PROGRAM TRANSFER TO AN EPROM

Procedure for programming and copying a program from a diskette to an eprom using a STAG Model programmer with ProComm Communication software package.

OVERVIEW

A configuration can be burned into the EPROM so that the application is permanently stored. If the appropriate switch on the NODE NUMBER switch is set ON, then the controller will load the application into the BRAM. Any subsequent program changes will be stored in the BRAM but not the EPROM. It is recommended that you continue to use the battery to store any of these minor changes.

EPROM AND SWITCH TABLE

	4.0	4.1	5.0	6.1	7.0
EDC	P0	P0	P1	P0	P0
LDC	P0	P1	P1	P0	P0
FDC	--	P0	P0	P0	P0
TDC	--	--	--	P0	P0

P0: Offset = E0000
P1: Offset = C0000

PROGRAM LOAD ON START UP

Revision 4.0 and below used switch A
Revision 4.1 and beyond used switch B
Revision 5.0 and beyond used switch B
Revision 6.1 and beyond used switch B

MATERIALS NEEDED

1. RAMDump Program
2. YorkHEX Utility
3. Stag Eprom Programmer - Model PP41
4. Procomm Communication Software loaded onto a PC
5. Cable with a 25-pin connector (female), and a 9-pin connector (female) ,configured to the following pinout.

CABLE PINOUT

25pin-Stag (port 2)	**9pin-PC jumper 1,4,6,8**
TX2	2RX
RX3	3 TX
CTX 5	1 CTX
GND 7	GND 5

PROCEDURE FOR PROGRAMMING A STAG MODEL PROGRAMMER USING PROCOMM

1. Record the BRAM CHECKWORD of your application for later comparison (F50S01P07).
2. Using RAMDump make a dump of the application configuration.
3. Using the YORKHEX utility convert the application configuration into a hexadecimal format. It is this file which will be loaded into the EPROM.
4. Set up your computer's COMM PORT using PROCOMM
   a. [ALT-P] brings up the port set up screen
   c. Select your com port (typically COM 1 or COM 2)
5. Set up the ASCII transfer options
   a. [ALT-S] brings up the ACSII transfer options screen
   b. Character Pacing 0
   c. Line Pacing 0
   d. Pace Character 0
6. Set up the PROM burner's COM Port to match your computer's
   a. [exit] [set] [1]
   b. [←][→] arrow keys selects the item to be changed (For ex:BAUD)
   c. [↓][↑] arrow keys selects the value of the item (For ex: 9600)
   d. The screen should read: [PRT1. 9600 8 1 --]
   e. [exit]

7. Set up the PROM burner for the master EPROM's manufacturer (currently, NEC 27C1001A) by pressing the following keys:
   a. [exit] [set] [0]
   b. [⇓][⇑] arrow keys selects the EPROM manufacturer (For ex: NEC)
   c. [←][→] arrow keys selects the EPROM type within a manufacturer (For Ex: 27C1001A)
   d. [exit]

8. Clear the PROM burner's memory:
   a. [set] [F] [0]

9. Load part of the operating system into the PROM burner
   a. Place the EPROM into the master socket
   b. [load]
   c. The checksum will be displayed and should match the checksum printed on the EPROM label.
   d. Remove the EPROM

10. Define the location in the PROM burner's memory into which the HEX file will be loaded.
   a. [exit] [set] [input]
   b. Use [⇓][⇑] arrow keys to select the category and the numeric keys to enter the information:
      OFFSET =000E0000 or 000C0000
      START = 000000
      STOP = 07FFFF
      PORT = 2
   c. [exit]

11. Command the PROM burner to receive data:
   a [input]
   b. the display should read: [1 IN X 000E0000 or 000C0000]

12. Upload the HEX file from PROCOMM
   a. [Pg Up]
   b. ASCII mode
   c. enter HEX file name
   d. [Enter]
   e. The file should be transmitting and the display on the PROM burner should be alternating between X and +.
   f. The PROM burner will beep when finished.

13. Record the Checksum for the EPROM label. Note: do not use the four digits displayed after step 12.
   a. [c/sum]

14. Set up the PROM burner for the new EPROM's manufacturer. Note: it is recommended that the same manufacturer as the master be used.
   a. [exit] [set] [0]
   b. [⇓][⇑]arrow keys selects the EPROM manufacturer (For ex: NEC)
   c. [←][→] arrow keys selects the EPROM type within a manufacturer (For Ex: 27C1001A)
   d. [exit]

15. Load the contents of the PROM burner's memory to the new EPROM.
   a. [program]
   b. the PROM burner will display
      BITCHECK
      PROGRAM
      VERIFY
      VERIFY PASS

16. Make a label for the EPROM, it should include:
   a. The type of controller EDC, LDC or FDC.
   b. The version firmware, currently being used.
   c. The EPROM checksum
   d. The EPROM location: P0 or P1
   e. Any other name, or node for your reference.

17. Check the EPROM
   a. Disable the battery and turn the controller off.
   b. Install the EPROM into the corresponding ISN socket.
   c. Move the correct switch of the NODE NUMBER switch to the ON position.
   d. Turn on the unit.
   e. Compare the BRAM Checkword to the one previously recorded (step 1), they should be identical.

18. The original EPROM can now be erased for future use.

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FORM 450.11-N4 (896)
SUPERSEDES: 450.11-N4 (1194)

RPC 1M 896 .10
CODES: YCA & YCS