

TTC&M

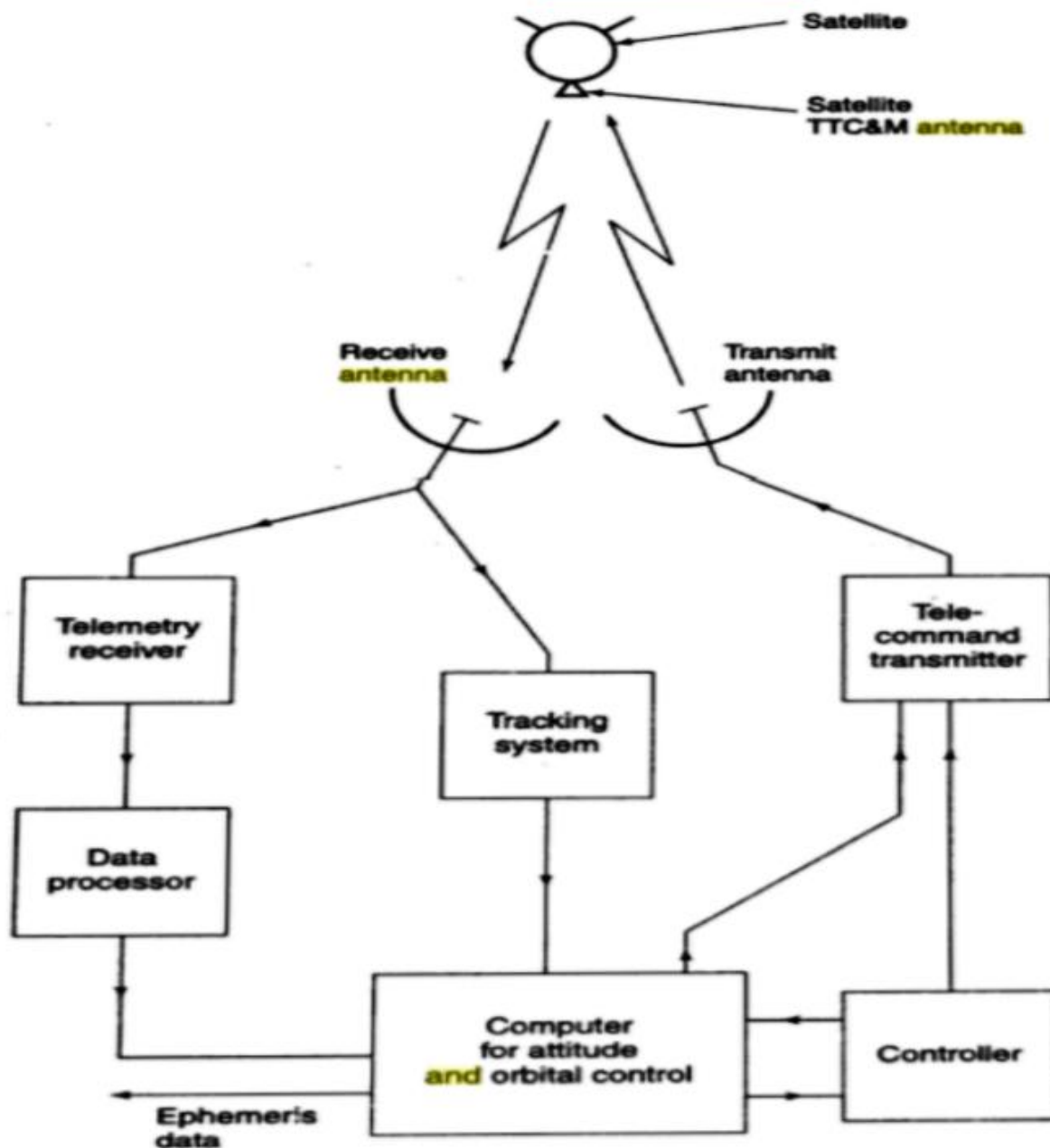


FIGURE 3.8 Typical tracking, telemetry, command and monitoring system.

Telemetry, Tracking, Command, and Monitoring (TTC&M).

- These systems are **partly on the satellite** and **partly at the controlling earth station**.
- The **telemetry** system sends data derived from many sensors on the satellite, which **monitor the satellite's health, via a telemetry link to the controlling earth station**.
- The **tracking system is located at this earth station** and provides information on **the range and the elevation and azimuth angles of the satellite**.
- **Repeated** measurement of these **three parameters** permits computation of orbital elements, from which changes in the orbit of the satellite can be detected.
- Based on telemetry data received from the satellite and orbital data obtained from the tracking system, the **control system is used to correct the position and attitude of the satellite**.
- It also used to control the antenna pointing and communication system configuration to suit current traffic requirements, and to **operate switches on the satellite**.