

DATE 5-1-61

SH. 1 OF 4

COMPILED BY

TMC SPECIFICATION NO. S-556

TITLE:

TEST PROCEDURE ACU

JOB

APPROVED

DB

A. EQUIPMENT REQUIRED

1. GPT-40K or GPT-10K Transmitter or equivalent with 600 ohms Balanced Output.
2. Two Radio Frequency ammeters 0 - 10 amps.
3. One Radio Frequency ammeter 0 - 25 amps.
4. 50-ohm or 70-ohm noninductive load.
5. TMC Form CH-184 ACU Test Data Sheet.

B. PRELIMINARY

1. Mount ACU securely on side of transmitter and provide good ground connection between transmitter and ACU.
2. Connect output of transmitter to input of ACU with short leads that are spaced at least 12 inches apart.
3. The load and R.F. ammeters should be arranged so that the 0 - 10 ammeters record the current in the 600 ohm balance load and the 0 - 25 ammeter records the current in the 50 or 70 ohm unbalance load.
4. The ACU will be checked at the band cross-over frequencies to insure complete frequency coverage and proper operation. Any person unfamiliar with this set should first read the instruction manual for the principles of operation. The safety precaution embodied therein should be carefully noted and adhered to.

C. INTERLOCKS

The Interlocks provided on the ACU's left side, S108, right side, S104, and rear, S109 as well as the Bal. Band switch, S105, the Unbal. Band switch, S106 and the Thermostat, S107 are connected in series and should show continuity across Terminals A & C of connector J101.

If this is not a short circuit check the screw adjustment on the right side interlock, left side interlock and rear interlock.

If there is continuity, activate each switch S108, S104, S109, S105 & S106 separately and note whether an open circuit occurs in each case

DATE 5-1-61
SH. 2 OF 4
COMPILED BY

TMC SPECIFICATION NO. S-556

TITLE: TEST PROCEDURE ACU

JOB

APPR VED

and adjust closer clearances if it does not occur.

D. DIRECTIONAL WATTMETER

There are no adjustments to be made on the coupler. The arrows are to be turned fully clockwise and counter clockwise respectively for forward and reverse power readings. The connection from the arrow pointing in the direction of the output should read forward power and should be connected to contacts 1 and 3 of switch S101 while the other connection should read reflected power and be connected to contacts 2 and 4 of switch S101.

E. TUNING PROCEDURE

1. Set mode switch (FWD, RFL, CAL, SWR) S101 to FWD.
2. Using the tuning chart that comes with transmitter, set all controls to setting prescribed on the chart. The chart should be for a 600-ohm balanced output.
3. Using the accompanying sample form, set the Controls of the ACU for the transmitter output frequency. Check that the Bal. Band and Unbal. Band are properly set.
4. Operate transmitter on reduced power, say 50 percent load or less.
5. Tune the ACU Bal. Load capacitor for equal meter current in the transmitter output close to the point where the deflections dip in opposite directions.

CAUTION

Do not drive the transmitter above 3 amperes on each meter unless there is a 5 Kw output indicated on the ACU meter M101. Note that 3 amperes into a 600-ohm resistive circuit requires 5.4 Kw. It is important that

DATE 5-1-61
SH. 3 OF 4
COMPILED BY

TMC SPECIFICATION NO. S -556

TITLE: TEST PROCEDURE ACU

JOB

APPR VED

inputs and outputs closely correspond because, unless the proper impedance is presented to the transmitter, excessive voltages and currents will be encountered, overloading the transmitter.

6. Keeping the ACU Bal. Load capacitor continually adjusted for equal meter currents, adjust the ACU Unbal. Load capacitor in very small steps to gradually increase the ACU's input and output powers proportionally. The transmitter should not be driven up to full power until proper impedance match has been made. Always set up transmitter and ACU by tuning charts for rough start.

DATE 5-1-61
 SH. 4 OF 4
 COMPILED BY

TMC SPECIFICATION NO. S-556

TITLE: TEST PROCEDURE ACU

JOB

APPROVED

FREQ. MC	BAL BAND	UNBAL BAND	BAL LOAD	UNBAL LOAD	I1 INPUT	I2 INPUT	I OUTPUT	POWER OUT KW
2	2-3	2-12	215	231	3	3	8.5	5
3	2-3	2-12	215	231	3	3	8.5	5
3	3-6	2-12	215	225	3	3	8.5	5
6	3-6	2-12	092	107	3	3	8.5	5
6	6-10	2-12	053	084	3	3	8.5	5
10	6-10	2-12	019	044	3	3	8.5	5
10	10-15	2-12	017	032	3	3	8.5	5
12	10-15	2-12	002	001	3	3	8.5	5
12	10-15	12-20	002	001	3	3	8.5	5
15	10-15	12-20	055	090	3	3	8.5	5
15	15-24	12-20	048	110	3	3	8.5	5
20	15-24	12-20	023	048	3	3	8.5	5
20	15-24	20-30	023	048	3	3	8.5	5
24	15-24	20-30	027	002	3	3	8.5	5
24	24-30	20-30	030	040	3	3	8.5	5
30	24-30	70-30	010	015	3	3	8.5	5