# CHAPTER I

## GENERAL LAYOUT

1. The basic Ferranti Pegasus Computer (FPC.1) consists of the following main units:

(i) Motor-alternator set
(ii) Two-bay power supply cabinet
(iii) Three-bay computing cabinet
(iv) Control desk
(v) One or two Ferranti high speed photo-electric tape readers
(vi) A Creed and Co. high-speed tape punch
(vii) A Creed and Co. teleprinter with auto-transmitter.

### MOTOR-ALTERNATOR SET

2. The motor-alternator set comprises a three-phase induction motor, two three-phase alternators and a DC generator, all mounted on, or belt-driven from, the same shaft. It is equipped with a star-delta starter, which can be brought into operation by a push button mounted locally, or by a push button mounted on the engineer's panel in the control desk. The motor alternator can be switched off locally, or it can be switched off from the power-supply cabinet with an isolator button on the right-hand end.

3. The main alternator delivers ~~12.5~~ 14 KVA, three phase at 415V, and the slip frequency of the induction motor is such that the frequency of the alternator output is 48.5 c/s. The field current for the alternator is supplied from the DC exciter; the field of this exciter is controlled by a regulator unit in the power-supply cabinet, which operates so as to regulate the alternator output voltage within ±2% for long-term variations of ±10% in the mains. The other alternator supplies 1 KVA three-phase at 145.5 c/s to drive the motor of the magnetic-drum store. The field current for this exciter is supplied from a regulator unit in the power-supply cabinet, similar to the one controlling the exciter field, which operates so as to keep a constant frequency difference of about 250 c/s between the signal from the clock track of the drum and the signal from a 1/3 Mc/s crystal oscillator, the oscillator frequency being the higher.

### POWER-SUPPLY CABINET

4. The power-supply cabinet is 6ft 6in. high, and each bay is 3ft wide. The floor loading is 160 lb per square foot. The fronts of the two bays are enclosed by lockable steel doors that extend from the top of the base panels up to the roof section. The backs are fitted with alloy sheets that can be unlocked with a square-shank key. The cabinet is 2ft deep between the doors and the back and 2ft 4in. deep between the base panels. The bays are held together by bolts in the main uprights and the top and bottom