

DATE 9/15/61

SHEET 1 OF 6

TMC SPECIFICATION NO. S -607

COMPILED

CHECKED

TITLE:

APPROVED

TEST PROCEDURE
FOR
CHG-2 I.F. CHASSIS

DATE 9/15/61

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A. DESCRIPTION & FUNCTION

The I.F. chassis consists of two amplifiers (V2101 and V2102) both tuned to amplify 18Mc. The 18Mc. is then fed into a balanced modulator thereby furnishing a carrier. A signal of 1.75 - 3.75Mc from the mid frequency amplifier is also fed into the balanced modulator which mixes with the 18Mc. The difference frequency is then selected, and amplified by a wide band amplifier, 14.25 to 16.25Mc., flat within 3 db, to furnish an output to a 47 ohm load, thereby serving as an intermediate amplifier in the overall CHG system.

B. TEST EQUIPMENT REQUIRED

1. Two Signal Generators, Measurements Model 82.
2. R.F. Voltmeter, Hewlett Packard 410B.
3. Oscilloscope, Tektronics 545A with Type L plug in unit.
4. Multimeter, Simpson #260 or equivalent.
5. Power Supply, Lambda Model 25.
6. Electronic Counter, Hewlett Packard 524C.
7. Cables for dc supply, generator output, ect.

C. DC VOLTAGE CHECK

1. Inspect unit carefully; see if unit is clear of short circuits, loose parts and debris.
2. Check B+ line pin H of J2201 to ground with an ohmmeter. Reading should be infinite.
3. Connect to power supply through power cable assembly.
4. Turn AC on, set DC output voltage to 200 volts, then turn DC switch on.

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5. Measure DC voltages as per chart. Voltages should be within +10%.

0 Signal DC Voltages

SYM	TYPE	1	2	3	4	5	6	7
					AC			
V2201	6AH6	0	1.25	0	6.3	+165	+115	0
V2202	6AH6	0	0*	0	6.3	+165	+145	+1.2
V2203	6AU6	0	0*	0	6.3	+200	+135	+1.2
V2204	6AU6	0	0*	0	6.3	+200	+135	+1.2
V2205	6AU6	0	0*	0	6.3	+200	+145	+1.2
V2206	6AH6	0	0*	0	6.3	+200	+145	+1.2

D. ALIGNMENT

1. 18 MC Circuits

1.1. Connect signal generator to input jack J2202 set for 18 Mc +50 cps with a counter, set attenuator for approximately 1 v.

1.2. Connect R.F. voltmeter to one side of Bal. Adj. R2209, set Bal. Adj. to approximately in the middle. Set R.F. meter to 1 volt scale AC.

1.3. Tune circuits T2201 and T2202 for maximum output, progressively decreasing output of Signal Generator as required. The resultant output should be .4V RMS for an input of 25,000 UV.

1.4. Connect Oscilloscope to pin 1 of V2203 -- set Volt/CM scale to .005.

1.5. Adjust Balance Adjust (R2209) for min. output on Oscilloscope, then lock carefully without disturbing adjustment. Output shall be not more than .04V RMS when .4V RMS appears either side of R2209 to ground (10:1 voltage ratio or 20db).

2. 14.25 - 16.25 Circuits

2.1. Connect Signal Generator to input of T2203, Set for 14.1 MCS., set attenuator approximately 1 v.

2.2. Connect probe of Oscilloscope to output jack J2204, volt/CM scale to .005, X10 gain AC; time/CM scale to .1 u sec.

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2.3. Tune 14.1 circuits of T2204 thru T2207 for maximum output-- progressively decreasing Signal Generator output as required.

2.4. Reset Signal Generator to 16.35 and tune 16.35 circuits of T2204 thru T2207 for maximum output.

2.5. Reset Signal Generator to 14.8 Mcs. and tune Primary of T2203 for max. output, tune secondary to 15.30 Mcs. for maximum output.

2.6. Repeat steps 3, 4 and 5 - lock tuning slugs carefully while observing output on Oscilloscope.

2.7. Bandwidth check - output shall be within 3 db from 14.25 to 16.25 Mcs.

2.71. Determine the maximum response point of amplifier by slowly turning Signal Generator from 14.25 to 16.25 Mc., and observe maximum output on Oscilloscope. Use this point as 0 db reference -- Set Oscilloscope to read 20 small divisions (4 Cm.).

2.72. Sweep Signal Generator thru 14.25 to 16.25 Mc slowly -- output shall be between 14 division (-3 db) and 20 division (0 db).

E. GAIN MEASUREMENT

1. Connect No. 1 Signal Generator to J2202

1.1 Adjust Signal Generator frequency to 18 Mc. \pm 25 cps, use counter.

1.2 Adjust attenuator to produce approximately .7V RMS from one side of R2209 to ground.

2. Connect No. 2 Signal Generator to J2203.

2.1 Adjust Signal Generator frequency to 2 Mc \pm 100 kc.

2.2 Adjust Attenuator to .1V input at J2203.

3. Connect R.F. Voltmeter to J2204, set on 1 v scale (AC).

4. Read Output - Output should be approximately .05 volts RMS.

5. Attenuation of 18Mc. at pin 1 of V2203 shall be at least 20 db or .05V maximum.

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F. PERFORMANCE (Report on test report sheet)

1. 18Mc. output shall be between .7 to .8 RMS.
2. 18Mc. attenuation at pin 1 V2203. Output shall not be more than .05V.
3. 14.25 to 16.25 Mc output shall be .01V minimum .10V maximum.
4. 14.25 to 16.25 Mc amplifier bandwidth shall be within 3 db (14 to 20 divisions as viewed on Oscilloscope).

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TEST REPORT SHEET FOR CHG-2 I.F. CHASSIS

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|---|-------|------------|
| 1. D.C. Voltage check, within $\pm 10\%$ | _____ | check O.K. |
| 2. 18 Mc. Output; .7V to .8V RMS | _____ | volts |
| 3. 18 Mc. Attenuation in Balanced Modulator
.05 volts or less. | _____ | volts |
| 4. 14.25 to 16.25 Mc. Output; .01V to .10V | _____ | volts |
| 5. 14.25 to 16.25 amplifier bandwidth shall
be flat within 3 db. | _____ | check O.K. |

TESTED BY: _____

ACCEPTED: _____

DATE: _____

APPROVED: _____