

HA-8-3 Connector Pinouts

A/V Connector (P14)		
1	GND	Logic ground (shield)
2	Pb-BLUE	Pb component signal
3	GND	Logic ground (shield)
4	Y-GREEN	Y component signal (TMS9928) or composite video (TMS9918)
5	GND	Logic ground (shield)
6	Pr-RED	Pr component signal
7	GND	Logic ground (shield)
8	EXT-TV	External composite video input (TMS9918 only)
9	AGND	Analog ground (shield)
10	CH1	Audio CH1 (AY-3-8910 B_OUT + 50% C_OUT)
11	AGND	Analog ground (shield)
12	CH0	Audio CH0 (AY-3-8910 A_OUT + 50% C_OUT)
Use shielded cable for video connections Recommend using shielded cable for audio connections		

Joystick Connectors (P7-P10)			
Pin	ID	Description	Power Restrictions
1	AGND	Analog Ground	
2	+5V	+5v from +5VA supply (U23)	200ma PTC fuse F2
3	VREF	Analog Reference Voltage	+10v @ 100ma (limited by capacity of 78L10 U19)
4	AGND	Analog Ground	
5	IOB1/3/5/7	AY-3-8910 IOB1/3/5/7	1.6ma (one TTL load)
6	IOB0/2/4/6	AY-3-8910 IOB0/2/4/6	1.6ma (one TTL load)
7	IOA1/3/5/7	AY-3-8910 IOA1/3/5/7	1.6ma (one TTL load)
8	IOA0/2/4/6	AY-3-8910 IOA0/2/4/6	1.6ma (one TTL load)
9	Ai1/3/5/7	Analog Input 1/3/5/7	0-VREF (10v)
10	Ai0/2/4/6	Analog input 0/2/4/6	0-VREF (10v)
11	IOB1/3/5/7+	Buffered AY-3-8910 IOB1/3/5/7	40ma open collector (74LS07 U44, U45)
12	IOB0/2/4/6+	Buffered AY-3-8910 IOB0/2/4/6	40ma open collector (74LS07 U44, U45)
<p>The usual AY-3-8910 DIO configuration will have Port "B" as OUTPUT, Port "A" as INPUT AY-3-8910 DIO inputs have internal pull-up resistors to +5v AY-3-8910 IOBn is connected through 74LS07 to IOBn+ The '+' pins can be used to drive most external loads without any additional circuitry</p>			