

DETAIL SPECIFICATION SHEET

CABLES, RADIO FREQUENCY, FLEXIBLE, TWIN,  
95 OHMS, UNARMORED M17/15-RG022,  
AND ARMORED M17/15-RG111

Inactive for new design after 13 August 1993. For  
new design use MIL-C-17/182.

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 this specification.

TABLE I. Cross-reference data.

Current Part or Identifying Number (PIN)	Replacement PIN
M17/15-RG022	M17/182-00001
M17/15-RG111	M17/182-00002

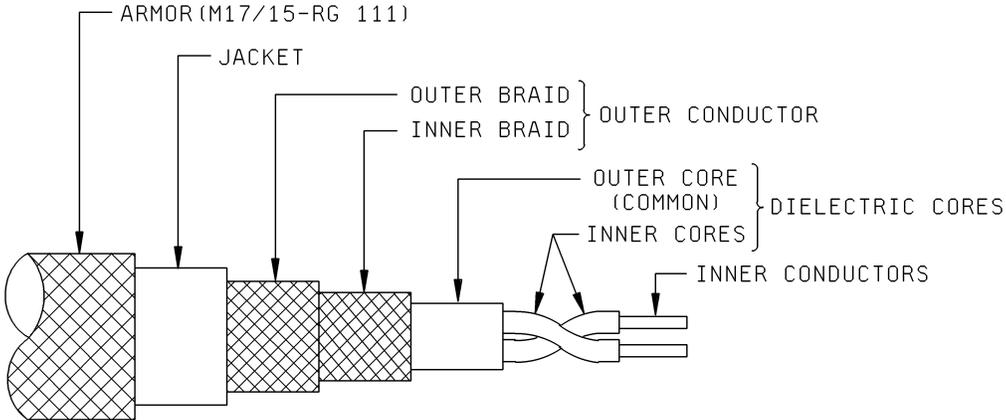


FIGURE 1. Configuration.

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TABLE II. Description.

Components	Construction details
Inner conductors	Two conductors. Seven strands of bare copper wire, each strand 0.0152 inch each diameter. One strand of one conductor shall be tinned copper for identification. Overall diameter of each conductor : 0.0456 inch $\pm$ 0.0010.
Dielectric cores	Two individual cores, under a common core.
Inner cores (individual)	Two cores, twisted together with a right-hand lay of 4.25 inch, $\pm$ .5 inch. Type A-2: Solid polyethylene, talc coated, each core. Diameter of each core: 0.090 inch $\pm$ 0.002.
Outer core (common)	Type A-1: Solid polyethylene, fill-to-round. Diameter: 0.285 inch $\pm$ 0.006
Outer conductor	Double braid of AWG #34, tinned copper wire. Diameter: 0.355 inch maximum.
Inner braid	Coverage: 94.1% nominal Carriers: 24 Ends: 8 Picks/inch: 9.1 $\pm$ 10%
Outer braid	Coverage: 96.0% nominal Carriers: 24 Ends: 8 Picks/inch: 12.0 $\pm$ 10%
Jacket	Type IIa: PVC. Diameter: 0.420 inch $\pm$ 0.010.
Armored M17/15-RG111	Single braid of aluminum-alloy wire. Diameter: 0.490 inch maximum.

ENGINEERING INFORMATION

Continuous working voltage: 750 V rms, maximum.

Operating frequency: 200 MHz, maximum.

Velocity of propagation: 65.9 percent, nominal.

Power rating: See figure 2.

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

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Inner conductor properties:

DC resistance (maximum at 20°C): 0.68 ohm per 100 feet (each conductor).

Elongation: 20 percent, minimum.

Tensile strength: Not applicable.

Engineering notes: This cable useful in general purpose medium low temperature balanced cable applications.

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. 1/

Adhesion of conductors:

Inner conductor to core: 2 pounds, minimum; 20 pounds, maximum.

Aging stability: +98°C ± 2°C.

Stress crack resistance: Not applicable.

Outer conductor integrity: Not applicable.

Cold bend: -40°C ± 2°C.

Dimensional stability: +85°C ± 2°C.

Inner from conductor core: 0.062 inch, maximum.

Inner conductor from jacket: 0.125 inch, maximum.

1/ ( $T_{max} - T_{min}$ ) shall be interpreted as the difference in total wall thickness measured (1) along a line through the centers of the conductors between the edge of each conductor and the nearest surface of the core and (2) between a line tangent to the two conductors and a parallel line tangent to the surface of the core on both sides of the conductors. The eccentricity corresponding to the larger measured value of ( $T_{max} - T_{min}$ ) shall be reported.

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Contamination: Applicable.

Bendability: Not applicable.

Flammability: Not applicable.

Weight:

M17/74-RG022: 0.134 pound per foot, maximum.

M17/74-RG111: 0.161 pound per foot, maximum.

Electrical:

Continuity: Applicable.

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

Voltage withstanding: 2,000 V rms, +10%, -0%.

Insulation resistance: Not applicable.

Corona extinction voltage: Not applicable.

Characteristic impedance: 95 ohms  $\pm$  5.

Attenuation: 4 dB at 100 MHz to 6 dB at 200 MHz per 100 feet, maximum.

Structural return loss: Not applicable.

Capacitance: 17.4 pF per foot, maximum.

Capacitance stability: Not applicable.

Capacitance unbalance: 5 percent, maximum.

Transmission unbalance: 10 percent, maximum, on a 100 foot length when measured between 100 and 160 MHz.

Mechanically induced noise voltage: Not applicable.

Time delay: Not applicable.

PIN: M17/15-RG022, M17/15-RG111, armored. See table I.

Supersession date: See table III.

TABLE III. Cross-reference of PIN.

PIN	Superseded PIN
M17715-RG022	RG-228/U
M17/15-RG111	RG-111A/U

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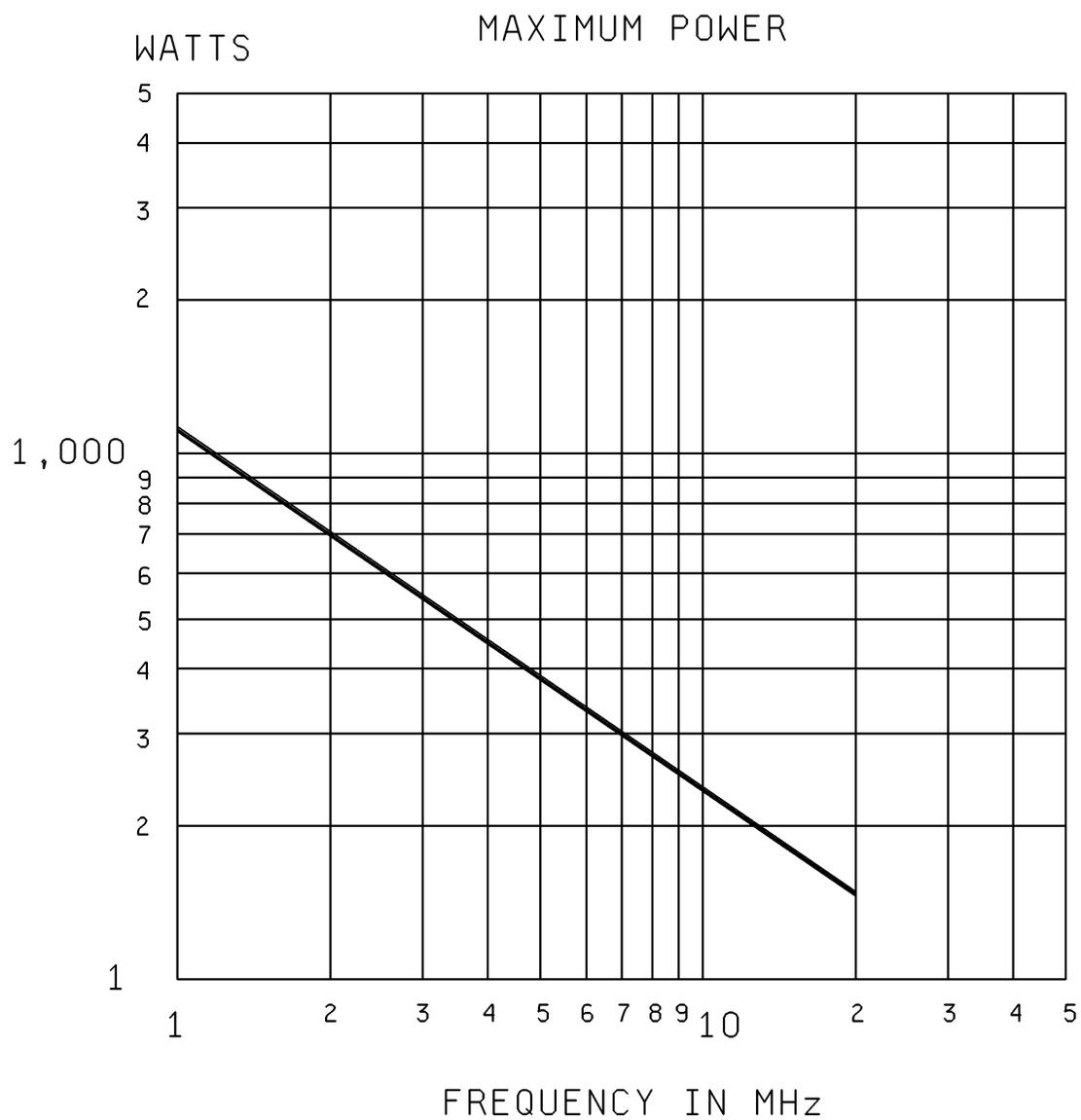


FIGURE 2. Power rating.

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Amendment notations. The margins of this specification are marked with vertical lines to indicate modifications generated by this amendment. This was done as a convenience only and the Government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire content irrespective of the marginal notations.

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

MIL-C-17/182

CONCLUDING MATERIAL

Custodians:

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

Preparing activity:  
DLA - CC

(Project 6145-2010-021)

Review activities:

Army – AT, CR4, MI  
Navy – AS, MC, OS, SH, TD  
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.daps.dla.mil>.