

### Video, Audio, and Alarm System Modems 01/07/15







Stand Alone Bit-Driver®

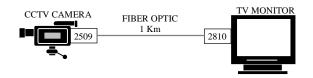
Stand Alone Bit-Driver<sup>®</sup>

USA & International Headquarters 1101 N. Raddant Road Batavia, IL 60510 Phone: (630) 761-3640 Fax: (630) 761-3644 Web Site: <u>http://www.sitech-bitdriver.com</u> ©2015 S.I. Tech, Inc. All Copy and Images VIDEO, AUDIO, AND ALARM PRODUCTS

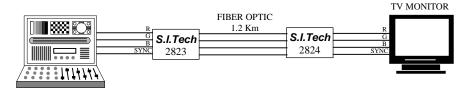


### VIDEO, AUDIO, AND ALARM SYSTEMS

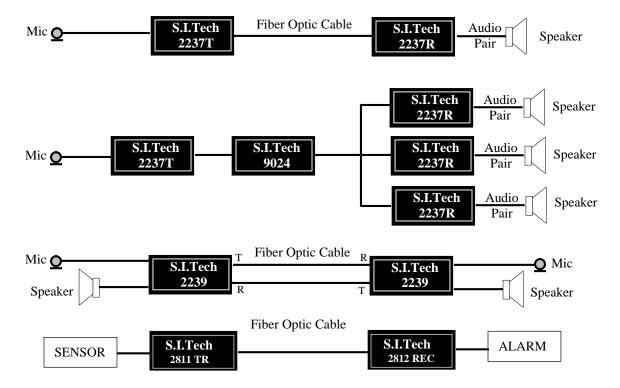
Closed circuit television typically consists of a video camera and a TV monitor that uses a baseband video signal at 6 MHz bandwidth as opposed to broadband video used in cable television or broadcast TV Channels 2 to 900, which uses 950 MHz total bandwidth.



Baseband video is also used with computers. Computer monitors use red, green, blue, and sync pulse schemes. Each color uses a full 6 MHz bandwidth. To remote a computer monitor from a computer, all three colors and sync pulse need to be transmitted from Point A to Point B.



Audio or analog signals are typically low frequency signals usually from 0.03 Hz to 40 KHz range. Voice communications uses these signals. If digitized, audio requires 64 Kbps bandwidth per channel. The standard telephone system uses an analog system. However, all long distance telephone uses digital communication i.e. T1 at 1.54 Mbps (24 Channel voice).



Analog systems are also used for alarm systems or on/off systems such as closing and opening doors. Relay contacts are used.

Periode         Periode         Periode         Point	Package         Flack         Fiber         Fiber         Point         LBIKG           No.         Aone Mini         Card         bps         Option*         Ender         Point         LBIKG           10.         No.         Aone Mini         Card         bps         0         1,2         BNC         ST         v         0,4/2           2379         v         v         15M         1,2         BNC         ST         v         0,4/2           2380         v         v         15M         6         BNC <f< td="">         ST/SMA         ST         v         0,4/2           2809         v         15M         6         BNC-F         ST/SMA         ST         v         0,4/2           2810         v         12         BNC-F         ST/SMA         ST         v         0,4/2           2811         v         12         BNC-F         ST/SMA         ST         v         0,4/2           2823         v         12         BNC-F         ST/SMA         ST         v         2/1           2823         v         3.5 Gbps         6         HDMI         SC</f<>	Model Stan No. Alon 2379 Stan 2379 2 23809 V 2809 V 2809 V 2823 V 2810 V 2823 V 2810 V 2811 V	Package	0		10						
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	Model         Rack No.         Rack Model         Rack No.         Rack Month         Power bys         Power Option*         Fiber Fiber         Point Point         Einer BinG         Point Point         Einer BinG         Point         BinG           2379         r/         v         15M         1.2         BNC         ST         ST         v         0.4/12           2379         r/         v         15M         1.2         BNC         ST         ST         v         0.4/12           2390         v/         r         15M         6         BNC         ST         v         0.4/12           25091         v/         r         15M         6         BNC         ST/SMA         ST         v         0.4/12           2803         v/         r         1.2         BNC         ST/SMA         ST         v/         2/1           2803         v/         r         1.2         BNC         ST/SMA         ST         v/         2/1           2803         v/         r         1.2         BNC         ST/SMA         ST         v/         2/1           2824         v/         r         1.2         BNC         ST/SMA	Model No. 2379 2379 2379 2379 2809 25091L 2809 2809 2809 2809 2809 2809 2810 2829 2829 2829 2829 2823 2824 2829 2810 2829 2811 2317 2317 2317 2317 2317 2317 2317 23		0								
Model No.Stand Anne MiniDend CardDend bysDend ConnectorsConnector MMStand STVOptice LB/KGNo.Alone MiniCard VUV1.2BNCSTSTV0.4/22380VVV15M1.2BNCSTSTV0.4/226091VV15M6BNC-FST/SMASTV0.4/226091VV1.2BNC-FST/SMASTV26/12810V11.2BNC-FST/SMASTV2/12823VV1.2BNC-FST/SMASTV2/12823VV1.2BNC-FST/SMASTV2/12823VV01.2BNC-FST/SMASTV2/12823VV01.2BNC-FST/SMASTV2/12823VV01.2BNC-FST/SMASTV2/12823VV01.2BNC-FST/SMASTV2/12824VV01.2BNC-FST/SMASTV2/12823VV01.2BNC-FST/SMASTV2/12831VV01.2BNC-FST/SMASTV2/12337VV01.2 <th>Model         Stand         Mount         Bandwidth         Power         Connection         ion         Weight           No.         Aonea         Mini         Carl         bps         Option*         ENC         ST         V         0.4/2           2379         V         V         15M         1,2         BNC         ST         V         0.4/2           2309         V         1         15M         1,2         BNC         ST         V         0.4/2           2509         V         1         15M         1,2         BNC         ST         V         0.4/2           2809         V         1         15M         1,2         BNC         ST/5MA         ST         V         2/1           2809         V         1         15M         1,2         BNC         Y         2/1         Z/1           2810         V         1         5M         1,2         BNC         Y         2/1           2824         V         12         BNC         ST/5MA         ST         V         2/1           2824         V         12         BNC         ST/5MA         ST         V         2/1      &lt;</th> <th>Model No. 2379 2509 2509 25091 2809 2810 2824 2810 2824 2823 2823 2823 2823 2823 2823 2823</th> <th></th> <th>Rack</th> <th></th> <th></th> <th></th> <th>Fiber</th> <th></th> <th>Point</th> <th></th> <th></th>	Model         Stand         Mount         Bandwidth         Power         Connection         ion         Weight           No.         Aonea         Mini         Carl         bps         Option*         ENC         ST         V         0.4/2           2379         V         V         15M         1,2         BNC         ST         V         0.4/2           2309         V         1         15M         1,2         BNC         ST         V         0.4/2           2509         V         1         15M         1,2         BNC         ST         V         0.4/2           2809         V         1         15M         1,2         BNC         ST/5MA         ST         V         2/1           2809         V         1         15M         1,2         BNC         Y         2/1         Z/1           2810         V         1         5M         1,2         BNC         Y         2/1           2824         V         12         BNC         ST/5MA         ST         V         2/1           2824         V         12         BNC         ST/5MA         ST         V         2/1      <	Model No. 2379 2509 2509 25091 2809 2810 2824 2810 2824 2823 2823 2823 2823 2823 2823 2823		Rack				Fiber		Point		
No.         Anne         Mni         Card         bps         Option*         MM         SM         Point         LB/KG           2379         i	No.         Anne         Mini         Card         bps         Option*         MM         SM         Point         LB/KG           2379         i         i         v         15M         1.2         BNC         ST         v         0.4/2           2379         i         v         15M         1.2         BNC         ST         v         0.4/2           2300         v         v         15M         6         BNC <f< td="">         ST/SMA         ST         v         0.4/2           25091         v         v         15M         1.2         BNC<f< td="">         ST/SMA         ST         v         25/1           2809         v         v         1.2         BNC<f< td="">         ST/SMA         ST         v         21/1           2810         v         1.2         BNC<f< td="">         ST/SMA         ST         v         21/1           2823         v         0         1.2         BNC<f< td="">         ST/SMA         ST         v         21/1           2830         v         0         1.2         BNC<f< td="">         ST/SMA         ST         v         21/1           2831         v         0         31/4         ST/SM</f<></f<></f<></f<></f<></f<>	No. 2379 2380 2509 25091L 2809 2810 2810 2824 2810 2823 2823 2823 2823 2823 2823 2823 2811 2237 2317 2237 2311 2237 2311 2237 2311 2237 2311 2237 2311 2237 2311 2237 2311 2237 2311 2237 2311 2237 2311 2237 2311 2237 2311 2237 2311 2237 2311 2237 2311 2237 2311 2237 2311 2237 2311 2237 2311 2312 2312		Mount	Bandwidth	Power	Connectors	Connecti	u	to	Weight	
2379 $i$ </th <th>2379         1         1         15M         1.2         BNC         5         5         7         7         0         0.4/2           2509         1         1         1         15M         1.2         BNC         5         551         1         251         1         0         0.4/2           25091         1         1         1         6         BNC         5         STSMA         ST         1         2511           25091         1         1         1         BNC         5         STSMA         ST         1         2511           25091         1         1         1         BNC         5         STSMA         ST         1         2511           2803         1         1         2         BNC         5         STSMA         ST         1         211           2810         1         1         2         BNC         5         STSMA         ST         1         211           2823         1         1         2         BNC         5         STSMA         ST         1         211           2837         1         1         1         ST         BNC</th> <th>2379 2380 2380 25091 25091 25091 25091 25091 25091 2809 2823 2823 2823 2823 2823 2823 2823 2830 28330 28337 22337 22337 22337 22337 22337 22337 22337 22337 22337 22337 22339 223337 22339 22339 22339 223337 223339 2233339 2233358 223336 2233358 223336 223336 2233358 223336 223336 223336 223336 223336 2233328 223336 223356 2223366 223356 223366 223356 223356 223356 223356</th> <th></th> <th>Card</th> <th>bps</th> <th>Option*</th> <th></th> <th>MM</th> <th>SM</th> <th>Point</th> <th>LB/KG</th> <th>Remarks</th>	2379         1         1         15M         1.2         BNC         5         5         7         7         0         0.4/2           2509         1         1         1         15M         1.2         BNC         5         551         1         251         1         0         0.4/2           25091         1         1         1         6         BNC         5         STSMA         ST         1         2511           25091         1         1         1         BNC         5         STSMA         ST         1         2511           25091         1         1         1         BNC         5         STSMA         ST         1         2511           2803         1         1         2         BNC         5         STSMA         ST         1         211           2810         1         1         2         BNC         5         STSMA         ST         1         211           2823         1         1         2         BNC         5         STSMA         ST         1         211           2837         1         1         1         ST         BNC	2379 2380 2380 25091 25091 25091 25091 25091 25091 2809 2823 2823 2823 2823 2823 2823 2823 2830 28330 28337 22337 22337 22337 22337 22337 22337 22337 22337 22337 22337 22339 223337 22339 22339 22339 223337 223339 2233339 2233358 223336 2233358 223336 223336 2233358 223336 223336 223336 223336 223336 2233328 223336 223356 2223366 223356 223366 223356 223356 223356 223356		Card	bps	Option*		MM	SM	Point	LB/KG	Remarks
2380         i         i         i5M         i.2         BNC         ST         i         0.4i.2           2509         i         i         15M         6         BNC-F         STSMA         ST         i         25i.1           25091         i         i         15M         1.2         BNC-F         STSMA         ST         i         25i.1           28090         i         i         1.2         BNC-F         STSMA         ST         i         25i.1           2810         i         1.2         BNC-F         STSMA         ST         i         211           2810         i         1.2         BNC-F         STSMA         ST         i         211           2824         i         i         30M         1.2         BNC-F         STSMA         ST         i         211           2823         i         i         30M         1,2         BNC-F         STSMA         ST         i         211           2830         i         i         30M         1,2         BNC-F         STSMA         ST         i         211           2833         i         i         1,2         BNC-F	2380         i         i         i5M         i.2         BNC         F         ST         i         0.4/.2           2509         i         i         i         i5M         6         BNC         F         STSMA         ST         i         25/.1           25091         i         i         i5M         1.2         BNC         F         STSMA         ST         i         25/.1           28091         i         15M         1.2         BNC         F         STSMA         ST         i         25/.1           2810         i         12         BNC         F         STSMA         ST         i         25/.1           2823         i         i         1.2         BNC         F         STSMA         ST         i         2/1           2823         i         i         1.2         BNC         F         STSMA         ST         i         2/1           2823         i         i         1.2         BNC         F         STSMA         ST         i         2/1           2823         i         i         1.2         BNC         F         STSMA         ST         i         2/1<	2380 2380 2509 2509L 2509L 2509L 2509L 2809 4 2810 4 2823 4 2823 4 2824 4 2823 4 2823 4 28237 4 22337 4 223377 2 233377 4 223377 2 233377 2 22339 2 4 223377 2 22339 2 4 223377 2 223377 2 22339 2 2233377 2 223377 2 2233377 2 2233377 2 223377 2 2233777 2 2233777 2 2233777 2 2233777 2 2233777 2 223377777777		7	15M	1,2	BNC	ST	ST	2	0.4/.2	1 or 2 CH, TR Card Vudeo
2509         i         i         15M         6         BNC-F         ST/SMA         ST         i         25/.1           2509L         i <td>2509         i         15M         6         BNC - F         ST/SMA         ST         i         25/.1           25091L         i         i         15M         6         BNC - F         ST/SMA         ST         i         25/.1           2809         i         15M         1,2         BNC - F         ST/SMA         ST         i         25/.1           2810         i         1         1,2         BNC - F         ST/SMA         ST         i         21/1           2824         i         30M         1,2         BNC - F         ST/SMA         ST         i         21/1           2824         i         30M         1,2         BNC - F         ST/SMA         ST         i         21/1           2824         i         1         BNC - F         ST/SMA         ST         i         21/1           2824         i         1,2         BNC - F         ST/SMA         ST         i         21/1           2824         i         3.5         5         BNC - F         ST/SMA         ST         i         3/1.4           2830         i         i         1,2         BNC - F         ST/SMA         ST</td> <th>2509 2509IL 2 2809 v 2810 v 2823 v 2823 v 2823 v 2823 v Kit #6 v Kit #6 v Kit #5 v 23377 v 23477 v 23377 v 2347 v 2347 v 2347 v 2347 v 2347 v 2347 v 247 v 247</th> <td></td> <td>2</td> <td>15M</td> <td>1,2</td> <td>BNC</td> <td>ST</td> <td>ST</td> <td>7</td> <td>0.4/.2</td> <td>1 or 2 CH, REC Card Vudeo</td>	2509         i         15M         6         BNC - F         ST/SMA         ST         i         25/.1           25091L         i         i         15M         6         BNC - F         ST/SMA         ST         i         25/.1           2809         i         15M         1,2         BNC - F         ST/SMA         ST         i         25/.1           2810         i         1         1,2         BNC - F         ST/SMA         ST         i         21/1           2824         i         30M         1,2         BNC - F         ST/SMA         ST         i         21/1           2824         i         30M         1,2         BNC - F         ST/SMA         ST         i         21/1           2824         i         1         BNC - F         ST/SMA         ST         i         21/1           2824         i         1,2         BNC - F         ST/SMA         ST         i         21/1           2824         i         3.5         5         BNC - F         ST/SMA         ST         i         3/1.4           2830         i         i         1,2         BNC - F         ST/SMA         ST	2509 2509IL 2 2809 v 2810 v 2823 v 2823 v 2823 v 2823 v Kit #6 v Kit #6 v Kit #5 v 23377 v 23477 v 23377 v 2347 v 2347 v 2347 v 2347 v 2347 v 2347 v 247		2	15M	1,2	BNC	ST	ST	7	0.4/.2	1 or 2 CH, REC Card Vudeo
2509L         i	Z509L         V         V         15M         6         BNC-F         ST/SMA         ST         V         25/.1           2809         V         V         V         V         15M         1.2         BNC-F         ST/SMA         ST         V         2/1           2810         V         V         V         1         BNC-F         ST/SMA         ST         V         2/1           2823         V         N         1.2         BNC-F         ST/SMA         ST         V         2/1           2824         V         N         N         1.2         BNC-F         ST/SMA         ST         V         2/1           2824         V         N         N         1.2         BNC-F         ST/SMA         ST         V         2/1           2824         V         N         N         3.5 Gbps         6         HDMI         SC         ST         V         2/1           2830         V         N         1.2         BNC-F         ST/SMA         ST         V         3/1.4           2831         V         N         1.2         BNC-F         ST/SMA         ST         V         3/1.4	2509IL 2809 マ 2810 マ 2810 マ 2823 マ 2824 マ 2829 マ Kit #6 マ Kit #6 マ Kit #15 マ 22377 マ 22377 マ 2311 マ 2311 マ 2312 マ 2312 マ 2312 マ 2312 マ 2312 マ	7		15M	9	BNC - F	ST/SMA	ST	7	.25/.1	1 Ch CCTV Xmtr
2809 $i$ 15M         1,2         BNC-F         ST/SMA         ST $i$ $2/1$ 2810 $i$ 1         15M         1,2         BNC-F         ST/SMA         ST $i$ $2/1$ 2810 $i$ 0         1,5         BNC-F         ST/SMA         ST $i$ $2/1$ 2823 $i$ 0         0         1,2         BNC-F         ST/SMA         ST $i$ $2/1$ 2829 $i$ 0         0         1,2         BNC-F         ST/SMA         ST $i$ $3/14$ 2830 $i$ $i$ $3/1$ $i$	2809         \lap{\begin{tikzlem}{lmm}}{lmm}         1,2         BNC-F         ST/SMA         ST         \lap{\begin{tikzlem}{lmm}}{lmm}         2/1           2810         \lap{\begin{tikzlem}{lmm}}{lmm}         1,2         BNC-F         ST/SMA         ST         \lap{\begin{tikzlem}{lmm}}{lmm}         2/1           2810         \lap{\begin{tikzlem}{lmm}}{lmm}         1,2         BNC-F         ST/SMA         ST         \lap{\begin{tikzlem}{lmm}}{lmm}         2/1           2824         \lap{\lap{\begin{tikzlem}{lmm}}{lmm}         1,2         BNC-F         ST/SMA         ST         \lap{\lap{\lap{\begin{tikzlem}{lmm}}{lmm}}         2/1           2829         \lap{\lap{\begin{tikzlem}{lmm}}{lmm}         1,2         BNC-F         ST/SMA         ST         \lap{\lap{\lap{\lap{\lap{\lap{\lap{	2809 v 2810 v 2810 v 2824 v 2829 v 2830 Kit #6 v Kit #15 v 22377 v 23377 v 23377 v 23377 v 23377 v 23377 v 223377 v 2247 v 2247 v 2247 v 2247 v 224	7		15M	9	BNC - F	ST/SMA	ST	7	.25/.1	1 Ch CCTV Xmtr
2810 $i$ 15M         1,2         BNC-F         ST/SMA         ST $i$ $21$ 2823 $i$	2810         \lap\begin{tikzed}{c}{c}{c}{c}{c}{c}{c}{c}{c}{c}{c}{c}{c}	2810 V 2823 V 2824 V 2829 V 2830 V Kit #6 V Kit #5 V 22377 V 223777 V 223777 V 2247777777 V 22477777777777777777777777777777777777			15M	1,2	BNC - F	ST/SMA	ST	7	2/1	2 to 4 Ch CCVT Video Xmtr
2823 $i$ $i$ $30M$ $1,2$ $BNC$ -F $ST/SMA$ $ST$ $i$ $21$ 2824 $i$ 2829 $i$	2823 $i$ $i$ $30M$ $1,2$ $BNC$ -F $ST/SMA$ $ST$ $i$ $211$ 2824 $i$ 2829 $i$	2823 V 2824 V 2829 V 2830 2830 Kit #6 V Kit #15 V 2237T V 2237T V 2237T V 2237T V 2237T V 2237T V 22311 V 22312 V 23112 V 23112 V 28113 V			15M	1,2	BNC - F	ST/SMA	ST	7	2/1	2 to 4 Ch CCTV Video Rcvr
2824 $i$ 30M         1,2         BNC-F         ST/SMA         ST $i$ $21$ 2829 $i$	2824 $i$ 30M         1,2         BNC-F         ST/SMA         ST $i$ 2/1           2829 $i$	2824 V 2829 V 2830 2830 V Kit #6 V Kit #15 V 2237R V 2237R V 2311 V 2311 V 2312 V 2312 V 2312 V 2811 V 2813 V			30M	1,2	BNC - F	ST/SMA	ST	2	2/1	4 Ch RGB Video Xmtr
2829 $v$ Digitized Video         1,2         BNC/DB9/RCA         SC         ST $v$ 3/1,4           2830 $v$ $v$ $3.5$ Gbps $6$ HDMI         SC         SC $v$ $3.7.2$ Kit #6 $v$ $v$ $15M$ $5.5$ Gbps $6$ HDMI         SC         SC $v$ $3.7.2$ Kit #15 $v$ $v$ $15M$ $r$ $15M$ ST $v$ $3.7.4$ 22337 $v$ $v$ $v$ $1.2$ RCA $ST/SMA$ ST $v$ $3.7.4$ 22337 $v$ $v$ $v$ $1.2$ RCA $ST/SMA$ ST $v$ $3.7.4$ 22339 $v$ $v$ $v$ $1.2$ RCA $ST/SMA$ ST $v$ $3.7.4$ 22339 $v$ $v$ $v$ $1.2$ RCA $ST/SMA$ ST $v$ $3.7.4$ 2311 $v$ $v$ $v$ $v$ <td< td=""><td>2829         <math>v</math>         Digitized Video         1,2         BNC/DB9/RCA         SC         ST         <math>v</math>         3/1.4           2830         <math>v</math> <math>v</math> <math>3.5</math> Gbps         <math>6</math>         HDMI         SC         SC         <math>v</math> <math>3.7.4</math>           2830         <math>v</math> <math>v</math> <math>15M</math> <math>5.5</math> Gbps         <math>6</math>         HDMI         SC         SC         <math>v</math> <math>3.7.4</math>           Kit #15         <math>v</math> <math>v</math> <math>15M</math> <math>1.2</math>         RCA         ST/SMA         ST         <math>v</math> <math>3.7.4</math>           22337         <math>v</math> <math>v</math> <math>v</math> <math>1.2</math>         RCA         ST/SMA         ST         <math>v</math> <math>3.7.4</math>           22339         <math>v</math> <math>v</math> <math>v</math> <math>1.2</math>         RCA         ST/SMA         ST         <math>v</math> <math>3/1.4</math>           22339         <math>v</math> <math>v</math></td><th>2829 V 2830 2830 V Kit #15 V 2237T V 2237R V 2311 V 2311 V 2312 V 2811 V 2813 V 2813 V 2813 V 2813 V</th><td></td><td>3 3</td><td>30M</td><td>1,2</td><td>BNC - F</td><td>ST/SMA</td><td>ST</td><td>2</td><td>2/1</td><td>4 Ch RGB Video Rcvr</td></td<>	2829 $v$ Digitized Video         1,2         BNC/DB9/RCA         SC         ST $v$ 3/1.4           2830 $v$ $v$ $3.5$ Gbps $6$ HDMI         SC         SC $v$ $3.7.4$ 2830 $v$ $v$ $15M$ $5.5$ Gbps $6$ HDMI         SC         SC $v$ $3.7.4$ Kit #15 $v$ $v$ $15M$ $1.2$ RCA         ST/SMA         ST $v$ $3.7.4$ 22337 $v$ $v$ $v$ $1.2$ RCA         ST/SMA         ST $v$ $3.7.4$ 22339 $v$ $v$ $v$ $1.2$ RCA         ST/SMA         ST $v$ $3/1.4$ 22339 $v$	2829 V 2830 2830 V Kit #15 V 2237T V 2237R V 2311 V 2311 V 2312 V 2811 V 2813 V 2813 V 2813 V 2813 V		3 3	30M	1,2	BNC - F	ST/SMA	ST	2	2/1	4 Ch RGB Video Rcvr
2830 $i$ $i$ $3.5  \text{Gbps}$ $6$ HDMI         SC $i$ $i$ $5.2$ Kit #15 $i$ $i$ $15M$ $i$	2830 $i$ $i$ 3.5 Gbps $6$ HDMI         SC $i$ $i$ $i$ Kit #15 $i$ <t< td=""><th>2830 Kit #6 V Kit #15 V 2237T V 2237R V 22399 V Kit #5 V 23112 2312 28112 V 28113 V 2813 V Aesfot Kit V</th><td></td><td></td><td>Digitized Video</td><td>1,2</td><td>BNC/DB9/RCA</td><td></td><td>ST</td><td>2</td><td>3/1.4</td><td>Bi-Directional Video/Audio/Date</td></t<>	2830 Kit #6 V Kit #15 V 2237T V 2237R V 22399 V Kit #5 V 23112 2312 28112 V 28113 V 2813 V Aesfot Kit V			Digitized Video	1,2	BNC/DB9/RCA		ST	2	3/1.4	Bi-Directional Video/Audio/Date
Kit #6 $i$ 15M         15M         15M         ST	Kit #6 $i$ 15M         15M         ST	Kit #6 Kit #15 2237T 2237R 2239 Kit #5 2311 2312 2312 2811 2812 2813 2812 2813 2813	7		3.5 Gbps	9	IMDH	SC	SC	2	.5/.2	HDMI to Fiber
Kit #15 $i$ Digitized Video         SC         SC<	k(t #15         \lambda{\u00ed}         Digitized Video         SC         SC         SC         N           2237T         \lambda{\u00ed}         1         2         R         A         A0K         1,2         RCA         ST/SMA         ST         \lambda{\u00ed}         3/1.4           2237T         \lambda{\u00ed}         1,2         RCA         ST/SMA         ST         \lambda{\u00ed}         3/1.4           22399         \lambda{\u00ed}         1,2         RCA         ST/SMA         ST         \lambda{\u00ed}         3/1.4           22399         \lambda{\u00ed}         1,2         RCA         ST/SMA         ST         \lambda{\u00ed}         3/1.4           22319         \lambda{\u00ed}         1,2         RCA         ST/SMA         ST         \lambda{\u00ed}         3/1.4           2311         \lambda{\u00ed}         1,2         RCA         ST/SMA         ST         \lambda{\u00ed}         3/1.4           2311         \lambda{\u00ed}         -         24VDC         Terminal Block         ST/SMA         ST         \lambda{\u00ed}         3/1.4           2311         \lambda{\u00ed}         -         -         24VDC         Terminal Block         ST/SMA         \lambda{\u00ed}<	Kit #15 2237T 2237R 2239 Kit #5 2311 2312 2312 2811 2812 2813 2813 2813		3	15M			ST	ST			2809/2810 Kit CCTV
$22377$ $\lambda$ $40K$ $1,2$ RCA         ST/SMA         ST $\lambda$ $3/1.4$ $2237R$ $\lambda$ $\lambda$ $40K$ $1,2$ RCA         ST/SMA         ST $\lambda$ $3/1.4$ $2237R$ $\lambda$ $\lambda$ $\lambda$ $\lambda$ $\lambda$ $3/1.4$ $2239$ $\lambda$ $\lambda$ $\lambda$ $\gamma$ $\lambda$ $3/1.4$ $2231$ $\lambda$ $\lambda$ $\lambda$ $\lambda$ $\lambda$ $\lambda$ $\lambda$ $2311$ $\lambda$ $\lambda$ $ 24$ VDC         Terminal Block         ST $\lambda$ $\partial/4$ $2311$ $\lambda$ $\lambda$ $ 24$ VDC         Terminal Block         ST/SMA $\gamma$ $\partial/4$ $2312$ $\lambda$ $\lambda$ $ 24$ VDC         Terminal Block         ST $\lambda$ $D/4$ $2811$ $\lambda$ $  24$ VDC         Terminal Block         ST/SMA $\lambda$ $D/4$ $2813$ $\lambda$ $  -$	2237T         \lambda         40k         1,2         RCA         ST/SMA         ST         \lambda         3/1,4           2237R         \lambda         I         40k         1,2         RCA         ST/SMA         ST         \lambda         3/1,4           22339         \lambda         I         A         40k         1,2         RCA         ST/SMA         ST         \lambda         3/1,4           2239         \lambda         I         A         I,2         RCA         ST/SMA         ST         \lambda         3/1,4           2239         \lambda         I         I,2         RCA         ST/SMA         ST         \lambda         3/1,4           2311         I         V         V         -         24VDC         Terminal Block         ST         V          2/1           2312         V         V         -         -         24VDC         Terminal Block         ST/SMA         ST         V          2/1           2311         V         V         -         -         24VDC         Terminal Block         ST/SMA         N         2/1           2813         V         W         +12 VDC	2237T 2237R 2239 Kit #5 2311 2312 2811 2812 2813 2813 2813 Aesfot Kit			Digitized Video			SC	SC			2829 Kit - Security System
2237R $\lambda$ 40K         1,2         RCA         ST/SMA         ST $\lambda$ 3/1,4           2239 $\lambda$	2237R         \u03bb l         40K         1,2         RCA         ST/SMA         ST         \u03bb l         3/1.4           2239         \u03bb l         \u03bb l         1,2         RCA         ST/SMA         ST         \u03bb l         3/1.4           2239         \u03bb l         I         1,2         RCA         ST/SMA         ST         \u03bb l         3/1.4           Xht #5         \u03bb l         I         I         I         V         3/1.4         3/1.4           2311         \u03bb l         I         V         I         -         24VDC         Terminal Block         ST         V         3/1.4           2312         V         V         -         24VDC         Terminal Block         ST         V         3/1.4           2312         V         V         -         24VDC         Terminal Block         ST/SMA         N         2/1           2813         V         V         -         +12 VDC         Terminal Block         ST/SMA         N         2/1           2813         V         V         -         +12 VDC         Terminal Block         ST/SMA         N         2/1           2813         V	2237R 2239 Kit #5 2311 2312 2811 2812 2813 2813 Aesfot Kit			40K	1,2	RCA	ST/SMA	ST	7	3/1.4	Talker - TR Audio
2239 $v$ 40K         1,2         RCA         ST/SMA         ST $v$ 3/1,4           Kit #5 $v$ $v$ $v$ $z$ z $z$ $z$ z	2239       \vee N       40\K       1,2       RCA       ST/SMA       ST       \vee 3/1.4         Kit #5       \vee N       ST       ST       ST       ST       ST       \vee 3/1.4         2311       \vee N       \vee N       Z4VDC       Terminal Block       ST       ST       \vee 9/.4         2312       \vee N       \vee N       Z4VDC       Terminal Block       ST       \vee N       9/.4         2312       \vee N       -       24VDC       Terminal Block       ST       \vee N       9/.4         2312       \vee N       -       24VDC       Terminal Block       ST       \vee N       2/1         2811       \vee N       -       +12 VDC       Terminal Block       ST/SMA       \vee N       2/1         2813       \vee N       -       +12 OC2 VDC       Terminal Block       ST/SMA       \vee N       2/1         2813       \vee N       -       -       +12 OC2 VDC       Terminal Block       ST/SMA       \vee N       2/1         2813       \vee N       -       -       +12 OC2 VDC       Terminal Block       ST/SMA       \vee N       2/1         2813       \vee N       -       - <th>2239 Kit #5 2311 2312 2811 2812 2813 Aesfot Kit</th> <td></td> <td></td> <td>40K</td> <td>1,2</td> <td>RCA</td> <td>ST/SMA</td> <td>ST</td> <td>7</td> <td>3/1.4</td> <td>Listener - Audio REC</td>	2239 Kit #5 2311 2312 2811 2812 2813 Aesfot Kit			40K	1,2	RCA	ST/SMA	ST	7	3/1.4	Listener - Audio REC
Kit #5 $\vee$ $\vee$ $24$ VDC         Terminal Block         ST         ST $\vee$ $9.4$ 2311 $\vee$ $\vee$ $ 24$ VDC         Terminal Block         ST $\vee$ $9.4$ 2312 $\vee$ $\vee$ $ 24$ VDC         Terminal Block         ST $\vee$ $9.4$ 2312 $\vee$ $\vee$ $ 24$ VDC         Terminal Block         ST $\vee$ $9.4$ 2811 $\vee$ $ +12$ VDC         Terminal Block         ST/SMA $\vee$ $2/1$ 2813 $\vee$ $ +12$ VDC         Terminal Block         ST/SMA $\vee$ $2/1$ Aesfot Kit $\vee$ $\vee$ $  +12$ or $24$ VDC         Terminal Block $ST/SMA$ $\vee$ $2/1$	Kit #5       V       V       -       24VDC       Terminal Block       ST       ST       V       9/.4         2311       V       V       -       24VDC       Terminal Block       ST       Y       9/.4         2312       V       V       -       24VDC       Terminal Block       ST       Y       9/.4         2312       V       V       -       24VDC       Terminal Block       ST       Y       2/1         2811       V       V       +12 VDC       Terminal Block       ST/SMA       V       2/1         2813       V       +12 VDC       Terminal Block       ST/SMA       V       2/1         Aesfot Kit       V       V       -       +12 or 24 VDC       Terminal Block       ST/SMA       V       2/1         Aesfot Kit       V       V       -       +12 or 24 VDC       Terminal Block       ST/SMA       V       2/1         Aesfot Kit       V       V       -       +12 or 24 VDC       Terminal Block       ST       V       2/1         Aesfot Kit       V       V       -       -       -       -       -       2/1         Mesfot Kit       V	Kit #5 2311 2312 2811 2812 2813 Aesfot Kit			40K	1,2	RCA	ST/SMA	ST	7	3/1.4	Two way Audio
2311 $\vee$ $\sim$ 24VDC         Terminal Block         ST $\vee$ $\odot/.4$ 2312 $\vee$ $\vee$ $\sim$ 24VDC         Terminal Block         ST $\vee$ $\odot/.4$ 2312 $\vee$ $\vee$ $\sim$ 24VDC         Terminal Block         ST $\vee$ $\odot/.4$ 2811 $\vee$ $\sim$ $+12$ VDC         Terminal Block         ST/SMA $\vee$ $2/1$ 2812 $\vee$ $= +12$ VDC         Terminal Block         ST/SMA $\vee$ $2/1$ 2813 $\vee$ $= +12$ VDC         Terminal Block         ST/SMA $\vee$ $2/1$ Aesfot Kit $\vee$ $\vee$ $-12$ VDC         Terminal Block         ST/SMA $\vee$ $2/1$	2311       V       -       24VDC       Terminal Block       ST       V       -       9/4         2312       V       -       24VDC       Terminal Block       ST       V       -       9/4         2312       V       -       24VDC       Terminal Block       ST       V       -       9/4         2811       V       -       +12 VDC       Terminal Block       ST/SMA       V       2/1         2812       V       -       +12 VDC       Terminal Block       ST/SMA       V       2/1         2813       V       -       +12 VDC       Terminal Block       ST/SMA       V       2/1         Aesfot Kit       V       -       +12 or 24 VDC       Terminal Block       ST/SMA       V       2/1         Aesfot Kit       V       -       -       10 Kbps Square Wave       Terminal Block       ST       V       6/3	2311 2312 2811 2812 2813 Aesfot Kit						ST	ST			Audio Kit - 2237T/2237R/FO Cable
2312 $v$ $v$ $-$ 24VDC         Terminal Block         ST $v$ $.9/4$ 2811 $v$ $v$ $+12$ VDC         Terminal Block         ST/SMA $v$ $2/1$ 2812 $v$ $ +12$ VDC         Terminal Block         ST/SMA $v$ $2/1$ 2813 $v$ $ +12$ or $24$ VDC         Terminal Block         ST/SMA $v$ $2/1$ Aesfot Kit $v$ $v$ $ +12$ or $24$ VDC         Terminal Block         ST/SMA $v$ $2/1$ Aesfot Kit $v$ $v$ $  -$ </td <td>2312       v       v       -       24VDC       Terminal Block       ST       v       ·y       ·y/4         2811       v       v       v       +12 VDC       Terminal Block       ST/SMA       v       2/1         2812       v       v       +12 VDC       Terminal Block       ST/SMA       v       2/1         2813       v       v       +12 or 24 VDC       Terminal Block       ST/SMA       v       2/1         Aesfot Kit       v       v       v       +12 or 24 VDC       Terminal Block       ST/SMA       v       2/1         Aesfot Kit       v       v       v       v       v       v       2/1         Aesfot Kit       v       v       v       v       v       v       2/1         Aesfot Kit       v       v       v       v       v       v       v/1       v/1</td> <th>2312 2811 2812 2813 2813 Aesfot Kit</th> <td></td> <td>2</td> <td>x</td> <td>24VDC</td> <td>Terminal Block</td> <td>ST</td> <td>ST</td> <td>7</td> <td>.9/.4</td> <td>Card Version 2811</td>	2312       v       v       -       24VDC       Terminal Block       ST       v       ·y       ·y/4         2811       v       v       v       +12 VDC       Terminal Block       ST/SMA       v       2/1         2812       v       v       +12 VDC       Terminal Block       ST/SMA       v       2/1         2813       v       v       +12 or 24 VDC       Terminal Block       ST/SMA       v       2/1         Aesfot Kit       v       v       v       +12 or 24 VDC       Terminal Block       ST/SMA       v       2/1         Aesfot Kit       v       v       v       v       v       v       2/1         Aesfot Kit       v       v       v       v       v       v       2/1         Aesfot Kit       v       v       v       v       v       v       v/1       v/1	2312 2811 2812 2813 2813 Aesfot Kit		2	x	24VDC	Terminal Block	ST	ST	7	.9/.4	Card Version 2811
2811         \lambda{\begin{timestimate{2}{2}}{1}         ***         +12 VDC         Terminal Block         ST/SMA         \lambda{\begin{timestimate{2}{2}}{1}         2/1 <td>2811         \lambda{\text{Black}}         ***         +12 VDC         Terminal Block         \$</td> <th>2811 2812 2813 Aesfot Kit</th> <td></td> <td>7</td> <td>3</td> <td>24VDC</td> <td>Terminal Block</td> <td></td> <td>ST</td> <td>2</td> <td>.9/.4</td> <td>Card Version 2812</td>	2811         \lambda{\text{Black}}         ***         +12 VDC         Terminal Block         \$	2811 2812 2813 Aesfot Kit		7	3	24VDC	Terminal Block		ST	2	.9/.4	Card Version 2812
v         ***         +12 VDC         Terminal Block         ST/SMA         v         2/1           v         **         +12 or 24 VDC         Terminal Block         ST/SMA         v         2/1           v         **         +12 or 24 VDC         Terminal Block         ST/SMA         v         2/1           v         v         *         *12 or 24 VDC         Terminal Block         ST/SMA         v         2/1	v         ***         +12 VDC         Terminal Block         ST/SMA         v         2/1           v         **         +12 or 24 VDC         Terminal Block         ST/SMA         v         2/1           v         v         **         +12 or 24 VDC         Terminal Block         ST/SMA         v         2/1           v         v         *         *12 or 24 VDC         Terminal Block         ST/SMA         v         2/1           v         v         *         *12 or 24 VDC         Terminal Block         ST/SMA         v         2/1           v         v         *         ***         ****         ****         ****         ****         ****				***	+12 VDC	Terminal Block			2	2/1	Transmitter
V         ***         +12 or 24 VDC         Terminal Block         ST/SMA         V         2/1           V         V         -         Terminal Block         ST         V         6/3	V         ***         +12 or 24 VDC         Terminal Block         ST/SMA         V         2/1           V         V         -         Terminal Block         ST         ST         V         6/3           *** 10 Kbps Square Wave         *** 10 Kbps Square Wave         ****         ***         ****         ***         ****         ***         ***         ****         ****         ****         ****         ****         *****         *****         *****         *****         *******         ******         ****** <th></th> <td></td> <td></td> <td>***</td> <td>+12 VDC</td> <td>Terminal Block</td> <td>ST/SMA</td> <td></td> <td>2</td> <td>2/1</td> <td>Receiver</td>				***	+12 VDC	Terminal Block	ST/SMA		2	2/1	Receiver
ا - Terminal Block ST کا 6/3 در 10	V         V         -         Terminal Block         ST         V         6/3           *** 10 Kbps Square Wave	Aesfot Kit			***	+12 or 24 VDC	Terminal Block	ST/SMA		1	2/1	Transmitter-Receiver
"Thaad" Program				7	.1	3	Terminal Block	ST	ST	7	6/3	Antenna Control, Military System
	*** 10 Kbps Square Wave											"Thaad" Program

TABLE I

\*\* Pin outs are specified in data sheets

Temperature range 0 - 50 degrees C unless shown otherwise. Extended Temperature (ET) range available on some products.

# HOW TO ORDER

A COMPANY A CONTRACT OF A CONT				
Base Model			Fiber	
		Data	Multimode	
Number	Power*	Connector**	(MM)-STD	Temperature
XXXX	1. 110 VAC - STD	M or F	ST-STD	0 - 50° C - STD
	2. 230 VAC - V	(F is STD on most models)	Other-Specify	-40 to +80° C - ET
	6. See Chart	60 mm		Other - Call S.I. Tech
	10-1- T			

e.g. 2823 = 4 Channel RGB Video Transmitter, 110 VAC, BNC Female, ST Connectors, 0-50 Degress C Specifications subject to change without notice.

## s.i.TECh

## **CCTV VIDEO TO FIBER OPTIC BIT-DRIVERS®**





#### 1 or 2 CH. CCTV Video Transmitter Card

- Use with 2810 or 2380 Cards
- □ 3001 rack 19" hold 12 cards, 24 CH
- Multimode or Single mode
- 1 or 2 CH. CCTV Video Receiver Card
- □ Use with 2509/2809/2379 Transmitters
- 3001 rack 19" - hold 12 cards, 24 CH
- Multimode or Single mode

2509









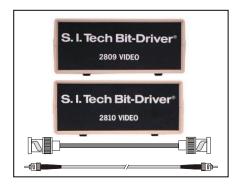
- Mini Optical CCTV Video Bit-Driver® Transmitter
- System Bandwidth is 10Hz to 15MHz
- Powered by +12VDC from camera or external power supply S.I.Tech 2121 (110VAC/12VDC) or 2164 (230VAC/12VDC)
- Video Connector is 75 ohm BNC Female
- Works with S.I. Tech Model 2810 Receiver
- In Line – Connects to Camera (IL)
- Stand Alone Optical CCTV Video Bit-Driver® Transmitter
- System Bandwidth is 10Hz to 15MHz
- Powered by 110V or 230V line cord
- Video Connector is 75 ohm BNC Female
- Works with S.I. Tech Model 2810 Receiver
- Also available as 2809-2, 2809-3 and 2809-4, which are 2, 3 and 4 channels, respectively
- Alternately available in 19 inch Rack
- Stand Alone Optical CCTV Video Bit-Driver® Receiver
- System Bandwidth is 10Hz to 15MHz
- Powered by 110V or 230V Line Cord
- Video Connector is 75 ohm BNC Female
- Works with S.I. Tech Model 2509 and 2809 Transmitters
- Also available as 2810-2, 2810-3 and 2810-4, which are 2,3 and 4 channels, respectively
- Alternately available in 19 inch Rack
- Stand Alone Optical RGB Video Bit-Driver® Transmitter
- Four Channels; R, G, B and Sync
- System Bandwidth is 10Hz to 30MHz
- Input impedance is 75 ohms. BNC Female Coaxial Connector each channel
- Powered by 115V or 230V Line Cord
- S.I. Tech Inc., Batavia, IL 60510 Phone: (630) 761-3640 Fax: (630) 761-3644 Web Site: http://www.sitech-bitdriver.com











- □ Stand Alone Optical RGB Video Bit-Driver® Receiver
- □ Four Channels; R, G, B and Sync
- System Bandwidth is 10Hz to 30MHz
- Receiver output impedance is 75 ohms. BNC Female Coaxial Connector each Channel
- □ Powered by 115V or 230V Line Cord
- Decided Bidirectional Video/Audio/Data to fiber
- □ Multimode or Single mode
- Digitized 8-bit high resolution video Composite, S-Video, or Component
- □ Mono or Stereo Audio
- Data: RS232/422/485/TTL
- NTSC or PAL Format
- □ Color or Black and White
- □ Plug and Play
- □ AC or DC Power
- □ 1 2809 Video Transmitter
- □ 1 2810 Video Receiver
- 1 5201-010-8255 (10m), 1F multimode, ST/ST FO cable assembly
- $\Box$  2 75 ohm BNC cable assemblies

Kit #15



- □ Complete CCTV Video Security System Kit
- $\Box$  2 2829 Bit Driver
- □ 1 5001-15" LCD TV Monitor
- $\square \quad 1 5010 \text{ CCTV Video Color Camera}$
- □ 1 7202-300-8264, 300 meter (1000 ft) ruggedized FO cable assembly SC/SC
- □ Optional Camera/TV/Cable length



## HDMI TO FIBER OPTIC BIT-DRIVERS®



- □ HDMI to Fiber Converter
- □ Data rate up to 3.5 Gbps
- □ Up to 1000 ft. (300M) with suitable graded index fiber optic cable

## AUDIO (ANALOG) TO FIBER OPTIC BIT-DRIVERS®







#### Kit #5



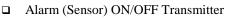
- □ Stand Alone Optical Audio Transmitter Bit-Driver®
- System Bandwidth is 10Hz to 20KHz
- □ Input impedance is 600 ohms unbalanced
- □ Audio terminals on terminal block
- Powered by 110VAC Line Cord. Add "V" to Model number for 230VAC version, 12-24VDC Option
- □ Use with 2237R Audio Receiver
- □ Stand Alone Optical Audio Receiver Bit-Driver®
- System Bandwidth is 10Hz to 20Khz
- □ Will drive 8 ohm speaker connected to output terminals
- Powered by 110VAC Line Cord. Add "V" to Model number for 230VAC version, 12-24VDC Option
- Use with 2237T and two optical fibers for full-duplex operation
- □ Two way audio TR/REC Bit-Driver®
- System Bandwidth is 10Hz to 20Khz
- □ Multimode or Single mode
- □ AC or DC Power Option
- □ 1 2237T Audio Transmitter
- $\square \quad 1-2237 R \text{ Audio Receiver}$
- □ 1 5201-010-8255, 10m 1F ST/ST cable

## ALARM SYSTEM TO FIBER OPTIC BIT-DRIVERS®









- □ Card version of 2811
- □ 3000 Rack
- □ Multimode or Single mode
- □ Alarm (Sensor) ON/OFF Receiver
- □ Card version of 2812
- □ 3000 Rack
- □ Multimode or Single mode







### AESFOT KIT



- □ Stand Alone Optical On-Off Bit-Driver® Transmitter
- □ Transmits 10KHz Optical square wave when power is applied
- $\Box \quad \text{Input power +12VDC to screw terminals}$
- □ Must be used with Model 2812 Receiver to complete link
- □ Multimode or Single mode
- □ Stand Alone Optical On-Off Bit-Driver® Receiver
- Detects 10KHz optical square wave from Model 2811 Transmitter and activates 4PDT relay
- Relay contacts rated 2 Amps, 500VAC between open contacts.
   Each contact is connected to a screw terminal
- □ Must be used with Model 2811 transmitter to complete link
- $\Box$  Input power +12VDC to screw terminals
- □ Multimode or Single mode
- □ Stand Alone Optical On-Off Bit-Driver® Link
- Performs functions of one Model 2811 Transmitter and one Model 2812 Receiver
- □ Input power +12VDC or +24VDC to screw terminal
- □ One Model 2813 needed at each end of link
- □ Antenna control, Military Systems "THAAD" program
- □ Multimode or Single mode
- $\Box \quad \text{Chassis holds } 3 2311 \text{ or } 3 2312 \text{ and } 2 \text{ power supplies}$
- □ Rack has redundant power supply

## **CCTV - Mini Fiber Optic Video Transmitter**



**Model 2509** 

 System Bandwidth:
 10 Hz to 15 MHz

 Transmitter Input Impedance:
 75 ohms, BNC bulkhead jack

 Input Voltage:
 1 Vpp

 Receiver Adjustment Range:
 40:1

 Linearity:
 1 percent typical

 Output Load Impedance:
 75 ohms

 Output Voltage:
 2 Vpp into 75 ohm load

 Operating Wavelength:
 820 nanometers\* (1310 nm options)

 Optical Connectors:
 ST

 Power Requirements:
 12 volt from camera or external power supply (S.I.Tech #2121)

 Operating Temperature:
 0 °C to 50 °C

 Dimensions:
 1.50" X 1.13" X 0.88"

 Weight:
 0.1 LB (45 grams)

\*1310 nanometers is an option for long distance mm or sm fiber

Specifications subject to change without notice.

**TYPICAL APPLICATION** MONITOR CCTV CAMERA Fiber Optic 2810 2 km 2509 MONITOR Fiber CCTV CAMERA Coax 2380 MONITOR REC Card 2509 Fiber Coax 3001 Rack

Model 2509 is a miniature fiber optic transmitter that attaches directly to a CCTV camera. Power can come from the camera or an optional power supply. (Model 2121)

The Mini 2509 is compatible with 2809/2810 and also with CCTV transmitter/receiver cards in series 1000 and 3001 rack.

#### Operating Distance for Fiber Optic Cable

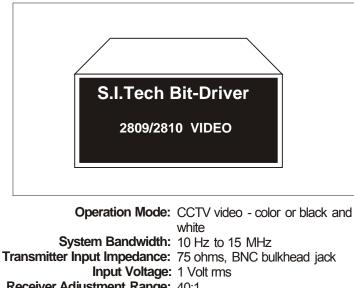
1 0		
Fiber Size	Attenuation	Maximum
(Microns)	dB/Km	Feet/Meters
62.5	3.5	6600/2000
50	3.0	6600/2000
10 SM	1.0	33000/10000

SM - Single mode (1300 or 1550 nm option) Optical power budget: 10dB typical

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 2809-TR/2810-REC

## **CCTV - Fiber Optic Video System**



Receiver Adjustment Range: 40:1 Linearity: 1 percent typical Output Load Impedance: 75 ohms Operating Wavelength\*: 820 nanometers (1300 nm options) Optical Connectors: ST or SMA receptacle Operating Temperature: 0 °C to 50 °C Plastic Enclosure: 6" X 6.5" X 2.75" (15.2 X 16.5 X 7 cm) Weight: 2lbs. (1 kg) Input Power: 110 VAC 50/60 Hz 220 Volt Version: Model 2809V TR/2810V REC Card Version: 2379/2380 (3000 Rack)

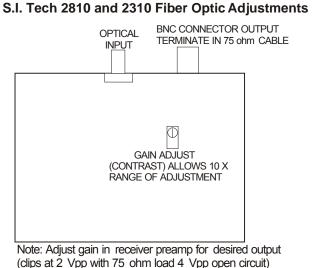
\*1300 nanometers is an option for 5 km or longer system

#### Operating Distance for Fiber Optic Cable

Fiber Size (Microns)	Attenuation dB/Km	Minimum Feet/Meters**	Maximum Feet/Meters
62.5	4.0	0/0	3300/1000
50	3.0	0/0	4000/1200
10 SM	1.0	0/0	66000/10000

SM - Single mode (1300 or 1550 nm option)

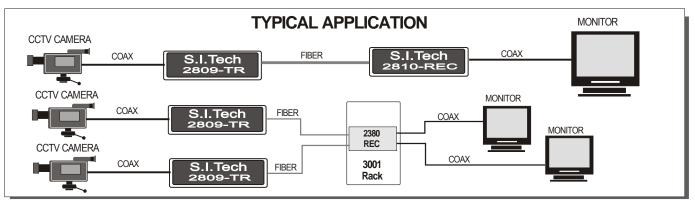
\*\* Short lengths of some fiber types can overload the receiver. Longer distance can be used if less bandwidth or higher noise is acceptable. Typical power budget 10dB.



	—— How to Order ———
Model Numb	vers
2809	1 Ch. Transmitter, Multimode, 110VAC, ST
2809-2	2 Ch. Transmitter, Multimode, 110VAC, ST
2809-3	3 Ch. Transmitter, Multimode, 110VAC, ST
2809-4	4 Ch. Transmitter, Multimode, 110VAC, ST
2809-SM	1 Ch. Transmitter, Single Mode, 110VAC, ST
2809-2-SM	2 Ch. Transmitter, Single Mode, 110VAC, ST
2809-3-SM	3 Ch. Transmitter, Single Mode, 110VAC, ST
2809-4-SM	4 Ch. Transmitter, Single Mode, 110VAC, ST
2809-V	1 Ch. Transmitter, Multimode, 220VAC, ST
2810	1 Ch. Receiver, Multimode, 110VAC, ST
2810-SM	1 Ch. Receiver, Single Mode, 110VAC, ST
2810-V	1 Ch. Receiver, Multimode, 220VAC, ST

All units are in the same size enclosure. Typically 4 channel units are used for R,G,B, & Sync applications.

#### Specifications subject to change without notice.



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s.i. **TEC**I

## **Model 2237**



## Fiber Optic Audio Link



Audio Bandwidth:	10 Hz to 20 KHz
THD:	Better than 1% S
MIC Input:	350mV rms max into 6 Kohms fik
Line Input:	2V rms max into 10 Kohms
ricauprioric Output.	1V rms max
Line Outputs:	0.9V rms into 10 Kohms,
	0.7V rms into 600 ohms
Speaker Outputs:	1W max into 8 ohms
Optical Power Budget:	10 dB
Operating Wavelength:	820 nanometers (1300nm optional)
Optical Interface:	
<b>Operating Temperature:</b>	0°C to 50°C
Input Power:	110 VAC 50/60 Hz,
	Optional 230 VAC
	Optional 12-24 VDC
Metal Enclosure:	7.375" X 7.625" X 1.875"
	(18.7 X 19.4 X 4.8 cm)
Weight:	2lbs. (1 kg)

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

(k) **(b)** (c)

Models 2237-T and 2237-R provide one-way stereo audio over a single fiber. Typical applications include paging systems, music distribution, and control with audio tones.

The 2237-T has 1/8" (3.5mm) microphone input and stereo line level phono jack inputs. The 2237-T digitizes the audio input into 16-bit samples at 48KHz rate. The microphone input is copied to both channels, the two line inputs remain in respective channels. The digitized stereo audio is transmitted across a single fiber and received at the 2237-R. The 2237-R converts the digitized audio back to analog. The 2237-R has 1/8" headphone jack, line level phono jacks, and speaker phono jacks.

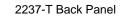
The 2237-T has volume adjustment to maximize the use of the digitized channel. The 2237-R has optical signal loss LED. Both the 2237-T and 2237-R have mute buttons.

Several 2237-R units can be connected to a single 2237-T with the use of a fiber splitter, S.I.Tech Model 9024.

Operating Distance for Fiber Optic Cable

	opore	ang D	1010110	• • • • •			0.0.0		
Fiber Size		ttenuat (dB/Km		1	Distanc (Meters	-	[	Distance (Feet)	u U
(Microns)	Wav	elength	(nm)	Wav	elength	(nm)	Wav	elength	(nm)
	850	1300	1550	850	1300	1550	850	1300	1550
50	3.0	1.0	-	2000	6000	-	6600	20000	-
62.5	4.0	1.0	-	2000	6000	-	6600	20000	-
10 SM	-	0.35	0.25	-	10000	12000	-	33000	40000

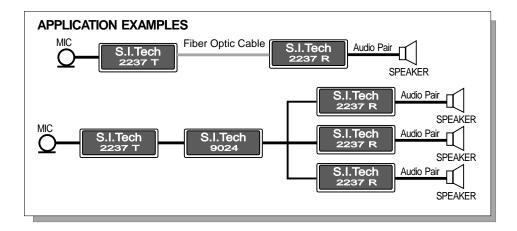
SM - Single mode option - 1300nm





2237-R Back Panel

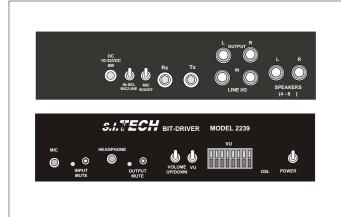




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## **Model 2239**

## Fiber Optic Two Way Audio Link



Models 2239 provides two-way stereo audio over fiber. Typical applications include paging systems, music distribution, and control with audio tones, two way audio communication.

The 2239 has 1/8" (3.5mm) microphone input and stereo line level phono jack inputs. The 2239 digitizes the audio input into 16-bit samples at 48KHz rate. The microphone input is copied to both channels, the two line inputs remain in respective channels. The digitized stereo audio is transmitted across fiber and received at the 2239. The 2239 converts the digitized audio back to analog. The 2239 has 1/8" headphone jack, line level phono jacks, and speaker phono jacks.

The 2239 has line input volume adjustment to maximize the use of the digitized channel and speaker/headphone volume adjustment. The 2239 has optical signal loss LED. Local and remote 2239 have mute buttons.

Audio Bandwidth: THD:	10 Hz to 20 KHz Better than 1%
MIC Input:	350mV rms max into 6 Kohms
Line Input:	2V rms max into 10 Kohms
Headphone Output:	
	1.8V rms into 600 ohms
	1W max into 8 ohms
Optical Power Budget:	
Operating Wavelength:	820 nanometers (1300nm optional)
Optical Interface:	ST (SMA optional)
Operating Temperature:	0°C to 50°C
Input Power:	110 VAC 50/60 Hz,
	Optional 230 VAC
	Optional 12-24 VDC
Metal Enclosure:	8 W Max. 7.375" X 7.625" X 1.875" (18 7 X 10 4 X 4 8 cm)
Weight:	(18.7 X 19.4 X 4.8 cm) 2lbs. (1 kg)

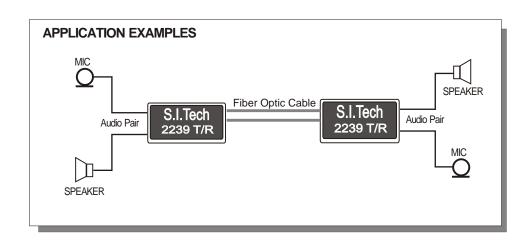
Operating Distance for Fiber Optic Cable

Fiber Size		ttenuat (dB/Kn		1	Distanc (Meters		[	Distance (Feet)	Э
(Microns)	Wav	elength	(nm)	Wav	elength	(nm)	Wav	elength	(nm)
	850	1300	1550	850	1300	1550	850	1300	1550
50	3.0	1.0	-	2000	6000	-	6600	20000	-
62.5	4.0	1.0	-	2000	6000	-	6600	20000	-
10 SM	-	0.35	0.25	-	10000	12000	-	33000	40000

SM - Single mode option - 1300nm

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



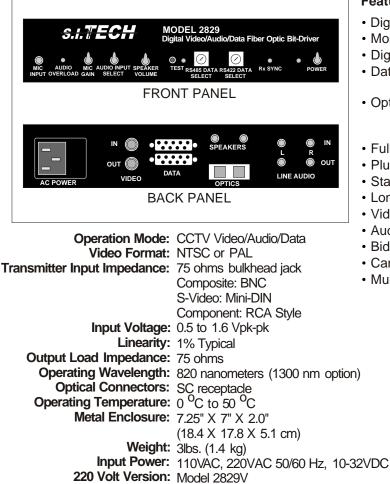


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## **Model 2829**

Speci

## Digital Video/Audio/Data Fiber Optic Bit-Driver



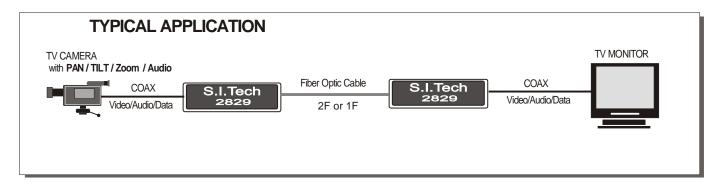
#### Features:

- Digitized 8-bit high resolution video
- Mono or stereo audio digitized audio (24 KHz sampling)
- Digital data links, TTL, RS232, RS422, Rs485
- Data rate TTL: <150KHz, RS232: 0 115.2Kbps, RS422, RS485: 1200 - 115.2Kbps
- Options: NTSC, PAL video standards Video formats: Composite(CVBS), S-Video, Component(YPrPb)
- Full color or black & white
- Plug and play
- Status indicators PWR, Audio Overload, Receiver Sync, Test
- · Long distance capability see table
- Video: SNR > 40dB
- Audio: Mic or line input, line and speaker output
- · Bidirectional video, audio and data
- · Can be bidirectional on one fiber
- Multimode or Single mode optics

				5					
	Fiber Size (Micron)	Attenua dB/K		Bandv MHz/		Dista Mete		Dista Fee	
cifications subject to change without notice.	50 62.5 10 SM	825 nm 3.0 4.0 Unspecified	1310 nm 1.0 1.0 0.4	825 nm 600 200 Unspecified	1310 nm 1000 600 Unspecified	1000 400	1310 nm 2000 1200 20000	825 nm 3300 1300	1310 nm 6600 4000 66000

SM - Single mode (1300nm) option

\* At high data rate, both attenuation and bandwidth of the fiber are considered to determine distance limit.



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#### Operating Distance for Fiber Optic Cable



## Model 2830T/R

## HDMI to Fiber Optic Transmitter/Receiver



#### SYSTEM

Transmission:Up to 1000 ft. (300 M) with suitable<br/>graded index fiber optic cableTypical Bit Error Rate:Better than 10<sup>-9</sup>

#### ELECTRICAL SIGNAL INPUT/OUTPUT

#### FOR TRANSMITTER

Format:	HDMI
Connector:	HDMI
Data Rate:	Up to 3.5 Gbps
Input Impedance:	120
Input Power:	5VDC
System Wavelength:	850 nm
<b>Optical Interface:</b>	Transmitter is disabled
	when fiber is removed
<b>Optical Connector:</b>	SC
<b>Operating Temperature:</b>	0 °C to 50 °C
Humidity:	0 to 90% Non-Condensing
Metal Enclosure Size:	2.56" X 3.56" X 1.13"
	(6.5 X 9.0 X 2.9 cm)
Weight:	0.5lb. (225 grams) Each Ur

#### TRANSMISSION LINE INTERFACE

Operating distance is dependent upon optical fiber core diameter and the cable's optical attenuation fiber bandwidth at given data rate. The table below indicates 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  $% \left( {{\left[ {{{\rm{B}}_{\rm{T}}} \right]}_{\rm{T}}}} \right)$  .

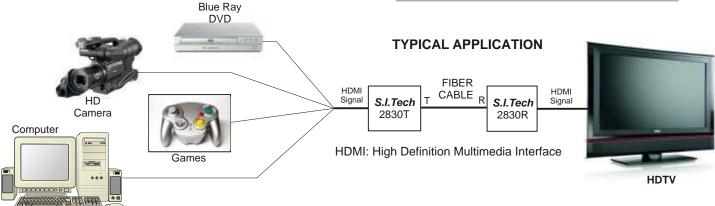
HDMI to Fiber Bit-Driver Cable Chart

			•••••••••••••••	
	Operatin	g Distance for F	Fiber Optic Cabl	e
Data Rate	OM1 fiber (62.5 micron,	OM2 fiber (50 micron,	OM3 fiber (62.5 micron,	OM4 fiber (50 micron,
	160MHz/km)	500MHz/km)	1000MHz/km)	1100MHz/km)
	Meters (Feet)	Meters (Feet)	Meters (Feet)	Meters (Feet)
1.65	61 (200)	122 (400)	305 (1000)	344 (1100)
Gbps	61 (200)	122 (400)	122 (400)	245 (800)
3.50	30.5 (100)	61 (200)	152 (500)	152 (500)
Gbps	30.5 (100)	61 (200)	122 (400)	122 (400)
Cobs	30.5 (100)	61 (200)	70 (294)	122 (̀400)́

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

Specifications subject to change without notice.





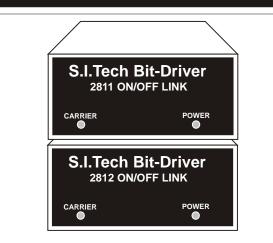
Unit

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## Model 2811 TR/2812 REC



## **ON-OFF Fiber Optic Link**



The S.I.Tech Model 2811 TR transmits a 10 KHz optical square wave over optic fiber when power is applied and control input shorted. The 2812 receiver detects this optical square wave and turns ON a 4PDT relay. If the fiber cable is removed, broken, or the remote transmitter or local receiver loses power, the relay in the local receiver will turn OFF.

The 4 sets of Form C (4PDT) relay contacts are provided on the rear panel via screw terminal blocks. The power input (+12 VDC or +24VDC) is also via screw terminals.

The fiber optic input/output is provided on the rear panel via ST receptacles, 905/906 compatible SMA receptacles are available as an option.

The front panel contains 2 indicator LEDs, a power ON indicator and a CARRIER (10 KHz detected) indicator.

Operation Mode:	Simplex
Operating Wavelength:	820 nanometers (1300 nm option)
Optical Connector:	ST or SMA
Power Requirements:	See Chart 1
Input/Output:	See Chart 2
Optical Power Budget:	10_dB
Operating Temperature:	$0 {}^{\mathrm{O}}\mathrm{C}$ to 50 ${}^{\mathrm{O}}\mathrm{C}$
Altitude:	Less than 10,000 ft.
Plastic Enclosure:	6" X 6.5" X 2.75"
	(15.2 X 16.5 X 7 cm)
Weight:	2 lbs. (1 kg) MTBF @ 25 <sup>o</sup> C = 800,000 hours
Mean Time Between Failure:	MTBF @ $25^{\circ}C = 800,000$ hours
	MTBF @ $50^{\circ}C = 300,000$ hours
	[Calculated using Belcore method]

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

#### Operating Distance for Fiber Optic Cable

oporading Broddinoo for Thoor optio Odoro		
Attenuation	Maximum	
dB/Km	Distance	
	Feet/Meters	
4.0	6600/2000	
3.0	6600/2000	
1.0	16000/5000	
	Attenuation dB/Km 4.0 3.0	

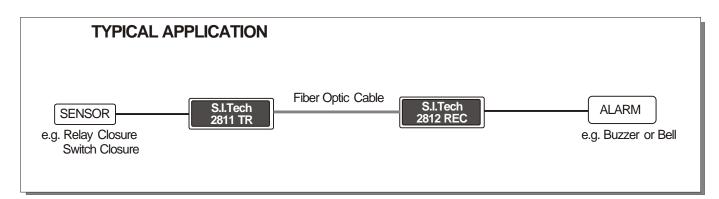
SM - Single mode (1300nm) option

#### Chart 1: Maximum Power Requirements

Input	2811	2812
+12VDC	50mA	200mA
+24VDC	50mA	200mA

#### Chart 2: 2811and 2812 I/O Ratings

	0 to 500
2811 Control Input	Closure Isolated from
	Power or Ground
2812 Contact Ratings	Maximums
Resistive Loads	
Switching Power	60W, 125VA
Switching Voltage	220VDC, 250VAC
Switching Current	2A
Carrying Current	ЗA



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## **ON-OFF Fiber Optic Link**



The S.I.Tech Model 2813 ON-OFF fiber optic link contains a fiber optic transmitter that generates a 10 KHz optical square wave. The 2813 fiber optic receiver detects a 10 KHz optical square wave and turns ON a relay. The relay provides 3 sets or Form C (3PDT) relay contacts available on the rear panel via screw terminals. The power input (+24 VDC or +12 VDC) is also via screw terminals.

When power is applied to the Model 2813, the receiver becomes active. If the receiver detects the optic signal it will operate the relay. The transmitter is turned on by an external switch across the input screw terminals. If the fiber cable is broken or removed, the relay will release. The fiber optic input/output is provided on the rear panel via ST receptacles, 905/906 compatible SMA receptacles are available as an option.

The front panel contains 2 indicator LEDs, a green power ON indicator and a green CARRIER (Receiver 10 KHz detected) indicator.

	Full duplex or simplex
	820 nanometers (1300 nm option)
Optical Connector:	ST or SMA
Power Requirements:	+24 VDC or +12VDC @ 250 mA
Output:	3 Form C Relay Contacts
	See Chart 1
Optical Power Budget:	50 micron fiber, 6 dB
	100 micron fiber, 14 dB
Operating Temperature:	$0 {}^{\mathrm{O}}\mathrm{C}$ to 50 ${}^{\mathrm{O}}\mathrm{C}$
Plastic Enclosure:	6" X 6.5" X 2.75"
	(15.2 X 16.5 X 7 cm)
Weight:	2lbs. (1 kg)
_	

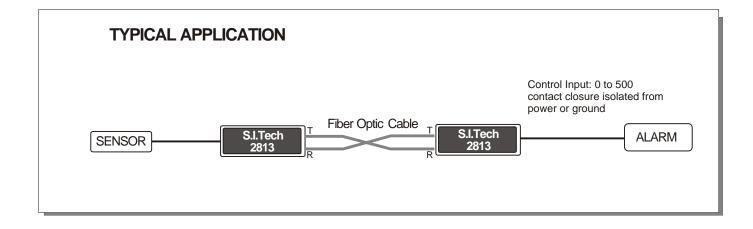
#### Operating Distance for Fiber Optic Cable

	1 0		1
	Fiber Size (Microns)	Attenuation dB/km	Maximum Distance Feet/Meters
ſ	62.5	4.0	6600/2000
	50	3.0	6600/2000
	10 SM	1.0	16000/5000

SM - Single mode (1300nm) option

#### Chart 1: Contact Ratings (Resistive Load)

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



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