SEVI Logic Circuit v3
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4-Relay DIL module inputs (Defalt 3xOff, 1xOn)
IN1 = LCD Graphic Display power Off Arduino pin 26, Violet (Defalt Off)
IN2 = <free> Arduino pin 27, Orange (Defalt Off)
IN3 = <free> Arduino pin 24, Blue (Defalt Off)
IN4 = <free> Arduino pin 25, Green (Defalt On)
Test Switch = On/Off Arduino pin 22, Yellow

8-Relay module inputs (Defaut OFF)
IN1 = Servo Driver power On Arduino pin 30, White
IN2 = Front Laser Servo power On Arduino pin 31, Yellow
IN3 = Camera Xiaomi YI 1080p Dome power On Arduino pin 32, Violet
IN4 = Amplifier Speech loader power On Arduino pin 33, Light Violet
IN5 = Siren (6-14V 115dB) power On Arduino pin 34, Blue
IN6 = Navigation unit and sensor power On Arduino pin 35, Green
IN7 = <free> Arduino pin 36, Gray
IN8 = <free> Arduino pin 37, Orange

5v reg power:
- Efcom Pro
- Amplifier Speech loader
- Camera YI Dome

6v direct power:
- Siren, Servo Driver power (12 servos)

Battery 6V 10Ah
Servos

6v-->5v regulation

2 x 5A Step-down DC/DC Converter to IC XL4015

Battery 12V 9Ah
Arduinos

12v-->8v regulation

5v reg pwr

8v reg pwr

Ground

8v reg power:
- Arduino logi ja navi

Arduino 5v Out power:
- Sensors, Sound Detector, Real time Clock
- Pwm Servo Shield, FX Sound Board
- SD Card, LCD Display
- 4 and 8 relay card

4-Relay DIL module inputs

8-Relay module inputs

+5.0V ard

Sparkfun Sound Detector ISR Sensor variables:
Gate digital input pin = Arduino pin 9, Light Violet
Envelope analog input pin = Arduino pin A9, Red

Adafruit Si7021 Temperature Humidity Sensor setup.
The I2C address is 0x40 and it can not be change.
SDA = Arduino pin 20 (SDA), Brown
SCL = Arduino pin 21 (SCL), Gray

Analog Ambient Light Sensor V2.1
S = Arduino pin A6, Green

MQ-2 Gas Sensor
A0 = Arduino pin A7, Blue
D0 = Arduino pin 28, Violet

Adafruit Audio FX Sound Board WAV/OGG Trigger with 16MB Flash (SFX):
Pin UG = FX Sound Board Pin GND
Pin TX = Arduino pin 18 (TX1), Violet
Pin RX = Arduino pin 19 (RX1), Orange
Pin RST = Arduino pin 23, Yellow

PIR motion sensor
Digital input = Arduino pin 10, Orange

MQ-7 CO Sensor (Flying fish)
A0 = Arduino pin A8, White
D0 = Arduino pin 29, Yellow

Adafruit 16-Channel 12-bit PWM/Servo Driver I2C interface (PCA9685)
SDA = Arduino pin 20 (SDA), Brown
SCL = Arduino pin 21 (SCL), Gray
OE = Output Enable Arduino pin 16, Blue

I2C address Left hand board: 0x41

I2C address Right hand board: 0x42

PWM/Servo Shield

Pwr IN1

OE pin

V+ Gnd SDA, SCL

Pwr IN4

Speaker

SFX

RST

UG, TX, RX, Vin, Gnd

Sound Detector

PIR

Temp Hum

Light Sersor

Gas Sensor

CO Sensor

SR1 SR L:1
SR2 SR L:2
SR3 SR L:3
SR4 SR L:4
SR5 SR L:5
SR6 SR L:6

LEFT ARM

SR1 SR R:1
SR2 SR R:2
SR3 SR R:3
SR4 SR R:4
SR5 SR R:5
SR6 SR R:6

RIGHT ARM

LCD Display pwr IN1

EN, RS, RW, Vcc, Gnd

LCD GRAPHICS DISPLAY

LCD12864 (SKU:DFR0091) graphic display
ClockPin (EN) = Arduino pin 11, White
LatchPin (RS) = Ardino pin 12, Yellow
DataPin (RW) = Arduino pin 13, Orange

ARDUINO MEGA 2560

Gnd
Vin
Vout +5.0V ard
+5.0V reg

miso
mosi
sck
ss

Pins 50-53

SD CARD

CATALEX SD Card SPI Arduino Mega (v1.0 11/01/2013):
MISO = Arduino pin 50, Blue
MOSI = Arduino pin 51, Gray
SCK = Arduino pin 52, Violet
SS/CS = Arduino pin 53 (SC), Green

Master writer (Logic unit)

Pins 46,47,48,49

Pins 38, 39

4 x 10k

2 x 10k

Pins 52, 53

Slave Receiver configuration via digital pins binary transfer

Arduino Mega 2560, SEVI Navigation unit
Digital pins = Arduino pins 46-49 (White, Yellow, Green, Blue)
Master action = pin 52 (Brown)
Slave acknow = pin 53 (Grey)

Pins A4, A5

ATmega328 Nano and Logic Unit voltage info pins:
ATmega D7 = Logic Unit In pin A4, White
ATmega D8 = Logic Unit Out pin A5, Yellow

VCC, GND, TX, RX

+3.3V ard

ESP8266

Pins 14, 15

ESP8266 (ESP12F) Wi-Fi module
Vcc = Arduino 3.3V
Gnd = Arduino Gnd
ESP TX = Arduino TX3 pin 14
ESP RX = Arduino RX3 pin 15

RST, PWR, RX, TX, +5V, GND

SIM900

EFCom Pro V1.0 GPRS/GSM Modulepins
Efcom TX = Arduino pin RX A10 (64), White
Efcom RX = Arduino pin TX A11 (65), Orange
Efcom PWR = Arduino pin 17, Brown

Sparkfun 12 Button matrix Keypad
Keypad pin 1 = Arduino pin 7
Keypad pin 2 = Arduino pin 5
Keypad pin 3 = Arduino pin 8 and +5v
Keypad pin 4 = Arduino pin 2
Keypad pin 5 = Arduino pin 6 and +5v
Keypad pin 6 = Arduino pin 3 and +5v
Keypad pin 7 = Arduino pin 4 and +5v

1 2 3
4 5 6
7 8 9
* 0 #

Keypad Pins 1,2,3,4,5,6,7

Arduino Pins 2,3,4,5,6,7,8

10k

Keypad pins 3, 5, 6 and 7 go also to the Arduino +5V.

GND, VCC, SDA, SCL

DS CLOCK

DS3231 Real Time Clock module pins:
The I2C address of the DS3231 is 0x68.
SDA = Arduino pin 20 (SDA), Brown
SCL = Arduino pin 21 (SCL), Gray