



# CNC constructional details

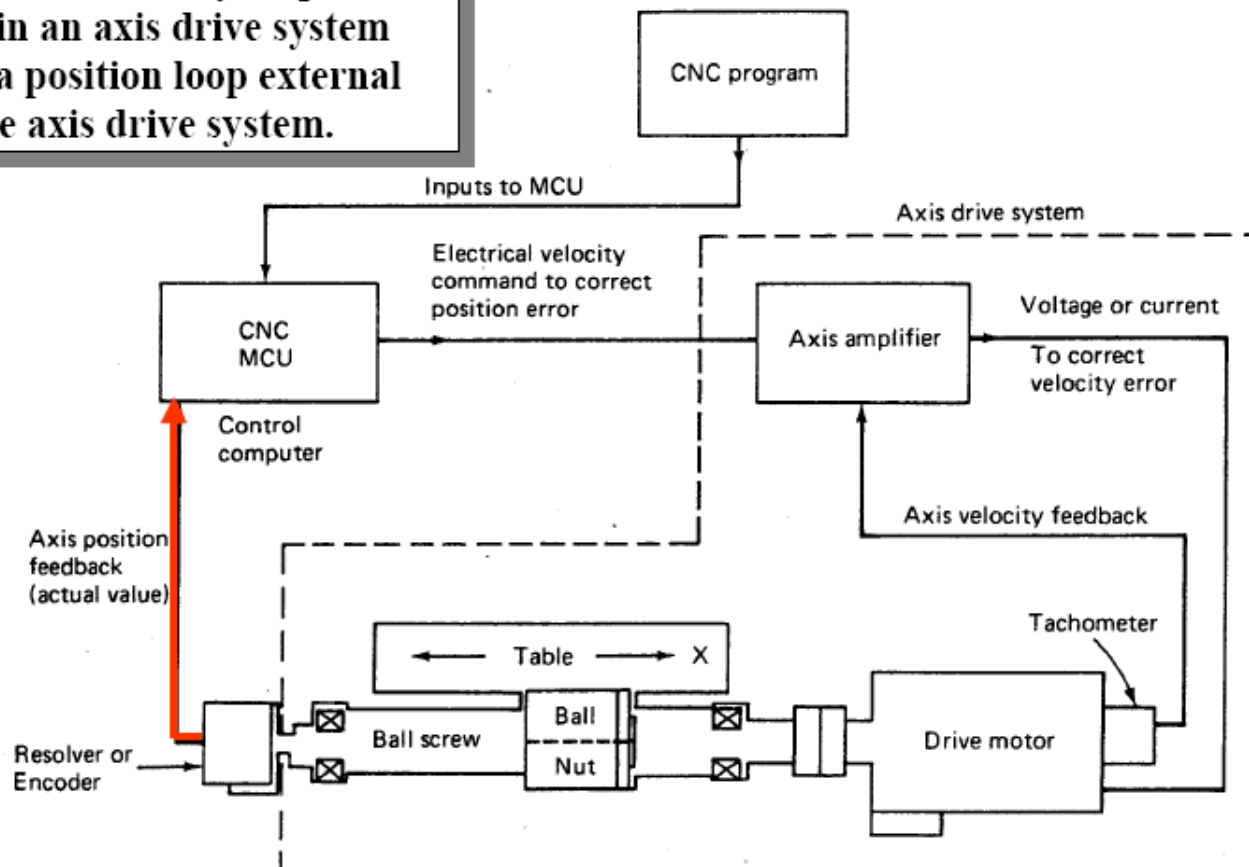
# CNC SYSTEM ELEMENTS

A typical CNC system consists of the following six elements

- Part program
- Program input device
- Machine control unit
- Drive system
- Machine tool
- Feedback system

# OPERATIONAL FEATURES of CNC MACHINES

**A CNC control system includes a velocity loop within an axis drive system and a position loop external to the axis drive system.**



# CNC terminology

**BLU:** basic length unit →  
smallest programmable move of each axis.

**Controller:** (Machine Control Unit, MCU) →  
Electronic and computerized interface between operator  
and m/c

Controller components:

1. Data Processing Unit (DPU)
2. Control-Loops Unit (CLU)

# Controller components

## ***Data Processing Unit:***

Input device [RS-232 port/ Tape Reader/ Punched Tape Reader]

Data Reading Circuits and Parity Checking Circuits

Decoders to distribute data to the axes controllers.

## ***Control Loops Unit:***

Interpolator to supply machine-motion commands between data points

Position control loop hardware for each axis of motion