Tech Info Library

Apple IIc: External Pinouts (6/94)

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Security: Everyone

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TOPIC ----------

This article describes the pinouts of the Apple IIc computer.

DISCUSSION ----------

Joystick

1- GAMESW1 Switch input 1 (sometimes called paddle button 1).
2- +5V total current drain from this pin must not exceed 100mA.
3- GND System ground.
4- Not Used for hand controller.
5- PDL0 hand controller input. Must be connected to a 150K ohm variable resistor connected to +5V.
6- N.C. Not connected.
7- GAMESW0 Switch input 0 (sometimes called paddle button 0).
8- PDL1 hand controller input; must be connected to a 150K ohm variable resistor connected to +5V.
9- Not used with hand controller.

DB-15 Video Expansion Connector

1- TEXT Video text signal from TMG; set to inverse of GR, except in double high-resolution mode.
2- 14M 14M master timing signal from the system oscillator.
3- SYNC* Displays horizontal and vertical synchronization signal from IOU pin 39.
4- SEGB Displays vertical counter bit from IOU pin 4; in text mode, indicates second low-order vertical counter; in graphics mode, indicates low-resolution.
5- 1VSOUND One-volt sound signal from pin 5 of the audio hybrid circuit

(AUD).
6- LDPS* Video shift-register load enable from pin 12 of TMG.
7- WNDW* Active area display blanking; includes both horizontal and vertical blanking.
8- +12V Regulated +12 volts DC; can drive 300mA.
9- PRAS* RAM row-address strobe from TMG pin 19.
10- GR Graphics mode enable from IOU pin 2.
11- SEROUT* Serialized character generator output from pin 1 of the 74LS166 shift register.
12- NTSC Composite NTSC video signal from VID hybrid chip.
13- GND Ground reference and supply.
14- VIDD7 From 74LS374 video latch; causes half-dot shift high.
15- CREF Color reference signal from TMG pin 3; 3.58 MHz.

Note: The signals at the DB-15 on the Apple IIc are not the same as those at the DB-15 end of the Apple III, Apple IIGS, and Macintosh II. Do not attempt to plug a cable intended for one into the other.

Several of these signals, such as the 14 MHz, must be buffered within about 4 inches of the back panel connector--preferably inside a container directly connected to the back panel.

Printer/Modem port

The serial ports on the Apple IIc are standard 5 pin DIN, however, they are not labeled as standard DIN. Therefore, when looking at the back of the Apple IIc, the pinouts are 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	Signal Ground
4	7 O'Clock	Receive Data
5	8 O'Clock	Data Set Ready

PINOUT EXPLANTION

Pin 1 (DTR) becomes active when the IIc is ready to go on line.

Pin 2 (TD) conveys serial data sent from the IIc.

Pin 3 (SG) is used to provide a common ground reference for the electronics in both the IIc and the device it is connected to.

Pin 4 (RD) receives serial data sent from the device to the IIc it is connected to.

Pin 5 (DSR) is asserted by the device the IIc is connected to when it is ready to go on line.

NOTE:

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

CHARACTERISTICS AT STARTUP
The Apple IIc's ports are configured with keyboard commands instead of DIP switches. After power-up, the IIc sets the printer port to the default configuration given below:

9600 baud

8 data bits and no parity.

2 stop bits.

80 chars per line LF after CR Command character is CTRL-I

Hardware (DTR flow control protocol) handshake.

External Floppy Drive Connector

The Apple IIc external disk drive port is a DB-19 connector. The signals available at the port are as follows:

	10 - WRPROT
1 - GND	
	11 - SEEKPH0
2 - GND	
	12 - SEEKPH1
3 - GND	
	13 - SEEKPH2
4 - GND	
	14 - SEEKPH3
5 - +12V	
	15 - /WRREQ
6 - + 5V	
	16 - NC
7 - +12V	
	17 - /DR2
8 - +12V	
	18 - RDDATA
9 - /EXTINT	
	19 - WRDATA

For more info on how to change a port's configuration, refer to the Apple IIc Techncial Reference Manual.

Article Change History:
24 Jun 1994 - Added complete pinout information for the IIc, revised formatting.

Support Information Services

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