

DETAIL SPECIFICATION SHEET

CABLES, RADIO FREQUENCY, FLEXIBLE, COAXIAL,  
75 OHMS, M17/77-RG216

Inactive for new design after 13 August 1993. For new design use MIL-DTL-17/191.

This specification is approved for use by all Departments and Agencies of the Department of Defense.

The requirements for acquiring the product described herein shall consist of this specification sheet and MIL-DTL-17.

NOTE: This cable uses PVC material and is not to be used in enclosed environments or shipboard applications. The replacements that are to be used in enclosed areas or shipboard applications are referenced in the following table.

The Air Force has restricted use of PVC in aerospace and ground support applications.

Cables listed on the current QPL may continue to be manufactured and supplied for existing enclosed applications only for a period not to exceed 3 years from the date of the last amendment to this specification.

TABLE I. Cross-reference data.

Current Part or Identifying Number (PIN)	Replacement PIN
M17/77-RG216	M17/191-00001

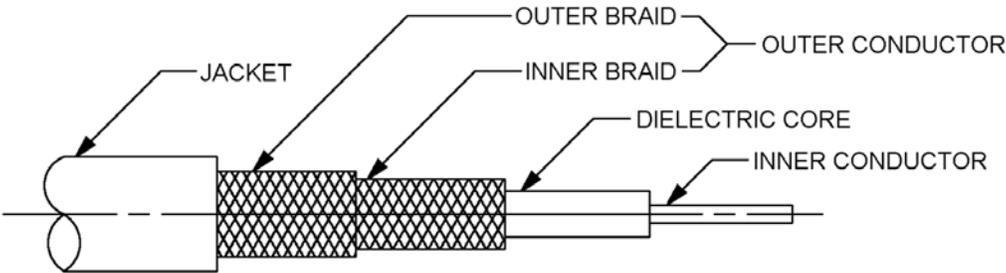


FIGURE 1. Configuration.

MIL-DTL-17/77D

TABLE II. Description.

Components	Construction details
Inner conductor	Seven strands of tinned, copper wire at .0159 inch each. Overall diameter: 0.0477 inch $\pm$ 0.0020.
Dielectric core	Type A-1: Solid, polyethylene. Diameter: 0.285 inch $\pm$ 0.007.
Outer conductor	Double braid of AWG #34 copper wire. Diameter: 0.360 inch maximum.
Inner braid	Coverage: 95.4% nominal Carriers: 24 Ends: 9 Picks/inch: 6.5 $\pm$ 10%
Outer braid	Coverage: 93.6% nominal Carriers: 24 Ends: 8 Picks/inch: 10.3 $\pm$ 10%
Jacket	Type IIa: PVC Diameter: 0.425 inch $\pm$ 0.007.

ENGINEERING INFORMATION

Continuous working voltage: 3,700 V rms, maximum.

Operating frequency: 3 GHz, maximum.

Velocity of propagation: 65.9 percent, nominal.

Power rating: See figure 2.

Operating temperature range: -40°C to +85°C.

Inner conductor properties:

DC resistance (maximum at 20°C): 0.66 ohm per 100 feet.

Elongation: 15 percent, minimum.

Tensile strength: Not applicable.

Engineering notes: This cable is useful in general purpose low temperature applications. (See connector series "N" in accordance with MIL-PRF-39012.) This cable tends to degrade as it ages.

MIL-DTL-17/77D

REQUIREMENTS

Dimensions, configuration, and descriptions: See figure 1 and table II.

Environmental and mechanical:

Visual and mechanical examination:

Out-of-roundness: Not applicable.

Eccentricity: 10 percent, maximum.

Adhesion of conductors:

Inner conductor to core: 7 pounds, minimum; 50 pounds, maximum.

Aging stability:  $+98^{\circ}\text{C} \pm 2^{\circ}\text{C}$ .

Stress crack resistance: Not applicable.

Outer conductor integrity: Not applicable.

Cold bend:  $-40^{\circ}\text{C} \pm 2^{\circ}\text{C}$ .

Dimensional stability:  $+85^{\circ}\text{C} \pm 2^{\circ}\text{C}$ .

Inner conductor from core: 0.062 inch, maximum.

Inner conductor from jacket: 0.125 inch, maximum.

Contamination: Applicable.

Bendability: Not applicable.

Flammability: Not applicable.

Weight: 12.4 pounds per 100 feet, maximum.

Electrical:

Continuity: Applicable.

Spark test: 5,000 V rms, +10%, -0%.

Voltage withstanding: 10,000 V rms, +10%, -0%.

Insulation resistance: Not applicable.

Corona extinction voltage: 5,000 V rms, minimum.

Characteristic impedance: 75 ohms  $\pm 3$ .

MIL-DTL-17/77D

Attenuation:

6.5 dB per 100 feet, maximum at .4 GHz;

26.5 dB per 100 feet, maximum at 3.0 GHz.

Structural return loss: Not applicable.

Capacitance: 22 pF per foot, maximum.

Capacitance stability: Not applicable.

Capacitance unbalance: Not applicable.

Transmission unbalance: Not applicable.

Mechanically induced noise voltage: Not applicable.

Time delay: Not applicable.

PIN: M17/77-RG216. See table I.

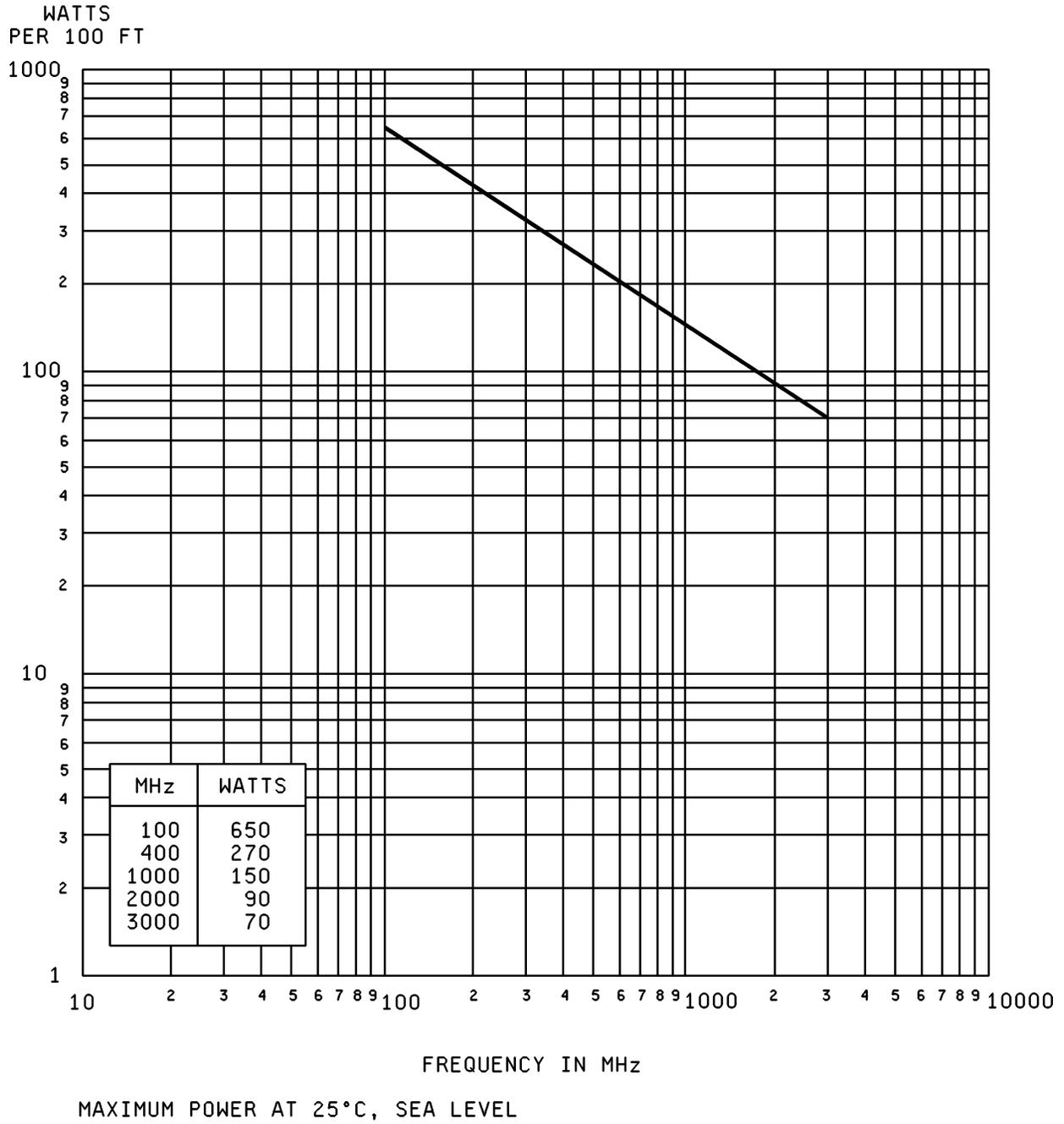


FIGURE 2. Power rating at sea level and 25°C.

MIL-DTL-17/77D

Changes from previous issue. Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extent of the changes.

Referenced documents. In addition to MIL-DTL-17, this document references the following:

MIL-DTL-17/191  
MIL-PRF-39012

CONCLUDING MATERIAL

Custodians:

Army – CR  
Navy – EC  
Air Force – 85  
DLA - CC

Preparing activity:  
DLA - CC

(Project 6145-2014-033)

Review activities:

Army – AT, CR4, MI  
Navy – AS, MC, OS, SH  
Air Force – 19, 99  
DLA - IS

NOTE: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of the information above using the ASSIST Online database at <https://assist.dla.mil>.