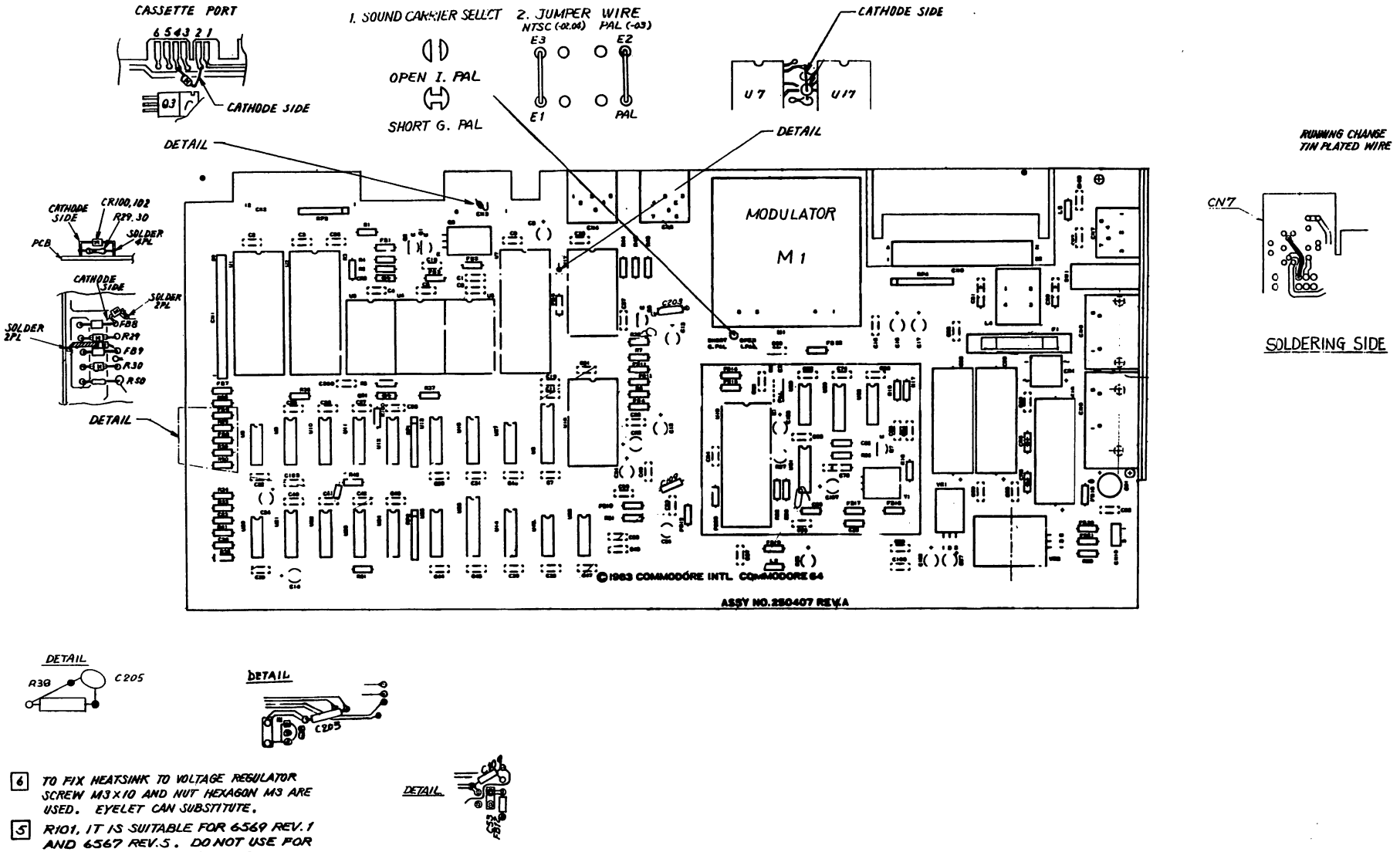


6 TO FIX HEATSINK TO VOLTAGE REGULATOR SCREW M3X10 AND NUT HEXAGON M3 ARE USED. EYELET CAN SUBSTITUTE.

5 R101, IT IS SUITABLE FOR 6569 REV.1 AND 6567 REV.5. DO NOT USE FOR 6567 REV.8 OR 6569 REV.3.

4 C204, IT IS SUITABLE FOR MB112A101.

3 C203, IT IS SUITABLE FOR 6569 REV.1. BUT WHEN USE 251183 (U17 ITEM 186), DO NOT USE THIS CAPACITOR.

BOARD LAYOUT #250407-04

PARTS LIST — PCB ASSEMBLY #250407-04

C — Indicates Commodore Stocked Part Number

INTEGRATED CIRCUITS

U1,U2	6526 CIA	C 906108-01
U3	2364 Basic ROM	C 901226-01
U4	2364 Kernal ROM	C 901227-03
U5	2332 Char ROM	C 901225-01
U6	2114L-20 RAM	901453-01
U7	6510 μ Processor	C 906107-01
U8	7406	901522-06 sub:
	7416	901522-14
U9-U12	4164 (200 nS)	901505-01
U13	74LS257	901521-57
U14	74LS258	901521-58
U15	74LS139	901521-18
U16	4066	901502-01
U17	82S100 PLA	C 906114-01
U18	6581 SID	C 906112-01
U19	6567 VIC II	C 906109-04
U20	LM556	901523-03
U21-U24	4164 (200 nS)	901505-01
U25	74LS257	901521-57
U26	74LS373	901521-29
U27	74LS08	901521-03
U28	4066	901502-01
U29	74LS74	901521-06
U30	74LS193	901521-26
U31	74LS629	901521-68
U32	MC4044	906128-01

TRANSISTORS

Q1,2	2SC1815	C 902693-01 sub:
Q3	TIP29 A	902653-01
Q7,8	2SC1815	C 902693-01

DIODES

CR1	2.7V Zener IN4371	906103-02
CR2	7.5V Zener IN755	900941-01
CR4	Bridge S2VB10	C 251026-01
	DBA20B	C 251026-02
	DBA20C	C 251026-03
CR5,6	Rectifier IN4001	900750-01

RESISTORS — All values are in ohms- 1/4 W, 5%, unless noted otherwise.

R1	3.3K	R6	1K
R2	1.5K	R7	10K
R3	10K	R16	1K
R4	1K	R17	2.7K
R5	560	R19	15K

RESISTORS (Continued)

R26	Jumper Wire	R39	390
R27	Pot 500Ω	R41	1M
R28	1K	R42	82
R29	1K	R43	3.3K
R30	1K	R44	3.3K
R31	180	R45	3.3K
R33	47K	R50	1M
R34	47K	R51	1.5K
R35	470K	R52	300
R36	1K	R53	390
R37	2.7K	R100	1K
R38	1K	R101	22K

RESISTOR PACKS

RP1,2	33Ω, 8 Pin (Bourns No. 4308R-102-330)
RP3	3.3KΩ, 8 Pin (Bourns No. 4308R-101-332)
RP4	3.3KΩ, 10 Pin

CAPACITORS

C1-7	Ceramic	.1 μF, 25V
C8	Electrolytic	10 μF, 25V, +50%, −10%
C9	Ceramic	.1 μF, 25V
C10,11	Ceramic	470 pF, 50V, 10%
C12	Ceramic	.1 μF, 25V
C13,14,15	Electrolytic	10 μF, 25V, +50%, −10%
C16	Ceramic	.1 μF, 25V
C17	Electrolytic	10 μF, 25V, +50%, −10%
C18	Ceramic	.1 μF, 25V
C19	Electrolytic	2200 μF, 16V
C20,21	Film	.22 μF, 100V, 20%
C22	Ceramic	.1 μF, 25V
C23	Ceramic	360 pF, 50V, 10%
C24	Electrolytic	10 μF, 25V, +50%, −10%
C25-33	Ceramic	.1 μF, 25V
C34	Electrolytic	10 μF, 25V, +50%, −10%
C35	Ceramic	.1 μF, 50V
C36	Ceramic	20 pF, 50V, 5% SL
C37	Ceramic	1000 pF, 50V, 10% B
C38	Ceramic	51 pF, 50V, 5% SL
C39-47	Ceramic	.1 μF, 25V
C48	Ceramic	1800 pF, 50V, 10% B
C49-54	Ceramic	.1 μF, 25V
C55	Ceramic	.1 μF, 50V
C56	Ceramic	.1 μF, 25V
C57	Electrolytic	10 μF, 25V, +50%, −10%
C58	Ceramic	.1 μF, 50V

PARTS LIST — PCB ASSEMBLY #250407-04 (Continued)

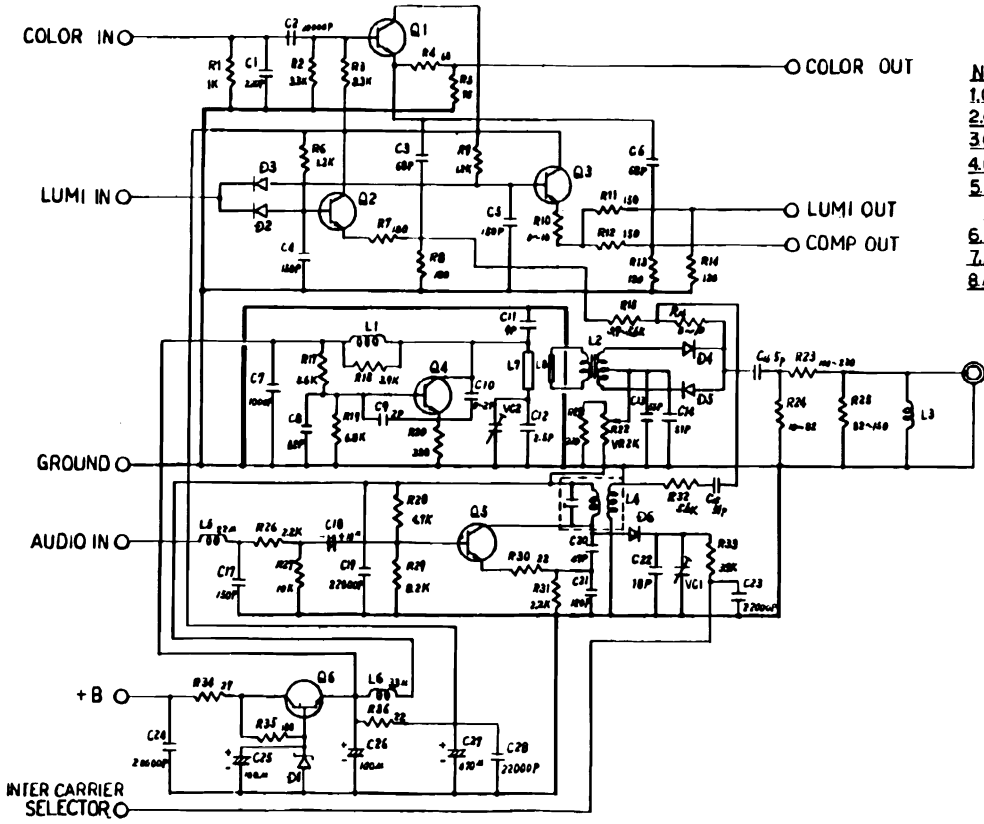
C — Indicates Commodore Stocked Part Number

CAPACITORS (Continued)		
C59,60	Ceramic	.1 μF, 25V
C62,65	Electrolytic	10 μF, 25V, +50%, −10%
C66,67,68	Ceramic	.1 μF, 25V
C70	Film	16 pF, 5%
C74,82	Ceramic	.1 μF, 25V
C83	Ceramic	82 pF, 5%
C84	Ceramic	.1 μF, 25V
C85	Ceramic	.47 μF, 50V, 10%
C88	Electrolytic	1000 μF, 25V
C89	Ceramic	.1 μF, 25V
C90	Electrolytic	470 μF, 50V
C91	Electrolytic	100 μF, 16V, +50%, −10%
C92	Ceramic	.1 μF, 25V
C93	Ceramic	1800 pF, 50V, 10% B
C94	Electrolytic	10 μF, 25V, +50%, −10%
C95,96	Ceramic	.1 μF, 25V
C97	Ceramic	.22 μF, 25V
C98,99	Ceramic	.1 μF, 50V, +80%, −20%
C100	Ceramic	.22 μF, 25V
C101	Ceramic	.1 μF, 50V, +80%, −20%
C102	Electrolytic	10 μF, 25V, +50%, −10%
C103	Ceramic	.1 μF, 25V
C104		
C105	Ceramic	.1 μF, 25V
C108	Electrolytic	10 μF, 25V, 20%
C200	Ceramic	.1 μF, 25V

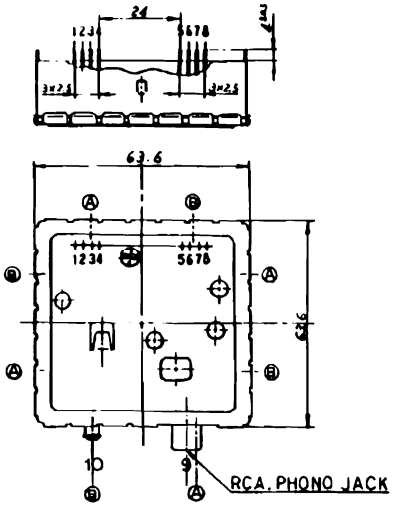
CONNECTORS		
CN1	Header Assy, 20 Pin	903331-20
CN4	6 Pin Din	C 903361-01
CN5	8 Pin Din	C 325573-01
CN6	44 Pin Card Edge	C 906100-02
CN7	7 Pin Din	C 251116-01
CN8,9	Plug Assy, 9 Pin MINID	C 906126-01
CN10	Header Assy, 3 Pin	903332-03

MISCELLANEOUS		
L2	Coil Inductor 2.2 μH	901151-17
L4	Coil Inductor 1.2 μH	325570-01
L5	Choke Coil	C 325559-02
Y1	Crystal 14.31818 MHz	C 900558-01
SW1	Rocker Switch DPDT	904500-01
VR1	Voltage Regulator MC7812CT	901527-01
VR2	Voltage Regulator MC7805CT	901527-02
M1	Modulator	C 251080-01
F1	Fuse, Normal Blo, 250V, 1.5A	
FB1-5 FB7-23	Ferrite Bead	903025-01
	Connector Panel (Power, ON, OFF)	251095-01
	Cartridge Guide	326116-01
	Shield Box	C 251023-01
	Shield Cap	C 251024-01

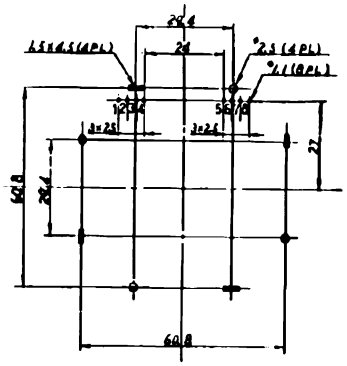
MODULATOR SCHEMATIC #251025

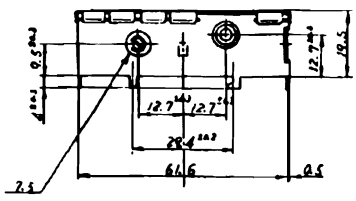


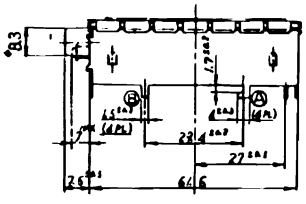
NOTE
1. Q1~Q3 : 2SC1684 OR EQIVALENT
2. Q4 : 2SC1730 OR EQIVALENT
3. Q5 : 2SC460 OR EQIVALENT
4. Q6 : 2SC2120 OR EQIVALENT
5. D1 : HZ-7 D2,D3 : 1SS119
D4,D5 : 1SS86 OR 1SS174 D6 : 1SS110
6. ALL CAPACITANCE VALUES : F
7. ALL RESISTANCE VALUES : Ω
8. ALL INDUCTANCE VALUES : H



NO	TERMINALS
1	+B
2	SYNC + LUM SIG. INPUT
3	COLOR SIG. INPUT
4	AUDIO SIG. INPUT
5	COMP. SIG. OUTPUT
6	SYNC + LUM SIG. OUTPUT
7	COLOR SIG. OUTPUT
8	INTER CARRIER SELECTOR
9	R.F. OUTPUT
10	CHANNEL TRIMMER

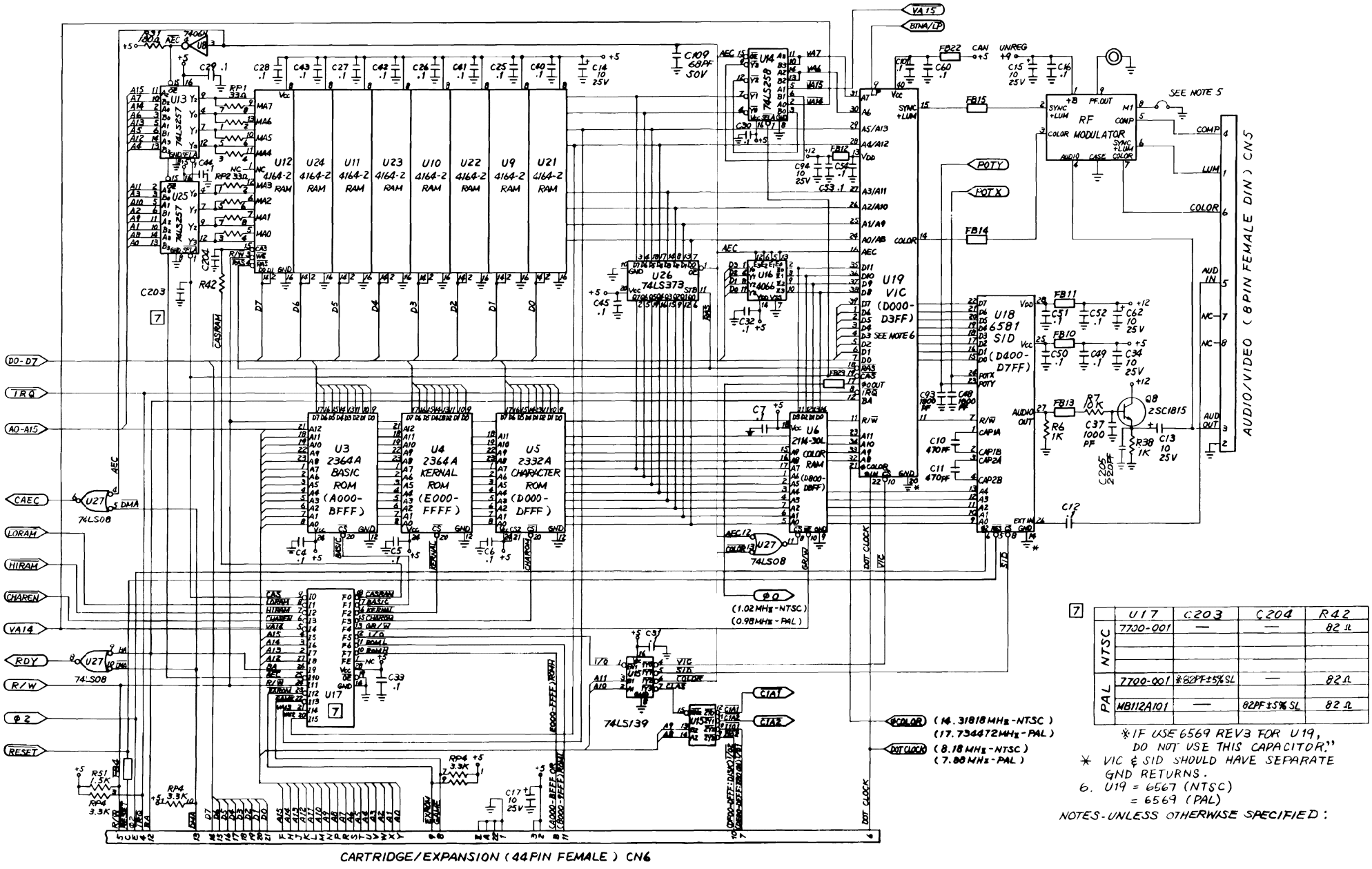






NOTE
1. RECOMMENDED P.C.B. HOLE CENTERS (COMPONENT SIDE)
2. ALL DIMENSION ARE IN MILLIMETERS
3. NO.8 TERMINAL SHORT = G.PAL
OPEN = I.PAL

SCHEMATIC #251138 SHEET 1 OF 2



	U17	C203	C204	R42
NTSC	7700-001	—	—	82 Ω
PAL	7700-001	*82PF±5% SL	—	82 Ω
	MB112A101	—	82PF±5% SL	82 Ω

*IF USE 6569 REV3 FOR U19, DO NOT USE THIS CAPACITOR."

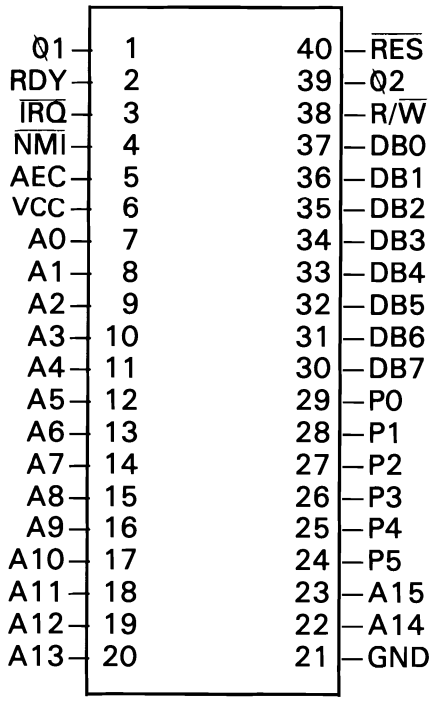
* VIC & SID SHOULD HAVE SEPARATE GND RETURNS.

6. U19 = 6567 (NTSC) = 6569 (PAL)

NOTES - UNLESS OTHERWISE SPECIFIED:

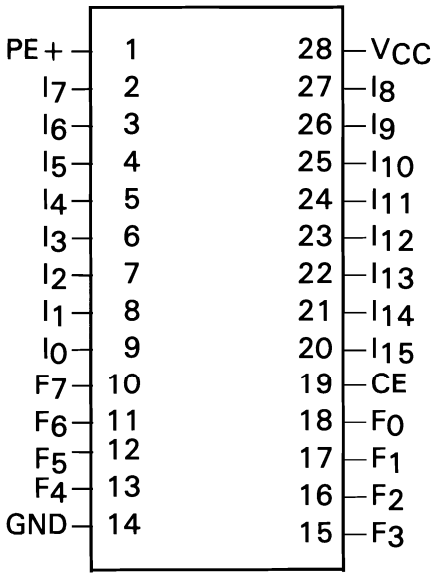
U7 — 906107-01
6510 MICROPROCESSOR

PIN ASSIGNMENT



1	Ø1	Phase 1 clock input. This clock input is used to develop the internal overlapping phase 2 clock. 1 MegHz or 2 MegHz speeds.
2	RDY	Single step operation input. A low applied will cause the processor to halt. The current address line being fetched will be on the address bus. Can also be used to interface slower devices to the microprocessor.
3	IRQ	Interrupt request input. When a low pulse is applied a jump to a location specified by the contents of FFFE and FFFF will occur to service the interrupt, if the interrupt mask flag is not set. This is a maskable interrupt.
4	NMI	Non-maskable interrupt input. A low transition will cause a jump to a location specified by FFFA and FFFB to a subroutine which will service the interrupt.
5	AEC	Address enable control input. A low applied to will cause the address bus to enter hi impedance state, so other devices can control the address bus.
6	VCC	5VDC input.
7-20 22,23	A0-A15	Address bus outputs. Unidirectional bus used to address memory and I/O devices. The address bus can be disabled by controlling the AEC input.
21	GND	Dc ground connection.
24-29	P0-P5	I/O bidirectional port. This port can be controlled via memory locations 0000 and 0001. 0001 = Output register 0000 = Data direction register
30-37	DB0-DB7	Bidirectional data bus. This is the bus that passes the data to or from any I/O device or memory.
38	R/W	Read/Write output. The processor generates a low level when writing, and a high level when reading. This signal is usually decoded for read or write operations to memory or I/O.
39	02	Phase 2 output. The processor generates this clock signal from the phase 1 clock applied. The two clock signals are 180 degrees out of phase. The phase 2 clock is used in decoding I/O and memory on the positive half cycle.
40	RES	Reset input interrupt. A low pulse causes a jump to a subroutine specified by FFFC and FFFD, which will initialize all processor controlled devices. This occurs during a power up sequence.

PIN ASSIGNMENT



U17 — 906114-01
PROGRAMMABLE LOGIC ARRAY (PLA)

SCHEMATIC #251138 SHEET 2 OF 2