Subject: Suggested circuit modifications to improve the performance of the output amplifiers of the TX-1A and TX-1B Colorplexers

This bulletin describes circuitry which replaces the output amplifier stages (essentially V21 through V28). The necessary changes are described in this bulletin and should be noted in the appropriate instruction books when completed. In the TX-1A Colorplexer, refer to IB-36210-T and Schematic Number 3167h2. In the TX-1B Colorplexer, refer to IB-3622h and Schematic Number 317709.
TABLE OF CONTENTS

I. PARTS LIST
   A. Items Deleted
   B. Items Relocated and Renumbered
   C. Items Added

II. ELECTRICAL DISASSEMBLY
   A. Tube Socket Disassembly
   B. Terminal Board Disassembly
   C. Miscellaneous

III. INSTALLATION - STEP BY STEP
   A. Mechanical
   B. Electrical
   C. Adjustments

IV. DIAGRAMS
   A. Schematics
      1. Gain Stage         TX-1A
      2. Gain Stage         TX-1B
      3. Feedback Stage     TX-1A and TX-1B
   B. Pictorial
      1. Potentiometer R50Ω relocation
      2. Terminal Board Assembly
      3. Photograph - TX-1A - Wiring Side
      4. Photograph - TX-1B - Wiring Side
### I. PARTS LIST

#### A. Items Deleted

The following parts have been deleted with no replacements - Schematic Number 316742 or 317709:

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Description</th>
<th>Connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>C54</td>
<td>.22 MF 400 V Tubular</td>
<td>TX-1A---TB-3 center lug to ground</td>
</tr>
<tr>
<td>C58</td>
<td>10 MF 450 V Electrolytic</td>
<td>TX-1B---TB6* center lug to ground</td>
</tr>
<tr>
<td>C59</td>
<td>330</td>
<td>mica</td>
</tr>
<tr>
<td>C61</td>
<td>560</td>
<td>mica</td>
</tr>
<tr>
<td>C64</td>
<td>.22 MF 400 V Tubular</td>
<td>XV22, Pin 6 to Pin 9</td>
</tr>
<tr>
<td>C66</td>
<td>10</td>
<td>Ceramic</td>
</tr>
<tr>
<td>C68</td>
<td>.22 MF 400 V Tubular</td>
<td>Across pot. 10k</td>
</tr>
<tr>
<td>C71</td>
<td>560</td>
<td>mica</td>
</tr>
<tr>
<td>C78</td>
<td>.22 MF 400 V Tubular</td>
<td>XV24, Pin 6 to XV25, Pin 2</td>
</tr>
<tr>
<td>C139</td>
<td>180</td>
<td>mica</td>
</tr>
<tr>
<td>C154</td>
<td>18</td>
<td>Ceramic</td>
</tr>
<tr>
<td>C105</td>
<td>125 ufd 350 V Elect.</td>
<td>XV22, Pin 2 to ground (may be missing</td>
</tr>
<tr>
<td>C163</td>
<td>15</td>
<td>Ceramic</td>
</tr>
<tr>
<td>R87</td>
<td>330 1 W 5%</td>
<td>Across the 7-35 mmf. (C-62)</td>
</tr>
<tr>
<td>R91</td>
<td>4.7 meg. 1/2 W 5%</td>
<td>XV22, Pin 7 to ground</td>
</tr>
<tr>
<td>R92</td>
<td>2.2 meg. 1/2 W 5%</td>
<td>XV22, Pin 6 to C50</td>
</tr>
<tr>
<td>R93</td>
<td>220 1 W 5%</td>
<td>XV22, Pin 9 to C50</td>
</tr>
<tr>
<td>R94</td>
<td>1.8 meg. 1/2 W 5%</td>
<td>XV22, Pin 8 to ground</td>
</tr>
<tr>
<td>R96</td>
<td>560 2 W 10%</td>
<td>XV22, Pin 9 to ground</td>
</tr>
<tr>
<td>R97</td>
<td>560 2 W 10%</td>
<td>XV23, Pin 2 to C62</td>
</tr>
<tr>
<td>R99</td>
<td>2200 1 W 5%</td>
<td>TBA Terminals 7 to 8</td>
</tr>
<tr>
<td>R101</td>
<td>18 1 W 10%</td>
<td>TBA Terminals 3 to 4</td>
</tr>
<tr>
<td>R102</td>
<td>33 K 1 W 5%</td>
<td>J20 to C65</td>
</tr>
<tr>
<td>R103</td>
<td>430 1/2 W 5%</td>
<td>TBA-12 to C65</td>
</tr>
<tr>
<td>R106</td>
<td>220 1 W 5%</td>
<td>Across C67</td>
</tr>
<tr>
<td>R116</td>
<td>10 K N.I.T. 10W</td>
<td>XV24, Pin 7 to ground lug</td>
</tr>
<tr>
<td>R119</td>
<td>2.2 meg. 1/2 W 5%</td>
<td>TBA Terminals 9 to 10</td>
</tr>
<tr>
<td>R120</td>
<td>4.7 meg. 1/2 W 5%</td>
<td>XV25, Pin 2 to C73</td>
</tr>
<tr>
<td>R121</td>
<td>270 1 W 5%</td>
<td>TBA Terminals 13 to 14</td>
</tr>
<tr>
<td>R122</td>
<td>1.8 meg. 1/2 W 5%</td>
<td>XV25, Pin 8 to Pin 1</td>
</tr>
<tr>
<td>R123</td>
<td>270 1 W 10%</td>
<td>XV25, Pin 2 to ground</td>
</tr>
<tr>
<td>R124</td>
<td>100 1/2 W 10%</td>
<td>XV25, Pin 3 to ground</td>
</tr>
<tr>
<td>R125</td>
<td>100 1/2 W 10%</td>
<td>XV26, Pin 7 to T85</td>
</tr>
<tr>
<td>R126</td>
<td>18 K 1 W 5%</td>
<td>XV27, Pin 2 to T85</td>
</tr>
<tr>
<td>R129</td>
<td>220 1/2 W 10%</td>
<td>TBA Terminals 21 to 22</td>
</tr>
<tr>
<td>R130</td>
<td>470 K 1/2 W 5%</td>
<td>TBA-27 to 28</td>
</tr>
<tr>
<td>R135</td>
<td>39 K 1 W 5%</td>
<td>TBA Terminals 19 to 20</td>
</tr>
<tr>
<td>R180</td>
<td>7500 N.I.T. 10 W (TX-1B only)</td>
<td>TBA20 to C79</td>
</tr>
</tbody>
</table>

*Adj. to C50*
## I. Parts List

### B. Items Relocated and Renumbered

The following parts are relocated and renumbered - refer to Schematic Number 316742 or 317709 and Figures A-1 and A-2.

<table>
<thead>
<tr>
<th>Old Pt. #</th>
<th>New Pt. #</th>
<th>Description</th>
<th>Connection</th>
</tr>
</thead>
</table>
| C60       | C501      | 1 MF, 400 V, Tubular | Old: 4.7 meg., R91 to 2.2 meg., R92  
New: XV23, Pin 6 to XV24, Pin 2 |
| C62 or C67| C503      | Var. 7-35 muf. | Old (C62): 560 ohms (R96) to ground  
Old (C67): XV22, Pin 7 to C65  
New: Across 15 muf., C163 |
| C73       | C502      | 1 MF, 400 V, Tubular | Old: 2.2 meg. (R119) to 4.7 meg. R12C  
New: TBA-11 to TBA-21 |
| R86       | R507      | 100 ohms, 1/2 W, 10% | Old: (TX-1A)-XV22, Pin 3 to TB3  
(TX-1B)-XV22, Pin 3 to TB adj.  
Old: 0-60 (TB6)*  
New: XV25, Pin 2 to TBA-18 |
| R88       | R286      | 18,000 ohms, 2 W, 5% | Old: (TX-1A) on TB3 connecting 2 birdies  
(TX-1B) on TB6 connecting 2 birdies  
New: XV18, Pin 6 to T1 lug C |
| R90       | R501      | 15,000 ohms, 2 W, 10% | Old: (TX-1A) XV22, Pin 1 to TB3  
Lower birdie  
(TX-1B) XV22, Pin 1 to TB6  
New: R.H. lug of pot. R504 to -150 V TB5 |
| R95       | R522      | 100 ohms, 1 W, 10% | Old: XV21, Pin 5 to C508  
New: (TX-1A) TB3, middle to upper birdie  
(TX-1B) TBA-12 to TB3 |
| R98       | R513      | 1 meg., 1/2 W, 10% | Old: TBA 1 to 2  
New: XV24, Pin 2 to ground |
| R100      | R519      | 150,000 ohms, 1 W, 5% | Old: TBA-5 to 6  
New: TBA-19 to 20 |
| R104      | R504      | 220 ohms, 2 W, 5% | Old: LH lug - ground  
Center - XV24, Pin 2  
RH lug - J20  
New: LH lug) 15 K(R502)+XV22, Pin 8  
Center)  
RH lug - XV22, Pin 3, +15 K(R501 |
| R105      | R508      | 100 ohms, 1/2 W, 10% | Old: XV24, Pin 3 to TB3, upper birdie  
New: XV23, Pin 7 to TB4 |

*TB6 is to be removed in the process of disassembly and, hence, does not appear in Figure B-4.
### B. Items Relocated and Renumbered (continued)

<table>
<thead>
<tr>
<th>Old Pt. #</th>
<th>New Part #</th>
<th>Description</th>
<th>Connection</th>
</tr>
</thead>
</table>
| R108      | R287       | 18 K, 2 W, 5% | Old: TBA 17 to 18  
New: T2 lug C to C85 |
| R109      | R518       | 4700 1 W, 5% | Old: TBA 10 to 11  
New: TBA 21 to 22 |
| R117      | R514       | 510 1/2 W, 5% | Old: Across C72  
New: XV24, Pin 3 to ground |
| R118      | R509       | 7500 N.I.T., 10 W  
(TX-1A only) | Old: XV28-Pin 2 to C105  
New: TBA-9 to 10-Topside |
| R284      | R284       | 220 1 W, 5% | Old: TB8 to ground  
New: TB8 to spare lug on C85 |
| R285      | R285       | 220 1 W, 5% | Old: TB9 to ground  
New: TB9 to spare lug on C85 |
| C65       | C508       | 125 ufd 380 V | Old: XV23 Pin 3 to Pin 7  
New: Negative Power Supply |

### C. Items Added

Refer to Figures A-1, A-2, A-3 and B-2. Relocated and new components carry symbol numbers in the 500 Series. Components that are not affected by the change are numbered according to Schematics 31671/2 (TX-1A) and 317709 (TX-1B).

<table>
<thead>
<tr>
<th>Symbol No.</th>
<th>Description</th>
<th>Location</th>
<th>Dwg. No.</th>
<th>Stock No.</th>
</tr>
</thead>
</table>
| C504       | Capacitor, mica, 100 mmf., Across C503  
500 V, 5% | TBA 5 to 6  
727853-223  
98422 |
| C506       | Capacitor, mica, 47 mmf., Across C505  
500 V, 5% | TBA 5 to 6  
727853-215  
95320 |
| C507       | Capacitor, molded, 0.1 mmf., TBA 7 to 8  
1400 V. | TBA 5 to 6  
735715-175  
73551 |
| L501       | Coil, fixed, 10 mh. | TBA 5 to 6  
8825173-505  
202910 |
| R502       | Resistor, Composition,  
15,000 ohms, 2 W, 10% | TBA 5 to 6  
R501  
99126-76  
522315 |
| R503       | Resistor, Composition,  
1300 ohms, 1 W, 5% | TBA 5 to 6  
R501  
90496-162  
512313 |
| R505       | Resistor, Composition,  
27000 ohms, 2 W, 10% | TBA 5 to 6  
99126-79  
522327 |
| R506       | Resistor, Composition,  
27000 ohms, 2 W, 10% | TBA 5 to 6  
99126-79  
522327 |
| R509       | (TX-1B only), 3000 ohms,  
N.I.T., 10 W | TBA 5 to 6  
8817660-17  
52229 |
<table>
<thead>
<tr>
<th>Symbol No.</th>
<th>Description</th>
<th>Location</th>
<th>Dwg. No.</th>
<th>Stock No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>R510</td>
<td>Resistor, Composition, 220 ohms, 1/2 W, 5%</td>
<td>XV25, Pin 1 to 6</td>
<td>82283-143</td>
<td>502122</td>
</tr>
<tr>
<td>R511</td>
<td>Resistor, Composition, 220 ohms, 1/2 W, 5%</td>
<td>XV26, Pin 1 to 6</td>
<td>82283-143</td>
<td>502122</td>
</tr>
<tr>
<td>R512</td>
<td>Resistor, Composition, 220 ohms, 1/2 W, 5%</td>
<td>XV27, Pin 1 to 6</td>
<td>82283-143</td>
<td>502122</td>
</tr>
<tr>
<td>R515</td>
<td>Resistor, Composition, 82 ohms, 1/2 W, 5%</td>
<td>XV27, Pin 1 to 8</td>
<td>82283-133</td>
<td>502062</td>
</tr>
<tr>
<td>R516</td>
<td>Resistor, Composition, 240 ohms, 1 W, 5%</td>
<td>XV24, Pin 8 to</td>
<td>90496-144</td>
<td>512124</td>
</tr>
<tr>
<td>R517</td>
<td>Resistor, Composition, 47 ohms, 1/2 W, 5%</td>
<td>TBA-14 to C503</td>
<td>82283-127</td>
<td>502047</td>
</tr>
<tr>
<td>R520</td>
<td>Resistor, Composition, 24,000 ohms, 1 W, 5%</td>
<td>TBA-20 to C79</td>
<td>90496-192</td>
<td>512324</td>
</tr>
<tr>
<td>R521</td>
<td>Resistor, Composition, 100 ohms, 1/2 W, 5%</td>
<td>Across C505 and</td>
<td>82283-135</td>
<td>502110</td>
</tr>
<tr>
<td>R522</td>
<td>Resistor, Composition, 1200 ohms, H.I.T., 10 W</td>
<td>Yellow-Red Lead</td>
<td>8817660-13</td>
<td>91772</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(High Voltage Center Tap) of T5 to Gnd.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
II. ELECTRICAL DISASSEMBLY

A. Tube Socket Disassembly

The following list of components and wire connections, other than heater connections, are those that are not removed or relocated on tube sockets XV21 through XV27. All other soldered connections should be removed.

XV21 - Pin 2 .032 bus to ground

XV22 - Pin 2 .032 bus to C55 (TX-1A)  
                     TR2 (TX-1B)

XV23 -

XV24 -

XV25 - Pin 1)  
             Pin 7) .032 bus

XV26 - Pin 1 Relocate the other end of the .032 bus from Pin 6 to Pin 7  
           Pin 2  100 ohms, $\frac{1}{2}$ W to TBA 24 (TX-1A)  
                     TBA 26 (TX-1B)

XV27 - Pin 1 Relocate the other end of the .032 bus from Pin 6 to Pin 7  
           Pin 2  100 ohms, $\frac{1}{2}$ W to TBA 28 (TX-1A)  
                     TBA 26 (TX-1B)

B. Terminal Boards

Refer to Figures B1 and B4 for the location of the following terminal boards.

Terminal Board 3 (TX-1A) Remove all components and wires  
                  6 (TX-1B) (located next to C-60)

Terminal Board 3 (TX-1B) Remove the three resistors

Terminal Board 4 (Adjacent to XV26) Remove the two resistors and bus

Terminal Board 5 (Mounted on TBA) Remove resistor and bus

Terminal Board Assembly (TBA) Remove all capacitors (1.0 mf. only temporarily) and all resistors except the 470,000 ohms, $\frac{1}{2}$ W connecting #23 and #24 terminals and the two 100 ohms, $\frac{1}{2}$ W resistors attached to #26 terminal.

Remove all bus connections except:

a) 7 and 9
b) 19, 21, and 23
c) 24 and 26 (TX-1B)  
           24 and 28 (TX-1A)
d) #22 .032 bus to ground
II. ELECTRICAL DISASSEMBLY

C. Miscellaneous

The following components should now be removed and held together with mounting hardware for relocation.

C55 (TX-1A only)
C60
C62
C67
K104
T64
T65

The following components and any items soldered thereto should be removed and discarded. The holes left in the chassis can be covered with any suitable cover plate.

C58
C65
J20

C72 should now be loosened from its standoff in order that R117, 510, ½ W, 5% soldered across it may be removed.
III. INSTALLATION

A. Mechanical

(Please refer to Figures B-1, B-3, and B-4).

Variable Resistor R10:

The pot should be mounted in accordance with the pictorial drawing, Section IV, Fig. B-1. The hole left in the chassis can be filled with a 3/8" button.

TB 4: Should be relocated in the hole left by C62, the mounting hole, and should be rotated about until the board lies in a vertical plane on the XV23 side of the hole.

TB 5: Mount in the hole formerly occupied by a 6-32 x 5/8" binder head screw supporting the phenolic spacer and C-60. TB 5 should be oriented towards XV 28.

B. Electrical

General Instructions

Parts 1 and 2 of this group deal chiefly with filament and supply voltages. Therefore, the bus and wire connections noted in Parts 1 and 2 should be placed close to the chassis and away from signal leads. On the other hand, steps in Part 4 involve chiefly signal leads which should be soldered point to point and kept away from other wiring.

1. Filament Connections

(a) XV25: Rewire the heater connections so that it conforms to that of XV26 and XV27. Thus, relocate the white/brown 10-strand lead from Pin 5 to Pin 6. Tie Pins 4 and 5 together.

(b) T-4: Remove the bus connections between Terminal 6 and the ground lug. Connect Terminal 6 of T4 to the closest birdie on TB 7 (attached to the upper mounting screw holding G105).

2. DC Supply Voltages

(a) -150 V (1) Remove R180, 7500 NIT, 10 W. Jumper the open connection with Bus wire.

(2) Remove the white/green/black 7/.010 wire (2 wires for the TX-1B) from Pin 2 and solder to TB 5.
(3) Connect Pin 2 to TB 5 with .032 bus.

(4) Connect the free end of the white/green/black wire to TBA-20. (A longer piece may be required).

(5) Add R522 1200 Ohm 1/2W NIT from center tap of T-5 (Yellow-Red Lead formerly connected to GND) to GND.

(6) C 508
   (a) 160 ufd section - connect to center tap of T5.
   (b) 60-40 ufd section - connect to GND.
   (c) Common - connect to V28, Pin 2

   (b) $\neq$ 150 V

<table>
<thead>
<tr>
<th>First Tie Pt.</th>
<th>Second Tie Pt.</th>
<th>Connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) TX-1A TBA-12</td>
<td>TB3 (closest birdie)</td>
<td>.032 bus</td>
</tr>
<tr>
<td>TX-1B TBA-12</td>
<td>TB3 (closest birdie)</td>
<td>100 ohms, lw., 10%</td>
</tr>
<tr>
<td>(2) TX-1A TB3 (center birdie)</td>
<td>085 spare lug</td>
<td>white/red 7/.010</td>
</tr>
<tr>
<td>TX-1B TB3 (closest &quot;&quot;)</td>
<td>085 spare lug</td>
<td>white/red 7/.010</td>
</tr>
<tr>
<td>(3) TX-1A TB3 (closest birdie)</td>
<td>TB3 (center birdie)</td>
<td>100 ohms, lw., 10%</td>
</tr>
<tr>
<td>TX-1B TB3 (closest birdie)</td>
<td>TB3 (furthest birdie)</td>
<td>1300 &quot;</td>
</tr>
</tbody>
</table>

(4) R286 XV18, Pin 6, 56 k Ohm, 1 w. (may be 2 w.) 5% to lug C, T1 - replace with an 18 k, 2 w., 5% (formerly R88).

(5) R287 XV19, Pin 6, 56 k Ohm, lw. (may be 2 w.) 5% to lug C, T2 - replace with 18 k, 2 w., 5% (formerly R108)

(6) R284 TB8 (attached to XV18) 220, 1 w., 5% to ground lug - lift from ground lug and place on spare lug of C85.

(7) R285 TB9 (attached to XV19) 220, 1 w., 5% to ground lug - lift from ground lug and place on spare lug of C85.

(8) TBA-12 Red 7/.010 to XV22, Pin 1.

(c) $\neq$ 280V

(1) TX-1A The white/red 7/.010 wire that is free at one end and attached to TB7 (one birdie) at the other end should now be soldered to TBA-10.

   TX-1B -TB7 (1 birdie) should be connected to TBA-10 by means of a white/red 7/.010 wire.

(2) XV23 Pin 9 should be connected to TBA -10 with a White/Red 7/.010 wire.

(3) XV24 Pin 6
(4) XV25 Pin 9
(5) XV26 Pin 9
(6) XV27 Pin 9
   To C77 by separate white/red 7/.010 wire.
3. **Terminal Board Assembly** (Refer to Pictorial Diagram B-2) except for the 10 W resistor; all components are placed on the bottom side.

**THA Turret Terminal**

<table>
<thead>
<tr>
<th>First Tie Pt.</th>
<th>Second Tie Pt.</th>
<th>Connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>27 K, 2 W, 10%</td>
</tr>
<tr>
<td>1</td>
<td>4</td>
<td>.032 ground bus</td>
</tr>
<tr>
<td>2</td>
<td>4</td>
<td>.032 bus (insulated)</td>
</tr>
<tr>
<td>3</td>
<td>6</td>
<td>27 K, 2 W, 10%</td>
</tr>
<tr>
<td>4</td>
<td>6</td>
<td>.032 ground bus</td>
</tr>
<tr>
<td>5</td>
<td>7</td>
<td>.032 bus</td>
</tr>
<tr>
<td>6</td>
<td>8</td>
<td>1300, 1 W, 5%</td>
</tr>
<tr>
<td>7</td>
<td>9</td>
<td>.1, 100 V, DC</td>
</tr>
<tr>
<td>8</td>
<td>XV23 nut strap (TX-1A)</td>
<td>.032 bus</td>
</tr>
<tr>
<td>9 (other side)</td>
<td>10 TX-1A</td>
<td>.032 ground bus</td>
</tr>
<tr>
<td>9</td>
<td>TX-1B</td>
<td>7500 ohms, 10 W, NI</td>
</tr>
<tr>
<td>10</td>
<td>12</td>
<td>3000 ohms, 10 W, NI</td>
</tr>
<tr>
<td>10</td>
<td>L7-Pin 3 (TX-1B)</td>
<td>.032 bus (insulated)</td>
</tr>
<tr>
<td>12</td>
<td>TB-3 (TX-1A)</td>
<td>+280 Feed</td>
</tr>
<tr>
<td>12</td>
<td>XV23, Pin 9</td>
<td>White/Red 7/.010 wire</td>
</tr>
<tr>
<td>12</td>
<td>XV21, Pins 1 and 5</td>
<td>.032 bus</td>
</tr>
<tr>
<td>12</td>
<td>XV22, Pin 1</td>
<td>Red 7/.010 wire</td>
</tr>
<tr>
<td>12</td>
<td>TB3 (TX-1A)</td>
<td>White/Red 7/.010 wire</td>
</tr>
<tr>
<td>12</td>
<td>TB3 (TX-1B)</td>
<td>100 1 W, 10%, R522</td>
</tr>
<tr>
<td>14</td>
<td>2l1</td>
<td>0502</td>
</tr>
<tr>
<td>14</td>
<td>XV21, Pin 8</td>
<td>2l0 ohms, R516</td>
</tr>
<tr>
<td>14</td>
<td>C503</td>
<td>4.7 ohms, R517</td>
</tr>
<tr>
<td>18</td>
<td>XV25, Pin 2</td>
<td>100 ohms</td>
</tr>
<tr>
<td>18</td>
<td>2l1</td>
<td>.032 bus insulated</td>
</tr>
<tr>
<td>19</td>
<td>20</td>
<td>150 K, 1 W, 5%</td>
</tr>
<tr>
<td>19</td>
<td>21</td>
<td>.032 bus</td>
</tr>
<tr>
<td>20</td>
<td>TB5</td>
<td>-150 V, Feed (white/green/black)</td>
</tr>
<tr>
<td>20</td>
<td>C79</td>
<td>2l4 K, 1 W, 5%</td>
</tr>
<tr>
<td>21</td>
<td>22</td>
<td>4700 ohms, 1 W, 5%</td>
</tr>
<tr>
<td>21</td>
<td>23</td>
<td>.032 bus</td>
</tr>
<tr>
<td>22</td>
<td>XV26 ground lug</td>
<td>.032 ground bus</td>
</tr>
<tr>
<td>23</td>
<td>2l1</td>
<td>4.70 K, 1/2 W, 5%</td>
</tr>
<tr>
<td>24</td>
<td>XV26, Pin 2 (TX-1A)</td>
<td>100, 1/2 W</td>
</tr>
<tr>
<td>24</td>
<td>28 (TX-1A)</td>
<td>.032 bus</td>
</tr>
<tr>
<td>24</td>
<td>26 (TX-1B)</td>
<td>.032 bus</td>
</tr>
<tr>
<td>26</td>
<td>XV26, Pin 2 (TX-1B)</td>
<td>100, 1/2 W</td>
</tr>
<tr>
<td>26</td>
<td>XV27, Pin 2</td>
<td>.032 bus</td>
</tr>
<tr>
<td>27</td>
<td>XV27, Pin 2</td>
<td>100, 1/2 W</td>
</tr>
<tr>
<td>27</td>
<td></td>
<td>REMOVE THIS LUG</td>
</tr>
<tr>
<td>27</td>
<td></td>
<td>REMOVE THIS LUG</td>
</tr>
</tbody>
</table>
## 4. Socket Assemblies

### First Tie Pt.

| (a) XV22 | (1) Pin 3  
| (2) Pin 6  
| (3) Pin 7  
| (4) Pin 8  |

| (b) | (1) Pot - closest lug  
| (2) Pot - furthest lug  
| (3) Pot - furthest lug  |

| (c) | (1) TB 4  
| (2) VB 4  |

| (d) XV24 | (1) Pin 1  
| (2) Pin 1  
| (3) Pin 2  
| (4) Pin 3  
| (5) Pin 3  |

| (e) | (1) 0503 (outer lug)  
| (2) Ground  
| (3) Mount 0503 on the lower mtg. hole of C77. Drill out with a #26 drill, if necessary.  |

| (f) XV25 | (1) Pin 1  
| (2) Pin 1  
| (3) Pin 3  
| (4) Pin 6  
| (5) Pin 9  |

| (g) XV26 | (1) Pin 1  
| (2) Pin 1  
| (3) Pin 3  
| (4) Pin 6  
| (5) Pin 9  |

| (h) XV27 | (1) Pin 1  
| (2) Pin 1  
| (3) Pin 3  
| (4) Pin 6  
| (5) Pin 9  |

### Second Tie Pt.

- Closest lug-pot.
- TB 4
- Ground
- Centre lug-pot.
- TB 5
- Center lug
- XV23, Pin 7
- Pin 7
- Pin 8
- Ground
- 0505
- Ground
- 0503 (inner lug)
- 47 ohms, $\frac{1}{2}$ W, (R517)
- 0503

### Connection

- .032 bus
- .032 bus
- .032 bus
- .032 bus
- .032 bus
- 15 K, 2 W, 5%
- 15 K, 2 W, 5%
- .032 bus
- .032 bus
- .032 bus
- 82 $\frac{1}{2}$ W, 5%
- 1 Meg., $\frac{1}{2}$ W, 10%
- 510 $\frac{1}{2}$ W, 5%
- 220 $\frac{1}{2}$ W, 5%
- 220 $\frac{1}{2}$ W, 5%
- 220 $\frac{1}{2}$ W, 5%
- White/Red 7/.010
- White/Red 7/.010
- White/Red 7/.010
- White/Red 7/.010
- White/Red 7/.010
5. Miscellaneous

(a) C505 (formerly C72) should now have the following soldered across it.

<table>
<thead>
<tr>
<th>R521</th>
<th>100  Ω 1/2 W  5%</th>
</tr>
</thead>
<tbody>
<tr>
<td>C506</td>
<td>1.7 µF 5%</td>
</tr>
</tbody>
</table>

Some care must be taken in the positioning of these components as they should be spaced about equidistantly between the chassis and the trimmer.

(b) Coupling Capacitors

C501 and its phenolic spacer should now be mounted over the hole for the mounting screw for the former C-67 standoff. One lead is soldered to TBA-4, while the other is soldered to XV21, Pin 2. On the XV21 side, the metal case of the capacitor should be connected to the pigtail.

C502 (formerly C73) should now be mounted in its original position and one lead should be soldered to TBA-14. The other lead should be soldered to TBA-24 and also to the metal case of the capacitor with as short a lead as possible.

C. Adjustments

Set the gain pot, R501, in its mid-position. Connect the RCA type WA-21, Video Sweep Generator, to XV22, Pin 2, setting it to sweep from zero to 10 Mc. Do not let the output of the sweep exceed 0.5 V. Across one of the output terminals, place a detector probe that is connected to RCA Type TO-524D. Adjust C505 and then C501 for flat response to 8 Mc. After adjusting C501, it may be necessary to readjust C505. The colorplexer is then ready for the standard adjustment procedure as set forth in the instruction book.

D. Levels

With 1.0 V P-P camera or bar signals into the colorplexer the output should be 1.0 V P-P composite (.71 P-P video + .286 P-P sync) ± 20%.
IV DIAGRAMS

B. PICTORIAL

I. RELOCATION OF POTENTIOMETER
R504 (FORMERLY R-104)

DRILL 3/8 HOLE

DRILL #22 .156 DIA.

XV22

1 5/16

XV28