



TRIUMF Beam Physics Note
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Commissioning Plan for Electron Linac

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Phase 1: Low charge per bunch

Conditions: Total beam power not to exceed 1 Watt. This is $3\ \mu\text{A}$ at 300 keV.

1. With a DC beam at $3\ \mu\text{A}$, up to last gate valve before ICM, use screens, BPMs, wires(?), FCs to align and focus the beam. Checks: Operation of steerers, solenoids, diagnostics, field compensation.
2. Switch to the analyzer leg. Checks: the ΔE .
3. Switch through the ICM(?). With no bunching, only a small fraction of the beam is accelerated.
4. Activate the grid while directing the beam through analyzer leg. This first checks ΔE . Commission the RF deflector, in synchronism with the grid. This commissions grid and RF deflector LLRF.
5. Still in the analyzer leg, activate the buncher, set up the time focus. This requires all 3 RF devices operating together.
6. Drop to 100 nA, redirect beam through ICM, run ICM to nominal voltage.