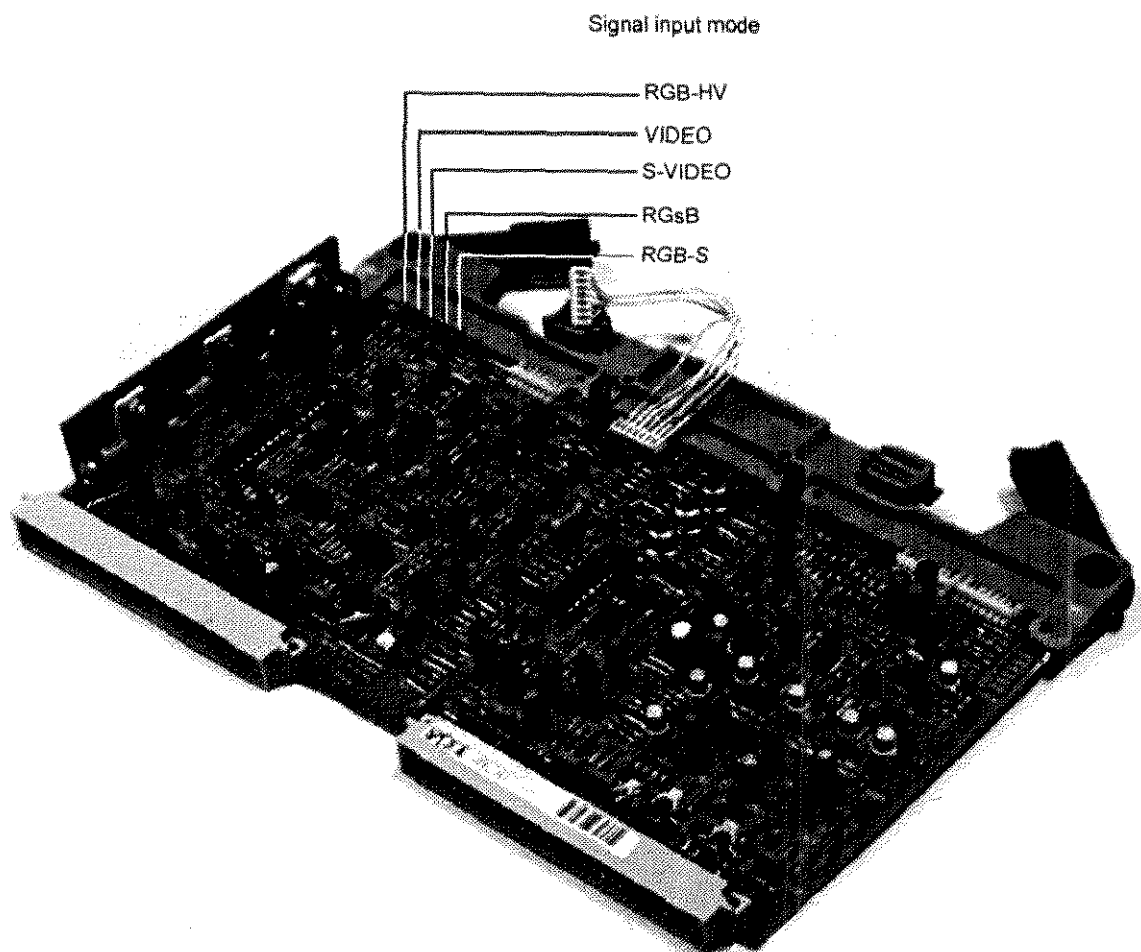




BARCO Projection Systems

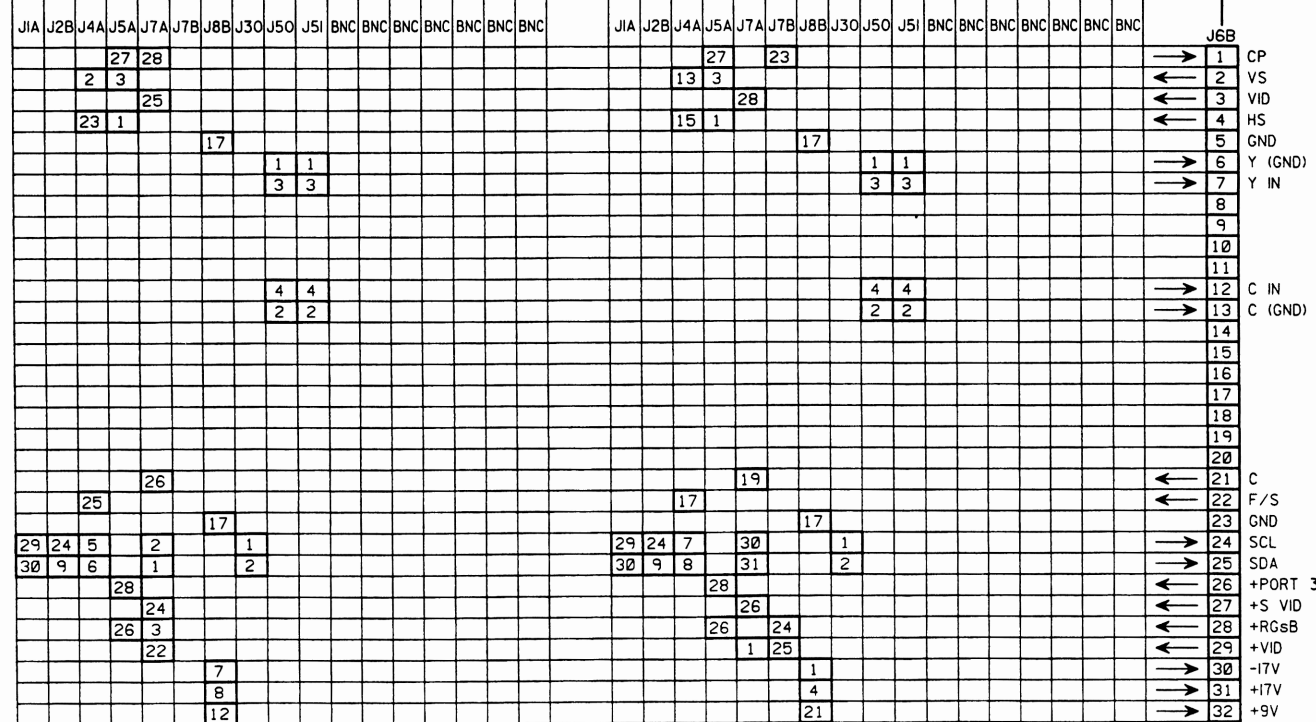
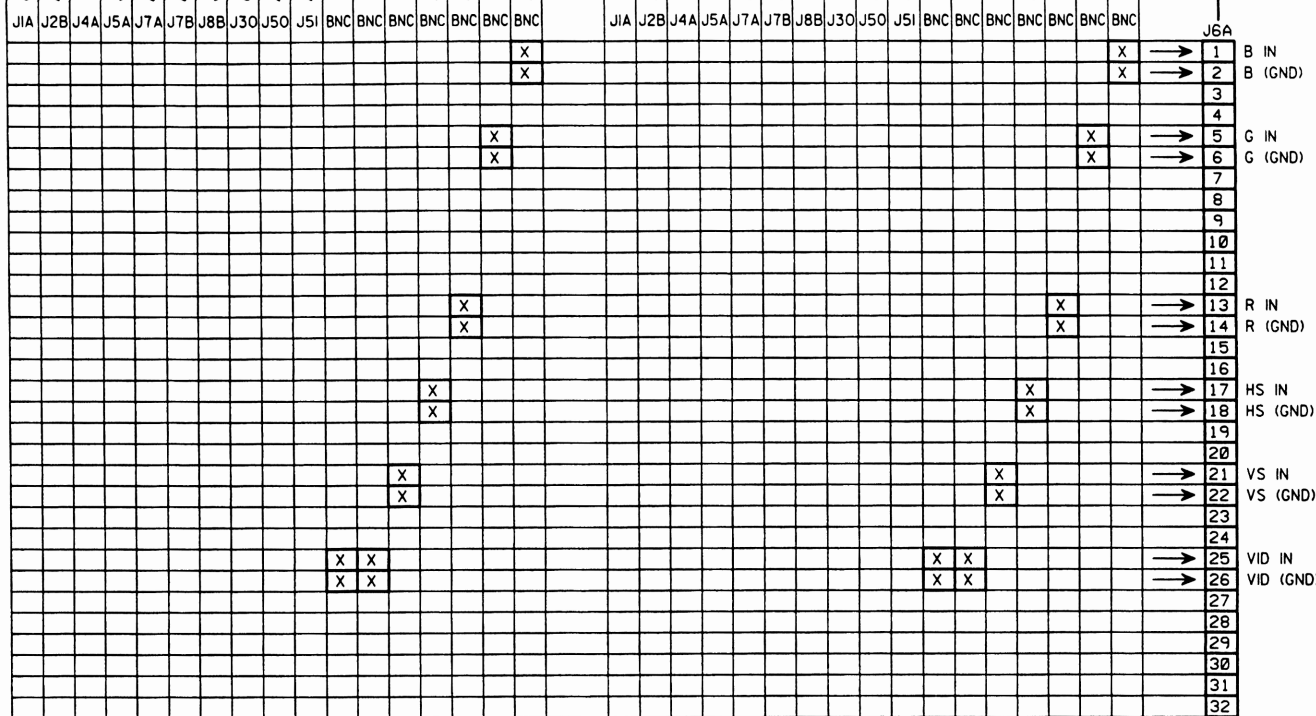
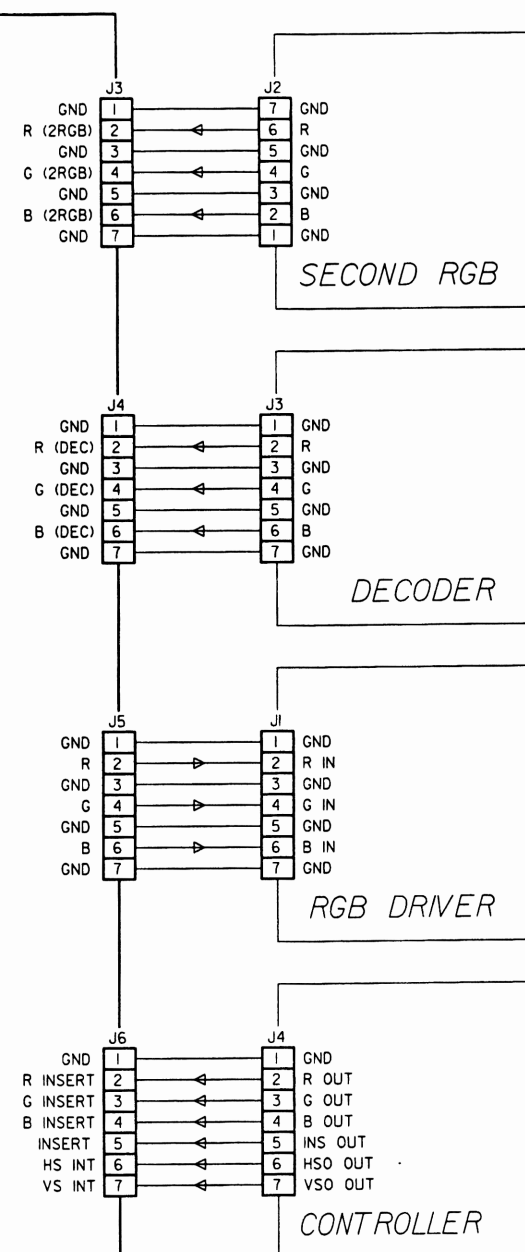
SECTION I

service sheet





CONVERGENCE MODULE  
HORIZONTAL SHIFT MODULE  
VERTICAL DEFLECTION MODULE  
SECOND RGB ANALOG INPUT MODULE  
DECODER + RGB DRIVER MODULE  
SWITCH + RGB DRIVER MODULE  
CONTROLLER MODULE  
PORT 2 (S-VIDEO)  
PORT 2 (S-VIDEO)  
VIDEO INPUT  
VIDEO INPUT  
V'S INPUT  
HS/CS INPUT  
RED INPUT  
GREEN INPUT  
BLUE INPUT

1200  
SERIES800  
SERIESRGB  
ANALOG  
INPUT  
AND  
INPUT  
SWITCHING  
MODULE

SECOND RGB

DECODER

RGB DRIVER

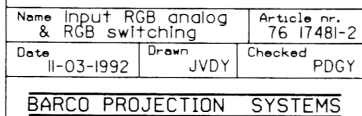
CONTROLLER

Modifications reserved

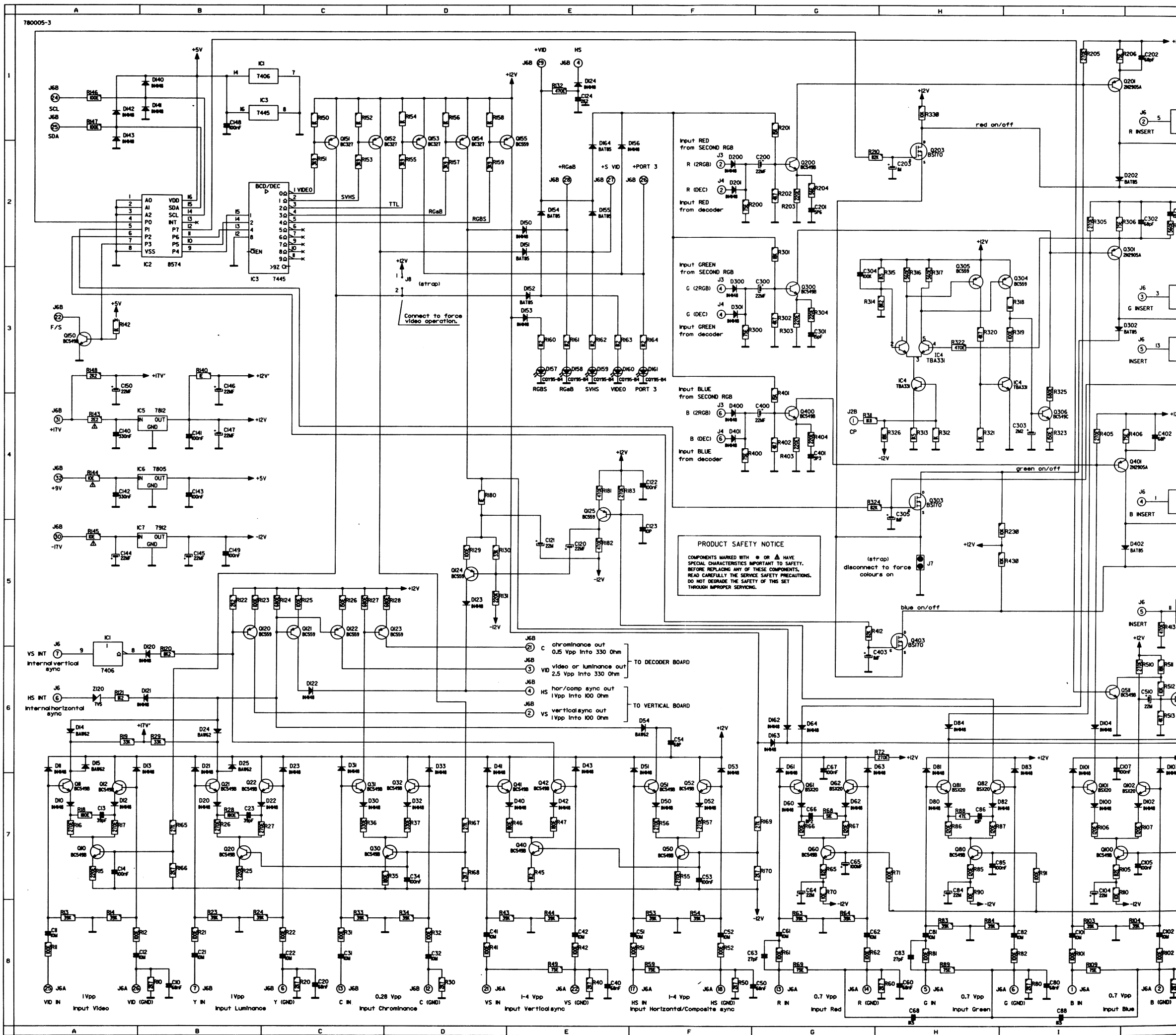
Name	ANALOG INPUT & RGB SW	Article nr.	76 17481-3
Date	30-11-1993	Drawn	JVDY
		Checked	PDG

BARCO PROJECTION SYSTEMS

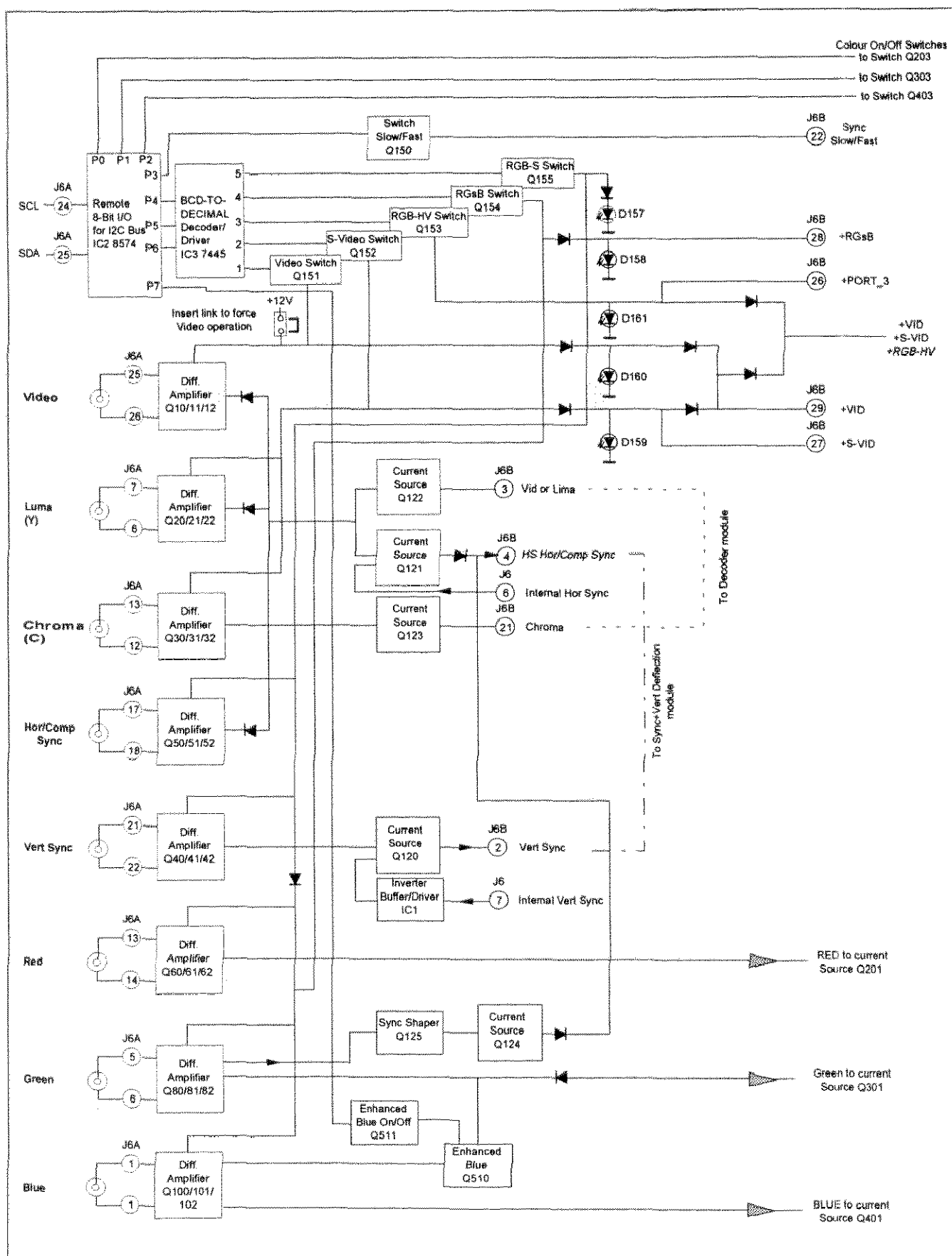


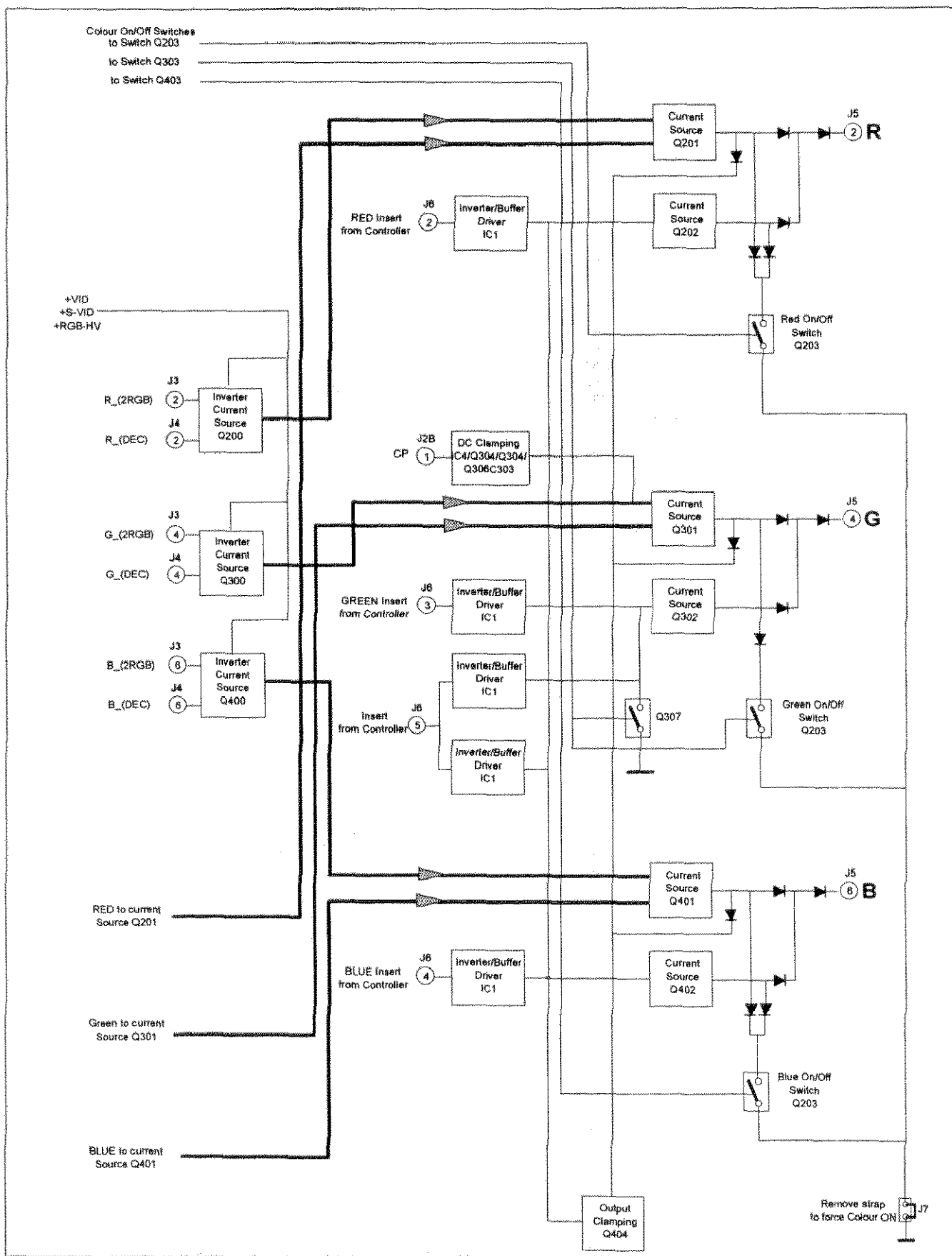


COMP.	LOC.	COMP.	LOC.	COMP.	LOC.	COMP.	LOC.
C10	D 5	D155	B 3	R33	B 5	R34	D 4
C11	D 5	D156	B 3	R34	B 5	R35	D 4
C12	D 5	D157	B 3	R35	B 4	R36	D 4
C13	D 5	D158	B 3	R36	B 4	R37	D 4
C14	C 4	D159	B 3	R37	B 4	R38	D 5
C20	C 5	D160	B 3	R40	E 5	R39	D 4
C21	C 5	D161	B 3	R41	E 5	R320	D 4
C22	C 5	D162	B 3	R42	E 5	R321	D 4
C23	C 4	D163	B 3	R43	D 5	R322	D 4
C30	B 5	D164	B 3	R44	D 5	R323	E 4
C31	B 5	D200	F 3	R45	D 5	R324	B 4
C32	C 5	D201	F 3	R46	D 5	R325	D 4
C34	C 4	D202	D 3	R47	D 5	R326	D 5
C40	E 5	D203	D 3	R49	E 5	R327	E 4
C41	E 5	D204	D 3	R50	E 5	R400	F 3
C42	E 4	D205	D 3	R51	E 5	R401	E 3
C50	E 5	D206	D 4	R52	E 5	R402	E 3
C51	D 5	D207	D 3	R53	D 5	R403	E 3
C52	E 5	D300	F 3	R54	D 5	R404	E 3
C53	D 5	D301	F 3	R55	D 5	R405	E 3
C54	D 5	D302	D 4	R56	D 5	R406	D 3
C60	F 5	D303	D 3	R57	D 5	R407	C 3
C61	E 5	D304	D 4	R59	E 5	R408	C 3
C62	E 5	D305	D 4	R60	F 5	R409	C 3
C63	F 5	D306	D 3	R61	F 5	R410	C 4
C64	E 4	D307	D 4	R62	E 5	R411	D 4
C65	E 4	D400	F 3	R63	E 4	R412	B 4
C66	E 5	D401	F 3	R64	E 4	R413	C 3
C67	E 5	D402	D 3	R65	E 4	R510	F 4
C68	E 6	D403	D 3	R66	E 5	R511	F 4
C80	F 5	D404	D 3	R67	E 5	R512	F 4
C81	F 5	D405	D 3	R68	E 5	R513	F 4
C82	F 5	D406	D 3	R69	F 5	R514	F 4
C83	F 5	D407	D 3	R70	E 4		
C84	E 4	D510	E 4	R71	E 4	S40	E 5
C85	E 4			R72	E 4	S60	E 5
C86	E 4	IC1	C 4	R80	F 5	S80	F 5
C88	F 6	IC2	B 5	R81	F 5	S100	F 5
C100	F 5	IC3	B 4	R82	F 5		
C101	F 5	IC4	D 4	R83	F 4	Z120	C 3
C102	F 5	IC5	B 4	R84	F 4	Z400	D 4
C103	F 5	IC6	B 5	R85	E 4	Z401	D 4
C104	F 4	IC7	B 3	R86	E 4	Z500	B 4
C105	F 4			R87	E 4		
C106	F 4	J1	D 5	R88	E 4		
C107	F 4	J2	C 5	R89	F 5		
C120	E 4	J3	F 3	R90	E 4		
C121	E 4	J4	E 3	R91	E 4		
C122	F 5	J5	C 3	R100	F 5		
C123	F 4	J6	C 3	R101	F 5		
C124	C 6	J7	B 4	R102	F 5		
C140	B 4	J8	B 3	R103	F 4		
C141	B 4			R104	F 4		
C142	B 5	Q10	C 4	R105	F 4		
C143	B 5	Q11	C 5	R106	F 4		
C144	B 4	Q12	D 5	R107	F 4		
C145	B 4	Q20	C 4	R108	F 4		
C146	C 3	Q21	B 5	R109	F 5		
C147	E 3	Q22	C 5	R110	E 4		
C148	B 5	Q30	B 4	R111	E 4		
C149	D 5	Q31	B 5	R120	C 4		
C150	B 5	Q32	B 5	R121	C 4		
C200	F 3	Q40	D 4	R122	C 4		
C201	E 3	Q41	D 5	R123	C 4		
C202	E 4	Q42	D 5	R124	C 5		
C203	B 4	Q50	D 5	R125	C 4		
C300	E 3	Q51	D 5	R126	C 4		
C301	E 3	Q52	D 5	R127	B 5		
C302	D	Q60	E 4	R128	B 5		
C303	D 4	Q61	E 4	R129	C 4		
C304	D 4	Q62	E 5	R130	C 4		
C305	B 4	Q80	E 4	R131	C 4		
C306	E 4	Q81	E 4	R132	C 6		
C400	F 3	Q82	F 4	R140	D 4		
C401	E 3	Q100	F 4	R142	B 5		
C402	D 3	Q101	F 4	R143	B 5		
C403	B 4	Q102	F 4	R144	B 5		
C510	F 4	Q120	D 4	R145	B 4		
		Q121	C 5	R146	B 5		
D10	C 5	Q122	C 5	R147	B 5		
D11	C 5	Q123	B 5	R148	B 5		
D12	C 4	Q124	C 4	R150	B 4		
D13	C 5	Q125	E 4	R151	B 4		
D14	C 5	Q150	B 5	R152	B 4		
D15	C 5	Q151	B 3	R153	B 4		
D20	B 5	Q152	B 3	R154	B 4		
D21	B 5	Q153	B 3	R155	B 4		
D22	C 5	Q154	C 3	R156	C 3		
D23	C 5	Q155	C 4	R157	B 3		
D24	B 5	Q200	E 3	R158	C 4		
D25	B 5	Q201	D 4	R159	C 4		
D30	B 5	Q202	C 3	R160	B 3		
D31	B 5	Q203	C 4	R161	B 3		
D32	B 5	Q300	E 4	R162	B 3		
D33	B 5	Q301	D 4	R163	B 3		
D40	D 5	Q302	C 4	R164	B 3		
D41	E 5	Q303	C 4	R165	C 4		
D42	D 5	Q304	E 4	R166	C 4		
D43	E 5	Q305	D 4	R167	C 4		
D50	D 5	Q306	D 4	R168	C 4		
D51	D 5	Q307	C 3	R169	C 4		
D52	D 5	Q400	E 3	R170	D 5		
D53	D 5	Q401	D 3	R171	E 4		
D54	C 5	Q402	D 3	R172	E 3		
D60	E 4	Q403	C 4	R180	C 4		
D61	E 5	Q404	D 4	R181	F 4		
D62	E 5	Q500	B 4	R182	E 4		
D63	E 5	Q510	F 4	R183	F 4		
D64	E 4	Q511	F 4	R200	F 3		
D80	E 4			R201	E 3		
D81	E 4	R10	D 5	R202	E 3		
D82	F 4	R11	D 5	R203	E 3		
D83	F 4	R12	D 5	R204	E 3		
D84	E 4	R13	D 5	R205	E 3		
D100	F 4	R14	D 5	R206	E 3		
D101	F 4	R15	C 4	R207	C 3		
D102	F 4	R16	C 5	R208	C 3		
D103	F 4	R17	C 5	R209	C 3		
D104	E 3	R18	C 5	R210	B 4		
D120	C 3	R19	C 5	R300	F 3		
D121	C 5	R20	C 5	R301	E 3		
D122	C 5	R21	B 5	R302	E 3		
D123	C 5	R22	C 5	R303	E 3		
D124	C 6	R23	B 5	R304	E 3		
D140	B 5	R24	B 5	R305	F 4		
D141	B 5	R25	C 4	R306	E 4		
D142	B 5	R26	C 4	R307	C 4		
D143	B 5	R27	C 4	R308	C 4		
D150	B 3	R28	C 4	R309	C 4		
D151	B 3	R29	C 5	R310	C 4		
D152	B 3	R30	B 5	R311	C 5		
D153	B 3	R31	B 5	R312	D 4		
D154	B 3	R32	B 5	R313	D 4		



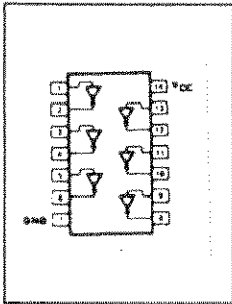




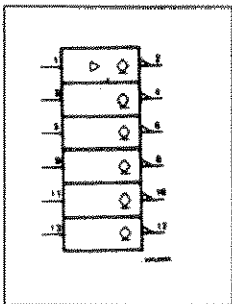


HEX INVERTER BUFFER/DRIVER 7406

Pin configuration



Logic symbol

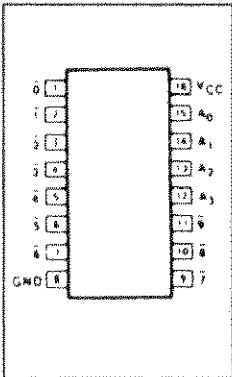


Function table

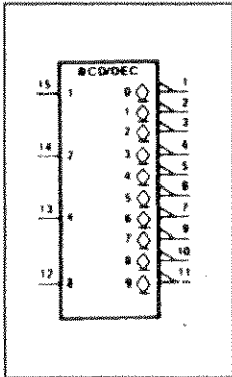
Input	Output
A	Y
H	L
L	H

BCD-TO-DECIMAL DECODER/DRIVER 7445 (open collector)

Pin configuration



Logic symbol



Function table

A <sub>3</sub>	A <sub>2</sub>	A <sub>1</sub>	A <sub>0</sub>	0	1	2	3	4	5	6	7	8	9
L	L	L	L	L	H	H	H	H	H	H	H	H	H
L	L	L	H	L	H	H	L	H	H	H	H	H	H
L	L	H	L	H	H	L	H	L	H	H	H	H	H
L	L	H	H	L	H	H	H	L	H	H	H	H	H
L	H	L	L	H	H	H	H	H	L	H	H	H	H
L	H	L	H	L	H	H	H	H	H	L	H	H	H
L	H	H	L	L	H	H	H	H	H	H	L	H	H
L	H	H	H	L	H	H	H	H	H	H	H	L	H
H	L	L	L	H	H	H	H	H	H	H	H	H	L
H	L	L	H	L	H	H	H	H	H	H	H	H	H
H	L	H	L	L	H	H	H	H	H	H	H	H	H
H	L	H	H	L	L	H	H	H	H	H	H	H	H
H	H	L	L	H	H	H	H	H	H	H	H	H	H
H	H	L	H	L	H	H	H	H	H	H	H	H	H
H	H	H	L	L	H	H	H	H	H	H	H	H	H
H	H	H	H	L	H	H	H	H	H	H	H	H	H

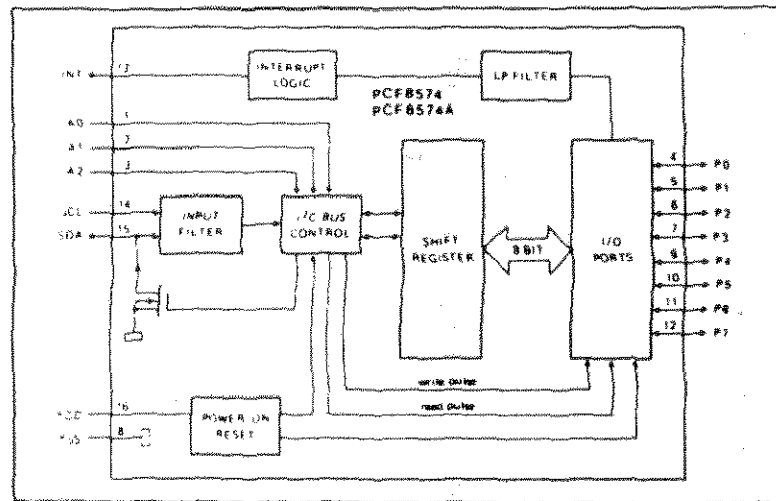
H= HIGH voltage levels  
L= LOW voltage levels

REMOTE 8-BIT I/O EXPANDER FOR I<sup>2</sup>C BUS 8574A

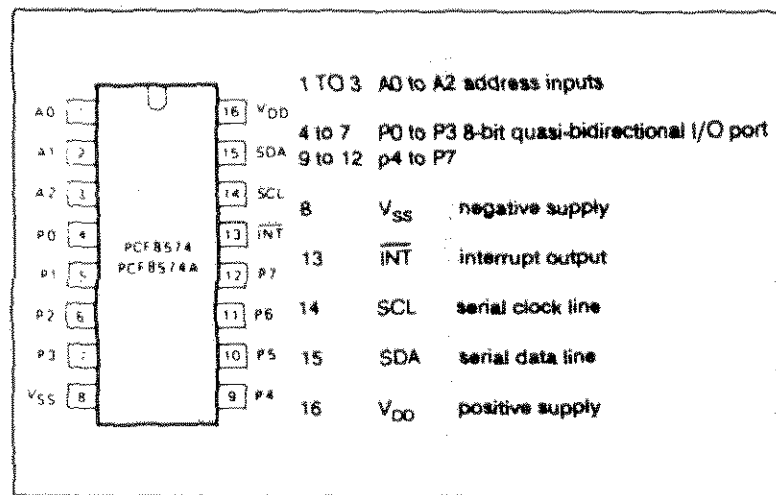
General description

The PCF8574 is a single-chip silicon gate CMOS circuit. It provides remote I/O expansion for the MAB8400 and PCF84XX microcontroller families via the two-line serial bidirectional bus (I<sup>2</sup>C). It can also interface microcomputers without a serial interface to the I<sup>2</sup>C bus (as a slave function only). The device consists of an 8-bit quasibidirectional port and an I<sup>2</sup>C interface. The PCF8574 has low current consumption and includes latched outputs with high current drive capability for directly driving LED's. It also possesses an interrupt line (INT) which is connected to the interrupt logic of the microcomputer on the I<sup>2</sup>C bus. By sending an interrupt signal on this line, the remote I/O can inform the microcomputer if there is incoming data on its ports without having to communicate via the I<sup>2</sup>C bus. This means that the PCF8574 can remain a simple slave device.

Block diagram



Pin configuration



## TECHNICAL DESCRIPTION "INPUT RGB ANALOG AND RGB SWITCHING" 76 17481.

### Introduction.

As the projector can operate in 5 different modes, the corresponding signal is here selected, together with its sync signal. The selection happens by activating the current generator of a differential amplifier.

The required "selection voltage" is obtained from a BCD/DECimal decoder which is supplied with a BCD coded signal delivered by an I2C interface.

The text pixels from the microprocessor control module are inserted and the video is blanked by means of the "INS" signal whenever required.

In order to maintain the insert level of the green text, the G-signal undergoes a black level clamping before inserting the green text.

Furthermore, in the adjust mode, at some moments one or more colours must be switched off and this happens here on this board as well.

### Mode Selection

The I2C bus is connected with the 8574 interface chip (IC2) and the output ports P4-6 are then applied to the BCD/DECimal decoder IC3.

The outputs of the latter drive the switching transistors Q151-155. At the collector of these transistors we get the respective switching voltages :

**+video, +SVID, +PORT 3, +RGSB and +RGS.**

### A. Video composite input

The **+video** voltage activates the current generator Q10 of the differential input stage Q11-Q12. The video is now applied to Q121 and Q122 via D14.

Q122 's output is feeding the decoder and Q121 feeds the sync separator on the UN' SYNC+VERT DEFL board.

The decoded video into RGB is now returned to the bases of Q200-Q300 and Q400. These bases are indeed supplied from the +video voltage via D152, D154, D156 and D164.

We like to mention that this switching voltage turns on the LED D160, as to display the choice to the service engineer.

Any influence from the collector of Q21 (Y-input) is avoided by clamping this collector to ground through D25. This diode is indeed "on" via +17V", R29, and the +12V lines.

### B. S-VHS input

The Y (or luminance) and Chrominance inputs are now active with the +SVHS voltage. The Y-signal proceeds to the decoder and to the sync separator, whereas the chrominance is sent to the decoder only.



Here again, the diode D15 clamps the collector of the video input to ground level.

The decoded S-VHS comes equally back to this board at the bases of Q200, Q300 and Q400.

D159 is turned on via D151.

## C. Second Analog RGB input

The **+Port 3** voltage leaves this board at contact J2B(26) to be supplied to the second RGB input. This board is automatic for the sync. The "sync on green" or "separate sync" is automatically selected. We refer to the description of this board for further details.

The same "+ PORT 3" voltage supplies the bases of the emitterfollowers Q200, Q300 and Q400 now via D156.

The RGB signals enter the board at the bases via a gating diode.

## D. R,G,B analog inputs

Depending on the selection RGBS or RGSB four or three inputs are activated and the right sync is guided to the sync separator.

The Q201, Q301 and Q401 current sources with open collector (the collector resistors of 75 ohm are on the decoder) are supplied directly with these signals.

## E. DC clamping of the green black level

The green signal at the collector of Q301 is applied to the base of a differential amplifier in IC4. The other base is fixed at a voltage set by R315/R314.

Now, this differential pair only is active when a clamp pulse CP is applied on the base of the transistor whose collector is connected to the common emitters.

The difference voltage, either polarity charges or discharges now the capacitor C303 and thus determines the dc voltage, or, the average DC level of the green video, at the base of Q301.

## F. Cut-off of one or more guns

When the strap J7 is in place, and Q500 is switched on (during the scan only), the output of the current generators Q201, Q301 and Q401 are clamped at ground via a diode when one of the fets Q203; Q303 or Q403 is fully saturated.

These fets are driven by the outputs PO - P2 of the I2C interface IC2.

When one of these fets is 'on', the diodes D202 / D207; D302 / D307 and D402 / D407 'pull' down the collectors of the transistors carrying the R, G and B signals and the Ro, Go and Bo pixel informations.

## H. Insert

This signal, produced on the control panel (ASIC), clamps the outputs of the R, G and B output drivers under black level to blank the video to create a black window in which the text appears.

## I. Fast / Slow

The output P3 of IC2 drives the transistor Q50 whose collector is connected with pin 13 of the TDA2595 on the UN SYNC+VERT DEFL board.

## Parts listing RGB Analog input & Switching module

SIT.	ITEM NO.	DESCRIPTION	QUANTITY	SIT.	ITEM NO.	DESCRIPTION	QUANTITY
123	R133029	Q ACC ISO SET TO220	1	C123	R112230	C NP0 MI 10P G100E2	1
30	R133076	Q ACC ISO WSHR TO39	3	C124	R112743	C CE MI 2N2K100E2	1
10	R302108	CORE TUBE 3.5 /1.3 X 3	12	C140	R113730	C POMERA 330N K 63E2 85	
120	R3620226	SCR D84 M3 X 8 SI	3	C141	R112774	C CE MI 100N S 63E2 85	
121	R3661026	NUT D934 M3 I	3	C142	R113730	C POMERA 330N K 63E2 85	
1010	R367435	RVT POP D2.4 L 9.3 P AA	2	C143	R112774	C CE MI 100N S 63E2 85	
111	R3674391	RVT POP D3.2 L 7.4 P ASW	2	C144	R111510	C EL RA 22M M25E2 85	
122	R367502	WSHR D6798 A 3.2 S Z	3	C145	R111510	C EL RA 22M M25E2 85	
10	R367699	RVT CHB D2.38L6.35 P A	4	C146	R111510	C EL RA 22M M25E2 85	
1000	R722276	LOCK PJ49 PCB UN CPL	1	C147	R111510	C EL RA 22M M25E2 85	
100	R802629	HTSNK PJ49 RGB PR AMP	1	C148	R112774	C CE MI 100N S 63E2 85	1
110	R802692	HTSNK PJ49 FIX HTSNK	2	C149	R112774	C CE MI 100N S 63E2 85	1
C A	R112741	C CE MI 1N5K100E2	1	C150	R111510	C EL RA 22M M25E2 85	1
C 10	R113722	C POMERA 68N K 63E2 85	1	C200	R111510	C EL RA 22M M25E2 85	
C 11	R111678	C EL BRA 10M M25E2 85		C201	R112227	C NP0 MI 5P6C100E2	1
C 12	R111678	C EL BRA 10M M25E2 85		C202	R112240	C NP0 MI 68P G100E2	1
C 13	R112237	C NP0 MI 39P G100E2		C203	R111546	C EL RA 1M M 50E2 85	
C 14	R112774	C CE MI 100N S 63E2 85		C300	R111510	C EL RA 22M M25E2 85	
C 20	R113722	C POMERA 68N K 63E2 85	1	C301	R112232	C NP0 MI 15P G100E2	
C 21	R111678	C EL BRA 10M M25E2 85		C302	R112240	C NP0 MI 68P G100E2	
C 22	R111678	C EL BRA 10M M25E2 85		C303	R111548	C EL RA 2M2M 50E2 85	1
C 23	R112237	C NP0 MI 39P G100E2		C304	R114100	C POMERA 100N K100E4 85	1
C 31	R111678	C EL BRA 10M M25E2 85		C305	R111546	C EL RA 1M M 50E2 85	
C 32	R111678	C EL BRA 10M M25E2 85		C306	R112432	C NP0 MI 15P G100E1	1
C 34	R112774	C CE MI 100N S 63E2 85		C400	R111510	C EL RA 22M M25E2 85	
C 40	R113722	C POMERA 68N K 63E2 85		C401	R112224	C NP0 MI 3P3C100E2	
C 41	R111678	C EL BRA 10M M25E2 85		C402	R112240	C NP0 MI 68P G100E2	1
C 42	R111678	C EL BRA 10M M25E2 85		C403	R111546	C EL RA 1M M 50E2 85	
C 50	R113722	C POMERA 68N K 63E2 85		C510	R111510	C EL RA 22M M25E2 85	1
C 51	R111678	C EL BRA 10M M25E2 85		D 10	R131621	D S IN4148 075150 DO35	
C 52	R111678	C EL BRA 10M M25E2 85		D 11	R131621	D S IN4148 075150 DO35	
C 53	R112774	C CE MI 100N S 63E2 85	1	D 12	R131621	D S IN4148 075150 DO35	
C 54	R112240	C NP0 MI 68P G100E2		D 13	R131621	D S IN4148 075150 DO35	
C 60	R113722	C POMERA 68N K 63E2 85		D 14	R131628	D S BAW62 075200 DO35	
C 61	R111678	C EL BRA 10M M25E2 85		D 15	R131628	D S BAW62 075200 DO35	
C 62	R111678	C EL BRA 10M M25E2 85		D 20	R131621	D S IN4148 075150 DO35	
C 63	R112235	C NP0 MI 27P G100E2	1	D 21	R131621	D S IN4148 075150 DO35	
C 64	R111510	C EL RA 22M M25E2 85	1	D 22	R131621	D S IN4148 075150 DO35	
C 65	R111466	C EL RA 100M Z 16E2 85		D 23	R131621	D S IN4148 075150 DO35	
C 66	R112229	C NP0 MI 8P2C100E2	1	D 24	R131628	D S BAW62 075200 DO35	
C 67	R112774	C CE MI 100N S 63E2 85		D 25	R131628	D S BAW62 075200 DO35	
C 68	R112741	C CE MI 1N5K100E2	1	D 30	R131621	D S IN4148 075150 DO35	
C 80	R113722	C POMERA 68N K 63E2 85	1	D 31	R131621	D S IN4148 075150 DO35	
C 81	R111678	C EL BRA 10M M25E2 85		D 32	R131621	D S IN4148 075150 DO35	
C 82	R111678	C EL BRA 10M M25E2 85		D 33	R131621	D S IN4148 075150 DO35	
C 83	R112235	C NP0 MI 27P G100E2	1	D 40	R131621	D S IN4148 075150 DO35	
C 84	R111510	C EL RA 22M M25E2 85		D 41	R131621	D S IN4148 075150 DO35	
C 85	R112774	C CE MI 100N S 63E2 85		D 42	R131621	D S IN4148 075150 DO35	
C 86	R112230	C NP0 MI 10P G100E2	1	D 43	R131621	D S IN4148 075150 DO35	
C 88	R112741	C CE MI 1N5K100E2	1	D 50	R131621	D S IN4148 075150 DO35	1
C100	R113722	C POMERA 68N K 63E2 85		D 51	R131621	D S IN4148 075150 DO35	
C101	R111678	C EL BRA 10M M25E2 85		D 52	R131621	D S IN4148 075150 DO35	
C102	R111678	C EL BRA 10M M25E2 85		D 53	R131621	D S IN4148 075150 DO35	
C104	R111510	C EL RA 22M M25E2 85	1	D 54	R131628	D S BAW62 075200 DO35	
C105	R112774	C CE MI 100N S 63E2 85		D 60	R131621	D S IN4148 075150 DO35	
C106	R112231	C NP0 MI 12P G100E2	1	D 61	R131621	D S IN4148 075150 DO35	
C107	R112774	C CE MI 100N S 63E2 85		D 62	R131621	D S IN4148 075150 DO35	
C120	R111510	C EL RA 22M M25E2 85		D 63	R131621	D S IN4148 075150 DO35	
C121	R111532	C EL RA 22M M35E2 85		D 64	R131621	D S IN4148 075150 DO35	
C122	R112774	C CE MI 100N S 63E2 85		D 80	R131621	D S IN4148 075150 DO35	
				D 81	R131621	D S IN4148 075150 DO35	
				D 82	R131621	D S IN4148 075150 DO35	
				D 83	R131621	D S IN4148 075150 DO35	
				D 84	R131621	D S IN4148 075150 DO35	

# RGB Analog Input & Switching module

R7617481

SIT.	ITEM NO.	DESCRIPTION	QUANTITY	SIT.	ITEM NO.	DESCRIPTION	QUANTITY
D100	R131621	D S IN4148 075150 DO35		J6	R313947	J CT H MBS P 7 M2SN	1
D101	R131621	D S IN4148 075150 DO35		J7	R3132862	J MD1 MBT P 2 E1SN	1
D102	R131621	D S IN4148 075150 DO35		J8	R3132862	J MD1 MBT P 2 E1SN	1
D103	R131621	D S IN4148 075150 DO35					
D104	R131621	D S IN4148 075150 DO35		PC	R780005	PCS EP INP ANA+SW	1
D120	R131621	D S IN4148 075150 DO35					
D121	R131621	D S IN4148 075150 DO35		Q 10	R1314295	Q BC549B N SS TO92	
D122	R131621	D S IN4148 075150 DO35		Q 11	R1314295	Q BC549B N SS TO92	
D123	R131621	D S IN4148 075150 DO35		Q 12	R1314295	Q BC549B N SS TO92	
D124	R131621	D S IN4148 075150 DO35		Q 20	R1314295	Q BC549B N SS TO92	
D140	R131621	D S IN4148 075150 DO35		Q 21	R1314295	Q BC549B N SS TO92	
D141	R131621	D S IN4148 075150 DO35		Q 22	R1314295	Q BC549B N SS TO92	
D142	R131621	D S IN4148 075150 DO35		Q 30	R1314295	Q BC549B N SS TO92	
D143	R131621	D S IN4148 075150 DO35		Q 31	R1314295	Q BC549B N SS TO92	
D150	R131621	D S IN4148 075150 DO35		Q 32	R1314295	Q BC549B N SS TO92	
D151	R1316361	D Y BAT85 030200 DO35		Q 40	R1314295	Q BC549B N SS TO92	
D152	R1316361	D Y BAT85 030200 DO35	1	Q 41	R1314295	Q BC549B N SS TO92	
D153	R131621	D S IN4148 075150 DO35		Q 42	R1314295	Q BC549B N SS TO92	
D154	R1316361	D Y BAT85 030200 DO35		Q 50	R1314295	Q BC549B N SS TO92	
D155	R1316361	D Y BAT85 030200 DO35		Q 51	R1314295	Q BC549B N SS TO92	
D156	R131621	D S IN4148 075150 DO35		Q 52	R1314295	Q BC549B N SS TO92	
D157	R131667	D LED D3 T GN	1	Q 60	R1314295	Q BC549B N SS TO92	
D158	R131667	D LED D3 T GN	1	Q 61	R131491	Q BSX20 N SS TO18	1
D159	R131667	D LED D3 T GN	1	Q 62	R131491	Q BSX20 N SS TO18	1
D160	R131667	D LED D3 T GN	1	Q 80	R1314295	Q BC549B N SS TO92	1
D161	R131667	D LED D3 T GN	1	Q 81	R131491	Q BSX20 N SS TO18	1
D162	R131621	D S IN4148 075150 DO35		Q 82	R131491	Q BSX20 N SS TO18	1
D163	R131621	D S IN4148 075150 DO35		Q100	R1314295	Q BC549B N SS TO92	
D164	R1316361	D Y BAT85 030200 DO35		Q101	R131491	Q BSX20 N SS TO18	1
D200	R131621	D S IN4148 075150 DO35		Q102	R131491	Q BSX20 N SS TO18	1
D201	R131621	D S IN4148 075150 DO35		Q120	R131418	Q BC559 P SS TO92	
D202	R1316361	D Y BAT85 030200 DO35		Q121	R131418	Q BC559 P SS TO92	
D203	R131621	D S IN4148 075150 DO35		Q122	R131418	Q BC559 P SS TO92	
D204	R131621	D S IN4148 075150 DO35		Q123	R131418	Q BC559 P SS TO92	
D205	R131621	D S IN4148 075150 DO35		Q124	R131418	Q BC559 P SS TO92	1
D206	R131621	D S IN4148 075150 DO35		Q125	R131418	Q BC559 P SS TO92	
D207	R1316361	D Y BAT85 030200 DO35		Q150	R1314295	Q BC549B N SS TO92	
D300	R131621	D S IN4148 075150 DO35		Q151	R1314311	Q BC327 P SS TO92	1
D301	R131621	D S IN4148 075150 DO35		Q152	R1314311	Q BC327 P SS TO92	
D302	R1316361	D Y BAT85 030200 DO35		Q153	R1314311	Q BC327 P SS TO92	
D303	R131621	D S IN4148 075150 DO35		Q154	R1314311	Q BC327 P SS TO92	
D304	R131621	D S IN4148 075150 DO35		Q155	R131418	Q BC559 P SS TO92	
D305	R131621	D S IN4148 075150 DO35		Q200	R1314295	Q BC549B N SS TO92	
D306	R131621	D S IN4148 075150 DO35		Q201	R132904	Q 2N2905A P SS TO39	1
D400	R131621	D S IN4148 075150 DO35		Q202	R131418	Q BC559 P SS TO92	
D401	R131621	D S IN4148 075150 DO35		Q203	R132910	Q BS170 FN SS TO92	
D402	R1316361	D Y BAT85 030200 DO35		Q300	R1314295	Q BC549B N SS TO92	
D403	R131621	D S IN4148 075150 DO35		Q301	R132904	Q 2N2905A P SS TO39	1
D404	R131621	D S IN4148 075150 DO35		Q302	R131418	Q BC559 P SS TO92	
D405	R131621	D S IN4148 075150 DO35		Q303	R132910	Q BS170 FN SS TO92	
D406	R131621	D S IN4148 075150 DO35		Q304	R131418	Q BC559 P SS TO92	
D407	R1316361	D Y BAT85 030200 DO35		Q305	R131418	Q BC559 P SS TO92	
D510	R131628	D S BAW62 075200 DO35		Q306	R131411	Q BC549C N SS TO92	1
				Q307	R132910	Q BS170 FN SS TO92	1
I 1	R137507	U 7406 DIP14 P	1	Q400	R1314295	Q BC549B N SS TO92	
I 2	R132832	U 8574A PCF DIP16 P	1	Q401	R132904	Q 2N2905A P SS TO39	1
I 3	R137359	U 7445 DIP16 P	1	Q402	R131418	Q BC559 P SS TO92	
I 4	R132134	U 331 TBA DIP14 P	1	Q403	R132910	Q BS170 FN SS TO92	
I 5	R134002	U 7812 TO220 P	1	Q404	R1314181	Q BC559B P SS TO92	
I 6	R134001	U 7805 TO220 P	1	Q510	R131491	Q BSX20 N SS TO18	1
I 7	R134016	U 7912 TO220 P	1	Q511	R1314295	Q BC549B N SS TO92	1
J	R3133921	J MD JMP P I E1SN	1	R 10	R101141	R CF H 2K7 J 0W25	
J1	R313525	J EUR2C MBS P64 E1C2S 1,6	1	R 11	R101124	R CF H100E J 0W25	1
J2	R313525	J EUR2C MBS P64 E1C2S 1,6	1	R 12	R101124	R CF H100E J 0W25	
J3	R313947	J CT H MBS P 7 M2SN	1	R 13	R101155	R CF H 39K J 0W25	
J4	R313947	J CT H MBS P 7 M2SN	1	R 14	R101155	R CF H 39K J 0W25	

SIT.	ITEM NO.	DESCRIPTION	QUANTITY	SIT.	ITEM NO.	DESCRIPTION	QUANTITY
R 15	R101128	R CF H220E F0W25		R 91	R101124	R CF H100E J0W25	
R 16	R101129	R CF H270E J0W25		R100	R101141	R CF H 2K7 J0W25	
R 17	R101129	R CF H270E J0W25		R101	R101124	R CF H100E J0W25	
R 18	R101127	R CF H180E J0W25		R102	R101124	R CF H100E J0W25	
R 19	R101154	R CF H 33K J0W25	1	R103	R101155	R CF H 39K J0W25	
R 20	R101141	R CF H 2K7 J0W25		R104	R101155	R CF H 39K J0W25	
R 21	R101124	R CF H100E J0W25		R105	R101123	R CF H 82E J0W25	
R 22	R101124	R CF H100E J0W25		R106	R101125	R CF H120E J0W25	
R 23	R101155	R CF H 39K J0W25		R107	R101125	R CF H120E J0W25	
R 24	R101155	R CF H 39K J0W25		R108	R101118	R CF H 33E J0W25	1
R 25	R101128	R CF H220E F0W25		R108	R101112	R CF H 10E J0W25	
R 26	R101129	R CF H270E J0W25		R109	R1011231	R CF H 75E J0W25	
R 27	R101129	R CF H270E J0W25		R110	R101112	R CF H 10E J0W25	
R 28	R101127	R CF H180E J0W25	1	R111	R101124	R CF H100E J0W25	
R 29	R101154	R CF H 33K J0W25		R120	R101147	R CF H 8K2 J0W25	
R 30	R101141	R CF H 2K7 J0W25		R121	R101137	R CF H 1K2 J0W25	
R 31	R101124	R CF H100E J0W25		R122	R101140	R CF H 2K2 J0W25	
R 32	R101124	R CF H100E J0W25		R123	R101124	R CF H100E J0W25	
R 33	R101155	R CF H 39K J0W25		R124	R101134	R CF H680E J0W25	
R 34	R101155	R CF H 39K J0W25		R125	R101124	R CF H100E J0W25	
R 35	R101127	R CF H180E J0W25		R126	R101126	R CF H150E F0W25	
R 36	R101130	R CF H330E J0W25		R127	R101134	R CF H680E J0W25	
R 37	R101130	R CF H330E J0W25		R128	R101134	R CF H680E J0W25	1
R 40	R101141	R CF H 2K7 J0W25		R129	R101124	R CF H100E J0W25	1
R 41	R101124	R CF H100E J0W25		R130	R101154	R CF H 33K J0W25	1
R 42	R101124	R CF H100E J0W25		R131	R101164	R CF H220K J0W25	
R 43	R101155	R CF H 39K J0W25		R132	R101132	R CF H470E J0W25	
R 44	R101155	R CF H 39K J0W25		R140	R101100	R CF H 1E J0W25	
R 45	R101137	R CF H 1K2 J0W25		R142	R101136	R CF H 1K J0W25	
R 46	R101127	R CF H180E J0W25		R143	R1011049	R CFFH 2E2 J0W25	1
R 47	R101127	R CF H180E J0W25		R144	R1001129	R CFFV 10E J0W25 E2	
R 49	R1011231	R CF H 75E J0W25		R145	R101129	R CFFH 10E J0W25	1
R 50	R101141	R CF H 2K7 J0W25		R146	R101124	R CF H100E J0W25	
R 51	R101124	R CF H100E J0W25		R147	R101124	R CF H100E J0W25	
R 52	R101124	R CF H100E J0W25		R148	R101140	R CF H 2K2 J0W25	
R 53	R101155	R CF H 39K J0W25	1	R150	R101136	R CF H 1K J0W25	
R 54	R101155	R CF H 39K J0W25		R151	R101143	R CF H 3K9 J0W25	
R 55	R101129	R CF H270E J0W25	1	R152	R101136	R CF H 1K J0W25	
R 56	R101129	R CF H270E J0W25		R153	R101143	R CF H 3K9 J0W25	
R 57	R101129	R CF H270E J0W25		R154	R101136	R CF H 1K J0W25	
R 59	R1011231	R CF H 75E J0W25		R155	R101143	R CF H 3K9 J0W25	
R 60	R101141	R CF H 2K7 J0W25		R156	R101136	R CF H 1K J0W25	
R 61	R101124	R CF H100E J0W25		R157	R101143	R CF H 3K9 J0W25	
R 62	R101124	R CF H100E J0W25		R158	R101136	R CF H 1K J0W25	
R 63	R101155	R CF H 39K J0W25		R159	R101143	R CF H 3K9 J0W25	
R 64	R101155	R CF H 39K J0W25		R160	R101137	R CF H 1K2 J0W25	
R 65	R101123	R CF H 82E J0W25		R161	R101137	R CF H 1K2 J0W25	
R 66	R101125	R CF H120E J0W25		R162	R101137	R CF H 1K2 J0W25	
R 67	R101125	R CF H120E J0W25		R163	R101137	R CF H 1K2 J0W25	
R 68	R101112	R CF H 10E J0W25	1	R164	R101137	R CF H 1K2 J0W25	
R 68	R1011575	R MF H 51E1 F0W6 E4	1	R165	R101153	R CF H 27K J0W25	
R 69	R1011231	R CF H 75E J0W25		R166	R101141	R CF H 2K7 J0W25	
R 70	R101112	R CF H 10E J0W25		R167	R101153	R CF H 27K J0W25	
R 71	R101124	R CF H100E J0W25	1	R168	R101141	R CF H 2K7 J0W25	
R 72	R101129	R CF H270E J0W25		R169	R101153	R CF H 27K J0W25	
R 80	R101141	R CF H 2K7 J0W25		R170	R101141	R CF H 2K7 J0W25	
R 81	R101124	R CF H100E J0W25		R171	R101147	R CF H 8K2 J0W25	
R 82	R101124	R CF H100E J0W25		R172	R101136	R CF H 1K J0W25	
R 83	R101155	R CF H 39K J0W25		R180	R101100	R CF H 1E J0W25	
R 84	R101155	R CF H 39K J0W25		R181	R101132	R CF H470E J0W25	
R 85	R101125	R CF H120E J0W25		R182	R101132	R CF H470E J0W25	
R 86	R101125	R CF H120E J0W25		R183	R101129	R CF H270E J0W25	
R 87	R101125	R CF H120E J0W25		R200	R1011231	R CF H 75E J0W25	
R 88	R101115	R CF H 18E J0W25	1	R201	R101150	R CF H 15K J0W25	
R 88	R101120	R CF H 47E J0W25		R202	R101144	R CF H 4K7 J0W25	
R 89	R1011231	R CF H 75E J0W25		R203	R101128	R CF H220E F0W25	
R 90	R101112	R CF H 10E J0W25		R204	R101121	R CF H 56E J0W25	

# RGB Analog Input & Switching module

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SIT.	ITEM NO.	DESCRIPTION	QUANTITY	SIT.	ITEM NO.	DESCRIPTION	QUANTITY
R205	R101129	R CF H270E J 0W25		R323	R101126	R CF H150E F 0W25	
R206	R1011231	R CF H 75E J 0W25		R324	R101159	R CF H 82K J 0W25	
R207	R101128	R CF H220E F 0W25		R325	R101134	R CF H680E J 0W25	1
R208	R101126	R CF H150E F 0W25		R326	R101151	R CF H 18K J 0W25	
R209	R101137	R CF H 1K2 J 0W25		R327	R101133	R CF H560E J 0W25	
R210	R101159	R CF H 82K J 0W25		R330	R101548	R MF H 10K F 0W4 E3	
R230	R101548	R MF H 10K F 0W4 E3		R400	R1011231	R CF H 75E J 0W25	
R231	R101535	R MF H820E F 0W4 E3	1	R401	R101150	R CF H 15K J 0W25	
R300	R1011231	R CF H 75E J 0W25		R402	R101144	R CF H 4K7 J 0W25	1
R301	R101151	R CF H 18K J 0W25		R403	R101128	R CF H220E F 0W25	
R302	R101144	R CF H 4K7 J 0W25		R404	R101128	R CF H220E F 0W25	
R303	R101128	R CF H220E F 0W25		R405	R101129	R CF H270E J 0W25	
R304	R101128	R CF H220E F 0W25		R406	R1011231	R CF H 75E J 0W25	
R305	R101129	R CF H270E J 0W25		R407	R101128	R CF H220E F 0W25	
R306	R1011231	R CF H 75E J 0W25		R408	R101126	R CF H150E F 0W25	
R307	R1028241	R MF H 90E9 F 0W6 E4	1	R409	R101137	R CF H 1K2 J 0W25	
R308	R1011231	R CF H 75E J 0W25		R410	R101135	R CF H820E J 0W25	
R309	R101136	R CF H 1K J 0W25		R411	R101144	R CF H 4K7 J 0W25	
R310	R1026505	R MF H332E F 0W6 E4		R412	R101159	R CF H 82K J 0W25	
R311	R101139	R CF H 1K8 J 0W25		R413	R101132	R CF H470E J 0W25	
R312	R101136	R CF H 1K J 0W25		R430	R101548	R MF H 10K F 0W4 E3	
R313	R101138	R CF H 1K5 J 0W25		R431	R101535	R MF H820E F 0W4 E3	1
R314	R101147	R CF H 8K2 J 0W25	1	R510	R101129	R CF H270E J 0W25	1
R315	R101138	R CF H 1K5 J 0W25		R511	R101151	R CF H 18K J 0W25	
R316	R101133	R CF H560E J 0W25		R512	R101148	R CF H 10K J 0W25	
R317	R101133	R CF H560E J 0W25		R513	R101144	R CF H 4K7 J 0W25	
R318	R101136	R CF H 1K J 0W25	1	R514	R101135	R CF H820E J 0W25	1
R319	R101124	R CF H100E J 0W25					
R320	R101144	R CF H 4K7 J 0W25		Z120	R131756	D ZEN 7V5 0W5 C DO35	
R321	R101136	R CF H 1K J 0W25		Z400	R131704	D STB 2V6 0W33 DO35	1
R322	R101132	R CF H470E J 0W25		Z401	R131701	D ZEN 6V2 2W5 C DO35	1

