

Compliance Rules for PlayReady® Products

Microsoft Corporation

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Introduction

Definitions

Capitalized terms have the meanings set forth in the document entitled “Defined Terms for Microsoft® PlayReady® Compliance Rules and Robustness Rules,” which is incorporated herein by this reference. Other initially capitalized terms not defined in these Compliance Rules have the meanings ascribed to them in the PlayReady Agreement or the Microsoft Implementation.

Formatting Conventions

|  |  |  |
| --- | --- | --- |
| **Legend** | **Convention** | **Example** |
| Defined term  | Initially capitalized | Analog Audio Output |
| Technical notation | Italicized, bolded, and underlined | Copy Count Restriction Object |
| Section or Table reference | Section or Table number followed by name in parenthesis | Section 2 (Requirements for All PlayReady Products) |

Using this Document

This document sets forth Compliance Rules for PlayReady Products as described in the applicable PlayReady Agreement(s). Section 2 (Requirements for All PlayReady Products) sets forth requirements that apply to all PlayReady Products. Section 3 through Section 14 describes requirements associated with specific functionality that may be implemented in specific types of PlayReady Products. Section 15 through Section 19 contain additional requirements applicable to specific types of PlayReady Products, and these Sections describe the functionality that may be implemented in such PlayReady Products in accordance with the applicable rules for Section 3 through Section 14.

Requirements For All PlayReady Products

Scope

These Compliance Rules apply to PlayReady Products.

Functionality

When a PlayReady Product implements PlayReady or Windows Media® DRM (WMDRM), it must do so in a manner Consistent with the Microsoft Implementation. This requirement is in addition to all of the specific compliance rules set forth in this document, but in the event of a conflict between the Microsoft Implementation and a specific compliance rule in this document, the compliance rule takes precedence.

No Circumvention

A PlayReady Product must not, directly (including without limitation through the use of the Microsoft Implementation or any feature or functionality thereof) or indirectly (including without limitation through any device or application offered, sold, or marketed for use with the PlayReady Product), (a) provide access to and/or render Content in any manner inconsistent with these Compliance Rules or (b) otherwise circumvent Policy associated with Content.

Company must not distribute, or knowingly cooperate in distributing, any device, application or device driver for use with the PlayReady Product that (a) provides access to and/or render Content in any manner inconsistent with these Compliance Rules or (b) otherwise circumvents Policy associated with Content.

A PlayReady Final Product may only Pass, Divulge, or Export Content that has an associated License Security Level no greater than the PlayReady Final Product’s Certificate Security Level.

Unspecified Policy

Licenses may specify additional rights, restrictions, or parameters that are not covered in these Compliance Rules. PlayReady Products must take action based only on rights and must enforce only restrictions covered in these Compliance Rules, as described in this Section 2.4 (Unspecified Policy).

### If the License associated with the Content is a Windows Media DRM 10 for Portable Devices (WMDRM-PD) License, the PlayReady Product must enforce all restrictions associated with the Intended Action. If the PlayReady Product cannot enforce any one of the restrictions associated with the Intended Action, the PlayReady Product must not allow the Intended Action to occur.

### If the License associated with the Content is a Windows Media DRM 10 for Network Devices (WMDRM-ND) License, and the Must Understand flag is set for one or more objects relevant to an Intended Action, the PlayReady Product must enforce the Policy contained in those objects. If the PlayReady Product cannot enforce the Policy, then the PlayReady Product must not allow the Intended Action to occur.

### If the License associated with the Content is a WMDRM-ND License, and the Must Understand flag is not set for one or more objects relevant to an Intended Action, the PlayReady Product may allow the Intended Action to occur.

### If the License associated with the Content is a PlayReady License, and the Must Understand flagis set and the Best Effort flag is not set for one or more objects relevant to an Intended Action, the PlayReady Product must enforce the Policy contained in those objects. If the PlayReady Product cannot enforce the Policy, then the PlayReady Product must not allow the Intended Action to occur.

### If the License associated with the Content is a PlayReady License, and the Must Understand flag is not set and the Best Effort flag is set for one or more objects relevant to an Intended Action, the PlayReady Product must attempt to enforce the Policy. If the PlayReady Product does not understand, or understands but cannot enforce, the Policy, then the PlayReady Product may allow the Intended Action to occur.

### If the License associated with the Content is a PlayReady License, and the Must Understand flag is set and the Best Effort flag is set for one or more objects relevant to an Intended Action, a PlayReady Product that understands the Policy must attempt to enforce the Policy. If the PlayReady Product understands the Policy but cannot enforce the Policy, then the PlayReady Product may allow the Intended Action to occur. If the PlayReady Product does not understand the Policy, then the PlayReady Product must not allow the Intended Action to occur.

### If the License associated with the Content is a PlayReady License, and the Must Understand flag is not set and the Best Effort flag is not set for one or more objects relevant to an Intended Action, the PlayReady Product may allow the Intended Action to occur.

Root Public Keys

A PlayReady Product must use the Root Public Key listed in Table 2.5 (Root Public Keys) according to the Usage column when verifying Certificate Chains.

Table 2.5: Root Public Keys

|  |  |
| --- | --- |
| **Usage** | **Key Value (in base 64)** |
| WMDRM-ND, COPP, and sample protection | pjoeWLSTLDonQG8She6QhkYbYott9fPZ8tHdB128ZETcghn5KHoyin7HkJEcPJ0Eg4UdSva0KDIYDjA3EXd69R3CN2Wp/QyOo0ZPYWYp3NXpJ700tKPgIplzo5wVd/69g7j+j8M66W7VNmDwaNs9mDc1p2+VVMsDhOsV/Au6E+E= |
| PlayReady | hk1hz/IlbkIsVos8KAAc+z4VJ2WFhLoFIbebGCjZNt4dgmqPw+bn+nqQ1copRvH2Si77n13P/n5DTrRCk/rFqw== |
| WMDRM-PD  | a1t3hxrg!qbOgktnbYaEEi4teCse!gz6RvTPuC!zizKJlpU7xoduSw== |

Privacy

A PlayReady Product must comply with all applicable legal requirements for privacy and data protection.

Passing A/V Content

A PlayReady Product must comply with this Section 3 (Passing A/V Content) when Passing decrypted A/V Content.

Playback

A PlayReady Product may Pass decrypted A/V Content through the local Outputs described in Section 3.4 (Restricted Outputs) and Section 3.7 (Other Outputs) only if: (i) the PlayReady License, PlayReady-ND License, or WMDRM-ND License associated with such A/V Content contains a Play Policy Container Object or (ii) the WMDRM-PD License associated with such A/V Content contains a RIGHTS\ONACTION node with a type attribute of “Play”. For the avoidance of doubt, Playback does not authorize any action other than those expressly permitted under this Section 3, including transcoding decrypted A/V Content, or functioning as a Transmitter.

Stop State

For A/V Content, Stop State occurs when decrypted A/V Content is no longer being Passed, for example but without limitation as a result of one of the following: (i) the end user has selected a stop playback function, (ii) the final portion of decrypted A/V Content has been Passed, or (iii) decrypted A/V Content stops being Passed in preparation for Passing different decrypted A/V Content. After the PlayReady Product enters the Stop State for any reason, it must re-initialize PlayReady before Passing any decrypted A/V Content.

Secure Stop

If the Secure Stop Object, whether with or without the Secure Stop 2 Object, is specified in a PlayReady License, a PlayReady Product must comply with all requirements in this Section 3.3 (Secure Stop)

### A PlayReady Product must implement Secure Stop in a manner Consistent with the Microsoft Implementation.

### A PlayReady Product must track Secure Stop data.

### A PlayReady Product must close and destroy all PlayReady decryptor objects when Stop State occurs

### A PlayReady Product may only create a copy of a PlayReady decryptor object by using APIs exposed by PlayReady for this purpose.

### A PlayReady Product must fail decryption upon detecting that the secure stop entry for the license it is decrypting with has been marked as stopped or has been sent.

Restricted Outputs

A PlayReady Product may Pass decrypted A/V Content to the following local Outputs only if the requirements in Sections 3.4 (Restricted Outputs), 3.5 (Restrictions for Output to Bluetooth Audio Profiles), and 3.6 (Output Controls) are met.

### Analog Component Video Outputs. A PlayReady Product may Pass the video portion of uncompressed decrypted A/V Content to Analog Component Video Outputs.

### Analog Computer Monitor Outputs. A PlayReady Product may Pass the video portion of uncompressed decrypted A/V Content to Analog Computer Monitor Outputs.

### Analog Television Outputs. A PlayReady Product may Pass the video portion of uncompressed decrypted A/V Content to Analog Television Outputs.

### Digital Audio Outputs. A PlayReady Product may Pass the audio portion of uncompressed decrypted A/V Content to Digital Audio Outputs.

### Digital Video Outputs. A PlayReady Product may Pass the video portion of uncompressed decrypted A/V Content to Digital Video Outputs.

### Bluetooth Audio Outputs. A PlayReady Product may Pass the audio portion of decrypted A/V Content to Bluetooth Audio Outputs, subject to Section 3.5 (Restrictions for Output to Bluetooth Audio Profiles).

### WirelessHD Outputs. A PlayReady Product may Pass (i) the audio portion of decrypted A/V Content, and/or (ii) the video portion of uncompressed decrypted A/V Content to WirelessHD Outputs.

### Miracast Outputs. A PlayReady Product may Pass (i) the audio portion of decrypted A/V Content, and/or (ii) the video portion of decrypted A/V Content to Miracast Outputs.A PlayReady Product may only Pass decrypted A/V Content to Miracast Outputs if the PlayReady Product successfully engages HDCP 2.0 or newer over the Miracast link.

### Indirect Display Outputs. A PlayReady Product may Pass (i) the audio portion of decrypted A/V Content, and/or (ii) the video portion of decrypted A/V Content to Indirect Display Outputs.A PlayReady Product may only Pass decrypted A/V Content to Indirect Display Outputs if the PlayReady Product successfully engages HDCP 2.0 or newer over the Indirect Display link.

Restrictions for Output to Bluetooth Audio Profiles

A PlayReady Product may Pass the audio portion of decrypted A/V Content to Bluetooth Audio Profiles only if the PlayReady Product follows restrictions as specified in the License and this Section 3.5 (Restrictions for Output to Bluetooth Audio Profiles). A PlayReady Product may Pass the audio portion of decrypted A/V Content to Bluetooth Audio Profiles only if the audio quality does not exceed 48 kilohertz (kHz) and 16 bits per sample. A PlayReady Product must not Pass decrypted A/V Content to Bluetooth Audio Profiles at a rate higher than the normal rendering bandwidth. A PlayReady Product must not simultaneously Pass more than two streams of the same A/V Content to Bluetooth Audio Profiles.

Output Controls

A PlayReady Product must detect and accurately respond to the Output Controls for A/V Content in accordance with this Section 3.6 (Output Controls).

Multiple Simultaneous Streams

A PlayReady Product that Passes multiple instances of decrypted A/V Content simultaneously to the same Output as described in this Section 3.6 (Output Controls) must select the most restrictive Output Control associated with all the instances of A/V Content for that Output.

Output Control for Compressed Digital Audio Content

If a PlayReady Product Passes the audio portion of compressed decrypted A/V Content, the PlayReady Product must follow restrictions as specified in the License and this Section 3.6.2 (Output Control for Compressed Digital Audio Content). A PlayReady Product may Pass the audio portion of compressed decrypted A/V Content to Secure Codecs only if the uncompressed Digital Audio Content is handled consistently with Section 3.6.3 (Output Control for Uncompressed Digital Audio Content). In PlayReady Licenses and WMDRM-ND Licenses, the Output Protection Level is specified in the *Minimum Compressed Digital Audio Output Protection Level* field of the *Output Protection Level Restriction Object*. In WMDRM-PD Licenses, this Output Protection Level is specified in the RESTRICTIONS\COMPRESSEDDIGITALAUDIO node.

Level 0 to 100

If the Output Protection Level is not specified or the Output Protection Level specified in the License is less than or equal to 100, a PlayReady Product may direct the audio portion of compressed decrypted A/V Content to flow to Audio Outputs.

Level 101 to 150

If the Output Protection Level specified in the License is greater than or equal to 101 and less than or equal to 150, a PlayReady Product may Pass the audio portion of compressed decrypted A/V Content to Stream Rendering Applications, and via Secure Audio Device Drivers to Audio Outputs.

Level 151 to 200

If the Output Protection Level specified in the License is greater than or equal to 151 and less than or equal to 200, a PlayReady Product may Pass the audio portion of compressed decrypted A/V Content via Secure Audio Device Drivers to Audio Outputs.

Level 201 to 250

If the Output Protection Level specified in the License is greater than or equal to 201 and less than or equal to 250, a PlayReady Product may Pass the audio portion of compressed decrypted A/V Content to: (i) Secure Audio Device Drivers via HDMI with HDCP engaged, (ii) Secure Audio Device Drivers with SCMS engaged with the Cp-bit set to zero (0) and the L-bit set to No Indication, (iii) Secure Audio Device Drivers via DisplayPort with HDCP engaged, or (iv) Secure Audio Device Drivers via MHL with HDCP engaged.

Level 251 to 300

If the Output Protection Level specified in the License is greater than or equal to 251 and less than or equal to 300, a PlayReady Product may Pass the audio portion of compressed decrypted A/V Content to: (i) Secure Audio Device Drivers via HDMI with HDCP engaged, (ii) Secure Audio Device Drivers via DisplayPort with HDCP engaged, or (iii) Secure Audio Device Drivers via MHL with HDCP engaged.

Level 0 to 300

If the Output Protection Level specified in the License is greater than or equal to 0 and less than or equal to 300, a PlayReady Product may Pass the audio portion of compressed decrypted A/V Content to WirelessHD Outputs only if the PlayReady Product (i) engages DTCP to protect the audio portion of compressed decrypted A/V Content, (ii) limits the local device’s DTCP Source Function to transmitting to a single DTCP Sink Function, and (iii) sets the fields of DTCP\_Descriptor as follows:

**EPN.** *EPN* must be set to ‘1b’ (“EPN-unasserted”).

**DTCP\_CCI.** *DTCP\_CCI* must be set to ‘11b’ (“Copy Never”).

Level 301 or Greater

If the Output Protection Level specified in the License is greater than or equal to 301, a PlayReady Product must not Pass the audio portion of compressed decrypted A/V Content.

Explicit Digital Audio Output Restriction

If a PlayReady Product is Passing the audio portion of decrypted A/V Content to a Digital Audio Output and the License associated with the A/V Content contains an Explicit Digital Audio Output Protection Container Object that contains a Digital Audio Output Configuration Restriction Object with an Audio Output Protection ID of {6D5CFA59-C250-4426-930E-FAC72C8FCFA6}, and the Output Protection Level value for compressed Digital Audio Content is less than 201, the PlayReady Product must Pass the audio portion to Secure Audio Device Drivers with SCMS engaged with: (i) the Cp-bit and the L-bit set in accordance with values in Table 3.6.2.8 (SCMS Control Bits) or (ii) the Cp-bit set to zero (0) and the L-bit set to No Indication. When the Audio Output Protection ID of {6D5CFA59-C250-4426-930E-FAC72C8FCFA6} is present, and the Output Protection Level value for compressed Digital Audio Content is less than 301, a PlayReady Product may alternatively Pass the audio portion of decrypted A/V Content to: (i) Secure Audio Device Drivers via HDMI with HDCP engaged, (ii) Secure Audio Device Drivers via DisplayPort with HDCP engaged, or (iii) Secure Audio Device Drivers via MHL with HDCP engaged.

In PlayReady Licenses and WMDRM-ND Licenses, this Output Protection Level is specified in the Audio Output Protection ID field of the Digital Audio Output Configuration Protection Restriction Object.

Table 3.6.2.8: SCMS Control Bits

|  |  |  |
| --- | --- | --- |
| **Binary Configuration Data Value** | **Cp-bit (bit 2)** | **L-bit (bit 15)** |
| 00 | 0 | No Indication |
| 01 | 0 | Original or Commercial Prerecorded |
| 11 | 1 | No Indication |

Output Control for Uncompressed Digital Audio Content

If a PlayReady Product Passes the audio portion of uncompressed decrypted A/V Content, the PlayReady Product must follow restrictions as specified in the License and this Section 3.6.3 (Output Control for Uncompressed Digital Audio Content). In PlayReady Licenses and WMDRM-ND Licenses, the Output Protection Level is specified in the Minimum Uncompressed Digital Audio Output Protection Level field of the Output Protection Level Restriction Object. In WMDRM-PD Licenses, this Output Protection Level is specified in the RESTRICTIONS\UNCOMPRESSEDDIGITALAUDIO node.

Level 0 to 100

If the Output Protection Level is not specified or the Output Protection Level specified in the License is less than or equal to 100, the PlayReady Product may direct the audio portion of uncompressed decrypted A/V Content to flow to Audio Outputs.

Level 101 to 150

If the Output Protection Level specified in the License is greater than or equal to 101 and less than or equal to 150, PlayReady Product may Pass the audio portion of uncompressed decrypted A/V Content to Stream Rendering Applications, and via Secure Audio Device Drivers to Audio Outputs.

Level 151 to 200

If the Output Protection Level specified in the License is greater than or equal to 151 and less than or equal to 200, PlayReady Product may Pass the audio portion of uncompressed decrypted A/V Content via Secure Audio Device Drivers to Audio Outputs.

Level 201 to 250

If the Output Protection Level specified in the License is greater than or equal to 201 and less than or equal to 250, PlayReady Product may Pass the audio portion of uncompressed decrypted A/V Content to: (i) Secure Audio Device Drivers via HDMI with HDCP engaged, (ii) Secure Audio Device Drivers with SCMS engaged with the Cp-bit set to zero (0) and the L-bit set to No Indication, (iii) Secure Audio Device Drivers via DisplayPort with HDCP engaged, or (iv) Secure Audio Device Drivers via MHL with HDCP engaged.

Level 251 to 300

If the Output Protection Level specified in the License is greater than or equal to 251 and less than or equal to 300, PlayReady Product may Pass the audio portion of uncompressed decrypted A/V Content to: (i) Secure Audio Device Drivers via HDMI with HDCP engaged, (ii) Secure Audio Device Drivers via DisplayPort with HDCP engaged, or (iii) Secure Audio Device Drivers via MHL with HDCP engaged.

Level 0 to 300

If the Output Protection Level specified in the License is greater than or equal to 0 and less than or equal to 300, a PlayReady Product may Pass the audio portion of uncompressed decrypted A/V Content to WirelessHD Outputs only if the PlayReady Product (i) engages DTCP to protect the audio portion of uncompressed decrypted A/V Content, (ii) limits the local device’s DTCP Source Function to transmitting to a single DTCP Sink Function, and (iii) sets the fields of DTCP\_Descriptor as follows:

**EPN.** *EPN* must be set to ‘1b’ (“EPN-unasserted”).

**DTCP\_CCI.** *DTCP\_CCI* must be set to ‘11b’ (“Copy Never”).

Level 301 or Greater

If the Output Protection Level specified in the License is greater than or equal to 301, a PlayReady Product must not Pass the audio portion of uncompressed decrypted Content.

Explicit Digital Audio Output Restriction

If a PlayReady Product is Passing the audio portion of decrypted A/V Content to a Digital Audio Output and the License associated with the Content contains an Explicit Digital Audio Output Protection Container Object that contains a Digital Audio Output Configuration Restriction Object with an Audio Output Protection ID of {6D5CFA59-C250-4426-930E-FAC72C8FCFA6}, and the Output Protection Level value for uncompressed Digital Audio Content is less than 201, the PlayReady Product must Pass the audio portion to Secure Audio Device Drivers with SCMS engaged with: (i) the Cp-bit and the L-bit set in accordance with the values in Table 3.6.2.8 (SCMS Control Bits), or (ii) the Cp-bit set to zero (0) and the L-bit set to No Indication. When the Audio Output Protection ID of {6D5CFA59-C250-4426-930E-FAC72C8FCFA6} is present, and the Output Protection Level value for uncompressed Digital Audio Content is less than 301, a PlayReady Product may alternatively Pass the audio portion of decrypted A/V Content to: (i) Secure Audio Device Drivers via HDMI with HDCP engaged, (ii) Secure Audio Device Drivers via DisplayPort with HDCP engaged, or (iii) Secure Audio Device Drivers via MHL with HDCP engaged.

In PlayReady Licenses and WMDRM-ND Licenses, this Output Protection Level is specified in the *Audio Output Protection ID* field of the *Digital Audio Output Configuration Protection Restriction Object*.

Output Control for Compressed Digital Video Content

If a PlayReady Product Passes the video portion of compressed decrypted A/V Content, the PlayReady Product must follow restrictions as specified in the License and this Section 3.6.4 (Output Control for Compressed Digital Video Content). In PlayReady Licenses and WMDRM-ND Licenses, the Output Protection Level is specified in the Minimum Compressed Digital Video Output Protection Level field of the Output Protection Level Restriction Object. In WMDRM-PD Licenses, this Output Protection Level is specified in the RESTRICTIONS\COMPRESSEDDIGITALVIDEO node.

Level 0 or Greater

If the Output Protection Level is not specified or the Output Protection Level specified in the License is greater than or equal to 0, a PlayReady Product must not Pass the video portion of compressed decrypted Content to any video output.

Output Control for Uncompressed Digital Video Content

If a PlayReady Product Passes the video portion of uncompressed decrypted A/V Content, the PlayReady Product must follow restrictions as specified in the License and this Section 3.6.5 (Output Control for Uncompressed Digital Video Content). In PlayReady Licenses and WMDRM-ND Licenses, the Output Protection Level is specified in the *Minimum Uncompressed Digital Video Output Protection Level* field of the *Output Protection Level Restriction Object*. In WMDRM-PD Licenses, this Output Protection Level is specified in the RESTRICTIONS\UNCOMPRESSEDDIGITALVIDEO node.

Level 0 to 100

If the Output Protection Level is not specified or the Output Protection Level specified in the License is less than or equal to 100, a PlayReady Product may Pass the video portion of uncompressed decrypted A/V Content to Digital Video Outputs.

Level 101 to 250

If the Output Protection Level specified in the License is greater than or equal to 101 and less than or equal to 250, a PlayReady Product must attempt to engage HDCP to protect the video portion of uncompressed decrypted A/V Content. If HDCP is engaged prior to Passing, a PlayReady Product may Pass the video portion of uncompressed decrypted A/V Content to Digital Video Outputs. If HDCP cannot be engaged, a PlayReady Product may Pass the video portion of uncompressed decrypted A/V Content to Digital Video Outputs.

Level 251 to 270

If the Output Protection Level specified in the License is greater than or equal to 251 and less than or equal to 270, a PlayReady Product must attempt to engage HDCP to protect the video portion of uncompressed decrypted A/V Content. If HDCP is engaged prior to Passing, a PlayReady Product may Pass the video portion of uncompressed decrypted A/V Content to Digital Video Outputs. If HDCP cannot be engaged, a PlayReady Product may Pass the video portion of uncompressed decrypted A/V Content to Digital Video Outputs only if the Effective Resolution is less than or equal to 520,000 pixels per frame. A PlayReady Product must not Pass the video portion of the uncompressed decrypted A/V Content to a Digital Video Output if (i) the Effective Resolution is greater than 520,000 pixels per frame, and (ii) HDCP cannot be engaged.

Level 271 to 300

If the Output Protection Level specified in the License is greater than or equal to 271 and less than or equal to 300, a PlayReady Product may Pass the video portion of uncompressed decrypted A/V Content to Digital Video Outputs only with HDCP engaged.

Level 0 to 300

If the Output Protection Level specified in the License is greater than or equal to 0 and less than or equal to 300, a PlayReady Product may Pass the video portion of uncompressed decrypted A/V Content to WirelessHD Outputs only if the PlayReady Product (i) engages DTCP to protect the video portion of uncompressed decrypted A/V Content, (ii) limits the local device’s DTCP Source Function to transmitting to a single DTCP Sink Function, and (iii) sets the fields of DTCP\_Descriptor as follows:

**EPN.** *EPN* must be set to ‘1b’ (“EPN-unasserted”).

**DTCP\_CCI.** *DTCP\_CCI* must be set to ‘11b’ (“Copy Never”).

**Digital Only Token**. If a value of {760AE755-682A-41E0-B1B3-DCDF836A7306} is present in the Video Output Protection ID field of the Analog Video Output Configuration Protection Restriction Object in the PlayReady License, the Digital Only Token value DOTINV must be set to “DOT–asserted”. Otherwise, the Digital Only Token value DOTINV must be set to “DOT-unasserted”.

**Image Constraint Token.** If a value of {D783A191-E083-4BAF-B2DA-E69F910B3772} is present in either the EXTENSION GUID of the RESTRICTIONS\ANALOGVIDEO\EXTENSIONLIST node of the WMDRM-PD License or the Video Output Protection ID field of the Analog Video Output Configuration Protection Restriction Object in the PlayReady License or WMDRM-ND License, the *Image Constraint Token* value must be set to ‘0’ (“High Definition Analog Output in the form of Constrained Image”). Otherwise, the *Image Constraint Token* value must be set to ‘1’ (“High Definition Analog Output in High Definition Analog Form”).

**APS.** The *APS* value must be set as follows:

If the PlayReady License or WMDRM-ND License contains an Analog Video Output Configuration Protection Restriction Object with a Video Output Protection ID field value = {C3FD11C6-F8B7-4D20-B008-1DB17D61F2DA}, the *APS* value must be set to the least significant two bits of the Binary Configuration Data field values defined in Table 3.6.7.2 (APSTB Values for Automatic Gain Control and Color Stripe), when cast as a binary value.

If the WMDRM-PD License contains a value of {C3FD11C6-F8B7-4D20-B008-1DB17D61F2DA} in the EXTENSION GUID of the RESTRICTIONS\ANALOGVIDEO\EXTENSIONLIST node, the APS value must be set to the least significant two bits of the Binary Configuration Data field values defined in Table 3.6.7.2 (APSTB Values for Automatic Gain Control and Color Stripe), when cast as a binary value.

Level 301 or Greater

If the Output Protection Level specified in the License is greater than or equal to 301, a PlayReady Product must not Pass the video portion of uncompressed decrypted Content to Digital Video Outputs.

#### Explicit Digital Video Output Restriction

##### **Maximum Decode Resolution:** If the Digital Video Output Restriction Object with a Video Restriction ID field value of {9645E831- E01D-4FFF-8342-0A720E3E028F} is specified in a PlayReady License, a PlayReady Product may only Pass the video portion of the uncompressed decrypted A/V Content to a Digital Video Output if (i) the width of the frame is less than or equal to Maximum Frame Width in Pixels and the height of the frame is less than or equal to Maximum Frame Height in Pixels or (ii) the height of the frame is less than or equal to Maximum Frame Width in Pixels and the width of the frame is less than or equal to Maximum Frame Height in Pixels.

##### **HDCP Type Restriction:** If the Digital Video Output Restriction Object with a Video Output Restriction ID of {ABB2C6F1-E663-4625-A945-972D17B231E7} and Binary Configuration Datafield value of 1 is specified in a PlayReady License, a PlayReady Product may Pass the video portion of uncompressed decrypted A/V Content to Digital Outputs only if the Content Stream Type is set to 1. For avoidance of doubt, this restriction also applies to all Miracast Outputs and outputs in Section 10.4.16 High-bandwidth Digital Content Protection.

##### **Internal Video Output Only:** If the *Digital Video Output Restriction Object* with a *Video Output Restriction ID* of {2076ECD5-044F-4047-BFCF-7A75D0E4E269} and *Binary Configuration Data* field value of 1 is specified in the PlayReady License, a PlayReady Product may not Pass the video portion of the uncompressed decrypted A/V Content to an External Video Output or Unknown Output.

##### **Watermarking Signalling:** If the ***Digital Video Output Restriction Object*** with a ***Video Output Restriction ID*** of {6CDA453D-BFBB-45d1-AEB7-37287B2403AE} is specified in a PlayReady License regardless of configuration data, a PlayReady Product may Pass the video portion of uncompressed decrypted A/V content to Digital Outputs only if watermarking technology is enforced according to section 6.6 (Explicit Digital Video Output Restriction).

Output Control for Analog Television Outputs

If a PlayReady Product Passes the video portion of decrypted A/V Content to Analog Television Outputs, the PlayReady Product must follow restrictions as specified in the License and in this Section 3.6.6 (Output Control for Analog Television Outputs). In PlayReady Licenses and WMDRM-ND Licenses, the Output Protection Level is specified in the Minimum Analog Video Output Protection Levelfield of the Output Protection Level Restriction Object. In WMDRM-PD Licenses, this Output Protection Level is specified in the RESTRICTIONS\ANALOGVIDEO node.

Level 0 to 100

If the Output Protection Level is not specified or the Output Protection Level specified in the License is less than or equal to 100, a PlayReady Product may Pass the video portion of uncompressed decrypted A/V Content to Analog Television Outputs.

Level 101 to 150

If the Output Protection Level specified in the License is greater than or equal to 101 and less than or equal to 150, a PlayReady Product must attempt to engage CGMS-A to protect the video portion of uncompressed decrypted A/V Content. If CGMS-A is engaged with the CGMS-A field set to ‘11b’ (“copy never”) prior to Passing, a PlayReady Product may Pass the video portion of uncompressed decrypted A/V Content to Analog Television Outputs. If CGMS-A cannot be engaged, a PlayReady Product may Pass the video portion of uncompressed decrypted A/V Content to Analog Television Outputs.

Level 151 to 200

If the Output Protection Level specified in the License is greater than or equal to 151 but less than or equal to 200, a PlayReady Product may Pass the video portion of decrypted A/V Content only to Analog Television Outputs and only if the PlayReady Product has successfully engaged CGMS-A with the CGMS-A field set to ‘11b’ (“copy never”). A PlayReady Product must not Pass the video portion of decrypted A/V Content if CGMS-A cannot be successfully engaged with the CGMS-A field set to ‘11b’ (“copy never”).

Level 201 or Greater

If the Output Protection Level specified in the License is greater than or equal to 201, a PlayReady Product must not Pass the video portion of decrypted Content to Analog Television Outputs.

Extended Output Controls for Analog Television Outputs

If a PlayReady Product Passes the video portion of decrypted A/V Content to Analog Television Outputs, the PlayReady Product must follow restrictions as specified in the License and in this Section 3.6.7 (Extended Output Controls for Analog Television Outputs).

If a PlayReady Product is Passing the video portion of decrypted A/V Content to Analog Television Outputs and the License associated with the A/V Content contains an Analog Video Output Configuration Protection Restriction Object with a Video Output Protection ID field value of {2098DE8D-7DDD-4BAB-96C6-32EBB6FABEA3}, and the Output Protection Level for Analog Television Outputs is less than 151, the PlayReady Product must Pass the video portion engaging CGMS-A with the CGMS-A field in the copy set in accordance with values in Table 3.6.7.1 (Bit Values for Copying to CGMS-A). In PlayReady Licenses and WMDRM-ND Licenses, the Output Protection Level is specified in the Video Output Protection ID field of the Analog Video Output Configuration Protection Restriction Object. In WMDRM-PD Licenses, this Output Protection Level is specified in the RESTRICTIONS\ANALOGVIDEO\EXTENSIONLIST node.

Table 3.6.7.1: Bit Values for Copying to CGMS-A

|  |  |
| --- | --- |
| **Binary Configuration Data Value** | **CGMS-A Value** |
| 00 | 00 |
| 01 | 01 |
| 10 | 10 |
| 11 | 11 |

If a PlayReady Product is Passing the video portion of decrypted A/V Content to Analog Television Outputs and: (i) the PlayReady License associated with the A/V Content contains an Analog Video Output Configuration Protection Restriction Object with a Video Output Protection ID field value of {225CD36F-F132-49EF-BA8C-C91EA28E4369}, (ii) the Output Protection Level for Analog Television Outputs is less than 101, and (iii) the PlayReady License associated with the A/V Content does not contain an Analog Video Output Configuration Protection Restriction Object with a Video Output Protection ID field value of {2098DE8D-7DDD-4BAB-96C6-32EBB6FABEA3}, then the PlayReady Product may Pass the video portion only if the PlayReady Product has attempted to engage CGMS-A with the CGMS-A field in the copy set in accordance with values in Table 3.6.7.1 (Bit Values for Copying to CGMS-A) prior to Passing. A PlayReady Product may Pass the video portion of decrypted A/V Content to Analog Television Outputs even if CGMS-A cannot be successfully engaged.

Automatic Gain Control and Color Stripe

If a PlayReady Products Passes the video portion of decrypted A/V Content, having an Effective Resolution of not greater than 520,000 pixels per frame, to Analog Television Outputs and a value of {C3FD11C6-F8B7-4D20-B008-1DB17D61F2DA} is present in either the EXTENSION GUID of the RESTRICTIONS\ANALOGVIDEO\EXTENSIONLIST node of the WMDRM-PD License, or the Video Output Protection ID field of the Analog Video Output Configuration Protection Restriction Object in the PlayReady License or WMDRM-ND License, the PlayReady Product must engage Automatic Gain Control and Color Stripe, and set the APSTB field in accordance with Table 3.6.7.2 (APSTB Values for Automatic Gain Control and Color Stripe). Additional technologies and restrictions may be required as specified in Section 3.6.6 (Output Control for Analog Television Outputs). A PlayReady Product may set the value APS1 “AGC only” if the output type or output system does not support Color Stripe. For avoidance of doubt, PAL, SECAM, and Component Video Outputs do not support Color Stripe.

Table 3.6.7.2: APSTB Values for Automatic Gain Control and Color Stripe

|  |  |
| --- | --- |
| **Binary Configuration Data Value** | **APSTB Value** |
| 0 | 00b |
| 1 | 01b |
| 2 | 10b |
| 3 | 11b |

Output Control for Analog Computer Monitor Output

If a PlayReady Products Passes the video portion of decrypted A/V Content to an Analog Computer Monitor Output and a value of {D783A191-E083-4BAF-B2DA-E69F910B3772} is present in either the EXTENSION GUID of the RESTRICTIONS\ANALOGVIDEO\EXTENSIONLIST node of the WMDRM-PD License or the Video Output Protection ID field of the Analog Video Output Configuration Protection Restriction Object in the PlayReady License or WMDRM-ND License, the PlayReady Product must Pass the video portion of decrypted Content with an Effective Resolution of no greater than 520,000 pixels per frame.

Output Control for Analog Component Video Output

If a PlayReady Product Passes the video portion of decrypted A/V Content to Analog Component Video Outputs and a value of {811C5110-46C8-4C6E-8163-C0482A15D47E} is present in either the EXTENSION GUID of the RESTRICTIONS\ANALOGVIDEO\EXTENSIONLIST node of the WMDRM-PD License, or the Video Output Protection ID field of the Analog Video Output Configuration Protection Restriction Object in the PlayReady or WMDRM-ND License, the PlayReady Product must Pass the video portion of decrypted A/V Content with an Effective Resolution of no greater than 520,000 pixels per frame.

Analog Sunset for AACS

In addition to Sections 3.6.6 (Output Control for Analog Television Outputs), 3.5.7 (Extended Output Controls for Analog Television Outputs), 3.5.8 (Output Control for Analog Computer Monitor Output) and 3.5.9 (Output Control for Analog Component Video Output), any PlayReady Product that Passes Analog Sunset Content (AACS) must comply with the requirements of this Section 3.6.10 (Analog Sunset for AACS):

Analog Sunset

PlayReady Products manufactured or sold by Company after December 31, 2013 must not Pass Analog Sunset Content (AACS) to any analog video output.

Digital Video Only

In addition to Sections 3.6.6 (Output Control for Analog Television Outputs), 3.5.7 (Extended Output Controls for Analog Television Outputs), 3.5.8 (Output Control for Analog Computer Monitor Output) and 3.5.9 (Output Control for Analog Component Video Output), any PlayReady Product that Passes Digital Video Only Content must comply with the requirements of this Section 3.6.11 (Digital Video Only):

Digital Video Only Content

If a value of {760AE755-682A-41E0-B1B3-DCDF836A7306} is present in the Video Output Protection ID field of the Analog Video Output Configuration Protection Restriction Object in the PlayReady License, PlayReady Products may only Pass the video portion of decrypted A/V content to Digital Video Outputs.

Other Outputs

A PlayReady Product may Pass decrypted A/V Content to the Outputs listed in this Section 3.7 (Other Outputs*)*.

Analog Audio Outputs

A PlayReady Product may Pass the audio portion of decrypted A/V Content to local Analog Audio Outputs.

USB Audio Outputs

A PlayReady Product may Pass the audio portion of uncompressed decrypted A/V Content to local USB Audio Outputs.

Internal Video Outputs

A PlayReady Product may Pass the video portion of uncompressed decrypted A/V Content to Internal Video Outputs.

Watermark Non-Interference

Beginning on the date that these Compliance Rules first list a particular technology on Schedule A hereto (“Scheduled Watermark”), Company must not design a new PlayReady Product of which the primary purpose is to remove, interfere with, or obscure such Scheduled Watermark, and must not knowingly promote or knowingly advertise or knowingly cooperate in the promotion or advertising of PlayReady Products for the purpose of removing, interfering with, or obscuring such Scheduled Watermark.

### Beginning on the date eighteen (18) months after these Compliance Rules first list a particular technology as a Scheduled Watermark, Company must not produce a PlayReady Product of which the primary purpose is to remove, interfere with or obscure such Scheduled Watermark, and must not knowingly distribute or knowingly cooperate in the distribution of PlayReady Products for the purpose of removing, interfering with, or obscuring such Scheduled Watermark.

### This Section 3.8 (Watermark Non-Interference) does not prohibit PlayReady Products from incorporating legitimate features, for example, zooming, scaling, cropping, picture-in-picture, compression, recompression, image overlays, overlap of windows in a graphical user interface, audio mixing and equalization, video mixing and keying, downsampling, upsampling, and line doubling, or conversion between widely used formats for the transport, processing and display of audiovisual signals or data, such as between analog and digital formats and between PAL and NTSC or RGB and YUV formats that are not prohibited by law, and such features will not be deemed to remove, interfere with or obscure any Scheduled Watermark.

Output Control for Unknown Outputs

A PlayReady Product may Pass the video portion of uncompressed decrypted A/V Content to an Unknown Output only if requirements in this Section 3.9 are met. A PlayReady Product must not Pass the video portion of uncompressed decrypted A/V Content to an Unknown Output if the output type can be determined using a commercially reasonable technical mechanism. A PlayReady Product must not Pass the video portion of uncompressed decrypted A/V Content to an Unknown Output if the associated minimum License Security Level is 3000.

Passing to Unknown Output

If the output type that the PlayReady Product is connected to cannot be determined and the associated PlayReady License contains a Play Enabler Type Object with a Play Enabler Type field value of {786627D8-C2A6-44BE-8F88-08AE255B01A7}, the PlayReady Product may Pass the video portion of uncompressed decrypted A/V Content to an Unknown Output only if (i) the associated PlayReady License does not contain a Play Enabler Type Object with a Play Enabler Type field value of {B621D91F-EDCC-4035-8D4B-DC71760D43E9}, (ii) the PlayReady Product has attempted to determine the output type using all commercially reasonable technical mechanisms and failed to determine the output type (iii) the associated PlayReady License does not contain an Analog Video Output Configuration Protection Restriction Object with a Video Output Protection ID field value of {760AE755-682A-41E0-B1B3-DCDF836A7306}, and (iv) the associated PlayReady License contains a minimum License Security Level of 2000 or lower.

Passing constrained resolution to Unknown Output

If the output type that the PlayReady Product is connected to cannot be determined and the associated PlayReady License contains a Play Enabler Type Object with a Play Enabler Type field value of {B621D91F-EDCC-4035-8D4B-DC71760D43E9}, the PlayReady Product may Pass the video portion of uncompressed decrypted A/V Content to an Unknown Output only if (i) the Effective Resolution of the video portion of uncompressed decrypted PlayReady content is less than or equal to 520,000 pixels per frame, (ii) the PlayReady Product has attempted to determine the output type using all commercially reasonable technical mechanisms and failed to determine the output type, and (iii) the associated PlayReady License does not contain an Analog Video Output Configuration Protection Restriction Object with a Video Output Protection ID field value of {760AE755-682A-41E0-B1B3-DCDF836A7306}, and (iv) the associated PlayReady License contains a minimum License Security Level of 2000 or lower.

Running Software Content

A PlayReady Product must comply with this Section 4 (Running Software Content) when Running decrypted PlayReady Software Content.

Running PlayReady Software Content

A PlayReady Product may Run decrypted PlayReady Software Content only if the PlayReady License associated with the PlayReady Software Content contains an Execute Policy Container Object*.* The PlayReady Product may decrypt any portion of the PlayReady Software Content necessary to Run the decrypted PlayReady Software Content.

Content Provider Restrictions

If the Execute Restriction Object is specified in the PlayReady License, then the PlayReady Product may Run decrypted PlayReady Software Content only if the PlayReady Product adheres to the policy identified by the Policy Type ID and specified in the Execute Restriction Object.

Stop State

For PlayReady Software Content, Stop State occurs when an instance of decrypted PlayReady Software Content is no longer being Run, and associated system resources are relinquished. After the PlayReady Product enters Stop State for any reason, it must re-initialize PlayReady before Running any decrypted PlayReady Software Content. A PlayReady Product may temporarily suspend the Running of decrypted PlayReady Software Content due to task switching without entering Stop State.

Displaying Digital Literary Content

A PlayReady Product must comply with this Section 5 (Displaying Digital Literary Content) when Displaying decrypted PlayReady Digital Literary Content.

Displaying Digital Literary Content

A PlayReady Product may Display decrypted PlayReady Digital Literary Content only if the PlayReady License associated with the PlayReady Digital Literary Content contains a Read Policy Container Object.

Converting Text to Speech

A PlayReady Product may decrypt PlayReady Digital Literary Content for the purposes of directing the text portion of decrypted PlayReady Digital Literary Content to intermediate local Text-to-Speech components and directing the resulting audio to flow to local device Outputs or local Computer Product Outputs, optionally through intermediate local components such as a decoder or device driver, only if (i) the PlayReady License associated with the PlayReady Digital Literary Content contains a Read Policy Container Object, and (ii) the PlayReady Product implements a technical mechanism (which may, but need not, be part of the PlayReady implementation) to verify Content Provider has authorized Text-to-Speech conversion.

Stop State

For PlayReady Digital Literary Content, Stop State occurs when an instance of decrypted PlayReady Digital Literary Content is no longer being Displayed. After the PlayReady Product enters Stop State for any reason, it must re-initialize PlayReady before Displaying any decrypted PlayReady Digital Literary Content.

Creating PlayReady Licenses

A PlayReady Product may create PlayReady Licenses only if all requirements in this Section 6 (Creating PlayReady Licenses) are met.

Extensible Media Rights Specification

A PlayReady Product must create only PlayReady Licenses that follow the syntax defined in the “PlayReady DRM Extensible Media Rights Specification”.

Embedded License Setting

The Embedded License Settings Object must be specified in the PlayReady License. The allowed values for the License Processing Indicator field must be set to values listed in Table 6.2 (Allowed License Processing Indicator Values) according to the License type.

Table 6.2: Allowed License Processing Indicator Values

|  |  |  |
| --- | --- | --- |
| **License Type** | **Allowed Value** | **Description** |
| Root License | 1 | License will not be embedded. |
| Device Bound License | 1 | License will not be embedded. |
| Leaf License | 2 | License will be embedded. |
| Domain Bound License | 2 | License will be embedded. |

Play Enabler Type

If the Play Enabler Type Object is specified in the PlayReady License then the allowed values for the Play Enabler Type field must be limited to values described in Section 3.9 (Output Control for Unknown Outputs) or Section 10.4 (Content Provider Authorized Exports).

Explicit Digital Audio Output Protection

If the Digital Audio Output Configuration Protection Restriction Object is specified in the PlayReady License the field values must be limited to values listed in Table 6.4 (Allowed Explicit Digital Audio Output Protection Level Values).

Table 6.4: Allowed Explicit Digital Audio Output Protection Level Values

|  |  |  |
| --- | --- | --- |
| Audio Output Protection ID **Field** | Binary Configuration Data **Field** | **Output Protection Description** |
| {6D5CFA59-C250-4426-930E-FAC72C8FCFA6} | 00, 01, 10, 11 | SCMS. See Table 3.6.2.8 (SCMS Control Bits) |

Explicit Analog Video Output Protection

### If the Analog Video Output Configuration Protection Restriction Object is specified in the PlayReady License the field values must be limited to values listed in Table 6.5.1(Allowed Explicit Analog Video Output Protection Level Values).

Table 6.5.1: Allowed Explicit Analog Video Output Protection Level Values

|  |  |  |
| --- | --- | --- |
| Video Output Protection ID **Field** | Binary Configuration Data **Field** | **Output Protection Description** |
| {C3FD11C6-F8B7-4D20-B008-1DB17D61F2DA} | 0, 1, 2, 3 | AGC and Color Stripe |
| {2098DE8D-7DDD-4BAB-96C6-32EBB6FABEA3} | 0, 1, 2, 3 | Explicit Analog Television Output Restriction |
| {225CD36F-F132-49EF-BA8C-C91EA28E4369} | 0, 1, 2, 3 | Best Effort Explicit Analog Television Output Restriction |
| {811C5110-46C8-4C6E-8163- C0482A15D47E} | 520000 | Image constraint for Analog Component Video Output |
| {D783A191-E083-4BAF-B2DA-E69F910B3772} | 520000 | Image constraint for Analog Computer Monitor Output |
| {760AE755-682A-41E0-B1B3-DCDF836A7306} | 0 | Digital Video Only Content |

### The Analog Video Output Configuration Protection Restriction Object with a Video Output Protection ID field value of {2098DE8D-7DDD-4BAB-96C6-32EBB6FABEA3} may be specified in a PlayReady License only if another Analog Video Output Configuration Protection Restriction Object with a Video Output Protection ID field value of {225CD36F-F132-49EF-BA8C-C91EA28E4369} is not specified.

Explicit Digital Video Output Restriction

### If the Digital Video Output Restriction Object is specified in a PlayReady License, the field values must be limited to values listed in Table 6.6.1 (Allowed Explicit Digital Video Output Restriction Level Values).

Table 6.6.1: Allowed Explicit Digital Video Output Restriction Level Values:

| Video Output Restriction ID **Field** | Binary Configuration Data **Field** | **Output Restriction Description** |
| --- | --- | --- |
| {9645E831- E01D-4FFF-8342-0A720E3E028F} | Maximum Frame Width in Pixels, Maximum Frame Height in Pixels | Maximum Effective Resolution Decode Size |
| {ABB2C6F1-E663-4625-A945-972D17B231E7}{2076ECD5-044F-4047-BFCF- 7A75D0E4E269}{6CDA453D-BFBB-45d1-AEB7-37287B2403AE} | 11See section 6.6.5 | HDCP Type RestrictionInternal Video Output OnlyWatermarking Signalling |

### A Binary Configuration Data Field for the Digital Video Output Restriction Object with a Video Restriction ID field value of {9645E831- E01D-4FFF-8342-0A720E3E028F} must be defined as a set of two 32 bit values, each in Big Endian format. The first 32 bit field defines the Maximum Frame Width in Pixels, the second 32 bit field defines the Maximum Frame Height in Pixels

### The Digital Video Output Restriction Object with a Video Restriction ID field value of {ABB2C6F1-E663-4625-A945-972D17B231E7} may be specified in a PlayReady License only if the PlayReady License also specifies an Uncompressed Digital Video Output Protection Level with a value greater than or equal to 271. If such a Video Restriction ID field is included, its Binary Configuration Data Field must be defined as the number 1 as a 32 bit value in Big Endian format.

### If ***the Digital Video Output Restriction Object*** with a ***Video Restriction ID*** field value of {2076ECD5-044F-4047-BFCF-7A75D0E4E269} is specified in a PlayReady License, its Binary Configuration Data Field must be a single byte that takes the value 1.

### If ***the Digital Video Output Restriction Object*** with a ***Video Restriction ID*** field value of {6CDA453D-BFBB-45d1-AEB7-37287B2403AE} is specified in a PlayReady License, its field values and their associated enforcement requirements are as follows:

**First byte of multi-byte field**

If the first byte of the Binary Configuration Data field is set to 0, no additional bytes may be specified.  In this case, before a PlayReady Product may Pass the video portion of uncompressed decrypted A/V Content to Digital Outputs, it must disengage Watermarking.

If the first byte of the Binary Configuration Data field is set to 1, at least 19 total bytes must be specified.  In this case, before a PlayReady Product may Pass the video portion of uncompressed decrypted A/V Content to Digital Outputs, it must engage the Watermarking system in the Fourth through Nineteenth Bytes according to the remaining specified bytes as indicated below.

If the first byte of the Binary Configuration Data field is set to 2, no additional bytes may be specified.  In this case, if Watermarking is currently engaged, a PlayReady Product must attempt to disengage Watermarking before it may Pass the video portion of uncompressed decrypted A/V Content to Digital Outputs.  If Watermarking is not currently engaged or the PlayReady Product is unable to disengage Watermarking, the PlayReady Product may Pass the video portion of uncompressed decrypted A/V Content to Digital Outputs.

If the first byte of the Binary Configuration Data field is set to 3, at least 19 total bytes must be specified. In this case, a PlayReady Product must attempt to engage the Watermarking system in the Fourth through Nineteenth Bytes according to the remaining specified bytes as indicated below before it may Pass the video portion of uncompressed decrypted A/V Content to Digital Outputs.  If Watermarking cannot be engaged, the PlayReady Product may Pass the video portion of uncompressed decrypted A/V Content to Digital Outputs.

**Second and Third Bytes:**

If required according to the first byte, the second and third bytes must be specified as a WORD in big-endian format that takes a value of 2000 or 3000.  If the value is 2000, a PlayReady Product may Pass the video portion of uncompressed decrypted A/V Content to Digital Outputs only if Section 6.6.5 is enforced inside or outside a PlayReady Trusted Execution Environment.  If the value is 3000, a PlayReady Product may Pass the video portion of uncompressed decrypted A/V Content to Digital Outputs only if Section 6.6.5 is enforced inside a PlayReady Trusted Execution Environment.

**Fourth through Nineteenth Bytes:**

If the first byte of ***Binary Configuration Data*** is set to 1 or 3, the fourth through nineteenth bytes must contain one of the GUIDs listed in Table 6.6.5.1.

Table 6.6.5.1: Allowed Watermarking technology-specific GUIDs

| GUID | **Watermarking Vendor** |
| --- | --- |
| {8B15FD52-76F2-468E-91A8-CB52B5746CE0} | Nexguard (Nagra) |
| {EDE12F47-CF95-4367-A410-B4EC843D56F7} | Verimatrix |
| {C8F26AF0-BA14-433F-AD97-57377598AA89} | Irdeto |
| {3C6B3FD1-102D-43DE-9ED7-806BC85D1ACA} | Synamedia |
| {4191D1FA-BF22-4404-8BCA-290D5EF7993D} | Content Armor |
| {5F5FD439-4511-4520-8B25-745E2028CC77} | MarkAny |
| {43BF1458-5795-413A-8ED1-93624B3F80D3} | FriendMTS |

**Remaining Bytes:**

A Watermarking Vendor may require additional data to engage or attempt to engage Watermarking using its technology.  If so, the license must specify these bytes according to information obtained from the Watermarking Vendor specified in the GUID in the fourth through nineteenth bytes.  A PlayReady Product must pass the remaining bytes into the Watermarking Vendor technology when engaging or attempting to engage Watermarking using that technology according to the first three bytes.

Output Protection Level

If the Output Protection Level Restriction Object is specified in the PlayReady License the field values must be limited to values listed in Table 6.7 (Allowed Output Protection Level Values).

Table 6.7: Allowed Output Protection Level Values

|  |  |
| --- | --- |
| **Field** | **Allowed Values** |
| Minimum Compressed Digital Audio Output Protection Level | 100, 150, 200, 250, 300 |
| Minimum Uncompressed Digital Audio Output Protection Level | 100, 150, 200, 250, 300 |
| Minimum Compressed Digital Video Output Protection Level | 400, 500 |
| Minimum Uncompressed Digital Video Output Protection Level | 100, 250, 270, 300 |
| Minimum Analog Television Output Protection Level | 100, 150, 200 |

Copy Count

### If the Copy Count Restriction Object is specified in the PlayReady License, a Domain Restriction Object must not be specified.

### If the Copy Count Restriction Object is specified in the PlayReady License then the allowed values for Copy Enabler Type Object’s Copy Enabler Type field must be limited to values described in Section 10.4 (Content Provider Authorized Exports).

Copy Enabler Type

### If the Copy Enabler Type Object **is specified in the PlayReady License then the allowed values for the Copy Enabler Type** field must be limited to values described in Section 10.4 (Content Provider Authorized Exports) or values listed in Table 6.9.1 (Allowed Copy Enabler Type Values).

Table 6.9.1: Allowed Copy Enabler Type Values

| **Allowed Value** | **Description** |
| --- | --- |
| {CE480EDE-516B-40B3-90E1-D6CFC47630C5} | Copy to PC |
| {6848955D-516B-4EB0-90E8-8F6D5A77B85F} | Copy to device |

### If the Copy Enabler Type Object is specified in the PlayReady License then the Copy Enabler Type field value {C3CF56E0-7FF2-4491-809F-53E21D3ABF07} may be specified only if the PlayReady License is for PlayReady A/V Content originating from ISDB.

Move Enabler Type

### If the Move Enabler Object is specified in the PlayReady License, then the Minimum Move Protection Level field must be set to a value limited to a value listed in Table 6.10.2 (Allowed Minimum Move Protection Level Values).

### A PlayReady Product may create a PlayReady License containing Move Enabler Object only if a Company request for such use has been expressly approved in writing by Microsoft Corporation.

Table 6.10.2: Allowed Minimum Move Protection Level Values

|  |  |
| --- | --- |
| **Allowed Value** | **Description** |
| 500 | Move using an Internet service authorized by Microsoft. |

License Security Level

The Security Level Object must be specified in the PlayReady License. The allowed values for the Minimum Security Level field must be limited to values listed in Table 6.11 (Allowed License Security Level Values).

Table 6.11: Allowed License Security Level Values

|  |  |
| --- | --- |
| **Allowed Value** | **Description** |
| 150 | A License Security Level of 150 indicates the associated PlayReady Content is of non-commercial quality. The associated PlayReady Content can be accessed only by players and devices with a Certificate Security Level of 150 or higher.  |
| 2000 | A License Security Level of 2000 indicates the associated PlayReady Content is of commercial quality. The associated PlayReady Content can be accessed only by players and devices with a Certificate Security Level of 2000 or higher. |
| 3000 | A License Security Level of 3000 indicates the associated PlayReady Content is of commercial quality. The associated PlayReady Content can be accessed only by players and devices with a Certificate Security Level of 3000 or higher. Such players and devices must implement a PlayReady Trusted Execution Environment. |

Source ID

### A PlayReady Product must not set the Source ID field of the Source ID Object to 265 for Content with an Effective Resolution of greater than 520,000 pixels per frame.

### A PlayReady Product that creates PlayReady Licenses for PlayReady Content originating from one of the sources described in Table 6.12.2 (Allowed Source ID Values) must set the Source ID field of the Source ID Object to the value indicated in Table 6.12.2 (Allowed Source ID Values) corresponding to that source. A PlayReady Product that creates PlayReady Licenses for PlayReady Content originating from a source that is not listed in Table 6.12.2 (Allowed Source ID Values) must not set the Source ID field of the Source ID Object. Indirect Content Providers are required to set a ***Source Id*** field. Contact Microsoft to have one added before release of any license creation through indirect means.

Table 6.12.2: Allowed Source ID Values

| **Allowed Value** | **Source** |
| --- | --- |
| 1 | Macrovision |
| 2 | CGMS-A |
| 4 | OpenCable, including OpenCable Unidirectional Receiver (OCUR)  |
| 257 | CPRM, CPPM |
| 258 | DTCP |
| 259 | OMA/CMLA |
| 262 | AACS (pre-recorded) |
| 263 | AACS (recordable) |
| 265 | DTCP at no greater than 520,000 pixels per frame |
| 266 | ISDB  |
| 267 | UltraViolet™ Download |
| 268269270271 | UltraViolet™ StreamingWideVineFairPlay ServerFairPlay Local |

Restricted Source ID

A PlayReady Product that creates PlayReady Licenses for PlayReady Content originating from one of the sources described in Table 6.13 (Allowed Source IDs for Restricted Source ID object) must include a *Restricted Source ID Object*.

Table 6.13: Allowed Source IDs for Restricted Source ID object

| **Source ID Field Value** | **Source** |
| --- | --- |
| 4 | OpenCable, including OpenCable Unidirectional Receiver (OCUR)  |
| 267 | UltraViolet™ Download |

PlayReady Revocation Information Version

The PlayReady Revocation Information Version Object must be specified in the PlayReady License. The allowed values for the Sequence field must be greater or equal to ten (10) and equal to the PlayReady Revocation Information Version on the PlayReady Product.

Execute Restriction Object

A PlayReady Product may create a PlayReady License containing an Execute Restriction Object only if: (i) Microsoft Corporation has defined the Policy Type ID and the associated Policy Data field, and (ii) such use has been expressly approved in writing by Microsoft Corporation.

Content Rights

A PlayReady Product that creates PlayReady Licenses for PlayReady Content originating from one of the sources described in Section 6.16 must comply with the requirements set forth in Section 6 and this Section 6.16.

OpenCable Content Rights

For OpenCable content whose licenses have the source Source ID field set to 4, only the following rights shall be enabled for Copy Freely (EMI = 0,0) Controlled Cable Content. Note that using fewer or more restrictive rights than these for Copy Freely (EMI = 0, 0) Cable content is also allowed.

Output Protection Level Restriction Object

MinimumCompressedDigitalVideoOutputProtectionLevel = 500

MinimumUncompressedDigitalVideoOutputProtectionLevel = 300

MinimumAnalogVideoOutputProtectionLevel =200

Security Level Object

Minimum Security Level = 2000

Source Id Object

Source Id = 4

Restricted Source Id Object

This object must be contained in the license

Copy Enabler Type Object

Copy Enabler Type = 3CAF2814-A7AB-467C-B4DF-54ACC56C66DC

If APS bits are set

Analog Video Output Configuration Protection Restriction Object

Video Output Protection ID = C3FD11C6-F8B7-4d20-B008-1DB17D61F2DA

Binary Configuration Data = APSTB Value

If Constrained Image Trigger (CIT) = 1:

Analog Video Output Configuration Protection Restriction Object

Video Output Protection ID = 811C5110-46C8-4C6e-8163-C0482A15D47E

Binary Configuration Data = 520000

For OpenCable content whose licenses have the source Source ID field set to 4, only the following rights shall be enabled for Copy Once (EMI = 1,0) Controlled Cable Content. Note that using fewer or more restrictive rights than these for Copy Once (EMI = 1, 0) Cable content is also allowed.

Output Protection Level Restriction Object

MinimumCompressedDigitalVideoOutputProtectionLevel = 500

MinimumUncompressedDigitalVideoOutputProtectionLevel = 300

MinimumAnalogVideoOutputProtectionLevel =200

Security Level Object

Minimum Security Level = 2000

 Source Id Object

 Source Id = 4

 Restricted Source Id Object

 This object must be contained in the license

If APS bits are set

Analog Video Output Configuration Protection Restriction Object

Video Output Protection ID = C3FD11C6-F8B7-4d20-B008-1DB17D61F2DA

Binary Configuration Data = APSTB Value

If Constrained Image Trigger (CIT) = 1:

Analog Video Output Configuration Protection Restriction Object

Video Output Protection ID = 811C5110-46C8-4C6e-8163-C0482A15D47E

Binary Configuration Data = 520000

For OpenCable content whose licenses have the source Source ID field set to 4, only the following rights shall be enabled for Copy Never (EMI = 1,1) and Copy No More (EMI = 0,1) Controlled Cable Content. Note that using more restrictive or fewer rights than these for Copy Never (EMI = 1, 1) and Copy No More (EMI = 0, 1) Cable content is also allowed.

 Output Protection Level Restriction Object

MinimumCompressedDigitalVideoOutputProtectionLevel = 500

MinimumUncompressedDigitalVideoOutputProtectionLevel = 300

MinimumAnalogVideoOutputProtectionLevel =200

Security Level Object

Minimum Security Level = 2000

 Source Id Object

 Source Id = 4

 Restricted Source Id Object

 This object must be contained in the license

Rights Setting Object

 Cannot Persist = Bit asserted

 Expiration After First Play Restriction Object

 Expire After First Play = 5400

If APS bits are set in the CCI

Analog Video Output Configuration Protection Restriction Object

Video Output Protection ID = C3FD11C6-F8B7-4d20-B008-1DB17D61F2DA

Binary Configuration Data = APSTB Value

If Constrained Image Trigger (CIT) = 1:

Analog Video Output Configuration Protection Restriction Object

Video Output Protection ID = 811C5110-46C8-4C6e-8163-C0482A15D47E

Binary Configuration Data = 520000

DTCP Content Rights

For DTCP content whose licenses have the Source ID field set to 258 or 265, only the following rights shall be enabled. Note that using fewer or more restrictive rights than these for DTCP content is also allowed.

**Recording Copy One Generation Content** - When using PlayReady to make a recording of Copy One Generation, as permitted under the applicable DTCP license agreement, the DTCP Sink Function shall generate a PlayReady license where only the following PlayReady rights shall be enabled:

 Output Protection Level Restriction Object

Minimum Compressed Digital Video Output ProtectionLevel = 400

Minimum Uncompressed Digital Video Output ProtectionLevel = 300

Minimum Analog Video Output ProtectionLevel =200

Minimum Compressed Digital Audio Output Protection Level = 100

Minimum Uncompressed Digital Audio Output Protection Level = 100

Security Level Object

Minimum Security Level = 2000

Restricted Source Id Object

 This object must not be contained in the license

 Analog Video Output Configuration Protection Restriction Object

Video Output Protection ID = C3FD11C6-F8B7-4d20-B008-1DB17D61F2DA

Binary Configuration Data = APSTB (Trigger bits set based on DTCP APS Trigger Bits)

If Image\_Contraint\_Token = 0b:

 Analog Video Output Configuration Protection Restriction Object

Video Output Protection ID = 811C5110-46C8-4C6e-8163- C0482A15D47E

Binary Configuration Data = 520000

Analog Video Output Configuration Protection Restriction Object

Video Output Protection ID= D783A191-E083-4BAF-B2DA-E69F910B3772

Binary Configuration Data= 520000

If source indicates content was sourced from DTCP and DT Data resolution greater than a Constrained Image as defined in the DTCP Adopter Agreement

 Source Id Object

 Source Id = 258

If source indicates content was sourced from DTCP and DT Data resolution less than a Constrained Image as defined in the DTCP Adopter Agreement)

 Source Id Object

 Source Id = 265

If (Digital Only Token = ’Asserted’ or Analog Sunset Token = ’Asserted’):

 Analog Video Output Configuration Protection Restriction Object

Video Output Protection ID = 760AE755-682A-41E0-B1B3-DCDF836A7306

Binary Configuration Data = 0b

**Recording EPN Encoded Content** - When using PlayReady to make a recording of content that is “EPN encoded”, as permitted under the applicable DTCP license agreement, the DTCP Sink Function shall generate a PlayReady license where only the following PlayReady rights shall be enabled:

 Output Protection Level Restriction Object

Minimum Compressed Digital Video Output ProtectionLevel = 400

Minimum Uncompressed Digital Video Output ProtectionLevel = 300

Minimum Analog Video Output ProtectionLevel =100

Minimum Compressed Digital Audio Output Protection Level = 100

Minimum Uncompressed Digital Audio Output Protection Level = 100

Security Level Object

Minimum Security Level = 2000

 Copy Count Restriction Object

 This object must not be contained in the license

If Image\_Contraint\_Token = 0b:

Analog Video Output Configuration Protection Restriction Object

Video Output Protection ID = 811C5110-46C8-4C6e-8163-C0482A15D47E

Binary Configuration Data = 520000

Analog Video Output Configuration Protection Restriction Object

Video Output Protection ID= D783A191-E083-4BAF-B2DA-E69F910B3772

Binary Configuration Data= 520000

If source indicates content was sourced from DTCP and DT Data resolution greater than a Constrained Image as defined in the DTCP Adopter Agreement

 Source Id Object

 Source Id = 258

If source indicates content was sourced from DTCP and DT Data resolution less than a Constrained Image as defined in the DTCP Adopter Agreement)

 Source Id Object

 Source Id = 265

If (Digital Only Token = ’Asserted’ or Analog Sunset Token = ‘Asserted’):

Analog Video Output Configuration Protection Restriction Object

Video Output Protection ID = 760AE755-682A-41E0-B1B3-DCDF836A7306

Binary Configuration Data = 0b

**Outputting Non-EPN Encoded Content** - When using PlayReady to re-protect an output of DTCP protect content other than “EPN encoded”, as permitted under the applicable DTCP license agreement, the PlayReady rights are set as follows:

Output Protection Level Restriction Object

Minimum Compressed Digital Video Output ProtectionLevel = 400

Minimum Uncompressed Digital Video Output ProtectionLevel = 300

Minimum Analog Video Output ProtectionLevel =200

Minimum Compressed Digital Audio Output Protection Level = 100

Minimum Uncompressed Digital Audio Output Protection Level = 100

Security Level Object

Minimum Security Level = 2000

Rights Setting Object

 Cannot Persist = Bit asserted

Restricted Source Id Object

 This object must not be contained in the license

Analog Video Output Configuration Protection Restriction Object

Video Output Protection ID = C3FD11C6-F8B7-4d20-B008-1DB17D61F2DA

Binary Configuration Data = APSTB Value (Trigger bits set based on DTCP APS Trigger Bits)

If Image\_Contraint\_Token = 0b:

Analog Video Output Configuration Protection Restriction Object

Video Output Protection ID = 811C5110-46C8-4C6e-8163-C0482A15D47E

Binary Configuration Data = 520000

Analog Video Output Configuration Protection Restriction Object

Video Output Protection ID= D783A191-E083-4BAF-B2DA-E69F910B3772

Binary Configuration Data= 520000

If source indicates content was sourced from DTCP and DT Data resolution greater than a Constrained Image as defined in the DTCP Adopter Agreement

 Source Id Object

 Source Id = 258

If source indicates content was sourced from DTCP and DT Data resolution less than a Constrained Image as defined in the DTCP Adopter Agreement)

 Source Id Object

 Source Id = 265

If (Digital Only Token = ‘Asserted’ or Analog Sunset Token = ’Asserted’):

Analog Video Output Configuration Protection Restriction Object

Video Output Protection ID = 760AE755-682A-41E0-B1B3-DCDF836A7306

Binary Configuration Data = 0b

**Outputting EPN Encoded Content**. When using PlayReady to re-protect an output of DTCP protected content that is “EPN encoded”, as permitted under the applicable DTCP license agreement, the PlayReady rights are set as follows:

Output Protection Level Restriction Object

Minimum Compressed Digital Video Output ProtectionLevel = 400

Minimum Uncompressed Digital Video Output ProtectionLevel = 300

Minimum Analog Video Output ProtectionLevel =100

Minimum Compressed Digital Audio Output Protection Level = 100

Minimum Uncompressed Digital Audio Output Protection Level = 100

Security Level Object

Minimum Security Level = 2000

Restricted Source Id Object

 This object must not be contained in the license

If Image\_Contraint\_Token = 0b:

Analog Video Output Configuration Protection Restriction Object

Video Output Protection ID = 811C5110-46C8-4C6e-8163- C0482A15D47E

Binary Configuration Data = 520000

Analog Video Output Configuration Protection Restriction Object

Video Output Protection ID= D783A191-E083-4BAF-B2DA-E69F910B3772

Binary Configuration Data= 520000

If source indicates content was sourced from DTCP and DT Data resolution greater than a Constrained Image as defined in the DTCP Adopter Agreement

 Source Id Object

 Source Id = 258

If source indicates content was sourced from DTCP and DT Data resolution less than a Constrained Image as defined in the DTCP Adopter Agreement)

 Source Id Object

 Source Id = 265

If (Digital Only Token = ’Asserted’ or Analog Sunset Token = ’Asserted’):

Analog Video Output Configuration Protection Restriction Object

Video Output Protection ID = 760AE755-682A-41E0-B1B3-DCDF836A7306

Binary Configuration Data = 0b

6.17 Secure Stop

Neither the ***Secure Stop Object*** nor the ***Secure Stop 2 Object*** may be specified in a PlayReady License unless the ***Cannot Persist*** bit is set. The Secure Stop 2 Object may not be specified in a PlayReady License unless the Secure Stop Object is also specified.

6.18 Key Exchange Right

If the ***Key Exchange Key Material Object*** is specified in the PlayReady License then the allowed values for the ***Algorithm Field*** must be limited to values described in Table 6.18.1 (Allowed Key Exchange Algorithm Values)

Table 6.18.1: Allowed Key Exchange Algorithm Values

|  |  |
| --- | --- |
| **Allowed Value** | **Description** |
| 1 | Client may use the key to Encrypt with AES128CBC. The key must be 16 bytes. |
| 2 | Client may use the key to Decrypt with AES128CBC. The key must be 16 bytes |
| 3 | Client may use the key to Hash with SHA256HMAC. The key must be 64 bytes. |
| 4 | Client may use the key to Verify a hash created with SHA256HMAC. The key must be 64 bytes. |

Creating PlayReady-ND Licenses

A PlayReady Product may create PlayReady-ND Licenses only if all requirements in this Section 7 (Creating PlayReady-ND Licenses) are met.

Extensible Media Rights Specification

A PlayReady Product must create only PlayReady objects that follow the syntax defined in the “*PlayReady Extensible Media Rights Specification version 3.03”.*

Allowed PlayReady Objects

A PlayReady Product may only create PlayReady-ND Licenses that contain (i) PlayReady objects that are explicitly allowed in this Section 7 (Creating PlayReady-ND Licenses) or (ii) PlayReady objects in a hierarchy of objects necessary to contain PlayReady objects explicitly allowed in this Section 7 (Creating PlayReady-ND Licenses).

Every object explicitly allowed in this Section 7 (Creating PlayReady-ND Licenses) must also meet the requirements of Section 6 (Creating PlayReady Licenses). Where there is contradiction between Section 6 (Creating PlayReady Licenses) and Section 7 (Creating PlayReady-ND Licenses), the requirements of this Section 7 (Creating PlayReady-ND Licenses) take precedence.

Mandatory Objects

A PlayReady-ND License must contain all objects defined as mandatory in the “*PlayReady Extensible Media Rights Specification version 3.03*”.

Play Container

 A PlayReady-ND License must contain a Play Policy Container Object.

Rights Settings

A PlayReady-ND License may contain a Rights Setting Object.

Expiration

A PlayReady-ND License may contain an Expiration Restriction Object.

Issue Date

A PlayReady-ND License may contain an Issue Date Object.

Grace Period

A PlayReady-ND License may contain a Grace Period Object.

Policy Meta Data

A PlayReady-ND License may contain a Policy Meta Data Object.

Play Enabler

A PlayReady-ND License may contain a Play Enabler Type Object.

ECC

A PlayReady-ND License may contain an ECC Key Object.

Uplink

A PlayReady-ND License may contain an Uplink KID Object.

Real Time Expiration

A PlayReady-ND License may contain a Real Time Expiration Object.

Metering

A PlayReady-ND License issued as a Root License must not contain a Metering Restriction Object.

A PlayReady-ND License issued as a Simple License must not contain a Metering Restriction Object.

Expire After First Play

A PlayReady-ND License issued as a Root License must not contain an Expiration After First Play Restriction Object.

A PlayReady-ND License issued as a Simple License must not contain an Expiration After First Play Restriction Object.

Domain ID

A PlayReady-ND License must not contain a Domain Restriction Object.

Source ID

A PlayReady-ND License may contain a Source ID Object.

Restricted Source ID

A PlayReady-ND License may contain a Restricted Source ID Object.

Secure Stop

A PlayReady-ND License must not contain a Secure Stop Object or a ***Secure Stop 2 Object***.

Output Protection Objects

### Explicit Digital Audio Output Protection

A PlayReady-ND License may contain Digital Audio Output Configuration Protection Restriction Object.

### Explicit Analog Video Output Protection

A PlayReady-ND License may contain an Analog Video Output Configuration Protection Restriction Object.

### Output Protection Level

A PlayReady-ND License may contain an Output Protection Level Restriction Object.

Revocation Information Version

A PlayReady-ND Transmitter must set the RIV field of the Revocation Information Version Object in the PlayReady-ND License to the value of the Sequence Number field in the Revocation Information structure described in Section11.6 (Revocation Data Freshness).

Creating WMDRM-ND Licenses

A PlayReady Product may create WMDRM-ND Licenses only if all requirements in this Section 8 (Creating WMDRM-ND Licenses) are met.

Extensible Media Rights Specification

A PlayReady Product must create only WMDRM-ND objects that follow the syntax defined in the “*Windows Media DRM Extensible Media Rights Specification”.*

Rights Settings

If the PlayReady Product is functioning as a Network Device Transmitter, it must set the Cannot Persist bit in the Rights field of the Rights Settings Object to a value of 1.

Copy Policy Container

### The Copy Policy 2 Container Object must not be specified if the Copy Policy Container Object is specified in the WMDRM-ND License.

### The Copy Policy 2 Container Object may be specified in a WMDRM-ND License only if the PlayReady Product is a Network Device Transmitter as a Microsoft PBDA.

Copy Count

If the Copy Count 2 Restriction Object is specified in the WMDRM-ND License then the allowed values for Copy Enabler Type Object’s Copy Enabler Type field must be limited to values described in Section10.4(Content Provider Authorized Exports).

Copy Protection Level

If the Copy Protection Level Restriction Object is specified in the WMDRM-ND License, then the allowed values for the Minimum Copy Protection Level field must be limited to values listed in Table 8.5 (Allowed Minimum Copy Protection Level Values).

Table 8.5: Allowed Minimum Copy Protection Level Values

|  |  |
| --- | --- |
| **Allowed Value** | **Description** |
| 300 | Copy to PD-DRM devices, WMDRM-PD devices and PlayReady Portable Devices |
| 400 | Copy to WMDRM-PD devices and PlayReady Portable Devices |

Copy Enabler Type

### If the *Copy Enabler Type Object* is specified in the WMDRM-ND License, then the allowed values for the *Copy Enabler Type* field must be limited to values described in Section 10.4 (Content Provider Authorized Exports) or values listed in Table 8.6.1 (Allowed Copy Enabler Type Values).

Table 8.6.1: Allowed Copy Enabler Type Values

|  |  |
| --- | --- |
| **Allowed Value** | **Description** |
| {CE480EDE-516B-40b3-90E1-D6CFC47630C5} | Copy to PC |
| {6848955D-516B-4eb0-90E8-8F6D5A77B85F} | Copy to device |

### If the Copy Enabler Type Object is specified in the WMDRM-ND License then the Copy Enabler Type field value of {C3CF56E0-7FF2-4491-809F-53E21D3ABF07} may be specified only if (i) the PlayReady Product is a Network Device Transmitter as a Microsoft PBDA and (ii) the WMDRM-ND License is for WMDRM Content originating from ISDB.

Move Enabler Type

### If the Move Enabler Object is specified in the WMDRM-ND License, then the Minimum Move Protection Level field must be set to a value limited to a value listed in Table 8.7.2 (Allowed Minimum Move Protection Level Values).

### Only Network Device Transmitters as a Microsoft PBDA are allowed to include the Move Enabler Object in WMDRM-ND Licenses.

Table 8.7.2: Allowed Minimum Move Protection Level Values

|  |  |
| --- | --- |
| **Allowed Value** | **Description** |
| 500 | Move using an Internet service authorized by Microsoft. |

Explicit Digital Audio Output Protection

### WMDRM-ND Tuners may specify the Digital Audio Output Configuration Protection Restriction Object in the WMDRM-ND License.

### If the Digital Audio Output Configuration Protection Restriction Object is specified in the WMDRM-ND License then field values must be limited to values listed in Table 8.8.2 (Allowed Explicit Digital Audio Output Protection Values).

Table 8.8.2: Allowed Explicit Digital Audio Output Protection Values

|  |  |  |
| --- | --- | --- |
| Audio Output Protection ID **Field** | Binary Configuration Data **Field** | **Output Protection Description** |
| {6D5CFA59-C250-4426-930E-FAC72C8FCFA6} | 00, 01, 10, 11 | SCMS. See Table 3.6.2.8 (SCMS Control Bits) |

Explicit Analog Video Output Protection

### If the PlayReady Product is a WMDRM-ND Tuner, then it is allowed to specify an Analog Video Output Configuration Restriction Object with a Video Output Protection ID field containing the value {2098DE8D-7DDD-4BAB-96C6-32EBB6FABEA3}.

### If the PlayReady Product is a Network Device Transmitter as a Microsoft PBDA and the Analog Video Output Configuration Protection Restriction Object is specified in the WMDRM-ND License then field values must be limited to values listed in Table 8.9.3 (Allowed Explicit Analog Video Output Protection Values).

### If a PlayReady Product is required under Section 8.12 (Source ID) to set the Source ID field of the Source ID Object to a value of 266, then the PlayReady Product must also include in the WMDRM-ND License an Explicit Analog Video Output Protection Container Object with both: (i) an Analog Video Output Configuration Restriction Object with a Video Output Protection ID field containing the value {811C5110-46C8-4C6E-8163-C0482A15D47E} and a Binary Configuration Data field containing the value 520000, and (ii) an Analog Video Output Configuration Restriction Object with a Video Output Protection ID field containing the value {D783A191-E083-4BAF-B2DA-E69F910B3772} and a Binary Configuration Data field containing the value 520000.

Table 8.9.3: Allowed Explicit Analog Video Output Protection Values

| Video Output Protection ID **Field** | Binary Configuration Data **Field** | **Output Protection Description** |
| --- | --- | --- |
| {C3FD11C6-F8B7-4d20-B008-1DB17D61F2DA} | 0, 1, 2, 3 | AGC and Color Stripe |
| {2098DE8D-7DDD-4bab-96C6-32EBB6FABEA3} | 0, 1, 2, 3 | Explicit Analog Television Output Restriction |
| {811C5110-46C8-4C6e-8163- C0482A15D47E} | 520000 | Image constraint for Analog Component Video Output |
| {D783A191-E083-4BAF-B2DA-E69F910B3772} | 520000 | Image constraint for Analog Computer Monitor Output |

Output Protection Level

If the Output Protection Level Restriction Object is specified in the WMDRM-ND License then field values must be limited to values listed in Table 8.10 (Allowed Output Protection Level Values).

Table 8.10: Allowed Output Protection Level Values

| **Field** | **Allowed Values** |
| --- | --- |
| Minimum Compressed Digital Audio Output Protection Level | 100, 150, 200, 250, 300 |
| Minimum Uncompressed Digital Audio Output Protection Level | 100, 150, 200, 250, 300 |
| Minimum Compressed Digital Video Output Protection Level | 400, 500 |
| Minimum Uncompressed Digital Video Output Protection Level | 100, 150, 200 250, 270, 300 |
| Minimum Analog Video Output Protection Level | 100, 125, 150, 200 |

License Security Level

The Minimum Environment Object must be specified in the WMDRM-ND License. The allowed values for the Minimum Security Level field must be limited to values listed in Table 8.11 (Allowed License Security Level Values).

Table 8.11: Allowed License Security Level Values

| **Allowed Value** | **Description** |
| --- | --- |
| 150 | A License Security Level of 150 indicates the associated WMDRM Content is of non-commercial quality. The associated WMDRM Content can be accessed only by players and devices with a Certificate Security Level of 150 or higher. |
| 1000 | A License Security Level of 1000 indicates the associated WMDRM Content is of commercial quality. The associated WMDRM Content can be accessed only by players and devices with a Certificate Security Level of 1000 or higher. |
| 2000 | A License Security Level of 2000 indicates the associated WMDRM Content is of commercial quality. The associated WMDRM Content can be accessed only by players and devices with a Certificate Security Level of 2000 or higher. |

Source ID

### A PlayReady Product must not set the Source ID field of the Source ID Object to 265 for Content with an Effective Resolution of greater than 520,000 pixels per frame.

### A PlayReady Product that creates WMDRM-ND Licenses for WMDRM Content originating from one of the sources described in Table 8.12.2 (Allowed Source ID Values), must set the Source ID field of the Source ID Object to the value indicated in Table 8.12.2 (Allowed Source ID Values) corresponding to that source. A PlayReady Product that creates WMDRM-ND Licenses for WMDRM Content originating from a source that is not listed in Table 8.12.2 (Allowed Source ID Values) must not set the Source ID field of the Source ID Object.

Table 8.12.2: Allowed Source ID Values

| **Allowed Value** | **Source** |
| --- | --- |
| 1 | Macrovision |
| 2 | CGMS-A |
| 4 | OpenCable Unidirectional Receiver (OCUR)  |
| 257 | CPRM, CPPM |
| 258 | DTCP |
| 259 | OMA/CMLA |
| 262 | AACS (pre-recorded) |
| 263 | AACS (recordable) |
| 265 | DTCP at no greater than 520,000 pixels per frame |
| 266 | ISDB  |
| 267 | UltraViolet™ Download |
| 268 | UltraViolet™ Streaming |

Restricted Source ID

A PlayReady Product that creates a WMDRM-ND License for WMDRM Content originating from one of the sources described in Table 8.13 must include a Restricted Source ID Object.

Table 8.13: Allowed Source IDs for Restricted Source ID object

| **Source ID Field Value** | **Source** |
| --- | --- |
| 4 | OpenCable Unidirectional Receiver (OCUR)  |
| 267 | UltraViolet™ Download |

Revocation Information Version

If the PlayReady Product is a Network Device Transmitter as a Microsoft OCUR, it must set the RIV field of the Revocation Information Version Object in the WMDRM-ND License to the value of the Sequence Number field in the Revocation Information structure described in Section13.4 (Revocation Data Freshness).

Creating WMDRM-PD Licenses

A PlayReady Device Bridge may create WMDRM-PD Licenses only if all requirements in this Section 9 (Creating WMDRM-PD Licenses) are met.

Allowed Policies

A PlayReady Device Bridge must create WMDRM Policy only in a manner Consistent with the Microsoft Implementation.

Inclusion List

The INCLUSIONLIST node must not be specified in the WMDRM-PD License.

Explicit Analog Video Output Protection

If the RESTRICTIONS\ANALOGVIDEO\EXTENSIONLIST node is specified in the WMDRM-PD License, then EXTENSION GUID values must be limited to values listed in Table 9.3 (Allowed Explicit Analog Video Output Protection Values).

Table 9.3: Allowed Explicit Analog Video Output Protection Values

| EXTENSION GUID | EXTENSION VALUE | **Output Protection Description** |
| --- | --- | --- |
| {C3FD11C6-F8B7-4d20-B008-1DB17D61F2DA} | 0, 1, 2, 3 | AGC and Color Stripe |
| {2098DE8D-7DDD-4bab-96C6-32EBB6FABEA3} | 0, 1, 2, 3 | Explicit Analog Television Output Restriction |
| {811C5110-46C8-4C6e-8163- C0482A15D47E} | 520000 | Image constraint for Analog Component Video Output |
| {D783A191-E083-4BAF-B2DA-E69F910B3772} | 520000 | Image constraint for Analog Computer Monitor Output |

Output Control for Analog Television Outputs

If the RESTRICTIONS\ANALOGVIDEO node is specified in the WMDRM-PD License, then the value must be limited to the values listed in Table 9.4 (Allowed Output Control for Analog Television Outputs Values).

Table 9.4: Allowed Output Control for Analog Television Outputs Values

|  |  |
| --- | --- |
| **Node** | **Allowed Values** |
| RESTRICTIONS\ANALOGVIDEO | 100, 150, 200 |
|  |  |

Output Control for Compressed Digital Audio Content

If the RESTRICTIONS\COMPRESSEDDIGITALAUDIO node is specified in the WMDRM-PD License, then the value must be limited to the values listed in Table 9.5 (Allowed Output Control for Compressed Digital Audio Content Values).

Table 9.5: Allowed Output Control for Compressed Digital Audio Content Values

| **Node** | **Allowed Values** |
| --- | --- |
| RESTRICTIONS\COMPRESSEDDIGITALAUDIO | 100, 150, 200, 250, 300 |

Output Control for Uncompressed Digital Audio Content

If the RESTRICTIONS\UNCOMPRESSEDDIGITALAUDIO node is specified in the WMDRM-PD License, then the value must be limited to the values listed in Table 9.6 (Allowed Output Control for Uncompressed Digital Audio Content Values).

Table 9.6: Allowed Output Control for Uncompressed Digital Audio Content Values

| **Node** | **Allowed Values** |
| --- | --- |
| RESTRICTIONS\UNCOMPRESSEDDIGITALAUDIO | 100, 150, 200, 250, 300 |
|  |  |

Output Control for Compressed Digital Video Content

If the RESTRICTIONS\COMPRESSEDDIGITALVIDEO node is specified in the WMDRM-PD License, then the value must be limited to the values listed in Table 9.7 (Allowed Output Control for Compressed Digital Video Content Values).

Table 9.7: Allowed Output Control for Compressed Digital Video Content Values

| **Node** | **Allowed Values** |
| --- | --- |
| RESTRICTIONS\COMPRESSEDDIGITALVIDEO | 400, 500 |

Output Control for Uncompressed Digital Video Content

If the RESTRICTIONS\UNCOMPRESSEDDIGITALVIDEO node is specified in the WMDRM-PD License, then the value must be limited to the values listed in Table 9.8 (Allowed Output Control for Uncompressed Digital Video Content Values).

Table 9.8: Allowed Output Control for Uncompressed Digital Video Content Values

|  |  |
| --- | --- |
| **Node** | **Allowed Values** |
| RESTRICTIONS\UNCOMPRESSEDDIGITALVIDEO | 100, 250, 270, 300 |

License Security Level

The app.minseclevel variable in the ONSELECT\CONDITION\CDATA nodemust be specified in the WMDRM-PD License. The allowed values for the app.minseclevel variable must be limited to the values listed in Table 9.9 (Allowed License Security Level Values).

Table 9.9: Allowed License Security Level Values

|  |  |
| --- | --- |
| **Allowed Value** | **Description** |
| 150 | A License Security Level of 150 indicates the associated WMDRM Content is of non-commercial quality. The associated WMDRM Content can be accessed only by players and devices with a Certificate Security Level of 150 or higher. |
| 1000 | A License Security Level of 1000 indicates the associated WMDRM Content is of commercial quality. The associated WMDRM Content can be accessed only by players and devices with a Certificate Security Level of 1000 or higher. |
| 2000 | A License Security Level of 2000 indicates the associated WMDRM Content is of commercial quality. The associated WMDRM Content can be accessed only by players and devices with a Certificate Security Level of 2000 or higher. |

Source ID

### A PlayReady Product must not set the RESTRICTIONS\SOURCEID node to 265 for Content with an Effective Resolution of greater than 520,000 pixels per frame.

### A PlayReady Product that creates WMDRM-PD Licenses for WMDRM Content originating from one of the sources described in Table 9.10.2 (Allowed Source ID Values) must set the RESTRICTIONS\SOURCEID node to the value indicated in Table 9.10.2 (Allowed Source ID Values) corresponding to that source. A PlayReady Product that creates WMDRM-PD Licenses for WMDRM Content originating from a source that is not listed in Table 9.10.2 (Allowed Source ID Values) must not set the RESTRICTIONS\SOURCEID node.

Table 9.10.2: Allowed Source ID Values

| **Allowed Value** | **Source** |
| --- | --- |
| 1 | Macrovision |
| 2 | CGMS-A |
| 4 | OpenCable Unidirectional Receiver (OCUR)  |
| 257 | CPRM, CPPM |
| 258 | DTCP |
| 259 | OMA/CMLA |
| 262 | AACS (pre-recorded) |
| 263 | AACS (recordable) |
| 265 | DTCP at no greater than 520,000 pixels per frame |
| 266 | ISDB |

Revocation Information Version

If the RESTRICTIONS\INDEX node is specified in the WMDRM-PD License, then the value must be less than or equal to the value stored on the PlayReady Product.

Exporting PlayReady A/V Content

A PlayReady Product must comply with this Section 10 (Exporting PlayReady A/V Content) when Exporting decrypted PlayReady A/V Content.

Move Restriction

A PlayReady Product may bind to a PlayReady License containing a *Move Enabler Object* only if: (i) the *Minimum Move Protection Level* field value is equal to 500 and (ii) the PlayReady Product uses an Internet service authorized by Microsoft.

Payload Decryption

A PlayReady Product must not allow the Export Boundary to exceed one second of decrypted PlayReady A/V Content at any given time.

Salt Value

PlayReady Product must increment the Salt Value upon each Payload Key generation.

Content Provider Authorized Exports

Disclaimer

The appearance of a content protection system in this Section 10.4 (Content Provider Authorized Exports) is not intended to imply and will not be construed as Microsoft’s endorsement of such system or its associated obligations. Content Providers should thoroughly understand the potential consequences of Exporting decrypted PlayReady Content to any of the technologies, given the differences between PlayReady and the technologies listed herein.

Advanced Access Content System (AACS) Copy to AACS Blu-Ray Disc Recordable Media

Conditions

A PlayReady Product may Export decrypted PlayReady A/V Content to AACS only if the associated PlayReady License contains a Copy Enabler Type Object with a Copy Enabler Type field value of {C3CF56E0-7FF2-4491-809F-53E21D3ABF07}.

Rights Mapping

A PlayReady Product must set the following *Basic CCI for AACS* properties when Exporting decrypted PlayReady A/V Content:

The EPN field must be set to ‘1’ (“EPN-unasserted”).

The Move Not Allowed field must be set to ‘1’ (“Move is not allowed”).

The Digital Only Token field must be set to ‘0’ (“Output of decrypted content is allowed for Analog/Digital Outputs”).

The Trusted Source Mark Screening Required field must be set to the value returned by the AACS Trusted Source Mark Function. If the AACS Trusted Source Mark Function is not provided, the field must be set to ‘0’ (“Trusted Source Mark Screening is required.”).

If the PlayReady License contains an Analog Video Output Configuration Protection Restriction Object with (i) a Video Output Protection ID field value = {D783A191-E083-4BAF-B2DA-E69F910B3772} or (ii) a Video Output Protection ID field value = {811C5110-46C8-4C6E-8163-C0482A15D47E}, the Image Constraint Token value must be set to ‘0’ (High Definition Analog Output in the form of Constrained Image). Otherwise, the Image Constraint Token value must be set to ‘1’ (High Definition Analog Output in High Definition Analog Form).

The CCI field must be set as follows:

If (i) the Output Protection Level for Analog Television Outputs is less than or equal to 100, (ii) the PlayReady License does not contain an Analog Video Output Configuration Protection Restriction Object with a Video Output Protection ID field value of {2098DE8D-7DDD-4BAB-96C6-32EBB6FABEA3}, and (iii) the PlayReady License does not contain an Analog Video Output Configuration Protection Restriction Object with a Video Output Protection ID field value of {225CD36F-F132-49EF-BA8C-C91EA28E4369}, then the CCI field must be set to ‘00b’ (“Copy Control Not Asserted”).

If (i) the Output Protection Level for Analog Television Outputs is greater than or equal to 101 and less than or equal to 150, and (ii) the PlayReady License does not contain an Analog Video Output Configuration Protection Restriction Object with a Video Output Protection ID field value of {2098DE8D-7DDD-4BAB-96C6-32EBB6FABEA3}, then the *CCI* field must be set to ‘11b’ (“Never Copy”).

If (i) the PlayReady License contains an Analog Video Output Configuration Protection Restriction Object with a Video Output Protection ID field valueof {2098DE8D-7DDD-4BAB-96C6-32EBB6FABEA3}, and (ii) the Output Protection Level for Analog Television Outputs is less than or equal to 150, then the *CCI* field must be set to the least significant two bits of the Binary Configuration Data field values, defined in Table 3.6.7.1: (Bit Values for Copying to CGMS-A), when cast as a binary value.

If (i) the PlayReady License contains an Analog Video Output Configuration Protection Restriction Object with a Video Output Protection ID field value of {225CD36F-F132-49EF-BA8C-C91EA28E4369}, (ii) the Output Protection Level for Analog Television Outputs is less than or equal to 100, and (iii) the PlayReady License does not contain an Analog Video Output Configuration Protection Restriction Object with a Video Output Protection ID field value of {2098DE8D-7DDD-4BAB-96C6-32EBB6FABEA3}, then the *CCI* field must be set to the least significant two bits of the Binary Configuration Data field values, defined in Table 3.6.7.1: (Bit Values for Copying to CGMS-A**)**, when cast as a binary value.

If the Output Protection Level for Analog Television Outputs is greater than or equal to 151, then the CCI field must be set to ‘11b’ (“Never Copy”).

The APSTB field must be set as follows:

If the PlayReady License does not contain an Analog Video Output Configuration Protection Restriction Object with a Video Output Protection ID field value of {C3FD11C6-F8B7-4D20-B008-1DB17D61F2DA}, then the APSTB value must be set to ‘000b’ (“APS off”).

If the PlayReady License contains an Analog Video Output Configuration Protection Restriction Object with a Video Output Protection ID field value = {C3FD11C6-F8B7-4D20-B008-1DB17D61F2DA}, then the APSTB value must be set to the least significant two bits of the Binary Configuration Data field values defined in Table 3.6.7.2 (APSTB Values for Automatic Gain Control and Color Stripe), when cast as a binary value.

Advanced Access Content System (AACS) Move to AACS Blu-Ray Disc Recordable Media

Conditions

A PlayReady Product may Export decrypted PlayReady A/V Content to AACS only if the associated PlayReady License contains (i) Copy Enabler Type Object with a Copy Enabler Type field value of {C3CF56E0-7FF2-4491-809F-53E21D3ABF07} and (ii) a Move Enabler Object.

Rights Mapping

A PlayReady Product must set the Basic CCI for AACS properties to be consistent with Section 10.4.3.2 (Rights Mapping) except the Move Not Allowed field must be set to ‘0’ (“Move is allowed”).

Content Scrambling System (CSS)

Conditions

A PlayReady Product may Export decrypted PlayReady A/V Content to CSS only if the associated PlayReady License contains a Copy Enabler Type Object with a Copy Enabler Type field value of {3CAF2814-A7AB-467C-B4DF-54ACC56C66DC}.

Rights Mapping

A PlayReady Product must set the following CSS properties when Exporting decrypted PlayReady A/V Content:

The CGMS-A field in the content sector headers of all the CSS protected video object **(**VOB) files must be set to ‘11b’ (“Copy Never”).

The APSTB value of the Presentation Control Information (PCI) in each navigation data pack of all the CSS protected video object (VOB) files must be set as follows:

If the PlayReady License does not contain an Analog Video Output Configuration Protection Restriction Object with a Video Output Protection ID field value of {C3FD11C6-F8B7-4D20-B008-1DB17D61F2DA}, the APSTB value must be set to ‘00b’ (“APS off”).

If the PlayReady License contains an Analog Video Output Configuration Protection Restriction Object with a Video Output Protection ID field value = {C3FD11C6-F8B7-4D20-B008-1DB17D61F2DA}, the APSTB value must be set to the least significant two bits of the Binary Configuration Data field values defined in Table 3.6.7.2 (APSTB Values for Automatic Gain Control and Color Stripe), when cast as a binary value.

Digital Transmission Content Protection (DTCP)

Conditions

A PlayReady Product may Export decrypted PlayReady A/V Content to DTCP only if the associated PlayReady License contains a Play Enabler Type Object with a Play Enabler Type field value of {D685030B-0F4F-43A6-BBAD-356F1EA0049A}.

Rights Mapping

A PlayReady Product must set the following DTCP properties when Exporting decrypted PlayReady A/V Content:

Encryption Plus Non assertion must be set to ‘EPN-unasserted’.

DTCP\_CCI must be set to ‘11b’ (“DTCP: Copy never”).

EMI must be set to ‘11b’ (“DTCP: Mode A. Copy never”).

The DTCP\_APS value must be set as follows:

If the PlayReady License does not contain an Analog Video Output Configuration Protection Restriction Object with a Video Output Protection ID field value of {C3FD11C6-F8B7-4D20-B008-1DB17D61F2DA}, the APSTB value must be set to ‘00b’ (“APS off”).

If the PlayReady License contains an Analog Video Output Configuration Protection Restriction Object with a Video Output Protection ID field value = {C3FD11C6-F8B7-4D20-B008-1DB17D61F2DA}, the DTCP\_APS value must be set to the least significant two bits of the Binary Configuration Data field values defined in Table 3.6.7.2 (APSTB Values for Automatic Gain Control and Color Stripe), when cast as a binary value.

The DTCP\_DOT value must be set as follows:

If the PlayReady License does contain an Analog Video Output Configuration Protection Restriction Object with a Video Output Protection ID field value of {760AE755-682A-41E0-B1B3-DCDF836A7306}, the DTCP\_DOT value must be set to “DOT Asserted”.

Content Protection Recordable Media (CPRM)

Conditions

A PlayReady Product may Export decrypted PlayReady A/V Content to CPRM only if the associated PlayReady License contains a Copy Enabler Type Object with a Copy Enabler Type field value of either {CDD801AD-A577-48DB-950E-46D5F1592FAE} or {C3CF56E0-7FF2-4491-809F-53E21D3ABF07}.

Rights Mapping

A PlayReady Product must set the following CPRM properties when Exporting decrypted PlayReady A/V Content:

The CPRM Current Move Control information must be set to ‘0000b’ (“Move is never permitted”).

The CPRM Copy Count Control information must be set to ‘1111b’ (“Copy is never permitted”).

Content Protection Recordable Media (CPRM) Move

Conditions

A PlayReady Product may Export decrypted PlayReady A/V Content to CPRM only if the associated PlayReady License contains (i) a Copy Enabler Type Object with a Copy Enabler Type field value of either {CDD801AD-A577-48DB-950E-46D5F1592FAE} or {C3CF56E0-7FF2-4491-809F-53E21D3ABF07}, and (ii) a Move Enabler Object.

Rights Mapping

A PlayReady Product must set the following CPRM properties when Exporting decrypted PlayReady A/V Content:

The CPRM Current Move Control information must be set to ‘1111b’ (Move is permitted unlimited times).

The CPRM Copy Count Control information must be set to ‘1111b’ (“Copy is never permitted”).

Helix Playback

Conditions

A PlayReady Product may Export decrypted PlayReady A/V Content to Helix only if the associated PlayReady License contains a Play Enabler Type Object with a Play Enabler Type field value of {002F9772-38A0-43E5-9F79-0F6361DCC62A}.

Rights Mapping

A PlayReady Product must set the following Helix properties when Exporting decrypted PlayReady A/V Content:

Helix DRM AllowPlayOnPC = True.

Helix DRM PlaybackCount = 1.

Helix DRM PlaybackThreshold = 0.

Helix DRM EMI = Copy Never.

Helix Copy

Conditions

A PlayReady Product may Export decrypted PlayReady A/V Content to Helix only if the associated PlayReady License contains a Copy Enabler Type Object with a Copy Enabler Type field value of {CCB0B4E3-8B46-409e-A998-82556E3F5AF4}.

Rights Mapping

A PlayReady Product must set the following Helix properties when Exporting decrypted PlayReady A/V Content:

Helix DRM AllowPlayOnPC = False.

Helix DRM AllowTransferToSDMI = True.

Helix DRM AllowTransferToNonSDMI = True.

Helix DRM TransferCount = 1.

Helix DRM EMI = Copy Never.

Orange Book CD

Conditions

A PlayReady Product may Pass the audio portion of uncompressed decrypted PlayReady A/V Content to a CD-R or CD-RW drive for the purpose of creating an Orange Book CD only if the associated PlayReady License contains a Copy Enabler Type Object with a Copy Enabler Type field value of {EC930B7D-1F2D-4682-A38B-8AB977721D0D}.

Caching

A PlayReady Product may cache the audio portion of uncompressed decrypted PlayReady A/V Content prior to beginning to master an Orange Book CD only if the decrypted PlayReady A/V Content is stored as part of a single file, and the cached copy is deleted from Persistent Storage once the operation is complete. The file must be in a format that cannot be played back using widely available media playback software.

Secure Digital Container for Copy

Conditions

A PlayReady Product may Export decrypted PlayReady A/V Content to the Secure Digital Container (SDC) output technology if the associated PlayReady License contains a Copy Enabler Type Object with a Copy Enabler Type field value of {79F78A0D-0B69-401e-8A90-8BEF30BCE192}.

Rights Mapping

A PlayReady Product must set the following SDC properties when Exporting decrypted PlayReady A/V Content:

sdc3.license.type = unlimitedPlayback.

sdc3.track.preview.seconds =0.

Secure Digital Container for Copy with Preview

Conditions

A PlayReady Product may Export decrypted PlayReady A/V Content to the Secure Digital Container (SDC) output technology if the associated PlayReady License contains a Copy Enabler Type Object with a Copy Enabler Type field value of {81BD9AD4-A720-4ea1-B510-5D4E6FFB6A4D}.

Rights Mapping

A PlayReady Product must set the following SDC properties when Exporting decrypted PlayReady A/V Content:

sdc3.license.type = unlimitedPlayback.

sdc3.track.preview.seconds = 30.

Secure Digital Container for Limited Copy

Conditions

A PlayReady Product may Export decrypted PlayReady A/V Content to the Secure Digital Container (SDC) output technology if the associated PlayReady License contains a Copy Enabler Type Object with a Copy Enabler Type field value of {E6785609-64CC-4bfa-B82D-6B619733B746}.

Rights Mapping

A PlayReady Product must set the following SDC properties when Exporting decrypted PlayReady A/V Content:

sdc3.license.type = subscriptionMetaLicense.

sdc3.track.preview.seconds = 0.

If the PlayReady License contains an Expiration Restriction Object with a Begin Date field value <> 0xFFFFFFFF, the sdc3.license.startdate value must be set as the computed date of January 1st, 1970 plus the number of milliseconds stored in the Begin Date field. Otherwise, the sdc3.license.startdate value must be set to 0.

If the PlayReady License contains an Expiration Restriction Object with an End Date field value <> 0xFFFFFFFF, the sdc3.license.enddate value must be set as the computed date of January 1st, 1970 plus the number of milliseconds stored in the End Date field. Otherwise, the sdc3.license.enddate value must be set to 9999999999999.

Print

Conditions

A PlayReady Product may direct decrypted PlayReady Digital Literary Content to a local printer, or local Braille embosser, if the associated PlayReady License contains a Copy Enabler Type Object with a Copy Enabler Type field value of {3CF2E054-F4D5-46cd-85A6-FCD152AD5FBE}.

Copy to Clipboard

Conditions

A PlayReady Product may direct decrypted PlayReady Digital Literary Content to a local Clipboard if the associated PlayReady License contains a Copy Enabler Type Object with a Copy Enabler Type field value of {6E76C588-C3A9-47ea-A875-546D5209FF38}.

High-bandwidth Digital Content Protection (HDCP)

#### Conditions

A PlayReady Product may Export decrypted compressed PlayReady A/V Content to a licensed implementation of HDCP only if the PlayReady Product follows restrictions as specified in this Section 10.4.16.1. If the PlayReady License contains a Digital Video Output Restriction Object with a Video Output Restriction ID of {ABB2C6F1-E663-4625-A945-972D17B231E7}, the requirements defined in Section 3.6.5.7 (Explicit Digital Video Output Restrictions) must be applied to all outputs described in this Section 10.4.16 (High-bandwidth Digital Content Protection)

##### WiVu

A PlayReady Product may Export decrypted compressed PlayReady A/V Content to a licensed implementation of HDCP 2.0 or newer if the associated PlayReady License contains a PlayEnabler Type Object with a Play Enabler Type field value of {1B4542E3-B5CF-4C99-B3BA-829AF46C92F8} and the Export occurs over WiVu.

##### Miracast

To Export to Miracast under previous versions of the PlayReady Compliance and Robustness Rules, PlayReady Products required that an associated PlayReady License contain a *Play Enabler Type Object* with a *Play Enabler Type* field value of {A340C256-0941-4D4C-AD1D-0B6735C0CB24} and that the Export occurred over Miracast. PlayReady Servers may continue to specify those values in licenses when communicating with such products only for the purpose of the continued support of the Export of content to Miracast on such Licensed Products.

AirPlay

#### Conditions

A PlayReady Product may Export decrypted compressed PlayReady A/V Content to a licensed implementation of AirPlay if the associated PlayReady License contains a *Play Enabler Type Object* with a *Play Enabler Type* field value of {5ABF0F0D-DC29-4B82-9982-FD8E57525BFC}

Pro:Idiom

#### Conditions

A PlayReady Product may Export decrypted compressed PlayReady A/V Content to a licensed implementation of Pro:Idiom if the associated PlayReady License contains a Play Enabler Type Object with a Play Enabler Type field value of {253C45E3-EF71-4A34-AF79-5BEFBA101A16}.

#### Rights Mapping

A PlayReady Product must set the following properties when Exporting decrypted PlayReady A/V Content to a licensed implementation of Pro:Idiom:

CCI must be set to ‘11b’ (“Copy never”).

Summit Wireless Audio Technology

#### Conditions

A PlayReady Product may Export decrypted compressed PlayReady Audio Content to a licensed implementation of a Summit Wireless Audio System if the associated PlayReady License contains a Play Enabler Type Object with a Play Enabler Type field value of {3E2ECE5B-C792-4A81-B4E2-89F62A4AD972}.

Software Endpoint

#### Conditions

A PlayReady Product may Export decrypted uncompressed PlayReady Content to a Software Endpoint only if (i) the associated PlayReady License contains a ***Play Enabler Type Object*** with a ***Play Enabler Type*** field value of {AE092501-A9E3-46F6-AFBE-628577DCDF55}, (ii) the associated PlayReady License contains a License Security Level of 2000 or lower, (iii) the Effective Resolution of the PlayReady Video Content is less than or equal to 921,600 pixels per frame, (iv) such PlayReady Video Content is only consumed within in a virtual, augmented, or mixed reality environment, and (v) the Software Endpoint Passes any such Exported PlayReady Video Content to a stereoscopic head-mounted display.

Transmitting to PlayReady-ND Receiver

A PlayReady Product must comply with this Section 11 (Transmitting to PlayReady-ND Receiver) when Transmitting to a PlayReady-ND Receiver.

Key Usage

A PlayReady Product must not Transmit to a PlayReady-ND Receiver whose Device Certificate does not contain the *PlayReady-ND Encrypt* key usage or whose Device Certificate does not contain the *Receiver* feature.

Timer

The PlayReady Product must implement a timer with a resolution of no coarser than one (1) millisecond.

Security Level Verification

A PlayReady Product must verify that the Certificate Security Level in the Device Certificate of the associated PlayReady-ND Receiver is not less than the minimum License Security Level of the PlayReady License for the requested PlayReady A/V Content. If this verification fails, the PlayReady Product must not Transmit to the associated PlayReady-ND Receiver.

Proximity Detection Policy

Round Trip Time (RTT) Verification

A PlayReady Product must verify that the RTT between the PlayReady Product and the associated PlayReady-ND Receiver, as measured, is no more than seven (7) milliseconds computed with a timer as described in Section 11.2 (Timer).

Time To Live (TTL)

A PlayReady Product must set the TTL to three (3) in the IPv4 header of the proximity challenge message when Transmitting over IPv4 networks.

Hop Count

A PlayReady Product must set the Hop Count to three (3) in the IPv6 header of the proximity challenge message when Transmitting over IPv6 networks.

Revalidation of PlayReady-ND Receivers

A PlayReady Product may Transmit to a PlayReady-ND Receiver only if the associated PlayReady-ND Receiver has successfully completed registration and a proximity challenge at least once in the preceding forty-eight (48) hour period.

Revocation Data

Revocation Data.

A PlayReady Product must verify the validity of the Revocation Data, including but not limited to Revocation Information Version structure, Consistent with the Microsoft Implementation. If the verification fails, the Licensed Product must not Transmit.

PlayReady-ND Receiver Revocation.

A PlayReady Product must verify, on every registration, that none of the Certificates in the Certificate Chain associated with the PlayReady-ND Receiver appears in the Revocation Data. If any of the Certificates in the Certificate Chain are present in the Revocation Data, the Licensed Product must not Transmit to the associated PlayReady-ND Receiver.

Revocation Data Freshness

A PlayReady-ND Transmitter may Transmit to the associated PlayReady-ND Receiver only if the Issued Time on the Revocation Data Timestamp is no more than ninety (90) days prior to the current date/time received from a Secure Time Source

Transmitting to Concurrent PlayReady-ND Receivers

PlayReady-ND Transmitter

A PlayReady Product may Transmit to no more than ten (10) PlayReady-ND Receivers concurrently.

PlayReady-ND Protocol Messages

Implementation

A PlayReady Product must implement all PlayReady-ND Protocol messages in a manner that is Consistent with the Microsoft Implementation.

PlayReady-ND Registration Nonce Randomness

A PlayReady Product as a PlayReady-ND Transmitter must use a Cryptographically Random number generator to generate any PlayReady-ND Registration Nonce.

PlayReady-ND Registration Nonce Validation

A PlayReady Product as a PlayReady-ND Transmitter must verify that the Nonce received from a PlayReady-ND Receiver is equivalent to the Nonce sent by the PlayReady Product. If the verification of the Nonce fails, the PlayReady Product must not Transmit to the associated PlayReady-ND Receiver.

Receiving from PlayReady-ND Transmitter

Requirements for Complying with Policy

The following Compliance Rules are applicable to the Policy as specified in a PlayReady-ND License:

Metering

When processing a Root License or a Simple License, a PlayReady Product must fail to process it if it contains a Metering Restriction Object.

When processing a Leaf License, a PlayReady Product must ignore the Metering Restriction Object.

Expire After First Play

When processing a Root License or a Simple License, a PlayReady Product must fail to process it if it contains an Expiration After First Play Restriction Object.

When processing a Leaf License, a PlayReady Product must ignore the Expiration After First Play Restriction Object.

Domain ID

When processing a License, a PlayReady Product must fail to process it if it contains a Domain Restriction Object.

Transmitting Received Content

A PlayReady-ND Receiver may not Transmit content it Receives from a PlayReady-ND Transmitter.

Transmitting to WMDRM-ND Receiver

A PlayReady Product must comply with this Section 13 (Transmitting to WMDRM-ND Receiver) when Transmitting to a WMDRM-ND Receiver.

Timer

The PlayReady Product must implement a timer with at least one (1) millisecond resolution.

Security Level Verification

A PlayReady Product must verify that the Certificate Security Level in the Device Certificate of the associated WMDRM-ND Receiver is not less than the License Security Level of the PlayReady License for the requested PlayReady A/V Content. If this verification fails, the PlayReady Product must not Transmit to the associated WMDRM-ND Receiver.

Proximity Detection Policy

Round Trip Time (RTT) Verification

A PlayReady Product must verify that the RTT between the PlayReady Product and the associated WMDRM-ND Receiver, as measured, is no more than seven (7) milliseconds computed with a timer as described in Section 13.1 (Timer).

Time To Live (TTL)

A PlayReady Product must set the TTL to three (3) in the IPv4 header of the proximity challenge message when Transmitting over IPv4 networks.

Hop Count

A PlayReady Product must set the Hop Count to three (3) in the IPv6 header of the proximity challenge message when Transmitting over IPv6 networks.

Revalidation of WMDRM-ND Receivers

A PlayReady Product may Transmit to a WMDRM-ND Receiver only if the associated WMDRM-ND Receiver has successfully completed a proximity challenge at least once in the preceding forty-eight (48) hour period.

Revocation Data Freshness

A WMDRM-ND Transmitter as a Microsoft OCUR may Transmit to the associated WMDRM-ND Receiver only if the Issued Time on the Revocation Data Timestamp is no more than ninety (90) days prior to the current date/time received from a Secure Time Source. For the avoidance of doubt, when the condition in this Section 13.4 (Revocation Data Freshness) is not met, a PlayReady Product implementing both WMDRM-ND Transmitter and WMDRM-ND Transmitter as a Microsoft OCUR may Transmit if the PlayReady Product is functioning in the capacity of a WMDRM-ND Transmitter (not as a WMDRM-ND Transmitter as a Microsoft OCUR).

Transmitting to Concurrent WMDRM-ND Receivers

WMDRM-ND Transmitter

Subject to Section 13.5.2 (WMDRM-ND Transmitter as a Microsoft OCUR), a PlayReady Product may Transmit to no more than ten (10) WMDRM-ND Receivers concurrently.

WMDRM-ND Transmitter as a Microsoft OCUR

A WMDRM-ND Transmitter as a Microsoft OCUR may Transmit to no more than one (1) WMDRM-ND Receiver concurrently.

WMDRM-ND Protocol Messages

Implementation

A PlayReady Product must implement all WMDRM-ND Protocol messages in a manner that is Consistent with the Microsoft Implementation.

Protocol Specification

Subject to Section 13.6.1.2 (Protocol Specification for PBDA Transmitters), a WMDRM-ND Transmitter must implement all WMDRM-ND Protocol messages in a manner that is consistent with the Windows Media DRM for Network Devices Specification v1.65 or higher.

Protocol Specification for PBDA Transmitters

A WMDRM-ND Transmitter as a Microsoft PBDA must implement all WMDRM-ND Protocol messages in a manner that is consistent with the Windows Media DRM for Network Devices Specification v3.00 or higher.

Nonce

A PlayReady Product must verify that the Nonce received from the WMDRM-ND Receiver is equivalent to the Nonce sent by the PlayReady Product. If the verification of the Nonce fails, the PlayReady Product must not Transmit to the associated WMDRM-ND Receiver.

Receiving from WMDRM-ND Transmitter

Requirements for Complying with Policy

The following Compliance Rules are applicable to the WMDRM Policy as specified in a WMDRM-ND License:

Cannot Persist License Policy

A PlayReady Product must not write WMDRM-ND Licenses that include a Rights Settings Object with the CannotPersist bit set to Persistent Storage.

Cannot Persist License With Expiration

A PlayReady Product that Receives a WMDRM-ND License that includes a Rights Settings Object with the CannotPersist bit set and an Expiration Restriction Object must not Pass the WMDRM Content after the expiration date and time as specified in the End Date field of the Expiration Restriction Object.

Cannot Persist License Without Expiration

A PlayReady Product receiving WMDRM Content with an associated WMDRM-ND License that has the CannotPersist bit set in the Rights Settings Object and no Expiration Restriction Object may cache no more than five (5) minutes of the associated WMDRM Content in Temporary Storage for the sole purpose of reducing the effects of network congestion and optimizing playback performance. A PlayReady Product must delete the cached reference of WMDRM Content from Temporary Storage once a PlayReady Product begins Passing a new piece of WMDRM Content.

Persistable License Policy

WMDRM-ND Receivers that Receive from a WMDRM-ND Transmitter as a Microsoft OCUR may Store *License Update Messages*.

Requirements for PlayReady Devices

Scope

This Section specifies requirements applicable to PlayReady Portable Devices, PlayReady Device Bridges, PlayReady-ND Receivers, PlayReady-ND Transmitters, WMDRM-ND Receivers, and/or WMDRM-ND Transmitter.

Architecture

A PlayReady Portable Device, PlayReady Device Bridge, PlayReady-ND Receiver, PlayReady-ND Transmitter, WMDRM-ND Receiver, and WMDRM-ND Transmitter must each execute entirely on a single device. PlayReady Products may provide access to certain Content Protection Functions via an API, interface, or other similar mechanism created by Company. If a PlayReady Product exposes such a mechanism (e.g. API or interface), it must: (i) limit such Content Protection Functions to decryption, encryption, and acquisition or issuances of licenses for Content, (ii) not be used for developing new or different digital rights management, content protection, or content access technology, and (iii) not result in the failure of the PlayReady Product to comply with the Compliance Rules and/or Robustness Rules.

Requirements for PlayReady-ND Transmitters

A PlayReady-ND Transmitter must comply with all requirements in Section 2 (Requirements for All PlayReady Products), Section 15.1 (Scope) and Section 15.2 (Architecture), and this Section 15.3 (Requirements for PlayReady-ND Transmitters), and may implement features described in Section 7 (Creating PlayReady-ND Licenses), and Section 11 (Transmitting to PlayReady-ND Receiver), only if they conform to the Compliance Rules in those Sections.

Clock

A PlayReady-ND Transmitter must implement Anti-Rollback Clock or Secure Clock.

A/V Content

A PlayReady-ND Transmitter that is also a PlayReady Portable Device may decrypt A/V Content for the purpose of acting as a PlayReady-ND Transmitter in accordance with the applicable Compliance Rules, as described in Section 15.3 (Requirements for PlayReady-ND Transmitters).

Protocol

A PlayReady-ND Transmitter must Transmit in accordance with the PlayReady-ND Protocol.

Requirements for PlayReady-ND Receivers

A PlayReady-ND Receiver must comply with all requirements in Section 2 (Requirements for All PlayReady Products), Section 15.1 (Scope), Section 15.2 (Architecture), Section 15.9 (Requirements for PlayReady Portable Devices), and this Section 15.4 (Requirements for PlayReady-ND Receivers) and may implement features described in Section 3 (Passing A/V Content), and Section 12 (Receiving from PlayReady-ND Transmitter), only if they conform to the Compliance Rules in those Sections.

Key Usages

A Device Certificate for a PlayReady-ND Receiver must contain the KeyUsage rights EnryptKey, PRNDEncrypt, and Sign. The keys for these key usages must be individually unique.

Requirements for WMDRM-ND Transmitters

A WMDRM-ND Transmitter must comply with all requirements in Section 2 (Requirements for All PlayReady Products), Section 15.1 (Scope) and Section 15.2 (Architecture), and this Section 15.5 (Requirements for WMDRM-ND Transmitters), and may implement features described in Section 8 (Creating WMDRM-ND Licenses), and Section 13 (Transmitting to WMDRM-ND Receiver), only if they conform to the Compliance Rules in those Sections.

Clock

A WMDRM-ND Tuner must implement Anti-Rollback Clock or Secure Clock.

A/V Content

A WMDRM-ND Transmitter that is also a PlayReady Portable Device may decrypt A/V Content for the purpose of acting as a WMDRM-ND Transmitter in accordance with the applicable Compliance Rules, as described in Section 15.5 (Requirements for WMDRM-ND Transmitters).

Requirements for WMDRM-ND Receivers

A WMDRM-ND Receiver must comply with all requirements in Section 2 (Requirements for All PlayReady Products), Section 15.1 (Scope), Section 15.2 (Architecture), and this Section 15.6 (Requirements for WMDRM-ND Receivers) and may implement features described in Section 3 (Passing A/V Content), and Section 14 (Receiving from WMDRM-ND Transmitter), only if they conform to the Compliance Rules in those Sections.

WMDRM-ND Receiver Certificates

Company Certificate

Company must use the Company Certificate to sign Firmware Certificates and/or Contract Manufacturer Certificates.

Contract Manufacturer Certificates

If Company uses a contract manufacturer, Company must issue a unique Contract Manufacturer Certificate for use by each contract manufacturer on Company’s behalf. Each Contract Manufacturer Certificate must be signed with the private key corresponding to the Company Certificate.

**SignCertificate**

Contract Manufacturer Certificates must contain the KeyUsage right of SignCertificate and no other KeyUsage rights.

Firmware Certificates

Firmware Certificates must be unique for each model number of a PlayReady Product. If a PlayReady Product undergoes a firmware revision, then each firmware version must have a unique Firmware Certificate. Firmware Certificates must be signed with the private key corresponding to either the Company Certificate or the Contract Manufacturer Certificate.

**SignCertificate**

Firmware Certificates must contain the KeyUsage right of SignCertificate and no other KeyUsage rights.

Device Certificates

Company or a contract manufacturer acting on Company’s behalf must issue a unique Device Certificate for inclusion in each model or firmware/revision of each PlayReady Product manufactured by or on behalf of Company. Device Certificates must be signed with the private key corresponding to the Firmware Certificate.

**EncryptKey**

A Device Certificate must contain a KeyUsage right EncryptKey and no other KeyUsage rights.

**Certificate Security Level**

A Device Certificate must contain the Certificate Security Level as provided to Company by Microsoft.

WMDRM-ND Receiver Certificate Keys

A Public Key and Private Key must be generated for inclusion in all WMDRM-ND Receiver Certificates. The Public Key and Private Key must be unique for each Certificate.

Serial Number

Each instance of a WMDRM-ND Receiver must use either a unique Serial Number or a unique Device Certificate.

Persistent Storage

A WMDRM-ND Receiver must provide Persistent Storage for the Device Certificate and the associated Certificate Chain.

Requirements for PlayReady Restricted Functionality WMDRM-ND Receiver

A PlayReady Restricted Functionality WMDRM-ND Receiver must Receive only as described in Section 14 (Receiving from WMDRM-ND Transmitter).

Requirements for PlayReady Device Bridges

A PlayReady Device Bridge must comply with the requirements in Section 2 (Requirements for All PlayReady Products), Section 9 (Creating WMDRM-PD Licenses), Section 15.1 (Scope), Section 15.2 (Architecture), this Section 15.8 (Requirements for PlayReady Device Bridges) and Section 15.9 (Requirements for PlayReady Portable Devices).

Indirect License Issuance via USB

A PlayReady Product may Transmit via USB only if the PlayReady Product supports all mandatory features and supported optional features of the MTP protocol, as specified in the WMDRM-PD MTP Extensions Technical Documentation.

Indirect License Issuance over any Protocol

A PlayReady Product may create WMDRM Licenses and Transmit via any protocol only if (i) the WMDRM Licenses Received by the PlayReady Product for the affected WMDRM Content contains an Inclusion List Object with a value of {0FB334DC-DE98-4DDC-A8A7-67D7676C0163}; and (ii) the PlayReady Product uses a technical mechanism (which may, but need not, be part of the PlayReady implementation) to verify that the Content Provider has authorized the PlayReady Product to Transmit the WMDRM Licenses. WMDRM Licenses created under this Section 15.8.2 (Indirect License Issuance over any Protocol) must contain WMDRM Policy as specified by the Content Provider.

Requirements for PlayReady Portable Devices

A PlayReady Portable Device must comply with all requirements in Section 2 (Requirements for All PlayReady Products), Section 15.1 (Scope), Section 15.2 (Architecture), and this Section 15.9 (Requirements for PlayReady Portable Devices), and may implement features described in Section 3 (Passing A/V Content), Section 4 (Running Software Content), and Section 5 (Displaying Digital Literary Content) only if they conform to the Compliance Rules in that Section.

Requirements for PlayReady Restricted Functionality Portable Device

A PlayReady Restricted Functionality Portable Device must Pass only WMDRM Content, and/or Receive as described in Section 14 (Receiving from WMDRM-ND Transmitter), and/or Transmit as described in Section 13 (Transmitting to WMDRM-ND Receiver).

Device Group Certificate Metadata

A Device Group Certificate must include accurate metadata unless expressly approved in writing by Microsoft Corporation. Each Device Group Certificate must include the manufacturer name, model number, and hardware revision, and optionally may include the major firmware revision. Company must use a unique Device Group Certificate for each Device Group.

Device Model Certificate Metadata

A Device Model Certificate must include accurate metadata unless expressly approved in writing by Microsoft Corporation. Each Device Model Certificate must include the manufacturer name, model name and model number. Company must use a unique Device Model Certificate for each Device Group.

Device Certificate

A Device Certificate must include the Serial Number of the individual PlayReady Product on which it is stored. Company may include manufacturer name, model name and model number in the Device Certificate only if expressly approved in writing by Microsoft Corporation. Device Certificates generated by the Company or contract manufacturer acting on Company’s behalf must be Consistent with the Microsoft Implementation.

Cryptographic Keys

Device Keys

A Device Key must be generated using a random number generator that is Cryptographically Random and must be unique for each individual PlayReady Portable Device.

Device Certificate Signing Keys

A Device Certificate Signing Key must be generated using a random number generator that is Cryptographically Random and must be unique for each Device Group.

Company may choose to not include Device Certificate Signing Keys in the PlayReady Product.

Serial Number

Company must assign a Serial Number to each individual PlayReady Portable Device manufactured by or on behalf of Company.

Data Stores

A PlayReady Portable Device must implement support for PlayReady Data Stores.

Delayed Updates to Secure Store

If a PlayReady Portable Device caches decrypted A/V Content in Temporary Storage and Persistent Storage is currently unavailable, recording Secure Store updates in Temporary Storage is permitted until Persistent Storage becomes available to record Secure Store updates but only if the PlayReady Portable Device (i) confirms prior to Passing decrypted A/V Content that sufficient Persistent Storage will be available to record Secure Store updates, and (ii) records to Persistent Storage any Secure Store updates recorded in Temporary Storage after Passing no more than thirty (30) minutes cumulative of decrypted A/V Content or using ten (10) Licenses, whichever occurs first.

Real Time Clock

If a PlayReady Product implements an Anti-Rollback Clock or Secure Clock, such clock must be designed to maintain time accurately with a clock drift of no more than four (4) minutes per month and a minimum resolution of one (1) second. A PlayReady Portable Device that supports a clock must accurately indicate the type of clock supported in the Device Certificate.

Secure Clock

Authorized Service

A PlayReady Portable Device must be designed in such a way that the Secure Clock can be set by connecting to a Secure Clock Service.

Clock Reset

When power is lost to a PlayReady Portable Device and then regained, the Secure Clock must be reset such that the state of the Secure Clock is set to the unset or unsecured state.

License Acknowledgment

When a License requires a license acknowledgment, a PlayReady Portable Device must send a license acknowledgment challenge to the PlayReady Server.

Indirect License Acquisition

A PlayReady Portable Device may Receive and Store Licenses only if one or more of the following requirements are met.

Indirect License Acquisition of Domain Bound Licenses and Leaf Licenses

A PlayReady Portable Device may Receive and Store Domain Bound Licenses and Leaf Licenses.

Indirect License Acquisition via USB

A PlayReady Portable Device may Receive and Store Licenses over USB regardless of whether the requirements for Section 15.9.12.3 (Indirect License Acquisition over any Protocol other than USB) are satisfied.

Indirect License Acquisition over any Protocol other than USB

A PlayReady Portable Device may Receive and Store WMDRM Licenses over any protocol other than USB, if: (i) WMDRM Licenses contains an Inclusion List Object with a value of {0FB334DC-DE98-4DDC-A8A7-67D7676C0163} or {24533722-DACD-4f7e-9A96-84D848B46D59}, and (ii) the PlayReady Product uses a technical mechanism (which may, but need not, be part of the PlayReady implementation) to verify that the Content Provider has authorized the PlayReady Portable Device to Receive and Store WMDRM Licenses over any protocol other than USB.

Delayed Updates for Metering

If a PlayReady Portable Device caches Content in Temporary Storage, and Persistent Storage is currently unavailable, Metering updates may be recorded in Temporary Storage until Persistent Storage becomes available only if the PlayReady Portable Device (i) confirms prior to Passing Content that sufficient Persistent Storage will be available to record Metering updates and (ii) records in Persistent Storage any Metering updates stored in Temporary Storage after Passing no more than thirty (30) minutes of Content or having used ten (10) Licenses, whichever occurs first.

Committing State

A PlayReady Portable Device must use the Microsoft Implementation to commit Licenses to the PlayReady Data Stores before performing the Intended Action.

License Embedding

If a PlayReady Product successfully updates the embedded license store in the header of the Content, the PlayReady Product must invoke the Microsoft Implementation to confirm the update.

DECE Restricted Source ID

When a PlayReady Portable Device receives a callback via a PK:: DRMPFNPOLICYCALLBACK function where the dwCallbackType parameter has a value of 8 and the PK::DRM\_RESTRICTED\_SOURCEID\_CALLBACK\_STRUCT contains a dwSourceID value of 267, it may only return a successful function return code when the PlayReady Portable Device has been expressly approved in writing by Digital Entertainment Content Ecosystem (DECE) LLC. For more information see www.uvvu.com.

Application Identifier Inclusion List Restriction Object

A PlayReady Portable Device must not decrypt Content if the PlayReady License for the Content contains an Application Identifier Inclusion List Restriction Object unless such use has been expressly approved in writing by Microsoft Corporation.

Requirements for PlayReady PC Applications

Scope

A PlayReady PC Application must comply with all requirements in Section 2 (Requirements for All PlayReady Products) and this Section 16 (Requirements for PlayReady PC Applications), and may implement features described in Section 3 (Passing A/V Content), Section 4 (Running Software Content), Section 5 (Displaying Digital Literary Content), Section 6 (Creating PlayReady Licenses), and Section 10 (Exporting PlayReady A/V Content), only if they conform to the Compliance Rules in those Sections.

Architecture

A PlayReady PC Application must be executed in its entirety on a single Computer Product. PlayReady Products may provide access to certain Content Protection Functions via an API, interface, or other similar mechanism created by Company. If a PlayReady Product exposes such a mechanism (e.g. API or interface), it must: (i) limit such Content Protection Functions to decryption, encryption, and acquisition or issuances of licenses for Content, (ii) not be used for developing new or different digital rights management, content protection, or content access technology, and (iii) not result in the failure of the PlayReady Product to comply with the Compliance Rules and/or Robustness Rules.

Certificates

Certificate Implementation

Company must statically link the PlayReady Certificate into PlayReady PC Applications. Company must use the PlayReady Certificate solely to enable PlayReady PC Applications to interoperate with PlayReady.

Revocation

If a PlayReady PC Application receives the MSPR\_E\_CERTIFICATE\_REVOKED error from the PlayReady PC Software Development Kit, the PlayReady PC Application must either (i) invoke an internal upgrade mechanism to restore the compliance of the PlayReady PC Application, or (ii) direct the end user to a Web site page that provides a mechanism for the end user to restore the compliance of the PlayReady PC Application.

Individualization

### A PlayReady PC Application must invoke Individualization whenever the PlayReady PC Application receives MSPR\_E\_NEEDS\_INDIVIDUALIZATION from the PlayReady PC Software Development Kit.

### Company must provide a mechanism to obtain the end user’s explicit informed consent prior to connecting to Microsoft or service provider computer systems over the Internet.

PlayReady Product Approval Requirement

When a PlayReady PC Application calls IMSPRLicenseFilter::SetProperty, it must not set the MSPR\_LICENSE\_FILTER\_PROPERTY\_ALLOWED\_SOURCE\_IDS value to 4 unless the PlayReady PC Application has been expressly approved in writing by Cable Television Laboratories, Inc. For more information see [www.opencable.com](http://www.opencable.com).

When a PlayReady PC Application calls IMSPRLicenseFilter::SetProperty, it must not set the MSPR\_LICENSE\_FILTER\_PROPERTY\_ALLOWED\_SOURCE\_IDS value to 267 unless the PlayReady PC Application has been expressly approved in writing by the Digital Entertainment Content Ecosystem (DECE) LLC. For more information see www.uvvu.com.

COPP Support

A PlayReady PC Application that Passes the video portion of Content to outputs under the playback policy specified in Section 3 (Passing A/V Content) must implement support for COPP.

Application Programming Interfaces (APIs)

A PlayReady PC Application meeting the conditions of this Section 16 (Requirements for PlayReady PC Applications) must use the APIs exposed by the DirectShow® Video Mixing Renderer (VMR) version 7 or version 9, or the Enhanced Video Renderer (EVR) to establish the secure channel to the COPP-compliant graphics driver, and to send or receive COPP commands or status information.

COPP Certificate Validation

A PlayReady PC Application may Pass Content to an Output under Section 3.4 (Restricted Outputs). The PlayReady PC Application must detect and accurately respond to the Output Protection Levels for A/V Content in accordance with Section 3.4 (Restricted Outputs). The PlayReady PC Application must validate that the applicable COPP driver’s Certificate can be traced to the Root Public Key used for COPP.

Report Action

When a PlayReady PC Application obtains one or more decryptors for use in performing an Intended Action, the PlayReady PC Application must call IMSPRLicense::ReportAction() once it has obtained all of the decryptors that it will need to perform the Intended Action, and the first decryption of PlayReady content has occurred.

Transmitting from the PC

A PlayReady PC Application may Transmit only if using WPD or the WMDRM-ND functionality in the WMF SDK in accordance with this Section 16 (Requirements For PlayReady PC Applications).

Verifying Streaming Content

A PlayReady PC Application may Transmit only if the PlayReady License associated with the PlayReady A/V Content contains a *Play Policy Container Object*.

License Embedding

If a PlayReady PC Application successfully updates the header in the Content, it must invoke the Microsoft Implementation to confirm the update.

Application Identifier Inclusion List Restriction Object

A PlayReady PC Application must not decrypt content Content if the PlayReady License for the content Content contains an Application Identifier Inclusion List Restriction Object unless such use has been expressly approved in writing by Microsoft Corporation.

Requirements for PlayReady Servers

Scope

A PlayReady Server must comply with all requirements in Section 2 (Requirements for All PlayReady Products) and this Section 17 (Requirements for PlayReady Servers), and may implement features described in Section 6 (Creating PlayReady Licenses) only if they conform to the Compliance Rules in that Section.

Certificate Revocation List Updates

Company must update the PlayReady Server Software Development Kit certificate revocation lists for each PlayReady Server once a week by accessing the PlayReady Server Software Development Kit certificate revocation lists at <https://go.microsoft.com/fwlink/?LinkId=110086>.

Service IDs

Company may use only Service IDs obtained from Microsoft.

Requirements for PlayReady Secure Codecs for PC

Scope

A PlayReady Secure Codec developed for the PC must comply with all requirements in this Section 18 (Requirements for PlayReady Secure Codecs for PC).

Architecture

A PlayReady Secure Codec must be executed entirely on a single Computer Product.

PlayReady A/V Content Decryption

A PlayReady Secure Codec may decrypt PlayReady A/V Content only for the purpose of decoding.

Payload Decoding

A PlayReady Secure Codec must not allow the Decode Boundary to exceed one second.

Enforcement of Maximum Decode Resolution Size

A PlayReady Secure Codec must comply with all requirements in Section 3.6.5.7.1 (Maximum Decode Resolution)

Requirements for PlayReady Trusted Execution Environments

Scope

### A PlayReady Trusted Execution Environment must comply with all requirements in Section 2 (Requirements for All PlayReady Products) and this Section 19 (Requirements for PlayReady Trusted Execution Environments), and may implement features described in Section 3 (Passing A/V Content), Section 4 (Running Software Content), Section 5 (Displaying Digital Literary Content), Section 6 (Creating PlayReady Licenses), and Section 10 (Exporting PlayReady A/V Content), only if they conform to the Compliance Rules in those Sections.

Hardware identification

Hardware Identifier

Each PlayReady Trusted Execution Environment must supply a unique and persistent Hardware Identifier.

Identifier Persistence

This Hardware Identifier must persist across reboots and firmware updates.

Interface requirements

Interface Definition

A PlayReady Trusted Execution Environment must implement all methods marked as mandatory in the OEM\_TEE interface. The PlayReady Trusted Execution Environment must provide a replacement implementation of any function which is documented as requiring replacement in the Microsoft Implementation. A PlayReady Trusted Execution Environment must follow all source code comments present in the OEM\_TEE interface.

Key Material

A PlayReady Trusted Execution Environment must provide a symmetric key unique to each client. Such Key must be accessible only to code running inside the PlayReady Trusted Execution Environment.

Parameter Values

A PlayReady Trusted Execution Environment must not change the structure or content of method parameters defined by PRiTEE.

Protection Policies

Required

All PlayReady Trusted Execution Environments must implement the following Protection Policies in the Trusted Execution Environment:

* Output controls, as defined in Section 3.6 (Output Controls), excluding Watermarking Signalling policy if the second and third bytes of Binary Configuration Data field exist and are set to 2000.
* Enforcement of the minimum License Security Level

Optional

A PlayReady Trusted Execution Environments may implement the following Protection Policies in the Trusted Execution Environment:

* Secure Stop, as defined in Section 3.3 (Secure Stop)
* If Secure Stop 2 is supported, it must be enforced from within the PlayReady Trusted Execution Environment
* Secure Clock, as defined in Section 19.6 (Secure Clock)
* Real-time Expiration
* Watermarking Signalling policy

Output protections

Protection Requirements

All PlayReady Trusted Execution Environments must support all Output Control requirements found in Section 3.6 (Output Controls). Additionally, all output protection requirements required by Digital Video Content must be enforced from within the PlayReady Trusted Execution Environment regardless of the minimum License Security Level of any License being interpreted. Enforcement of such output protection requirements may include engaging such output protection requirements outside of the PlayReady Trusted Execution Environment if the output protection requirements are then regularly verified from within the PlayReady Trusted Execution Environment.

Secure Clock

Capability Reporting

When a PlayReady Trusted Execution Environment represents that it has a Secure Clock through any means, such a Secure Clock must comply with all parts of this Section 19.6. If a Secure Clock implementation fails to meet any of these requirements, the PlayReady Trusted Execution Environment must not claim to support a Secure Clock.

Compliant Values

A Secure Clock implementation within a PlayReady Trusted Execution Environment must not provide a valid time if it is unset or has been reset. The Secure Clock must only be set from within the PlayReady Trusted Execution Environment and must be able to be set on a regular basis.

Policy Enforcement

If a PlayReady Trusted Execution Environment reports that it supports a Secure Clock, that Secure Clock must be used to enforce the Expiration Restriction Object.  Additionally, such enforcement must occur entirely within the PlayReady Trusted Execution Environment for the Begin Date and End Date fields.  The Expiration After First Play Restriction Object may be enforced outside the PlayReady Trusted Execution Environment.

Sample protection

Clear Samples

Decrypted A/V Content may be Divulged from the PlayReady Trusted Execution Environment if and only if the associated minimum License Security Level is less than or equal to 2000. If the PlayReady Trusted Execution Environment supports the Sample Protection flag, the PlayReady Trusted Execution Environment is additionally required to negotiate a key with the caller before decrypted A/V Content is Divulged to the caller.

Key History

Previous Keys

After updating or changing a key, the PlayReady Trusted Execution Environment must be able to recover all previous keys to decrypt stored content.

Schedule A

Microsoft will provide notification to Company when watermark technology is listed in this document as contemplated by Section 3.8 (Watermark Non-Interference).