

**TECHNICAL MANUAL**

**OPERATOR'S, ORGANIZATIONAL, DIRECT SUPPORT, AND  
GENERAL SUPPORT MAINTENANCE MANUAL  
(INCLUDING REPAIR PARTS AND SPECIAL TOOLS LISTS)**

**FOR**

**GENERATOR, SIGNAL SG-747/U  
(HEWLETT-PACKARD 3300A)  
(NSN 6625-00-118-6736)**

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**HEADQUARTERS, DEPARTMENT OF THE ARMY**

**4 AUGUST 1980**

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 DEPARTMENT OF THE ARMY  
 WASHINGTON, DC, 4 August 1980

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**REPORTING OF ERRORS**

You can improve this manual by recommending improvements using DA Form 2028-2 located in the back of the manual. Simply tear out the self-addressed form, fill it out as shown on the sample, fold it where shown, and drop it in the mail.

If there are no blank DA Forms 2028-2 in back of your manual, use the standard DA Form 2028 (Recommended Changes to Publications and Blank Forms) and forward it to the Commander, US Army Communications and Electronics Materiel Readiness Command, ATTN: DRSEL-ME-MQ, Fort Monmouth, NJ 07703.

In either case, a reply will be furnished direct to you.

**TABLE OF CONTENTS**

SECTION	Page
0 INTRODUCTION.....	0-1
0-1. SCOPE.....	0-1
0-2. INDEXES OF PUBLICATIONS.....	0-1
0-3. FORMS AND RECORDS.....	0-1
0-4. REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIR) .....	0-1
0-5. ADMINISTRATIVE STORAGE .....	0-1
0-6. DESTRUCTION OF ARMY ELECTRONICS MATERIAL .....	0-1

This manual is an authentication of the manufacturer's commercial literature which through usage, has been found to cover the data required to operate and maintain this equipment. The manual was not prepared in accordance with military specifications and AR 310-3, the format has not been structured to consider levels of maintenance.

**TABLE OF CONTENTS (Continued)**

Section		Page	Section		Page
I	GENERAL INFORMATION .....	1-1	V	MAINTENANCE (Cont'd)	
	1-1. General.....	1-1	5-13.	Maximum Output Level, Loaded.....	5-1
	1-5. Electronic Frequency Control .....	1-1	5-16.	Square Wave Response .....	5-2
	1-7. Output System.....	1-1	5-18.	Sync Output .....	5-2
	1-9. Instrument and Manual Identification.....	1-1	5-19.	Remote Frequency Control Check .....	5-2
Section		Page	5-20.	Channel B-A Check .....	5-3
II	INSTALLATION.....	2-1	5-21.	Adjustment and Calibration.....	5-3
	2-1. Introduction.....	2-1	5-22.	Cover Removal .....	5-3
	2-3. Initial Inspection.....	2-1	5-23.	Power Supply Adjustments.....	5-3
	2-5. Power Requirements.....	2-1	5-26.	Power Supply Ripple Check.....	5-3
	2-7. Grounding Requirements .....	2-1	5-27.	Power Supply Regulation Check... 5-3	
	2-10. Installation .....	2-1	5-28.	Oven Regulation .....	5-3
	2-12. Bench Mounting .....	2-1	5-29.	Frequency Symmetry Adjust.....	5-3
	2-14. Rack Mounting .....	2-1	5-32.	Current Source Adjust.....	5-5
	2-16. Repackaging for Shipment.....	2-1	5-33.	Dial Adjustment.....	5-5
Section		Page	5-34.	Dial Calibrate.....	5-5
III	OPERATING INSTRUCTIONS .....	3-1	5-38.	Distortion Adjust.....	5-6
	3-1. Introduction.....	3-1	5-39.	DC Output Level Adjust .....	5-6
	3-3. Controls and Indicators .....	3-1	5-41.	Square Wave Adjust .....	5-6
	3-5. Turn On Procedure.....	3-1	5-43.	Repair Procedures .....	5-6
	3-7. Operating Instructions .....	3-1	5-44.	Servicing Etched Circuit Boards ...	5-6
Section		Page	5-46.	Servicing Rotary Switches .....	5-7
IV	THEORY OF OPERATION .....	4-1	5-48.	Replacement of Factory Selected Components .....	5-7
	4-1. Introduction.....	4-1	5-50.	Troubleshooting Procedure.....	5-7
	4-3. General Description.....	4-1	5-54.	Malfunction Isolation Plug.....	5-7
	4-13. Schematic Theory .....	4-2	5-56.	Precautions .....	5-8
	4-14. Frequency Control Network.....	4-2	5-59.	Troubleshooting Tree .....	5-8
	4-17. Current Sources .....	4-2	5-62.	Troubleshooting Tables .....	5-10
	4-19. Triangle Integrator .....	4-2			
	4-21. Voltage Comparator Multivibrator .....	4-2	Section		Page
	4-23. Sine Wave Synthesizer. ....	4-2	VI	CIRCUIT DIAGRAMS .....	6-1
	4-25. Output Amplifiers.....	4-2	6-1.	Introduction .....	6-1
	4-27. Power Supply .....	4-3	6-3.	Schematic Diagrams.....	6-1
	4-30. Oven.....	4-3	6-4.	Component Location Diagrams ...	6-1
Section		Page	6-5.	Plug-In Receptacle.....	6-1
V	MAINTENANCE .....	5-1	Section		Page
	5-1. Introduction.....	5-1	VII	REPLACEABLE PARTS .....	7-1
	5-3. Performance Checks.....	5-1	7-1.	Introduction .....	7-1
	5-5. Dial Accuracy.....	5-1	7-4.	Ordering Information .....	7-1
	5-7. Distortion Check .....	5-1	7-6.	Non-Listed Parts .....	7-1
	5-8. Frequency Response .....	5-1	Appendix		
	5-10. Maximum Output Level, No Load .....	5-1	A	References.....	A-1
			B	Not Applicable.	
			C	Not Applicable.	
			D	Maintenance Allocation .....	D-1

**LIST OF TABLES**

Number		Page	Number		Page
1-1.	Specifications .....	1-0	5-4.	Troubleshooting Aid .....	5-8
5-1.	Required Test Equipment.....	5-0	5-5.	Maintenance Correlation Table.....	5-10
5-2.	Power Supply Adjustments.....	5-3	5-6.	Factory Selected Components.....	5-11
5-3.	Integrator Feedback Capacitance. ....	5-7	7-1.	Replaceable Parts.....	7-2
			7-2.	Part No - National Stock No. Cross Reference Index.....	7-9

**LIST OF ILLUSTRATIONS**

Number	Page	Number	Page
1-1.	Model 3300A Function Generator ..... 1-0	5-7.	Malfunction Isolating Plug ..... 5-8
3-1.	Description of Front and Rear Panel Controls and Connectors..... 3-0	5-8.	Troubleshooting Tree ..... 5-9
4-1.	Block Diagram ..... 4-1	5-9.	Normal Oscillator Wave Forms ..... 5-10
5-1.	600 ohm or 50 ohm Load Output Test Setup ..... 5-2	6-1.	3300A Top and Bottom Views ..... 6-2
5-2.	Remote Frequency Control Test Setup..... 5-2	6-2.	Oscillator Circuit Schematic (A11, A13 and A14)..... 6-3
5-3.	Adjustment Point Location..... 5-4	6-3.	Range Switch Connections to Plug-In Unit 6-4
5-4.	Voltage Monitoring Points Top and Bottom ..... 5-4	6-4.	Output Amplifiers Schematic (A15 and A16) ..... 6-5/6-6
5-5.	Symmetry Adjustment ..... 5-5	6-5.	Power Supply Schematic (A12 and A11) 6-7/6-8
5-6.	DC Output Level Adjust Test Setup ..... 5-5	6-6.	J6 Plug-In Receptacle ..... 6-9
		7-1.	Modular Cabinet Parts ..... 7-0

## SECTION 0 INTRODUCTION

### 0-1. SCOPE.

This manual describes Generator, Signal SG-747/U (HP-3300A) (fig. 1-1) and provides maintenance instructions. Throughout this manual, SG-747/U is referred to as the Hewlett-Packard HP-3300A Function Generator.

### 0-2. INDEXES OF PUBLICATIONS.

a. DA Pam 310-4. Refer to the latest issue of DA Pam 310-4 to determine whether there are new editions, changes, or additional publications pertaining to the equipment.

b. DA Pam 310-7. Refer to DA Pam 310-7 to determine whether there are modification work orders (MWO's) pertaining to the equipment.

### 0-3. FORMS AND RECORDS.

a. Reports of Maintenance and Unsatisfactory Equipment. Maintenance forms, records, and reports which are to be used by maintenance personnel at all levels of maintenance are listed in and prescribed by TM 38-750.

b. Report of Packaging and Handling Deficiencies. Fill out and forward DD Form 6 (Packaging Improvement Report) as prescribed in AR 735-11-2/NAVSUPINST 4440,127E/AFR 400-54/MCO 4430.3E and DSAR 4140.55.

c. Discrepancy in Shipment Report (DISREP) (SF 361). Fill out and forward Discrepancy in Shipment Report (DISREP) (SF 361) as prescribed in AR 55-38/NAVSUPINST 4610.33B/AFR 75-18/MCO P4610.19C and DSAR 4500.15.

### 0-4. REPORTING OF EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIR).

EIRs will be prepared using DA Form 2407, Maintenance Request. Instructions for preparing EIRs are provided in TM 38-750, The Army Maintenance Management System. EIRs should be mailed directly to Commander, US Army Communications and Electronics Materiel Readiness Command, ATTN: DRSEL-ME-MQ, Fort Monmouth, New Jersey 07703. A reply will be furnished directly to you.

### 0-5. ADMINISTRATIVE STORAGE.

Administrative storage of equipment issued to and used by Army activities shall be in accordance with TM 740-90-1.

### 0-6. DESTRUCTION OF ARMY ELECTRONICS MATERIEL.

Destruction of Army Electronics materiel to prevent enemy use shall be in accordance with TM 750-244-2.

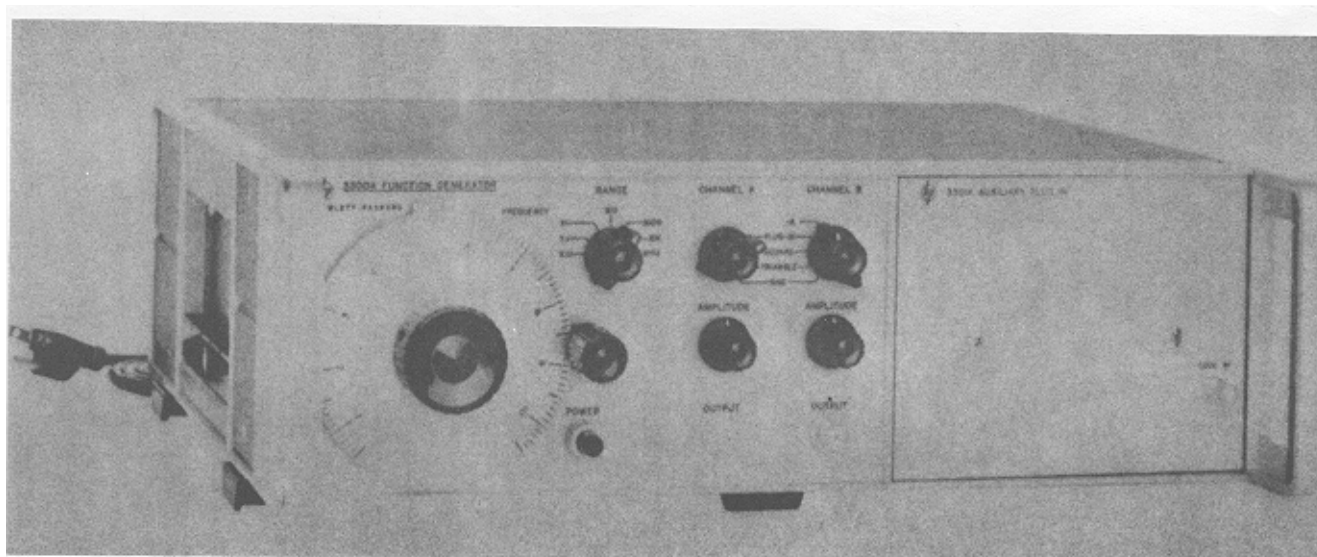


Figure 1-1. Model 3300A Function Generator

Table 1-1. Specifications

<p><b>AVAILABLE PLUG-IN UNITS:</b>                      Model 3301A Auxiliary Plug-In.                      Model 3302A Trigger Plug-In.                      Model 3304A Sweep/Offset Plug-In.                      Model 3305A Sweep Plug-In.</p>	<p><b>SINE WAVE DISTORTION:</b> &lt;1%. 0.01 Hz to 10 kHz; &lt;3%, 10 kHz to 100kHz on the X10K range.</p>
<p><b>OUTPUT WAVEFORMS:</b> Sinusoidal, square, and triangle selected by panel switch. (Any two outputs available simultaneously).</p>	<p><b>SQUARE WAVE RESPONSE:</b> &lt;250 nsec rise and fall time on all ranges; &lt;500 nsec rise and fall time in -A; &lt;1% sag; &lt;5% overshoot at full output; &lt;1% symmetry error.</p>
<p><b>FREQUENCY RANGE:</b> 0.01 Hz to 100 kHz in seven decade ranges.</p>	<p><b>TRIANGLE LINEARITY:</b> &lt;1% 0.01 Hz to 10 kHz; &lt;2%, 10 kHz to 100 kHz at full output; &lt; 1% symmetry error.</p>
<p><b>FREQUENCY RESPONSE:</b> <math>\pm 1\%</math>, 0.01 Hz to 10 kHz; <math>\pm 3\%</math>, 10 kHz to 100 kHz on the X10K range.</p>	<p><b>SYNC PULSE OUTPUT:</b> &gt; 10 volts peak-to-peak open circuit, &lt;5 <math>\mu</math>sec duration. Sync pulse occurs at crest of sine and triangle wave.</p>
<p><b>DIAL ACCURACY:</b> <math>\pm 1\%</math> of maximum dial setting (1 minor division) 0.01 Hz to 10 kHz; <math>\pm 2\%</math> of maximum dial setting (2 minor divisions) 10 kHz to 100 kHz. T. C. 0. 1%/°C.</p>	<p><b>DC STABILITY:</b> Drift: <math>\leq \pm 0.25\%</math> of peak-to-peak amplitude over a period of 24 hours. (After 30 minute warmup).</p>
<p><b>MAXIMUM OUTPUT PER CHANNEL:</b> &gt; 35 volts peak-to-peak open circuit; &gt; 15 volts peak-to-peak into 600 ohms; &gt; 2 volts peak-to-peak into 50 ohms.</p>	<p><b>REMOTE FREQUENCY CONTROL:</b> 0 to -10 volts will linearly change frequency &gt; 1 decade within a single range. Frequency resetability with respect to voltage <math>\pm 1\%</math> of maximum frequency on range selected.</p>
<p><b>OUTPUT ATTENUATORS (both channels):</b> 40 dB range.</p>	<p><b>POWER:</b> 115 or 230 volts <math>\pm 10\%</math>, 48 to 440 Hz. Less than 50 watts.</p>
<p><b>OUTPUT IMPEDANCE:</b> 600 ohms nominal (both channels) <math>\pm 20\%</math>.</p>	<p><b>DIMENSIONS:</b> (inches and millimeters) 5" high (127 mm), 16" wide (406 mm), 11" deep (279 mm).</p>