

FPGA in real-time applications:

Automotive

- Anti-lock brakes
- Automatic transmission
- Cruise control
- Digital speed measurement of passing vehicles on roads
- Electronic power steering
- Global positioning system for automobiles
- Real time monitoring system for cars and vehicles
- Vehicle parking check in systems
- Wireless remote control for automobile AC/door/lights/alarm control

Avionics

- Automated baggage clearance system in airports
- Avionic systems
 - Digital altitude meter of aircraft
 - Wind pressure display of aircraft
 - External temperature and pressure display of aircraft
- Flight simulator
- Instrument landing system (air navigation in airports – landing)
- Unmanned aircraft control

Cameras

- Auto-focus cameras
- Digital camcorders
- Digital cameras

Communication Systems

- Demodulator for satellite communication
- Encryption/decryption
- Error correction codes
- Modulator for satellite communication
- Network card
- Network switches/routers
- Quadrature amplitude modulator (QAM) and demodulator
- Radar imagery system
- Submarine detector
- Wireless LAN/WAN

Computers and peripherals

- Low cost computer
- Mobile phone personal computers
- Scan pen and PC notes taker

Control Systems

- Alarm annunciator
- Ash level controller for Electrostatic precipitator
- Automatic packaging/sealing machines
- Electrostatic precipitator communication controller
- Data acquisition system
- Electrostatic precipitator (EP) controller
- Injection molding machine control
- Lift controller
- Medicine blend control machine
- Programable logic controllers
- PIC
- Quality control system
- Rapper controller
- Remote control for air conditioners
- Robot controller
- SCADA
- Simulator for EP controller
- Temperature controllers
- Machine vision
- Smart scales
- Unmanned railway line crossing
- Vending machines

Image/Video Processing

- Conversion of black and white movies to color motion pictures
- Digital camera interface
- Digital cinema
- Digital TV and digital cable TV
- Digitizer for analog NTSC/PAL/SECAM cameras
- Display interface
- H.264 codec
- JPEG codec
- JPEG 2000 codec
- Motion JPEG 2000 codec
- MPEG 1 codec
- MPEG 2 codec
- MPEG 4 codec

- MPEG 4, Part 10 or H.264 advance video coding (AVC) codec
- Object segmentation system
- Teleconferencing systems
- TV set-top boxes
- TV tuner card
- Video conference codec
- Video grabber card
- Video karaoke
- Videophone
- Video scalar
- Video spotlighting effect and other special effects creation system
- Video watermarking

Measuring Instruments

- Digital high voltage tester
- 3 GHz Digital frequency meter
- Digital LCR meter
- Digital megohmmeter
- Six digit digital multimeter
- Digital Ph meter
- Digital oscilloscope
- Embedded systems
- Virtual instrumentation using PC

Medical Applications:

- Digital acupressure
- Digital blood glucose meter
- Digital blood pressure and heart rate monitor
- Electrocardiograph
- Life-support systems
- MRI/CT scan
 - Doppler
 - Echo
 - Mamogram
 - Ultrasound

Miscellaneous Applications

- Automatic teller machines
- Automatic toll systems
- Digital lockers
- Digital petrol/diesel dispenser
- Dishwashers

- Dryers
- Electronic card readers
- Electronic voting machine
- Fault location in cables
- Futuristic capsule simulator
- Hearing aids
- Intelligent cane to lead the blind/deaf persons
- Leather area measurement equipment
- Non-destructive test of ceramic bricks using ultrasonic sound
- Non-destructive test of dams/buildings using ultrasonic sound
- On-board navigation
- Point-of-sale systems
- Pedometer
- Satellite view search
- Smart ovens
- Speech recognizers
- Treadmill with heart meter for gym.
- Universal PROM/PAL/FPGA programmer
- Virtual reality system
- Xpendable bathy thermograph

Music

- Digital filter for separation of human voices from orchestrated music
- Digital voice/music recorder cum digital camera
- Special effects generators for audio:
 - Bathroom effect
 - Cave effect
 - Echo fade in/fade out effect
- Synthesizer or music keyboard

Office equipments

- Digital dictaphone
- FAX/scanner/copier/printer four-in-one machine
- Personal digital assistant (PDA)

Phones

- Cell phone, single chip
- Low resolution, low frame rate videophone/video conferencing based on H.264 on the cell phone
- Multi-channel TV reception on cell phone
- FM radio on cell phone
- Cell phone base station
- Satellite phone

- Telephone exchange

Security Systems

- Biometrics such as fingerprint identifiers
- Fire alarm system
- Home security systems
- Surveillance camera control system
- Theft tracking system
- Tsunami warning system

Toys and Games

- Electronic toys
- Portable video games
- Toy robots
- Video game consoles