TABLE OF HYPERBOLIC FUNCTIONS OF PROPAGATION CONSTANTS

NON-LOADED 26 GAUGE BST CABLE AT 1000 CPS

(Propagation Constant, $\gamma$ = .3289 + j .3320 Per Mile)

| Miles ($\ell$) | Sinh $\gamma\ell$ | Cosh $\gamma\ell$ | Tanh $\gamma\ell$ | Coth $\gamma\ell$ |
|---|---|---|---|---|
| 0 | 0 + j 0 | 1 + j 0 | 0 + j 0 | $\infty$ - j $\infty$ |
| 1 | .3166 + j .3437<br>.4673 ⌊47.3° | .9970 + j .1091<br>1.0029 ⌊6.2° | .3511 + j .3063<br>.4659 ⌊41.1° | 1.6173 - j1.4109<br>2.1462 ⌈41.1° |
| 2 | .5562 + j .7545<br>.9373 ⌊53.6° | .9641 + j .4353<br>1.0578 ⌊24.3° | .7727 + j .4336<br>.8861 ⌊29.3° | .9842 - j .5523<br>1.1286 ⌈29.3° |
| 3 | .6278 + j1.2821<br>1.4276 ⌊63.9° | .8305 + j .9692<br>1.2764 ⌊49.4° | 1.0828 + j .2804<br>1.1185 ⌊14.5° | .8656 - j .2241<br>.8941 ⌈14.5° |
| 4 | .4158 + j1.9391<br>1.9830 ⌊77.9° | .4803 + j1.6786<br>1.7460 ⌊74.0° | 1.1331 + j .0766<br>1.1357 ⌊3.9° | .8785 - j .0594<br>.8805 ⌈3.9° |
| 5 | -.2221 + j2.6751<br>2.6845 ⌊94.7° | -.2393 + j2.4827<br>2.4942 ⌊95.5° | 1.0762 - j .0141<br>1.0763 ⌈0.8° | .9290 + j .0122<br>.9291 ⌊0.8° |
| 6 | -1.4425 + j3.3465<br>3.6441 ⌊113.3° | -1.4993 + j3.2197<br>3.5516 ⌊115.0° | 1.0256 - j .0295<br>1.0260 ⌈1.7° | .9742 + j .0281<br>.9746 ⌊1.7° |
| 7 | -3.3847 + j3.6830<br>5.0021 ⌊132.6° | -3.4531 + j3.6100<br>4.9956 ⌊133.7° | 1.0011 - j .0201<br>1.0013 ⌈1.1° | .9985 + j .0200<br>.9987 ⌊1.1° |
| 8 | -6.1105 + j3.2584<br>6.9249 ⌊151.9° | -6.1741 + j3.2248<br>6.9656 ⌊152.4° | .9942 - j .0084<br>.9942 ⌈0.5° | 1.0059 + j .0085<br>1.0059 ⌊0.5° |
| 9 | -9.5108 + j1.4803<br>9.6253 ⌊171.2° | -9.5620 + j1.4724<br>9.6747 ⌊171.3° | .9949 - j .0017<br>.9949 ⌈0.1° | 1.0051 + j .0018<br>1.0051 ⌊0.1° |
| 10 | -13.1764 - j2.3825<br>13.3901 ⌊190.3° | -13.2130 - j2.3759<br>13.4249 ⌊190.2° | .9974 + j .0009<br>.9974 ⌊0.1° | 1.0026 - j .0009<br>1.0026 ⌈0.1° |

Note: The data in this table are furnished for use with formulae such as those on Page 35 of Section AB92.075, "Introduction to Telephone Transmission Theory."