

# Interaction between Flash Magic and JIT module

## Just In Time Code

Just In Time Code is a powerful feature, which allows Flash Magic to call a custom 3rd party program (called a JIT Module) that generates last minute code or constant data to be programmed into the device.

Uses for this system include:

- Serial Number generation
- Copy Protection (generate authorization codes via the Internet)
- Programmer information
- Date and Time
- Lookup Table generation
- Language tables

The JIT Module can be written using any language or development tools available for PCs and may access files on the local machine or Internet to generate the data.

According to the illustration:

When Flash Magic calls the JIT module `serialnumber.exe` it passes the path to a command file. This command file is a text file that contains two paths. The first is for the data file and the second is for the user file.

The JIT module places the hex records in the data file and the user output in the user file.

When the JIT module has finished executing Flash Magic programs the contents of the data file and displays the contents of the user file to the user. Flash Magic then deletes the data file and the user file.

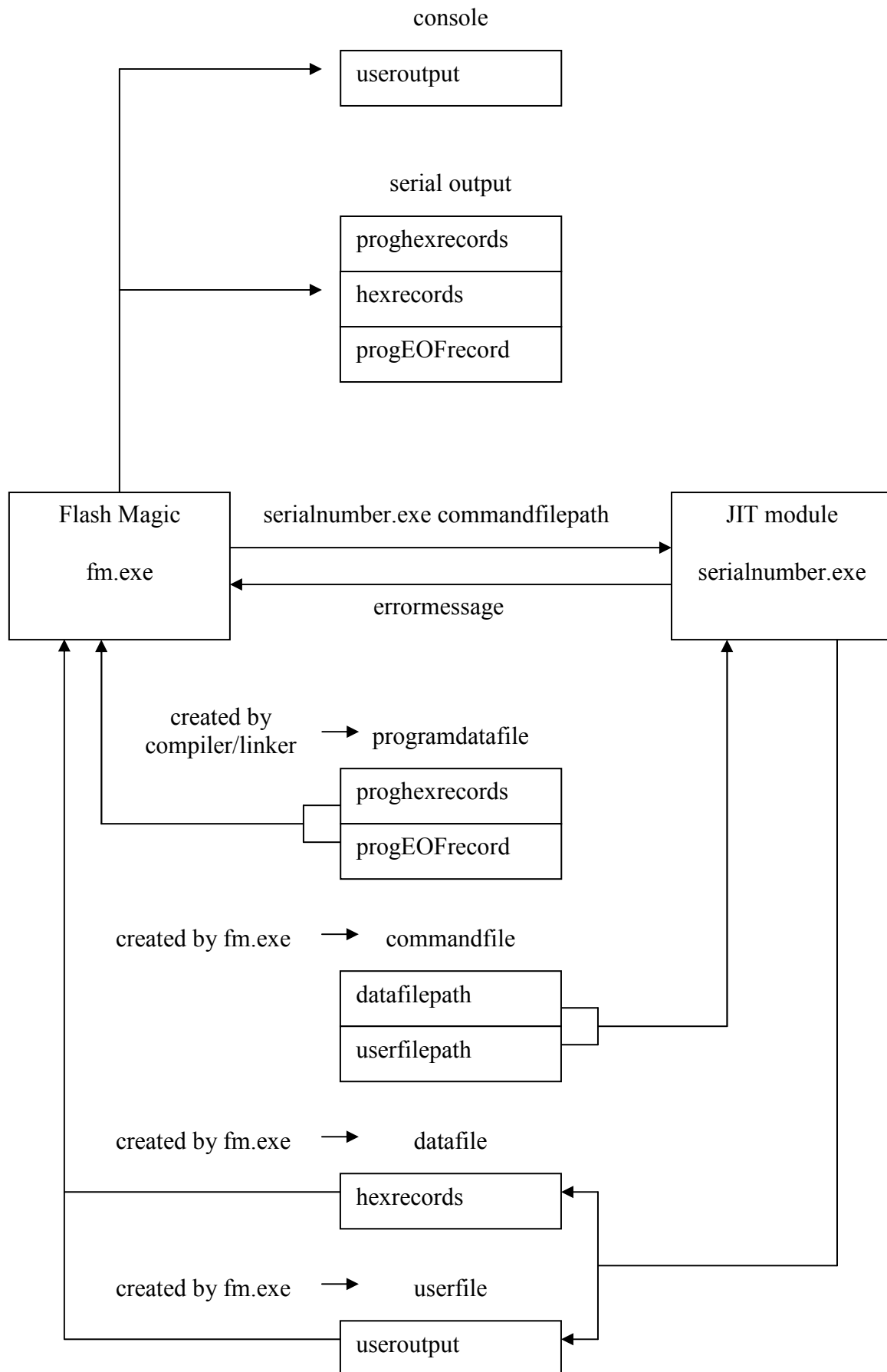
Before calling the JIT module Flash Magic generates temporary paths for the data file and the user file.

Interfacing to JIT module:

In the C-code for JIT module `serialnumber.exe` file pointers and arrays make the link between Flash Magic and the JIT module. The C-code file pointers and arrays are defined as below:

```
FILE *commandfile;  
FILE *datafile;  
FILE *userfile;  
char datafilepath[2000];  
char userfilepath[2000];
```

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The JIT Module must run from the Command Prompt or DOS Command Line. The command line syntax is as follows:

*executablename commandfilepath*

where:

*executablename*                      The path and name of the JIT Module

*commandfilepath*                      The path to a command file that describes where to place the data, where to place output for the user to see and any optional parameters supplied by the user.

The command file is an ASCII file with the following format (each line terminated with a linefeed character):

*datafilepath*

*userfilepath*

[*option*]

*datafilepath*                      The path to the data file that the JIT Module should generate containing the data to program into the device.

*userfilepath*                      The path to the user file where an ASCII string that will be displayed to the user can be stored. Leave empty or don't create if no message is required. The message is shown after the JIT Module has finished executing.

*option*                              One or more optional parameters entered by the user that may be used by the program.

The format of the data file is the same as an Intel Hex File. Only record types 00H and 01H are allowed however. The terminating record is optional.

The JIT Module must return a zero for failure or a one for success. In C this is achieved by returning the value from the main() function.

Free PC Compilers are available from <http://www.idiom.com/free-compilers>, and <http://www.borland.com>.

To configure the Just In Time feature click on the Just In Time Code tab in the advanced options.

Enter the path and filename of the JIT Module into the box or click on the Browse... button to browse to the file.

Enter any options desired separated by spaces. If no options are required then leave the box empty. Enter the maximum run time of the JIT Module in seconds into the final box. If the JIT Module does not finish executing within this time then Flash Magic will give up waiting and return an error.