RS-232 to Fiber Solutions

01/03/25

Stand Alone Bit-Driver®

Mini Bit-Driver®

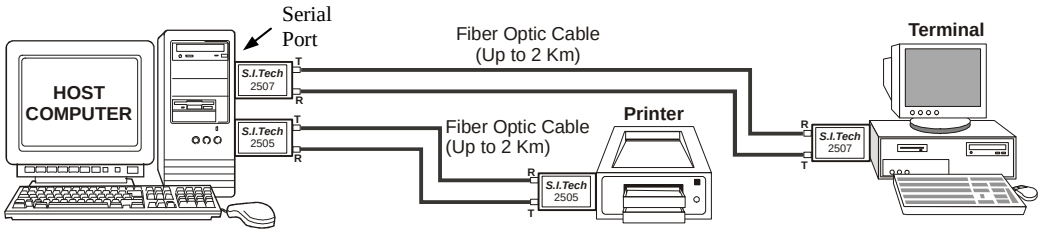
Ruggedized Bit-Driver®

USA & International Headquarters
1101 N. Raddant Road
Batavia, IL 60510
Phone: (630) 761-3640 Fax: (630) 761-3644
Web Site: http://www.sitech-bitdriver.com

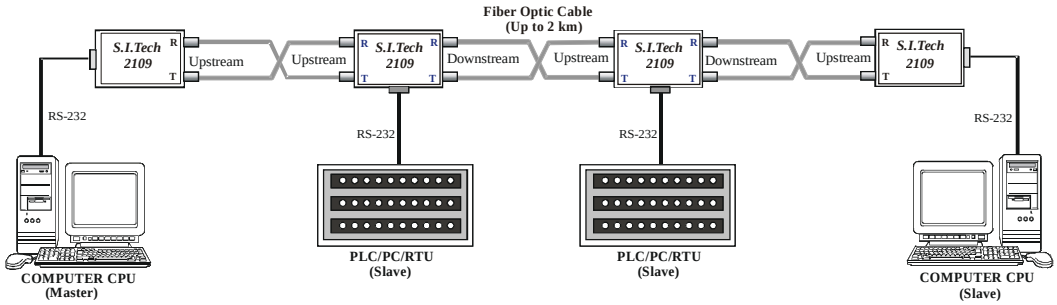
RS-232 Products

RS-232 PRODUCTS

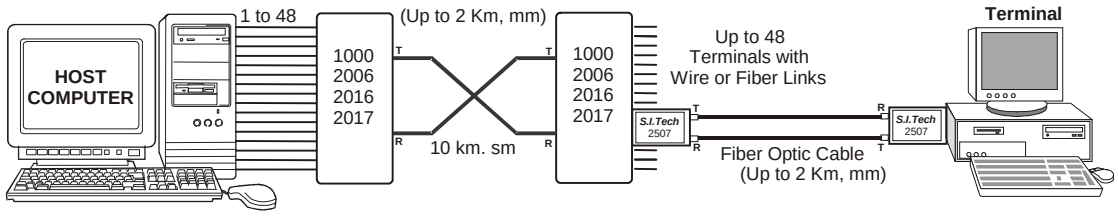
1. Point to Point:



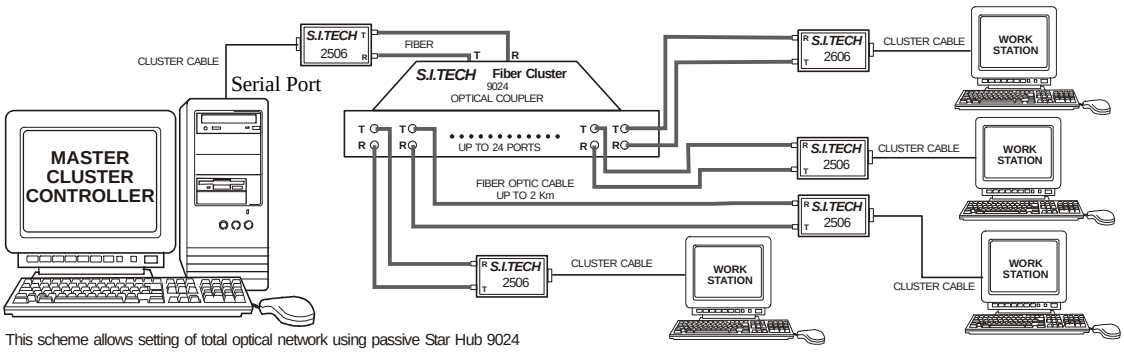
2. Multidrop:



3. Remote Terminal Cluster Using Multiplexers:

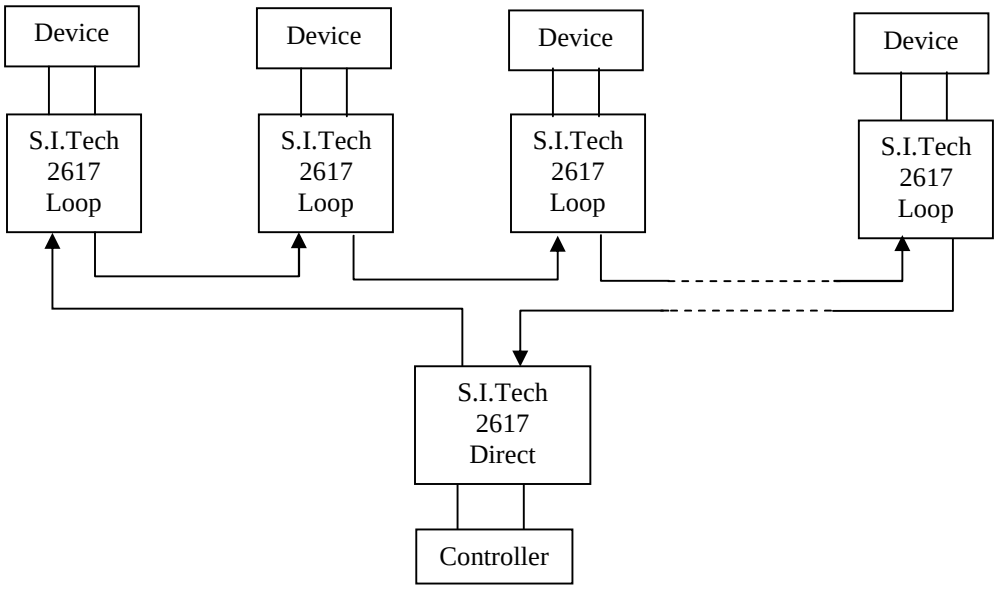


4. User Clusters:



S.I. Tech Inc., Batavia, IL 60510 Phone: (630) 761-3640 Fax: (630) 761-3644
Web Site: http://www.sitech-bitdriver.com

5. Ring (Loop)



6. Opto Isolated

RS-232

S.I. Tech's business and original developments started with RS-232 or so called serial communications. In early 1980, with the need for computerization of various processes, offices, and businesses there was an increasing use of the serial port. It was apparent that longer distance communications was not possible as wire and cables of the day were very limited in data communication capabilities.

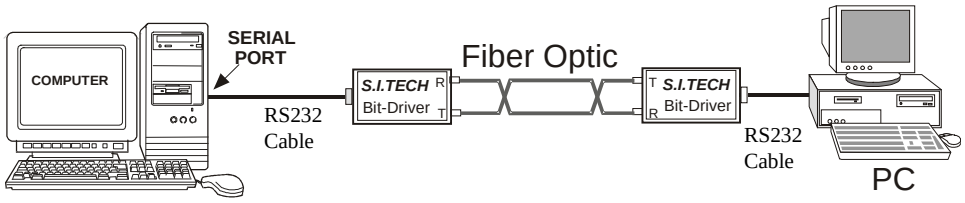
Belden and subsequently S.I.Tech were first to develop affordable fiber optic data communications. The first products were tested and approved by Bell Labs, DEC, and others. S.I.Tech has continued this tradition of developing new and different applications of fiber optics technology. S.I.Tech also develops OEM oriented products for very specific applications such as Energy Management Systems, POS Systems, and Process Control.

While S.I.Tech has concentrated on data communications with recent trends of merging datacom and telecommunications, many LAN/WAN products combine these capabilities.

RS-232 SPECIFICATION: Electronic Industries Association (EIA) and American National Standards Institute (ANSI) have issued EIA-232 standard for "Interface between Data Terminal Equipment (such as a computer) and Data Circuit Terminating Equipment Employing Serial Binary Data Interchange".

This standard is also covered under International Standard such as CCITT V.24, V.28, and ISO IS 2110.

Comparisons of various RS-232 products available from S.I. Tech can be found on the following pages. Specific technical data sheets can be viewed from the S.I. Tech web site, **http://www.sitech-bitdriver.com**.



RS-232 CONNECTOR

EIA-232 (formerly RS-232, which it is called by most of the industry and which it is called in S.I. Tech literature) is a standard for the interface between data terminal equipment (DTE) and data circuit terminating equipment (DCE), employing serial binary data exchange.

The standard calls for a specific 25-position connector that is called DB-25 in S.I. Tech literature. The standard also specifies that the female connector shall be part of the DCE. In general, S.I. Tech RS-232 Bit-Drivers® are DCE's and the connectors, as shown in Tables A, B, and C under "Data Connection" are DB-25F.

Contact numbering for DB-25F and DB-25M is shown in Figure 1. RS-232 assigns a function to each contact as shown in Table 1 but allows for non-standard pinouts for special applications. Individual data sheets for each S.I. Tech Bit-Driver product indicates the RS-232 pinouts for that product.

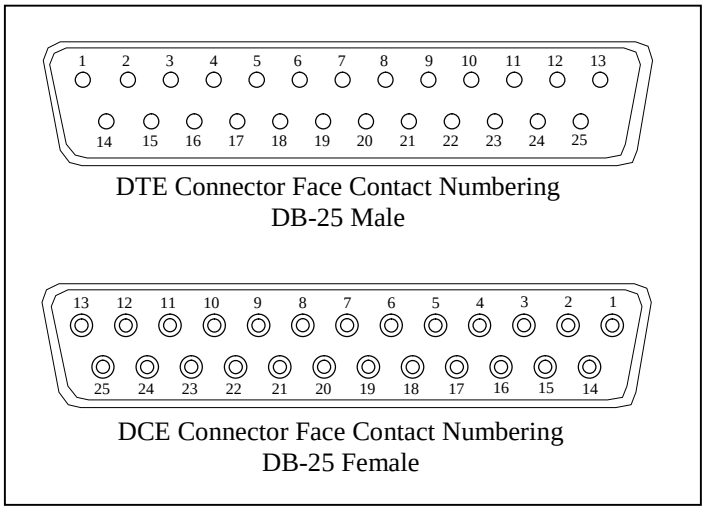


Figure 1. Contact Numbering for DB-25 M and DB-25 F

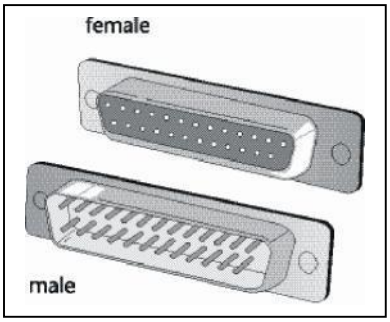


Figure 2. DB-25 F and DB-25 M Connector

Interchange circuits between DTE and DCE fall into four general categories:

Ground or Common Return
Data Circuits
Control Circuits
Timing Circuits

Strictly speaking, two-way data communication can be maintained using only 3 pins:

Pin 2 - Transmitted Data
Pin 3 - Received Data
Pin 7 - Signal Ground

Everything else depends on the requirements of the DTE. For example, if the terminal needs to transmit a "request to send" and receive a "clear to send" before it can send data, some Bit-Drivers connect pin 4 directly to pin 5, while others include a delay circuit between 4 and 5.

It must be remembered that most DTE are configured to communicate with each other using modems (modulators-demodulators) so that telephone lines can be employed, and that the modems include circuitry directing the output from pin 2 of the near DTE to pin 3 of the far DTE and vice-versa so that you don't have two "transmit"circuits trying to talk to each other. If two DTE are adjacent, a "null modem" cable having DB-25F connectors at both ends and the proper pinout changes to permit communication as if modems were present, can be used.

S.I. Tech Bit-Drivers are intended to replace modems and telephone cable with fiber optic cable (or in some cases dedicated copper cable) and they perform the cross-connection functions of a modem. Simply unplug the DTE RS-232 cable from the modem and plug it into the Bit-Driver at each end of the circuit.

TABLE 1
PIN NUMBER ASSIGNMENTS FROM RS-232-C
DB-25 CONNECTOR

DB9 Pin No.	DB25 Pin No.	DESCRIPTION AND ABBREVIATION		TYPICAL BIT-DRIVER® PINOUTS ASYNCHRONOUS	SYNCHRONOUS
	1	Protective Ground		X	X
3	2	Transmitted Data	TD	X	X
2	3	Received Data	RD	X	X
7	4	Request To Send	RTS	X	X
8	5	Clear To Send	CTS	X	X
6	6	Data Set Ready	DSR	X	X
5	7	Signal Ground	G	X	X
1	8	Received Line Signal Detector	DCD	X	X
	9	Reserved for Testing or Host-Powered Positive Voltage	12VDC	Mini	Mini
	10	Reserved For Testing			
	11	Unassigned			
	12	Secondary Received Line Signal Detector			
	13	Secondary Clear To Send			
	14	Secondary Transmitted Data			
	15	Transmitter Signal Element Timing (DCE Source)			X
	16	Secondary Received Data			
	17	Receiver Signal Element Timing (DCE Source)			X
	18	Unassigned			
	19	Secondary Request To Send			
4	20	Data Terminal Ready	DTR	X	X
	21	Signal Quality Detector			
9	22	Ring Indicator			
	23	Data Signal Rate Selector (DTE/DCE Source)			
	24	Transmitter Signal Element Timing (DTE Source)			X
	25	Unassigned			

NOTES:

1. EIA-232-D changes Pin 1 Description to “shield” and adds certain test functions which are not implemented in S.I. Tech RS-232 Bit-Drivers®.
2. These are Typical – See Individual Data Sheets for Exact Information

TABLE A

RS-232 TO FIBER BIT-DRIVERS® (MODEMS)

Model No.	Package				Max. Data Rate Kbps	Data Format			Power Option*	Data Connector**	Fiber Connection (Multimode)	Point to Point	Multidrop	Distance *** km			Multimode**** System Wavelength (SM-1300nm) nm	Weight LB/KG	Single Mode Connector *****	Remarks
	Stand Alone	Mini	Rugg-dized	Rack Mount Card		Async	Sync	Control Signals						2	5	10	20			
2005	√				56	√			1/2	DB-25 F	ST/SMA	√		√	√	√	√	880	3/1.4	ST/FC	Async Plus Diagnostics
2036	√				64	√	√	√	1/2	DB-25 F	ST/SMA	√		√	√	√	√	820	3/1.4	ST/FC	High Speed RS-232
2109		√			19.2	√			4	DB-25 F	ST/SMA	√	√	√	√	√	√	820	0.25/0.1	ST/FC	Async - Fiber In/Out, RS-232 Drop
2139		√			19.2	√		√	4	-	SMA/ST/ST		√	√	√	√	√	660/820	0.25/0.1	ST/FC	Async - Fiber on all side
2282		√			115	√		√	6	DB-9 F/M		√		–	–	–	–	–	0.6/0.3	-	Opto Isolated RS232 to RS232 ITU V.28
2360				√	115	√			1,2	DB-25 F	ST/SMA	√		√	√	√	√	820	0.5/0.2	ST/FC	2560 Card Version
2503		√			19.2	√	√	√	6	DB-25 M	ST/SMA	√		√				820	0.25/0.1	-	Async/Sync Plus Control
2505		√			115	√			6	DB-25 M/F/9	ST/SMA	√		√	√			880	0.25/0.1	-	Async Mini
2506		√			19.2	√		√	6	DB-25 M/F	ST/SMA	√		√	√			820	0.25/0.1	-	Async Plus Controls
2507		√			19.2	√			Host	DB-25 M/F	ST/SMA	√		√				820	0.25/0.1	-	Host Power
2512		√			76	√			6	DB-25 M/F	ST/SMA	√		√				880	0.25/0.1	-	2506 Mark and Space Reversed******
2515		√			76	√			6	DB-25 M/F/9	ST/SMA	√		√				880	0.25/0.1	-	2505 Mark and Space Reversed******
2517		√			19.2	√			Host	DB-25 M/F	ST/SMA	√		√				820	0.25/0.1	-	2507 Mark and Space Reversed******
2557		√			115	√			9	DB-25 M	ST/SMA	√		√				880	0.25/0.1	-	2505 +5v Power
2560	√		√		115	√		√	1,2,3,10	DB-25 F	ST/SMA	√		√	√	√	√	820	0.9/0.4	ST/FC	Async - Ruggedized, IEEE/IEC
2563		√			115	√			6	DB-25 F	ST/SMA	√		√				820	0.4/0.2	ST/FC	Async - RS232/422/485
2607		√			115	√			6	DB-25 F	ST/SMA	√		√	√	√	√	820	0.25/0.1	ST/FC	Async - Extended Temp
2617		√			57	√			6	DB-9 F	ST/SMA	√	Loop	√	√	√	√	820	0.6/0.3	ST/FC	Async - Ruggidized, Ext Temp, Loop
2834				√	64/115	√	√	√	3	DB-25 S	ST/SMA	√		√	√	√	√	820	6/2.7	ST/FC	1 RS232 + 1 E1 Channel, 1U Rack
3503		√			19.2	√	√	√	7	DB-25 M	ST/SMA	√		√				820	0.4/0.2	-	Async/Sync Plus Controls - Tempest
Kit #1																					Mini Kit (2505)
Kit #8																					Vulcan RS232 (2005) Kit
Kit#17																					2560 SM(1310)&2560 SM(1550 WDM Kit

* Power Options: See Power Options and How to Order p.106

** Pin outs are specified in RS-232 pin out chart and data sheets

Temperature range 0 - 50 degrees C unless shown otherwise.

Extended Temperature (ET) range available on some products.

*** Distance: 2 km - STD, 5 km - L, 10 km - XL, 20 km - UL.

**** Use one wavelength throughout system

***** Only Models having fiber connector entry in this column are available in **single mode**

****** Example:
2505 TR LED is ON in Mark Condition
2515 TR LED is OFF in Mark Condition
This feature is transparent to the DTEs but is desired by some users to be compatible with other manufacturers' products.

HOW TO ORDER

Base Model Number	Power*	Data Connector**	Distance***	Fiber and Connector		Temperature
				Multimode (MM) - STD	Singlemode (SM) - Specify	
XXXX	110 VAC - STD 230 VAC - V 4, 5, 6, 7, 9 and 10 See attached chart	M or F (F is STD on most models.)	2 Km - STD Other - Specify L, XL, or UL	ST - STD Other - Specify	ST - STD Other - Specify	0 - 50° C - STD -40 to +80° C - ET Other - Call S.I.Tech

e.g. 2005 = RS 232 to Fiber Bit-Driver, 110 VAC, DB25 Female, 2 Km, Multimode, ST Connectors, 0 - 50° C

2005V-XL-SM-ST = RS-232 to Fiber Bit-Driver, 230VAC, DB25 Female, 10 Km, Single Mode, ST Connectors, 0 - 50° C

Specifications subjected to change without notice

RS-232 TO FIBER OPTIC BIT-DRIVERS®

2005

- Most Versatile RS-232 to Optical Asynchronous Bit-Driver®
- DTE/DCE Switch built in
- Diagnostic Logic Probe built in
- Multimode or Single mode fiber options
- Installed in Applications Worldwide
- Use with 212005 to convert to USB

2036

- Synchronous/Asynchronous Full Duplex Optical Bit-Driver®
- Switch-Selectable Synchronous Data Rates 9.6 Kbps to 64 Kbps Asynchronous Mode from 2.4 Kbps to 64 Kbps
- Switch Selectable Digital and Analog Loopback Test Capability built in

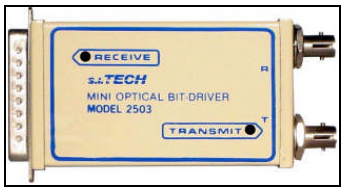
2109

- Mini Asynchronous Half Duplex Optical Bit-Driver®
- Max Data Rate 19.2 Kbps
- Supports SCADA, PLC and other Multidrop Optical Networks
- Fiber ports repeat data through the 2109 and drop/insert data on the RS-232 port
- RS-232 Port only inserts data onto and gets data dropped from the upstream Fiber Port
- Downstream Fiber Port only sends/receives data from upstream Fiber Port

2360

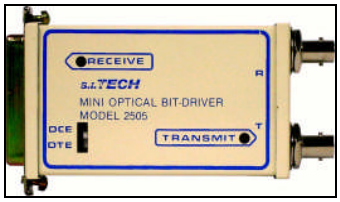
- Card Version of S.I.Tech #2560 RS-232 Ruggedized Modem
- Eurocard Size, Async Product
- Rack holds 12 Cards with 2 Power Supplies
- Ideal for Central Control Room

2503



- Mini Asynchronous/Synchronous Full Duplex Optical Bit-Driver®
- Switch Selectable Synchronous Date Rates 1.2 Kbps to 9.6 Kbps Asynchronous to 19.2 Kbps
- Provides for Control Signals (Handshake Lines)
- Recommended for such Applications as ATM Machines
- Designed to work with S.I. Tech 3503 TEMPEST Bit-Driver
- Male RS-232 DB-25 connector is standard

2505

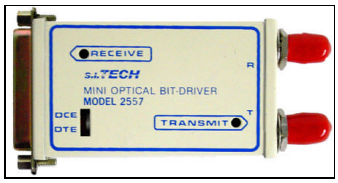


- Mini Asynchronous Simplex or Full Duplex Optical Bit-Driver®
- Speeds up to 115 Kbps
- Low Cost – Most Popular Unit for Multimode Fiber Applications
- Switch Selectable as DTE or DCE. Optionally available with male RS-232 DB-25 connector as 2505 M, with DB9 as 2505 MOD.
- Power Directly thru Pin 9 or Externally with S.I.Tech Model 2121/2164 Power Supply
- Available with Mark and Space Reversed as Model 2515

2507

- Mini Asynchronous Simplex or Full Duplex Optical Bit-Driver®
- Powered only from Host Computer
- Up to 19.2 Kbps Asynchronous Data Rate
- Switch Selectable as DTE or DCE. Optionally Available with Male RS-232 DB-25 Connector as 2507M
- Standard Max Operating Distance 2.0Km. Optional Plastic Fiber version is 100 meters max (660nm) #2507-660
- Available with Mark and Space Reversed as Model 2517

2557



- Mini Asynchronous Simplex or Full Duplex Optical Bit-Driver®
- Up to 115 Kbps Asynchronous Data Rate
- Intended for use with Process Controller or Computer which supplies +5VDC on Pin 9
- Switch Selectable as DTE or DCE. Standard Model has RS-232 DB-25M Male Connector but RS-232 DB-25F Female Connector is Optional
- 1000 Ft (300m) Distance Capability

2560

- RS232 Asynchronous to Fiber Optic Bit Driver
- Up to 115.2 Kbps, 2 Control Signals
- Conformal Coated - Environmental Protection
- Extended Temp. Range –40 to +80 ºC
- Complies with IEEE C37-90-1
- IEC 801 Surge Protection
- Rugged Enclosure with Panel Mounting Brackets
- Various DC Power Options

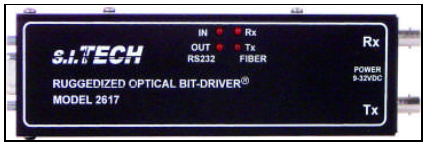
2563

- Three in one design RS-232/422/485 to Fiber
- Max 115.2 Kbps Data Rate
- Switch for RS-485 Speed Setting
- Din Rail Option
- Multimode or Single mode

2607

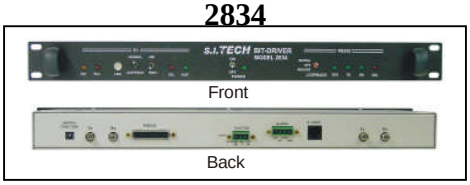
- Mini RS-232 Bit Driver, Async Fiber optic, 115 Kbps
- Extended Temp. Range –40 to +65 ºC
- 9 to 32 VDC Input Power
- Multimode or Single mode

2617



- Mini RS-232 Bit Driver, Async, 57.6 Kbps
- Extended Temp. Range –40 to +85 ºC
- Direct (Point to Point) or Loop (Ring) mode
- Rugged enclosure
- Various AC/DC power options

2834



- 1 - RS232 Channel and 1 – E1 (or T –1) Channel
- 1U – 19” Rack Mounted
- Multimode or Single mode
- RS232 Async or Sync and Various Speed Options

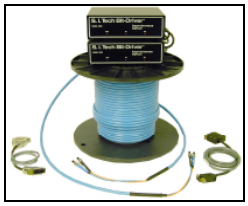
3503

- Mini Synchronous/Asynchronous Full Duplex Optical Bit-Driver®
- Designed to Meet TEMPEST Specifications
- Connector is RS-232 DB-25M Male
- Switch Selectable Synchronous Date Rates up to 9.6 Kbps
- Asynchronous Date Rates to 19.2 Kbps
- Provides Control (Handshake) Signals
- 6600 Ft (2Km) Max Distance Capability
- SMA or ST Connectors

KIT #1

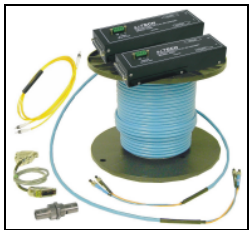
- 2 S.I.Tech 2505 DB-9 Multimode, ST
- 2 S.I.Tech 2121 Power Supply
- 1 S.I.Tech 5202-010-8235 (33 ft.) FO Cable Assembly
- Plug and Play

KIT #8



- Vulcan RS-232 Kit
- 2 S.I.Tech #2005 Multimode ST Bit Driver
- 1 S.I.Tech #7202-0200-8255 FO Ruggedized Cable Assembly (200 ft.), ST/ST
- 1-7096, 1-7092 Data Cable Assembly
- Plug and Play for Vulcan (Plasma Cutting Machine)

KIT #17



- 10 Km Ruggedized Link
- 1 S.I.Tech 2560 (1310 nm)
- 1 S.I.Tech 2560 (1550 nm)
- 2 WDM S.I.Tech #1315
- 2 S.I.Tech #8077 ST/ST Couplers
- 2 DB25 RS-232 Cable Assemblies

TABLE B

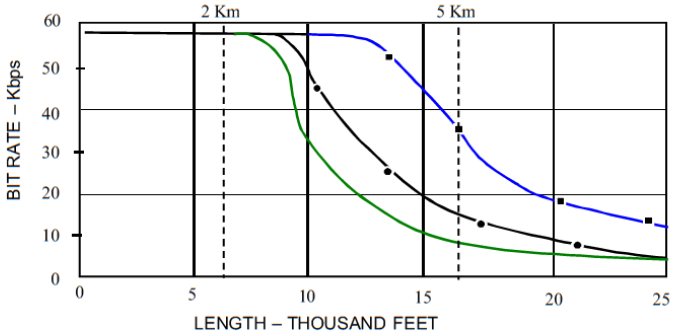
RS-232 METALLIC BIT-DRIVERS® (SHORT HAUL MODEMS)

Can be used as Protocol Converters

Model No.	Package: Stand Alone	Package: Mini	Package: Rack Mount Card	Max. Data Rate Kbps	Data Format: Async	Power Option*	Data Connector**	Point to Point	Multidrop	Distance Km ***: 2 For Max. Data Rate	Distance Km ***: 5 See Curves For Data Rate	Weight LB/KG	Remarks
2282		√		115	√	6	DB9F/DB9M	√		–	–	0.6/0.3	RS-232 to RS-232 Opto Isolated
2526		√		19.2	√	5	DB-25 M/F	√		√	√	0.25/0.1	RS-232 to RS-422 Async
9338	√			56	√	1,2	DB-25 F	√		√	√	2.2/1	RS-232 to RS-422 Async, Plastic Case
212005		√		256	√	-	DB-25/USB	√	-	–	–	0.25/0.1	RS-232 to USB

* Power Options: See "Power Options and How to Order" sheet (p. 106) for options and ordering instructions.
** Pin outs are specified in RS-232 pin out chart and data sheets
Temperature range 0 - 50 degrees C unless shown otherwise.
Extended Temperature (ET) range available on some products.

***** Distance Chart**



National Electrical Code (NEC) Type

9562* 24 GAGE (AWG) TELEPHONE ---------- CM
8723* 22 GAGE (AWG) SHIELD ---------- CM
9184* 22 GAGE (AWG) DATALENE™ SHIELDED -------- CL2X

* Belden No. or Equivalent

Check NEC for suitability in your installation environment

HOW TO ORDER

Base Model Number	Power*	Data Connector**	Temperature
XXXX	110 VAC - STD 230 VAC - V 5. See attached chart	M or F (F is STD on all models)	0 - 50° C - STD Other - Call S.I.Tech

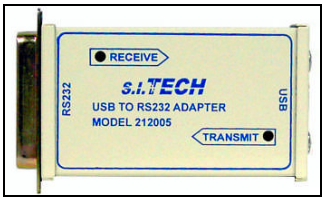
e.g. 9338 = 9338, 110 VAC, DB25 Female, 0 - 50°
2526M = 2526, (Requires S.I.Tech #2101 Power Supply) DB25 Male, 0 - 50° C

Specifications subject to change without notice.

S.I.Tech Inc. Batavia, IL 60510 Phone: (630) 761-3640 Fax: (630) 761-3644
Web Site: http://www.sitech-bitdriver.com

RS-232 METALLIC BIT-DRIVERS®

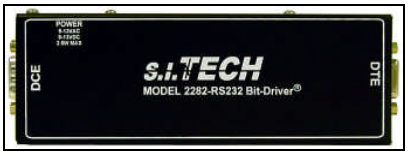
212005*



- USB to RS-232 Bit-Driver
- Use to Convert any RS-232 Bit Driver to USB
- Plugs into DB25F Pin Connector or optional DB9F Connector
- Powered from USB Host
- Data Rates to 250 Kbps
- Virtual COM port drivers provided

RS-232 OPTOISOLATOR BIT-DRIVERS®

2282



- Opto Isolated RS-232 to RS-232 DB9 Male to DB9 Female
- 12 VDC or VAC Power
- Miniature Size
- Up to 115 Kbps data Speed
- Meets EIA RS-232F and ITU V.28
- 1000 VAC Isolation

TABLE C
RS-232 TO FIBER OPTIC MULTIPLEXERS

Model No.	Package		Max. Data Rate Kbps	Data Format			Power Option*	Data Connector**	Number of Channels	Point to Point	Multidrop	Distance *** Km			Weight LB/KG	Multimode (820 nm)/ Singlemode (1300 nm)	Trunk**** Fiber Connector	Remarks
	Stand Alone	Rack Mount		Async	Sync	Control Signals						2	5	10 20				
2006	√	√	19.2	√	√		1,2	DB-25 F	8	√		√	√	√ √	12/5.5	MM/SM	ST/SMA	8 CH Async/Sync
2016	√	√	19.2	√			1,2	DB-25 F	16	√		√	√	√ √	12/5.5	MM/SM	ST/SMA	16 CH Async
2017	√	√	76.8	√			1,2	DB-32 F	4	√		√	√		3/1.4	MM/SM	ST/SMA	Requires 7017 Cable
2216	√		19.2	√			1,2	DB-25 F	16	√		√	√		6/3	MM/SM	ST/SMA	2 - 8 Bit Words Parallel

* Power Options: See "Power Options and How to Order" sheet (p. 106) for options and ordering instructions.
** Pin outs are specified in RS-232 pin out chart and data sheets
*** Distance: 2 km - STD, 5 km - L, 10 km - XL, 20 km - UL.
**** Other connector options for singlemode is FC.
Temperature range 0 - 50 degrees C unless shown otherwise.

HOW TO ORDER

Base Model Number	Power Option*	Data Connector**	Distance***	Fiber Connector		Temperature
				Multimode (MM)-STD	Singlemode (SM)-Specify	
XXXX	1. 110 VAC - STD 2. 230 VAC - V	F (F is STD on all models.)	2 Km - STD Other Specify L, XL or UL	ST - STD Other - Specify	ST - STD Other - Specify	0 - 50° C - STD Other - Call S.I.Tech

e.g. 2006A = RS-232 Async, 8 CH to Fiber Multiplexer, 110 VAC, DB25 F, 2 Km, Multimode ST, 0 - 50° C
2006A-V-XL-SM-ST = RS-232 Async 8 CH to Fiber Multiplexer, 230 VAC, DB25 F, 10 Km, Single Mode, ST, 0 - 50° C

Specifications subject to change without notice.

RS-232 TO FIBER OPTIC MULTIPLEXERS

2006

- Eight Channel Asynchronous Simplex or Full Duplex Time Division Multiplexer Optical Bit-Driver®
- Each Channel independently switchable internally for 0 to 19.2 Kbps Asynchronous or 1.2 Kbps through 19.2 Kbps (5 rates) Synchronous.
- Aggregate Speed is 160 Kbps
- Optional Metal Enclosure with ears for mounting in standard 19 inch Rack
- Detachable Power Supply Cord, 110 or 230VAC Power Input
- Digital/Analog Loopback Test available for each channel independently

2016

- Sixteen Channel Asynchronous Simplex or Full Duplex Time Division Multiplexer Optical Bit-Driver®
- Max Data Rate is 19.2 Kbps
- Digital/Analog Loopback Test available for each channel independently
- Optional Input/Output Interface for RS-422, TTL, 20mA
- Optional Metal Enclosure with ears for mounting in standard 19 inch Rack
- 110 or 230VAC Input Power, Detachable Power Card

2559

- Up to 115 Kbps asynchronous operation on fiber optic cable, simple or full duplex operation with 2 channels
- 2 channels RS-232
- LED indicators for power, transmit and receive data
- Female RS-232C (V.24) connector
- Complies with IEEE C37.90.1
- IEC 801 Surge Protection
- Panel Mounting Brackets

RS-232 MODEM SPLITTER

9703*

- Modem Sharing for 3 Users
- Inexpensive, Non Powered, Easy to Use
- Works Equally well in Sync or Async Mode
- Transparent to Speed and Protocol

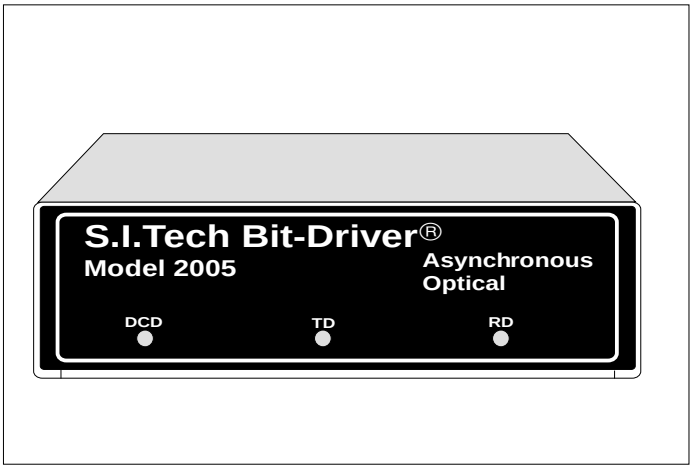
9706*

- Modem Sharing for 6 Users
- Inexpensive, Non Powered, Easy to Use
- Works Equally well in Sync or Async Mode
- Transparent to Speed and Protocol

Model 2005

S.I.TECH

Asynchronous Optical Bit - Driver ®



Model 2005 Bit-Driver® is an asynchronous simplex or full duplex system capable of transmitting data at operating speed from 110 bps to 56 Kbps over fiber optic cable. Fiber optic cable offers the advantage of small size, light weight and complete electro-magnetic freedom from the problems of EMI/RFI to its maximum operating range of up to 6600 feet.

Totally dielectric fiber optic cable is immune to high voltage and lightning. This compact asynchronous system can help you transmit data in-house or in other short-haul applications through the noisiest operating environments without losing a bit. (Bit error rate $\leq 10^{-9}$) It's a stand-alone component, complete with RS-232 interface, 120 volt power cord plus input and output transmission connections.

LEDs are used to indicate the presence of carrier and data signaling over the data path. There is a diagnostic logic probe to verify "high" or "low" status of TD, RD, TSR, CTS, DSR and DCD circuits -- without a breakout unit. Includes null modem switch to configure the modem as a DTE device instantly, and a constant or controlled carrier switch.

TRANSMISSION LINE INTERFACE
Operating distance is dependent upon optical fiber core diameter and the cable's optical attenuation. The table below indicates three cables that may be used at any data rate. These cables are available in connectorized assemblies to meet the exact configuration of your application.

S.I.Tech offers complete links including fiber optic cable, connectors, cable assemblies, and Bit-Drivers®.

Operation Mode: Asynchronous, simplex or full duplex.
Input/Output Interface: RS-232-C, Type D Asynchronous at 110 bps to 56 Kbps. DTE or DCE via null modem switch in modem.
Transmission Line Interface: Two ST fiber optic connector receptacles for interfacing with fiber optic duplex cable. SMA connector is an option.
Transmission Distance: 6600 ft. (2000 m) (5 km option)
Transmitter Enabled by RTS: RTS/CTS delay 15 ms
Constant and Controlled Switch for Carrier: Constant = RTS is always true
Optical Power into a 50 Micron core Optical Fiber: .5 microwatts, 15 dB power budget @ 880 nanometers
Receiver Sensitivity: 15 nanowatts at less than 10^{-9} bit error rate
Diagnostics: Built-in logic probe
Operating Temperature: 0 ^{O}C to 50 ^{O}C
Input Power: 105 to 130 VAC, 50-500 Hz, 10 W Power transformer secondary fused Three wire standard cord for wall outlet
220 Volt Version: Model 2005V.
Metal Enclosure: 7.5" X 7" X 3" (19 X 17.8 X 7.6 cm)
Weight: 3 lb.(1.36 kg)
Rack Mount Version: Model 2305

UL & CSA listed. Meets FCC requirements of Class A, Part 15 Computing Devices Standard.
Specifications subject to change without notice.

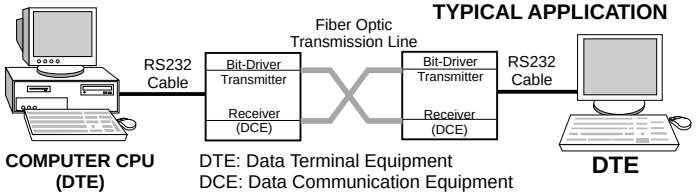
Operating Distance for Fiber Optic Cable

Fiber Size (Microns)	Attenuation dB/km	Distance Meters	Distance Feet
100	5.0	2000	6600
62.5	4.0	2000	6600
50	3.0	2000	6600
10 SM	1.0 **	7000	23000

** Single Mode Option

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

TYPICAL APPLICATION



RS - 232 CONNECTOR PINS UTILIZED BY 2005 BIT DRIVER®

Pin No	EIA Designation	Description	Symbol	DTE DCE
1	AA	Protective Ground	Chassis Ground	◄►
2	BA	Transmitted Data	TXD	►
3	BB	Received Data	RXD	◄
4*	CA	Request to Send	RTS	►
5	CB	Clear to Send	CTS	◄
6**	CC	Data Set Ready	DSR	◄
7	AB	Signal Ground	Sig. Gnd.	◄►
8	CF	Data Carrier Detect	DCD	◄

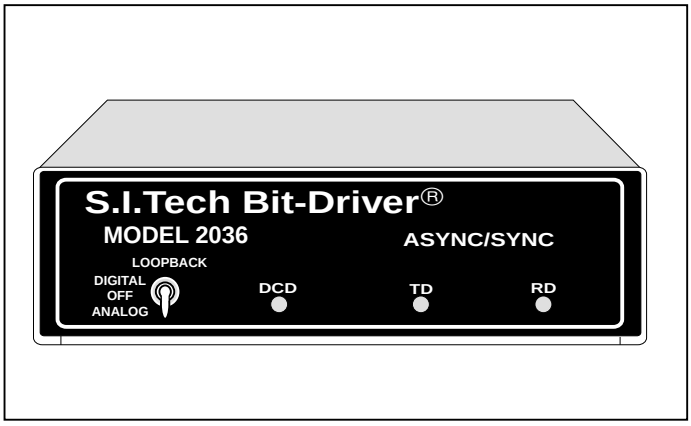
* Optional signal not required for normal operation.
** DSR is true when power is on. Unlisted pins not utilized. RTS/CTS delay 15 mS. Constant or controlled carrier. Built-in null modem.

For application engineering assistance: 630-761-3640 FAX: 630-761-3644 S.I.Tech, P.O.Box 609, Geneva, Illinois 60134 U.S.A. Web site: http://www.sitech-bitdriver.com.

Model 2036

S.I.TECH

Optical Asynchronous/Synchronous Modem



Features:

- Full duplex Asynchronous/Synchronous 64 Kbps with control signals
- 6600 ft. (2Km) maximum distance capability
- 0 °C to + 50 °C operating range
- ST fiber receptacle
- RS232 Interface

Operation Mode: Asynchronous/Synchronous, full duplex with control signals

Input/Output Interface: RS-232-C

Transmission Line Interface: ST connector is standard for interfacing with fiber optic duplex cable (SMA option)

Optical Power into a 62.5 Micron Core Optical Fiber: 10 microwatts, 15 dB power budget @ 850 nanometers (1300nm option)

Receiver Sensitivity: 300 nanowatts at less than 10^{-9} bit error rate

Operating Temperature: 0 °C to 50 °C

Weight: 4.0 lb (1.8 kg)

Metal Enclosure: 7.5" X 7.0" X 3.0" (19 X 17.8 X 7.6 cm)

Input Power: 105 to 130 VAC, 50 to 500 Hz, 10 W

220 Volt Version: Model 2036V

RS - 232 CONNECTOR PINS UTILIZED BY 2036 BIT - DRIVER FEMALE (DCE)

Pin No.	Description	Symbol	DTE DCE
1	Protective Ground	Ground	◄►
2	Transmitted Data	TXD	►
3	Received Data	RXD	◄
4	Request to Send	RTS	►
5	Clear to Send	CTS	◄
6	Data Set Ready	DSR	◄
7	Signal Ground	Sig. Gnd.	◄►
8	Data Carrier Detect	DCD	◄
15	DCE Transmit Clock	TxClock	◄
17	Receive Clock	Rx Clock	◄
20	Data Terminal Ready	DTR	►
24	DTE Transmit Clock (Ext)	TXQ	►

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 SM*	1.0	7000	23000

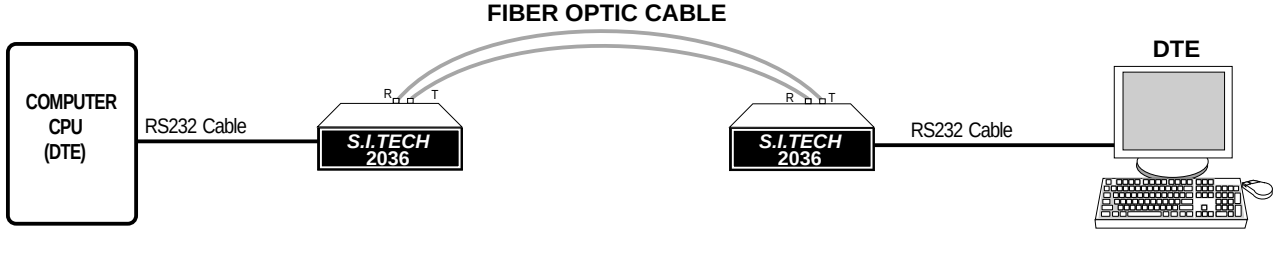
* Single mode option

Function Switch Settings

0	External Clock, Sync Mode
1	64 kbps, Sync Mode
2	56 kbps, Sync Mode
3	38.4 kbps, Sync Mode
4-8	Unused
9	9.6 kbps, Sync Mode
10-13	Unused
14	Slave
15	Async Mode from 2.4 kbps to 64 kbps

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

TYPICAL APPLICATION

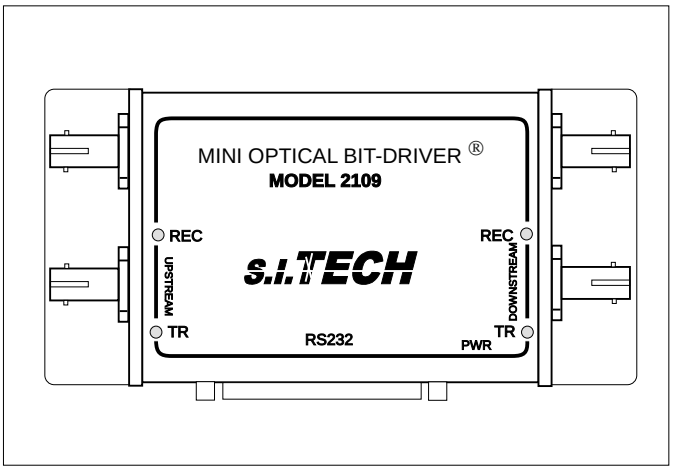


For application engineering assistance: 630-761-3640 FAX: 630-761-3644 S.I.Tech, P.O.Box 609, Geneva, Illinois 60134 U.S.A. Web site: http://www.sitech-bitdriver.com.

Model 2109

S.I.TECH

Optical Mini Multidrop Bit-Driver ®



Features:

S.I. Tech model 2109 is a mini optical Multidrop Bit-Driver®. The upstream and downstream fiber ports repeat data through the 2109 multidrop and drop/insert data on the RS-232 port. The RS-232 port inserts data onto the upstream fiber port only, and gets data dropped from the upstream fiber port only. The downstream fiber port only sends/receives data from the upstream fiber port.

Operation Mode: Asynchronous, half duplex
Input/Output Interface: RS-232, up to 115 Kbps
Transmission Line Interface: ST connectors are standard for interfacing with fiber optic duplex cable (SMA connectors optional)
Optical Power into a 62.5 Micron Core Optical Fiber: 10 microwatts, 13 dB power budget @ 850 nanometers (1300nm option)
Receiver Sensitivity: 500 nanowatts at less than 10^{-9} bit error rate. 50 microwatts max.
Operating Temperature: 0 °C to 50 °C
Input Power: External power supply (S.I.Tech #2121-110VAC to 12VDC)
Metal Enclosure: 3.6 x 2.3 x 1.0 in (9.1 x 5.8 x 2.54 cm)
Panel or DIN rail mounting option
Weight: 0.25 lb (100 grams)

RS - 232 DB-25 PIN CONNECTOR - FEMALE
PINS UTILIZED BY 2109 MINI BIT-DRIVER®

Pin No.	Description	Symbol
2	Transmit Data	TD
3	Receive Data	RD
7	Ground	GND

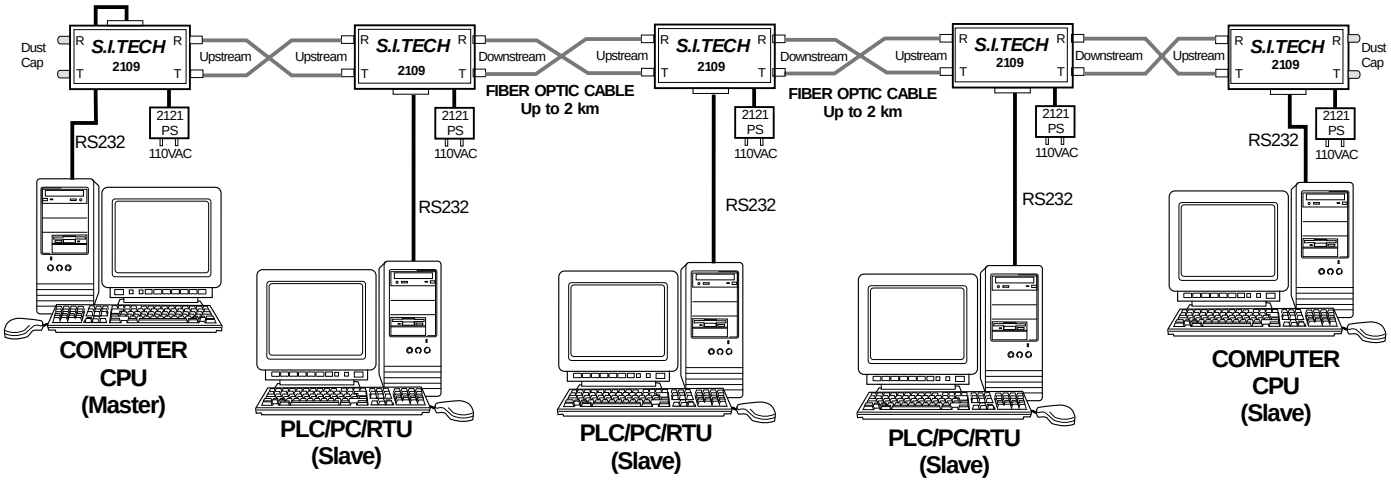
OPERATING DISTANCE FOR FIBER OPTIC CABLE

Fiber Size (Microns)	Attenuation dB/Km	Distance* Meters	Distance* Feet
50	3.0	2000	6600
62.5	4.0	2000	6600
100	5.0	2000	6600
10 SM**	1.0	10000	33000

* High power option available
** SM Single Mode (1300nm) option

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

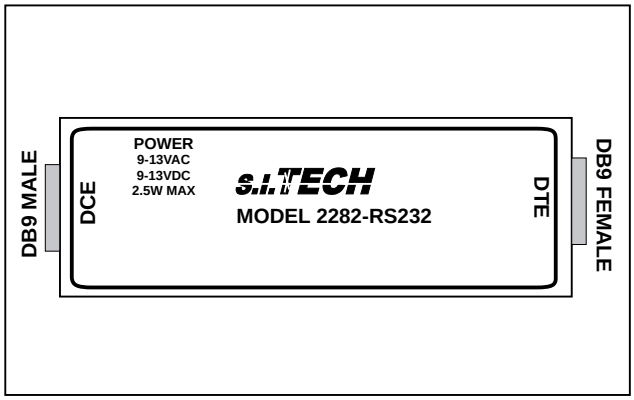
TYPICAL APPLICATION
SCADA SYSTEM



For application engineering assistance: 630-761-3640 FAX: 630-761-3644 S.I.Tech, P.O.Box 609, Geneva, Illinois 60134 U.S.A. Web site: http://www.sitech-bitdriver.com.

Model 2282

Asynchronous Metallic Isolated Bit-Driver ®



The S.I.Tech Model 2282 is an optically isolated RS232 to RS232 converter. It combines connector to connector compatibility with outstanding performance characteristics. It supports full duplex transmission between compatible EDP equipment at speeds up to 115 Kbps.

Meets EIA - 232 - F and ITU V.28 Standards

FEATURES and SPECIFICATIONS

Interface: RS232 data with control lines
Connectors: DCE DB9-P (male), DTE DB9-S (female)
Data Rate: 0 to 115kbps (with R_L between 3kΩ and 7kΩ and C_L between 50PF and 1000PF)
Isolation: 1000VAC between the DTE port and the DCE and power ports
Power: 9 to 13VDC or 9 to 13VAC, 2.5 watts max.(Use S.I.Tech #2121 external power supply)
Temperature: 0 to 50°C
Weight: 10 oz (280 grams)
Size: 2-1/8" X 1-1/4" X 6-3/8" (54 X 32 X 162 mm)

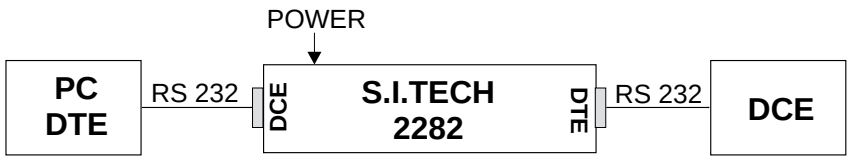
RS - 232 DB-9 CONNECTOR PINS UTILIZED BY 2282 BIT DRIVER®

Pin No	Function	DCE	DTE
1	DCD	Output	Input
2	RD	Output	Input
3	TD	Input	Output
4	DTR	Input	Output
5	GND	*	DTE end
6	DSR	Output	Input
7	RTS	Input	Output
8	CTS	Output	Input
9	N/C		

* DCE pin 5 connected to Chassis

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

TYPICAL APPLICATION

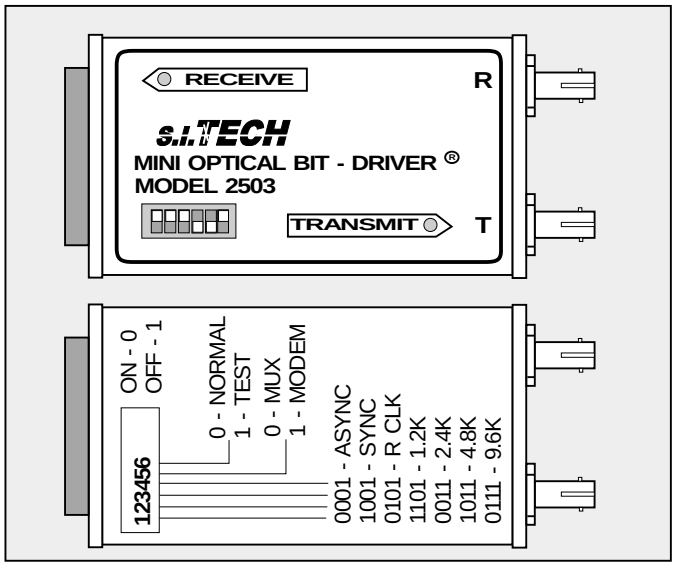


For application engineering assistance: 630-761-3640 FAX: 630-761-3644 S.I.Tech, P.O.Box 609, Geneva, Illinois 60134 U.S.A. Web site: http://www.sitech-bitdriver.com.

Model 2503

S.I.TECH

Optical Asychronous/Synchronous Mini Modem



Features:

- Full duplex synchronous DC to 9.6 Kbps/asynchronous DC to 19.2 Kbps with control signals
- 6600 ft. (2Km) distance capability
- 0 ^{O}C to + 50 ^{O}C operating range
- ST connector receptacle (SMA option)
- Switch selectable speeds in sync operation
- Designed to work with S.I.Tech 3503 TEMPEST modem

RS - 232 CONNECTOR PINS UTILIZED BY 2503 MINI BIT - DRIVER (MALE)

Pin No.	Description	Symbol	DTE DCE
1	Protective Ground	Ground	◄►
2	Transmitted Data	TXD	►
3	Received Data	RXD	◄
4	Request to Send	RTS	►
5	Clear to Send	CTS	◄
6	Data Set Ready	DSR	◄
7	Signal Ground	Sig. Gnd.	◄►
8	Data Carrier Detect	DCD	◄
15	DCE Transmit Clock	TXQ	◄
17	Receive Clock	Rx Clock	◄
20	Data Terminal Ready	DTR	►
21	Signal Quality Detector	SQD	◄
24	DTE Transmit Clock	TXQ	►

Operation Mode: Asynchronous/Synchronous, full duplex with control signals

Input/Output Interface: RS-232-C, Type D, connects to Terminal (RS-232 cable not required)

Transmission Line Interface: ST connector is standard for interfacing with fiber optic duplex cable (SMA option)

Optical Power into a 50 Micron Core Optical Fiber: 10 microwatts, 15 dB power budget @ 850 nanometers (1300nm option)

Receiver Sensitivity: 300 nanowatts at less than 10 $^{-9}$ bit error rate

Operating Temperature: 0 ^{O}C to 50 ^{O}C

Metal Enclosure: 1.75 x 3 x 0.625 in (4.5 x 7.5 x1.6 cm) Panel or DIN rail mounting option

Weight: 0.25 lb (100 grams)

Input Power: External power supply (S.I.Tech #2121 - 110VAC to 12 VDC)

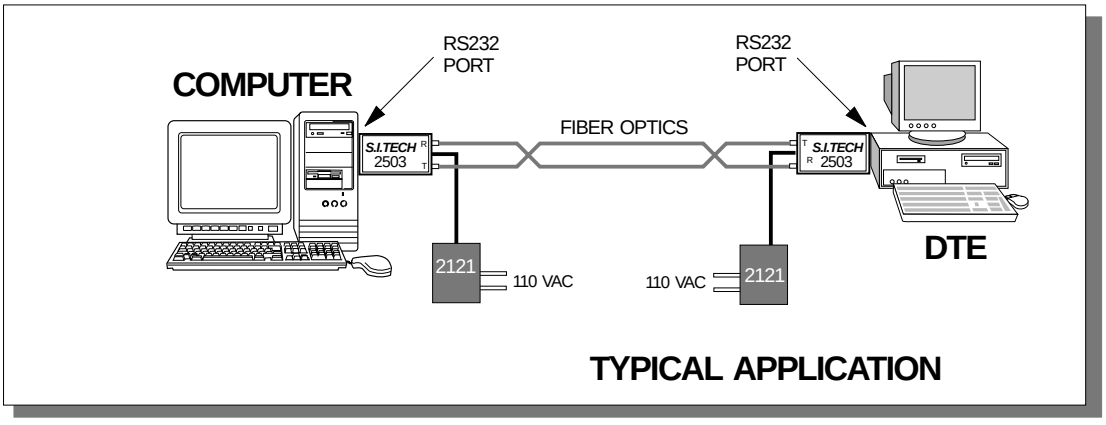
220V Version: Use S.I.Tech 2122 power supply

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
100	5.0	2000	6600
10 SM	1.0	5000	16000

* High power option available
SM - Single mode (1300nm) option

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



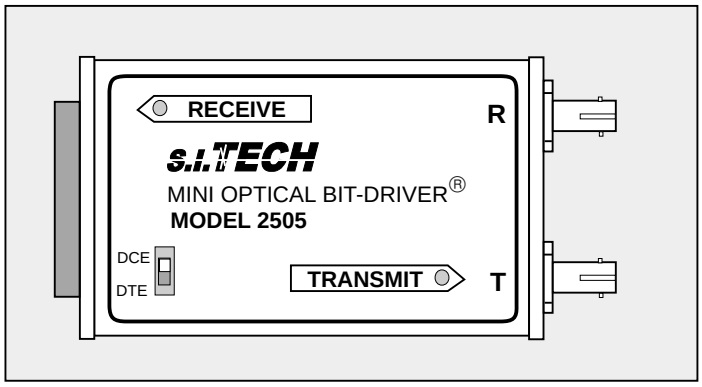
TYPICAL APPLICATION

For application engineering assistance: 630-761-3640 FAX: 630-761-3644 S.I.Tech, P.O.Box 609, Geneva, Illinois 60134 U.S.A. Web site: http://www.sitech-bitdriver.com.

Model 2505

S.I.TECH

Optical Asynchronous Mini Bit-Driver ®



Features:

- 0 to 115 Kbps asynchronous operation on fiber optic cable, simplex or full duplex operation
- 6600 ft. (2 Km) distance capability (5 km option)
- 0 ^{o}C to + 50 ^{o}C operating range
- ST connector receptacle (SMA option)
- DTE or DCE switch selectable

Operation Mode: Asynchronous, simplex or full duplex

Input/Output Interface: RS-232-C, Type D, asynchrounous at 0 to 115 Kbps, connects directly to terminal (RS-232 cable not required)

Transmission Line Interface: ST connector is standard for interfacing with fiber optic duplex cable (SMA option)

Transmission Distance: 6600 ft (2Km), (5Km option)

Transmission Enabled by RTS: RTS/CTS delay 0 ms

Optical Power into a 50 Micron Core Optical Fiber: 0.5 microwatt, 15 dB power budget @ 880 nanometers

Receiver Sensitivity: 0.5 nanowatts at less than 10 $^{-9}$ bit error rate

Operating Temperature: 0 ^{o}C to 50 ^{o}C

Metal Enclosure: 1.75 x 3 x 0.625 in (4.5 x 7.5 x1.6 cm) Panel or DIN rail mounting option

Weight: 0.25 lb (100 grams)

Input Power: External power supply (S.I.Tech #2121 - 110 VAC to 12 VDC)

230V Version: Use S.I.Tech 2122 power supply

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

RS - 232 CONNECTOR PINS UTILIZED BY 2505 MINI BIT - DRIVER (MALE OR FEMALE)

Pin No.	Description	Symbol	DTE DCE
1	Protective Ground	Chassis Ground	◄►
2	Transmitted Data	TXD	►
3	Received Data	RXD	◄
4*	Request to Send	RTS	►
5*	Clear to Send	CTS	◄
6**	Data Set Ready	DSR	◄
7	Signal Ground	Sig. Gnd.	◄►
8**	Data Carrier Detect	DCD	◄
9	Positive 12 VDC Input	+ 12V	►
20**	Data Terminal Ready	DTR	►

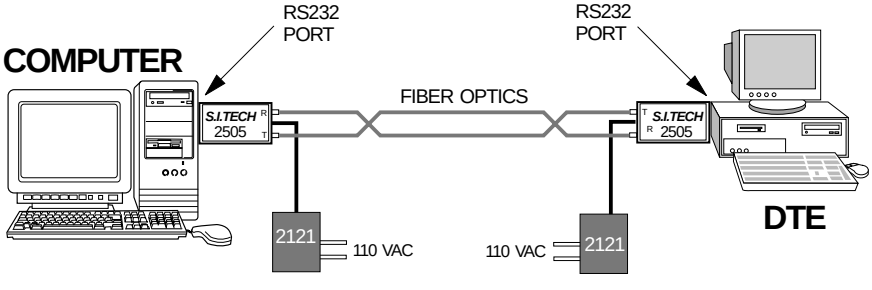
* Pins 4 & 5 tied together
** Pins 6, 8, and 20 tied together

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
100	5.0	2000	6600

* High power option available

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 connection.



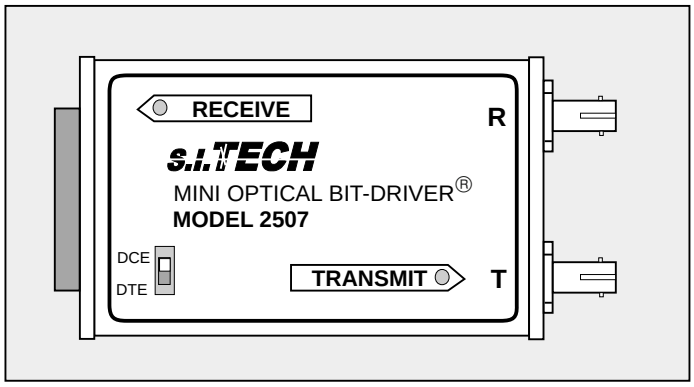
TYPICAL APPLICATION

For application engineering assistance: 630-761-3640 FAX: 630-761-3644 S.I.Tech, P.O.Box 609, Geneva, Illinois 60134 U.S.A. Web site: http://www.sitech-bitdriver.com.

Model 2507

S.I.TECH

Optical Asynchronous Mini Bit-Driver ®



Features:

- 0 to 19.2 Kbps asynchronous operation on fiber optic cable, simplex or full duplex operation
- 3280 ft. (1.0Km) maximum distance capability
- 0 °C to + 50 °C operating range
- ST connector receptacle (SMA option)
- DTE or DCE switch selectable
- Mini Bit-Driver® is powered by DTE (RS-232 self-power)
- LED indicators for transmit and receive data
- Male or female RS-232C (V.24) connectors

Operation Mode: Asynchronous, simplex, or full duplex

Input/Output Interface: RS-232-C, Type D, asynchronous to 19.2 Kbps, connects directly to Terminal (RS-232 cable not required)

Transmission Line Interface: ST connector is standard for interfacing with fiber optic duplex cable (SMA option)

Transmission Distance: 3280 ft. (1.0 Km)

Transmission Enabled by RTS: RTS/CTS delay 0 ms

Optical Power into a 50 Micron Core Optical Fiber: 0.5 microwatt, 10 dB power budget @ 820 nanometers

Receiver Sensitivity: 50 nanowatts at less than 10^{-9} bit error rate

Operating Temperature: 0 °C to 50 °C

Metal Enclosure: 1.75 x 3 x 0.625 in (4.5 x 7.5 x1.6 cm) Panel or DIN rail mounting option

Weight: 0.25 lb (100 grams)

Input Power: Host supplied or pin 9

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

UL CE

RS - 232 CONNECTOR PINS UTILIZED BY 2507 MINI BIT - DRIVER (MALE OR FEMALE)

Pin No.	EIA DESIG.	Description	Symbol	DTE DCE
1*	AA	Protective Ground	Chassis	◄——►
2	BA	Transmitted Data	TXD	——►
3	BB	Received Data	RXD	◄——
4*	CA	Request to Send	RTS	——►
5*	CB	Clear to Send	CTS	◄——
6**	CC	Data Set Ready	DSR	◄——
7*	AB	Signal Ground	Sig. Gnd.	◄——►
8**	CF	Data Carrier Detect	DCD	◄——
9		Positive 12 VDC Input	+ 12V	——►
20**	CD	Data Terminal Ready	DTR	——►

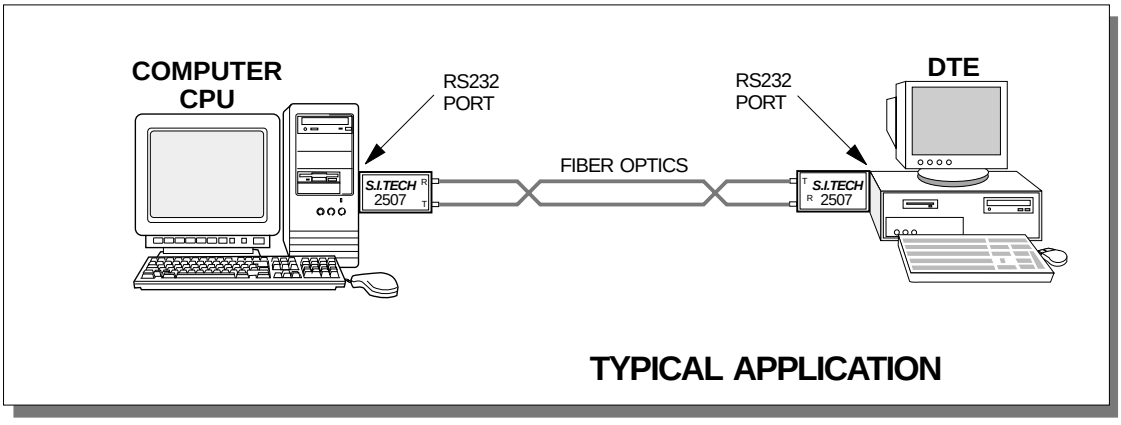
* Pins 1 and 7 tied together and pins 4 and 5 tied together
** Pins 6, 8 and 20 used to supply power

OPERATING DISTANCE FOR FIBER OPTIC CABLE

Fiber Size (Microns)	Attenuation dB/km	Distance Meters*	Distance Feet*
50	3.0	1000	3280
62.5	4.0	1000	3280
100	5.0	1000	3280

* Option: 660nm (2507-660) using plastic fiber, 1000 micron 300 ft. (100 m) max.

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 connection.



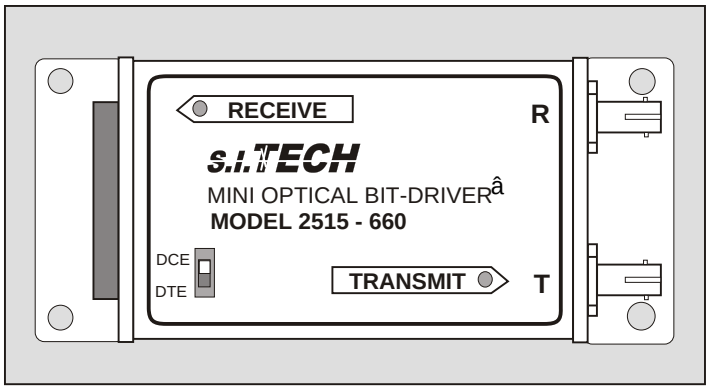
TYPICAL APPLICATION

For application engineering assistance: 630-761-3640 FAX: 630-761-3644 S.I.Tech, P.O.Box 609, Geneva, Illinois 60134 U.S.A. Web site: http://www.sitech-bitdriver.com.

Model 2515 - 660

S.I.TECH

Optical Asynchronous Mini Bit-Driver ®



Features:

- 0 to 115 Kbps asynchronous operation on fiber optic cable, simplex or full duplex operation
- 100 meters distance capability
- 0 °C to + 50 °C operating range
- ST connector receptacle (SMA option)
- DTE or DCE switch selectable

Operation Mode: Asynchronous, simplex or full duplex

Input/Output Interface: RS-232-C, Type D, asynchrounous at 0 to 115 Kbps, connects directly to terminal (RS-232 cable not required)

Transmission Line Interface: ST connector is standard for interfacing with fiber optic duplex cable (SMA option)

Transmission Distance: 330 ft. (100m)

Transmission Enabled by RTS: RTS/CTS delay 0 ms

Power Budget: 10 dB power budget @ 660 nm 0.5 nanowatts at less than 10^{-9} bit error rate

Operating Temperature: 0 °C to 50 °C

Metal Enclosure: 1.75 x 3 x 0.625 in (4.5 x 7.5 x1.6 cm) Flange mounting option

Weight: 0.25 lb (100 grams)

Input Power: External power supply (S.I.Tech #2121 - 110 VAC to 12 VDC)

230V Version: Use S.I.Tech 2164 power supply

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

RS - 232 CONNECTOR PINS UTILIZED BY 2515 MINI BIT - DRIVER (MALE OR FEMALE)

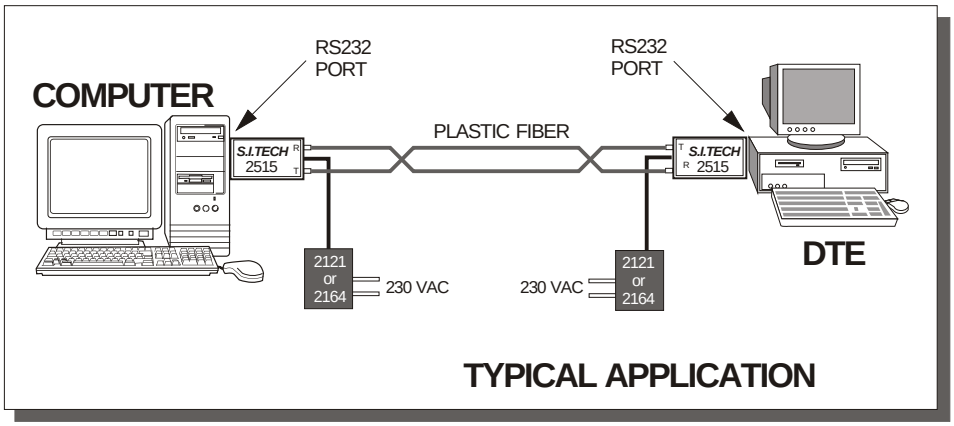
Pin No.	Description	Symbol	DTE DCE
1	Protective Ground	Chassis Ground	◄►
2	Transmitted Data	TXD	►
3	Received Data	RXD	◄
4*	Request to Send	RTS	►
5*	Clear to Send	CTS	◄
6**	Data Set Ready	DSR	◄
7	Signal Ground	Sig. Gnd.	◄►
8**	Data Carrier Detect	DCD	◄
9	Positive 12 VDC Input	+ 12V	►
20**	Data Terminal Ready	DTR	►

* Pins 4 & 5 tied together
** Pins 6, 8, and 20 tied together

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
100	5.0	2000	6600
1000	2000	100	330

Notes:
2515 is 2505 with mark and space reversed.
2515-MOD: Uses DB-9 Male



TYPICAL APPLICATION

RS - 232 CONNECTOR PINS UTILIZED BY 2515 MINI BIT-DRIVER (MALE DB-9)

Pin No.	Description
1	Chassis Ground
2	Received Data
3	Transmitted Data
4*	DTR
5	Signal Ground
6*	DSR
7**	RTS
8**	CTS
9	No Connection

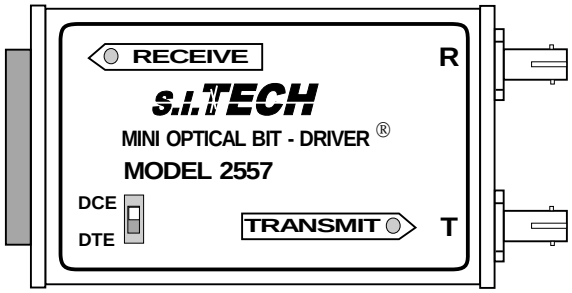
* Pins 4 & 6 tied together
** Pins 7 and 8 tied together

For application engineering assistance: 630-761-3640 FAX: 630-761-3644 S.I.Tech, P.O.Box 609, Geneva, Illinois 60134 U.S.A. Web site: http://www.sitech-bitdriver.com.

Model 2557

S.I.TECH

Optical Asynchronous Mini Bit - Driver®



Features:

- 50 to 115 Kbps asynchronous operation on fiber optic cable, simplex or full duplex operation
- 1000 ft (300 m) distance capability.
- 0 to 50^{O} C operating range
- ST connector receptacles (SMA option)
- DTE or DCE switch selectable
- Mini Bit-Driver is powered by DTE (RS-232 Self-powered)
- LED indicators for transmit and receive data
- Male or female RS-232C (V.24) connectors

Operation Mode: Asynchronous, simplex or full duplex

Input/Output Interface: RS-232-C, Type D Asynchronous to 115.0 Kbps, connects directly to Terminal (RS-232 cable not required)

Transmission Line Interface: ST connector is standard for interfacing with fiber optic duplex cable. (SMA option).

Transmission Distance: 1000 ft. (300 m)

Optical Power into a 50 Micron Core Optical Fiber: 0.5microwatts, 10 dB power budget @ 820 nanometers.

Receiver Sensitivity: 50 nanowatts at less than 10 $^{-9}$ bit error rate

Operating Temperature: 0 ^{O}C to 50 ^{O}C

Input Power: Host supplied or Pin 9

Size: 1.75 x 3 x 0.625 in (4.5 x 7.5 x 1.6 cm)

Enclosure: Metal Enclosure

Weight: 0.25 lb (100 grams)

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

RS-232 CONNECTOR PINS UTILIZED BY 2557 MINI BIT-DRIVER (MALE OR FEMALE)

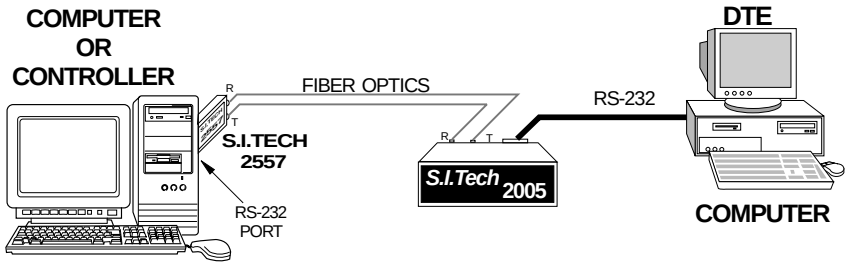
PIN No.	EIA Desig.	Description	Symbol	DTE DCE
1*	AA	Proctective Ground	Chas. Gnd	◄►
2	BA	Transmitted Data	TXD	►
3	BB	Received Data	RXD	◄
4*	CA	Request to Send	RTS	►
5*	CB	Clear to Send	CTS	◄
6**	CC	Data Set Ready	DSR	◄
7*	AB	Signal Ground	Sig. Gnd	◄►
8**	CF	Data Carrier Detect	DCD	◄
9		Positive 5 VDC Input	+5VDC	►
20**	CD	Data Terminal Ready	DTR	►

*Pins 1 & 7 tied together and pins 4 & 5 tied together
**Pins 6, 8, and 20 used to supply power or Pin 9 +5VDC

OPERATING DISTANCE FOR FIBER OPTIC CABLE

Fiber Size (Microns)	Attenuation dB/km	Distance Meters	Distance Feet
100	5.0	300	1000
62.5	4.0	300	1000
50	1.0	300	1000

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 the cable imprint. On the other end, reverse the connection.



TYPICAL APPLICATION

For application engineering assistance: 630-761-3640 FAX: 630-761-3644 S.I.Tech, P.O.Box 609, Geneva, Illinois 60134 U.S.A. Web site: http://www.sitech-bitdriver.com.

Model 2560

S.I.TECH

Optical Asynchronous Ruggedized Mini Bit-Driver ®

Operation Mode: Asynchronous, simplex or full duplex

Input/Output Interface: RS-232-C, asynchronous with 2 control lines, connects directly to Terminal

Transmission Line Interface: Metal ST connector is standard for interfacing with fiber optic duplex cable (SMA option, SC and FC option for SM)

Transmission Distance: See distance chart

Optical Power into a 62.5 Micron Core Optical Fiber: 20 microwatts, 10 dB power budget @ 820 nanometers (1300 nm Option)

Receiver Sensitivity: 2 microwatts at better than 10^{-9} bit error rate

Operating Temperature: -40 ^{O}C to 80 ^{O}C for multimode
-20 ^{O}C to 60 ^{O}C for single mode

Metal Enclosure: 7.25 X 2.28 X 1.3 in (18.4 X 5.8 X 3.3 cm)

Weight: 0.9 lb. (400 grams)

Input Power: 85 V to 260 VAC or DC (+24 VDC and -48 VDC Option)

Card Version: S.I.Tech #2360 with Series 3000 Rack

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

Features:

- Up to 115 Kbps asynchronous operation on fiber optic cable, simplex or full duplex operation with handshaking
- 2 control signals
- –40 ^{O}C to + 80 ^{O}C operating range (-20 to + 60 ^{O}C SM)
- Metal ST connector receptacle (SMA option)
- LED indicators for power, transmit and receive data
- Female RS-232C (V.24) connectors
- Complies with IEEE C37.90.1
- IEC 801 Surge Protection
- Panel Mounting Brackets
- See distance chart

RS - 232 CONNECTOR PINS UTILIZED BY 2560 MINI BIT - DRIVER (FEMALE)

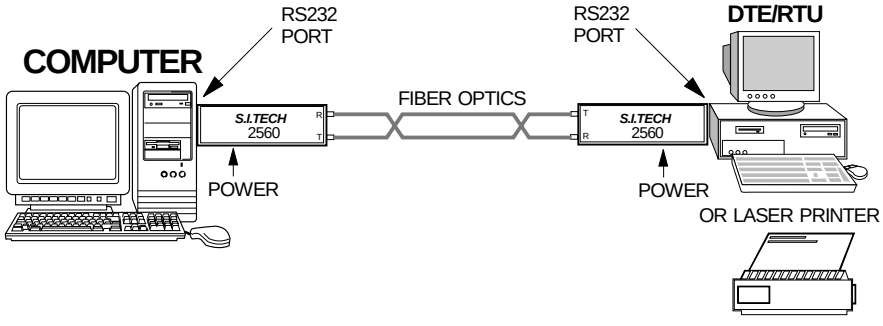
Pin No.	EIA DESIG.	Description	Symbol	DTE DCE
1	AA	Protective Ground	Chassis Ground	
2	BA	Transmitted Data	TXD	→
3	BB	Received Data	RXD	←
4	CA	Request to Send	RTS	→
5	CB	Clear to Send	CTS	←
6	CC	Data Set Ready	DSR	←
7	AB	Signal Ground	Sig. Gnd.	↔

DSR active indicates good optic receive signal.
RTS/CTS carried end to end.

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 SM	1.0	5000	16000

* High power option available. SM - Single Mode (1300nm) option
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 connection.



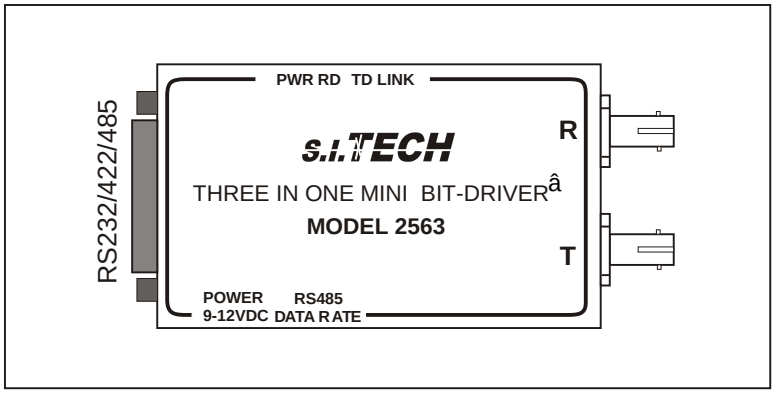
TYPICAL APPLICATION

For application engineering assistance: 630-761-3640 FAX: 630-761-3644 S.I.Tech, P.O.Box 609, Geneva, Illinois 60134 U.S.A. Web site: http://www.sitech-bitdriver.com

Model 2563

S.I.TECH

Optical Asynchronous (Three In One) Mini Bit-Driver ®



Operation Mode: Asynchronous, simplex or full duplex

Input/Output Interface: Fully independent RS232/RS422/RS485, asynchronous concurrent. DB25 connector

Transmission Line Interface: Metal ST connector is standard for interfacing with fiber optic du plex cable (SMA option, SC and FC option for SM)

Transmission Distance: See Distance Chart

Optical Power into a 62.5 Mic ron Core Optical Fiber: 20 microwatts, 10 dB powe r budget @ 820 nanom eters (1300 nm O ption)

Receiver Sensitivity: 2 microwatts at less than 10^{-9} bit error rate

Operating Temperature: 0 °C to 50 °C

Metal Enclosure: 3.6" X 2.3" X 1.2" (9.1 X 5.84 X 3.0 cm)

Weight: 0.4 lb. (185 grams)

Input Power: 9 to 12VDC, 200m A

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 SM	1.0	5000	16000

* High power option available. SM - Single Mode option
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 connection.

Features:

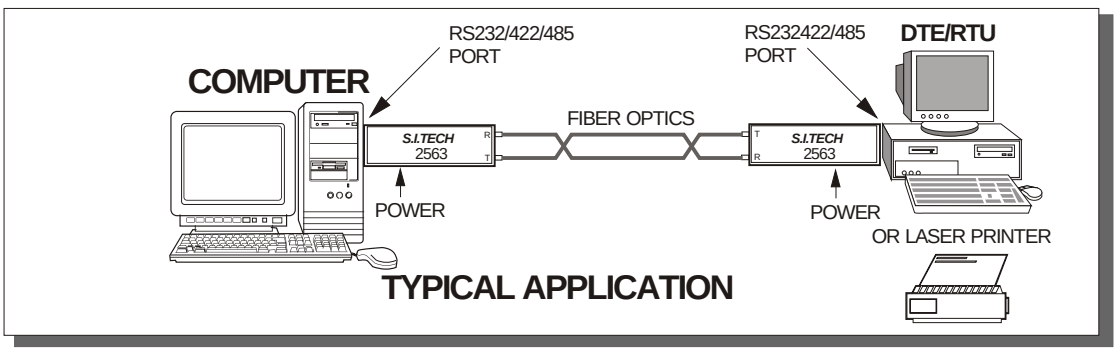
- Concurrent, fully-independent RS232, RS422, and RS485 communication channel over a one duplex fiber optic cable (data is multiplexed over fiber link)
- Up to 115kbps asynchronous operation
- Full duplex RS232 and RS422
  - Optional tri-state control for bus RS422 systems
- Half duplex RS485
  - Rotary switch sets the RS485 bit rate
- Metal ST connector receptacle (SMA option)
- Female DB25 connector RS232 wired as DCE device
- LED indicators for power, optical link status, transmit and receive data
- Optical link status pin
- Multimode or single mode
- DIN rail mounting option

S.I.Tech 2563 is a unique Bit-Driver allowing simultaneous communication using RS232, RS422, and RS485. Each electrical interface is totally independent and share combined fiber link. This way equipment with different interfaces can be connected over the same fiber link i.e. in a manufacturing plant.

DB25 Female Connector Pinout

STD	Pin	Designation	Description	Direction
RS232	2	TD	Transmit Data	Input
	3	RD	Receive Data	Output
	4	RTS	Request to Send	Looped
	5	CTS	Clear to Send	Back
	6	DSR	Data Set Ready	Looped
	20	DTR	Data Terminal Ready	Back
	8	OSD	Optical Signal Detect	Output
	7	SG	Signal Ground	
	1	PG	Chassis Ground	
RS422	12	RS422 Tx+	Transmit Data	Input
	24	RS422 Tx-	Balanced Pair	
	13	RS422 Rx+	Receive Data	Output
	25	RS422 Rx-	Balanced Pair	
	11	SG	Signal Ground	
	23	PG	Chassis Ground	
RS485	10	RS485 D+	Bidirectional Data	Half
	22	RS485 D-	Balanced Pair	Duplex
	11	SG	Signal Ground	
	23	PG	Chassis Ground	

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



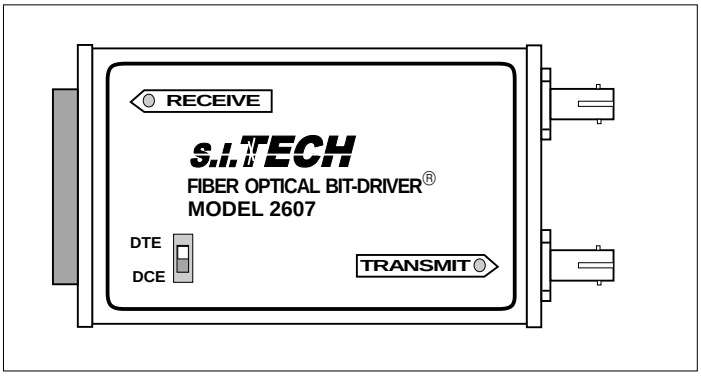
RS485 Data Rate

0	1200 bps
1	2400 bps
2	4800 bps
3	9600 bps
4	19.2 Kbps
5	38.4 Kbps
6	76.8 Kbps
7	115.2 Kbps

For application engineering assistance: 630-761-3640 FAX: 630-761-3644 S.I.Tech, P.O.Box 609, Geneva, Illinois 60134 U.S.A. Web site: http://www.sitech-bitdriver.com

Model 2607

Optical Asynchronous Mini Bit - Driver®



FEATURES

- 40 to 115 Kbps asynchronous operation on fiber optic cable simplex or duplex operation
- Distance capability (See chart)
- -40 °C to +65 °C (-20 to +60 °C - SM) operating range
- ST connector receptacle
- DTE or DCE switch selectable
- Status indicator LEDs: Tx and Rx

Operation Mode: Asynchronous, simplex or full duplex

Input/Output Interface: RS-232-C, Type D Asynchronous 40 to 115 Kbps, connect to Terminal (RS-232 cable not required)

Transmission Line Interface: ST connector is standard for interfacing with fiber optic duplex cable

Optical Power Into a 50 Micron Core Optical Fiber: 10 microwatts, 10 dB power budget @ 850 nanometers (1300nm Option)

Receiver Sensitivity: 1 microwatt at less than 10^{-9} bit error rate

Operating Temperature: -40 °C to +65 °C (-20 to +60 °C - SM)

Metal Enclosure: 1.75" X 3" X 0.625" (4.5 X 7.5 X 1.6 cm)

Input Power: 9 - 32 VDC external source

Weight: 0.25 lbs. (100 grams)

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

RS-232 Connector Pins Utilized by 2607 Mini Bit-Driver (DB25 FEMALE)

Pin No.	Description	Symbol	DTE/DCE
2	Transmit Data	TXD	→
3	Receive Data	RXD	←
*4	Request to Send	RTS	
5	Clear to Send	CTS	
**6	Data Set Ready	DSR	
7	Signal Ground	Sig.Gnd.	
20	Data Terminal Ready	DTR	
25	Optional Power	9-32 VDC	

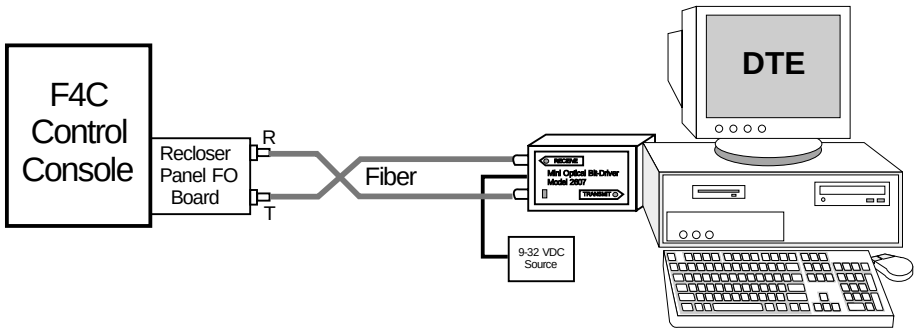
* Pins connected together (no source/sink)
** Pins connected together to internal +12 VDC

OPERATING DISTANCE FOR FIBER OPTIC CABLE

Fiber Size (Microns)	Attenuation dB/Km	Distance Meters	Distance Feet
50	3.0	3500	10000
62.5	4.0	5600	17000
100	5.0	4000	12000
10 SM	1.0	7000	23000

SM - Single mode (1300nm) option

TYPICAL APPLICATION



For application engineering assistance: 630-761-3640 FAX: 630-761-3644 S.I.Tech, P.O.Box 609, Geneva, Illinois 60134 U.S.A. Web site: http://www.sitech-bitdriver.com.

Model 2617

S.I.TECH

Optical Ruggedized Asynchronous Mini Bit - Driver®

Operation Mode: Asynchronous, simplex or full duplex

Input/Output Interface: RS-232-C, DB-9 female Asynchronous 0.3 to 115 Kbps

Transmission Line Interface: ST connector is standard for interfacing with fiber optic duplex cable (SMA option)

Optical Power into a 50 Micron Core Optical fiber: 30 microwatts, 10 dB power budget @ 850 nm (660 & 1300 nm option)

Receiver Sensitivity: 3 uw at less than 10^{-9} bit error rate

Operating Temperature: -40 ^{o}C to +85 ^{o}C (-20 to +60 ^{o}C SM)

Metal Enclosure: 1.25" X 1.825" X 6.00" (3.17 X 4.76 X 15.24 cm)

Input Power: 10 - 32 VDC external source, S.I. Tech #2121 or 2164 (Universal power option)

Weight: 0.60 lbs. (270 grams)

UL listed. Meets FCC requirement of Class A, Part 15 Computing Devices Standard.

FEATURES

- 0.3 to 115.0 Kbps asynchronous operation on fiber optic cable simplex or duplex operation
- Distance capability (See chart)
- -40 ^{o}C to +85 ^{o}C operating range (-20 to +60 ^{o}C SM)
- ST connector receptacle (SMA option)
- DTE or DCE switch selectable (See table below)
- Direct or Loop mode switch selectable (See typical application drawing)
- Status indicator LEDs: RS-232, Tx & Rx for fiber
- Universal power option 85 to 260 VAC/DC

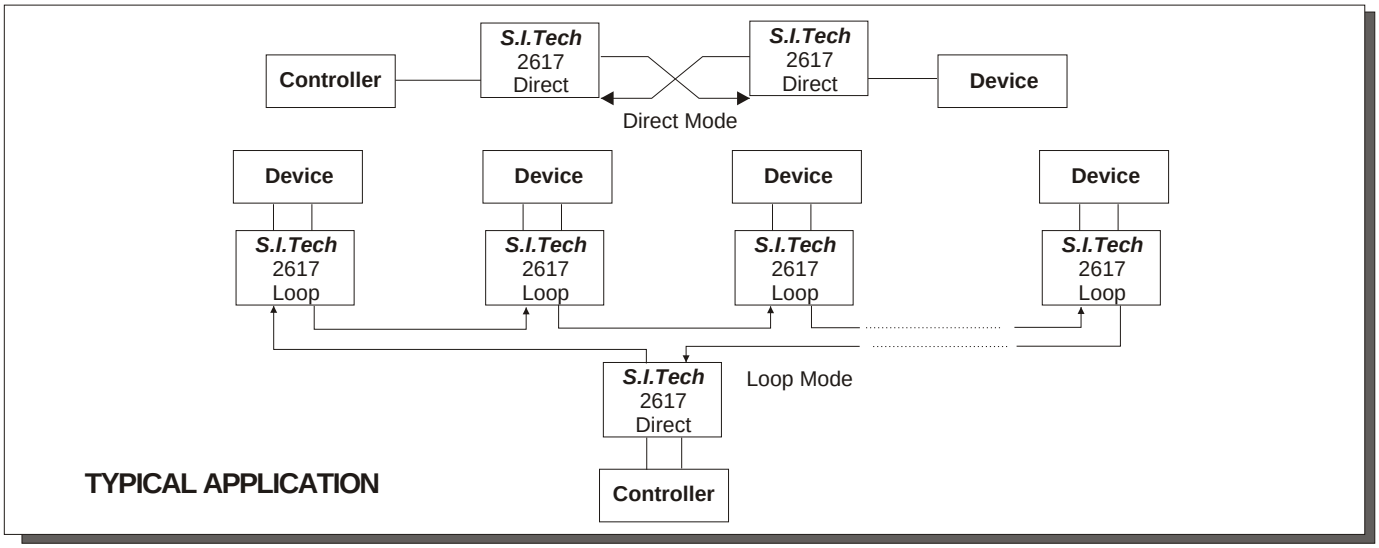
RS-232 Connector Pins Utilized by 2617 Mini Bit-Driver (DB-9 FEMALE)

DB-9 (DCE)	DB-9 (DTE)	2617	Description	Symbol	Signal Direction
1	1	N/C			
2	3	Data out	Received Data	RD	From DCE
3	2	Data in	Transmitted Data	TD	To DCE
4	4	Loop to 6	Data Terminal Ready	DTR	To DCE
5	5	Signal GND.	Signal GND.	SG	Common
6	6	Loop to 4	Data Set Ready	DSR	From DCE
7	7	Loop to 8	Request to Send	RTS	To DCE
8	8	Loop to 7	Clear to Send	CTS	From DCE
9	9	N/C			

OPERATING DISTANCE FOR FIBER OPTIC CABLE

Fiber Size (Microns)	Attenuation dB/km	Distance Meters	Distance Feet
1000	200	100	330
50	3.0	3500	10000
62.5	4.0	5600	17000
10 SM	1.0	7000	23000

SM - Single mode (1300nm) option | 1000 Micron fiber with 660nm High Power Option (20dB)



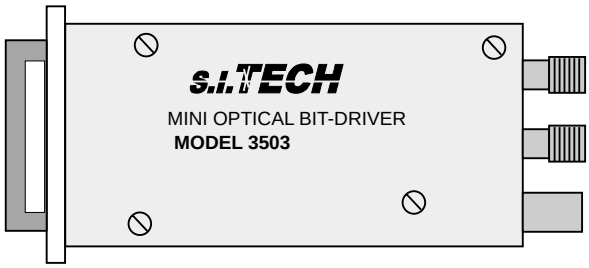
TYPICAL APPLICATION

For application engineering assistance: 630-761-3640 FAX: 630-761-3644 S.I.Tech, P.O.Box 609, Geneva, Illinois 60134 U.S.A. Web site: http://www.sitech-bitdriver.com.

Model 3503

S.I.TECH

Optical Asynchronous/Synchronous Mini Bit - Driver ®



Features:

- Full duplex synchronous DC to 9.6 Kbps, asynchronous DC to 19.2 Kbps with control signals
- 6600 ft. (2 Km) maximum distance capability
- -20° C to 85° C operating range
- SMA connector receptacle
- Switch selectable speeds in sync operation
- Designed to meet TEMPEST specification

Operation Mode: Asynchronous/synchronous, full duplex with control signals

Input/Output Interface: RS-232-C, Type D, connects to terminal (RS232 cable not required)

Transmission Line Interface: SMA connector is standard for interface with fiber optic duplex cable (ST option)

Optical Power into a 50 Micron Core Optical Fiber: 1 microwatt, 15 dB power budget @ 850 nanometers

Receiver Sensitivity: 30 nanowatts at less than 10^{-9} bit error rate

Operating Temperature: -20 ° C to 85 ° C

Input Power: External with power supply (S.I.Tech #2103 - 110/230 VAC to 12 VDC)

Metal Enclosure: 1.67" X 4" X 0.87" (4.25 X 10.2 X 2.2 cm)

Weight: 0.37 lb.(190 grams)

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

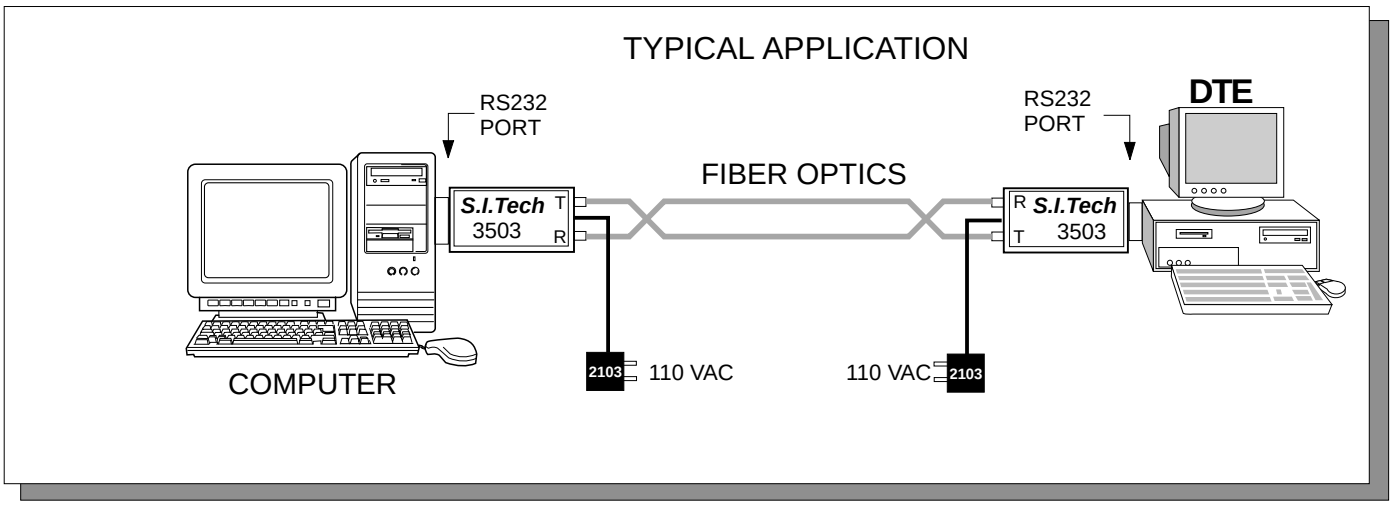
RS - 232 CONNECTOR PINS UTILIZED BY 3503 BIT DRIVER® (MALE)

Pin No	Description	Symbol	DTE DCE
1	Ground	Chassis Ground	◄►
2	Transmitted Data	TXD	►
3	Received Data	RXD	◄
4	Request to Send	RTS	►
5	Clear to Send	CTS	◄
6	Data Set Ready	DSR	◄
7	Signal Ground	Sig. Gnd.	◄►
8	Data Carrier Detect	DCD	◄
17	Receive Clock	Rx Clock	
20	Data Terminal Ready	DTR	►
21	Signal Quality Detector	SQD	
24	Transmit Clock	TXQ	

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
100	5.0	2000	6600

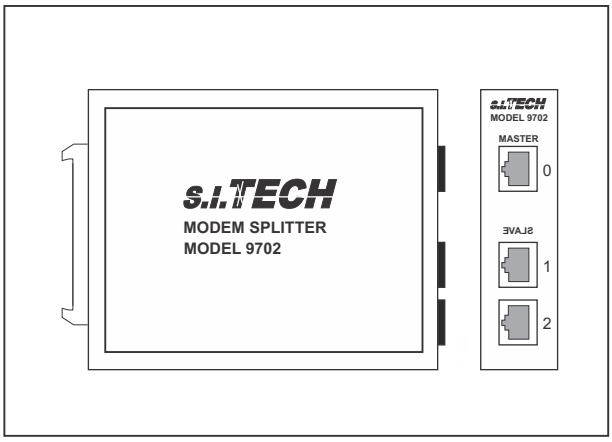
* High power option available



For application engineering assistance: 630-761-3640 FAX: 630-761-3644 S.I.Tech, P.O.Box 609, Geneva, Illinois 60134 U.S.A. Web site: http://www.sitech-bitdriver.com.

Model 9702

Modem Splitter



Features:

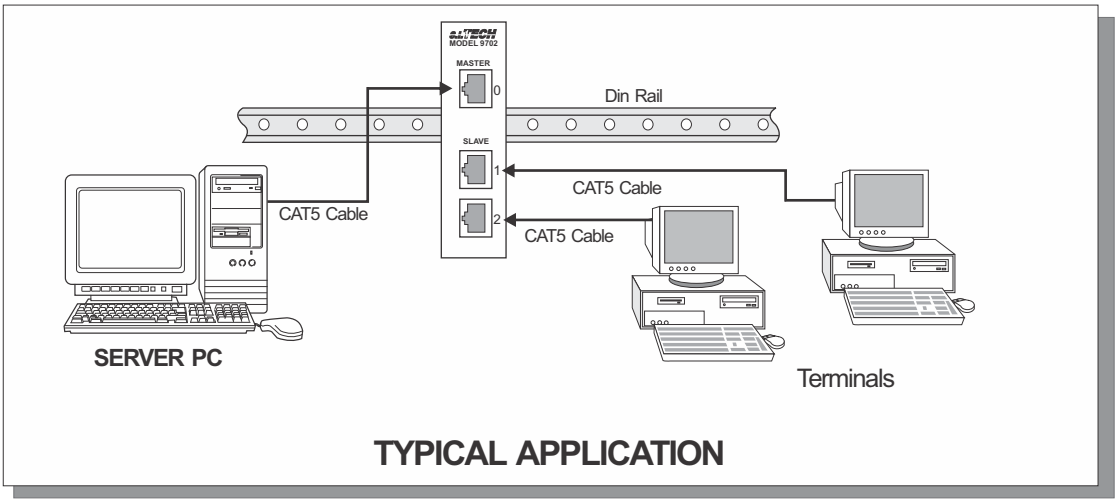
- Modem sharing for two users. Connect multiple terminals to one modem and save on the expense of extra modems and lines.
- Perfect for office or workgroups that perform limited data communications or only connect to the Internet occasionally.
- Inexpensive, non-powered, easy to use.
- Transparent to speed and protocol.

Leads Supplied: Pins 1 - 8
Main Channel Interface: DTE
Protocol: Asynchronous
Subchannel Interface: DCE
Interface: RS-232 (Master port DTE, slave ports DCE)
Connectors: RJ45 Connector
Metal Enclosure Size: 4.15" X 3.65" X 1.21" (10.45 X 9.27 X 3.10 cm) Din Rail Mounting
Weight: 1 lb. (0.6 kg)

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

Pinout for RJ-45 Connectors

Pin#	Symbol	Description
1	DCD	Data Carrier Detect
2	RD	Receive Data
3	TD	Transmit Data
4	DTR	Data Terminal Ready
5	GRD	Ground
6	DSR	Data Set Ready
7	RTS	Request to Send
8	CTS	Clear to Send

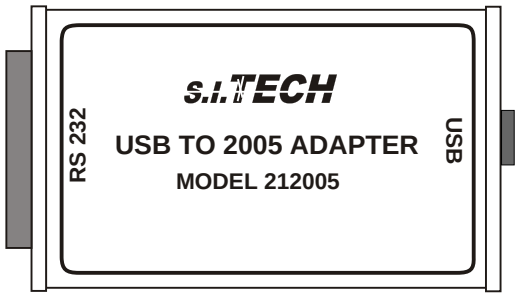


TYPICAL APPLICATION

For application engineering assistance: 630-761-3640 FAX: 630-761-3644 S.I.Tech, P.O.Box 609, Geneva, Illinois 60134 U.S.A. Web site: http://www.sitech-bitdriver.com.

Model 212005

USB to RS-232 Adapter



Operation Mode: Asynchronous
Input Interface: USB
Output Interface: RS-232-C, Serial Data
Operating Temperature: 0 ^{O}C to 50 ^{O}C
Metal Enclosure: 1.75 x 3 x 0.625 in (4.5 x 7.5 x1.6 cm)
Weight: 0.25 lb (100 grams)
Power: Powered from USB port of a computer

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

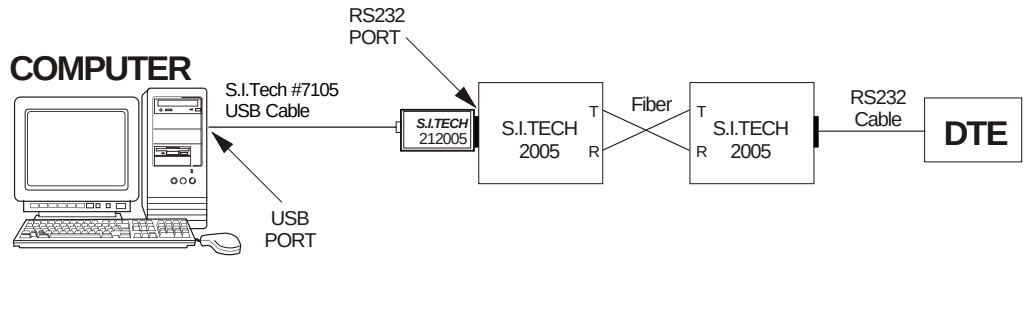
Features:

- Plugs directly into S.I.Tech 2005 DB25 connector
- Connects to any PC with USB port use S.I.Tech #7105 USB Cable
- 300 to 115.2 Kbps Data Rates
- Works with Model 2005 Bit-Driver

Note: Requires virtual COM port (VCP) drivers supplied on disk. VCP drivers map a COM port to 212005. COM port assignment is found in Windows Device Manager under the ports tab.

RS - 232 CONNECTOR PINS UTILIZED

DB-9M Pin No.	DB-25M Pin No.	Description	Symbol	DTE DCE
-	1	Protective Ground	Chassis Ground	◄►
3	2	Transmitted Data	TXD	►
2	3	Received Data	RXD	◄
7	4	Request to Send	RTS	►
8	5	Clear to Send	CTS	◄
6	6	Data Set Ready	DSR	►
5	7	Signal Ground	Sig. Gnd.	◄►
1	8	Data Carrier Detect	DCD	◄
4	20	Data Terminal Ready	DTR	◄



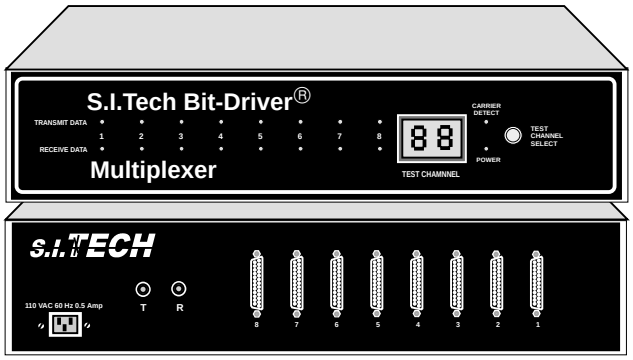
TYPICAL APPLICATION

For application engineering assistance: 630-761-3640 FAX: 630-761-3644 S.I.Tech, P.O.Box 609, Geneva, Illinois 60134 U.S.A. Web site: http://www.sitech-bitdriver.com.

Model 2006

S.I.TECH

Fiber Optic Bit - Driver ® Multiplexer



S.I Tech Model 2006 Bit-Driver® multiplexer is ideal for in-house data transmission where you have clustered terminal situations. It delivers eight full duplex ports capable of moving up to 19.2 Kbps in either synchronous or asynchronous modes, without using flow control or buffering techniques, resulting in absolute minimum throughput delay. Aggregate speed is 160 Kbps. Each port on the multiplexer is fully independent, allowing mode (synchronous or asynchronous) mixing. There are five switch-selectable, synchronous data rates per channel.

Model 2006 is an eight channel time division multiplexer, providing eight Bit-Driver® links using one optical cable interface. Fiber optic cable offers complete immunity to EMI/RFI interference problems for secure data transmission in noisy environments.

Status indicators show the activity of each channel and the integrity of the link. If a problem develops, you can select a digital loopback for any channel at both ends of the link without interrupting the data flow on the other seven channels. If transmission line problems are suspected, an analog loopback can be selected and the cable will be included in the test loop. Operating distance is 6600 feet (2 Km), 5 Km option.

Operation Mode: Asynchronous/Synchronous simplex or full duplex.
Input/Output Interface: RS-232-C, Type D at 0 to 19.2 kbps.
Phase Distortion: Less than 12.5%
RTS/CTS Delay Time: 0
Number of Channels: 8
Optical Power into a 50 Micron core Optical Fiber:
Transmission Wavelength: 10 microwatts
Receiver Sensitivity: 820 nanometers (1300 nm option) 1 microwatts at less than 10^{-9} bit error rate
Optical Connector: ST or SMA metal receptacle
Operating Temperature: 0 ºC to 50 ºC
Input Power: 105 to 130 VAC 60 Hz, 50 W Power transformer secondary fused and operates from 50 to 520 Hz Detachable power supply cord
Metal Enclosure: 17.25" X 10" X 4.125" (43.8 X 25.4 X 10.5 cm) - rack mounting with ears
Weight: 12 lbs. (5.45 Kg)
220 Volt Version: Model 2006V

National stock No. 6008-01-365-1380 JZ

UL & CSA listed. Meets FCC requirements of Class A, Part 15 Computing Devices Standard.
Specifications subject to change without notice.

Operating Distance for Fiber Optic Cable

Fiber Size (Microns)	Attenuation dB/km	Distance* Meters	Distance* Feet
100	5.0	2000	6600
62.5	4.0	2000	6600
50	3.0	2000	6600
10**	1.0	7000	23000

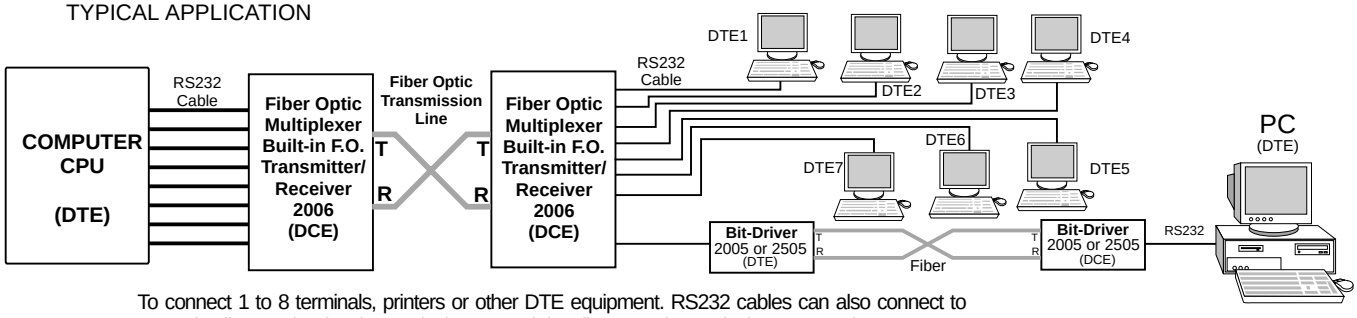
* Short length of some fiber types can overload the receiver, see installation instructions.
** Single Mode Optional

RS - 232 CONNECTOR PINS UTILIZED BY 2006 MULTIPLEXER

Pin No	EIA Designation	Description	Symbol	DTE DCE
1	AA	Protective Ground	Chassis Ground	↔
2	BA	Transmitted Data	TXD	→
3	BB	Received Data	RXD	←
4*	CA	Request to Send	RTS	→
5	CB	Clear to Send	CTS	←
6	CC	Data Set Ready	DSR	←
7	AB	Signal Ground	Sig. Gnd.	↔
8	CF	Data Carrier Detect	DCD	←
15**	DB	Transmission Signal Element Timing		
17**	DD	Receiver Signal Element Timing		

* Optional signal not required for normal operation.
** Pins 15 and 17 are needed for synchronous terminals only.

TYPICAL APPLICATION



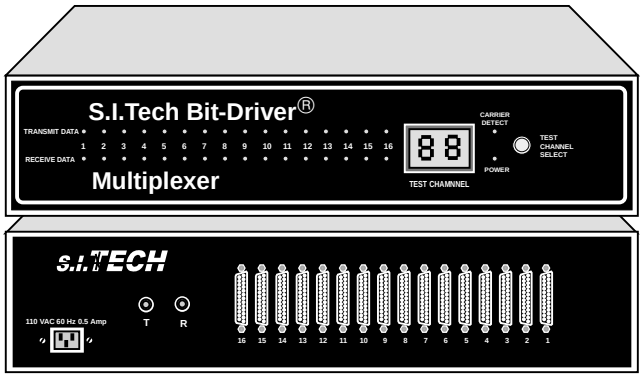
To connect 1 to 8 terminals, printers or other DTE equipment. RS232 cables can also connect to S.I.Tech Fiber Optic Bit-Driver to further extend the distance of a particular DTE equipment.

For application engineering assistance: 630-761-3640 FAX: 630-761-3644 S.I.Tech, P.O.Box 609, Geneva, Illinois 60134 U.S.A. Web site: http://www.sitech-bitdriver.com.

Model 2016

S.I.TECH

Fiber Optic Bit - Driver ®
Asynchronous Time Division Multiplexer



S.I Tech Model 2016 Bit-Driver® multiplexer is ideal for in-house data transmission where you have clustered terminal situations. It delivers 16 full duplex ports capable of moving up to 19.2 Kbps in asynchronous mode, without using flow control or buffering techniques, resulting in absolute minimum throughput delay. Aggregate speed is 320 Kbps. Each port on the multiplexer is fully independent.

Model 2016 is a sixteen channel communications system, providing 16 Bit-Driver® links using one optical cable interface. Fiber optic cable offers complete immunity to EMI/RFI interference problems for secure data transmission in noisy environments.

Status indicators show the activity of each channel and the integrity of the link. If a problem develops, you can select a digital loopback for any channel at both ends of the link without interrupting the data flow on the other fifteen channels. If transmission line problems are suspected, an analog loopback can be selected and the cable will be included in the test loop. Operating distance is 6600 feet (2 Km), 5 Km option.

Operation Mode: Asynchronous, simplex or full duplex.
Input/Output Interface: RS-232-C, Type D Asynchronous at 0 to 19.2 kbps.
Phase Distortion: Less than 12.5%
RTS/CTS Delay Time: 0
Number of Channels: 16
Optical Power into a 50 Micron core Optical Fiber: 10 microwatts
Transmission Wavelength: 820 nanometers (1300 nm option)
Receiver Sensitivity: 1 microwatts at less than 10^{-9} bit error rate
Optical Connector: ST or SMA metal receptacle
Operating Temperature: 0 ^{O}C to 50 ^{O}C
Input Power: 105 to 130 VAC 60 Hz, 50 W
Power transformer secondary fused and operates from 50 to 520 Hz
Detachable power supply cord
Metal Enclosure: 17.25" X 10" X 4.125" (43.8 X 25.4 X 10.5 cm) - rack mounting with ears
Weight: 12 lbs. (5.45 Kg)
220 Volt Version: Model 2016V

UL & CSA listed. Meets FCC requirements of Class A, Part 15 Computing Devices Standard.
Specifications subject to change without notice.

Operating Distance for Fiber Optic Cable

Fiber Size (Microns)	Attenuation dB/km	Distance* Meters	Distance* Feet
100	5.0	2000	6600
62.5	4.0	2000	6600
50	3.0	2000	6600
10 SM	1.0 **	7000	23000

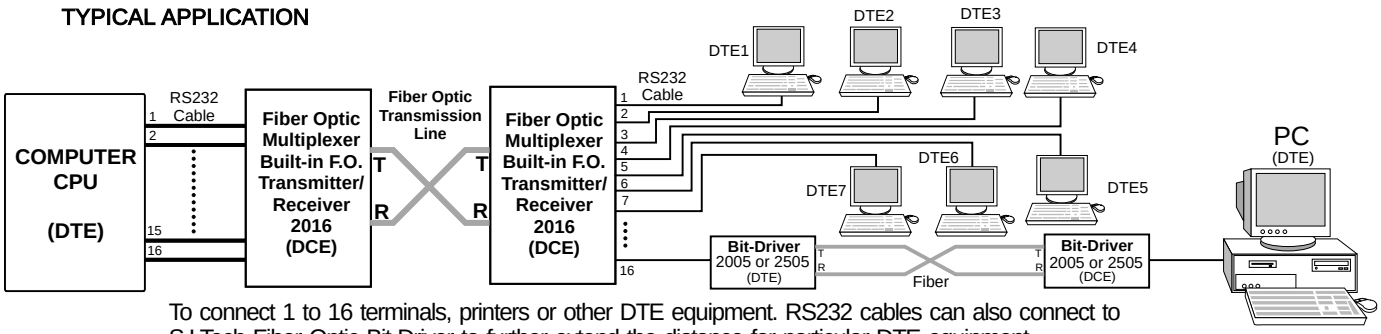
** Single Mode Option
* Short length of some fiber types can overload the receiver, see installation instructions.

RS - 232 CONNECTOR PINS UTILIZED BY 2016 MULTIPLEXER

Pin No	EIA Designation	Description	Symbol	DTE DCE
1	AA	Protective Ground	Chassis Ground	↔
2	BA	Transmitted Data	TXD	→
3	BB	Received Data	RXD	←
4*	CA	Request to Send	RTS	→
5	CB	Clear to Send	CTS	←
6	CC	Data Set Ready	DSR	←
7	AB	Signal Ground	Sig. Gnd.	↔
8	CF	Data Carrier Detect	DCD	←

* Optional signal not required for normal operation.

TYPICAL APPLICATION



To connect 1 to 16 terminals, printers or other DTE equipment. RS232 cables can also connect to S.I.Tech Fiber Optic Bit-Driver to further extend the distance for particular DTE equipment.

For application engineering assistance: 630-761-3640 FAX: 630-761-3644 S.I.Tech, P.O.Box 609, Geneva, Illinois 60134 U.S.A. Web site: http://www.sitech-bitdriver.com.

Model 2559

S.I.TECH

Optical Asynchronous Ruggedized Multiplexer Bit-Driver ®

Features:

- Up to 115 Kbps asynchronous operation on fiber optic cable, simplex or full duplex operation with 2 channels
- 2 channels RS-232
- −40 °C to + 80 °C operating range (-20 to + 60 °C SM)
- Metal ST connector receptacle (SMA option)
- LED indicators for power, transmit and receive data
- Female RS-232C (V.24) connector
- Complies with IEEE C37.90.1
- IEC 801 Surge Protection
- Panel Mounting Brackets
- See distance chart

Operation Mode: Asynchronous, simplex or full duplex 2 CH
Input/Output Interface: RS-232-C, asynchronous 2 Channels
Transmission Line Interface: Metal ST connector is standard for interfacing with fiber optic du plex cable (SMA option, FC option for SM)
Transmission Distance: See distance chart
Optical Power into a 62.5 Mic ron Core Optical Fiber: 20 microwatts, 10 dB powe r budget @ 820 nanometers (1300 nm O ption)
Receiver Sensitivity: 2 microwatts at better than 10^{-9} bit error rate
Operating Temperature: -40 °C to 80 °C for multimode
-20 °C to 60 °C for single mode
Metal Enclosure: 7.25 X 2.28 X 1.3 in (18.4 X 5.8 X 3.3 cm)
Weight: 1.2 lb. (640 grams)
Input Power: 85 V to 260 VAC or DC (+24 VDC and -4 8 VDC Option)

DB-25 FEMALE CONNECTOR PINS UTILIZED BY 2559 MINI BIT - DRIVER (FEMALE)

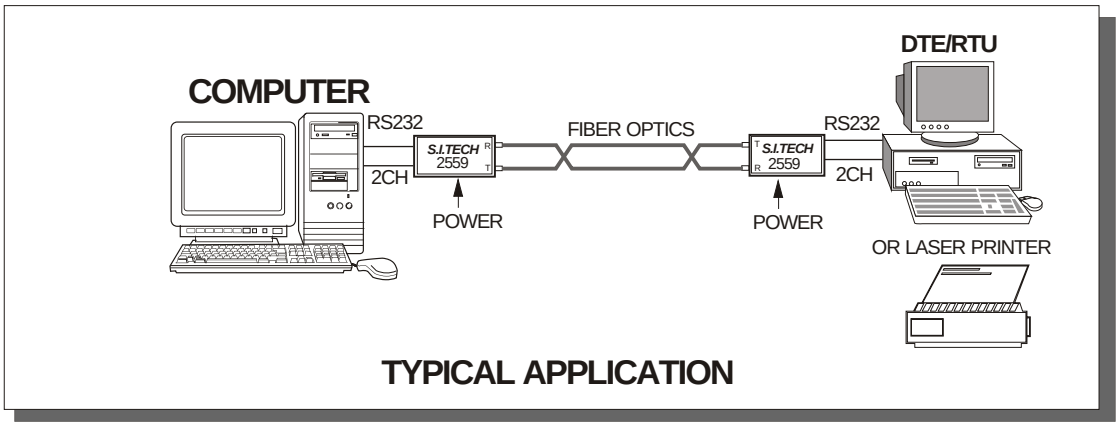
Pin No.	EIA DESIG.		Description	Symbol
1	AA		Signal Ground	Chassis Gnd.
2	BA	CH1	Transmitted Data	TXD1
3	BB	CH1	Received Data	RXD1
4	CA	CH2	Transmitted Data	TXD2
5	CB	CH2	Received Data	RXD2
7	AB		Signal Ground	Sig. Gnd.

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 SM	1.0	5000	16000

* High power option available. SM - Single Mode (1300nm) option
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 connection.

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



TYPICAL APPLICATION

For application engineering assistance: 630-761-3640 FAX: 630-761-3644 S.I.Tech, P.O.Box 609, Geneva, Illinois 60134 U.S.A. Web site: http://www.sitech-bitdriver.com

Model 2565

S.I.TECH

Optical Asynchronous Ruggedized Multiplexer Bit-Driver ®

Features:

- Up to 115 Kbps/CH asynchronous operation on fiber optic cable, simplex or full duplex operation with 2 channels
- 2 channels RS-232 (See options below)
- −40 °C to + 80 °C operating range (-20 to + 60 °C SM)
- Metal ST connector receptacle (SMA option)
- LED indicators for power, transmit and receive data
- Female DB-9 connector
- See distance chart
- DIN Rail Mounting

Operation Mode: Asynchronous, simplex or full duplex
Input/Output Interface: DB9-S
Transmission Line Interface: Metal ST connector is standard for interfacing with fiber optic duplex cable (SMA option, FC option for SM)
Transmission Distance: See distance chart
Optical Power into a 62.5 Micron Core Optical Fiber: 20 microwatts, 10 dB power budget @ 820 nanometers (1300 nm Option)
Receiver Sensitivity: 2 microwatts at better than 10^{-9} bit error rate
Operating Temperature: -40 °C to 80 °C for multimode
-20 °C to 60 °C for single mode
Metal Enclosure: 4.15" X 3.65" X 1.21" (10.54 X 9.27 X 3 cm) DIN Rail Mounting
Weight: 0.75 lb (340 Grams)
Input Power: 10 to 32VDC, 3W

2565 DB-9 Pinout: Female Connector

Pin 1 DCD - (Fiber Start)	Pin 6 DSR - (DSR)
Pin 2 RD - (Out)	Pin 7 RTS - (In to CTS)
Pin 3 TD - (In to RD)	Pin 8 CTS - (Out)
Pin 4 DTR - (Not Used)	Pin 9 N/C
Pin 5 Ground	

Note: RTS/CTS can be used as 2nd channel.

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 SM	0.35	10000	33000

* High power option available. SM - Single Mode (1300nm & 1550nm) options.
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 connection.

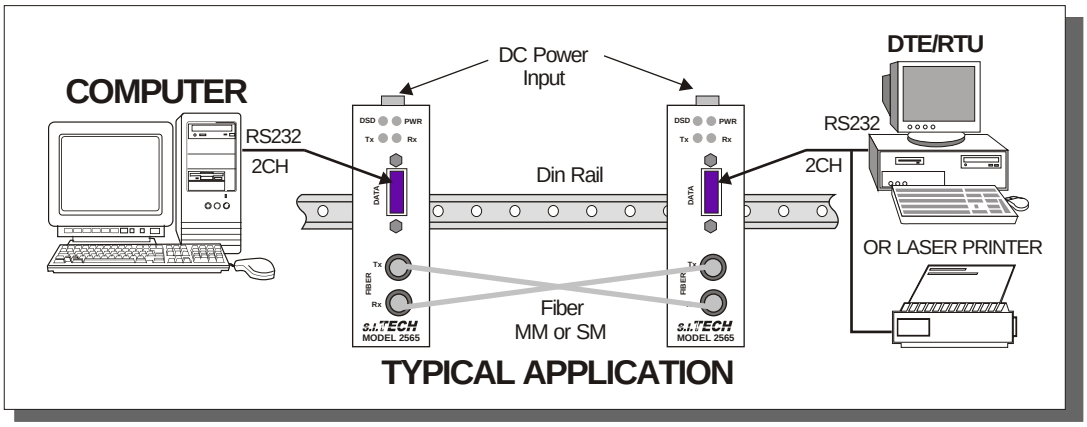
Meets FCC requirements of Class A, Part 15 Computing Devices Standard.
Specifications subject to change without notice.

Interface Options: Multiplexer

RS-232: 1 or 2 Channels (115 Kbps)
RS-422: 1 or 2 Channels (115 Kbps)
RS-485: 1 or 2 Channels (115 Kbps)

Related Products

2560/2561/2562
2360 cards and 3000 rack



TYPICAL APPLICATION

For application engineering assistance: 630-761-3640 FAX: 630-761-3644 S.I.Tech, P.O.Box 609, Geneva, Illinois 60134 U.S.A. Web site: http://www.sitech-bitdriver.com