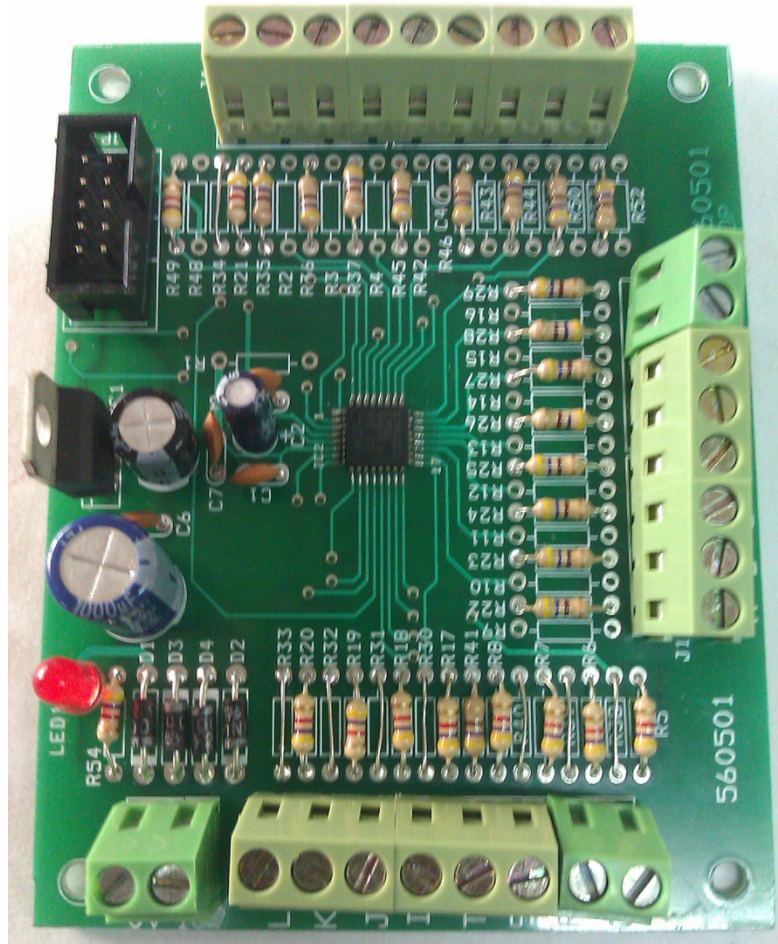**Application Note: I-SYS Serial Input-Output Control Card**
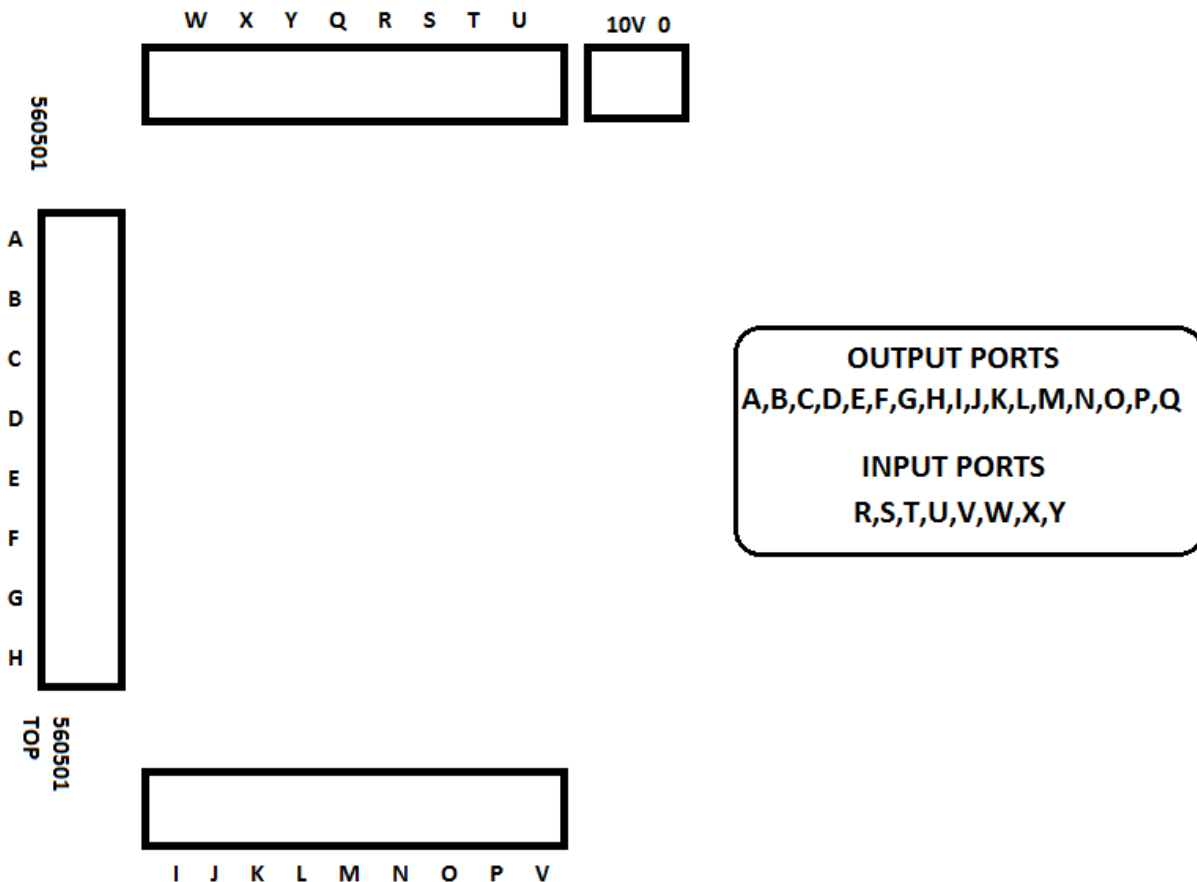
**ISYS UART / SERIAL OUTPUT, INPUT CONTROL CARD**



**This STM8S microcontroller based control card can be used to switch ON & OFF 17 relays via serial communication (RS232 or UART TTL). It can also read the status of 8 digital inputs. The relay output status & digital input status is continuously sent out as RS232 data string. It operates in 9600BPS, 8-N-1 mode. This control card can be controlled via our weighing scale PCB or via PC. This board is very useful for industrial control &**
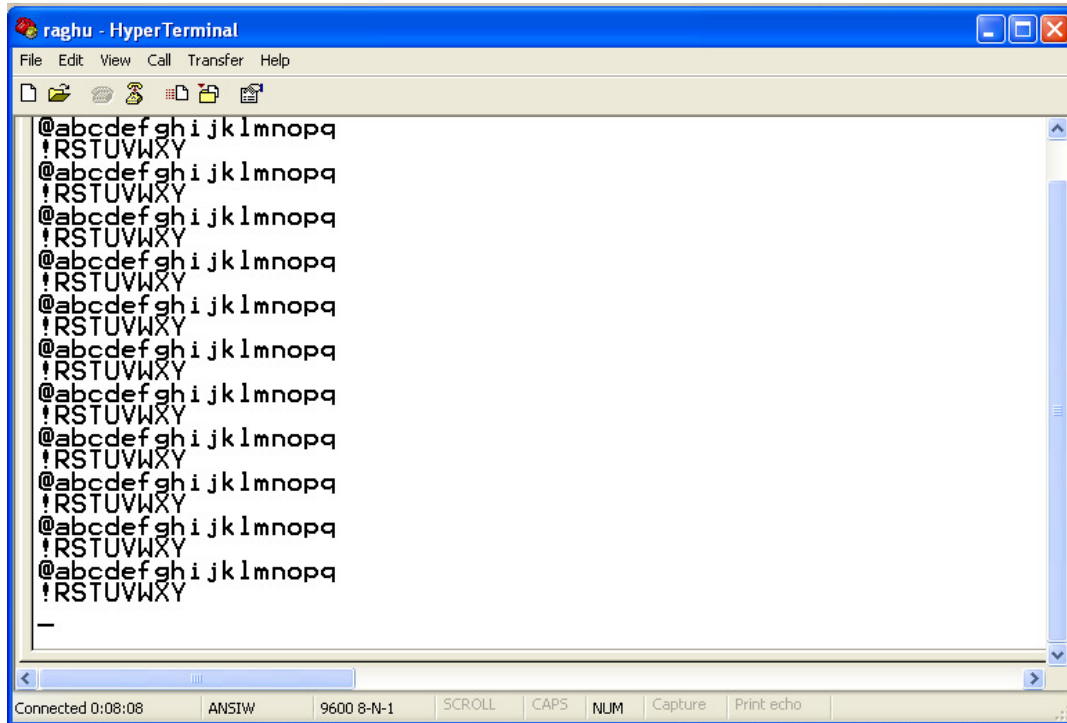
automation. Simple control commands is sent to card to switch ON & OFF the Controller's output pins. For example sending ASCII character "A" will make the connector PIN marked "A" on the PCB to go high(5 volts) & sending ASCII character "a" will make the same pin to go low(0 volts). Sending ASCII "B" will switch ON the pin marked "B" on the PCB & so on... You can control 17 pins from A to Q & read 8 pins from R to Y.

The layout of input-output port pins on the PCB is as follows...



```
W  X  Y  Q  R  S  T  U        10V 0

560501

A
B
C        OUTPUT PORTS
D    A,B,C,D,E,F,G,H,I,J,K,L,M,N,O,P,Q
E
F        INPUT PORTS
G        R,S,T,U,V,W,X,Y
H

560501
TOP

I  J  K  L  M  N  O  P  V
```

A 10pin box header is provided for serial communication(UART TTL output). ISYS RS232 adaptor boards are available for interface to PC.

The input & output status can be viewed in hyper-term as shown below…



The characters "a" to "q" after @ represent the output pin status.

The Characters "r" to "y" after ! represent the input pin status.

The upper case character represents digital High & lower case represents digital Low.

An optical isolator is required to interface the above control card with external systems. ISYS optically isolated input & output (relay) card shown below can be used for this purpose.

# ISYS OPTICALLY ISOLATED RELAY BOARD
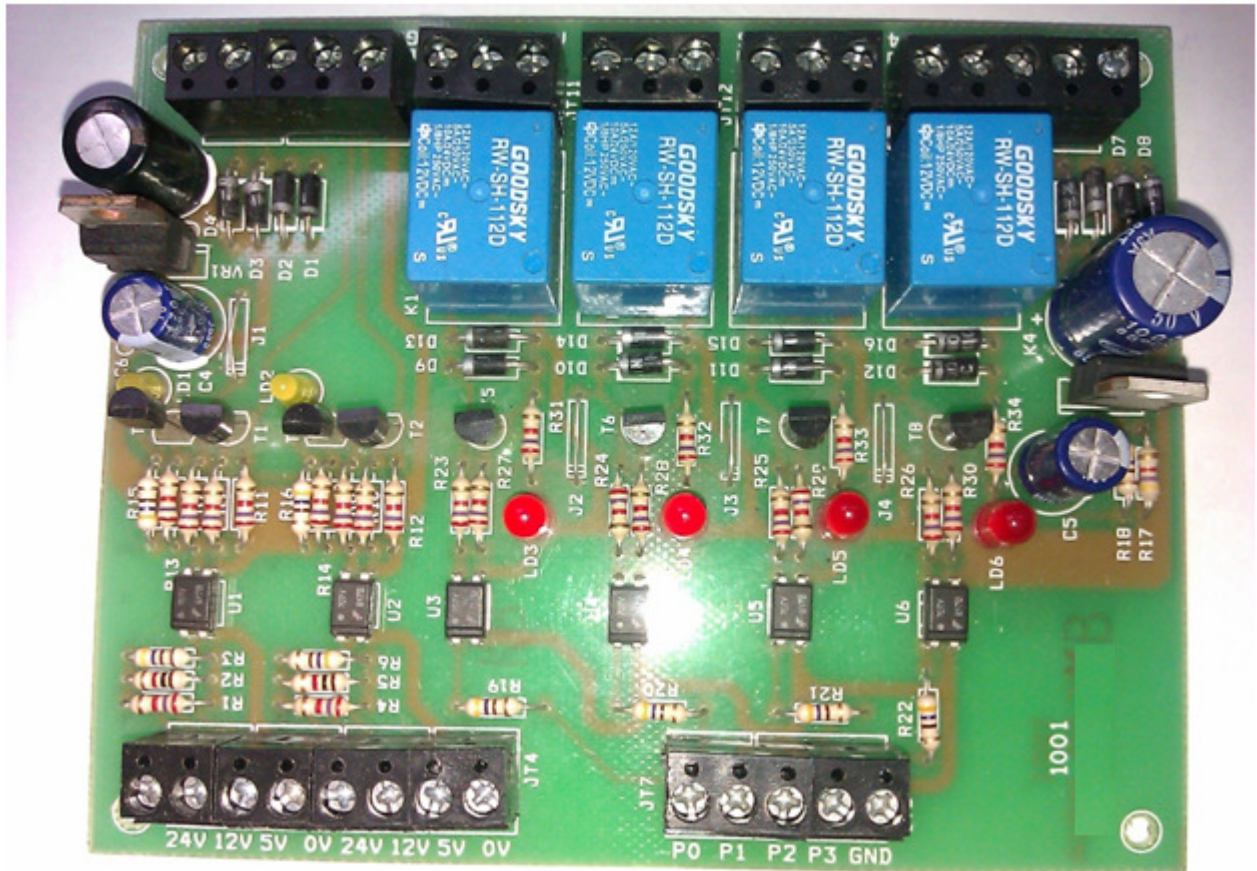


This is also a very useful plug-in card to our weighing scale board.

You can very easily control other electrical systems like valves, motors etc. using our weighing scale board.

This optically isolated relay board(1001) helps you interface your microcontroller in the weighing scale board(R5.0V1) or the i/o control card board(560501) safely with the outside world. The board can accept 2-inputs & 4-outputs. Connector JT7 & JT8 are connected to controller's output pins. Connector JT9 is connected to controller's input pins. JT10 through JT13

are relay outputs for external interface. JT1 through JT4 are for connecting inputs from external systems. A 0-15V / 1amps AC transformer is connected to JT6. This provides power for actuating the relay coils. A 0-9V / 500 750mA AC transformer is connected to JT5. This powers the isolated input section.

Watch demo video of set-point relay switching function of I-SYS weighing scale PCB(R5.0V1) on youtube…

http://www.youtube.com/watch?v=QlMI7O1P0ZQ

Wireless solution is also available for this input-output control card.

For information please log on to www.isysindia.com or call us on: +91-9841047643.