The SABP — is a 5" electrostatic focus and deflection cathode ray tube designed for oscilloscope applications. The SABP — has very high sensitivity and low capacitance of the vertical deflection electrodes making the tube well suited for wide band amplifiers with their characteristics low signal output and low capacitance load requirement. The gun features a small spot size of high brilliance, as well as a cutoff voltage not affected by focusing changes.

**MECHANICAL DATA**

**BASE:** Medium Shell Dineptal 12-pin No. B12-37  
**TERMINAL CONNECTIONS:**
- Pin 1: Heater  
- Pin 2: Cathode  
- Pin 3: Grid #1  
- Pin 4: No Connection (Do not use)  
- Pin 5: Grid #3  
- Pin 7: Deflecting Electrode D3  
- Pin 8: Deflecting Electrode D4  
- Pin 9: Anode #1 (Grid #2 and #4)  
- Pin 10: Deflecting Electrode D2  
- Pin 11: Deflecting Electrode D1  
- Pin 12: No Connection  
- Pin 14: Heater  
- Cap: Anode #2 (Grid #5 and Collector)

**MOUNTING POSITION:** Any

**GENERAL DATA**

<table>
<thead>
<tr>
<th>SABP1</th>
<th>SABP7</th>
<th>SABP11</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phosphor</td>
<td>Green</td>
<td>Blue</td>
</tr>
<tr>
<td>Fluorescence</td>
<td>Blue</td>
<td></td>
</tr>
<tr>
<td>Phosphorescence</td>
<td>Yellow</td>
<td></td>
</tr>
<tr>
<td>Persistence</td>
<td>Medium</td>
<td></td>
</tr>
<tr>
<td>Focusing Method</td>
<td>Electrostatic</td>
<td></td>
</tr>
<tr>
<td>Deflection Method</td>
<td>Electrostatic</td>
<td></td>
</tr>
</tbody>
</table>

**ELECTRICAL DATA**

**DIRECT INTERELECTRODE CAPACITIES:** (μfd/s) (approx.)
- Grid #1 to all other electrodes: 8  
- Cathode to all other electrodes: 5  
- D1 to D2: 2.5  
- D3 to D4: 1.3  
- D1 to all other electrodes except D2: 9  
- D2 to all other electrodes except D1: 9  
- D3 to all other electrodes except D4: 5.0  
- D4 to all other electrodes except D3: 6  

**DESIGN CENTER MAXIMUM RATINGS**

- Heater Current: 0.6 ± 10% amperes  
- Peak Heater - Cathode Voltage, Max. (Note 1): 125 volts  
- Heater Negative with respect to cathode: 125 volts  
- Heater Positive with respect to cathode: 2000 volts DC  
- Anode #2 Voltage: 6000 volts DC  
- Anode #1 Voltage: 2600 volts DC  
- Grid #1 Voltage: 200 volts DC  
- Negative - Bias Value: 0  
- Positive - Bias Value (Note 1): 2  
- Positive - Peak Value: 500 volts DC  
- Peak Voltage Between Anode #2 and Any Deflecting Electrode: 500 volts DC

**CHARACTERISTICS AND TYPICAL OPERATION:**

- Heater Voltage: 6.3 volts  
- Anode #2 Voltage: 2000 volts DC  
- Anode #1 Voltage: 400 to 690 volts  
- Grid #3 Voltage (Focusing Electrode): 690 volts  
- Grid #1 Voltage: -52 to -87 volts DC  
- Deflection Factors:  
  - D1 = D2: 43 to 58 volts DC/inch  
  - D3 = D4: 29 to 39 volts DC/inch  
- Spot Position (Undelected) (Note 4): 0.5 inch
ELECTRICAL DATA (Cont'd)

MAXIMUM CIRCUIT VALUES:

<table>
<thead>
<tr>
<th>Item</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grid #1 Circuit Resistance</td>
<td>1.5 meg.</td>
</tr>
<tr>
<td>Resistance in any deflecting electrode current (Note 3)</td>
<td>5.0 meg.</td>
</tr>
</tbody>
</table>

**Note 1** At or near this rating, the effective resistance of the collector supply should be adequate to limit the collector input power to 6 watts.

**Note 2** Visual extinction of undeflected focused spot.

**Note 3** It is recommended that the deflecting-electrode-circuit resistances be approximately equal.

**Note 4** With anode #2 at 4000 volts, anode #1 at 2000 volts, grid #3 adjusted for focus, grid #1 adjusted for barely perceptible spot, each deflecting electrode connected thru a 1 megohm resistor to collector, the center of the undeflected focused spot will fall within a circle of 1/2 inch radius concentric with the center of the tube face, with tube shielded.

The center line of bulb will not deviate more than 2° in any direction from the perpendicular erected at center of bottom of the base.