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1. GENERAL:
   a. DESIGN TO BE IN CONFORMANCE WITH SPECIFICATION MIL-T-27 AND NO 1015400 (FOR LEADS) AS PROVIDED BELOW.
   b. SUPPLIER SHALL CONFORM TO THE QUALITY ASSURANCE PROVISIONS AS CONTAINED IN SPECIFICATION NO 1015404, CLASS 2.
   c. INTERPRET DRAWING SYMBOLS, ABBREVIATIONS AND REFERENCE DESIGNATIONS IN ACCORDANCE WITH GOVERNMENT STANDARDS PRESCRIBED IN MIL-D-70327.
   d. UNITS SHALL BE CAPABLE OF MEETING ALL QUALIFICATION REQUIREMENTS SPECIFIED IN NO 1015407.

2. INSPECTION AND ACCEPTANCE:
   a. UNIT SHALL MEET ALL REQUIREMENTS OF TABLE I.
   b. SEALING: PER MIL-T-27.
   c. DIELECTRIC STRENGTH: APPLY 500 VOLS (RMS) BETWEEN WINDINGS, PER MIL-T-27.
   d. INSULATION RESISTANCE: 10,000 MEGOMS MINIMUM AT 25°C, PER MIL-T-27.
   e. DC RESISTANCE: SEE TABLE I, PER MIL-T-27.
   f. PRIMARY IMPEDANCE: APPLY VOLTAGE AND FREQUENCY SPECIFIED IN TABLE I TO LEADS (1-3). SECONDARY OPEN.
   g. FREQUENCY RESPONSE (REFERENCE FREQUENCY 1000 CPS): SEE TEST CIRCUIT 1, E6 SHALL BE DETERMINED AT 1 KC, OUTPUT POWER AT 50 MW, AND TEST CONDITIONS SPECIFIED IN TABLE I. NOTE: IF TRANSFORMER SECONDARY IS CENTER TAPPED, E6 SHALL BE ACROSS COMPLETE SECONDARY. E6 SHALL BE HELD CONSTANT OVER THE FREQUENCY RANGE, PER MIL-T-27.
   h. NO LOAD VOLTAGE RATIO: SEE TABLE 1. MEASURE WITH 2 VOLTS, CENTER TAP LOCATION 1:1 ± 1.5%. PER MIL-T-27.
   i. MINIMUM MARKING: THE NASA DRAWING NUMBER, DASH NUMBER, AND REVISION LETTER, MANUFACTURER'S NAME OR SYMBOL, SERIAL NUMBER, AND LEAD IDENTIFICATION SHALL BE PERMANENTLY AND LEGIBLY MARKED ON UNIT PER ND 1002019. MANUFACTURER'S PART OR TYPE NUMBER MAY APPEAR ON PART OR PACKAGE PER MIL-STD-130.
   j. LEADS: NICKEL 0.020 ± 0.001. LEADS SHALL CONFORM TO ND1015400. A CERTIFICATE OF COMPLIANCE WITH THIS REQUIREMENT SHALL ACCOMPANY EACH SHIPMENT.
   k. POLARITY: LEADS SPECIFIED IN TABLE I SHALL BE LIKE POLARITY, PER MIL-T-27.
   l. PULL TEST: PER MIL-T-27.

SCHEMATIC DIAGRAM NO. I

VOLTAGES AND CURRENTS ARE RMS VALUES UNLESS OTHERWISE NOTED

SCHEMATIC DIAGRAM NO. II

VOLTAGES AND CURRENTS ARE RMS VALUES UNLESS OTHERWISE NOTED

<table>
<thead>
<tr>
<th>REVISIONS</th>
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<tbody>
<tr>
<td>1</td>
</tr>
<tr>
<td>2</td>
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<tr>
<td>3</td>
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<tr>
<td>4</td>
</tr>
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</table>

BOTTOM VIEW OF TRANSFORMER WITH 6 LEADS.
All dimensions are the same as shown below.

FIGURE 1

FIGURE 2

<table>
<thead>
<tr>
<th>REPLACES REV B WITH CHANGE</th>
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</thead>
</table>

SPECIFICATION DRAWING

MANNED SPACECRAFT CENTER
HOUSTON, TEXAS

INSTRUMENTATION LAB
CAMBRIDGE, MASS

TRANSFORMER, AUDIO

INVENTORY REDUCTION

LIST OF MATERIALS

UNIT

INSTRUMENTATION LAB

DO NOT SCALE THIS DRAWING

C 1010291
3. Design Requirements:
   a. The unit shall be capable of meeting all requirements of MIL-T-27 for Grade S, Class 3, Life Expectancy X, Family 1, in ambient temperature of 85°C.
   b. The unit shall be capable of meeting all electrical requirements except where noted before, during, and after the following exposures:
      1. High temperature: 71°C operating
      2. Low temperature: -15°C operating
      3. Vibration: 10 to 2000 cps, 20 g (per MIL-STD-202, Method 204A, Condition D)
      4. Reduced pressure: 10^-4 mm of mercury
   c. Workmanship: The wire shall be uniform in quality and temper clean; round and smooth and free from foreign materials, and other defects.
   d. Rated Power Level: 50 mA

4. Special Conditioning, Tool (by manufacturer):
   a. Transformer shall be temperature cycled for 5 cycles per MIL-T-202, Method 102A except that the temperatures shall be -5°C, +25°C, +100°C and exposure time shall be 10 minutes at each temperature. During the last cycle the unit shall be monitored for continuity. After stabilization at room temperature, the unit shall pass normal inspection tests. Resistance after stabilization shall not increase more than 5% from initial measured value. The aforementioned test data shall be included with each shipment.
   b. Any lot with a failure rate of greater than 1% for this test (resistance) shall not be shipped.

---

**Table 1**

| PART NUMBER | DC RESISTANCE | PRIMARY | SECONDARY | FREQUENCY RESPONSE | POLARITY | NO LOAD VOLTAGE RATIO | MAX, DC MA UNBALANCE | FAMILY | SCHEMATIC DIVISION NUMBER | FIG. NO.
<table>
<thead>
<tr>
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<tbody>
<tr>
<td>100201</td>
<td>100202</td>
<td>92Ω</td>
<td>1600Ω</td>
<td>5 volts</td>
<td>1 AND 4</td>
<td>1.50 ± 1</td>
<td>3 ± 0.5</td>
<td>13</td>
<td>II</td>
<td>1</td>
</tr>
<tr>
<td>100203</td>
<td>100204</td>
<td>7Ω</td>
<td>113Ω</td>
<td>1 volt</td>
<td>1 AND 4</td>
<td>7.06 ± 1</td>
<td>4.5 ± 1</td>
<td>17</td>
<td>II</td>
<td>2</td>
</tr>
<tr>
<td>100205</td>
<td>100206</td>
<td>0.76Ω</td>
<td>15.00Ω</td>
<td>4 volts</td>
<td>1 AND 4</td>
<td>50 ± 1</td>
<td>13 ± 0.5</td>
<td>17</td>
<td>II</td>
<td>2</td>
</tr>
<tr>
<td>100207</td>
<td>100208</td>
<td>2Ω</td>
<td>4Ω</td>
<td>10 volts</td>
<td>1 AND 4</td>
<td>2.88 ± 1</td>
<td>13 ± 0.5</td>
<td>17</td>
<td>II</td>
<td>1</td>
</tr>
<tr>
<td>100209</td>
<td>100210</td>
<td>2.1Ω</td>
<td>7Ω</td>
<td>3 volts</td>
<td>1 AND 4</td>
<td>11.1 ± 1</td>
<td>13 ± 0.5</td>
<td>17</td>
<td>II</td>
<td>1</td>
</tr>
</tbody>
</table>

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**Test Circuits**

**Frequency Response Test Circuit**

**Transformer, Audio**

PROCURE ONLY FROM APPROVED SOURCES LISTED ON NO 1000934 FOR THIS DRAWING.