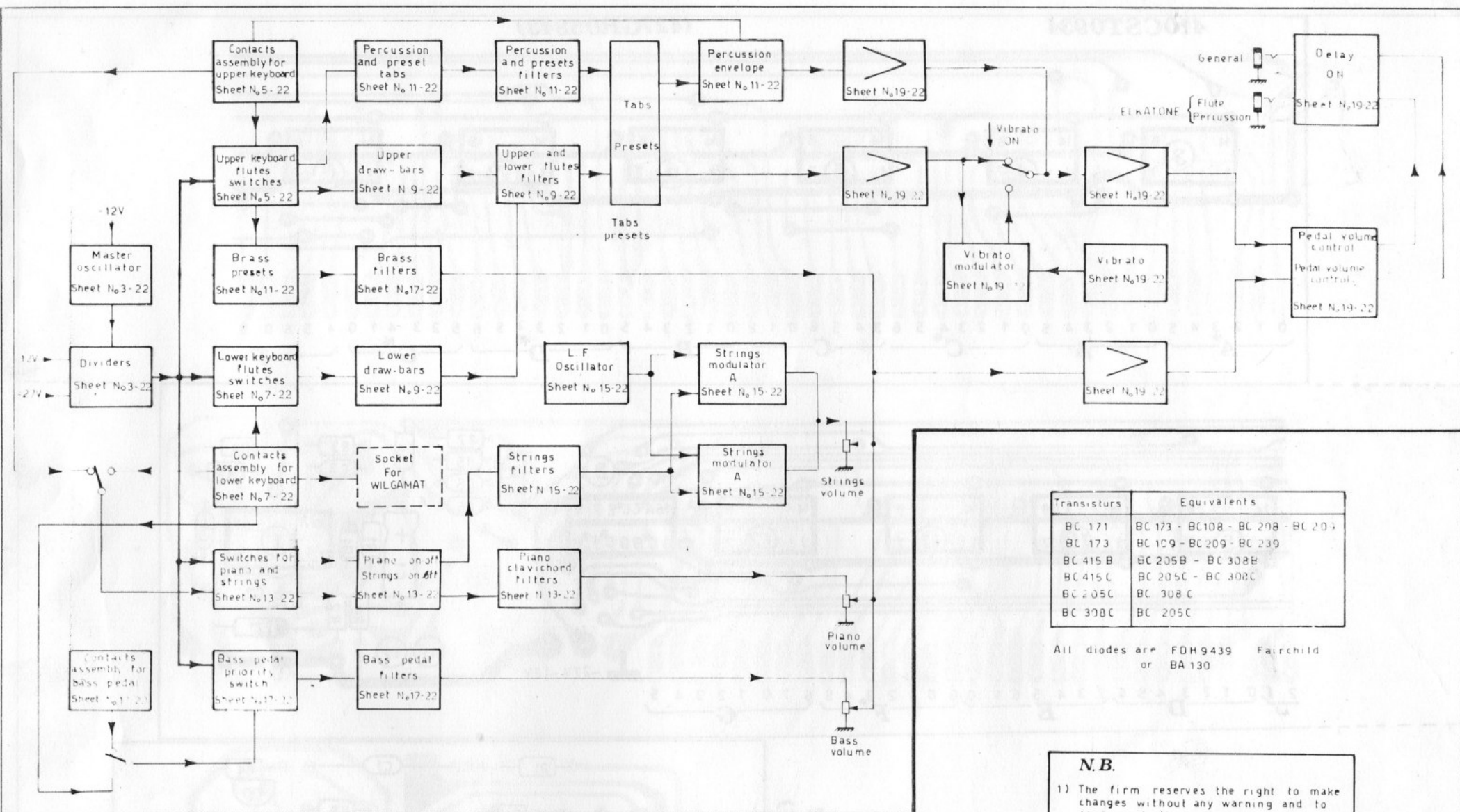


ELKA

X 605

schematic diagrams



Transistors	Equivalents
BC 171	BC 173 - BC 108 - BC 208 - BC 203
BC 173	BC 109 - BC 209 - BC 239
BC 415 B	BC 205B - BC 308B
BC 415 C	BC 205C - BC 308C
BC 205C	BC 308 C
BC 308 C	BC 205C

All diodes are FDH9439 Fairchild or BA 130

N.B.
 1) The firm reserves the right to make changes without any warning and to their and discretion
 2) The tensions are measured when the instrument is turned on but not played

NOTE

- RESISTORS MOUNTED 10mm. ABOVE BOARD
- NON INFLAMMABLE RESISTORS MOUNTED 10mm ABOVE BOARD
- 1/2 W RESISTORS

Designed by
Josef M. M. M.

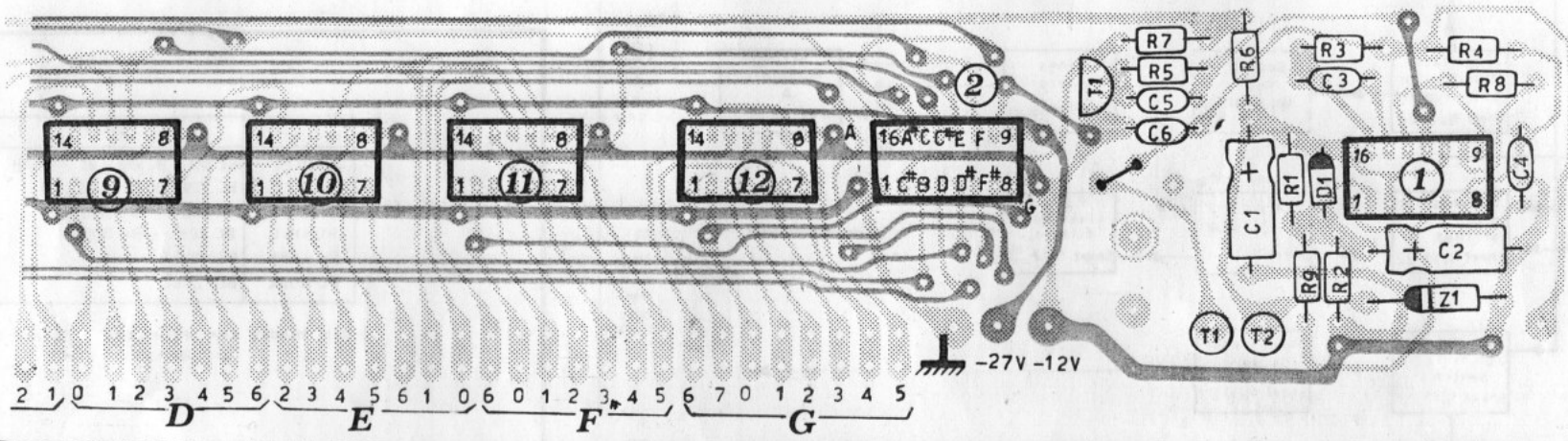
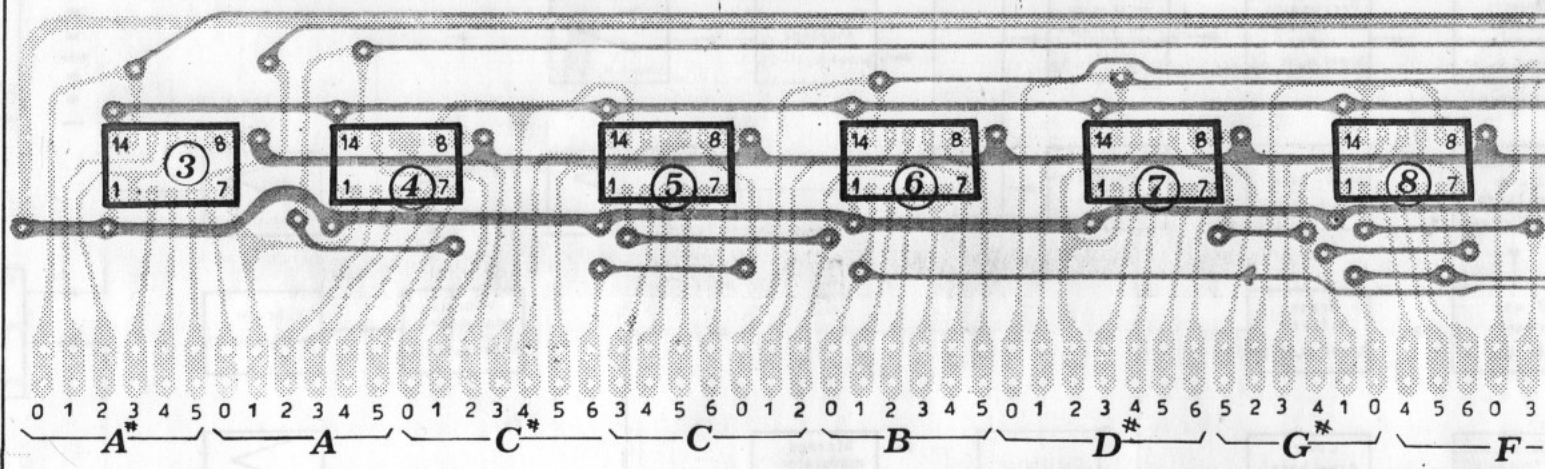
Drawn by
Josef M. M. M.

Checked by
H. P. M. M.

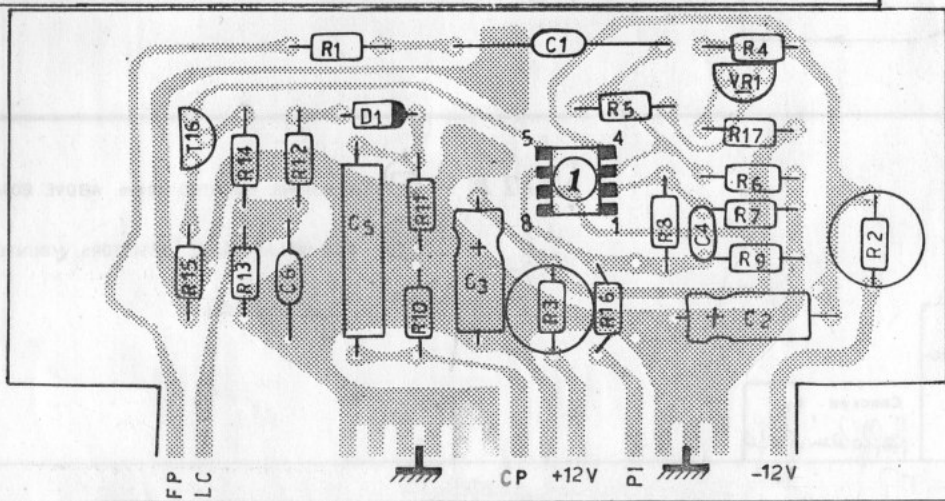
	Model X 605	Object: Block diagram	Sheet No. 1/22 Date 28-7-78
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410CST0934

(427GR05843)



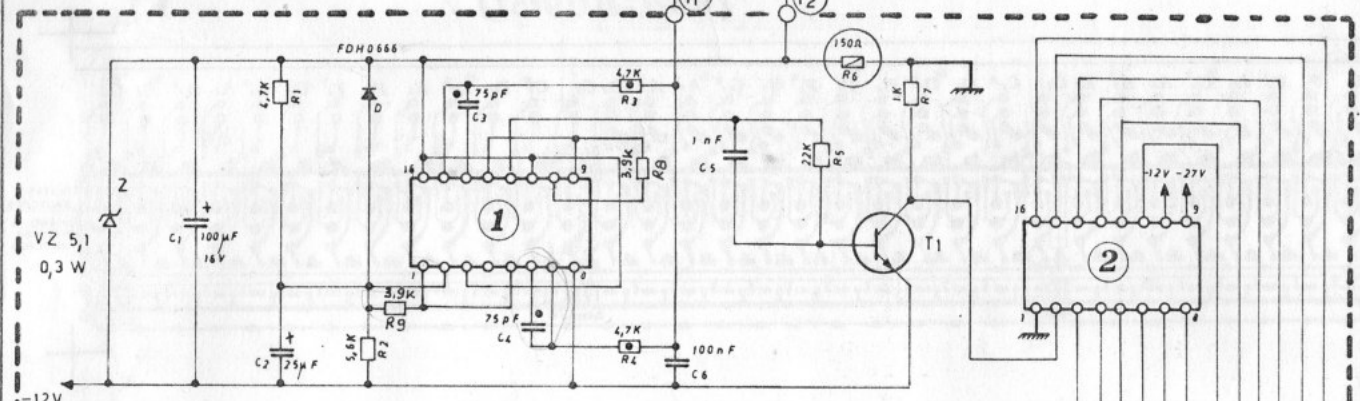
410CST0782
(427GR07821)



THE NUMBERS IN BRACKETS REPRESENT THE ELKA CODES OF THE ASSEMBLED BOARDS, WHILE THE OTHERS REPRESENT THE ELKA CODES OF THE NON-ASSEMBLED BOARDS

	Model	Object:	Sheet No. 2-22
	X 605	Assembly of Printed Circuit	Date 18-7-78

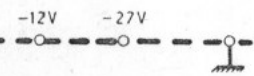
TUNING
410CST0504



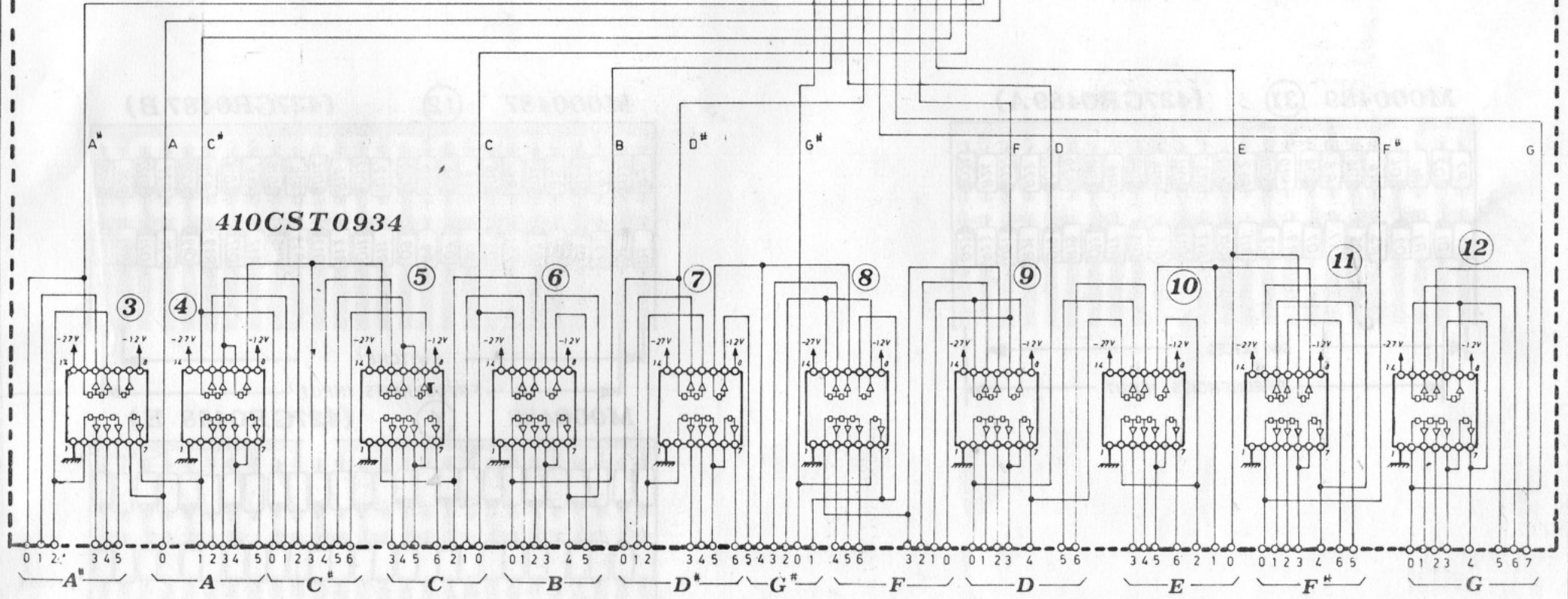
Code	Type	Transistors
T1	NPN	BC 173

Integrated circuit		
Code	Type	Manufactured
1	SN 74221	Texas
2	MK 50242	Mostek
3 ÷ 12	HBF4740 AE	SGS

- 1) All resistors marked by a point • must be metal film 2% tolerance
- 2) All capacitors marked by a point • must be polistirolo 2% tolerance

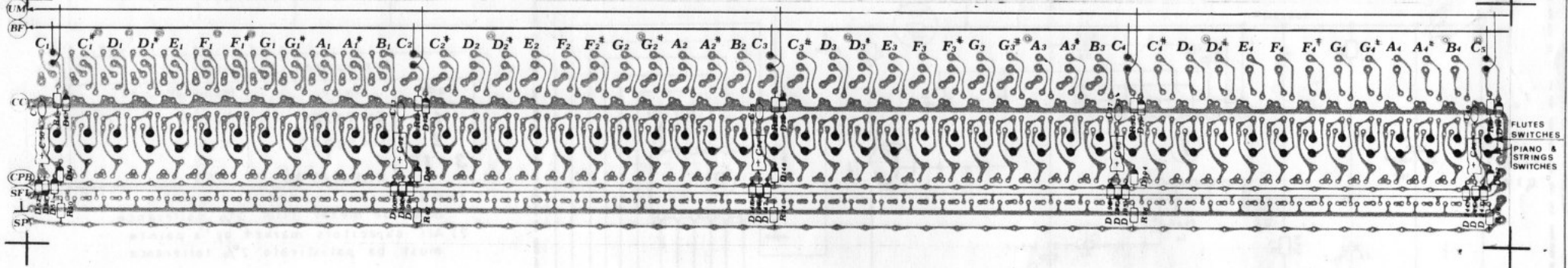


410CST0934

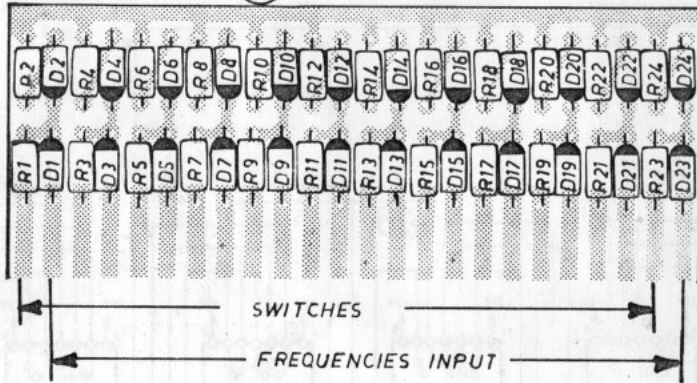


410CST0915

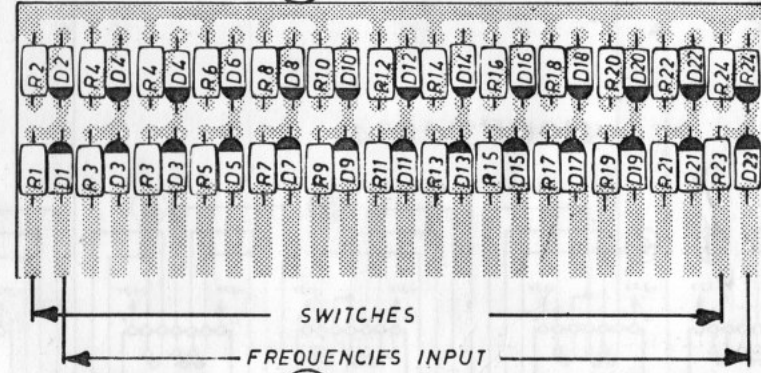
(457GR09151)



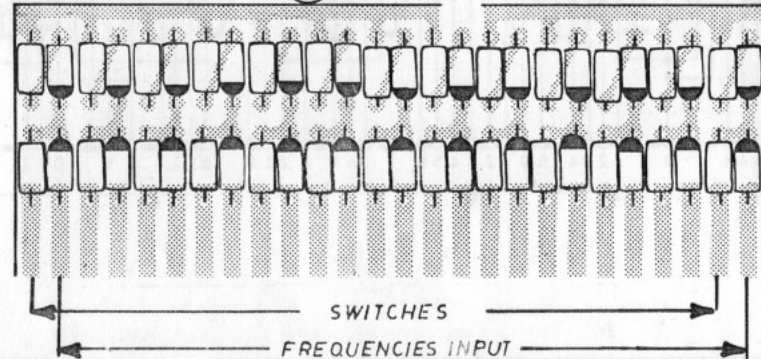
M000489 (31) (427GR0489 A)



M000487 (12) (427GR0487 B)



M000488 (4) (427GR0488 E)



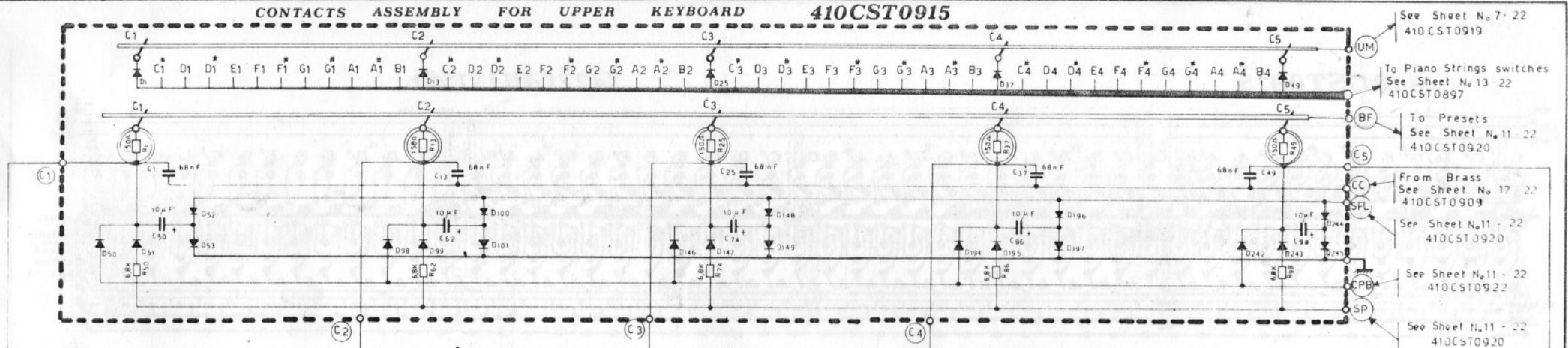
Model
X
605

Object
Assembly of
Printed Circuit

Sheet No 4-22
Date 18-7-78

THE NUMBERS IN BRACKETS REPRESENT THE ELKA CODES OF THE ASSEMBLED BOARDS WHOIST THE OTHERS REPRESENT THE ELKA CODES OF THE NON-ASSEMBLED BOARDS

CONTACTS ASSEMBLY FOR UPPER KEYBOARD 410CST0915



See Sheet No 7- 22
410CST0919

To Piano Strings switches
See Sheet No 13 22
410CST0897

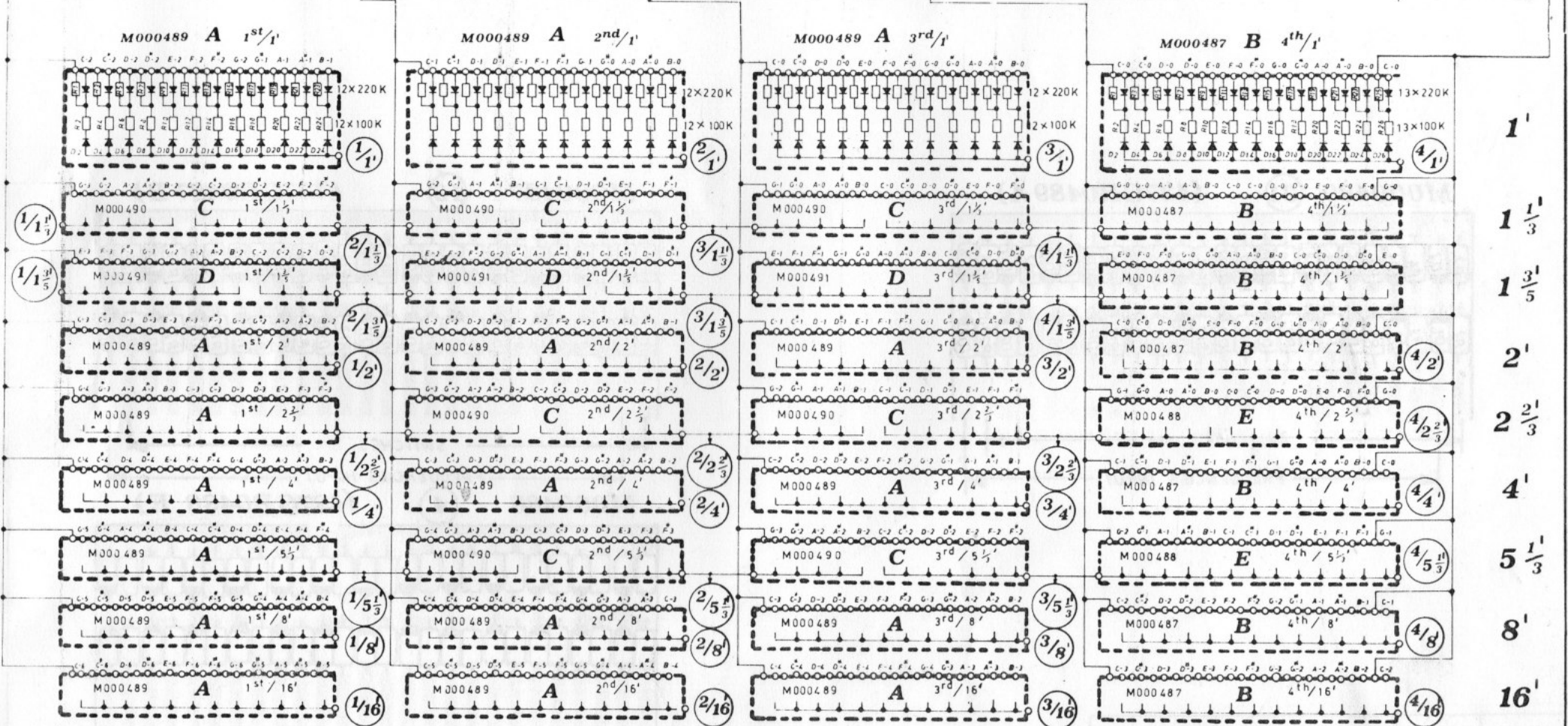
To Presets
See Sheet No 11 22
410CST0920

From Brass
See Sheet No 17 22
410CST0909

See Sheet No 11 - 22
410CST0920

See Sheet No 11 - 22
410CST0922

See Sheet No 11 - 22
410CST0920



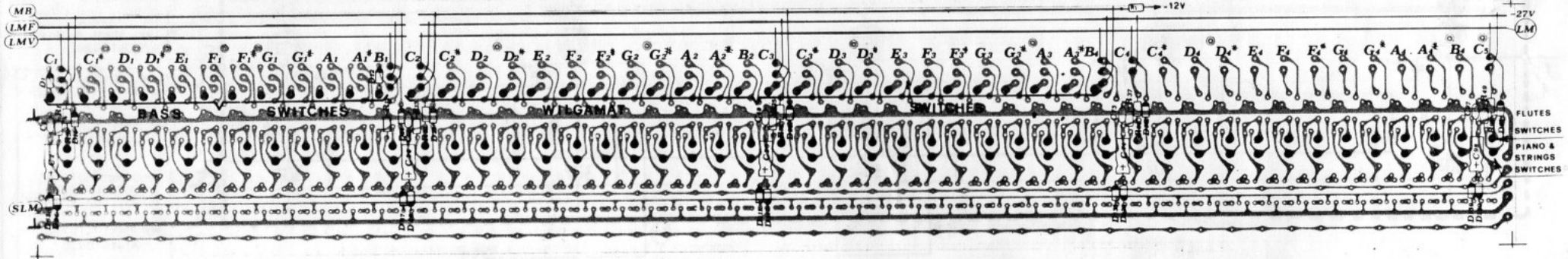
Note: 1) The outputs $\frac{1}{16}$ - $\frac{2}{16}$ etc.... should be connected to board 410CST0917 - 410CST0918
Sheet No 9 - 22

410CST0714

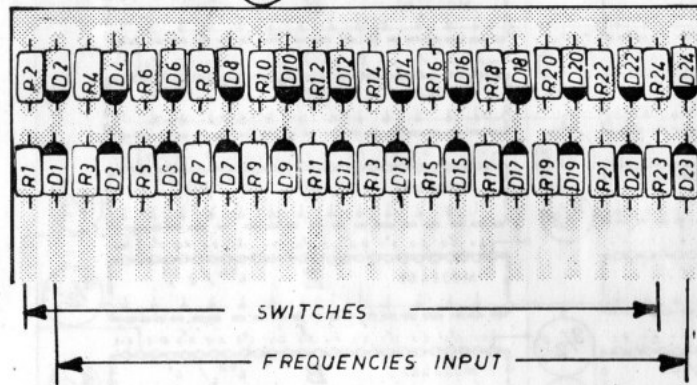
	Model	Object:	Sheet No. 5-22
	X 605	Upper Keyboard	Date 30-3-78

410CST0915

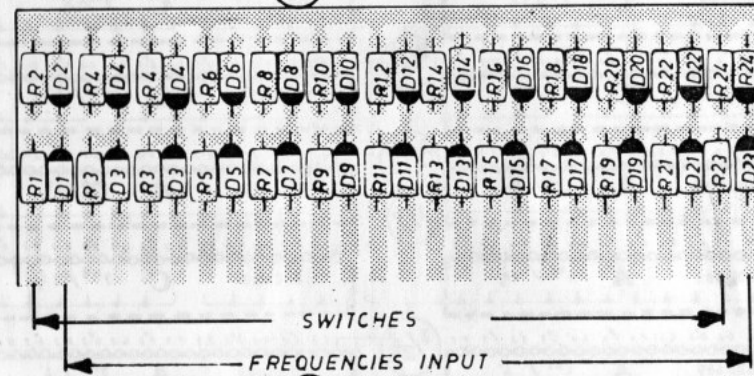
(427GRO 9150)



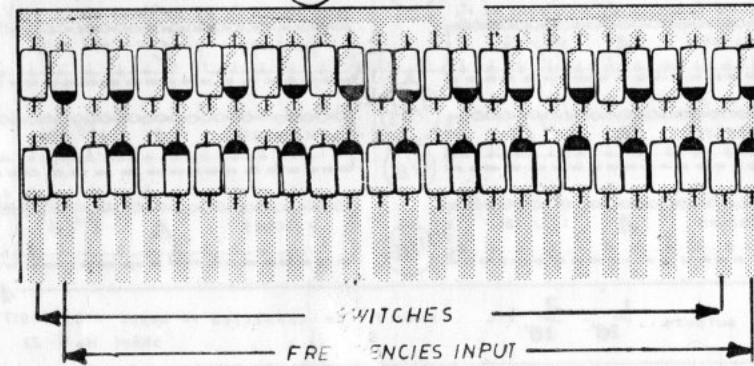
M000489 (31) (427GR0489 A)



M000487 (12) (427GR0487 B)



M000488 (4) (427GR0488 E)



Model
X
605

Object:
Assembly of
Printed Circuit

Sheet No. 6-22
Date 18-7-78

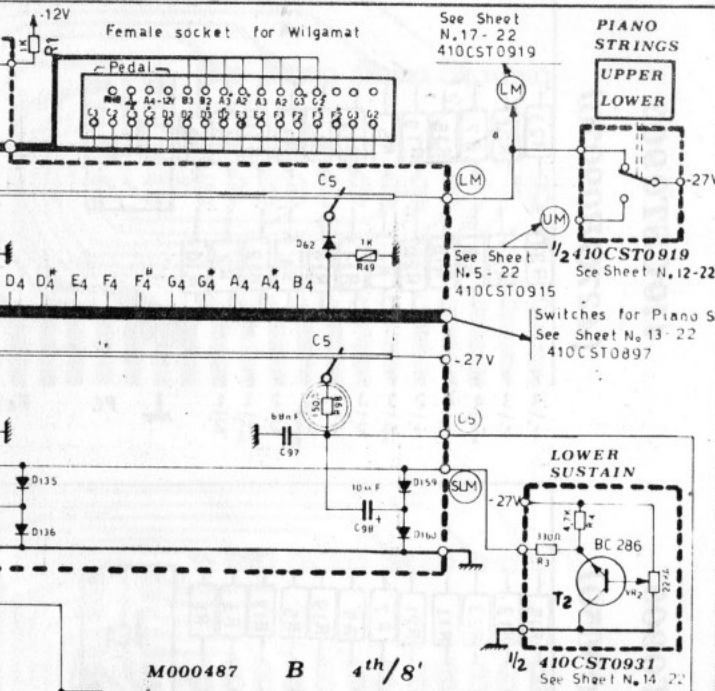
THE NUMBERS IN BRACKETS REPRESENT THE ELKA CODES OF THE ASSEMBLED BOARDS, WHILE THE LETTERS REPRESENT THE ELKA CODES OF THE NON-ASSEMBLED BOARDS.

See Sheet No. 17-22
410CST0919

Switches
for Bass
See Sheet
No. 17-22
410CST913

See Sheet
No. 17-22
410CST0919

CONTACTS ASSEMBLY FOR LOWER KEYBOARD 410CST0915

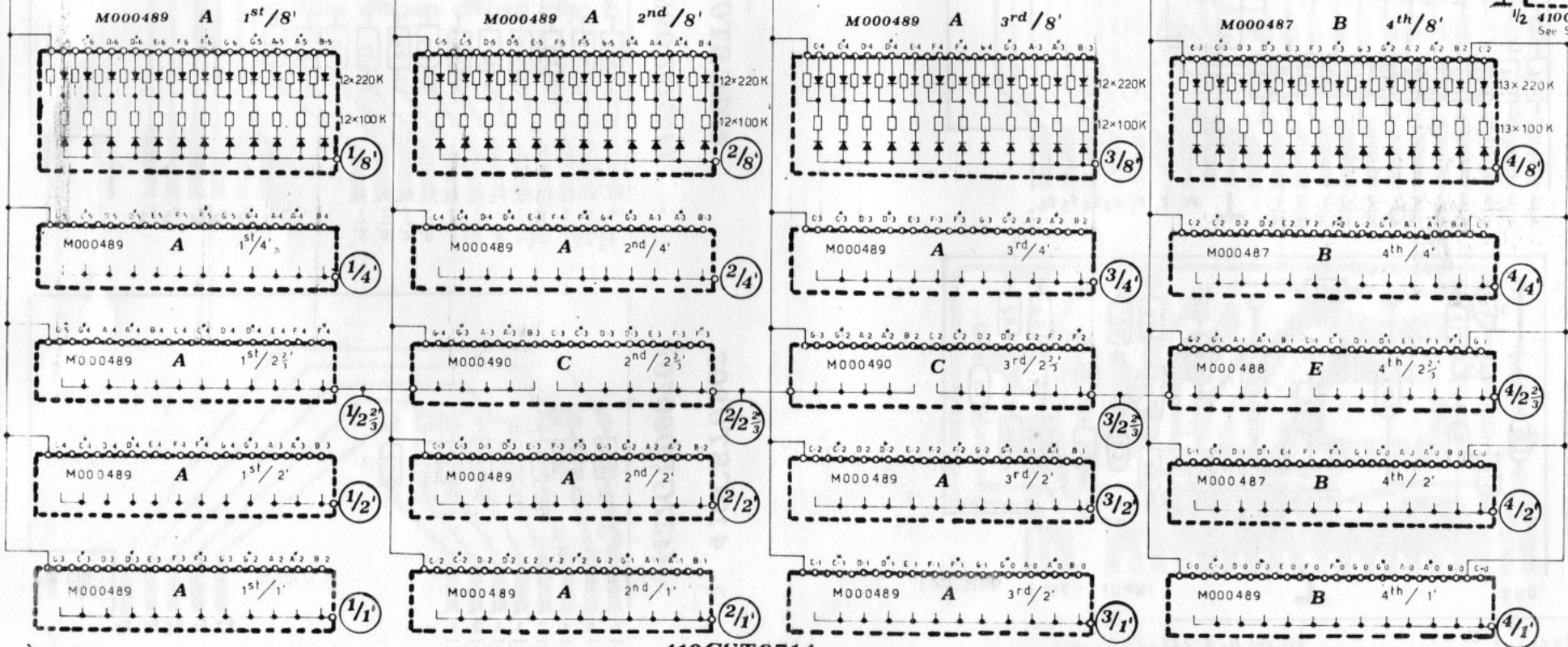


See Sheet
N. 17-22
410CST0919

See Sheet
N. 5-22
410CST0915

Switches for Piano S
See Sheet No. 13-22
410CST0897

1/2 410CST0931
See Sheet N. 14-22



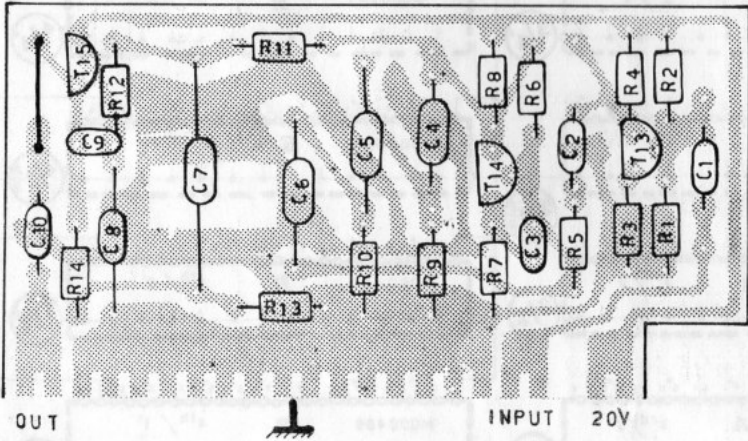
410CST0714

Note
The outputs 1/8' 2/8' etc... should be connected to board 410CST0917-918 Sheet No. 9-22

	Model	Object	Sheet N. 7-22
	X605	Lower Keyboard	Date 10-3-78

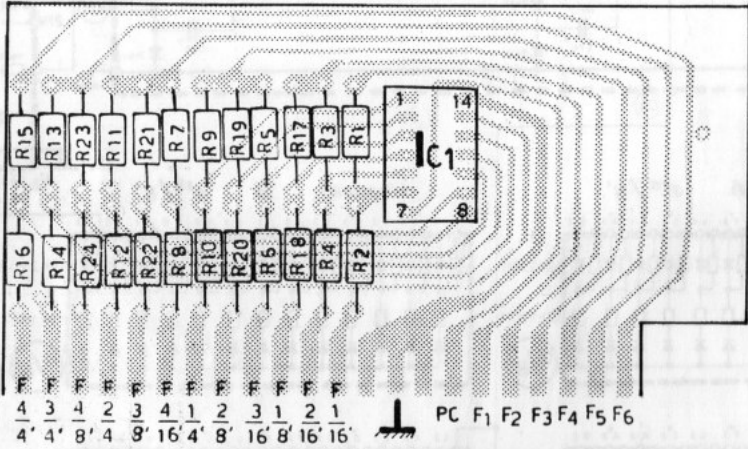
410CST0445

(427GR0445-2-3-4-5-6-7-8)



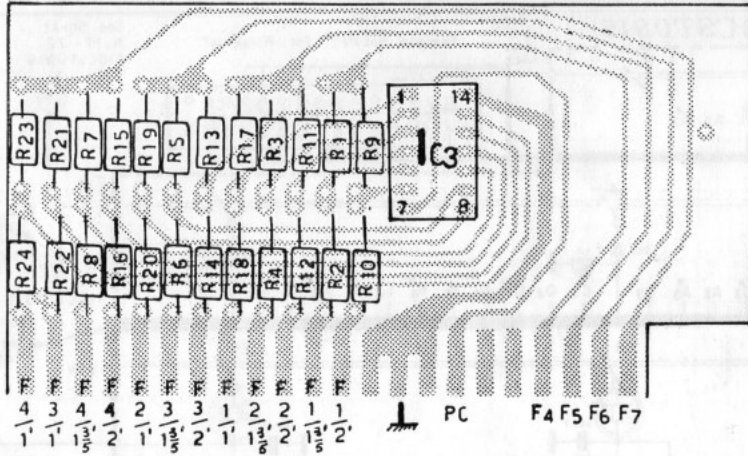
410CST0905

(427GR09050)



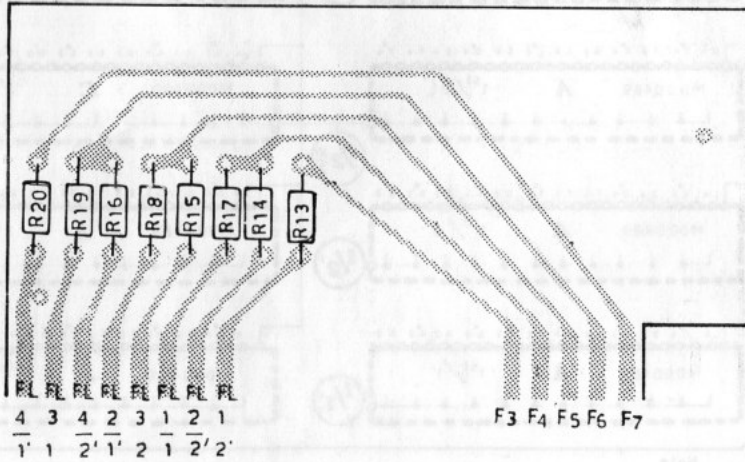
410CST0903

(427GR09030)



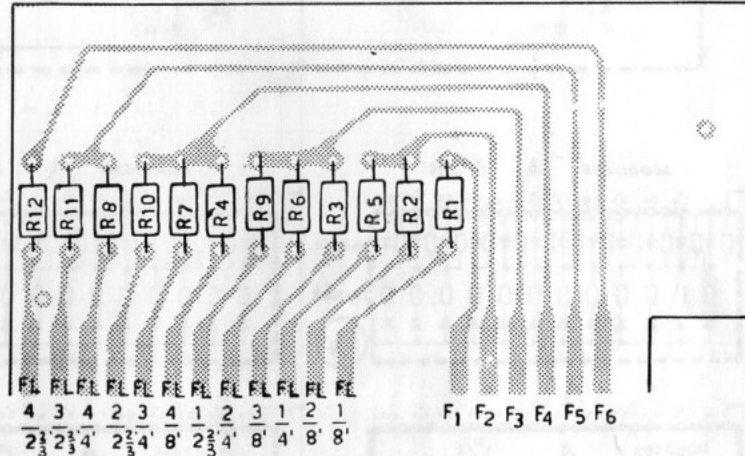
410CST0907

(427GR09070)



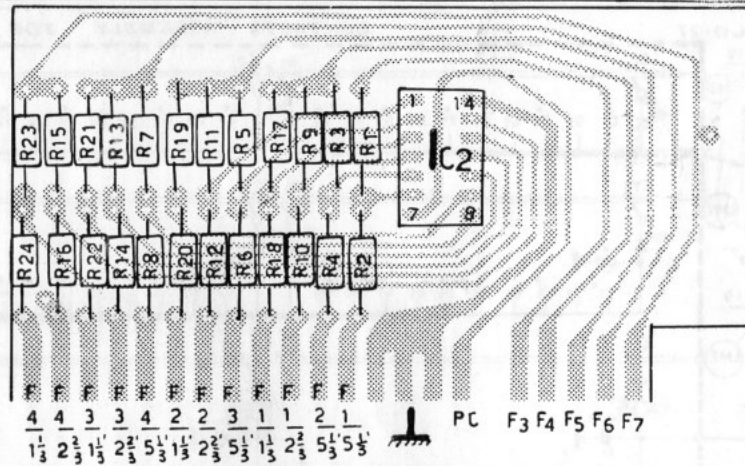
410CST0906


(427GR09060)



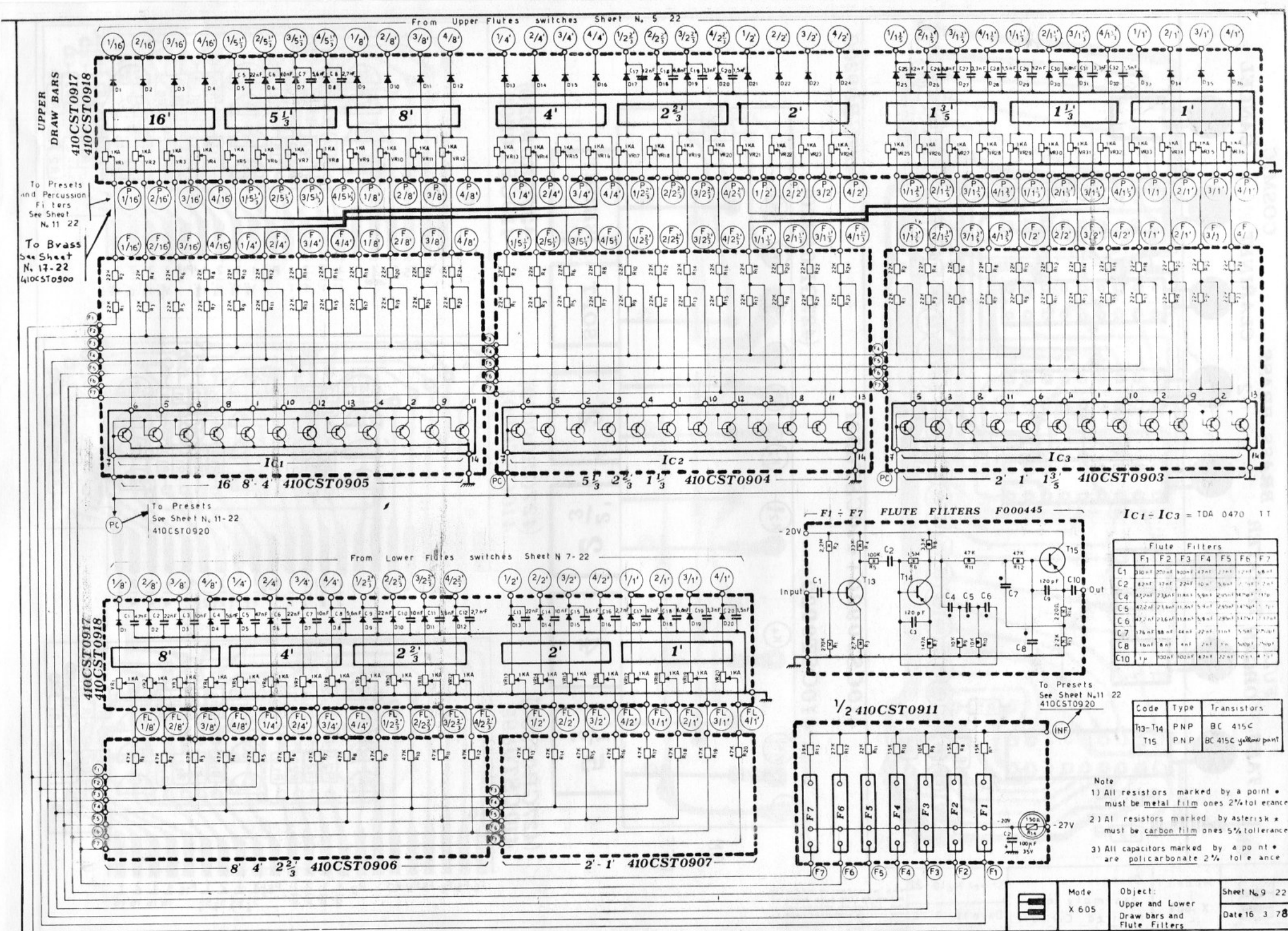
410CST0904

(427GR09040)



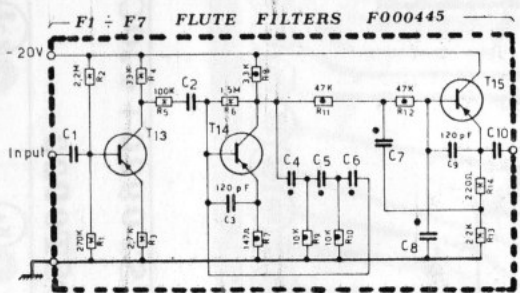
	Model	Object	Sheet No. 8 22
	X 605	Assembly of Printed Circuit	Date 19 7 78

THE NUMBERS IN BRACKETS REPRESENT THE ELKA CODES OF THE ASSEMBLED BOARDS WHILST THE OTHERS REPRESENT THE ELKA CODES OF THE NONASSEMBLED BOARDS



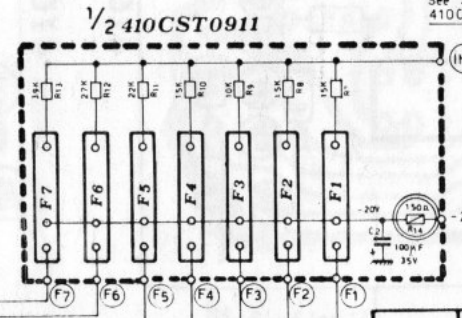
To Presets and Percussion Filters See Sheet N. 11-22
To Brass See Sheet N. 17-22 410CST0900

To Presets See Sheet N. 11-22 410CST0920



IC1 - IC3 = TDA 0470 1T

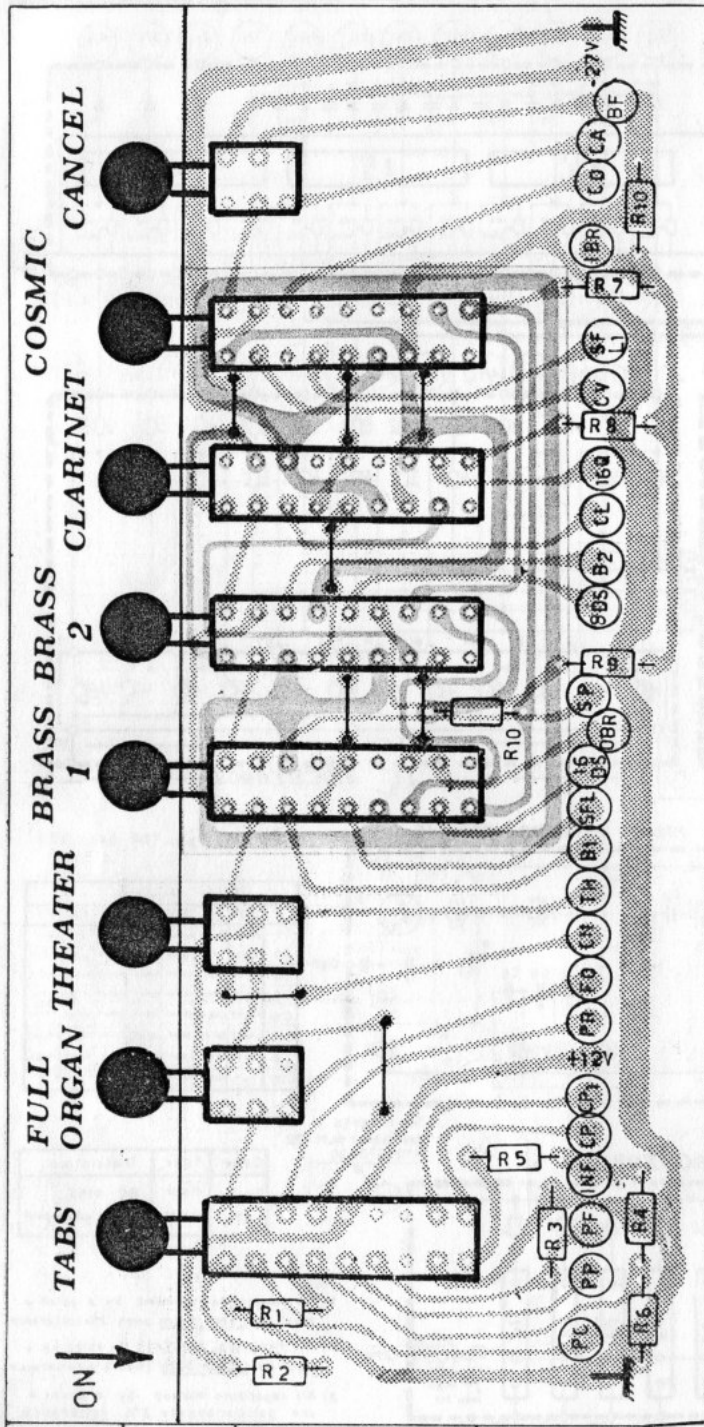
Flute Filters							
	F1	F2	F3	F4	F5	F6	F7
C1	330nF	270nF	330nF	47nF	270nF	270nF	330nF
C2	47nF	37nF	22nF	10nF	56nF	10nF	22nF
C4	47nF	22nF	100nF	56nF	22nF	100nF	100nF
C5	472nF	270nF	100nF	56nF	270nF	270nF	100nF
C6	472nF	270nF	100nF	56nF	270nF	270nF	100nF
C7	37nF	33nF	44nF	22nF	10nF	56nF	270nF
C8	100nF	82nF	47nF	22nF	10nF	56nF	270nF
C10	1µ	100nF	100nF	47nF	22nF	10nF	47nF



To Presets See Sheet N. 11-22 410CST0920

Code	Type	Transistors
T3-T14	PNP	BC 415C
T15	PNP	BC 415C yellow paint

- Note
- 1) All resistors marked by a point * must be metal film ones 2% tolerance
 - 2) All resistors marked by asterisk * must be carbon film ones 5% tolerance
 - 3) All capacitors marked by a point * are polycarbonate 2% tolerance

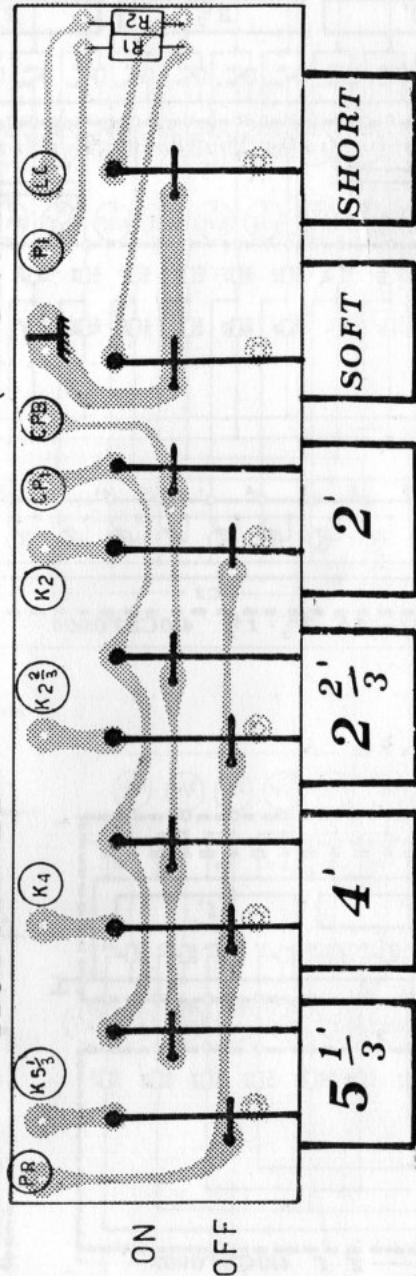


(427GR09200)

410CST0920 + 410CST0921

410CST0922

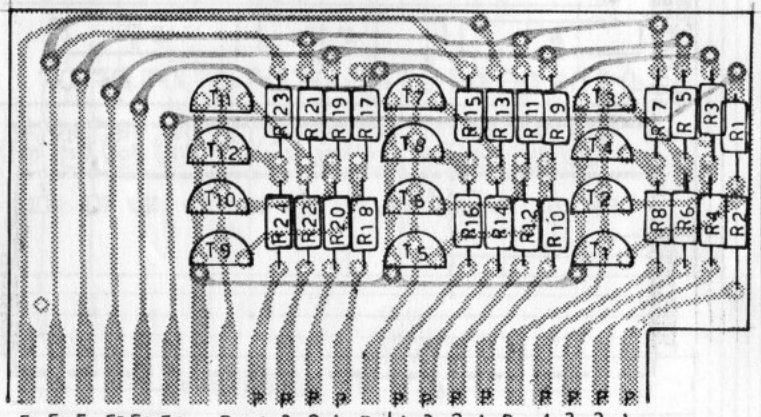
(427GR09220)



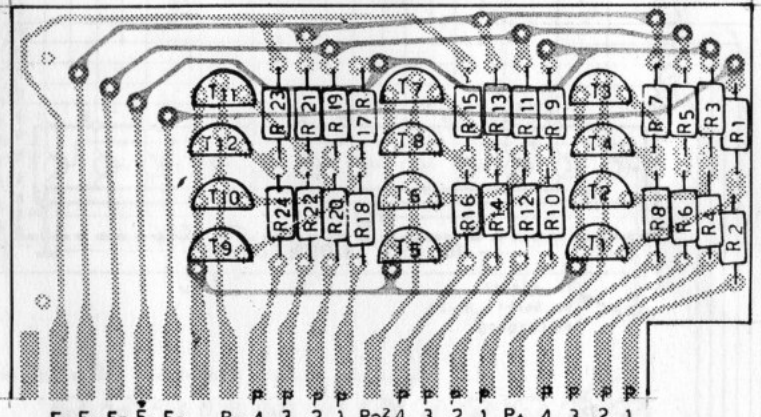
(427GR08990)
410CST0899

(427GR09010)
410CST0901

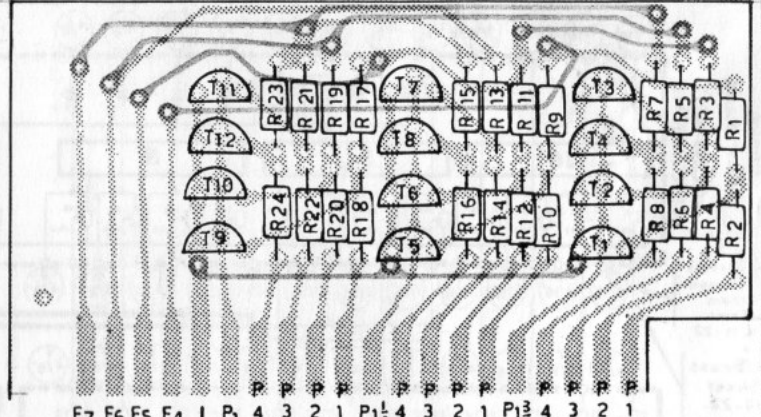
(427GR09020)
410CST0902



F6 F5 F4 F3 F2 F2 P8 4 3 2 1 P5 4 3 2 1 P16 4 3 2 1
8' 8' 8' 8' 5' 5' 5' 5' 16' 16' 16' 16'



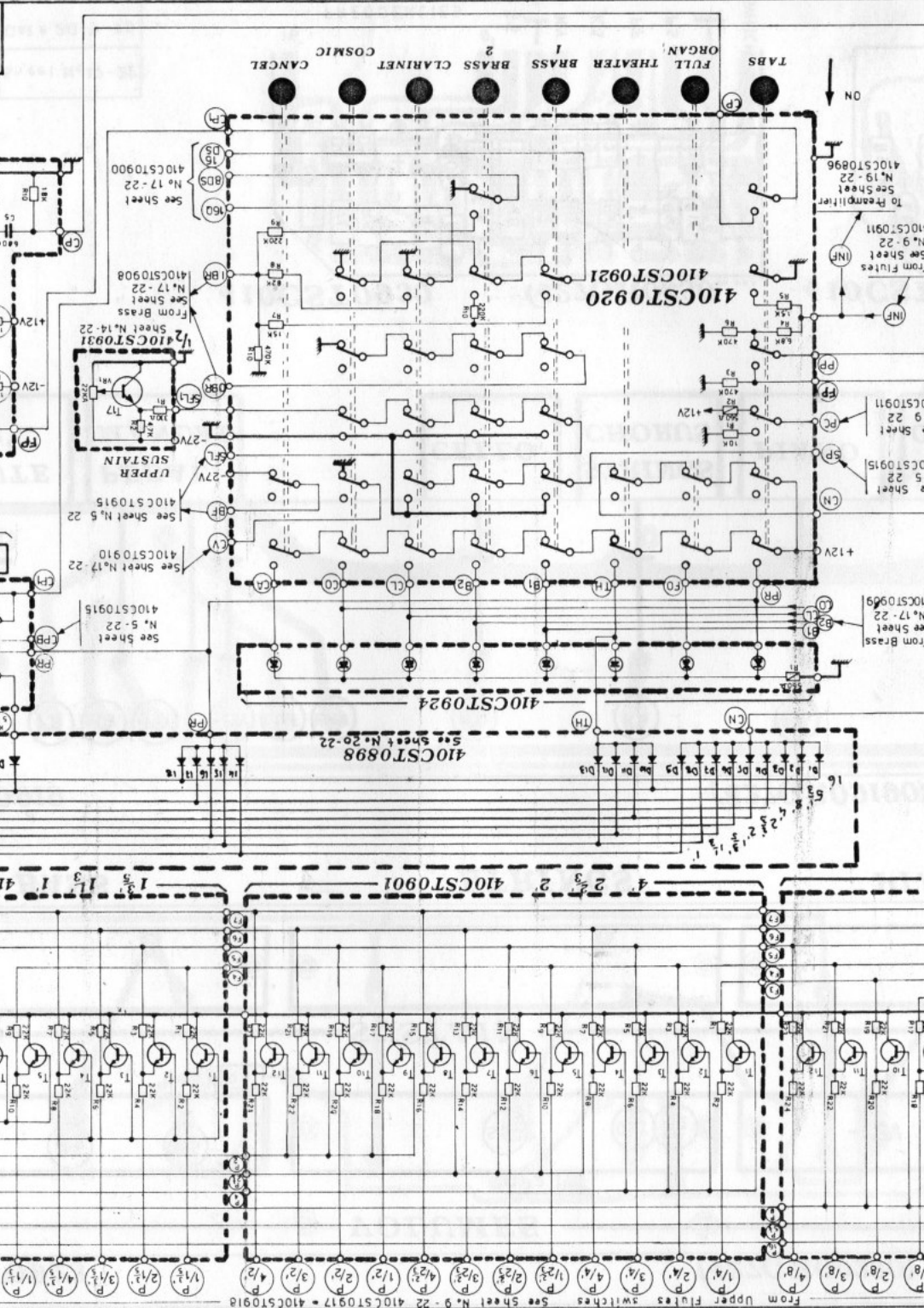
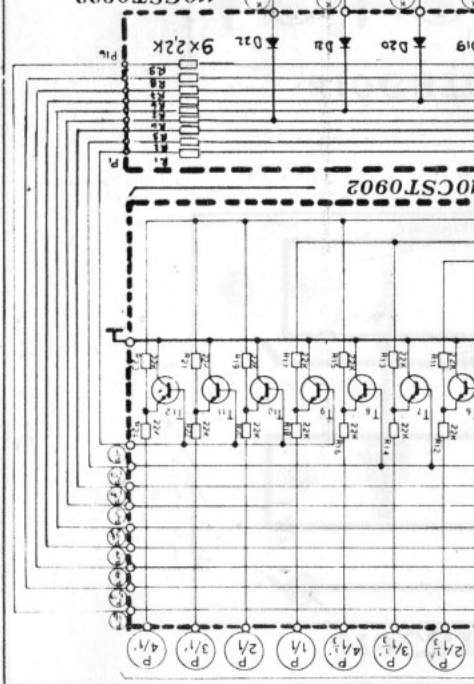
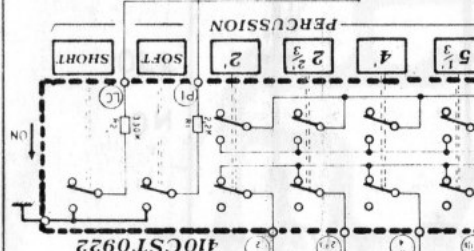
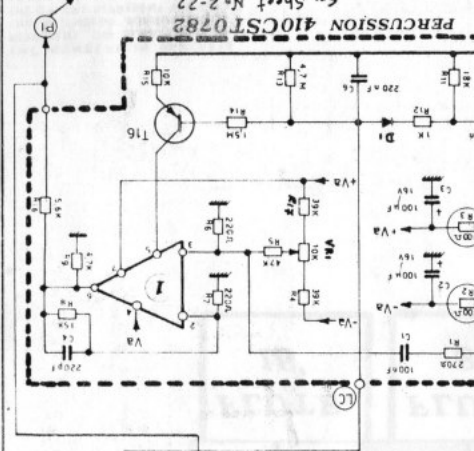
F7 F6 F5 F4 F3 P2 4 3 2 1 P2 4 3 2 1 P4 4 3 2 1
2' 2' 2' 2' 2' 2' 2' 2' 4' 4' 4' 4'



F7 F6 F5 F4 P1 4 3 2 1 P1 4 3 2 1 P1 4 3 2 1
1' 1' 1' 1' 1' 1' 1' 1' 1' 1' 1' 1'

	Model	Object	Sheet No. 10 22
	X 605	Assembly of Printed Circuit	Date 19-7 78

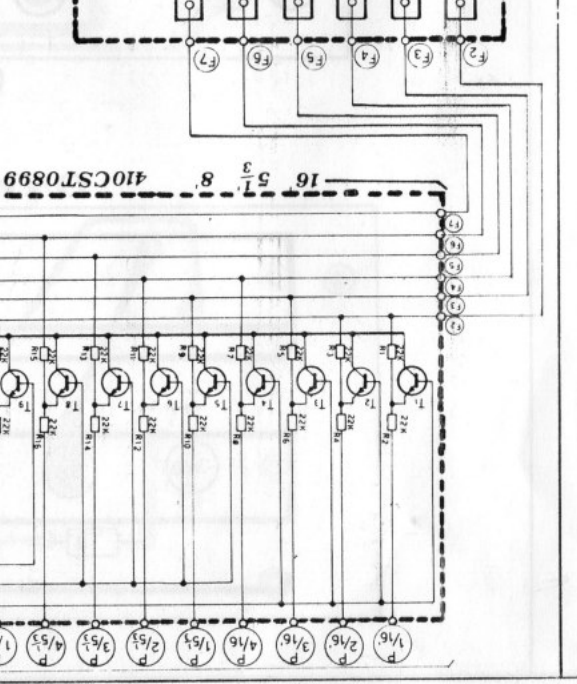
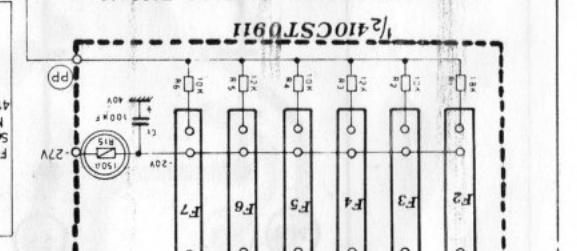
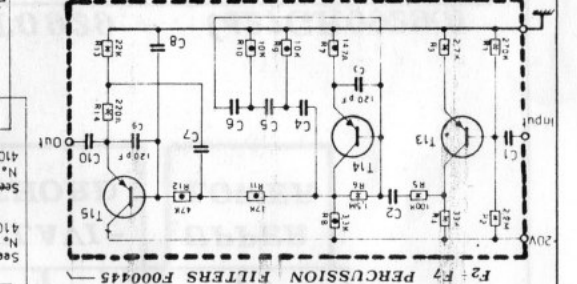
THE NUMBERS IN BRACKETS REPRESENT THE ELKA CODES OF THE ASSEMBLED BOARDS, WHILE THE OTHERS REPRESENT THE ELKA CODES OF THE NON-ASSEMBLED BOARDS



Percussion Filters	
C1	200K NPN BC 173 B
C2	47K NPN BC 415
C3	47K NPN BC 415
C4	24K NPN BC 415
C5	24K NPN BC 415
C6	24K NPN BC 415
C7	47K NPN BC 415
C8	47K NPN BC 415
C9	47K NPN BC 415
C10	47K NPN BC 415

Percussion Transistors	
T1-T12	NPN BC 173 B
T13	NPN BC 415
T14	NPN BC 415
T15	NPN BC 415
T16	NPN BC 415
T17	NPN BC 286

1) All resistors marked by a point * must be metal film ones 2% tolerance
 2) All resistors marked by an asterisk * must be carbon film ones 5% tolerance
 3) All capacitors marked by a point * are polycarbonate ones 2%

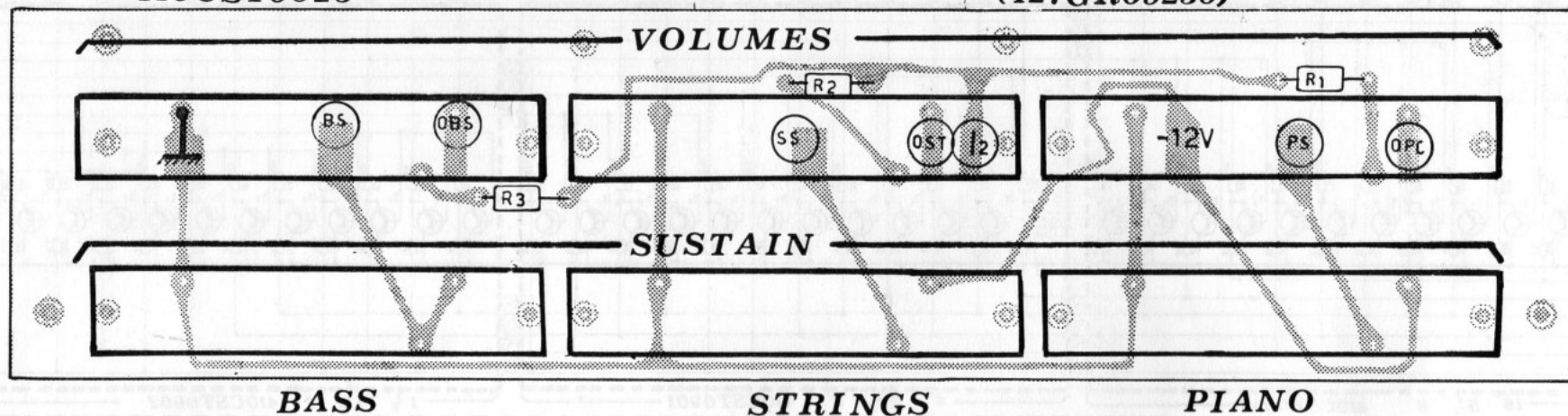


From Upper Filters switches See Sheet N.9-22 410CST0917 = 410CST0918

16 5 1 8 410CST0899
 4 2 3 2 410CST0901
 1 3 1 3 1 410CST0902

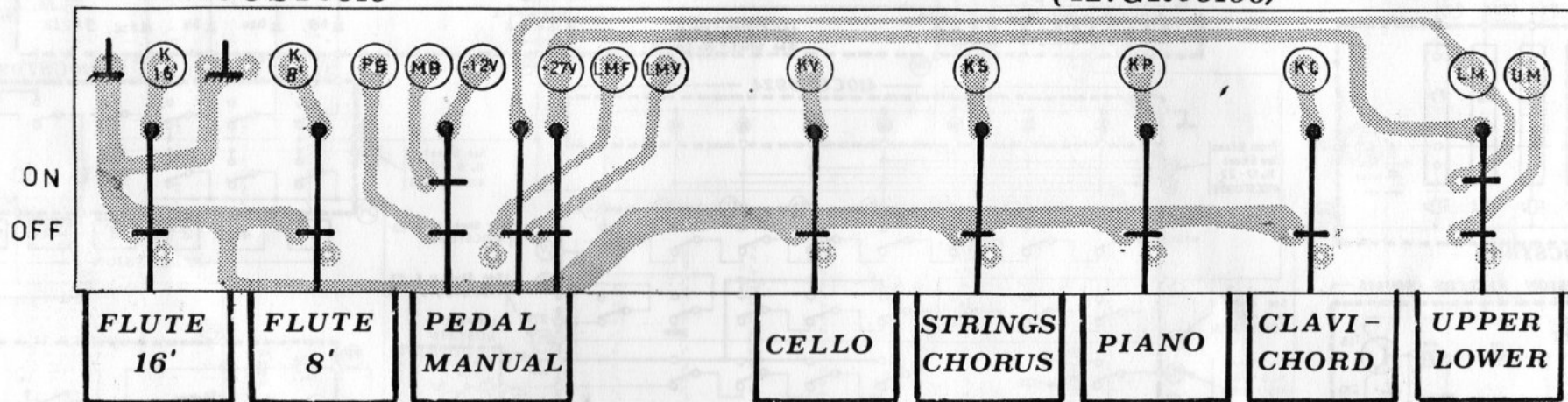
410CST0923

(427GR09230)



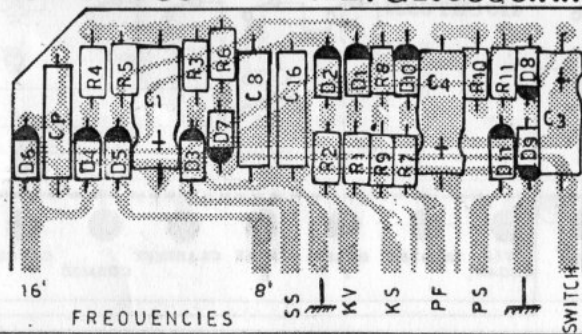
410CST0919

(427GR09190)



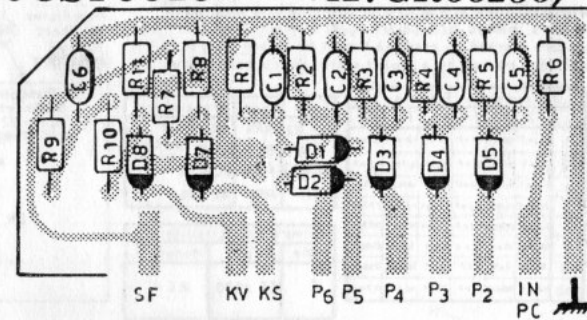
410CST0930

(427GR0930.....)



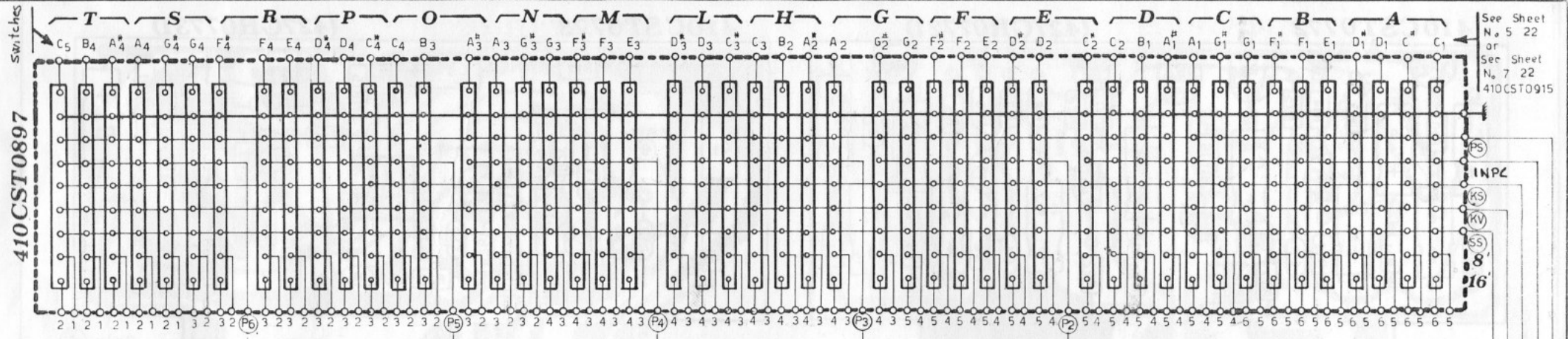
410CST0929

(427GR09290)



THE NUMBERS IN BRACKETS REPRESENT THE ELKA CODES OF THE ASSEMBLED BOARDS WHILE THE OTHERS REPRESENT THE ELKA CODES OF THE NON ASSEMBLED BOARDS

	Model	Object	Sheet No 12 22
	X 605	Assembly of Printed Circuits	Date 20 7-78



See Sheet No 5 22
or
See Sheet No 7 22
410CST0915

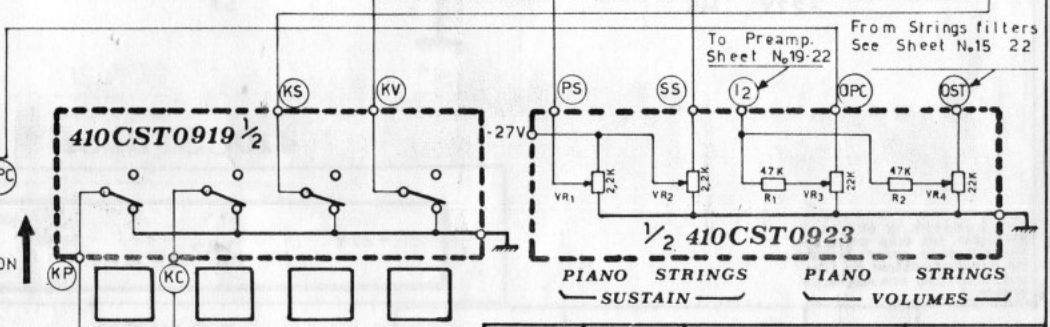
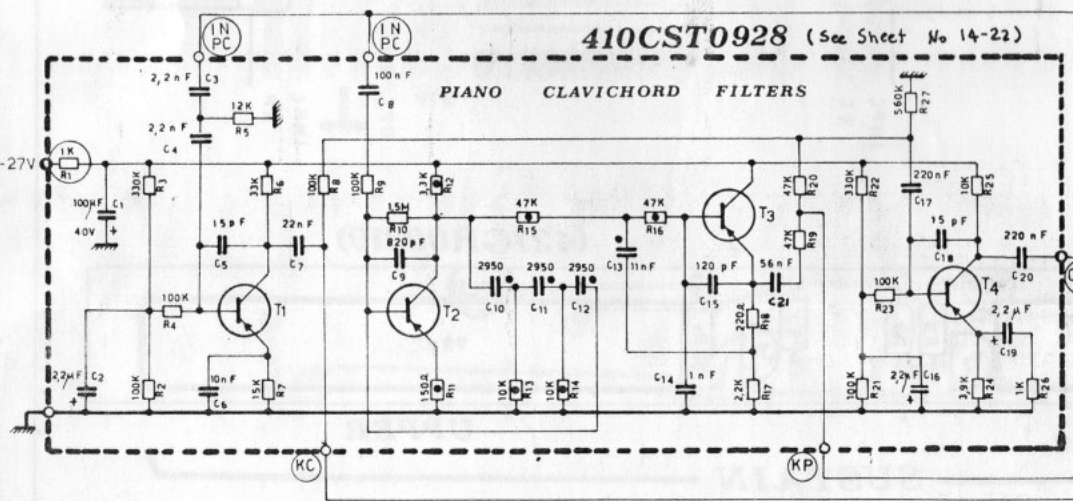
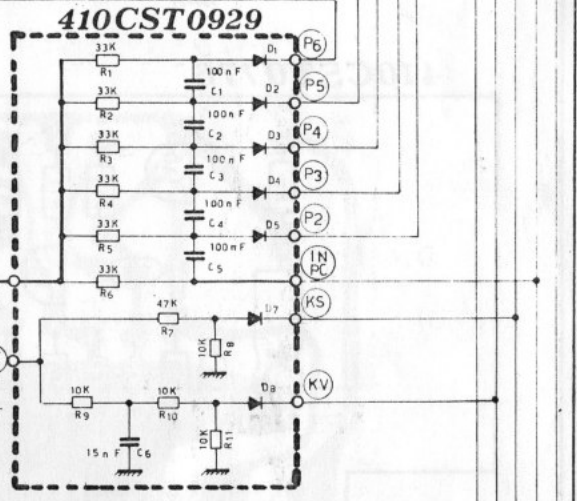
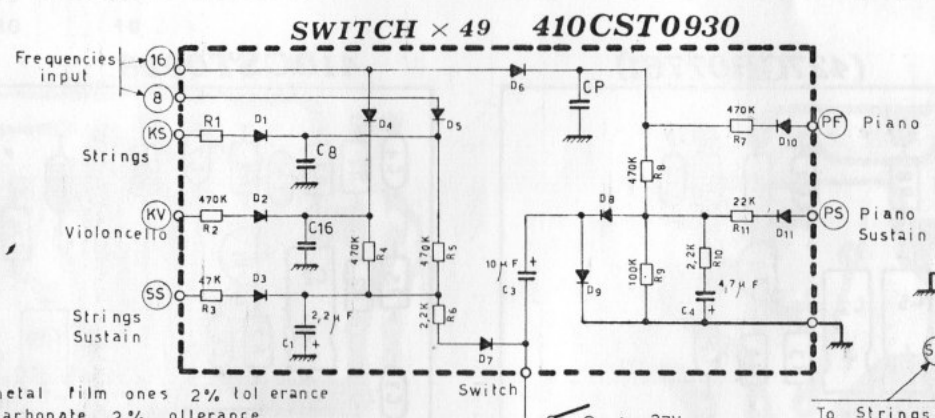
Frequencies input

	A	B	C	D	E	F	G	H	L	M	N	O	P	R	S	T
CB	15	12	10	8.2	6.8	5.6	4.7	3.9	3.3	2.7	2.2	1.8	1.5	1.2	1	820
C16	27	22	18	15	12	10	8.2	6.8	5.6	4.7	3.9	3.3	2.7	2.2	1.8	1.5
CP	12	10	8.2	6.8	5.6	4.7	3.9	3.3	2.7	2.2	1.8	1.5	1.2	1	1	1
R1	470	470	470	470	470	470	470	470	560	680	820	820	1M			
	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K

Code	Type	Transistor's
T1 - T4	PNP	BC 415 C
T2 - T3	PNP	BC 415 C yellow point

Notes

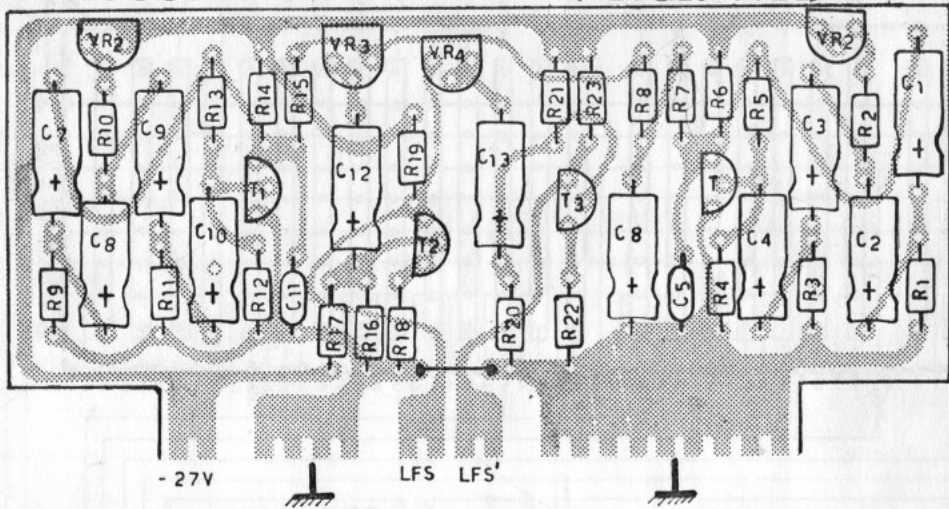
- 1) All resistors marked by a point • must be metal film ones 2% tolerance
- 2) All capacitors marked by a point • are polycarbonate 2% tolerance



	Model	Object:	Sheet No. 13 22
	X 605	Piano Strngs Switches and Piano filters	Date 16-5 78

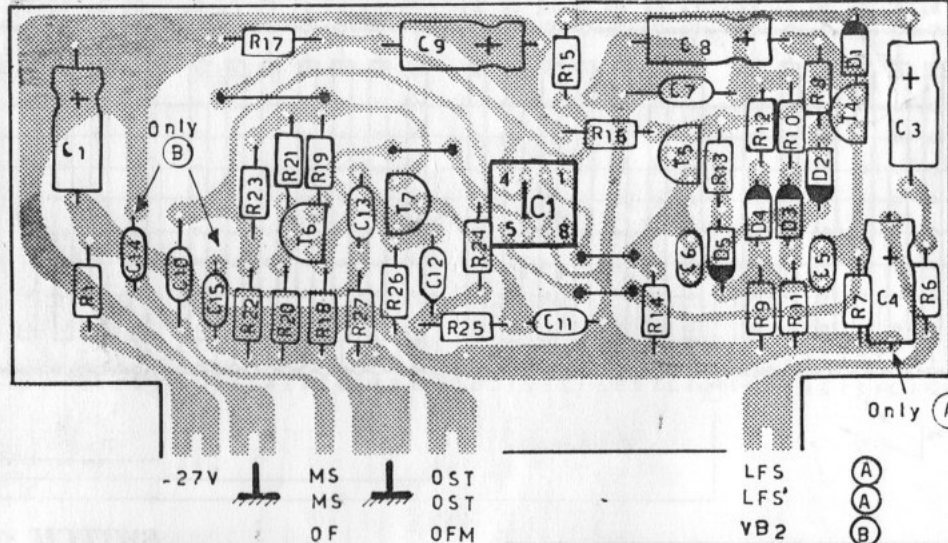
410CST0772

(427GR07721)



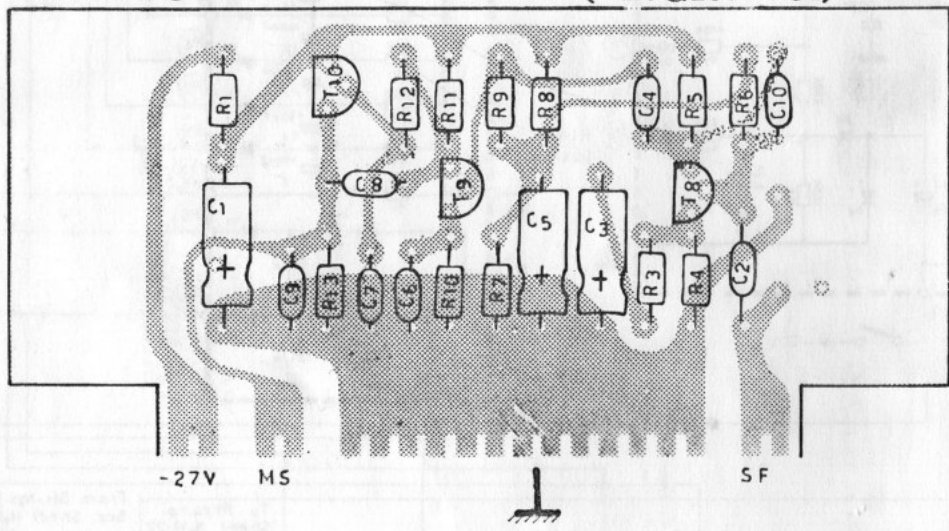
410CST0773

(427GR07731)



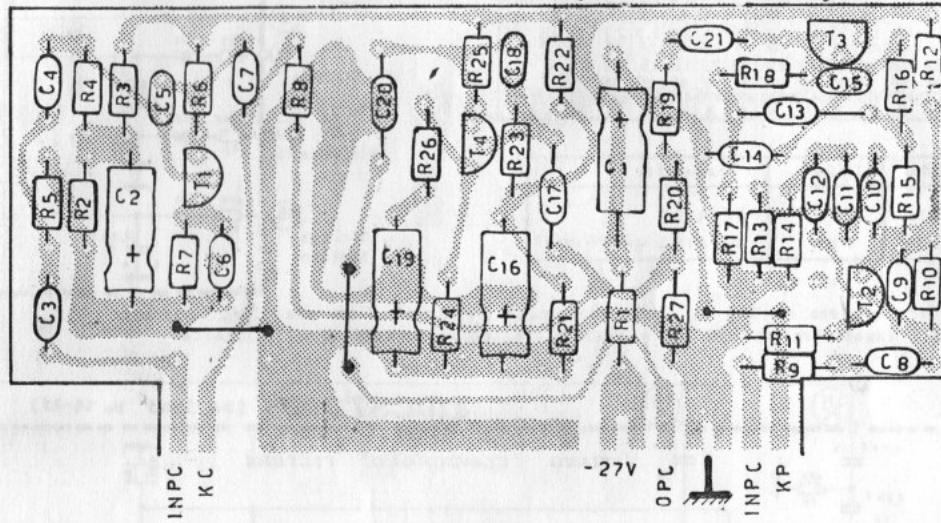
410CST0776

(427GR07761)



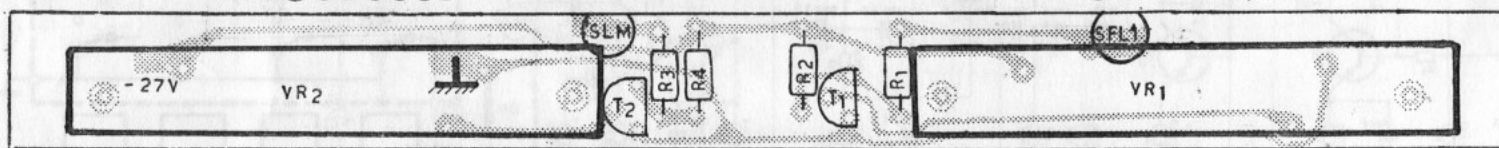
410CST0928

(427GR09280)



410CST0931

(427GR09310)



THE NUMBERS IN BRACKETS REPRESENT THE ELKA CODES OF THE ASSEMBLED BOARDS WHILST THE OTHERS REPRESENT THE ELKA CODES OF THE NON ASSEMBLED BOARDS.

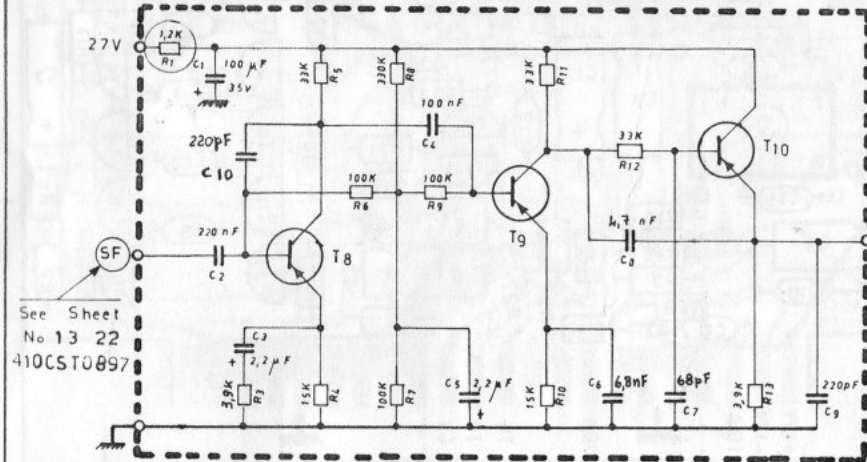
LOWER

UPPER

SUSTAIN

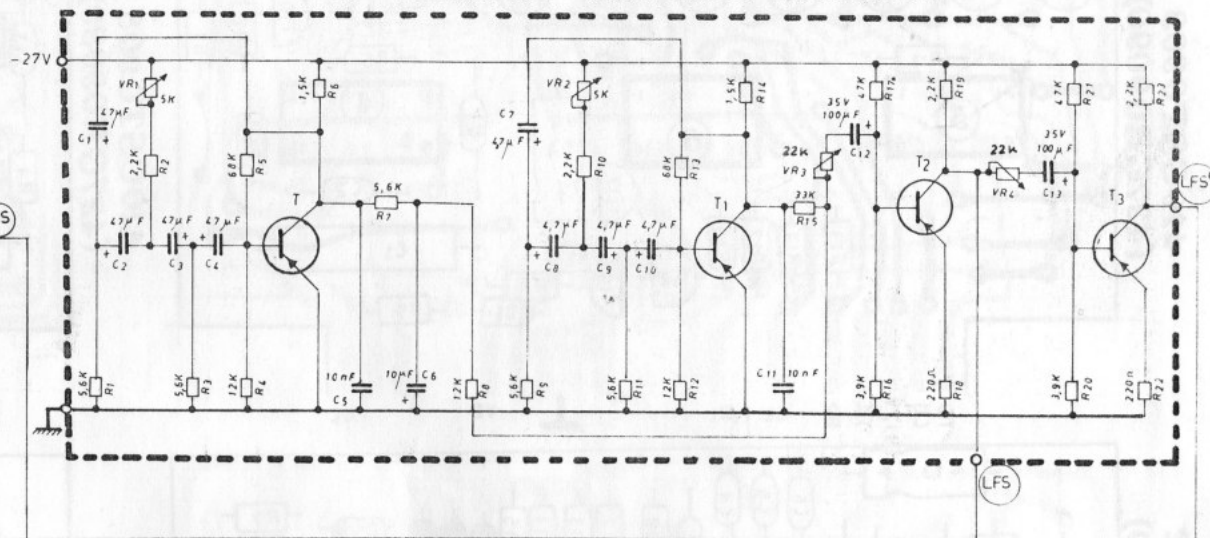
	Model	Object.	Sheet No 14-22
	X 605	Assembly of Printed Circuits	Date 21 7-78

STRINGS FILTERS 410CST0776

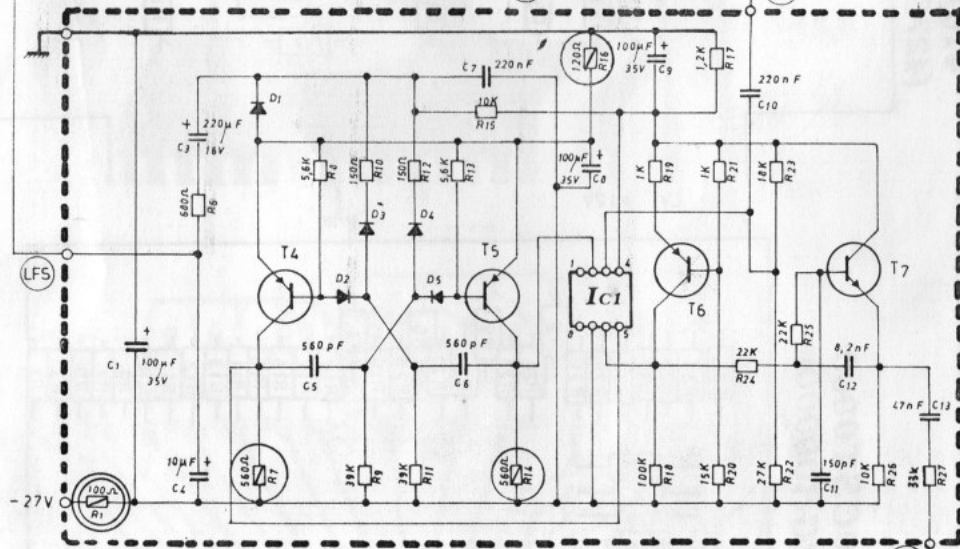


See Sheet
No 13 22
410CST0897

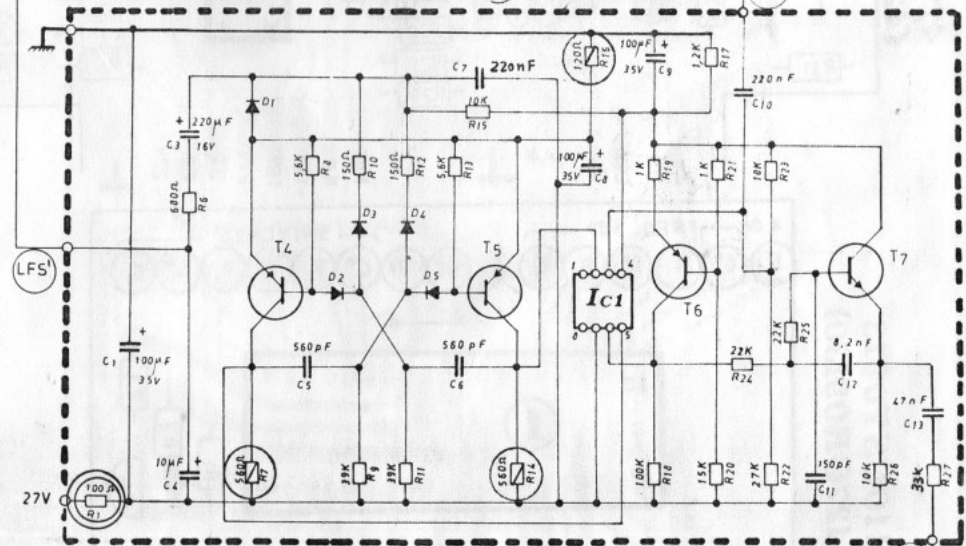
LOW FREQUENCY OSCILLATOR 410CST0772



STRINGS MODULATOR A 410CST0773



STRINGS MODULATOR A 410CST0773



Code	Type	Transistors
T7	NPN	BC 173 B
T4 T5	PNP	BC 308 C
T + T3	PNP	BC 415 C
T6 T8 T9 T10	PNP	BC 415 C

IC1 = TCA 350E 1TT

To Strings volume
See Sheet
No 13 - 22
410CST0923

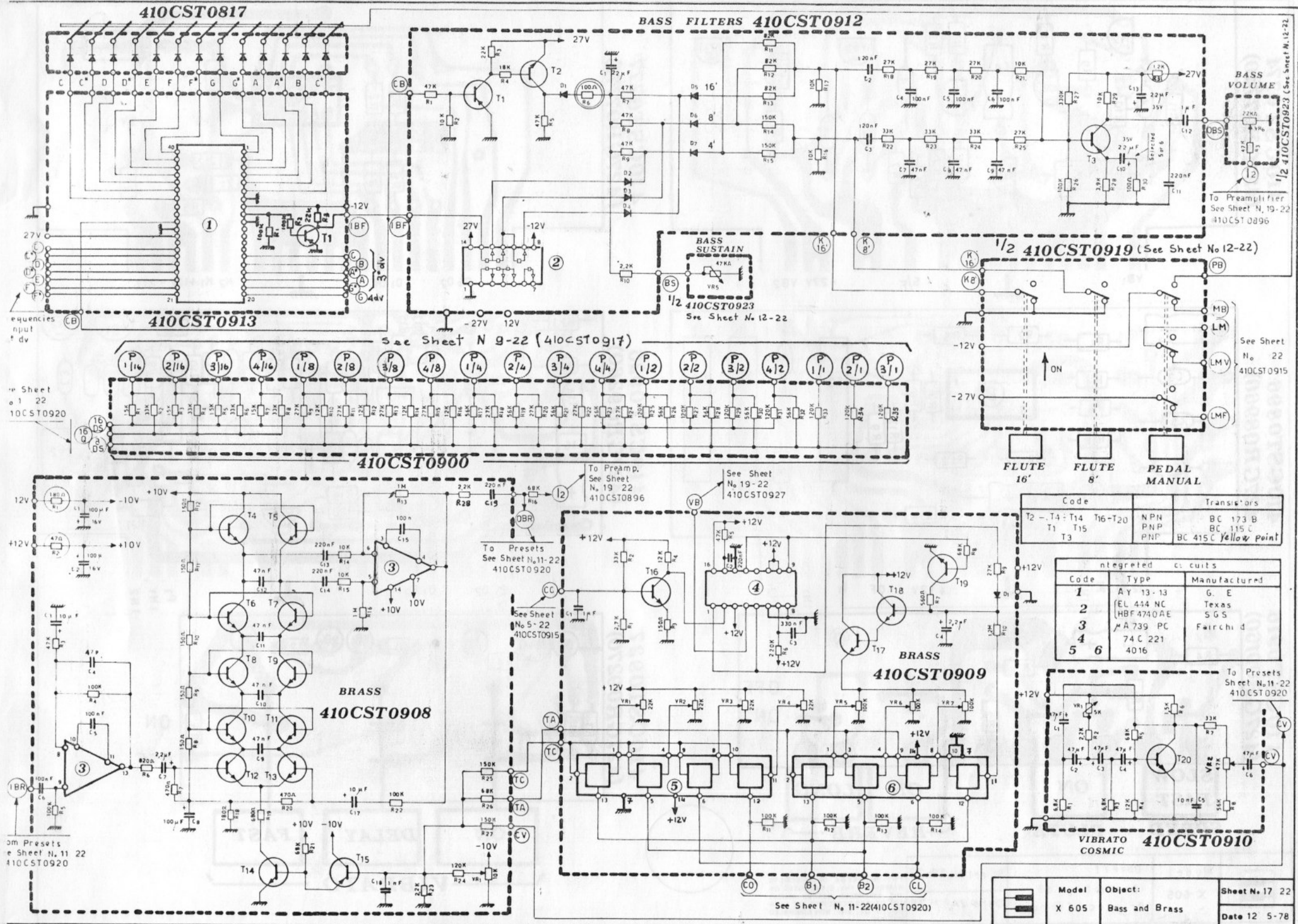


Model
X 605

Object
Strings Amplifier
and Modulators

Sheet No 15-22

Date 30-6-78



See Sheet No 1 22
10CST0920

See Sheet No 9-22 (410CST0917)

See Presets
See Sheet No 11-22
410CST0920

1/2 410CST0923 (See Sheet No 12-22)

To Preamp
See Sheet No 19-22
410CST0896

1/2 410CST0919 (See Sheet No 12-22)

See Sheet
No 22
410CST0915

To Preamp
See Sheet
No 19-22
410CST0896

See Sheet
No 19-22
410CST0927

To Presets
See Sheet No 11-22
410CST0920

See Sheet
No 5-22
410CST0915

To Presets
Sheet No 11-22
410CST0920

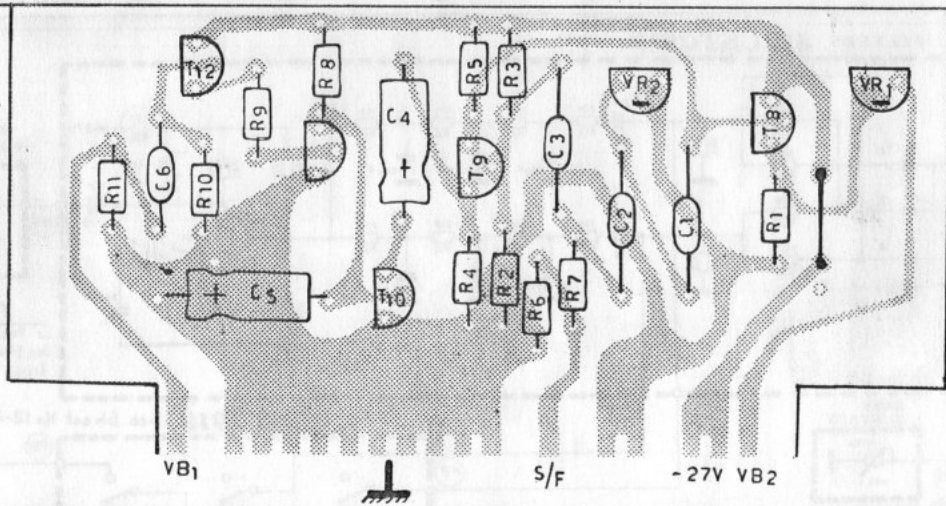
See Sheet No 11-22(410CST0920)

Code	Transistors
T2 - T4 : T14 T16-T20	NPN BC 173 B
T1 T15	PNP BC 115 C
T3	PNP BC 415 C yellow point

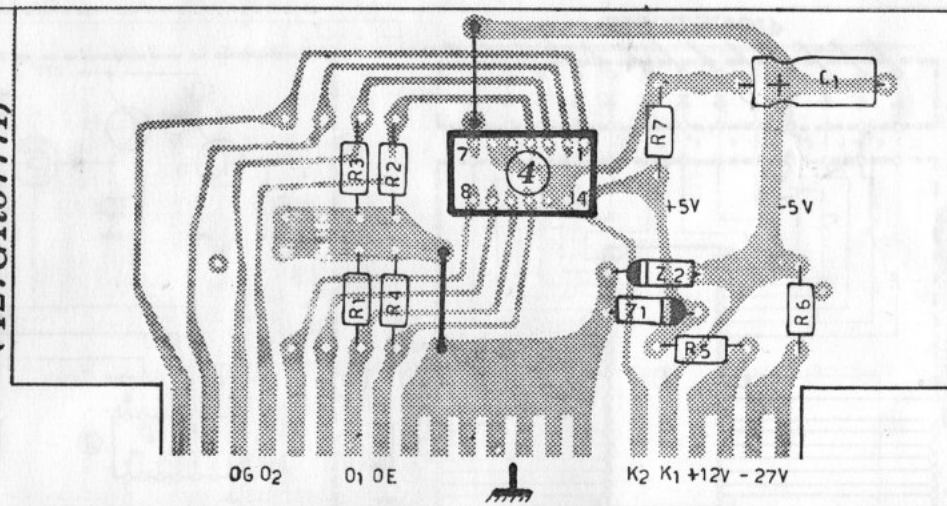
Integrated Circuits		
Code	Type	Manufacturer
1	AY 13-13	G. E
2	EL 414 NC	Texas
3	HBF 4740AE	SGS
4	MA 739 PC	Fairchild
5 6	74 C 221 4016	

	Model X 605	Object: Bass and Brass	Sheet No. 17 22 Date 12-5-78
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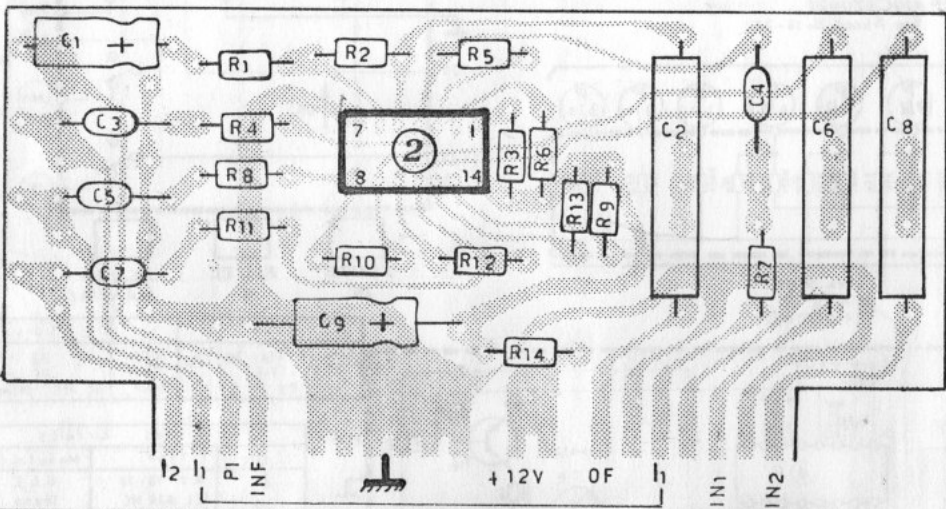
410CST0774
(427GR07740)



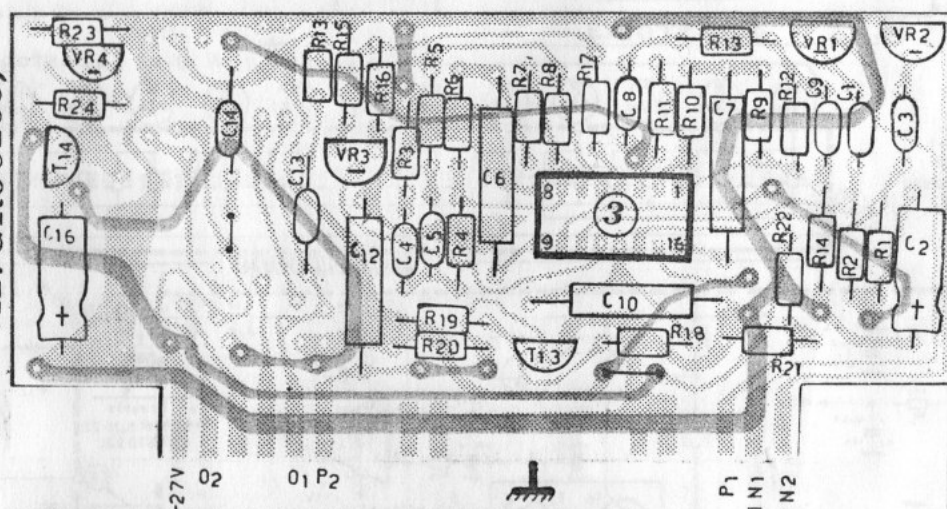
410CST0777
(427GR07771)



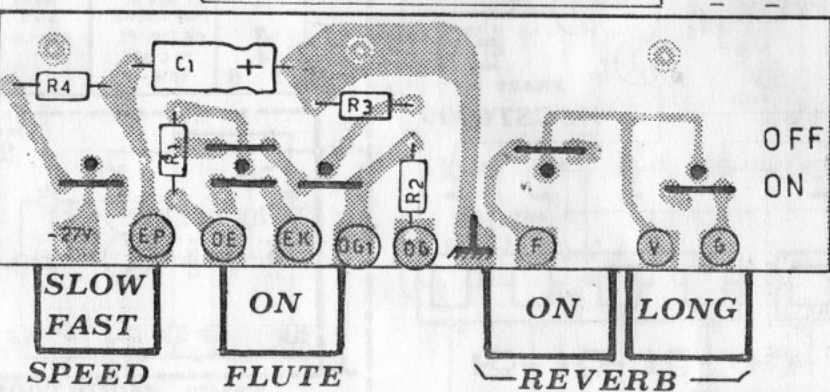
410CST0896
(427GR08960)



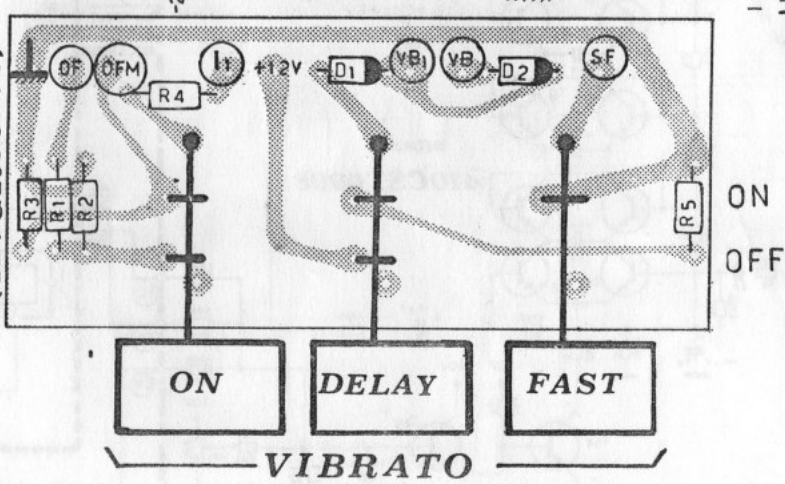
410CST0926
(427GR09260)



410CST0916
(427GR09160)

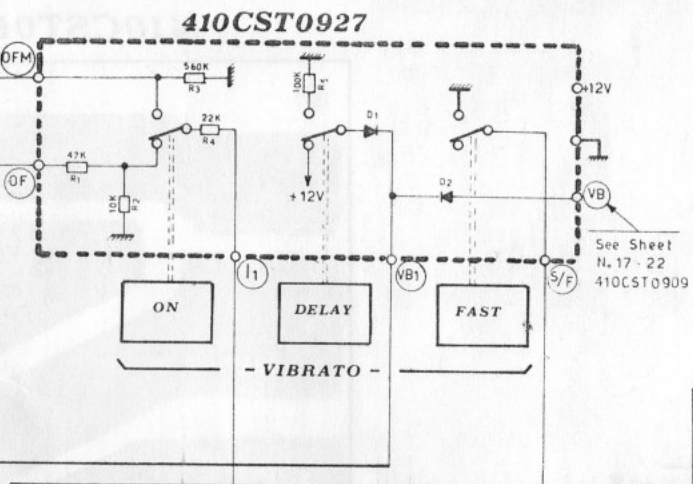
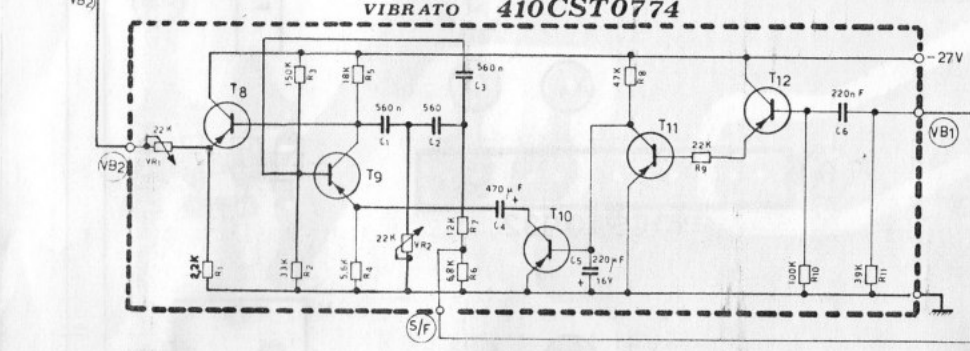
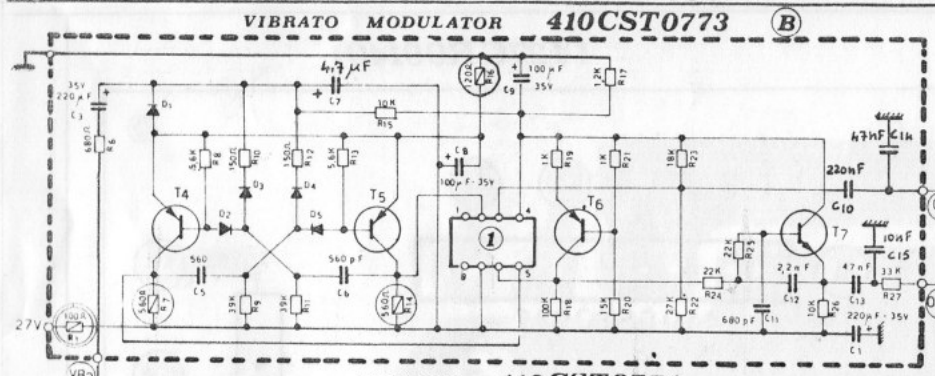


410CST0927
(427GR09270)



Model X 605
Object Assembly of Printed Circuit
Sheet No. 18-22
Date 24-7-78

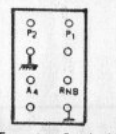
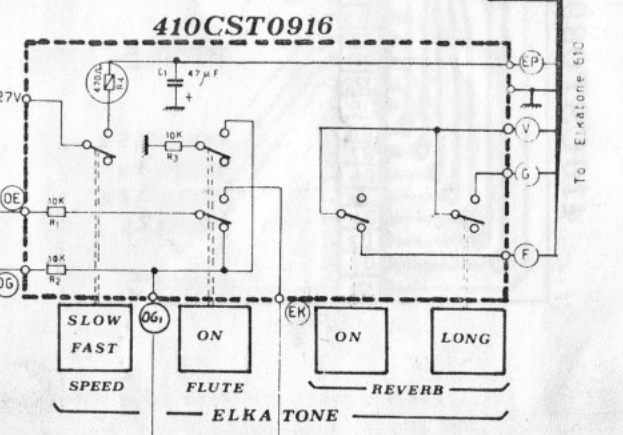
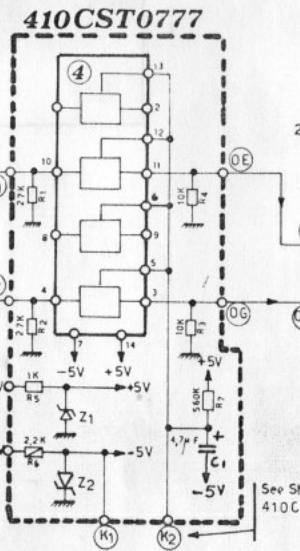
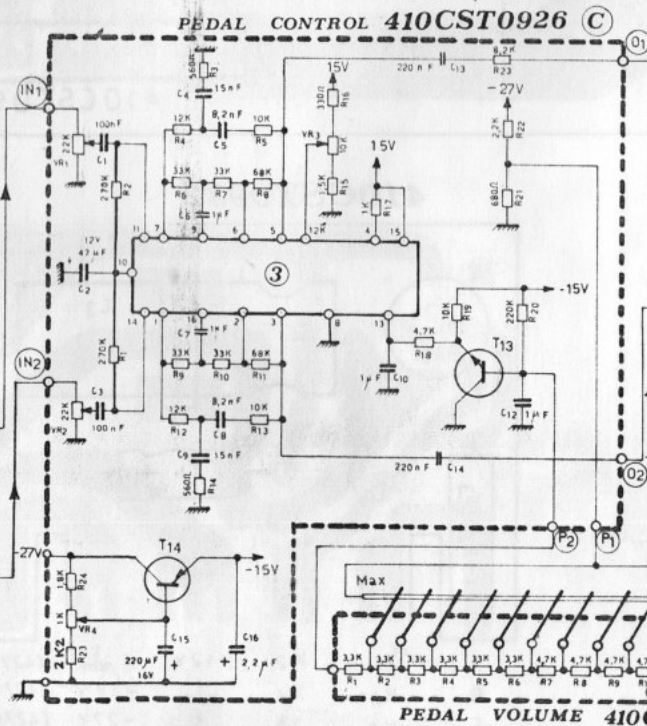
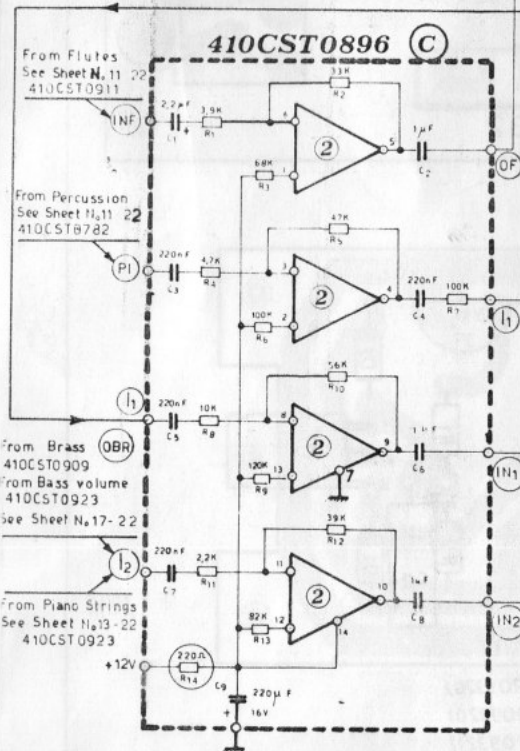
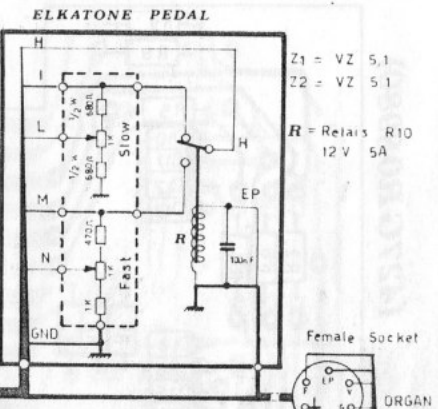
THE NUMBERS IN BRACKETS REPRESENT THE ELKA CODES OF THE ASSEMBLED BOARDS WHILST THE OTHERS REPRESENT THE ELKA CODES OF THE NON ASSEMBLED BOARDS



Code	Type	Transistors
T7 T13	NPN	BC 173 C
T5 T6	PNP	BC 205 C
T4	PNP	BC 415 C
T14	PNP	BC 287 SG5

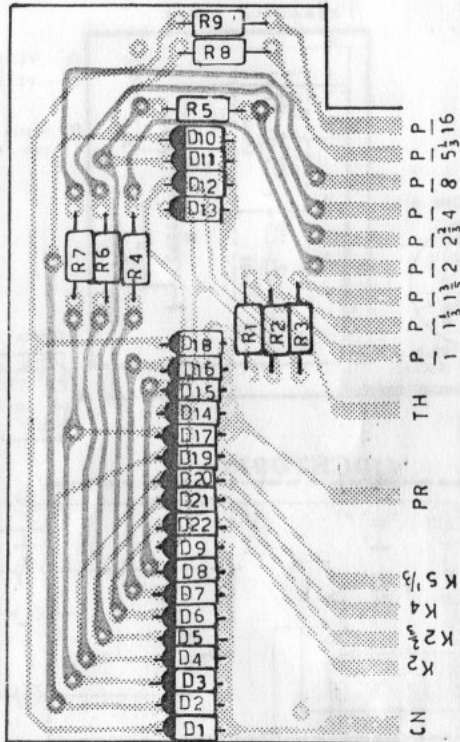
Integrated circuit		
Code	Type	Manufactured
1	TCA 350 E	ITT
2	3301	
3	TCA 730	T.T
4	4016	RCA or S.G.S

Pin	Reference
5	(H) to motor
6	F
8	V
11	M
12	N
13	
14	L
15	G
2	GND



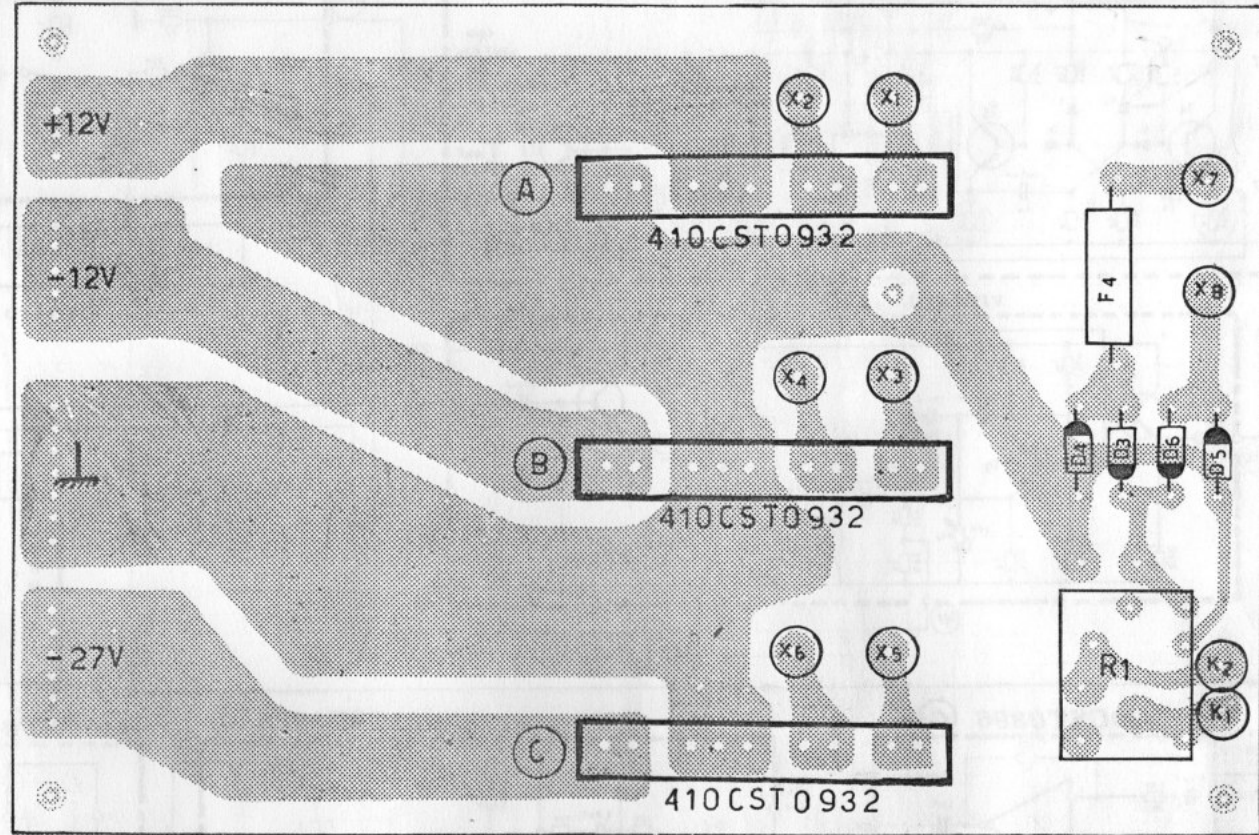
	Model	X 605	Object: Vibrato Preamplifier, Pedal control and Outputs	Sheet N.19 22
	Date	10-7-78		

410CST0898 (427GR08980)

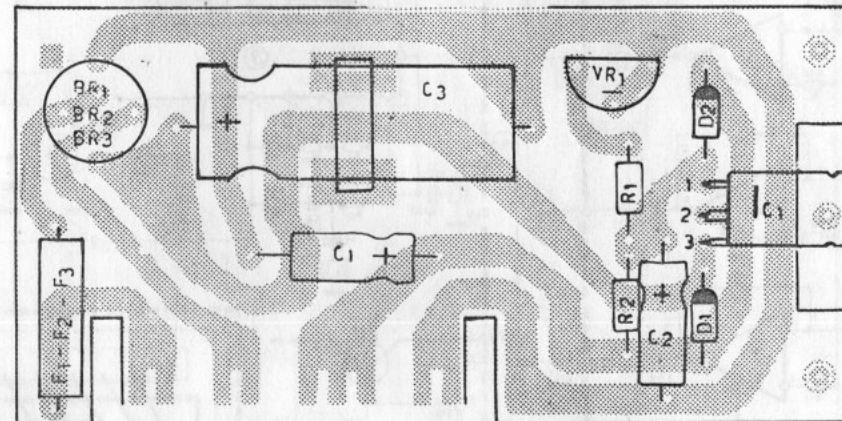


410CST0914

(427GR09140)



410CST0932

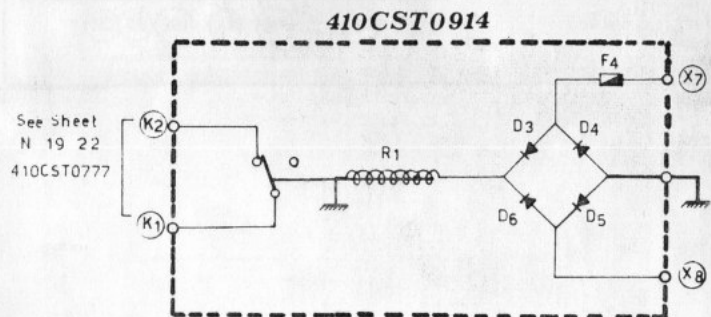
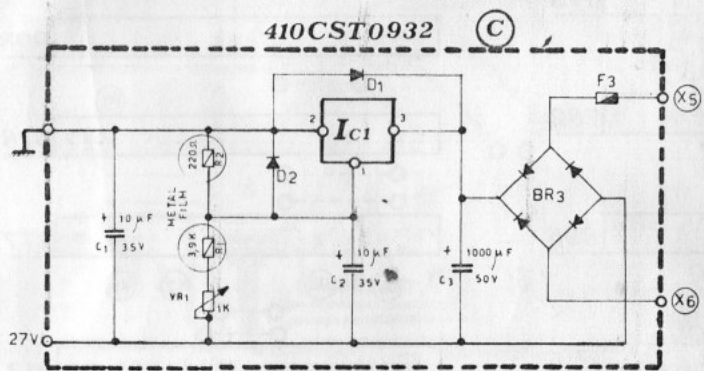
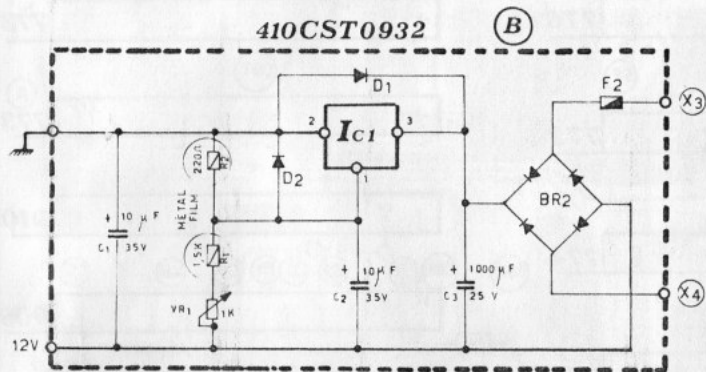
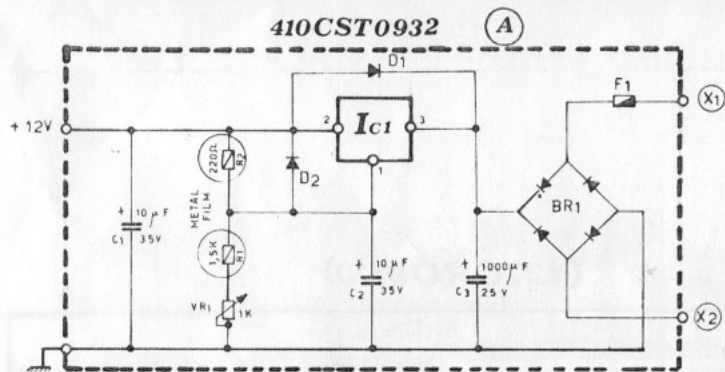


A	X1	X2	+12V	(427GR09320)
B	X3	X4	-12V	(427GR09320)
C	X5	X6	-27V	(427GR09321)

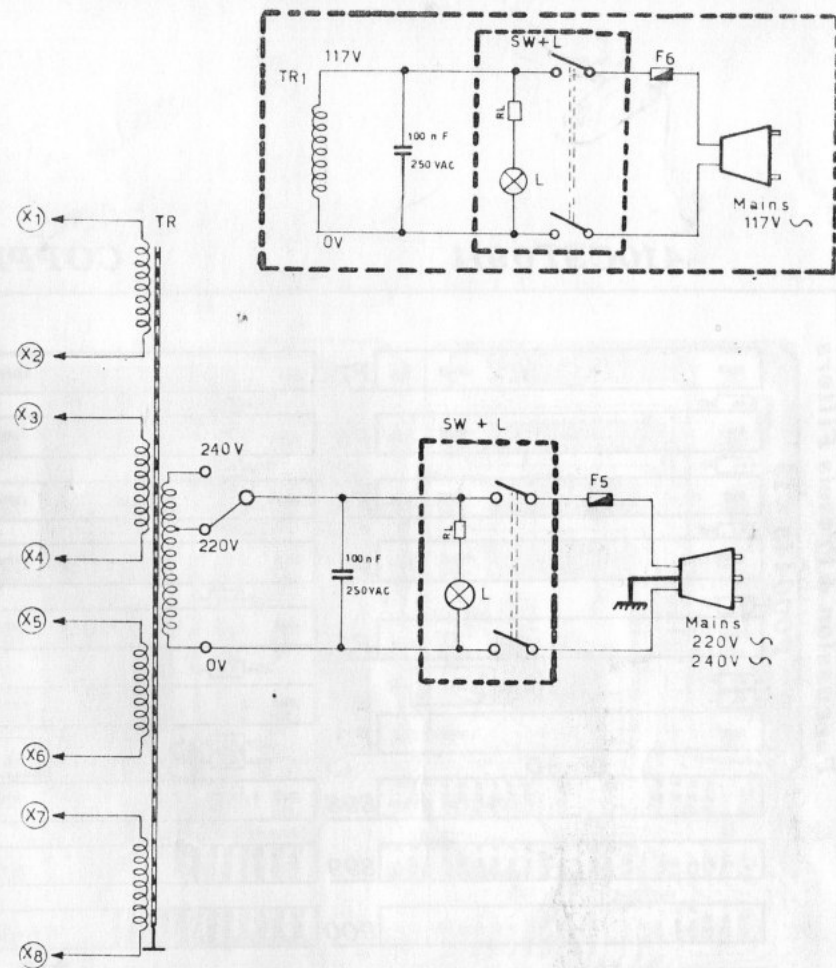


Model	Object	Sheet No 20-22
X 605	Assembly of Printed Circuit	Date 24-7 78

THE NUMBERS IN BRACKETS REPRESENT THE ELKA CODES OF THE ASSEMBLED BOARDS WHILST THE OTHERS REPRESENT THE ELKA CODES OF THE NON ASSEMBLED BOARDS



IC1 = LM 317 T National
D1 ÷ D6 = 1N4002
BR1 = BR2 = W02 G1E
BR3 = BSB2 or KL04
R1 = LZ 12H ITT



F1 = F2 = Fuse 500 mA T
F3 = Fuse 1,25 AT
F4 = Fuse 125 mA T
F5 = Fuse 315 mA T
F6 = Fuse 500 mA T

TR = Transformer T 105 N

TR1 = Transformer T 105 K

SW = L + 2W - 1 - XII / 03

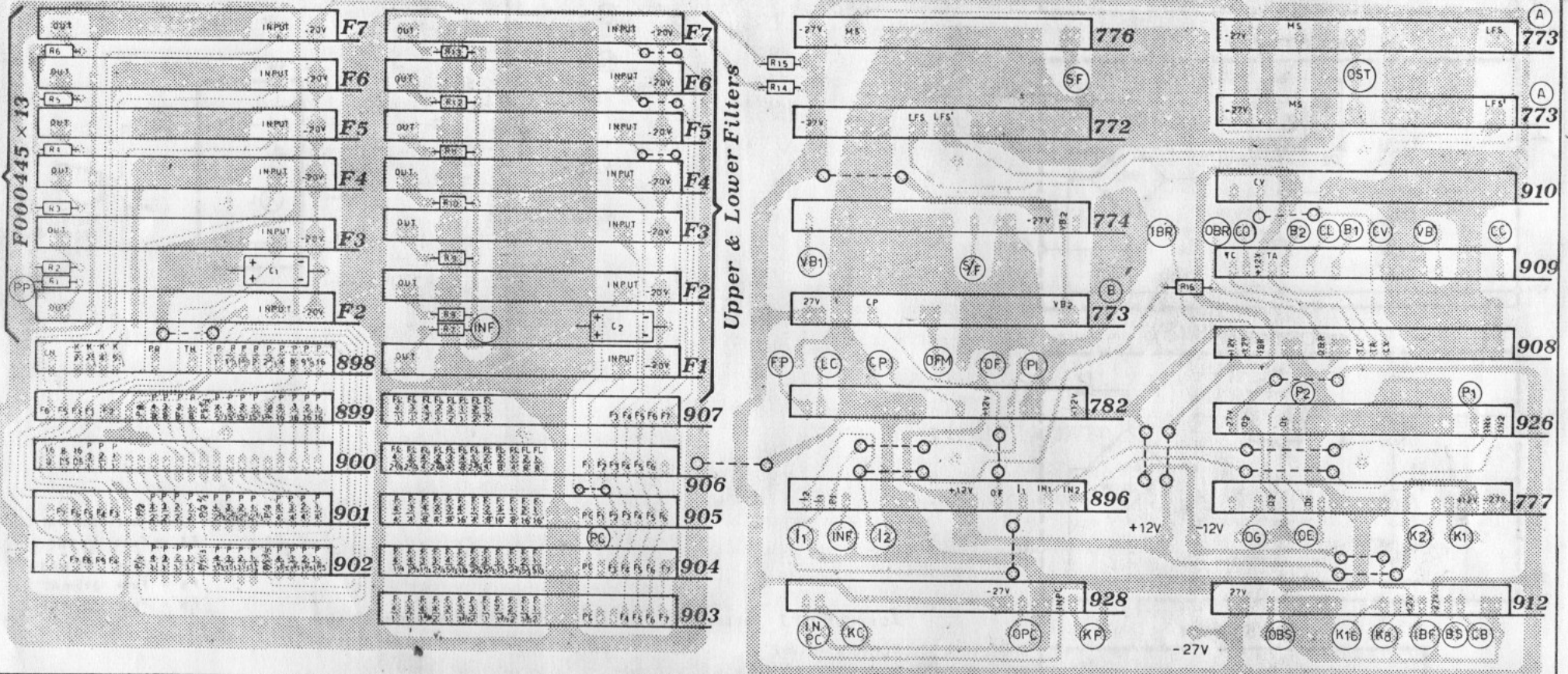
410CST0911

COPPER SIDE

(427GRO9110)

Percussion & Presets Filters

Upper & Lower Filters



	Model	Object	Sheet No. 22-22
	X 605	Assembly of Printed Circuit	Date 23-8 77

THE NUMBERS IN BRACKETS REPRESENT THE ELKA CODES OF THE ASSEMBLED BOARDS, WHILST THE OTHERS REPRESENT THE ELKA CODES OF THE NON-ASSEMBLED BOARDS.

Manufactured by **ELKA**