

JPEG XS Patent Pool

JPEG XS Patent Portfolio License OVERVIEW OF TERMS

Last Update: March 2023

This document is for information purposes only. All terms and definitions included in this document are detailed in the JPEG XS PPL Agreement, which constitutes the only definitive and reliable statement regarding license terms and conditions.

Objectives

JPEG XS is the new lightweight low latency JPEG codec.

The goal of the JPEG XS Patent Pool is to offer the essential JPEG XS patents of the JPEG XS Licensors (Fraunhofer and intoPIX) under a single JPEG XS Patent Portfolio License (JPEG XS PPL) so that manufacturers, developers, and service providers can efficiently implement the JPEG XS Standard in their products or services on the basis of fair, reasonable and non-discriminatory (FRAND) licensing.

The royalty models have been developed to cater for the use of JPEG XS technology across different business models and use cases.

The administrator of the JPEG XS Patent Pool is UK-based Vectis IP.

Coverage

The JPEG XS PPL grants a license under all essential patents owned and licensable, presently or in the future, by Licensors or their Affiliates for defined products and services that conform to the ISO/IEC 21122 (JPEG XS) Standard in compliance with the Light, Main & High Profiles.

The following is presently covered by the JPEG XS PPL:

- Devices sold or Software provided by Licensee in the End User JPEG XS Market without time limitations that constrain the relevant End User's use of such products.
- Devices sold or Software provided by Licensee in the End User JPEG XS Market on a subscription basis with time limitations that constrain the relevant End User's use of such products.
- Time-limited services provided by Licensee for real-time processing of live or pre-recorded content, with the End User billed on a consumption basis.

No license or other authorization is provided under the JPEG XS PPL to sell or provide any products to the Service-Related JPEG XS Market.

Licensing Models

As of 1 March 2022^(*), the JPEG XS PPL provides for the following Royalty Models:

- ▶ **Model 1:** Pay Per Instance/Product Royalty Model (covering Permanent Products)
- ▶ **Model 2:** Pay Per Activation Royalty Model (covering Time-Limited Products)
- ▶ **Model 3:** Pay Per Use Royalty Model (covering Real-Time Content JPEG XS Services)

^(*) Updated in March 2023

Terms of reference:

- ▶ An **Instance** is a single operation which consists of either encoding, decoding, editing, or analyzing one JPEG XS Stream at up to a maximum input or output frame rate of 60 fps.
- ▶ A **Product** is a ready-to-use End-Use solution (e.g., hardware device or software application) capable of encoding, decoding, editing, and/or analyzing one or more JPEG XS streams.
- ▶ An **Activation** is a time-limited (yearly, monthly, or weekly) subscription-based release of a Product.
- ▶ A **JPEG XS Service** provided by Licensee uses a functionality capable of encoding, decoding, editing, and/or analyzing one or more JPEG XS streams.

JPEG XS PPL – Model 1

Pay Per Instance/Product Royalty Model

MODEL 1: Permanent JPEG XS Products					
Model 1&2 Categories			License Fees		
			HD	4K	8K
Category 1	1.00 to 40,000 USD	Fee per Instance Categories	3.00 USD per HD Instance	5.00 USD per 4K Instance	9.00 USD per 8K Instance
Category 2	40,000.01 to 100,000 USD		2.40 USD per HD Instance	4.00 USD per 4K Instance	7.20 USD per 8K Instance
Category 3	100,000.01 to 250,000 USD		2.00 USD per HD Instance	3.34 USD per 4K Instance	6.00 USD per 8K Instance
Category 4	250,000.01 to 625,000 USD		1.50 USD per HD Instance	2.50 USD per 4K Instance	4.50 USD per 8K Instance
Category 5	625,000.01 to 1,000,000 USD		1.00 USD per HD Instance	1.67 USD per 4K Instance	3.00 USD per 8K Instance
Category 6	1,000,000.01 to 2,000,000 USD	Fee per Product Categories	0.60 USD per Permanent JPEG XS Product		
Category 7	2,000,000.01 to 4,000,000 USD		0.45 USD per Permanent JPEG XS Product		
Category 8	4,000,000.01 to 7,500,000 USD		0.30 USD per Permanent JPEG XS Product		
Category 9	7,500,000.01 to 15,000,000 USD		0.225 USD per Permanent JPEG XS Product		
Category 10	15,000,000.01 USD onwards		0.15 USD per Permanent JPEG XS Product		

Notes:

- ▶ For Categories 1 to 5, the royalty rate is per Instance and based on resolution (HD/4K/8K).
- ▶ For Categories 6 to 10, the royalty rate is per Product (irrespective of resolution and the number of instances).
- ▶ The royalty rate starts from Category 1. Once the annual aggregated royalty amount achieves a category's upper threshold, a reduced royalty rate applies to the next category. Model 1 & 2 category volumes are aggregated.

JPEG XS PPL – Model 2

Pay Per Activation Royalty Model

MODEL 2: Time Limited JPEG XS Products									
Model 1&2 Categories ^(*)	License Fees per 365-day period ^(**)			License Fees per 30-day period ^(**)			License Fees per 7-day period ^(**)		
	HD	4K	8K	HD	4K	8K	HD	4K	8K
Category 1	1.50 USD	2.50 USD	4.50 USD	0.30 USD	0.50 USD	0.90 USD	0.15 USD	0.25 USD	0.45 USD
Category 2	1.20 USD	2.00 USD	3.60 USD	0.24 USD	0.40 USD	0.72 USD	0.12 USD	0.20 USD	0.36 USD
Category 3	1.00 USD	1.6667 USD	3.00 USD	0.20 USD	0.3333 USD	0.60 USD	0.10 USD	0.1667 USD	0.30 USD
Category 4	0.75 USD	1.25 USD	2.25 USD	0.15 USD	0.25 USD	0.45 USD	0.075 USD	0.125 USD	0.225 USD
Category 5	0.50 USD	0.8333 USD	1.50 USD	0.10 USD	0.1667 USD	0.30 USD	0.05 USD	0.0833 USD	0.15 USD
Category 6	0.30 USD			0.06 USD			0.03 USD		
Category 7	0.225 USD			0.045 USD			0.0225 USD		
Category 8	0.15 USD			0.03 USD			0.015 USD		
Category 9	0.1125 USD			0.0225 USD			0.01125 USD		
Category 10	0.075 USD			0.015 USD			0.0075 USD		

(*) Model 1&2 Category ranges are the same as those shown in the table for Model 1

(**) It refers to the applicable period of active Subscription

Notes:

- ▶ For Categories 1 to 5, the royalty rate is per Instance and based on resolution (HD/4K/8K).
- ▶ For Categories 6 to 10, the royalty rate is per Product (irrespective of resolution and the number of instances).
- ▶ The royalty rate starts from Category 1. Once the annual aggregated royalty amount achieves a category's upper threshold, a reduced royalty rate applies to the next category. Model 1 & 2 category volumes are aggregated.

JPEG XS PPL – Model 3

Pay Per Use Royalty Model

MODEL 3: Real-Time Content JPEG XS Services						
Model 3 Royalty Categories		License Fees per Hour of each Real-Time Content JPEG XS Service				
		576	720p/1080i	HD	4K	8K
Category A	1 to 250,000 USD	0.00400 USD	0.00800 USD	0.01600 USD	0.08000 USD	0.32000 USD
Category B	250,001 to 1,000,000 USD	0.00320 USD	0.00640 USD	0.01280 USD	0.06400 USD	0.25600 USD
Category C	1,000,001 to 2,000,000 USD	0.00267 USD	0.00533 USD	0.01067 USD	0.05333 USD	0.21333 USD
Category D	2,000,001 to 4,000,000 USD	0.00200 USD	0.00400 USD	0.00800 USD	0.04000 USD	0.16000 USD
Category E	4,000,001 to 7,500,000 USD	0.00133 USD	0.00267 USD	0.00533 USD	0.02667 USD	0.10667 USD
Category F	7,500,001 USD onwards	0.00100 USD	0.00200 USD	0.00400 USD	0.02000 USD	0.08000 USD

MODEL 3: Real-Time Content JPEG XS Services						
Model 3 Royalty Categories		License Fees per Day of each Real-Time Content JPEG XS Service				
		576	720p/1080i	HD	4K	8K
Category A	1 to 250,000 USD	0.0480 USD	0.0960 USD	0.1920 USD	0.9600 USD	3.8400 USD
Category B	250,001 to 1,000,000 USD	0.0380 USD	0.0770 USD	0.1540 USD	0.7680 USD	3.0720 USD
Category C	1,000,001 to 2,000,000 USD	0.0320 USD	0.0640 USD	0.1280 USD	0.6400 USD	2.5600 USD
Category D	2,000,001 to 4,000,000 USD	0.0240 USD	0.0480 USD	0.0960 USD	0.4800 USD	1.9200 USD
Category E	4,000,001 to 7,500,000 USD	0.0160 USD	0.0320 USD	0.0640 USD	0.3200 USD	1.2800 USD
Category F	7,500,001 USD onwards	0.0120 USD	0.0240 USD	0.0480 USD	0.2400 USD	0.9600 USD

JPEG XS PPL – Model 3

Pay Per Use Royalty Model

Notes:

- ▶ For Categories A to F, the royalty rate is per hour or per day of each Real-Time Content JPEG XS Service and based on resolution (576/720p/1080i/HD/4K/8K).
- ▶ The determination of whether License Fee per Hour or per Day is applicable depends on Licensee's Service Pricing Model (i.e. Licensee's consumption-based method of calculating the price of a JPEG XS Service available to an End User). If Licensee's Service Pricing Model for a Real-Time Content JPEG XS Service is on a daily (or longer) basis, the License Fee per Day shall be payable for each day (or part thereof) of each Real-Time Content JPEG XS Service.
- ▶ The royalty rate starts from Category A . Once the annual aggregated royalty amount achieves a category's upper threshold, a reduced royalty rate applies to the next category. Model 3 category volumes are not aggregated with Model 1 & 2 category volumes.

Additional License Terms

- ▶ In Model 1 & 2, for Royalty Categories 1 to 5, Royalty License Fee is capped to the greater of (i) 2% percent of the Product Price, or (ii) 1.5 times the License Fee applicable to a 4K Instance of the Royalty Category such Product is subject to, if selling price is publicly disclosed.
- ▶ Licensee shall be entitled to discounted License Fees if it chooses to pre-commit a payment of a pre-determined amount of annual aggregate royalties. Please refer to the PPL for full details of the Pre-Commitment Program.
- ▶ Irrespective of Royalty Model, an aggregate Annual License Fee Cap per company is available.
- ▶ Royalty statements are due on a quarterly basis.
- ▶ Licensee shall mark all Licensed Products with the Licensed Patent numbers and provide written notice throughout the distribution chain of the Licensed Products about the scope and limitations of the license under the JPEG XS patent pool.

Term

- ▶ Current terms are valid up to December 31, 2025.
- ▶ Renewable for successive 5-year periods for the life of the Portfolio patents subject to reasonable changes of terms and conditions.
- ▶ License Fees will not increase by more than 20% at each 5-year term renewal.



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