DipTrace Plug-ins

Description of the operating principle and parameters of the settings file settings.xml.

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1   Overview

The DipTrace plug-in is an executable exe file written and compiled in any programming environment. Data exchange with the main program is carried out using the DipTrace XML format, which can transmit/receive all board data or only part of them. The DipTrace XML format description is located in the Docs folder inside the program's working directory (for example, "*C:\Program Files\DipTrace\Docs*"). Data exchange settings, as well as the plug-in name and the module it belongs to, are located in the settings.xml file in the plug-in folder.

Each plug-in is stored in a separate folder, which in turn, depending on the module it belongs to, is located inside the program's working directory with one of the following paths:
- *\Plugins\PCB* – for PCB Layout;
- *\Plugins\Schematic* – for Schematic;
- *\Plugins\CompEdit* – for CompEdit;
- *\Plugins\PattEdit* – for PattEdit.

Thus, if DipTrace is installed, for example, at "*C:\Program Files\DipTrace*", then the Plug_1 plug-in for the Component Editor module will be located in the "C:\Program Files\DipTrace\Plugins\CompEdit\Plug_1\" folder.

The plug-in configuration file, settings.xml, and the presence of the plug-ins (stored in folders) are only read when the module is launched. The identified plug-ins are displayed in the Tools/Plugins menu. Upon selecting a plug-in from the menu, the main DipTrace program, based on the plug-in settings, generates the plugin_exchange.xml file in a temporary folder. The XML export can be either complete or partial, depending on the settings. Subsequently, the program initiates the plug-in executable file, providing the address to this generated file as a parameter. Upon completion of its tasks, the plug-in must overwrite the modified data to this file. This ensures that the main program can read the updated information and integrate it into the active project by modifying or adding data to it.

In the settings.xml file, the Source section contains the following parameters:

Type: the module to which the plug-in belongs. It can take the following values: DipTrace_Pcb_Plugin, DipTrace_Schematic_Plugin, DipTrace_CompEdit_Plugin, DipTrace_PattEdit_Plugin.

Name=*"Plugin Name"*: the plug-in name displayed in the menu.

ExeFile="plugin.exe": the executable file of the plug-in, which is invoked when the menu item is selected.

Below you can find the export/import settings for DipTrace XML to exchange data with the main program.

2   Settings for PCB Layout

2.1   Export mode

<ExpMode>Partial</ExpMode> – export mode:

All – export all, regardless of object-specific settings (see below);

Partial – export according to object-specific settings;

None – regardless of object-specific settings, an empty file is created until modifications are made. The main information is delivered in the import.

2.2   Import mode

<ImpMode>Edit</ImpMode> – import mode:

All – import all, regardless of object-specific settings (see below);

Edit – import according to object-specific settings;

None – import nothing (this option works only for export).

2.3   Object Settings

<Comp>None</Comp>	– Components [All / Selected / None];
<Net>None</Net>	– Nets [All / Selected / None];
<Shape>None</Shape>	– Shapes [All / Selected / None];
<Plane>None</Plane>	– Copper Pours [All / Selected / None];
<Table>None</Table>	– Tables [All / Selected / None];
<Dim>None</Dim>	– Dimensions [All / Selected / None];
<Diff>None</Diff>	– Diff Pairs [All / Selected / None];
<Board>None</Board>	– Board Outline [All / Selected / None];
<Trace>None</Trace>	– Traces [All / Selected / None];
<Stamp>None</Stamp>	– Stamp [Yes / No].

2.4   Object Values

All – all the objects;

Selected – the objects selected in the project, during import "Selected="Y" in the XML file is taken into account;

None – no;

Yes – on;

No – off.

3 Settings for Schematic Capture

3.1 Export Mode

<ExpMode>Partial</ExpMode> – export mode:

All – export all, regardless of object-specific settings (see below);

Partial – export according to object-specific settings;

None – regardless of object-specific settings, an empty file is created until modifications are made. The main information is delivered in the import.

3.2 Import Mode

<ImpMode>Edit</ImpMode> – import mode:

All – import all, regardless of object-specific settings (see below);

Edit – import according to object-specific settings;

None – import nothing (this option works only for export).

3.3 Object Settings

<Comp>None</Comp>	– Components [All / Selected / None];
<Net>None</Net>	– Nets [All / Selected / None];
<Shape>None</Shape>	– Shapes [All / Selected / None];
<Table>None</Table>	– Tables [All / Selected / None];
<Bus>All</Bus>	– Buses [All / Selected / None];
<BusConnectors>All</BusConnectors>	– Bus Connectors [All / Selected / None];
<Dim>None</Dim>	– Dimensions [All / Selected / None];
<Diff>None</Diff>	– Diff Pairs [All / Selected / None];
<Patterns>Yes</Patterns>	– Patterns [Yes / No];
<Stamp>None</Stamp>	– Stamps [Yes / No];

3.4 Object Values

All	– all;
Selected	– the objects selected in the project, during import "Selected="Y" in the XML file is taken into account;
None	– no;
Yes	– on;
No	– off.

4 Settings for Component Editor

4.1 Export Mode

<ExpMode>Library Partial</ExpMode> – export mode:

None – regardless of object-specific settings, an empty file is created until modifications are made. The main information is delivered in the import;

Library All – export the entire library;

Library Partial – export the library according to the settings (see below);

Component All – export the current component entirely, including all parts and pattern;

Component Partial – export the current component with all parts according to the settings;

Part All – export only the current part of the current component, with all its objects, but without the pattern;

Part Partial – export only the current part according to the settings, including the option to add the pattern.

4.2 Import Mode

<ImpMode>Library Insert</ImpMode> – import mode:

None – only export, nothing is imported;

Library All – the entire library is imported, a prompt dialog pops up offering to save the current one, if it has not been saved, etc.;

Library Add – the components from the imported library are added to the current one;

Library Insert – the components from the imported library are inserted into the current position, shifting other components down;

Component All – complete overwrite of the current component, including all parts and the pattern;

Part All – complete overwrite of the current part without the pattern, even if it exists in the file;

Edit – combination of the current components, sections, and objects with overwriting of the detected modified properties and adding new objects that are not in the current library. If Patterns=Yes, patterns of the found components are completely overwritten.

4.3 Object Settings

<Comp>Selected</Comp>	– Components [All / Selected / None];
<Shape>All</Shape>	– Shapes [All / Selected / None];
<Pin>All</Pin>	– Pins [All / Selected / None];
<Pattern>Yes</Pattern>	– Patterns [Yes / No];
<Attributes>Yes</Attributes>	– Attributes (Additional Fields) [Yes / No].

4.4   Object Values

All   – all;
Selected   – the objects selected in the project. Only applicable in export modes Component Partial and Part Partial. For import and other modes, it is equivalent to All;
None   – no;
Yes   – on;
No   – off.

5   Settings for Pattern Editor

5.1   Export Mode

<ExpMode>Library Partial</ExpMode> – export mode:

None – regardless of object-specific settings, an empty file is created until modifications are made. The main information is delivered in the import;
Library All – export the entire library;
Library Partial – export the library according to the settings (see below);
Component All – export the current component entirely, including all parts and pattern;
Component Partial – export the current component with all parts according to the settings.

5.2   Import Mode

<ImpMode>Library Insert</ImpMode> – import mode:

None – only export, nothing is imported;
Library All – the entire library is imported, a prompt dialog pops up offering to save the current one, if it has not been saved, etc.;
Library Add – the components from the imported library are added to the current one;
Library Insert – the components from the imported library are inserted into the current position, shifting other components down;
Component All – complete overwrite of the current component, including all parts and the pattern;
Edit – combination of the current components, sections, and objects with overwriting of the detected modified properties and adding new objects that are not in the current library. If Patterns=Yes, patterns of the found components are completely overwritten.

5.3   Object Settings

<Comp>Selected</Comp>   – Components [All / Selected / None];
 <Shape>All</Shape>   – Shapes [All / Selected / None];
 <Pad>All</Pad>   – Pads [All / Selected / None];
 <Hole>All</Hole>   – Mounting Holes [All / Selected / None];
 <Dim>All</Dim>   – Dimensions [All / Selected / None];

<Attributes>Yes</Attributes>   – Attributes (Additional Fields) [Yes / No].

5.4   Object Values

All   – all the objects;
Selected   – the objects selected in the project. Only applicable in export modes Component Partial and Part Partial. For import and other modes, it is equivalent to All.
None   – no;
Yes   – on;
No   – off.