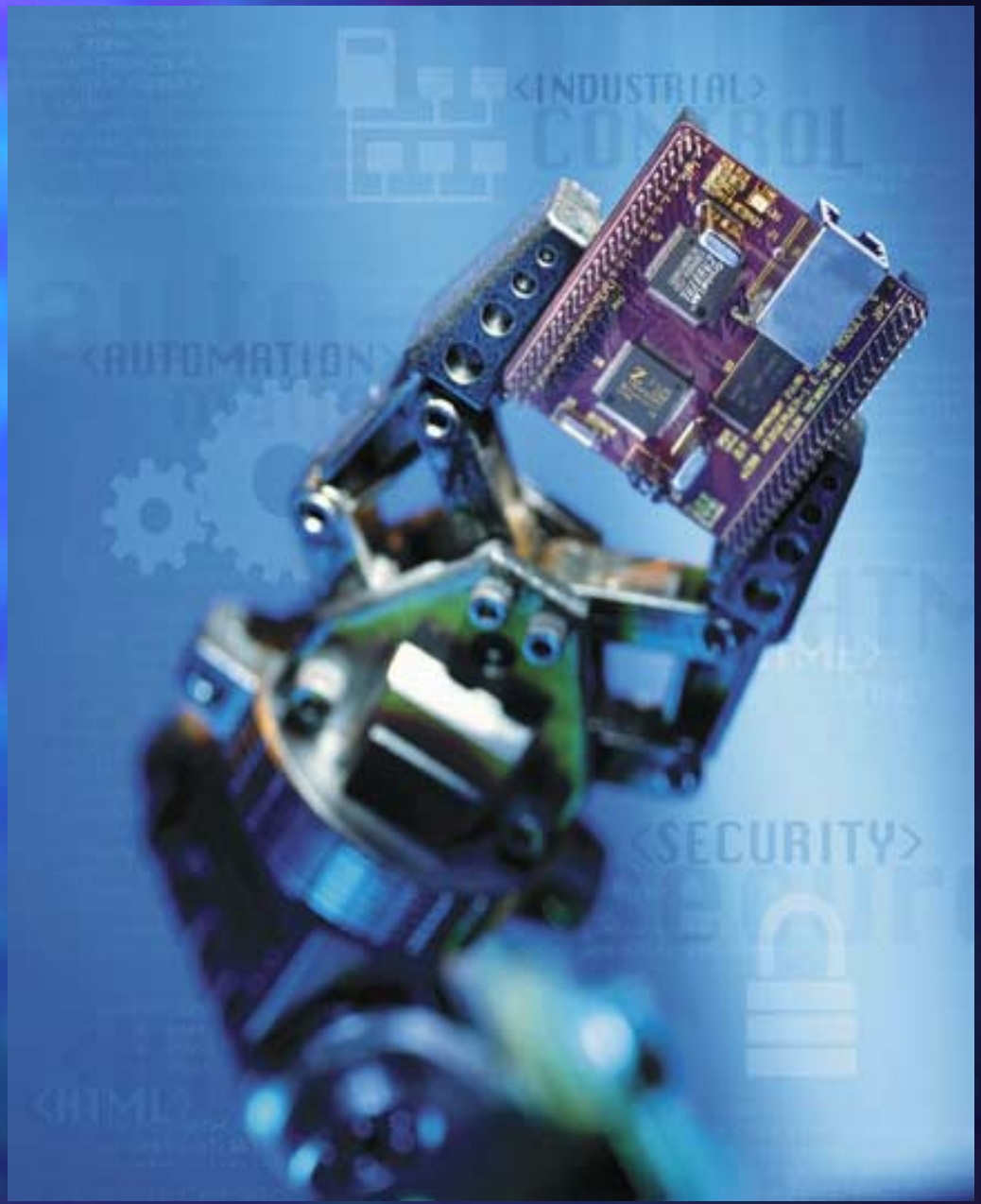
Embedded Systems Development

Content



Company Profile

PRAF Microcomputer Technologies Ltd. is a private company located in Holon - a satellite city of Tel-Aviv – the Israeli scientific and industrial center. Established in 2002, PRAF has taken a direction to provide a range of qualitative products and services targeted for the civilian, military and telecommunication industries. The basic philosophy of the company is the first priority to the high quality, reliability and professionalism, and the rest to the development, manufacturing or services time and cost.

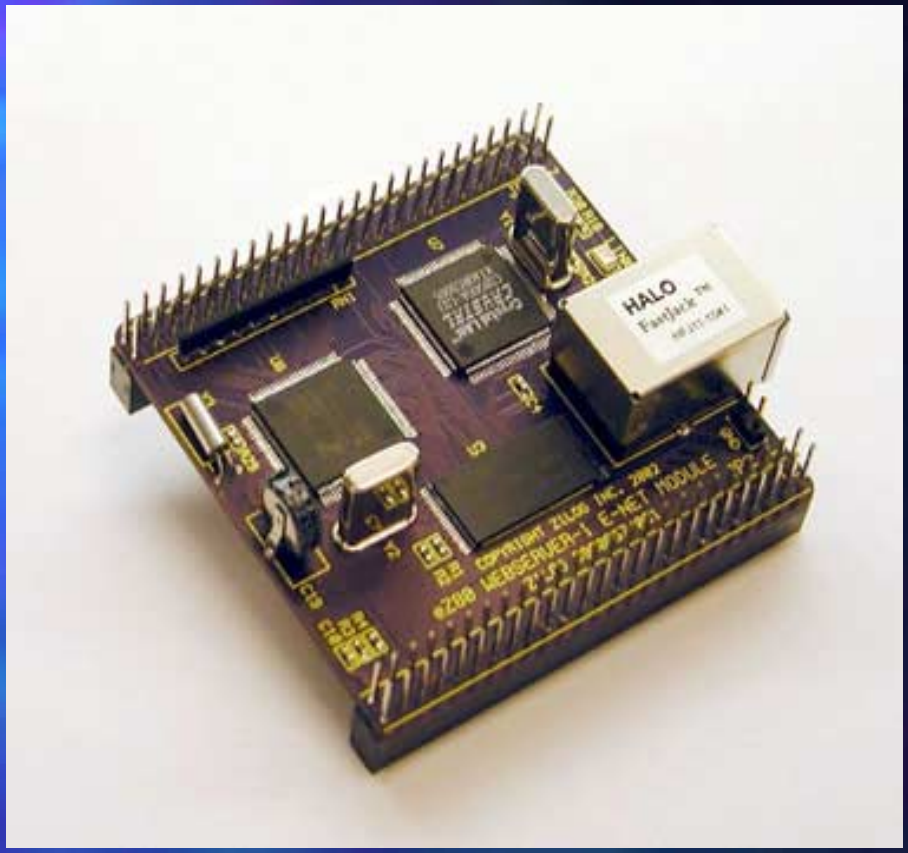
PRAF Microcomputer Technologies is focused on development, manufacturing and marketing of the computerized automation and control systems, enterprise and home telephony accessory equipment as well as on providing the computer networks and voice communication systems integration and supporting services.

The company's marketing activities are targeted both to the local and international markets. Its product export makes the major contribution to incomes of the company with overseas sales, while the local market gives the unique testing area for new products and solutions.

Introduction

Embedded systems are highly specialized sub systems that provide, unnoticed by user, information processing and control tasks to their embedding system. In contrast with interactive systems that respond to external stimulations when they are ready with calculating their response, embedded systems are mostly reactive systems, which means that they react continuously to their environment at a speed imposed by the environment. Reactivity imposes often real-time capabilities, and as result special requirements for hardware and software architecture of the platform to be used.

Applications



Embedded systems are omnipresent nowadays. They are applied as sub systems in a wide variety of applications for an ever larger diversity of functions.

The number of embedded systems in a product ranges from one to tens in consumer products and to hundreds in large professional systems. The market size of embedded systems is about 100 times the desktop market. And further significant growth of the field is expected.

Applications

Robotics & Automation	Security		
Consumer Products	Personal Computers	Measuring & Test Systems	
Telecom	Medical Systems	Agricultural Equipment	Transport
	Industrial Control	Telephony	Aerospace & Military

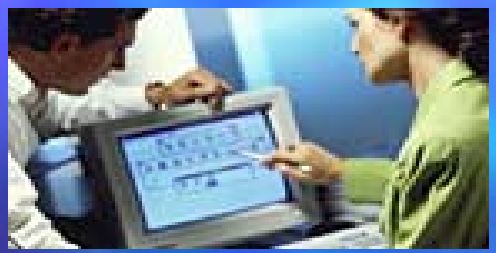
Applications

In professional areas like industrial, military, medical systems, aviation equipment, traffic control, environment, security, driving and car control, health care, plant control, agricultural equipment, etc., embedded systems make possible the creation of systems with a functionality that cannot be provided by human beings

Applications

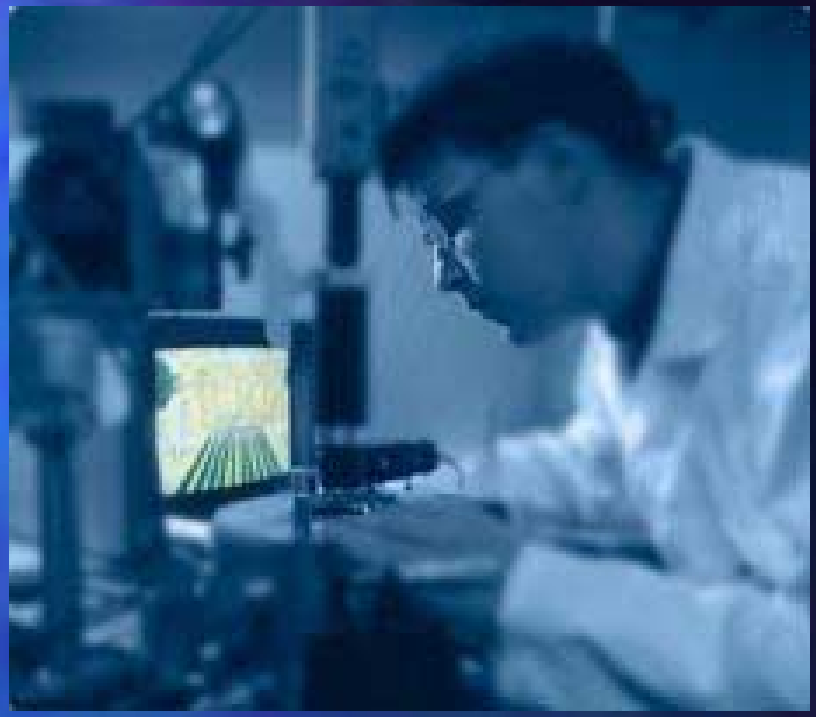
In communications, not only mobile and desktop phones, but also the infrastructure depends heavily on the use of embedded systems

Applications



In desktop and mobile computers embedded systems are indispensable for computing, storage, communication, I/O and display functions. Traditional mechanical controls are replaced by electronic embedded systems in audio, video and other consumer products and business machines

System Development



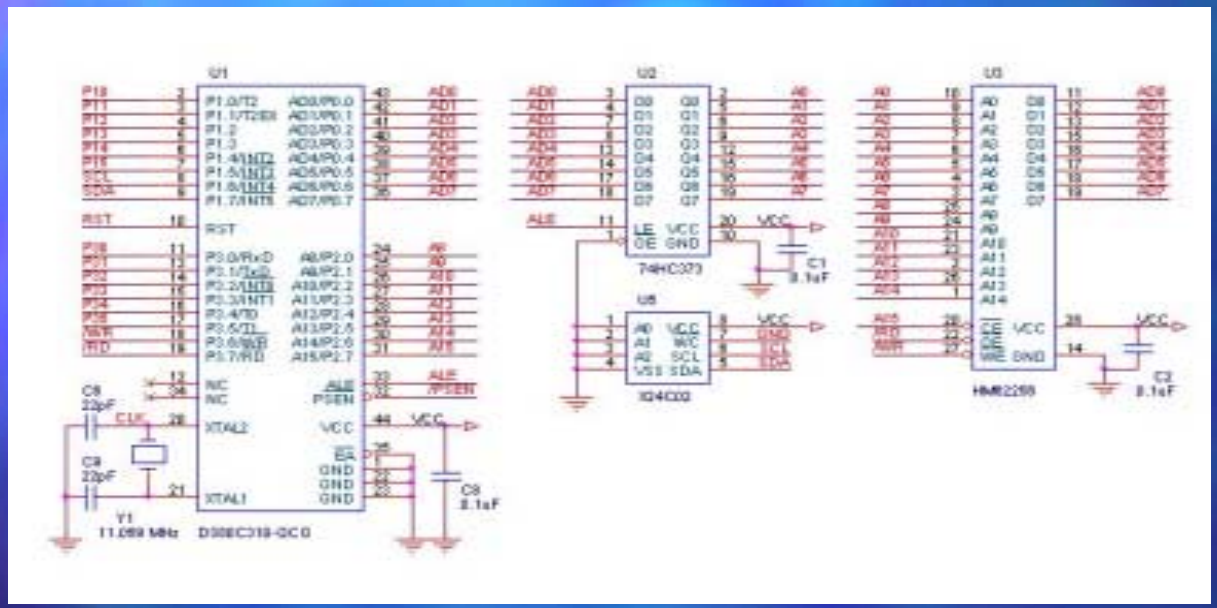
The design of embedded systems has become a quite complex matter. As a consequence not a single person can master the complete trajectory from idea to testing and system integration. With the increase in complexity rises the necessary number of abstraction levels and more different specialists need to be involved to come to optimal overall solution.

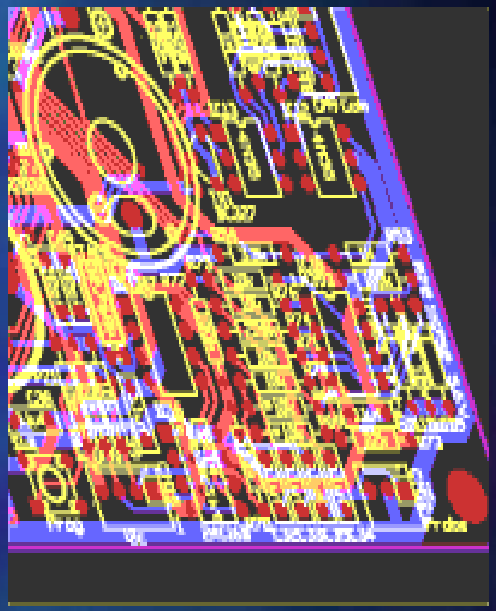
PRAF Microcomputer Technologies offers a complete line of professional services giving turn-key solutions for clients who require outsourced engineering assistance. Our set of services spans a broad range of embedded technologies and applications including automation and control, communications protocols, data and network management, telephony and security.

System Development

Product functionality and mechanical hardware design
- operation algorithm and functionality design
- mechanical parts and enclosure design and integration
- technical specifications and software/hardware requirements definition

System Development





Prototype and final electronic circuit development

- Analog, digital and mixed signal circuit design
- Multi-layer Printed Circuit Boards (PCB) layout design. High quality, high density, up to 50 layers, PCB and flex cables professional design using the latest power PCB design tools by Cadence and Mentor Graphics.
- Electronic circuit debugging

System Development

```
_rtos_init:
clr     _task_count     ;_task_count = 0;
clr     _slice_count    ;_slice_count = 0;
clr     _PTB            ;PTB = 0;
lda     #00110011b      ;stop and reset TIM, b
sta     _T1SC           ;
ldx     #_T1SC0         ;point to channel 0 St
clrh
lda     #01010100b      ;Output Compare interr
sta     ,x              ;
clra                    ;
sta     1,x             ;clear Output compare
sta     2,x             ;clear Output compare
bclr    5,_T1SC         ;enable TIM counter
cli                     ;Enable interrupts
rts
```

Real-time software development for embedded applications based on the most popular CPU and MCU cores such as 68K, MCS-51/52, PIC, HC05/08, HC11, Z80/Z180/eZ80 of such semiconductor manufacturers as Motorola, Intel, Microchip, Zilog and others

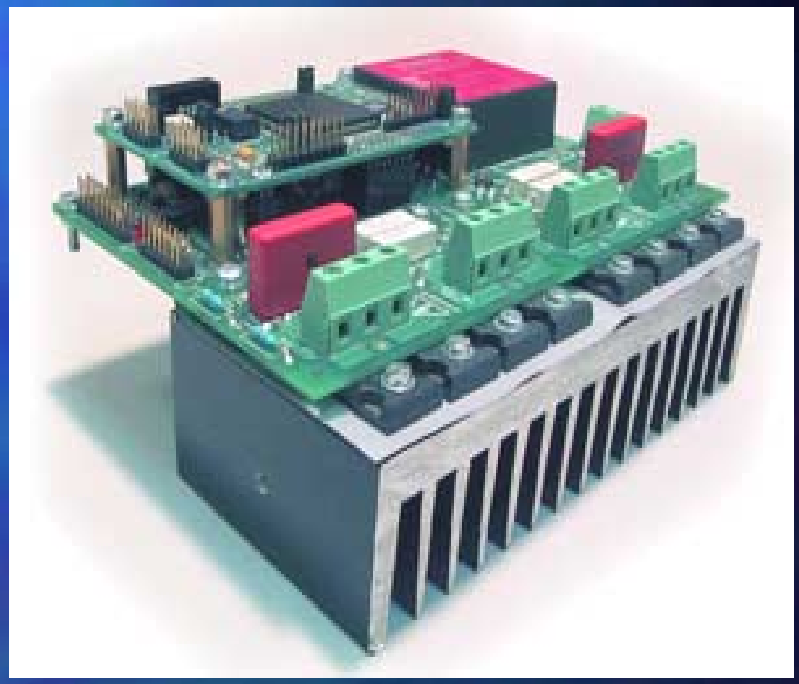
- system software and device drivers development
- application software development
- software integration and testing

Engineering

Engineering, production and user technical documentation preparing

- Engineering and logistic procedures including multi-source components and its suppliers selection, bill of materials composing
- Schematics and drawings, output files preparing for production and assembly machinery
- Operation, user and service manuals composing

Production



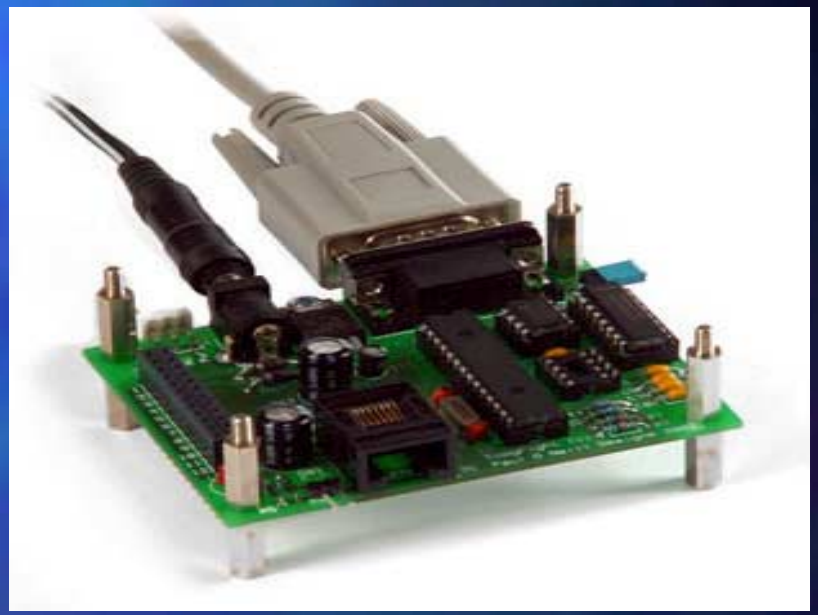
Limited and full rate production

-High density Printed Circuit Boards (PCB), quick-turn prototype, standard and quick-to-market production and high-speed delivery

-High density Printed Circuit Boards (PCB) assembly using the latest SMT & BGA technologies

-Product final integration

Testing



End product testing, presale and post-sale, adjustment and repairing procedures
- product testing using application specific test equipment
- CE/FCC and other standards confirmatory certification assistance
- product programming with test/final firmware
- product automatic/manual configuring and adjustments

Contacts

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