Operation Description

1. SPG290A is a highly integrated solution for variant multimedia applications including Portable Media Players, TV game consoles, Educational Learning Aids and also handheld game pad. Its rich set of features comes with affordable cost and superior support from Sunplus to make system companies realize their great ideas for personal entertainment platform.

   - Sunplus S+Core™32 bits RISC
   - Advanced memory control interface for SDRAM/NAND Flash/NOR Flash/MASK ROM
   - CMOS sensor interface with motion detection and image recognition
   - USB Host/Device
   - SD Card Interface
   - Hi performance 2D graphic engine (Picture Processor Unit) with VGA resolution
   - Frame buffer control with BITBLT DMA
   - LCD controller supporting CSTN and TFT panels
   - Built-in TV encoder for Composite VIDEO output
   - 24 PCM/ADPCM channels for MIDI synthesizer
   - Built-in stereo audio DAC
   - 12 bits ADC
   - Built-in CD servo controller for CD-based applications
   - MPEG4 codec
   - MP3 decoder

   It is running at 108MHz in Hyper Scan.

2. Boot ROM: Holding the system boot code, firmware codes and test modes.
3. SDRAM: System RAM . It contains 2pcs of 4M x 16 to make 4M x 32 (16MB). They are running at 108MHz in the system.
4. Motor driver and CD mechanism: This is the CD-ROM module of the system. With the CD-servo control circuit inside SPG290A. It is able to read CD-ROM (proprietary format) and Audio CD. Its maximum speed is 2X.
5. RFID reader: It is a 13.56MHz RFID reader to read and write the RFID tag. The tag has 128 bytes memory and accessed by the GPIO via the RFID reader.
6. LEDs: 8pcs for decoration and indications.
7. Joystick controller: It is using Sunplus SPC11024A (running at 6MHz). It connects to an ADC to capture analog inputs from the VRs.

END