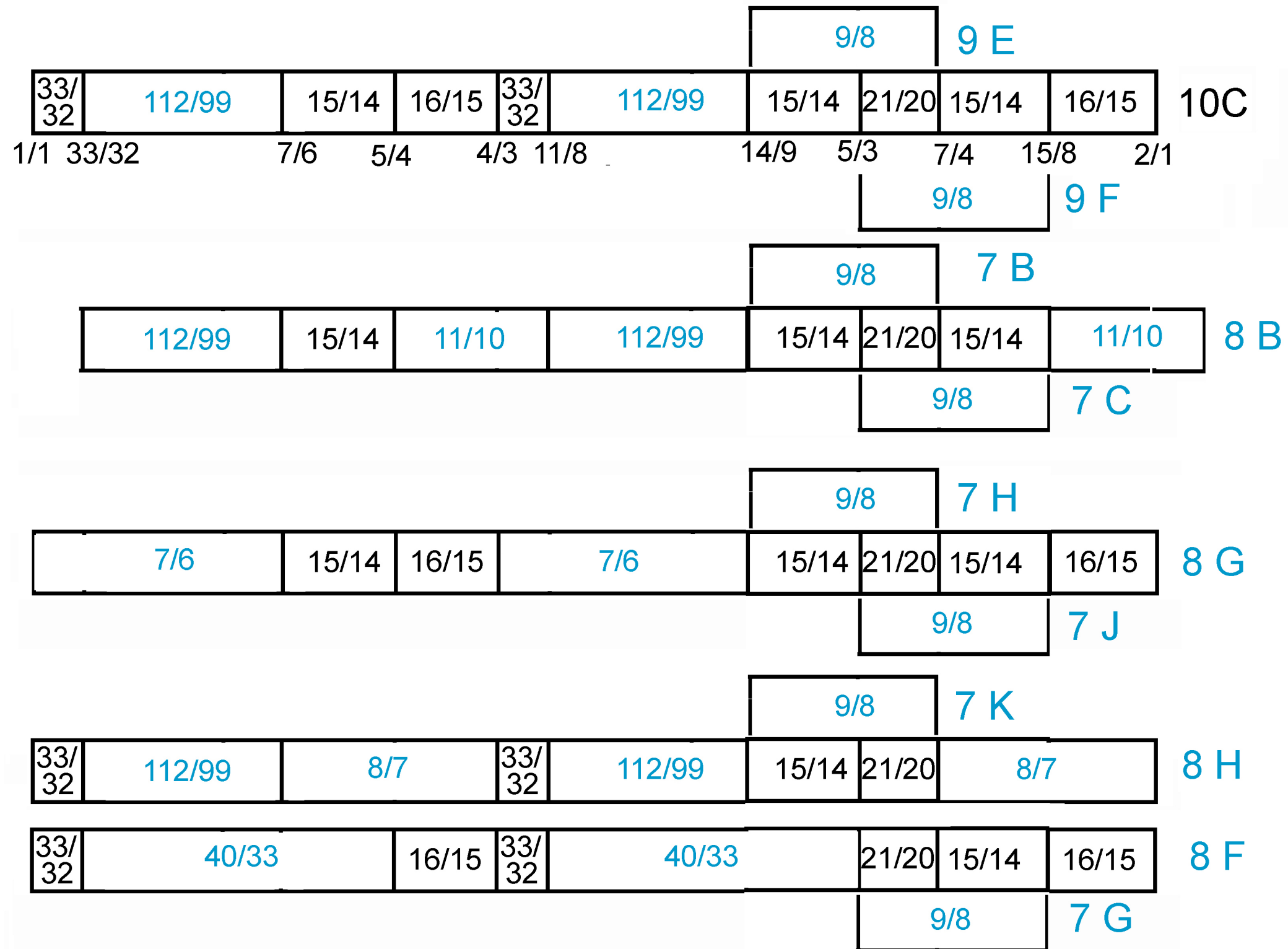
$\frac{33}{32}$	12/11	$\frac{28}{27}$	$\frac{8}{7}$	$\frac{33}{32}$	12/11	$\frac{28}{27}$	15/14	21/20	$\frac{8}{7}$	10D
1/1	33/32	9/8	7/6	4/3	11/8	3/2	14/9	5/3	7/4	2/1

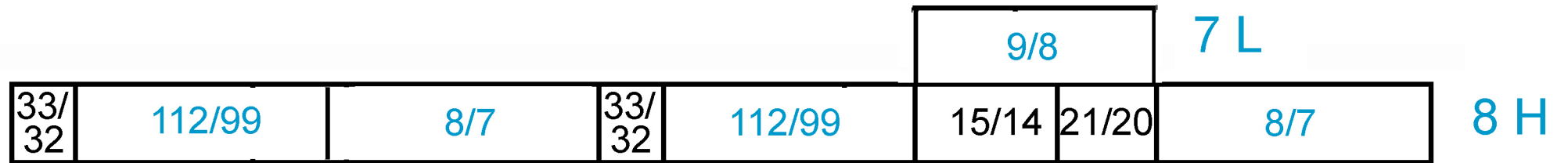
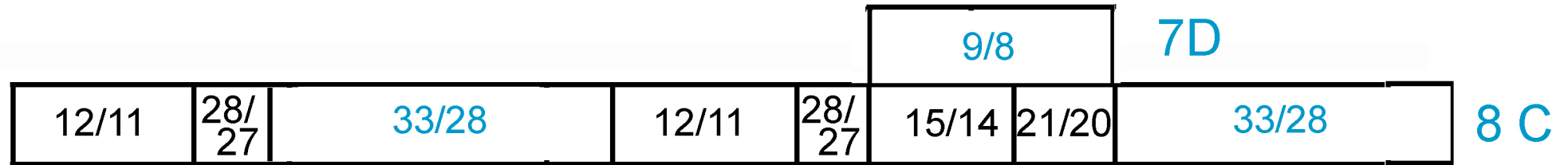
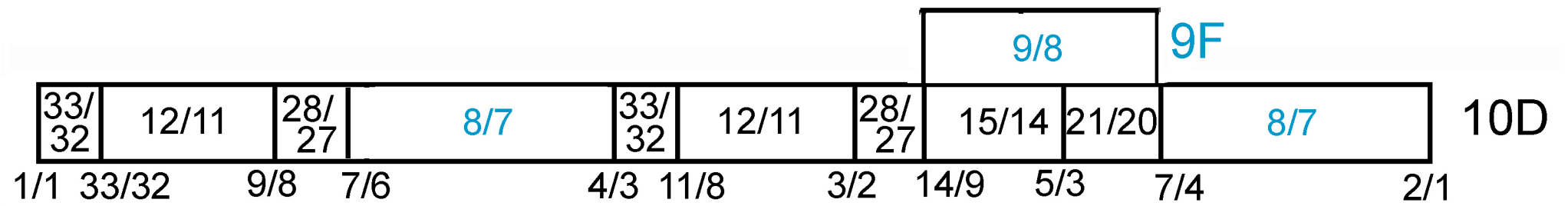
9/8		28/27	15/14	16/15	9/8		28/27	9/8		15/14	16/15	9A
1/1	33/32	9/8	7/6	5/4	4/3	11/8	3/2	14/9	5/3	7/4	15/8	2/1

9/8		28/27	15/14	16/15	9/8		28/27	15/14	9/8		16/15	9B
1/1	9/8	7/6	5/4	4/3		3/2	14/9	5/3		15/8	2/1	











$\frac{9}{8}$	$\frac{28}{27}$	$\frac{15}{14}$	$\frac{16}{15}$	$\frac{9}{8}$	$\frac{28}{27}$	$\frac{9}{8}$	$\frac{15}{14}$	$\frac{16}{15}$				
$\frac{1}{1}$	$\frac{33}{32}$	$\frac{9}{8}$	$\frac{7}{6}$	$\frac{5}{4}$	$\frac{4}{3}$	$\frac{11}{8}$	$\frac{3}{2}$	$\frac{14}{9}$	$\frac{5}{3}$	$\frac{7}{4}$	$\frac{15}{8}$	$\frac{2}{1}$

9A

$\frac{9}{8}$	$\frac{28}{27}$	$\frac{15}{14}$	$\frac{16}{15}$	$\frac{9}{8}$	$\frac{28}{27}$	$\frac{15}{14}$	$\frac{9}{8}$	$\frac{16}{15}$	
$\frac{1}{1}$	$\frac{9}{8}$	$\frac{7}{6}$	$\frac{5}{4}$	$\frac{4}{3}$	$\frac{3}{2}$	$\frac{14}{9}$	$\frac{5}{3}$	$\frac{15}{8}$	$\frac{2}{1}$

9B

$\frac{11}{10}$	$\frac{12}{11}$	$\frac{28}{27}$	$\frac{15}{14}$	$\frac{11}{10}$	$\frac{12}{11}$	$\frac{28}{27}$	$\frac{15}{14}$	$\frac{9}{8}$	
$\frac{33}{32}$	$\frac{9}{8}$	$\frac{7}{6}$	$\frac{5}{4}$	$\frac{11}{8}$	$\frac{3}{2}$	$\frac{14}{9}$	$\frac{5}{3}$	$\frac{7}{4}$	$\frac{15}{8}$

9C

$\frac{33}{32}$	$\frac{12}{11}$	$\frac{10}{9}$	$\frac{16}{15}$	$\frac{33}{32}$	$\frac{12}{11}$	$\frac{10}{9}$	$\frac{9}{8}$	$\frac{16}{15}$		
$\frac{1}{1}$	$\frac{33}{32}$	$\frac{9}{8}$	$\frac{5}{4}$	$\frac{4}{3}$	$\frac{11}{8}$	$\frac{3}{2}$	$\frac{5}{3}$	$\frac{7}{4}$	$\frac{15}{8}$	$\frac{2}{1}$

9D

$\frac{33}{32}$	$\frac{112}{99}$	$\frac{15}{14}$	$\frac{16}{15}$	$\frac{33}{32}$	$\frac{112}{99}$	$\frac{9}{8}$	$\frac{15}{14}$	$\frac{16}{15}$		
$\frac{1}{1}$	$\frac{33}{32}$	$\frac{7}{6}$	$\frac{5}{4}$	$\frac{4}{3}$	$\frac{11}{8}$	$\frac{14}{9}$	$\frac{5}{3}$	$\frac{7}{4}$	$\frac{15}{8}$	$\frac{2}{1}$

9E

$\frac{33}{32}$	$\frac{112}{99}$	$\frac{15}{14}$	$\frac{16}{15}$	$\frac{33}{32}$	$\frac{112}{99}$	$\frac{15}{14}$	$\frac{9}{8}$	$\frac{16}{15}$
-----------------	------------------	-----------------	-----------------	-----------------	------------------	-----------------	---------------	-----------------

9F

0.	7.	4.	1.	8	5.	2.	9	6.	3.		
11/10	12/11	28/27	15/14	11/10	12/11	28/27	15/14	21/20	15/14	10A	
33/32		9/8	7/6	5/4	11/8		3/2	14/9	5/3	7/4	15/8

	6/5	28/27	33/28	12/11	10/9	21/20	15/14	7-1a
33/28	12/11	28/27	33/28	12/11	10/9	21/20	15/14	7-2a
33/28	12/11	10/9	11/10	12/11	10/9	21/20	15/14	7-3a
33/28	12/11	10/9	11/10	112/99	15/14	21/20	15/14	7-4a
11/10	12/11	10/9	11/10	112/99	15/14	9/8	15/14	7-5a
11/10	112/99	15/14	11/10	112/99	15/14	9/8	15/14	7C
11/10	112/99	15/14	6/5	28/27	15/14	9/8	15/14	7-6a
11/10	112/99	15/14	6/5	28/27	9/8	15/14	15/14	7-7a
6/5	28/27	15/14	6/5	28/27	9/8	15/14	15/14	7E
6/5	28/27	33/28	12/11	28/27	9/8	15/14	15/14	7-8a

$\frac{33}{32}$	12/11	10/9	16/15	$\frac{33}{32}$	12/11	10/9	21/20	15/14	16/15	10B
1/1	33/32	9/8	5/4	4/3	11/8	3/2	5/3	7/4	15/8	2/1

○	9/8	10/9	11/10	12/11	7/6	15/14	16/15	7-1b
	12/11	10/9	11/10	12/11	7/6	15/14	11/10	7-2b
	12/11	32/27	$\frac{33}{32}$	12/11	7/6	15/14	11/10	7-3b
○	12/11	32/27	$\frac{33}{32}$	40/33	21/20	15/14	11/10	7-4b
	$\frac{33}{32}$	12/11	32/27	$\frac{33}{32}$	40/33	21/20	8/7	7-5b
	$\frac{33}{32}$	40/33	16/15	$\frac{33}{32}$	40/33	21/20	8/7	7-6b
○	$\frac{33}{32}$	40/33	16/15	9/8	10/9	21/20	8/7	7-7b
	$\frac{33}{32}$	40/33	16/15	9/8	10/9	9/8	16/15	7-8b
	9/8	10/9	16/15	9/8	10/9	9/8	16/15	7G
	9/8	10/9	11/10	12/11	10/9	9/8	16/15	7-9b

33/32	112/99	15/14	16/15	33/32	112/99	15/14	21/20	15/14	16/15	10C
1/1 33/32		7/6	5/4	4/3 11/8		14/9	5/3	7/4	15/8	2/1

O	7/6	15/14	11/10	112/99	9/8	15/14	16/15	7-1c
	112/99	15/14	11/10	112/99	9/8	15/14	11/10	7B
	112/99	8/7	33/32	112/99	9/8	15/14	11/10	7-2c
O	112/99	8/7	33/32	40/33	21/20	15/14	11/10	7-3c
	33/32	112/99	8/7	33/32	40/33	21/20	8/7	7-4c
	33/32	40/33	16/15	33/32	40/33	21/20	8/7	7-5c
O	33/32	40/33	16/15	7/6	15/14	21/20	8/7	7-6c
	33/32	40/33	16/15	7/6	15/14	9/8	16/15	7-7c
	7/6	15/14	16/15	7/6	15/14	9/8	16/15	7K
	7/6	15/14	11/10	112/99	15/14	9/8	16/15	7-8c

33/32	12/11	28/27	8/7	33/32	12/11	28/27	15/14	21/20	8/7	10D
1/1	33/32	9/8	7/6	4/3	11/8	3/2	14/9	5/3	7/4	2/1

○	9/8	28/27	33/28	12/11	10/9	21/20	8/7	7-1d
	12/11	28/27	33/28	12/11	10/9	21/20	33/28	7-2ad
	12/11	32/27	33/32	12/11	10/9	21/20	33/28	7-3d
○	12/11	32/27	33/32	112/99	15/14	21/20	33/28	7-4d
	33/32	12/11	32/27	33/32	112/99	15/14	6/5	7-5d
	33/32	112/99	8/7	33/32	112/99	15/14	6/5	7-6d
○	33/32	112/99	8/7	9/8	28/27	15/14	6/5	7-7d
	33/32	112/99	8/7	9/8	28/27	9/8	8/7	7-8d
	9/8	28/27	8/7	9/8	28/27	9/8	8/7	7M
	9/8	28/27	33/28	12/11	28/27	9/8	8/7	7-9d

0	7	5	3	1	8	6	4	2				
9/8 28/27 15/14 16/15 9/8 28/27 9/8 15/14 16/15												
1/1	33/32	9/8	7/6	5/4	4/3	11/8	3/2	14/9	5/3	7/4	15/8	2/1

9A



	7/6	15/14	16/15	7/6	9/8	15/14	16/15
6/5	28/27	15/14	16/15	7/6	9/8	15/14	7-a1
6/5	28/27	15/14	6/5	28/27	9/8	15/14	7E
9/8	28/27	15/14	6/5	28/27	9/8	8/7	7-a2
9/8	28/27	8/7	9/8	28/27	9/8	8/7	7M
9/8	28/27	8/7	9/8	28/27	135/112	16/15	7-a3
9/8	10/9	16/15	9/8	28/27	135/112	16/15	7-a4
9/8	10/9	16/15	9/8	7/6	15/14	16/15	7-a5
7/6	15/14	16/15	9/8	7/6	15/14	16/15	7-a6

$\frac{9}{8}$	$\frac{28}{27}$	$\frac{15}{14}$	$\frac{16}{15}$	$\frac{9}{8}$	$\frac{28}{27}$	$\frac{15}{14}$	$\frac{9}{8}$	$\frac{16}{15}$	9B
1/1	9/8	7/6	5/4	4/3	3/2	14/9	5/3	15/8	2/1

	7/6		15/14	16/15	7/6		15/14	9/8	16/15	7K
6/5		28/27	15/14	16/15	7/6		15/14	9/8	7-b1	7F
6/5		28/27	15/14	6/5		28/27	15/14	9/8		
	9/8	28/27	15/14	6/5		28/27	15/14	6/5		7-b2*
	9/8	28/27	8/7		9/8	28/27	15/14	6/5		7-b3
	9/8	28/27	8/7		9/8	28/27	135/112		16/15	7-ab3
	9/8	10/9		16/15	9/8	28/27	135/112		16/15	7-ab4
	9/8	10/9		16/15	9/8	10/9		9/8	16/15	7G
	7/6		15/14	16/15	9/8	10/9		9/8	16/15	7-b5

11/10	12/11	28/27	15/14	11/10	12/11	28/27	15/14	9/8	9C		
33/32		9/8	7/6	5/4	11/8		3/2	14/9	5/3	7/4	15/8

6/5		28/27	15/14	6/5		28/27	15/14	9/8	7F
7-c1	12/11	28/27	15/14	6/5		28/27	15/14	99/80	
7-c2	12/11	28/27	33/28		12/11	28/27	15/14	99/80	
11/10	12/11	28/27	33/28		12/11	28/27	135/112		7-c3
11/10	12/11	10/9		11/10	12/11	28/27	135/112		7-c4
11/10	12/11	10/9		11/10	12/11	10/9		9/8	7A
11/10	112/99		15/14	11/10	12/11	10/9		9/8	7-c5
11/10	112/99		15/14	11/10	112/99		15/14	9/8	7C
6/5		28/27	15/14	11/10	112/99		15/14	9/8	7-c6

$\frac{33}{32}$	12/11	10/9	16/15	$\frac{33}{32}$	12/11	10/9	9/8	16/15	9D	
1/1	33/32	9/8	5/4	4/3	11/8	3/2	5/3	7/4	15/8	2/1

	9/8	10/9	16/15	9/8	10/9	9/8	16/15	7G
	12/11	10/9	16/15	9/8	10/9	9/8	11/10	7-d1
	12/11	10/9	11/10	12/11	10/9	9/8	11/10	7A
$\frac{33}{32}$	12/11	10/9	11/10	12/11	10/9	6/5		7-d2
$\frac{33}{32}$	12/11	32/27	$\frac{33}{32}$	12/11	10/9	6/5		7-d3
$\frac{33}{32}$	12/11	32.27	$\frac{33}{32}$	12/11	5/4	16/15		7-d4
$\frac{33}{32}$	40/33	16/15	$\frac{33}{32}$	12/11	5/4	16/15		7-df5
$\frac{33}{32}$	40/33	16/15	$\frac{33}{32}$	40/33	9/8	16/15		7H
	9/8	10/9	16/15	$\frac{33}{32}$	40/33	9/8	16/15	7-d6

$\frac{33}{32}$	$\frac{112}{99}$	$\frac{15}{14}$	$\frac{16}{15}$	$\frac{33}{32}$	$\frac{112}{99}$	$\frac{9}{8}$	$\frac{15}{14}$	$\frac{16}{15}$	9E	
1/1	33/32	7/6	5/4	4/3	11/8	14/9	5/3	7/4	15/8	2/1

	$\frac{7}{6}$	$\frac{15}{14}$	$\frac{16}{15}$		$\frac{7}{6}$	$\frac{9}{8}$	$\frac{15}{14}$	$\frac{16}{15}$	7J
	$\frac{112}{99}$	$\frac{15}{14}$	$\frac{16}{15}$		$\frac{7}{6}$	$\frac{9}{8}$	$\frac{15}{14}$	$\frac{11}{10}$	7-e1
	$\frac{112}{99}$	$\frac{15}{14}$	$\frac{11}{10}$		$\frac{112}{99}$	$\frac{9}{8}$	$\frac{15}{14}$	$\frac{11}{10}$	7B
$\frac{33}{32}$	$\frac{112}{99}$	$\frac{15}{14}$	$\frac{11}{10}$		$\frac{112}{99}$	$\frac{9}{8}$	$\frac{8}{7}$		7-e2
$\frac{33}{32}$	$\frac{112}{99}$	$\frac{8}{7}$		$\frac{33}{32}$	$\frac{112}{99}$	$\frac{9}{8}$	$\frac{8}{7}$		7-L
$\frac{33}{32}$	$\frac{112}{99}$	$\frac{8}{7}$		$\frac{33}{32}$	$\frac{112}{99}$	$\frac{135}{112}$		$\frac{16}{15}$	7-ef4
$\frac{33}{32}$	$\frac{40}{33}$	$\frac{16}{15}$		$\frac{33}{32}$	$\frac{112}{99}$	$\frac{135}{112}$		$\frac{16}{15}$	7-ef5
$\frac{33}{32}$	$\frac{40}{33}$	$\frac{16}{15}$		$\frac{33}{32}$	$\frac{14}{11}$		$\frac{15}{14}$	$\frac{16}{15}$	7-e6
	$\frac{7}{6}$	$\frac{15}{14}$	$\frac{16}{15}$	$\frac{33}{32}$	$\frac{14}{11}$		$\frac{15}{14}$	$\frac{16}{15}$	7-e7

33/32	112/99	15/14	16/15	33/32	112/99	15/14	9/8	16/15
-------	--------	-------	-------	-------	--------	-------	-----	-------

9F

1/1 33/32 - 7/6 5/4 4/3 11/8 14/9 5/3 15/8 2/1

7/6	15/14	16/15	7/6	15/14	9/8	16/15
-----	-------	-------	-----	-------	-----	-------

7K

112/99	15/14	16/15	7/6	15/14	9/8	11/10
--------	-------	-------	-----	-------	-----	-------

9-f1

112/99	15/14	11/10	112/99	15/14	9/8	11/10
--------	-------	-------	--------	-------	-----	-------

7C

33/32	112/99	15/14	11/10	112/99	15/14	6/5
-------	--------	-------	-------	--------	-------	-----

7-f2

33/32	112/99	8/7	33/32	112/99	15/14	6/5
-------	--------	-----	-------	--------	-------	-----

7-df5

33/32	112/99	8/7	33/32	112/99	135/112	16/15
-------	--------	-----	-------	--------	---------	-------

7-ef4

33/32	40/33	16/15	33/32	112/99	135/112	16/15
-------	-------	-------	-------	--------	---------	-------

7-ef5

33/32	40/33	16/15	33/32	40/33	9/8	16/15
-------	-------	-------	-------	-------	-----	-------

7H

7/6	15/14	16/15	33/32	40/33	9/8	16/15
-----	-------	-------	-------	-------	-----	-------

7-f3

CENTAURA

8 TONE SCALES-1

$11/10$	$12/11$	$10/9$	$11/10$	$12/11$	$10/9$	$21/20$	$15/14$	8A
---------	---------	--------	---------	---------	--------	---------	---------	----



$11/10$	$112/99$	$15/14$	$11/10$	$112/99$	$15/14$	$21/20$	$15/14$	8B
---------	----------	---------	---------	----------	---------	---------	---------	----

$33/28$	$12/11$	$28/27$	$33/28$	$12/11$	$28/27$	$15/14$	$21/20$	8C
---------	---------	---------	---------	---------	---------	---------	---------	----

$6/5$	$28/27$	$15/14$	$6/5$	$28/27$	$15/14$	$21/20$	$15/14$	8D
-------	---------	---------	-------	---------	---------	---------	---------	----

$9/8$	$10/9$	$16/15$	$9/8$	$10/9$	$21/20$	$15/14$	$16/15$	8E
-------	--------	---------	-------	--------	---------	---------	---------	----

CENTAURA

8 TONE SCALES-2

$\frac{33}{32}$	$\frac{40}{33}$	$\frac{16}{15}$	$\frac{33}{32}$	$\frac{40}{33}$	$\frac{21}{20}$	$\frac{15}{14}$	$\frac{16}{15}$
-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------

8F

$\frac{7}{6}$	$\frac{15}{14}$	$\frac{16}{15}$	$\frac{7}{6}$	$\frac{15}{14}$	$\frac{21}{20}$	$\frac{15}{14}$	$\frac{16}{15}$
---------------	-----------------	-----------------	---------------	-----------------	-----------------	-----------------	-----------------

8G

$\frac{33}{32}$	$\frac{112}{99}$	$\frac{8}{7}$	$\frac{33}{32}$	$\frac{112}{99}$	$\frac{15}{14}$	$\frac{21}{20}$	$\frac{8}{7}$
-----------------	------------------	---------------	-----------------	------------------	-----------------	-----------------	---------------

8H

11/10	12/11	10/9	11/10	12/11	10/9	9/8	7A
-------	-------	------	-------	-------	------	-----	----



11/10	112/99	15/14	11/10	112/99	9/8	15/14	7B
-------	--------	-------	-------	--------	-----	-------	----

11/10	112/99	15/14	11/10	112/99	15/14	9/8	7C
-------	--------	-------	-------	--------	-------	-----	----

33/28	12/11	28/27	33/28	12/11	28/27	9/8	7D
-------	-------	-------	-------	-------	-------	-----	----

6/5	28/27	15/14	6/5	28/27	9/8	15/14	7E
-----	-------	-------	-----	-------	-----	-------	----

6/5	28/27	15/14	6/5	28/27	15/14	9/8	7F
-----	-------	-------	-----	-------	-------	-----	----

$9/8$	$10/9$	$16/15$	$9/8$	$10/9$	$9/8$	$16/15$	7G
-------	--------	---------	-------	--------	-------	---------	----

$33/32$	$40/33$	$16/15$	$33/32$	$40/33$	$9/8$	$16/15$	7H
---------	---------	---------	---------	---------	-------	---------	----

$7/6$	$15/14$	$16/15$	$7/6$	$9/8$	$15/14$	$16/15$	7J
-------	---------	---------	-------	-------	---------	---------	----

$7/6$	$15/14$	$16/15$	$7/6$	$15/14$	$9/8$	$16/15$	7K
-------	---------	---------	-------	---------	-------	---------	----

$33/32$	$112/99$	$8/7$	$33/32$	$112/99$	$9/8$	$8/7$	7L
---------	----------	-------	---------	----------	-------	-------	----

$9/8$	$28/27$	$8/7$	$9/8$	$28/27$	$9/8$	$8/7$	7M
-------	---------	-------	-------	---------	-------	-------	----

A few comments on the Constant Structures within Centaura. The purpose in sharing is first of all to provide an example of how one can explore the resources of a simple 12 tone scale which can give one almost an overwhelming amount of possibilities. A similar process was done with the Centaur scale that is worth comparing how different the constant structures within each is different

Here it was noticed with Centaura that each scale held a unique and non repeated place within the over all tuning. No exact transpositions are possible. This is taken as a positive.

With the 10 tone scales it was noticed the scales it made tended to have less repetition than the 9 tone scales which included more scales with repeated tetrachords.

Within the 10 tone scales there are scales where no step interval is repeated such as 7-1a. They work quite well. It could be that being embedded within larger Constant structures gives it a type of cohesion one does not get from purely random notes. None such scales were found within the 9 tone scales.