

MIL-A-22165 (WEP)
AMENDMENT-5
15 MAY 1961
SUPERSEDING
AMENDMENT-4
1 MARCH 1961

MILITARY SPECIFICATION

AMPLIFIER, COMPASS, SERVO (TYPE MF-1 COMPASS)

This amendment forms a part of Military Specification MIL-A-22165(Aer) of 15 August 1959, and has been approved by the Bureau of Naval Weapons, Department of the Navy.

By this amendment basic MIL-A-22165(Aer) is changed to read MIL-A-22165(Wep).

Page 3: Paragraph 3.5 Design and Construction.- Revise third sentence to read:

"The cam compensator shall have visual compensated and uncompensated indicators and a vernier calibrated in 0.1 degree".

Page 4: Paragraph 3.12 Dial Marking.- Add the following sentence and table to the end of this paragraph:

"The dimensions of the dial markings shall be as follows:

	Compensated Dial		Uncompensated Dial	
	Height or Length Inch	Wide Inch \pm .002	Height or Length Inch	Width Inch \pm .002
Numerals, Letters	.070	.012	.070	.012
10° Graduations	.125	.010	.094	.010
5° Graduations	.125	.006	.094	.006
1° Graduations	.078	.006	.062	.006

Vernier

	Height or Length Inch	Wide Inch \pm .002
Numerals	.062	.012
"0" and "1" Graduations	.060	.010
6th Graduation	.060	.006
All others	.046	.006

Page 5: Delete Figure 1 and substitute new Figure 1 attached.

Page 7: Add paragraph 4.3.2:

Authorization.- Requests for authorization for Qualification Tests shall be addressed to the Bureau of Naval Weapons, Department of the Navy, Washington 25, D. C., the qualifying agency.

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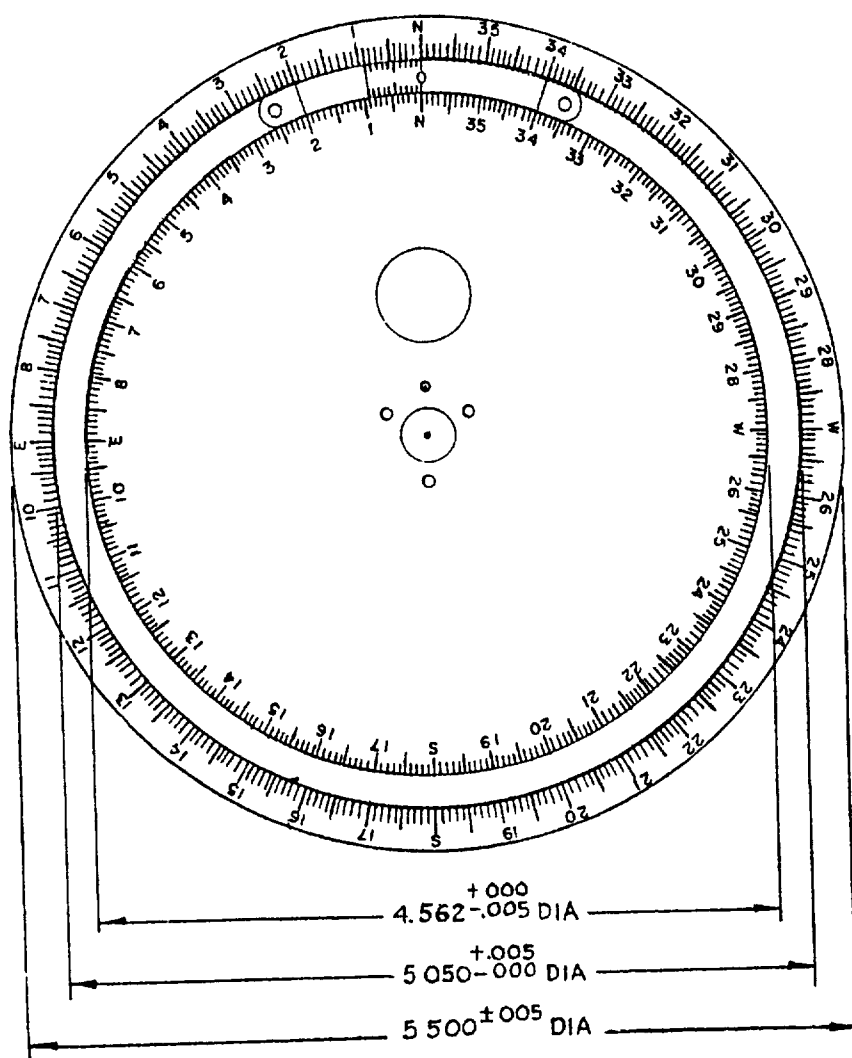


Figure 1
Compensated and Uncompensated Dials and Vernier

Page 10: Paragraph 4.7.2 Continuity. - Under Resistance (Ohms) opposite Pin Designations "J2004-29 to J2004-30 (Type II Only)" and "J2004-30 to J2004-31 (Type II Only)" change the value " 4.5 ± 1 " to " 4.5 ± 10 " in two places.

Under Resistance (Ohms) opposite Pin Designations "J2004-32 to J2004-33 (Type II Only)" change the value " 18.8 ± 4 " to " 188 ± 40 ".

Page 11: Paragraph 4.7.3 Dielectric Strength. - Add the following as the last sentence:

Insulation breakdown shall be defined as an alternating current leakage impedance of less than 200,000 ohms, or a leakage current of 2.5 milliamperes.

Page 12: Paragraph 4.7.5.3 Latitude Correction Voltage Regulation. - In the first and last sentences, change the voltage value from "9.0 volts dc" to "9.5 volts dc".

Page 14: Paragraph 4.7.6.7.1.1 (Type I Only) Section c. - Change second sentence to read:

"Each successive null voltage reading between J2004-21 to J2004-22 shall not change more than 10 mv from the preceding null voltage reading."

Page 14: Paragraph 4.7.6.7.1.2 (Type II Only) Section (c). - Change second sentence to read:

"Each successive null voltage reading between J2004-35 to J2004-34 shall not change more than 50 mv from the preceding null voltage reading."

Page 15: Paragraph 4.7.6.7.4.2 (Type II Only). - In section (a) change the voltage "600 millivolts" to "5 volts".

Page 15: Paragraph 4.7.6.7.5.2 (Type II Only). - In section (a) change the voltage "600 millivolts" to "5 volts".

Page 15: Paragraph 4.7.6.7.6.1 (Type I Only). - In section (c) revise last sentence to read:

"The voltage from J2004-21 to J2004-22 shall not be greater than 10 millivolts."

Page 17: Paragraph 4.7.9.1 Fast Synchronization. - In both sections (a) and (b) change the figures " 5.6 ± 1.4 " to " 6.3 ± 2.1 ".

Page 17: Paragraph 4.7.13 High Temperature Operation. - Revise fourth sentence to read:

"At the end of the 4 hour period and with the temperature maintained at 71° C (160°F), the amplifier shall be subjected to and meet the requirements of the following sections.

(a) Section 4.7.6.4

(b) Section 4.7.6.5

(c) Section 4.7.6.6

(d) Section 4.7.6.7.1 Null, except as follows:

Section 4.7.6.7.1.1 (Type I Only) - The null voltages in each part shall be (a) 20 mv, (b) 25 mv, and (c) 40 mv.

Section 4.7.6.7.1.2 (Type II Only) - The null voltages in each part shall be (a) 80 mv, (b) 90 mv, and (c) 160 mv.

(e) Section 4.7.6.7.2 Sensitivity, Phase and Limits, except as follows:

Section 4.7.6.7.2.1 (Type I Only) - The voltage in part (a) shall be $.660 \pm .13$ at a phase of 7 ± 4 degrees.

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Section 4.7.6.7.2.2 (Type II Only) - The voltage in part (a) shall be $5.9 \pm .9$ at a phase of 20 ± 6 degrees.

(f) Section 4.7.6.7.3, except as follows:

Section 4.7.6.7.3.1 (Type I Only) - The voltage in part (a) shall be $.660 \pm .13$ at a phase of -173 ± 4 degrees.

Section 4.7.6.7.3.2 (Type II Only) - The voltage in part (a) shall be $5.9 \pm .9$ at a phase of -200 ± 6 degrees.

(g) Section 4.7.8.1

(h) Section 4.7.8.2.1 - (Except in part (c) the servo repeater autosyn dial pointer shall move to zero degrees ± 1.0 degree.

(i) Section 4.7.9.2 - (Except in parts (a) and (b) the repeater autosyn dial pointer shall turn through 180 degrees ± 70 degrees.

(j) Section 4.7.10"

Page 17: Paragraph 4.7.14 Low Temperature Operation. - Revise fifth sentence to read:

"At the end of the 4 hour period and with the temperature maintained at -54° C (-65° F), the amplifier shall be subjected to and meet the requirements of the following sections:

(a) Section 4.7.6.4

(b) Section 4.7.6.5

(c) Section 4.7.6.6

(d) Section 4.7.6.7.1 Null, except as follows:

(a) Section 4.7.6.7.1.1 (Type I Only) - The null voltages in each part shall be (a) 20 mv, (b) 25 mv, and (c) 40 mv.

(a) Section 4.7.6.7.1.2 (Type II Only) - The null voltages in each part shall be (a) 80 mv, (b) 90 mv, and (c) 160 mv.

(e) Section 4.7.6.7.2 Sensitivity, Phase and Limits, except as follows:

Section 4.7.6.7.2.1 (Type I Only) - The voltage in part (a) shall be $.660 \pm .13$ at a phase of 7 ± 4 degrees.

Section 4.7.6.7.2.2 (Type II Only) - The voltage in part (a) shall be $5.9 \pm .9$ at a phase of 20 ± 6 degrees.

(f) Section 4.7.6.7.3, except as follows:

Section 4.7.6.7.3.1 (Type I Only) - The voltage in part (a) shall be $.660 \pm .13$ at a phase of -173 ± 4 degrees.

Section 4.7.6.7.3.2 (Type II Only) - The voltage in part (a) shall be $5.9 \pm .9$ at a phase of -200 ± 6 degrees.

(g) Section 4.7.8.1

(h) Section 4.7.8.2.1 - (Except in part (c) the servo repeater autosyn dial pointer shall move to zero degrees \pm 1.0 degree).

(i) Section 4.7.9.2 - (Except in parts (a) and (b) the repeater autosyn dial pointer shall turn through 180 degrees \pm 70 degrees).

(j) Section 4.7.10"

Page 18: Paragraph 4.7.15 High Temperature Exposure. - Revise sixth sentence to read the same as the change for Paragraph 4.7.13 (above).

Page 18: Paragraph 4.7.16 Low Temperature Exposure. - Revise third sentence to read the same as the change for Paragraph 4.7.14 (above).