OCTOBER 14 1998

ACCEPTANCE TEST PROCEDURE

FOR

TRANSMITTER DESIGNED TO MEET THE REQUIREMENTS OF BARON SERVICES INC. "C" BAND, 350KW TRANSMITTER P/N BA 91000

S/N 1

PREPARED FOR

BARON SERVICES INC.
2121 METRO CIRCLE
HUNTSVILLE, AL 35801

BY

JAYCOR , HPM OPERATION
2186 EASTMAN AVENUE - SUITE 107
VENTURA, CALIFORNIA - 93003

3.2 OPERATIONAL PROCEDURE

The Front Panel has the following meters:

FILAMENT VOLTMETER – 15 volts Full Scale
HV POWER SUPPLY CURRENT METER – 1.0 Amps Full Scale
HV POWER SUPPLY VOLTAGE METER – 2000 volts Full Scale
MAGNETRON CURRENT METER – 50 ma Full Scale
AC INPUT VOLTS – 220VAC – SYSTEM POWER
AC INPUT VOLTS – 220VAC – TRANSMITTER POWER

A. Paying attention to the Transmitter Control Panel.
   1. Set switches in the following positions.
      a. System Power – Set to "OFF" position.
      b. Local/Remote - Set to "Local" position.
      c. A.C. Switch, On/Standby – Set to "Off"
      d. H.V. Switch, On/Radiate – Set to "Off" position.
   2. Connect JAYCOR Control Box to 37 pin Connector (P1) on on Transmitter with JAYCOR Adapter cable.
      a. Set A.C. Power Switch on Control Box to "OFF"

B. Make sure ALL Input Power Switches are in the "OFF" position. Connect the Transmitter to a 220/240 VAC circuit with the capability to supply up to 2000 watts.

C. Place the AC "ON" switch on the EXTERNAL CONTROL BOX to "ON" Verify "Magnetron Airflow Light " illuminates, (Fan not "ON")
   1. Turn "System Power" switch "ON" (Front Panel)
   2. Set AC Switch, "On/Standby" to "Standby"-
   3. Verify Magnetron Airflow Light goes "OUT", All Fans "ON"
   4. Set Pulse generator for 2 usec, amplitude of 10 to 15 volts peak, and 300 PPS.
   5. Set H.V. switch to "ON" position.

Record
1.H.V. Light, illuminates
2. TIME - (START STOP WATCH)
3. AC INPUT VOLTS-SYSTEM POWER
4. FILAMENT VOLTAGE METER READING, 9.5 Vrms +/_ .5 VOLTS

D. Monitor the "FILAMENT/READY" Light and RECORD the time the light goes on. The elapsed time from Standby to Ready > 5 minutes.

RECORD: 1. READY LIGHT, ON
2. TIME READY LIGHT ILLUMINATES
3. ELAPSED TIME, 300 SECONDS, MINIMUM

E. Connect the PRF Monitor to the Oscilloscope. Set the oscilloscope to measure Frequency. Connect Spectrum Analyzer to waveguide and with transmitter operating adjust center frequency of magnetron to 5.6 Ghz.

RECORD: 1. THE OPERATING FREQUENCY.
2. SIDE LOBES > 12 Db DOWN (PLOT)
3. SPURIOUS RESPONSE > 40 Dbc
4. HV POWER SUPPLY VOLTAGE ----- VOLTS
5. HV CURRENT METER -------- AMPS
6. FILAMENT VOLTS ---------- VOLTS
MAGNETRON CURRENT --------MA

F. Connect Peak Power Meter to Waveguide.

RECORD: 1. PEAK POWER, 85.4 (Min).
2. POWER OUTPUT STABILITY, .1 Db Pulse to Pulse
3. PULSE DROOP < .5 Db.

G. Connect Oscilloscope to Crystal Detector. Adjust generator for 2 usec and 250 PPS.

RECORD: 1. PULSE WIDTH, (-) 3 Db POWER POINTS
2. PULSE TO PULSE JITTER < 10 NSEC Pk. to Pk. Measured (.707) of detector.
3. PULSE WIDTH JITTER < 10 NSEC Pk. to Pk. Measured (.707) of detector.
4. TIME DELAY, INPUT TO RF OUTPUT < 1 USEC
5. RISE TIME, < 100nsec, 10% TO 90%
6. FALL TIME, < 160nsec, 90% TO 10%
7. INPUT TO OUTPUT PULSE WIDTH TRACKING +/- 5%

H. Connect Spectrum Analyzer to Waveguide.

RECORD: 1. CENTER FREQUENCY, SHOULD NOT DEVIATE FROM ORIGINAL SETTING BY MORE THAN +/- 112 MHz

I. Set Pulse Width for .4 usec and adjust frequency for 2500 PPS.

1. RECORD: 1. UNIT OPERATES AT .001 DUTY
2. Run Rep. Rate till over duty light is illuminated or Dropping pluses is observed on the oscilloscope. Record Rep Rate, should be 2800 to 3200 pps.

J. With unit operating as above, short output of magnetron at the cathode stem to ground, If an extended ARC is applied the Magnetron current light , A7 board, should illuminate and unit shut down. Press reset button, unit should recover and emit RF at the original power output. For minor ARC's the transmitter should recover on it's own and Ramp Up without touching the Reset button.

Major Arc, Shutdown ✓ O.K.
Minor Arc, Ramp Up ✓ O.K.

Burn In: The transmitter should be set at .4 usec and 1800 pps and allowed to run for a minimum of 8 hrs.

RECORD: O.K.

TRANSMITTER TEST DATA SHEET
BARON SERVICES INC.

Part Number: BA 91000 Sheet 1 of 3

Serial Number: 002 Date: 12-16-98 Tester: Mark Tenzle

3.2 OPERATIONAL PROCEDURE:

3.2 A Transmitter Control Panel

3.2.A.1 SET SWITCHES IN THE FOLLOWING POSITIONS

a. System Power – Set to "OFF" position. O.K. ✓
b. Local/Remote - Set to "Local" position. O.K. ✓
c. A.C. Switch, On/Standby – Set to "Off" O.K. ✓
d. H.V. Switch, On/Radiate – Set to "Off" position. O.K. ✓

3.2.A.2 CONNECT JAYCOR CONTROL BOX TO 37 PIN CONNECTOR (P1) ON TRANSMITTER WITH JAYCOR ADAPTER CABLE.

a. Set A.C. Power Switch on Control Box to "OFF" O.K. ✓

3.2.B With all AC Swiches "OFF" , connect Transmitter to 220 VAC,single phase Power. O.K. ✓

3.2.C Place AC switch on Control Box, "ON" O.K. ✓
Magnetron Airflow Switch,"OFF" O.K. ✓

3.2.C.1 Turn "System Power" switch "ON" (Front Panel) O.K. ✓
3.2.C.2 Set AC Switch, "On/Standby" to "Standby"- O.K. ✓
3.2.C.3 Verify Magnetron Airflow Light goes "OUT", All Fans "ON", O.K. ✓
3.2.C.4 Set Pulse generator for 2 usec, amplitude of 10 to 15 volts peak, and 300 PPS. O.K. ✓
3.2.C.5 Set H.V. switch to "ON" position. O.K. ✓

3.2.C SYSTEM INPUT VOLTAGE (AC) 230

3.2.C TRANSMITTER INPUT VOLTS (AC) 225

3.2 C FILAMENT VOLTS --- 9.5 Vrms +/- .5 VOLTS 9.5

3.2 C READY LIGHT ON: YES ✓ NO ___

3.2 D TIME: 5:09

3.2 D FILAMENT DELAY --- 3 MIN, Minimum YES ✓ NO ___

TRANSMITTER TEST DATA SHEET
BAR0N SERVICES INC.

Part Number: BA 91000 Sheet 2 of 3

Serial Number: 002 Date: 12/16/98 Tester: MARK

3.2 E	MAGNETRON FREQUENCY --	5.604HZ
3.2 E	SPECTRUM SIDE LOBES > 12 dB	HI SIDE 16 db
		LOW SIDE 14db
3.2 E	SPURIOUS RESPONSE > (-) 40 Dbc,	7-55 OK ✓
3.2 E	HV POWER SUPPLY VOLTAGE	1462 VOLTS DC
3.2 E	HV CURRENT METER	.74 AMPS
3.2 E	FILAMENT VOLTS	9.5 VOLTS RMS Standby
3.2E	MAGNETRON CURRENT	28 MA
3.2 F	PEAK POWER, 85.4 Dbm [350kw- (min.)]	86.21 Dbm, 417 Kw
3.2 F	POWER OUTPUT STABILITY, < .1 Db, Pulse to Pulse,	0
3.2 F	PULSE DROOP < .5Db.	.1 OK ✓
3.2 G	PULSE WIDTH	2.0 us OK ✓
3.2 G	PULSE TO PULSE JITTER < 10 NSEC (Pk TO Pk)	2 NSEC
3.2 G	PULSE WIDTH JITTER < 10 NSEC (Pk TO Pk)	2 NSEC
3.2 G	TIME DELAY < 1 USEC	.7 USEC
3.2 G	RISE TIME < 100 NSEC, 10% TO 90%	61 NSEC
3.2 G	FALL TIME < 160 NSEC, 90% TO 10%	151 NSEC
3.2 G	INPUT TO OUTPUT (Pulse Width Tracking) <100NSEC	0 NSEC

TRANSMITTER TEST DATA SHEET
BARON SERVICES INC.

Part Number: BA 91000 Sheet 3 of 3

Serial Number: 002 Date: 12/16/98 Tester: MARK

3.2 H	FREQUENCY DRIFT < 112 Mhz	3 Mhz	✓ OK
3.2 I	OPERATION AT .001 DUTY	✓	OK
3.2 K	MAGNETRON ARC TEST	✓	OK
3.2 L	BURN IN, START TIME	5:00 pm	
	END TIME	9:00 AM	
	TESTED OK	O.K	

TESTER MARK YOUNGS DATE 12/16/98

WITNESS CLIFF LAMB DATE 12/16/98

Q.C. [signature] DATE 12/16/98

Q.C. STAMP HPM 3 JAYCOR DATE 12/16/98