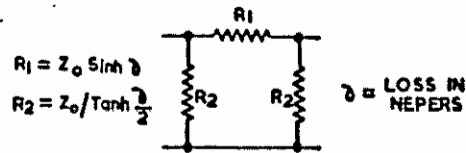


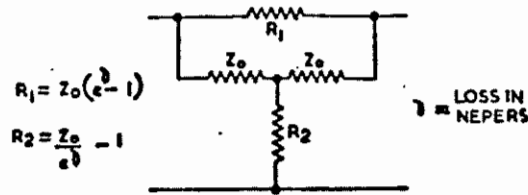
ATTENUATOR DESIGN FIGURES

Values for TT-Type Attenuators

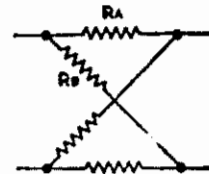


| Loss db | R_1 | R_2 | Loss db | R_1 | R_2 | Loss db | R_1 | R_2 |
|---------|-------|--------|---------|--------|-------|---------|---------|-------|
| 0.5 | 34.56 | 20,832 | 20.5 | 3,149 | 724.8 | 41.0 | 33,660 | 610.8 |
| 1.0 | 69.24 | 10,434 | 21.0 | 3,340 | 717.6 | 42.0 | 37,764 | 609.6 |
| 1.5 | 104.2 | 6,966 | 21.5 | 3,540 | 710.4 | 43.0 | 42,372 | 608.4 |
| 2.0 | 139.4 | 5,236 | 22.0 | 3,753 | 703.8 | 44.0 | 47,544 | 607.3 |
| 2.5 | 175.1 | 4,199 | 22.5 | 3,978 | 697.2 | 45.0 | 53,346 | 606.6 |
| 3.0 | 211.4 | 3,509 | 23.0 | 4,216 | 691.2 | 46.0 | 59,856 | 606.0 |
| 3.5 | 248.4 | 3,018 | 23.5 | 4,469 | 685.8 | 47.0 | 67,140 | 605.4 |
| 4.0 | 286.2 | 2,651 | 24.0 | 4,736 | 681.0 | 48.0 | 75,360 | 604.8 |
| 4.5 | 325.0 | 2,368 | 24.5 | 5,018 | 675.6 | 49.0 | 84,540 | 604.2 |
| 5.0 | 364.8 | 2,142 | 25.0 | 5,318 | 671.4 | 50.0 | 94,860 | 603.7 |
| 5.5 | 405.8 | 1,958 | 25.5 | 5,635 | 667.2 | 51.0 | 106,440 | 603.3 |
| 6.0 | 448.2 | 1,805 | 26.0 | 5,971 | 663.0 | 52.0 | 119,460 | 602.7 |
| 6.5 | 492.1 | 1,678 | 26.5 | 6,324 | 659.4 | 53.0 | 133,980 | 602.4 |
| 7.0 | 537.6 | 1,569 | 27.0 | 6,702 | 655.8 | 54.0 | 150,360 | 602.0 |
| 7.5 | 584.9 | 1,475 | 27.5 | 7,104 | 652.8 | 55.0 | 168,720 | 601.8 |
| 8.0 | 634.2 | 1,394 | 28.0 | 7,524 | 649.8 | 56.0 | 190,200 | 601.6 |
| 8.5 | 685.2 | 1,323 | 28.5 | 7,968 | 646.8 | 57.0 | 210,000 | 601.4 |
| 9.0 | 739.2 | 1,260 | 29.0 | 8,442 | 643.8 | 58.0 | 243,000 | 601.2 |
| 9.5 | 785.0 | 1,204 | 29.5 | 8,946 | 641.3 | 59.0 | 269,340 | 601.1 |
| 10.0 | 853.8 | 1,155 | 30.0 | 9,480 | 639.0 | 60.0 | 298,200 | 601.0 |
| 10.5 | 915.6 | 1,111 | 30.5 | 10,038 | 636.8 | | | |
| 11.0 | 979.8 | 1,071 | 31.0 | 10,638 | 634.8 | | | |
| 11.5 | 1,048 | 1,035 | 31.5 | 11,268 | 633.0 | | | |
| 12.0 | 1,119 | 1,003 | 32.0 | 11,934 | 631.2 | | | |
| 12.5 | 1,194 | 972.6 | 32.5 | 12,642 | 628.8 | | | |
| 13.0 | 1,273 | 946.2 | 33.0 | 13,392 | 627.6 | | | |
| 13.5 | 1,356 | 921.6 | 33.5 | 14,190 | 625.8 | | | |
| 14.0 | 1,444 | 898.8 | 34.0 | 15,030 | 624.4 | | | |
| 14.5 | 1,536 | 878.4 | 34.5 | 15,924 | 622.8 | | | |
| 15.0 | 1,634 | 859.8 | 35.0 | 16,866 | 621.6 | | | |
| 15.5 | 1,736 | 841.8 | 35.5 | 17,868 | 620.4 | | | |
| 16.0 | 1,846 | 825.6 | 36.0 | 18,924 | 619.2 | | | |
| 16.5 | 1,960 | 811.2 | 36.5 | 20,046 | 618.0 | | | |
| 17.0 | 2,081 | 797.4 | 37.0 | 21,234 | 617.0 | | | |
| 17.5 | 2,210 | 784.8 | 37.5 | 22,494 | 616.2 | | | |
| 18.0 | 2,345 | 772.8 | 38.0 | 23,826 | 615.3 | | | |
| 18.5 | 2,489 | 762.0 | 38.5 | 25,242 | 614.4 | | | |
| 19.0 | 2,640 | 751.8 | 39.0 | 26,736 | 613.5 | | | |
| 19.5 | 2,800 | 742.2 | 39.5 | 28,320 | 612.6 | | | |
| 20.0 | 2,970 | 733.2 | 40.0 | 29,994 | 612.0 | | | |

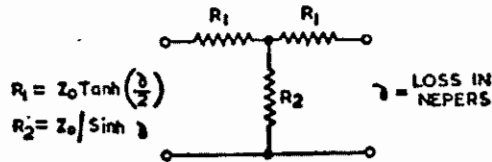
Values for Bridge-T Attenuators
for $Z_0 = 600$



| Loss db | R_1 | $R_1 600$ | R_2 | Loss db | R_1 | $R_1 600$ | R_2 | Loss db | R_1 | $R_1 600$ | R_2 |
|---------|-------|--------------|--------|---------|--------|--------------|-------|---------|---------|--------------|-------|
| 0.5 | 35.58 | 33.58 | 10,116 | 20.5 | 5,756 | 543.0 | 62.58 | 41.0 | 66,720 | 594.6 | 5.396 |
| 1.0 | 73.20 | 65.24 | 4,918 | 21.0 | 6,132 | 547.0 | 58.72 | 42.0 | 74,940 | 595.3 | 4.804 |
| 1.5 | 113.1 | 95.17 | 3,182 | 21.5 | 6,534 | 549.0 | 55.06 | 43.0 | 84,180 | 595.8 | 4.277 |
| 2.0 | 155.3 | 123.4 | 2,317 | 22.0 | 6,954 | 552.0 | 51.77 | 44.0 | 94,500 | 596.2 | 3.809 |
| 2.5 | 200.1 | 150.1 | 1,799 | 22.5 | 7,404 | 555.0 | 48.62 | 45 | 106,080 | 596.6 | 3.394 |
| 3.0 | 247.5 | 175.2 | 1,454 | 23.0 | 7,878 | 557.0 | 45.71 | 46 | 119,100 | 597.0 | 3.023 |
| 3.5 | 297.7 | 199.0 | 1,209 | 23.5 | 8,376 | 560.0 | 43.03 | 47 | 133,740 | 597.5 | 2.692 |
| 4.0 | 350.9 | 221.5 | 1,025 | 24.0 | 8,910 | 562.0 | 40.40 | 48 | 150,120 | 597.6 | 2.398 |
| 4.5 | 407.3 | 242.7 | 883.8 | 24.5 | 9,474 | 564.0 | 37.99 | 49 | 168,480 | 597.8 | 2.137 |
| 5.0 | 467.0 | 262.6 | 771.0 | 25.0 | 10,068 | 567.0 | 35.75 | 50 | 189,120 | 598.1 | 1.904 |
| 5.5 | 530.2 | 281.5 | 679.2 | 25.5 | 10,704 | 568.0 | 33.63 | 51 | 212,280 | 598.3 | 1.696 |
| 6.0 | 597.2 | 299.3 | 603.0 | 26.0 | 11,370 | 570.0 | 31.66 | 52 | 238,260 | 598.60 | 1.511 |
| 6.5 | 668.1 | 316.5 | 538.7 | 26.5 | 12,078 | 572.0 | 29.81 | 53 | 267,420 | 598.7 | 1.346 |
| 7.0 | 743.2 | 332.0 | 484.3 | 27.0 | 12,834 | 573.0 | 28.05 | 54 | 300,120 | 598.8 | 1.199 |
| 7.5 | 822.8 | 347.0 | 437.6 | 27.5 | 13,626 | 575.0 | 26.42 | 55 | 336,780 | 598.9 | 1.069 |
| 8.0 | 907.1 | 361.2 | 396.9 | 28.0 | 14,472 | 576.0 | 24.88 | 56 | 377,994 | 599.0 | 0.951 |
| 8.5 | 996.4 | 374.5 | 361.2 | 28.5 | 15,366 | 578.0 | 23.42 | 57 | 424,140 | 599.2 | 0.847 |
| 9.0 | 1,091 | 387.1 | 330.1 | 29.0 | 16,308 | 578.5 | 22.07 | 58 | 475,890 | 599.4 | 0.755 |
| 9.5 | 1,191 | 399.0 | 302.3 | 29.5 | 17,310 | 580.5 | 20.80 | 59 | 534,180 | 599.5 | 0.673 |
| 10.0 | 1,297 | 410.2 | 277.5 | 30.0 | 18,372 | 581.0 | 19.60 | 60 | 599,400 | 599.9 | 0.600 |
| 10.5 | 1,410 | 420.9 | 255.3 | 30.5 | 19,500 | 582.5 | 18.46 | | | | |
| 11.0 | 1,529 | 430.8 | 235.5 | 31.0 | 20,688 | 583.2 | 17.40 | | | | |
| 11.5 | 1,655 | 440.4 | 217.5 | 31.5 | 21,954 | 584.0 | 16.40 | | | | |
| 12.0 | 1,789 | 449.2 | 201.3 | 32.0 | 23,286 | 585.0 | 15.46 | | | | |
| 12.5 | 1,930 | 457.7 | 186.5 | 32.5 | 24,702 | 586.0 | 14.57 | | | | |
| 13.0 | 2,080 | 465.7 | 173.0 | 33.0 | 26,202 | 586.5 | 13.74 | | | | |
| 13.5 | 2,239 | 473.0 | 160.8 | 33.5 | 27,792 | 587.0 | 12.95 | | | | |
| 14.0 | 2,407 | 482.0 | 149.6 | 34.0 | 29,472 | 588.0 | 12.22 | | | | |
| 14.5 | 2,585 | 487.0 | 139.3 | 34.5 | 31,254 | 589.0 | 11.52 | | | | |
| 15.0 | 2,774 | 493.5 | 129.8 | 35.0 | 33,138 | 590.0 | 10.87 | | | | |
| 15.5 | 2,974 | 499.0 | 121.0 | 35.5 | 35,142 | 590.3 | 10.24 | | | | |
| 16.0 | 3,186 | 505.0 | 113.0 | 36.0 | 37,260 | 590.7 | 9.660 | | | | |
| 16.5 | 3,410 | 511.0 | 105.6 | 36.5 | 39,504 | 591.0 | 9.114 | | | | |
| 17.0 | 3,647 | 516.0 | 98.70 | 37.0 | 41,874 | 591.6 | 8.598 | | | | |
| 17.5 | 3,899 | 519.0 | 92.34 | 37.5 | 44,394 | 592.1 | 8.106 | | | | |
| 18.0 | 4,166 | 525.0 | 86.30 | 38.0 | 47,058 | 592.5 | 7.656 | | | | |
| 18.5 | 4,448 | 528.5 | 80.94 | 38.5 | 49,884 | 592.9 | 7.212 | | | | |
| 19.0 | 4,748 | 532.5 | 75.84 | 39.0 | 52,878 | 593.4 | 6.732 | | | | |
| 19.5 | 5,065 | 536.5 | 71.10 | 39.5 | 56,046 | 593.8 | 6.357 | | | | |
| 20.0 | 5,400 | 540.0 | 66.66 | 40.0 | 59,400 | 594.0 | 6.060 | | | | |



The figures for Lattice Networks are not given separately. To obtain for a given value of loss take $R_A = R_1$ from the T-Network table and $R_B = R_1$ from the π -Network table.



| Loss db | R_1 | R_2 | Loss db | R_1 | R_2 | Loss db | R_1 | R_2 |
|---------|-------|--------|---------|-------|-------|---------|-------|-------|
| 0.5 | 17.27 | 10,416 | 20.5 | 496.5 | 114.3 | 41.0 | 589.4 | 10.70 |
| 1.0 | 34.50 | 5,199 | 21.0 | 501.8 | 107.8 | 42.0 | 590.5 | 9.534 |
| 1.5 | 51.68 | 3,456 | 21.5 | 506.9 | 101.7 | 43.0 | 591.6 | 8.496 |
| 2.0 | 68.77 | 2,583 | 22.0 | 511.7 | 95.94 | 44.0 | 592.5 | 7.572 |
| 2.5 | 85.75 | 2,056 | 22.5 | 516.3 | 90.48 | 45.0 | 593.3 | 6.750 |
| 3.0 | 102.6 | 1,703 | 23.0 | 520.7 | 85.44 | 46.0 | 594.0 | 6.012 |
| 3.5 | 119.3 | 1,447 | 23.5 | 524.8 | 80.58 | 47.0 | 594.7 | 5.365 |
| 4.0 | 135.8 | 1,258 | 24.0 | 528.8 | 76.02 | 48.0 | 595.2 | 4.777 |
| 4.5 | 152.0 | 1,108 | 24.5 | 532.5 | 71.70 | 49.0 | 595.8 | 4.260 |
| 5.0 | 168.1 | 987.0 | 25.0 | 536.1 | 67.74 | 50.0 | 596.2 | 3.795 |
| 5.5 | 183.9 | 886.8 | 25.5 | 539.5 | 63.90 | 51.0 | 596.6 | 3.382 |
| 6.0 | 199.4 | 803.4 | 26.0 | 542.7 | 60.30 | 52.0 | 597.0 | 3.013 |
| 6.5 | 214.6 | 732.0 | 26.5 | 545.8 | 56.93 | 53.0 | 597.3 | 2.687 |
| 7.0 | 229.5 | 669.6 | 27.0 | 548.7 | 53.74 | 54.0 | 597.6 | 2.395 |
| 7.5 | 244.1 | 615.6 | 27.5 | 551.4 | 50.67 | 55.0 | 597.9 | 2.134 |
| 8.0 | 258.3 | 567.6 | 28.0 | 554.1 | 47.8 | 56.0 | 598.1 | 1.903 |
| 8.5 | 272.2 | 525.4 | 28.5 | 556.5 | 45.19 | 57.0 | 598.3 | 1.695 |
| 9.0 | 285.7 | 487.0 | 29.0 | 558.9 | 42.60 | 58.0 | 598.5 | 1.511 |
| 9.5 | 298.9 | 452.9 | 29.5 | 561.1 | 40.24 | 59.0 | 598.7 | 1.346 |
| 10.0 | 311.7 | 421.7 | 30.0 | 563.2 | 37.97 | 60.0 | 598.8 | 1.200 |
| 10.5 | 324.1 | 393.2 | 30.5 | 565.2 | 35.86 | | | |
| 11.0 | 336.2 | 367.4 | 31.0 | 567.1 | 33.84 | | | |
| 11.5 | 347.8 | 343.6 | 31.5 | 568.9 | 31.95 | | | |
| 12.0 | 359.1 | 321.7 | 32.0 | 570.6 | 30.16 | | | |
| 12.5 | 370.0 | 301.5 | 32.5 | 572.2 | 28.48 | | | |
| 13.0 | 380.5 | 282.9 | 33.0 | 573.7 | 26.88 | | | |
| 13.5 | 390.6 | 265.5 | 33.5 | 575.2 | 25.37 | | | |
| 14.0 | 400.4 | 246.4 | 34.0 | 576.5 | 23.95 | | | |
| 14.5 | 409.8 | 234.4 | 34.5 | 577.8 | 22.65 | | | |
| 15.0 | 418.8 | 220.3 | 35.0 | 579.0 | 21.35 | | | |
| 15.5 | 427.5 | 207.3 | 35.5 | 580.2 | 20.15 | | | |
| 16.0 | 435.8 | 195.1 | 36.0 | 581.3 | 19.03 | | | |
| 16.5 | 443.8 | 183.6 | 36.5 | 582.3 | 17.96 | | | |
| 17.0 | 451.5 | 172.9 | 37.0 | 583.2 | 16.96 | | | |
| 17.5 | 458.8 | 162.9 | 37.5 | 584.2 | 16.01 | | | |
| 18.0 | 465.8 | 153.5 | 38.0 | 585.1 | 15.11 | | | |
| 18.5 | 472.5 | 144.6 | 38.5 | 585.9 | 14.26 | | | |
| 19.0 | 478.9 | 136.4 | 39.0 | 586.7 | 13.46 | | | |
| 19.5 | 485.1 | 128.6 | 39.5 | 587.4 | 12.71 | | | |
| 20.0 | 490.9 | 121.2 | 40.0 | 588.1 | 12.00 | | | |