

Connector pinout for: Apple iPod - iPhone dock



30 pin connector used on the dock station for iPod and iPhone.
Available in all Apple iPod MP3 player (iPod 1G, 2G, 3G, 4G, 5G and Nano).

This connector is used on iPod (starting from 3rd generation) and iPhone. It is used to connect the iPod or iPhone to various devices: PC (via USB or FireWire IEEE1394), audio amplifier, serial device (controlled via the Apple Accessory Protocol).

Pin	Signal	Description
1	GND	Ground (-), internally connected with Pin 2 on iPod motherboard
2	GND	Audio and Video ground (-), internally connected with Pin 2 on iPod motherboard
3	Right	Line Out - R (+) (Audio output, right channel)
4	Left	Line Out - L(+) (Audio output, left channel)
5	Right In	Line In - R (+)
6	Left In	Line In - L (+)
8	Video Out	Composite video output (only when the slideshow mode is active on iPod Photo)
9	S-Video Chrominance output	for iPod Color, Photo only
10	S-Video Luminance output	for iPod Color, Photo only
11	GND	Serial GND
12	Tx	ipod sending line, Serial TxD
13	Rx	ipod receiving line, Serial RxD
14	NC	
15	GND	Ground (-), internally connected with pin 16 on iPod motherboard
16	GND	USB GND (-), internally connected with pin 15 on iPod motherboard
17	NC	

18	3.3V	3.3V Power (+) Stepped up to provide +5 VDC to USB on iPod Camera Connector. If iPod is put to sleep while Camera Connector is present, +5 VDC at this pin slowly drains back to 0 VDC.
19,20	+12V	FireWire Power 12 VDC (+)
21	Accessory Indicator/Serial enable	Different resistances indicate accessory type: • 1KOhm - iPod docking station, beeps when connected • 10KOhm - Takes some iPods into photo import mode • 68kOhm - makes iPhone 3g send audio through line-out without any messages • 500KOhm - related to serial communication / used to enable serial communications Used in Dension Ice Link Plus car interface • 1MOhm - Belkin auto adaptor, iPod shuts down automatically when power disconnected Connecting pin 21 to ground with a 1MOhm resistor does stop the ipod when power (i.e. FireWire-12V) is cut. Looks to be that when this pin is grounded it closes a switch so that on loss of power the iPod shuts off. Dock has the same Resistor.
22	TPA (-)	FireWire Data TPA (-)
23	5 VDC (+)	USB Power 5 VDC (+)
24	TPA (+)	FireWire Data TPA (+)
25	Data (-)	USB Data (-)
26	TPB (-)	FireWire Data TPB (-)
27	Data (+)	USB Data (+) Pins 25 and 27 may be used in different manner. To force the iPod 5G to charge in any case, when 'USB Power 5 VDC' (pin 23) is fed, 25 must be connected to 5V through a 10KOhm resistor, and 27 must be connected to the Ground (for example: pin 1) with a 10KOhm resistor.
28	TPB (+)	FireWire Data TPB (+)
29,30	GND	FireWire Ground (-)

Notes

- Signals with grey background may not exist on some docking stations.
- Apple serial devices (i.e. iTalk and remote control) communicate with iPod (3rd generation or more) using the Apple Accessory Protocol.

- The serial connection uses a standard 19200 baud 8N1 protocol (the speed can be increased up to 57600 but tends to become unstable).