# VGA Text Mode

An introduction to font selection
and to reprogramming of the
Character Generator ram

# alphanumeric information

- Most early PC programs weren't graphical
- Screen was similar to a typewriter's output
- Used only a limited set of character-images:
  - letters, numerals, and punctuation symbols
- Hardware can efficiently render such glyphs
- VGA can emulate the MDA/EGA text modes:
  - mode 1: emulates EGA 40x25 text (320x200 pixels)
  - mode 3: emulates EGA 80x25 text (640x400 pixels)
  - mode 7: emulates MDA 80x25 text (720x350 pixels)

# Font images in ROM

- VGA has built-in firmware (ROM-BIOS)
- Both code and data are provided in ROM
- VGA's ROM is normally at 0x000C0000
- Can be addressed by CPU in 'real-mode'
- VGA ROM includes character glyph tables
  - 8x8 character-set is used with mode 1
  - 8x16 character-set is used with mode 3
  - 8x14 character-set is used with mode 7