

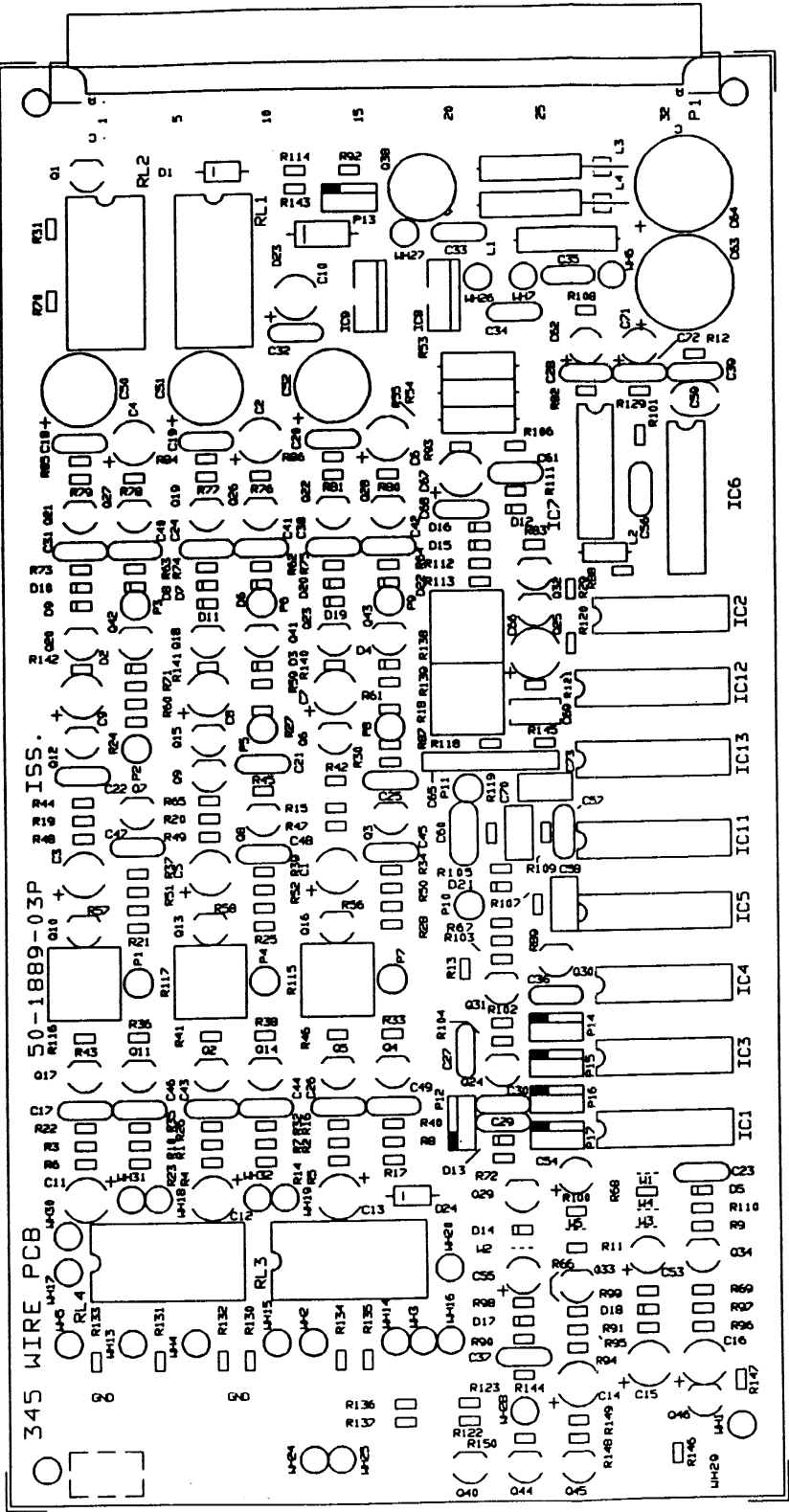
**SECTION 16**

**RGB SYNC 2 INPUT MODULE**

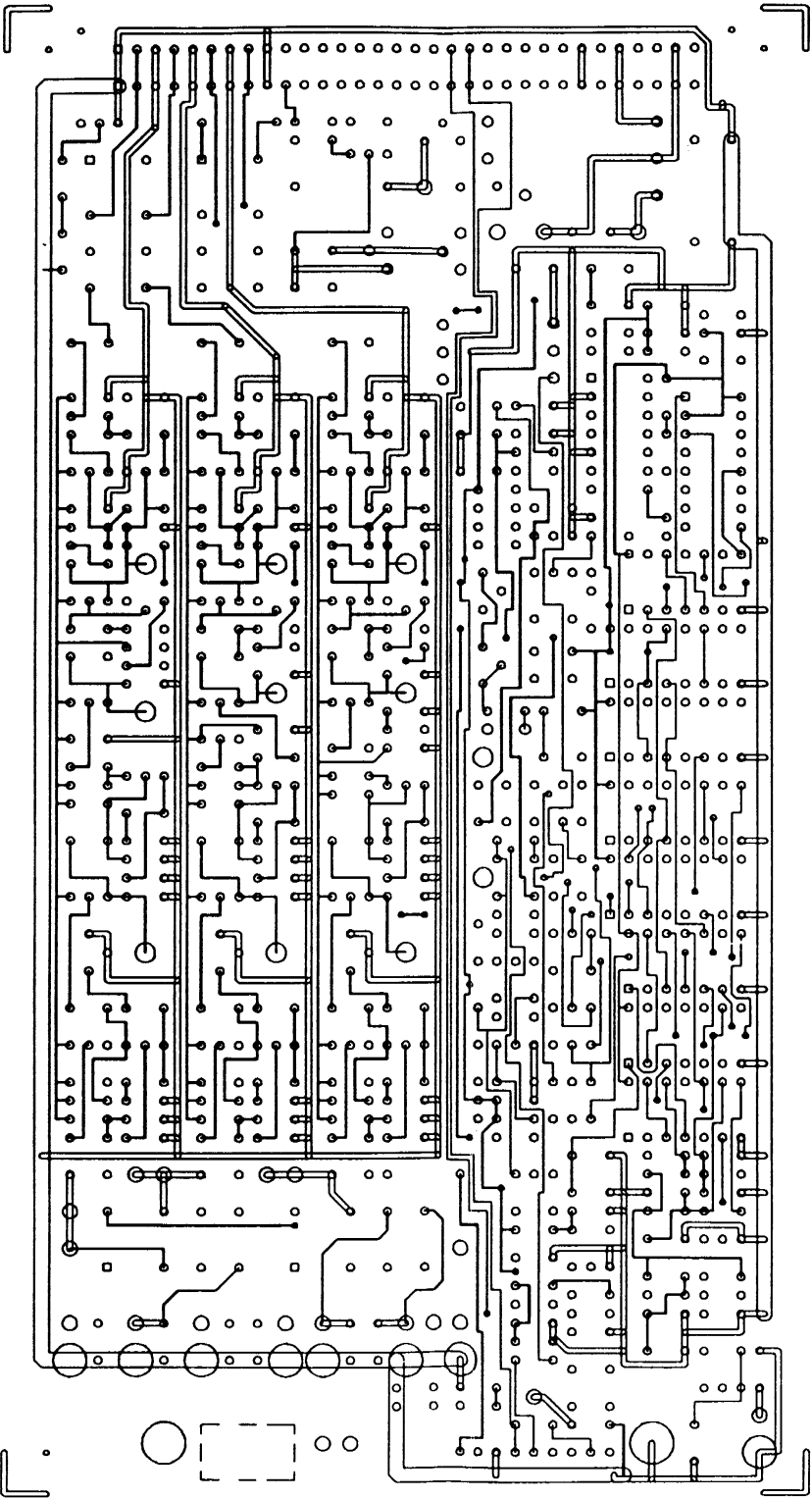
SUB-SECTIONS		
Section		Page
16.1	Technical Description .....	16-1
16.2	Servicing and Alignment .....	16-1
16.3	Component Layout and Schematics .....	16-1
16.4	Parts List .....	16-7
16.5	Specifications .....	16-9
ILLUSTRATIONS		
Figure		Page
16-1	RGB SYNC 2 INPUT Module Removal .....	16-1
16-2	RGB SYNC 2 INPUT Module Component Layout .....	16-2
16-3	RGB SYNC 2 INPUT Schematic (Sheet 1 of 2) .....	16-3
16-4	RGB SYNC 2 INPUT Schematic (Sheet 2 of 2) .....	16-5



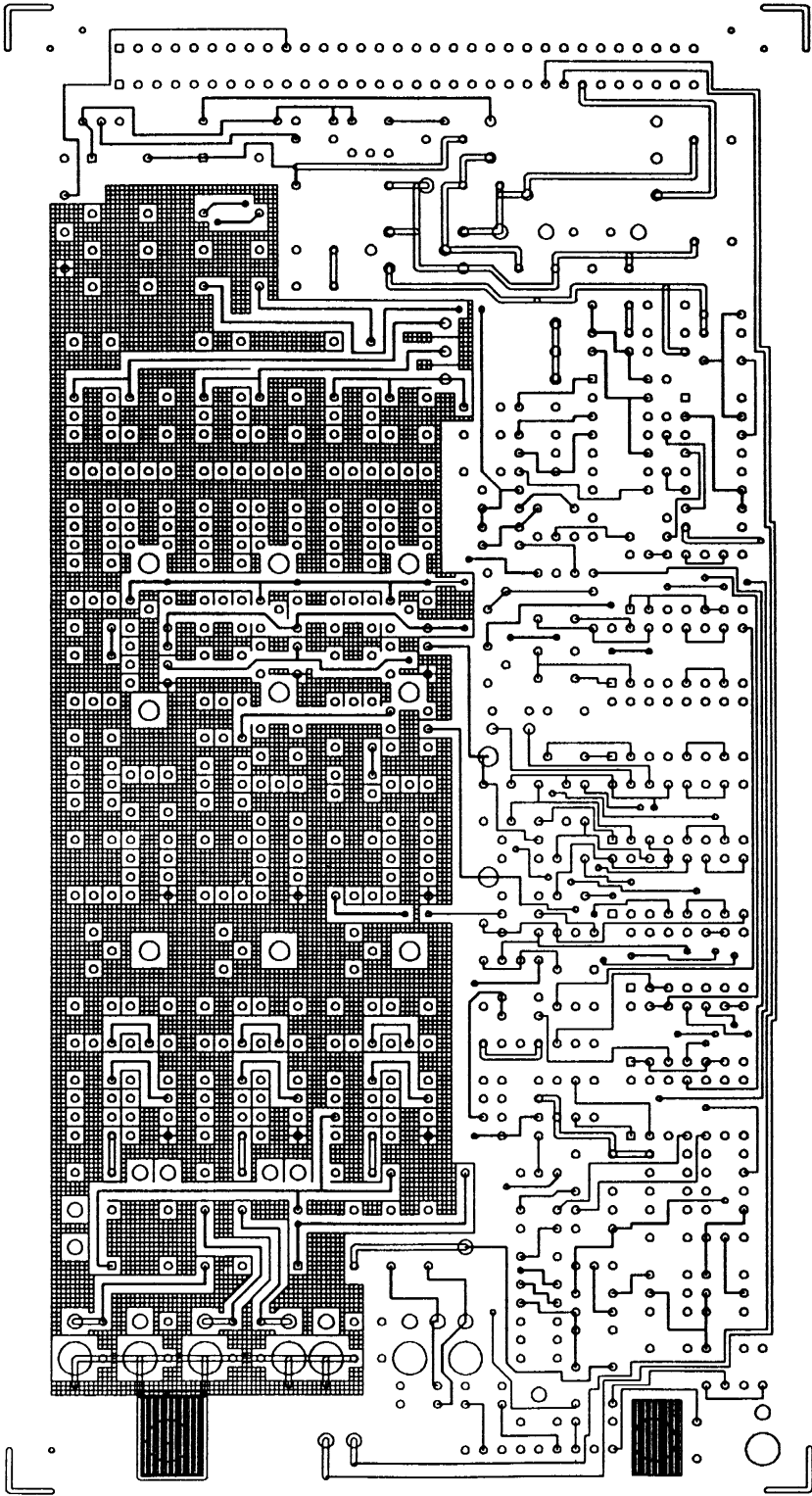
50-1889-03P ISS. 3



Component Layout



Solder Side  
(Viewed from Component Side)



Component Side

FIGURE 16-2. RGB SYNC 2 INPUT Module Component Layout

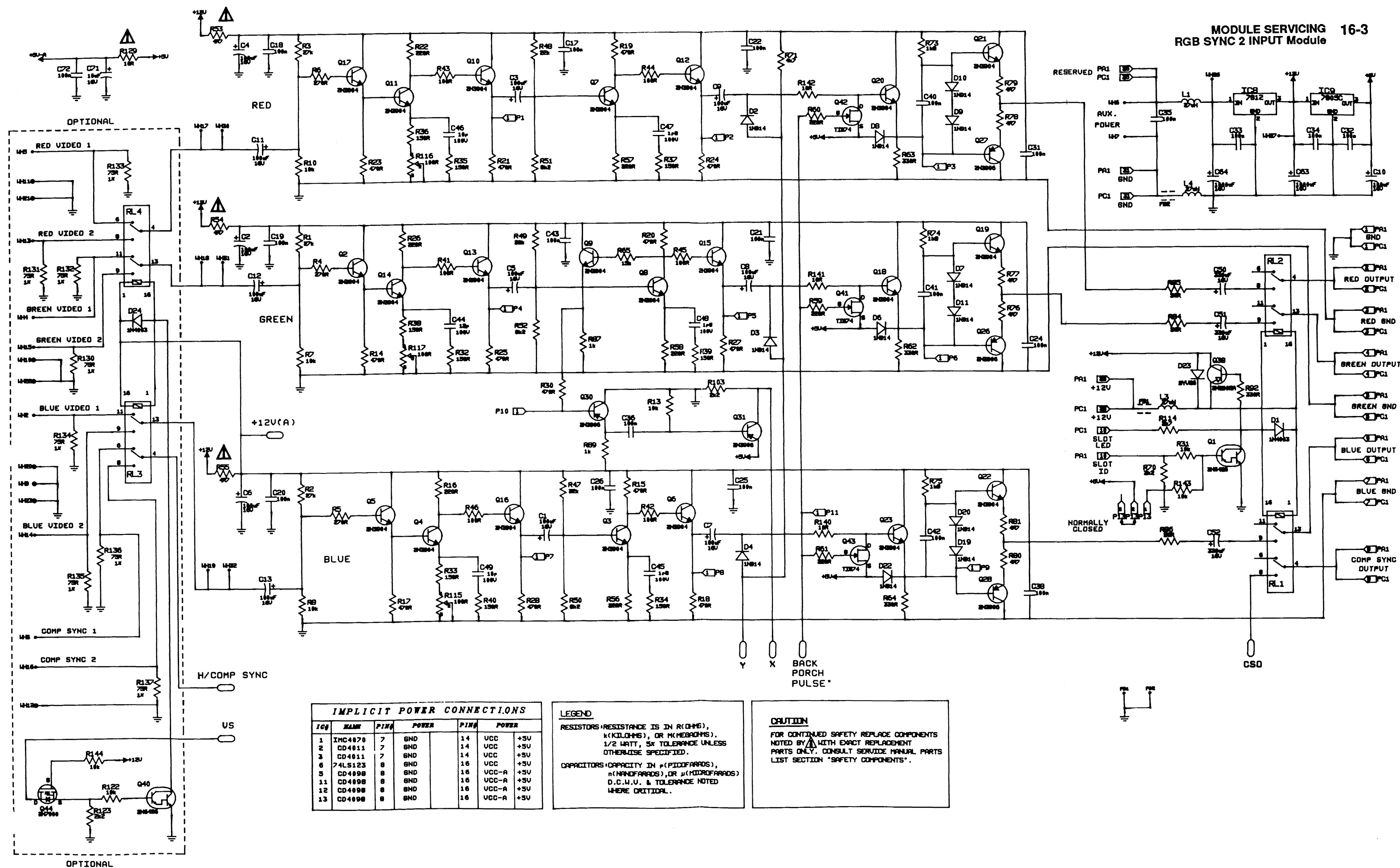


FIGURE 16-3. RGB SYNC 2 INPUT Schematic (1 of 2)

00-260015-03P

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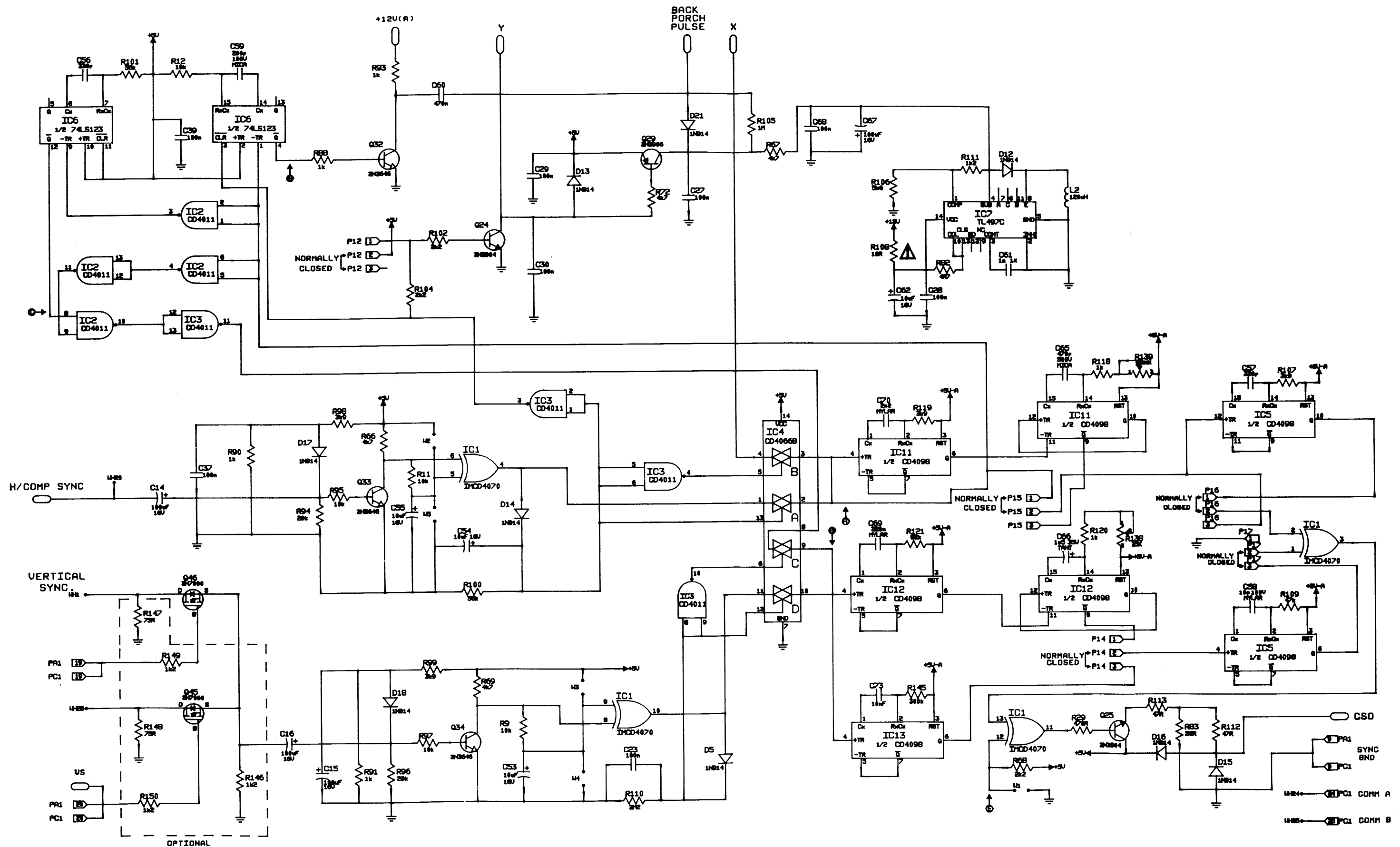


FIGURE 16-4. RGB SYNC 2 INPUT Schematic (2 of 2)  
00-260015-03P

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## 16.4 PARTS LIST

▲ - CRITICAL SAFETY COMPONENT  
(REPLACE WITH IDENTICAL PART)

Item Ref.	Part No.	Description
<b>Integrated Circuits</b>		
IC1	IC-14-004620-01P	74LS86, quad EXOR gate
IC2,IC3	IC-14-A04027-01P	CD4011BE, 20V CMOS NAND gate
IC4	IC-14-A03008-02P	CD4066B, (RCA or Motorola ONLY)
IC5,IC11-IC13	IC-14-A04041-01P	MM14538B, CMOS, precision dual monostable
IC6	IC-14-004670-02P	74LS123, dual mono multivibrator
IC7	IC-14-002834-01P	TL497C, voltage regulator
IC8	IC-14-002018-01P	MC7812CT, +12 VDC, fixed linear regulator
IC9	IC-14-002032-01P	MC7805CT, +5 VDC, fixed linear regulator
<b>Transistors and Diodes</b>		
Q1,Q40	TR-14-000990-01P	2N6426, NPN
Q2-Q25	TR-14-000881-06P	2N3904, NPN, 40V, 0.2A, 0.35W
Q26-Q31	TR-14-000873-82P	2N3906, PNP, small signal
Q32-Q34	TR-14-000880-05P	MPS3646, NPN, 15V, 0.3A, 1W
Q38	TR-14-000984-02P	2N2905A
Q41-Q43	TR-14-000720-13P	TIS74, FET, 30V, 0.05A, 0.36W
D1,D24	D-14-000525-53P	1N4003, rectifier, 1A, 200V
D2-D4,D6-D13,D15-D22	D-14-000513-01P	1N914, diode, 0.075A, 75V
D5,D14	D-14-000533-01P	BAT81, Schottky barrier diode
D23	D-14-000525-07P	BYV26, rectifier, 0.5A, 350V, T
<b>Capacitors</b>		
C1-C16,C67	C-84-410104-03P	100 $\mu$ F, 25V, electrolytic
C17-C43,C68,C72	C-89-000032-03P	100 nF, 50V, 20%, ceramic, multi layer
C44	C-86-612031-04P	12 pF, 100V, 2%
C45,C47,C48	C-86-618711-04P	1.8 pF, $\pm$ 0.25pF, NPO, 100V, ceramic
C46,C49	C-86-610031-04P	10 pF, ceramic
C50-C52	C-44-433103-05P	330 $\mu$ F, 16V, electrolytic
C53-C55,C62,C71	C-84-410004-01P	10 $\mu$ F, 25V, electrolytic
C56,C57	C-89-000033-06P	330 pF, 5%, NPO, ceramic, multi layer
C58	C-88-171031-02P	10 nF, 100V, 10%, mylar
C59	C-47-052012-16P	200 pF, 2%, mica, 100V
C60	C-89-000032-02P	0.47 $\mu$ F, 50V, $\pm$ 20%, ceramic, multi layer
C61	C-89-000033-02P	1.0 nF, 50V, 1%, ceramic, multi layer
C63,C64	C-44-410203-08P	1000 $\mu$ F, 16V, electrolytic
C65	C-47-044715-03P	470 pF, $\pm$ 5%, mica, 500V
C69	C-88-172240-02P	220 nF, 50V, 10%, mylar
C70	C-88-172220-02P	2.2 nF, 50V, $\pm$ 10%, mylar
C73	C-89-000032-04P	10 nF, 50V, 20%, ceramic, multi layer
C75	C-88-171053-12P	1 $\mu$ F, 50V, mylar
<b>Resistors</b>		
R1-R3	R-80-127025-11P	27K, 1/2W, 5%, metal film
R4-R6	R-80-127005-11P	270R, 1/2W, 5%, metal film
R7-R13,R31,R95,R97, R122,R143,R144	R-80-110025-11P	10K, 1/2W, 5%, metal film
R14,R15,R17-R21, R23-R25,R27-R30	R-80-147005-11P	470R, 1/2W, 5%, metal film



16.4 PARTS LIST (cont.)

⚠ - CRITICAL SAFETY COMPONENT  
(REPLACE WITH IDENTICAL PART)

Item Ref.	Part No.	Description
<b>Resistors (cont.)</b>		
R16,R22,R26,R56-R61	R-80-122005-11P	220R, 1/2W, 5%, metal film
R32-R40	R-80-115005-11P	150R, 1/2W, 5%, metal film
R41-R46	R-80-110005-11P	100R, 1/2W, 5%, metal film
R47-R49	R-80-122025-11P	22K, 1/2W, 5%, metal film
R50-R52	R-80-182015-11P	8.2K, 1/2W, 5%, metal film
⚠ R53-R55	R-42-000063-57P	4.7R, 1/2W
R62-R64,R92	R-80-133005-11P	330R, 1/2W, 5%, metal film
R65	R-80-115025-11P	15K, 1/2W, 5%, metal film
R66,R67,R69,R71,R72, R151,R154	R-80-147015-11P	4.7K, 1/2W, 5%, metal film
R68,R70,R102-R104, R123	R-80-122015-11P	2.2K, 1/2W, 5%, metal film
R73-R75	R-80-118015-11P	1.8K, 1/2W, 5%, metal film
R76-R82	R-80-147085-11P	4.7R, 1/2W, 5%, metal film
R83-R86	R-80-156095-11P	56R, 1/2W, 5%, metal film
R87-R91,R93,R118, R120,R152,R153	R-80-110015-11P	1K, 1/2W, 5%, metal film
R94,R96	R-80-120025-11P	20K, 1/2W, 5%, metal film
R98,R99	R-80-139015-11P	3.9K, 1/2W, 5%, metal film
R100,R101	R-80-156025-11P	56K, 1/2W, 5%, metal film
R105	R-80-110045-11P	1M, 1/2W, 5%, metal film
R106,R107	R-80-156015-11P	5.6K, 1/2W, 5%, metal film
R108,R129,R140-R142	R-80-110095-11P	10R, 1/2W, 5%, metal film
R109	R-80-136025-11P	36K, 1/2W, 5%, metal film
R110	R-80-122045-11P	2.2M, 1/2W, 5%, metal film
R111	R-80-112015-11P	1.2K, 1/2W, 5%, metal film
R112	R-80-147095-11P	47R, 1/2W, 5%, metal film
R113	R-80-127095-11P	27R, 1/2W, 5%, metal film
R114	R-80-127015-11P	2.7K, 1/2W, 5%, metal film
R115-R117	VR-41-000344-04P	100R, carbon trim pot
R119	R-80-151015-11P	5.1K, 1/2W, 5%, metal film
R121	R-80-143025-11P	43K, 1/2W, 5%, metal film
R130-R137	R-82-375091-29P	75R, 1/3W, 1%, metal film
R138	VR-41-000344-12P	25K, carbon trim pot
R139	VR-41-000345-11P	200K, 20 turn trim pot
R145	R-80-122035-11P	220K, 1/2W, 5%, metal film

**Coils and Transformers**

L1	L-21-001400-10P	27 $\mu$ H, RF choke
L2	L-21-001185-38P	120 $\mu$ H, inductor
L3,L4	L-21-001400-25P	inductor

**Miscellaneous**

RL1,RL2	RL-25-000106-01P	relay, DPDT, 12v coil
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## 16.5 SPECIFICATIONS

### Power Requirements:

Voltage  
in projector or switcher ..... +12 VDC  $\pm 5\%$   
in sleeve ..... +15 VDC  $\pm 5\%$   
Current ..... 400 mA max

### Input Signal Requirements:

RGB Video ..... 0.7Vpp  $\pm .3V$   
RGB Sync on Green ..... 0.5Vpp to 4Vpp  
Separate Sync ..... 0.5Vpp to 4Vpp

### Input Impedance:

Video  
terminated ..... R =  $75\Omega \pm 1\%$ , C = 18pF - 50%  
open ..... R =  $7.3K\Omega +20\%$ , C = 18pF - 50%

Sync  
terminated ..... R =  $75\Omega \pm 1\%$ , C = 18pF - 50%  
open ..... R =  $10K\Omega +20\%$ , C = 18pF - 50%

### Output Signal Level:

RGB Video (into  $75\Omega$ ) ..... 0.7Vp-p  $\pm 50mV\%$   
RGB Gain Balance .....  $\pm 1\%$   
Output Sync level (-ve going to  $75\Omega$ ) ..... 1.0Vpp  $\pm 10\%$   
Output Drive Impedance) .....  $75\Omega$   
Frequency Response ..... 100 MHz - 3 dB  
Input Crosstalk ..... -40 dB

### On-board Sync Delay:

Horizontal  
fixed delay .....  $12\mu s \pm 10\%$   
variable delay ..... 1 to 55  $\mu s \pm 10\%$

Vertical  
fixed delay ..... 7 ms  $\pm 10\%$   
variable delay ..... 9 to 29 ms  $\pm 10\%$

### Regenerated Sync Output:

Horizontal  
range ..... 15 to 80 KHz  $\pm 5\%$   
duration ..... 3.0  $\mu s \pm 10\%$

Vertical  
range ..... 40 to 100 Hz  $\pm 10\%$   
duration ..... 225  $\mu s \pm 10\%$

### Quality and Reliability:

Quality Level: AQL ..... 1.5% max.  
Reliability Level: MTBF ..... 10,000 Hrs min.

## NOTES