REQUIREMENTS:

1. GENERAL:
   A. INTERPRET DRAWING IN ACCORDANCE WITH STANDARDS PRESCRIBED BY MIL-D-7037.
   B. UNITS SHALL MEET THE REQUIREMENTS OF MIL-C-3998 WITH THE EXCEPTIONS AND ADDITIONS SPECIFIED HEREIN.
   C. THE SUPPLIER SHALL CONFORM TO THE QUALITY ASSURANCE PROVISIONS AS CONTAINED IN MIL-STD-1075, CLASS 2.
   D. PACKAGING AND PACKING: PACKAGING AND PACKING SHALL BE IN ACCORDANCE WITH MIL-C-3998, LEVEL A IN BOTH INSTANCES.

2. ACCEPTANCE AND INSPECTION: INSPECTION AND TEST PROCEDURE SHALL BE IN ACCORDANCE WITH MIL-D-70527, C, PERCENT, CALIBRATED IN A STANDARD 330 CI METER AT 60 DEGREES CENTIGRADE UNLESS REVISED PER TDRR 06010.

3. MECHANICAL REQUIREMENTS:
   A. MECHANICAL REQUIREMENTS:
      (1) PACKAGING AND PACKING: PACKAGING AND PACKING SHALL BE IN ACCORDANCE WITH MIL-C-3998, LEVEL A IN BOTH INSTANCES.
      (2) DIMENSIONS: IN ACCORDANCE WITH OUTLINE. 100 PERCENT OF UNITS INSPECTED SHALL BE INSPECTED FOR THIS REQUIREMENT.
      (3) LEAD MATERIAL: LEAD MATERIAL SHALL BE IRON-NICKEL-COBALT ALLOY (C36000) IN ACCORDANCE WITH MIL-STD-1075, CLASS 2. A CERTIFICATE OF COMPLIANCE WITH THIS REQUIREMENT SHALL ACCOMPANY EACH SHIPMENT.
      (4) LEAD TENSION: LEADS SHALL BE CAPABLE OF WITHSTANDING AN AXIAL PULL OF 4 POUNDS MINIMUM, NO MECHANICAL DAMAGE OR LACK OF PERFORMANCE SHALL BE EVIDENCED AS A RESULT OF THIS TEST. SAMPLE PER MIL-STD-1075, LEVEL A, 4 PERCENT.
      (5) CRYSTAL MOUNTING: THE CRYSTAL MOUNTING SHALL BE RUGGEDIZED TO ENABLE UNIT TO MEET THE REQUIREMENTS SPECIFIED HEREIN.

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B. ELECTRICAL CHARACTERISTICS: THE FOLLOWING ELECTRICAL CHARACTERISTICS SHALL BE INSPECTED ON 100 PERCENT OF UNITS PROCURED. THE TEST SHALL BE PERFORMED WITH 50 MICROAMPS MAX DRIVE AND 25 PLUS OR MINUS 1 DEGREE CENITGRADE UNLESS OTHERWISE SPECIFIED.
   (1) FREQUENCY: 3,000,000 MILLISECOND PLUS OR MINUS 0.01 PERCENT, CALIBRATED IN A STANDARD 330 CI METER AT 60 DEGREES CENTIGRADE AND THE FACT THAT THE GOVERNMENT MAY FORMULATE, FURNISH, OR INITIAL RELEASE CLASS A NOTICE — WHEN GOVERNMENT DRAWINGS, SPECIFICATIONS, OR OTHER DATA IS REVISED PER TDRR 06010, SUCH NOTICE MAY BE RENewed OR ANY OTHER PERSON OR CORPORATION, OR CONVEYED TO BE RESCinded BY IMPLICATION OR OTHERWISE AS IN ANY MANNER.
3. DESIGN REQUIREMENTS:

A. SHELF LIFE: UNITS SHALL BE CAPABLE OF OPERATING WITHIN THE REQUIREMENTS SPECIFIED HEREIN AFTER ONE YEAR OF UNPACKAGED STORAGE UNDER THE FOLLOWING CONDITIONS: RELATIVE HUMIDITY UP TO 95 PERCENT, TEMPERATURES AS LOW AS MINUS 18 DEGREES CENTIGRADE OR AS HIGH AS PLUS 52 DEGREES CENTIGRADE, AND AT ALTITUDES AS HIGH AS 10,000 FEET. IT SHALL BE ASSURED THAT THE UNITS WILL BE EXPOSED TO AMBIENT ATMOSPHERE DURING THE ONE YEAR PERIOD.

B. PACKAGED STORAGE: UNITS SHALL BE CAPABLE OF OPERATING WITHIN THE REQUIREMENTS SPECIFIED HEREIN AFTER THREE YEARS OF DEAD STORAGE WHEN PACKAGED FOR OVERSEAS SHIPMENT IN ACCORDANCE WITH SPECIFICATION JAN-P-100-1. ENVIRONMENTAL CONDITIONS FOR PACKAGED STORAGE SHALL BE AS INDICATED FOR ALL NON-OPERATING CONDITIONS SPECIFIED ABOVE EXCEPT THE STORAGE TEMPERATURE MAY BE AS HIGH AS PLUS 71 DEGREES CENTIGRADE OR AS LOW AS MINUS 40 DEGREES CENTIGRADE, THERE MAY BE VIBRATORY ACCELERATION FOR PERIODS OF 25 HOURS OF 1.0G FROM 2 TO 30 CYCLES PER SECOND AND THERE MAY BE OCCASIONAL SHOCKS UP TO 10G.

C. SPURIOUS MODES: ALL SPURIOUS MODES SHALL BE AT LEAST 3.5 DECIBELS SIMILAR TO THAT OBTAINED WITH A BARRY TYPE SHOCK MACHINE OR MANUFACTURED EQUIVALENT. THE OTHER SHALL NOT EXCEED 15 SECONDS. PERMANENT FREQUENCY CHANGE AFTER SHOCK SHALL BE NO GREATER THAN 1 PART PER 107.

D. CRYSTAL ELEMENT: QUARTZ, *AT* CUT, GOLD OR ALUMINUM PLATED. A CERTIFICATE OF COMPLIANCE WITH THIS REQUIREMENT SHALL ACCOMPANY EACH SHAPE.

E. ENVIRONMENTAL REQUIREMENTS: UNITS SHALL BE CAPABLE OF WITHSTANDING THE FOLLOWING ENVIRONMENTAL TESTS. MECHANICAL TESTS (VIBRATION, SHOCK AND ACCELERATION) SHALL BE CONDUCTED WITH THE UNIT MOUNTED BY MEANS OF AN APPROPRIATE FIXTURE WITH THE BODY RESTRAINED FROM MOVEMENT.

1) VIBRATION: WHILE OPERATING FROM 15 TO 120 CYCLES PER SECOND AT 0.2 INCH DOUBLE AMPLITUDE; FROM 31 TO 2,000 CYCLES PER SECOND AT PLUS OR MINUS 10G. FREQUENCY CHANGE DURING VIBRATION SHALL BE NO GREATER THAN PLUS OR MINUS ONE (1) PART PER 107. A RESONANCE SEARCH SHALL BE MADE THROUGHOUT THE FREQUENCY RANGE SPECIFIED AND A 15 MINUTE FATIGUE VIBRATION TEST SHALL BE PERFORMED AT EACH MAJOR RESONANCE. PERMANENT FREQUENCY CHANGE AFTER VIBRATION SHALL BE NO GREATER THAN PLUS OR MINUS ONE (1) PART PER 107.

2) MECHANICAL SHOCK: WHILE OPERATING, 50G FOR 11 MILLI-SECONDS PLUS OR MINUS ONE (1) MILLI-SECOND DURATION SIMILAR TO THAT OBTAINED WITH A BARRY TYPE SHOCK MACHINE PER MIL-STD-202 3 SHOCKS IN EACH OF THE 3 MUTUALLY PERPENDICULAR PLANES FOR A TOTAL OF 18 SHOCKS. PERMANENT FREQUENCY CHANGE AFTER SHOCK SHALL BE NO GREATER THAN PLUS OR MINUS 2 PARTS PER 108.

3) ACCELERATION: WHILE OPERATING AND NON-OPERATING, PLUS OR MINUS 20G IN ANY DIRECTION FOR 5 MINUTES. PERMANENT FREQUENCY CHANGE AFTER ACCELERATION SHALL BE NO GREATER THAN 5 PARTS PER 108.

F. AGING: PLUS 1 PART PER 108 PER WEEK MAXIMUM AT PLUS 60 DEGREES CENTIGRADE 50 MICROWATTS CRYSTAL DRIVE. TEMPERATURE SHOCK: MINUS 40 DEGREES CENTIGRADE FOR 50 MINUTES AND PLUS 85 DEGREES CENTIGRADE FOR 50 MINUTES. TIME INTERVAL CHANGING FROM ONE TEMPERATURE EXTREME TO THE OTHER SHALL NOT EXCEED 15 SECONDS. PERMANENT FREQUENCY CHANGE AFTER TEMPERATURE SHOCK SHALL BE NO GREATER THAN 1 PART PER 107.