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Find the *Danaher Motion / Dover Instrument GA6520 / GA6520-10* at our website: *Click HERE*

# Linear Brushless Amplifier
## MODEL GA6520

OPERATION

and

SERVICE MANUAL

for

MODEL GA6520

GLENTEK

Rev (-) 19 Jan 1994

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GA6520 MANUAL

**PRELIMINARY**

# OPERATION AND SERVICE MANUAL

## FOR MODEL GA6520

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**ELECTRICAL SPECIFICATION SHEET FOR**

**MODEL GA6520 SERIES BRUSHLESS LINEAR SERVO AMPLIFIER**

1. Bus Voltage: +/-15 VDC to +/-50 VDC.

2. External Bias Voltages: +/-15 VDC @ 0.5A maximum.

3. Three separate current loops for WYE or DELTA connected motors.

4. Current output: 20 amps peak; 8 amps RMS (total).

5. Bandwidth: 4 KHZ (for most applications).
   Note: Higher bandwidths available-consult Glentek.

6. Signal inputs: differential, Phase A and Phase B.
   Phase C = inverse (Phase A plus Phase B).

7. The scale factor for the phase inputs is user configurable. The balance for all three current loops is user configurable. The current limit for all three phases is user configurable with a master pot.

8. Other inputs: (+) Limit (TTL)
   (-) Limit (TTL)
   Enable (TTL)
   Motor Temp (N/C) Contact

9. Outputs: Fault (TTL)

10. Faults: Over Voltage (both bus supplies)
    Heat sink over temp (70 deg.C)
    $I^2T$ over current (LS/ECB)
    Absolute over current (HS/ECB)
    Temperature (heat sink or motor)

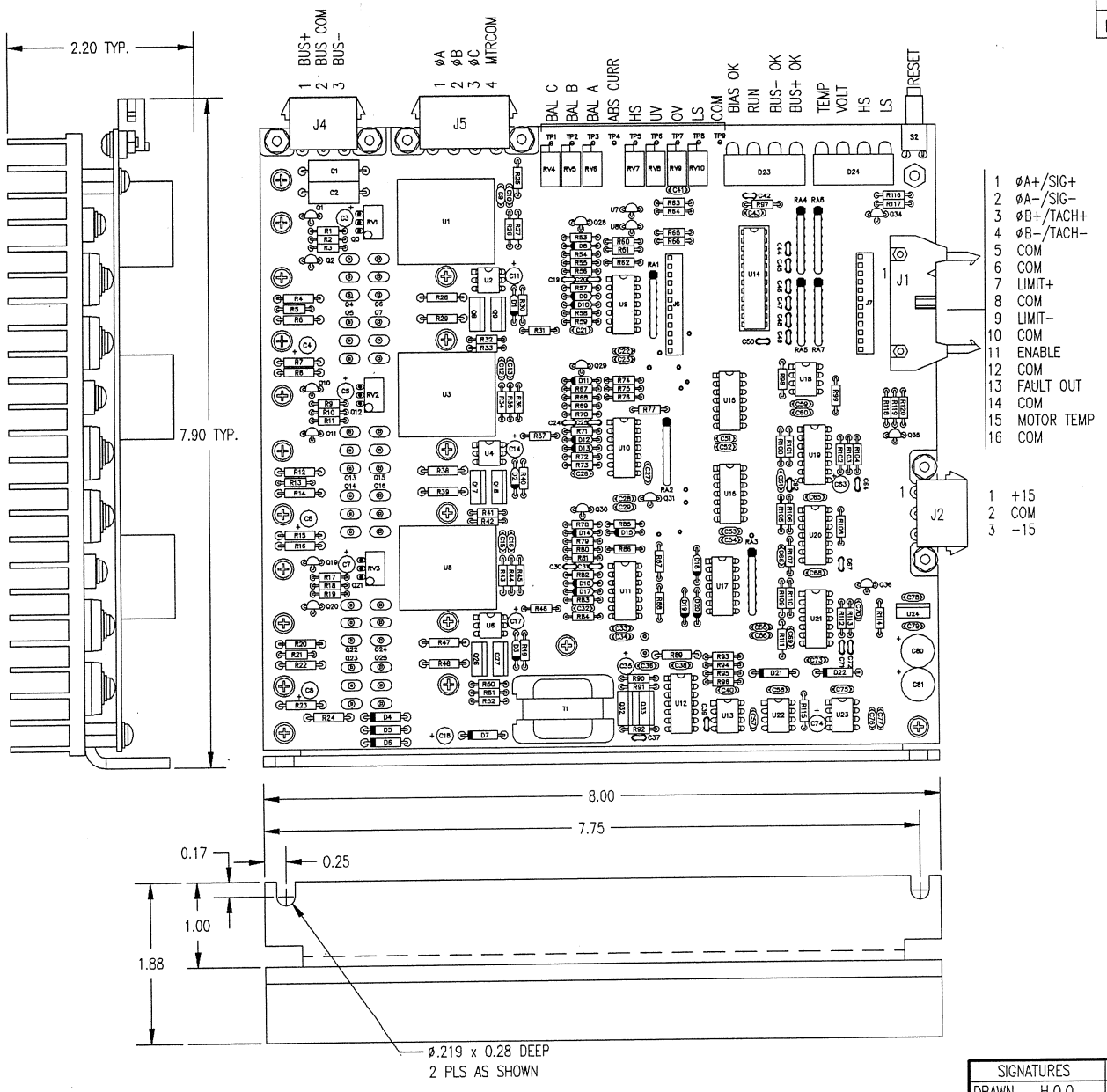
11. Other protection circuits: under voltage monitors for +/-15 VDC and +/- bus voltage.

12. LED Indicators: Enable
    HS/ECB
    LS/ECB
    Over temp
    Over voltage
    (+) Bus on
    (-) Bus on
    +/- Bias voltage on

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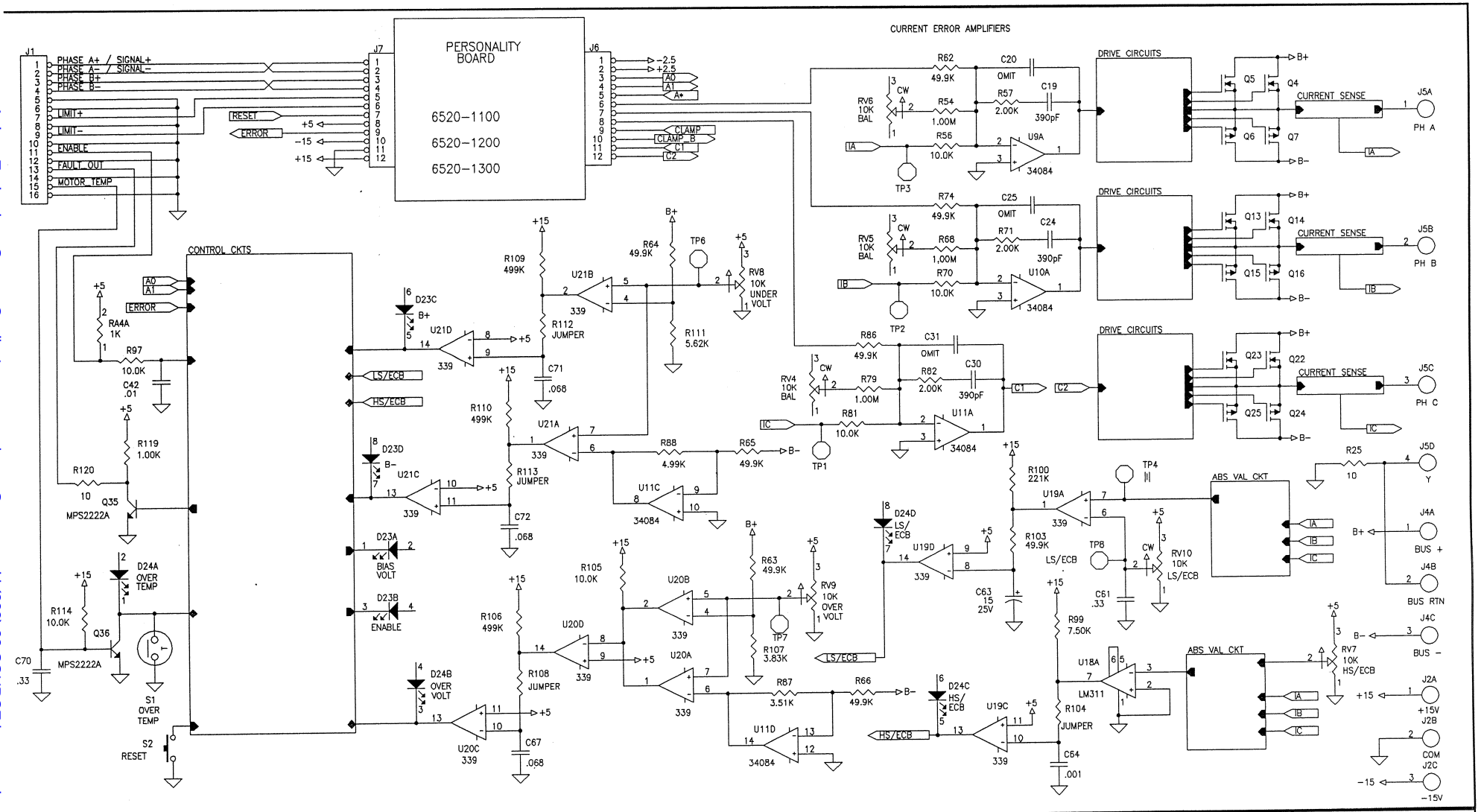
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| DRAWN | H.O.O. | 06JAN94 |
| CHECKED | M.H. | 06JAN94 |
| ENGRG | R.A.D. | 06JAN94 |
| MODEL | GA6520 | |
| REF.: DOVER INSTRUMENTS | | |

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EL SEGUNDO, CA 90245
(310) 322-3026

# INSTALLATION DRAWING
## BRUSHLESS LINEAR AMPLIFIER

| SIZE | DWG NO | REV |
|---|---|---|
| C | 6520-1044 | – |
| SCALE 1 : 1 | | SHEET 1 OF 1 |

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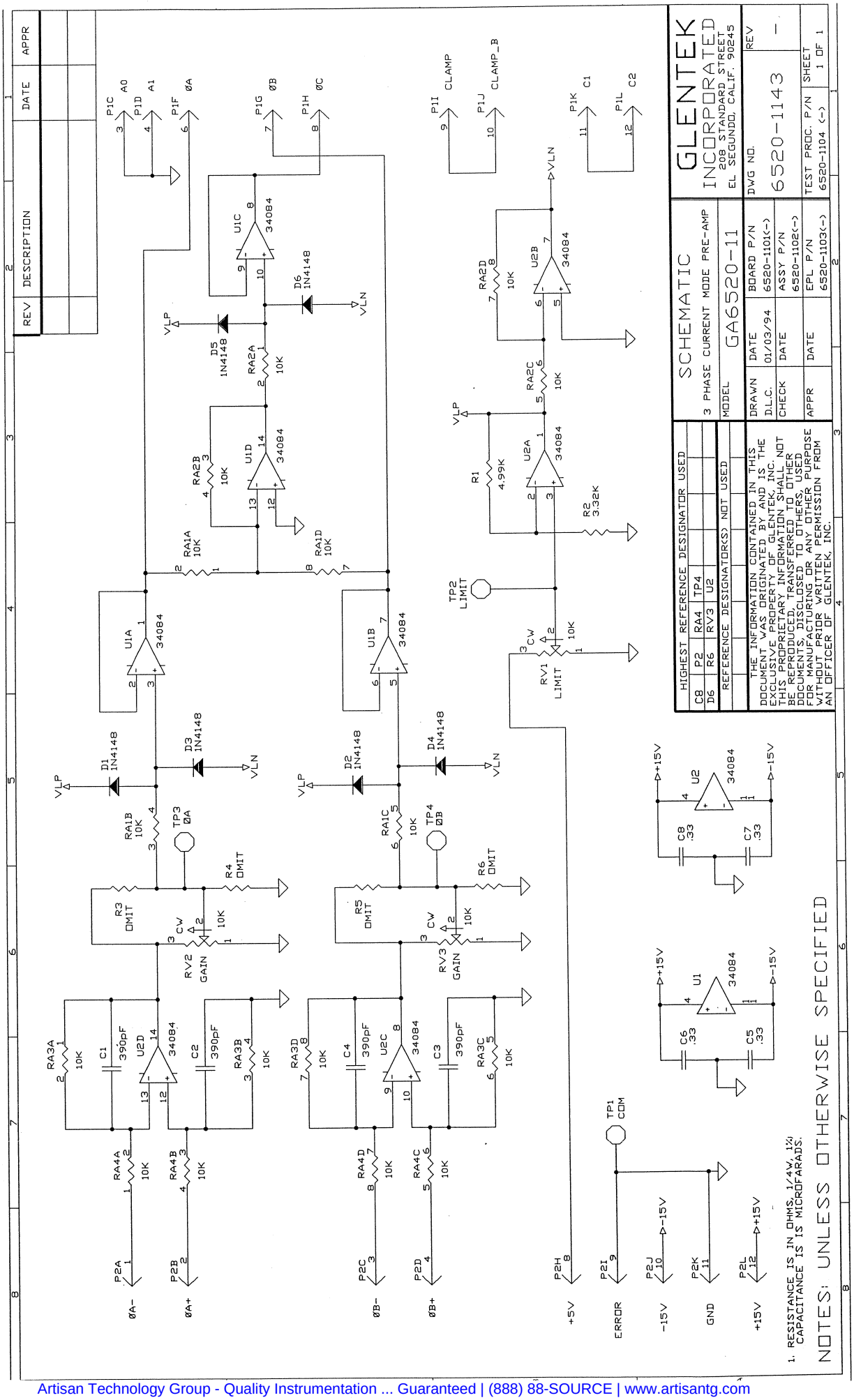



| | | |
|---|---|---|
| HIGHEST REFERENCE DESIGNATOR USED | BLOCK DIAGRAM<br>BRUSHLESS LINEAR AMPLIFIER | GLENTEK<br>INCORPORATED<br>208 STANDARD STREET<br>EL SEGUNDO, CALIF. 90245 |
| REFERENCE DESIGNATOR(S) NOT USED | MODEL<br>GA6520-10 | |
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1. RESISTANCE IS IN OHMS, 1/4W, 1%; CAPACITANCE IS IS MICROFARADS.

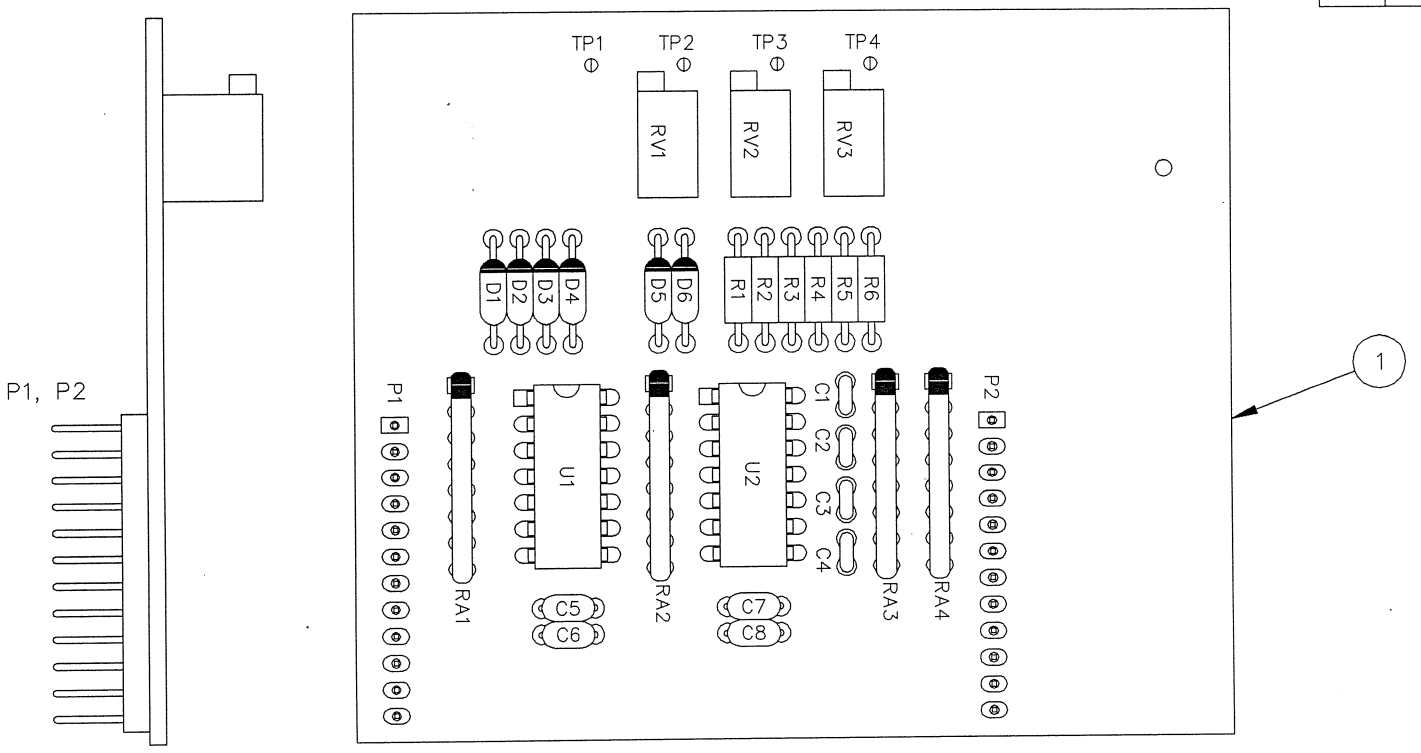
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| | | | |




3. AFTER WAVE SOLDER, INSTALL AND SOLDER P1 AND P2.

2. DO NOT INSTALL P1 AND P2. MASK HOLES FOR P1 AND P2.

1. REFERENCE SCHEMATIC 6520-1100 (-), AND EPL 6520-1103 (-).

NOTES: UNLESS OTHERWISE SPECIFIED.

| QTY | PART NO. | DESCRIPTION | MATERIAL | ITEM |
|---|---|---|---|---|
| 1 | | BARE BOARD 6520-1101 (-) | | 1 |

LIST OF MATERIAL OR PARTS LIST

UNLESS OTHERWISE SPECIFIED
TOLERANCES:
FRACTIONS: ±1/64 ANGLES: ±2°
DECIMALS: ±.005
BEND RADII MINIMUM
BREAK SHARP EDGES .005-.010

FINISH

PCB FABRICATION
PRE-AMPLIFIER

MODEL GA6520-11

DWN DLC/MH
CHK
APPR.

DATE 5 JAN 94

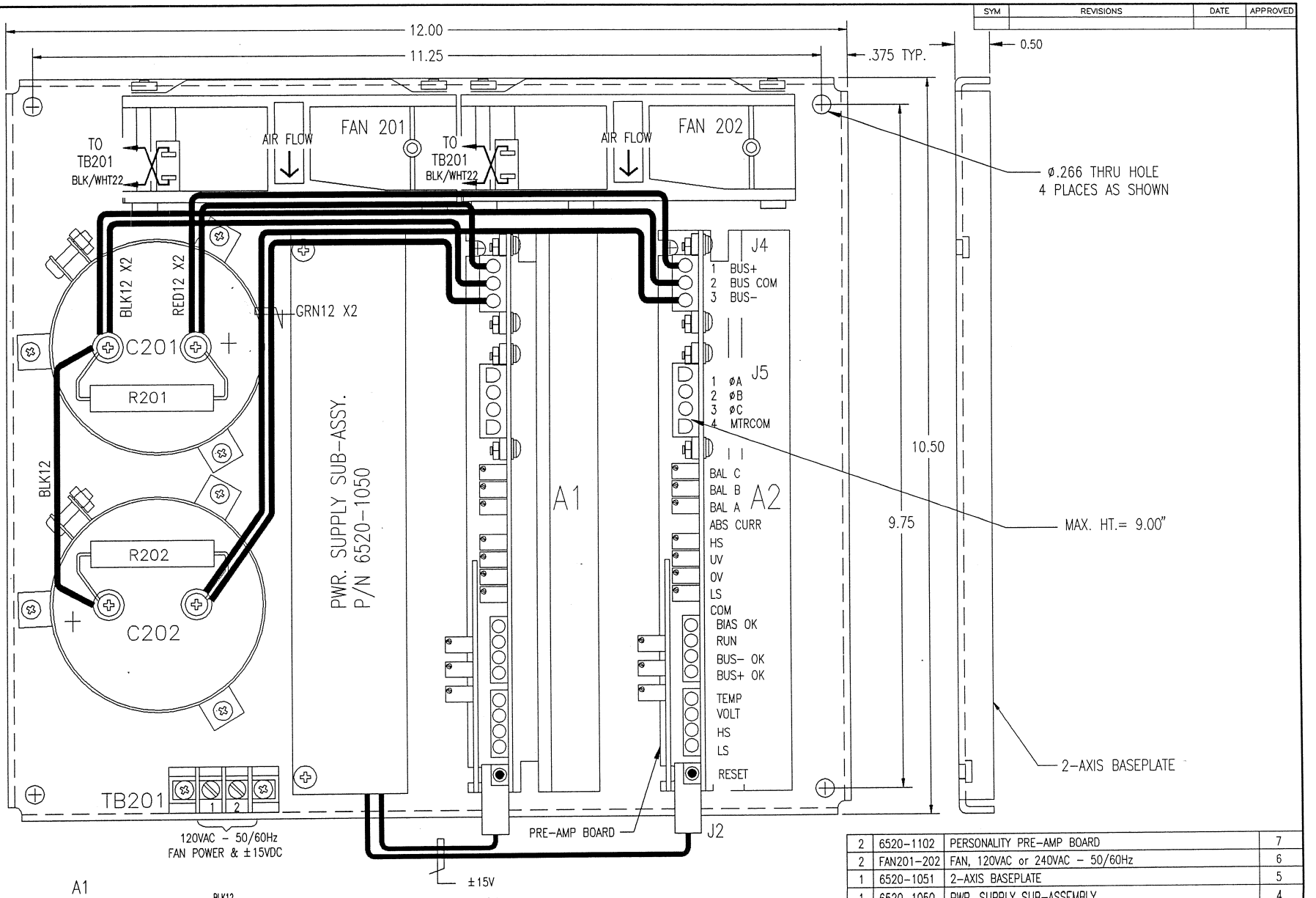
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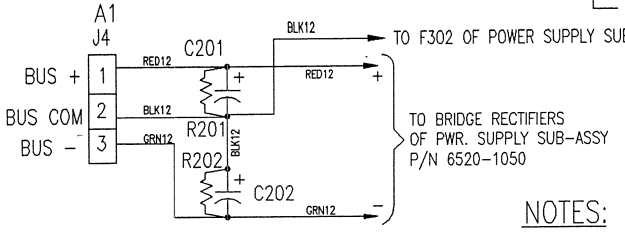
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DWG NO. 6520-1102
REV —

SHEET 1 OF 1

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NOTES:

1. Wiring to Amplifier "A1" is typical for all Amplifiers.
2. Never ground the outputs of the amplifiers.

| QTY | PART NO. | DESCRIPTION | MATERIAL | ITEM |
|---|---|---|---|---|
| 2 | 6520-1102 | PERSONALITY PRE-AMP BOARD | | 7 |
| 2 | FAN201-202 | FAN, 120VAC or 240VAC - 50/60Hz | | 6 |
| 1 | 6520-1051 | 2-AXIS BASEPLATE | | 5 |
| 1 | 6520-1050 | PWR. SUPPLY SUB-ASSEMBLY | | 4 |
| 2 | A1 - A2 | GA6520-1 Amplifier Module | | 3 |
| 2 | R201-R202 | Resistor, 200ohm, 10W | | 2 |
| 2 | C201-C202 | Cap., 68000MFD-50VDC | | 1 |

LIST OF MATERIAL OR PARTS LIST

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONS: ±1/64 ANGLES: ±2°
DECIMALS: .XX= ±.01 .XXX= ±.005
BEND RADII MINIMUM
BREAK SHARP EDGES .005-.015

FINISH: N/A

2-AXIS INSTALLATION DIAGRAM
MODEL GA6520-2A-2

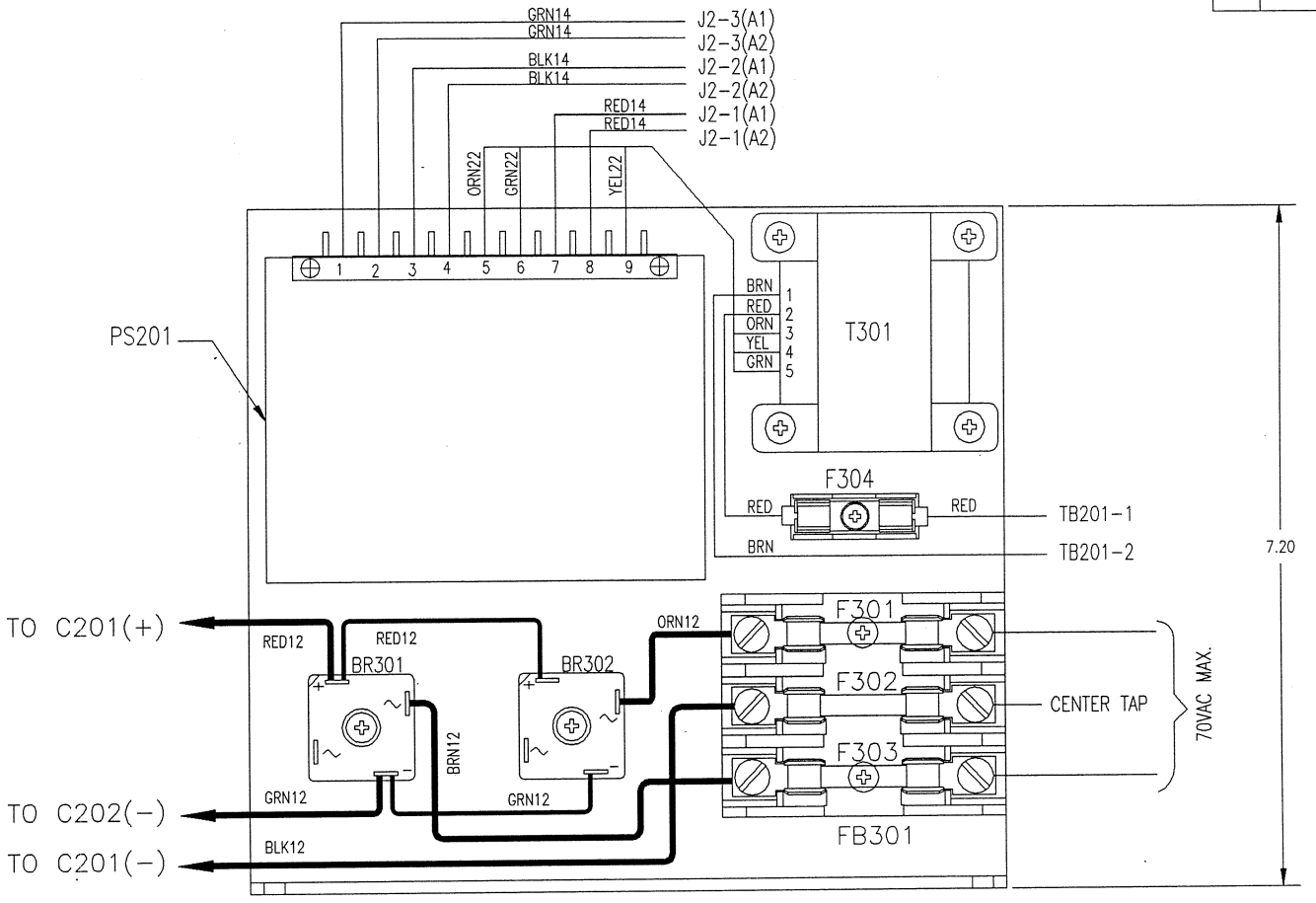
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CHK H.O.O. | SCALE N/A
APPR. R.A.D.

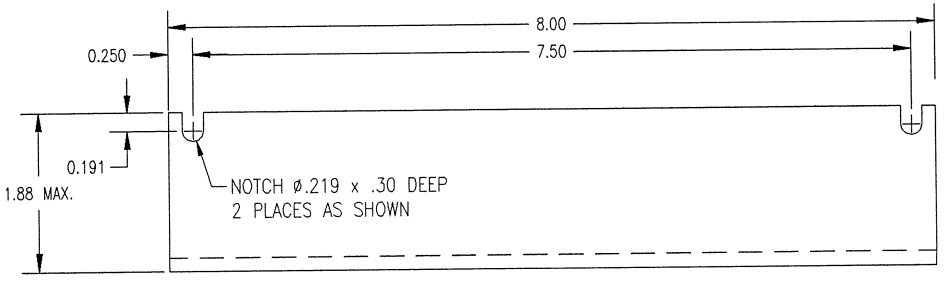
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| QTY | PART NO. | DESCRIPTION | MATERIAL | ITEM |
|---|---|---|---|---|
| 1 | T301 | GTK TRANSFORMER GTK395 | | 8 |
| 1 | PS301 | ±15V PWR SUPPLY | | 7 |
| 1 | TB301 | 4-PIN TERMINAL BLOCK MAGNUM | | 6 |
| 2 | BR301-302 | RECTIFIER, IR 35MB40A/MOTO MDA3504 | | 5 |
| 3 | F301,302,303 | FUSE 30A | | 4 |
| 1 | F304 | FUSE BLOCK & 5A-250V FUSE | | 3 |
| 1 | FB301 | BUSSMANN FUSE BLOCK BM6033SQ | | 2 |
| 1 | 5550-6511 | BACKPLATE | | 1 |

LIST OF MATERIAL OR PARTS LIST

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONS: ±1/64 ANGLES: ±2°
DECIMALS: .XX= ±.01 .XXX= ±.005
BEND RADII
BREAK SHARP EDGES .005-.015

FINISH: N/A

POWER SUPPLY SUB-ASSEMBLY

MODEL: GA6520

DWN: H.O.O. | DATE: 19JAN94
CHK: S.R. | SCALE: N/A
APPR.: R.A.D.

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