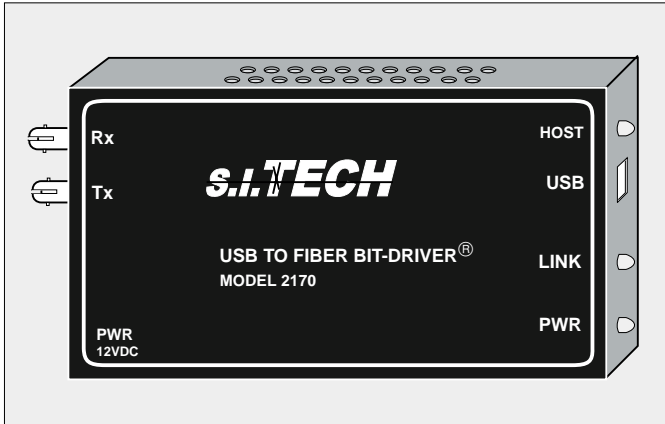


USB to Fiber Optic Media Converter



Features:

- Supports USB 1.1 over fiber (for USB 2.0 use S.I. Tech #2172)
- Small size
- Power, Link Status, and Host LED indicators
- ST optical connections (SC option for Single Mode)

S.I.Tech 2170/2171 USB media converter pair extends the range of USB 1.1 beyond the USB 5 meter limit. The USB media converters are compliant with the USB 1.1 specification supporting low speed (1.5 Mbps) and high speed (12 Mbps) USB data transfer.

The 2170/2171 are not detected as new hardware but provide a 4-port USB HUB at distances up to 2 Km over fiber optic cable. The 2170 connects to host PC through USB type B connector. The 2171 connects to USB peripherals through USB type A connector.

- Operation Mode:** USB 1.1
- Input/Output Interface:** USB 1.1 Type B
- Transmission Line Interface:** ST optical connector is standard
- Transmission Distance:** See distance chart
- Transmitter Output Power:** 25 μ w into 62.5/125 micron fiber
- System Wavelength:** 850nm (1300nm option)
- Data Rate:** 1.1 to 12 Mbps
- Bit Error Rate:** 10^{-9}
- Receiver Sensitivity:** 2 μ w
- Operating Temperature:** -20 °C to 50 °C
- Weight:** 1.0 lb (454 grams)
- Input Power:** External with power supply (S.I.Tech #2164 - 100 to 240 VAC, 50/60 Hz, to 12VDC, UL, CSA, CE, & TUVGS Listed)
- Metal Enclosure:** 5.75" X 3.8" X 1.63" (14.6 X 9.6 X 4.2 cm)

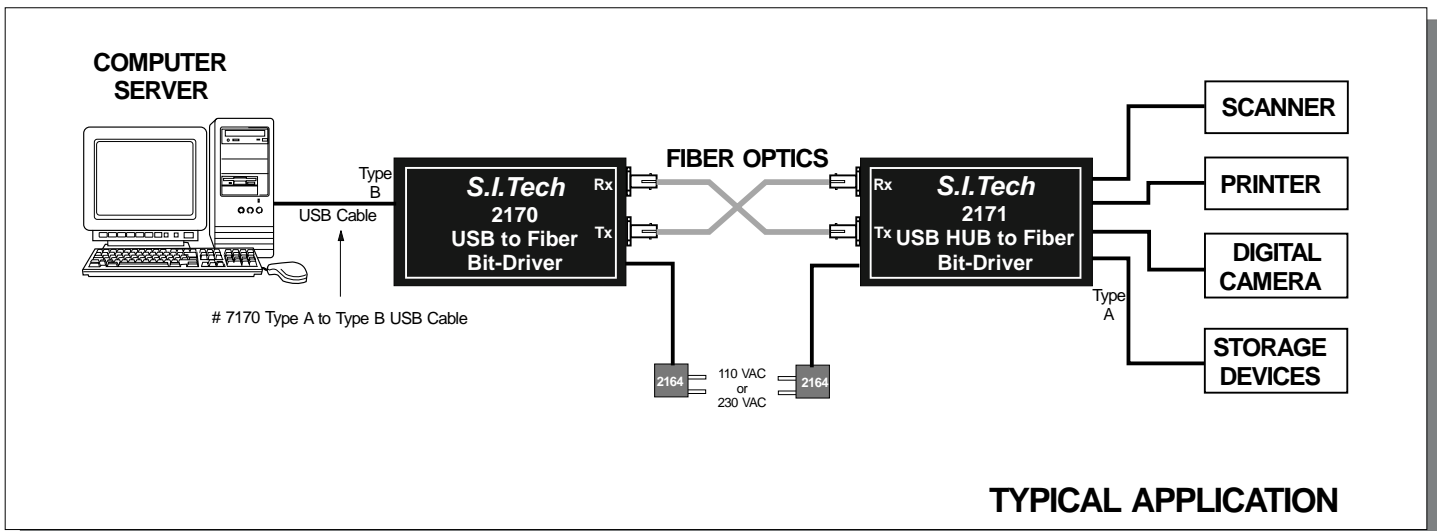
OPERATING DISTANCE FOR FIBER OPTIC CABLE

Fiber Size (Microns)	Attenuation dB/Km	Distance Meters	Distance Feet
50	3.0	2000	6600
62.5	4.0	2000	6600
10**	1.0	5000	16000

**Single mode option - 1300nm (observe network timing restrictions)

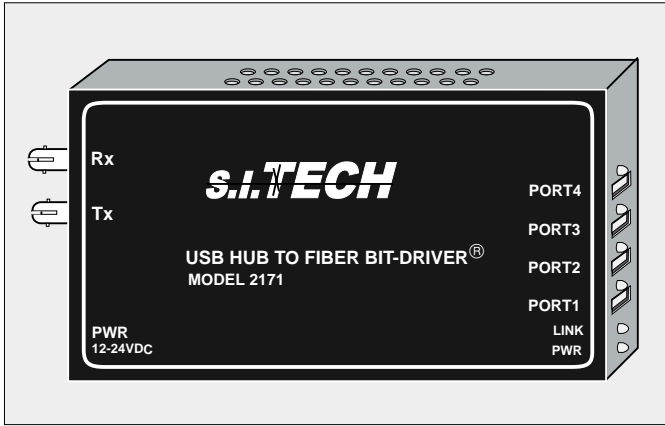
Optical Unit Connection: Connect the optical transmission line to the T and R receptacles. Note which cable channel goes to T or R by noting cable imprint. On the other end, reverse the connections.

*Meets FCC requirements of Class A, Part 15 Computing Devices Standard, USB Standard.
Specifications subject to change without notice.*



TYPICAL APPLICATION

USB HUB to Fiber Optic Media Converter



Features:

- Supports USB 1.1 over fiber
- Small size
- Four USB HUB Ports
- Power, Link Status, and Host LED indicators
- ST optical connections (SC option for Single Mode)
- Transparent to Windows operating system - Not detectable

S.I.Tech 2170/2171 USB media converter pair extends the range of USB 1.1 beyond the USB 5 meter limit. The USB media converters are compliant with the USB 1.1 specification supporting low speed (1.5 Mbps) and high speed (12 Mbps) USB data transfer.

The 2170/2171 are not detected as new hardware but provide a 4-port USB HUB at distances up to 2 Km over fiber optic cable. The 2170 connects to host PC through USB type B connector. The 2171 connects to USB peripherals through USB type A connector.

- Operation Mode:** USB 1.1
- Input/Output Interface:** USB 1.1 Type A
- Transmission Line Interface:** ST optical connector is standard
- Transmission Distance:** See distance chart
- Transmitter Output Power:** 25 μ w into 62.5/125 micron fiber
- System Wavelength:** 850nm (1300nm option)
- Bit Error Rate:** 10⁻⁹
- Receiver Sensitivity:** 2 μ w
- Operating Temperature:** 0 °C to 50 °C
- Weight:** 1.0 lb (454 grams)
- Input Power:** External with power supply (S.I.Tech #2164 - 100 to 240 VAC, 50/60 Hz, to 12VDC, UL, CSA, CE, & TUVGS Listed)
- Metal Enclosure:** 5.75" X 3.8" X 1.63" (14.6 X 9.6 X 4.2 cm)

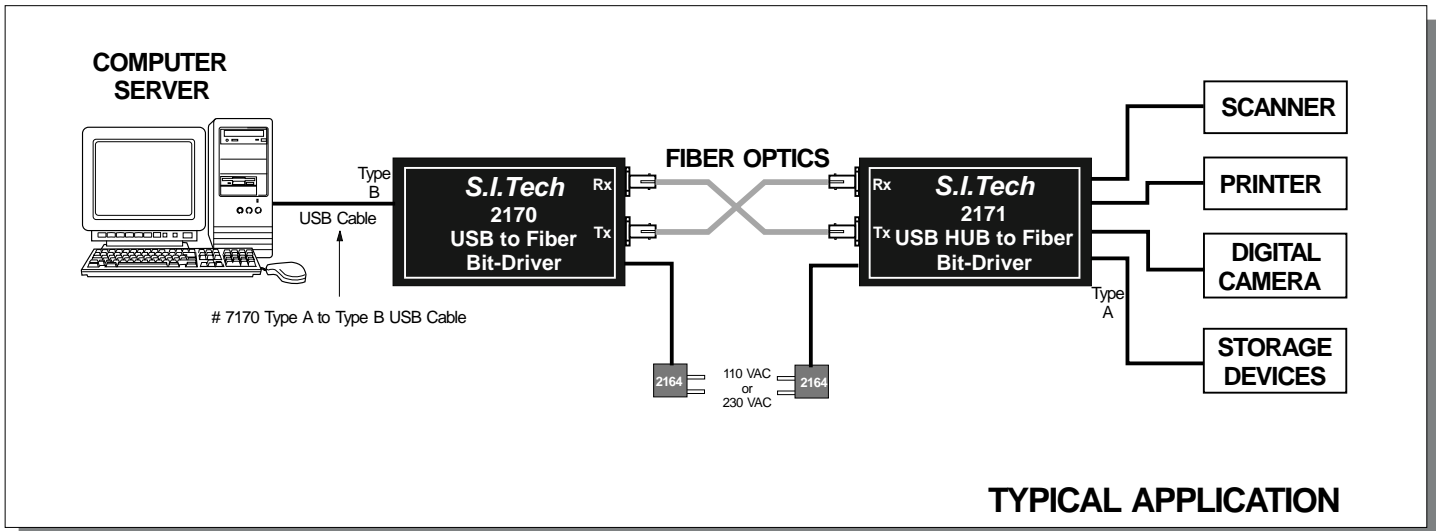
OPERATING DISTANCE FOR FIBER OPTIC CABLE

Fiber Size (Microns)	Attenuation dB/Km	Distance Meters	Distance Feet
50	3.0	2000	6600
62.5	4.0	2000	6600
10**	1.0	5000	16000

**Single mode option - 1300nm (observe network timing restrictions)

Optical Unit Connection: Connect the optical transmission line to the T and R receptacles. Note which cable channel goes to T or R by noting cable imprint. On the other end, reverse the connections.

Meets FCC requirements of Class A, Part 15 Computing Devices Standard, USB Standard. Specifications subject to change without notice.

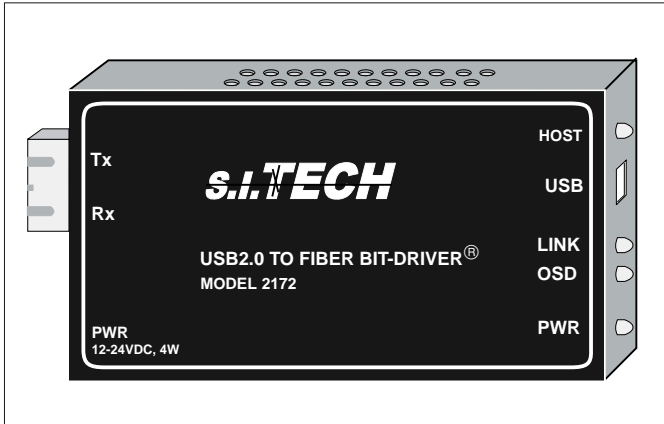


TYPICAL APPLICATION

Model 2172



USB2.0 to Fiber Optic Media Converter



Features:

- Supports USB 2.0 over fiber
- Small size
- Power, Optical Signal Detect, Link Status, and Host LED indicators
- SC optical connectors

S.I.Tech 2172/2173 USB media converter pair extends the range of USB 2.0 beyond the USB 5 meter limit. The USB media converters are compliant with the USB 2.0 specification supporting low speed(1.5 Mbps), full speed(12 Mbps), and high speed(480 Mbps) USB data transfer.

The 2172/2173 are detected as generic USB hub and provide a 4-port USB hub at distances up to 2 Km over fiber optic cable. The 2172 connects to host PC through USB type B connector. The 2173 connects to USB peripherals through USB type A connector.

- Operation Mode:** USB 2.0
- Input/Output Interface:** USB Type B
- Transmission Line Interface:** SC optical connector is standard
- Transmission Distance:** See distance chart
- Transmitter Output Power:** MMF -17dBm (20 μ w) typical
62.5micron SMF -11dBm typical
- System Wavelength:** 850 or 1300 nm
- Data Rate:** 1.5, 12, and 480 Mbps
- Bit Error Rate:** 10^{-9}
- Receiver Sensitivity:** MMF(850nm) 1.2 μ w
MMF(1300nm) -29 dBm typical
SMF(1300nm) -32 dBm typical
- Operating Temperature:** 0 °C to 70 °C
- Weight:** 1.0 lb (454 grams)
- Input Power:** 9 - 28VDC 7W max
External with power supply - 4W typical (S.I.Tech #2164 - 100 to 240 VAC, 50/60 Hz, to 12VDC, UL, CSA, CE, & TUVGS Listed)
- Metal Enclosure:** 5.75" X 3.8" X 1.63"
(14.6 X 9.6 X 4.2 cm)

OPERATING DISTANCE FOR FIBER OPTIC CABLE

Fiber Size (Microns)	Attenuation dB/Km		Bandwidth MHz/Km		Distance Meters		Distance Feet	
	850nm	1300nm	850nm	1300nm	850nm	1300nm	850nm	1300nm
50	3.0	1.5	600	600	1000	1000	3300	3300
62.5	4.0	1.5	200	600	400	1000	1300	3300
10 SM	Unspecified	0.4	Unspecified	Unspecified	-	5000	-	16000

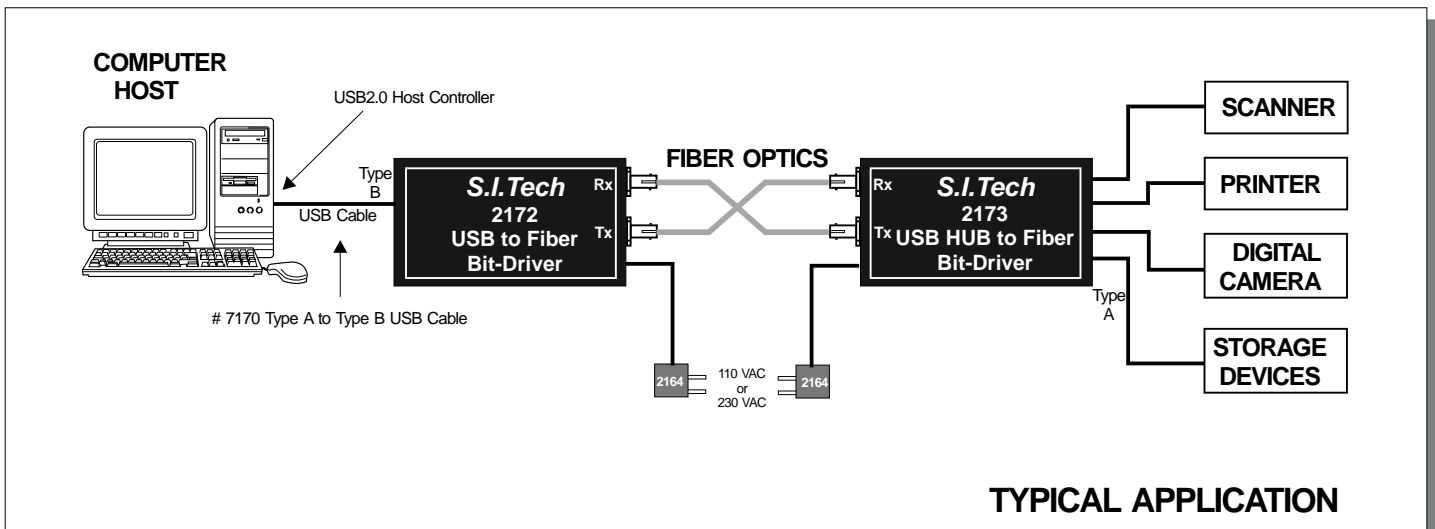
SM - Single mode option - 1300nm (Application limits may be exceeded)
Optical Unit Connection: Connect the optical transmission line to the T and R receptacles. Note which cable channel goes to Tx or Rx by noting cable imprint. On the other end, reverse the connections.

Meets FCC requirements of Class A, Part 15 Computing Devices Standard, USB Standard.

Specifications subject to change without notice.

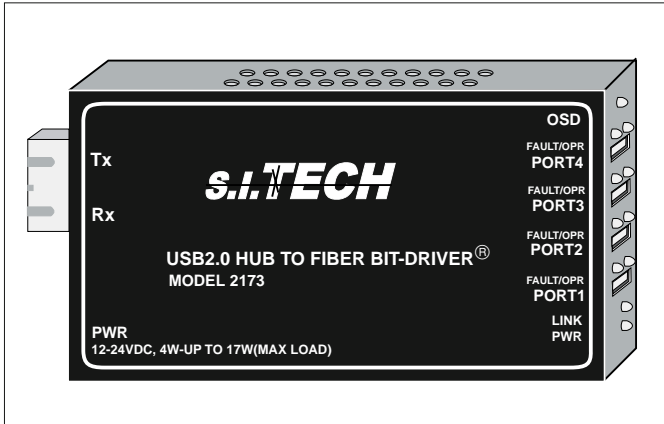


Note: 2172/2173 require USB2.0 root hub support from USB 2.0 host controller. The USB 2.0 host controller will be identified in the Windows Device Manager as "Enhanced" or EHCI controller.



TYPICAL APPLICATION

USB2.0 to Fiber Optic Media Converter



Features:

- Supports USB 2.0 over fiber
- Small size
- Four USB Hub Ports, each hub port provides attached device with 5VDC power (up to 500ma)
- Power, Optical Signal Detect, Link Status, and Device port status LED indicators
- SC optical connectors

S.I.Tech 2172/2173 USB media converter pair extends the range of USB 2.0 beyond the USB 5 meter limit. The USB media converters are compliant with the USB 2.0 specification supporting low speed(1.5 Mbps), full speed(12 Mbps), and high speed(480 Mbps) USB data transfer.

- Operation Mode:** USB 2.0
- Input/Output Interface:** USB Type A
- Transmission Line Interface:** SC optical connector is standard
- Transmission Distance:** See distance chart
- Transmitter Output Power:** MMF -17dBm (20 μw) typical
62.5 micron SMF -11dBm typical
- System Wavelength:** 850 or 1300 nm
- Data Rate:** 1.5, 12, and 480 Mbps
- Bit Error Rate:** 10⁻⁹
- Receiver Sensitivity:** MMF(850nm) 1.2 μw
MMF(1300nm) -29 dBm typical
SMF(1300nm) -32 dBm typical
- Operating Temperature:** 0 °C to 70 °C
- Weight:** 1.0 lb (454 grams)
- Input Power:** 9 - 28VDC *See note
External with power supply (S.I.Tech #2164 - 100 to 240 VAC, 50/60 Hz, to 12VDC, UL, CSA, CE, & TUVGS Listed)
- Metal Enclosure:** 5.75" X 3.8" X 1.63"
(14.6 X 9.6 X 4.2 cm)

* Note: 2173 4watts typical, 7watts max, additional USB device power (5V, up to 500ma) can increase 2173 input power to 19watts

The 2172/2173 are detected as generic USB hub and provide a 4-port USB hub at distances up to 2 Km over fiber optic cable. The 2172 connects to host PC through USB type B connector. The 2173 connects to USB peripherals through USB type A connector.

OPERATING DISTANCE FOR FIBER OPTIC CABLE

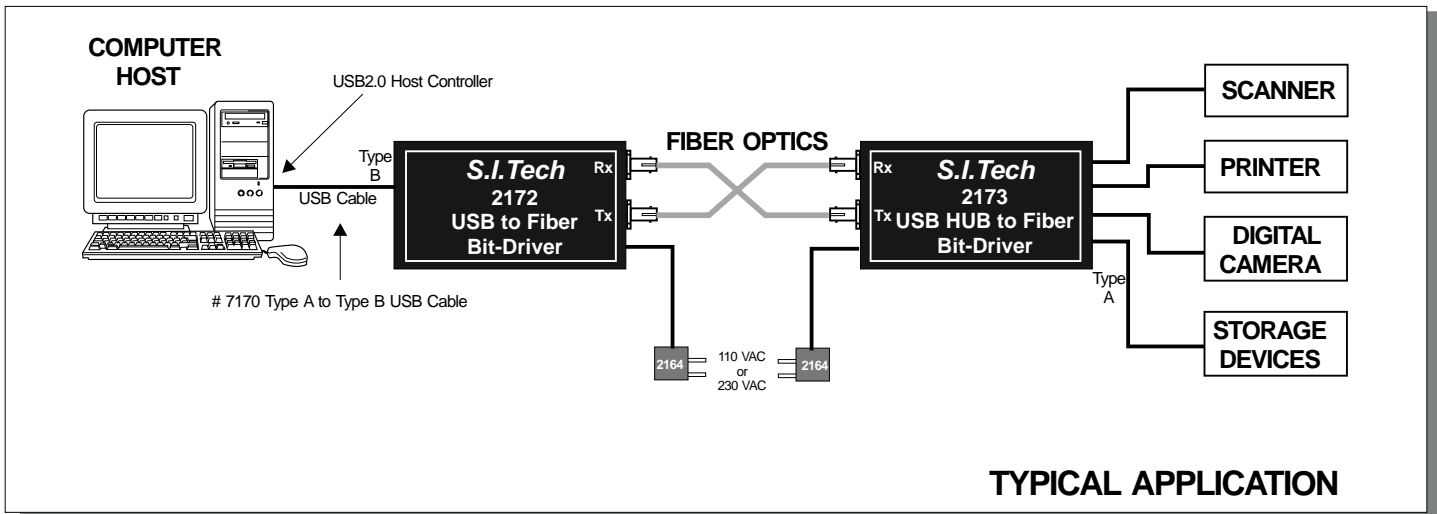
Fiber Size (Microns)	Attenuation dB/Km		Bandwidth MHz/Km		Distance Meters		Distance Feet	
	850nm	1300nm	850nm	1300nm	850nm	1300nm	850nm	1300nm
50	3.0	1.5	600	600	1000	1000	3300	3300
62.5	4.0	1.5	200	600	400	1000	1300	3300
10 SM	Unspecified	0.4	Unspecified	Unspecified	-	5000	-	16000

SM - Single mode option - 1300nm (Application limits may be exceeded)
Optical Unit Connection: Connect the optical transmission line to the T and R receptacles. Note which cable channel goes to Tx or Rx by noting cable imprint. On the other end, reverse the connections.

*Meets FCC requirements of Class A, Part 15 Computing Devices Standard, USB Standard.
Specifications subject to change without notice.*



Note: 2172/2173 require USB2.0 root hub support from USB 2.0 host controller. **The USB 2.0 host controller will be identified in the Windows Device Manager as "Enhanced" or EHCI controller.**

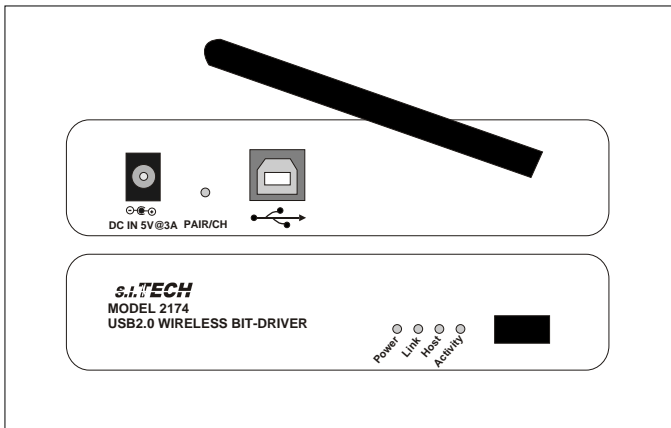


TYPICAL APPLICATION

Model 2174



USB2.0 Wireless Bit - Driver - Local Extender



Features:

- Supports USB1.0, USB1.1, and USB 2.0, IEEE 802.11g, 2.4Ghz band
- Miniature size
- Power, Link Status, and Host Activity and IR port LED indicators
- No software drivers required
- 30 meter (100 ft) - For longer distance use S.I.Tech 2172/2173 fiber link

S.I.Tech 2174/2175 USB media pair extends the range of USB 2.0 beyond the USB 5 meter limit. The 2174 and 2175 are wireless and use radio waves for data transmission.

The 2174/2175 are listed as Generic USB hub and provide a 4-port USB hub at distances up to 30 m over radio waves. The 2174 connects to host PC through USB type B connector. The 2175 connects to USB peripherals through USB type A connector.

- Operation Mode:** USB 2.0
- Input/Output Interface:** USB Type B
- Transmission Distance:** Up to 30 m (100 ft)
- Data Rate:** 54Mbps* (IEEE 802.11g)
- Operating Temperature:** 4 °C to 40 °C
- Weight:** 0.4 lb (180 grams)
- Input Power:** 5VDC@3A
External with power supply (S.I.Tech #2165-100 to 240 VAC, 50/60Hz, to 5VDC, UL, CE, & TUVGS Listed)
- Metal Enclosure:** 4.33" X 2.72" X1.1"
(11 X 6.9 X 2.8 cm)

Spec. Compliance:

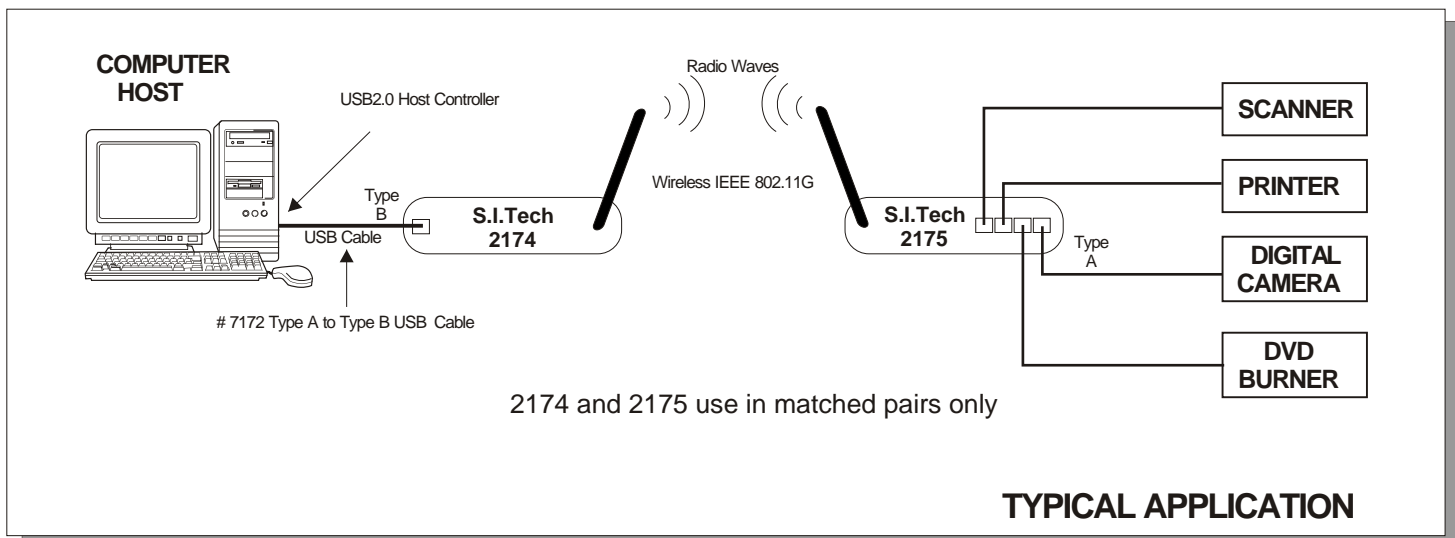
1. R and TTE directive 1999/5/EC
2. EN 301 489-1 301 489-17
3. General EMC requirements for radio equipment.
4. EN 609 50 safety.
5. EN 300-328 technical requirements for radio equipment.
6. Canadian ICES-003 and RSS210 rules.
7. IEEE 802.11G radio platform to wirelessly communicate in 2.4GHz band.

* Due to data rate limitations, not all USB devices are compatible, especially devices using bulk transfer.

Meets FCC requirements of Class B, Part 15 Computing Devices Standard, USB Standard, IC. CE Class B. Specifications subject to change without notice.



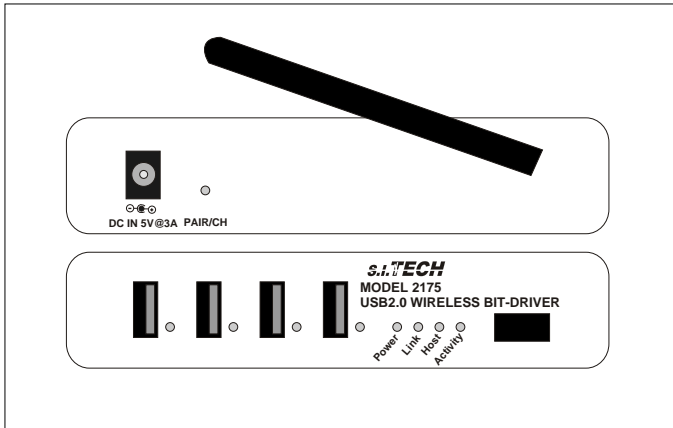
Note: 2174/2175 require USB2.0 root hub support from USB 2.0 host controller. The USB 2.0 host controller will be identified in the Windows Device Manager as "Enhanced" or EHCI controller. [USB1.1 UHCI and OHCI, USB2.0 EHCI]



Model 2175



USB2.0 Wireless Bit - Driver - Remote Extender Hub



Features:

- Supports USB 2.0 over radio waves
- Miniature size
- Four USB hub ports, each hub port provides attached device with 5VDC power (up to 500 mA)
- Power, Link Status, Host Activity and IR port LED indicators
- No software drivers required
- 30 meter (100 ft) - For longer distance use S.I.Tech 2172/2173 fiber link

S.I.Tech 2174/2175 USB media pair extends the range of USB 2.0 beyond the USB 5 meter limit. The 2174 and 2175 are wireless and use radio waves for data transmission.

The 2174/2175 are listed as generic USB Hub and provide a 4-port USB hub at distances up to 30 m over radio waves. The 2174 connects to host PC through USB type B connector. The 2175 connects to USB peripherals through USB type A connector.

Spec. Compliance:

1. R and TTE directive 1999/5/EC
2. EN 301 489-1 301 489-17
3. General EMC requirements for radio equipment.
4. EN 609 50 safety.
5. EN 300-328 technical requirements for radio equipment.
6. Canadian ICES-003 and RSS210 rules.
7. IEEE 802.11G radio platform to wirelessly communicate in 2.4GHz band.

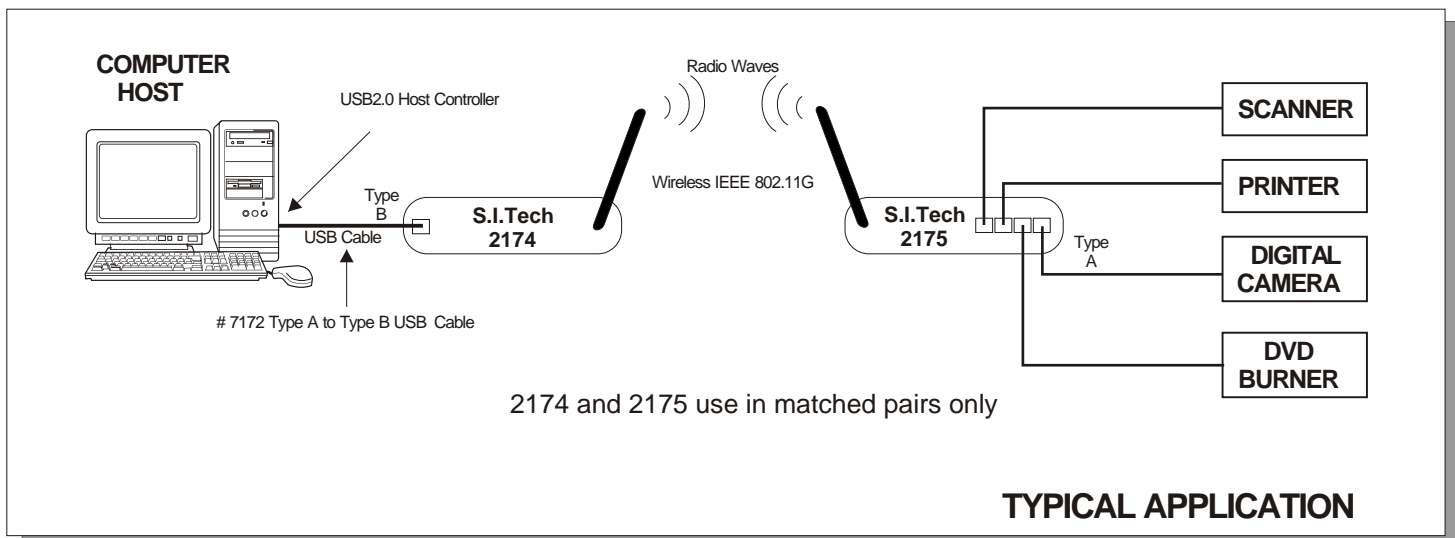
- Operation Mode:** USB 2.0
- Input/Output Interface:** USB Type A
- Transmission Distance:** Up to 30 m (100 ft)
- Data Rate:** 54Mbps (IEEE 802.11G)*
- Operating Temperature:** 4 °C to 40 °C
- Weight:** 0.45 lb (200 grams)
- Input Power:** 5VDC@3A
External with power supply (S.I.Tech #2165-100 to 240 VAC, 50/60Hz, to 5VDC, UL, CE, & TUVGS Listed)
- Metal Enclosure:** 4.33" X 2.72" X 1.1"
(11 X 6.9 X 2.8 cm)

* Due to data rate limitations, not all USB devices are compatible, especially devices using bulk transfer.

Meets FCC requirements of Class B, Part 15 Computing Devices Standard, USB Standard, IC. CE Class B. Specifications subject to change without notice.



Note: 2174/2175 require USB2.0 root hub support from USB 2.0 host controller. The USB 2.0 host controller will be identified in the Windows Device Manager as "Enhanced" or EHCI controller. [USB1.1 UHCI and OHCI, USB2.0 EHCI]



TYPICAL APPLICATION

USB2.0 to Fiber Optic Media Converter



Features:

- Supports USB 2.0 over fiber
- Smaller and Compact size than 2172
- Power, Link Status, and Host LED indicators
- LC optical connectors
- Din Rail Mounting
- Connects to UHCI, OHCI and EHCI Host
- Improved Operation for Vista Operating System
- Supports USB 1.1 and 2.0 Host Controller
- Works with National Instrument Controllers

S.I.Tech 2181/2182 USB media converter pair extends the range of USB 2.0 beyond the USB 5 meter limit. The USB media converters are compliant with the USB 2.0 specification supporting low speed(1.5 Mbps), full speed(12 Mbps), and high speed(480 Mbps) USB data transfer.

The 2181/2182 are enumerated as generic USB hub and provide a 4-port USB hub at distances up to 2 Km over fiber optic cable. The 2181 connects to host PC through USB type B connector. The 2182 connects to USB peripherals through USB type A connector.

- Operation Mode:** USB 2.0
- Input/Output Interface:** USB Type B
- Transmission Line Interface:** LC optical connector is standard
- Transmission Distance:** See distance chart
- Transmitter Output Power:** MMF -9dBm Minimum
62.5micron
SMF -9dBm Minimum
- System Wavelength:** 850 or 1300 nm
- Data Rate:** 1.5, (USB 1.0) 12,(USB 1.1) and 480 (USB 2.0) Mbps
- Bit Error Rate:** 10⁻⁹
- Receiver Sensitivity:** MMF(850nm) -17 dBm minimum
MMF(1300nm) -20 dBm minimum
SMF(1300nm) -20 dBm minimum
- Operating Temperature:** 0 °C to 70 °C
- Weight:** 0.75 lb (340 grams)
- Input Power:** 5VDC
External with power supply - 5W typical (S.I.Tech #2166 - 100 to 240 VAC, 50/60 Hz, to 5VDC, UL, CE, & TUVGS Listed)
- Metal Enclosure:** 4.75" X 3.75" X 1.000"

OPERATING DISTANCE FOR FIBER OPTIC CABLE

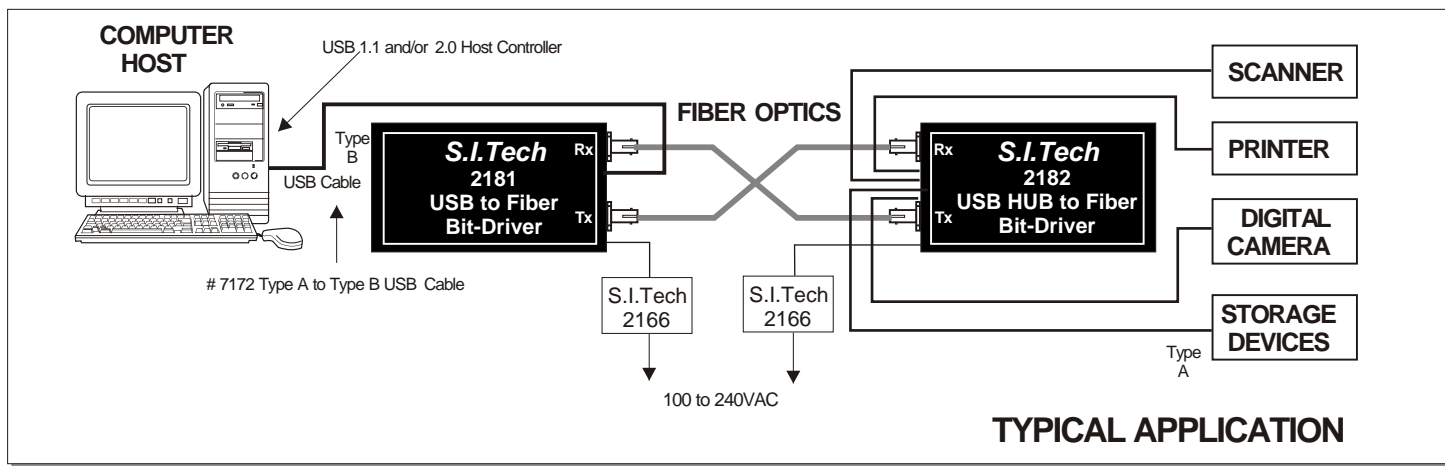
Fiber Size (Microns)	Attenuation dB/Km		Bandwidth MHz/Km		Distance Meters		Distance Feet	
	850nm	1300nm	850nm	1300nm	850nm	1300nm	850nm	1300nm
50	3.0	1.5	600	600	500	600	1650	1800
62.5	4.0	1.5	200	600	275	600	900	1800
10 SM	Unspecified	0.4	Unspecified	Unspecified	-	5000	-	16000

SM - Single mode option - 1300nm (Application limits may be exceeded)
Optical Unit Connection: Connect the optical transmission line to the T and R receptacles. Note which cable channel goes to Tx or Rx by noting cable imprint
If you are using Laser Enhanced multimode fiber, depending upon its bandwidth, longer distances maybe possible..

*Meets FCC requirements of Class A, Part 15 Computing Devices Standard, USB Standard.
Specifications subject to change without notice.*



Note: 2181/2182 require USB2.0 root hub support from USB 2.0 host controller. The USB 2.0 host controller will be identified in the Windows Device Manager as "Enhanced" or EHCI controller.



USB2.0 to Fiber Optic Media Converter



Features:

- Supports USB 2.0 over fiber
- Smaller size and Compact than 2173
- Four USB Hub Ports, each hub port provides attached device with 5VDC power (up to 500mA)
- Power, Optical Signal Detect, Link Status, and Device port status LED indicators
- LC optical connectors
- Din Rail Mounting
- Improved Operation for Vista Operating System
- Supports USB 1.1 and USB 2.0 controller
- Works with National Instrument controllers

- Operation Mode:** USB 2.0
- Input/Output Interface:** USB Type A
- Transmission Line Interface:** LC optical connector is standard
- Transmission Distance:** See distance chart
- Transmitter Output Power:** MMF -9dBm Minimum
62.5micron
SMF -9dBm Minimum
- System Wavelength:** 850 or 1300 nm
- Data Rate:** 1.5, (USB 1.0) 12,(USB 1.1) and 480 (USB 2.0) Mbps
- Bit Error Rate:** 10⁻⁹
- Receiver Sensitivity:** MMF(850nm) -17dBm Minimum
MMF(1300nm) -20dBm Minimum
SMF(1300nm) -20dBm Minimum
- Operating Temperature:** 0 °C to 70 °C
- Weight:** 0.75 lb (340 grams)
- Input Power:** 5VDC
External with power supply - 5W typical (S.I.Tech #2166 - 100 to 240 VAC, 50/60 Hz, to 5VDC, UL, CE, & TUVGS Listed)
- Metal Enclosure:** 4.75" X 3.75" X 1.000"

S.I.Tech 2181/2182 USB media converter pair extends the range of USB 2.0 beyond the USB 5 meter limit. The USB media converters are compliant with the USB 2.0 specification supporting low speed(1.5 Mbps), full speed(12 Mbps), and high speed(480 Mbps) USB data transfer.

The 2181/2182 are enumerated as generic USB hub and provide a 4-port USB hub at distances up to 2 Km over fiber optic cable. The 2181 connects to host PC through USB type B connector. The 2182 connects to USB peripherals through USB type A connector.

OPERATING DISTANCE FOR FIBER OPTIC CABLE

Fiber Size (Microns)	Attenuation dB/Km		Bandwidth MHz/Km		Distance Meters		Distance Feet	
	850nm	1300nm	850nm	1300nm	850nm	1300nm	850nm	1300nm
50	3.0	1.5	600	600	500	600	1650	1800
62.5	4.0	1.5	200	600	275	600	900	1800
10 SM	Unspecified	0.4	Unspecified	Unspecified	-	5000	-	16000

SM - Single mode option - 1300nm (Application limits may be exceeded)
Optical Unit Connection: Connect the optical transmission line to the T and R receptacles.
Note which cable channel goes to Tx or Rx by noting cable imprint.
If you are using Laser Enhanced multimode fiber, depending upon its bandwidth, longer distances maybe possible.

*Meets FCC requirements of Class A, Part 15 Computing Devices Standard, USB Standard.
Specifications subject to change without notice.*



Note: 2181/2182 require USB2.0 root hub support from USB 2.0 host controller.
The USB 2.0 host controller will be identified in the Windows Device Manager as "Enhanced" or EHCI controller.

Note: 2182 5 watts typical, additional USB devices power (5V, up to 500ma) can increase 2182 power to 16 watts.

