Technical Description of DriveLoaderModule.INI

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1. Preface

This paper describes DriveLoaderModule.INI, which can be used to configure the system software restoring process of the DriveLoader module version 2.21 or newer.

2. General

DriveLoader module version 2.21 is included in DriveWindow 2 version 2.21.

The configurable new version of the module is compatible with older versions. Thus older DriveWindow 2 installations can be upgraded to use the new configurable version.

DriveLoaderModule.INI structure follows the industry standard. Thus it is an ASCII-file consisting of sections that contain key-value pairs. The file should reside in the Windows folder.

If no DriveLoaderModule.INI exists (or it is empty), the configurable DriveLoader module behaves exactly as older versions, i.e., the new drive operating system is not loaded into RAM of the drive before restoring unless absolutely necessary.

By using the DriveLoaderModule.INI-file during the system software restoring process DriveLoader module determines, whether to load the new drive operating system to drive RAM or not, even if it is not absolutely necessary. It is also possible to deny restoring of some combinations of system software versions in a drive and in a backup package.

The new DriveLoader module uses contents of SW_PACK*.TXT files both in the drive and in the backup package to determine the action to be done. The contents are checked against the match strings given in the DriveLoaderModule.INI-file. If there is no such a file, DriveLoader module behaves as if one with empty content exists.

3. Matching

The characters in match strings given in the DriveLoaderModule.INI-file are used in matching as follows.

Character	Matches
?	Any single character
*	Zero or more (any) characters
\?	?
*	*
\\	\
\r	Carriage return (13)
\n	Line feed (10)
\f	Form feed (12)
\t	Horizontal tab (9)
0x01, 0x02, 0x7F, 0xFF	Skipped (cannot be used in matching)
0x00	Must not be used
Any other	Matches the character itself and, if matching is case insensitive, the corresponding lower or upper case character as well.

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Note that matching is always done against the total content of a SW_PACK*.TXT file. So, a match string typically begins and ends with an asterisk.

4. INI-file Content

There are two reserved section names in the INI-file:

- [RestoreDefaults]
- [CurrentSW]

4.1. RestoreDefaults Section

The section defines some default values that take effect if not overridden by a match.

The following keys can be included in the [RestoreDefaults] section.

Key	Type	Default	Description
LoadFluxToRAM	integer	0	0: The new drive operating system is loaded to RAM only if absolutely necessary. 1: The new drive operating system is always loaded to RAM. Else: Restoring is denied.
MatchIsCaseSensitive	integer	0	If nonzero, case of the letters is meaningful during matching.

4.2. CurrentSW Section

The section is used to determine the software currently in the Flash memory of the drive. Determination is done by trying to match content of the SW_PACK*.TXT file in the Flash memory against the $MatchCurrentSW_i$ values listed in the section.

If no match is found, the default LoadFluxToRAM action is valid.

The following keys can be included in the [CurrentSW] section.

Key	Type	Description
MatchCurrentSW0	string	A match (wildcard) string.
NewSW0	string	Name of the section for determining the software in the backup package.
LoadFluxToRAM0	integer	Empty or not given: the LoadFluxToRAM value given in the [RestoreDefaults] section is used. 0: The new drive operating system is loaded to RAM only if absolutely necessary. 1: The new drive operating system is always loaded to RAM. Else: Restoring is denied. This can be overridden in the NewSW0 section.

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Key	Type	Description
MatchIsCaseSensitive 0	integer	Empty or not given: the MatchIsCaseSensitive value given in the [RestoreDefaults] section is used. 0: case of the letters is not meaningful during this match. Nonzero: case of the letters is meaningful during this match.
.		
.		
MatchCurrentSW$_n$	string	A match (wildcard) string.
NewSW$_n$	string	Name of the section for determining the software in the backup package.
LoadFluxToRAM$_n$	integer	Empty or not given: the LoadFluxToRAM value given in the [RestoreDefaults] section is used. 0: The new drive operating system is loaded to RAM only if absolutely necessary. 1: The new drive operating system is always loaded to RAM. Else: Restoring is denied. This can be overridden in the NewSW0 section.
MatchIsCaseSensitive$_n$	integer	Empty or not given: the MatchIsCaseSensitive value given in the [RestoreDefaults] section is used. 0: case of the letters is not meaningful during this match. Nonzero: case of the letters is meaningful during this match.

Matching is done in order 0…n and terminates when the first match is found or the list is exhausted. Note that the numbering must be consecutive without any missing numbers.

If a match is found at i and there is a non-empty NewSW$_i$, the content of the SW_PACK*.TXT file in the backup package is matched against MatchNewSW$_j$ values listed in the section defined by NewSW$_i$.

Note that LoadFluxToRAM$_i$ can be overridden in the NewSW$_i$ section in case a match is found there.

4.3. NewSW$_i$ Sections

The names of these sections are defined by NewSW$_i$ values in the [CurrentSW] section.

This kind of section is used to determine the software in the backup package. Determination is done by trying to match content of the SW_PACK*.TXT file in the package against the MatchNewSW$_j$ values listed in the section.

If no match is found, the LoadFluxToRAM$_i$ action defined by the match in the [CurrentSW] section is valid.

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The following keys can be included in a [<NewSW$_i$>] section.

Key	Type	Description
MatchNewSW0	string	A match (wildcard) string.
LoadFluxToRAM0	integer	Empty or not given: the LoadFluxToRAM value defined by the match in the [CurrentSW] section is used. 0: The new drive operating system is loaded to RAM only if absolutely necessary. 1: The new drive operating system is always loaded to RAM. Else: Restoring is denied.
MatchIsCaseSensitive 0	integer	Empty or not given: the MatchIsCaseSensitive value given in the [RestoreDefaults] section is used. 0: case of the letters is not meaningful during this match. Nonzero: case of the letters is meaningful during this match.
.		
.		
MatchNewSW$_m$	string	A match (wildcard) string.
LoadFluxToRAM$_m$	integer	Empty or not given: the LoadFluxToRAM$_i$ value defined by the match in the [CurrentSW] section is used. 0: The new drive operating system is loaded to RAM only if absolutely necessary. 1: The new drive operating system is always loaded to RAM. Else: Restoring is denied.
MatchIsCaseSensitive m	integer	Empty or not given: the MatchIsCaseSensitive value given in the [RestoreDefaults] section is used. 0: case of the letters is not meaningful during this match. Nonzero: case of the letters is meaningful during this match.

Matching is done in order 0…m and terminates when the first match is found or the list is exhausted. Note that the numbering must be consecutive without any missing numbers.

5. INI-file Example
Note that this example is made for demonstration purposes only.

The following DriveLoaderModule.INI loads the new drive operating system to RAM before restoring system software in case the current system software is meant for an RMIO board, its version is not ASXR7270, ASXR7280, or ASXR729?, and the system software version in the backup package is ASXR7270, ASXR7280, or ASXR729?.

If the current system software is meant for an RMIO board, but the system software in the backup package is not, restoring is denied.

```
[RestoreDefaults]
; The following is unnecessary because zero is the default
LoadFluxToRAM=0
; The following is unnecessary because zero is the default
MatchIsCaseSensitive=0
[CurrentSW]
MatchCurrentSW0=* RMIO * ASXR729? *
NewSW0=ASXR7270-729x
MatchCurrentSW1=* RMIO * ASXR7280 *
NewSW1=ASXR7270-729x
MatchCurrentSW2=* RMIO * ASXR7270 *
NewSW2=ASXR7270-729x
MatchCurrentSW3=* RMIO *
NewSW3=RMIO
LoadFluxToRAM3=2
[ASXR7270-729x]
MatchNewSW0=* RMIO *
LoadFluxToRAM0=0
MatchNewSW1=*
LoadFluxToRAM1=2
[RMIO]
MatchNewSW0=* RMIO * ASXR729? *
LoadFluxToRAM0=1
MatchNewSW1=* RMIO * ASXR7280 *
LoadFluxToRAM1=1
MatchNewSW2=* RMIO * ASXR7270 *
LoadFluxToRAM2=1
MatchNewSW3=* RMIO *
LoadFluxToRAM3=0
```