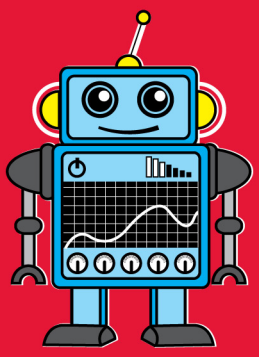
innovati, inc.

Catalogue



www.innovati.com.tw

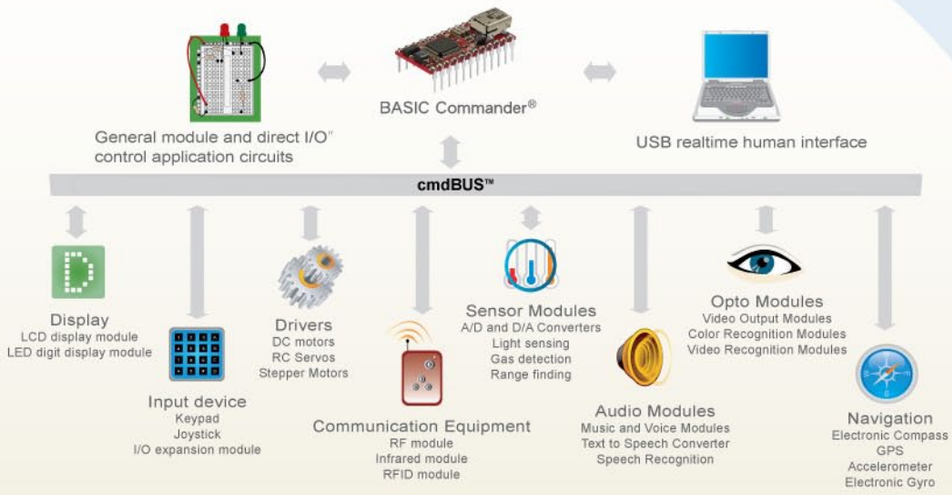
Explore Your World

About innovati

Innovati, Inc. founded in 2005, has designed and manufactured a very unique featured personal single board computer (BASIC Commander®) product with an easy to expand range of Peripheral Modules, giving our users an easy and rapid method of implementing and expanding their projects using these building blocks, each of which possesses their own individual unique functions.

BASIC Commander® System

Application areas for Innovati's personal single board computer are wide and varied and could include creative DIY hobbyists, robotic development, school educational projects, creative student special projects as well as an engineering tool for rapid project implementation etc. The system allows those with limited electronic experience, to quickly and easily assemble many types of innovative products and ideas. Some of the BASIC Commander® system special characteristics include: BASIC type language development platform, low learning threshold, BASIC Commander® provided high level functional instruction set, totally object-oriented peripheral modules, command bus for controlling up to 32 external peripheral modules, USB connection to PC for realtime human interface etc. These features combine to provide a system that is not only suitable for entry level students as a means to quickly cross the microcontroller system design threshold but also as a system for professionals to quickly develop high level microcontroller applications.

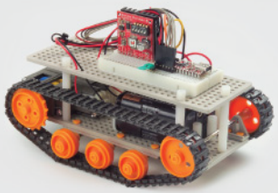


Note that the Peripheral Modules shown above are our scheduled products, please check with us for their availability before purchasing.

BASIC Commander® Explore Kit

The BASIC Commander® Explore Kit contents includes a quantity of elementary electronic components. By referring to the User's Manual, users can start from the language basics, I/O control and peripheral module usage to make themselves familiar with the rudiments of the BASIC Commander® system.

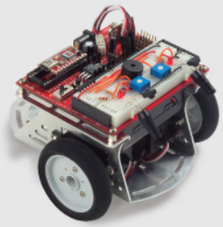
Innotank™ Kit



The Innotank™ Kit is a tracked type vehicle entry level kit. Construction of the module is a simple matter of assembling the tank chassis assembly and then adding the BASIC Commander® and DC Motor Control module. Then by simply downloading the sample program, the users will have a fully operational tank under their complete control. The excellent expandability of the kit makes it a fantastic base for a huge range of advanced applications.

Innobot™ Kit

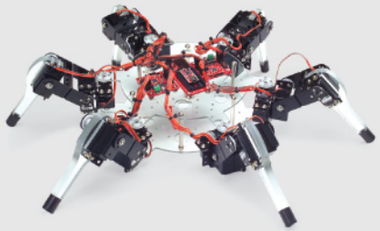
The Innobot™ Kit is a 2-wheeled vehicle entry level kit. By using the supplied components included in the kit, users can learn the rudiments of electronics related to autonomous maneuvering. With a bit of experience behind them, the possibility then arises to add extra components or modules to implement a wide range of unique applications.



Innorover™ Kit

The 4-Wheel-Drived Off-roader is a wheel-type robot kit, composed of 4 DC-motors with off-road tires, DC-motor control board, aluminum chassis, and a BASIC Commander® control board. By using the BASIC Commander® system, users can easily integrate innovati's modules, such as Servo control board for robotic arm application, or Sonar module for obstacle avoidance application, which makes it an excellent platform for intelligent wheel-type robotics research.

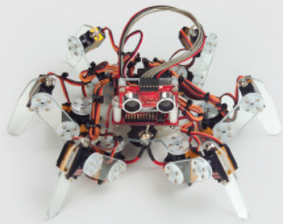
Hexapodinno™ Kit



The Hexapodinno™ is 6-legged mechanical beast kit, composed of 18 metal-geared RC servos, PC chassis, aluminum brackets and electronic module boards. By using the innoBASIC™ language and the Motion Editor utility, users have all the tools at their fingertips to implement their own unique beast gait designs. The advanced features of This kit is suitable for more advanced hobbyists and for college robotics labs.

Mini Hexapodinno™ Kit

This is a miniature version of the Hexapodinno™ Kit, composed of 18 metal-geared RC servos, PC chassis and a Servo Commander™ 32 control board. By using the innoBASIC™ language and Motion Editor utility, users can readily implement their own unique beast gait designs. This kit is also equipped with a sonar module with pan mount and driving servo, which makes it suitable for more advanced hobbyists and college robotics labs.

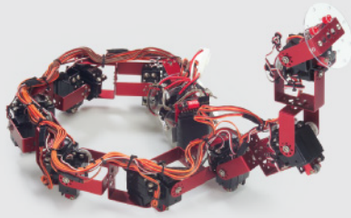


Miniubot™ Kit

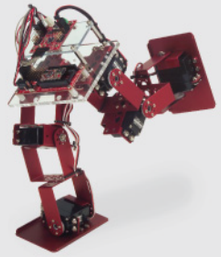
The Miniubot™ is a universal robotics bot, composed of 2 DC-motor, aluminum chassis, Sonar and IR modules. By using the innoBASIC™ system, users can easily and seamlessly add more modules on the bot for more complicated robotics research. The Miniubot™ is also capable of communicating with a computer. This further integrates computer-based platforms with the innoBASIC™ system for robotics researches, which require large amount of computations, such as vision recognition.

Innosnake™ Kit

The Innosnake™ is 16-DOF biomimetic robot kit, composed of 16 metal-geared RC servos, aluminum brackets, rolling wheels and a Servo Commander™ 16 control board. By using the innoBASIC™ language and Motion Editor utility, users can easily design and implement their own biomimetic gait research. In addition, users can easily integrate other innovati's modules, such as Sonar or IR modules for advanced integrated bionics research.



6-DOF Bipedinno™ Kit



The 6-DOF Bipedinno™ is a low-cost version of the waist-high two-legged humanoid robot kit, composed of 6 plastic-geared RC servos, PC mounting board, aluminum brackets and a electronic module boards. By using the innoBASIC™ language and Motion Editor utility, users can easily design and implement their own humanoid gait research. This kit is suitable for more advanced hobbyists and for college robotics labs.

12-DOF Bipedinno™ Kit

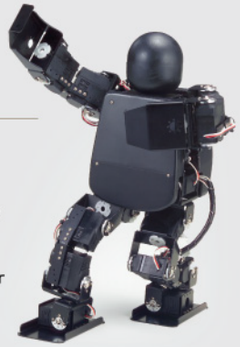
The 12-DOF Bipedinno™ is a waist-high two-legged humanoid robotic kit, composed of 12 metal-geared RC servos, PC mounting board, aluminum brackets and electronic module boards. By using the innoBASIC™ language and Motion Editor utility, users can easily design and implement their own humanoid gait research. This kit is suitable for more advanced hobbyists and for college robotics labs.

16-DOF Robotinno™ Kit

The 16-DOF Robotinno™ Kit is a humanoid robot kit, composed of 16 metal-geared RC servos, aluminum brackets and a Servo Commander™ 16 control board. By using the innoBASIC™ language and Motion Editor utility, users can easily design and implement their own humanoid gait research. This kit is suitable for more advanced hobbyists and for college robotics labs. With its dexterous maneuvering capabilities, it is also very suitable for participation in robotic competitions.

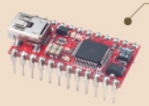
18-DOF Robotinno™ 2 Kit

The 18-DOF Robotinno™ 2 is a humanoid robot kit, composed of 18 metal-geared RC servos, aluminum brackets, plastic head and a Servo Commander™ 32 control board. By using the innoBASIC™ language and Motion Editor utility, users can easily design and implement their own humanoid gait research. With its dexterous maneuvering capabilities and reconfigurable mechanical parts, it is also an excellent platform for advanced robotics labs and robotic competitions.



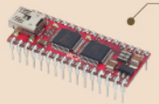
Commanders

BASIC Commander® 1 – BC1



The BC1 is a 24-pin DIP package BASIC Commander® which contains 16 I/O pins. The BASIC Commander® is in effect the system core which connects to the PC via the USB interface to download its program and uses the cmdBUS™ to control its peripheral modules.

BASIC Commander® 2 – BC2



The BC2 is a 32-pin DIP package BASIC Commander® which contains 24 I/O pins. The BASIC Commander® is in effect the system core which connects to the PC via the USB interface to download its program and uses the cmdBUS™ to control its peripheral modules.

Servo Commander™ 16 – SC16

The Servo Commander™ 16 module integrates the BC1 and one Servo Runner A module on the same module board. It provides 16 I/O pins and controls up to 16 RC servos simultaneously. The Servo Commander™ 16 module can also control other peripheral modules through the cmdBUS™. This module is extremely useful when PCB size is an issue.

Servo Commander™ 32 – SC32

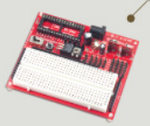
The Servo Commander™ 32 module integrates the BC1 and two Servo Runner A modules on the same module board. It provides 16 I/O pins and controls up to 32 RC servos simultaneously. The Servo Commander™ 32 module can also control other peripheral modules through the cmdBUS™. This module is extremely useful when PCB size is an issue.

Education Boards

Command Board

The Command Board is a simplified BASIC Commander® system's hardware practice platform. The platform integrates together the power supply inputs, I/O lines and seven cmdBUS™ connectors, making it a suitable platform for the construction of more complicated BASIC Commander® applications.

Education Board



The Education Board is the BASIC Commander® system's hardware practice platform. By integrating power supply inputs, I/O lines, regulator, breadboard, servo motor connectors, four cmdBUS™ connectors etc., the user has a very practical platform for the implementation of their application circuits for integrated application development.

Vision Module

Color RGB

The Color RGB is a complete color detecting module. After a command is received, the module returns the intensity readings of red, green and blue colors. The module is also equipped with 4 white light LEDs as light source to allow operation in areas with poor illumination levels. Up to 255 sets of user-defined RGB values are available for color identification.

Input/Output Modules

Keypad Module – Keypad A

The Keypad A module is a 4 x 4 keypad matrix which is directly controlled by the BASIC Commander® using the cmdBUS. Features include different input modes as well as user definable transmit data for each key. The key debounce time is also user definable. A key auto-repeat time can also be setup by the user allowing multiple inputs to be generated when a key is pressed for a longer time.

I/O Extension Module – IO Extender A

The IO Extender A module provides an extra 24 I/O lines, among which are 8 lines which can function as Analog to Digital input lines. These I/O lines function in a similar way to the other BASIC Commander® I/O lines. When user applications require a large number of I/O pins, using the IO Extender A can provide the required expansion, which can then be directly controlled with the BASIC Commander®.

3-Axis Joystick

The 3-Axis Joystick is a three-axis joystick module, which is also equipped with a click button and a calibration button. The users can set the resolution and maximum value for each axis. The returned value for the X and Y axis can either be a rectangular or polar coordinate value according to the user settings. The value for the Z axis is the knob turning value. The module can also operate as a 4 or 8-way joystick for simple operations.

2-Axis Joystick

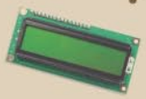
The 2-Axis Joystick is a dual-axis joystick module, which is also equipped with a click button and a calibration button. The users can set the resolution and maximum value for each axis. The returned value for the X and Y axis can either be a rectangular or polar coordinate value according to the user settings. The module can also operate as a 4 or 8-way joystick for simple operations.

Gamepad PS

The GamepadPs is a PS2 compatible handset interfacing module, with which you can integrate a PS2 compatible wired or wireless handset into your applications as a controller. A press button is provided on board for analog joysticks calibration. Through the easy-to-use BASIC Commander® system, you may even create your own key combinations for special function requirements.

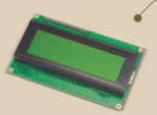
Display Modules

Liquid Crystal Display Module – LCD 2x16A



The LCD 2X16A display module contains two 16-character lines and with its simple instructions and cursor control, any variable parameter of the user's choice can be easily displayed. The rotation speed of the characters can be adjusted and users can even create their own special character symbols as well as adjusting the background light level etc.

Liquid Crystal Display Module – LCD 4x20A



The LCD 4X20A display module contains four 20-character lines and with its simple instructions and cursor control, any variable parameter of the user's choice can be easily displayed. The rotation speed of the characters can be adjusted and users can even create their own special character symbols as well as adjusting the background light level etc.

Drive Modules

Motor Runner A

The Motor Runner A module is used to control a single DC motor. The module can control a DC motor by setting the desired speed and obtaining certain motor operating parameters such as speed and direction. The maximum voltage and current values are 1.3 A and 35 V under good heat sinking conditions.

Motor Runner B

The Motor Runner B module is used to control two DC motors. The module can control each DC motor by setting the desired speed and obtaining certain motor operating parameters such as speed and direction. The maximum voltage and current values for each channel are 650 mA and 30 V under good heat sinking conditions.

Motor Runner C

The Motor Runner C module is used to control a single DC motor. The module can control a DC motor by setting the desired speed and obtaining certain motor operation parameters such as speed and direction by adding a minimum of external components. The maximum voltage and current values are 30 A and 35 V under good heat sinking conditions.

MR 5

The MR5 module is used to control a single DC motor. The module can control a DC motor by setting the desired speed and obtaining certain motor operating parameters such as speed and direction. The maximum voltage and current values are 5 A and 35 V under good heat sinking conditions. External tachometer can be added to the module for RPM value counting.

MR 2x5

The MR2x5 module is used to control two DC motors. The module can control each DC motor by setting the desired speed and obtaining certain motor operating parameters such as speed and direction. The maximum voltage and current values for each channel are 5 A and 35 V under good heat sinking conditions.

MR 2x30

The MR2x30 module is used to control two DC motors. The module can control each DC motor by setting the desired speed and obtaining certain motor operating parameters such as speed and direction. The maximum voltage and current values for each channel are 30 A and 35 V under good heat sinking conditions.

Servo Runner A

The Servo Control module can control up to sixteen servos. The user can directly use speed or time to adjust the servo movement. With the capability of saving up to 250 movement frames and a flexible frame management scheme, the means is provided for a vast range of complicated movement possibilities.

Servo Runner B

The Servo Runner B which is directly controlled by the BASIC Commander® using the cmdBUS. The module can control up to eight servos. The user can directly use speed or time to adjust the servo movement.

Timepiece Module

Time Keeper A

The Time Keeper A module provides multi feature timer and alarm functions. As well as providing the present time and date, it can also provide a secondary time for other time-zones as well as five additional count-down timers. An additional calibration function is provided to give a timer error of less than 0.08 seconds per day.

Communication Module

RF 24G

The RF 24G is a radio transceiver module which works at a frequency of 2.4 GHz. After a command is received, the module can transmit or receive data in half-duplex mode. The users can select one of 125 transceiver channels and switch between the transmitting and receiving mode dynamically. The maximum transmission range is about 280 meters in straight line.

Navigation Modules

Electronic Compass

The Electronic Compass is a 3-axis magnetic field sensor module. After a command is received, the module returns the angle between the module direction and the local magnetic field. The module can also return the magnetic dip. The users can find the module direction and inclination using these values.

Accelerometer

The 3-axis G Sensor is an acceleration sensor module, which can measure both static and dynamic acceleration values on the X, Y and Z axes. After a command is received, the module returns the digital acceleration values. Four sensitivities are available and the maximum measuring range is ±6 g.

Sensor Modules

Sonar A

The Sonar A is an ultrasonic range finding module. After a command is received, the module returns the distance between the module and the obstacle. The detect range is from 2 cm to 5 meters under good line of sight conditions.

Temperature & Humidity Sensor– Thermometer A

Thermometer A is an integrated module for measuring environmental temperature and humidity parameters. After a command is received, the module returns the current temperature and humidity values. The temperature measuring range is -40~120℃, and the humidity measuring range is 0~100%. Conversion between Celsius, Fahrenheit and Kelvin is also provided as well as a function to calculate the dew point.

Altimeter & Barometer Sensor– Barometer A

Barometer A is an integrated altitude and pressure sensor module. After a command is received, the module returns the current altitude and pressure values. The pressure measuring range is 300 ~ 1100 hPa, and the altitude measuring range is 9000 ~ - 500 meters. Various pressure and altitude unit conversions are supplied along with auto reminding features when some predetermined pressure or altitude values are measured.

General Modules

IRF30

The IRF30 employs the GP2D120 sensor for distance measuring, ranging from 4 to 30 cm. The distance has converted into Pulse width, which is easy for data access.

IRF80

The IRF80 employs the GP2Y0A21 sensor for distance measuring, ranging from 10 to 80 cm. The distance has converted into Pulse width, which is easy for data access.

IRF150

The IRF150 employs the GP2Y0A02YK sensor for distance measuring, ranging from 20 to 150 cm. The distance has converted into Pulse width, which is easy for data access.

IRF6

The IRF6 employs the TCRT5000 sensor for distance measuring, ranging from 0 to 6 cm. The distance has converted into Pulse width, which is easy for data access.

IRD

The IRD Detector employs the TCRT5000 sensor for IR reflection indicator. With a variant resistor for comparator setting, a value 0 or 1 will be returned instead of the distance.

ACC2A2GP

The ACC2A2GP employs the MXD2125 as an easy-to-use 2-axis accelerometer with the detecting range from -2g to 2g, which is represented in pulse widths.

ACC2A2GI

The ACC2A2GI employs the MXC6202 as an easy-to-use 2-axis accelerometer with the detecting range from -2g to 2g, which is accessed with I2C protocol.

Touch Key

By using the human body capacity effect, the Touch Key module can be placed beneath a glass or acrylic pad working as a touch key. No mechanical contact is reqired.

SR7

The Speech Recognition board can to be trained up to 7 commands. Once pre-trained command is recognized, the corresponding I/O pin will change to indicate.

innovati, inc.

2F, No. 290, Sec. 2, Jingguo Rd, Hsinchu, Taiwan
Tel：886-3-527-7539　Fax：886-3-527-8645
Email：service@innovati.com.tw