

Programming EEPROMs for the NAOMI SDSU Controllers.

wht-naomi-27

The NAOMI camera system consists of two SDSU controllers, one designated the Master and the other the Slave. Each controllers' EEPROM contains its own Master or Slave variant of Version x.y software. The EEPROMs are 256k in size and must have 70ns access times. The memory map for the code installed in the EEPROMs is as follows:-

Address Range	Code	Comments
C000H-FFFFH	Boot Code	boot strap copied at power up etc.
8000H-88FFH	Application 1	copied to P and X memory
8900H-91FFH	Application 2	copied to P and X memory
9200H-9AFFH	Application 3	copied to P and X memory
9B00H-A3FFH	Application 4	copied to P and X memory
A400H-ACFFH	Application 5	copied to P and X memory
AD00H-B5FFH	Application 6	copied to P and X memory
B600H-BEFFH	Application 7	copied to P and X memory

None of the aforementioned software is run direct from EEPROM. The Boot Code is copied to internal DSP memory and external SRAM at power-up/reset and is then run from there. When a specific application is required to be executed then it is first copied to internal DSP memory and then executed from there. If another application is required it is first copied over the DSP internal memory space where an application was already running and then runs from there.

Program EEPROM using DATAMAN S4 programmer.

The following describes how to program an EEPROM with Version x.y of code which contains both the Boot Code and all seven applications.

1. Connect DATAMAN to PC via serial COM port.
2. Use TERMINAL program to communicate from PC to DATAMAN.
3. Setup DATAMAN for EEPROM type.
4. **FILL** DATAMAN memory with all FF's
5. **TEST** check EEPROM for programming.
6. **RECEIVE** on DATAMAN.
7. Send **BOOTCODE.s** as text file to DATAMAN from terminal program.
8. On DATAMAN, **MOVE address range 8000H-FFFFH to 0000H-7FFFH.**
9. **BURN** EEPROM.
10. Check**SUM** EEPROM.
11. **RECEIVE** on DATAMAN.
12. Send **APPLICATION1.s** as text file to DATAMAN from terminal program.
13. **RECEIVE** on DATAMAN.
14. Send **APPLICATION2.s** as text file to DATAMAN from terminal program.
15. **RECEIVE** on DATAMAN.
16. Send **APPLICATION3.s** as text file to DATAMAN from terminal program.
17. **RECEIVE** on DATAMAN.
18. Send **APPLICATION4.s** as text file to DATAMAN from terminal program.
19. **RECEIVE** on DATAMAN.
20. Send **APPLICATION5.s** as text file to DATAMAN from terminal program.
21. **RECEIVE** on DATAMAN.
22. Send **APPLICATION6.s** as text file to DATAMAN from terminal program.
23. **RECEIVE** on DATAMAN.
24. Send **APPLICATION7.s** as text file to DATAMAN from terminal program.
25. **BURN** EEPROM.
26. Check**SUM** EEPROM.

The EEPROM has now been programmed with the required Boot Code and application software.