

Recommended Transmission Distance at Serial Data Rates

| Data Rate: | 143 Mb/s | | 177 Mb/s | | 270 Mb/s | | 360 Mb/s | | 1.5 Gb/s | | 3.0 Gb/s | |
|-------------------|-------------------------|-----|------------------------|-----|------------------|-----|-------------------|-----|--------------|-----|--------------|-----|
| Spec: | SMPTE ST 259 | | SMPTE ST 259 | | SMPTE ST 259 | | SMPTE ST 259 | | SMPTE ST 292 | | SMPTE ST 424 | |
| Application: | Composite SD-SDI (NTSC) | | Composite SD-SDI (PAL) | | Component SD-SDI | | Widescreen SD-SDI | | HD 1.5G-SDI | | HD 3G-SDI | |
| Cable Part Number | Ft. | m | Ft. | m | Ft. | m | Ft. | m | Ft. | m | Ft. | m |
| 179DT | 542 | 165 | 498 | 152 | 410 | 125 | 357 | 109 | 115 | 35 | 81 | 25 |
| 1865A | 686 | 209 | 627 | 191 | 508 | 155 | 441 | 134 | 134 | 41 | 90 | 27 |
| 1855P | 986 | 301 | 904 | 276 | 733 | 223 | 632 | 193 | 190 | 58 | 125 | 38 |
| 1855A* | 1022 | 312 | 932 | 284 | 766 | 233 | 670 | 204 | 214 | 65 | 149 | 45 |
| 4855R | 1066 | 325 | 968 | 295 | 800 | 244 | 694 | 212 | 221 | 67 | 155 | 47 |
| 1505F | 1173 | 358 | 1060 | 323 | 839 | 256 | 721 | 220 | 220 | 67 | 147 | 45 |
| 1506A** | 1354 | 413 | 1243 | 379 | 1014 | 309 | 874 | 266 | 265 | 81 | 177 | 54 |
| 1694F | 1460 | 445 | 1312 | 400 | 1046 | 319 | 901 | 275 | 279 | 85 | 188 | 57 |
| 1505A*** | 1440 | 439 | 1317 | 401 | 1082 | 330 | 949 | 289 | 301 | 92 | 209 | 64 |
| 4505R | 1474 | 449 | 1321 | 403 | 1079 | 329 | 942 | 287 | 307 | 94 | 217 | 66 |
| 1695A | 1706 | 520 | 1566 | 477 | 1258 | 383 | 1085 | 331 | 321 | 98 | 210 | 64 |
| 1694A**** | 1791 | 546 | 1650 | 503 | 1338 | 408 | 1179 | 359 | 370 | 113 | 255 | 78 |
| 4694R | 1903 | 580 | 1714 | 522 | 1397 | 426 | 1211 | 369 | 386 | 118 | 270 | 82 |
| 1794A | 2276 | 694 | 2078 | 633 | 1702 | 519 | 1479 | 451 | 469 | 143 | 319 | 97 |
| 4794R | 2231 | 680 | 2045 | 623 | 1715 | 523 | 1512 | 461 | 494 | 151 | 343 | 105 |
| 7732A | 2575 | 785 | 2335 | 712 | 1877 | 572 | 1614 | 492 | 451 | 137 | 283 | 86 |
| 7731A | 2791 | 851 | 2613 | 796 | 2091 | 637 | 1838 | 560 | 582 | 177 | 390 | 119 |
| 4731R | | | | | | | | | | | | |

| Data Rate per Link: | 3 Gb/s | | 6 Gb/s | | 12 Gb/s | |
|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|-----|---------------------------------------------------------------------------------------------------------------------|-----|-----------------------------------------------------------------------------------|----|
| Spec: | SMPTE ST 425-4 (3Gb/s - stereo) ST 2081-1 (6 Gb/s - dual link) ST 2082-1 (12 Gb/s - quad) ST 2083-1 (24 Gb/s - octal link) ¹ | | ST 2081-1 (6 Gb/s - single link) ST 2082-1 (12 Gb/s - dual link) ST 2083-1 (24 Gb/s - quad link) ¹ | | ST 2082-1 (12 Gb/s - single link) ST 2083-1 (24 Gb/s - dual link) ¹ | |
| Application: | UHDTV1, UHDTV2 | | UHDTV1, UHDTV2 | | UHDTV1, UHDTV2 | |
| Cable Part Number | Ft. | m | Ft. | m | Ft. | m |
| 179DT | 161 | 49 | 111 | 34 | | |
| 1865A | 179 | 55 | | | | |
| 1855P | 249 | 76 | 168 | 51 | | |
| 1855A* | 298 | 91 | 203 | 62 | | |
| 4855R | 310 | 94 | 215 | 66 | 149 | 45 |
| 1505F | 294 | 90 | 197 | 60 | | |
| 1506A** | 353 | 108 | 233 | 71 | | |
| 1694F | 376 | 115 | 225 | 69 | | |
| 1505A*** | 418 | 127 | 285 | 87 | | |
| 4505R | 433 | 132 | 302 | 92 | 208 | 63 |
| 1695A | 420 | 128 | 274 | 84 | | |
| 1694A**** | 510 | 155 | 346 | 105 | | |
| 4694R | 540 | 165 | 375 | 114 | 258 | 79 |
| 1794A | 637 | 194 | 432 | 132 | | |
| 4794R | 686 | 209 | 471 | 144 | 321 | 98 |
| 7732A | 565 | 172 | 355 | 108 | | |
| 7731A | 780 | 238 | 529 | 161 | | |
| 4731R | | | | | | |

The serial digital interconnect standards are designed to operate where the signal loss at 1/2 the clock frequency does not exceed the approximate loss values listed below. The recommended length values shown are based on typical attenuation values for the cables listed and the following criteria:

Maximum length = 30 dB loss at 1/2 the clock frequency: SMPTE ST 259.

Maximum length = 20 dB loss at 1/2 the clock frequency: SMPTE ST 292 & ST 424.

Maximum length = 40 dB loss at 1/2 the clock frequency: SMPTE ST 425, ST 2081, ST 2082 & ST 2083¹.

The bit error rate (BER) can vary dramatically as the calculated distances are approached. BER is dependent on receiver design and the losses of the actual coax used. Distribution and routing equipment manufacturers should be contacted to verify their maximum recommended transmission.

* Includes cables that use 1855A as a constituent through 3Gb/s, such as 7787A, 7788A, 7789A, 7790A, 7791A, 7792A, 1855S3, 1855S5, 1855S6.

** Includes cables that use 1506A as a constituent through 3Gb/s, such as 1283S3, 1283S5, 1283S6.

*** Includes cables that use 1505A as a constituent through 3Gb/s, such as 7794A, 7795A, 7796A, 7798A, 1505S3, 1505S5, 1505S6.

**** Includes cables that use 1694A as a constituent through 3Gb/s, such as 1694WB, 7710A, 7711A, 7712A, 7713A, 1694S5, 1694S6, 1694D.