

**SCHEMATIC
DIAGRAM**

C|R|U|M|A|R[®]

Musical Instruments

mod.
trilogy



FEMALE CONNECTOR SYMBOL (es.J 2/1)



PLUG IN CONNECTOR SYMBOL



WIRE SOLDERING POINT



TEST POINT (T P...)



CONNECTING POINT (ON p.c.b.)



METALLIC FILM RESISTOR 1%

ALL resistors 1/4w unless otherwise indicated

ALL tabswitches shown in OFF position

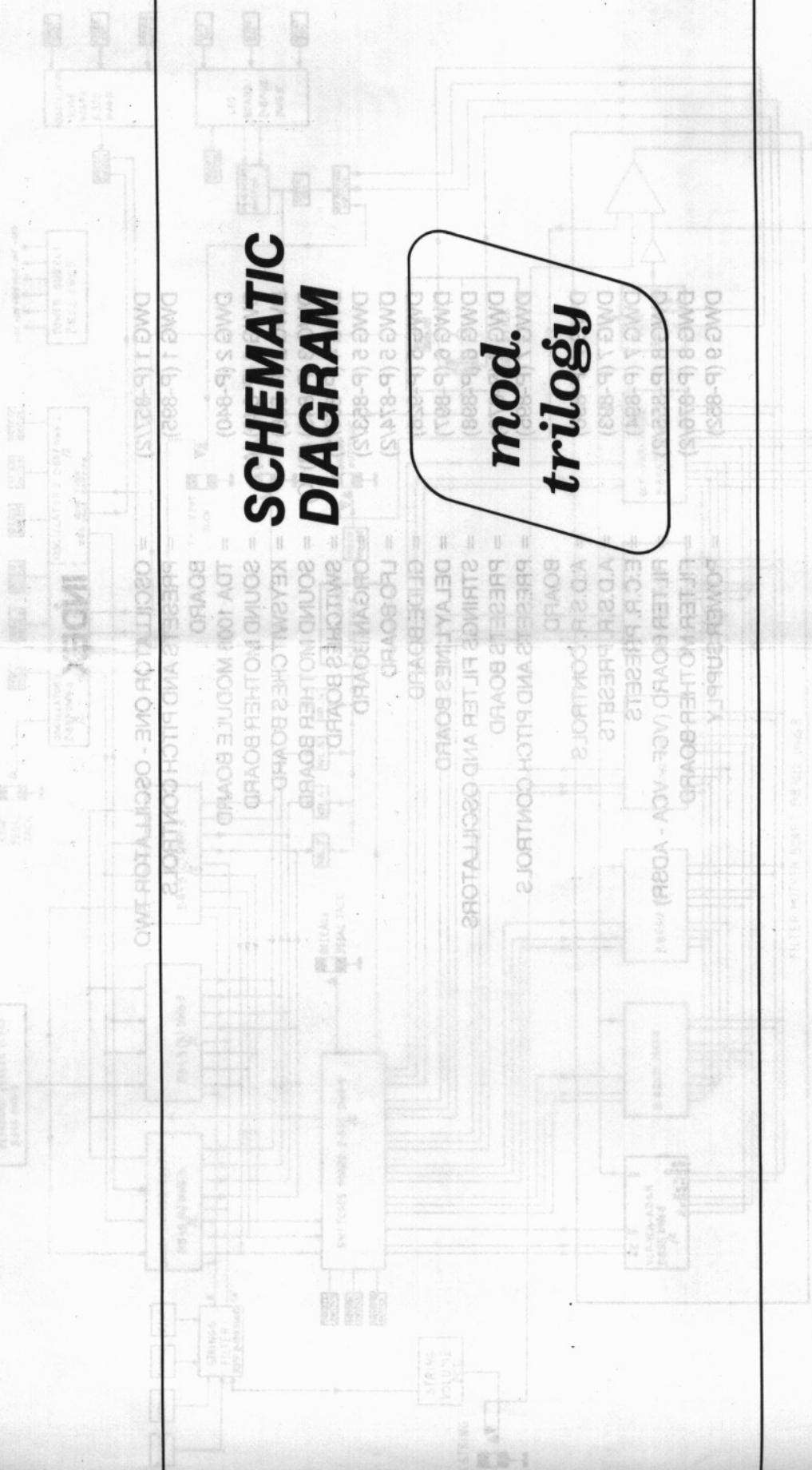
ALL keyswitches shown in OFF position

See part list for component part numbers

CRUMAR RESERVES THE RIGHT TO CHANGE
SPECIFICATIONS AND DESIGNS, WITHOUT
NOTICE AND LIABILITY.

SCHEMATIC DIAGRAM

mod. trilogy



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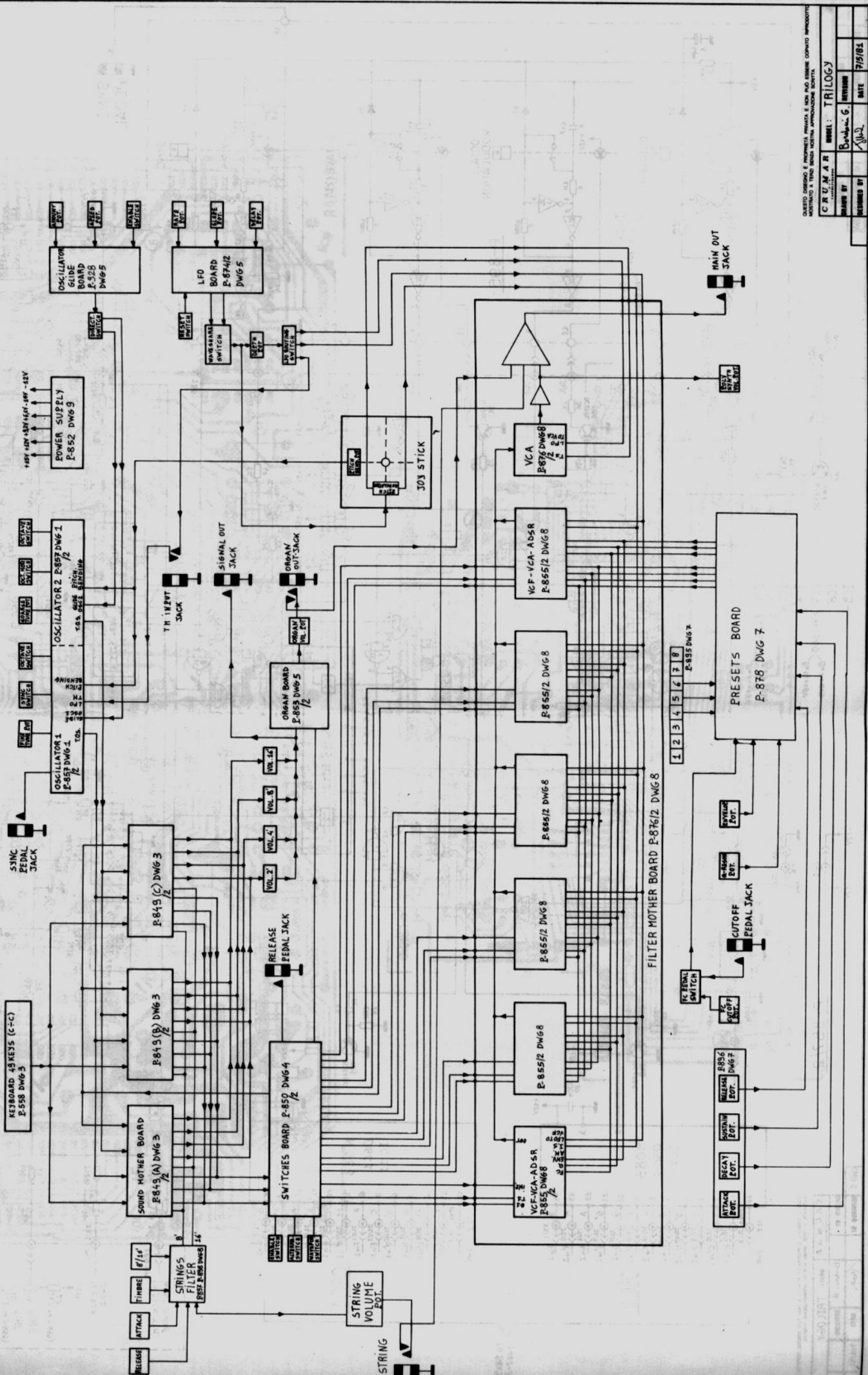
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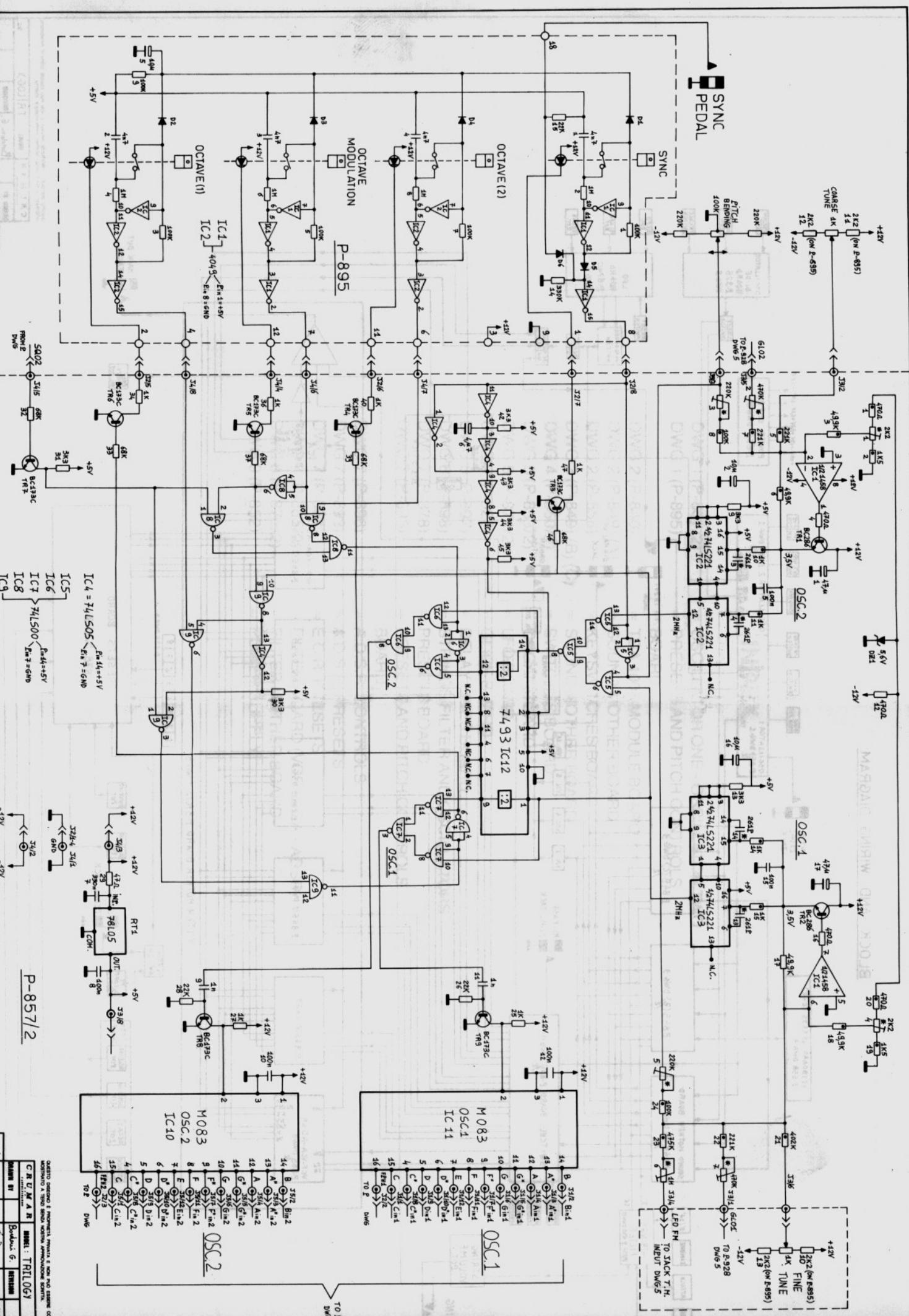
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298</p

BLOCK AND WIRING DIAGRAM

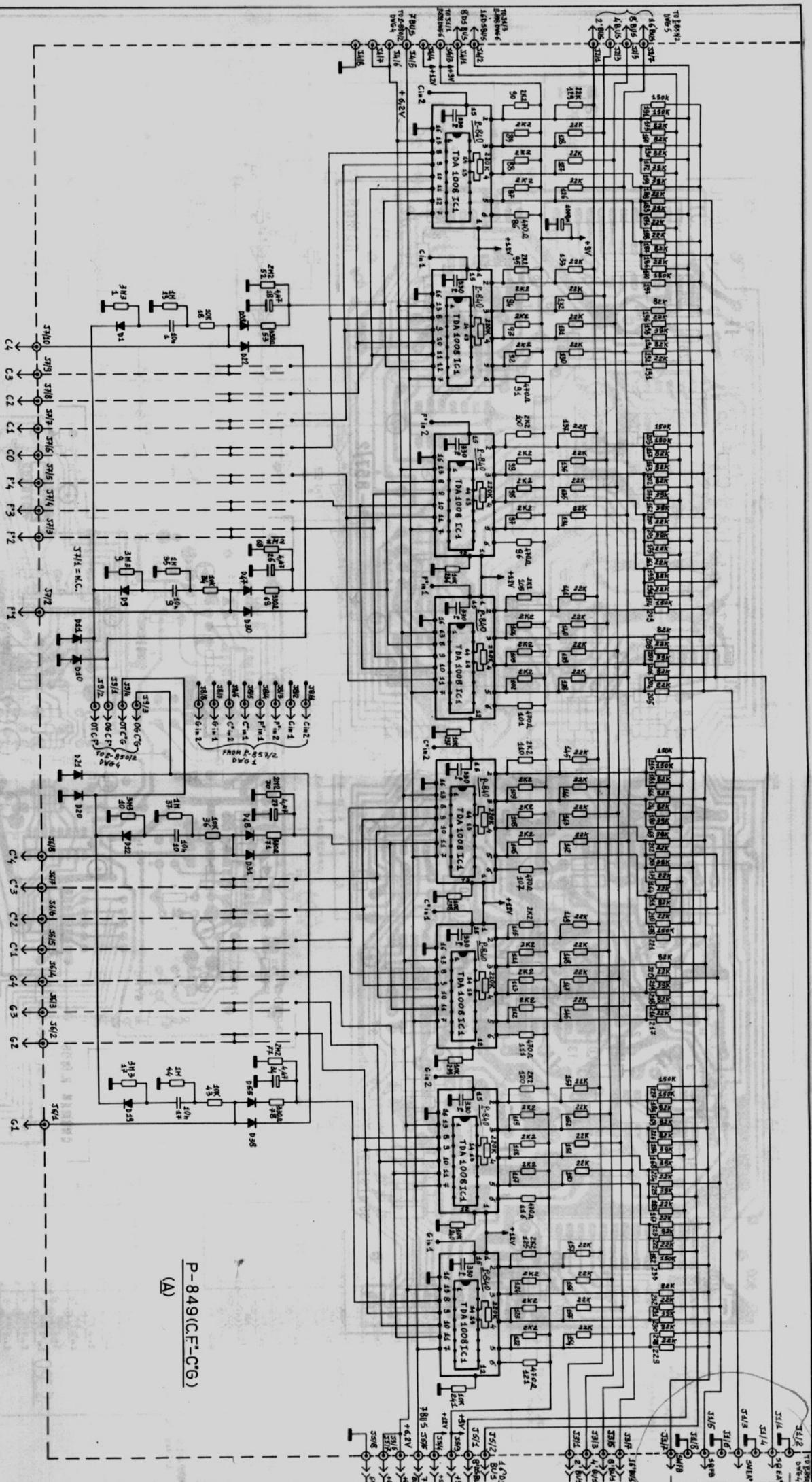




| C.R.U.M.A.R | | Model: TRILOGY | |
|--------------|------------|----------------|------|
| MANUFACTURER | Baldwin G. | REFERENCE | |
| DESIGNER | Alfredo M. | DATE | 1951 |

QUESTO DISegno È PROPRIETÀ PRIVATA E NON PUÒ ESSERE COPIATO.

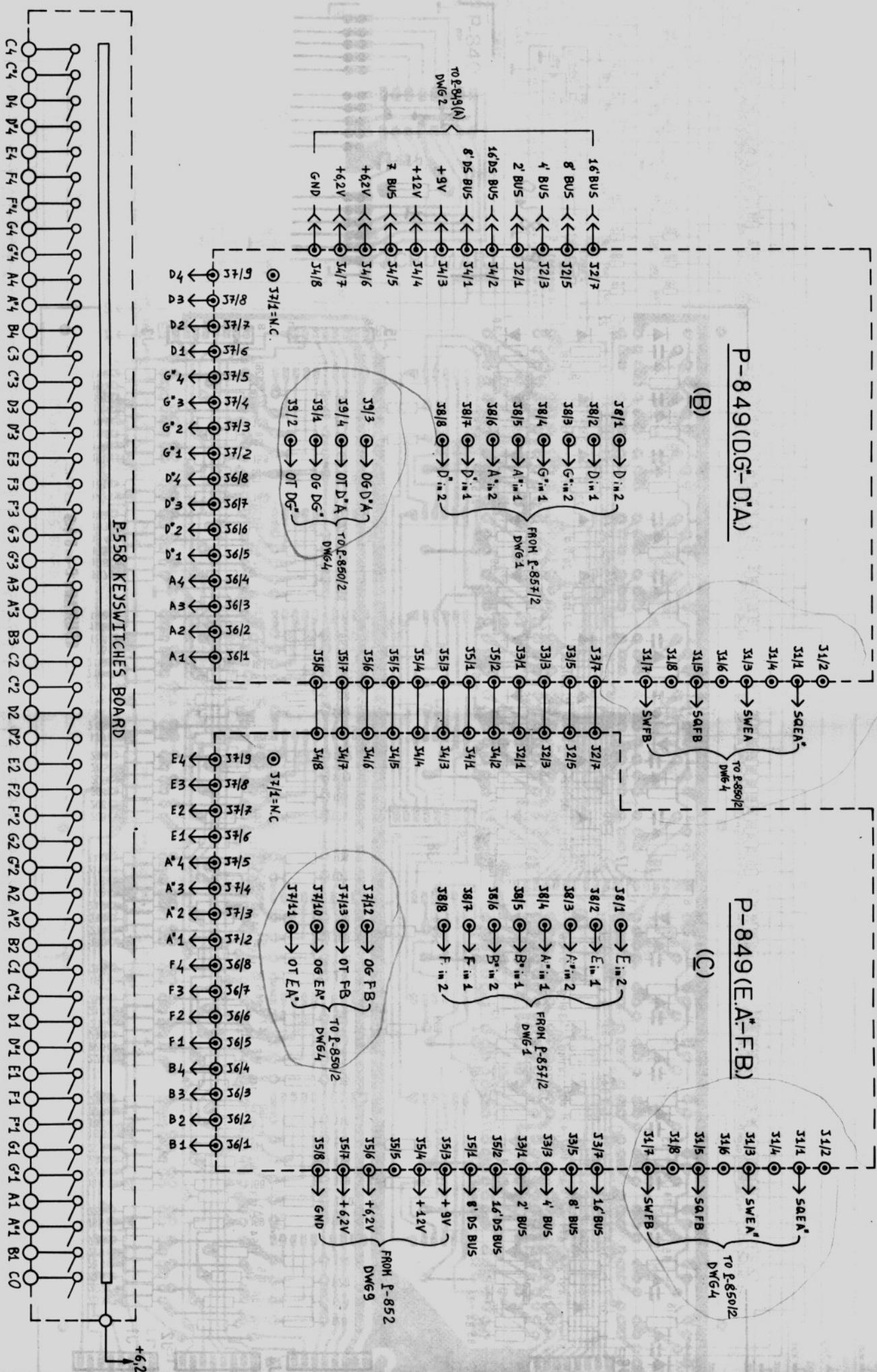
MASTRO DI TUNO RENZO MARINO - ANCONA (ANCONA)



P-849(C.F.-C.G.)

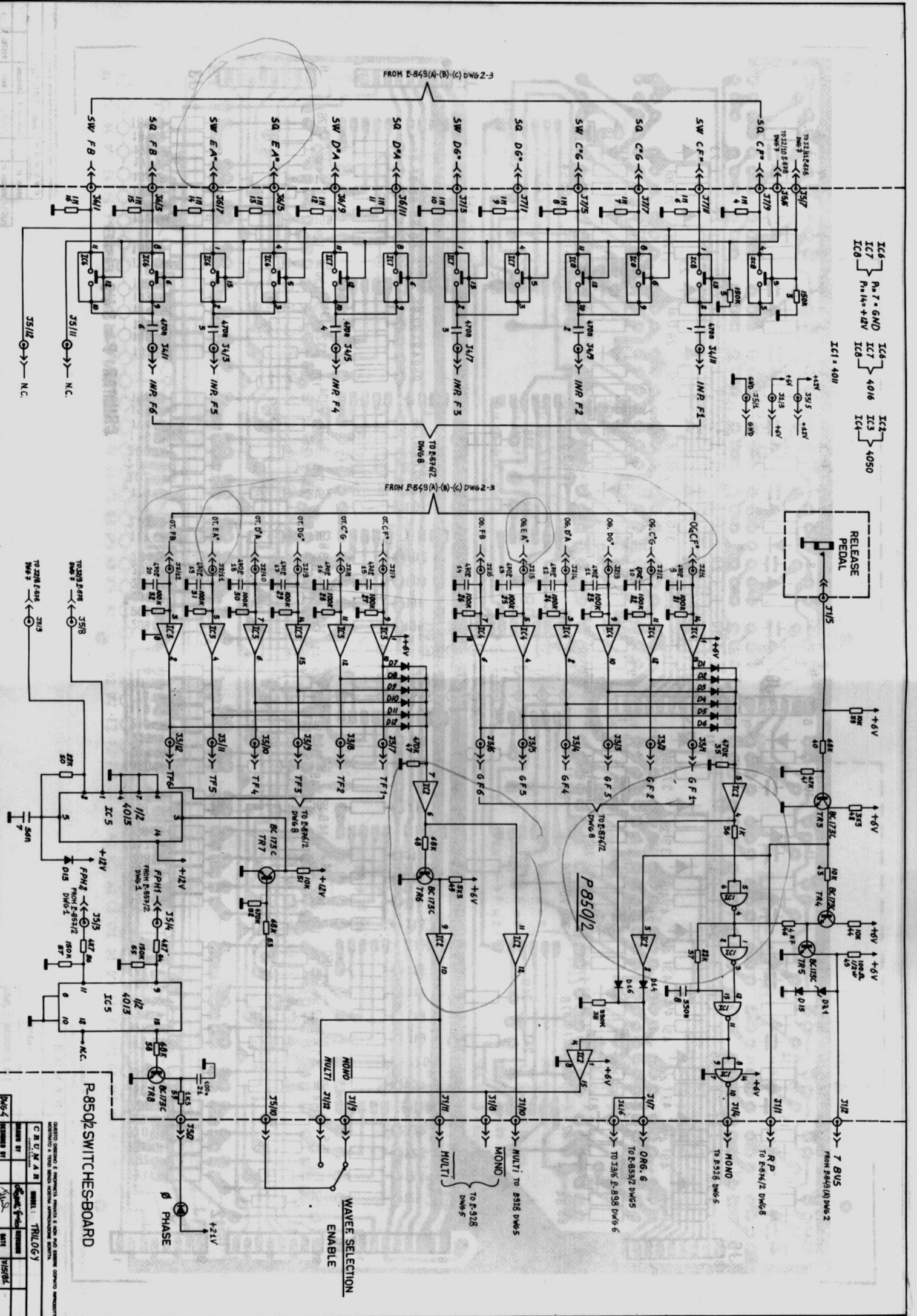
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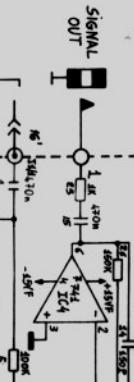
C R U M A R **MINEL: TRT LOGO**



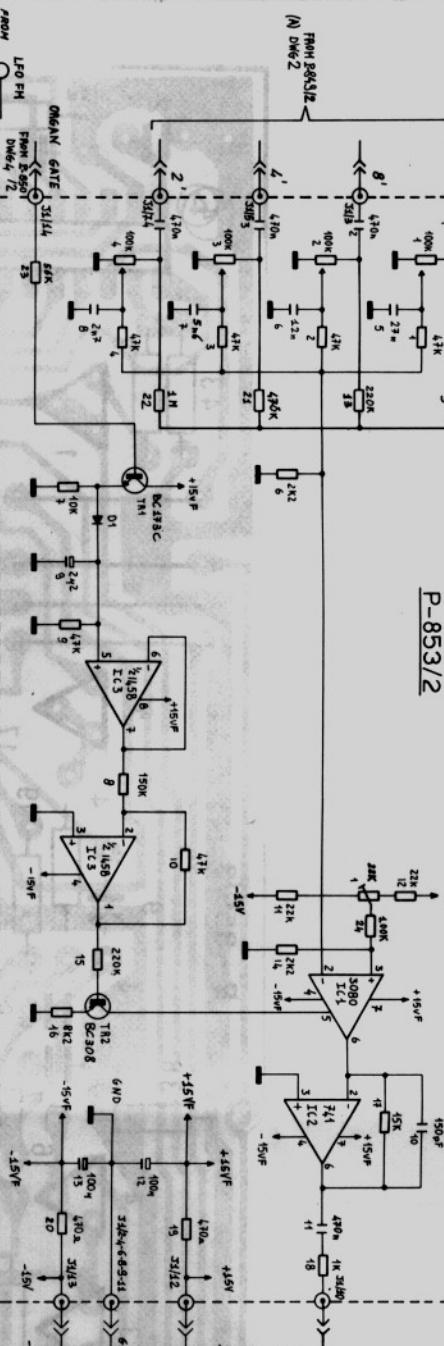
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MOSTRATO A TERZI SENZA NOSTRA APPROVAZIONE SCRITTA.

BRITISH AIRWAYS

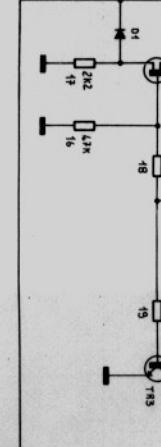
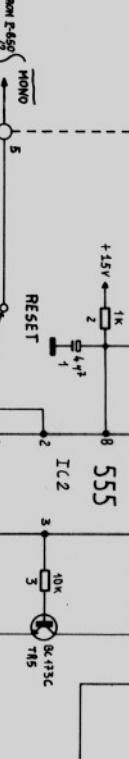
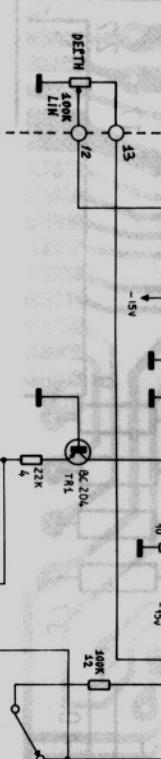
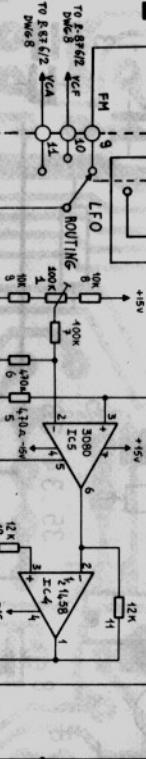
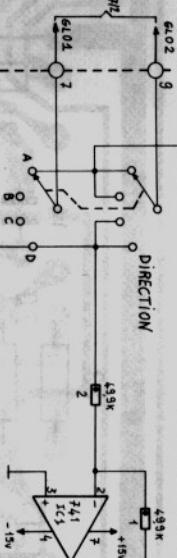




ORGAN BOARD
P-853/2



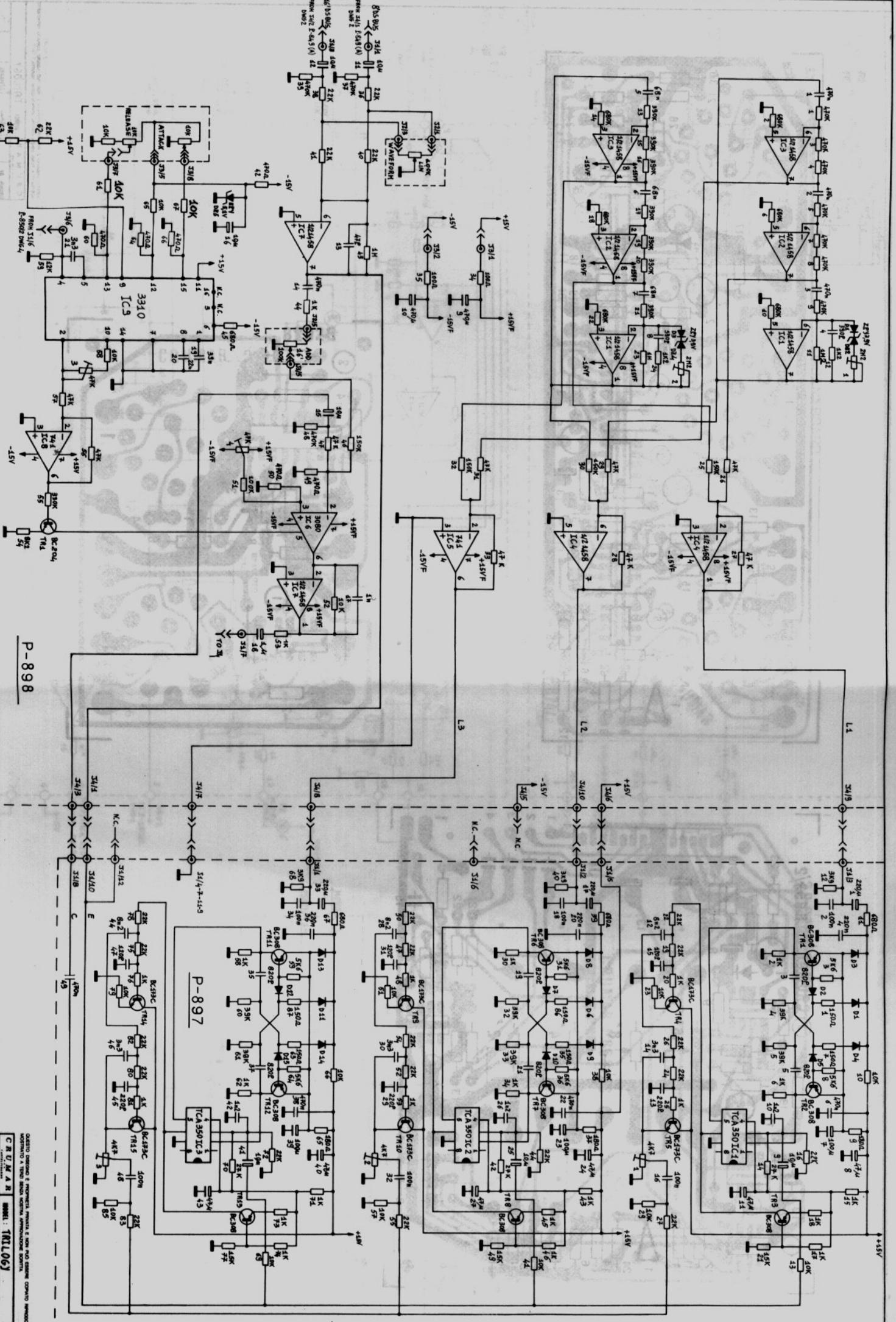
VOLUME ORGAN



LFO BOARD
P-874/2

TO P-853/2

DW64

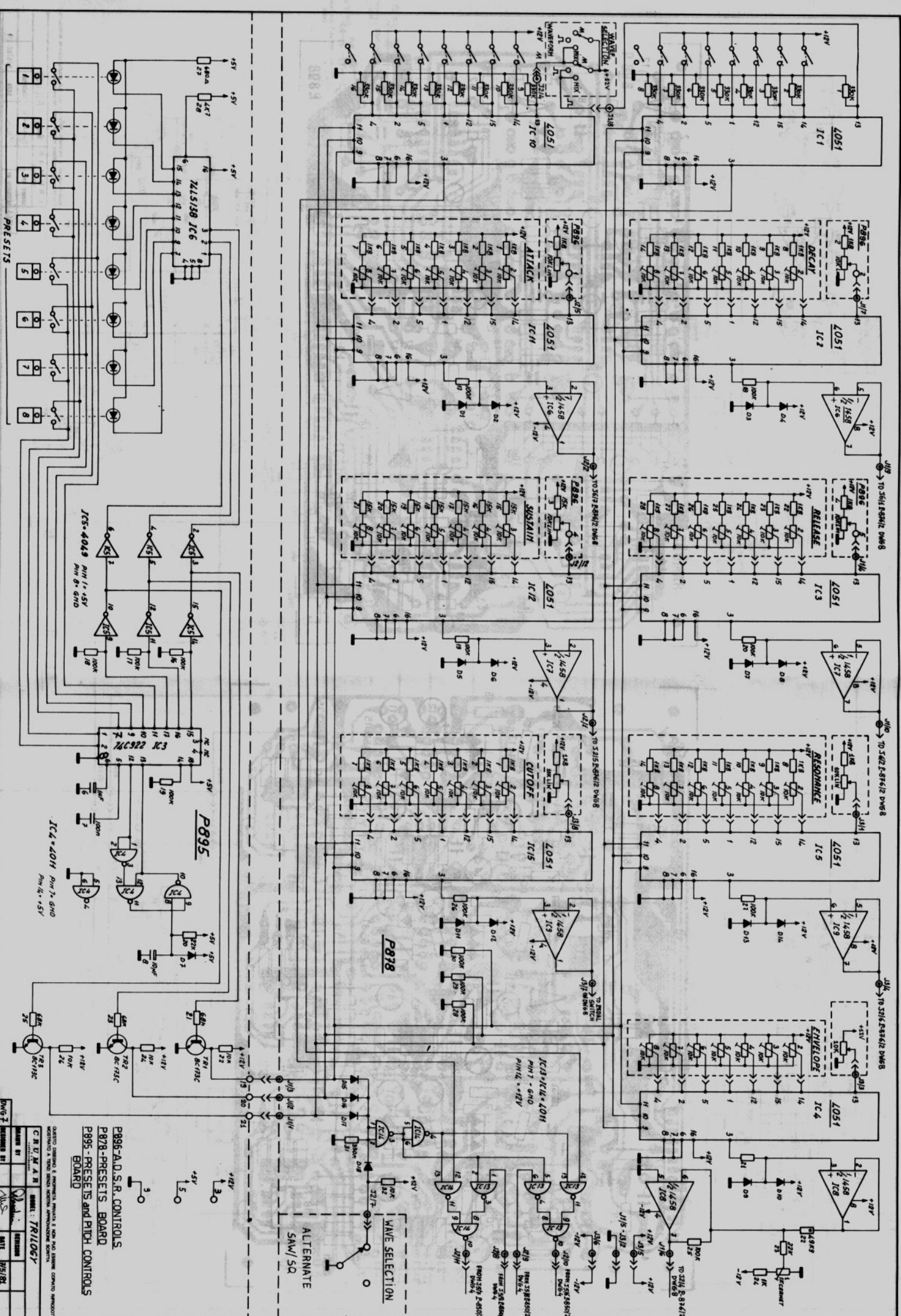


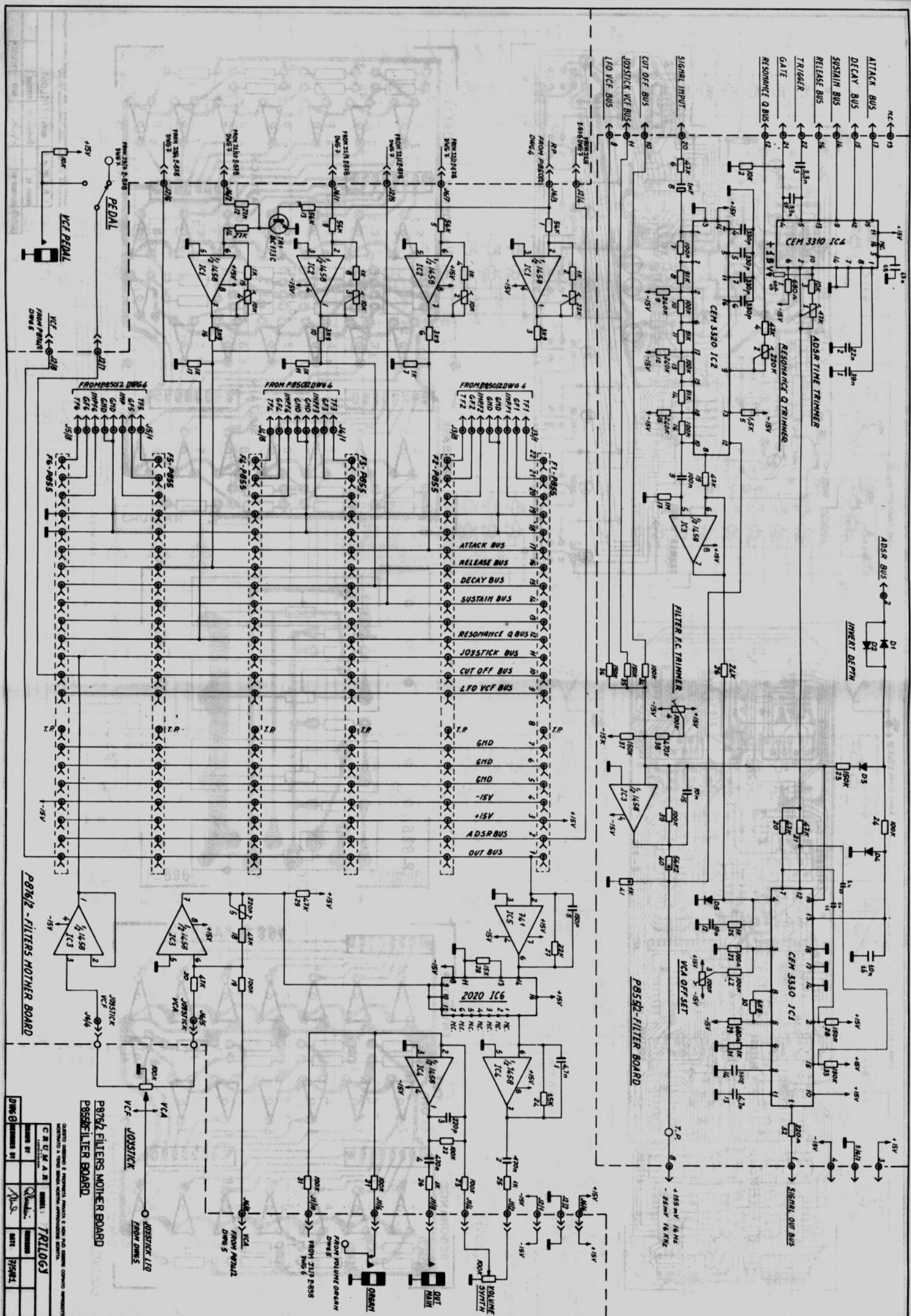
QUESTO DISEGNO È PROPRIETÀ PRIVATA E NON PUÒ ESSERE COPIATO, RIPRODOTTO

C R U M A R 1871 DEY

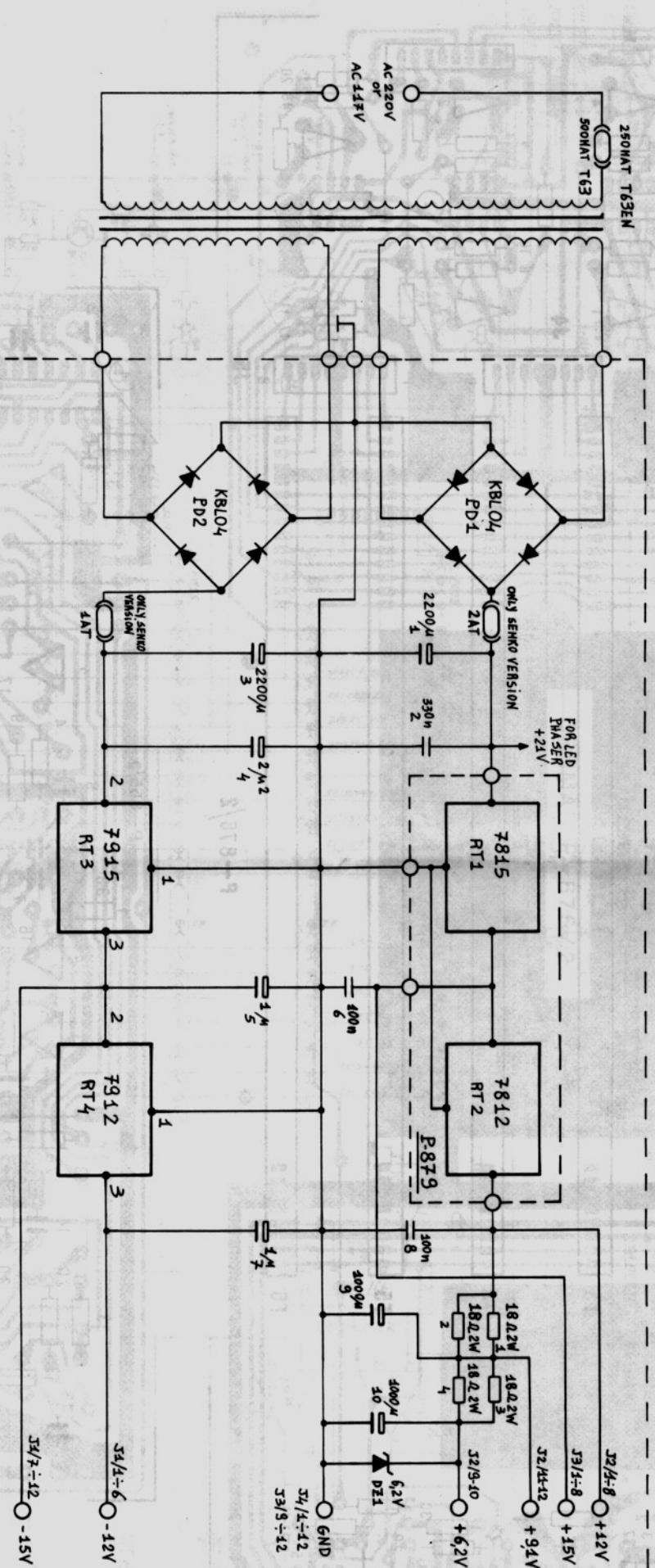
LAURENT PAILLARD

MANUFACTURERS' CATALOGUE





P-852
POWER SUPPLY



QUESTO DISEGNO È PROPRIETÀ PRIVATA E NON PUÒ ESSERE COMATO RIPRODOTTO
MOSTRATO A TERZO SENZA NOSTRA APPROVAZIONE SCRITTA.

| C R U M A R | | MODEL : TRILOGY | |
|-------------|---------------|-----------------|--------|
| DRAWN BY | B. Bonelli G. | REVISION | |
| DESIGNED BY | K. J. W. | DATE | 7/5/81 |

MODEL TRILOGY

ELECTRONIC COMPONENT LIST

MODEL TRILOGY

ELECTRONIC COMPONENT LIST

| Schem. Ref. | Circuit | Type | Part Code |
|---|--|-----------|-----------|
| OSCILLATOR ONE - OSCILLATOR TWO (DWG 1) | | | |
| P-857/2 | Complete with Components | | |
| IC1 | Dual Operational Amplifier | | |
| IC2 - IC3 | Master Oscillator | | |
| IC4 | Hex inverter open Collector LS-TTL | | |
| IC5 ÷ IC9 | Quad 2 - Input NAND Gates LS-TTL | | |
| IC10 - IC11 | T.O.S. | | |
| IC12 | 4-Bit Binary counter LS-TTL | | |
| TR1 - TR2 | Power Transistor NPN | | |
| TR3 ÷ TR9 | Transistor NPN | | |
| DZ1 | Diode Zener | | |
| RT1 | Voltage Regulator | | |
| PRESETS AND PITCH CONTROLS BOARD (DWG 1) | | | |
| P-895 | Complete with Components | | |
| IC1 - IC2 - IC5 | Buffer | | |
| IC3 | Encoder | | |
| IC4 | NAND Gate | | |
| IC6 | Decoder | | |
| TR1 - TR3 | NPN Transistor | | |
| D1 ÷ D7 | Diodes | | |
| TDA 1008 MODULE BOARD (DWG2) | | | |
| P-840 | Complete with Components | | |
| IC1 | Frequency divider | | |
| SOUND MOTHER BOARD (DWG2) | | | |
| P-849 (A) | Complete with Components | | |
| D1 ÷ D55 | Diodes | | |
| KEYSWITCHES BOARD (DWG2) | | | |
| P-558 | Complete with Components | | |
| POWER SUPPLY | | | |
| P-849 (B) (C) | SOUND MOTHER BOARD (WDG3) Complete with Components | BA130 | 978002448 |
| D1 ÷ D52 | Diodes | 65000001 | |
| P-849 (B) (C) | DELAY LINES BOARD (DWG6) Complete with Components | P-897 | 978002522 |
| D1 ÷ D52 | Diodes | IC1 ÷ IC3 | 68000007 |
| P-849 (B) (C) | GLIDE BOARD (DWG5) Complete with Components | P-928 | 978002570 |
| D1 ÷ D52 | Diodes | IC1 | 741 |
| P-849 (B) (C) | KEYSWITCHES BOARD (DWG2) Complete with Components | IC2 | 3310 |
| D1 ÷ D52 | Diodes | | |

| Schem. Ref. | Circuit | Type | Part Code |
|------------------------------|---|----------|-----------|
| SWITCHES BOARD (DWG4) | | | |
| P-850/2 | Complete with Components | | |
| IC1 | Quad 2-Input Nand Gates CMOS | | |
| IC2 ÷ IC4 | Hex Non-inverting buffer CMOS | | |
| IC5 | Dual D Flip-flop CMOS | | |
| IC6 ÷ IC8 | Quad bilateral switch | | |
| TR3 ÷ TR8 | Transistor NPN | | |
| D1 ÷ D14 | Diodes | | |
| TR1 | Diode Zener | | |
| TR2 | Voltage Regulator | | |
| ORGAN BOARD (DWG5) | | | |
| P-853/2 | Complete with Components | | |
| IC1 | Operational transconductance amplifier | | |
| IC2 | Operational amplifier | | |
| IC3 | Dual operational amplifier | | |
| IC4 | Operational amplifier | | |
| TR1 | Transistor NPN | | |
| TR2 | Transistor PNP | | |
| D1 | Diode | | |
| LFO BOARD (DWG5) | | | |
| P-874/2 | Complete with Components | | |
| IC1 - IC2 | Dual operational amplifier | | |
| IC3 | Timer | | |
| IC4 | Operational amplifier | | |
| IC5 | Operational transconductance amplifier | | |
| TR1 | Transistor PNP | | |
| TR2 | Fet | | |
| TR3 ÷ TR5 | Transistor NPN | | |
| D1 - D2 | Diodes | | |
| POWER SUPPLY | | | |
| P-897 | DELAY LINES BOARD (DWG6) Complete with Components | TCA350 | 978002522 |
| IC1 ÷ IC3 | Analog Delay Line | | 68000007 |
| P-928 | GLIDE BOARD (DWG5) Complete with Components | 741 | 978002570 |
| IC1 | Operational amplifier | 68000059 | |
| IC2 | | 3310 | 68030142 |

MODEL TRILOGY

ELECTRONIC COMPONENT LIST

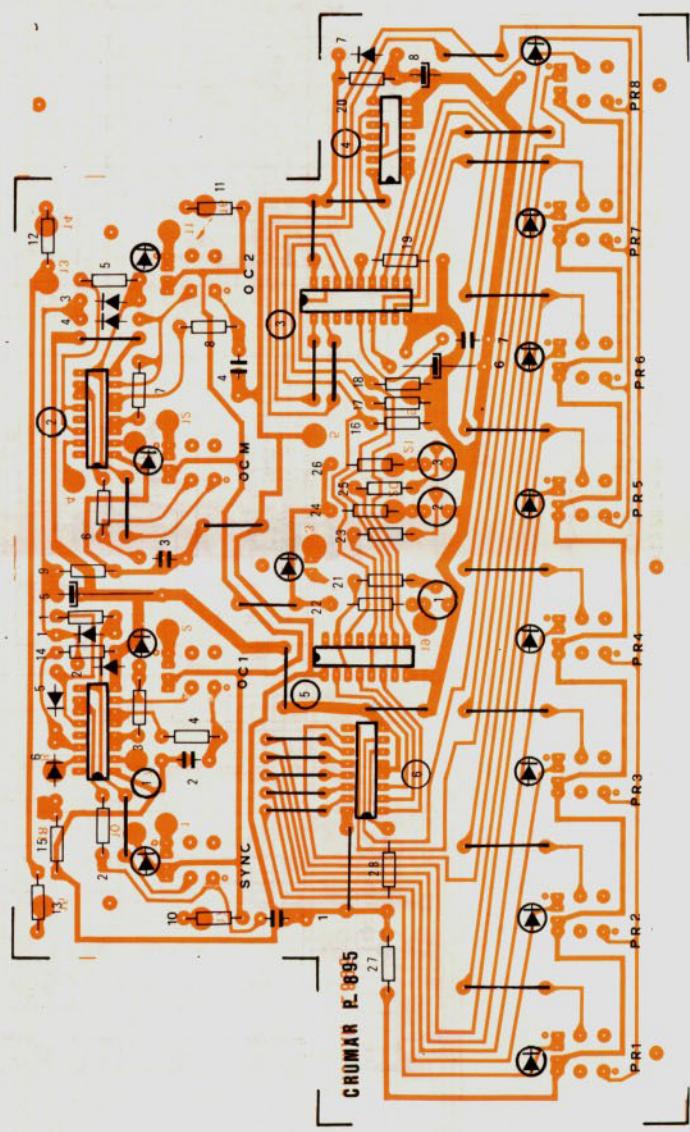
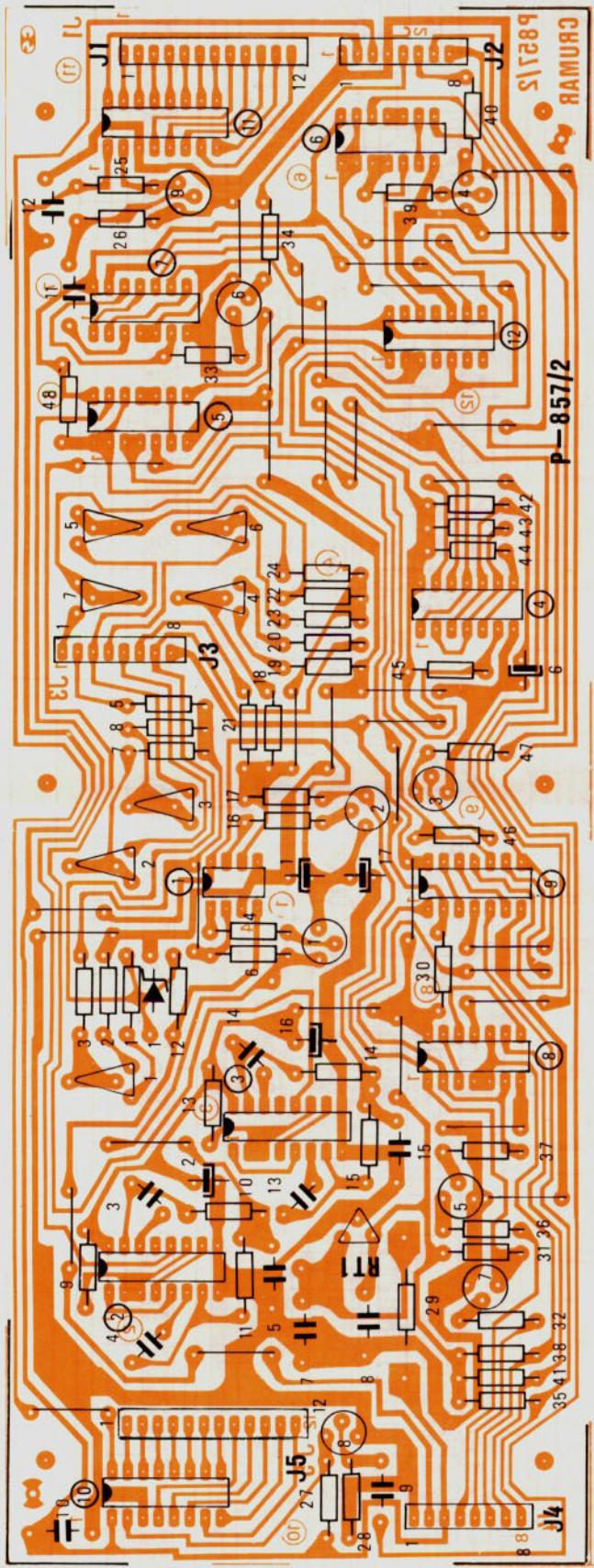
MODEL TRILOGY

ELECTRONIC COMPONENT LIST

| Schem. Ref. | Circuit | Type | Part Code | Schem. Ref. | Circuit | Type | Part Code |
|--|----------------------------|---------|-----------|-------------|--|------|-----------|
| TR1 ÷ TR3 | Analog Delay Line | BC308 | 62210001 | P-894 | E.C.R. PRESETS (DWG7) Complete with Components | | 978002519 |
| TR4 - TR5 | Analog Delay Line | BC173C | 62120003 | | | | |
| TR6 ÷ TR8 | PNP Transistor | BC308 | 62210001 | | | | |
| TR9 - TR10 | NPN Transistor | BC173C | 62120003 | | | | |
| TR11 ÷ TR13 | PNP Transistor | BC308 | 62210001 | | | | |
| TR14 - TR15 | NPN Transistor | BC173C | 62120001 | | | | |
| D1 ÷ D15 | Diodes | BA130 | 65000001 | | | | |
| STRINGS FILTER AND OSCILLATORS (DWG6) | | | | | | | |
| P-898 | Complete with Components | 1458 | 978002523 | | | | |
| IC1 ÷ IC4 | Dual Operational Amplifier | 741 | 68000054 | | | | |
| IC5 - IC8 | Operational Amplifier | 3080 | 68000059 | | | | |
| IC6 | O.T.A. | 1458 | 68000066 | | | | |
| IC7 | Dual Operational Amplifier | 3310 | 68000054 | | | | |
| IC9 | Envelope Generator | BC308 | 62210001 | | | | |
| TR1 | PNP Transistor | ZPY3,9V | 67000025 | | | | |
| DZ2 - DZ4 | Diode Zener | ZPY5,1V | 67000012 | | | | |
| DZ5 | Diode Zener | BA130 | 65000001 | | | | |
| D1 - D3 | Diodes | | | | | | |
| PRESETS BOARD (DWG7) | | | | | | | |
| P-878 | Complete with Components | 4051 | 978002482 | | | | |
| IC1 ÷ IC5 | Analog Demultiplexer | 1458 | 68010154 | | | | |
| IC6 ÷ IC9 | Dual Operational Amplifier | 4051 | 68000054 | | | | |
| IC10 ÷ IC12 | Analog Demultiplexer | 4011 | 68010154 | | | | |
| IC13 - IC14 | NAN Gate | 4051 | 68000034 | | | | |
| IC15 | Analog Demultiplexer | BA130 | 65000001 | | | | |
| D1 ÷ D18 | Diodes | | | | | | |
| A.D.S.R. CONTROLS (DWG7) | | | | | | | |
| P-896 | Complete with Components | | 978002521 | | | | |
| P-893 | Complete with Components | | 978002518 | | | | |

| Schem. Ref. | Circuit | Type | Part Code | Schem. Ref. | Circuit | Type | Part Code |
|-------------|---------|------|-----------|-------------|--|------|-----------|
| | | | | P-894 | E.C.R. PRESETS (DWG7) Complete with Components | | 978002519 |
| | | | | | | | |
| | | | | | FILTER BOARD (VCF-VCA-ADSR) (DWG8) | | |
| | | | | | Complete with Components | | 978002543 |
| | | | | | Dual voltage controlled amplifier | | 68030144 |
| | | | | | Voltage controlled filter | | 68030143 |
| | | | | | Dual operational amplifier | | 68000054 |
| | | | | | Voltage controlled envelope generator | | 68030142 |
| | | | | | Diodes | | 65000001 |
| | | | | | | | |
| | | | | P-876/2 | FILTER MOTHER BOARD (DWG8) | | |
| | | | | IC1 ÷ IC4 | Complete with Components | | 978002536 |
| | | | | IC5 | Dual operational amplifier | | 68000053 |
| | | | | IC6 | Operational amplifier | | 68000059 |
| | | | | TR1 | Voltage controlled amplifier | | 68030139 |
| | | | | | Transistor NPN | | 62120003 |
| | | | | | | | |
| | | | | P-852 | POWER SUPPLY (DWG9) | | |
| | | | | RT1 | Complete with Components | | 978002533 |
| | | | | RT2 | Voltage Regulator | | 62110020 |
| | | | | RT3 | Voltage Regulator | | 62110027 |
| | | | | RT4 | Voltage Regulator | | 62110022 |
| | | | | PD1 | Voltage Regulator | | 62110037 |
| | | | | PD2 | Rectifier Bridge | | 66000006 |
| | | | | DZ1 | Rectifier Bridge | | 66000006 |
| | | | | DZ2 | Diode Zener | | 67000023 |
| | | | | T63 | Diode Zener | | 67000013 |
| | | | | T63EN | Transformer CSA Version | | 18010100 |
| | | | | | Transformer SEMKO Version | | 18010099 |
| | | | | | | | |

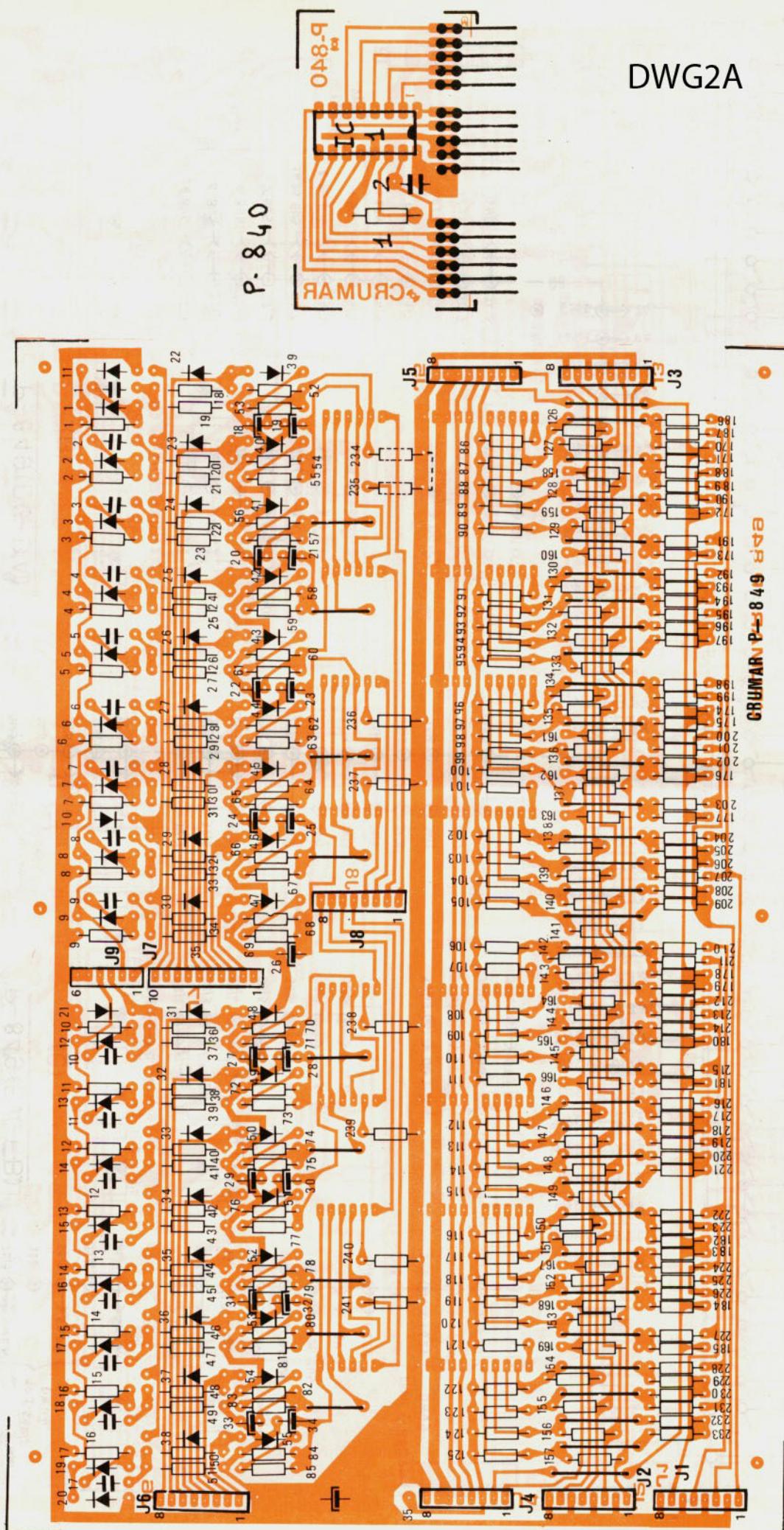
DWG1A



QUESTO DISegNO È PROPRIETÀ PRIVATA E NON PUÒ ESSERE COPIATO SENZA AUTORISAZIONE SCRITTA
MAESTRATO DIRETTO SOLO NELL'AMBITO DI PRODUZIONE SANTA

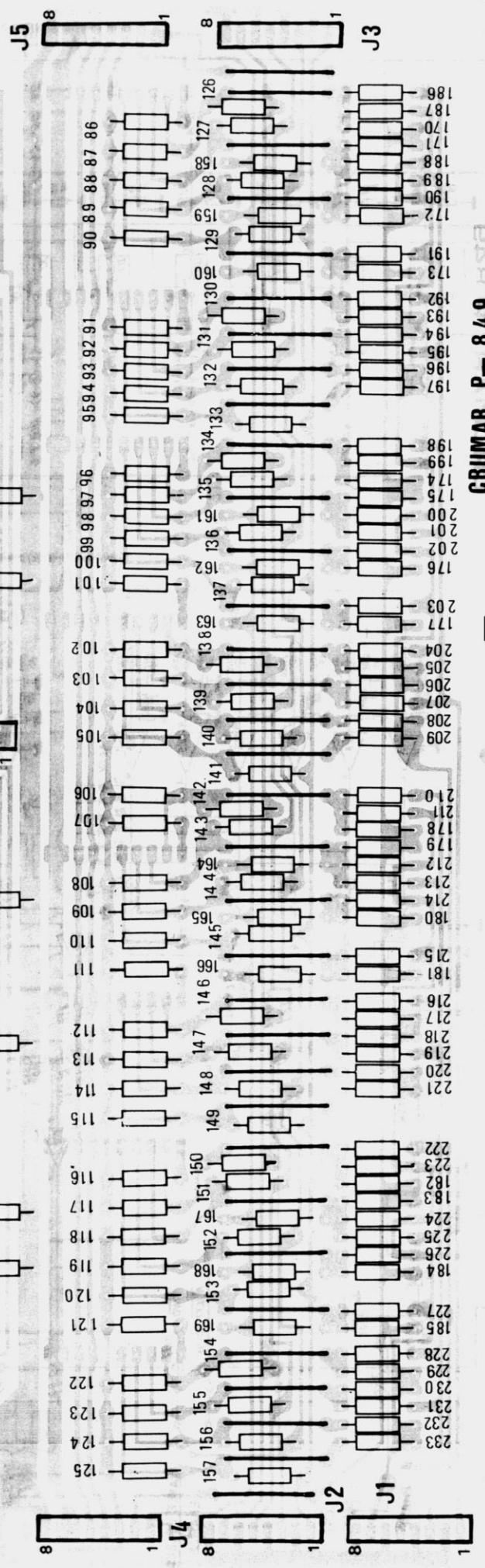
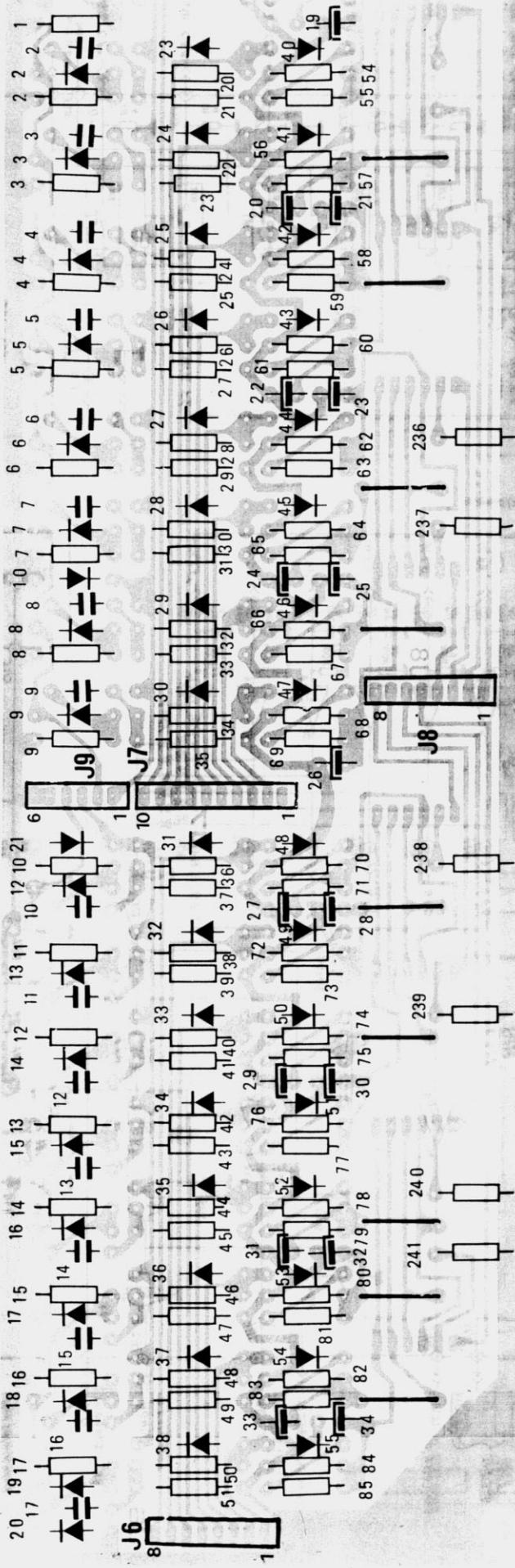
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|-------------|---------------------|
| C R U M A R | MODEL: TEFLOGY |
| DESIGNED BY | B. Adami G. Bazzani |
| DATE | 7/5/85 |

DWG2A



QUESTO DISSEGNO È PROPRIETÀ PRIVATA E NON PUÒ ESSERE COPIATO SENZA AUTORISAZIONE SCRITTA.
MOSTRATO A TECNICO SENZA AUTORIZZAZIONE SCRITTA.

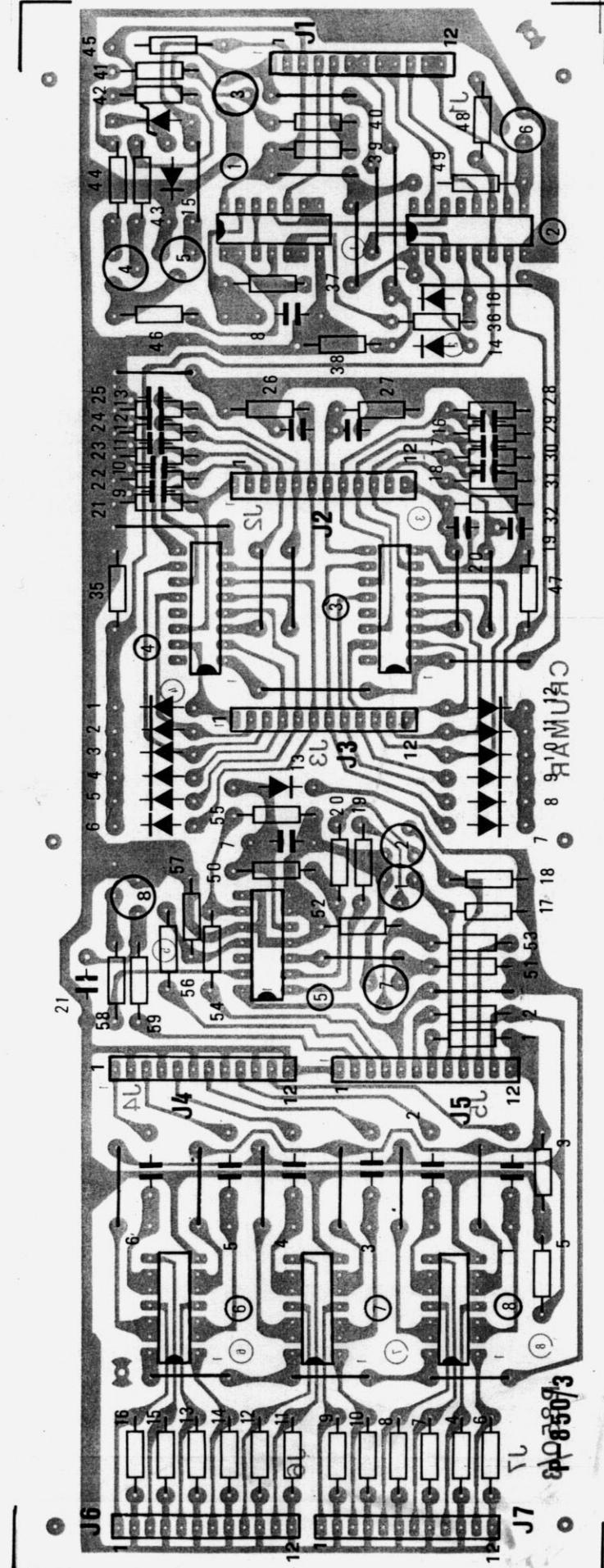
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| C R U M A R | MODEL: TRLOG |
| DRAWN BY | Baldassari G. |
| REVISION | 1 |
| DATE | 7/5/85 |
| FILE NO. | DWG2A |

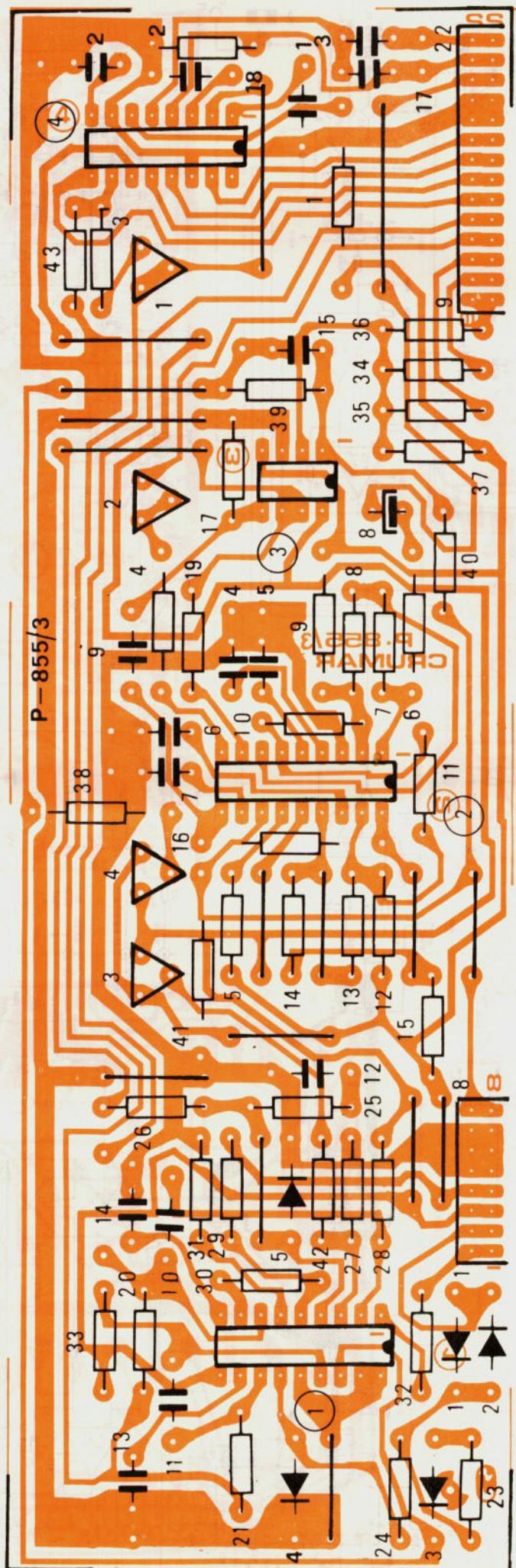


CHUMAK P-849

DWG3A

| | | | | | |
|---|--|---------------|--|----------------|--|
| MOTIVATO A TENERE SENZA NOSTRA APPROVAZIONE SCIENTIFICA | | C R U Y M A R | | MODEL: TRILOGY | |
| ...UNIVERSITÀ... | | Baudouin G. | | REVISION | |
| DAWN BY | | Signature | | DATE | |
| DESIGNED BY | | | | 7/5/85 | |
| WINGSPAN | | | | | |

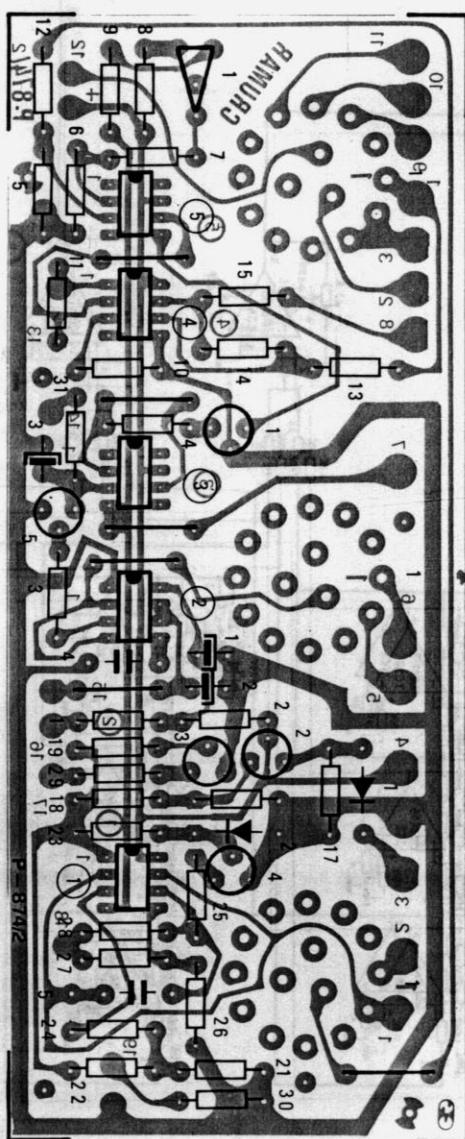
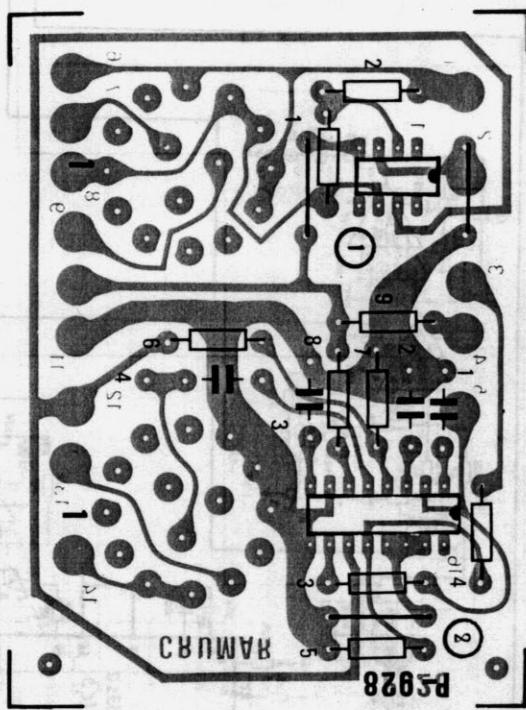
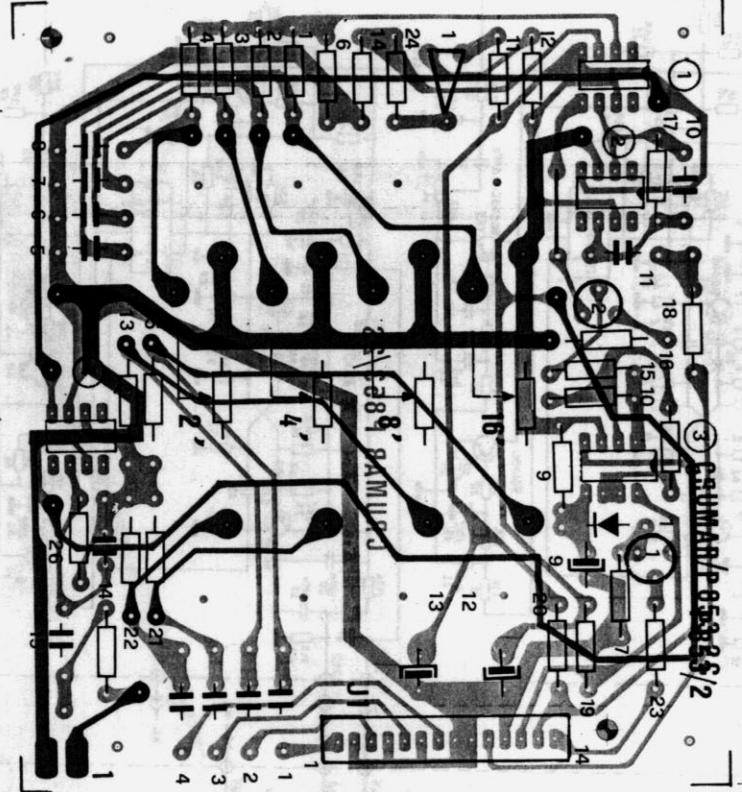




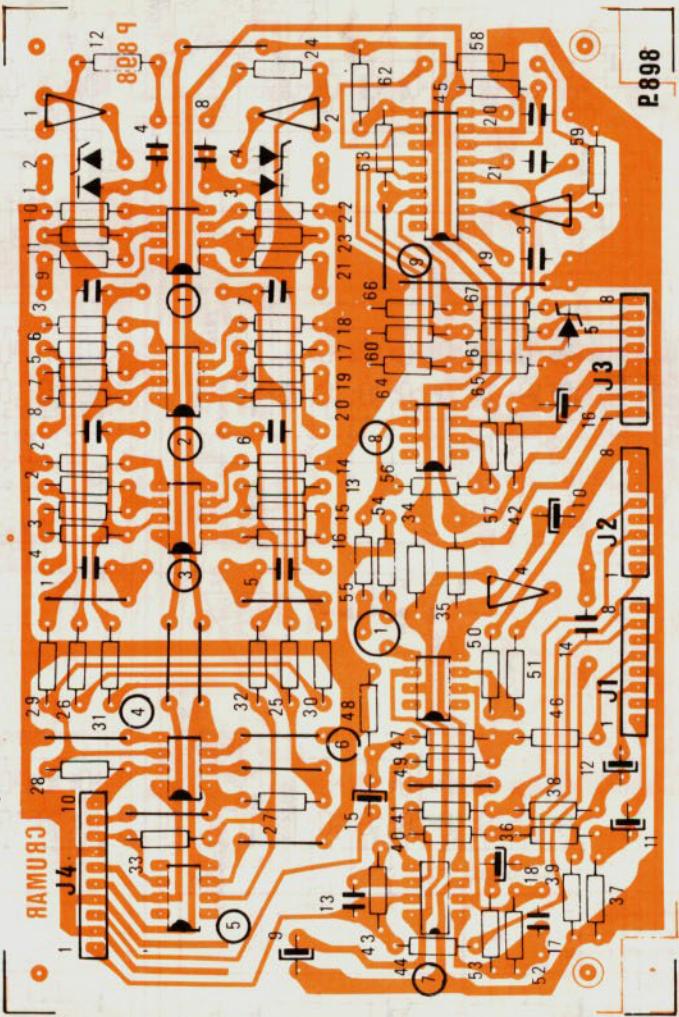
DWG4A2

| | |
|---|--------------|
| QUESTO DISGONO E PROPRIETÀ PRIVATA E NON PUÒ ESSERE COPIATO INqualsiasi FORMA | |
| MENTRE LA TERZA MOSTRA APPARECCHIO SCRITTURALE | |
| C R U M A R | |
| NAME: TRILOGY | |
| DRAWN BY | Buddekin G |
| DESIGNED BY | <i>Alvin</i> |
| PRINTED BY | 7/15/61 |

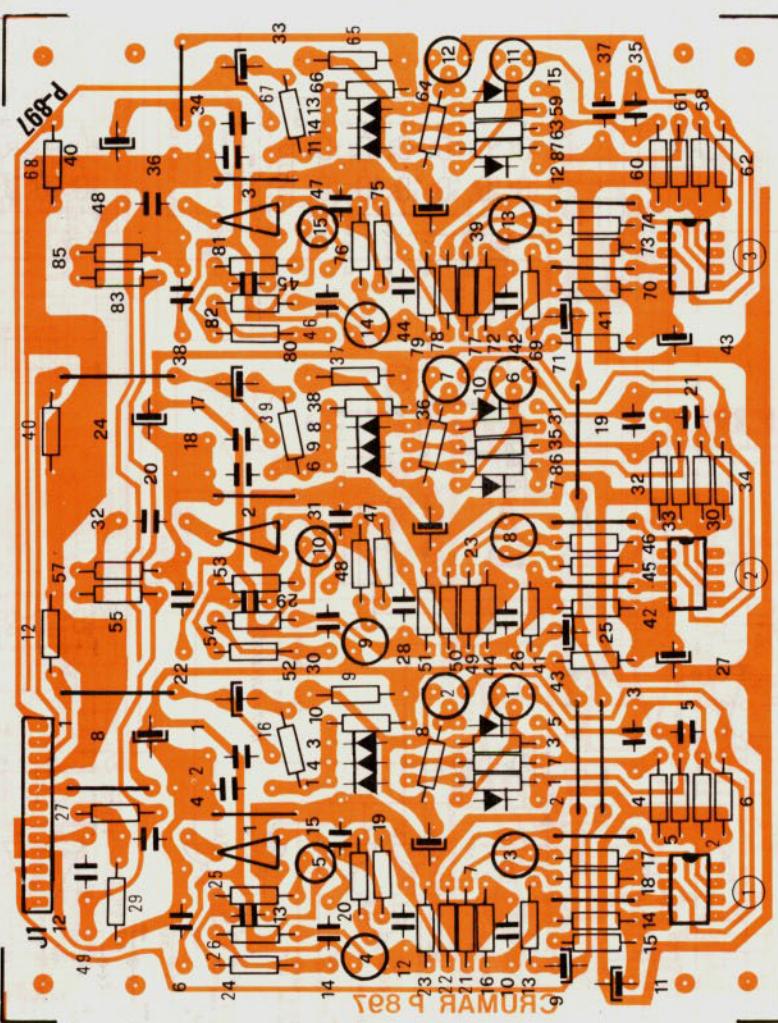
DWG5A



| | |
|--|----------------|
| CERTO ORIGINALE - NON PUÒ ESSERE COPIATO INqualsiasi FORMA | |
| C.R.U.A.N | MODEL: TRILOGY |
| DESIGNED BY | Borghini G. |
| VERIFIED BY | R.M.D. |
| DATE | 7/5/82 |

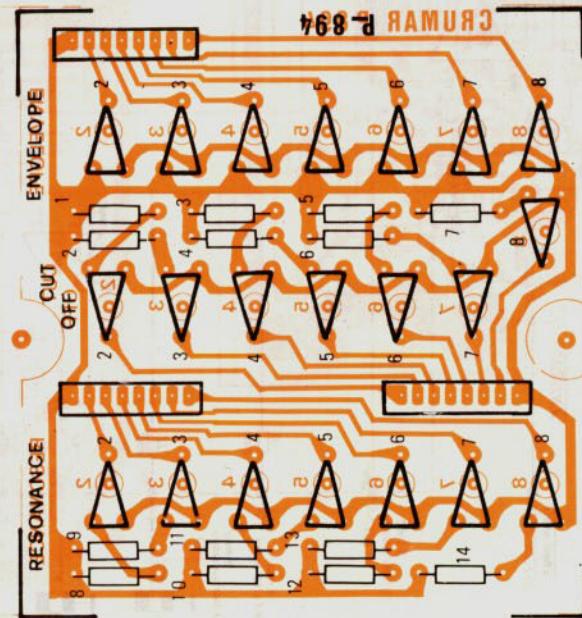
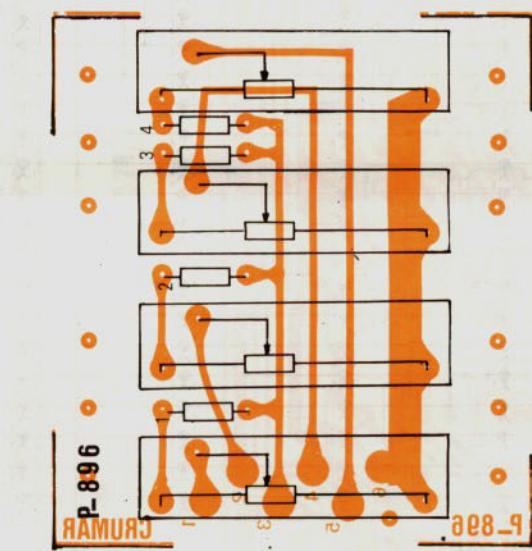
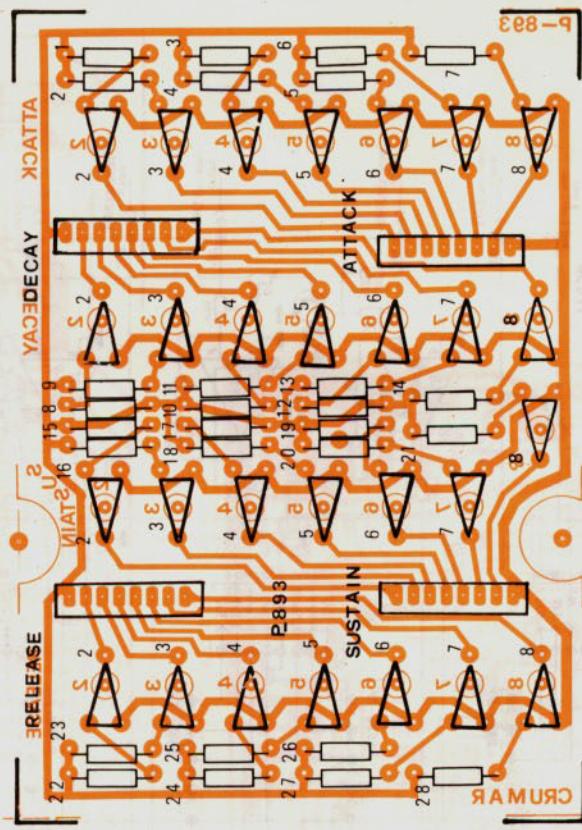
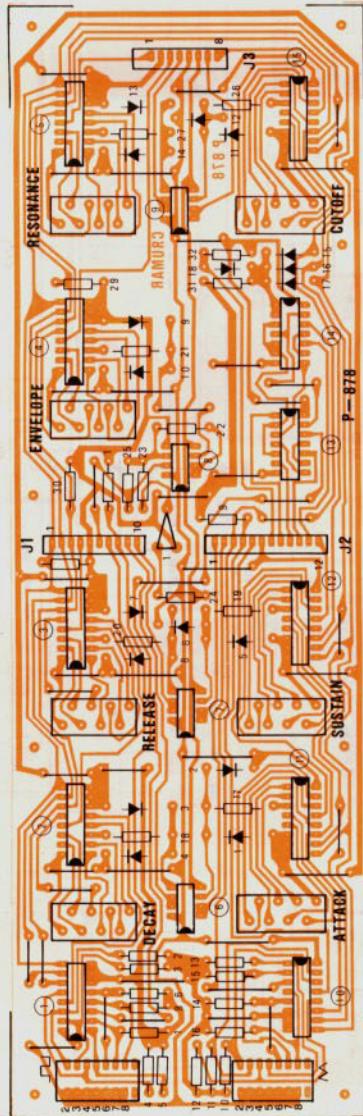
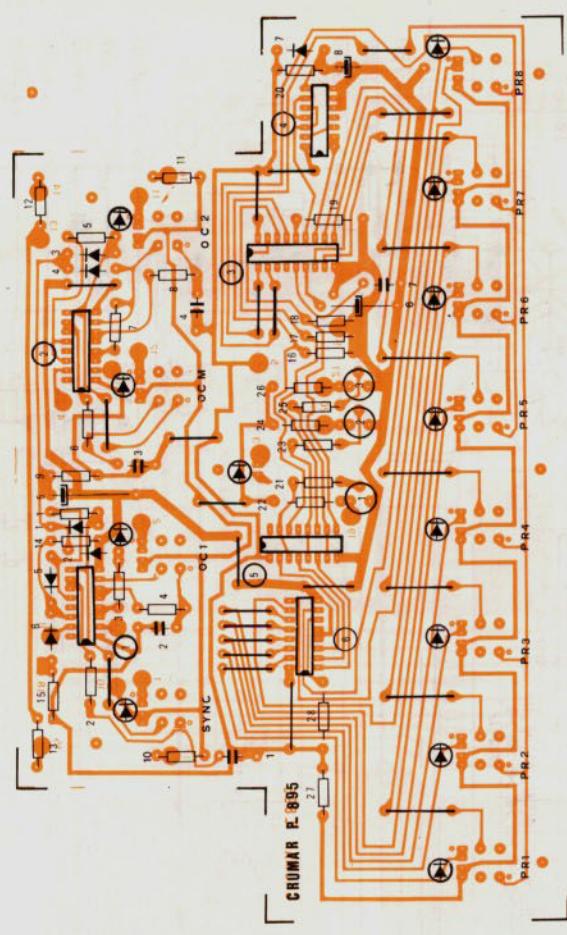


DWG6A



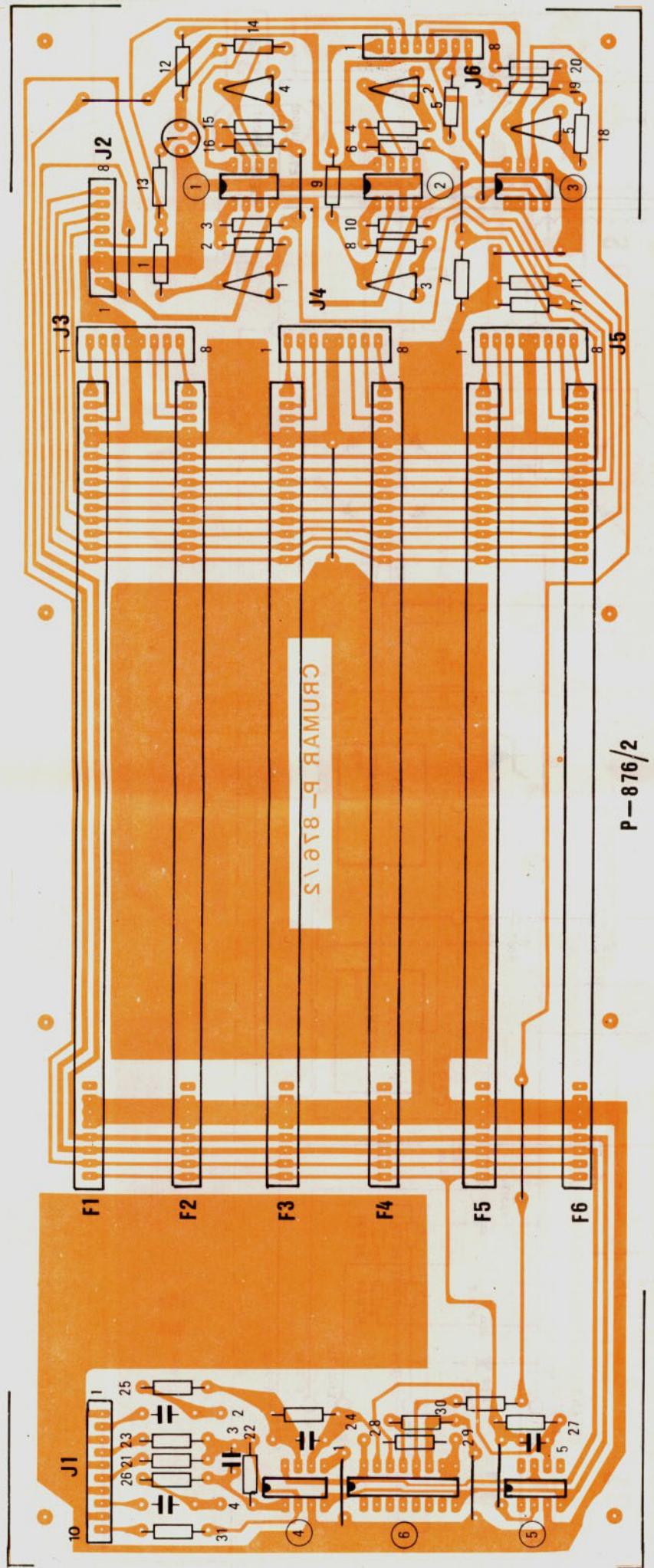
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| | | |
|---------------|------------|-----------------|
| C R U M A R | | MODEL: TR1 LOGY |
| SERIALIZED BY | B. VALLI | REVISED |
| DRAWN BY | M. SARTORI | DATE |
| DESIGNED BY | | 7/15/81 |



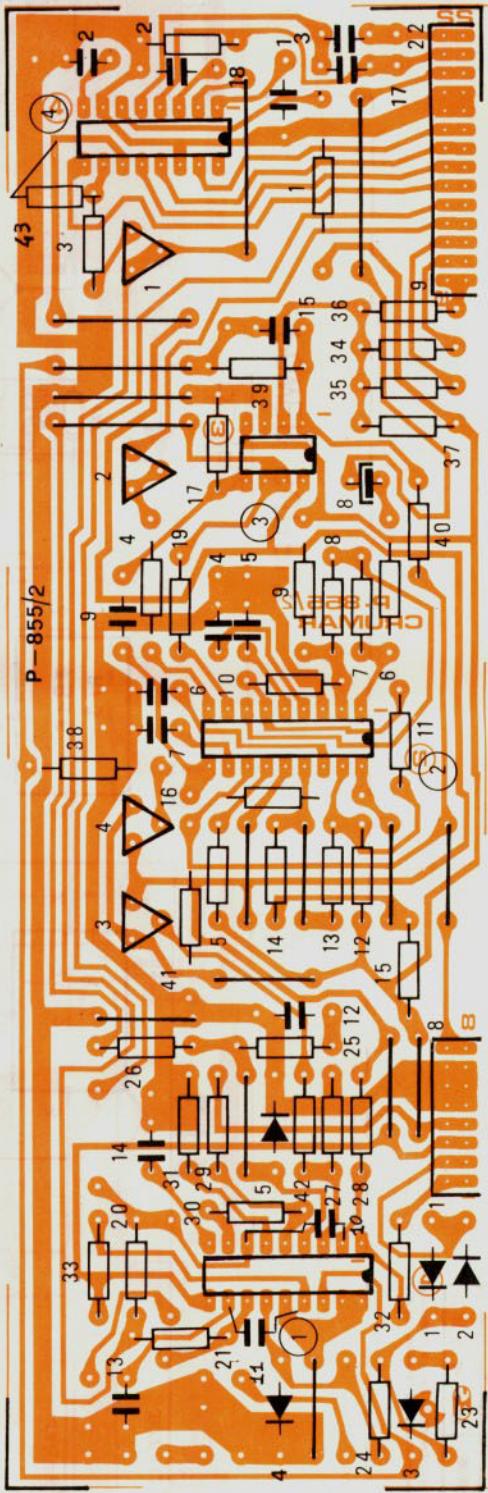
DWG7A

| | |
|--|-----------------------|
| QUESTO DISegno è PROPRIETÀ EXKLUSIVA E NON PUÒ ESSERE COPIATO SENZA AUTORIZZAZIONE SCRITTA | MODELLO: TRILOGI |
| MOSTRATO IN TRADIZIONALE AVVOLGIMENTO SCRITTA | Scrittura: G. Bazzani |
| DATA: | 1/1/84 |



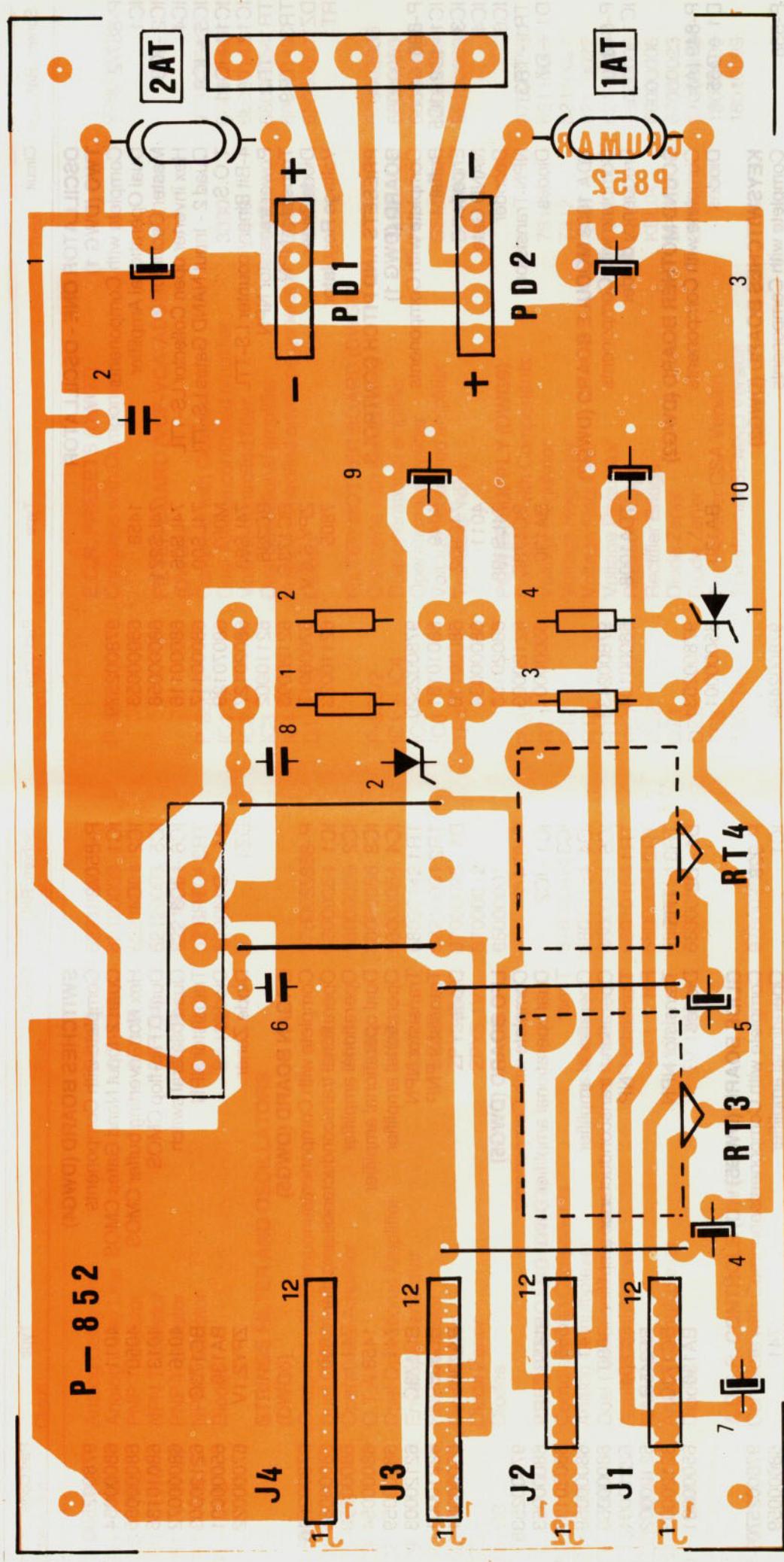
P-876/2

DWG8A



P-855/2

QUESTO DISGNO E' PROPRIETA' PRIVATA E NON PUO' ESSERE COPIATO SENZA AUTORIZZAZIONE SCRITTA
MODERNO TRADIZIONALE AUTOMOBILE IDENTITA'
CRUMAR MODEL: DWG8A
DRAWN BY Bozzolo G.
REVISION DATE 7/5/85
DESIGNED BY DWG8A



DWG9A

| | |
|---|----------------|
| QUESTO DISegNO È PROPRIETÀ INESATA E NON PUÒ ESSERE COPIATO INqualsiasi FORMA | |
| AUTOMATICO - TENDO SINDACATO APPROVATO - SOINTA | |
| CRUMAR MODEL: TRITILOGY | |
| DRAWN BY | Baldassarri G. |
| DESIGNED BY | Milano |
| DATE | 7/5/61 |