DATE 12/7/1960 SH. 1 OF 5 COMPILED BY RWT	TMC SPECIFICATION NO. S -10055	
	TITLE: PROD. TESTING OF MODEL CATU-1K	JOB
APPROVED R. W. Thomas		

INSTRUCTIONS FOR THE PRODUCTION TESTING

OF THE MODEL CATU-1K

TMC (CANADA) LIMITED

OTTAWA ONTARIO

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INDEX

1. TEST EQUIPMENT REQUIRED

1.1 Heterodyne Voltmeter
Bruel & Kjaer Model 2002

1.2 Vacuum Tube Voltmeter
Hewlett Packard Model 410B

1.3 50 ohm, 12 db pad

1.4 Junction box with 100:1 capacitive divider

1.5 GPT-750-(B)-2 Transmitter

1.6 50 ohm Load
Jones Electronics Model 636N

1.7 50 ohm Probe-T-Connector
Hewlett Packard Model 455A.

2. TEST INSTRUCTIONS

2.1 Electrical and Mechanical Inspection.

2.1.1 Check that the unit has been correctly assembled and that all screws and nuts are tight.

2.1.2 Check that there are no dry joints and see that the 1N478 diode has not been overheated.

2.2 Test procedure

2.2.1 Attach the filter securely to the top of the transmitter by means of the three bolts supplied and connect the two using the short cable supplied.

2.2.2 Connect the probe-T-connector directly to the 50 ohm load and to this connect the junction box. Connect the output of the CATU-1K to the junction box by means of a 50 ohm cable and take the output of the capacitive divider in the junction box via a long 50 ohm cable to a remote location well outside the radiation field of the transmitter.

The end of this cable is connected to the heterodyne voltmeter via the 50 ohm 12 db pad and also a Bruel & Kjaer 40 db attenuator.

2.2.3 With the toggle switch on the CATU-1K in the "OUT" position, tune the transmitter to the first listed frequency and run it up until it delivers 1 kw to the load, as shown by a 223 V indication on the vacuum tube voltmeter.

2.2.4 Turn the "drive" control on the transmitter down to minimum and turn the toggle switch on the CATU-1K to the "IN" position. Ensure that the "Frequency Range" switch on the CATU-1K is in the appropriate position and then turn up the transmitter drive control until the P.A. current shows an increase of 100%.

2.2.5 Turn the "Tuning" knob on the CATU-1K until a peak is observed on the meter. Increase the drive and readjust the CATU-1K tuning alternately until full output power is regained.

2.2.6 Next adjust the CATU-1K tuning together with the transmitter 'loading' control to reduce the transmitter antenna current reading to about 50% of its former value, maintaining full output power and ensuring that the transmitter screen and plate currents do not exceed 90 mA and 600 mA respectively.

2.2.7 Measure the second and third harmonic at the Bruel and Kjaer heterodyne voltmeter and note that these should be a minimum -60db relative to the fundamental at the following test frequencies: 2, 4, 8, 10, 15, 20, 27 Mc/s.

3. RELATED DRAWINGS

CK-10375	Schematic diagram
ML-10090	Material List for CATU-1K