The start up of the FMIT-1 transmitter will require the execution of this procedure and notations made on the FMIT Start-Up Checklist. This procedure has detailed photographs to aid the engineer / technician starting the transmitter to identify the locations of the items which must be activated, checked and recorded. A engineer / technician familiar with the system may start the transmitter by following the checklist details.

**Dummy Load Circulating Pump**

The “Dummy Load Circulating Pump” for FMIT #1 and FMIT # 2 is located between the low level RF control cabinets and the wall of the power room. Verify there is no work in process with the system through a physical inspection of the area.

Start the circulating pump by pressing the “Start” button on the motor controller next to the dummy load and just above the circulating pump. Continue to press this button until a pressure of > 8.0 psig is indicated on the pressure gauge located on the dummy load jacket.
If the pump stops when the “start” button is released the pressure was not adequate to allow the pump to run “unattended”. Repeat the procedure by pressing the “start” button again.

Enter the gauge pressure on the start-up worksheet.

**Low Level Electronics Start-Up**

**Kalmus Amplifier** — Start the Kalmus amplifier located between the low level RF control cabinets and the wall of the power room. The “start” button in the upper left corner of the front panel.

Verify and record that the power supply has started and there are no alarm conditions indicated on the front panel.
**HP Signal Source** – Start the HP Signal Source located in the middle low level RF control rack. The source generator for FMIT # 1 is the upper unit. Note: this may be in the on position if the system has been used recently. Verify the unit is in CW mode (no modulation indicated on the left modulation display). Verify and record the frequency and output levels on the checklist.

Verify and record the frequency and output levels on the checklist.

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**Transmitter Start-Up**

**Cooling Water Circulating Pump**

The motor starter for the cooling water circulating pump is located on the wall of the power room between the cooling water storage tank and the transmitter FPA cavity. Start the cooling water circulating pump by pressing the “Start” button on the motor starter.
Verify the start of the pump on the checklist.

Verify FPA Anode Water Flow – The visual flow meter is located on the upper section of the FPA cooling water manifold.

Verify & record the flow rate on the checklist.
Verify FPA Filament and Driver Water Flow – The visual flow meter is located on the lower section of the FPA cooling water manifold.

Verify & record the flow rate on the checklist.

Cooling Water Surge Tank – The surge tank is located above the cooling water storage tank.

Verify and record the relative level on the checklist.
**Nitrogen Flow** – A flow meter for the nitrogen to the FPA cavity is located above eye level to the right of the FMIT FPA cavity.

Verify and record the flow on the checklist.

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**VacIon Gauge** – The VacIon gauge is located underneath the cooling water motor starters.

Verify the power is on, the scale is set to 50 ua and record the current on the checklist.
Spark-Gaps – The spark gaps for the FPA control and screen grids are located on the FPA assembly mid plane just above the cooling water manifold.

Verify the spark gaps are not shorted and the wires are connected, record on the check list.

Power Distribution Breakers – The power distribution breakers are located on the lower panel of the FMIT cabinet.

Verify all the breakers, except the 480V, are on and record the status on the check list.
480 Volt Power – The 480 V breaker is located in the upper left corner of the panel.

Turn on the 480V and record the status on the check list.

Water / Air Flow Indications – The status lights for the air flow and water flow are located on the FMIT front Panel.

Verify the air and water flow indicators are on and record the status on the check sheet.
Overload Indicators - The status lights for the overload relays are located on the right side of the FMIT front panel.

Verify the overload indicators are off and record the status on the check sheet.
Crowbar Cabinet Grounding Bar – The grounding bar is located on the crowbar cabinet. This is a red handle which must be in the “ungrounded” position for operation. The device is ungrounded when the handle is pushed in.

Verify the crowbar ground is in and the ungrounded lights are illuminated on the crowbar enclosure and on the FMIT front panel. Record the status on the check list.

Filament Time – The FPA filament hour meter is located on the FPA filament power cabinet.

Record the FPA filament time on the check sheet
**FPA Directional Coupler Input** – The directional coupler is located on the input coaxial transmission line on the side of the FPA cavity.

Verify the forward and reflected cables are attached; record the status on the check list.

**FPA Directional Coupler Input** – The directional coupler is located on the output coaxial transmission line overhead near the dummy load coaxial switches.

Verify the forward and reflected cables are attached; record the status on the check list.
Cavity Probe – The cavity probe is located on the side of the FPA cavity.

Verify the cable connection and record the status on the check list.

Computer / Run Switch – The computer / run switches are located on the left side of the FMIT front panel.

Verify the Computer / Local switch is in Computer and the Run On switch is in the ON position. Record the status on the check list.