



# NTSC-Standard

## Cable Television Channels vs Frequency in MHz

| Channel Number | Bandwidth     | Video Carrier | Color Carrier | Audio Carrier | Channel Number | Bandwidth     | Video Carrier | Color Carrier | Audio Carrier |
|----------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|---------------|
| T 7            | 5.75 - 11.75  | 7.0           | 10.58         | 11.50         | AA 37          | 300.0 - 306.0 | 301.25        | 304.83        | 305.75        |
| T 8            | 11.75 - 17.75 | 13.0          | 16.58         | 17.50         | BB 38          | 306.0 - 312.0 | 307.25        | 310.83        | 311.75        |
| T 9            | 17.75 - 23.75 | 19.0          | 22.58         | 23.50         | CC 39          | 312.0 - 318.0 | 313.25        | 316.83        | 317.75        |
| T 10           | 23.75 - 29.75 | 25.0          | 28.58         | 29.50         | DD 40          | 318.0 - 324.0 | 319.25        | 322.83        | 323.75        |
| T 11           | 29.75 - 35.75 | 31.0          | 34.58         | 35.50         | EE 41          | 324.0 - 330.0 | 325.25        | 328.83        | 329.75        |
| T 12           | 35.75 - 41.75 | 37.0          | 40.58         | 41.50         | FF 42          | 330.0 - 336.0 | 331.25        | 334.83        | 335.75        |
| T 13           | 41.75 - 47.75 | 43.0          | 46.58         | 47.50         | GG 43          | 336.0 - 342.0 | 337.25        | 340.83        | 341.75        |
| TV-IF          | 40.0 - 46.0   | 45.75         | 42.17         | 41.25         | HH 44          | 342.0 - 348.0 | 343.25        | 346.83        | 347.75        |
| 2 2            | 54.0 - 60.0   | 55.25         | 58.83         | 59.75         | II 45          | 348.0 - 354.0 | 349.25        | 352.83        | 353.75        |
| 3 3            | 60.0 - 66.0   | 61.25         | 64.83         | 65.75         | JJ 46          | 354.0 - 360.0 | 355.25        | 358.83        | 359.75        |
| 4 4            | 66.0 - 72.0   | 67.25         | 70.83         | 71.75         | KK 47          | 360.0 - 366.0 | 361.25        | 364.83        | 365.75        |
| 5 5            | 76.0 - 82.0   | 77.25         | 80.83         | 81.75         | LL 48          | 366.0 - 372.0 | 367.25        | 370.83        | 371.75        |
| 6 6            | 82.0 - 88.0   | 83.25         | 86.83         | 87.75         | MM 49          | 372.0 - 378.0 | 373.25        | 376.83        | 377.75        |
| FM             | 88.0 - 108.0  |               |               |               | NN 50          | 378.0 - 384.0 | 379.25        | 382.83        | 383.75        |
| A-5 95         | 90.0 - 96.0   | 91.25         | 94.83         | 95.75         | OO 51          | 384.0 - 390.0 | 385.25        | 388.83        | 389.75        |
| A-4 96         | 96.0 - 102.0  | 97.25         | 100.83        | 101.75        | PP 52          | 390.0 - 396.0 | 391.25        | 394.83        | 395.75        |
| A-3 97         | 102.0 - 108.0 | 103.25        | 106.83        | 107.75        | QQ 53          | 396.0 - 402.0 | 397.25        | 400.83        | 401.75        |
| A-2 98         | 108.0 - 114.0 | 109.25        | 112.83        | 113.75        | RR 54          | 402.0 - 408.0 | 403.25        | 406.83        | 407.75        |
| A-1 99         | 114.0 - 120.0 | 115.25        | 118.83        | 119.75        | SS 55          | 408.0 - 414.0 | 409.25        | 412.83        | 413.75        |
| A 14           | 120.0 - 126.0 | 121.25        | 124.83        | 125.75        | TT 56          | 414.0 - 420.0 | 415.25        | 418.83        | 419.75        |
| B 15           | 126.0 - 132.0 | 127.25        | 130.83        | 131.75        | UU 57          | 420.0 - 426.0 | 421.25        | 424.83        | 425.75        |
| C 16           | 132.0 - 138.0 | 133.25        | 136.83        | 137.75        | VV 58          | 426.0 - 432.0 | 427.25        | 430.83        | 431.75        |
| D 17           | 138.0 - 144.0 | 139.25        | 142.83        | 143.75        | WW 59          | 432.0 - 438.0 | 433.25        | 436.83        | 437.75        |
| E 18           | 144.0 - 150.0 | 145.25        | 148.83        | 149.75        | XX 60          | 438.0 - 444.0 | 439.25        | 442.83        | 443.75        |
| F 19           | 150.0 - 156.0 | 151.25        | 154.83        | 155.75        | YY 61          | 444.0 - 450.0 | 445.25        | 448.83        | 449.75        |
| G 20           | 156.0 - 162.0 | 157.25        | 160.83        | 161.75        | ZZ 62          | 450.0 - 456.0 | 451.25        | 454.83        | 455.75        |
| H 21           | 162.0 - 168.0 | 163.25        | 166.83        | 167.75        | AAA 63         | 456.0 - 462.0 | 457.25        | 460.83        | 461.75        |
| I 22           | 168.0 - 174.0 | 169.25        | 172.83        | 173.75        | BBB 64         | 462.0 - 468.0 | 463.25        | 466.83        | 467.75        |
| 7 7            | 174.0 - 180.0 | 175.25        | 178.83        | 179.75        | CCC 65         | 468.0 - 474.0 | 469.25        | 472.83        | 473.75        |
| 8 8            | 180.0 - 186.0 | 181.25        | 184.83        | 185.75        | DDD 66         | 474.0 - 480.0 | 475.25        | 478.83        | 479.75        |
| 9 9            | 186.0 - 192.0 | 187.25        | 190.83        | 191.75        | EEE 67         | 480.0 - 486.0 | 481.25        | 484.83        | 485.75        |
| 10 10          | 192.0 - 198.0 | 193.25        | 196.83        | 197.75        | FFF 68         | 486.0 - 492.0 | 487.25        | 490.83        | 491.75        |
| 11 11          | 198.0 - 204.0 | 199.25        | 202.83        | 203.75        | GGG 69         | 492.0 - 498.0 | 493.25        | 496.83        | 497.75        |
| 12 12          | 204.0 - 210.0 | 205.25        | 208.83        | 209.75        | HHH 70         | 498.0 - 504.0 | 499.25        | 502.83        | 503.75        |
| 13 13          | 210.0 - 216.0 | 211.25        | 214.83        | 215.75        | III 71         | 504.0 - 510.0 | 505.25        | 508.83        | 509.75        |
| J 23           | 216.0 - 222.0 | 217.25        | 220.83        | 221.75        | JJJ 72         | 510.0 - 516.0 | 511.25        | 514.83        | 515.75        |
| K 24           | 222.0 - 228.0 | 223.25        | 226.83        | 227.75        | KKK 73         | 516.0 - 522.0 | 517.25        | 520.83        | 521.75        |
| L 25           | 228.0 - 234.0 | 229.25        | 232.83        | 233.75        | LLL 74         | 522.0 - 528.0 | 523.25        | 526.83        | 527.75        |
| M 26           | 234.0 - 240.0 | 235.25        | 238.83        | 239.75        | MMM 75         | 528.0 - 534.0 | 529.25        | 532.83        | 533.75        |
| N 27           | 240.0 - 246.0 | 241.25        | 244.83        | 245.75        | NNN 76         | 534.0 - 540.0 | 535.25        | 538.83        | 539.75        |
| O 28           | 246.0 - 252.0 | 247.25        | 250.83        | 251.75        | OOO 77         | 540.0 - 546.0 | 541.25        | 544.83        | 545.75        |
| P 29           | 252.0 - 258.0 | 253.25        | 256.83        | 257.75        | PPP 78         | 546.0 - 552.0 | 547.25        | 550.83        | 551.75        |
| Q 30           | 258.0 - 264.0 | 259.25        | 262.83        | 263.75        | QQQ 79         | 552.0 - 558.0 | 553.25        | 556.83        | 557.75        |
| R 31           | 264.0 - 270.0 | 265.25        | 268.83        | 269.75        | RRR 80         | 558.0 - 564.0 | 559.25        | 562.83        | 563.75        |
| S 32           | 270.0 - 276.0 | 271.25        | 274.83        | 275.75        | SSS 81         | 564.0 - 570.0 | 565.25        | 568.83        | 569.75        |
| T 33           | 276.0 - 282.0 | 277.25        | 280.83        | 281.75        | TTT 82         | 570.0 - 576.0 | 571.25        | 574.83        | 575.75        |
| U 34           | 282.0 - 288.0 | 283.25        | 286.83        | 287.75        | UUU 83         | 576.0 - 582.0 | 577.25        | 580.83        | 581.75        |
| V 35           | 288.0 - 294.0 | 289.25        | 292.83        | 293.75        | VVV 84         | 582.0 - 588.0 | 583.25        | 586.83        | 587.75        |
| W 36           | 294.0 - 300.0 | 295.25        | 298.83        | 299.75        | WWW 85         | 588.0 - 594.0 | 589.25        | 592.83        | 593.75        |

# NTSC-Standard / Cable Television Channels vs Frequency in MHz

| Channel Number | Bandwidth     | Video Carrier | Color Carrier | Audio Carrier | Channel Number | Bandwidth      | Video Carrier | Color Carrier | Audio Carrier |
|----------------|---------------|---------------|---------------|---------------|----------------|----------------|---------------|---------------|---------------|
| XXX 86         | 594.0 - 600.0 | 595.25        | 598.83        | 599.75        | 140 140        | 888.0 - 894.0  | 889.25        | 892.83        | 893.75        |
| YYY 87         | 600.0 - 606.0 | 601.25        | 604.83        | 605.75        | 141 141        | 894.0 - 900.0  | 895.25        | 898.83        | 899.75        |
| ZZZ 88         | 606.0 - 612.0 | 607.25        | 610.83        | 611.75        | 142 142        | 900.0 - 906.0  | 901.25        | 904.83        | 905.75        |
| 89 89          | 612.0 - 618.0 | 613.25        | 616.83        | 617.75        | 143 143        | 906.0 - 912.0  | 907.25        | 910.83        | 911.75        |
| 90 90          | 618.0 - 624.0 | 619.25        | 622.83        | 623.75        | 144 144        | 912.0 - 918.0  | 913.25        | 916.83        | 917.75        |
| 91 91          | 624.0 - 630.0 | 625.25        | 628.83        | 629.75        | 145 145        | 918.0 - 924.0  | 919.25        | 922.83        | 923.75        |
| 92 92          | 630.0 - 636.0 | 631.25        | 634.83        | 635.75        | 146 146        | 924.0 - 930.0  | 925.25        | 928.83        | 929.75        |
| 93 93          | 636.0 - 642.0 | 637.25        | 640.83        | 641.75        | 147 147        | 930.0 - 936.0  | 931.25        | 934.83        | 935.75        |
| 94 94          | 642.0 - 648.0 | 643.25        | 646.83        | 647.75        | 148 148        | 936.0 - 942.0  | 937.25        | 940.83        | 941.75        |
| 100 100        | 648.0 - 654.0 | 649.25        | 652.83        | 653.75        | 149 149        | 942.0 - 948.0  | 943.25        | 946.83        | 947.75        |
| 101 101        | 654.0 - 660.0 | 655.25        | 658.83        | 659.75        | 150 150        | 948.0 - 954.0  | 949.25        | 952.83        | 953.75        |
| 102 102        | 660.0 - 666.0 | 661.25        | 664.83        | 665.75        | 151 151        | 954.0 - 960.0  | 955.25        | 958.83        | 959.75        |
| 103 103        | 666.0 - 672.0 | 667.25        | 670.83        | 671.75        | 152 152        | 960.0 - 966.0  | 961.25        | 964.83        | 965.75        |
| 104 104        | 672.0 - 678.0 | 673.25        | 676.83        | 677.75        | 153 153        | 966.0 - 972.0  | 967.25        | 970.83        | 971.75        |
| 105 105        | 678.0 - 684.0 | 679.25        | 682.83        | 683.75        | 154 154        | 972.0 - 978.0  | 973.25        | 976.83        | 977.75        |
| 106 106        | 684.0 - 690.0 | 685.25        | 688.83        | 689.75        | 155 155        | 978.0 - 984.0  | 979.25        | 982.83        | 983.75        |
| 107 107        | 690.0 - 696.0 | 691.25        | 694.83        | 695.75        | 156 156        | 984.0 - 990.0  | 985.25        | 988.83        | 989.75        |
| 108 108        | 696.0 - 702.0 | 697.25        | 700.83        | 701.75        | 157 157        | 990.0 - 996.0  | 991.25        | 994.83        | 995.75        |
| 109 109        | 702.0 - 708.0 | 703.25        | 706.83        | 707.75        | 158 158        | 996.0 - 1002.0 | 997.25        | 1000.83       | 1001.75       |
| 110 110        | 708.0 - 714.0 | 709.25        | 712.83        | 713.75        |                |                |               |               |               |
| 111 111        | 714.0 - 720.0 | 715.25        | 718.83        | 719.75        |                |                |               |               |               |
| 112 112        | 720.0 - 726.0 | 721.25        | 724.83        | 725.75        |                |                |               |               |               |
| 113 113        | 726.0 - 732.0 | 727.25        | 730.83        | 731.75        |                |                |               |               |               |
| 114 114        | 732.0 - 738.0 | 733.25        | 736.83        | 737.75        |                |                |               |               |               |
| 115 115        | 738.0 - 744.0 | 739.25        | 742.83        | 743.75        |                |                |               |               |               |
| 116 116        | 744.0 - 750.0 | 745.25        | 748.83        | 749.75        |                |                |               |               |               |
| 117 117        | 750.0 - 756.0 | 751.25        | 754.83        | 755.75        |                |                |               |               |               |
| 118 118        | 756.0 - 762.0 | 757.25        | 760.83        | 761.75        |                |                |               |               |               |
| 119 119        | 762.0 - 768.0 | 763.25        | 766.83        | 767.75        |                |                |               |               |               |
| 120 120        | 768.0 - 774.0 | 769.25        | 772.83        | 773.75        |                |                |               |               |               |
| 121 121        | 774.0 - 780.0 | 775.25        | 778.83        | 779.75        |                |                |               |               |               |
| 122 122        | 780.0 - 786.0 | 781.25        | 784.83        | 785.75        |                |                |               |               |               |
| 123 123        | 786.0 - 792.0 | 787.25        | 790.83        | 791.75        |                |                |               |               |               |
| 124 124        | 792.0 - 798.0 | 793.25        | 796.83        | 797.75        |                |                |               |               |               |
| 125 125        | 798.0 - 804.0 | 799.25        | 802.83        | 803.75        |                |                |               |               |               |
| 126 126        | 804.0 - 810.0 | 805.25        | 808.83        | 809.75        |                |                |               |               |               |
| 127 127        | 810.0 - 816.0 | 811.25        | 814.83        | 815.75        |                |                |               |               |               |
| 128 128        | 816.0 - 822.0 | 817.25        | 820.83        | 821.75        |                |                |               |               |               |
| 129 129        | 822.0 - 828.0 | 823.25        | 826.83        | 827.75        |                |                |               |               |               |
| 130 130        | 828.0 - 834.0 | 829.25        | 832.83        | 833.75        |                |                |               |               |               |
| 131 131        | 834.0 - 840.0 | 835.25        | 838.83        | 839.75        |                |                |               |               |               |
| 132 132        | 840.0 - 846.0 | 841.25        | 844.83        | 845.75        |                |                |               |               |               |
| 133 133        | 846.0 - 852.0 | 847.25        | 850.83        | 851.75        |                |                |               |               |               |
| 134 134        | 852.0 - 858.0 | 853.25        | 856.83        | 857.75        |                |                |               |               |               |
| 135 135        | 858.0 - 864.0 | 859.25        | 862.83        | 863.75        |                |                |               |               |               |
| 136 136        | 864.0 - 870.0 | 865.25        | 868.83        | 869.75        |                |                |               |               |               |
| 137 137        | 870.0 - 876.0 | 871.25        | 874.83        | 875.75        |                |                |               |               |               |
| 138 138        | 876.0 - 882.0 | 877.25        | 880.83        | 881.75        |                |                |               |               |               |
| 139 139        | 882.0 - 888.0 | 883.25        | 886.83        | 887.75        |                |                |               |               |               |

**HRC Frequencies** = Standard Frequencies minus 1.25 MHz  
 Except for:  
 Channel 5, Video = 78.0 MHz  
 Channel 6, Video = 84.0 MHz

**IRC Frequencies** = Same as Standard Frequencies  
 Except for:  
 Channel 5, Video = 79.25 MHz  
 Channel 6, Video = 85.25 MHz

**USEFUL RELATIONSHIPS:**

■ 0 dBmV = 1 MilliVolt = 1000uVolts = 48.75 dBm

■ To Convert dBmV to dBm: Subtract 48.75 dB

■ To Convert dBm to dBmV: Add 48.75 dB

|          |               |                 |
|----------|---------------|-----------------|
| $P = EI$ | $I^2 R$       | $\frac{E^2}{R}$ |
| $E = IR$ | $\frac{P}{I}$ | $\sqrt{PR}$     |

|                   |                 |                      |
|-------------------|-----------------|----------------------|
| $I = \frac{E}{R}$ | $\frac{P}{E}$   | $\sqrt{\frac{P}{R}}$ |
| $R = \frac{E}{I}$ | $\frac{P}{I^2}$ | $\frac{E^2}{P}$      |



**Corporate Headquarters:** 4562 Waterhouse Road, Clay, NY 13041  
 Telephone: (315) 622-3402 Toll Free 1 800-448-7474 Fax: (315) 622-3800  
**U.S.:** Antec Corp. Telephone: 1-800-252-2288 Fax: (708) 439-8531

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