THE APPLE INTERFACE MANUAL

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The Apple Interface Manual contains information on the following:

- switch settings
- pin outs
- necessary driver settings
- interface cables

We have given you the facts on all possible connections between the different Apple products, and have suggested configurations to help you to get the equipment up and running quickly and easily.

We hope the Apple Interface Manual will help you to speed up the process of installing Apple equipment and to cut back on those expensive, time-consuming telephone calls to Apple.

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Interface Manual

Contents

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Apple // Interface Cards

Contents

Super Serial Card

Part # 670-8020 Order # A2B0044

Pin Outs (Jumper block towards modem)

10 Pin Header	DB-25 Connector	Signal Name
1	1	Frame Ground
2	2	Transmit Data (Tx)
3	3	Receive Data (Rx)
4	4	Request To Send (RTS)
5	5	Clear To Send (CTS)
6	6	Data Set Ready (DSR)
7	19	Secondary Clear To Send (SCTS)
8	7	Signal Ground
9	20	Data Terminal Ready (DTR)
10	8	Data Carrier Detect (DCD)

Note: Jumper Block pointing towards Terminal acts as though a modem eliminator cable is installed (see page G.2).

Super Serial Card

Switch Settings Printer Mode
(Jumper block towards terminal)

	Switch SW1							Switch SW2						
	1	2	3	4	5	6	7	1	2	3	4	5	6	7
Mode Selection:														
Printer Mode					OFF	ON								
SIC P8 Emulation Mode					ON	OFF								
SIC P8A Emulation Mode					OFF	OFF								
Special Switches:														
Interrupts OFF													OFF	
Interrupts ON													ON	
Normal Clear to Send							ON							OFF
Secondary Clear to Send							OFF							ON
Baud Rate:														
undefined	ON	ON	ON	ON										
50	ON	ON	ON	OFF										
75	ON	ON	OFF	ON										
109.92 (110)	ON	ON	OFF	OFF										
134.58 (135)	ON	OFF	ON	ON										
150	ON	OFF	ON	OFF										
300	ON	OFF	OFF	ON										
600	ON	OFF	OFF	OFF										
1200	OFF	ON	ON	ON										
1800	OFF	ON	ON	OFF										
2400	OFF	ON	OFF	ON										
3600	OFF	ON	OFF	OFF										
4800	OFF	OFF	ON	ON										
7200	OFF	OFF	ON	OFF										
9600	OFF	OFF	OFF	ON										
19200	OFF	OFF	OFF	OFF										
Data Format:														
8 data, 1 stop								ON						
8 data, 2 stop								OFF						
Line Width/Video:														
40/video on										ON	ON			
72/video off										ON	OFF			
80/video off										OFF	ON			
132/video off										OFF	OFF			
Delay after <CR> Out:														
none									OFF					
32 ms									ON					
Can <LF> out after <CR>														
yes												ON		
no												OFF		

Super Serial Card

Switch Settings Communications Mode

(Jumper block towards modem)

	Switch SW1							Switch SW2						
	1	2	3	4	5	6	7	1	2	3	4	5	6	7
Mode Selection:														
Communications Mode					ON	ON								
Special Switches:														
Interrupts OFF						•							OFF	
Interrupts ON													ON	
RS-232-C Signals							ON							OFF
Baud Rate:														
undefined	ON	ON	ON	ON										
50	ON	ON	ON	OFF										
75	ON	ON	OFF	ON										
109.92 (110)	ON	ON	OFF	OFF										
134.58 (135)	ON	OFF	ON	ON										
150	ON	OFF	ON	OFF										
300	ON	OFF	OFF	ON										
600	ON	OFF	OFF	OFF										
1200	OFF	ON	ON	ON										
1800	OFF	ON	ON	OFF						•				
2400	OFF	ON	OFF	ON										
3600	OFF	ON	OFF	OFF										
4800	OFF	OFF	ON	ON										
7200	OFF	OFF	ON	OFF										
9600	OFF	OFF	OFF	ON										
19200	OFF	OFF	OFF	OFF										
Data Format:														
8 data, 1 stop								ON	ON					
7 data, 1 stop								ON	OFF					
8 data, 2 stop								OFF	ON					
7 data, 2 stop								OFF	OFF					
Parity:														
None											ON			
Odd										ON	OFF			
Even										OFF	OFF			
Gen <LF> Out After <CR>														
Yes												ON		
No												OFF		

Parallel Interface Card (2-PIC)

Part # 820-5006-A Order # A2B0021

Pin Outs

DB-25 Connector	Signal Name
1	Data In, Bit 0
2	Signal Ground
3	Data In, Bit 2
4	Signal Ground
5	Data Out, Bit 0
6	Data Out, Bit 1
7	Blocked
8	Data Out, Bit 2
11	Data Out, Bit 5
12	Data Out, Bit 6
13	Data Out, Bit 7
14	Data In, Bit 4
15	Strobe Out
16	Acknowledge In
17	Data In, Bit 1
18	Data In, Bit 7
19	Data In, Bit 5
20	Signal Ground
21	Data In, Bit 6
22	Data Out, Bit 3
23	Data Out, Bit 4
24	Signal Ground
25	Data In, Bit 3

Parallel Interface Card (2PIC)

Switch Settings

	1	2	3	4	5	6	7
Strobe Length							
1 microsecond	OFF	OFF	OFF				
3 microseconds	ON	OFF	OFF				
5 microseconds	OFF	ON	OFF				
7 microseconds	ON	ON	OFF				
9 microseconds	OFF	OFF	ON				
11 microseconds	ON	OFF	ON				
13 microseconds	OFF	ON	ON				
15 microseconds	ON	ON	ON				
Strobe Polarity							
Positive				OFF			
Negative				ON			
ACK Polarity							
Positive					OFF		
Negative					ON		
Firmware Select							
Parallel (LF)						OFF	
Centronics (No LF)						ON	
Interrupts							
Disable							OFF
Enable							ON

High Speed Serial Interface

Part # 670-X005 (Discontinued)

Pin Outs

DB-25 Connector	Signal Name
2	Receive Data (Rx)
3	Transmit Data (Tx)
7	Signal Ground
12	Current Loop Data In (Return)
13	Current Loop Data In
23	Current Loop Data Out

Note 1: This card does not have any hardware handshaking. It can therefore only be used at slow baud rates.

Note 2: The PROM P8A should be installed in place of the existing PROM P8 when using Qume compatible printers. Be aware that switch 4 has a different function with this setup and must be in the OFF position.

Switch Settings

	1	2	3	4	5	6	7
Baud Rate							
110	ON	ON	ON				
134.5	OFF	ON	ON				
300	ON	OFF	ON				
1200	OFF	OFF	ON				
2400	ON	ON	OFF				
4800	OFF	ON	OFF				
9600	ON	OFF	OFF				
19200	OFF	OFF	OFF				
Delay After <CR>							
None				OFF			
1/4 Second				ON			
Line Width/Video							
40/Video on					ON	ON	
72/Video off					OFF	ON	
80/Video off					ON	OFF	
132/Video off					OFF	OFF	
<LF> After <CR>							
Yes							OFF
No							ON

Parallel/Centronics Card

Part # 820-0005-01 (Discontinued)

These two cards although different in name are virtually identical apart from those differences outlined below.

Pin Outs (same for both cards)

20 Pin Header	Signal Name
1	Ground - Pin 1 and 20 must be used.
2	ACK (Handshake)
8	Strobe
10	DP0 (LSB)
11	DP1
12	DP2
13	DP3
14	DP4
15	DP5
16	DP6
17	DP7 (MSB)
20	Ground - Pin 1 and 20 must be used.

Note: The differences between the two cards are as follows.

Centronics: The Centronics card is supplied with the PROM P9 (341-0019) installed and does NOT add a linefeed after carriage return. The Jumper block is pre-configured for negative STROBE and positive acknowledge (ACK) signals.

Parallel: The Parallel card is supplied with the PROM P1 (341-0005) installed and does add a linefeed after carriage return. With this card you must wire the jumper block yourself. For further information please refer to page 6 of the manual.

Apple Communications Interface

Part # 670-X003 (Discontinued)

Pin Outs

DB-25 Connector	Signal Name
2	Transmit Data (Tx)
3	Receive Data (Rx)
4	Request To Send (Permanently high)
5	Clear To Send (Permanently high)
7	Signal Ground

Note: This card does not have any hardware handshaking. It can therefore only be used at slow baud rates.

Apple //c Interface Ports

Contents

Printer & Communication Ports

Pin Outs

The Serial ports on the //c are standard 5 pin DIN, however, they are not labelled as standard DIN. So when looking at the back of the //c we have pin outs as follows:-

5 Pin DIN	Position	Signal Name
1	4 O'Clock	Data Terminal Ready
2	5 O'Clock	Transmit Data
3	6 O'Clock	Ground
4	7 O'Clock	Receive
5	8 O'Clock	Data Set Ready

Note: The serial ports on an Apple //c are essentially identical, the pin connections being the same on both. The main difference being the printer port is preconfigured for 9600 baud and the communication port is preconfigured for 300 baud. The printer port appears to software as slot 1, the communication port as slot 2. The settings of these ports can be changed with the Apple //c System Utilities disk. Please see the System Utilities manual for precise details.

Characteristics at Startup

After power-up, the printer firmware sets the configuration given below:

9600 baud	8 data bits	No parity bits
2 stop bits	80 chars per line	LF after CR
Command character is CTRL-I		

Video Port

This port requires an external PAL modulator to connect to a TV set. It is **NOT** an RGB port, to connect to an RGB monitor an external piece of hardware is required.

Pin Outs

15 Pin Connector	Signal	Description
1	TEXT	Video text signal from GLU
2	14M	14MHz Timing signal from master oscillator
3	SYNC	Display synchronisation signal from IOU pin 39.
4	SEGB	Display Vertical counter bit from IOU pin 4.
5	1VSOUND	1v sound signal.
6	LDPS	Video shift Register load enable.
7	WNDW	Active area display blanking.
8	+12v	Regulated +12v.
9	PRAS	Ram row address strobe.
10	GR	Graphics mode enable.
11	SEROUT	serialised character generator output.
12	NTSC	Composite NTSC video signal.
13	GND	Ground.
14	VIDD7	Causes half dot shift if high.
15	CREF	Colour reference signal.

Apple /// Interfaces

Contents

Port C: RS-232-C Serial Interface & Serial Card 3.

Pin Outs

DB-25 Connector	Signal Name
1	Shield Ground
2	Transmit Data (Tx)
3	Receive Data (Rx)
4	Request To Send (RTS)
5	Clear To Send (CTS)
6	Data Set Ready (DSR)
7	Signal Ground
8	Data Carrier Detect (DCD)
20	Data Terminal Ready (DTR)

Note: Serial Card 3 has a modem eliminator button, when this button is "in" the above pin outs are correct. If the button is "out" this has the effect of a modem eliminator cable being installed (see page G.2).

Port C: RS-232-C Serial Interface & Serial Card 3.

The following table explains how to configure the driver for the RS232 port using System Utilities, remember on the Serial Card 3 driver to set the slot number.

Data Configuration Block

	$00	$01	$02	$03	$04	$05	$06	$07	$08	$09	$0A	$0B
Baud Rate:												
110	$03		B	B	B							
134.5	$04		E	E	E							
300	$06		L	L	L							
600	$07		A	A	A							
1200	$08		Y	Y	Y							
1800	$09											
2400	$0A		A	A	A							
4800	$0C		F	F	F							
9600	$0E		T	T	T							
Data Format:			E	E	E							
Bits Parity			R	R	R							
8 none		$00										
7 odd		$22	C	L	#							
7 even		$26	A	I	0							
7 MARK		$2A	R	M	R							
7 SPACE		$2E	R	E	M							
6 odd		$42	I									
6 even		$46	A	F	F							
6 MARK		$4A	G	E	E							
6 SPACE		$4E	E	E	E							
Conn Protocol				G	0							
none			N			$00						$00
XON/XOFF			E			$80	$13	$11	$0F	$84		$00
ENQ/ACK			T			$40	$05	$06			$50	$00
ETX/ACK			H			$40	$03	$06			$50	$00
HW Handshake			R			$00			$0F	$84		$00
			N									

Delays (bytes $02...$04).

Using this driver to connect to a printer may require that you set delay times while the printer advances to a new line or the top of a new page. These delays are given in the range $00...$FF characters. The RS232 driver will wait for the time taken to transmit the amount of characters specified before it sends the following character.

Universal Parallel Interface Card (UPIC)

Part# 670-0017 Order# A3B0002

Pin Outs

20 Pin Connector

Pin Number	Signal	Pin Number	Signal
1	Signal Ground	11	Port A output DO1
2	Acknowledge input	12	Port A output DO2
3	Port B input DI0	13	Port A output DO3
4	Port B input DI1	14	Port A output DO4
5	Port B input DI2	15	Port A output DO5
6	Port B input DI3	16	Port A output DO6
7	Port B input DI4	17	Port A output DO7
8	Strobe output	18	Port B input DI6
9	Port B input DI5	19	Port B input DI7
10	Port A output DO0	20	Signal Ground

40 Pin Connector

Pin Number	Signal	Pin Number	Signal
1	Port B output DO0	21	Port A output DO1
2	Port B output DO1	22	Port A output DO2
3	Port B output DO2	23	Port A output DO3
4	Port B output DO3	24	Port A output DO4
5	Port B output DO4	25	Port A output DO5
6	Port B output DO5	26	Port A output DO6
7	Port B output DO6	27	Port A output DO7
8	Port B output DO7	28	Port B input DI6
9	Pin removed	29	Port B input DI7
10	Pin Removed	30	Signal Ground
11	Signal Ground	31	Pin removed
12	Acknowledge input	32	Pin removed
13	Port B input DI0	33	Data ready output
14	Port B input DI1	34	Signal ground
15	Port B input DI2	35	Signal ground
16	Port B input DI3	36	Signal ground
17	Port B input DI4	37	Signal ground
18	Strobe output	38	Data ready ACK in
19	Port B input DI5	39	Signal ground
20	Port A output DO0	40	Signal ground

Universal Parallel Interface Card (UPIC)

Data configuration block

Commonly used configurations for the driver .PRINTER on the SOS 1.3 Update diskette are listed in the following table.

Printer	Device configuration block (DCB) values				
	ERRMASK	ERRSTAT	AUTOLF	CTRLWRD	TIMEOUT
	00	01	02	03	04
Centronics 779/700	E0	C0	40	00	0A
Centronics 730/737	C0	C0	00	00	5A
Anadex DP-8000	E0	C0	00	00	5A
Printronix P300	E0	C0	00	00	0A
C.Itoh 8510A	E8	C8	40	00	0A
IDS 440/445/460	60	40	00	00	5A
Epson MX-80	E8	C8	00	00	0A
TI 810	E8	C0	00	00	0A
Any printer connected with Apple][cable	00	00	00	00	0A

For further information on the Data Configuration Block please refer to page 19 onwards of the Universal Parallel Interface card manual.

NOTE: The driver .PARALLEL is used for two way communications i.e. for input and ouput, when using the 40 pin connector. This driver has a three byte configuration block. Please refer to pages 29 onwards in the manual for more information.

Colour Video Port

Pin Outs

DB-15 Connector	Signal Name	
1	Shield Ground	
2	XRGB4	- One of 4 RGB outputs. This (and pins 5,9 & 10) is a TTL output with instantaneous colour information. A linear-wieghted sum of these four signals will form a true 16 colour RGB video signal.
3	SYNCH	- Composite negative sync signal.
4	PDI	- Not used
5	XRGB1	- See pin 2
6	GND	- Power & Signal Ground
7	-5V	- Maximum load 200 mA
8	+12V	- Maximum load 500 mA
9	XRGB2	- See pin 2
10	XRGB8	- See pin 2
11	BWVID	- NTSC B&W Composite video with negative going sync, 1 volt peak to peak into a 75 ohm load.
12	NTSC	- NTSC Colour video with negative going sync, 1 volt peak to peak into a 75 ohm load.
13	GND	- Power & Signal Ground
14	-12V	- Maximum load 200 mA
15	+5V	- Maximum load 1 Amp.

Note: All power supply ratings assume that no peripheral cards are installed in the system. If there are cards in the system, the current drawn by those cards counts as part of the total current available for each supply.

Macintosh Interface Ports

Contents

Macintosh Communications Connectors RS422

The following pin connections apply to both the communications and printer interface ports.

Pin Outs

DB9 Connector	RS232 Signal Name	RS422 Signal Name
1	Chassis Ground	Ground
2		+5V
3	Signal Ground	Ground
4		Tx+
5	Transmit Data (Tx)	Tx-
6		+12V
7	Handshake (DSR)	Handshake
8		Rx+
9	Receive Data (Rx)	Rx-

Note: Macintosh uses pin 7 as an input when communicating to printers in order to determine whether the printer is ready to receive data (hardware handshaking). Macintosh uses software handshaking for connecting to remote computers/terminals.

Lisa Interface Ports

Contents

Lisa Serial Ports

Pin Outs

DB-25 Connector	In/Out	Serial A - Signal Name	Serial B - Signal Name
1	-	Protective Ground	Protective Ground
2	OUT	Transmit data	Transmit Data
3	IN	Receive data	Receive Data
4	OUT	Request To Send	Not connected
5	IN	Clear To Send	Not connected
6	IN	Data Set Ready	Data Set Ready
7	-	Signal Ground	Signal Ground
8	IN	Data Carrier Detect	Not connected
15	IN	Transmit Clock	Not connected
17	IN	Receive Clock	Not connected
19	IN	Not connected	Receive Data Minus
20	OUT	Data Terminal Ready	Data Terminal Ready
24	OUT	Transmitter Clock	Not connected

Note: Lisa Office System software (e.g. LisaTerminal) uses full duplex, asynchronous communication lines. The lines are attached to Serial A or Serial B on the back of the Lisa. Serial A and Serial B are 25-pin connectors that meet the requirements of EIA specification RS-232-C.

Serial A and B are wired differently. The Serial A connector is wired for full modem control signals. Serial B is wired with a special crystal oscillator that allows it to get all the common baud rates. Serial A uses the system clock and, as a result, cannot generate 3600 and 19200 baud.

Printers/Plotters

Contents

Imagewriter 10" and 15"

Order # A9M0303P and A9M0305P

Both of these printers are identical in terms of interface specifications and DIP switch functions. The interface is RS232C serial.

Pin Outs

DB-25 Connector	Signal
1	Frame Ground
2	Transmit Data (Tx)
3	Receive Data (Rx)
4	Request To Send (RTS)
7	Signal Ground
14	Fault
20	Data Terminal Ready (DTR)

Imagewriter 10" and 15"

Switch Settings

	Switch SW1								Switch SW2			
	1	2	3	4	5	6	7	8	1	2	3	4
Select alternative Character Sets:												
English (US)	O	O	O									
Italian	C	O	O									
English (UK)	C	C	O									
German	O	O	C									
Swedish	C	O	C									
French	O	C	C									
Spanish	C	C	C									
Page Length:												
72 Line				C								
66 Line				O								
Eighth Data Bit:												
Ignore					C							
Recognize					O							
Character Pitch:												
Pica						O	O					
Elite						C	O					
Ultracondensed						O	C					
Elite Proportional						C	C					
Line feed:												
Add LF after CR								C				
No LF after CR								O				
Baud Rate:												
300									O	O		
1200									C	O		
2400									O	C		
9600									C	C		
Data Protocol Type:												
XON/XOFF										C		
DTR											O	

Note: O = Open C = Closed

Daisy Wheel Printer

Order # A3M0027

Pin Outs

DB-25 Connector	Signal Name
1	Chassis Ground
2	Transmit Data (Tx)
3	Receive Data (Rx)
4	Request To Send (RTS)
5	Clear To Send (CTS)
6	Data Set Ready (DSR)
7	Signal Ground
8	Data Carrier Detect (DCD)
20	Data Terminal Ready (DTR)

Daisy Wheel Printer

Switch Settings - Front panel

	1	2	3	4	5	6	7	8
Type Pitch:								
10 cpi	OFF	OFF						
12 cpi	ON	OFF						
15 cpi	OFF	ON						
Proportional	ON	ON						
Form Length:								
3 Inches			OFF	OFF	OFF	OFF		
3.5 Inches			ON	OFF	OFF	OFF		
4 Inches			OFF	ON	OFF	OFF		
5 Inches			OFF	OFF	ON	ON		
5.5 Inches			ON	ON	OFF	OFF		
6 Inches			OFF	OFF	ON	OFF		
7 Inches			ON	OFF	ON	OFF		
8 Inches			OFF	ON	ON	OFF		
8.5 Inches			ON	ON	ON	OFF		
9 Inches			ON	OFF	ON	ON		
10 Inches			OFF	ON	ON	ON		
11 Inches			OFF	OFF	OFF	ON		
11 2/3 Inches			ON	OFF	OFF	ON		
12 Inches			OFF	ON	OFF	ON		
14 Inches			ON	ON	OFF	ON		
16 Inches			ON	ON	ON	ON		
Line Feed:								
LF after CR							ON	
No LF after CR							OFF	
Lines per Inch:								
8 Lines								ON
6 Lines								OFF

Daisy Wheel Printer

Switch Settings - Rear panel

	Switch SW1-A								Switch SW2-B							
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
Character Sets:																
ASCII Standard									OFF	OFF	OFF	OFF				
USA WP									ON	OFF	OFF	OFF				
Italian									OFF	ON	OFF	OFF				
Swedish									ON	ON	OFF	OFF				
English UK									OFF	OFF	ON	OFF				
French									ON	OFF	ON	OFF				
German									OFF	ON	ON	OFF				
Spanish									ON	ON	ON	OFF				
PRINT:																
Bidirectional													ON			
Unidirectional													OFF			
Line Feed:																
Auto CR/LF														ON		
No Auto CR/LF														OFF		
Setting:																
Half Duplex															ON	
Full Duplex															OFF	
On Paper Out:																
Stop															ON	
Dont Stop															OFF	

Daisy Wheel Printer

Switch Settings - Rear panel

	Switch SW1-A								Switch SW2-B							
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
Baud Rate:																
110 baud	OFF	OFF	OFF													
150 baud	ON	OFF	OFF													
300 baud	OFF	ON	OFF													
600 baud	ON	ON	OFF													
1200 baud	OFF	OFF	ON													
2400 baud	ON	OFF	ON													
4800 baud	OFF	ON	ON													
9600 baud	ON	ON	ON													
Handshake:																
ETX/ACK & DTR				OFF	OFF											
XON/XOFF				ON	OFF											
DTR				OFF	ON											
Setting:																
No Modem						ON										
Modem						OFF										
Parity:																
Space							ON	ON								
Mark							OFF	ON								
Even							ON	OFF								
Odd							OFF	OFF								

Dot Matrix (DMP)

Order # A2M0059 (Discontinued)

Pin Outs

Amp Pin No.	Signal Name	Amp Pin No.	Signal Name
1	Data STB (-ve)	19	Ground (TP pin 1)
2	Data 1	20	Ground (TP pin 2)
3	Data 2	21	Ground (TP pin 3)
4	Data 3	22	Ground (TP pin 4)
5	Data 4	23	Ground (TP pin 5)
6	Data 5	24	Ground (TP pin 6)
7	Data 6	25	Ground (TP pin 7)
8	Data 7	26	Ground (TP pin 8)
9	Data 8	27	Ground (TP pin 9)
10	ACK (-ve)	28	Ground (TP pin 10)
11	Input Busy	29	Ground (TP pin 11)
12	Paper Empty	30	Ground (TP pin 12)
13	Select	31	Input Prime (-ve)
14	0v	32	Fault (-ve)
15	NC	33	0v
16	0v	34	NC
17	Chassis Ground	35	NC
18	+5v	36	Input Busy

Note: TP = Twisted Pair

Dot Matrix (DMP)

Switch Settings

	Switch SW1								Switch SW2							
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
Select alternative Character Sets:																
English (US)	O	O	O													
Italian	C	O	O													
English (UK)	C	C	O													
German	O	O	C													
Swedish	C	O	C													
French	O	C	C													
Spanish	C	C	C													
Page Length:																
72 Line				C												
66 Line				O												
Select Codes:																
Ignore					C											
Respond					O											
On Buffer Overflow:																
Line feed						C										
No line feed						O										
Print:																
On CR,LF,VT,FF							C									
After CR only							O									
Line feed:																
Add LF after CR								C								
No LF after CR								O								

Note: O = Open C = Closed

Dot Matrix (DMP)

Switch Settings (cont)

	Switch SW1-								Switch SW2-							
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
Zero character:																
Slash zero									C							
Do not slash zero									O							
Input buffer:																
One line only										C						
3k bytes										O						
Character spacing:																
Elite proportional													C			
Pica fixed width													O			
8th Data bit:																
Ignore														C		
Recognize														O		
On power on:																
Select															C	
Deselect															O	
Print:																
Unidirectional																C
Bidirectional																O

Note: O = Open C = Closed

Colour Plotter

Model # A9M0302P

The Apple Colour Plotter uses a standard RS232C interface so can be connected to virtually any computer.

Pin Outs.

DB-25 Connector	Signal Description
1	Frame Ground
3	Receive Data (Rx)
4	+12 VDC
7	Signal Ground
20	Data Terminal Ready (DTR)

Switch Settings

	1	2	3	4	5	6	7	8
Baud Rate:								
9600						ON	ON	ON
4800						ON	ON	OFF
2400						ON	OFF	ON
1200						ON	OFF	OFF
600						OFF	ON	ON
300						OFF	ON	OFF
150						OFF	OFF	ON
75						OFF	OFF	OFF
Stop Bit:								
1 Bit				OFF	ON			
1.5 Bits				ON	OFF			
2 Bits				OFF	OFF			
Parity:								
Parity		OFF						
No Parity		ON						
Odd Parity			ON					
Even Parity			OFF					
Data Length:								
7 Bit	ON							
8 Bit	OFF							

The Apple Thermal Transfer Printer

Pin Outs

DB-25 Connector	Signal
1	Frame Ground
2	Transmit Data (Tx)
3	Receive Data (Rx)
4	Request To Send (RTS)
7	Signal Ground
20	Data Terminal Ready (DTR)

Switch Settings

	1	2	3	4	5	6	7	8
Select Alternative Character Sets:					not used			
American	OFF	OFF	OFF					
Italian	ON	OFF	OFF					
American	OFF	ON	OFF					
British	ON	ON	OFF					
German	OFF	OFF	ON					
Swedish	ON	OFF	ON					
French	OFF	ON	ON					
Spanish	ON	ON	ON					
Add LF after CR								
Yes				ON				
NO				OFF				
Print Intensity								
Normal						ON		
Low						OFF		
Baud Rate								
1200							ON	
9600							OFF	
Handshake								
XON/XOFF								ON
DTR								OFF

Configuration Tables

Contents

Interface Cables

DB25 Connector (Male)	DB25 Connector (Male)
1	1
2	3
3	2
4 & 5	8
6	20
7	7
8	4 & 5
20	6

FIGURE A (Modem Eliminator)
(PART # 590-0029-00)

DB25 Connector (Male)	DB25 Connector (Male)
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
12	12 *
13	13 *
19	19 *
20	20

FIGURE B
(PART # 590-0037-B)

* This connection is to be found in the supplied cable but is not actually required when you make your own cable.

DB9 Connector (Male)	DB25 Connector (Male)
1	1
3	7
5	3
7	20
9	2

FIGURE C
(PART # 590-0169)

DB9 Connector (Male)	DB25 Connector (Male)
1	1
2	4 & 20
3	7
5	2
7	6
9	3

FIGURE D (Macintosh to Modem)
(PART # N/A)

Interface Cables

5 Pin Din (Male)	DB25 Connector (Male)
1	6
2	3
3	7
4	2
5	20

FIGURE E
(PART # 590-0191-A)

20 Pin DIL Connector (Female)	Amphenol Connector (Male)
1	14
2	10
8	1
10	2
11	3
12	4
13	5
14	6
15	7
16	8
17	9
20	16

FIGURE F
(PART # 57-30360)

DB25 Connector (Male)	Amphenol Connector (Male)
2	19
5	2
6	3
8	4
11	7
12	8
13	9
15	1
16	10
18	35
19	12
21	13
22	5
23	6
24	16
25	32

FIGURE G
(PART # 590-0042-B)

Daisy Wheel Printer Configuration Table

System	Rear Panel Switches SW-1 12345678	SW-2 12345678	Front Switches 12345678	CABLE REQUIRED See figure:-	
Apple ///	11100111	00101001	10000100	A+B	*
Macintosh	N/A	N/A	N/A	N/A	
Lisa	11100111	00101001	10000100	A+B	
Apple //c	11100111	00101001	10000100	E	**
Super Serial	11100111	00101001	10000100	B	*
High Speed Serial	00100111	00101001	10000100	B	*

Note: 0 = OFF = OPEN * - See configuration below
1 = ON = CLOSED ** - Using default port settings

Apple /// Driver Configuration

Driver	Data Configuration Block											
	0	1	2	3	4	5	6	7	8	9	A	B
RS232	0E	00	10	10	10	00	13	11	DF	84	50	80
PRINTER	0E	00	10	10	10							

Super Serial Card Configuration

	1	2	3	4	5	6	7
SW1	OFF	OFF	OFF	ON	OFF	ON	ON
SW2	ON	ON	OFF	OFF	ON	OFF	OFF

NOTE: Jumper block should be pointing towards terminal.

High Speed Serial Card Configuration

	1	2	3	4	5	6	7
Switches	OFF	OFF	ON	OFF	OFF	OFF	OFF

NOTE: The High Speed card must have the PROM P8A installed in place of PROM P8 to ensure no data is lost.

Imagewriter Printer Configuration Table

System	SW-1 12345678	SW-2 1234	CABLE REQUIRED See figure:-	
Apple ///	11001100	1100	A+B	*
Macintosh	11001100	1100	C	
Lisa	11001100	1100	A+B	
Apple //c	11001100	1100	E	**
Super Serial	11001100	1100	B	*
High Speed Serial	11001100	0000	B	*

Note: 0 = OFF = OPEN
1 = ON = CLOSED

* - See configuration below
** - Using default port settings

Apple /// Driver Configuration

Driver	Data Configuration Block											
	0	1	2	3	4	5	6	7	8	9	A	B
RS232	0E	00	10	10	10	00	13	11	DF	84	50	80
PRINTER	0E	00	10	10	10							

Super Serial Card Configuration

	1	2	3	4	5	6	7
SW1	OFF	OFF	OFF	ON	OFF	ON	ON
SW2	ON	ON	OFF	OFF	ON	OFF	OFF

NOTE: Jumper block should be pointing towards terminal.

High Speed Serial Card Configuration

	1	2	3	4	5	6	7
Switches	ON	OFF	ON	ON	OFF	OFF	OFF

NOTE: The High Speed card **must** have the PROM P8 installed.

Dot Matrix Printer Configuration Table

System	SW-1 12345678	SW-2 12345678	CABLE REQUIRED See figure:-
Apple ///	11001010	00000110	C *
Macintosh	N/A	N/A	N/A
Lisa	11001010	00000110	C
Apple //c	N/A	N/A	N/A
Centronics Card	11001011	00000110	F
2PIC	11001010	00000110	G *

Note: 0 = OFF = OPEN
1 = ON = CLOSED

* - See configuration below

Apple /// Driver Configuration

Driver	Data Configuration Block											
	0	1	2	3	4	5	6	7	8	9	A	B
PRINTER	60	40	00	00	64							

Parallel Interface Card (2PIC) Configuration

	1	2	3	4	5	6	7
Switches	OFF	OFF	OFF	ON	ON	OFF	OFF

Colour Plotter Configuration Table

System	SW-1 12345678	CABLE REQUIRED See figure:-	
Apple ///	10111100	A+B	*
Macintosh	N/A	N/A	
Lisa	N/A	N/A	
Apple //c	01101100	E	**
Super Serial	01101100	B	*
High Speed Serial	N/A	N/A	

Note: 0 = OFF = OPEN
1 = ON = CLOSED

* - See configuration below
** - Using default port settings

Apple /// Driver Configuration

Driver	Data Configuration Block											
	0	1	2	3	4	5	6	7	8	9	A	B
RS232	08	22	00	00	00	00	13	11	DF	84	50	80
PRINTER	08	22	00	00	00							

Super Serial Card Configuration

	1	2	3	4	5	6	7
SW1	OFF	ON	ON	ON	OFF	ON	ON
SW2	ON	OFF	OFF	ON	OFF	OFF	OFF

NOTE: Jumper block should be pointing towards terminal.

The Apple Thermal Transfer Printer Configuration Table

System	SW-1 12345678	CABLE REQUIRED See figure:-	
Apple ///	11010000	A+B	*
Macintosh	11010000	C	
Lisa	11010000	A+B	
Apple //c	11010000	E	**
Super Serial	11010000	B	*
High Speed Serial	N/A	N/A	

Note: 0 = OFF = OPEN
1 = ON = CLOSED

* - See configuration below
** - Using default port settings

Apple /// Driver Configuration

Driver	Data Configuration Block											
	0	1	2	3	4	5	6	7	8	9	A	B
RS232	0E	00	10	10	10	00	13	11	DF	84	50	80
PRINTER	0E	00	10	10	10							

Super Serial Card Configuration

	1	2	3	4	5	6	7
SW1	OFF	OFF	OFF	ON	OFF	ON	ON
SW2	ON	ON	OFF	OFF	ON	OFF	OFF

NOTE: Jumper block should be pointing towards terminal.

NOTES

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