2012-8-28

Industrial Equipment Monitoring & Data Acquisition System (1)

Data Collection

- ON/OFF
- Time Stamp
- Location Machine #
- Type of measurement ★ — INTERRUPTION

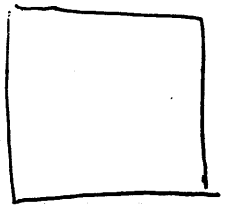
Process Improvement

Efficiency

Wast — time

— Under utilization

Module



Integration

- Glue -

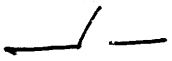
Wiring

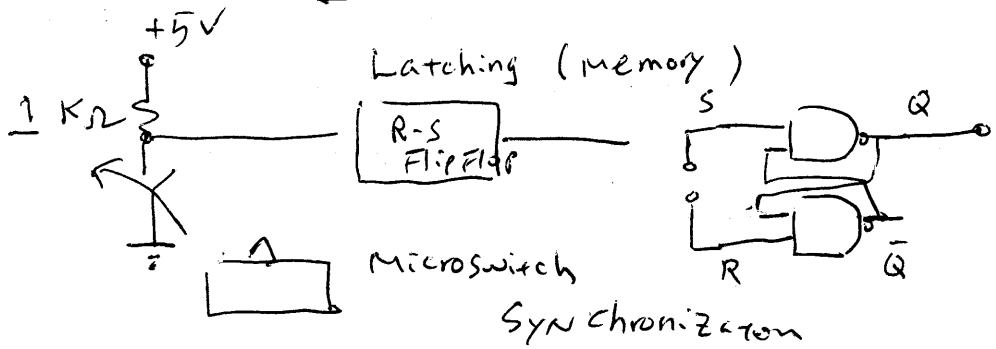
Programming

I/O module (24V DC~
30V

Digital I/O

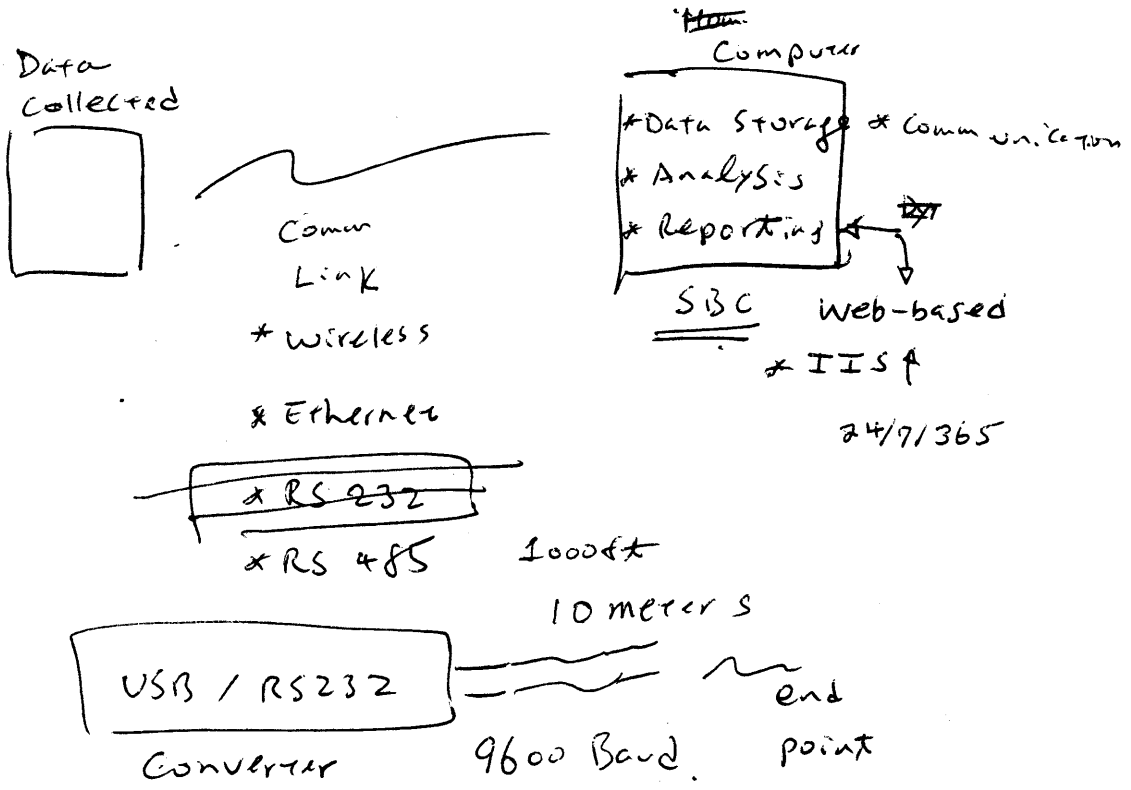
ON/OFF





Synchronization

TRUTH Table



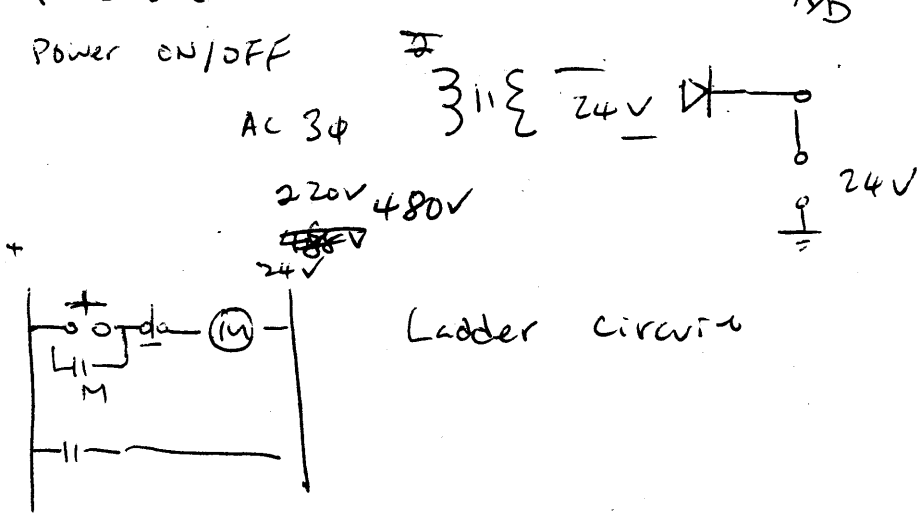
Windows XP - Embedded PC ⟺ SBC

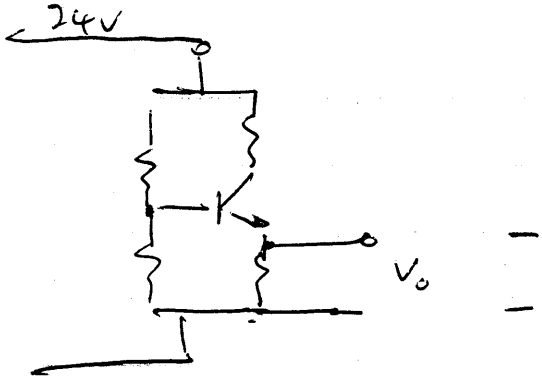
↳ VBScript

{ Hyperterminal

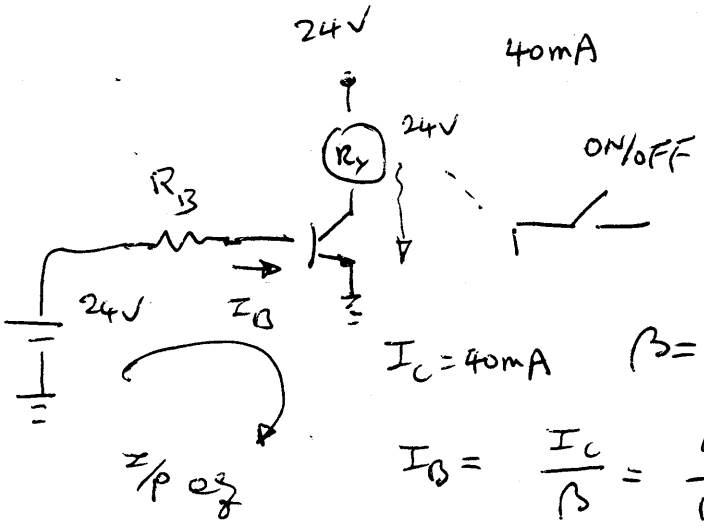
Resolution of 1 sec

Machine Power ON/OFF



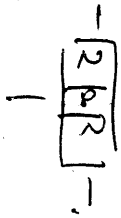


2N2222
2N3094



$I_C = 40mA$ $\beta = 100$

$$I_B = \frac{I_C}{\beta} = \frac{40mA}{100} = 0.4mA$$



$24V = I_B \cdot R_B + V_{BE}$

$24 = 0.4mA \cdot R_B + 0.7V$

$$\therefore R_B \doteq \frac{24}{0.4mA} = 60\,K$$

60 K
4/240 Max.