HiDBTool

User Guide

Issue **01**

Date **2014-05-20**

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About This Document

Purpose

This document describes how to use the HiDBTool.

Related Version

The following table lists the product version related to this document.

Product Name	Version
Digital television (DTV) Stack Component	None

Intended Audience

This document is intended for:

- Technical support personnel
- O&M engineer
- Software development engineers

Change History

Changes between document issues are cumulative. Therefore, the latest document issue contains all changes made in previous issues.

Issue 01 (2014-05-20)

This issue is the first official release, which incorporates the following change:

Chapters 2 and 3 are modified.

Issue 00B01 (2012-04-13)

This issue is the first draft release.

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1 Introduction to the HiDBTool

1.1 Overview

The HiDBTool is a visual tool that allows you to edit preset services and default system settings before set top box (STB) delivery. By using the HiDBTool, you can generate images of service databases (such as the satellite service database and system setting database) that can be used on the STB. The HiDBTool can also identify the database images generated on the STB. When the STB is restored to default settings, the preset data generated by the HiDBTool can be restored to system data (for example, restoring the preset service data to the system service data).

The HiDBTool and DVT Stack component constitute a toolkit, and the HiDBTool is closely dependent on the STACK-DB module. The STB-DB module is a small-sized and embedded common database module that can run on the STB and PC simultaneously.

The HiDBTool provides the following functions:

- Edits satellites, cables, and terrestrials service databases.
- Edits default system settings.
- Edits user-defined databases.
- Imports/Exports data to/from the service database.
- Imports the data structure template of the database. The template defines the database structure. The HiDBTool provides a default data structure template. You can customize a template as required.

1.2 Environment Preparation

Copy **HiDBToolv1.[X].[X].zip** in the software development kit (SDK) to a PC running Window XP or Windows 7.

1.3 Quick Start

Decompress **HiDBToolv1.[X].[X].zip**, and run **HiDBTool.exe** directly.

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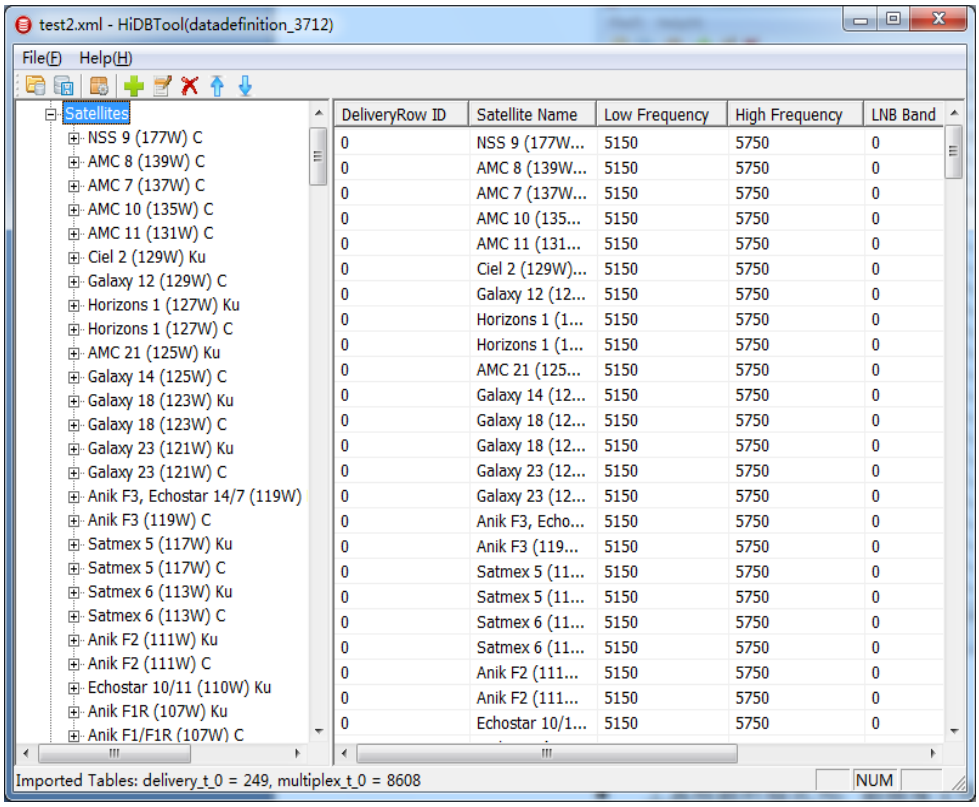
1.4 Main GUI

Figure 1-1 shows the main graphical user interface (GUI) of the HiDBTool.

Figure 1-1 Main GUI of the HiDBTool



The following describes the GUI of the HiDBTool:

- The title bar name is the format of database name+HiDBTool (template name).
- The **file** menu contains the **Open DB**, **Load Template**, **Save DB**, **Add**, **Modify**, **Delete**, and **Exit** options.
- The toolbar provides the **Open**, **Load Template**, **Save**, **Add**, **Modify**, and **Delete** shortcuts.
- The left window displays the database structure in a tree, and the right window shows the details of each item.
- The bottom status bar displays the numbers of imported tables and records.

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2 Function Description

2.1 Supported File Formats

The HiDBTool supports the following formats of files to be imported and exported:

- Formats of files to be imported
  - .bin: Indicates the service database image. The image can be obtained from a specific partition in the board flash memory. For example, the image is burnt at 0x770000 of the SPI flash on the Hi3712 board (8 MB flash memory and 128-Mbit DDR).
  - .xml: Indicates a service database file in specified format. Such file can be downloaded from www.satbeams.com. For details about format samples, see section 4.1 "Sample of an Imported .xml Database File."
  - .ini: Indicates a service database file in specified format. Such file can be downloaded from www.satbeams.com. For details about format samples, see section 4.1 "Sample of an Imported .xml Database File."
- File of the file to be exported

  .bin: Indicates the service database image.

  The .bin file generated by using the HiDBTool can be burnt to a specific partition of the STB board.

2.2 Loading the Data Structure Template of the Database

The data structure template of the database is an editable database definition file in .xml format. The template describes the included tables, subordination of tables, fields in each table, and name, type, and length of each field. For details, see chapter 3 "Data Structure Template of the Database."

When the HiDBTool is used for the first time, the template in the installation path of the HiDBTool is opened by default. The template name is display on the title bar. Each time the HiDBTool is used, the previously used template is automatically opened. To load a user-defined template, perform the following steps:

Step 1 Choose **File** > **Load Template**, click on the toolbar, or press **Ctrl**+**L**.

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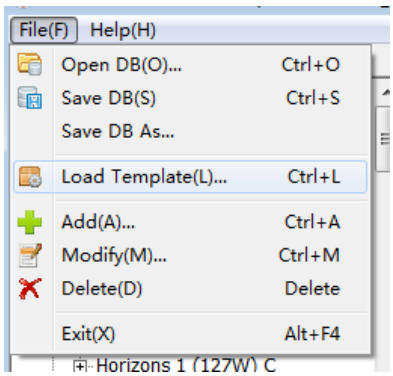
Figure 2-1 Loading a template



Step 2 Select the required template, and click **OK**.

The HiDBTool supports only the .xml data structure template. When the HiDBTool is started for the first time, the **datadefinition_3712.xml** template is loaded by default. You can edit your own template based on the default template.

----End

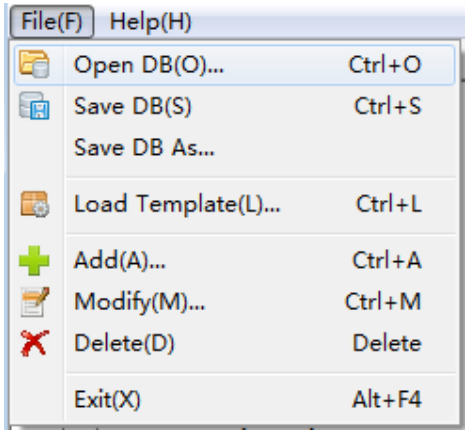
2.3 Importing Data from a Database File

When the HiDBTool loads a data structure template, it considers that the current database is empty (no records). You can perform add, delete, modify, and save operations on the empty database or import records to the empty database from a database file with records. For details about the supported file format, see section 2.1 "Supported File Formats." You can also perform add, delete, modify, and save operations on the database file.

Note that the data of a database file can be imported only after the HiDBTool loads a data structure template. To import data from a database file, perform the following steps:

Step 1 Choose **File** > **Open DB**, click on the toolbar, or press **Ctrl**+**O**.

Figure 2-2 Opening a database file



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Step 2 Select the database file to be imported. The file must be in .bin, .xml, or .ini format.

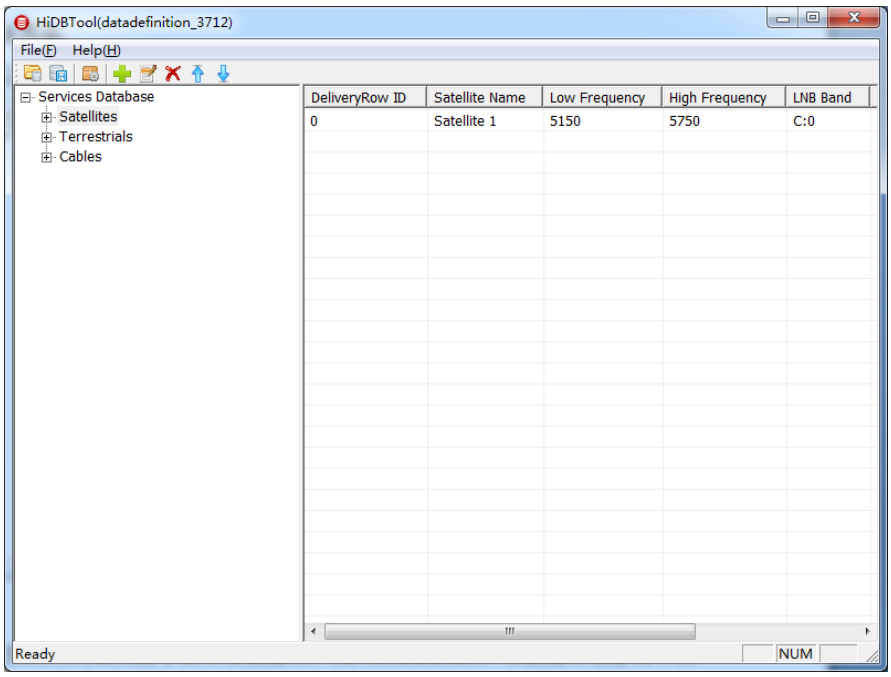
----End

2.4 Browsing Information

This section uses the service database template **datadefinition_3712.xml** as an example to describe the browse function. If you load a user-defined data structure template, the displayed database structure and fields are different from those in Figure 2-3.

Figure 2-3 shows the database structure after **datadefinition_3712.xml** is loaded.

Figure 2-3 Browse GUI



The structure of the services database is displayed as a tree in the left pane. The service database has three tables:

- Satellites table
- Terrestrials table
- Cables table

The Satellites table consists of the following three levels:

- Satellites tree
- TP tree
- Service

When you click **Satellites**, the details about all the satellites in the services database are displayed in the right window, as shown in Figure 2-4.

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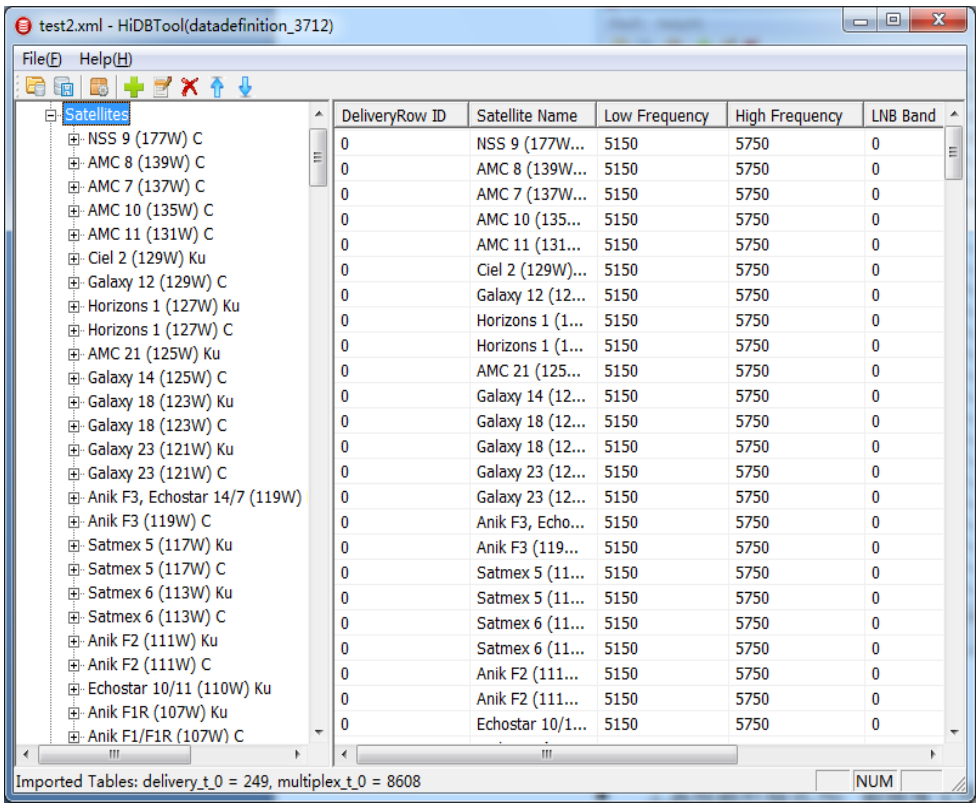
Figure 2-4 Satellite list



If you select a specific satellite, the configurations of all transponders of the satellite are displayed in the right window, as shown in Figure 2-5.

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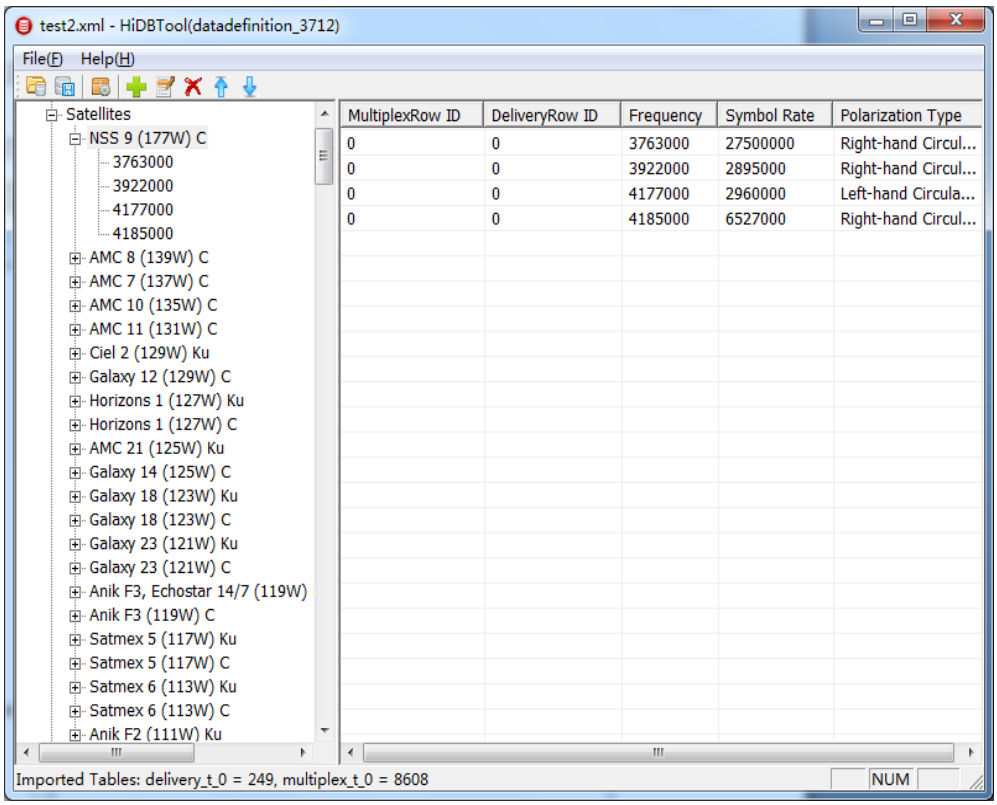
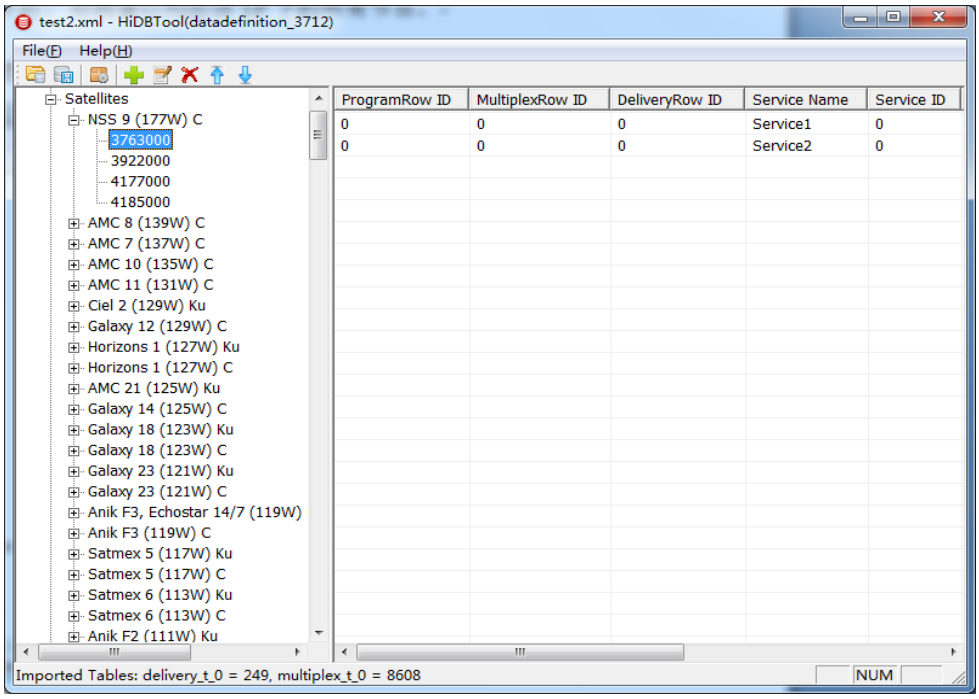
Figure 2-5 Configurations of all transponders of a satellite



If you select a specific transponder, all services of the transponder are listed in the right window, as shown in Figure 2-6.

Figure 2-6 All services of a transponder



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The method of browsing the terrestrials and cables tables is similar to that of browsing the satellites table.

2.5 Editing Database Data

This section uses the default database template **datadefinition_3712.xml** as an example to describe how to edit database data.

2.5.1 Satellite Operations

Adding a Satellite

Perform the following steps:

Step 1 Select any of the following methods:

- In the left pane, right-click **Satellites**, and choose **Add Satellite** from the shortcut menu, as shown in Figure 2-7.
- Click **Satellites**, right-click the satellite list in the right window, and choose **Add Satellite** from the shortcut menu, as shown in Figure 2-8.
- Click **Satellites** and then on the toolbar.
- Click **Satellites**, and choose **File** > **Add**.
- Click **Satellites**, and double-click the space in the list in the right window.

Figure 2-7 Adding a satellite (1)

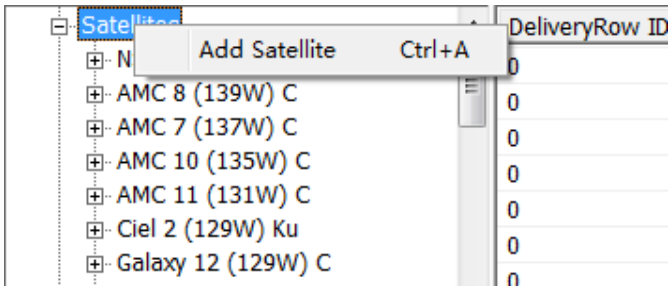

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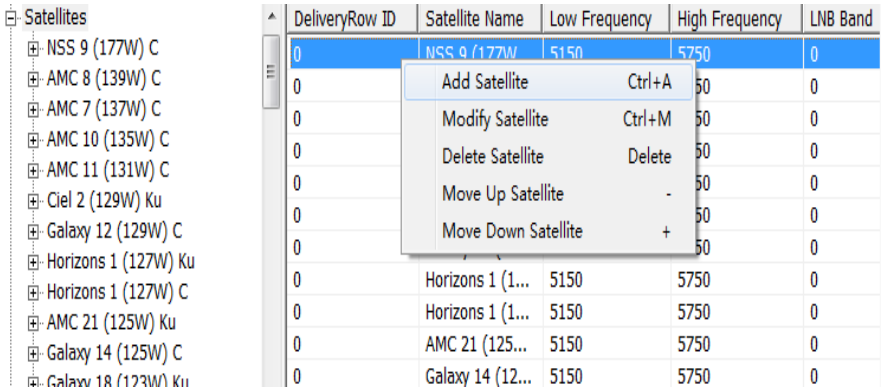
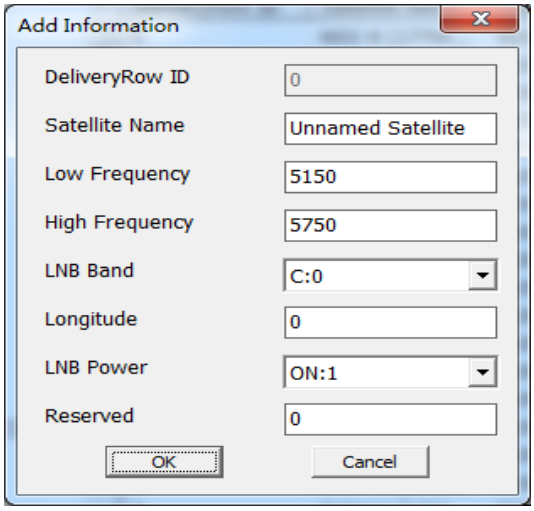
Figure 2-8 Adding a satellite (2)



Step 2 In the displayed **Add Information** dialog box, enter the information about the satellite to be added, and click **OK**. See Figure 2-9.

Figure 2-9 Entering satellite information



----End

Deleting a Satellite

Select any of the following methods:

- In the left pane, right-click the satellite to be deleted, and choose **Delete** from the shortcut menu, as shown in Figure 2-10.
- Click **Satellites**, right-click the satellite to be deleted in the list in the right window, and choose Delete from the shortcut menu, as shown in Figure 2-11.
- Click the satellite to be deleted and then on the toolbar.
- Click the satellite to be deleted, and choose **File** > **Delete**.

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Figure 2-10 Deleting a satellite (1)

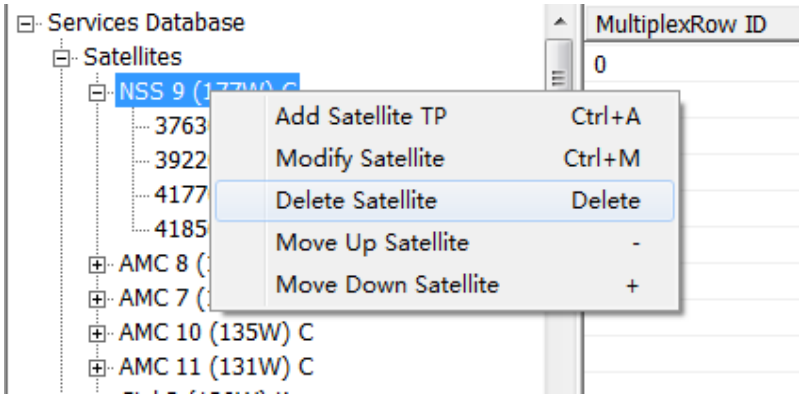
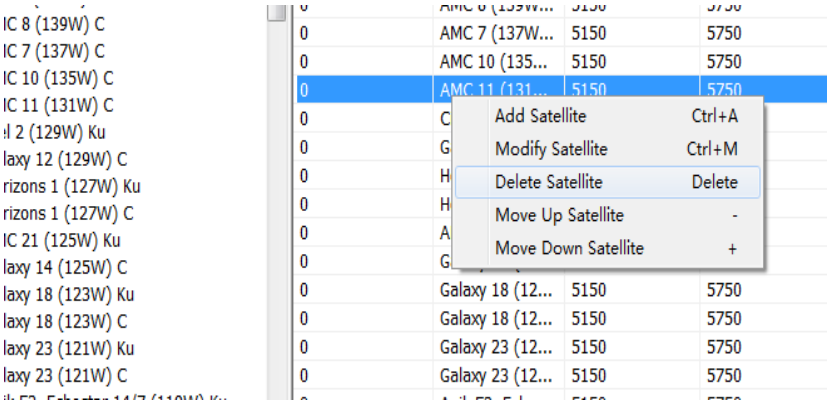


Figure 2-11 Deleting a satellite (2)



Modifying Satellite Information

Perform the following steps:

Step 1 Select any of the following methods:

- In the left pane, right-click the satellite to be modified, and choose **Modify Satellite** from the shortcut menu, as shown in Figure 2-12.
- In the right window, right-click the satellite to be modified, and choose **Modify Satellite** from the shortcut menu, as shown in Figure 2-13.
- Click the satellite to be modified and then on the toolbar.
- Click the satellite to be modified, and choose **File** > **Modify**.
- Click **Satellites** in the left pane, and double-click the satellite to be modified in the right window.

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Figure 2-12 Selecting the satellite to be modified (1)

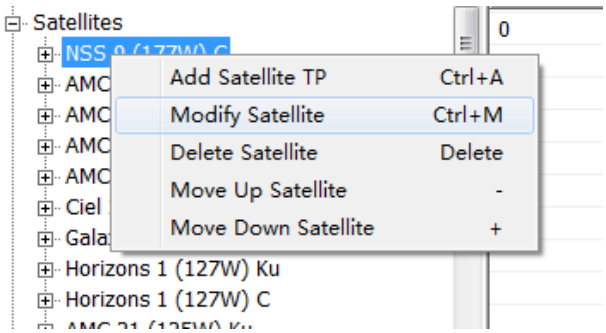
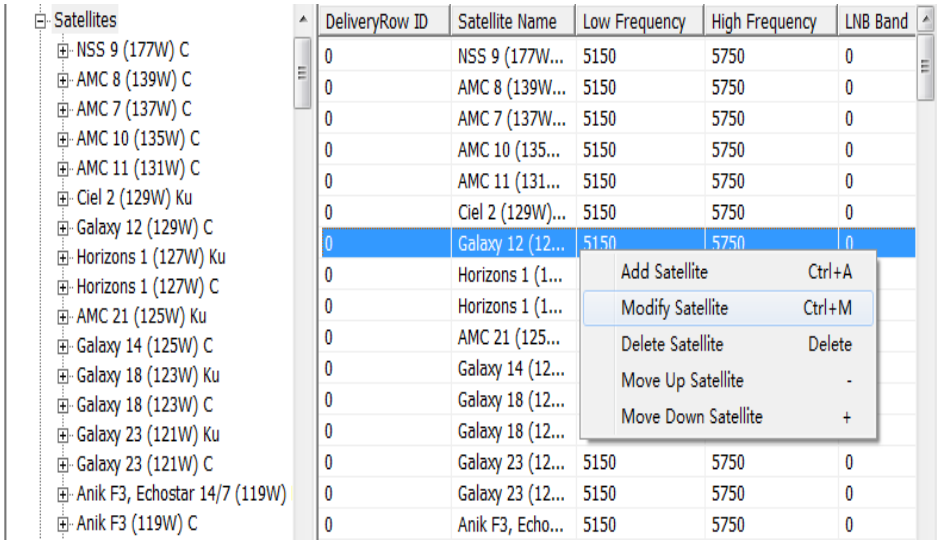


Figure 2-13 Selecting the satellite to be modified (2)



Step 2 In the displayed **Modify Information** dialog box, modify satellite information, and click **OK**. See Figure 2-14.

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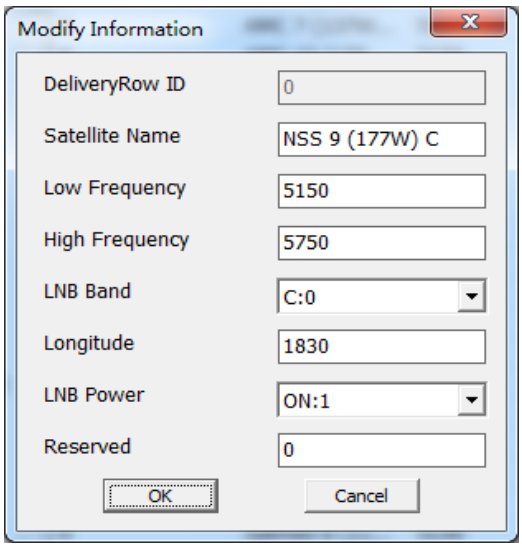
Figure 2-14 Modifying satellite information



----End

2.5.2 Transponder Operations

Adding a Transponder

Perform the following steps:

Step 1 Select any of the following methods:

- In the left pane, right-click the satellite to which a transponder is added, and choose **Add Satellite TP** from the shortcut menu, as shown in Figure 2-15.
- Click the satellite to which a transponder is added in the left pane, right-click the list in the right window, and choose **Add Satellite TP** from the shortcut menu, as shown in Figure 2-16.
- Click the satellite to which a transponder is added in the left pane, and click on the toolbar.
- Click the satellite to which a transponder is added in the left pane, and double-click the space in the right window.
- Click the satellite to which a transponder is added, and choose **File** > **Add**.

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Figure 2-15 Adding a transponder (1)

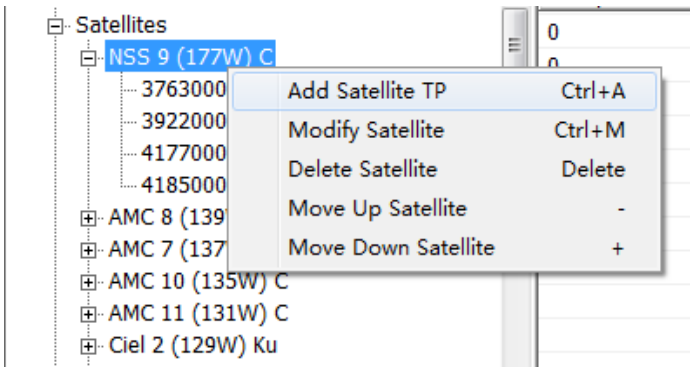
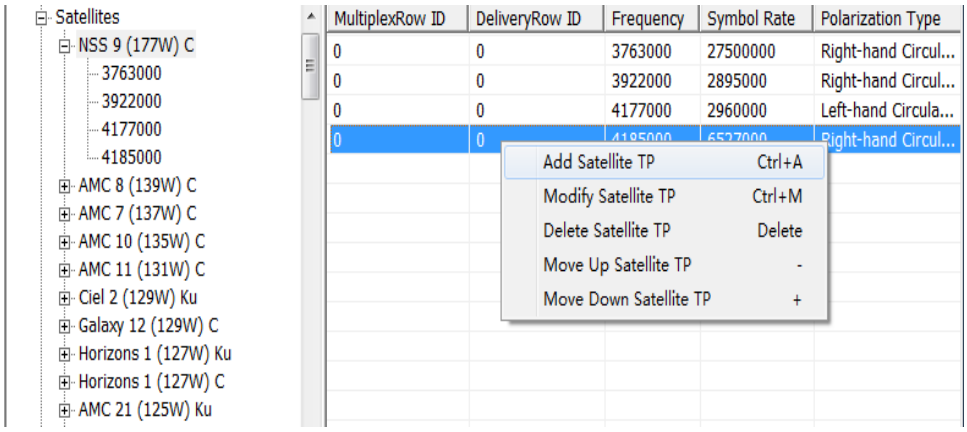
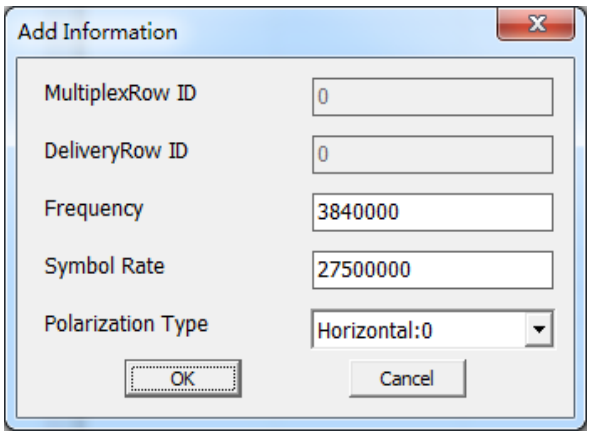


Figure 2-16 Adding a transponder (2)



Step 2 In the displayed **Add Information** dialog box, enter the information about the transponder to be added, and click **OK**. See Figure 2-17.

Figure 2-17 Editing the information about the transponder to be added



----End

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Deleting a Transponder

Select any of the following methods:

- In the left pane, right-click the transponder to be deleted, and choose **Delete Satellite TP** from the shortcut menu, as shown in Figure 2-18.
- In the left panel, select the satellite under which the transponder to be deleted is located, right-click the transponder to be deleted in the right window, and choose **Delete Satellite TP** from the shortcut menu, as shown in Figure 2-19.
- Click the transponder to be deleted and then on the toolbar.
- Click the transponder to be deleted, and choose **File** > **Delete**.
- Click the transponder to be deleted, and press **Shift**+**Delete**.

Figure 2-18 Deleting a transponder (1)

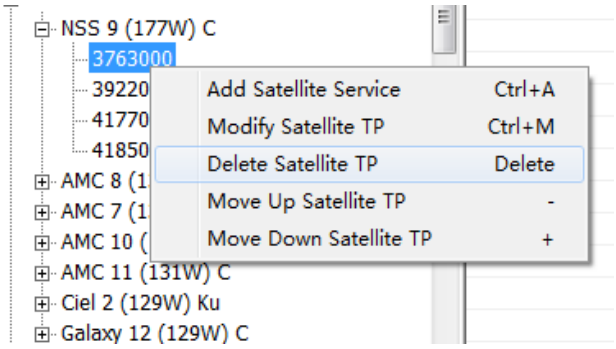
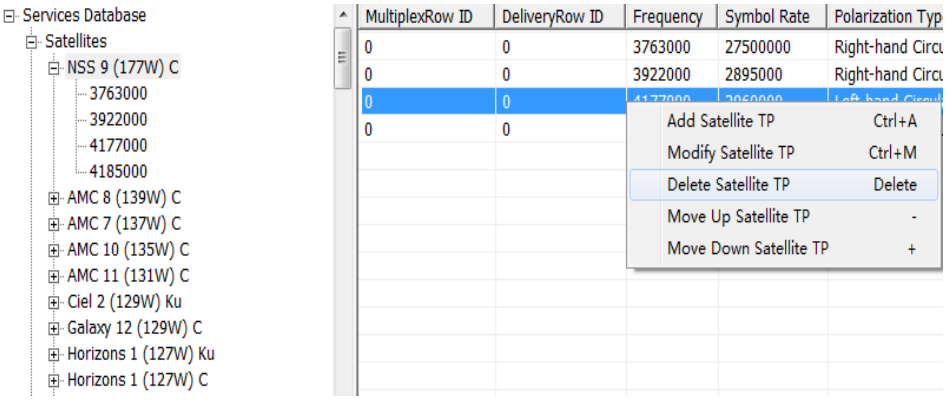


Figure 2-19 Deleting a transponder (2)



Modifying Transponder Information

Perform the following steps:

Step 1 Select any of the following methods:

- In the left pane, right-click the transponder to be modified, and choose **Modify Satellite TP** from the shortcut menu, as shown in Figure 2-20.

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- In the left panel, select the satellite under which the transponder to be modified is located, right-click the transponder to be modified in the right window, and choose **Modify Satellite TP** from the shortcut menu, as shown in Figure 2-21.
- Click the transponder to be modified in the left pane, and click on the toolbar.
- Click the transponder to be modified in the left pane, and choose **File** > **Modify**.
- In the right window, double-click the transponder to be modified.

Figure 2-20 Selecting the transponder to be modified (1)

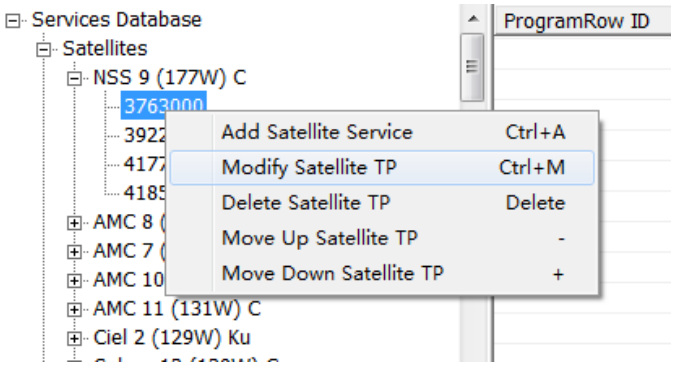
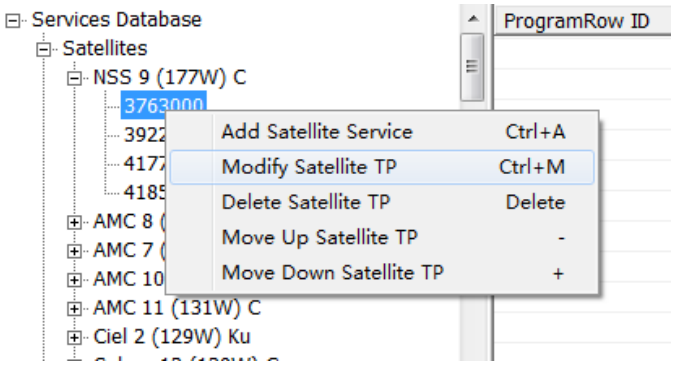


Figure 2-21 Selecting the transponder to be modified (2)



Step 2 In the displayed **Modify Information** dialog box, modify transponder information, and click **OK**, as shown in Figure 2-22.

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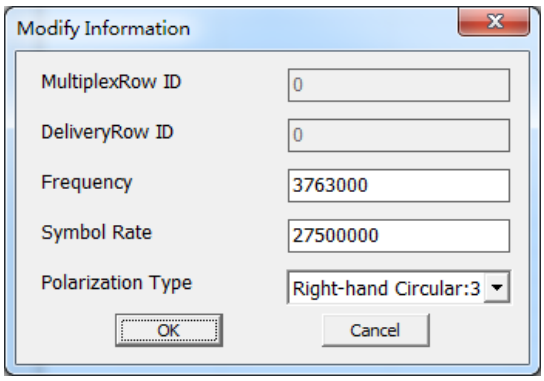
Figure 2-22 Modifying transponder information



----End

2.5.3 Service Operations

Adding a Service

Perform the following steps:

Step 1 Select any of the following methods:

- In the left pane, right-click the transponder to which a service is added, and choose **Add** from the shortcut menu, as shown in Figure 2-23.
- Click the transponder to which a service is added in the left pane, right-click the list in the right window, and choose **Add Satellite Service** from the shortcut menu, as shown in Figure 2-24.
- Click the transponder to which a service is added in the left pane, and click on the toolbar.
- Click the transponder to which a service is added in the left pane, and choose **File** > **Add**.
- Click the transponder to which a service is added in the left pane, and double-click the space in the right window.

Figure 2-23 Adding a service (1)

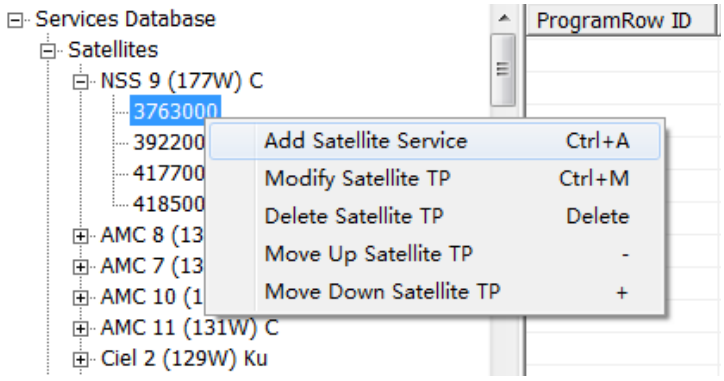


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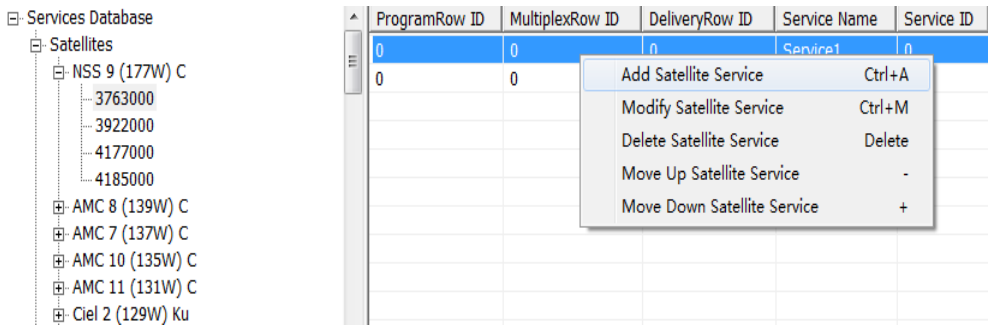
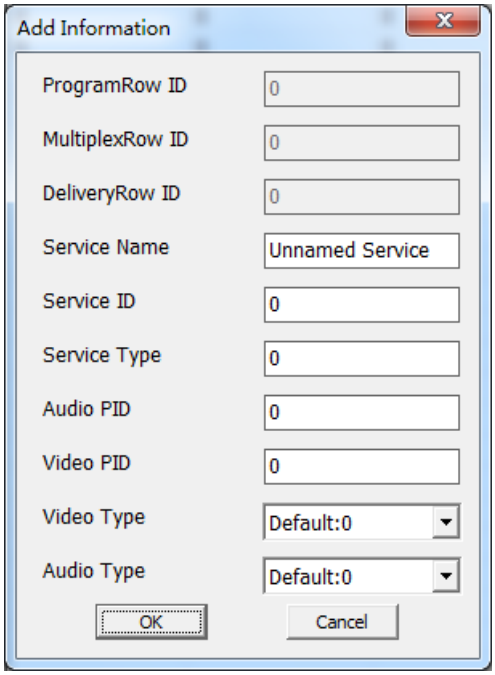
Figure 2-24 Adding a service (2)



Step 2 In the displayed **Add Information** dialog box, enter the information about the service to be added, and click **OK**, as shown in Figure 2-25.

Figure 2-25 Entering the information about the service to be added



----End

Deleting a Service

Select any of the following methods:

- In the left panel, select the transponder under which the service to be deleted is located, right-click the service to be deleted in the right window, and choose **Delete Satellite Service** from the shortcut menu, as shown in Figure 2-26.
- Click the service to be deleted and then on the toolbar.
- Click the service to be deleted and choose **File** > **Delete**.

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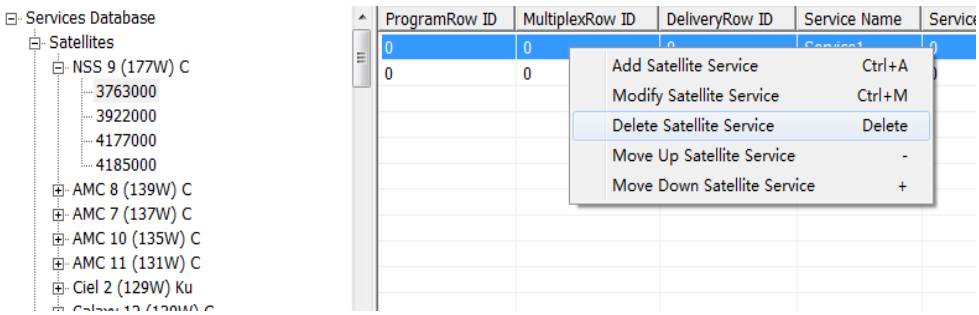
Figure 2-26 Deleting a service



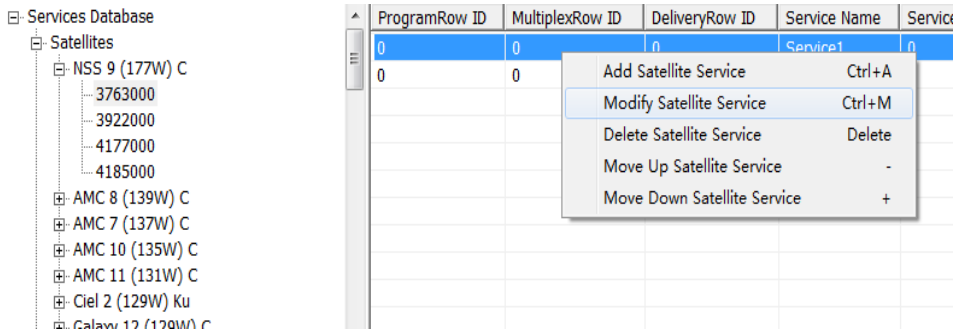
Modifying Service Information

Perform the following steps:

Step 1 Select any of the following methods:

- In the left panel, select the transponder under which the service to be modified is located, right-click the service to be modified in the right window, and choose **Modify Satellite Service** from the shortcut menu, as shown in Figure 2-27.
- Click the service to be modified and then on the toolbar.
- Click the service to be modified and choose **File** > **Modify**.
- In the right window, double-click the service to be modified.

Figure 2-27 Selecting the service to be modified



Step 2 In the displayed **Modify Information** dialog box, modify service information, and click **OK**, as shown in Figure 2-28.

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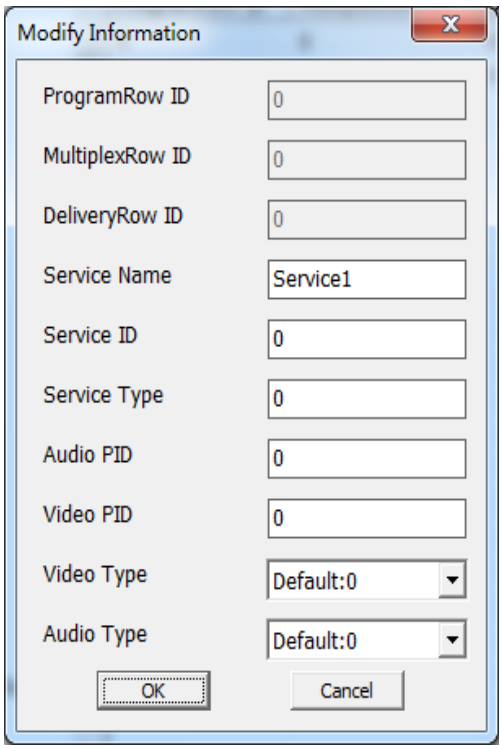
Figure 2-28 Modifying service information



----End

2.5.4 Moving Database Records

This section uses satellites as an example to describe how to move records. The methods of moving transponders and services are similar. To move a satellite, select any of the following methods:

- In the left pane, right-click the satellite to be moved, and choose **Move Up Satellite** or **Move Down Satellite** from the shortcut menu, as shown in Figure 2-29.
- Click **Satellites** in the left pane, right click the satellite to be moved in the right window, and choose **Move Up Satellite** or **Move Down Satellite** from the shortcut menu, as shown in Figure 2-30.
- Click the satellite to be moved and then or on the toolbar.

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Figure 2-29 Moving a satellite (1)

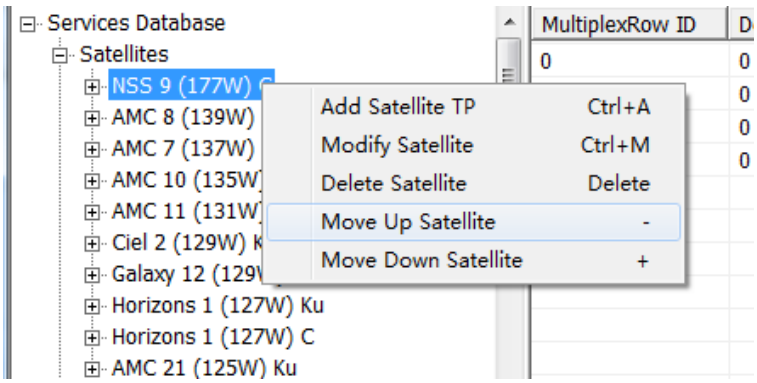
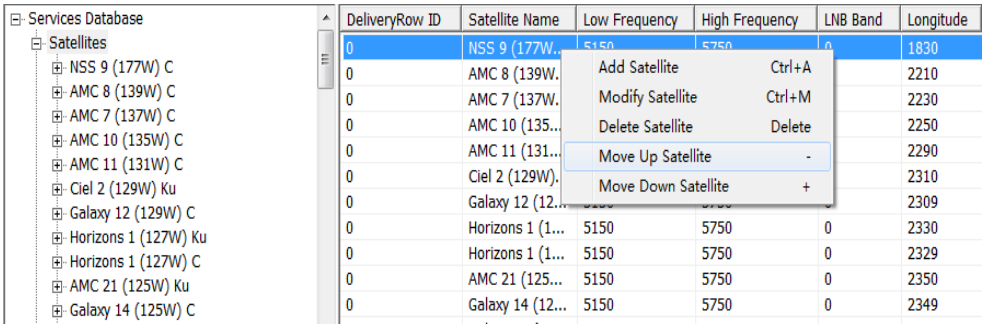


Figure 2-30 Moving a satellite (2)

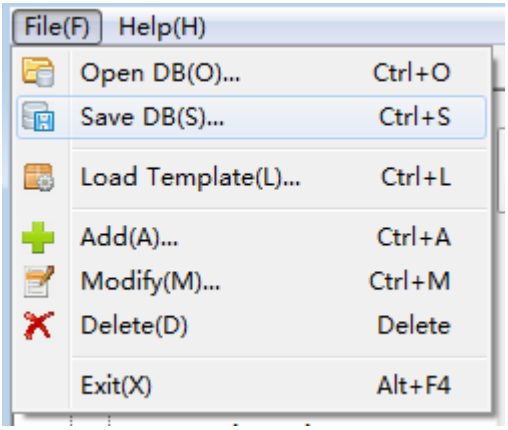


2.6 Saving Database Data

Perform the following steps:

Step 1 Choose **File** > **Save**, click on the toolbar, or press **Ctrl**+**S**.

Figure 2-31 Saving database data



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Step 2 In the displayed dialog box, enter a file name, choose a file format, and click **OK**. Note that the file format must be .bin.

----End

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3 Data Structure Template of the Database

Because customers (STB vendors mostly) may change the data structure definitions of STB databases, the HiDBTool uses an .xml data structure template to define STB databases. When data structure definitions are changed, you only need to define the data structure template without modifying the source code of the HiDBTool.

This section describes the definitions of the data structure template.

3.1 Structure of the Data Structure Template

The following is the structure of the data structure template:

```
<?xml version="1.0" encoding="gb2312"?>
<hidbtooldatadef/>
<servicesdatabase name="Services Database">
    <satellites name="Satellites" custom="Yes">
        <transmitterdefinition
table="tablename1:10:2:dbname:1:20:20:10:0">
            <transmitterfield title="DeliveryRow ID">
                ...
            </ transmitterfield >
            …
        </transmitterdefinition>
        <nextleveldefinition>
        <transponderdefinition
table="tablename2:10:1:dbname:1:20:20:10:0">
            < transponderfield title="MultiplexRow ID">
                ...
            </transponderfield>
            ...
        </transponderdefinition>
        <nextleveldefinition>
            <servicedefinition
table="tablename3:10:1:dbname:1:20:20:10:0">
```


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```
                < servicefield title="Origin Network ID">
                    ...
                </servicefield>
                ...
            </servicedefinition>
        </nextleveldefinition>
    </nextleveldefinition>
   </satellites>
    <terrestrials name="Terrestrials" custom="Yes">
    The same as the preceding table definition or cascaded table definition
    </terrestrials>
    <cables name="Cables" custom="Yes">
        The same as the preceding table definition or cascaded table definition
    </cables>
</servicesdatabase>
```

The preceding information is the framework of .xml data definitions. All element labels except those in row 1 and row 2 can be any character string. You can define labels based on actual database definitions so that labels are easy to understand.

There is the table definition or cascaded table definition below the label with the **custom="Yes"** attribute.

3.2 Element Classification

The elements in .xml data definitions are classified into two types:

- GUI fixed display elements

  These elements are fixedly displayed on the left tree on the GUI after being loaded and parsed by the HiDBTool.

  These elements must have the **name** attribute whose value is the character strings displayed on the GUI. The **name** attribute value must be precise and easy to understand, for example, **<servicesdatabase name="Services Database">** and **<satellites name="Satellites" custom="Yes">**.

- Data definition elements

  These elements are stored in the memory arrays of data definitions after being loaded; therefore, they are invisible on the GUI.

  These elements do not have the **name** attribute, for example, **<transmitterdefinition table="tablename1:10:2:dbname:1:20:20:10:0">** and **<transmitterfield title="DeliveryRow ID">**.

3.2.1 GUI Fixed Display Elements

The GUI fixed display elements are classified into two types:

- Fixed display elements
- Elements supporting new records

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If new records can be added below a GUI fixed display element (with the **name** attribute), this element must have the **custom** attribute, the **custom** attribute must be **Yes**, and there are data definitions below this element. After this element is loaded, the element title is displayed on the GUI, and data definitions are transferred to memory arrays. If the **custom** attribute is not **Yes**, the user-defined GUI fixed display element is unavailable. See the following example:

```
<servicesdatabase name="Services Database">
   <satellites name="Satellites" custom="Yes">
      Table definition or cascaded table definition:
   </satellites>
   <terrestrials name="Terrestrials" custom="Yes">
   Table definition or cascaded table definition:
   </terrestrials>
   <cables name="Cables" custom="Yes">
   Table definition or cascaded table definition:
   </cables>
</servicesdatabase >
```

In the preceding example, all elements are GUI fixed display elements because they have the **name** attribute. When the HiDBTool runs, these elements are pre-loaded as tree nodes on the left.

Records can be added for the elements whose **name** attributes are **Satellites**, **Terrestrials**, and **Cables** by right-clicking the elements when the HiDBTool runs, because they have the **custom** attribute.

In addition, there are data definition elements below the GUI display elements whose **custom** attribute is **Yes**.

3.2.2 Data Definition Elements

Data definition elements are also classified into two types:

- Table definition elements
- Field definition elements

The attribute names of data definition elements except element labels can be any character strings. However, only one attribute is supported, and other attributes are not identified even there are multiple attributes.

The first attribute value of a table definition element contains the configurations for reading or writing to the table, and the first attribute value of a field definition element is the column title.

If the data definition part contains a table definition and a same-level label in any form, there must be a cascaded table definition below the label.

Table Definition Rules

The following is the structure of the data definition part that contains only one table definition:

```
< terrestrials name=" Terrestrials " custom="Yes">
---------------------------Data Definition
```


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```
Part--------------------------
<transmitterdefinition table="tablename2:10:2:dbname: 1:20:40:10:0">
    …Field definition list…
</transmitterdefinition>
----------------------------Date Definition
Part--------------------------
</ terrestrials>
```

As shown in the preceding data definition structure, there is a complete data definition part below the GUI fixed display element that has the **name** attribute and **custom = Yes** attribute. The data definition part must contain at least one table definition.

The first label name and first attribute name in the data definition part are not important. The HiDBTool requires the first attribute value. In this example, the first attribute value contains various attributes of a table. In the first label **tablename2:10:2: dbname:1:20:40:10:0**:

- **tablename2** indicates the table name
- **10** indicates the maximum number of storage tables
- **2** indicates the key column
- **dbname** indicates the database name
- **1** indicates data is storage after being compressed
- **20** indicates the maximum number tables in the database
- **40** indicates the maximum number of views in the database
- **10** indicates the maximum number of databases
- **0** indicates the version number

CAUTION

For the first attribute value of the data definition, the first part **tablename2:10:2** is the table attribute, and the latter part **dbname:1:20:40:10:0** indicates database configurations. In the same .xml configuration file, the latter parts of all tables must be the same, and the tables with the same first parts indicate that the same table is used.

Cascaded Table Definition Rules

The following is the structure of the data definition part that contains cascaded table definitions:

```
<satellites name="Satellites" custom="Yes">
----------------------------Date Definition
Part--------------------------
<transmitterdefinition table="tablename1:64:2:dbname: 1:20:20:10:0">
    …Field definition list of the level-1 table…
    </transmitterdefinition>
    <nextleveldefinition>
    <transponderdefinition table="tablename2:100:1:dbname:1:20:20:10:0">
```


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```
        …Field definition list of the level-2 table…
    </transponderdefinition>
    <nextleveldefinition>
        <servicedefinition table="tablename3:256:1:dbname:1:20:20:10:0">
            …Field definition list of the level-3 table…
        </servicedefinition>
    </nextleveldefinition>
    </nextleveldefinition>
---------------------------Data Definition
Part---------------------------
</satellites>
```

This example is a typical 3-level cascaded table definition. The data definition part that contains the cascaded table definition uses the standard linked-list structure. To be specific, a same-level label is added below the level-1 table definition label, and then the added label contains a lower-level table. The cascaded table definition has a clear hierarchy.

Field Definition Rules

Most table definitions contain multiple field definitions. The field definitions correspond to a column of the list displayed on the GUI. The attributes of original structure components (except specific values) of such tables are provided for services. For example, the type length, visibility setting, and value range correspond to the subitems of the .xml data field definition node. The field definitions are categorized as the following three forms:

- Standard field definition. Its structure is as follows:

```
< field title="Field name to be displayed">
    <item type="3"/>
        <item bytelength="4"/>
        <item bitlength="0"/>
        <item visible="1"/>
        <item xmlindex="1"/>
        <item iniindex="2"/>
        <item default="0"/>
    </ field >
```

  In the standard field definition, all the subitems including the information about the seven fields required by services are mandatory."Field name to be displayed" is the title of the corresponding column displayed on the GUI.

  - **<item type=""/>**: field value type. The value **1** indicates character, the value **2** indicates integer, and the value **3** indicates unsigned integer.
  - **<item bytelength=""/>**: length of the field value type in byte. The length cannot be 0.
  - **<item bitlength=""/>**: length of the bit field definition in byte. The value **0** indicates that the field does not have bit definitions.
  - **<item visible=""/>**: visibility of a field on the GUI. The value **0** indicates invisible, the value **1** indicates visible, and the value **2** indicates that the field will be displayed in the title of the left tree node of the HiDBTool as the record abstract.

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- **<item key=""/>**: uniqueness of the field. The value **0** indicates not unique, and the value **1** indicates unique.
- **<item xmlindex=""/>**: attribute ID when the field is imported to an external .xml file. The value **1** indicates the first attribute of the object node of the same type in the associated .xml data file, and so on.
- **<item iniindex=""/>**: attribute ID when the field is imported to an external .ini file. The value **1** indicates the first attribute of the object node of the same type in the associated .ini data file, and so on.
- **<item xlsxindex=""/>**: attribute ID when the field is imported from or exported to a .xls file. The value **1** indicates the first attribute of the object node of the same type in the associated .xls data file, and so on.
- **<item default=""/>**: default field value. Typically, "" indicates a character, and **0** indicates a number.

- Extended field definition A. Its structure is as follows:

```
< field title="Field name to be displayed">
       <item type="3"/>
      <item bytelength="4"/>
      <item bitlength="0"/>
      <item visible="1"/>
      <item key="1"/>
      <item xmlindex="1"/>
      <item iniindex="2"/>
      <item xlsxindex="1"/>
      <item default="0"/>
      <item limit="[10-1000]"/>
   </ filed >
```

  In the extended field definition A, the optional subitem **<item limit=""/>** is extended based on the standard field definition.

  <item limit=""/> indicates the field value range and must be in [start-end] format.

- Extended field definition B. Its structure is as follows:

```
< field title="Field name to be displayed">
       <item type="3"/>
      <item bytelength="4"/>
      <item bitlength="0"/>
      <item visible="1"/>
      <item key="1"/>
      <item xmlindex="1"/>
      <item iniindex="2"/>
      <item xlsxindex="1"/>
      <item default="0"/>
      <item option1="0"/>
      <item option2="0"/>
       <item option3="0"/>
   </ filed >
```


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In the extended field definition B, at least two subitems are extended base on the standard field definition. All the extended subitems are optional. They indicate the list of the enumeration options of the field value and must be in enumeration name:enumeration value format.

Structure Alignment Rules

When two table definition labels are the same, the same table is used. In this case, the total lengths of the field definitions below the two table definition labels must be the same. If the total lengths are inconsistent, a hidden field definition is used to supplement the length. Typically, the field whose first attribute value is **Blank** is used. See the following:

```
    <satelliteproperty title="Blank">
        <item type="1"/>
        <item bytelength="4"/>
        <item bitlength="0"/>
        <item visible="0"/>
        <item key="0"/>     <item xmlindex="0"/>
        <item iniindex="0"/>
        <item xlsxindex="0"/>
        <item default=""/>
    </satelliteproperty>
```

The second subitem **<item bytelength=""/>** is the most important, which indicates the number of bytes to be supplemented.

CAUTION

The data structures defined at the board end and PC tool end must be 4-byte-aligned.

3.3 Definitions of the Default Data Structure Template

This section is the supplement to the default data structure template **datadefinition_3712.xml** of the HiDBTool. The databases defined by **datadefinition_3712.xml** are closely dependent on the STACK-DB module in the DTV Stack component.

3.3.1 Code Implementation of Service-Related Data Definitions

Currently, service-related data definitions include the data structure definitions of the transmission system, transponder, and service.

The data structure definitions are cascaded (that is, data structure definitions of the transmission system -> data structure definitions of the transponder -> data structure definitions of the service). The 3-level data structure definitions are independent of each other in the source code, but their data contents have subordination relationships.

The data structure definitions of the transmission system and transponder include the "satellites, cables, and terrestrials" union definitions.

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3.3.2 Implementation of the .xml Data Structure Template

datadefinition_3712.xml is a special .xml configuration file of the HiDBTool.

The data structure definitions of the transmission system and transponder include the "satellites, cables, and terrestrials" union definitions, which do not meet the format requirements of common .xml data definitions. Therefore, the service-related and cascaded data structures are split as follows when they are configured in the .xml data structure template:

- Transmission system table definitions of satellites -> transponder table definitions of satellites -> service table definitions
- Transmission system table definitions of terrestrials -> transponder table definitions of terrestrials -> service table definitions
- Transmission system table definitions of cables -> transponder table definitions of cables -> service table definitions

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4 Samples of Imported .xml and .ini Database Files

4.1 Sample of an Imported .xml Database File

```
<?xml version="1.0" encoding="utf-8"?>

<!--http://satbeams.com-->

<satellites>

  <sat name="NSS 9 (177W) C" flags="1" position="-1770">

    <transponder frequency="3763000" symbol_rate="27500000"
polarization="3" fec_inner="3" system="0" modulation="0"/>

    <transponder frequency="3922000" symbol_rate="2895000" polarization="3"
fec_inner="0" system="0" modulation="0"/>

    <transponder frequency="4177000" symbol_rate="2960000" polarization="2"
fec_inner="3" system="0" modulation="0"/>

    <transponder frequency="4185000" symbol_rate="6527000" polarization="3"
fec_inner="1" system="0" modulation="0"/>

  </sat>

  <sat name="AMC 8 (139W) C" flags="1" position="-1390">

    <transponder frequency="4056000" symbol_rate="13250000"
polarization="0" fec_inner="3" system="0" modulation="0"/>

  </sat>

  <sat name="AMC 7 (137W) C" flags="1" position="-1370">

    <transponder frequency="3760000" symbol_rate="25195000"
polarization="0" fec_inner="3" system="0" modulation="0"/>

    <transponder frequency="4060000" symbol_rate="26665000"
polarization="1" fec_inner="3" system="0" modulation="0"/>

    <transponder frequency="4100000" symbol_rate="6500000" polarization="1"
fec_inner="3" system="0" modulation="0"/>
```


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```
    <transponder frequency="4199000" symbol_rate="29127000"
polarization="0" fec_inner="0" system="1" modulation="0"/>

  </sat>

  <sat name="AMC 10 (135W) C" flags="1" position="-1350">

    <transponder frequency="3720000" symbol_rate="30000000"
polarization="1" fec_inner="6" system="1" modulation="2"/>

    <transponder frequency="3760000" symbol_rate="30000000"
polarization="1" fec_inner="4" system="1" modulation="2"/>

    <transponder frequency="3780000" symbol_rate="29200000"
polarization="0" fec_inner="3" system="0" modulation="0"/>

    <transponder frequency="3800000" symbol_rate="30000000"
polarization="1" fec_inner="6" system="1" modulation="0"/>

    <transponder frequency="3820000" symbol_rate="29270000"
polarization="0" fec_inner="3" system="0" modulation="0"/>

    <transponder frequency="3860000" symbol_rate="30000000"
polarization="0" fec_inner="4" system="1" modulation="2"/>

    <transponder frequency="3915000" symbol_rate="3980000" polarization="0"
fec_inner="3" system="0" modulation="0"/>

  </sat>

  <sat name="AMC 11 (131W) C" flags="1" position="-1310">

    <transponder frequency="3720000" symbol_rate="30000000"
polarization="1" fec_inner="6" system="1" modulation="2"/>

    <transponder frequency="3780000" symbol_rate="29270000"
polarization="0" fec_inner="3" system="0" modulation="0"/>

    <transponder frequency="3800000" symbol_rate="29200000"
polarization="1" fec_inner="3" system="0" modulation="0"/>

    <transponder frequency="3860000" symbol_rate="30000000"
polarization="0" fec_inner="4" system="1" modulation="2"/>

    <transponder frequency="3900000" symbol_rate="27500000"
polarization="0" fec_inner="3" system="1" modulation="0"/>

    <transponder frequency="3928000" symbol_rate="14323000"
polarization="1" fec_inner="4" system="0" modulation="0"/>

    <transponder frequency="3940000" symbol_rate="29270000"
polarization="0" fec_inner="3" system="0" modulation="0"/>

    <transponder frequency="4120000" symbol_rate="30000000"
polarization="1" fec_inner="4" system="1" modulation="2"/>

    <transponder frequency="4160000" symbol_rate="29200000"
polarization="1" fec_inner="3" system="0" modulation="0"/>

  </sat>

</satellites>
```


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4.2 Sample of an Imported .ini Database File

```
[SATTYPE]
1=0030
2=Eutelsat 3C, Rascom 1R, Telecom 2C

[DVB]
0=56
1=10723,H,27500,34,DVB-S,QPSK
2=10727,H,30000,34,DVB-S,QPSK
3=10911,V,27500,34,DVB-S,
4=10972,H,30000,34,DVB-S,QPSK
5=11240,V,27500,34,DVB-S,QPSK
6=11436,V,27500,56,S2,QPSK
7=11549,H,1100,910,S2,QPSK
8=11570,H,1000,23,S2,8PSK
9=11578,H,2300,34,DVB-S,QPSK
10=11578,H,2300,56,DVB-S,QPSK
11=11581,H,1500,34,DVB-S,QPSK
12=12341,H,27500,34,DVB-S,QPSK
13=12530,H,1540,34,DVB-S,QPSK
14=12538,H,2141,34,DVB-S,
15=12628,H,9535,35,S2,8PSK
16=12650,H,27500,34,DVB-S,QPSK
17=12661,V,2200,34,DVB-S,QPSK
18=12672,V,2200,34,DVB-S,QPSK
19=12675,V,2200,34,DVB-S,QPSK
20=12682,H,8375,23,S2,8PSK
21=12684,V,5800,34,DVB-S,
22=12694,H,8375,23,S2,8PSK
23=12728,V,2600,34,DVB-S,
24=12732,V,2600,34,DVB-S,
25=12739,H,12622,23,S2,8PSK
26=10871,H,19630,56,DVB-S,QPSK
27=12713,V,30000,56,S2,QPSK
28=12508,V,6285,78,DVB-S,QPSK
29=12517,V,6285,78,DVB-S,QPSK
30=12526,V,6285,78,DVB-S,QPSK
31=12537,V,3333,34,DVB-S,QPSK
32=12595,V,6285,78,DVB-S,QPSK
33=12614,H,6111,34,DVB-S,QPSK
34=12624,H,6111,34,DVB-S,QPSK
35=12633,H,6111,34,DVB-S,QPSK
36=12636,V,6111,34,DVB-S,QPSK
```


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37=12642,H,6111,34,DVB-S,QPSK
38=12645,V,6111,34,DVB-S,QPSK
39=12653,V,6111,34,DVB-S,QPSK
40=12658,H,6111,34,DVB-S,QPSK
41=12663,V,6111,34,DVB-S,QPSK
42=12666,H,6111,34,DVB-S,QPSK
43=12675,H,6111,34,DVB-S,QPSK
44=12678,V,6111,34,DVB-S,QPSK
45=12683,H,6111,34,DVB-S,QPSK
46=12686,V,6111,34,DVB-S,QPSK
47=12694,V,6111,34,DVB-S,QPSK
48=12699,H,6111,34,DVB-S,QPSK
49=12703,V,5632,34,DVB-S,QPSK
50=12708,H,6111,34,DVB-S,QPSK
51=12717,H,6111,34,DVB-S,QPSK
52=12720,V,6285,78,DVB-S,QPSK
53=12726,H,6111,34,DVB-S,QPSK
54=12728,V,6285,78,DVB-S,QPSK
55=12738,V,6111,34,DVB-S,QPSK
56=12747,V,6111,34,DVB-S,QPSK

[UPDATE]
0=Jan 29, 2013
1=http://satbeams.com
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