# 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 (-), internaly connected with Pin 2 on iPod motherboard |
| 2 | GND | Audio and Video ground (-), internaly 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 (-), internaly connected with pin 16 on iPod motherboard |
| 16 | GND | USB GND (-), internaly connected with pin 15 on iPod motherboard |
| 17 | NC | |

| | | |
|---|---|---|
| 18 | 3.3V | 3.3V Power (+)<br>Stepped up to provide +5 VDC to USB on iPod Camera Connector.<br>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:<br>• 1KOhm - iPod docking station, beeps when connected<br>• 10KOhm - Takes some iPods into photo import mode<br>• 68kOhm - makes iPhone 3g send audio through line-out without any messages<br>• 500KOhm - related to serial communication / used to enable serial communications Used in Dension Ice Link Plus car interface<br>• 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 (+)<br>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).