

Sound Design Technologies' pre-configured DSP products supports several optional security features designed to protect hearing instrument manufacturers' software and proprietary Voyageur-based pre-configured product. The features DLL Protection, Hybrid Authentication and DLL to Hybrid Pairing are listed below with a description that outlines the purpose, use and implementation.

1. DLL Protection

Purpose

To prevent third parties from viewing or using a given manufacturer's DLL.

How To Use

Note: This feature can be used for the following products: Venture™, PARAGON®, FOUNDATION™, DUET™, GA3226 and GA3284.

- In the ARKonline™ library manager, enter an alphanumeric password for the library once the library is created. The password may contain up to 16 characters. Only letters and numbers, no special characters, are allowed. The password is case sensitive.
- The **Enable DLL Protection** checkbox must also be selected at this time.
- When the library is opened for the first time in IDS, it will request the library password from the user. If an invalid password is entered, no products will be loaded and the library will be unusable.
- IDS will store correct passwords in the Windows Registry so that a password is only required once per system.

Fitting Software Use

- For fitting software, it is suggested that manufacturers store the passwords for each library internally to the software. Thus, libraries can be loaded automatically.
- The following source code illustrates the procedure for loading a library with a password:

```
dim password as String
dim lib3 as ARK.ILibrary3
' Get the password.
password = SUPPLIED_PASSWORD
Set g_Lib = g_ARK.Libraries(LIB_NAME).CreateObject
' Password protected libraries have a product count of zero.
if g_Lib.Products.Count = 0 then
    set lib3 = g_Lib
    lib3.UnlockDLL password
if g_Lib.Products.Count = 0 then
```

```
        ' Throw an error message since an incorrect password
        ' was supplied
    end if
end if
```

2. Hybrid Authentication

Purpose

To prevent third parties from cloning a given manufacturer's device EEPROM and trying to use the cloned device with that manufacturer's fitting software.

How To Use

- In the ARKonline, Venture, GA3226 and GA3284 Wizards, enable the **Hybrid Authentication** feature on the System Features page.
- On the following page, enter an alphanumeric seed value. The seed value may contain up to 16 characters. Only letters and numbers, no special characters, are allowed. The seed value is case sensitive. Once a library is built and in use, seed values must not be changed.
- During configuration of the device in Cal/Config (or burning the control parameters on the Settings tab in IDS), a special encrypted value will be burned to the scratch area of the connected device. Ensure that the **PartLocked** parameter is set to disabled at this point (located on Settings tab in IDS).

Fitting Software Use

- Immediately after calling Init in the fitting software, the CheckKey method in the IVentureProduct interface should be called.
- If the Boolean value *matchfound* returns from the method as false, the fitting software should return an error and prevent further communication with the attached part.
- If *matchfound* equals false, then the value in the connected device's scratch area does not match the value that would have been burned in by configuring with the selected DLL.
- The following source code illustrates the procedure for checking a device's key:

```
dim ventprod as ARK.IVentureProduct
' Check if the product is Voyageur-based pre-configured product
If g_Prod.ControllerInfo.name = "GC5055" Then
    Set ventprod = g_Prod
    ventprod.CheckKey g_Prog, g_CurrentEar, m_KeyMatch
    if m_KeyMatch = False then
        ' Throw an error message since the key does not match.
    End If
End If
```

3. DLL to Hybrid Pairing

Purpose

To prevent a given manufacturer's device from being upgraded from a product with limited features to a product with more features while out in the field.

How To Use

- In the ARKonline Venture, GA3226 and GA3284 Wizards, enable the **Hybrid Authentication** feature on the System Features page.
- On the following page, enter an alphanumeric seed value. The seed value may contain up to 16 characters. Only letters and numbers, no special characters, are allowed. The seed value is case sensitive. Once a library is built and in use, seed values must not be changed.
- During configuration of the device in Cal/Config (or burning the control parameters on the Settings tab in IDS), a special encrypted value will be burned to the scratch area of the connected device. Ensure that the **PartLocked** parameter is set to enabled at this point – it must be set to enabled in the IDS file before configuring the device in Cal/Config.
- To allow devices with this feature to be changed to different products in the field, set the seed values in the maps to be equivalent.

Fitting Software Use

- Immediately after calling Init, the CheckKey method in the IVentureProduct interface must be called in case the connected device has been locked.
- The Boolean value returned from CheckKey does not need to be checked.
- If the check fails, all further attempts to communicate within the fitting software (or other Sound Design Technologies applications) will fail and throw an error.
- If CheckKey is not called, all communications after Init will fail.

Note: If the PartLocked parameter is burned to enabled in a device where the library has a given seed value, that library must be maintained with the current seed value. If the library is deleted or the seed value is changed, the locked device will no longer be configurable.

- The following source code illustrated the method that has to be used after initialization of the part:

```
dim ventprod as ARK.IVentureProduct
' Check if the product is Voyageur-based pre-configured product
If g_Prod.ControllerInfo.name = "GC5055" Then
    Set ventprod = g_Prod
    ventprod.CheckKey g_Prod, g_CurrentEar, m_KeyMatch
End If
```

4. Revision History

Version	ECR	Date	Change Description
0	135749	February 2005	New document.
1	145267	May 2007	Apply to all DSP products.
2	147748	January 2008	Document conversion to new template and editing.

CAUTION

ELECTROSTATIC SENSITIVE DEVICES
DO NOT OPEN PACKAGES OR HANDLE
EXCEPT AT A STATIC-FREE WORKSTATION



DOCUMENT IDENTIFICATION

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