REJUVINATION PROCESS FOR CRT Part Number 5083-6350

1. Inspect for mechanical integrity (straight pins, socket not cracked or broken, no badly scratched glass etc.) clean Crt with glass cleaner. If instrument pattern is burnt into phosphor inverse video of the same pattern may be used at high intensity for approximately 2 minutes to correct this problem.

2. Make all base pin and post accelerator connections in accordance with the CRT Test Schematic Sheet # 2 of Drawing A-5083-6300-1. These connections are made to HP CRT Test Station console ET-5153-804.

3. Turn on Crt observing safety consideration for the voltages that are present. Check to be sure intensity control works, that there is no internal arcing, no purple glow internally and that the initial intensity (Luminance) as measured; screen illuminated with 100 line raster measuring 5 x 5 cm is at least 50 cd/m². Intensity initially lower than this won’t usually yield an intensity that is usable after the rejuvenation process.

4. When all of the above conditions are met, turn off Post accelerator supply voltage, turn off Cathode supply voltage and adjust Heater supply voltage to 2.0 volts, turn intensity adjust down to a very minimal level; follow table below adjusting voltages at time intervals indicated.

<table>
<thead>
<tr>
<th>Step</th>
<th>Time (minutes)</th>
<th>Heater (WGV)</th>
<th>Cathode (VK)</th>
<th>Post Accelerator (VPA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>5</td>
<td>2.0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>2.6</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td>3.8</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>4</td>
<td>2</td>
<td>6.0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>5</td>
<td>2</td>
<td>7.3</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>6</td>
<td>2</td>
<td>9.5</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>7</td>
<td>90</td>
<td>7.3</td>
<td>2450</td>
<td>19,000</td>
</tr>
<tr>
<td>8</td>
<td>390</td>
<td>6.9</td>
<td>2450</td>
<td>19,000</td>
</tr>
<tr>
<td>9</td>
<td>295</td>
<td>6.5</td>
<td>2450</td>
<td>19,000</td>
</tr>
<tr>
<td>10</td>
<td>200</td>
<td>6.3</td>
<td>2450</td>
<td>19,000</td>
</tr>
<tr>
<td>11</td>
<td>270</td>
<td>6.0</td>
<td>2450</td>
<td>19,000</td>
</tr>
</tbody>
</table>
5. After following the 21 hour process above measure the luminance; if it has increased substantially it may be beneficial to repeat the above process. If there has been little or no increase in luminance, or in some cases a decrease, it is unlikely that repeating the above process will be of any value.
CRT TEST SCHEMATIC

BASE PIN CONNECTIONS

PIN 1 HEATER
PIN 2 CATHODE
PIN 3 GRID
PIN 4 FOCUS
PIN 5 MESH
PIN 6 SLOT LENS
PIN 7 VERTICAL DEFLECTION PLATE
PIN 8 HORIZONTAL DEFLECTION PLATE
PIN 9 ACCELERATOR
PIN 10 VERTICAL DEFLECTION PLATE
PIN 11 HORIZONTAL DEFLECTION PLATE
PIN 12 ASTIGMATISM
PIN 13 N-C
PIN 14 HEATER

Schematic Usage
5002-6350

MODEL: 1STK # DOC-A36001

CRT TEST SPECIFICATION
D 18-46804 IN.W. 104-26-89 BY JIM STRINGER DATE APRIL 16, 1984

REVISIONS
1 SUPERSEDES

TO: GIEN GIUSTI A3404
TEST SPECIFICATIONS FOR 5003-6350

SPECIAL COMMENTS: low voltage to w.g. heater, use adapter A-9

CATHODE: ELCON
MAXIMUM DRIVE ALLOWED: 45 volts
PHOSPHOR TYPE: P-31
USE GROUNDED OVERLAY: yes
GRATICULE SIZE: 12 div. vert., 17 div. horiz.
DIVISION SIZE: 1 cm

OPERATING VOLTAGES

<table>
<thead>
<tr>
<th>REF. NO.</th>
<th>X CHK</th>
</tr>
</thead>
<tbody>
<tr>
<td>A-5003-6380-1</td>
<td>100</td>
</tr>
</tbody>
</table>

5. ELEMENT LEAKAGE:
- WRITE GUN HEATER 10 us
- POST ACCELERATOR 10 us
- WRITE GUN CATHODE 10 us
- WRITE GUN GRID 10 us
- ACCELERATOR 10 us
- FOCUS 10 us
- ASTIGMATISM 10 us
- SLIT LENS 50 us
- MESH 50 us

6. STRAY EMISSION: use hood, no stray emission, PA 20.9tvk

7. SLOT LENS ADJUSTMENT

8. FOCUS AND ASTIGMATISM (rough adjustment)

9. X ALIGNMENT ADJUSTMENT

10. GUN TO GRATICULE PATTERN DISTORTION; vary of trace from graticule 0.8 div.

11. HORIZONTAL TRACE PATTERN DISTORTION;
- distance from center 0.03 div.
  - 0.03 div. 10
  - 0.05 div. 10
  - 0.07 div. 10
  - 0.10 div. 10
  - 0.12 div. 10
  - 0.14 div. 10

12. AVERAGE VERTICAL DEFLECTION FACTOR:
- 0.33 to 1.17 volts/div.

13. SUPPRESSION CHECK

14. VERTICAL DEFLECTION PLATE FADE:
- trace length 17 divisions
  - Lips center screen 10
  - Lips at extremes 50%

15. VERTICAL TRACE PATTERN DISTORTION;
- distance from center 0.08 div.
  - 0.08 div. 10
  - 0.10 div. 10
  - 0.12 div. 10
  - 0.14 div. 10

16. AVERAGE HORIZONTAL DEFLECTION FACTOR: 5.88 to 8.24 volt/div.

17. HORIZONTAL DEFLECTION PLATE FADE:
- trace length 12 divisions
  - Lips center screen - 1us
  - Lips at extremes - 58%

18. ELECTRICAL MEASUREMENT OF PATTERN DISTORTION

19. SPOT CENTERING:
- max. distance from center .7 div. .74 div.

20. CRT CUTOFF:
- +8 to -8 volts

21. PATTERN GENERATOR CUTOFF

22. LIGHT OUTPUT:
- 7x7 div. 45 volts drive

23. CATHODE CONDITION:
- one regen, no disp

24. GAS CROSS:
- (no gas cross)

25. MODULATION MEASUREMENTS; 140 CD/AC at drive level of 45 volts or less

26. FOCUS AND ASTIGMATISM ADJUSTMENT: (precise)
- -1.618 to 1.530

27. LINE WIDTH MEASUREMENT:
- setup 7x7 display raster 149 CD/AC
- 7 div. 7 div.

28. HORIZONTAL LINES:
- CENTER SCREEN 3.8 div.

29. VERTICAL LINES:
- CENTER SCREEN 3.8 div.

30. WORST CASE 3.8 div. (within 12x17 div.)

31. MESH AND SCREEN EVALUATION

32. QUALITY AREAS

33. TEST CONDITIONS

34. MESH AND SCREEN TEST SPEC.

35. MESH SPACE CHARGE

36. HORIZONTAL DEFLECTION LINEARITY:
- when requested 3X

37. VERTICAL DEFLECTION LINEARITY:
- when requested 3X

38. HIGH VOLTAGE BREAKDOWN (when requested)
- cathode -2.65kv
- p.e. +20.9kv
- w.g. heater 6.5v A.C.

39. LIGHT MEASURING INSTRUMENT:
- Information

40. INFORMATION TO BE RECORDED ON TEST SCREEN INCLUDING COMPARATOR GUN TEST INFORMATION

41. FINAL TEST

HEWLETT PACKARD

REV. P 8-45682 CRT TEST SPECIFICATION
BY JOHN WHALEY DATE AUG. 02. 1933
APPD. SHEET 1 OF 1
SUPERSEDES DWG. NO. A-5003-6350-1