

D-70MKII POWER AMPLIFIER  
SCHEMATIC & PARTS LIST

Rev. D  
6/1/84

**audio research corporation**

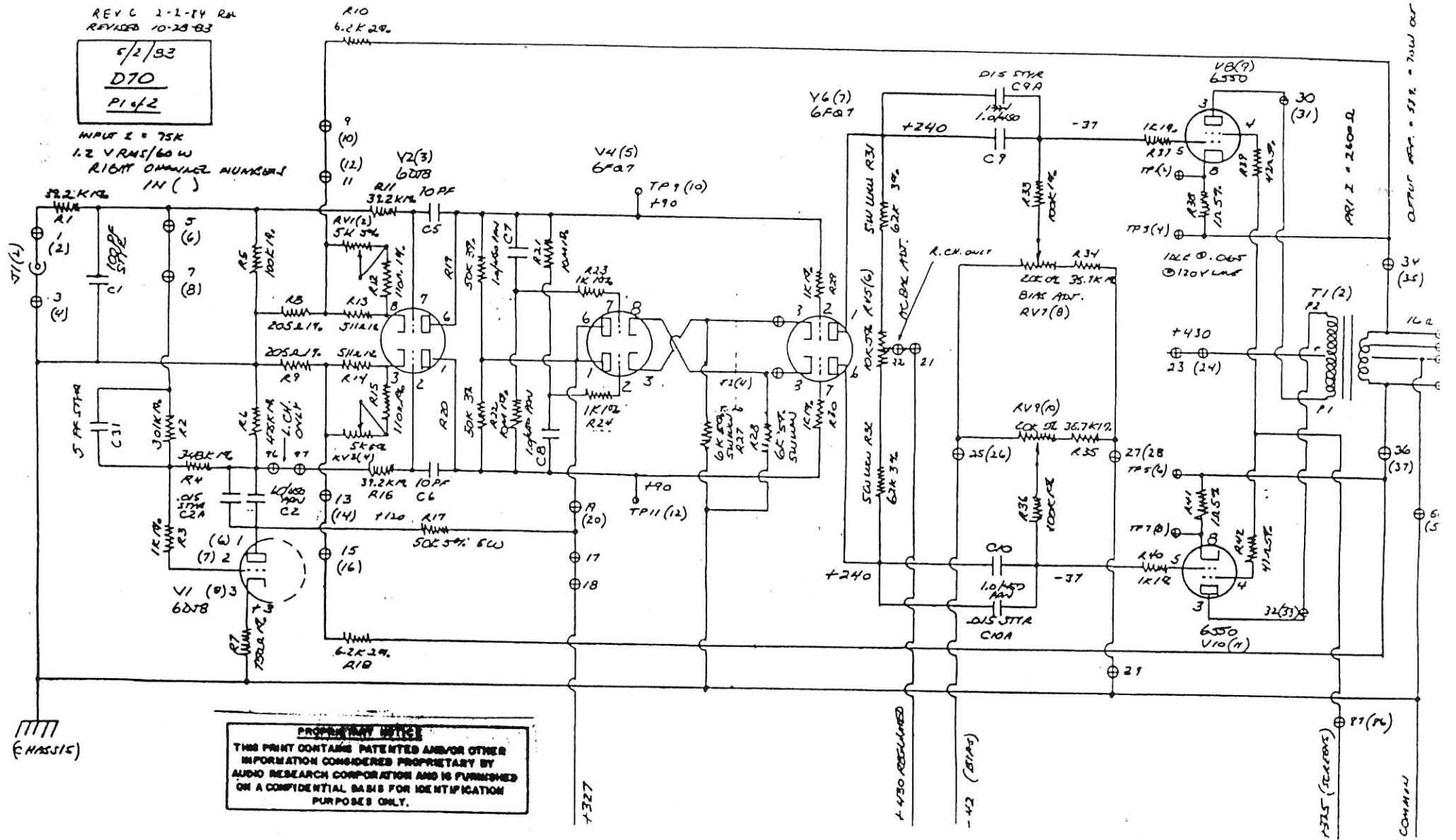
6801 SHINGLE CREEK PARKWAY  
MINNEAPOLIS, MINNESOTA 55430

4K II 6/1/64.8

REV C 1-1-74 RM  
REVISED 10-28-83

5/2/83  
D70  
P142

INPUT Z = 75K  
1.2 V RMS/60 W  
RIGHT CHANNEL NUMERAL  
IN ( )



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+327

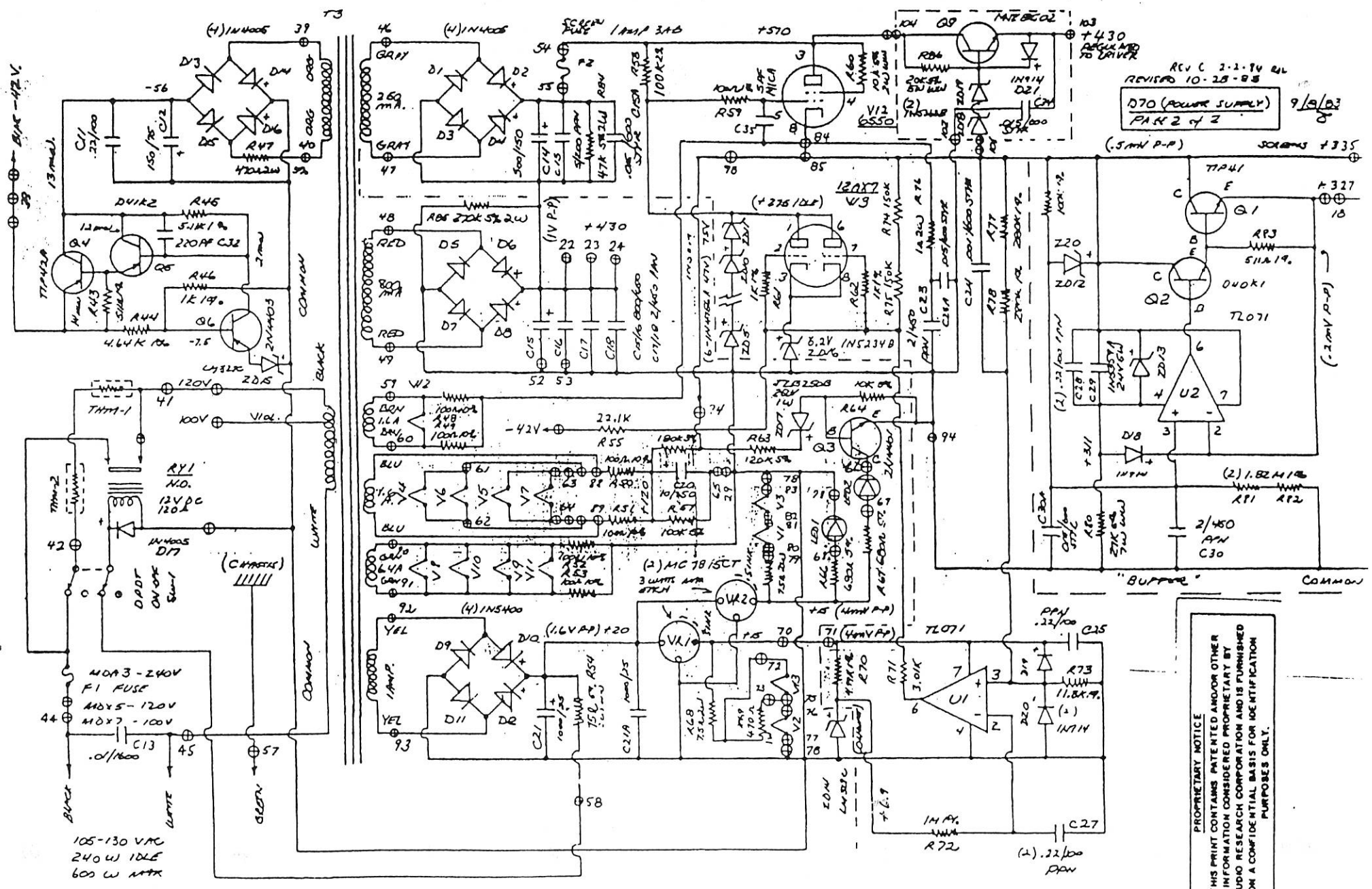
+430 (BIAS)

-42 (BIAS)

+375 (BIAS)

COMMON

OUTPUT IMP. = 57K = 70W OUT



REV C 2-1-74 WL  
 REVISED 10-28-75  
 D70 (POWER SUPPLY)  
 PART 2 of 2  
 9/9/73

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## D-70 PARTS LIST

| COMPONENT                         | QUAN. | DESCRIPTION   | VALUE   | RATING | TOL. | ARC<br>PART NO. |
|-----------------------------------|-------|---------------|---------|--------|------|-----------------|
| R1                                | 2     | Metal Film    | 3.92K   | 1/2W   | 1%   | 42392303        |
| R2                                | 2     | Metal Film    | 301K    | 1/4W   | 1%   | 42301502        |
| R3,23,24,29,30,37,<br>40,46,61,62 | 17    | Metal Film    | 1.0K    | 1/4W   | 1%   | 42100302        |
| R4                                | 2     | Metal Film    | 348K    | 1/4W   | 1%   | 42348502        |
| R5                                | 2     | Metal Film    | 100K    | 1/2W   | 1%   | 42100503        |
| R6                                | 2     | Metal Film    | 475K    | 1/2W   | 1%   | 42475503        |
| R7                                | 2     | Metal Film    | 750     | 1/4W   | 1%   | 42750202        |
| R8,9                              | 4     | Metal Film    | 1.5K    | 1/4W   | 1%   | 42150302        |
| R10,18                            | 4     | Metal Film    | 205     | 1/2W   | 1%   | 42205203        |
| R11,16                            | 4     | Metal Film    | 3.9K    | 1W     | 2%   | 46390301        |
| R12,15                            | 4     | Metal Film    | 39.2K   | 1/2W   | 1%   | 42392403        |
| R13,14                            | 4     | Metal Film    | 110     | 1/4W   | 1%   | 42110202        |
| R17,19,20                         | 6     | Metal Film    | 1.5K    | 1/2W   | 1%   | 42150303        |
| R21,22                            | 4     | Metal Film    | 511     | 1/4W   | 1%   | 42110202        |
| R25,26                            | 4     | Wirewound     | 1.5K    | 1/2W   | 1%   | 42150303        |
| R27,28                            | 4     | Wirewound     | 50K     | 5W     | 3%   | 43500400        |
| R31,32                            | 4     | Wirewound     | 100K    | 3/4W   | 1%   | 42100504        |
| R33,36,79                         | 5     | Wirewound     | 10Meg   | 1/2W   | 2%   | 46100702        |
| R34,35                            | 4     | Wirewound     | 825     | 1/2W   | 1%   | 42825203        |
| R38,41,76                         | 5     | Wirewound     | 375     | 3W     | 1%   | 43375200        |
| R39,42,60                         | 5     | Wirewound     | 10K     | 5W     | 5%   | 43100400        |
| R43,83                            | 2     | Wirewound     | 8.5K    | 3W     | 3%   | 43850300        |
| R44                               | 1     | Wirewound     | 62K     | 5W     | 3%   | 43620400        |
| R45                               | 1     | Wirewound     | 33K     | 3W     | 3%   | 43330401        |
| R47                               | 1     | Metal Film    | 100K    | 1/4W   | 1%   | 42100502        |
| R48-53                            | 6     | Metal Film    | 35.7K   | 1/4W   | 1%   | 42357402        |
| R54                               | 1     | Wirewound     | 1.0     | 2W     | 5%   | 43100002        |
| R55                               | 1     | Wirewound     | 10      | 2W     | 5%   | 43100105        |
| R56                               | 1     | Metal Film    | 511     | 1/4W   | 1%   | 42511202        |
| R57                               | 1     | Metal Film    | 4.64K   | 1/4W   | 1%   | 42464302        |
| R58                               | 1     | Metal Film    | 5.11K   | 1/4W   | 1%   | 42511302        |
| R59                               | 1     | Carbon Comp.  | 470     | 2W     | 10%  | 40470205        |
| R63                               | 1     | Carbon Comp.  | 100     | 1/2W   | 10%  | 40100203        |
| R64                               | 1     | Wirewound     | 75      | wr     | 5%   | 43750101        |
| R65,68                            | 2     | Metal Film    | 22.1K   | 1/2W   | 1%   | 42221403        |
| R66,67                            | 2     | Carbon Comp.  | 180K    | 1W     | 5%   | 41180504        |
| R69                               | 1     | Carbon Comp.  | 100K    | 1/2W   | 5%   | 41100503        |
| R70                               | 1     | Metal Film    | 100K    | 2W     | 2%   | 46100501        |
| R71                               | 1     | Metal Film    | 100     | 1/4W   | 1%   | 42100202        |
| R72                               | 1     | Metal Film    | 100     | 1/4W   | 1%   | 42100202        |
| R73                               | 1     | Carbon Comp.  | 120K    | 1/2W   | 5%   | 41120503        |
| R74,75                            | 1     | Carbon Comp.  | 10K     | 1/2W   | 5%   | 41100403        |
| R77,78                            | 2     | Wirewound     | 7.5     | 2W     | 5%   | 43750001        |
| R80                               | 1     | Carbon Comp.  | 680     | 1W     | 5%   | 40680204        |
| R81,82                            | 2     | Carbon Comp.  | 470     | 1W     | 10%  | 40470204        |
| R84                               | 1     | Metal Film    | 4.99K   | 1/4W   | 1%   | 42499302        |
| R85                               | 1     | Metal Film    | 3.01K   | 1/4W   | 1%   | 42301302        |
| R86                               | 1     | Metal Film    | 1.0Meg  | 1/4W   | 1%   | 42100602        |
| R87,88                            | 4     | Metal Film    | 11.8K   | 1/4W   | 1%   | 42118402        |
| C1                                | 2     | Metal Film    | 150K    | 1/2W   | 1%   | 42150503        |
| C2,7,8-10                         | 10    | Metal Film    | 280K    | 1/2W   | 1%   | 42280503        |
| C2A,10A,15A,19A,<br>23A,30A,34    | 11    | Wirewound     | 27K     | 7W     | 3%   | 43270401        |
|                                   |       | Metal Film    | 1.82Meg | 1/2W   | 1%   | 42182603        |
|                                   |       | Carbon Comp.  | 47K     | 2W     | 5%   | 41470405        |
|                                   |       | Carbon Comp.  | 270K    | 2W     | 5%   | 41270505        |
|                                   |       | Wirewound     | 20K     | 5W     | 5%   | 43200400        |
|                                   |       | Metal Film    | 1.27K   | 1/4W   | 1%   | 42127302        |
|                                   |       | Polystyrene   | 100pF   | 630V   | 5%   | 53100201        |
|                                   |       | Met.Polyprop. | 1.0uF   | 450V   | 10%  | 53100800        |

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|---------------|-------|-------------------------|--------|--------|------|-----------------|
| C3,4          | 4     | Polystyrene             | 150pF  | 160V   | 2.5% | 53150200        |
| C5,6          | 4     | Polysytrene             | 27pF   | 630V   | 2%   | 53270000        |
| C11,25-29     | 6     | Polypropylene           | .22uF  | 100V   | 10%  | 53220506        |
| C12           | 1     | Electrolytic            | 150uF  | 75V    |      | 50150800        |
| C13           | 1     | Polyester               | .01uF  | 1600V  | 10%  | 53100403        |
| C14           | 1     | Electrolytic            | 530uF  | 150V   |      | 50530800        |
| C15           | 1     | Met.Polyprop.           | 5.0uF  | 200V   | 10%  | 53500604        |
| C16,17        | 2     | Electrolytic            | 800uF  | 450V   |      | 50100907        |
| C18,19,23,30  | 4     | Met.Polyprop.           | 2.0uF  | 450V   | 10%  | 53200602        |
| C20           | 1     | Electrolytic            | 10uF   | 150V   |      | 50100703        |
| C21,21A       | 2     | Electrolytic            | 1000uF | 25V    |      | 50100903        |
| C24           | 1     | Polystyrene             | 1000pF | 630V   | 5%   | 53100301        |
| C31           | 2     | Polystyrene             | 10pF   | 630V   | 5%   | 53100100        |
| C32           | 1     | Polystyrene             | 5pF    | 630V   | 10%  | 53500000        |
| C35           | 1     | Polystyrene             | 220pF  | 160V   | 2.5% | 53220200        |
| D1-4,13-16,17 | 9     | Silver Mica             | 5pF    | 500V   | 10%  | 57500000        |
| D5-8          | 4     | 1N4005                  | 1A     | 600V   |      | 30500400        |
| D9-12         | 4     | 1N4143                  | 3A     | 600V   |      | 30503300        |
| D18-21        | 4     | 1N5400                  | 3A     | 50V    |      | 30501500        |
| ZD1-4         | 8     | 1N914                   |        | 100V   |      | 30500900        |
| ZD5-10        | 6     | 1N5274B                 | 1/2W   | 130V   | 5%   | 30503800        |
| ZD11          | 1     | 1N4756A                 | 1W     | 47V    | 5%   | 30503200        |
| ZD12          | 1     | 1N5374                  | 5W     | 75V    | 10%  | 30502900        |
| ZD13          | 1     | Z20                     | 1W     | 20V    | 10%  | 30503700        |
| ZD14,15       | 2     | 1N5359A                 | 5W     | 24V    | 10%  | 30503500        |
| ZD16          | 1     | LM329DZ                 |        | 6.9V   | 4%   | 31000700        |
| ZD17          | 1     | 1N5234B                 | 1/2W   | 6.2V   | 5%   | 30502100        |
| ZD18,19       | 2     | TZB250B                 | 5W     | 250V   | 5%   | 30503600        |
| F1 120V       | 1     | 1N5368B                 | 5W     | 47V    | 5%   | 30500100        |
| 240V          |       | MDX5 Slo                | 5A     | 125V   |      | 34500505        |
| 100V          |       | MDA3 Slo                | 3A     | 250V   |      | 34500402        |
| F2            | 1     | MDX7 Slo                | 7A     | 125V   |      | 34500703        |
| J1,2          | 2     | JAB1 Fast               | 1A     | 250V   |      | 34500304        |
| J3,4          | 2     | Phono Jack              |        |        |      | 23201000        |
| LED1,2        | 2     | Speaker Term.           |        |        |      | 23100100        |
| Q1            | 1     | LED Green               |        |        |      | 34300100        |
| Q2            | 1     | IPT41 Trans             |        |        |      | 30005000        |
| Q3            | 1     | D40K1 Trans             |        |        |      | 30005200        |
| Q4            | 1     | 2N4401 Trans            |        |        |      | 30002800        |
| Q5            | 1     | TIP42A Trans            |        |        |      | 30005101        |
| Q6            | 1     | D41K2 Trans             |        |        |      | 30005301        |
| Q7,8          | 4     | 2N4403 Trans            |        |        |      | 30002900        |
| Q9            | 1     | 2N5462 FET              |        |        |      | 30005900        |
| RV1-4         | 4     | MJE8502 Trans           |        |        |      | 30005700        |
| RV5,6         | 2     | Trim Pot                | 5K     | Lin    | 10%  | 45500300        |
| RV7-10        | 4     | Trim Pot                | 20K    | Lin    | 10%  | 45200412        |
| RY1           | 1     | Trim Pot                | 10K    | Lin    | 10%  | 45100424        |
| SW1           | 1     | 30A Relay               | 20     | Lin    | 10%  | 45200412        |
| T1,2          | 2     | DPDT Switch             | 120    | 12V    |      | 64100800        |
| T3            | 1     | Output Transformer      | 6A     |        |      | 24100900        |
| THM-1,2       | 1     | Power Transformer       |        | 120V   |      | 60005600        |
| U1,2          | 2     | Power Transformer       |        | 240V   |      | 60005810        |
| V1-7          | 7     | Thermistor (2 for 240V) |        |        |      | 47000400        |
| V8-11         | 2 Pr. | TL071CP Op Amp          |        |        |      | 31001900        |
| V12           | 1     | 6DJ8 Tube               |        |        |      | 32001100        |
| V13           | 1     | 6550 Matched Pair       |        |        |      | 32000502        |
| VR1,2         | 2     | 6550 Tube               |        |        |      | 32000501        |
|               |       | ECC83/12AX7 Tube        |        |        |      | 32000700        |
|               |       | MC7815CT Reg            | 1A     | 15V    |      | 31002000        |

NOTE: Resistor values are in "ohms" except "K" = x 1,000; "Meg" = x 1,000,000